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ARMAMENT DEVELOPMENT TEST CENTER

RAT SCAT EVALUATION OF COMMERCIALLY AVAILABLE RADAR ABSORBING MATERIALS

6585th TEST GROUP
HOLLOMAN AIR FORCE BASE, NEW MEXICO

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By

WILLIAM O'HARA

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RAT SCAT
Radar Target Scatter Division

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(6) RAT SCAT EVALUATION OF COMMERCIALLY AVAILABLE RADAR ABSORBING MATERIALS.

(11) March 1976

(12) 226 p.

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(9) Final rept.,

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6585th Test Group

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FOREWORD

This report is based on actual radar cross section measurements made at the Armament Development Test Centers' Radar Target Scatter Division (RAT SCAT) of the 6585th Test Group. RAT SCAT is located on the Alkali Flats, Holloman Air Force Base, New Mexico. This Facility is operated and maintained by Dynalectron Corporation, Radar Backscatter Division, under contract F29601-74-C-0109 and is under the specific direction of the 6585th Test Group. The AF Project Officer is Lt Colonel Gerald J. Hietpas.

Correspondence pertaining to this report should be addressed to the attention of the 6585th Test Group (RX).

GERALD J. HIETPAS, Lt Col, USAF
Chief, Radar Target Scatter Division

ABSTRACT

This report summarizes performance evaluation tests on a variety of commercially available thin flexible sheet type radar absorber materials, including both resonant and non-resonant types. A corner reflector test technique was used which allowed test and evaluation of the absorber at both normal incidence and grazing angles out to ninety (90) degrees. Fourteen types of RAM were tested at frequencies near 11, 13, 17 and 35 GHz. The higher frequency data and off-normal incidence data in this report are often unavailable in RAM manufacturers literature.

RAM types tested include: FGM-40, ANW-73, ANP-74XP, AN-73, AN-72, AN-75, ANP-73, NRL-2764B, SF-14, GRAM-52, and NR-95.

This report provides reproductions of the data runs taken and 5 degree median plots of each run. The measurement configurations and parameters for each cut are identified on each pattern with an overall summary chart included in the main body of the report.

These measurements were taken at the Radar Target Scatter Division, 6585th Test Group, Holloman AFB, New Mexico for ASD/YH (B-1, SPO) of Wright Patterson Air Force Base, OH.

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SECTION I

PURPOSE

The purpose of this series of diagnostic measurements was to select RAM for a scaled radar backscatter model of the B-1 bomber. The intent was to select RAM for the model that would most closely approximate the scaled characteristics of a structural RAM (fiberglass covered) used on the full scale B-1 airframe.

This careful selection of RAM for the model helped assure the best possible Radar Cross Section model tests, thereby increasing the accuracy of the full scale aircraft RCS predictions.

SECTION II

INTRODUCTION

The objective of this program was to generate a data file on the attenuation characteristics of various types of commercially available absorbers. In this program, we evaluated this absorber not only at normal incidence (which is often the only data readily available) but also for grazing angles out to ninety degrees. Data on attenuation characteristics of absorber at these large grazing angles is useful in many applications and this report thus may provide an excellent reference data base for RF design engineers. Raw data plots are shown along with five degree median plots.

In all, fourteen (14) different types of RAM were tested at frequencies near 11, 13, 17 and 35.0 GHz, including both resonant and non-resonant types. The higher frequency data and off-normal incidence data in this report are often unavailable in RAM manufacturers literature.

Two different size corner reflectors were used, a 4-inch square dihedral and a 12-inch square dihedral. It was concluded from observation of the data that an optimumly sized corner reflector for this type measurement is approximately 12 wave lengths on a side. This translates into a 4-inch corner reflector at 35.0 GHz (approximately) and a 12-inch at 10.0 GHz (approximately). This aspect of the measurements will be considered in detail in the main text.

This report presents the raw data and median plots along with a description of the measurement technique, possible sources of error and a commentary on some of the major aspects of the results.

SECTION III

TEST CONDITIONS

Measurement Approach

A dihedral reflector was used with one surface covered with the RAM material under test. The data pattern of each configuration was compared to a pattern from a completely bare reflector. The data is presented in this manner, i.e., two patterns are stacked on each data plot. The higher level pattern is the return from the bare reflector and the lower pattern is from the treated reflector. The attenuation is then the difference between the two curves. Normal incidence occurs at 315 degrees. Ninety degrees grazing angle occurs at 45 degrees on the pattern. In the latter case the radar looks directly into the bare plate of the treated corner reflector. The section of interest on each plot is 45 degrees to 315 degrees, a 90 degree interval. (See Figure No. 1).

Measurement Set-up Conditions

The following test setup conditions were used:

Frequencies: 10.92 GHz, 13.3 GHz, 17.5 GHz, 34.8 GHz

Range: 2200 feet (far field)

Polarization: Linear VV and HH

The data were obtained with a long-pulse radar system operating on a ground plane radar range. Sections 1 and 2 of Appendix A and Table A-1 of Appendix A summarize the characteristics of RAT SCAT facilities and equipment.

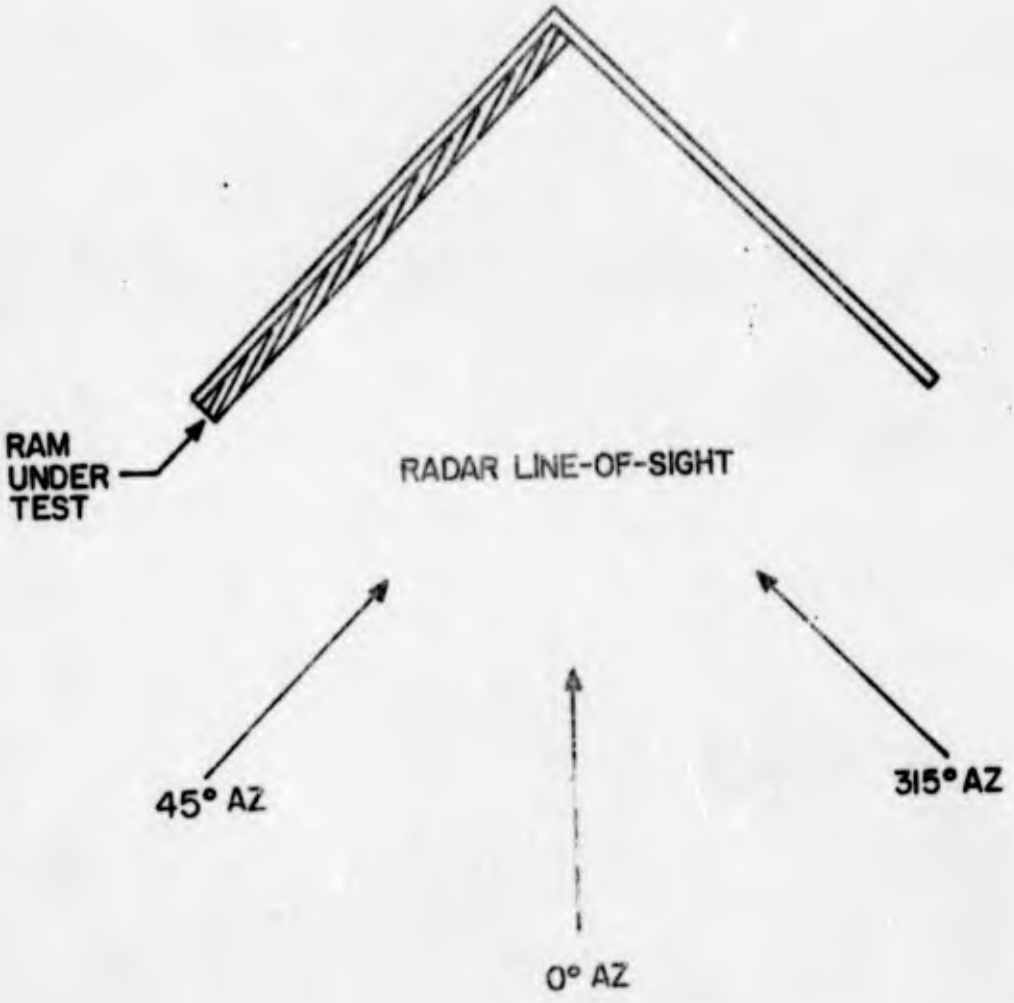
Measurements were made on the RAT SCAT ground plane radar range. The corner reflectors were placed in an electromagnetic field which is the vector sum of:

1) The direct wave (path from transmit antenna directly to the target)

2) The reflected wave (path from transmit antenna to the target via reflection from the ground)

3) The surface wave (energy conducted along the surface of the earth)

Figure No. 1 RAM Measurement Configuration



Accordingly, the vector sum produces an interference pattern at the target. The height of the radar antenna above ground (H_a) is adjusted so that the target is located in the first lobe of the interference pattern at a height (H_t) described by the equation:

$$H_t = \frac{R}{4H_a}$$

With a range of 2200 feet and target height of 10 feet as fixed parameters the transmit antenna height was established as a function of the wavelength of the operating frequency. In order to insure that the target was at the approximate peak of the first interference lobe of the transmitted beam, a vertical field probe was used. Table I gives the antenna heights used for the project.

Table I ANTENNA HEIGHT VERSUS FREQUENCY

Frequency	$\frac{\lambda}{(ft)}$	Transmit Antenna Height (ft)
10,920 MHz	0.090	5
13,300 MHz	0.074	4
17,500 MHz	0.056	3.1
34,800 MHz	0.028	1.5

Target Description

Corner reflectors of two different sizes were used. There were four inch and eleven inch square reflectors. They were mounted on styrofoam columns (1 lb. density) and are shown in Figures 2 and 3. Each reflector was set on the edge of their foam transition for minimum interaction of the incident wave with the foam column. This was essential at 35.0 GHz. A light weight string was used to support the reflector (80 lb. line).

The RCS measurements were extremely critical, particularly at 35.0 GHz. The procedure given in Figure 4 was used to level the reflector prior to and following each run. This procedure was required, particularly at 35.0 GHz, to insure an accurate measurement. The reason for this is that the specular lobe, common to both absorber and non-absorber runs, would produce significant power level variations without this target leveling procedure. A practical size for a reflector in this type of measurement is one which is sized to produce a specular lobe sufficiently broad to

Figure No. 2 Four Inch Corner Reflector Mounting Configuration

Figure No. 3 Twelve Inch Corner Reflector Mounting Configuration

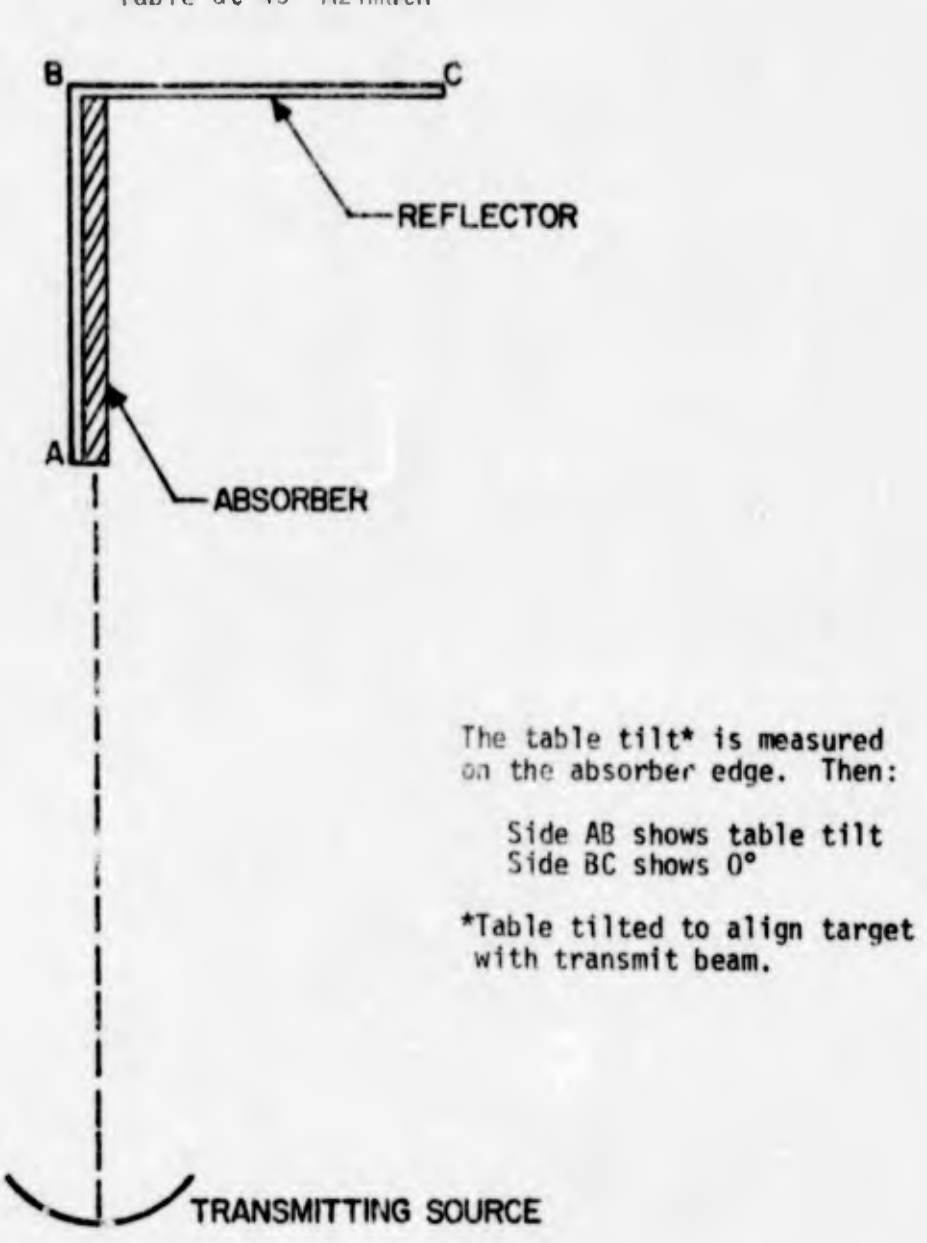


Figure No. 4 Reflector Mounting Procedures

allow for reasonable tolerances in leveling the reflector and sufficiently narrow to minimize edge effects from the reflector. It appears from the data taken that the best compromise between the two conditions is a four inch square reflector at 35.0 GHz and a twelve inch reflector at 10.0 GHz which rounds off to a reflector size in the order of 12 wavelengths on a side. Another disadvantage of a reflector significantly larger than 12 λ on a side is that it produces such a narrow lobe, that in the 5° median plots, the lobe disappears, thus rendering interpretation of the median data extremely difficult, if not impossible. All absorber was taped to the reflector and particular care was taken to insure that it fitted the reflector plate exactly, with no bare metal exposed, and where required, carefully smoothed to the surface of the 1/8" thick reflector.

Generally, then, considerable care was required in this measurements; the target reflector was carefully leveled prior to and following each run, column mount was designed to present minimum interference with the target response, supporting strings were tailored and spaced for minimum cross section and interference. Final data runs were repeated over substantial intervals of time to insure repeatability and accuracy.

Table II SUMMARY OF RAM MEASUREMENTS

TYPE	REFLECTOR SIZE 4"	REFLECTOR SIZE 12"	FREQUENCY (GHz) 10.920	13.3	17.5	34.8
FGM-40		X		X		X
ANW-73		X	X	X		X
ANP-74XP		X	X	X		X
AN-73		X	X	X		X
AN-72		X	X	X		X
AN-75		X	X	X		X
ANP-73		X	X	X		X
AN-72/Covered with fine mesh*		X	X		X	X
AN-72/Covered with coarse mesh**						X
NRL-2764B #1	X			X		X
NRL-2764B #2	X			X		X
SF-14	X			X		X
GRAM-52	X			X		X
NR-95	X			X		X

*1/4" wire mesh
**1/2" wire mesh

SECTION IV

PROCEDURE AND RESULTS

Results

Table II summarizes the absorber measurement program which was conducted. Column 1.0 lists the absorber, column 2.0 the reflector size, and column 3.0 the frequencies.

Three samples of two types of absorber were measured as a check on the uniformity of their absorptive characteristics. These were ANW-73 and AMP-74XP. Three samples of each were taken from a single 2' x 2' piece of absorber and used on the 12" reflector.

The following summarizes the comparative runs:

A. Type ANW-73

Run Nos.	Polarization	Frequency (GHz)
123 and 124	HH	34.8
125 and 126	HH	34.8
127 and 128	HH	34.8
141 and 142	VV	34.8
133 and 134	VV	34.8
131 and 132	VV	34.8

B. Type ANW-73

Run Nos.	Polarization	Frequency (GHz)
230 and 231	VV	13.3
236 and 237	VV	13.3
238 and 239	VV	13.3

232 and 233	HH	13.3
234 and 235	HH	13.3
240 and 241	HH	13.3

C. Type ANU-73

Run Nos.	Polarization	Frequency (GHz)
7 and 8	VV	10.92
9 and 10	VV	10.92
11 and 12	VV	10.92
1 and 2	HH	10.92
3 and 4	HH	10.92
5 and 6	HH	10.92

D. Type ANP-74AP

Run Nos.	Polarization	Frequency (GHz)
149 and 150	VV	34.8
153 and 154	VV	34.8
151 and 152	HH	34.8
155 and 156	HH	34.8

E. Type ANP-74XP

Run Nos.	Polarization	Frequency (GHz)
242 and 243	VV	13.3
250 and 251	VV	13.3
244 and 245	HH	13.3
252 and 253	HH	13.3

F. Type ANP-74XP

Run Nos.	Polarization	Frequency (GHz)
13 and 14	VV	10.92
15 and 16	VV	10.92
17 and 18	VV	10.92
19 and 20	HH	10.92
21 and 22	HH	10.92
23 and 24	HH	10.92

This data shows that only fair consistency exists in the characteristics of absorber taken from the same sheet.

As an example, three samples of ANW-73 which were measured at 35.0 GHz and 10.92 GHz with horizontal polarization are compared (Table III and IV) at three grazing angles.

Table III COMPARATIVE DATA ON ANW-73 (35.0 GHz)

Grazing Angle (Deg)	Sample #1 (dB)	Sample #2 (dB)	Sample #3 (dB)
0	15.0	18.0	19.0
30	16.5	20.0	13.5
60	9.5	9.5	9.5

These same pieces are shown below for the same polarization for their responses at 10.92 GHz.

Table IV COMPARATIVE DATA ON ANW-73 (10.92 GHz)

Grazing Angle (Deg)	Sample #1 (dB)	Sample #2 (db)	Sample #3 (dB)
0	21.5	15.0	15.5
30	26.5	19.0	21.0
60	16.5	14.5	17.0

In general, both the ANW-73, as shown above and the AN74-XP showed more consistency between samples for vertical polarization than for horizontal polarization.

FGM-40 had very poor attenuation at the frequencies measured.

For example: at 13.3 GHz - 5.0 dB (approx.)
at 35.0 GHz - 1.0 dB (approx.)

Note: Median data is not available for this material at 35.0 GHz.

The resonant absorber types, NRL-2764B, SF-14, GRAN-52 and NR-95 were most effective at 13.3 GHz with NRL-2764B having the best attenuation characteristics of this group (14.0 dB at Normal Incidence at 13.3 GHz).

RAM Degradation Study

The material whose characteristics offered the most potential for matching those of the production RAM was AN-72. Among the techniques which were tried were:

1) layers of 0.016" polyethylene over the absorber,

2) reversal of the absorber (Example: gold side towards the radar as apposed to the normal orientation),

3) covering 5, 10 and 30% of the surface of the absorber with a metalized tape,

4) coating the surface with a metalized paint,

5) use of a wire mesh (Example: 1/4" open area and 1/2" open area).

The objective was to reduce the absorbtive characteristics of the AN-72 by approximately 8.0 dB at 35.0 GHz to about 14 or 15 dB and to a level of 6-8 db at X-band.

The AN-72 was approximately 23.0 dB at 35.0 and approximately 12.5 dB at 10.92 GHz (Normal Incidence).

Results of item 1.0 for up to three layers of polyethylene had no effect and this effort was discarded. Reversing the absorber (Item 2) yielded only a 3.0 dB reduction in attenuation and this approach was also discarded. Item 3.0 proved to be ineffectual until such a large percentage of the surface was covered that it was deemed impractical. Item 4 was passed over because of the difficulty in controlling the amount of the conductive spray coating used and the resulting lack of repeatability in performance. Item 5 was tried for the coarse mesh, (1/2" open area) and, not unexpectedly found to be essentially invisible.

Example: Normal incidence, bare AN-72 at 35 GHz yielded approximately 24.0 dB attenuation.

As above with 0.5" mesh 23.5 dB.

This approach was then discarded.

However, the 1/4" mesh produced a reduction of approximately 9.0 dB to a level of 15.0 dB attenuation at normal incidence.

Accordingly, this configuration was measured at 17.5 and 10.92 GHz with the following results:

Frequency (GHz)	Attenuation (Normal Incidence)
17.5	9.5 dB
10.92	2.0 dB

Only the wire mesh data is presented since this was the technique later used in the scale model engine nacelle measurements.

More conclusions could have been drawn from this data on RAM performance degradation at higher frequencies and high grazing angles, but they are beyond the scope of this effort. It is left to the interested reader to extract desired information from the following raw data plots.

CONTROL NUMBER - 76-01 Table V DATA PLOT INDEX Sheet 1

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
26	1/2	10920	HH	0°	0°	With and Without, ANW-73, Sample No. 1
27	1/2M	10920	HH	0	0	Median Plot
28	3/4	10920	HH	0	0	With and Without, ANW-73, Sample No. 2
29	3/4M	10920	HH	0	0	Median Plot
30	5/6	10920	HH	0	0	With and Without, ANW-73, Sample No. 3
31	5/6M	10920	HH	0	0	Median Plot
32	7/8	10920	VV	0	0	With and Without, ANW-73, Sample No. 1
33	7/8M	10920	VV	0	0	Median Plot
34	9/10	10920	VV	0	0	With and Without, ANW-73, Sample No. 2
35	9/10M	10920	VV	0	0	Median Plot
36	11/12	10920	VV	0	0	With and Without, ANW-73, Sample No. 3
37	11/12M	10920	VV	0	0	Median Plot
38	13/14	10920	VV	0	0	With and Without, ANP-74XP, Sample No. 1
39	13/14M	10920	VV	0	0	Median Plot
40	15/16	10920	VV	0	0	With and Without, ANP-74XP, Sample No. 2
41	15/16M	10920	VV	0	0	Median Plot
42	17/18	10920	VV	0	0	With and Without, ANP-74XP, Sample No. 3
43	17/18M	10920	VV	0	0	Median Plot
44	19/20	10920	HH	0	0	With and Without, ANP-74XP, Sample No. 1
45	19/20M	10920	HH	0	0	Median Plot
46	21/22	10920	HH	0	0	With and Without, ANP-74XP, Sample No. 2
47	21/22M	10920	HH	0	0	Median Plot
48	23/24	10920	HH	0	0	With and Without, ANP-74XP, Sample No. 3
49	23/24M	10920	HH	0	0	Median Plot
50	25/26	10920	HH	0	0	With and Without, ANP-73
51	25/26M	10920	HH	0	0	Median Plot
52	27/28	10920	VV	0	0	With and Without, ANP-73
53	27/28M	10920	VV	0	0	Median Plot
54	29/30	10920	VV	0	0	With and Without, AN-73
55	29/30M	10920	VV	0	0	Median Plot
56	31/32	10920	HH	0	0	With and Without, AN-73
57	31/32M	10920	HH	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 2

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
58	33/34	10920	HH	0°	0°	With and Without, AN-72
59	33/34M	10920	HH	0	0	Median Plot
60	35/36	10920	VV	0	0	With and Without, AN-72
61	35/36M	10920	VV	0	0	Median Plot
62	37/38	10920	HH	0	0	With and Without, AN-75
63	37/38M	10920	HH	0	0	Median Plot
64	39/40	10920	VV	0	0	With and Without, AN-75
65	39/40M	10920	VV	0	0	Median Plot
66	218/219	13300	HH	0	0	With and Without, NRL-2764B, Sample No. 1
67	218/219M	13300	HH	0	0	Median Plot
68	220/221	13300	VV	0	0	With and Without, NRL-2764B, Sample No. 1
69	220/221M	13300	VV	0	0	Median Plot
70	200/201	13300	HH	0	0	With and Without, NRL-2764B, Sample No. 2
71	200/201M	13300	HH	0	0	Median Plot
72	212/213	13300	VV	0	0	With and Without, NRL-2764B, Sample No. 2
73	212/213M	13300	VV	0	0	Median Plot
74	204/205	13300	VV	0	0	With and Without, GRAM-52, Sample No. 3
75	204/205M	13300	VV	0	0	Median Plot
76	206/207	13300	HH	0	0	With and Without, GRAM-52, Sample No. 3
77	206/207M	13300	HH	0	0	Median Plot
78	208/209	13300	HH	0	0	With and Without, SF-14
79	208/209M	13300	HH	0	0	Median Plot
80	210/211	13300	VV	0	0	With and Without, SF-14
81	210/211M	13300	VV	0	0	Median Plot
82	222/223	13300	VV	0	0	With and Without, NR-95
83	222/223M	13300	VV	0	0	Median Plot
84	224/225	13300	HH	0	0	With and Without, NR-95
85	224/225M	13300	HH	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 3

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
86	226/227	13300	HH	0	0	With and Without, FGM-40
87	226/227M	13300	HH	0	0	Median Plot
88	228/229	13300	VV	0	0	With and Without, FGM-40
89	228/229M	13300	VV	0	0	Median Plot
90	232/233	13300	HH	0	0	With and Without, ANW-73, Sample No. 1
91	232/233M	13300	HH	0	0	Median Plot
92	234/235	13300	HH	0	0	With and Without, ANW-73, Sample No. 2
93	234/235M	13300	HH	0	0	Median Plot
94	240/241	13300	HH	0	0	With and Without, ANW-73, Sample No. 3
95	240/241M	13300	HH	0	0	Median Plot
96	230/231	13300	VV	0	0	With and Without, ANW-73, Sample No. 1
97	230/231M	13300	VV	0	0	Median Plot
98	236/237	13300	VV	0	0	With and Without, ANW-73, Sample No. 2
99	236/237M	13300	VV	0	0	Median Plot
100	238/239	13300	VV	0	0	With and Without, ANW-73, Sample No. 3
101	238/239M	13300	VV	0	0	Median Plot
102	244/245	13300	HH	0	0	With and Without, ANP-74XP, Sample No. 1
103	244/245M	13300	HH	0	0	Median Plot
104	252/253	13300	HH	0	0	With and Without, ANP-74XP, Sample No. 3
105	252/253M	13300	HH	0	0	Median Plot
106	242/243	13300	VV	0	0	With and Without, ANP-74XP, Sample No. 1
107	242/243M	13300	VV	0	0	Median Plot
108	250/251	13300	VV	0	0	With and Without, ANP-74XP, Sample No. 3
109	250/251M	13300	VV	0	0	Median Plot
110	254/255	13300	HH	0	0	With and Without, AN-73
111	254/255M	13300	HH	0	0	Median Plot
112	256/257	13300	VV	0	0	With and Without, AN-73
113	256/257M	13300	VV	0	0	Median Plot
114	258/259	13300	VV	0	0	With and Without, AN-72
115	258/259M	13300	VV	0	0	Median Plot
116	260/261	13300	HH	0	0	With and Without, AN-72
117	260/261M	13300	HH	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 4

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
118	264/265	13300	VV	0	0	With and Without, AN-75
119	264/265M	13300	VV	0	0	Median Plot
120	266/267	13300	HH	0	0	With and Without, AN-75
121	266/267M	13300	HH	0	0	Median Plot
122	268/269	13300	HH	0	0	With and Without, ANP-73
123	268/269M	13300	HH	0	0	Median Plot
124	270/271	13300	VV	0	0	With and Without, ANP-73
125	270/271M	13300	VV	0	0	Median Plot
126	1019/ 1020	34800	HH	0	0	With and Without, SF-14
127	1019/ 1020M	34800	HH	0	0	Median Plot
128	1021/ 1022	34800	VV	0	0	With and Without, SF-14
129	1021/ 1022M	34800	VV	0	0	Median Plot
130	1023/ 1024	34800	VV	0	0	With and Without, NRL-2764B, Sample No. 1
131	1023/ 1024M	34800	VV	0	0	Median Plot
132	1025/ 1026	34800	HH	0	0	With and Without, NRL-2764B, Sample No. 1
133	1025/ 1026M	34800	HH	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 5

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
134	1029/ 1030	34800	VV	0	0	With and Without, NRL-2764B, Sample No. 2
135	1029/ 1030M	34800	VV	0	0	Median Plot
136	1027/ 1028	34800	HH	0	0	With and Without, NRL-2764B, Sample No. 2
137	1027/ 1028M	34800	HH	0	0	Median Plot
138	1031/ 1032	34800	VV	0	0	With and Without, GRAM-52
139	1031/ 1032M	34800	VV	0	0	Median Plot
140	1033/ 1034	34800	HH	0	0	With and Without, GRAM-52
141	1033/ 1034M	34800	HH	0	0	Median Plot
142	1035/ 1036	34800	HH	0	0	With and Without, NR-95
143	1035/ 1036M	34800	HH	0	0	Median Plot
144	1037/ 1038	34800	VV	0	0	With and Without, NR-95

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 6

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
145	1037/	34800	VV	0	0	Median Plot
	1038M					
146	123/124	34800	HH	0	0	With and Without, ANW-73, Sample No. 1
147	123/124M	34800	HH	0	0	Median Plot
148	141/142	34800	VV	0	0	With and Without, ANW-73, Sample No. 1
149	141/142M	34800	VV	0	0	Median Plot
150	125/126	34800	HH	0	0	With and Without, ANW-73, Sample No. 2
151	125/126M	34800	HH	0	0	Median Plot
152	133/134	34800	VV	0	0	With and Without, ANW-73, Sample No. 2
153	133/134M	34800	VV	0	0	Median Plot
154	127/128	34800	HH	0	0	With and Without, ANW-73, Sample No. 3
155	127/128M	34800	HH	0	0	Median Plot
156	131/132	34800	VV	0	0	With and Without, ANW-73, Sample No. 3
157	155/156	34800	HH	0	0	With and Without, ANP-74XP, Sample No. 1
158	155/156M	34800	HH	0	0	Median Plot
159	153/154	34800	VV	0	0	With and Without, ANP-74XP, Sample No. 1
160	153/154M	34800	VV	0	0	Median Plot
161	151/152	34800	HH	0	0	With and Without, ANP-74XP, Sample No. 2
162	151/152M	34800	HH	0	0	Median Plot
163	149/150	34800	VV	0	0	With and Without, ANP-74XP, Sample No. 2
164	149/150M	34800	VV	0	0	Median Plot
165	189/190	34800	VV	0	0	With and Without, ANP-73
166	189/190M	34800	VV	0	0	Median Plot
167	191/192	34800	HH	0	0	With and Without, ANP-73
168	191/192M	34800	HH	0	0	Median Plot
169	193/194	34800	HH	0	0	With and Without, AN-73
170	193/194M	34800	HH	0	0	Median Plot
171	195/196	34800	VV	0	0	With and Without, AN-73
172	195/196M	34800	VV	0	0	Median Plot
173	197/198	34800	VV	0	0	With and Without, AN-75
174	197/198M	34800	VV	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 7

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
175	199/ 1000	34800	HH	0	0	With and Without, AN-75
176	199/ 1000M	34800	HH	0	0	Median Plot
177	1011/ 1012	34800	HH	0	0	With and Without, FGM-40
178	1013/ 1014	34800	VV	0	0	With and Without, FGM-40
179	3004/ 3006	34800	HH	0	0	With and Without, AN-72
180	3004/ 3006M	34800	HH	0	0	Median Plot
181	3013/ 3016	34800	VV	0	0	With and Without, AN-72
182	3013/ 3016M	34800	VV	0	0	Median Plot
183	3028/ 3034	34800	HH	0	0	With and Without, AN-72, With Coarse Mesh
184	3028/ 3034M	34800	HH	0	0	Median Plot
185	3030/ 3025	34800	VV	0	0	With and Without, AN-72, With Coarse Mesh

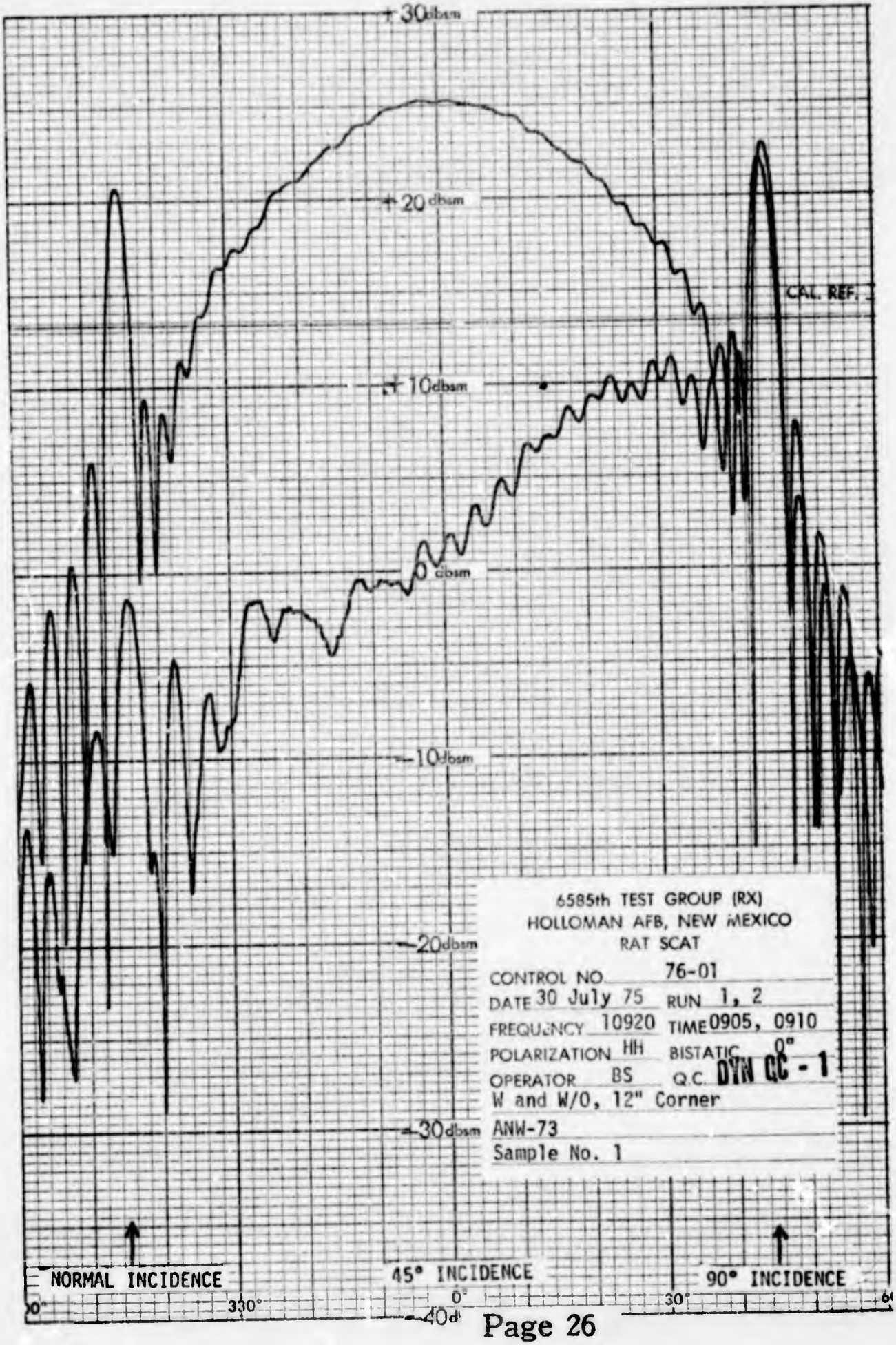
RBD 72-007

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 8

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
186	3030/ 3025M	34800	VV	0	0	Median Plot
187	3029/ 3033	34800	HH	0	0	With and Without, AN-72, With Fine Mesh
188	3029/ 3033M	34800	HH	0	0	Median Plot
189	3031/ 3032	34800	VV	0	0	With and Without, AN-72, With Fine Mesh
190	3031/ 3032M	34800	VV	0	0	Median Plot
191	3125/ 3128/3129	17500	HH	0	0	With and Without, AN-72, With Fine Mesh
192	3125/ 3128/3129M	17500	HH	0	0	Median Plot
193	3126/ 3127/3130	17500	VV	0	0	With and Without, AN-72, With Fine Mesh
194	3126/ 3127/3130M	17500	VV	0	0	Median Plot
195	3160/ 3161/3162	10920	HH	0	0	With and Without, AN-72, With Fine Mesh
196	3160 3161/3162M	10920	HH	0	0	Median Plot

CONTROL NUMBER 76-01 Table V DATA PLOT INDEX Sheet 9

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
197	3157/ 3158/3159	10920	VV	0	0	With and Without, AN-72, With Fine Mesh
198	3157/ 3158/3159M	10920	VV	0	0	Median Plot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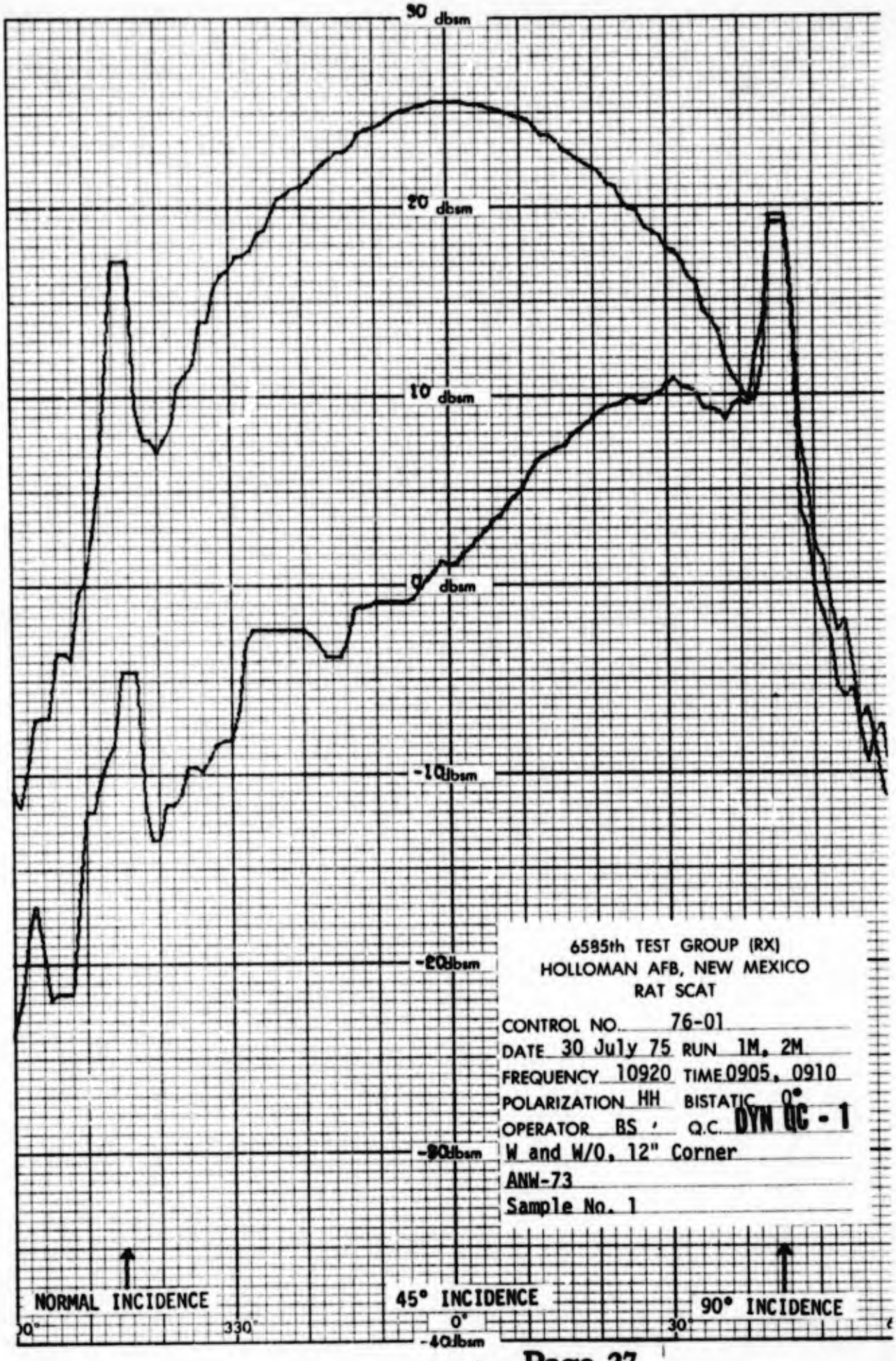
+20dbsm
CAL. REF.
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 1, 2
FREQUENCY 10920 TIME 0905, 0910
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°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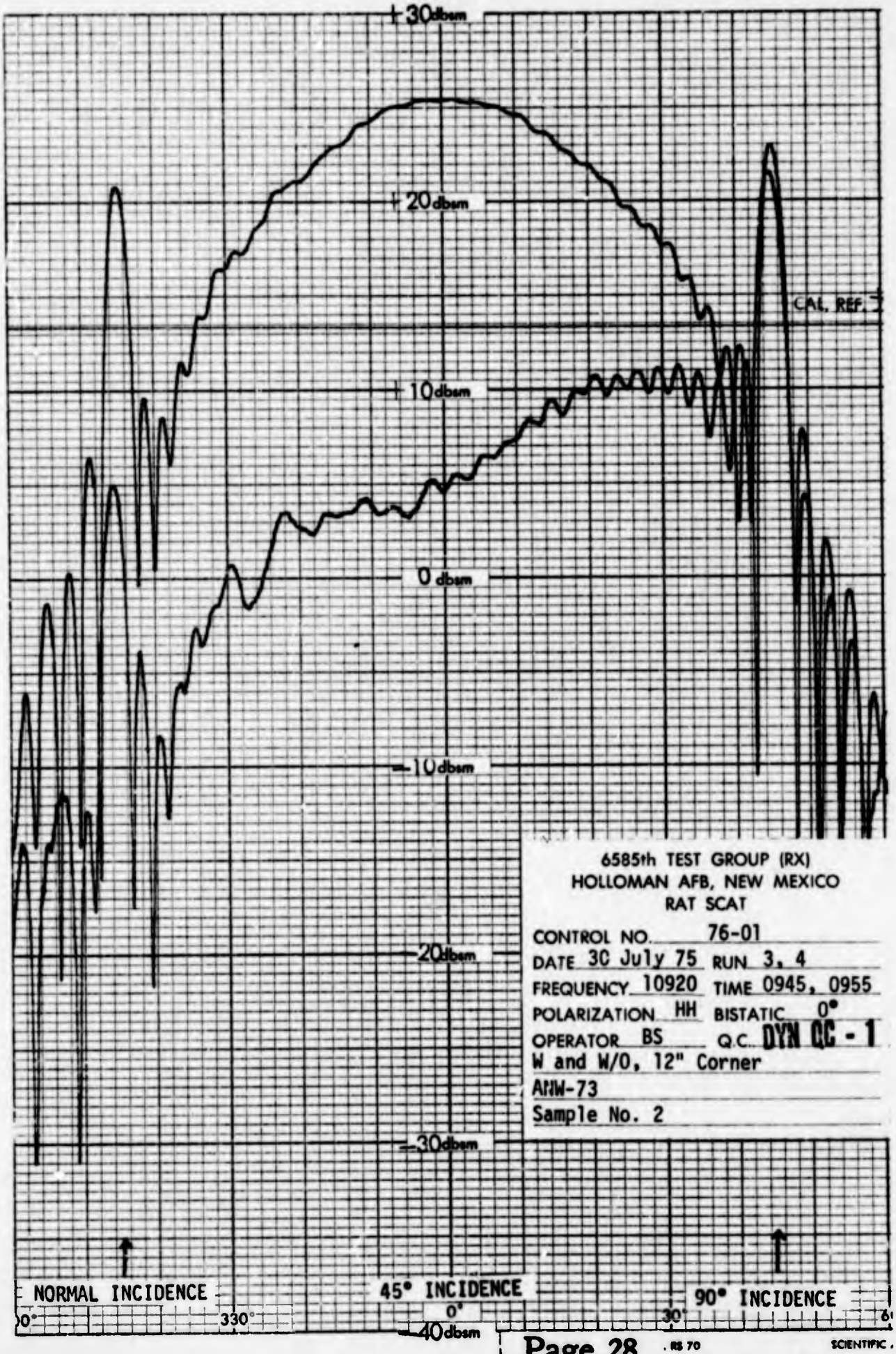
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 1M, 2M
FREQUENCY 10920 TIME 0905, 0910
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°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0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 3, 4
FREQUENCY 10920 TIME 0945, 0955
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
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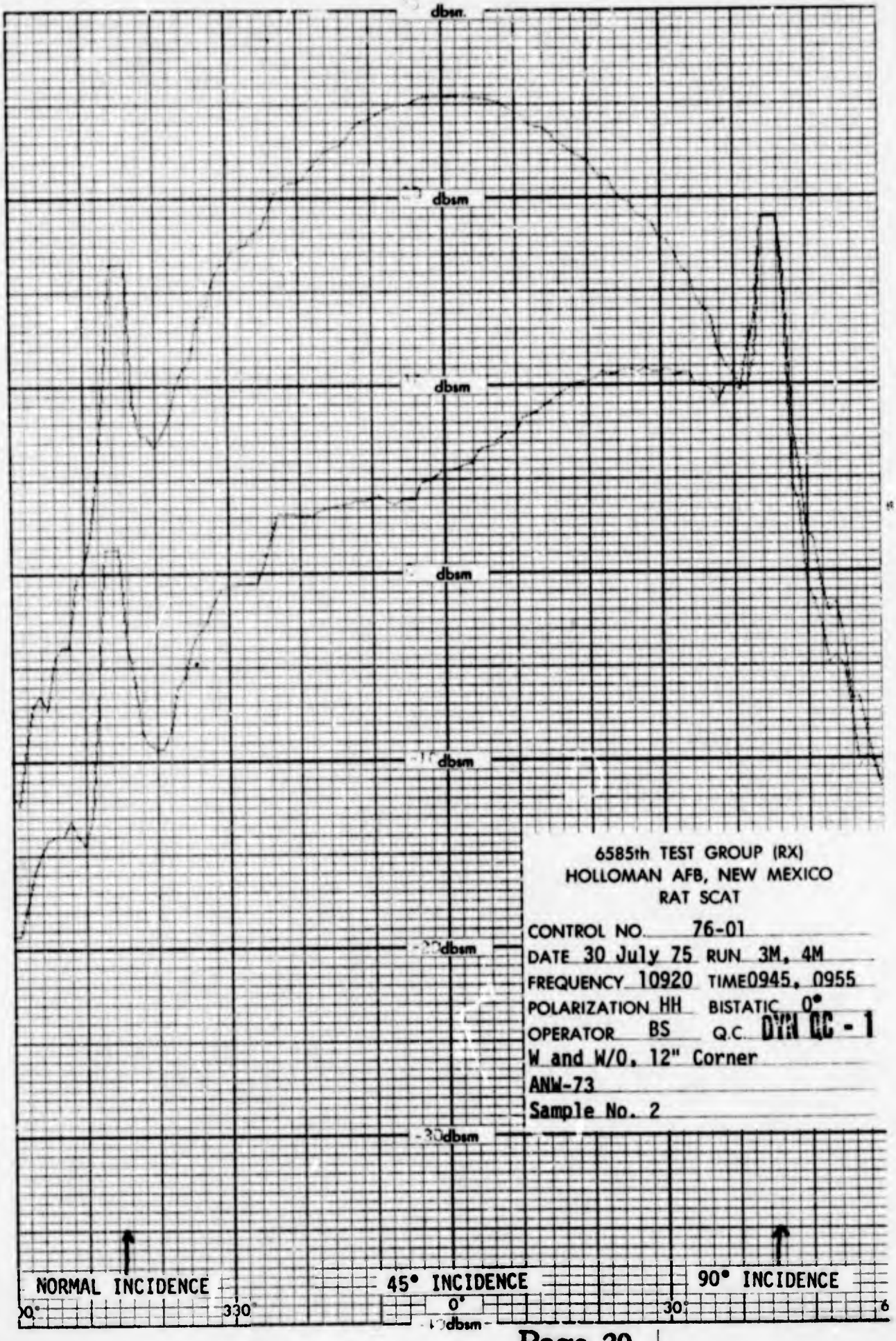
90° INCIDENCE
330°
0°
30°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dbsm
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-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 3M, 4M
FREQUENCY 10920 TIME 0945, 0955
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
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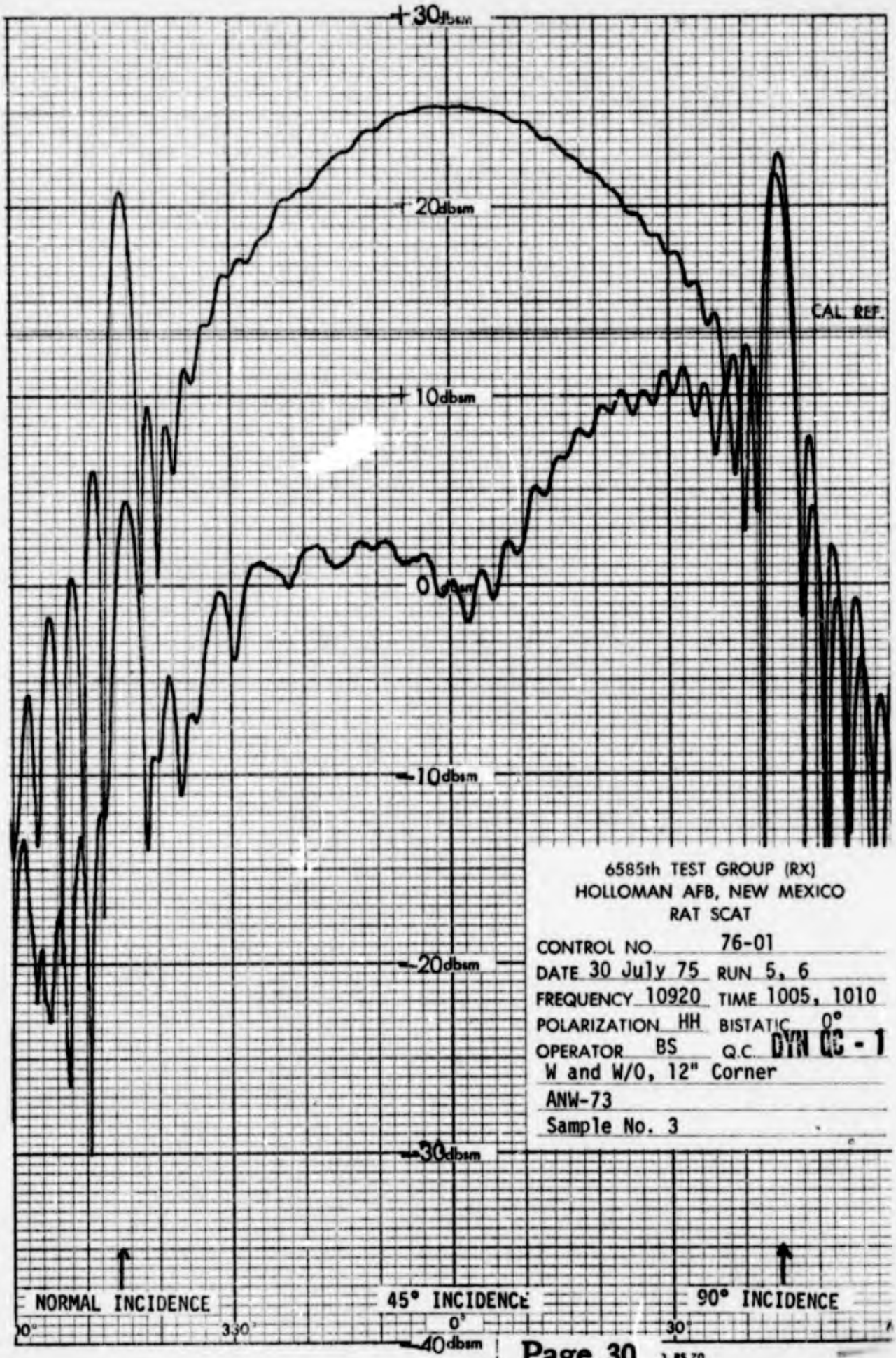
90° INCIDENCE
0°
330°
0°
30°
-30dbsm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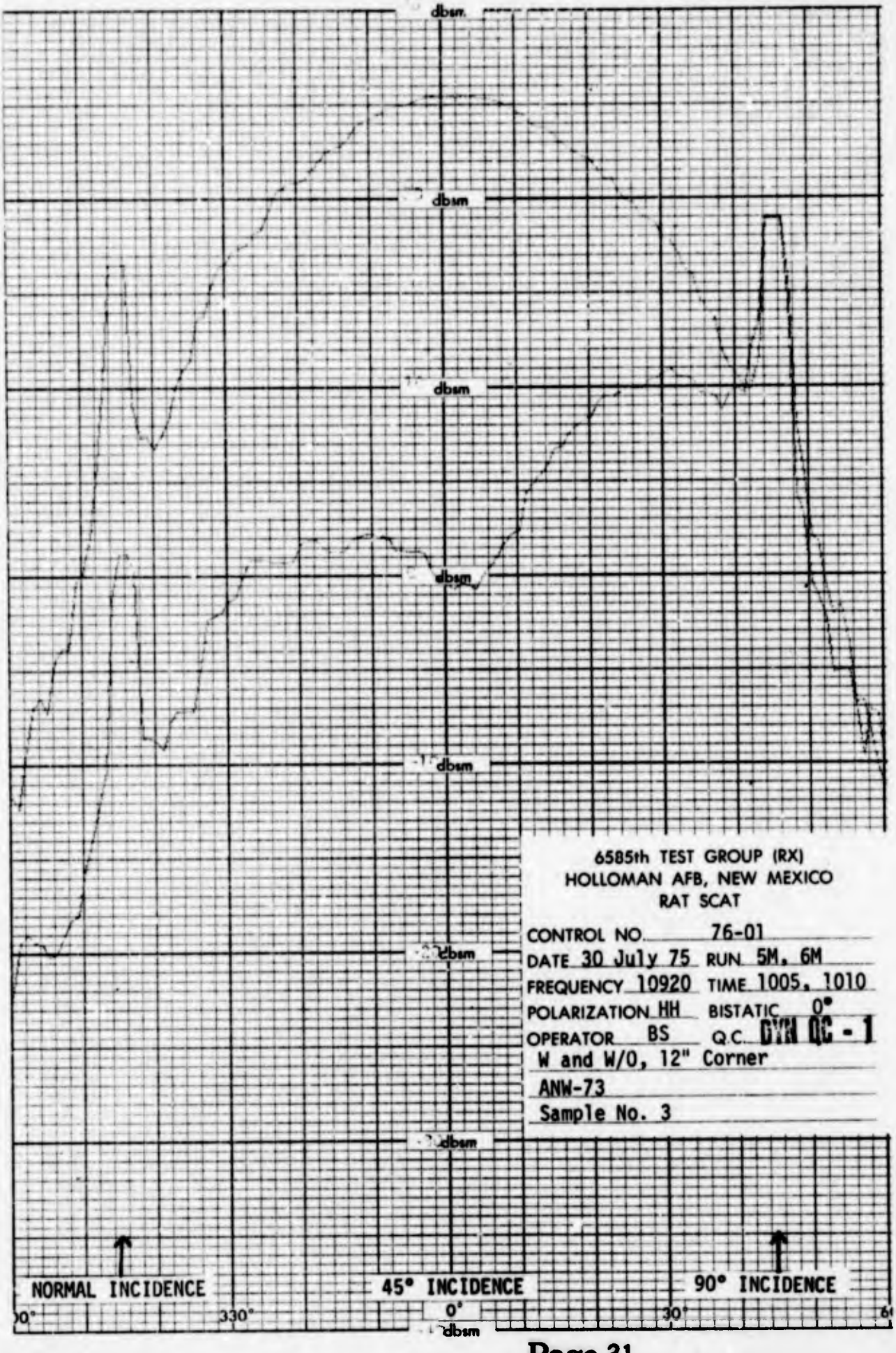
+20dbsm
CAL REF.
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 5, 6
FREQUENCY 10920 TIME 1005, 1010
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3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dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 5M, 6M
FREQUENCY 10920 TIME 1005, 1010
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. GTN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
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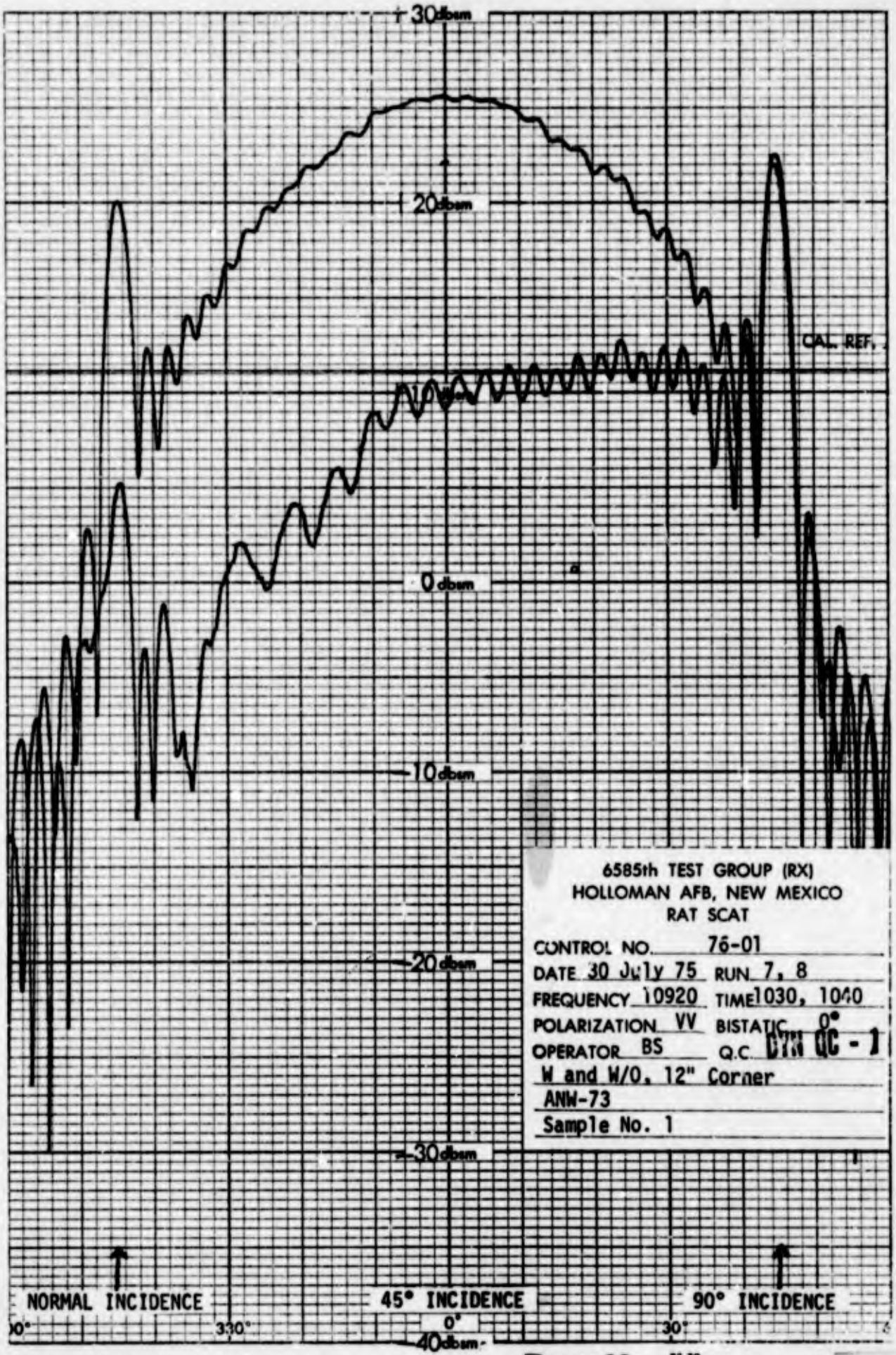
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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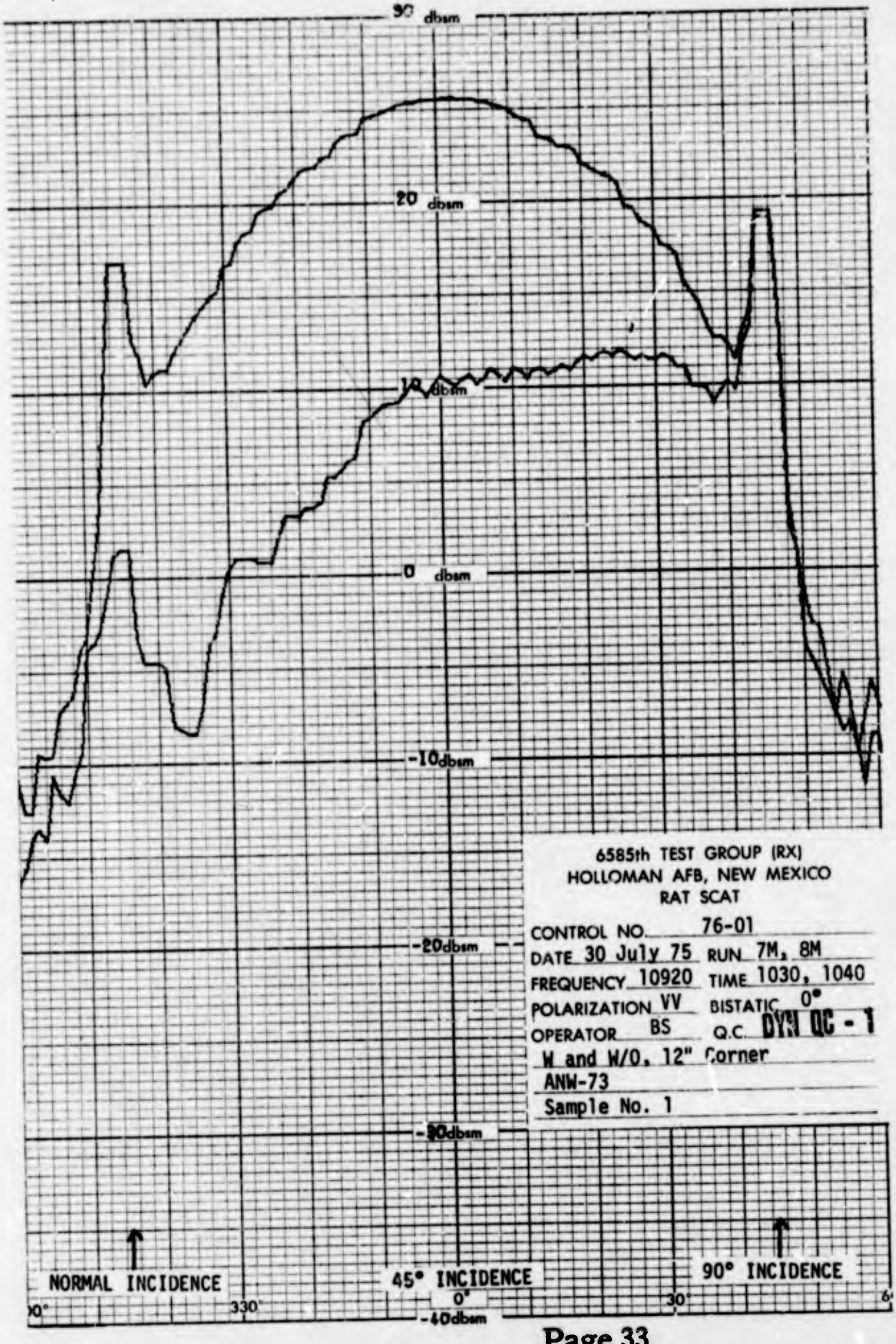
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 7, 8
FREQUENCY 10920 TIME 1030, 1040
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C.
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°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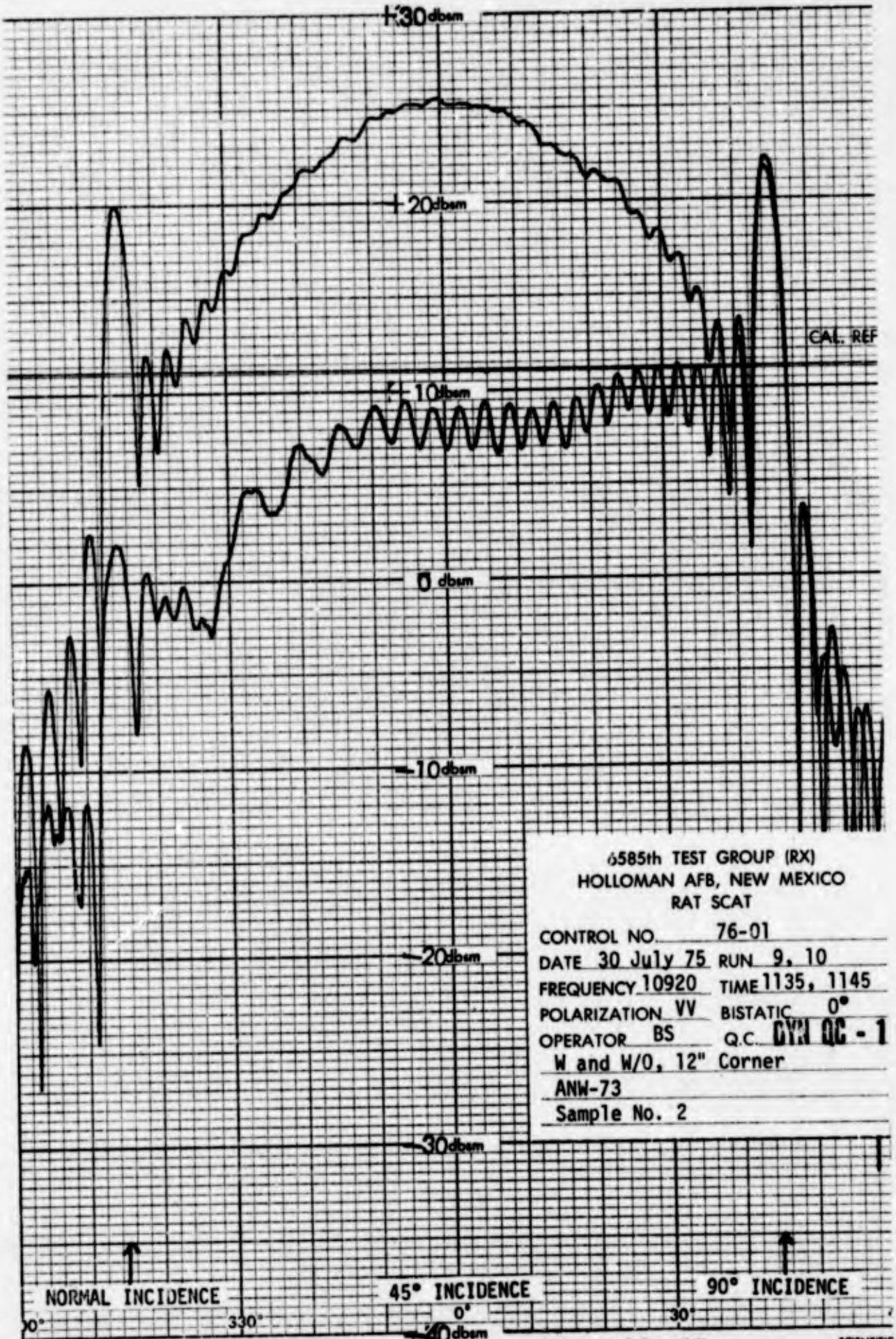
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 7M, 8M
FREQUENCY 10920 TIME 1030, 1040
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°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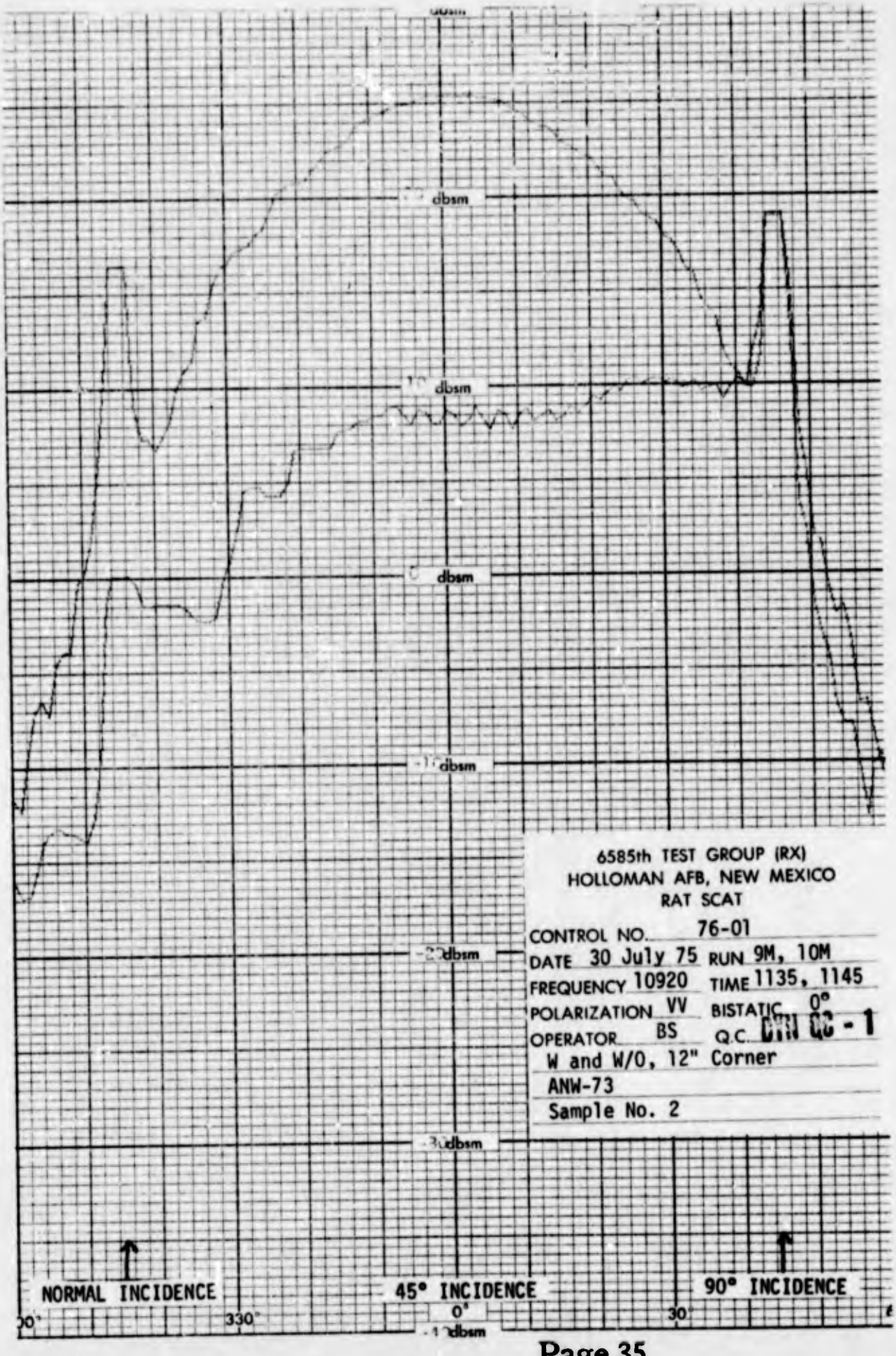
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 9, 10
FREQUENCY 10920 TIME 1135, 1145
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. GYH QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°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6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 9M, 10M
FREQUENCY 10920 TIME 1135, 1145
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C.
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
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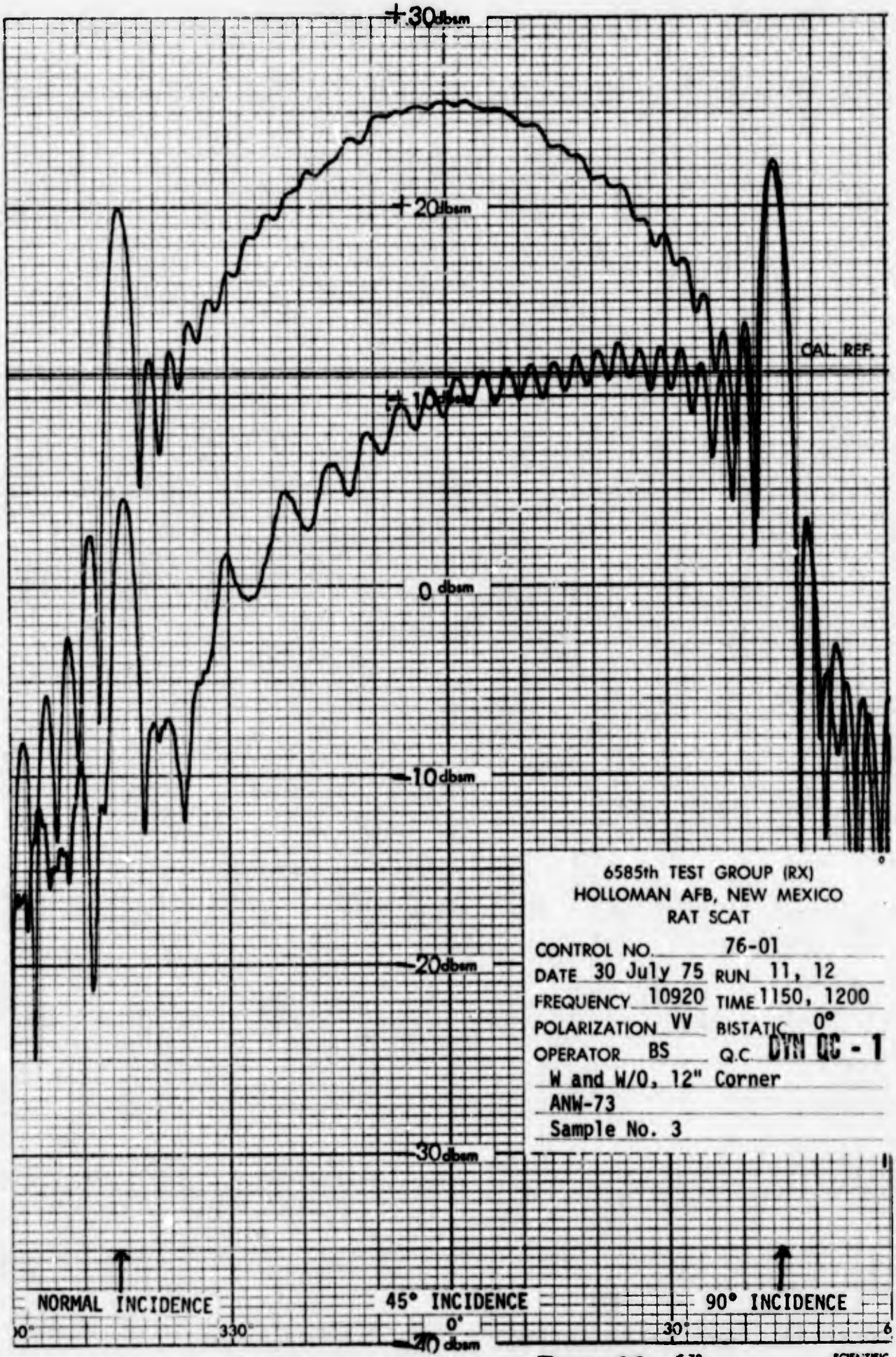
0°
30°
dbsm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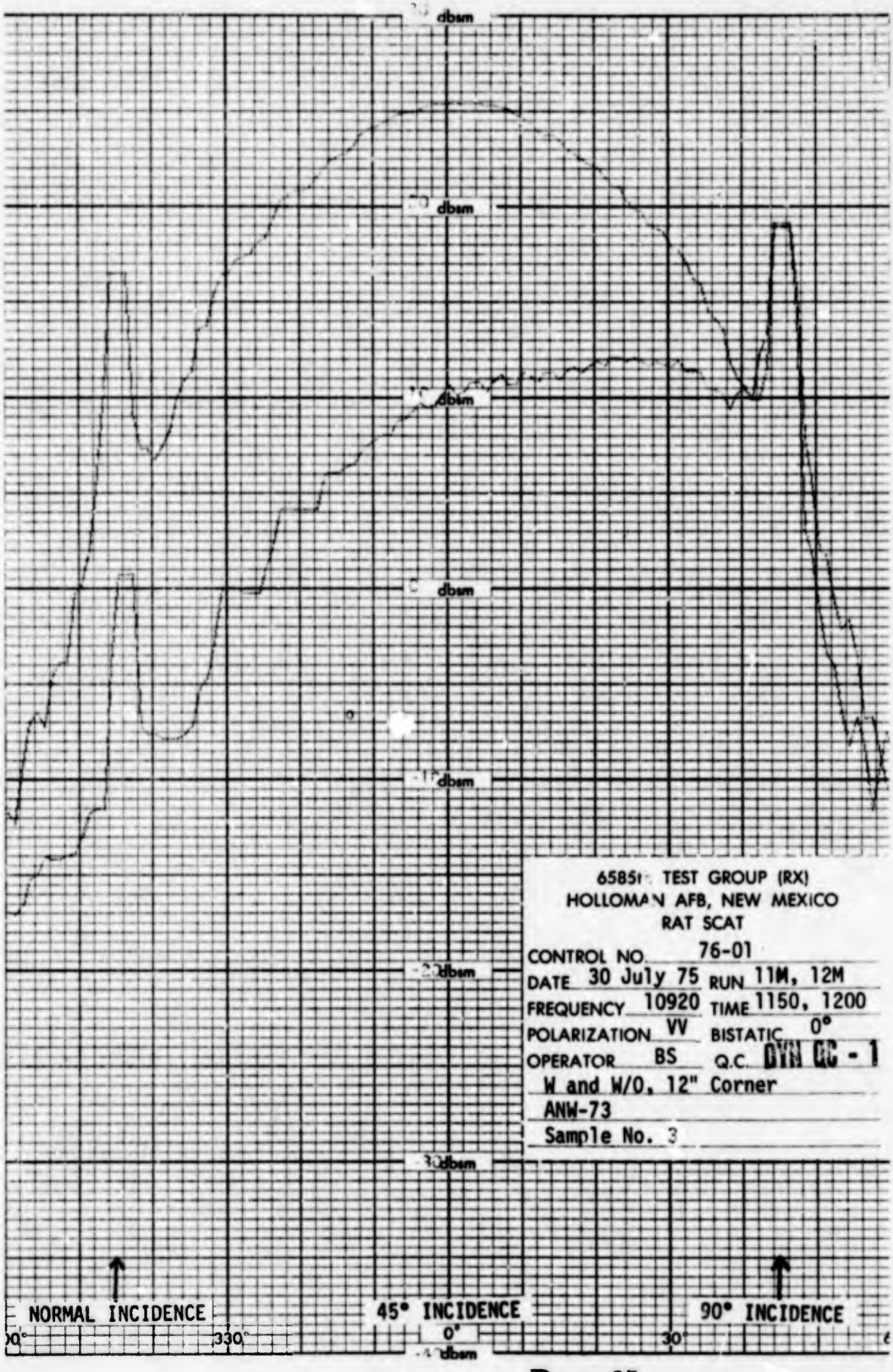
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 11, 12
FREQUENCY 10920 TIME 1150, 1200
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
-40 dbsm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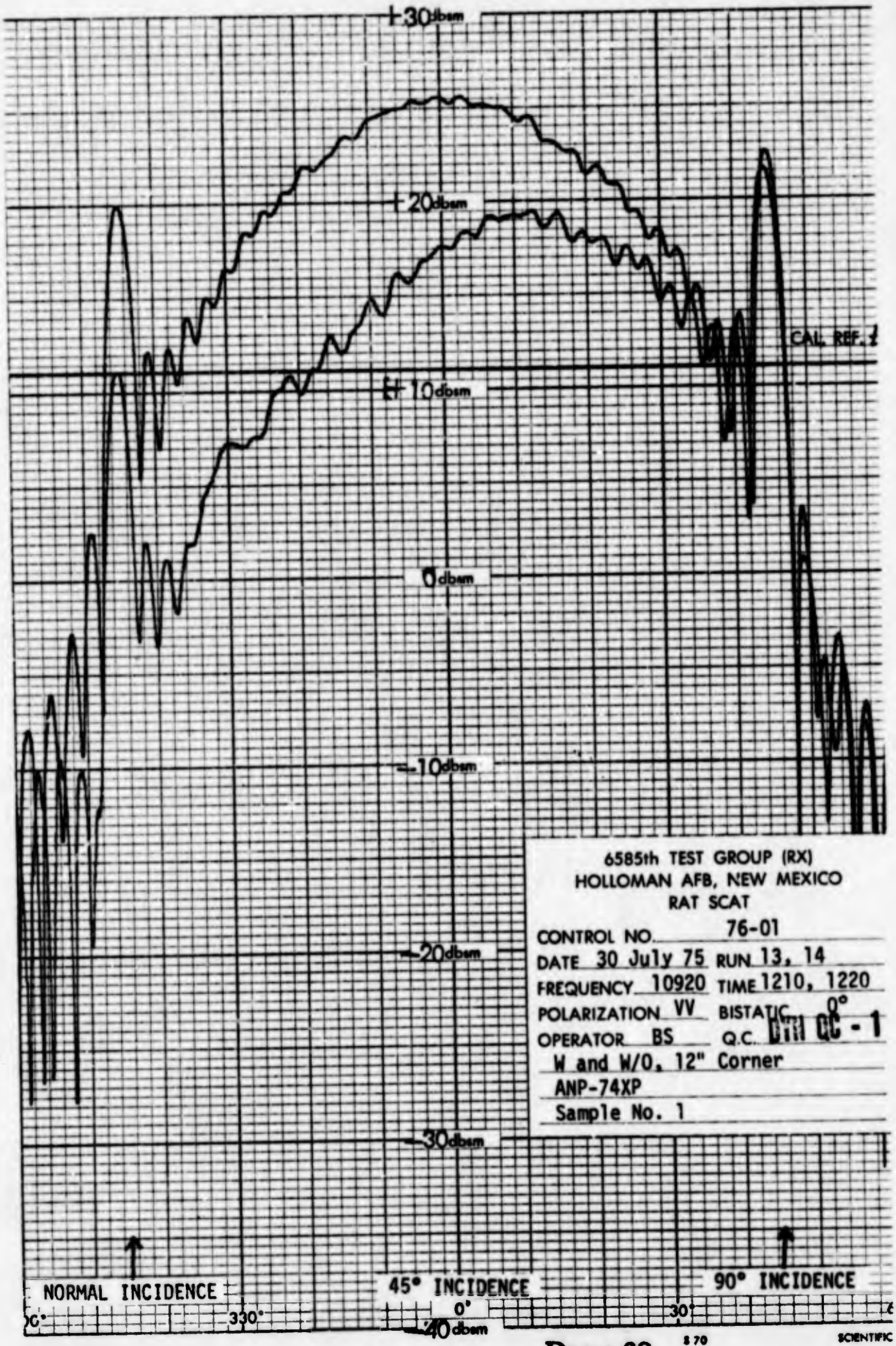
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 11M, 12M
FREQUENCY 10920 TIME 1150, 1200
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DIN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
dbsm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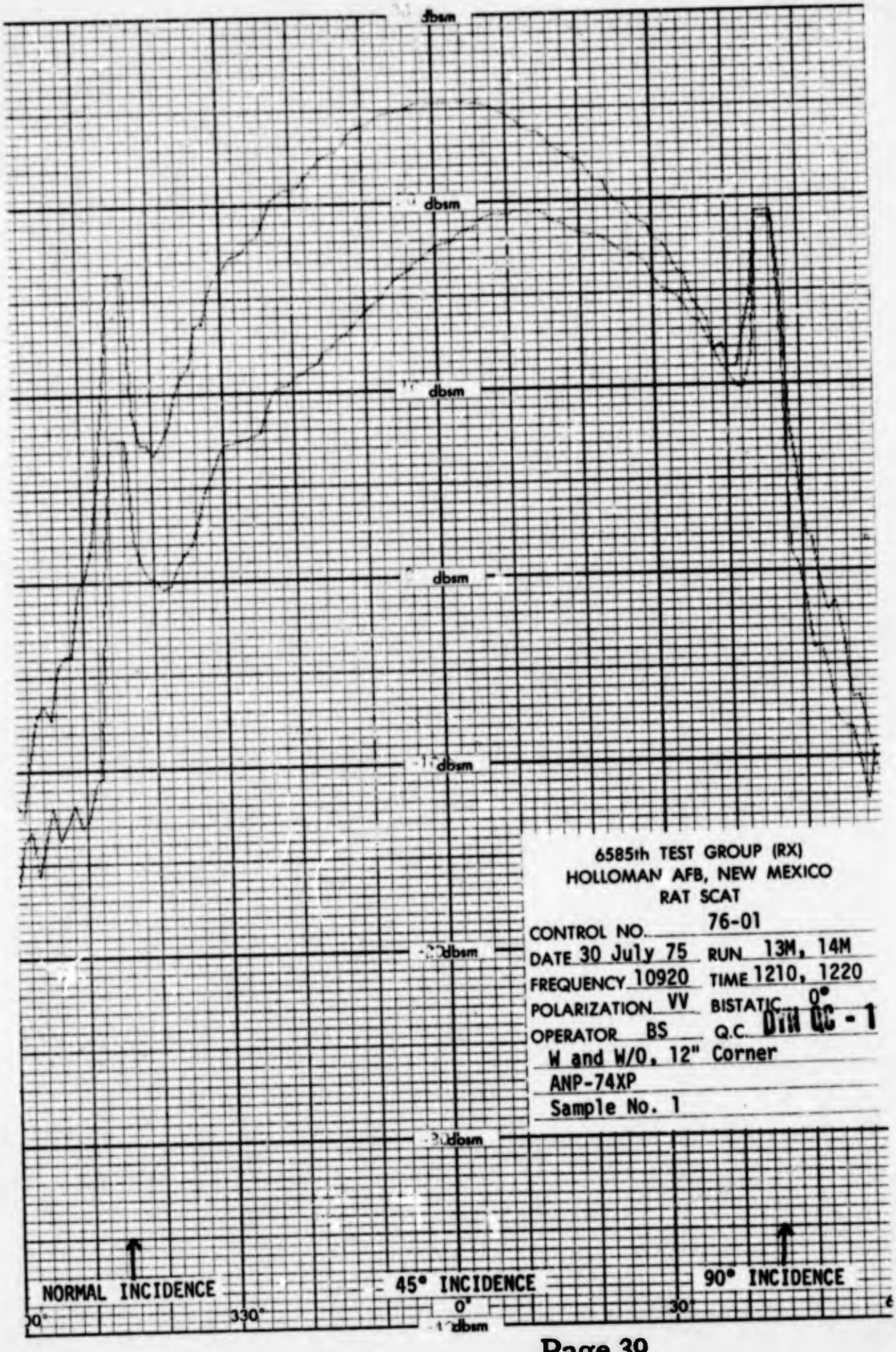
+20dbsm
CAL REF.
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 13, 14
FREQUENCY 10920 TIME 1210, 1220
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
-40dbsm
SCIENTIFIC


dbsm
dbsm
dbsm
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dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 13M, 14M
FREQUENCY 10920 TIME 1210, 1220
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DiH QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
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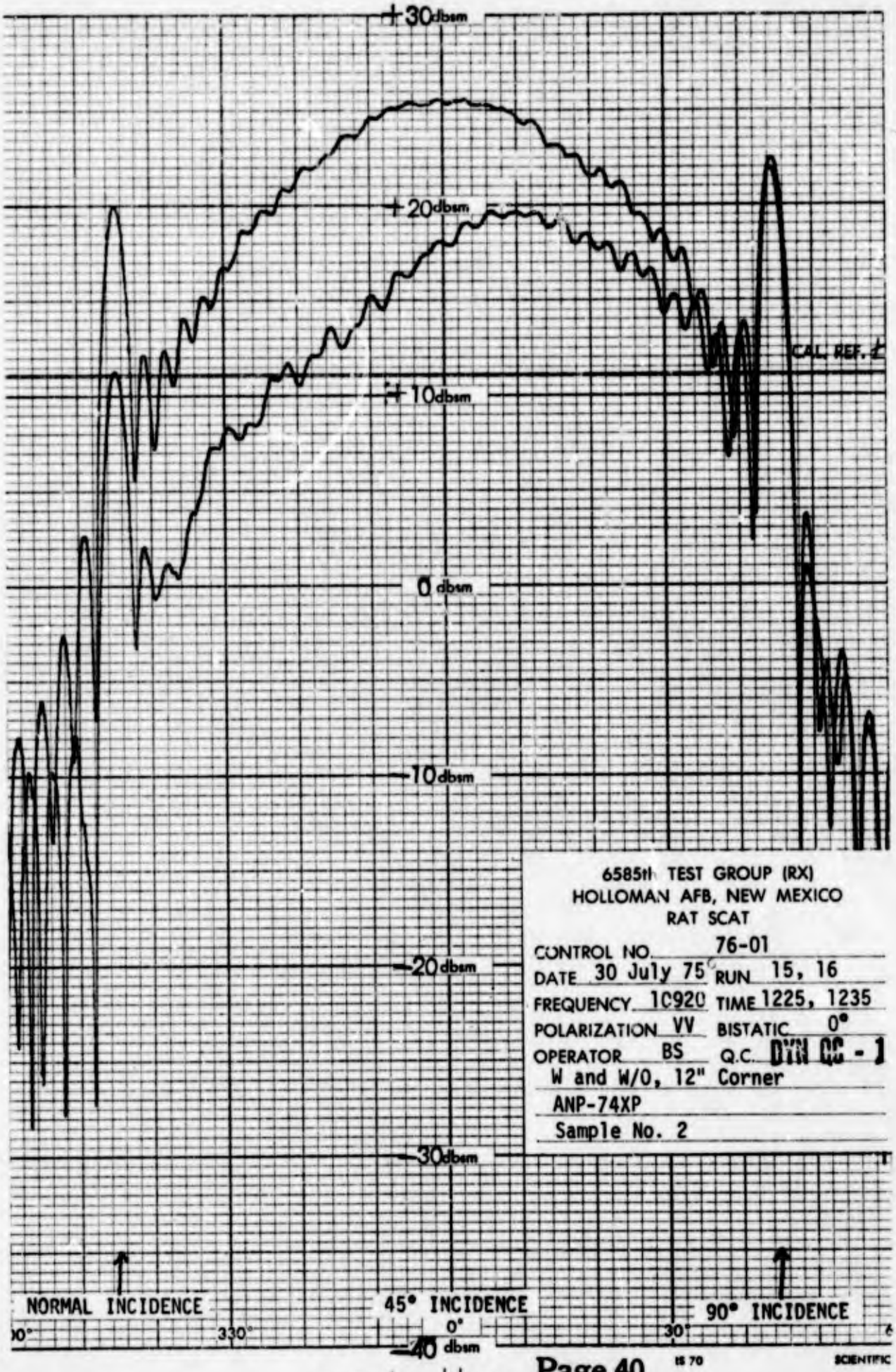
90° INCIDENCE
330°
0°
30°
dbsm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-20dbsm
-30dbsm
-40 dbsm
CAL. REF. 1
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 15, 16
FREQUENCY 10920 TIME 1225, 1235
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DTN CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
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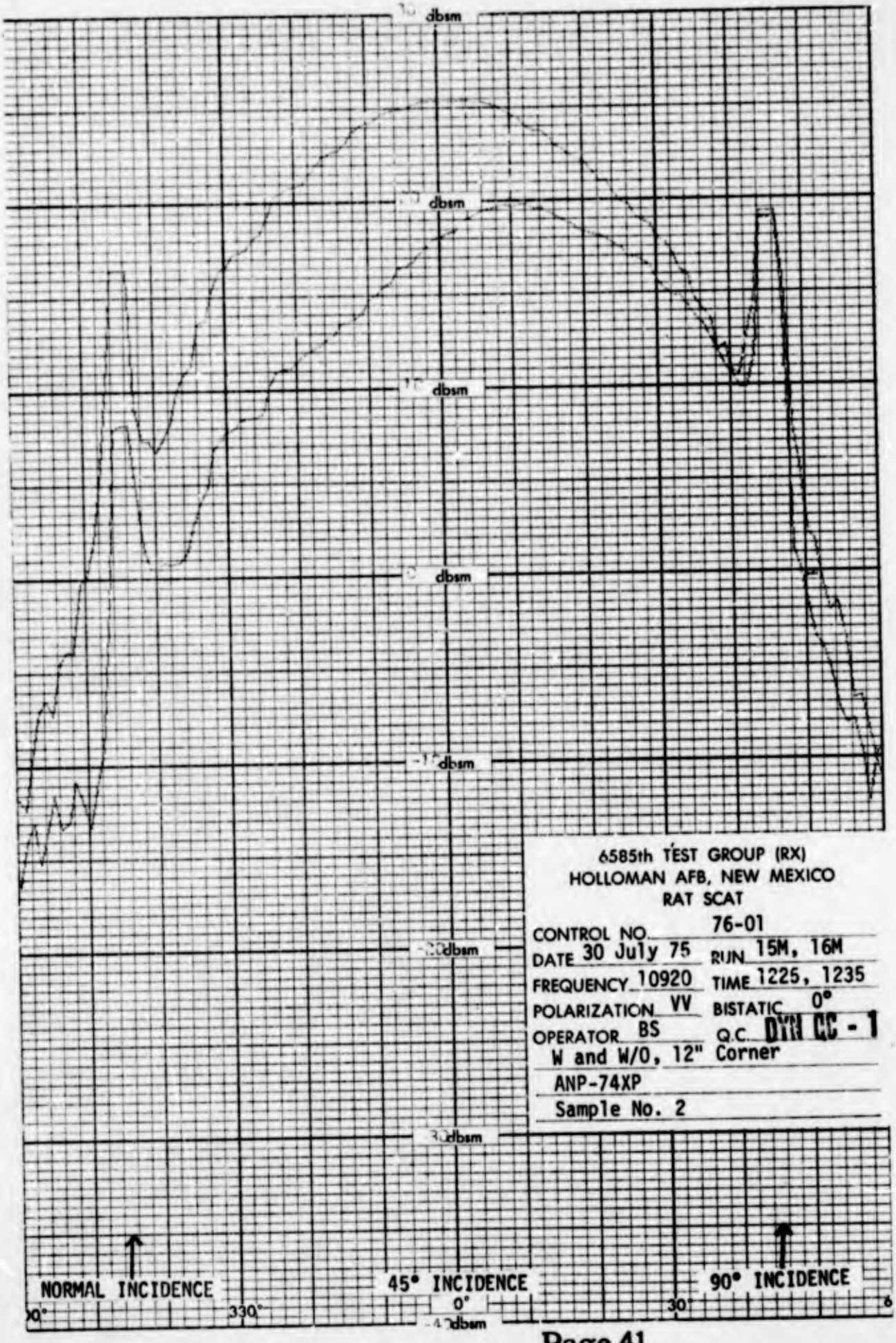
90° INCIDENCE
0°
330°
30°


dbsm
dbsm
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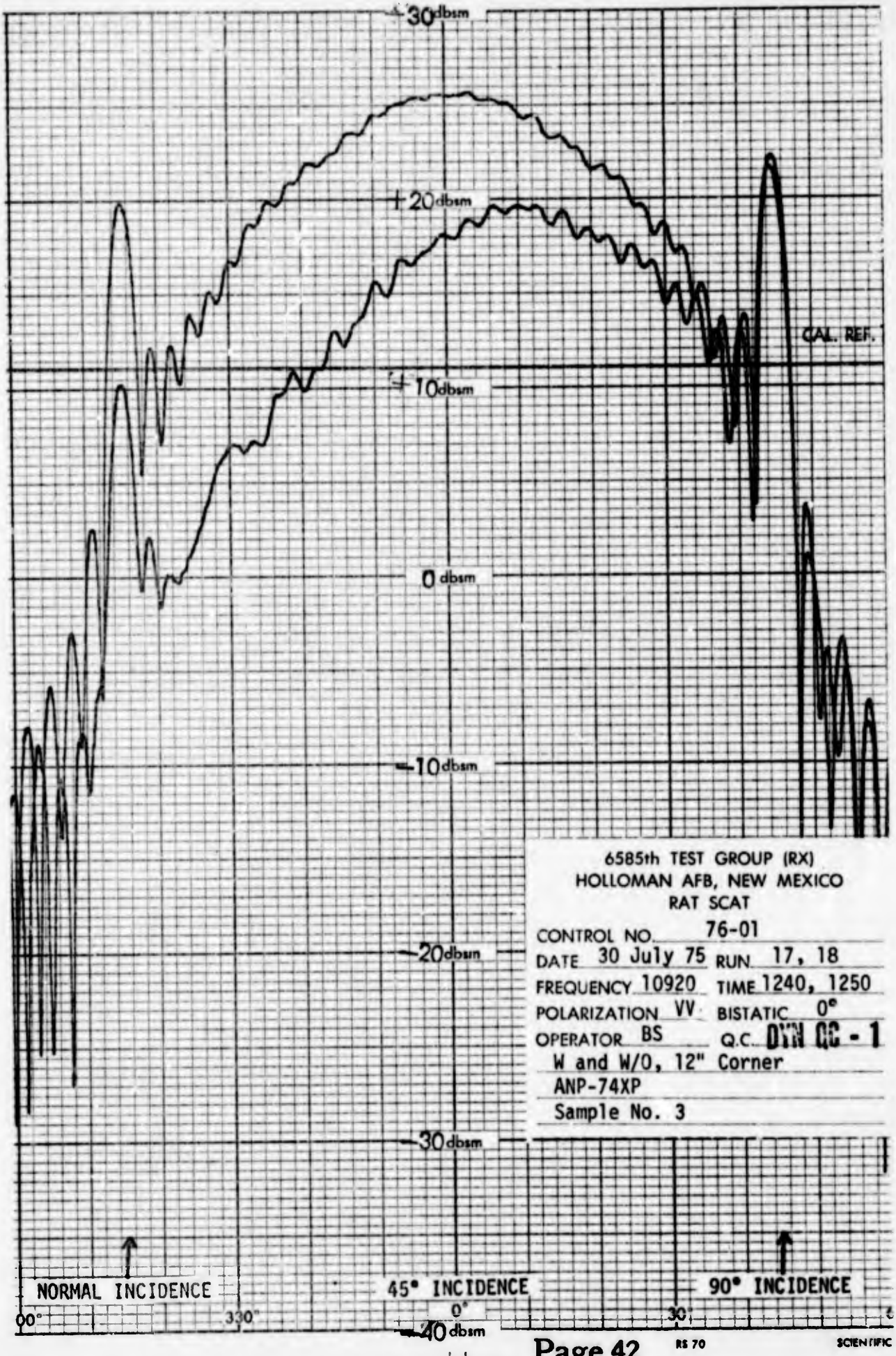
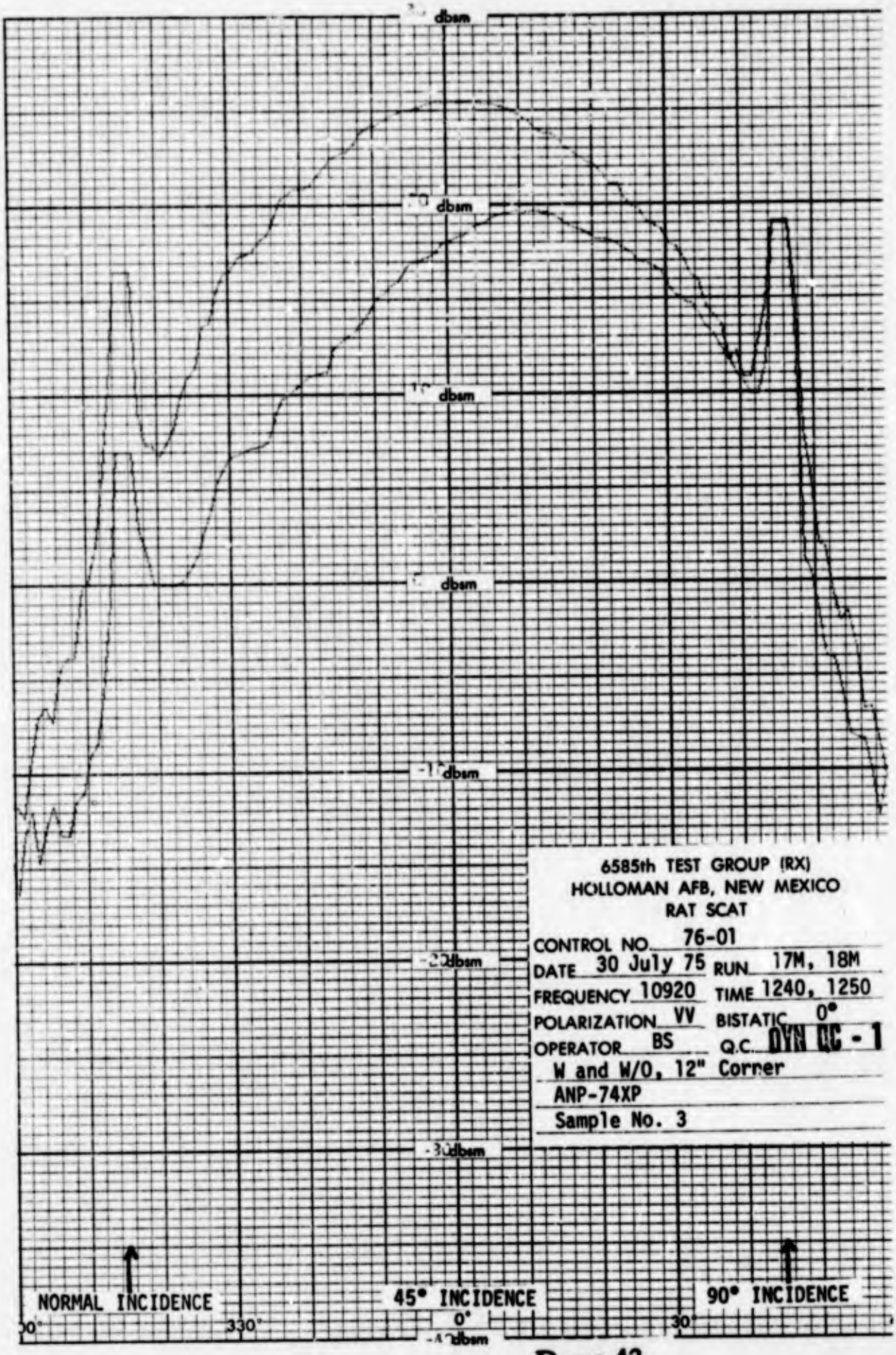
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75
RUN 15M, 16M
FREQUENCY 10920
TIME 1225, 1235
POLARIZATION VV
BISTATIC 0°
OPERATOR BS
Q.C. DTN CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
dbsm



RS 70 SCIENTIFIC


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 17M, 18M
FREQUENCY 10920 TIME 1240, 1250
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
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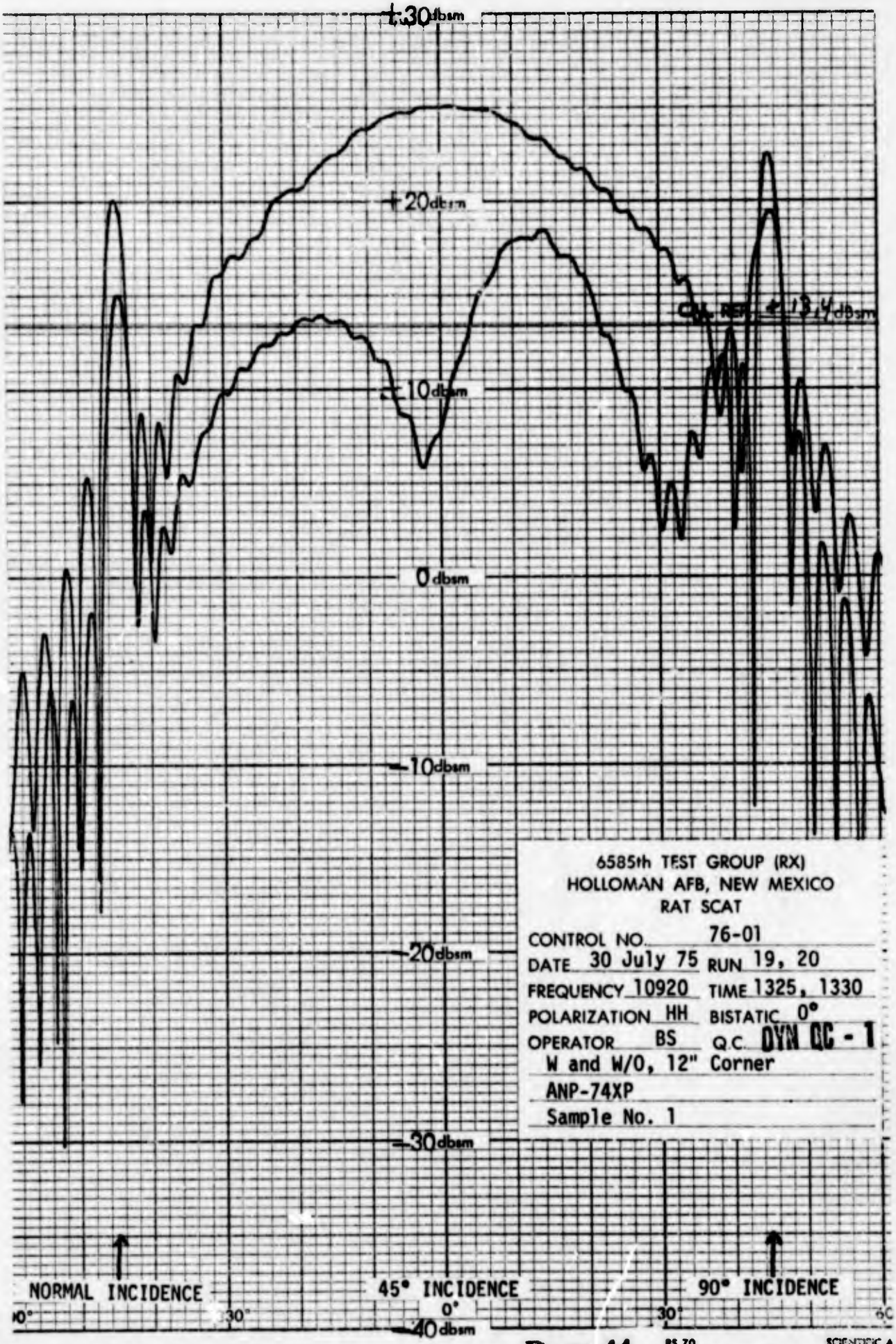
90° INCIDENCE
330°
0°
30°
dbsm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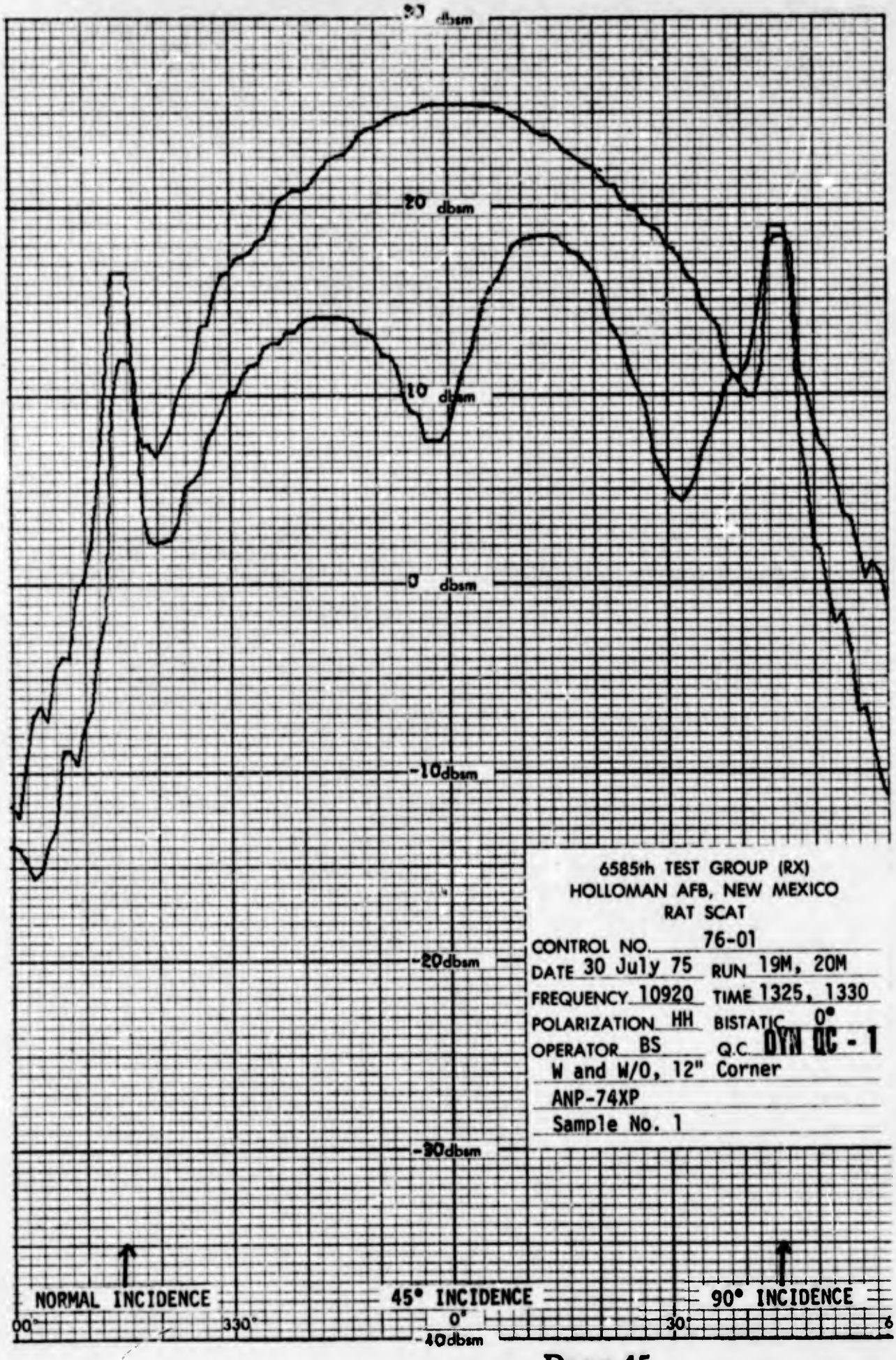
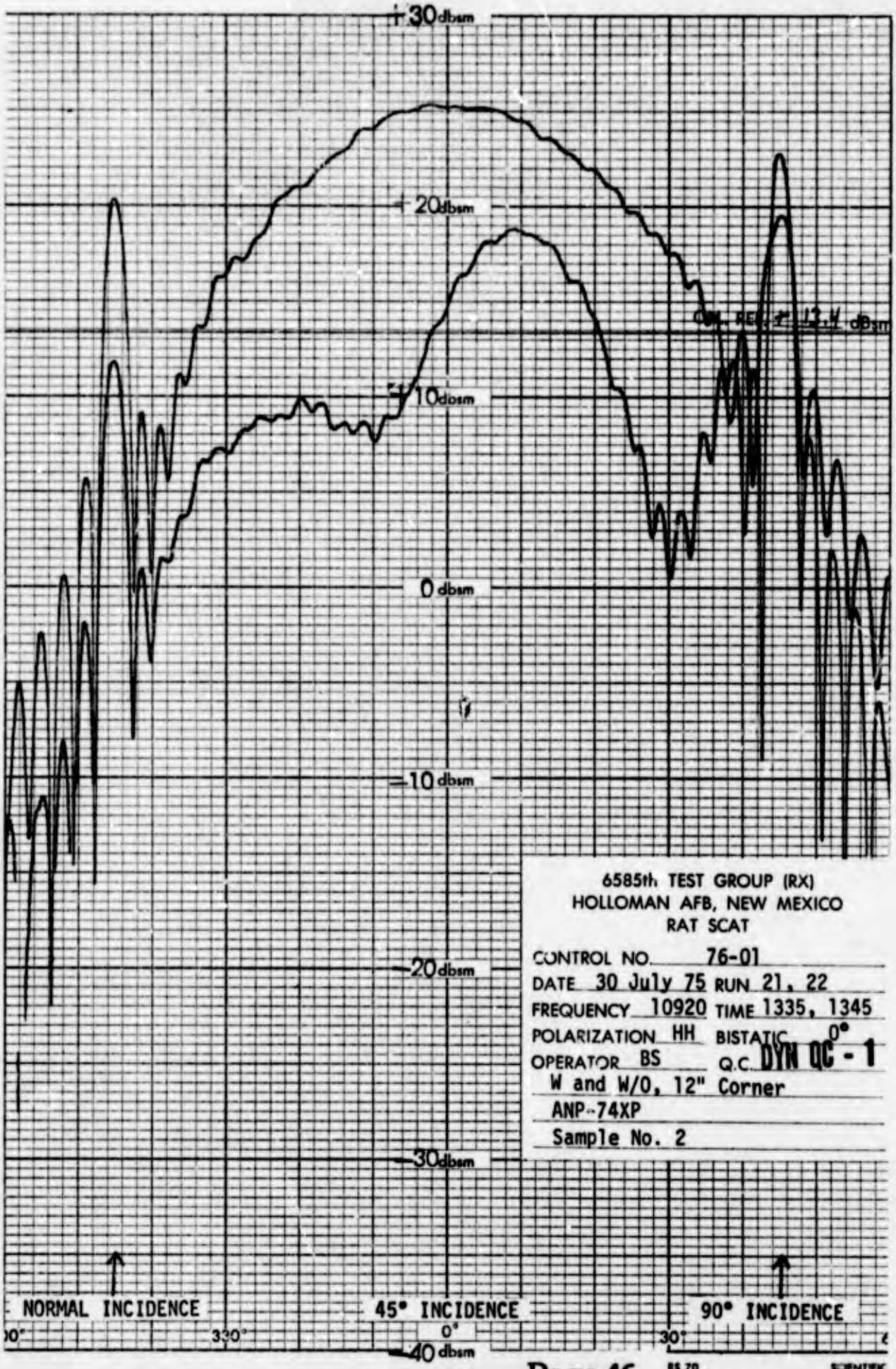
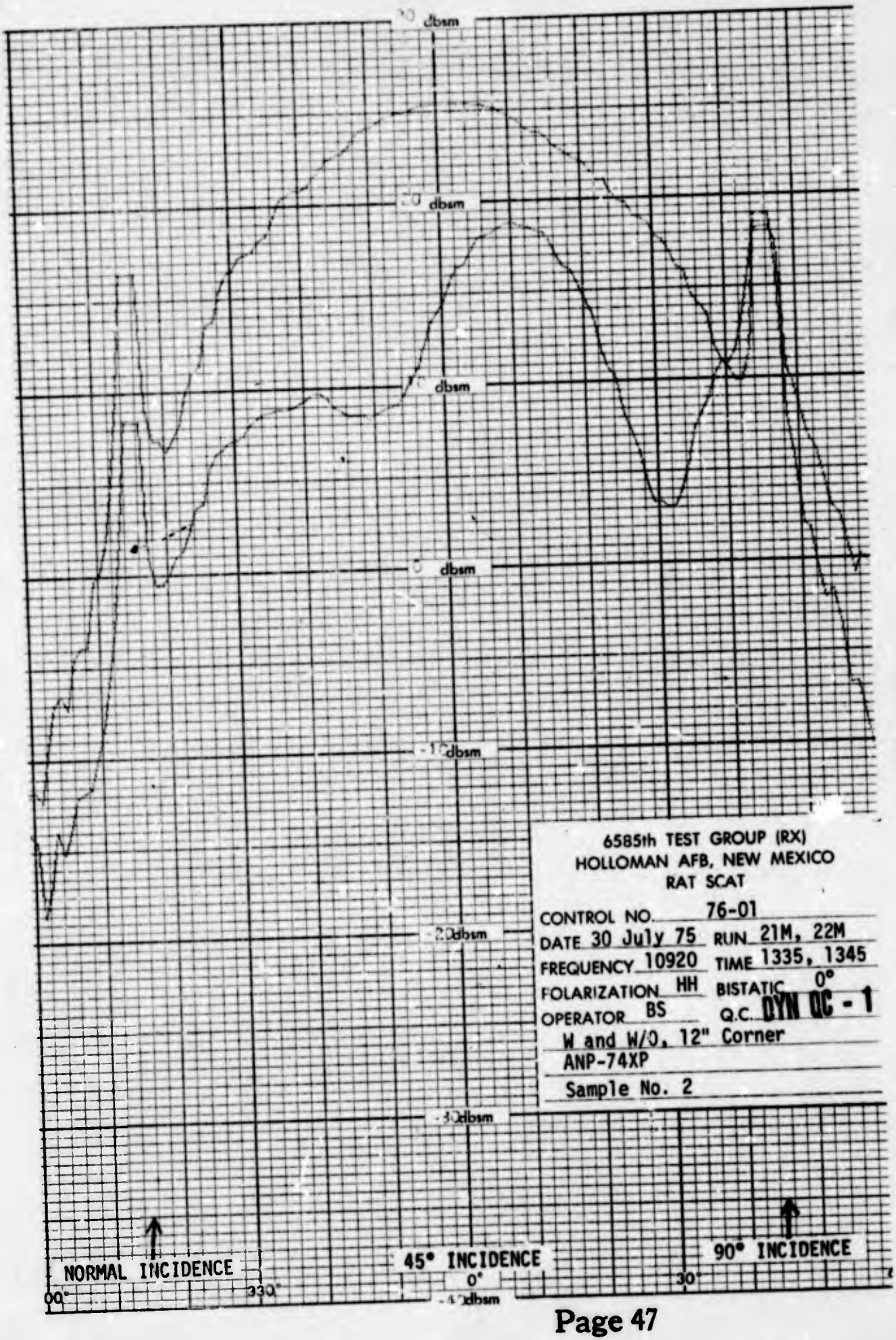
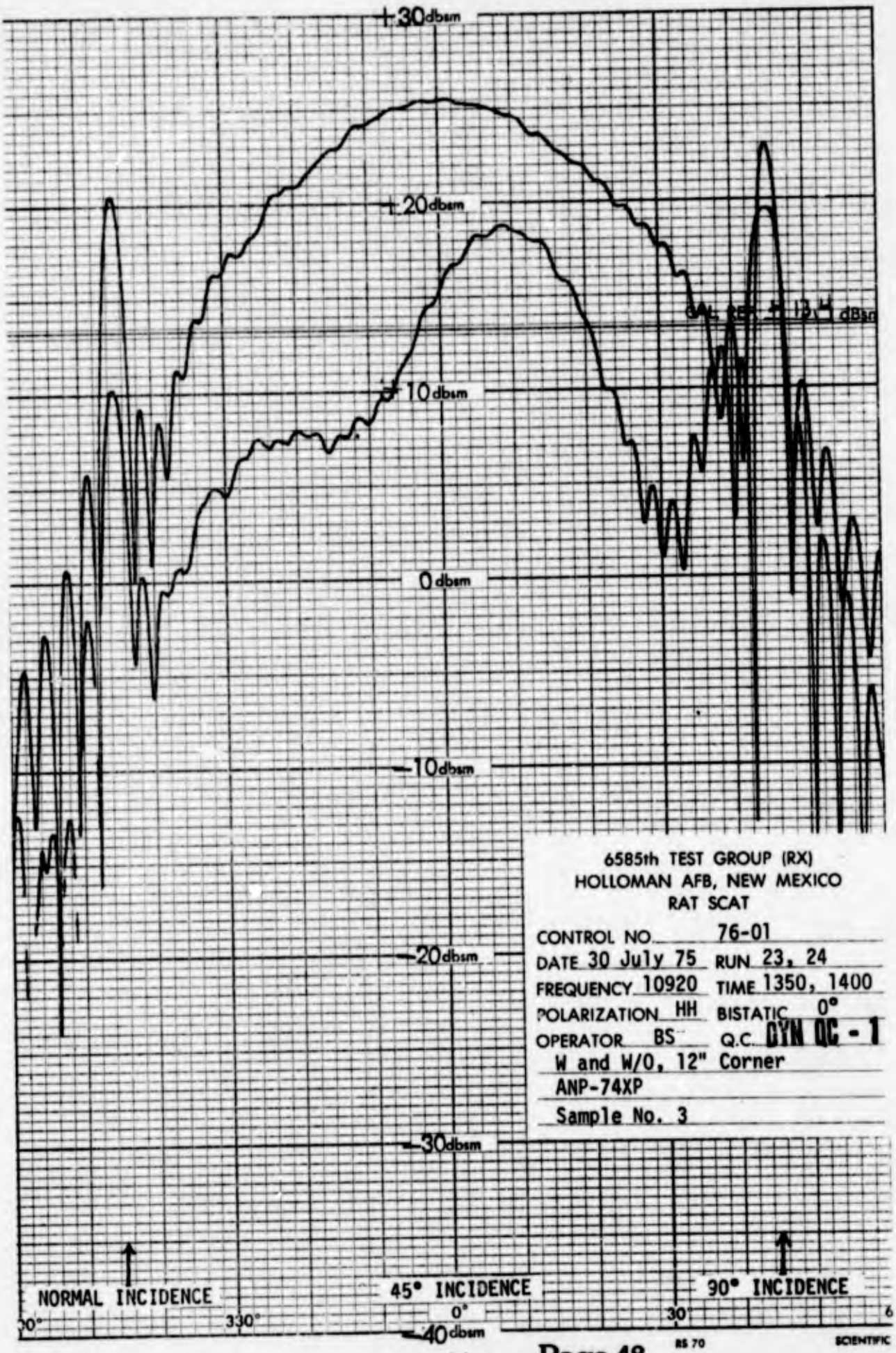
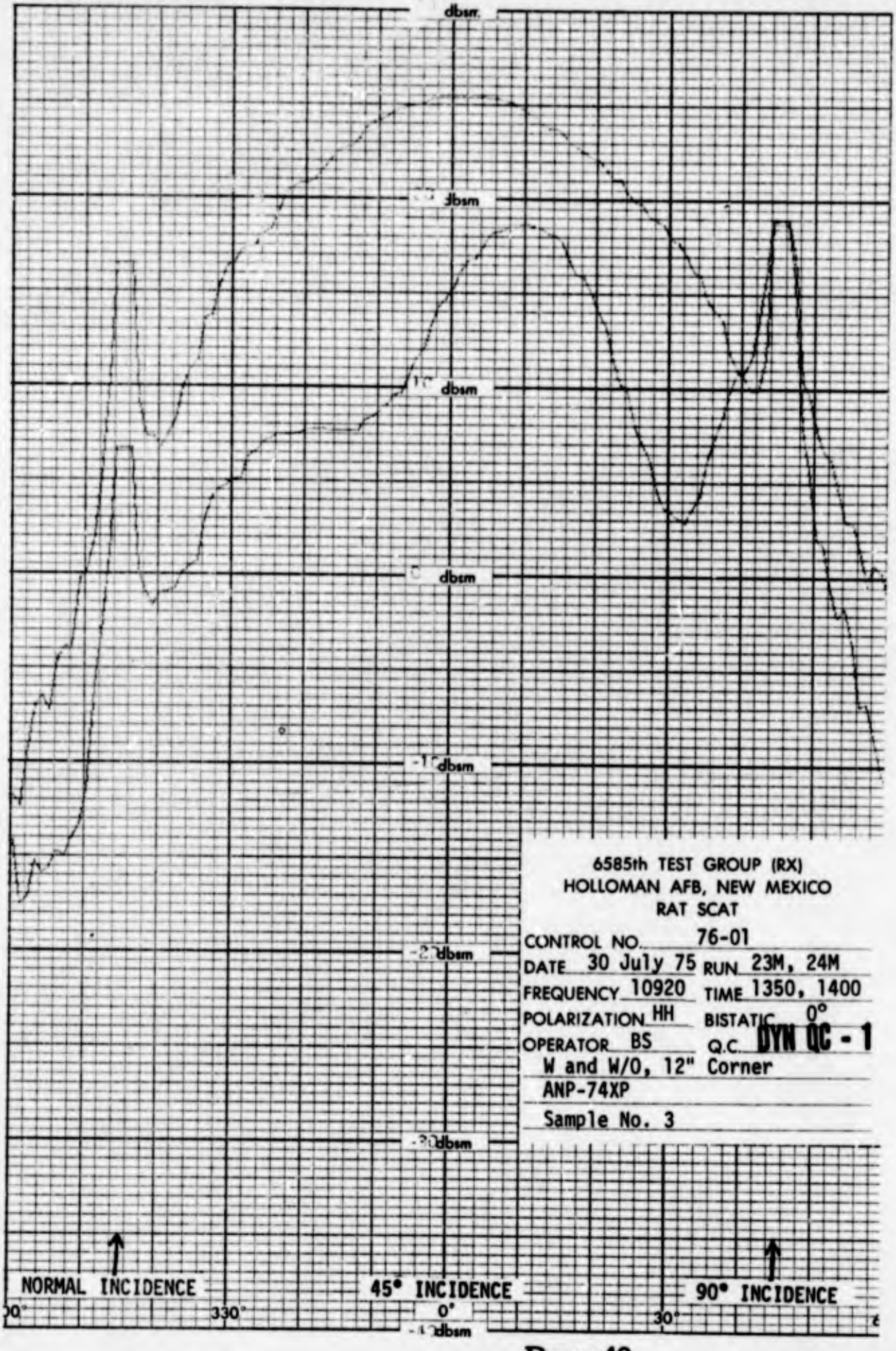
+20dbsm
CAL. REF. +13.4dbsm
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 19, 20
FREQUENCY 10920 TIME 1325, 1330
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
30°
60

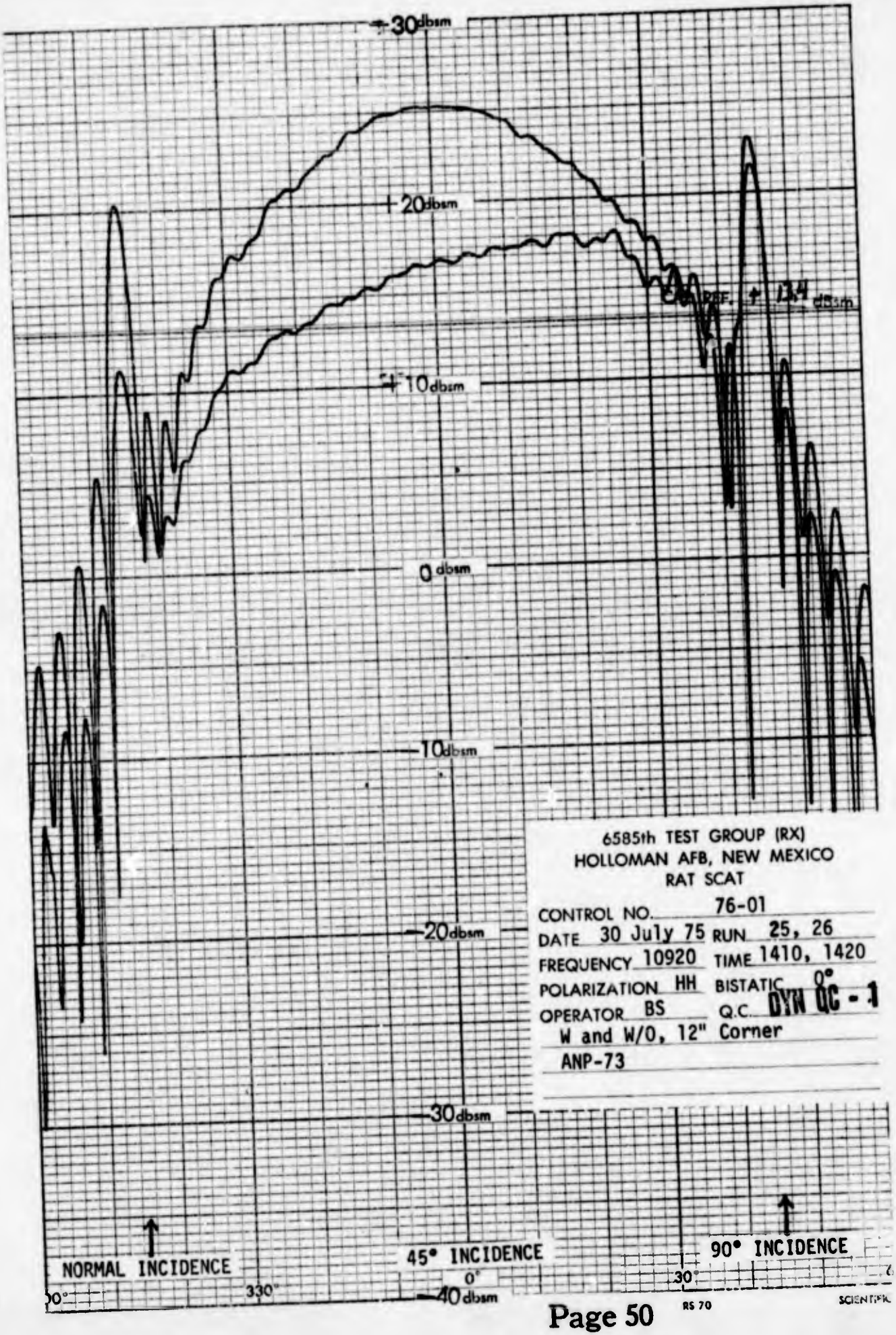

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 19M, 20M
FREQUENCY 10920 TIME 1325, 1330
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°

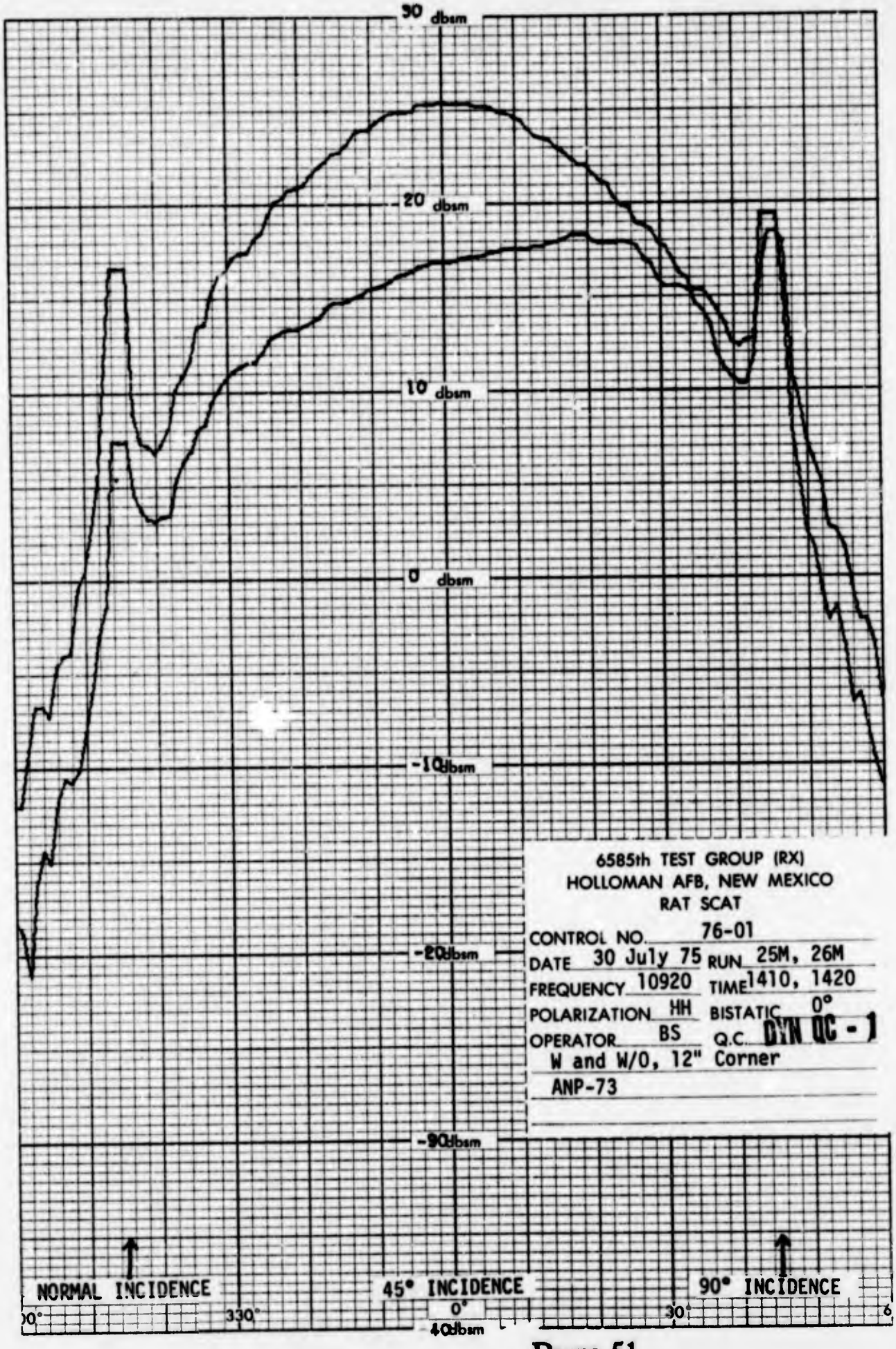

+30dbsm
+20dbsm
+10dbsm
0 dbsm
-10 dbsm
-20dbsm
-30dbsm
-40 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 21, 22
FREQUENCY 10920 TIME 1335, 1345
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2

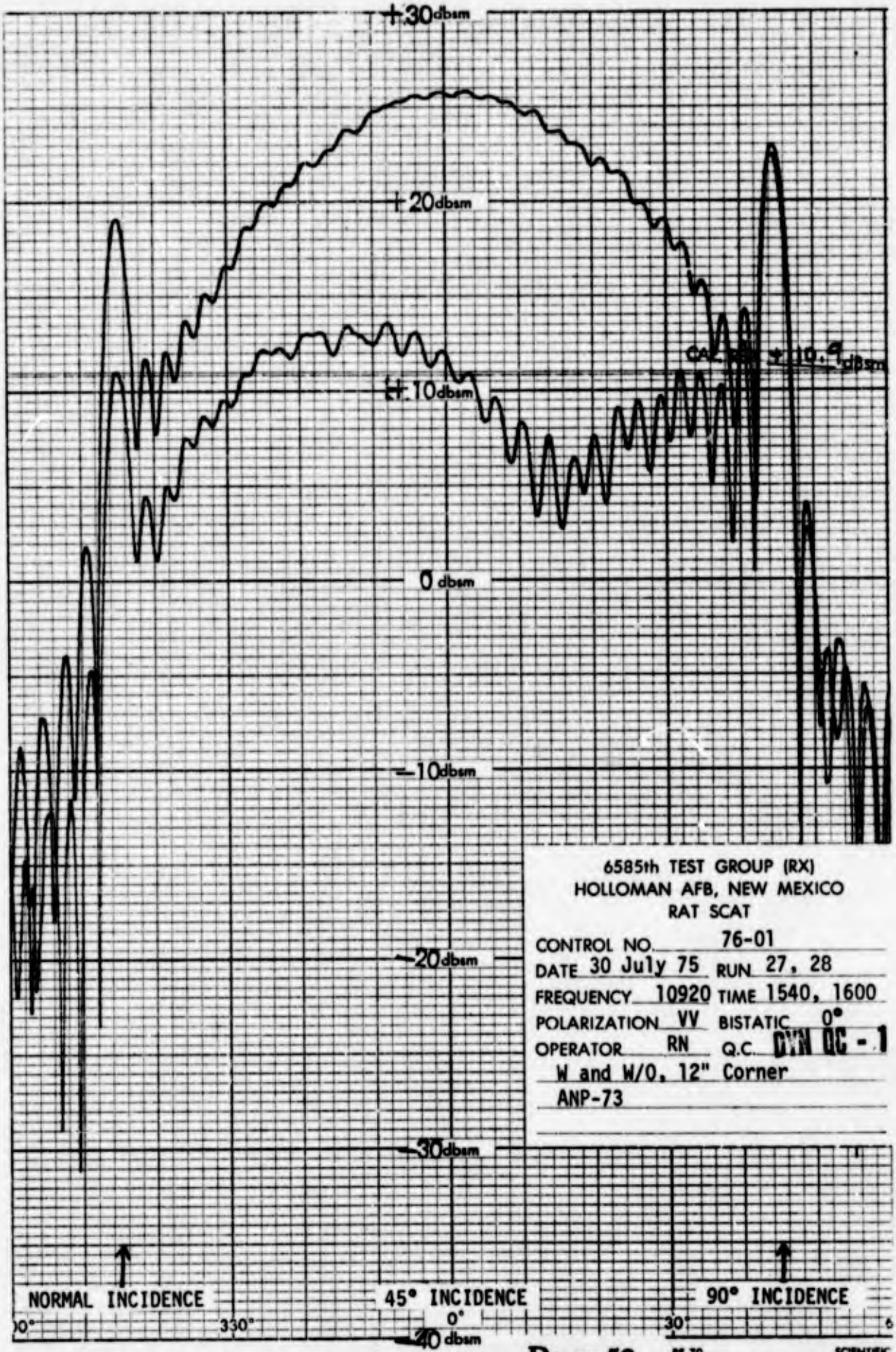

dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 21M, 22M
FREQUENCY 10920 TIME 1335, 1345
FOLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
90°
330°
30°
dbsm

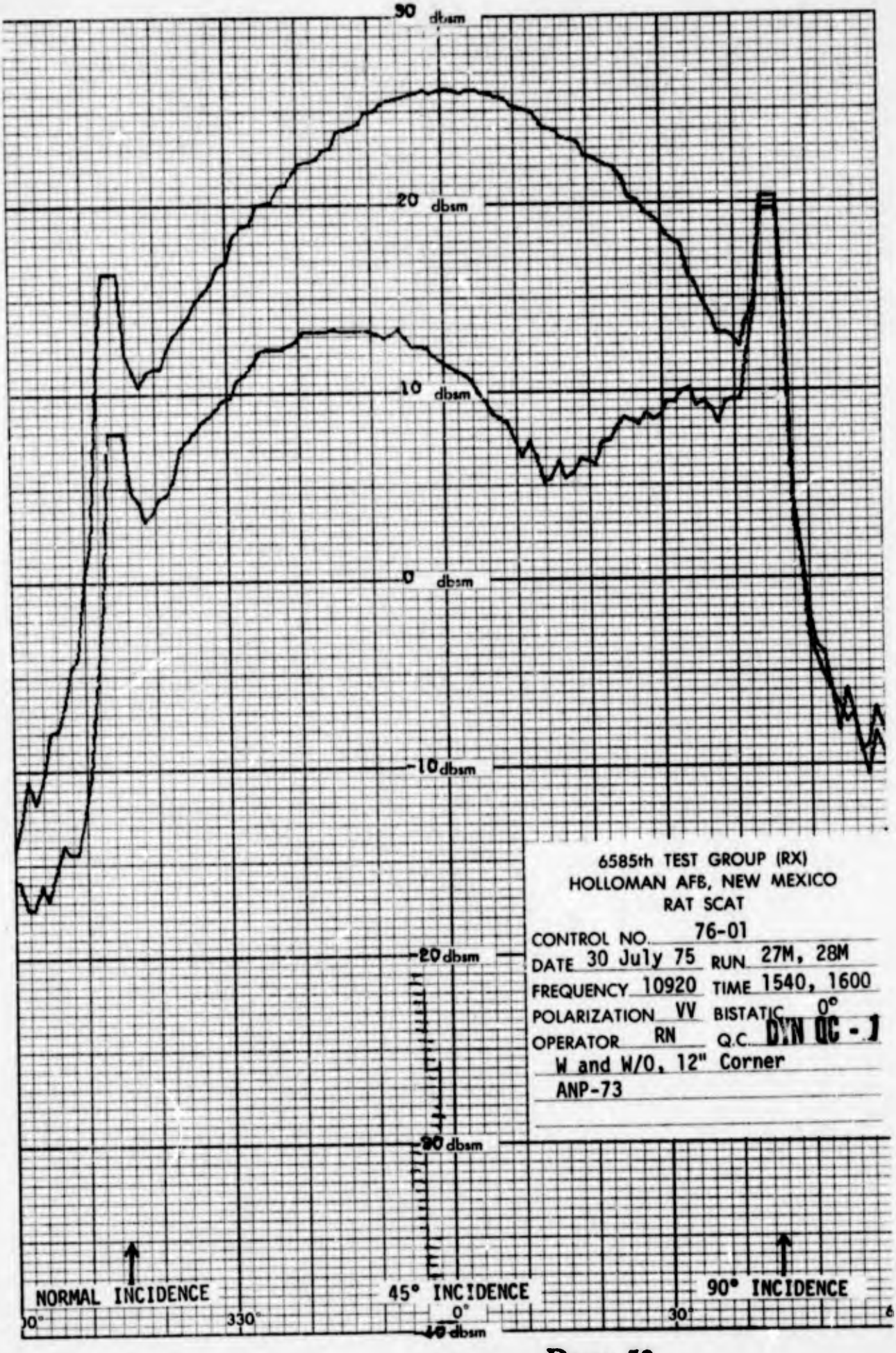

+30dbsm
+20dbsm
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 23, 24
FREQUENCY 10920 TIME 1350, 1400
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
SCIENTIFIC

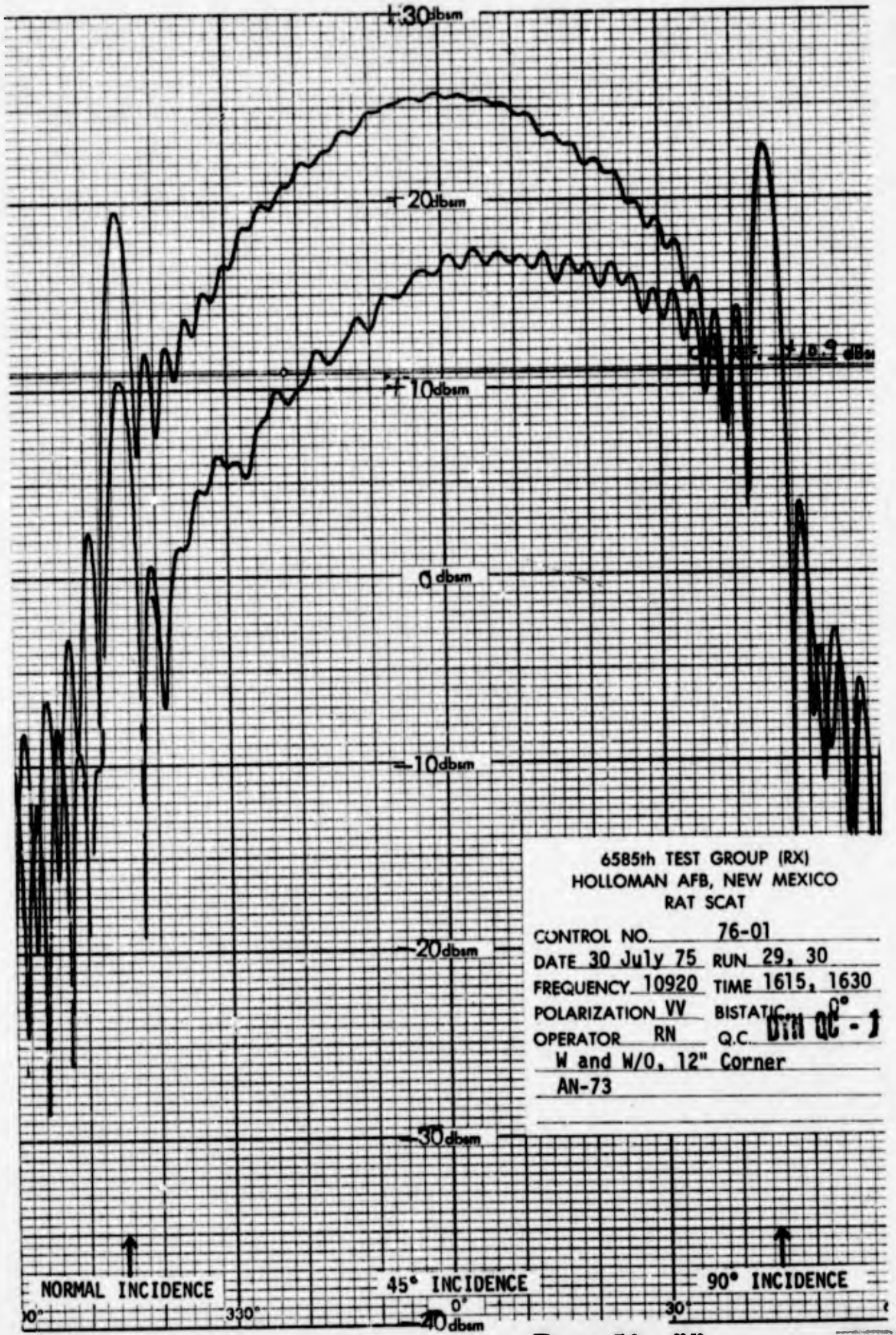

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 23M, 24M
FREQUENCY 10920 TIME 1350, 1400
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

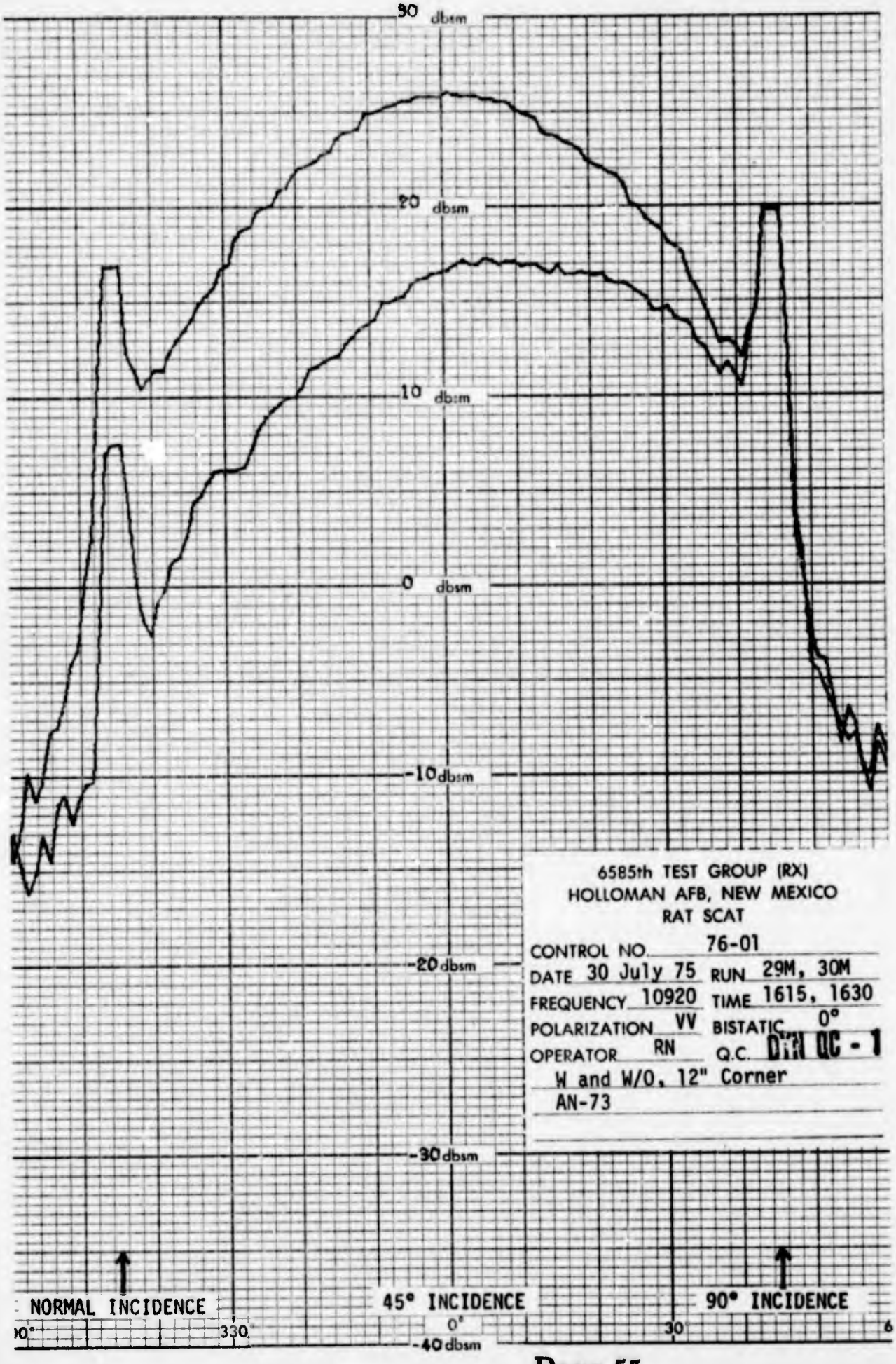

30dbsm
20dbsm
REF. + 13.4 dbsm
10dbsm
0 dbsm
10dbsm
20dbsm
30dbsm
40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 25, 26
FREQUENCY 10920 TIME 1410, 1420
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
0°
90° INCIDENCE
330°
30°
RS 70
SCIENTIFIC

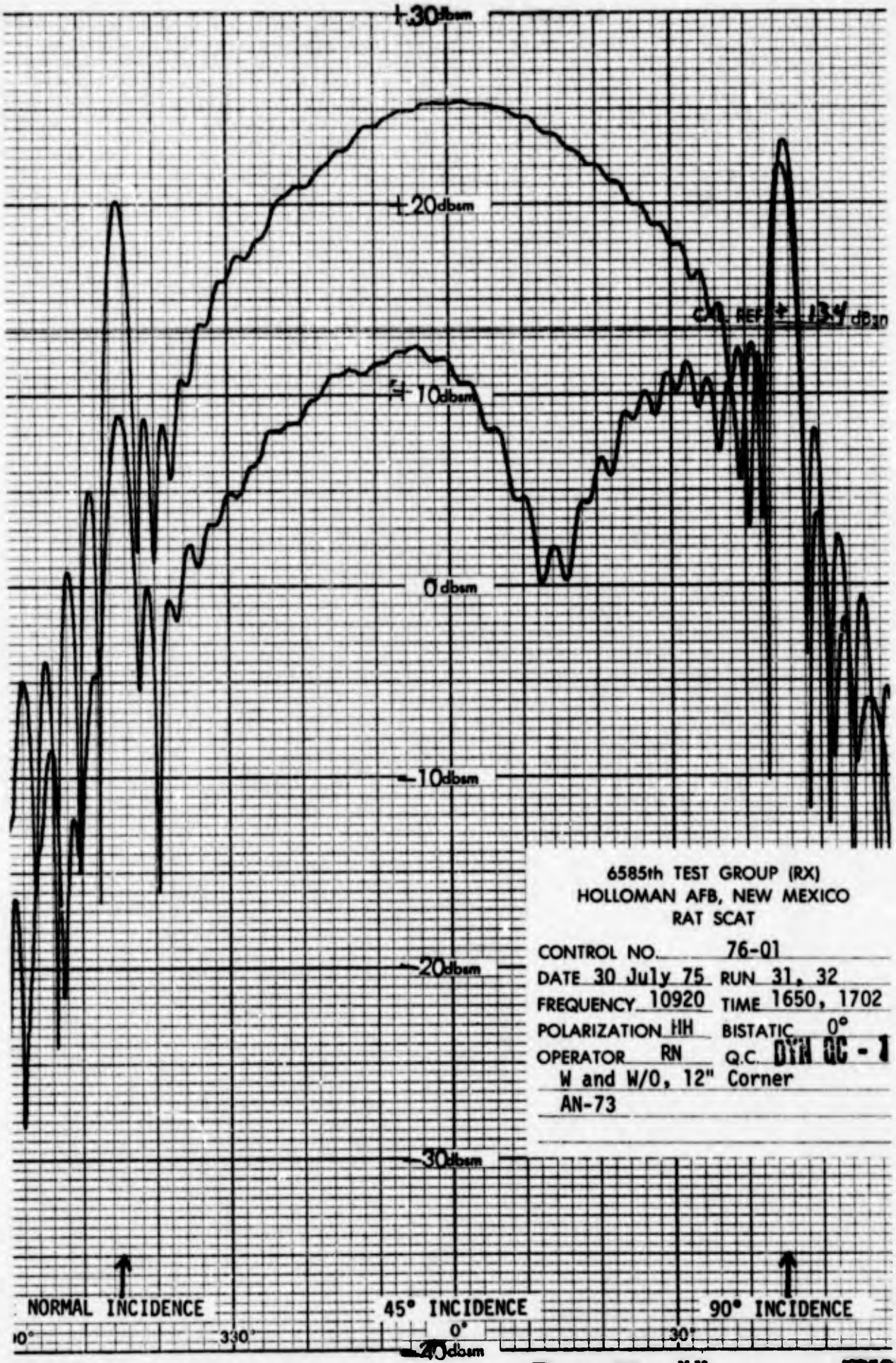

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 25M, 26M
FREQUENCY 10920 TIME 1410, 1420
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
40dbsm

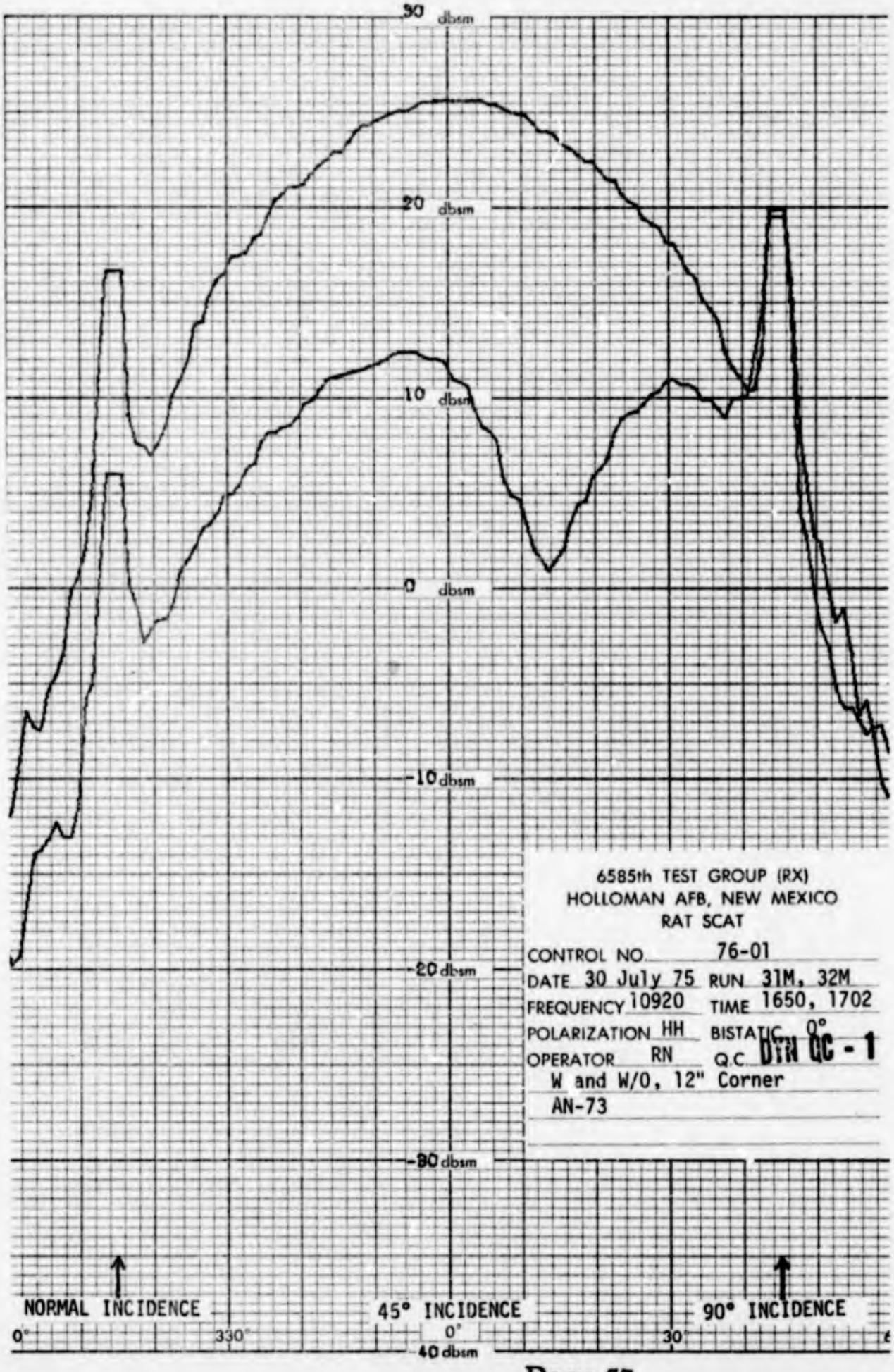

+30dbsm
+20dbsm
+10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 27, 28
FREQUENCY 10920 TIME 1540, 1600
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DWN QC - 1
W and W/O, 12" Corner
ANP-73

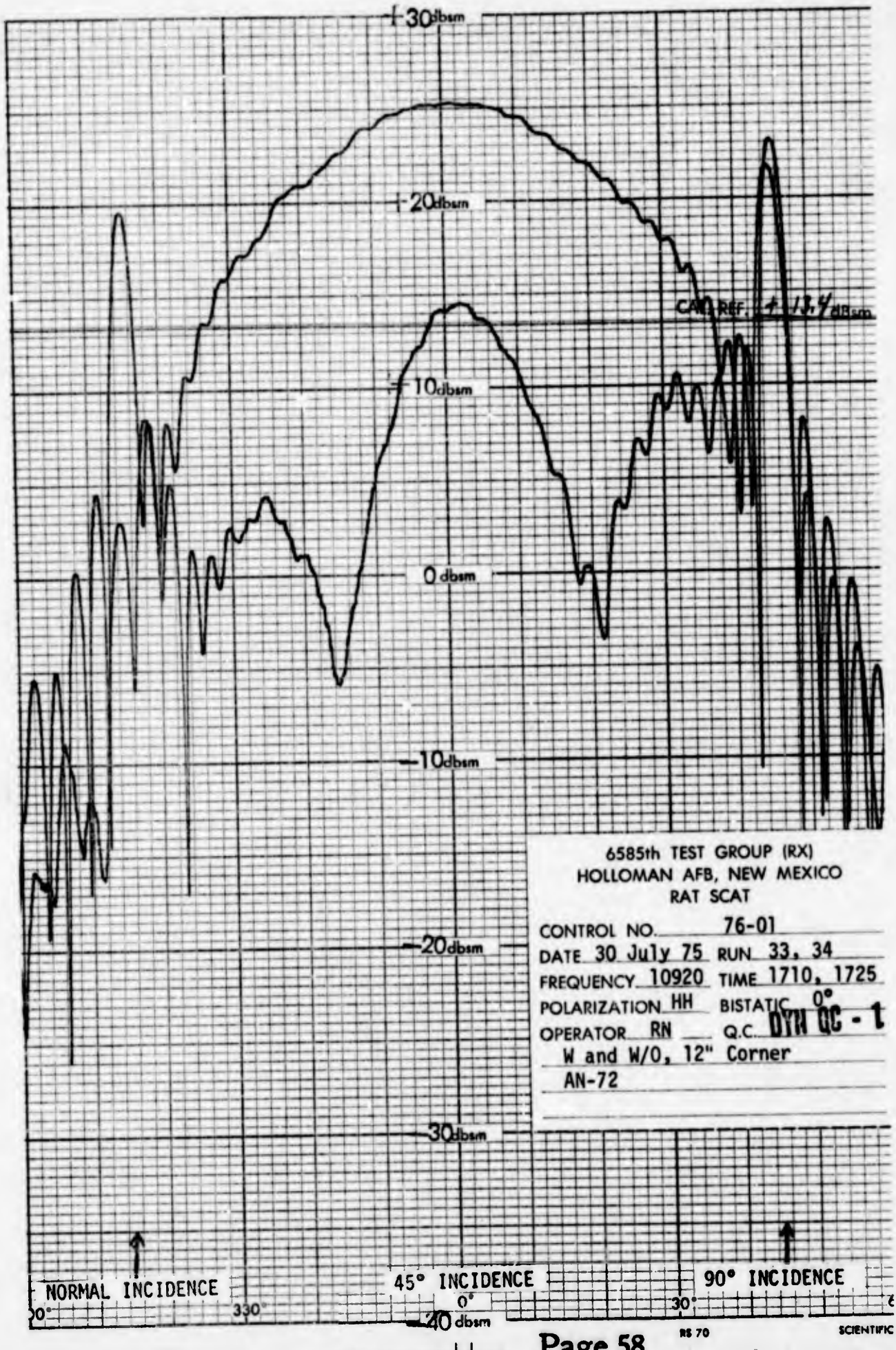

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 27M, 28M
FREQUENCY 10920 TIME 1540, 1600
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

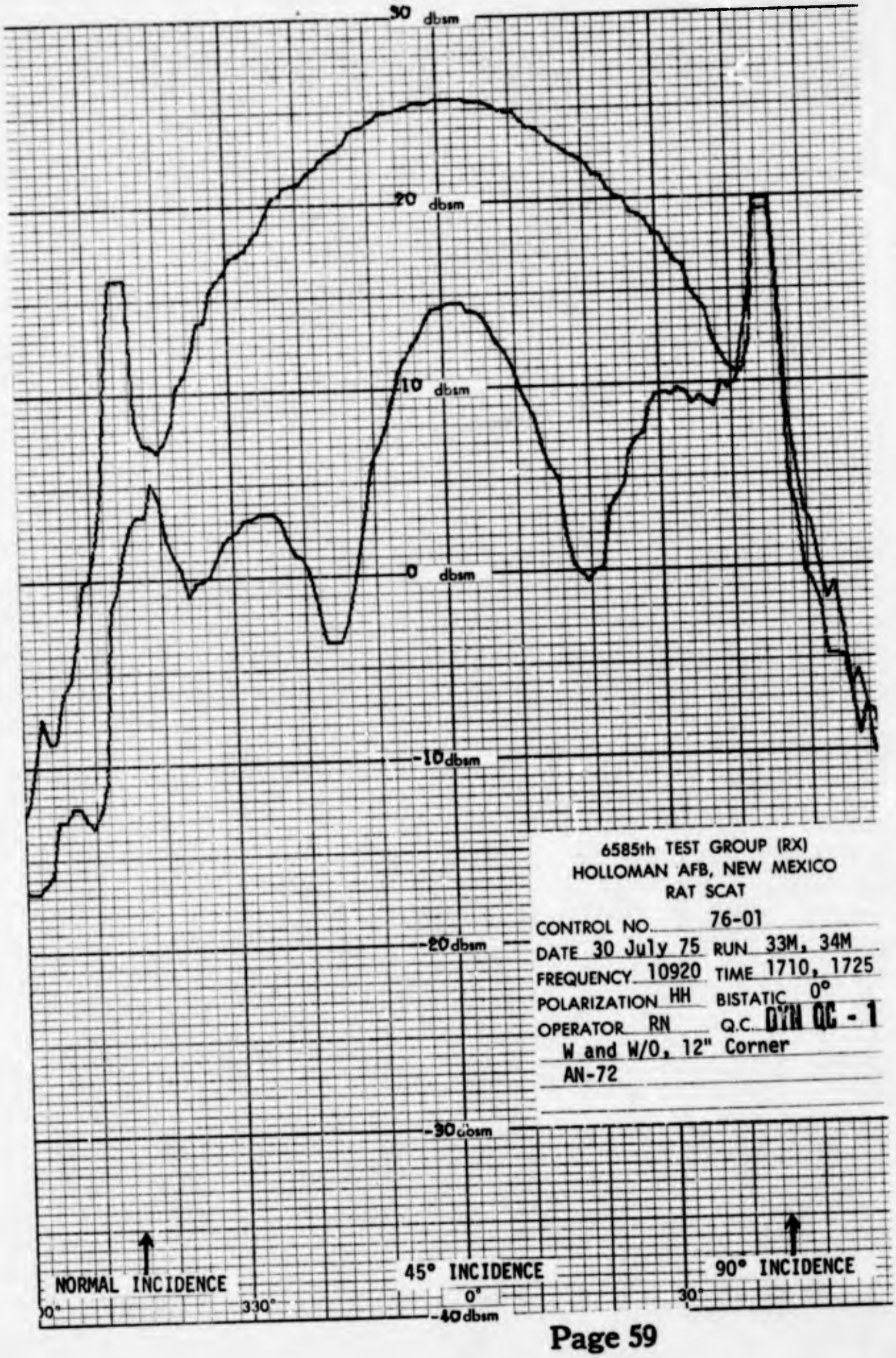

+30dbsm
+20dbsm
+10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 29, 30
FREQUENCY 10920 TIME 1615, 1630
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DIH QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

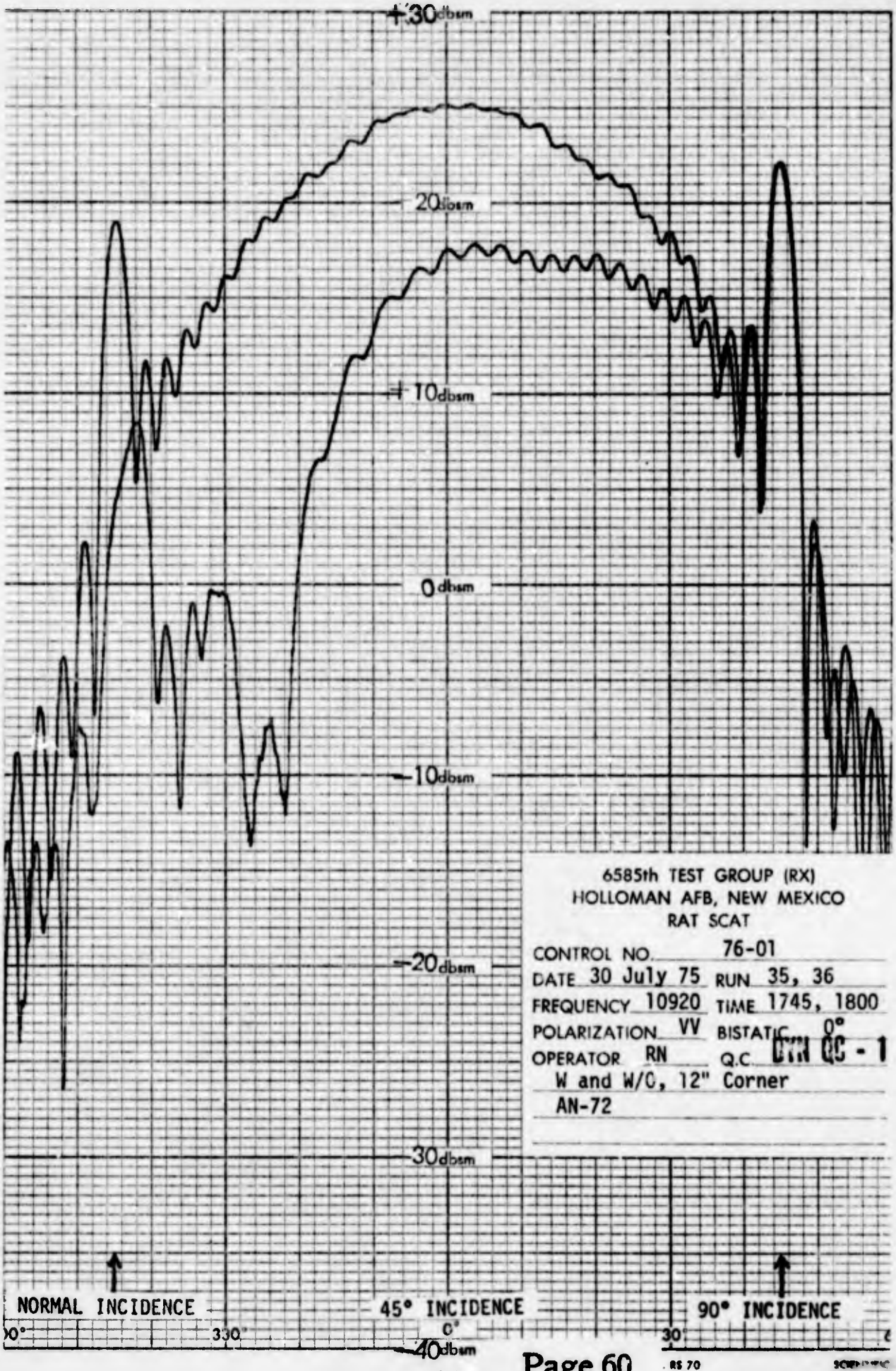

90 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 29M, 30M
FREQUENCY 10920 TIME 1615, 1630
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DIN QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30
330

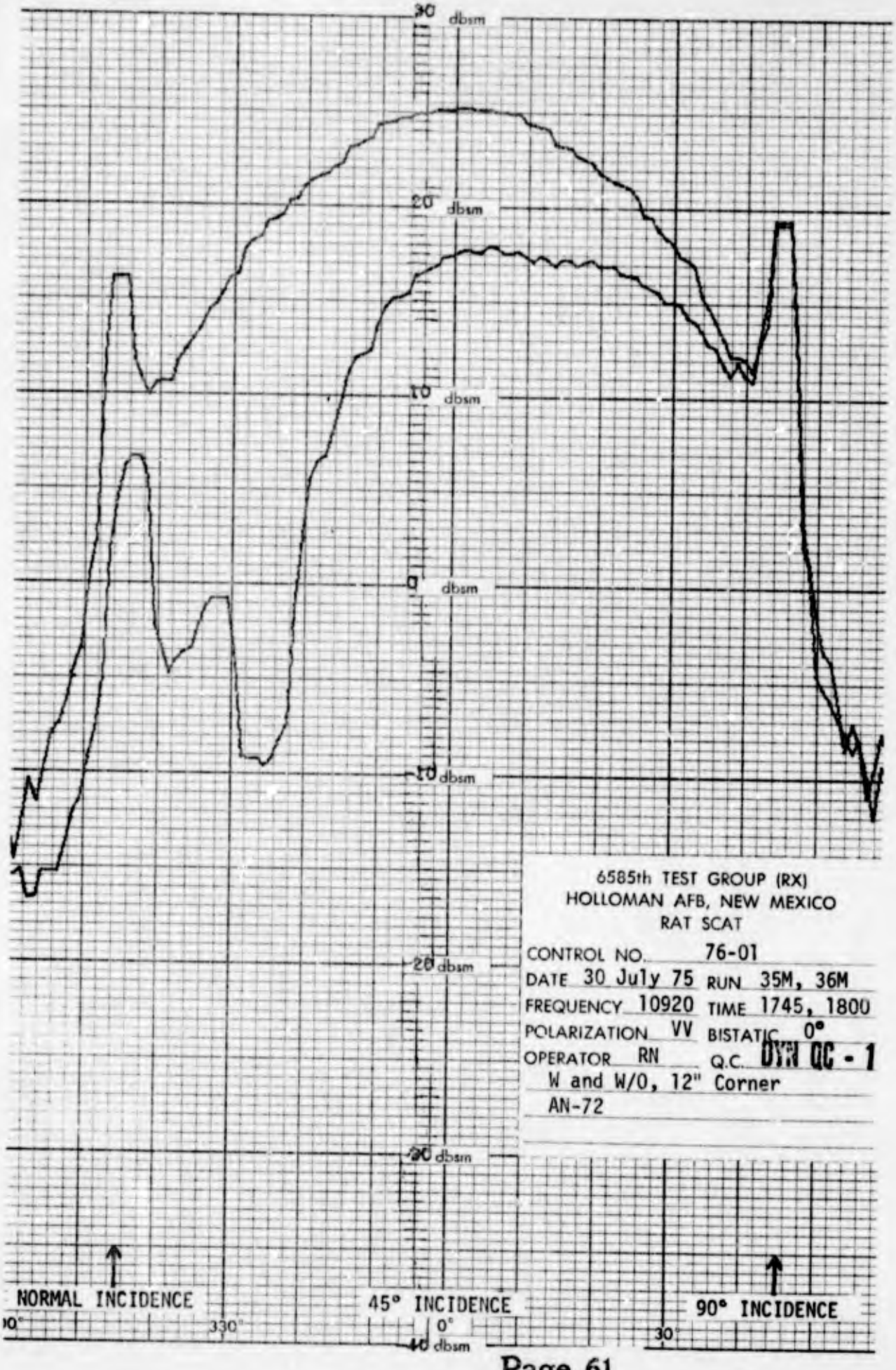

+30dbsm
+20dbsm
CAL REF + 13.4 dB10
+10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 31, 32
FREQUENCY 10920 TIME 1650, 1702
POLARIZATION HH BISTATIC 0°
OPERATOR RN Q.C. DTH QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°
-40dbsm

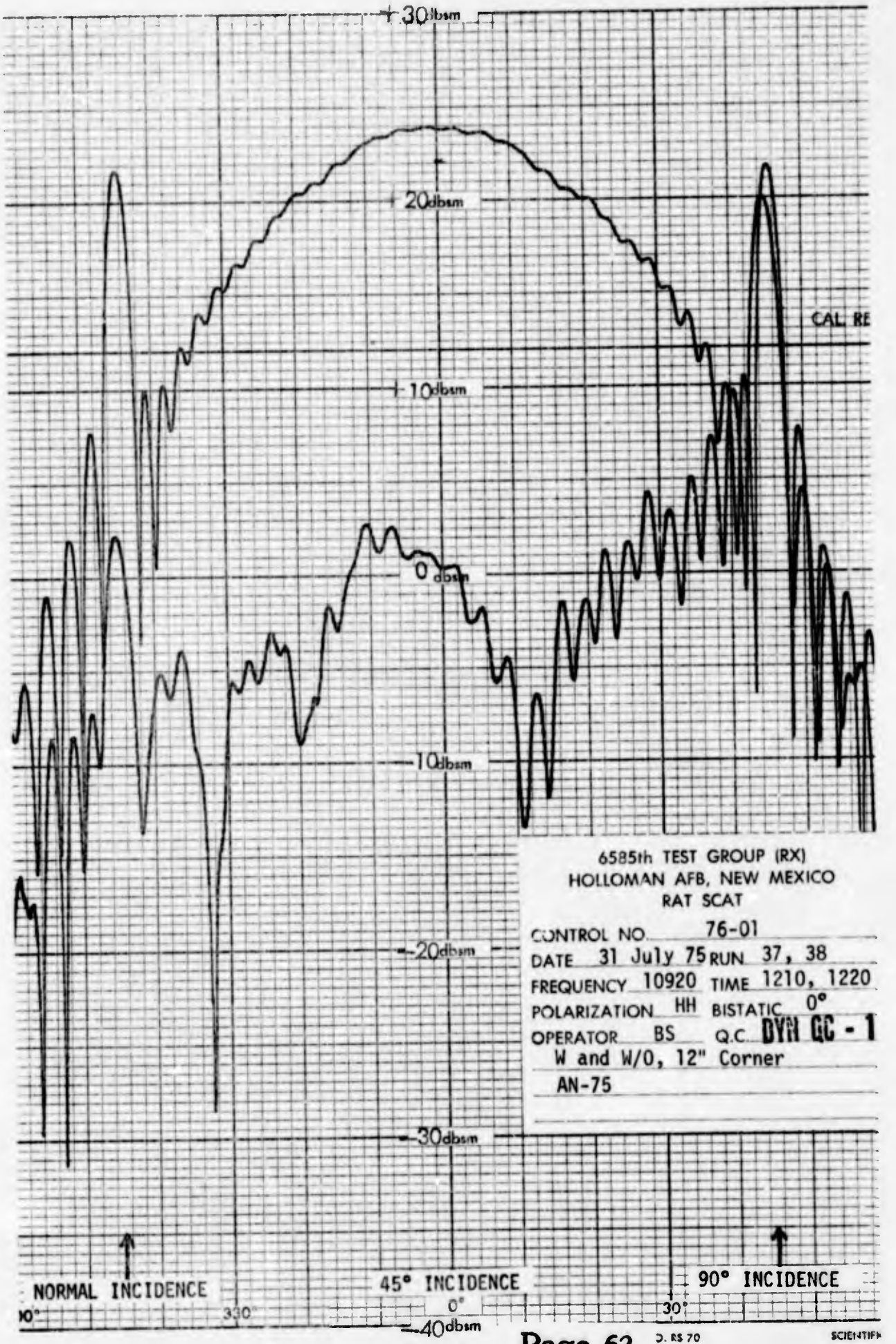

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 31M, 32M
FREQUENCY 10920 TIME 1650, 1702
POLARIZATION HH BISTATIC 0°
OPERATOR RN Q.C. DTN QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°

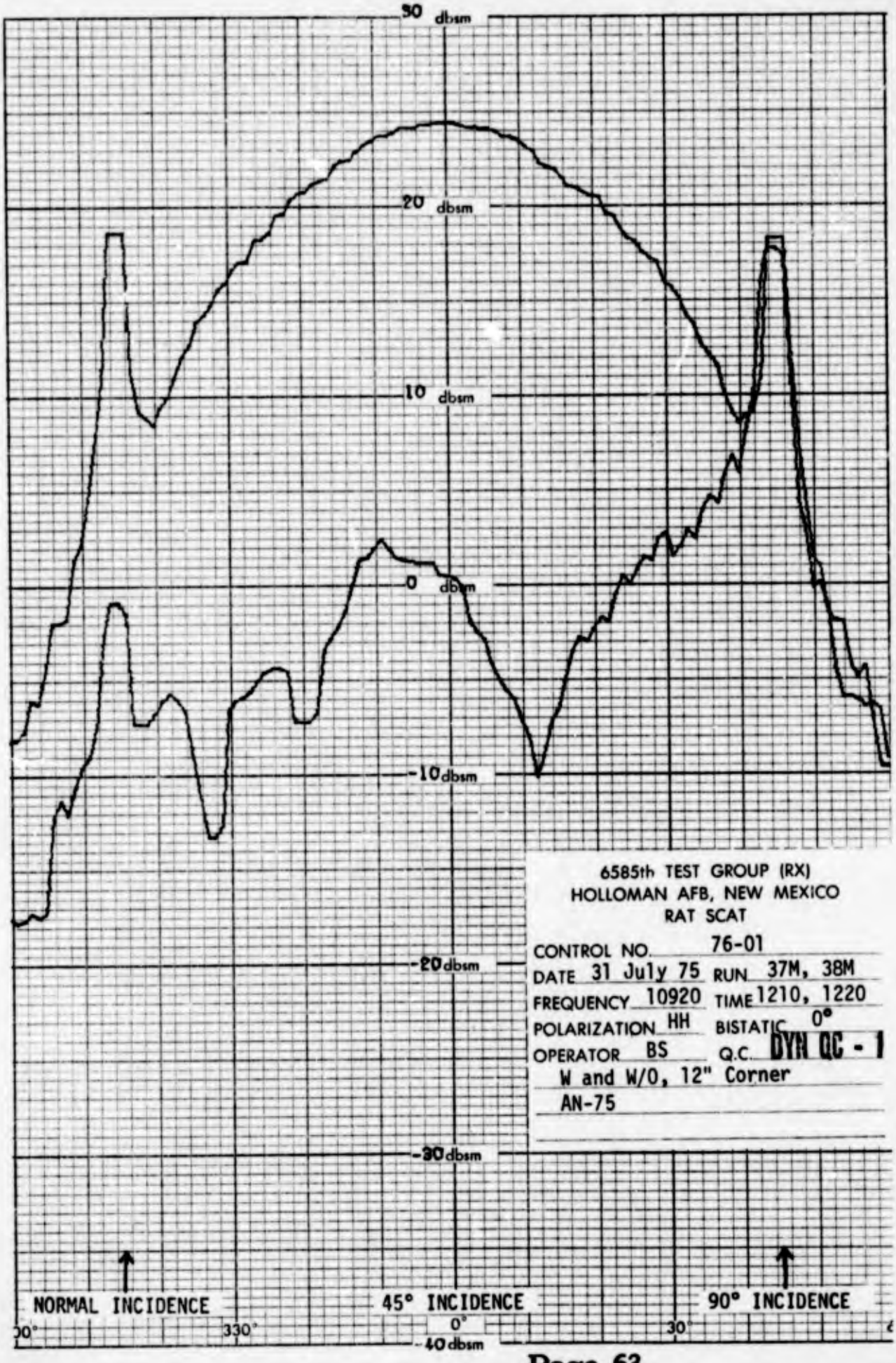

30dbsm
20dbsm
CAL REF. + 13.4 dBsm
10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 33, 34
FREQUENCY 10920 TIME 1710, 1725
POLARIZATION HH BISTATIC 0°
OPERATOR RN Q.C. DYH QC - 1
W and W/O, 12" Corner
AN-72
RS 70
SCIENTIFIC

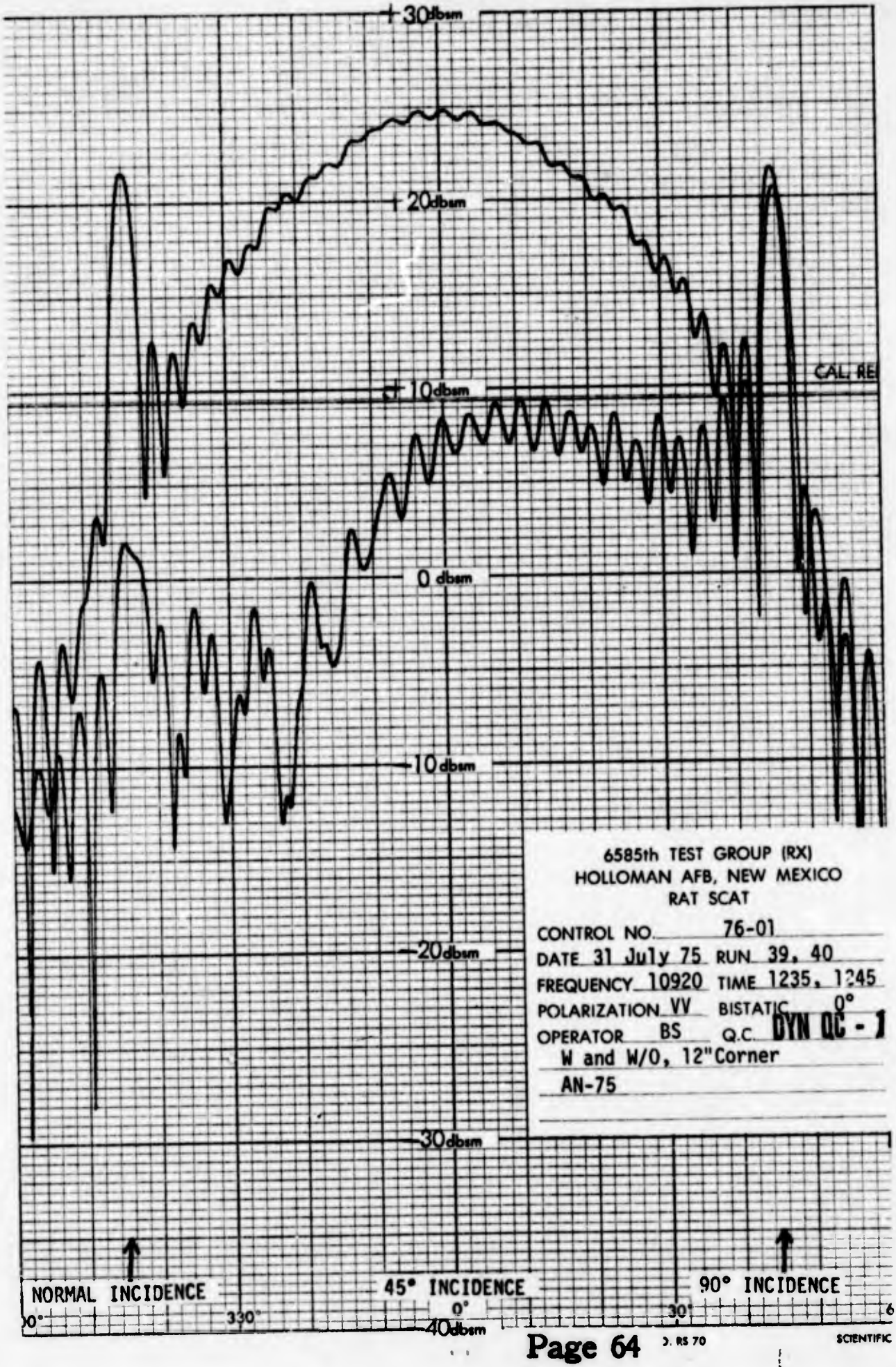

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 33M, 34M
FREQUENCY 10920 TIME 1710, 1725
POLARIZATION HH BISTATIC 0°
OPERATOR RN Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°

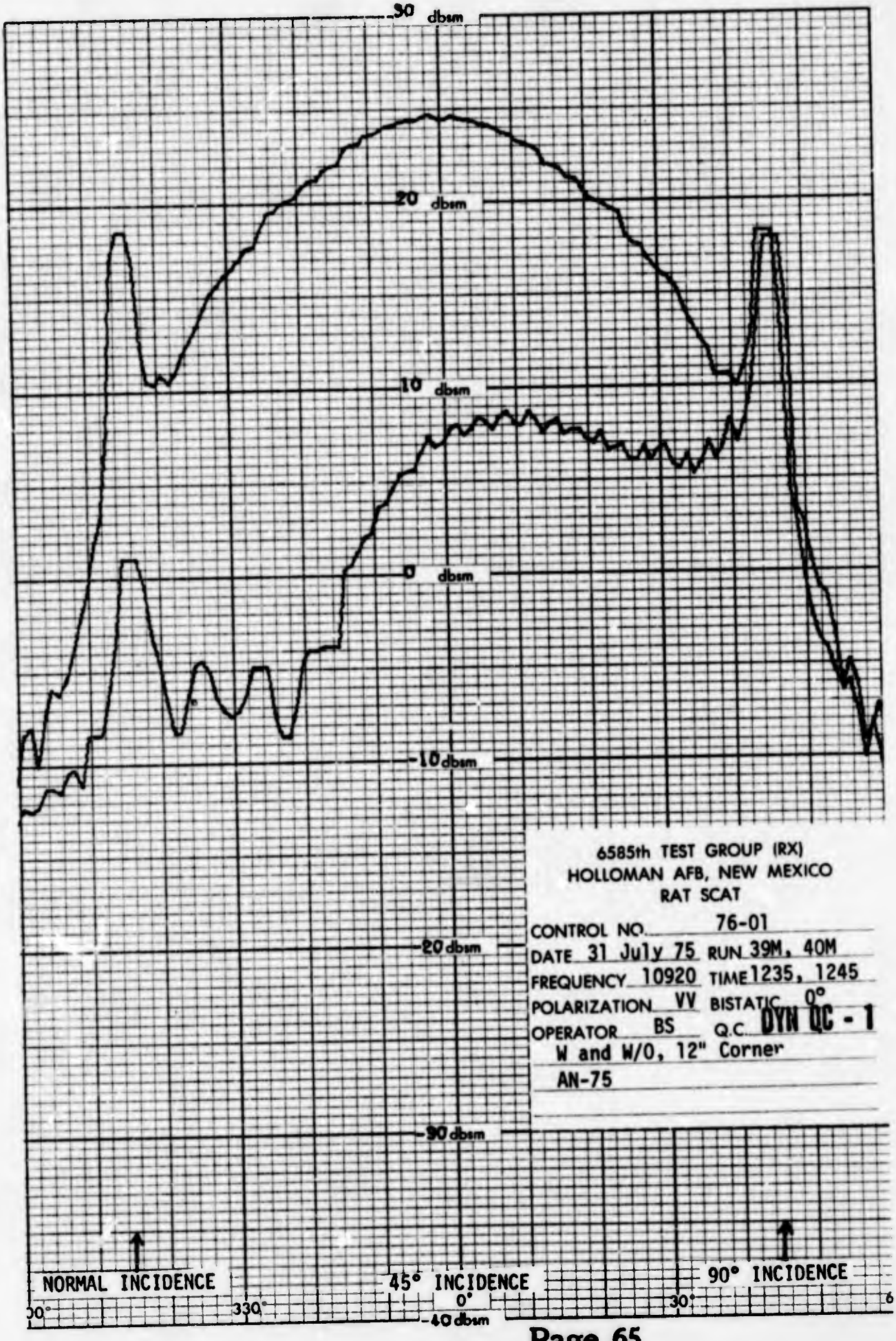

+30dbsm
20dbsm
+10dbsm
0dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 35, 36
FREQUENCY 10920 TIME 1745, 1800
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. GTR QC - 1
W and W/C, 12" Corner
AN-72
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°

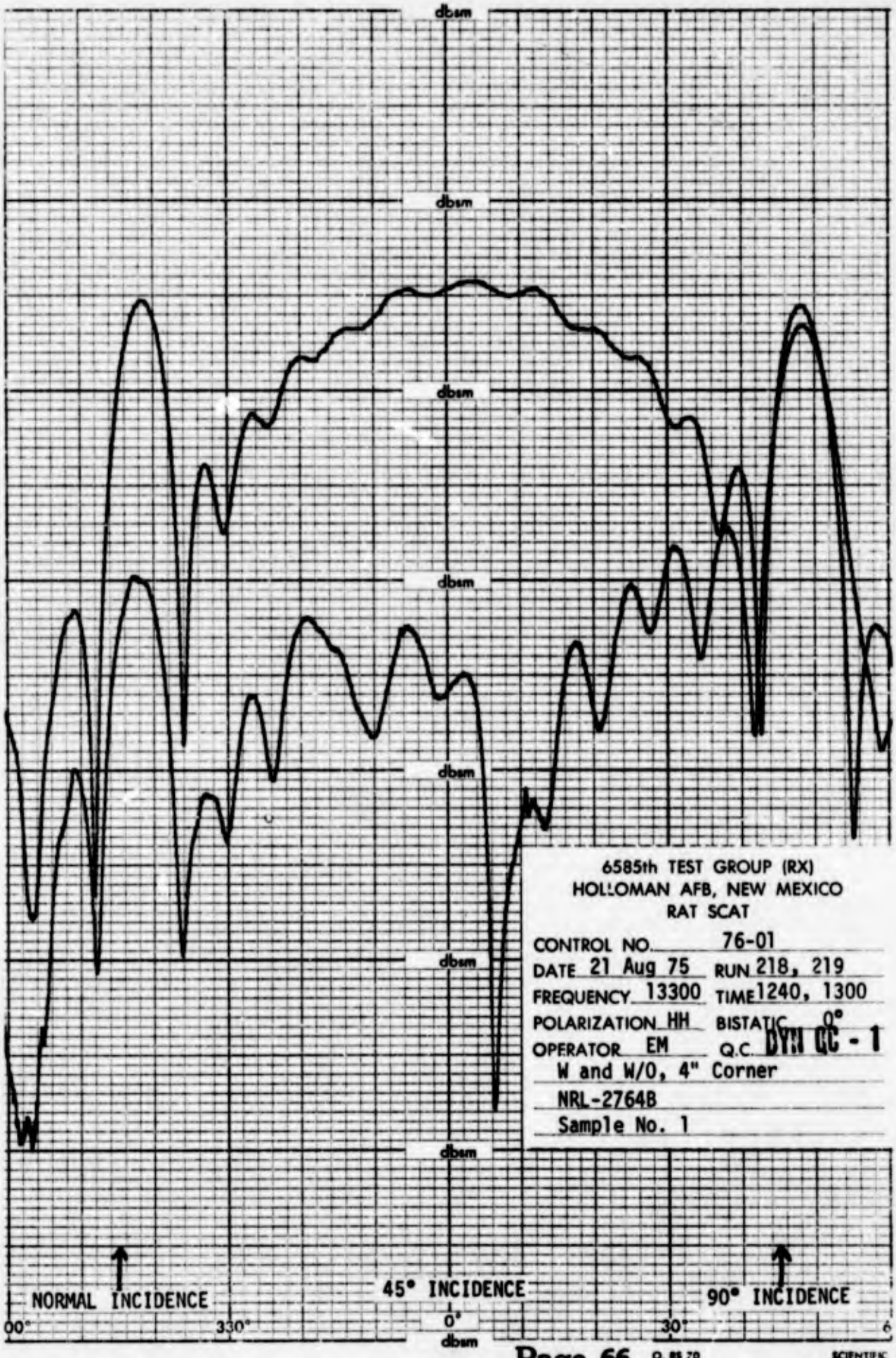

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 30 July 75 RUN 35M, 36M
FREQUENCY 10920 TIME 1745, 1800
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72

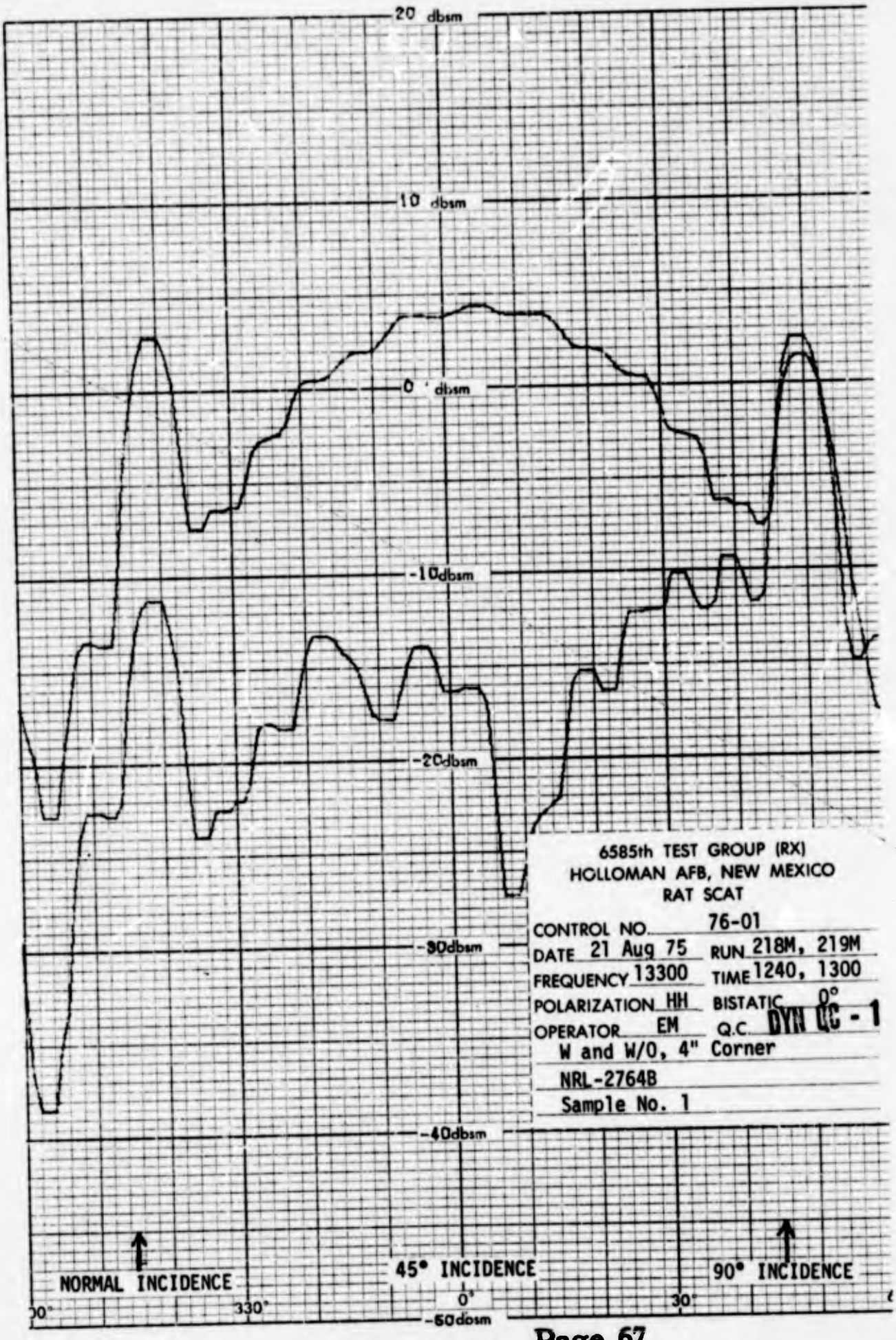

+30dbsm
+20dbsm
+10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
CAL RE
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 31 July 75 RUN 37, 38
FREQUENCY 10920 TIME 1210, 1220
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN GC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
0°
90° INCIDENCE
30°
330°

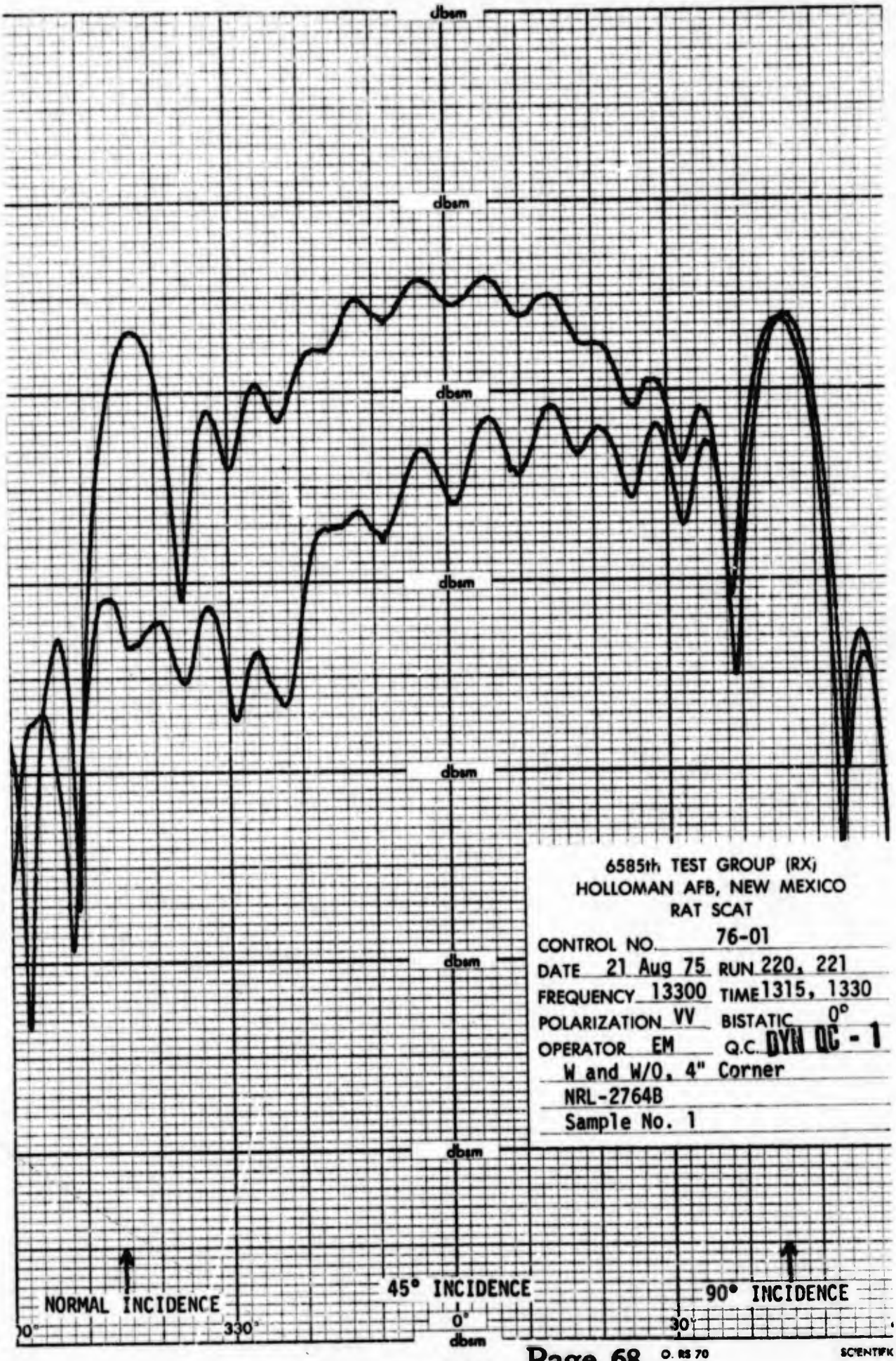

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 31 July 75 RUN 37M, 38M
FREQUENCY 10920 TIME 1210, 1220
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

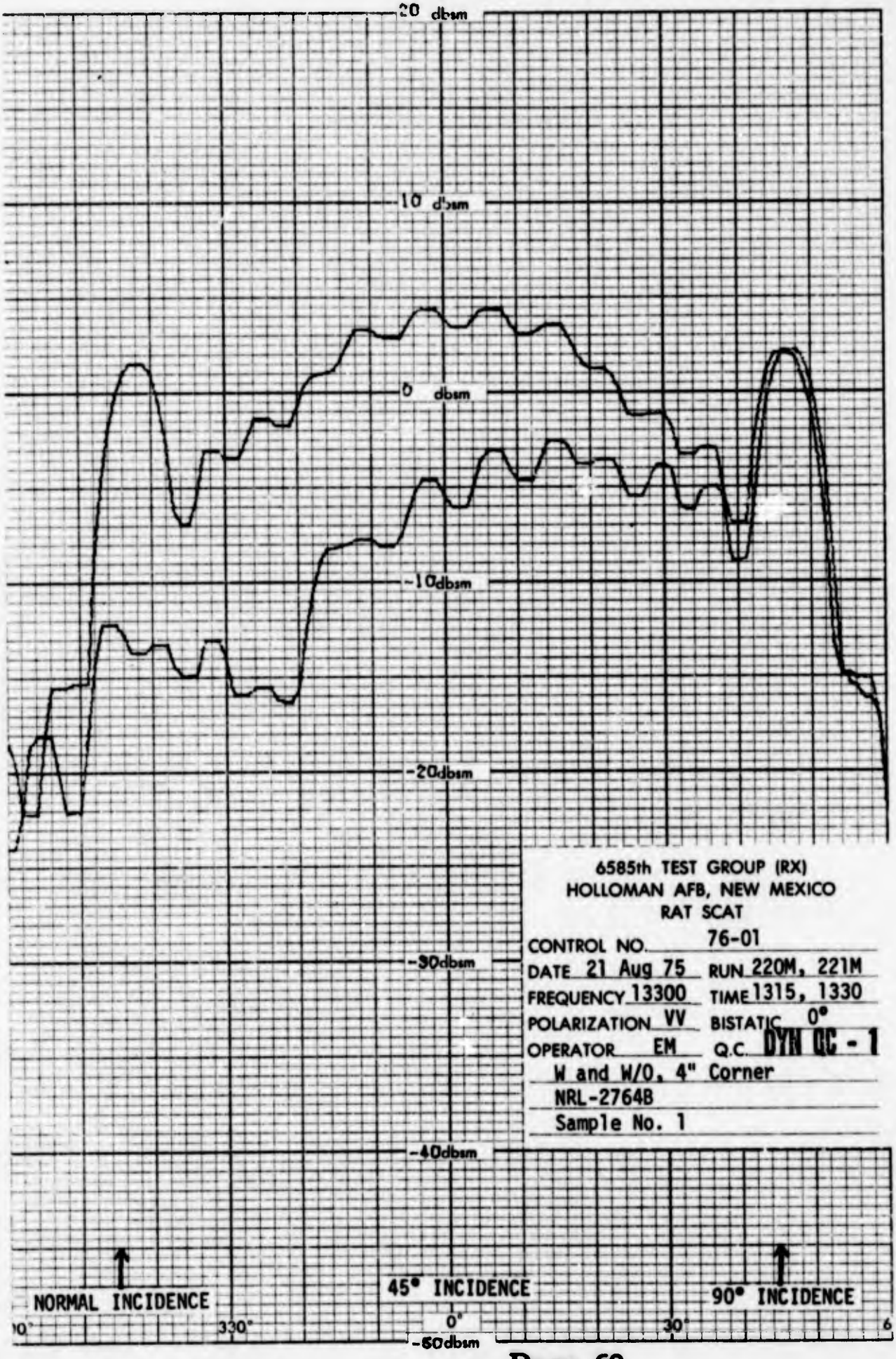

+30dbsm
+20dbsm
+10dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
CAL RE
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 31 July 75 RUN 39, 40
FREQUENCY 10920 TIME 1235, 1245
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

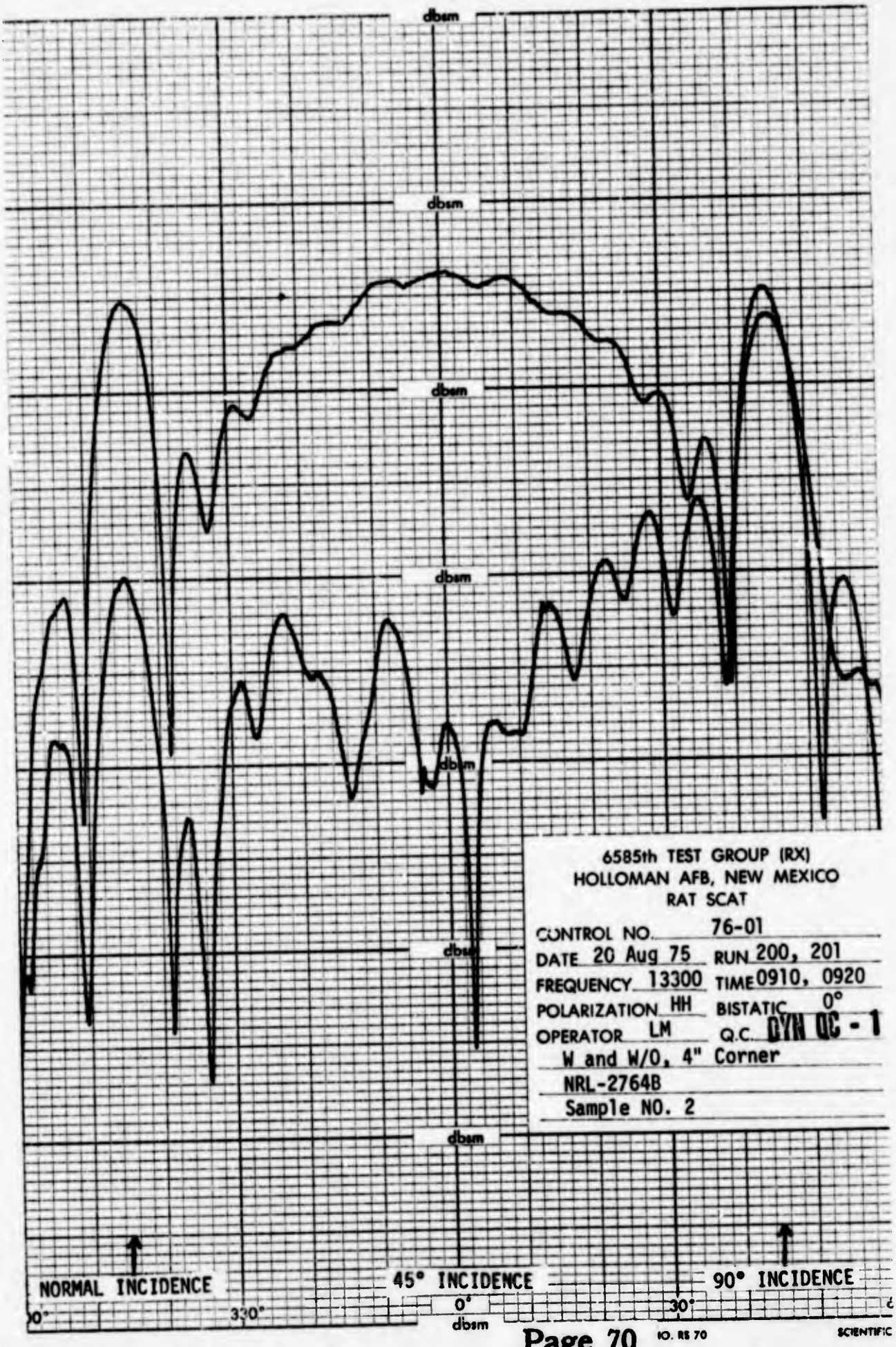

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 31 July 75 RUN 39M, 40M
FREQUENCY 10920 TIME 1235, 1245
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

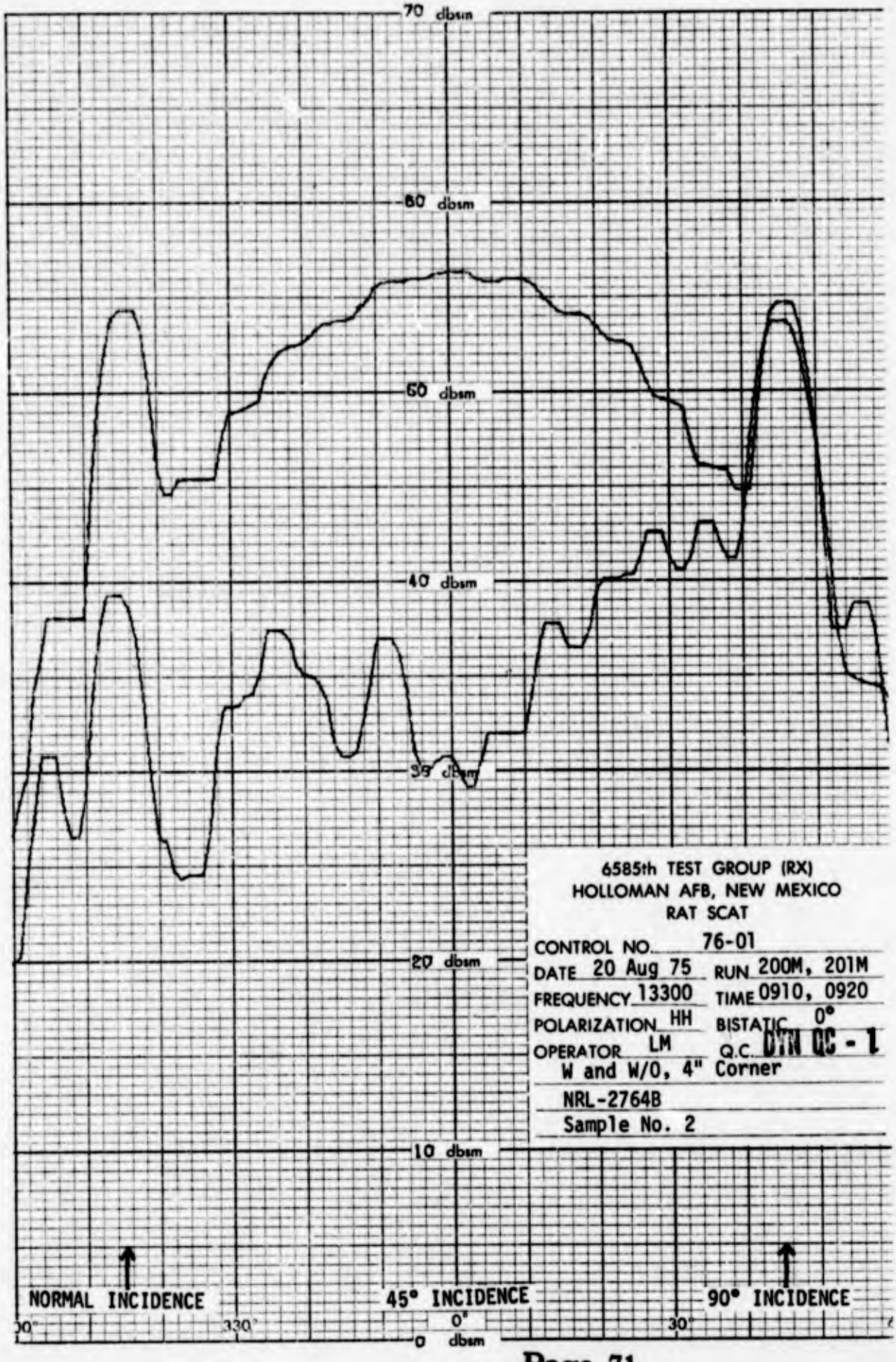

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 218, 219
FREQUENCY 13300 TIME 1240, 1300
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DYN CC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm

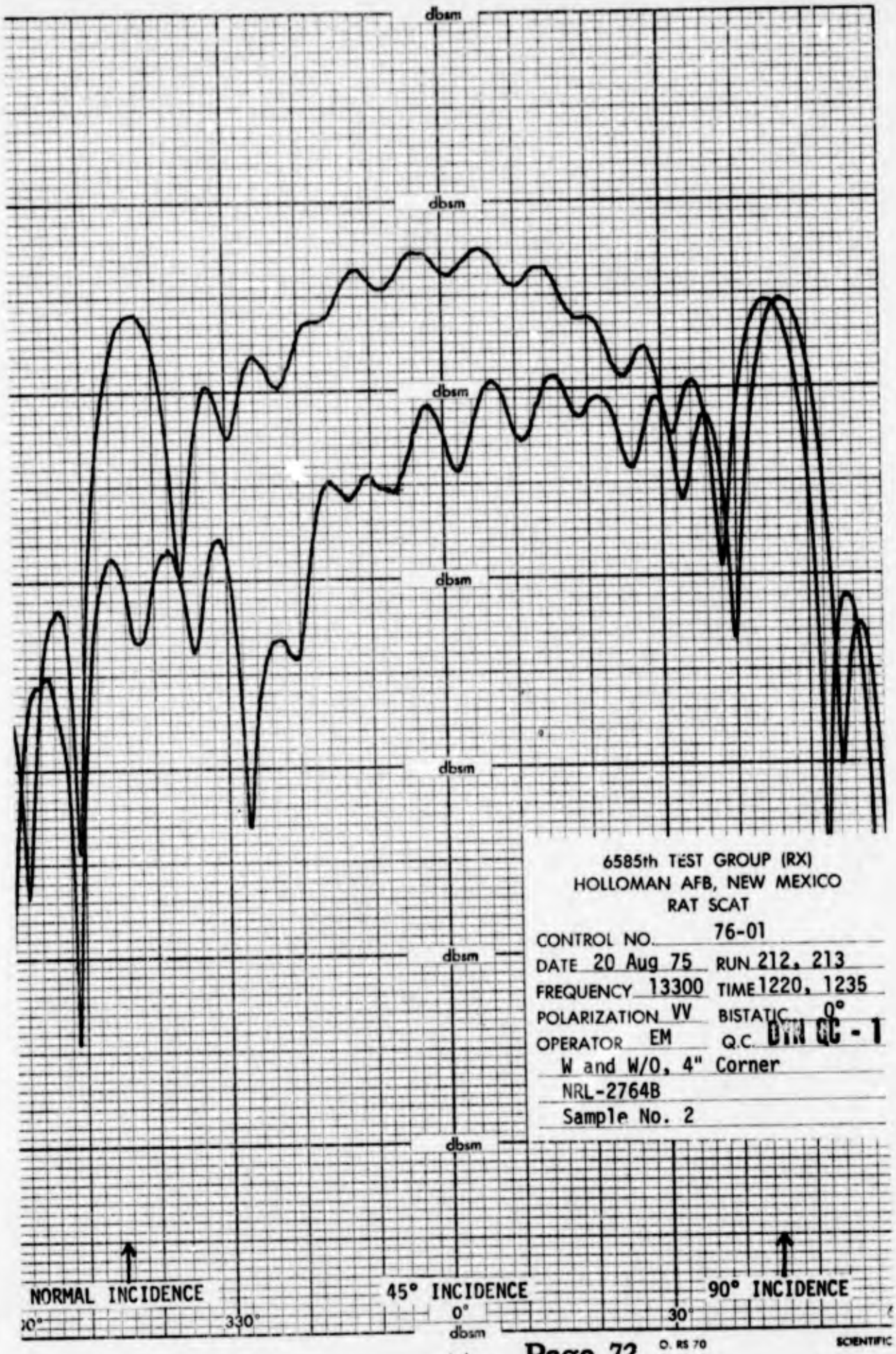

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 218M, 219M
FREQUENCY 13300
TIME 1240, 1300
POLARIZATION HH
BISTATIC 0°
OPERATOR EM
Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°

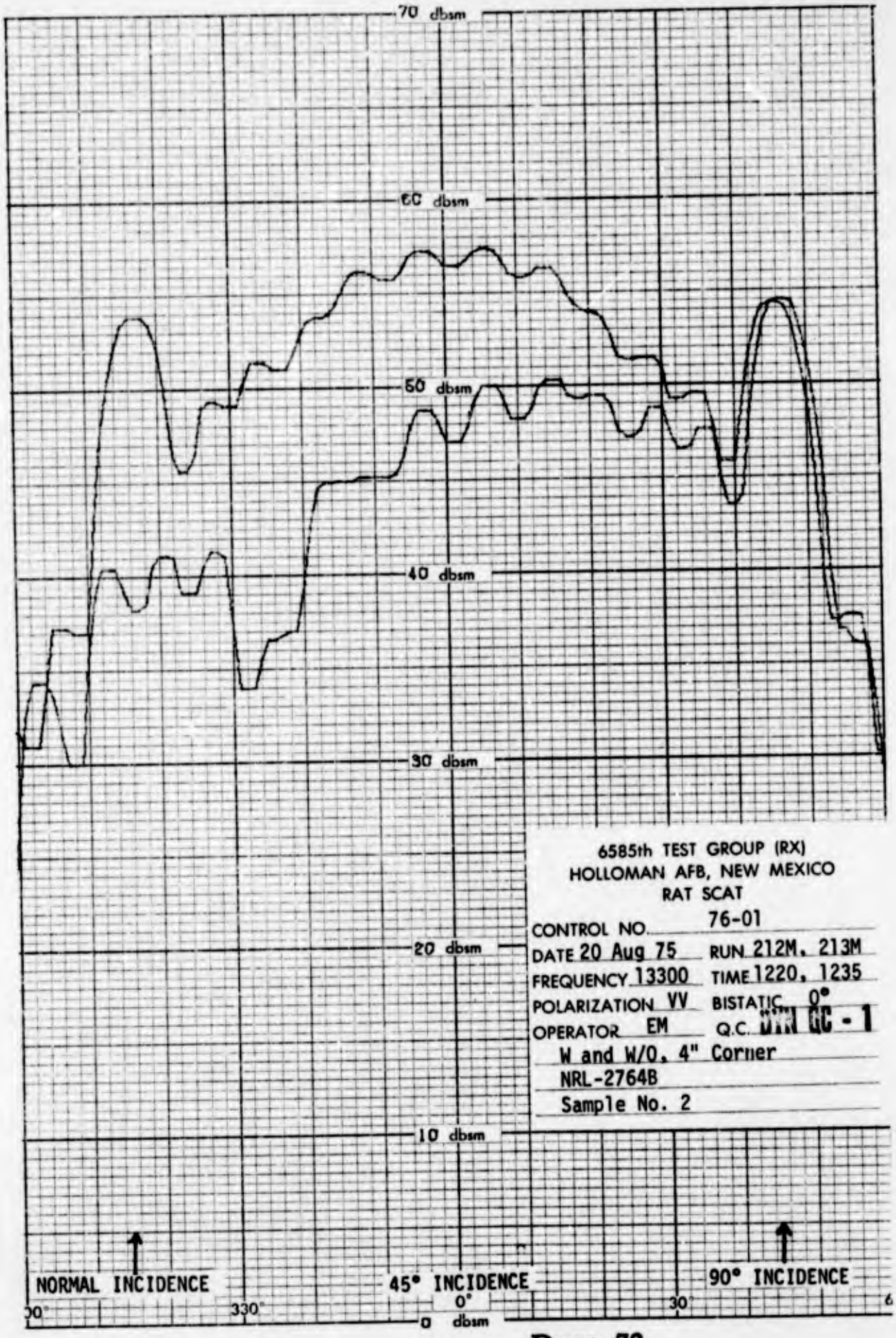

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 220, 221
FREQUENCY 13300 TIME 1315, 1330
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
dbsm

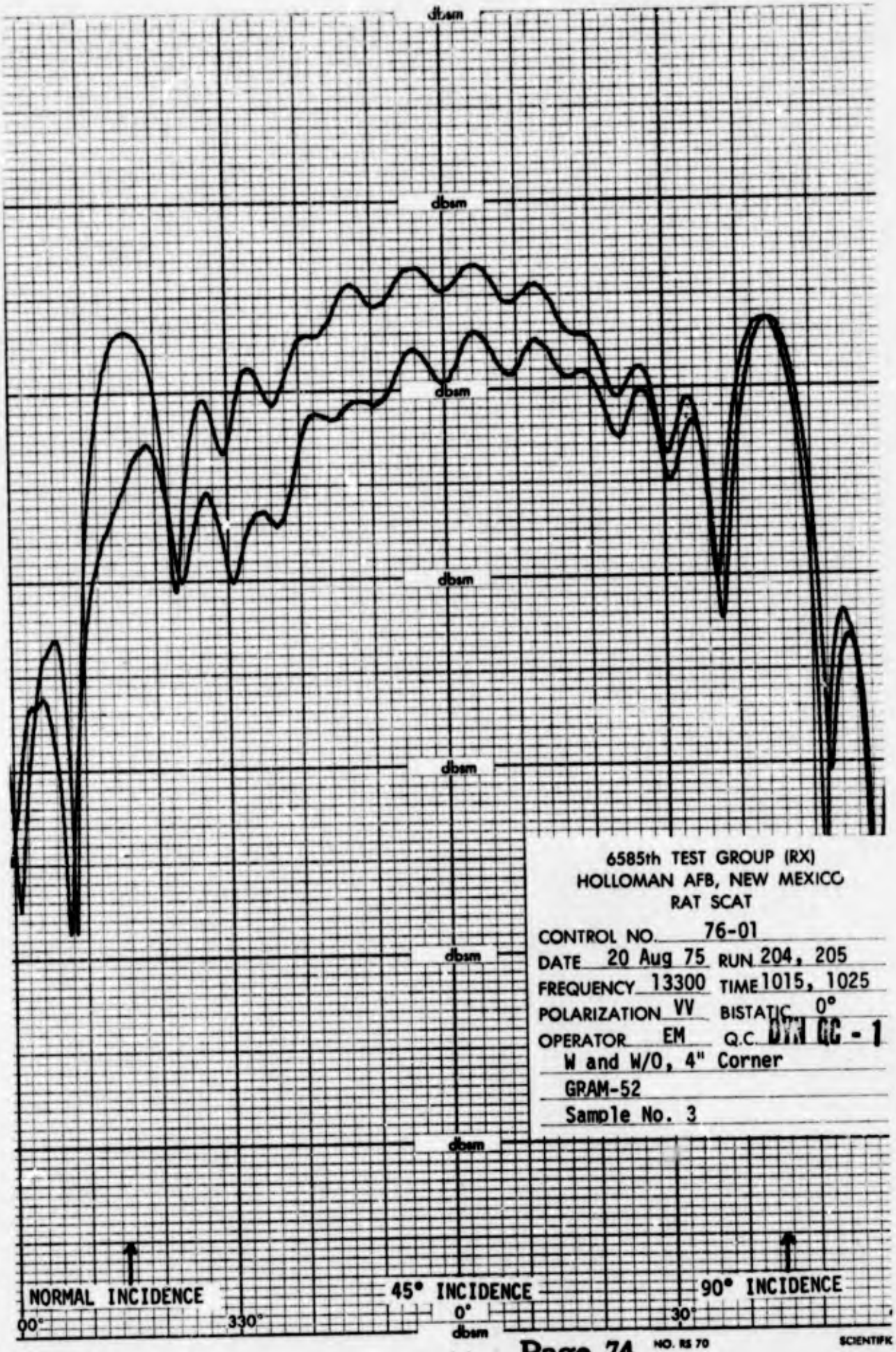

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 220M, 221M
FREQUENCY 13300 TIME 1315, 1330
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 200, 201
FREQUENCY 13300 TIME 0910, 0920
POLARIZATION HH BISTATIC 0°
OPERATOR LM Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample NO. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
dbsm
30°

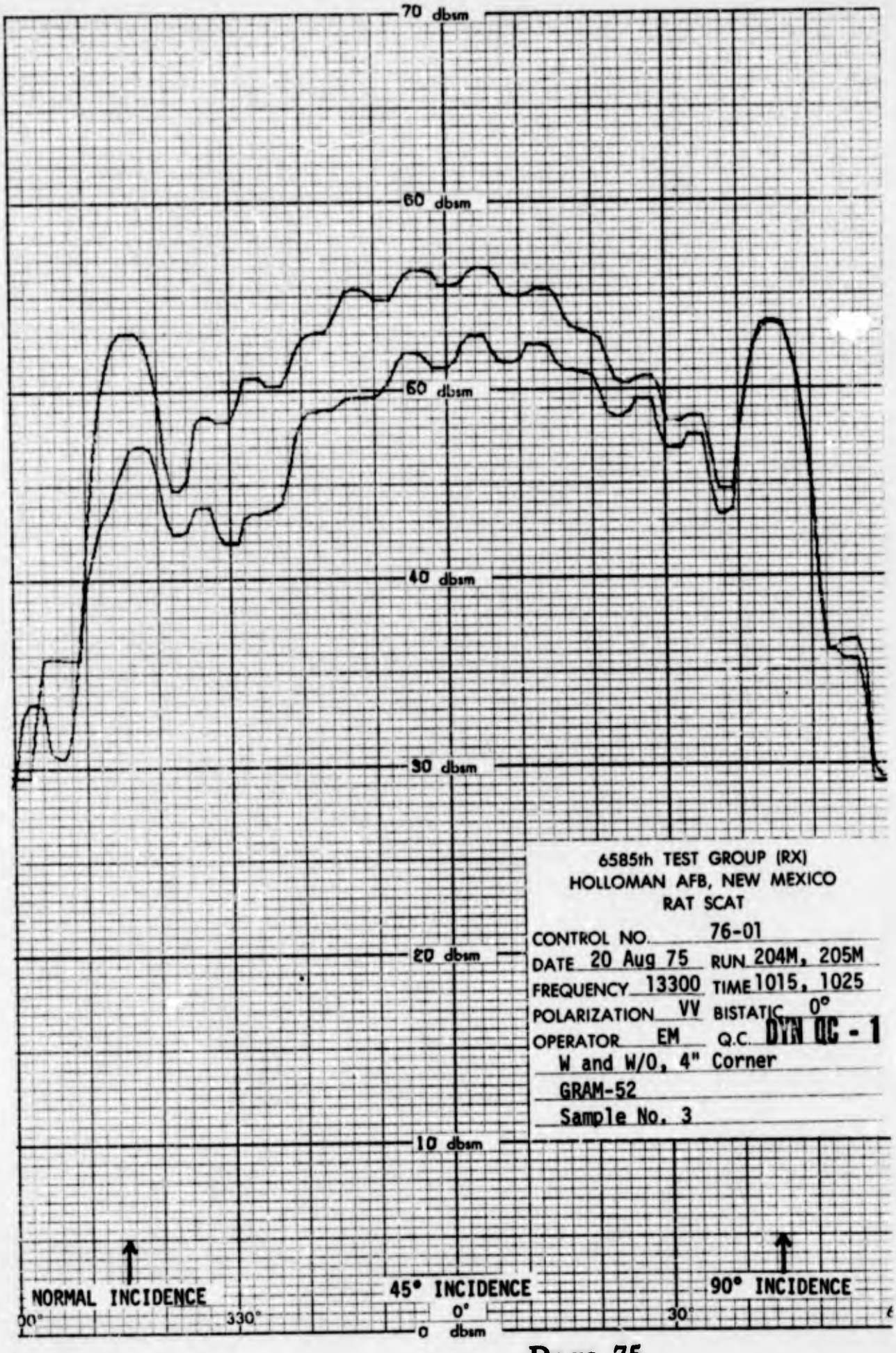

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75
RUN 200M, 201M
FREQUENCY 13300
TIME 0910, 0920
POLARIZATION HH
BISTATIC 0°
OPERATOR LM
Q.C. DTN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°


dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 212, 213
FREQUENCY 13300 TIME 1220, 1235
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DIN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
0°
dbsm


70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 212M, 213M
FREQUENCY 13300 TIME 1220, 1235
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. MN GC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2



NO. RS 70 SCIENTIFIC


70 dbsm
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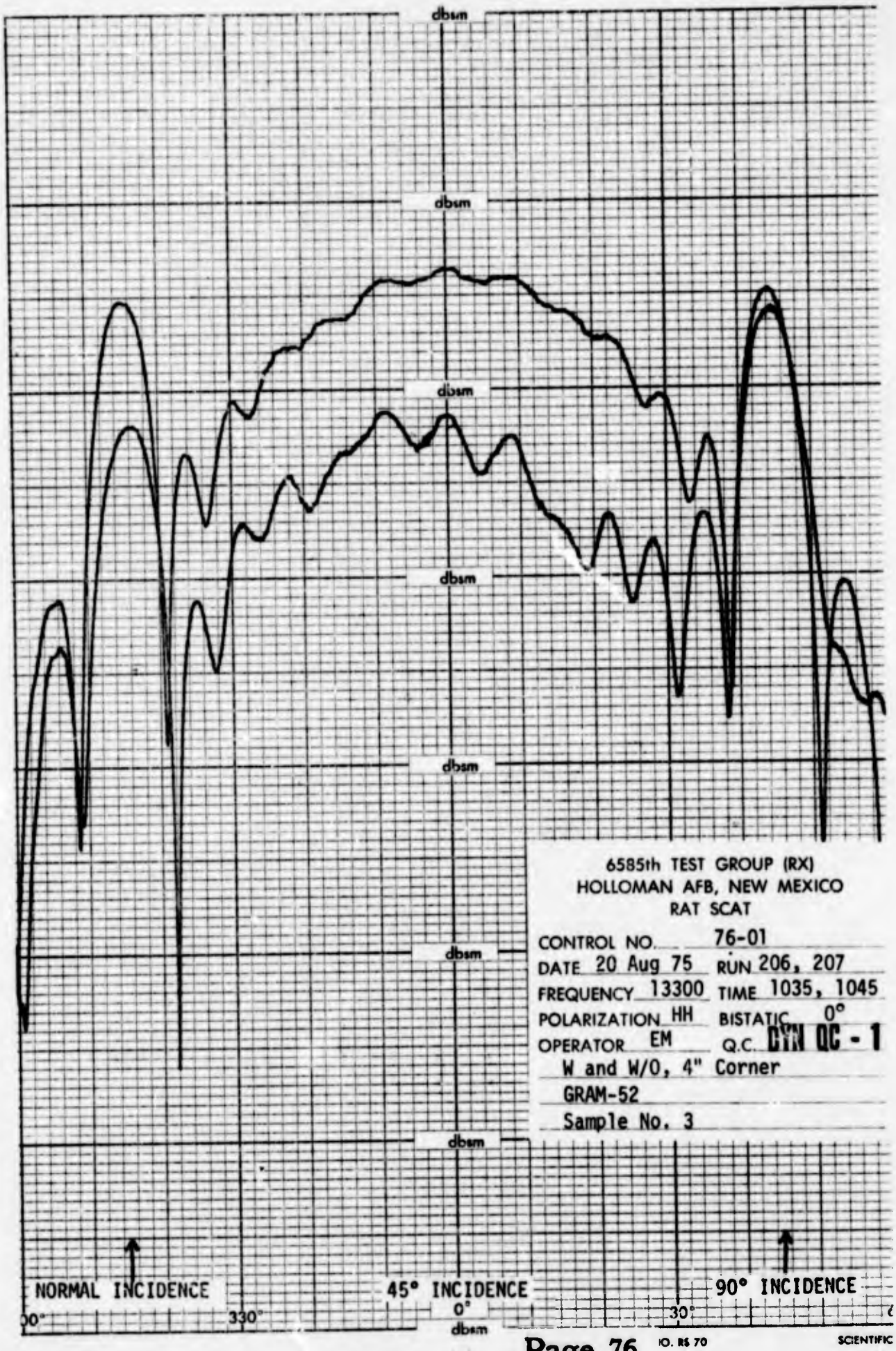
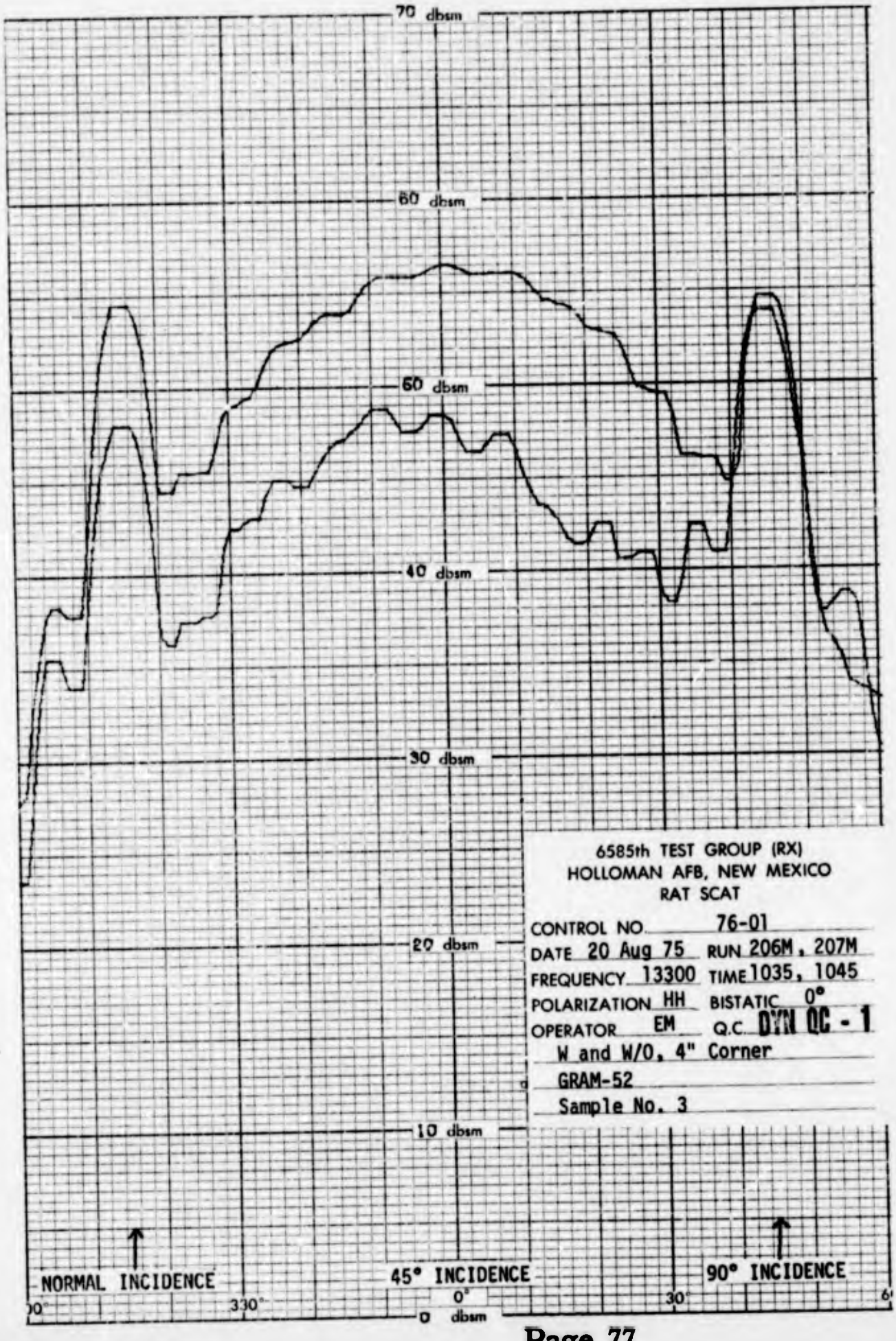
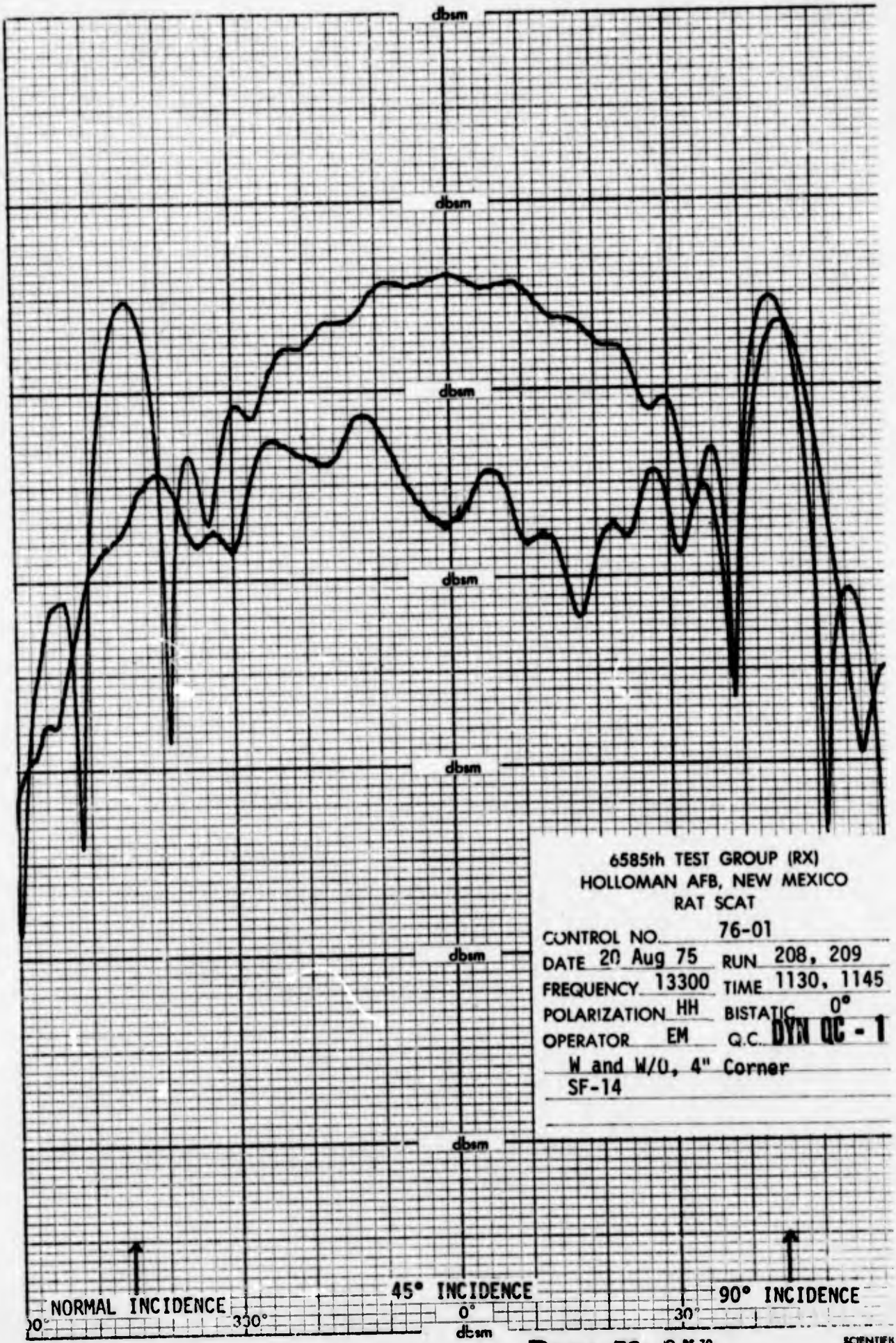
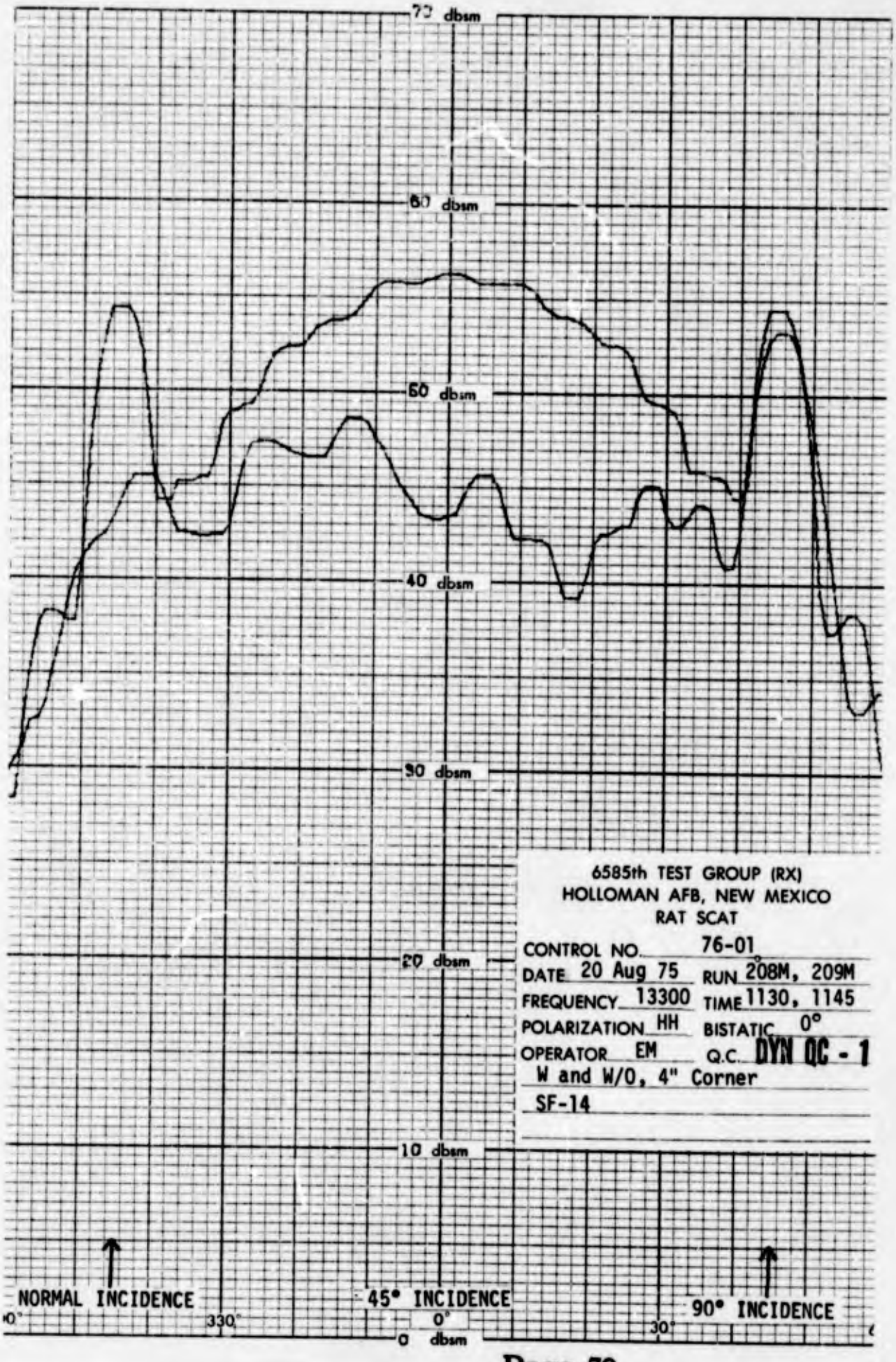
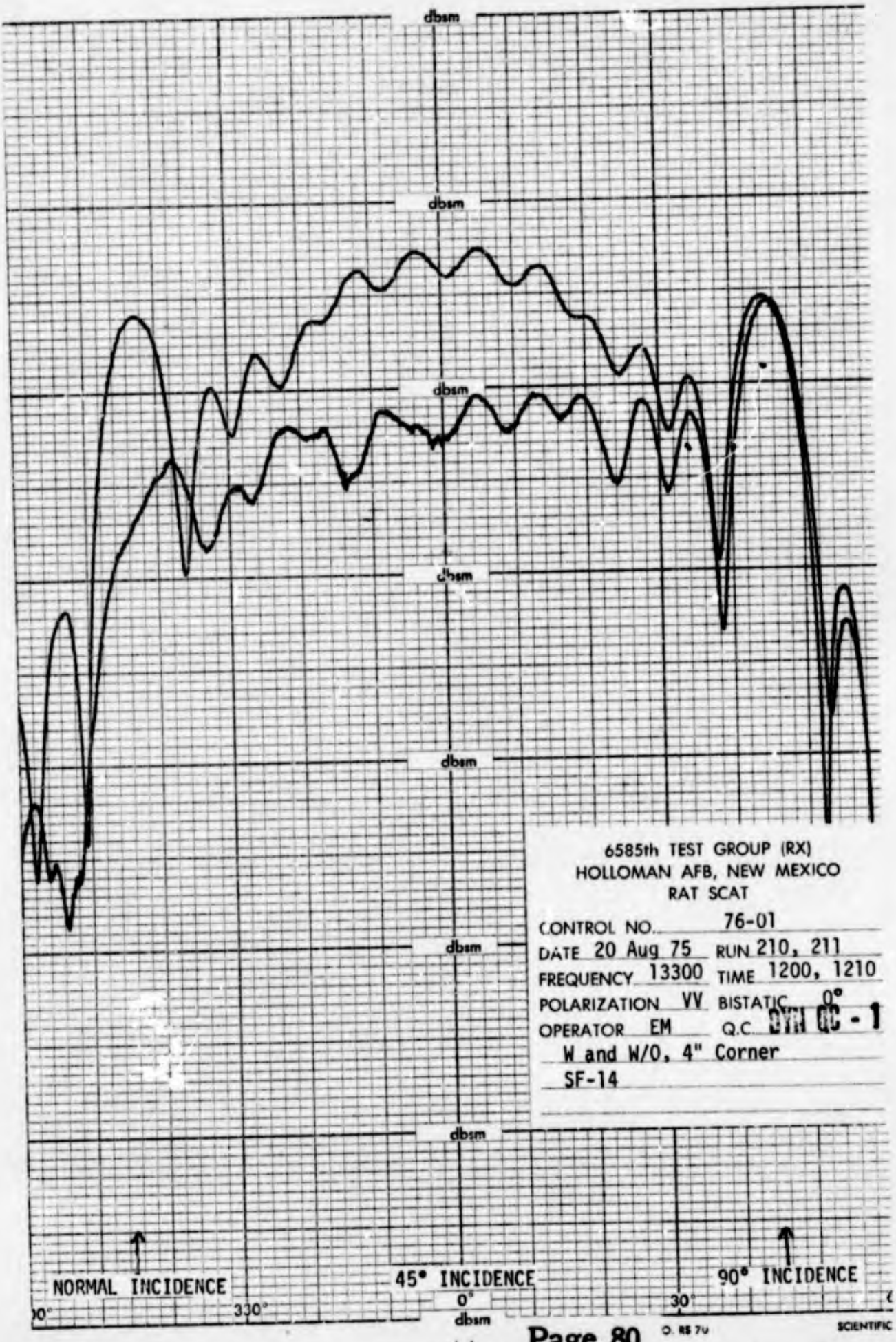
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 204M, 205M
FREQUENCY 13300 TIME 1015, 1025
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
GRAM-52
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°

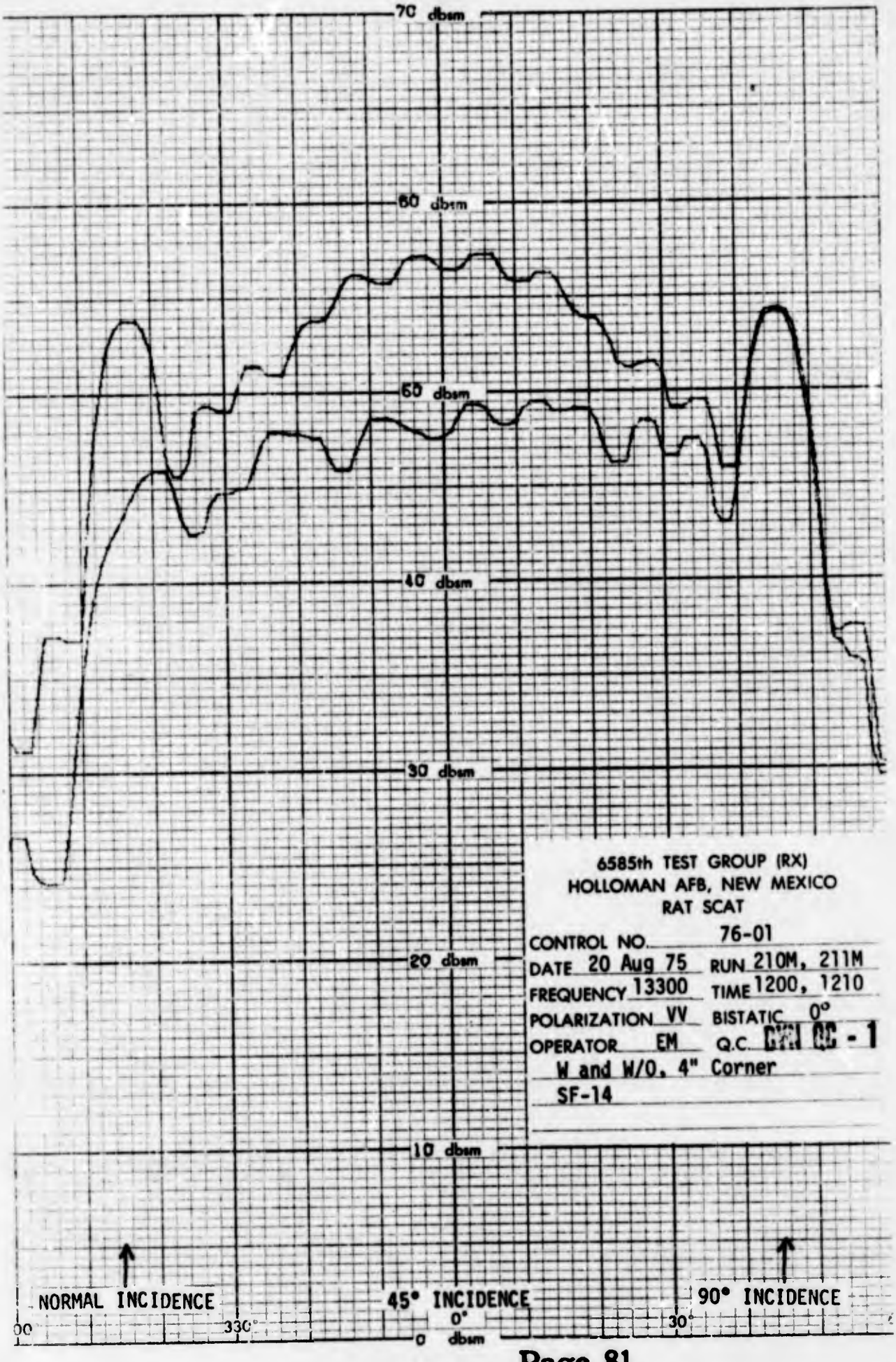

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 206, 207
FREQUENCY 13300 TIME 1035, 1045
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
GRAM-52
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

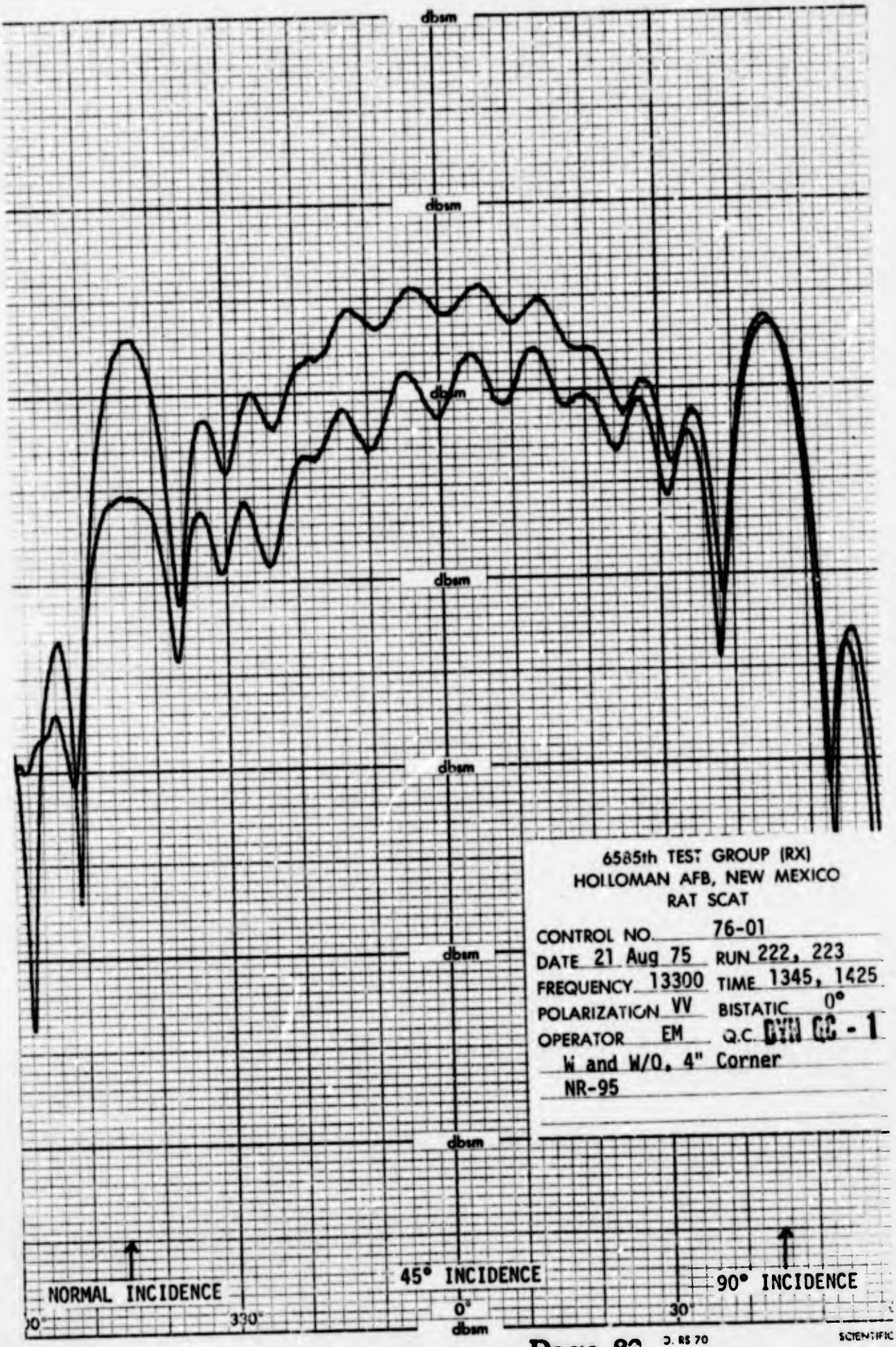

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 206M, 207M
FREQUENCY 13300 TIME 1035, 1045
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
GRAM-52
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

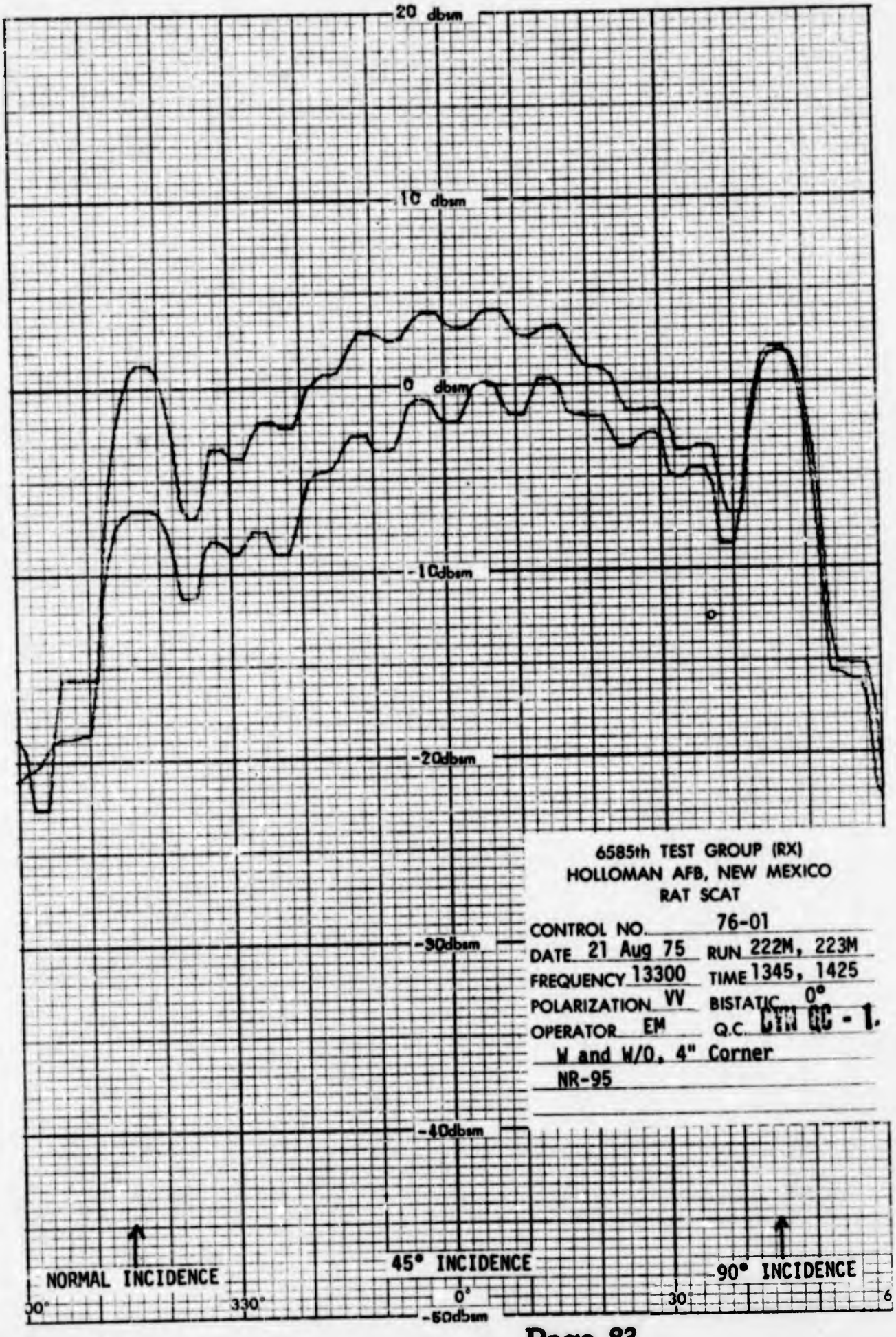

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 208, 209
FREQUENCY 13300 TIME 1130, 1145
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

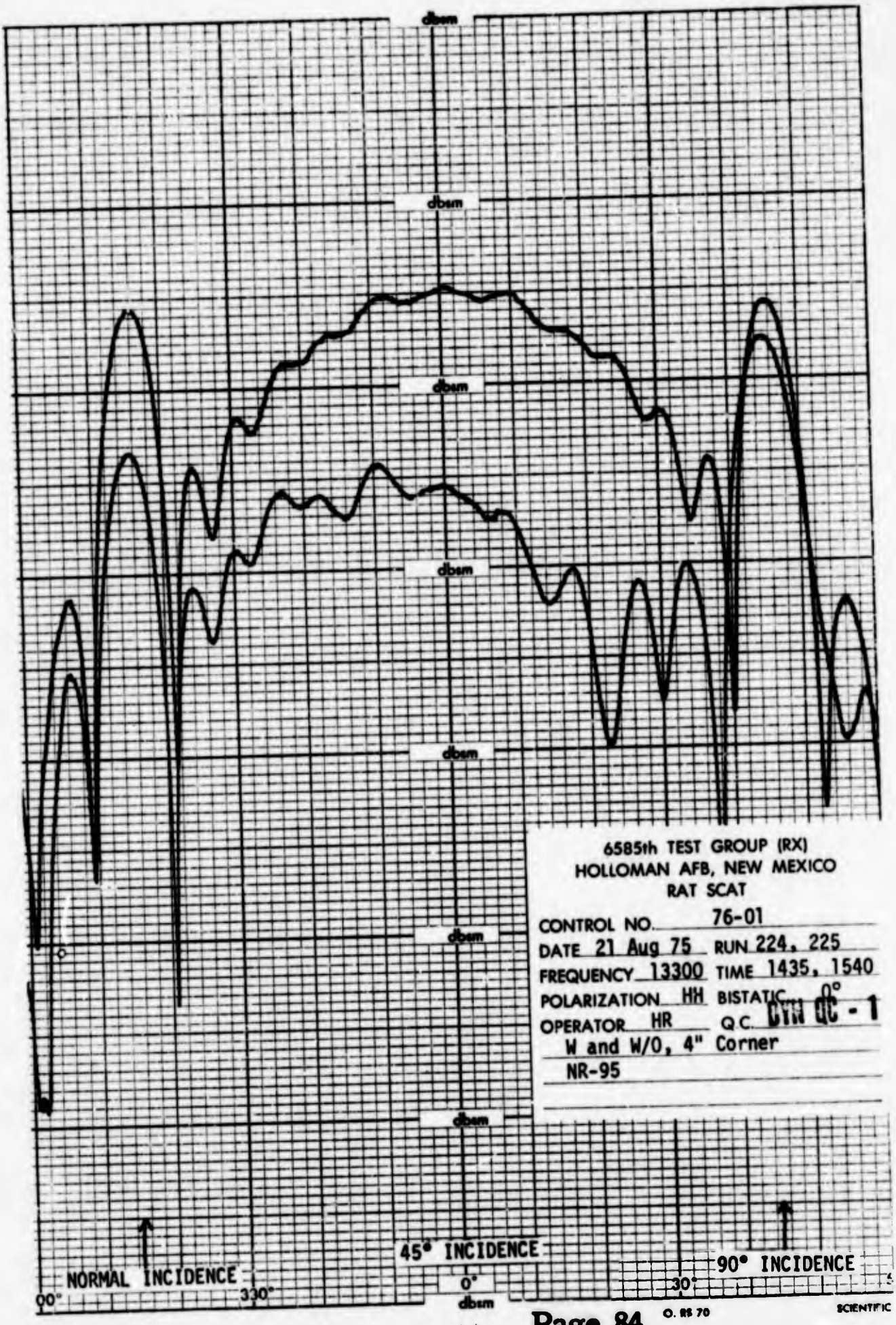

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75
RUN 208M, 209M
FREQUENCY 13300
TIME 1130, 1145
POLARIZATION HH
BISTATIC 0°
OPERATOR EM
Q.C. DYN QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°

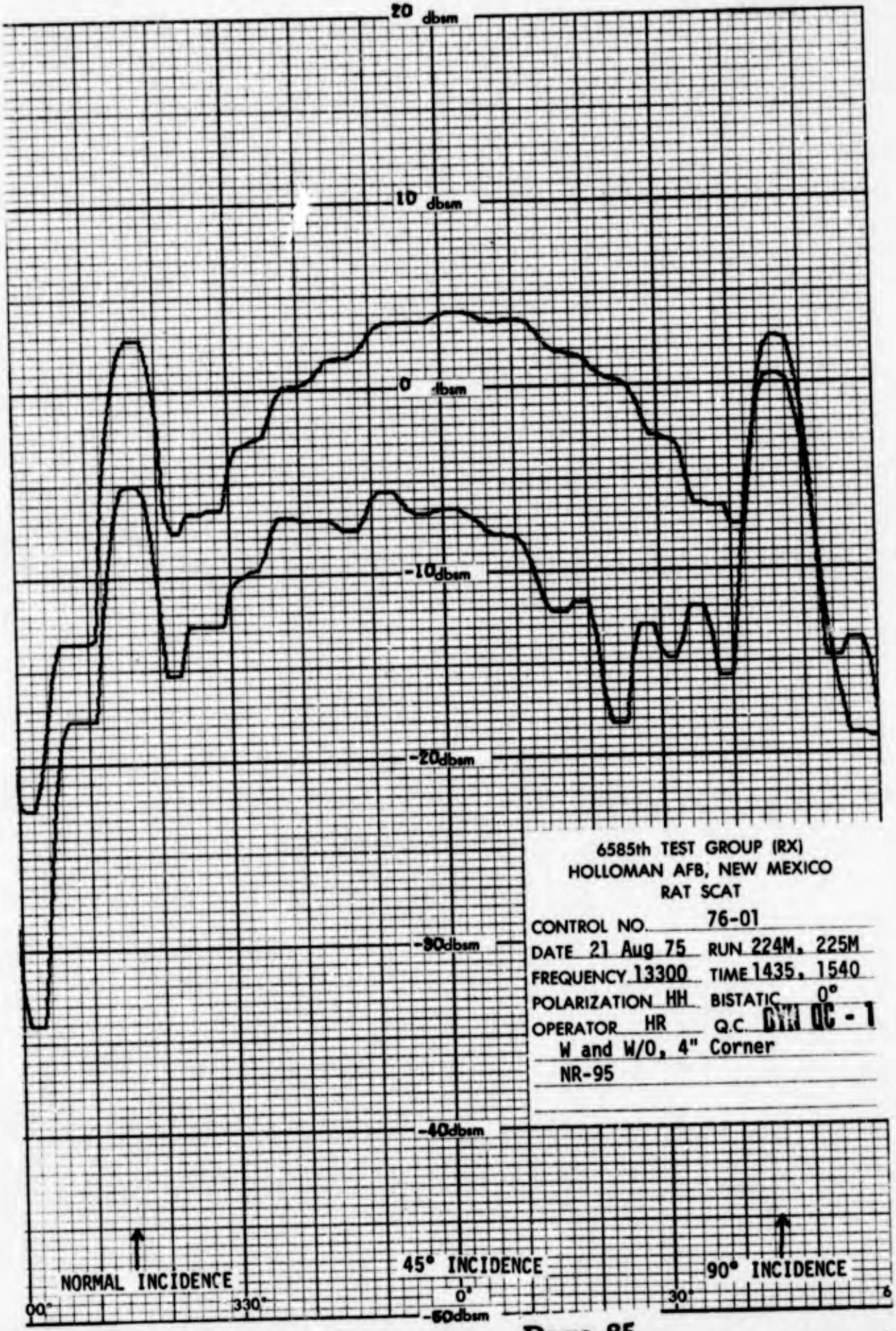

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 210, 211
FREQUENCY 13300 TIME 1200, 1210
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°
dbsm

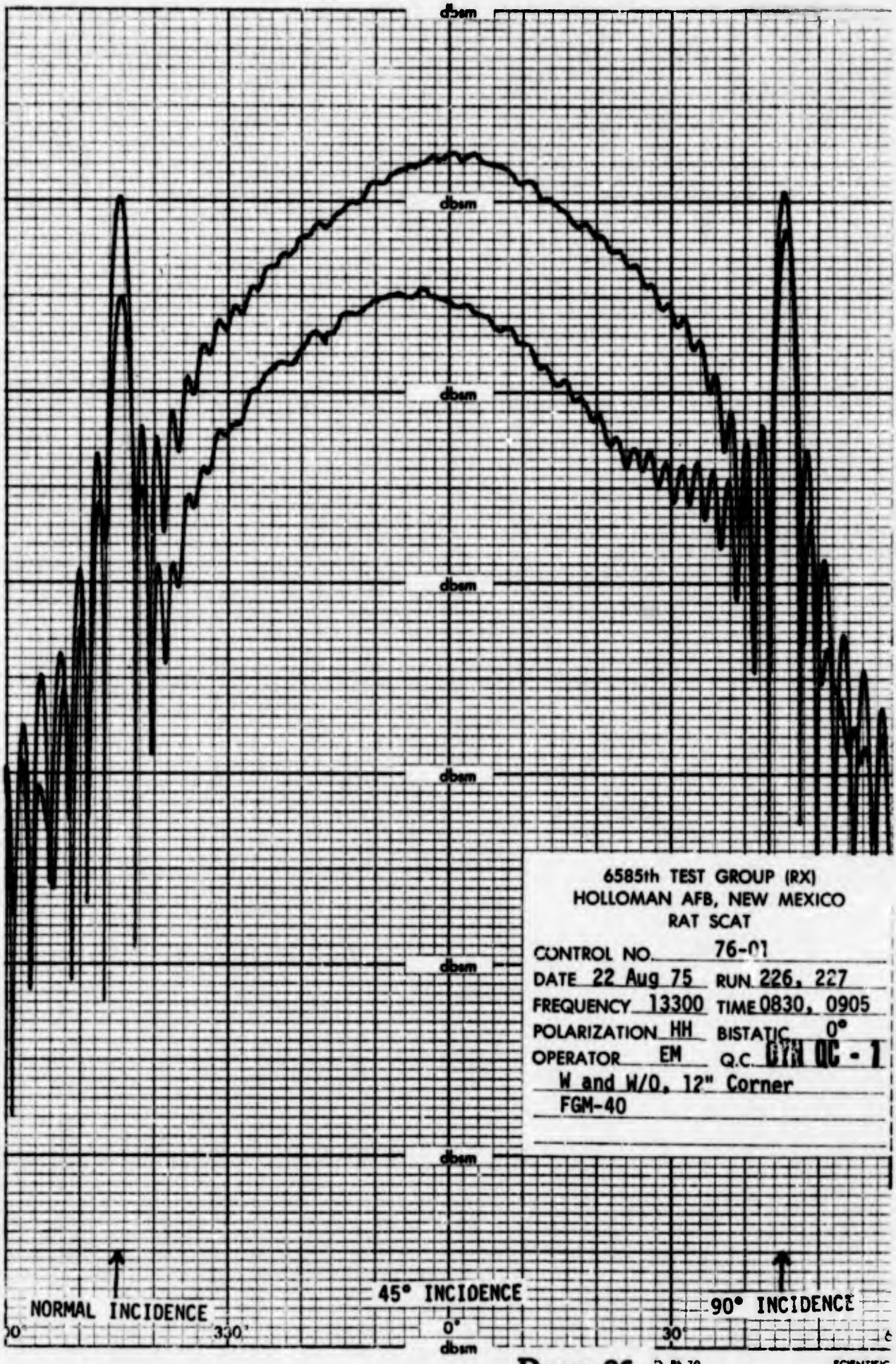

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 210M, 211M
FREQUENCY 13300 TIME 1200, 1210
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. GRI QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°


dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 222, 223
FREQUENCY 13300 TIME 1345, 1425
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

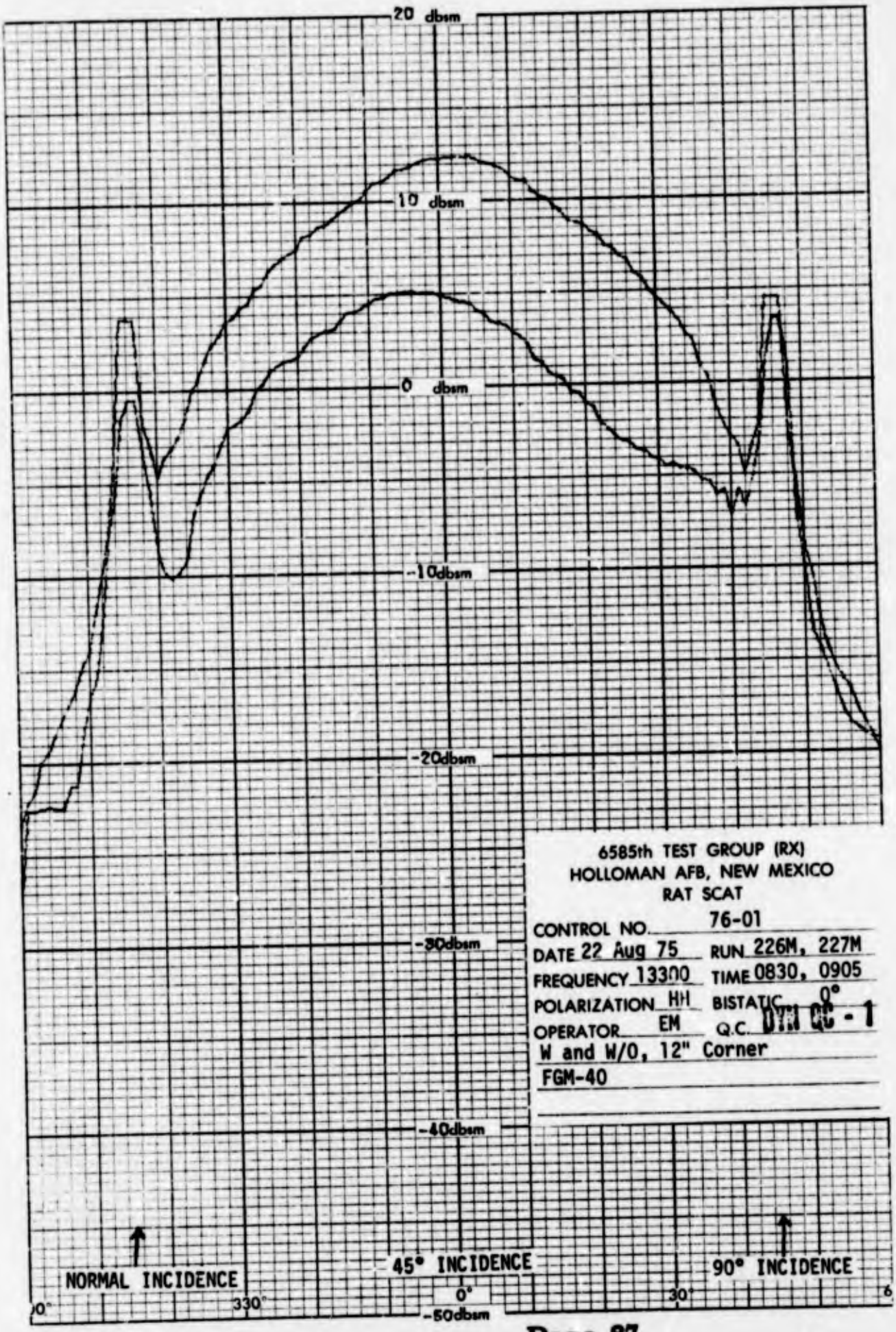

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 222M, 223M
FREQUENCY 13300 TIME 1345, 1425
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. CTN QC - 1.
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°

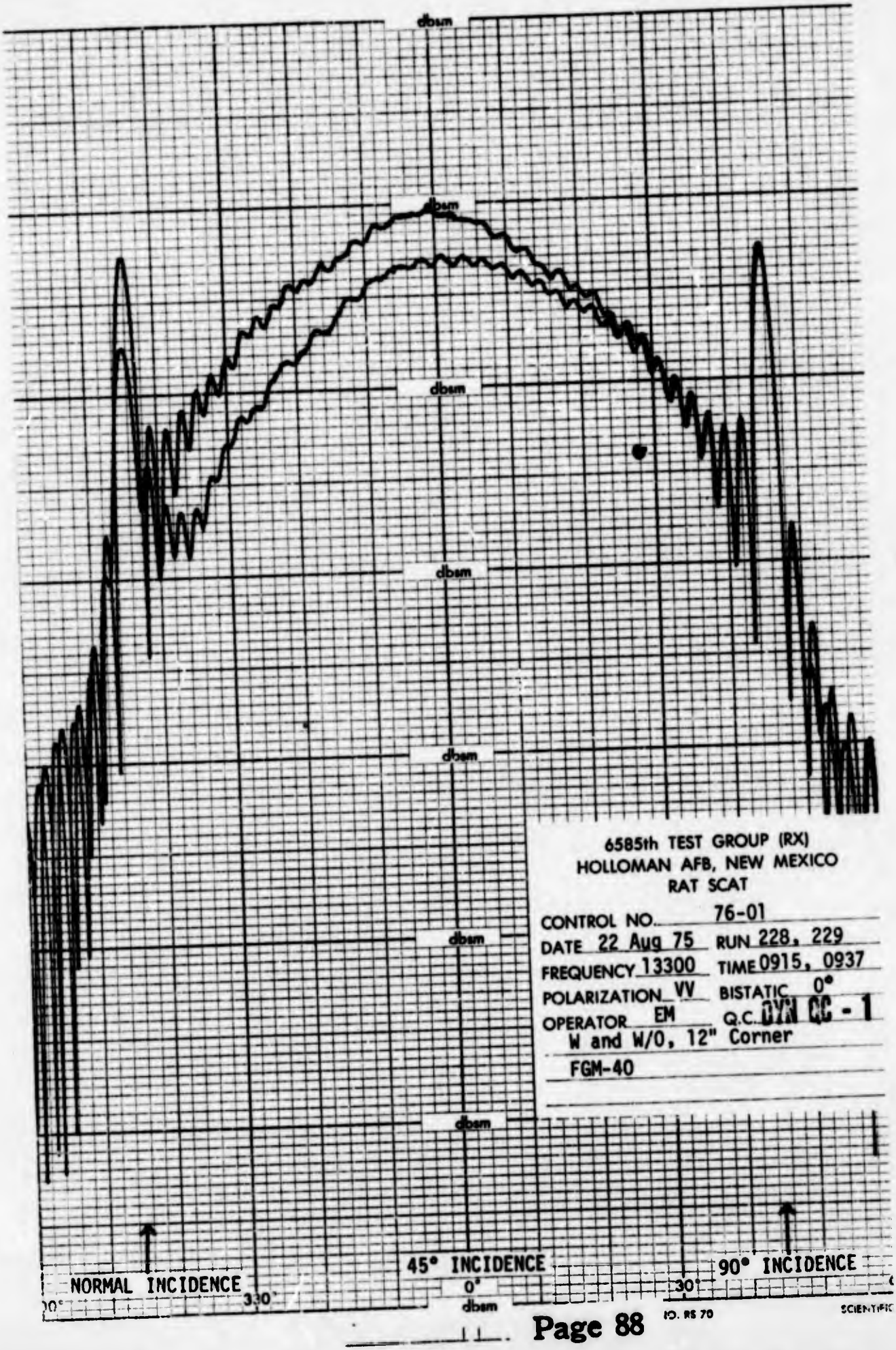

dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 224, 225
FREQUENCY 13300 TIME 1435, 1540
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DIN QC - 1
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
O. 88 70
SCIENTIFIC

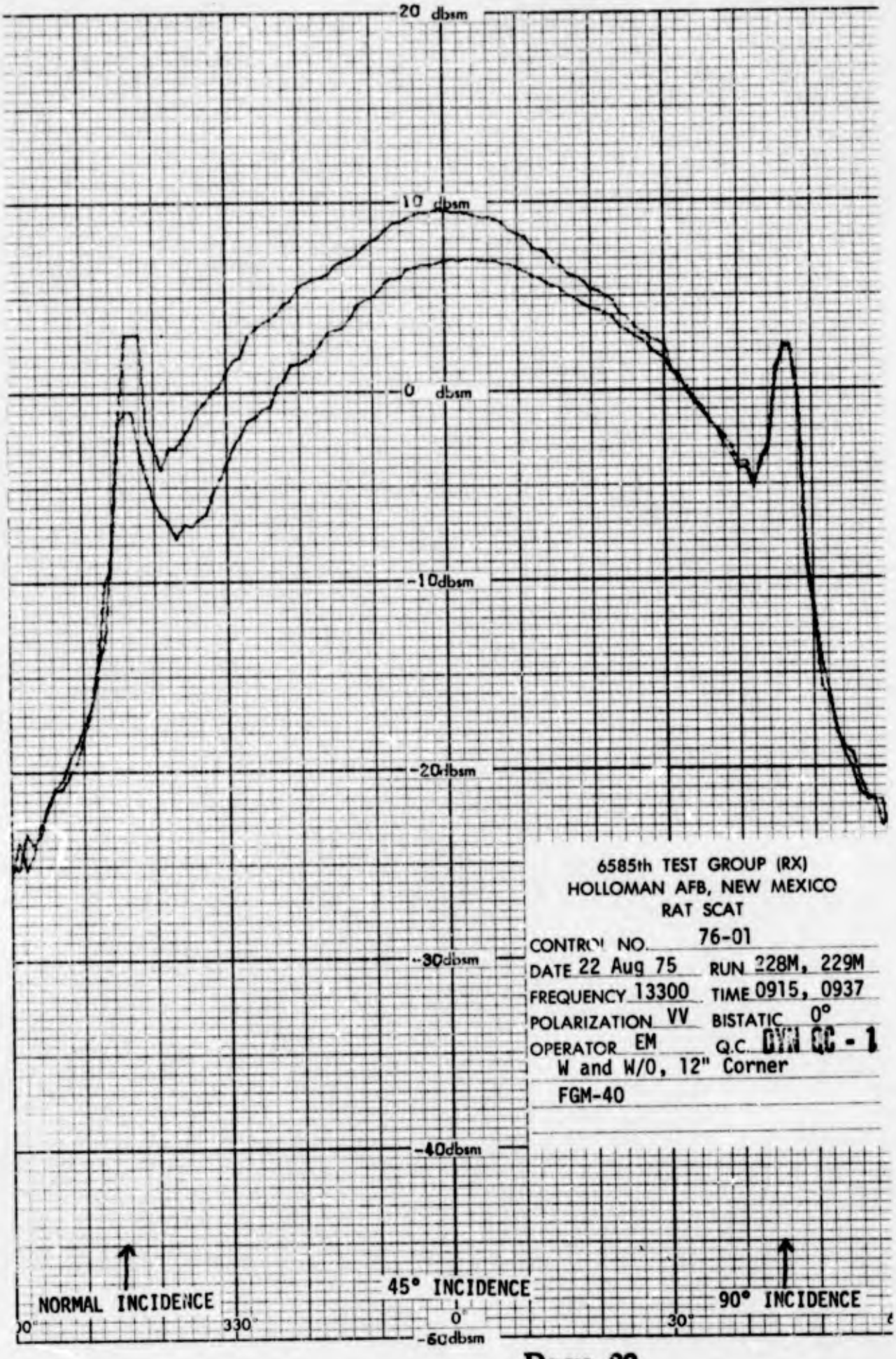

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 224M, 225M
FREQUENCY 13300 TIME 1435, 1540
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. GWH QC - 1
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°

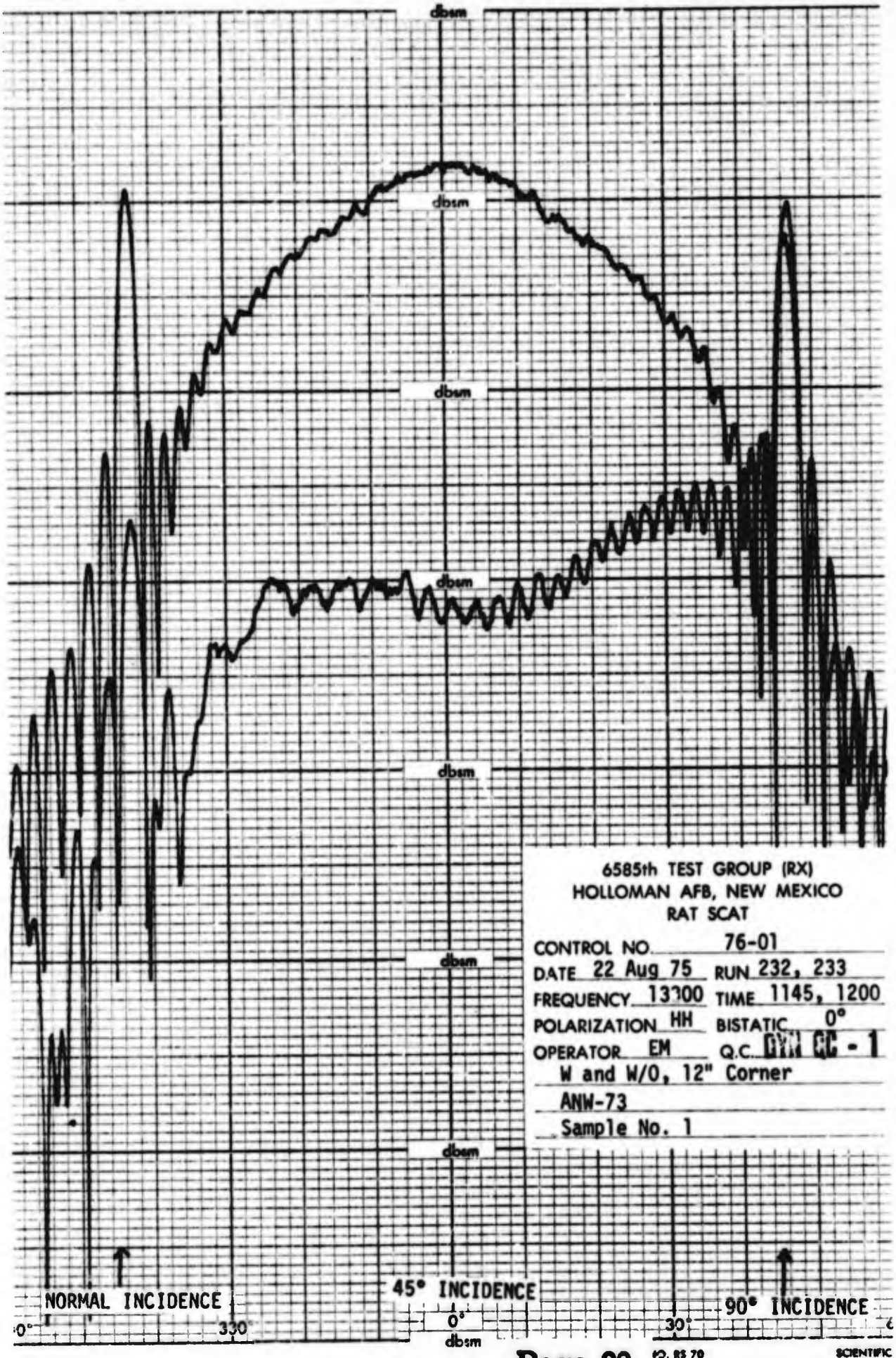


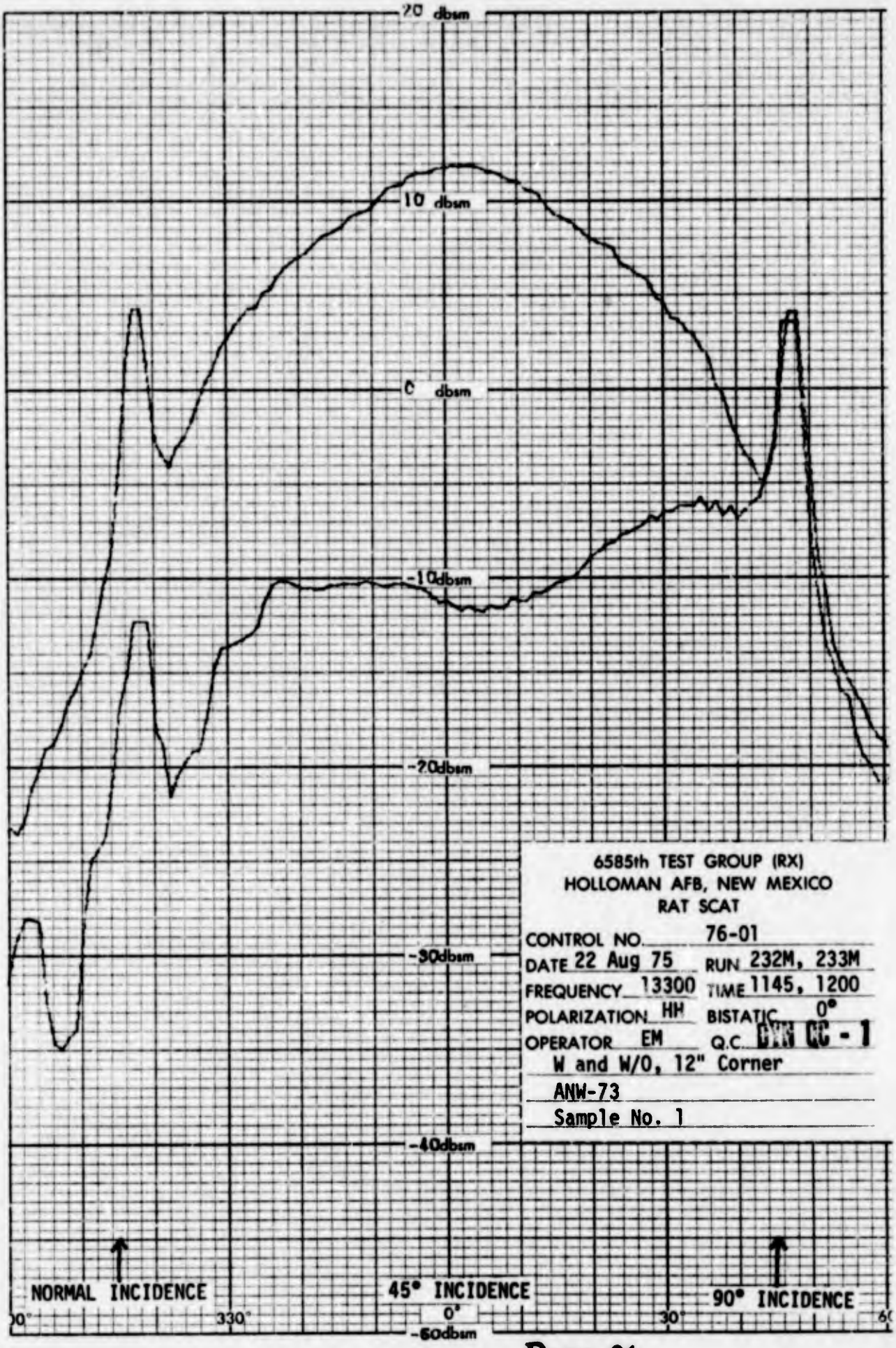
D. R5 70 SCIENTIFIC

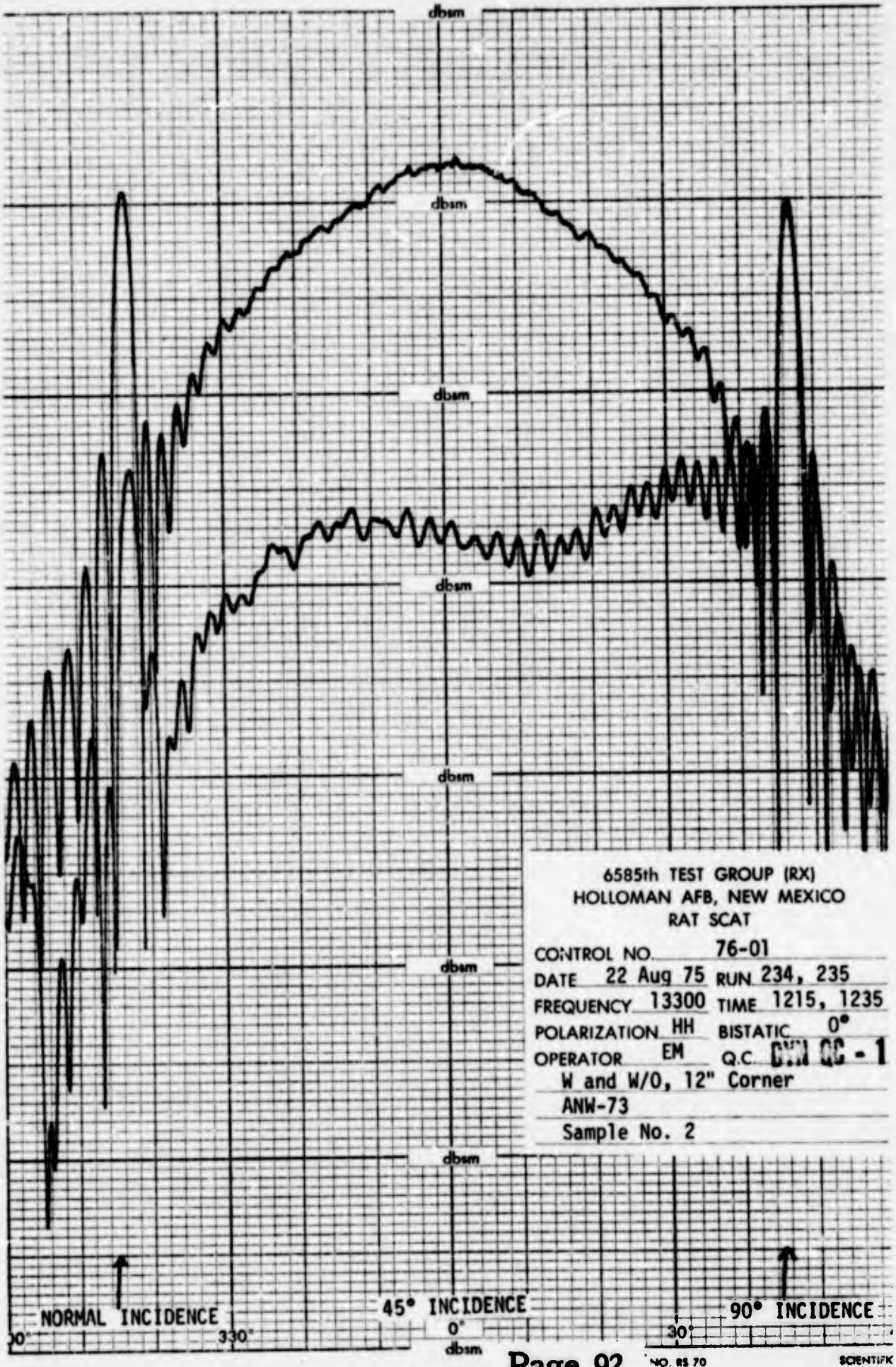

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 226M, 227M
FREQUENCY 13300 TIME 0830, 0905
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C.
W and W/O, 12" Corner
FGM-40

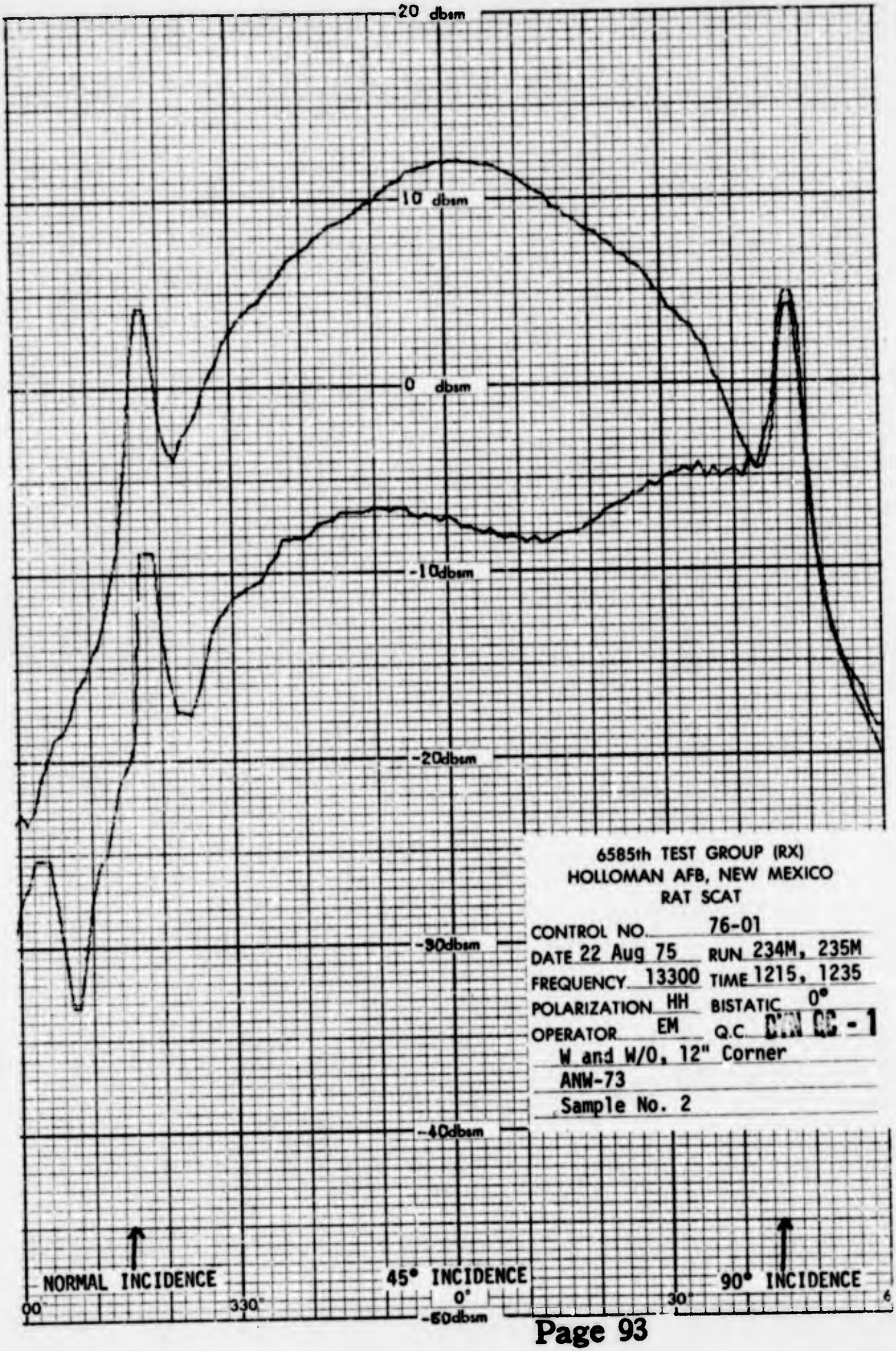

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 228, 229
FREQUENCY 13300 TIME 0915, 0937
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. OVN QC - 1
W and W/O, 12" Corner
FGM-40
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°
dbsm

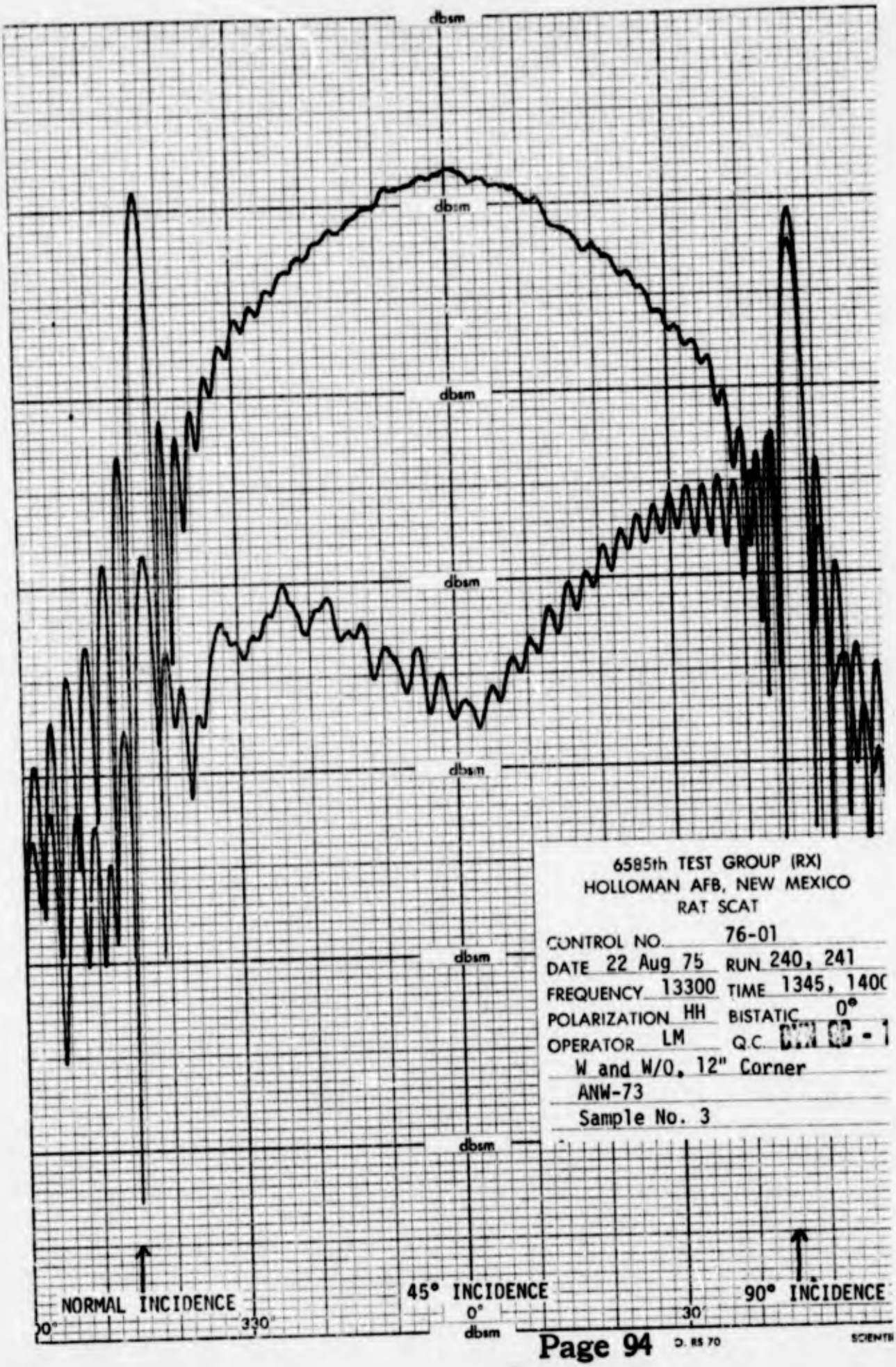

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-60dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 228M, 229M
FREQUENCY 13300 TIME 0915, 0937
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DYN QC - 1
W and W/O, 12" Corner
FGM-40

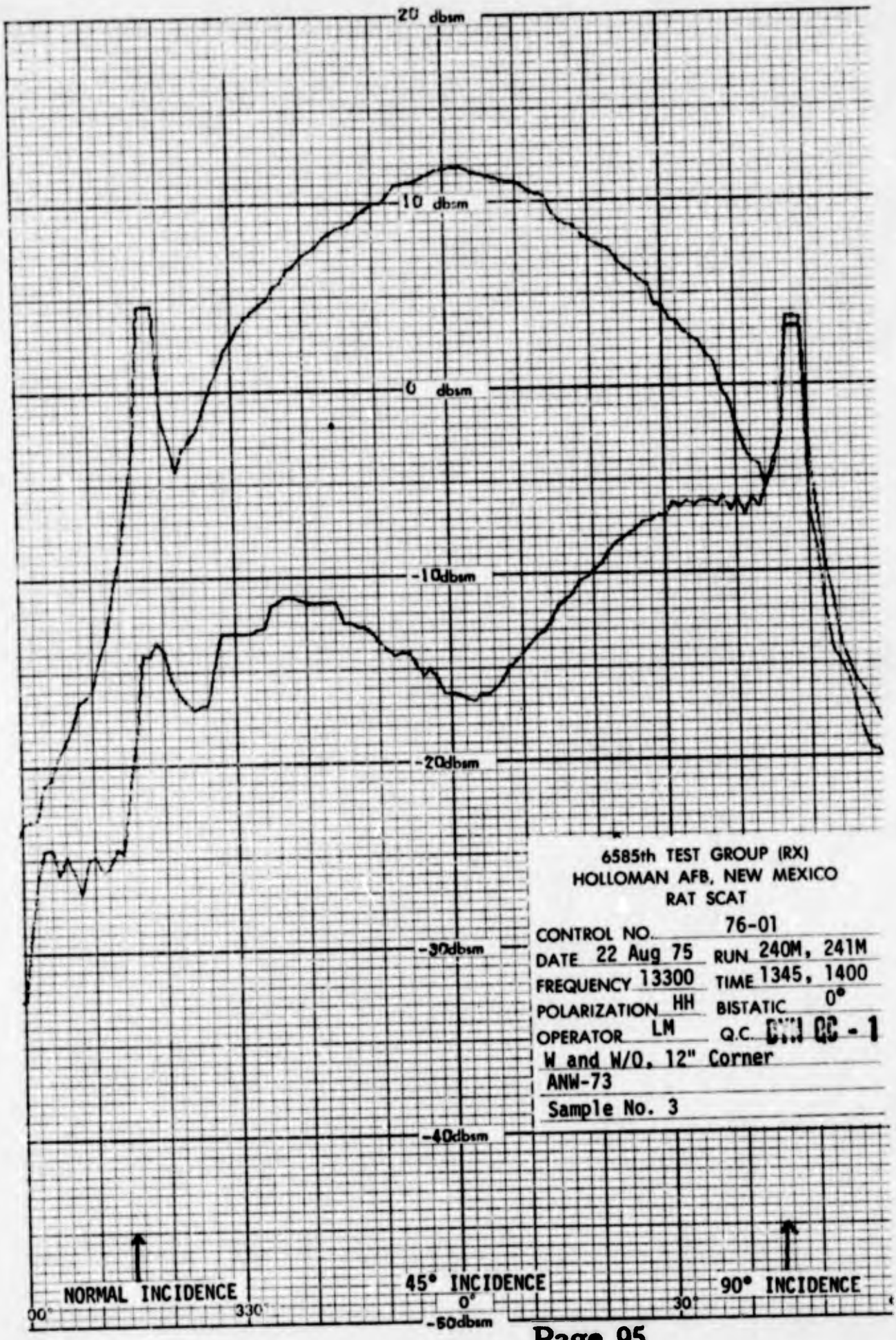

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 232, 233
FREQUENCY 13300 TIME 1145, 1200
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DYN CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

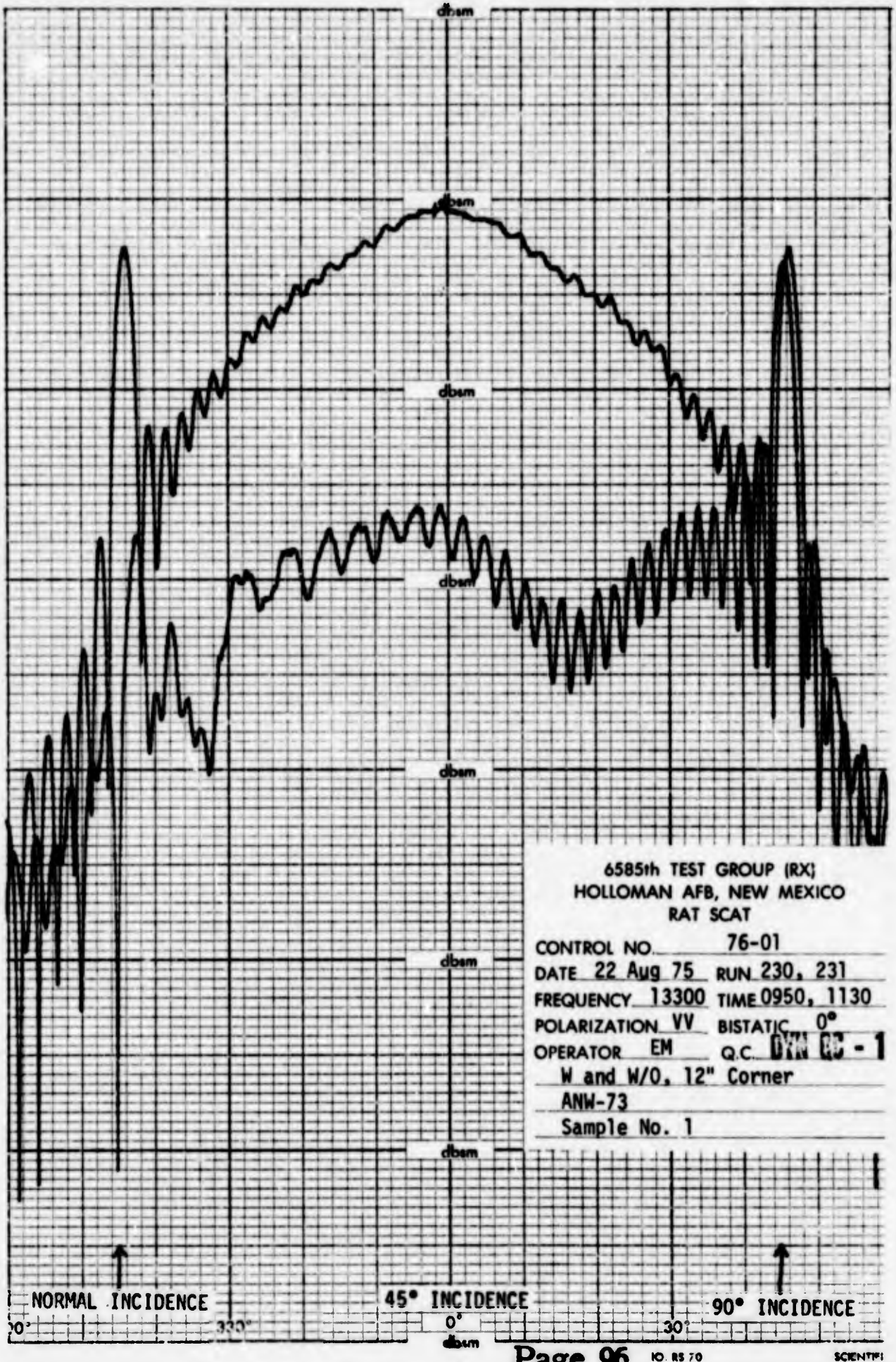

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-60dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 232M, 233M
FREQUENCY 13300
TIME 1145, 1200
POLARIZATION HH
BISTATIC 0°
OPERATOR EM
Q.C. GUN CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1

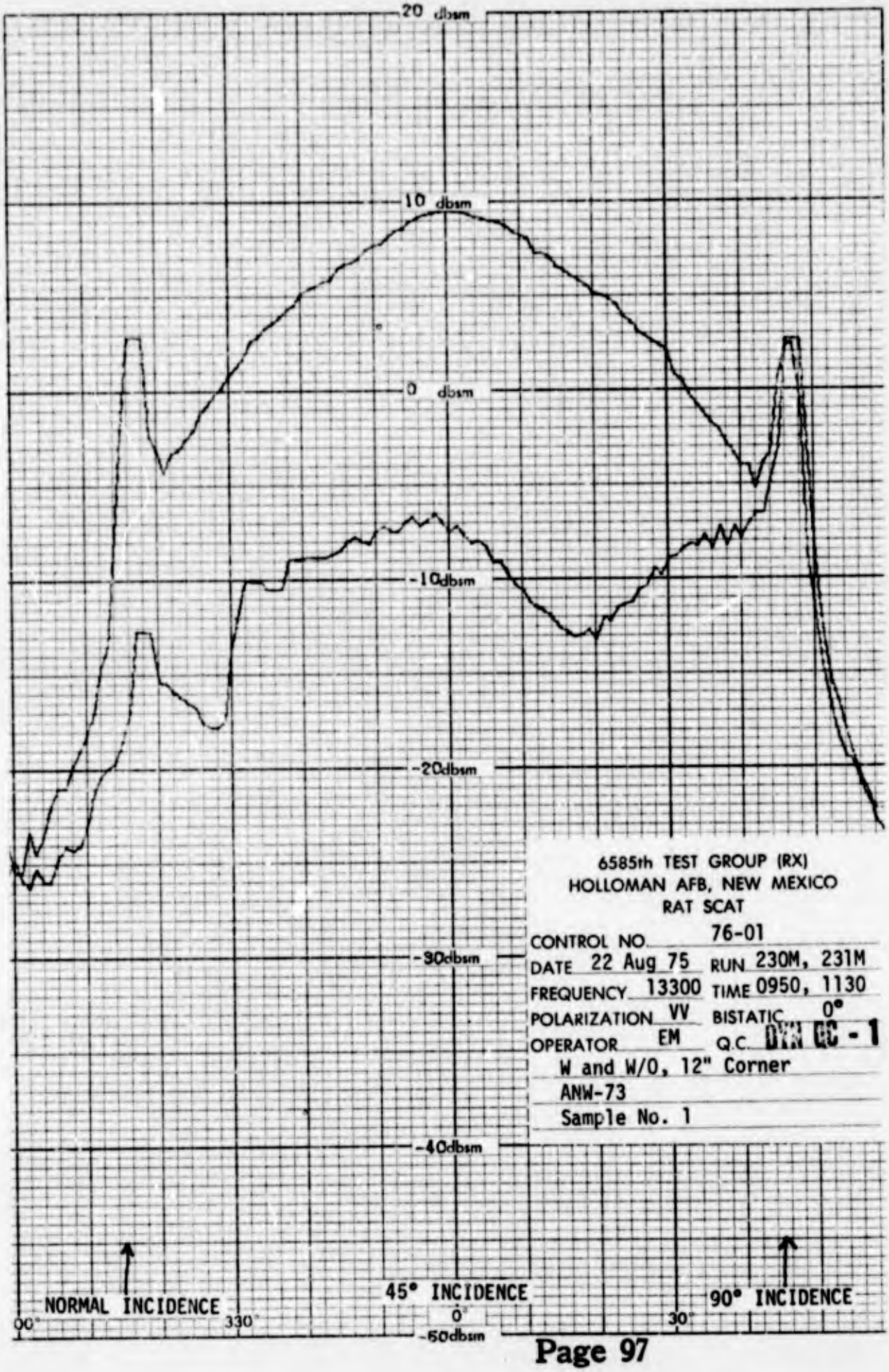

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 234, 235
FREQUENCY 13300 TIME 1215, 1235
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. DWN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
NO. 88 70
SCIENTIFIC


20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 234M, 235M
FREQUENCY 13300 TIME 1215, 1235
POLARIZATION HH BISTATIC 0°
OPERATOR EM Q.C. CMN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
90° INCIDENCE
30°
6


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 240, 241
FREQUENCY 13300 TIME 1345, 140
POLARIZATION HH BISTATIC 0°
OPERATOR LM Q.C.
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE


20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 240M, 241M
FREQUENCY 13300
TIME 1345, 1400
POLARIZATION HH
BISTATIC 0°
OPERATOR LM
Q.C. DWI QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 230, 231
FREQUENCY 13300 TIME 0950, 1130
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DWN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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-20dbsm
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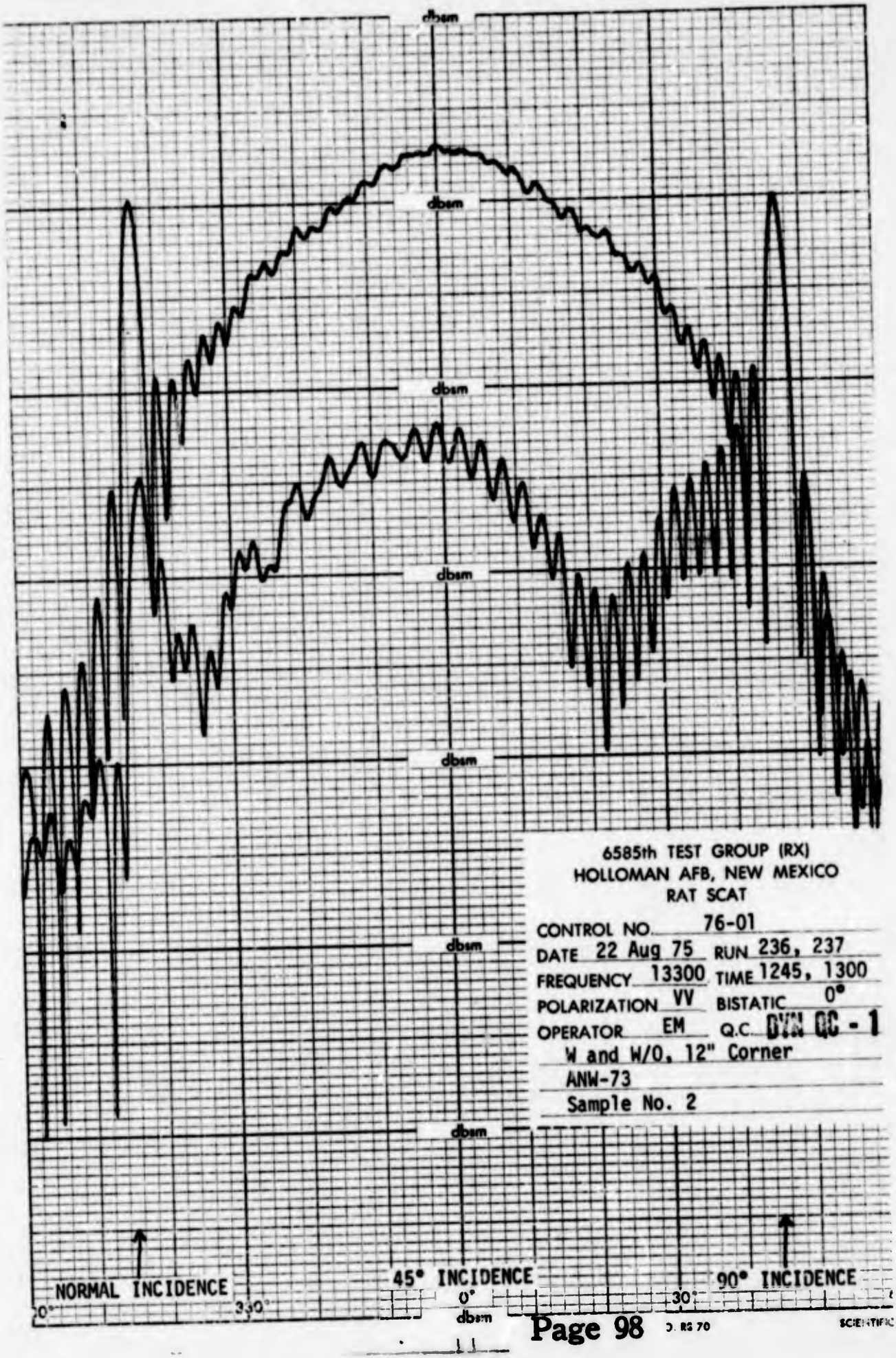
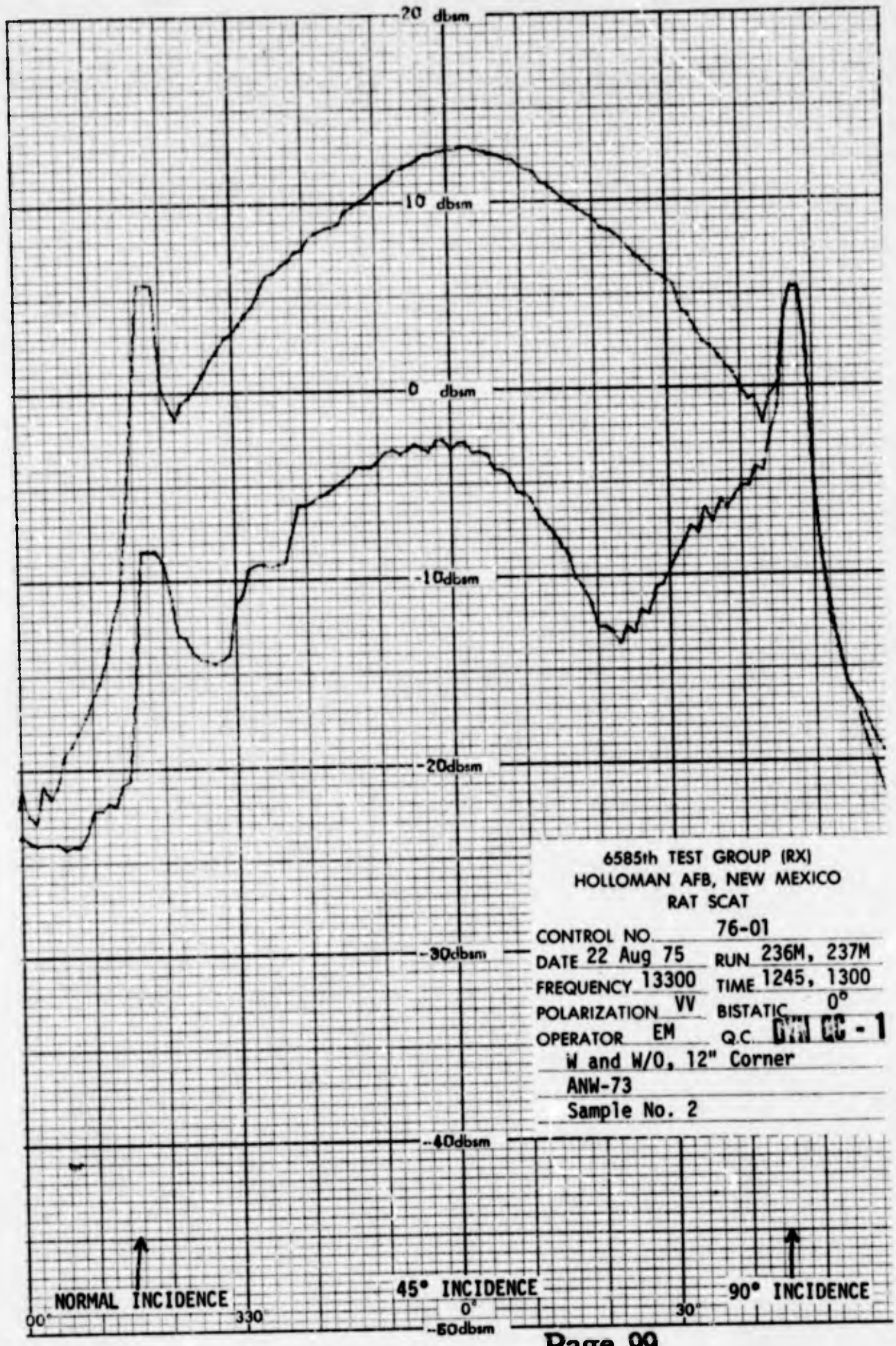
-40dbsm
-50dbsm
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
90° INCIDENCE
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 230M, 231M
FREQUENCY 13300 TIME 0950, 1130
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DWN GC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 236, 237
FREQUENCY 13300 TIME 1245, 1300
POLARIZATION VV BISTATIC 0°
OPERATOR EM Q.C. DVN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
dbsm


20 dbsm
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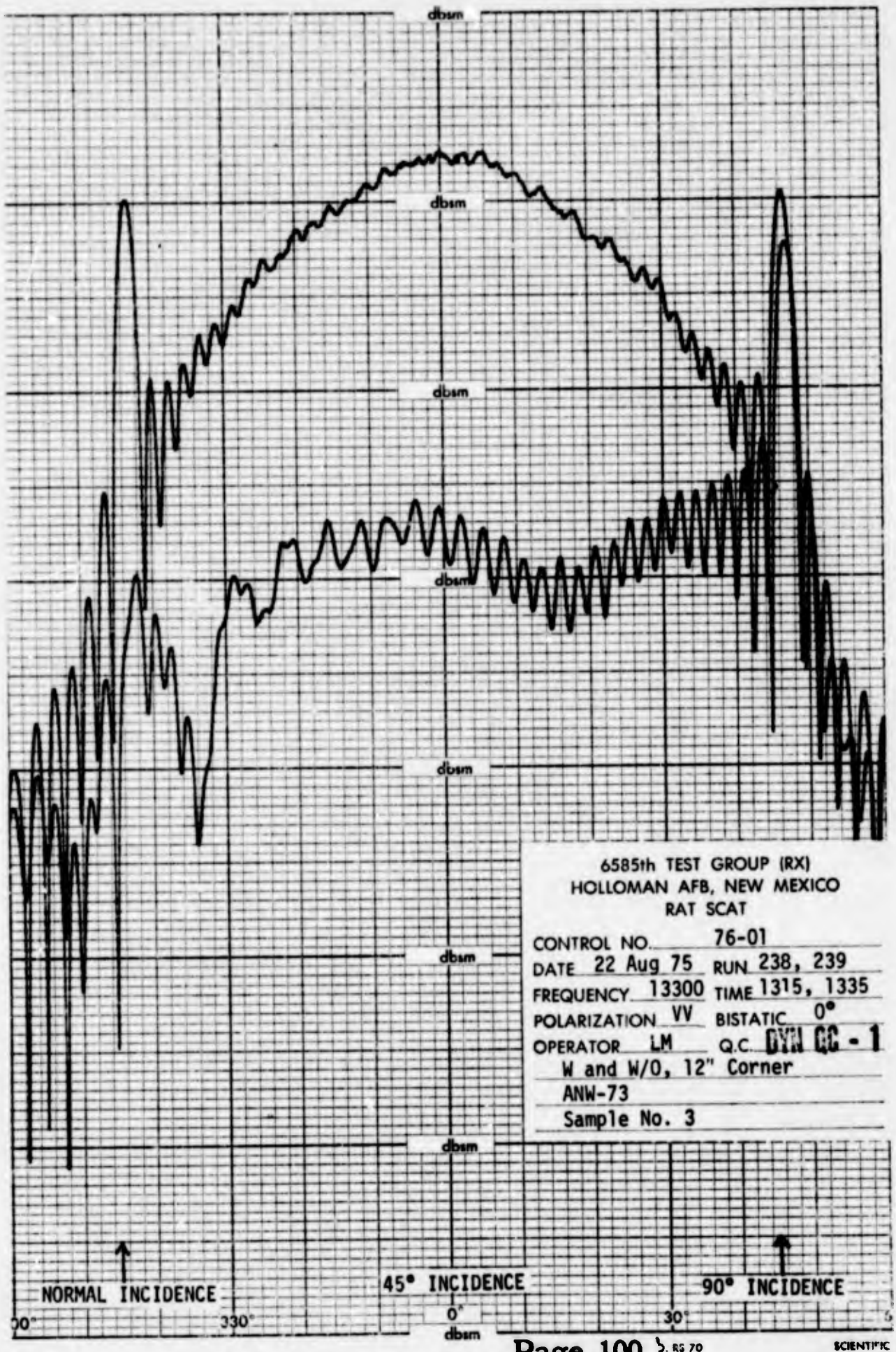
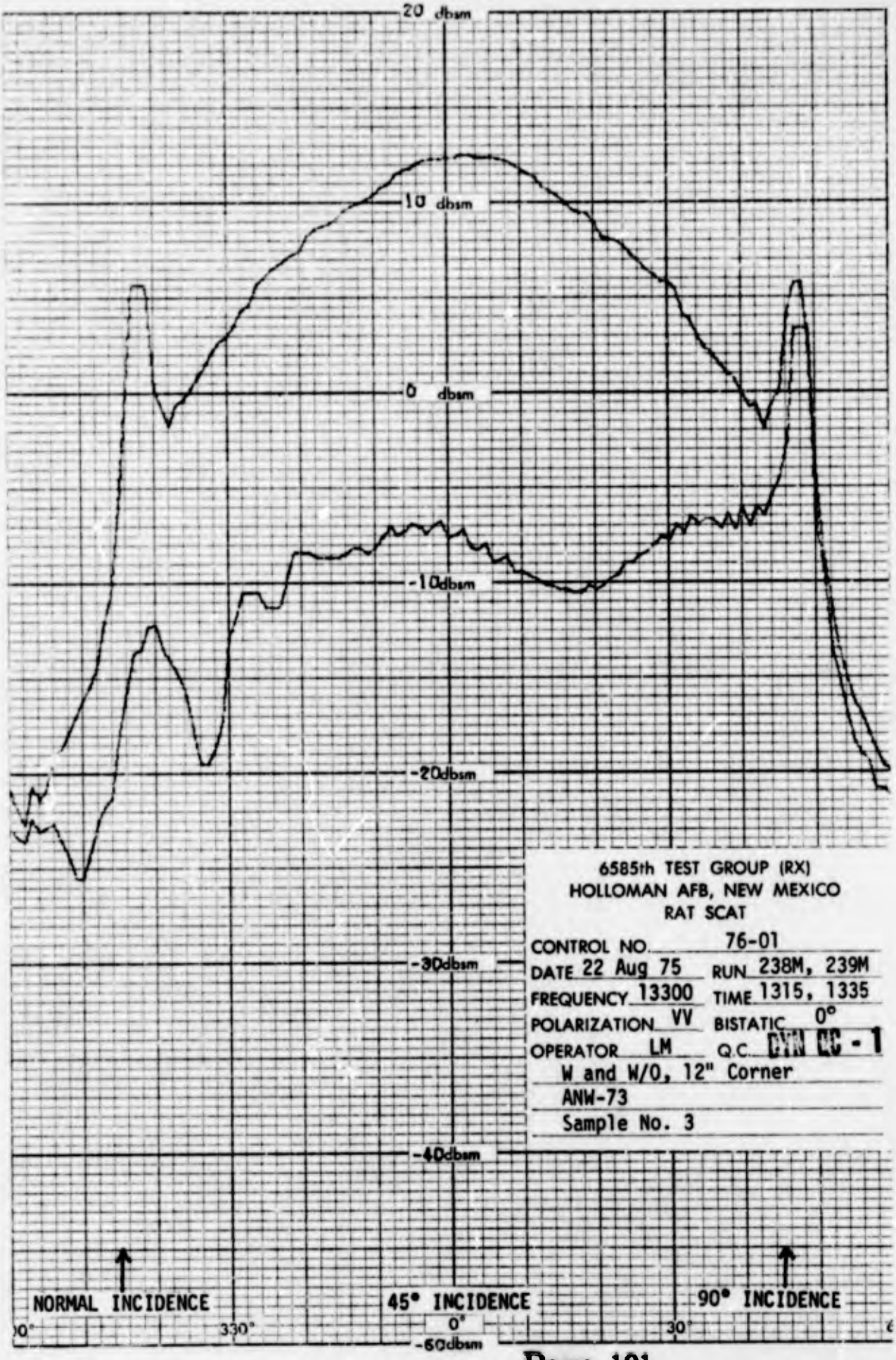
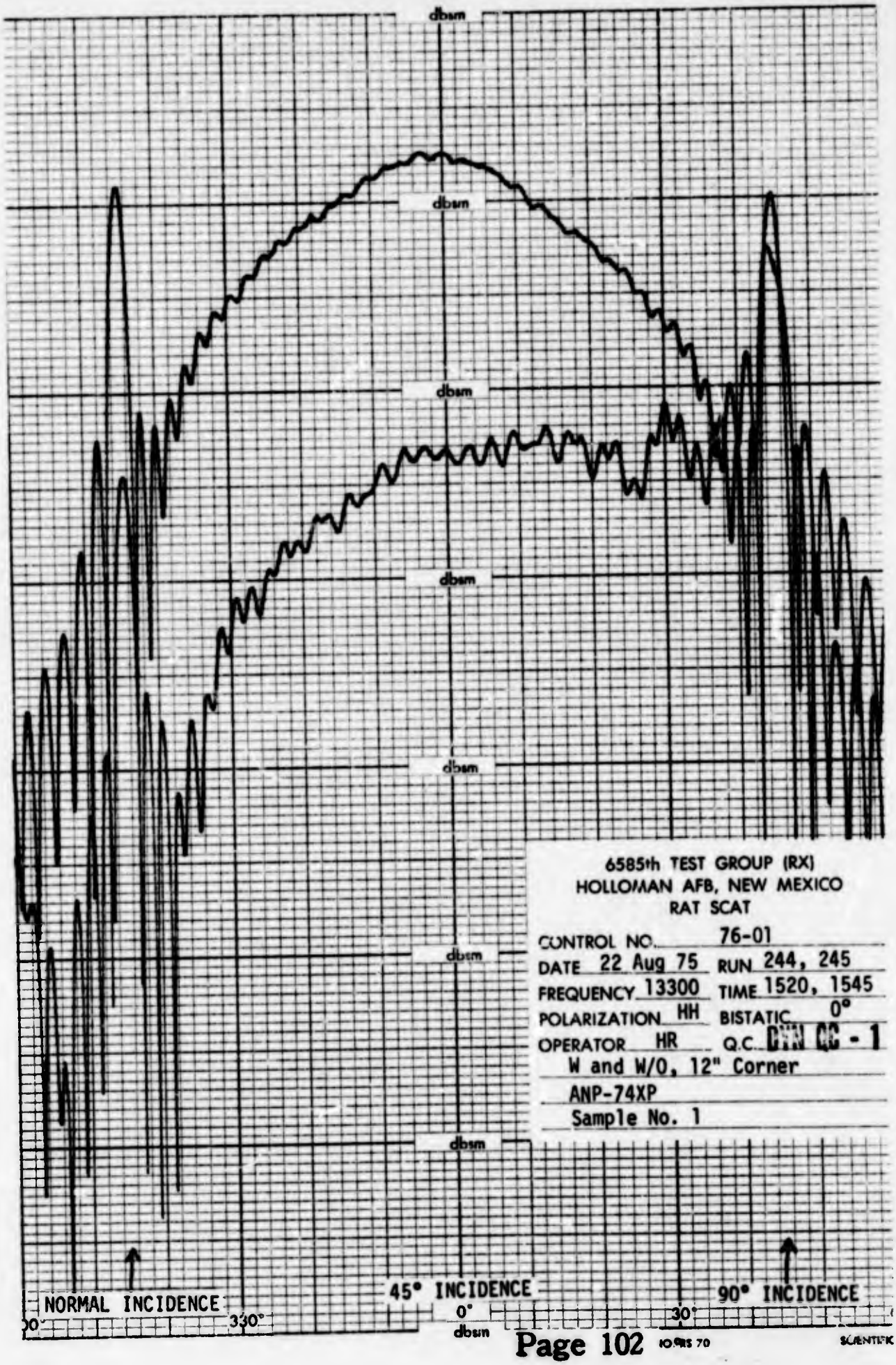
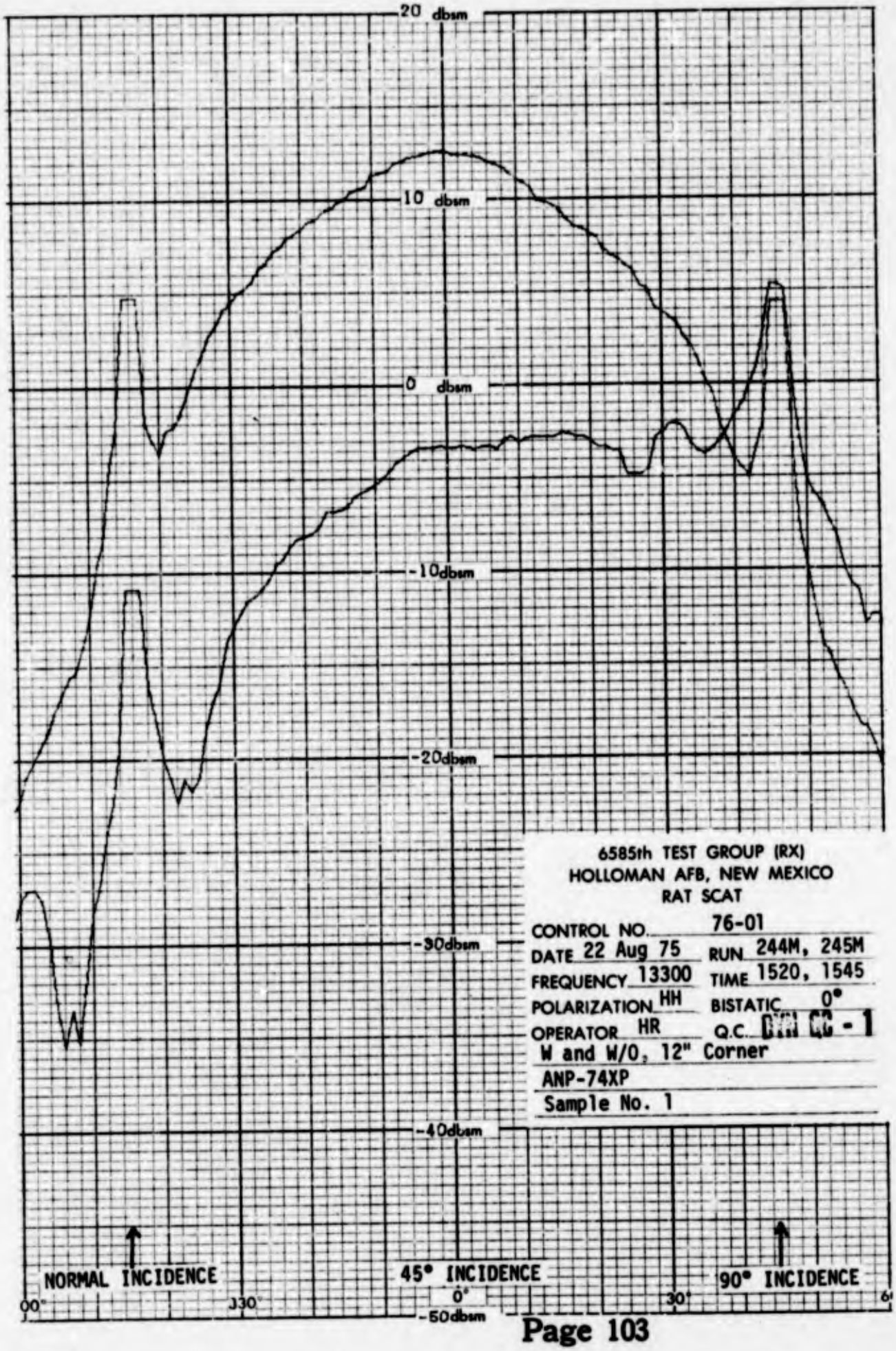
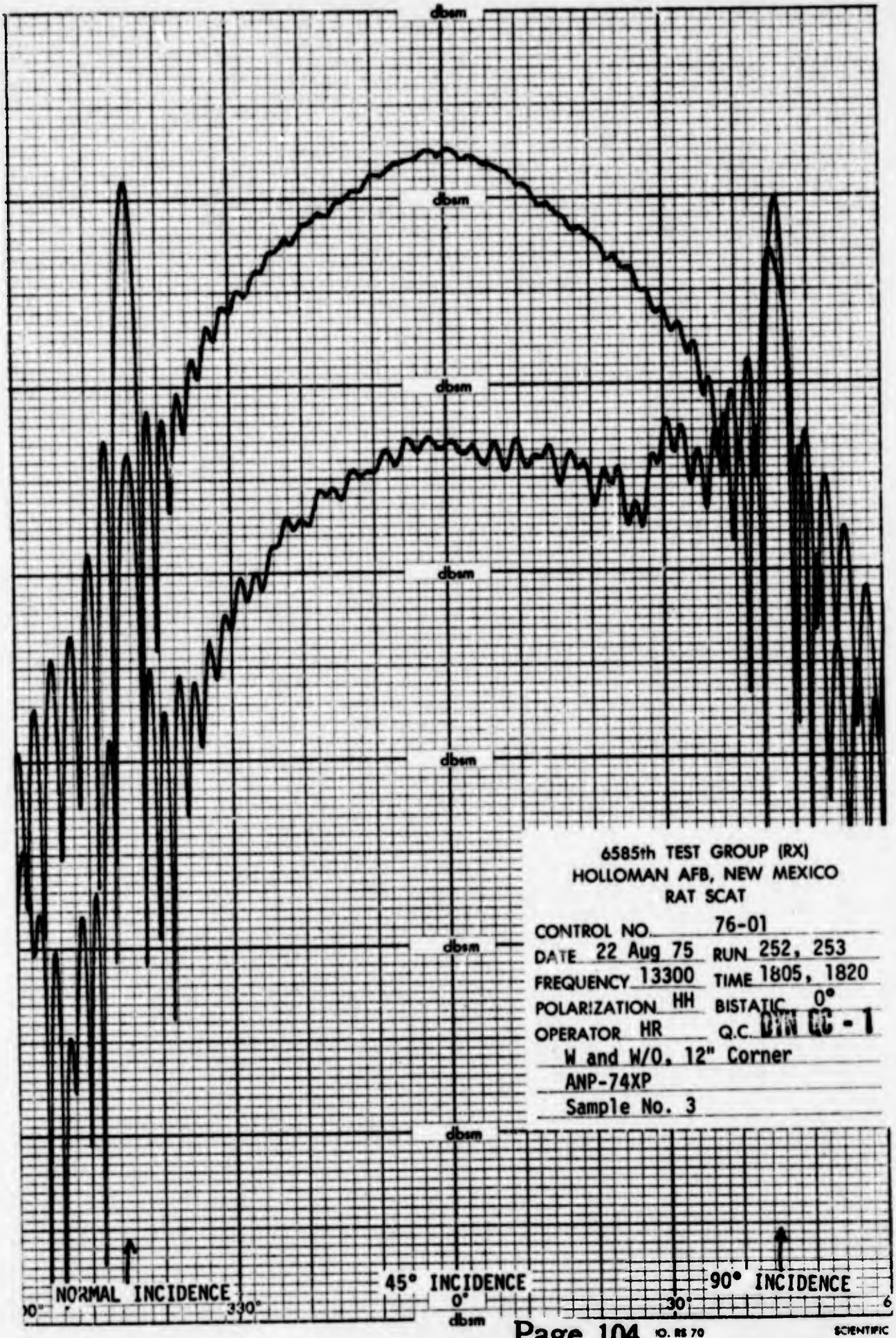
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 236M, 237M
FREQUENCY 13300
TIME 1245, 1300
POLARIZATION VV
BISTATIC 0°
OPERATOR EM
Q.C. DWN CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°

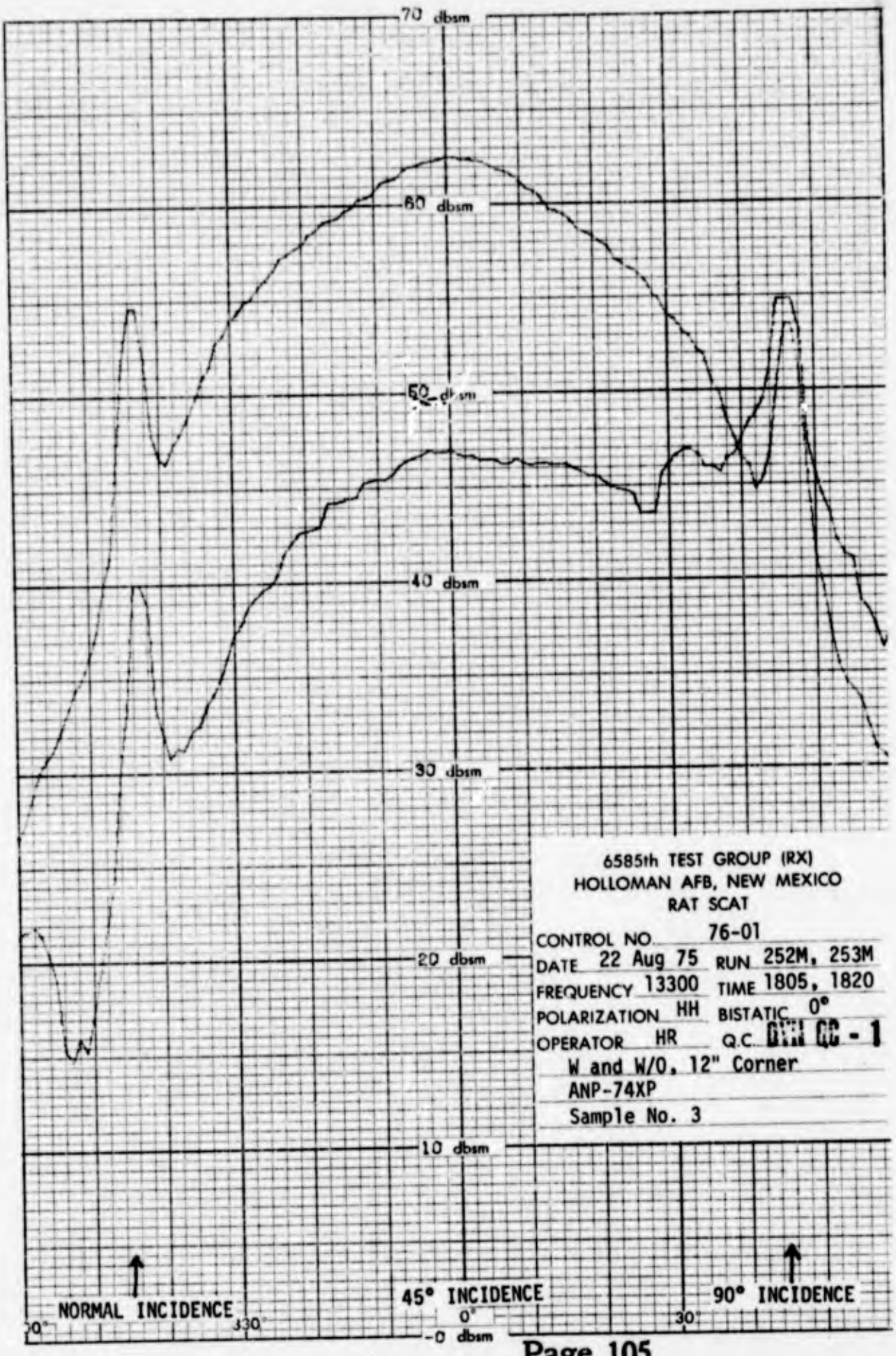

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 238, 239
FREQUENCY 13300 TIME 1315, 1335
POLARIZATION VV BISTATIC 0°
OPERATOR LM Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

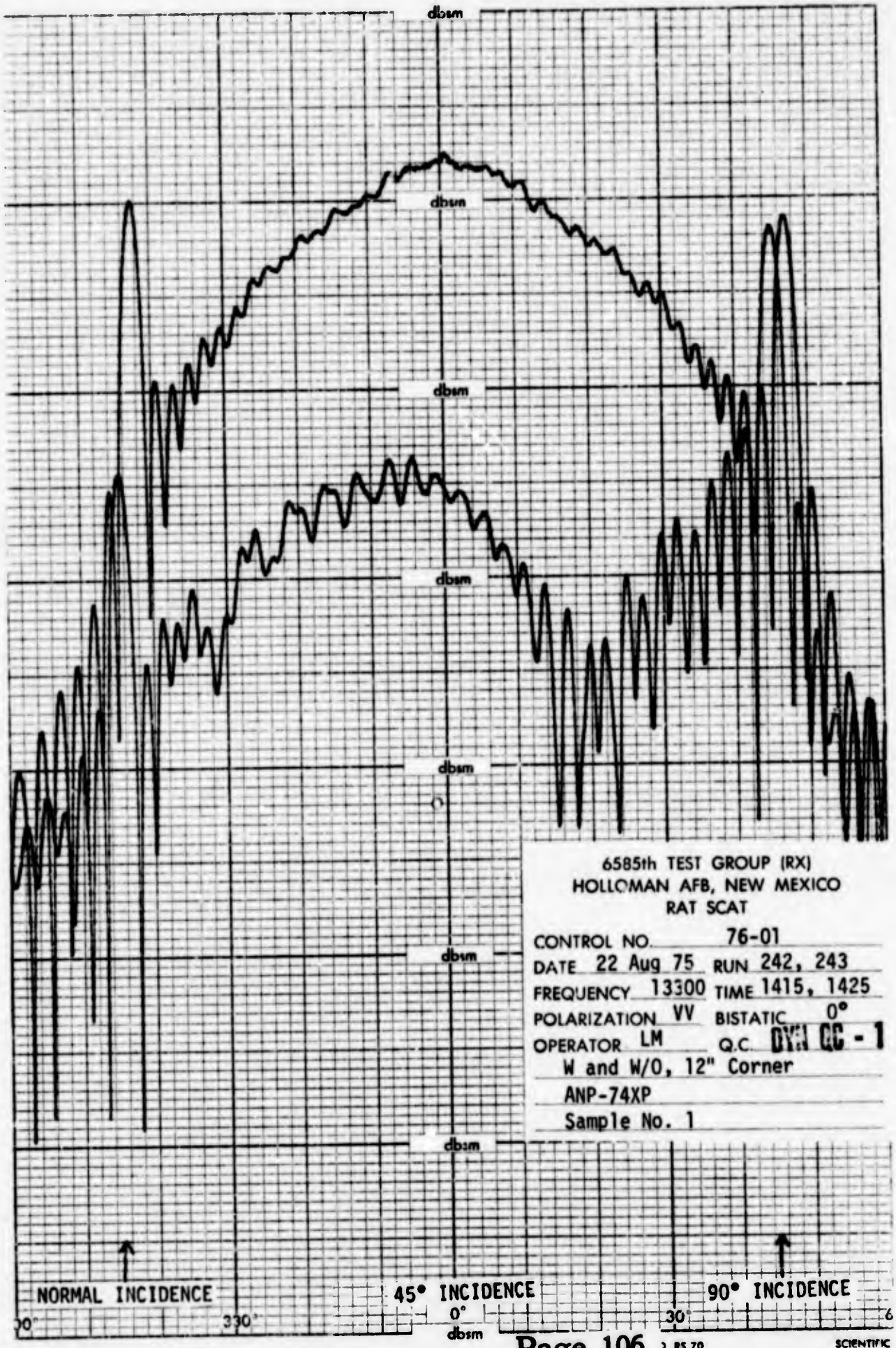

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 238M, 239M
FREQUENCY 13300 TIME 1315, 1335
POLARIZATION VV BISTATIC 0°
OPERATOR LM Q.C. DYN CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3

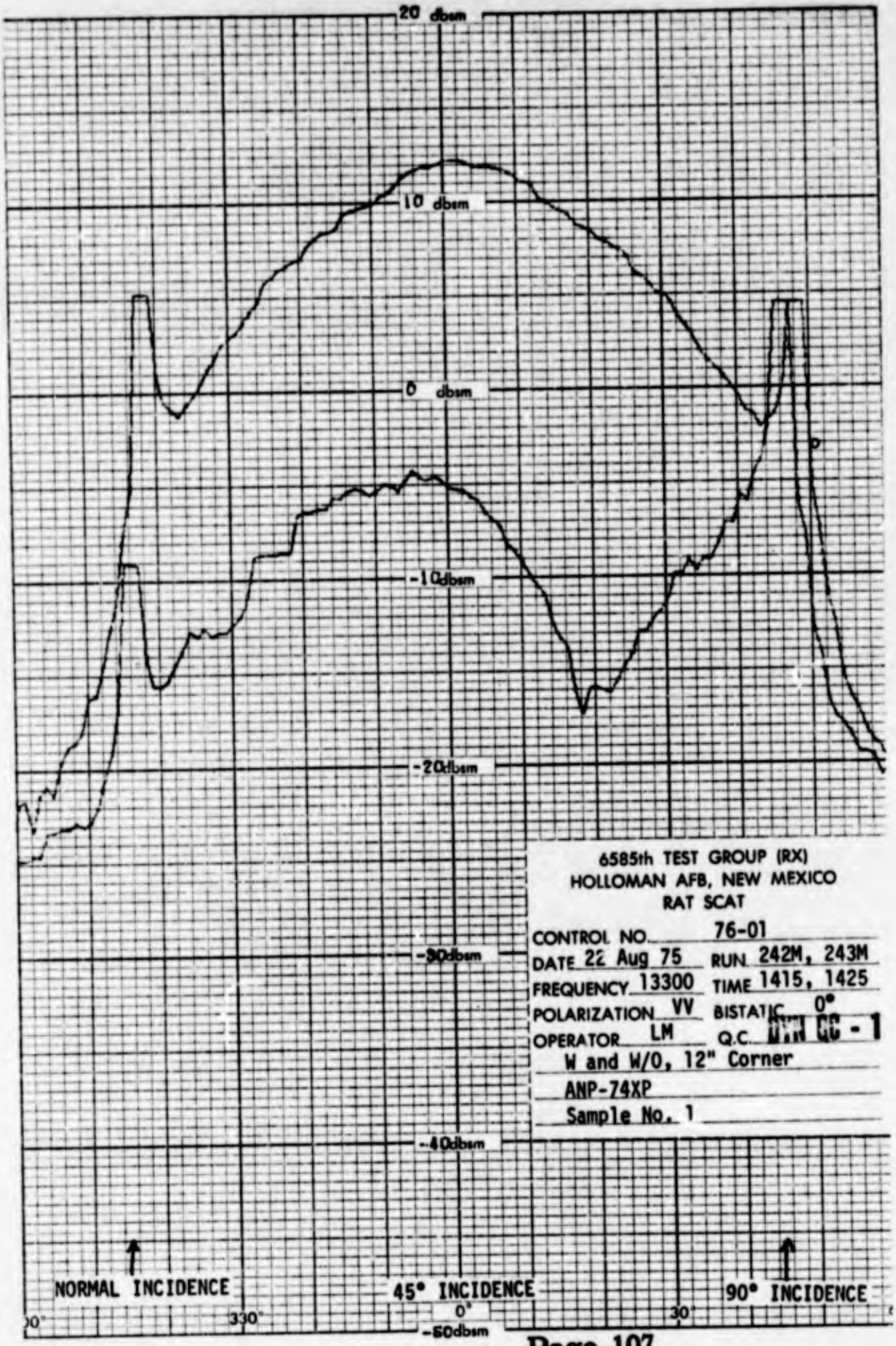

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 244, 245
FREQUENCY 13300 TIME 1520, 1545
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DRN CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

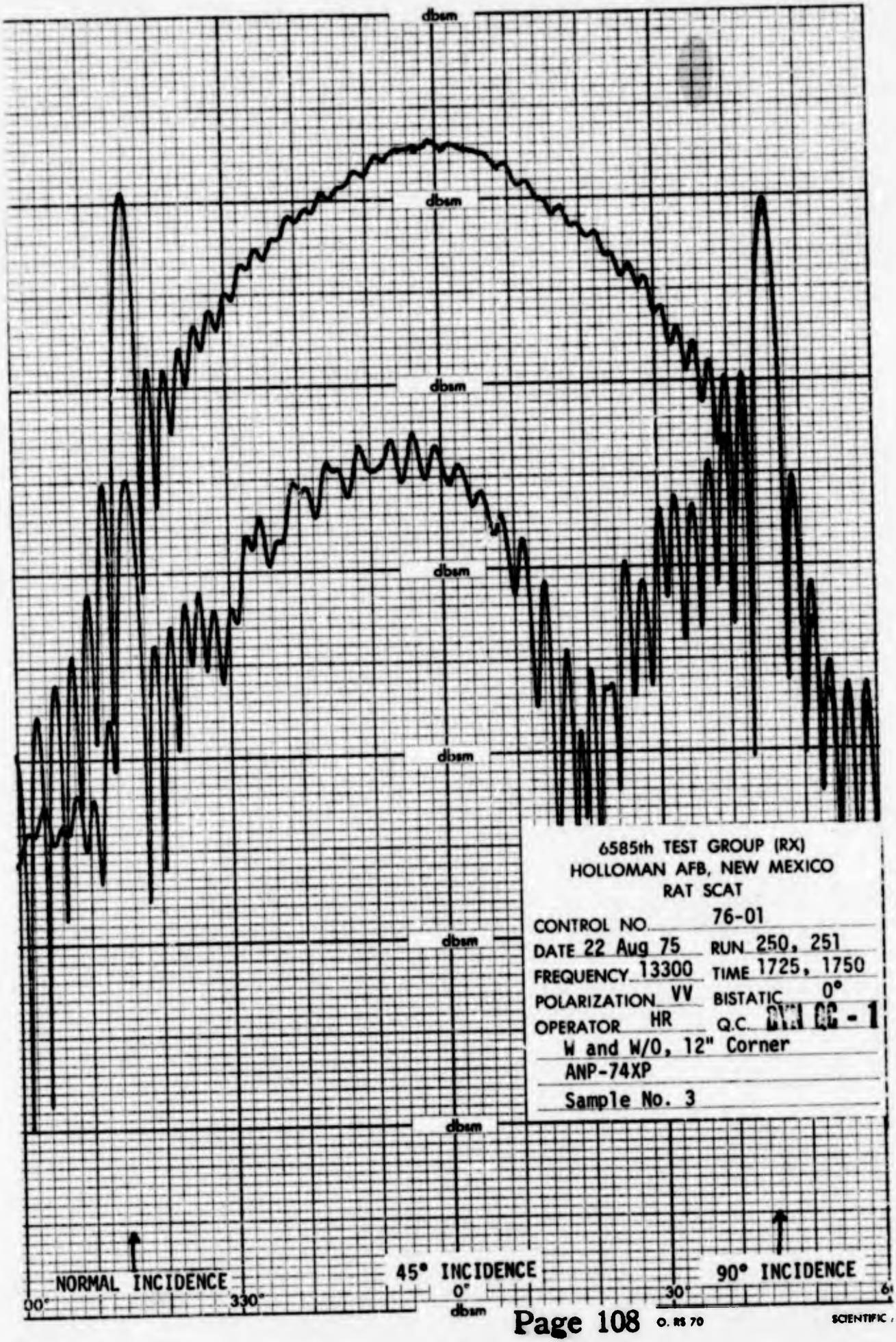

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 244M, 245M
FREQUENCY 13300
TIME 1520, 1545
POLARIZATION HH
BISTATIC 0°
OPERATOR HR
Q.C. DRI CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1

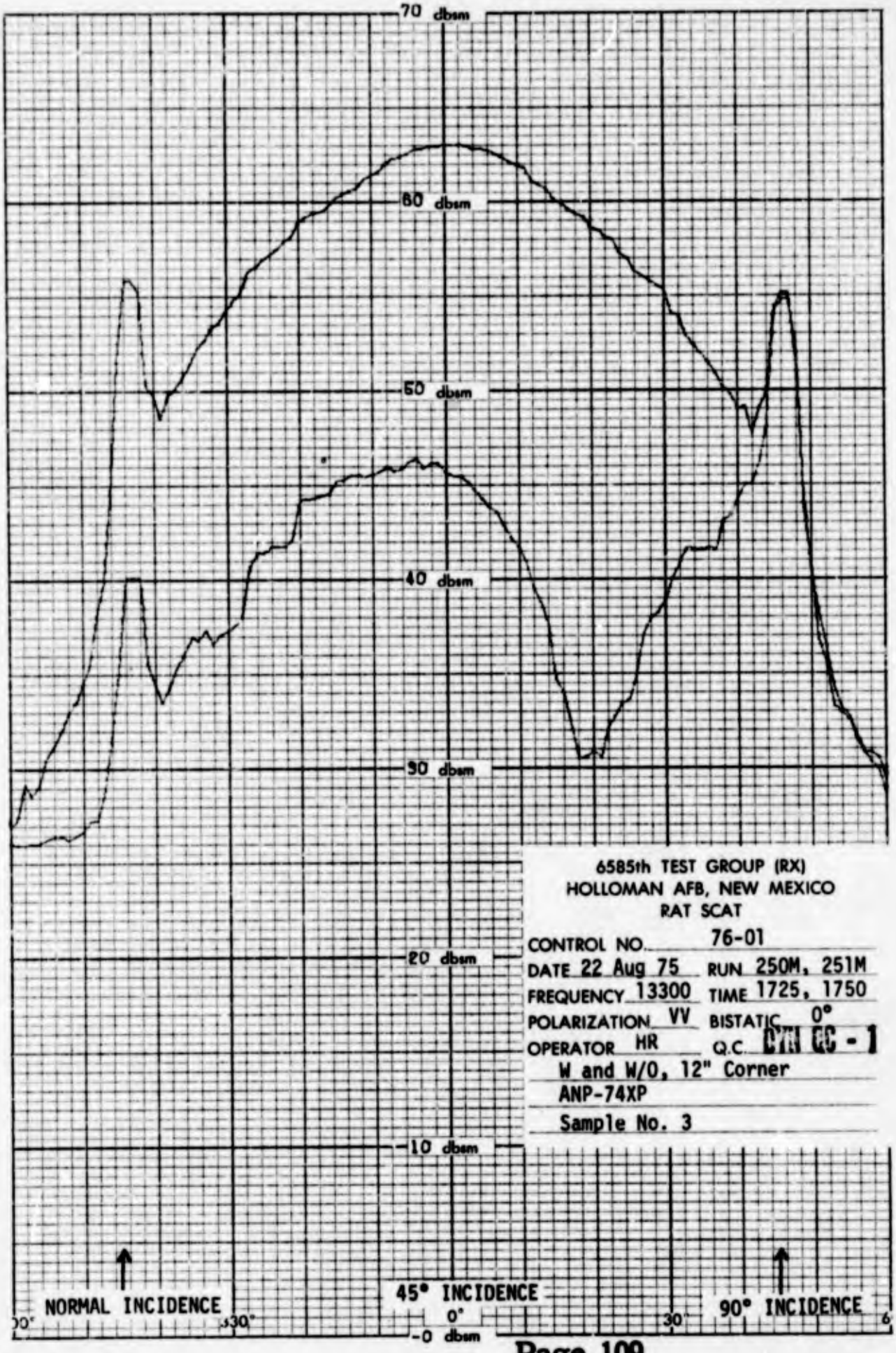

dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 252, 253
FREQUENCY 13300 TIME 1805, 1820
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DIN CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

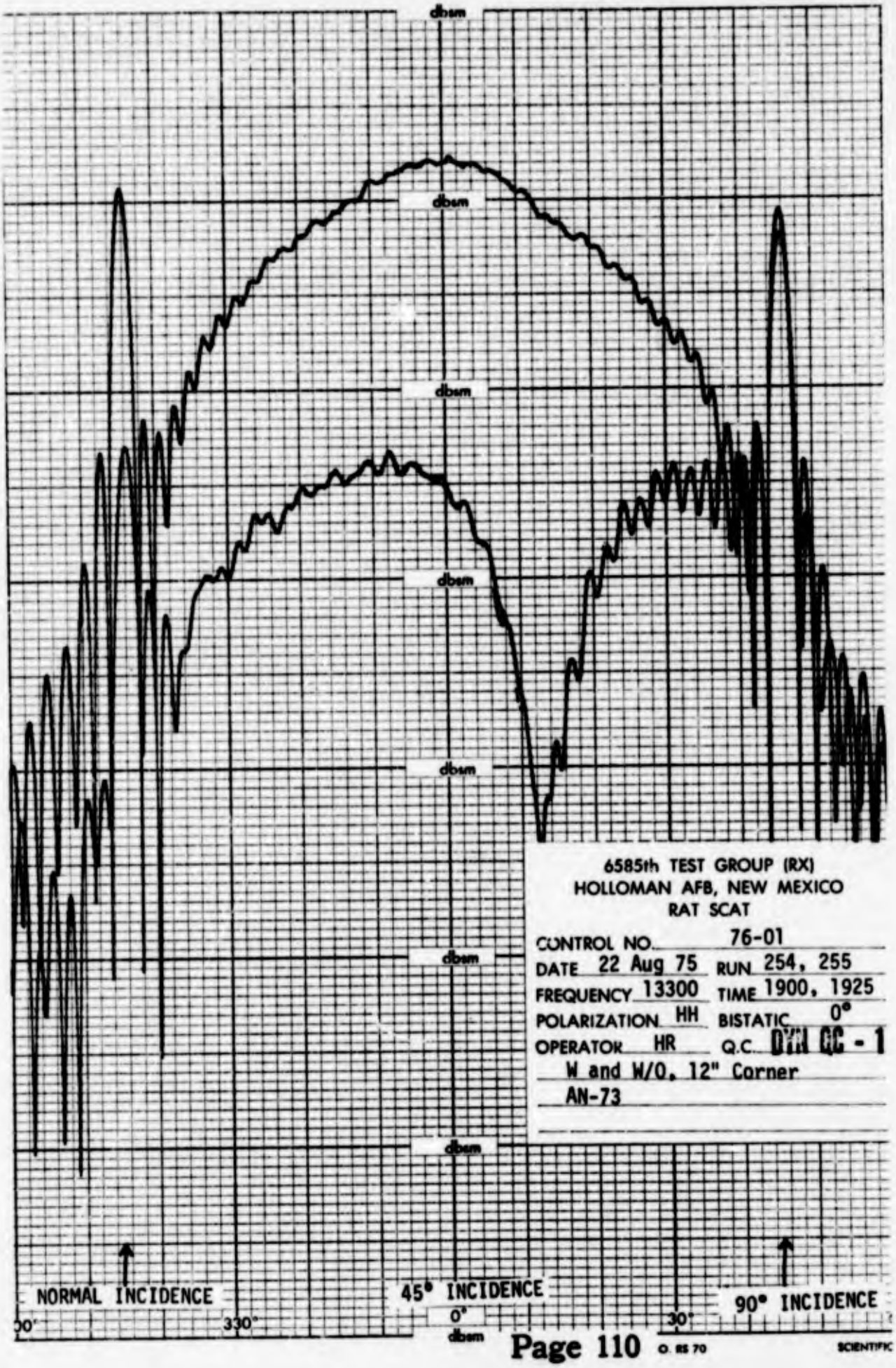

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
-0 dbsm
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 252M, 253M
FREQUENCY 13300 TIME 1805, 1820
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DTH QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3

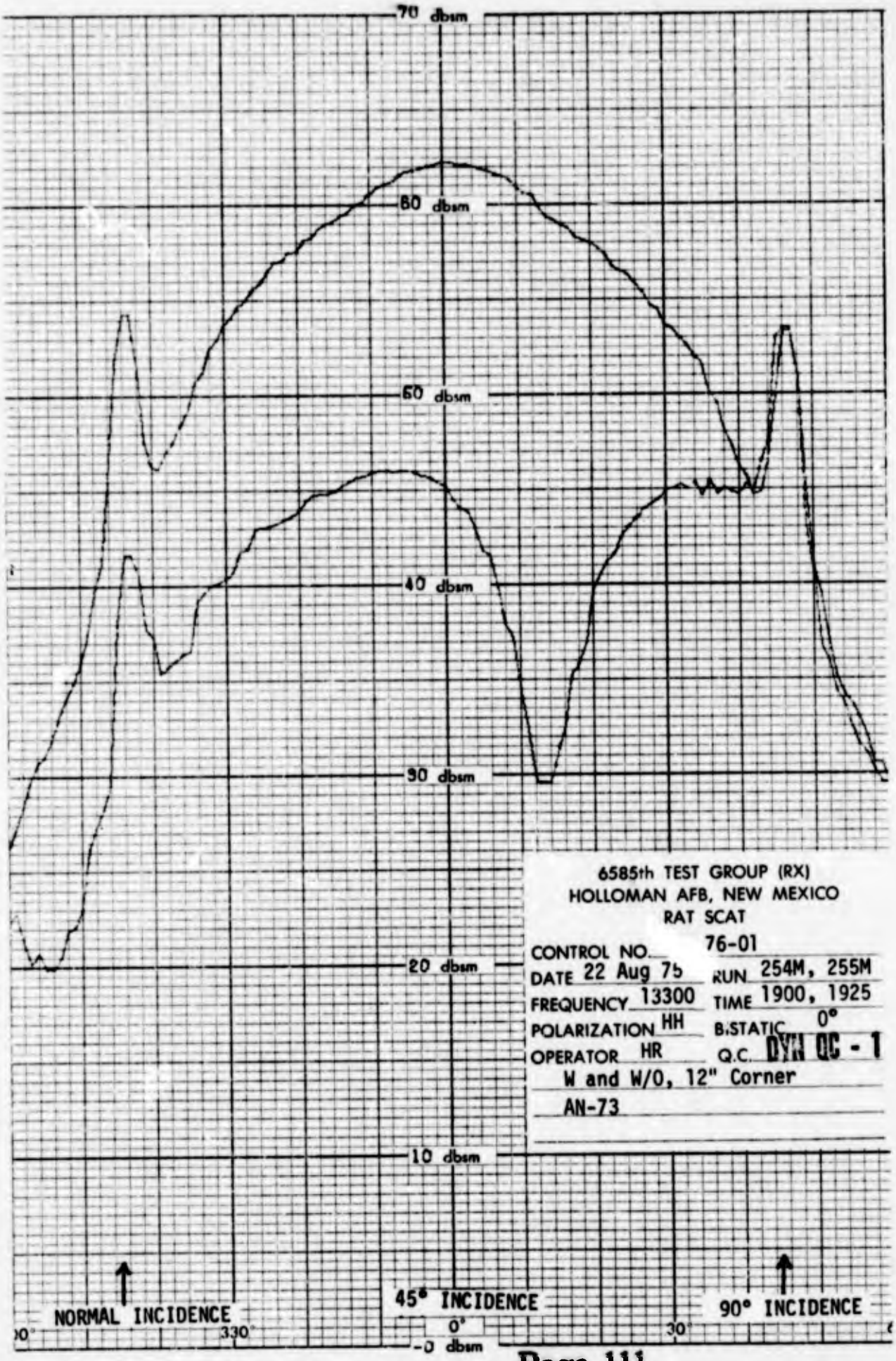

dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 242, 243
FREQUENCY 13300 TIME 1415, 1425
POLARIZATION VV BISTATIC 0°
OPERATOR LM Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

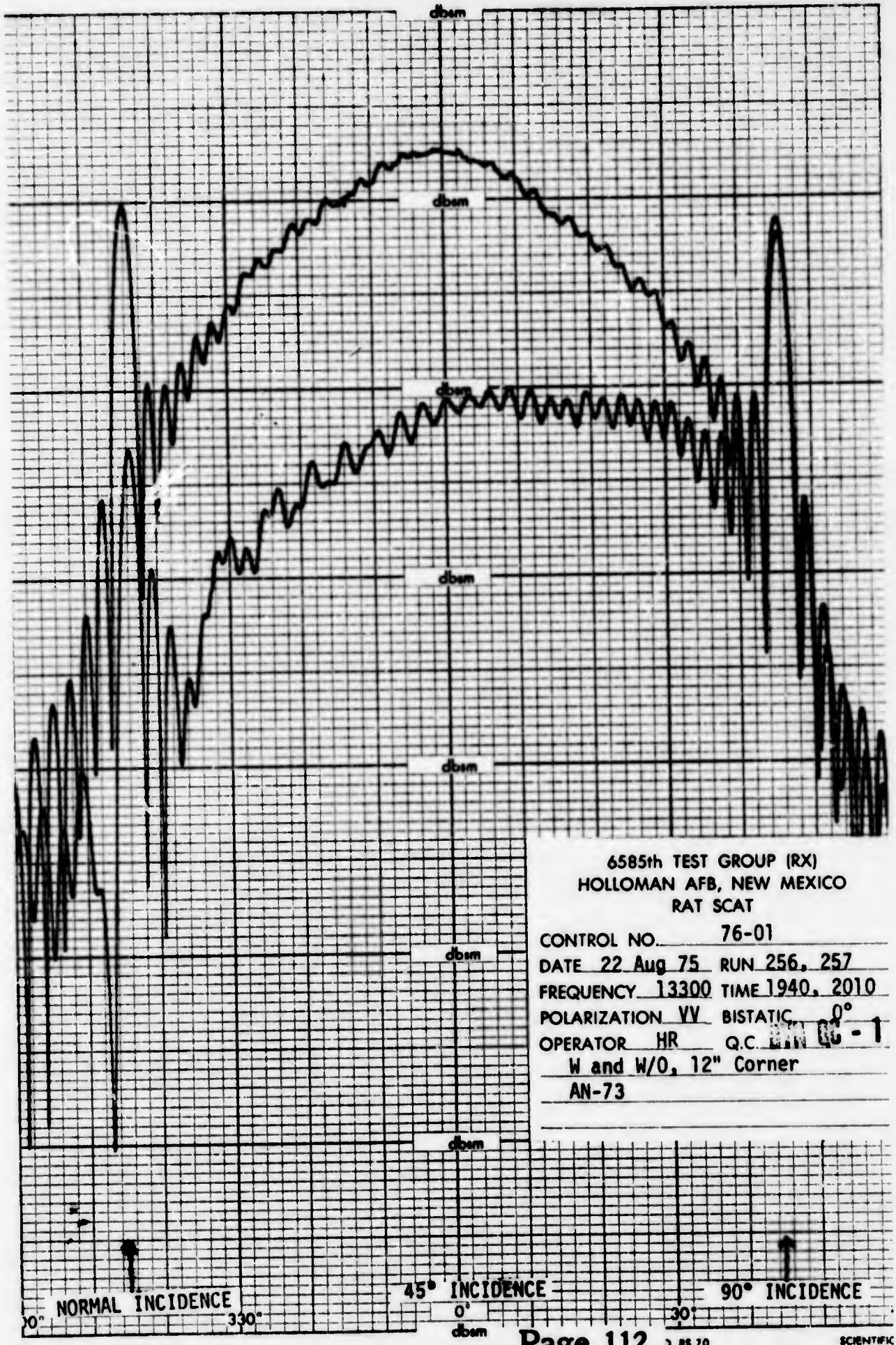

20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
-50dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 242M, 243M
FREQUENCY 13300
TIME 1415, 1425
POLARIZATION VV
BISTATIC 0°
OPERATOR LM
Q.C.
W and W/O, 12" Corner
ANP-74XP
Sample No. 1


dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 250, 251
FREQUENCY 13300 TIME 1725, 1750
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. CAL CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°


70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
-0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 250M, 251M
FREQUENCY 13300 TIME 1725, 1750
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. CTH GC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
0°
90° INCIDENCE
30°
30°

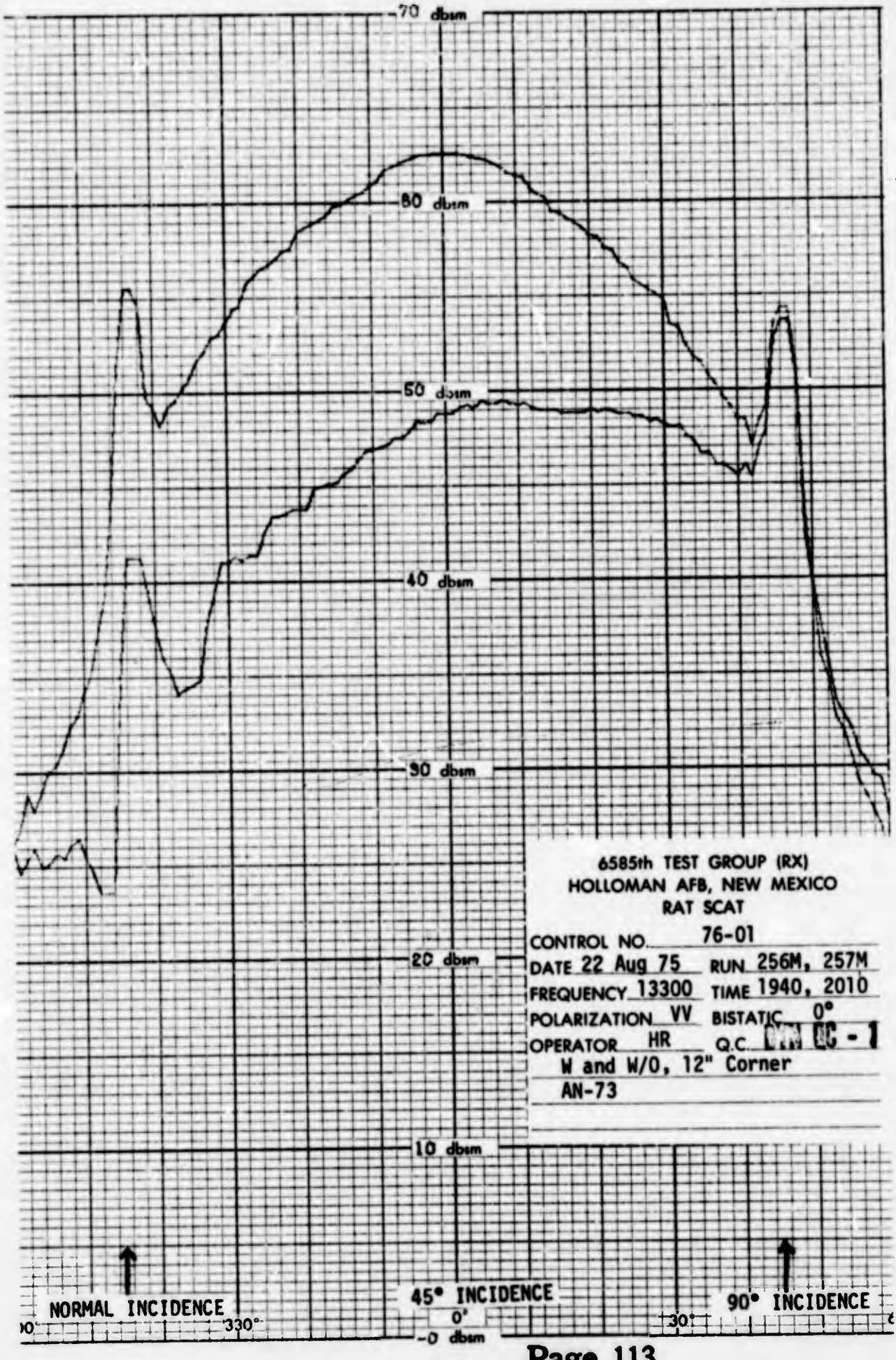

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 254, 255
FREQUENCY 13300 TIME 1900, 1925
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DZH GC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm

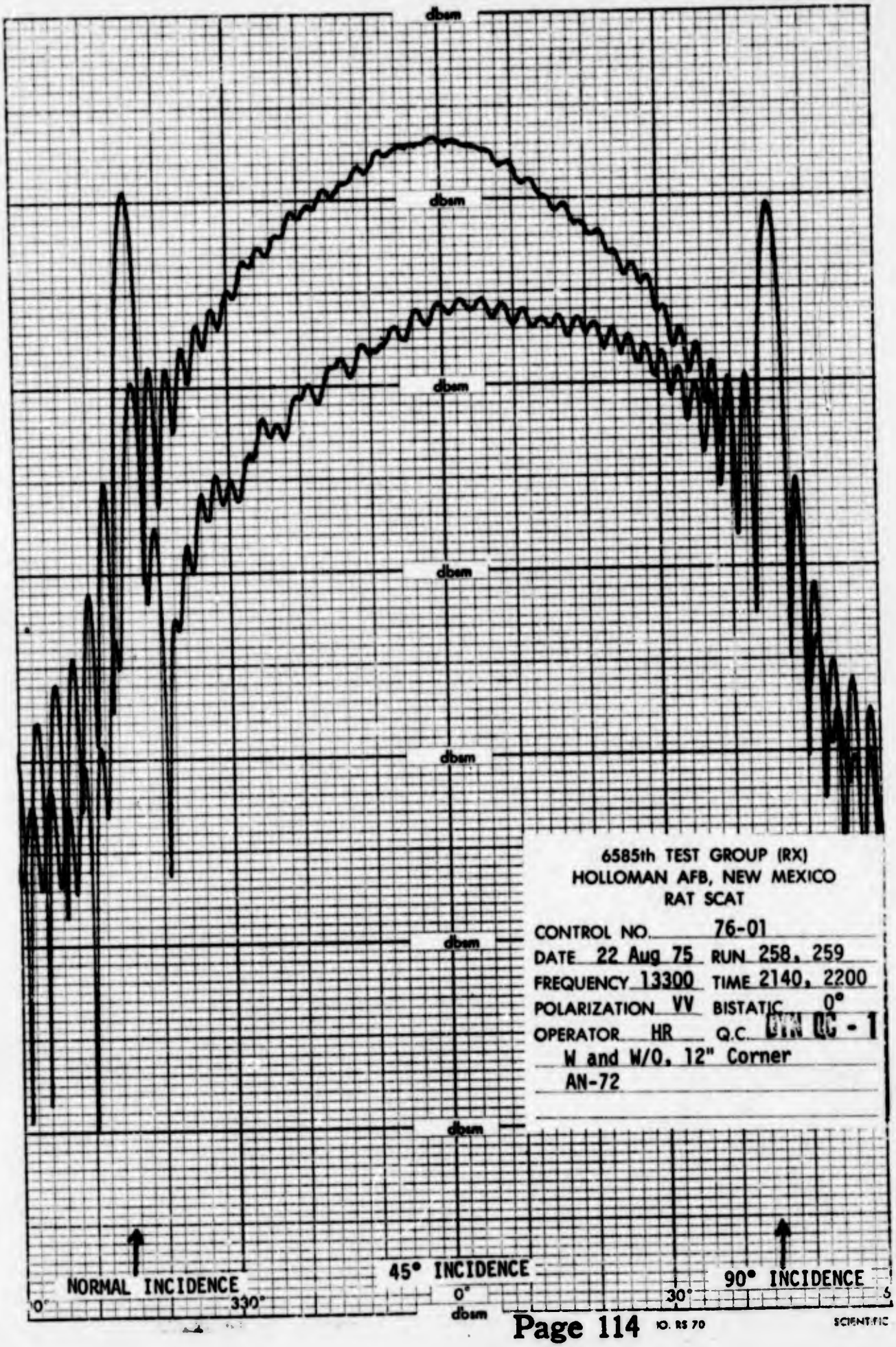

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
-0 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 254M, 255M
FREQUENCY 13300
TIME 1900, 1925
POLARIZATION HH
B.STATIC 0°
OPERATOR HR
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-73

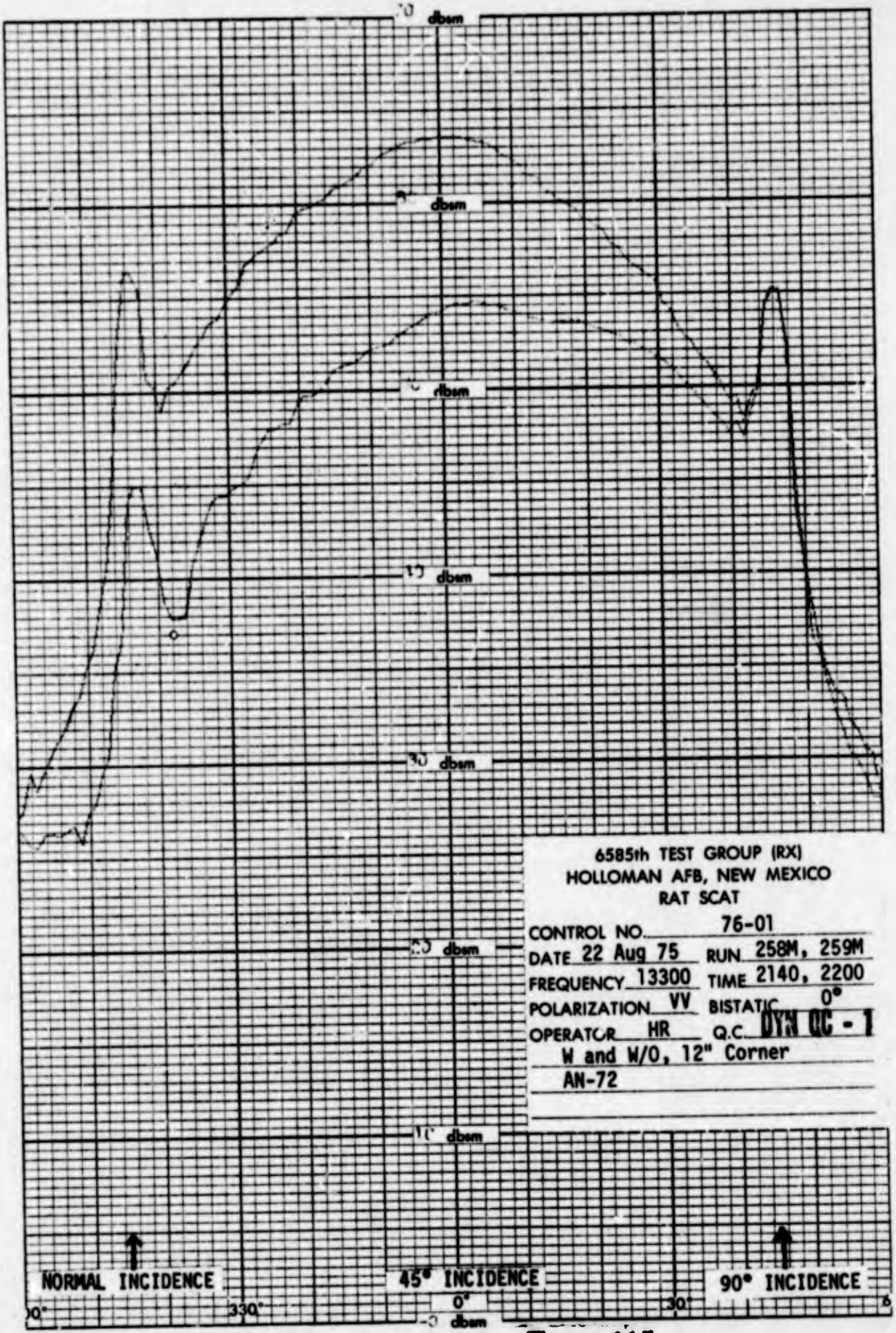


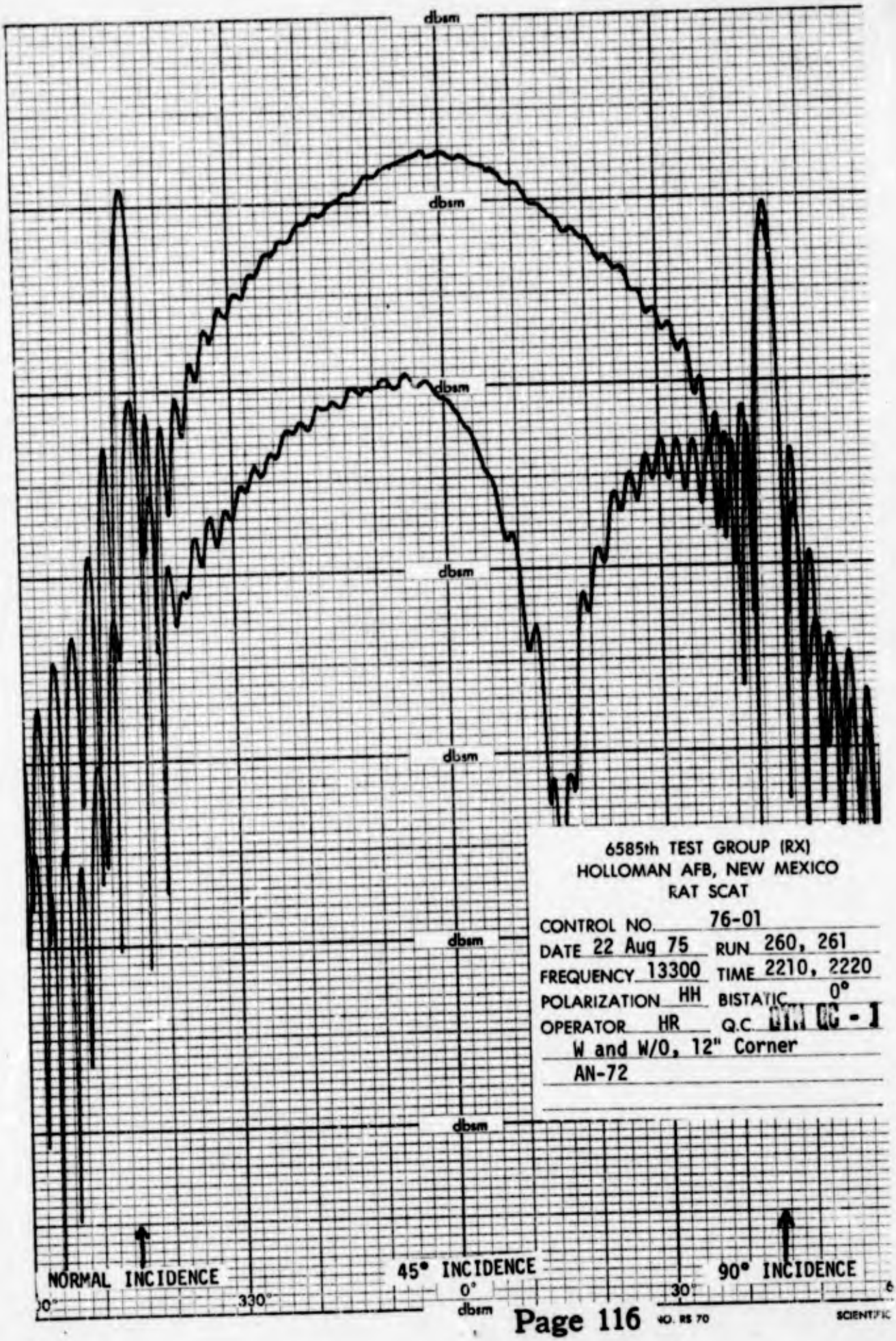
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT

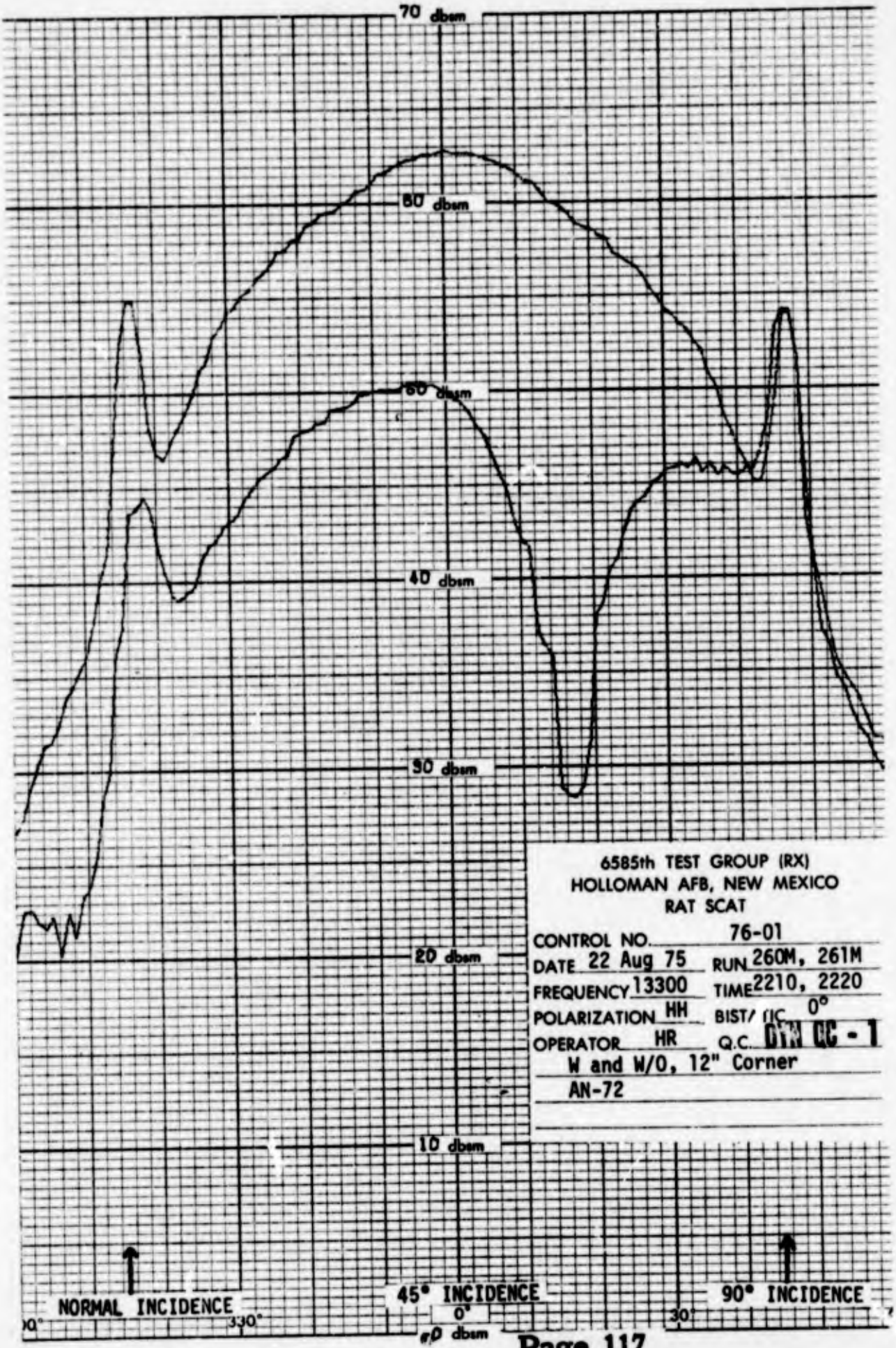
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 256, 257
FREQUENCY 13300 TIME 1940, 2010
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. [illegible] - 1
W and W/O, 12" Corner
AN-73

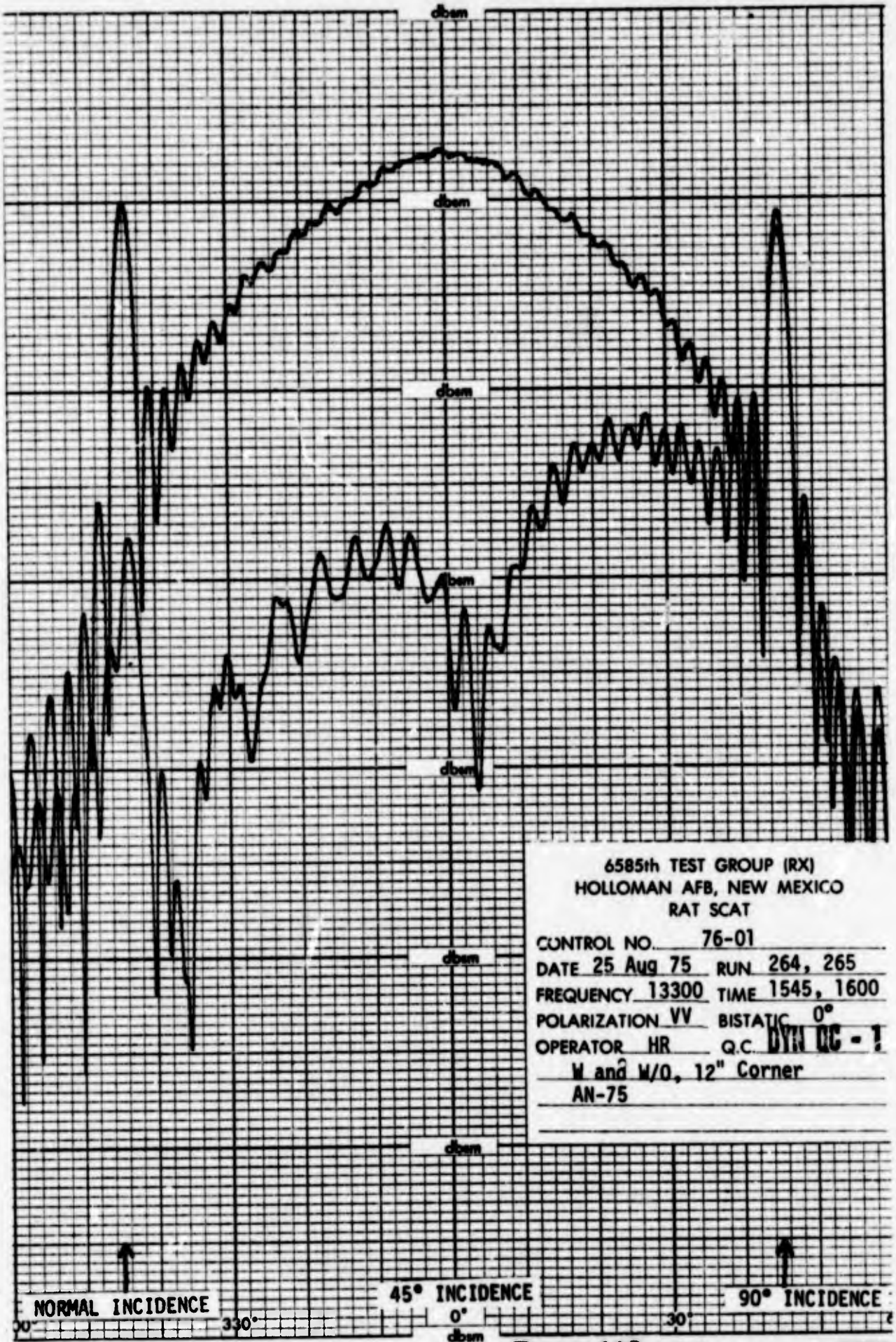

70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 256M, 257M
FREQUENCY 13300 TIME 1940, 2010
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DM QC - 1
W and W/O, 12" Corner
AN-73

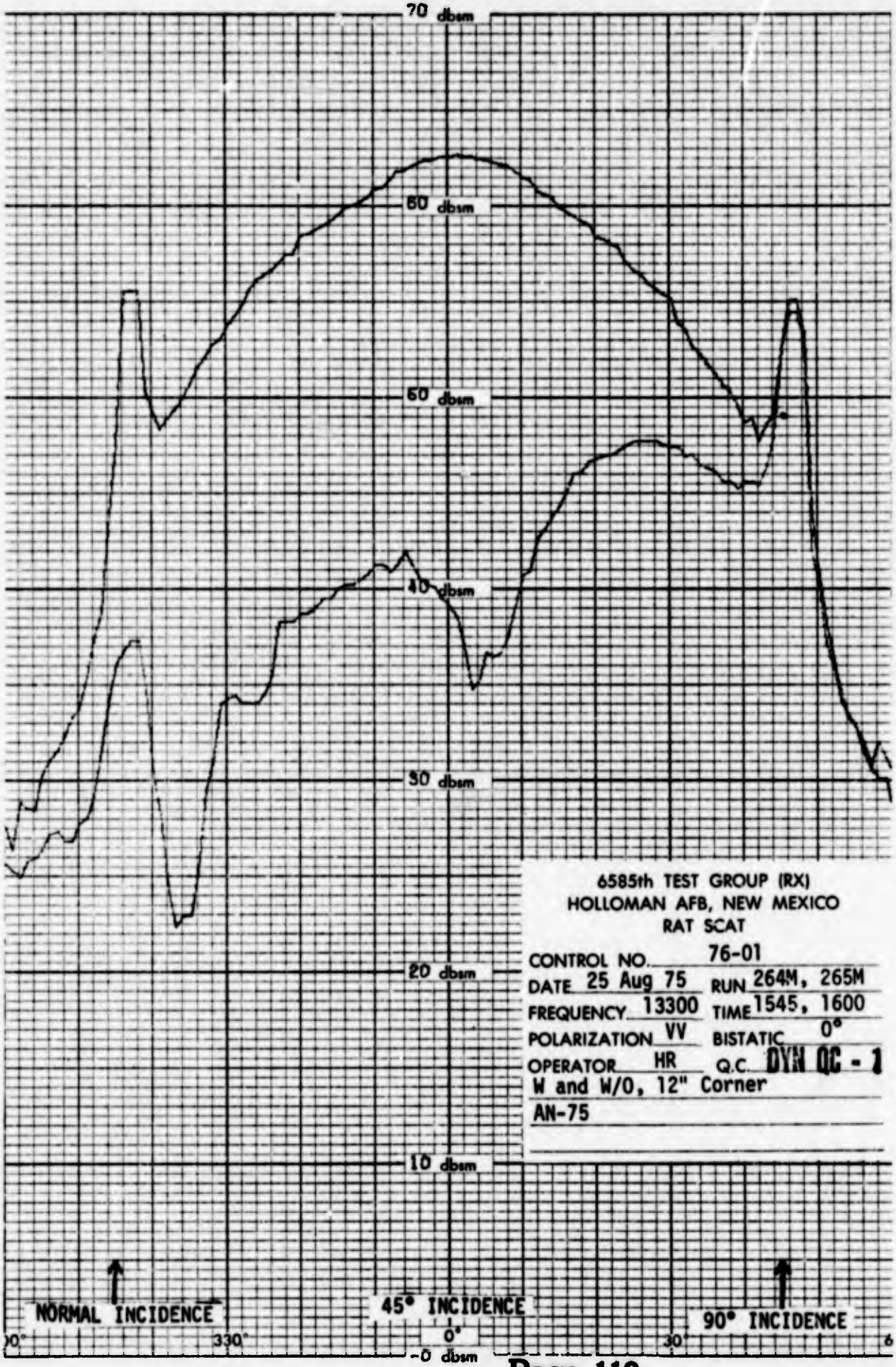

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 258, 259
FREQUENCY 13300 TIME 2140, 2200
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DN QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

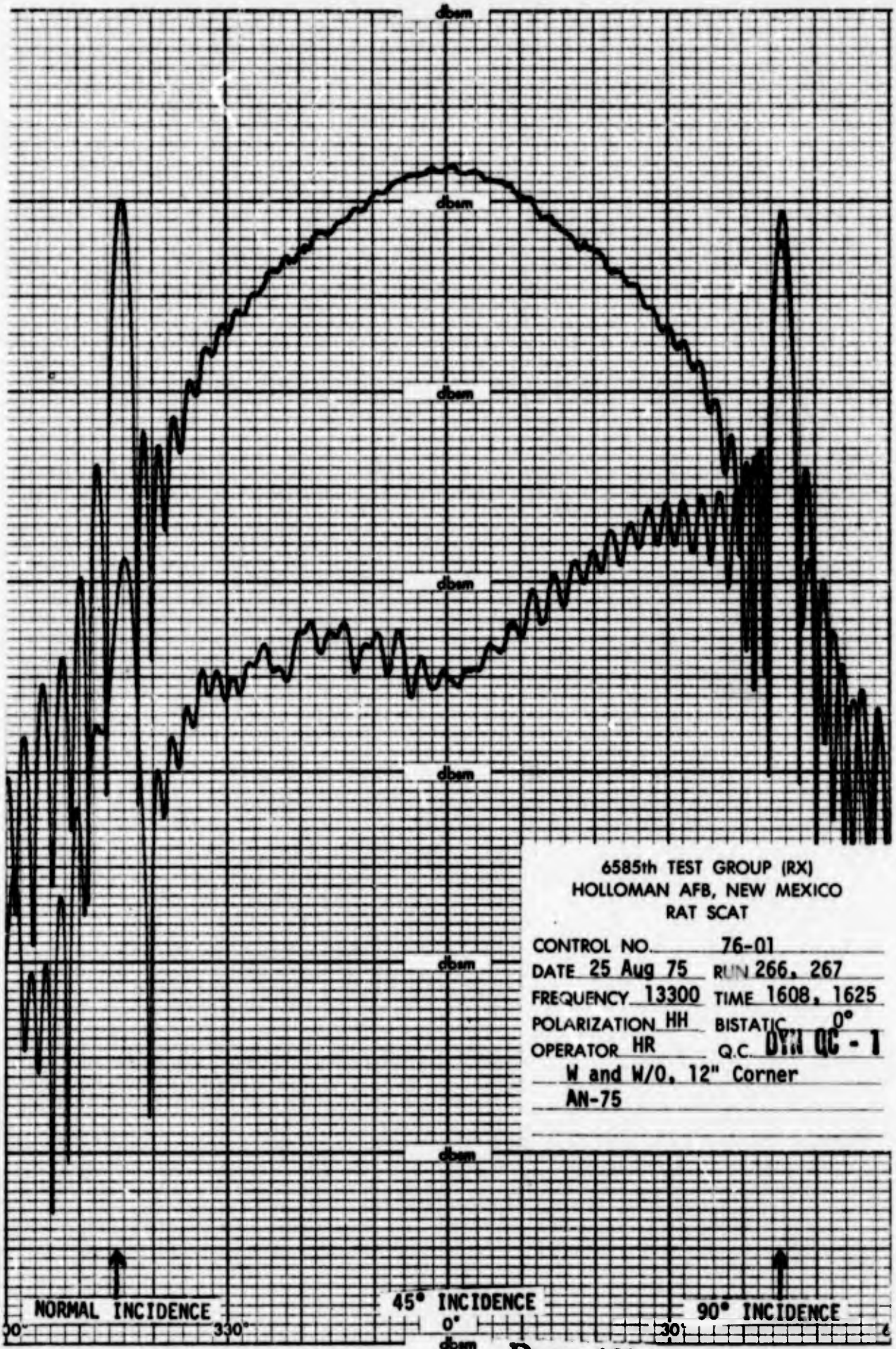

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 258M, 259M
FREQUENCY 13300 TIME 2140, 2200
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
dbsm


dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 260, 261
FREQUENCY 13300 TIME 2210, 2220
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DTI CC - I
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE


70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 260M, 261M
FREQUENCY 13300
TIME 2210, 2220
POLARIZATION HH
BIST/ TIC 0°
OPERATOR HR
Q.C. DTN GC - 1
W and W/O, 12" Corner
AN-72


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 264, 265
FREQUENCY 13300 TIME 1545, 1600
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm


70 dbsm
60 dbsm
50 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
-0 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75
RUN 264M, 265M
FREQUENCY 13300
TIME 1545, 1600
POLARIZATION VV
BISTATIC 0°
OPERATOR HR
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75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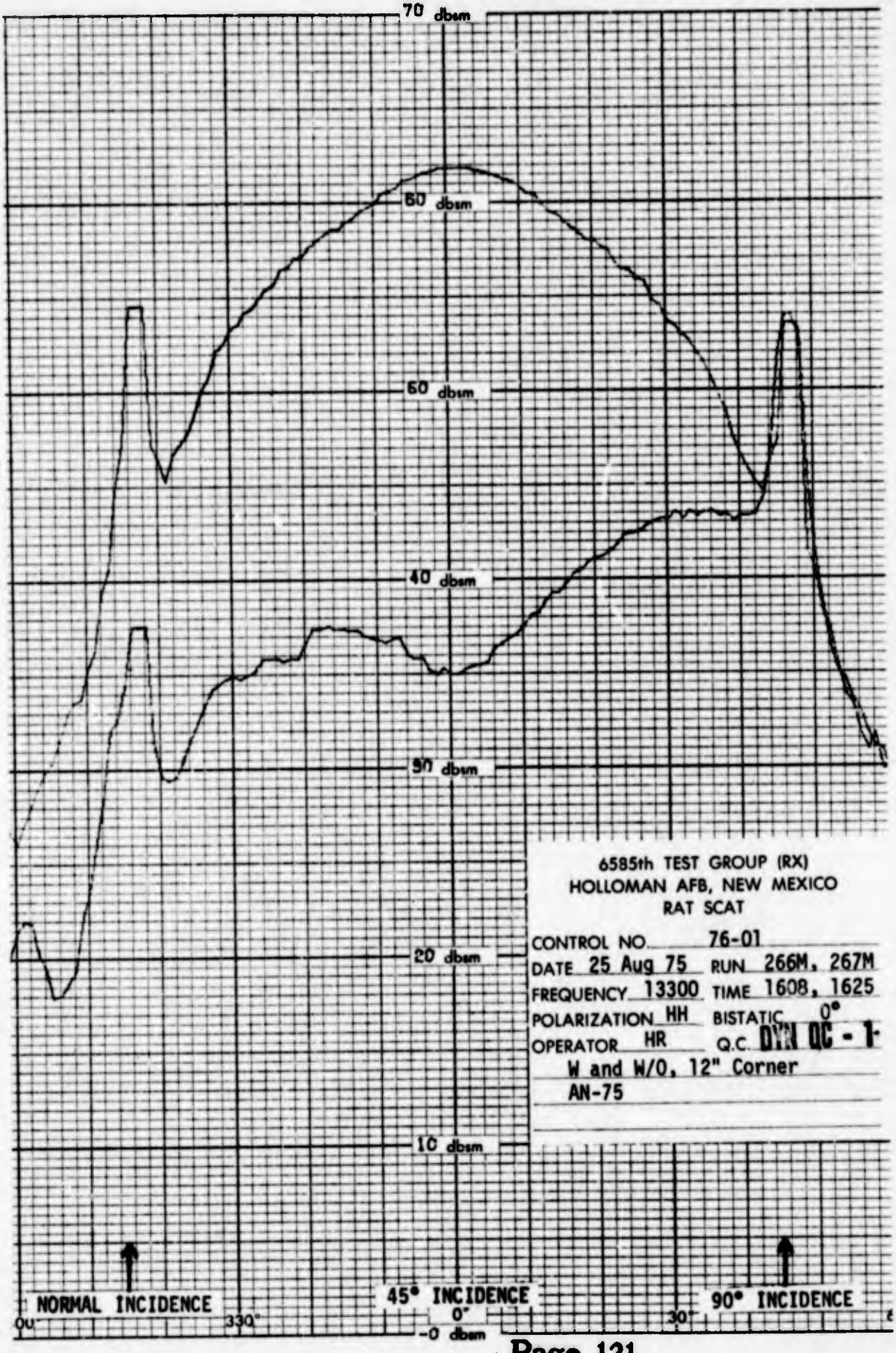
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 266, 267
FREQUENCY 13300 TIME 1608, 1625
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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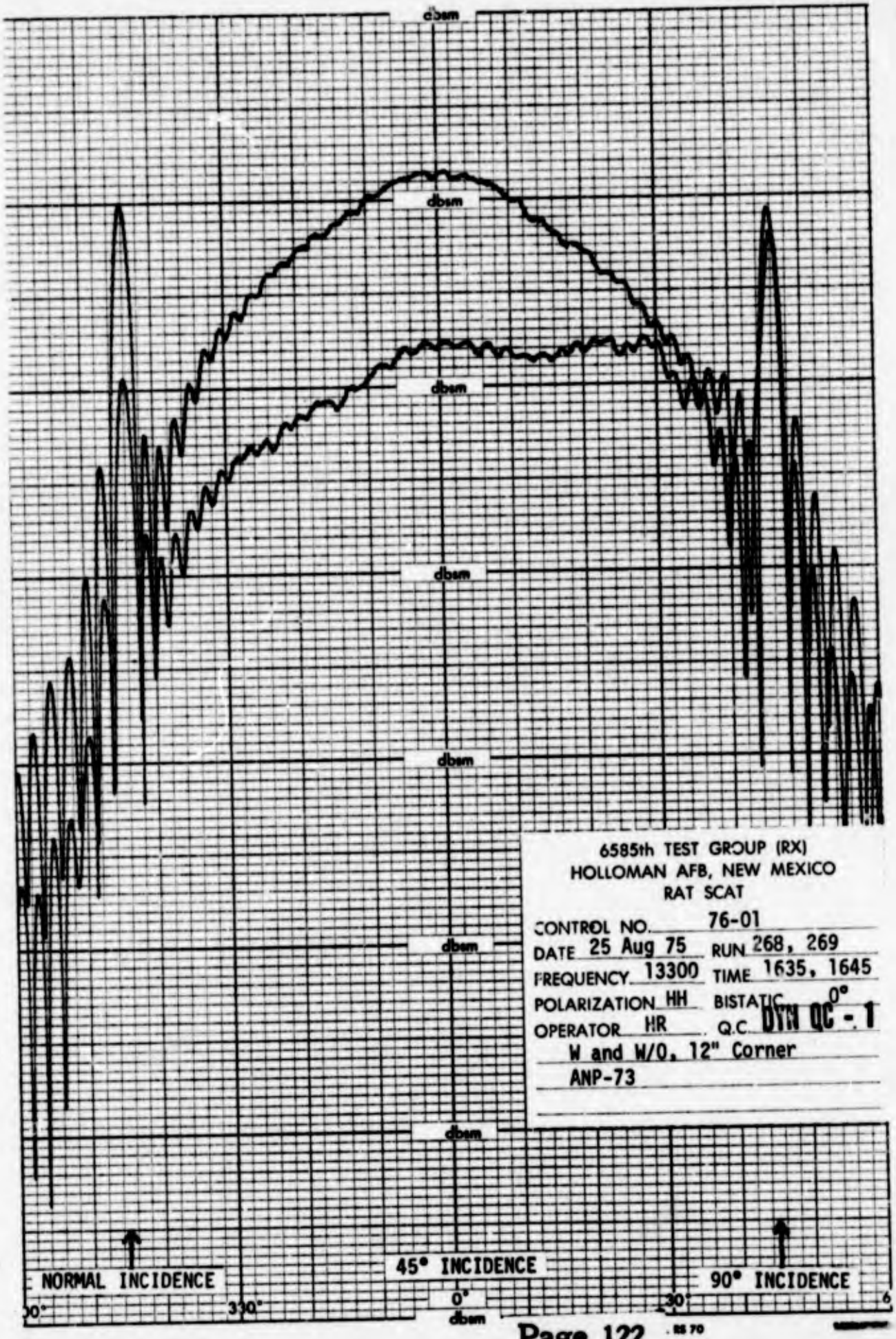
20 dbsm
10 dbsm
-0 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 266M, 267M
FREQUENCY 13300 TIME 1608, 1625
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-75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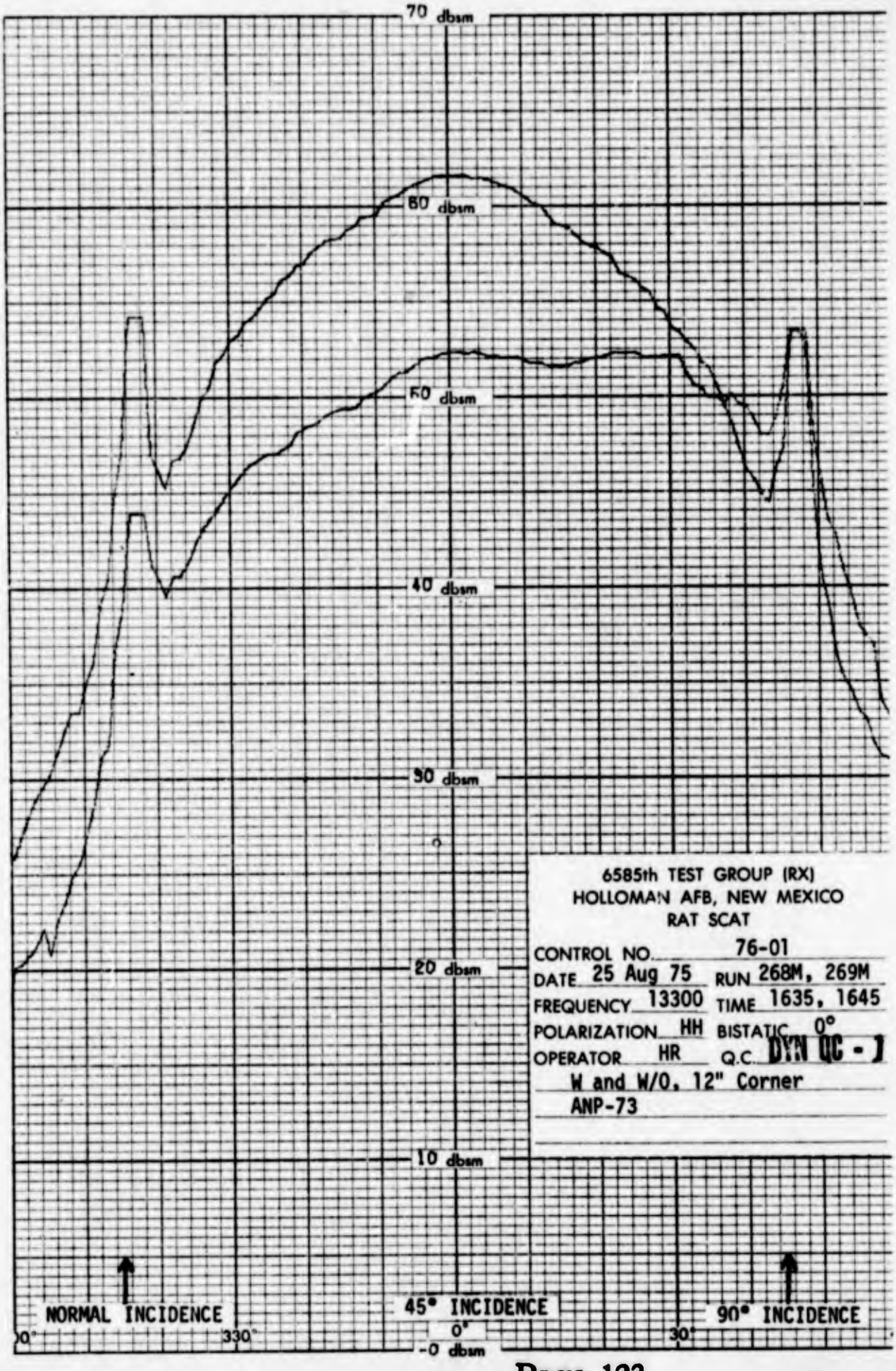
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 268, 269
FREQUENCY 13300 TIME 1635, 1645
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DTN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
dbsm
330°
30°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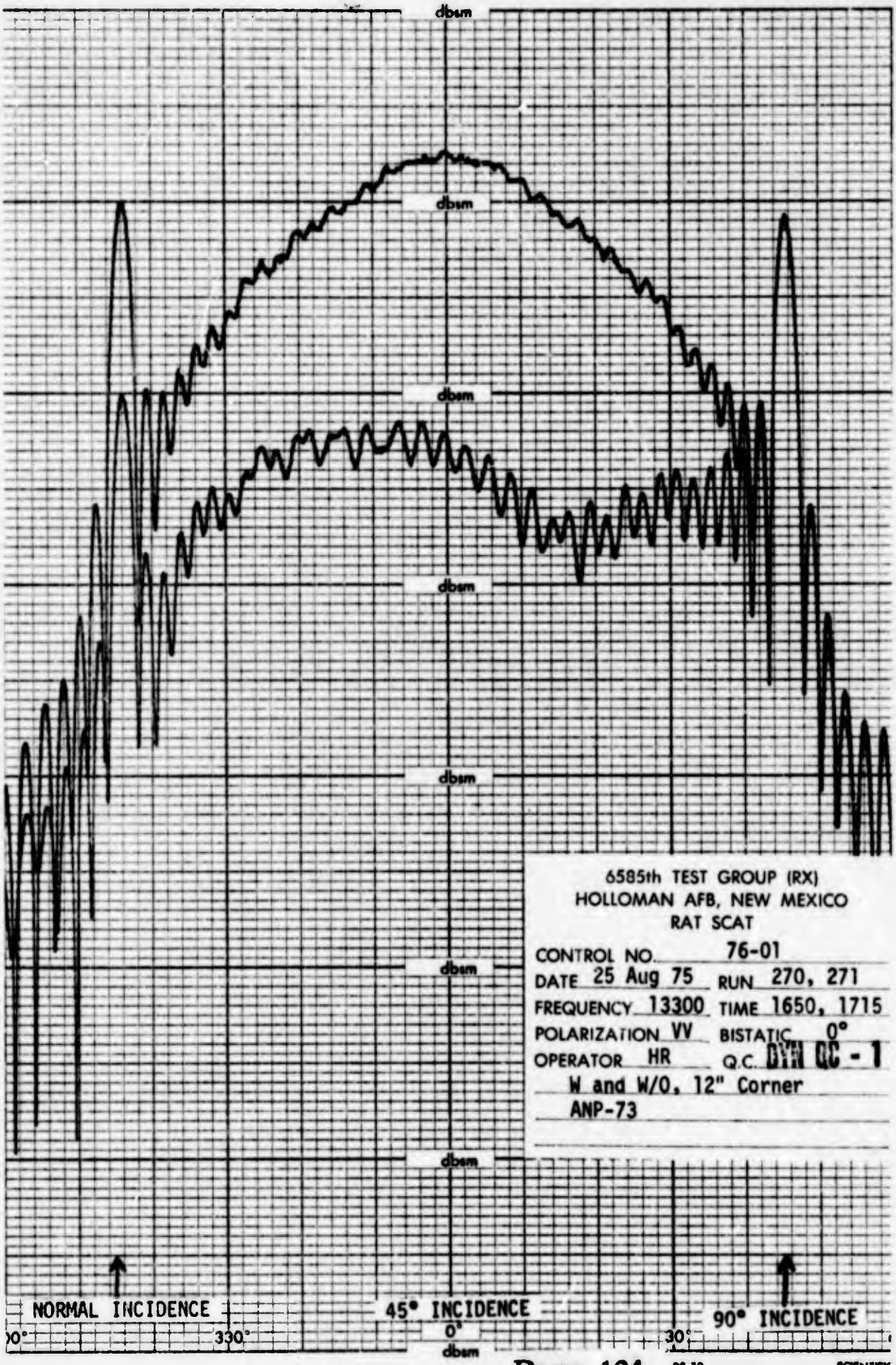
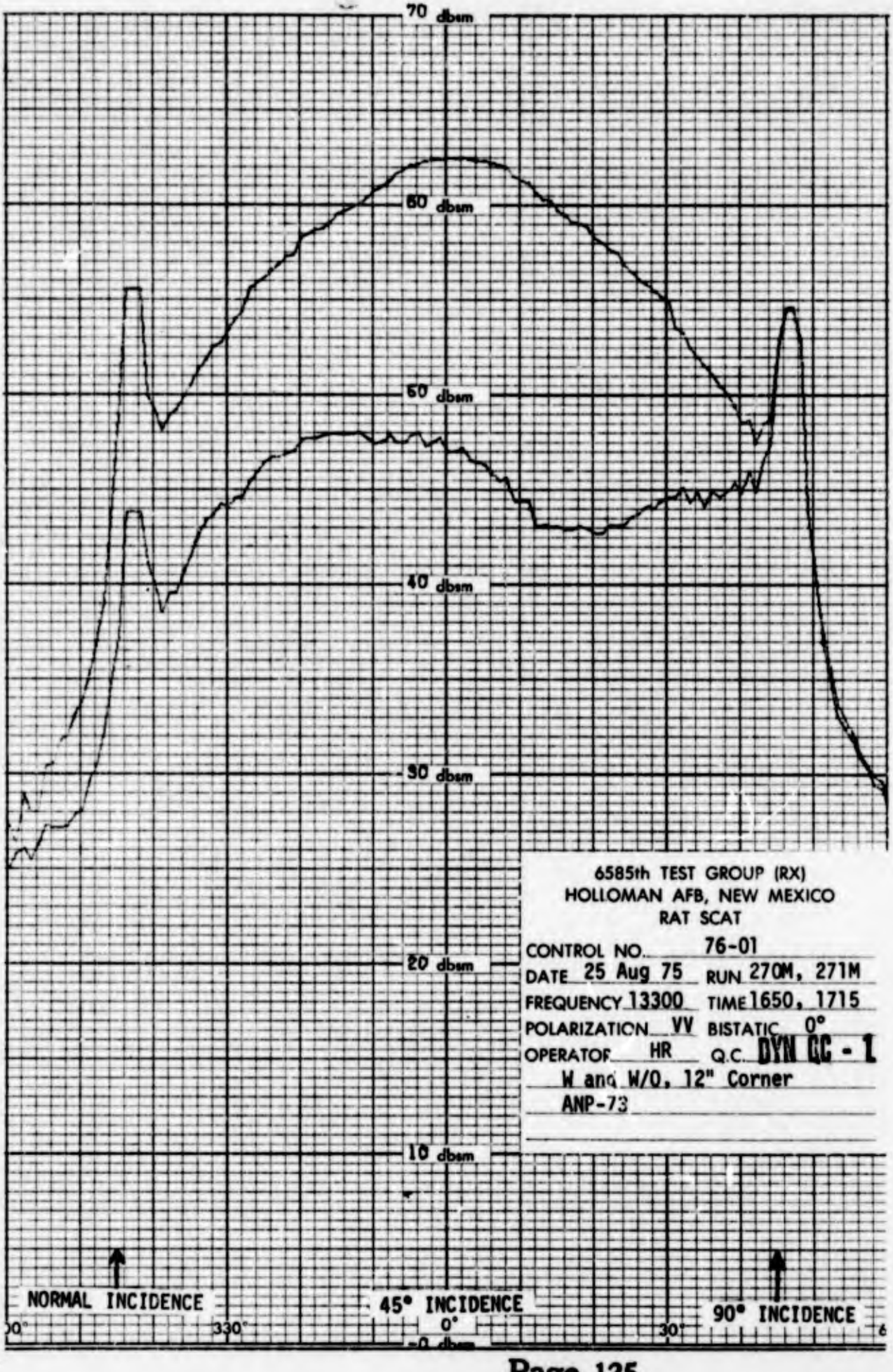
40 dbsm
30 dbsm
20 dbsm
10 dbsm
-0 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 268M, 269M
FREQUENCY 13300 TIME 1635, 1645
POLARIZATION HH BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°



. RS 70 SCIENTIFIC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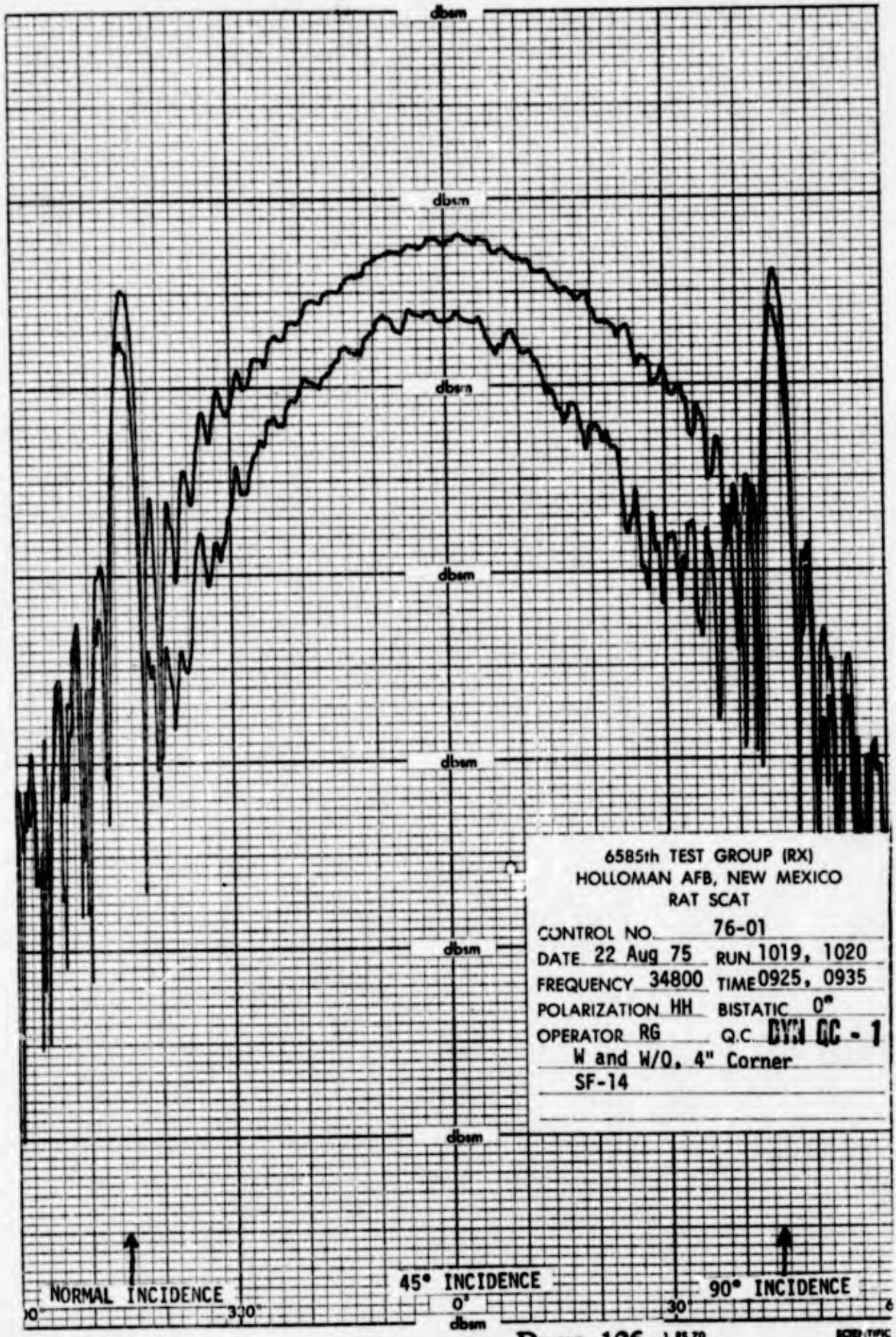
20 dbsm
10 dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 25 Aug 75 RUN 270M, 271M
FREQUENCY 13300 TIME 1650, 1715
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-73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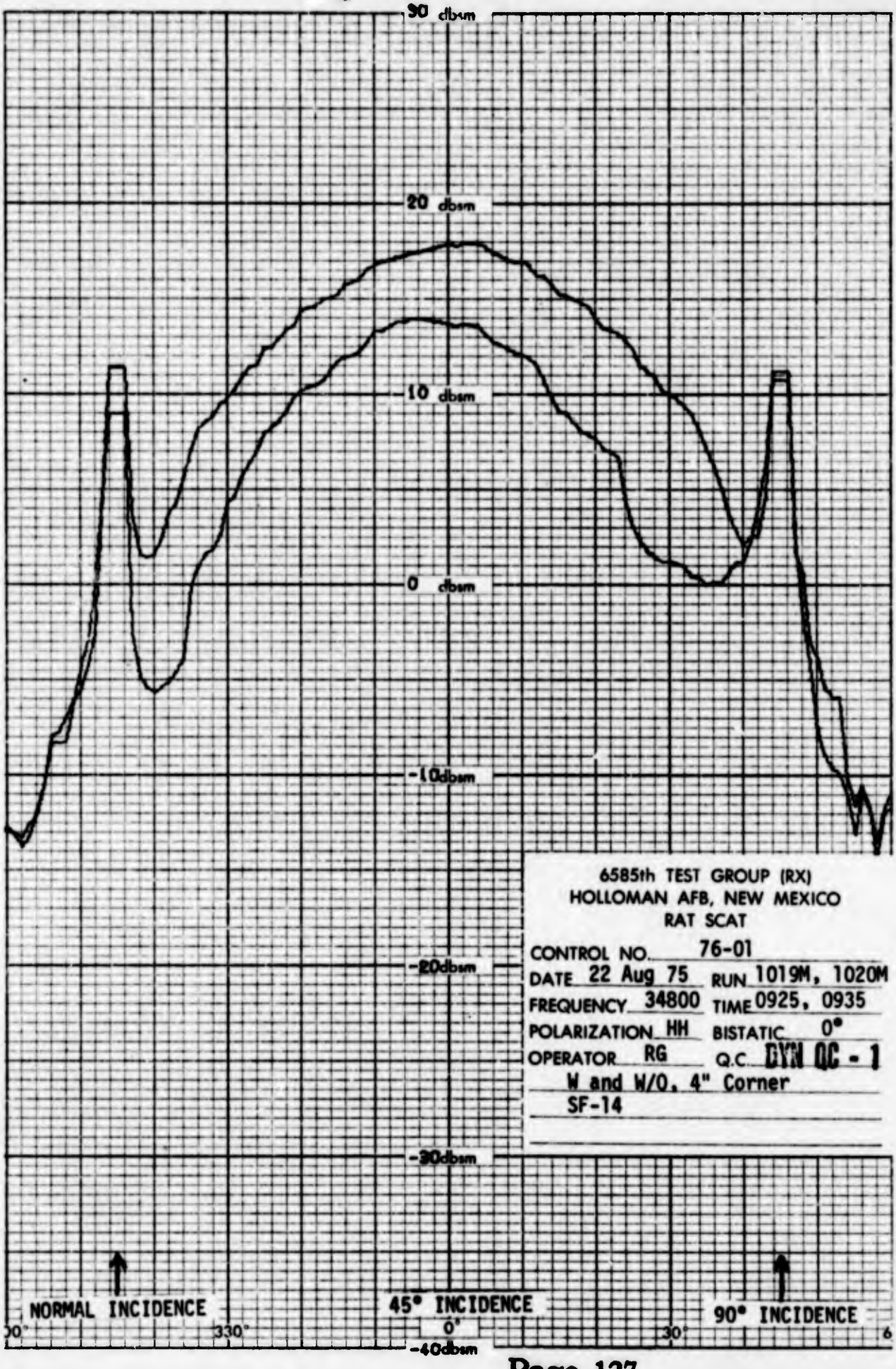
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1019, 1020
FREQUENCY 34800 TIME 0925, 0935
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DYN QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE


30 dbsm
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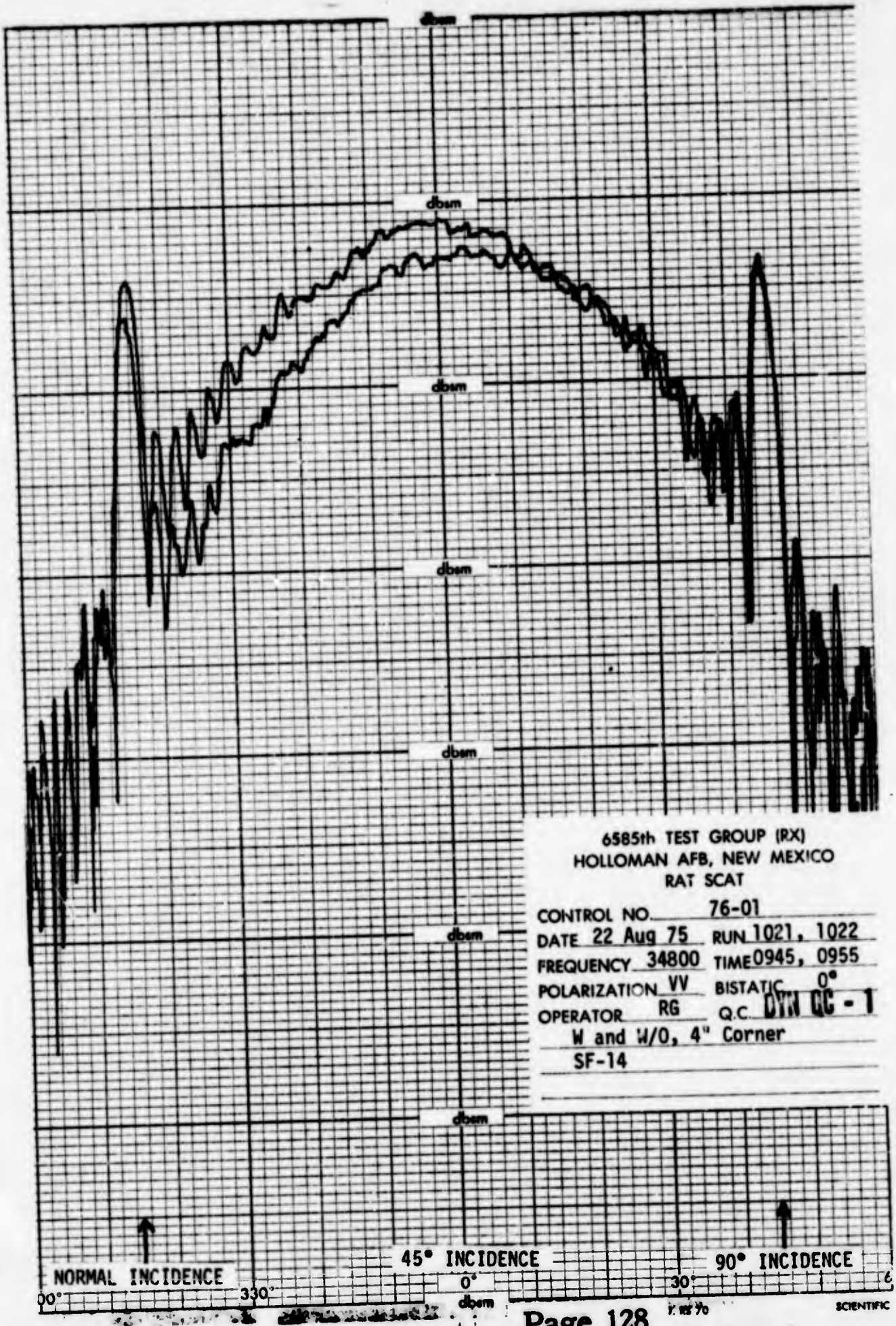
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1019M, 1020M
FREQUENCY 34800
TIME 0925, 0935
POLARIZATION HH
BISTATIC 0°
OPERATOR RG
Q.C. DYN QC - 1
W and W/O, 4" Corner
SF-14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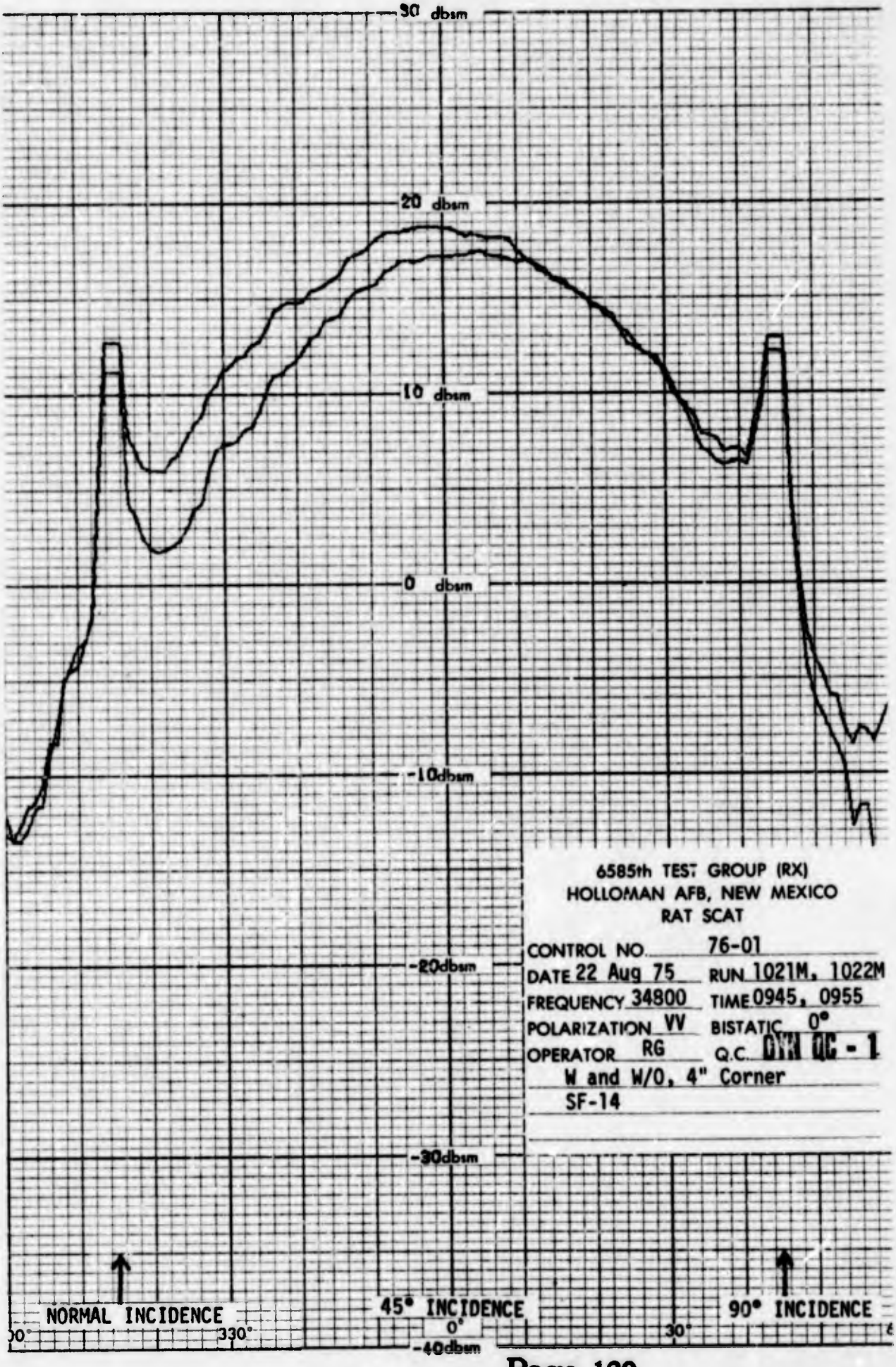
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1021, 1022
FREQUENCY 34800 TIME 0945, 0955
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C DTN QC - 1
W and W/O, 4" Corner
SF-14
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm
SCIENTIFIC


30 dbsm
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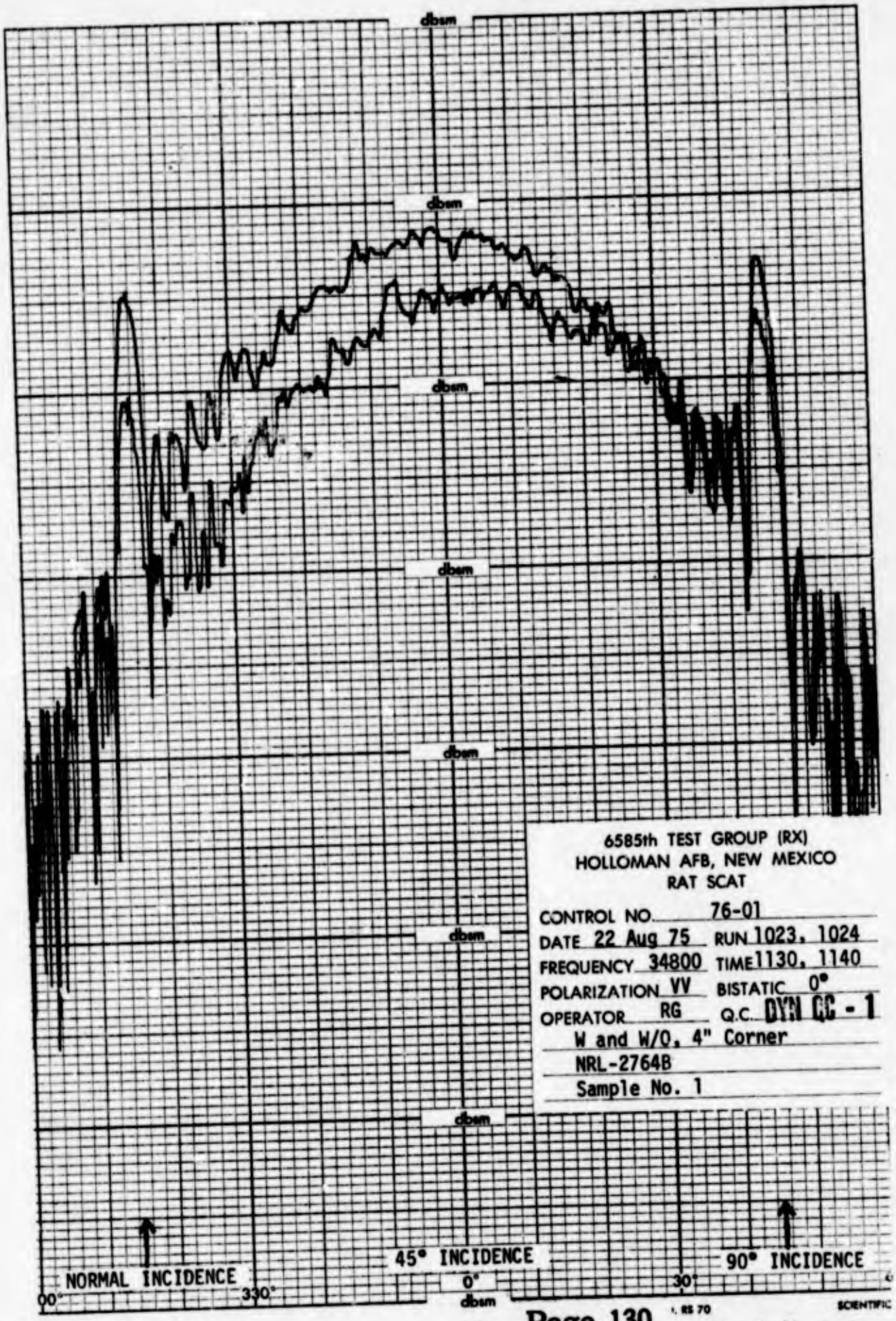
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
30°
330°
0°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1021M, 1022M
FREQUENCY 34800
TIME 0945, 0955
POLARIZATION VV
BISTATIC 0°
OPERATOR RG
Q.C. DWH QC - 1
W and W/O, 4" Corner
SF-14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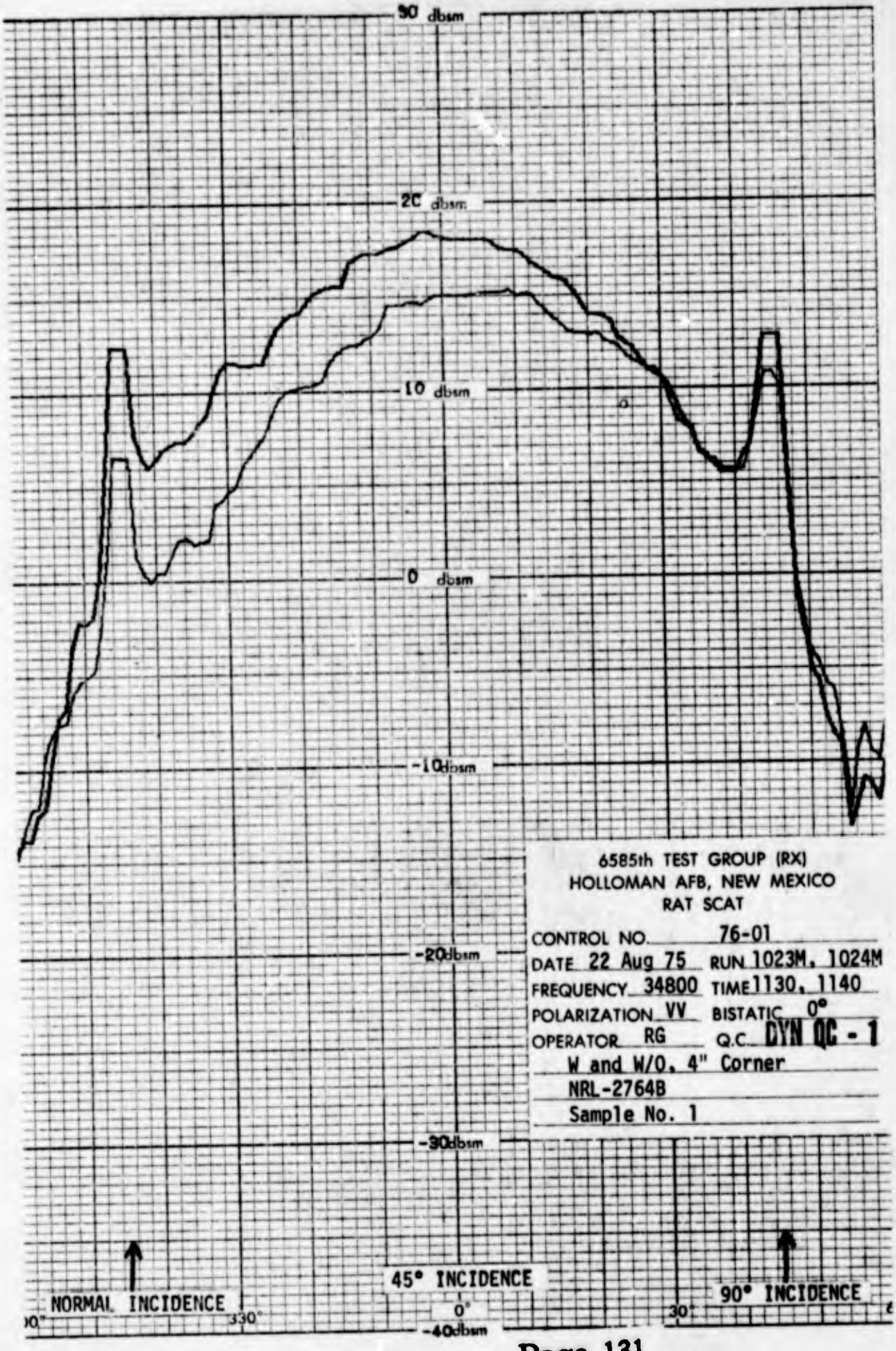
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1023, 1024
FREQUENCY 34800 TIME 1130, 1140
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. DYN CC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm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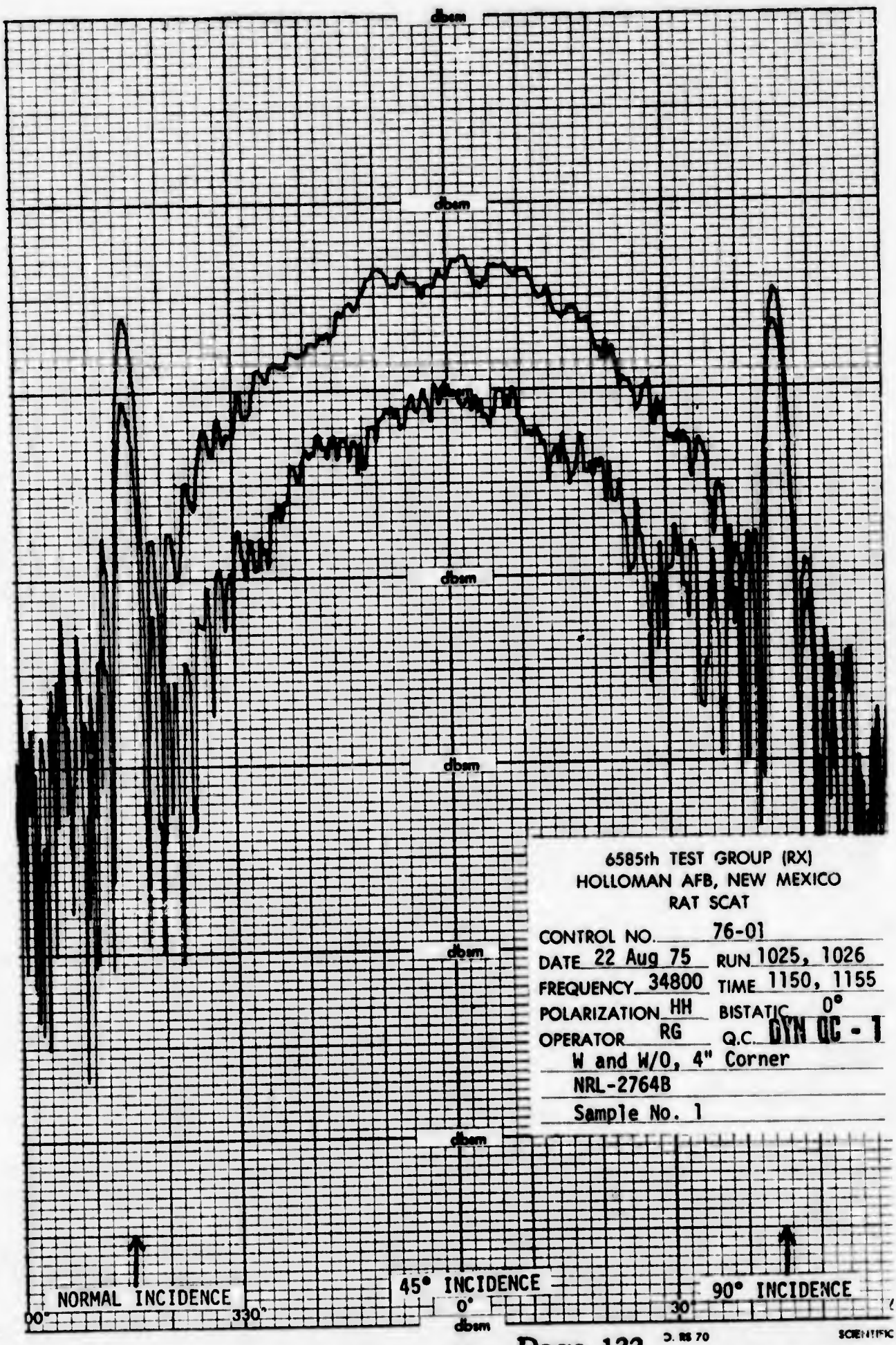
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1023M, 1024M
FREQUENCY 34800 TIME 1130, 1140
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°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dbsm
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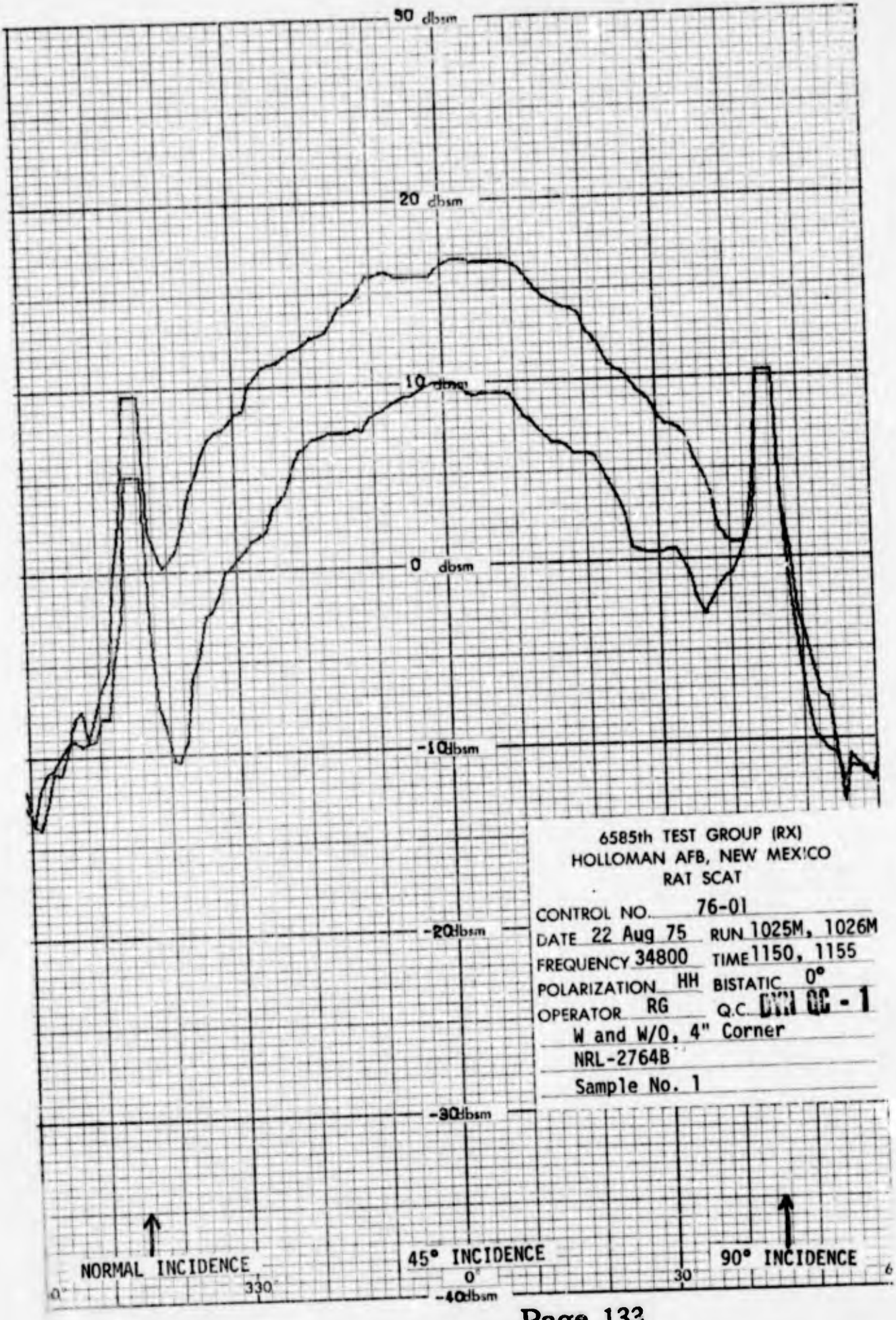
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1025, 1026
FREQUENCY 34800 TIME 1150, 1155
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm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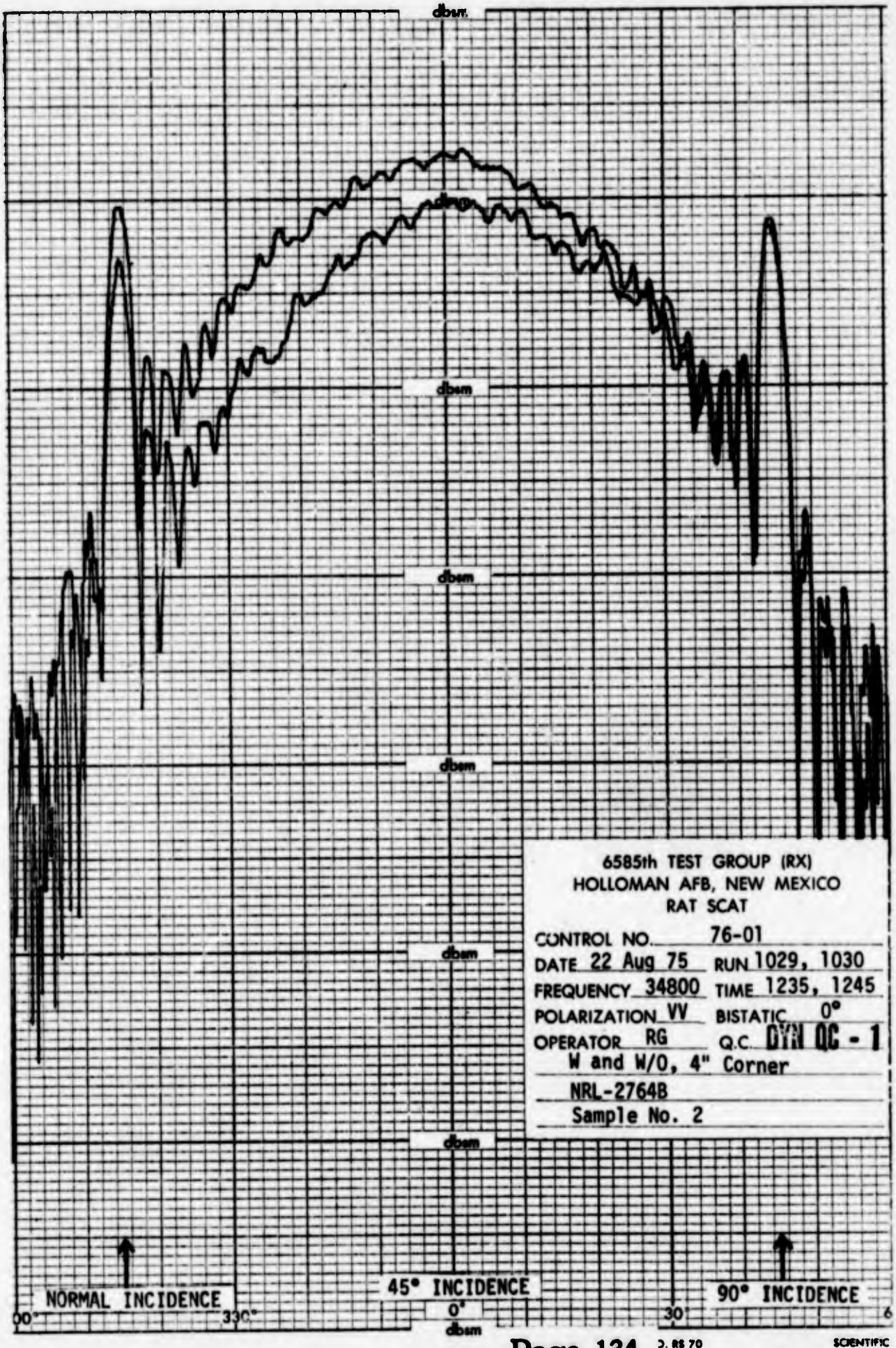
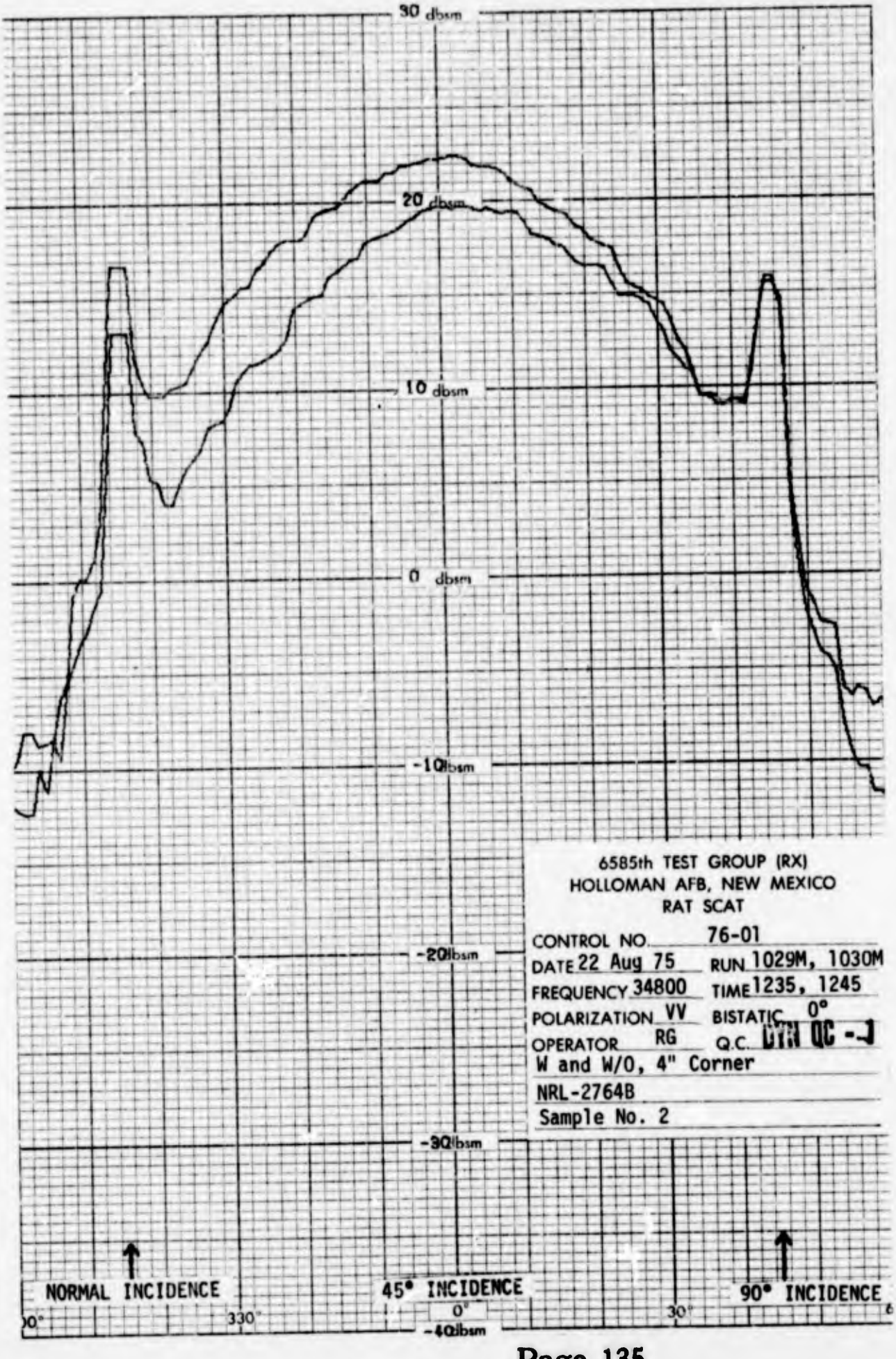
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1025M, 1026M
FREQUENCY 34800
TIME 1150, 1155
POLARIZATION HH
BISTATIC 0°
OPERATOR RG
Q.C. DRN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 1
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
30°
90° INCIDENCE


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1029, 1030
FREQUENCY 34800 TIME 1235, 1245
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
dbsm
330°
30°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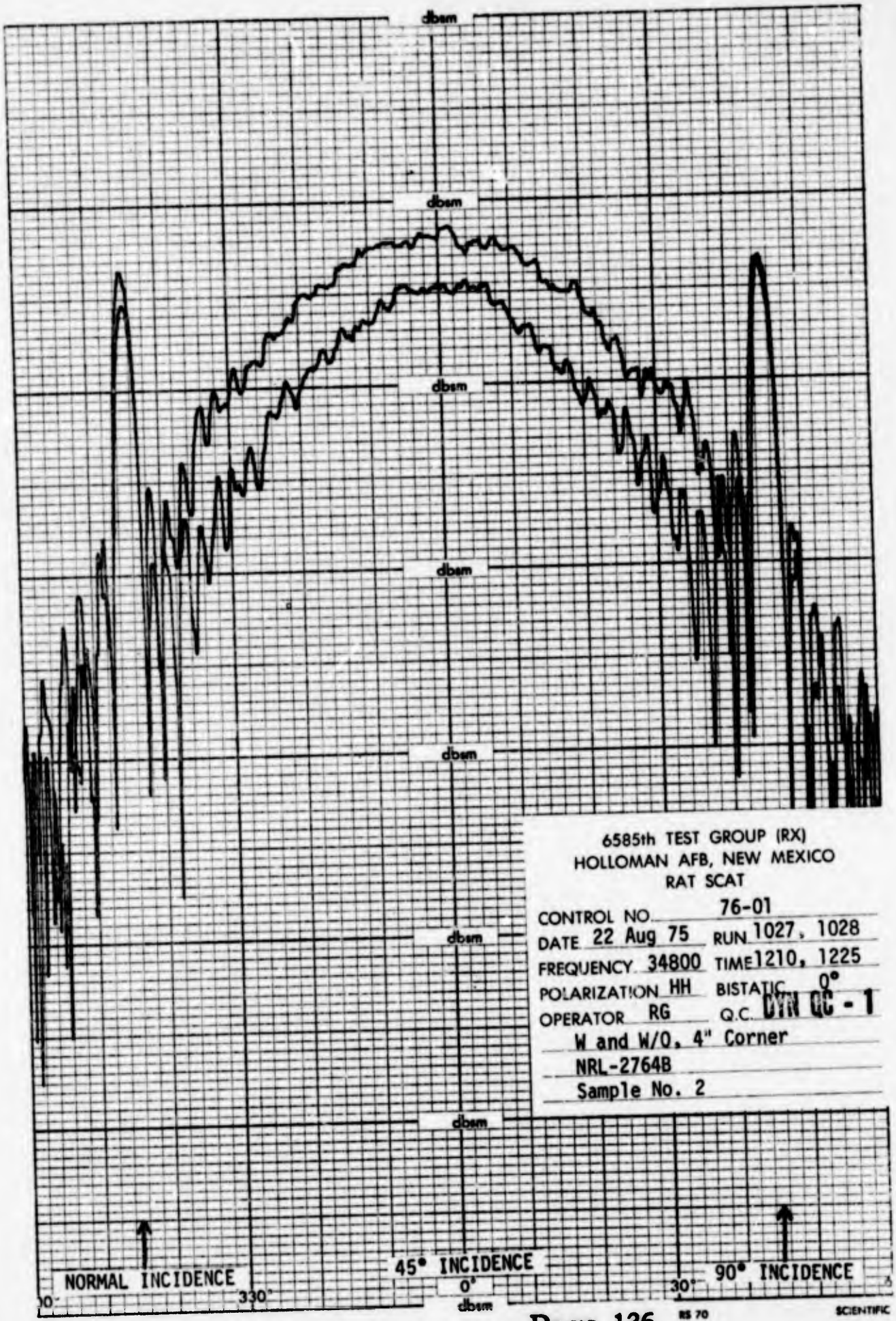
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1029M, 1030M
FREQUENCY 34800
TIME 1235, 1245
POLARIZATION VV
BISTATIC 0°
OPERATOR RG
Q.C. DTH QC -J
W and W/O, 4" Corner
NRL-2764B
Sample No. 2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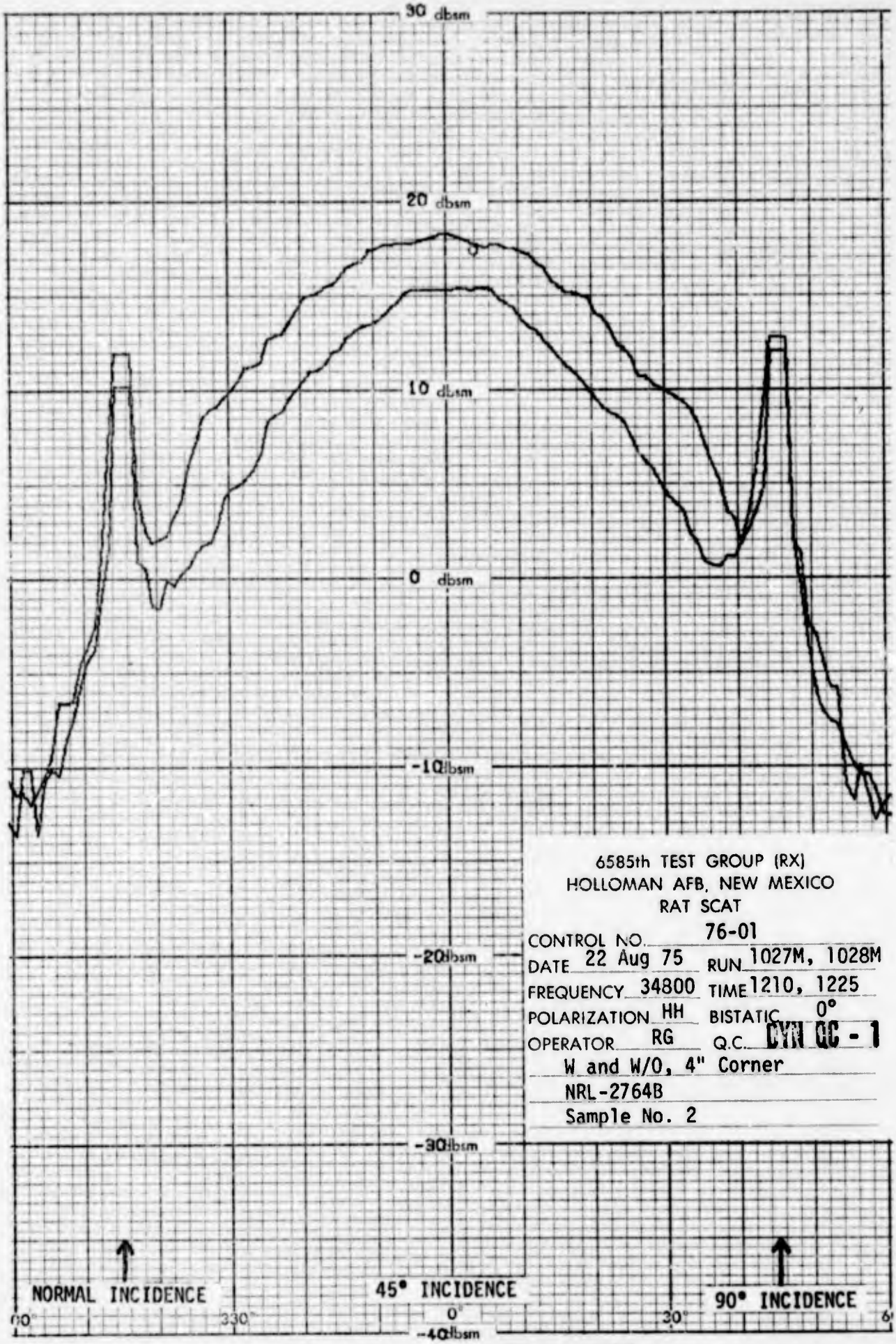
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1027, 1028
FREQUENCY 34800 TIME 1210, 1225
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DYN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE
RS 70
SCIENTIFIC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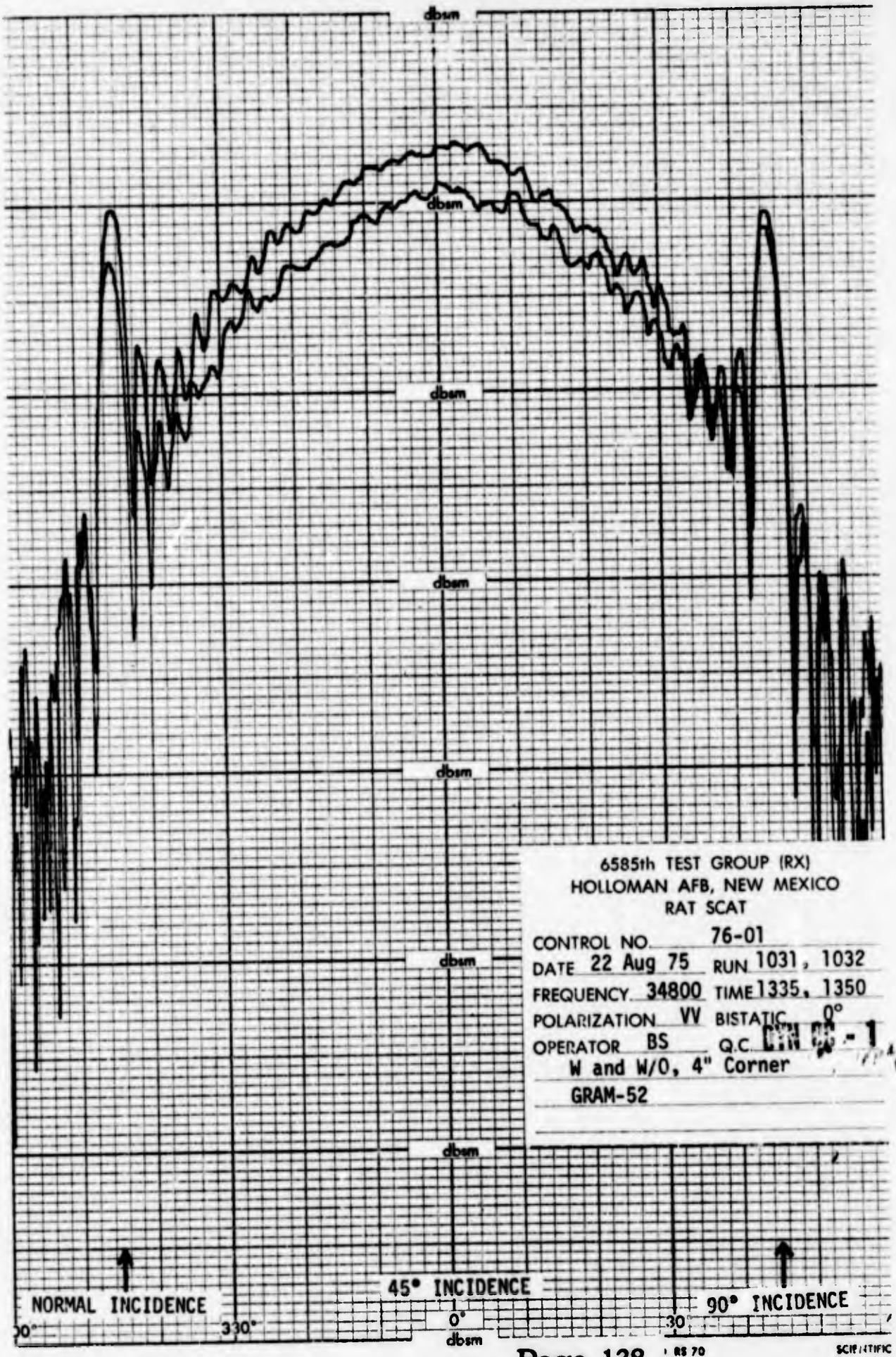
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°
330°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1027M, 1028M
FREQUENCY 34800 TIME 1210, 1225
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. CVN QC - 1
W and W/O, 4" Corner
NRL-2764B
Sample No. 2


dbsm
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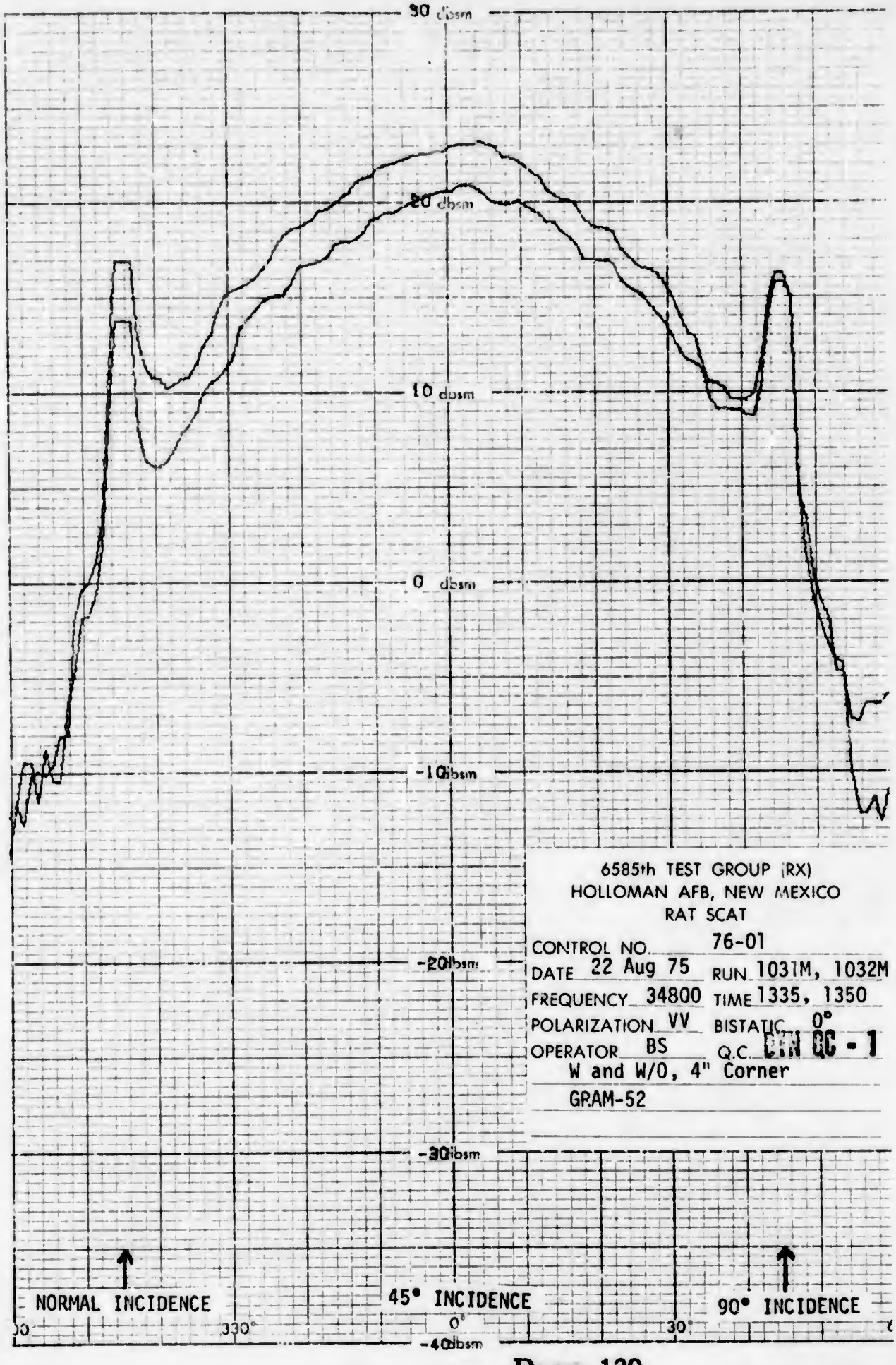
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1031, 1032
FREQUENCY 34800 TIME 1335, 1350
POLARIZATION VV BISTATIC 0°
OPERATOR BS Q.C.
W and W/O, 4" Corner
GRAM-52
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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-20dbsm
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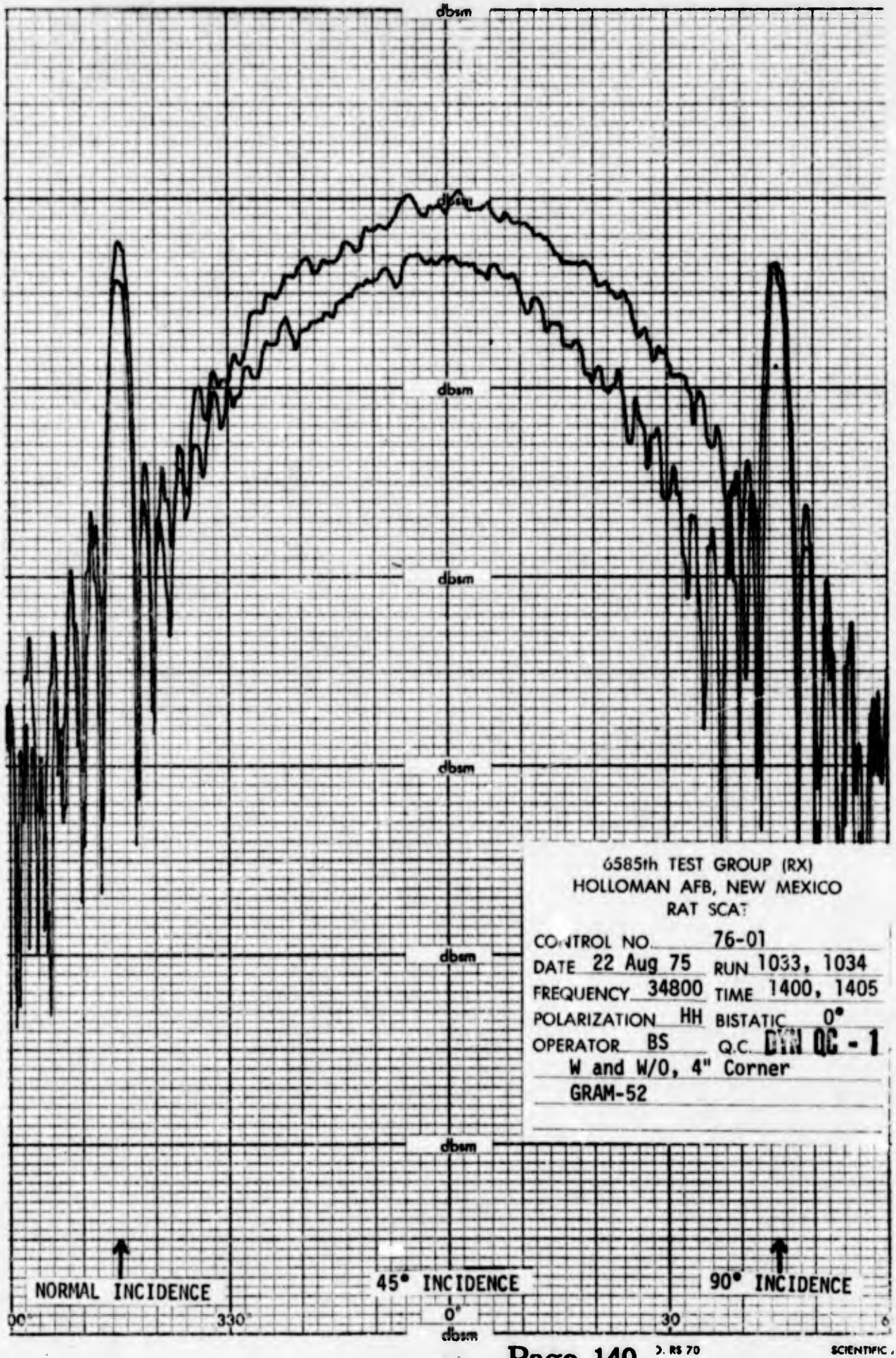
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1031M, 1032M
FREQUENCY 34800
TIME 1335, 1350
POLARIZATION VV
BISTATIC 0°
OPERATOR BS
Q.C. DAN QC - 1
W and W/O, 4" Corner
GRAM-52
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°


dbsm
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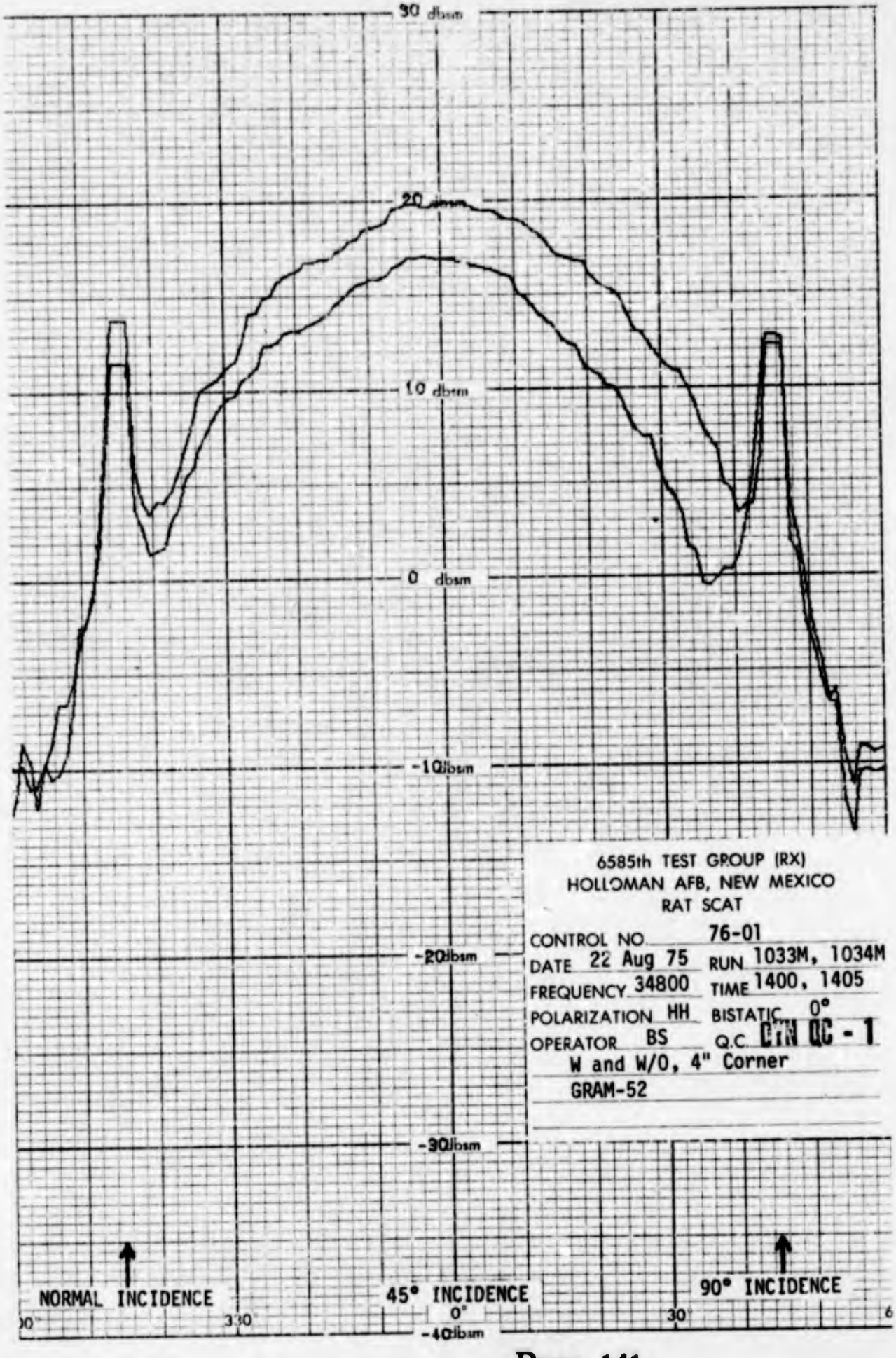
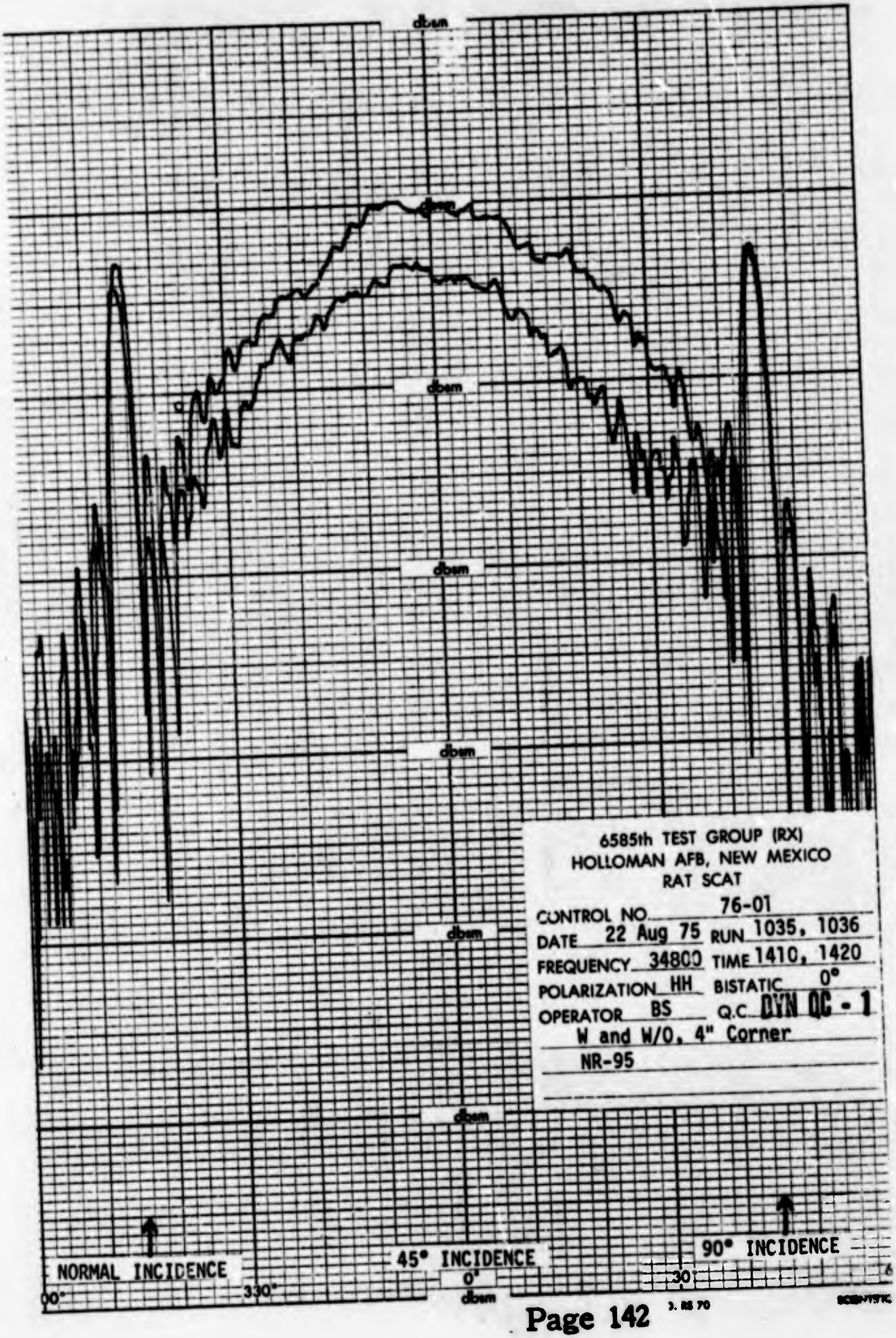
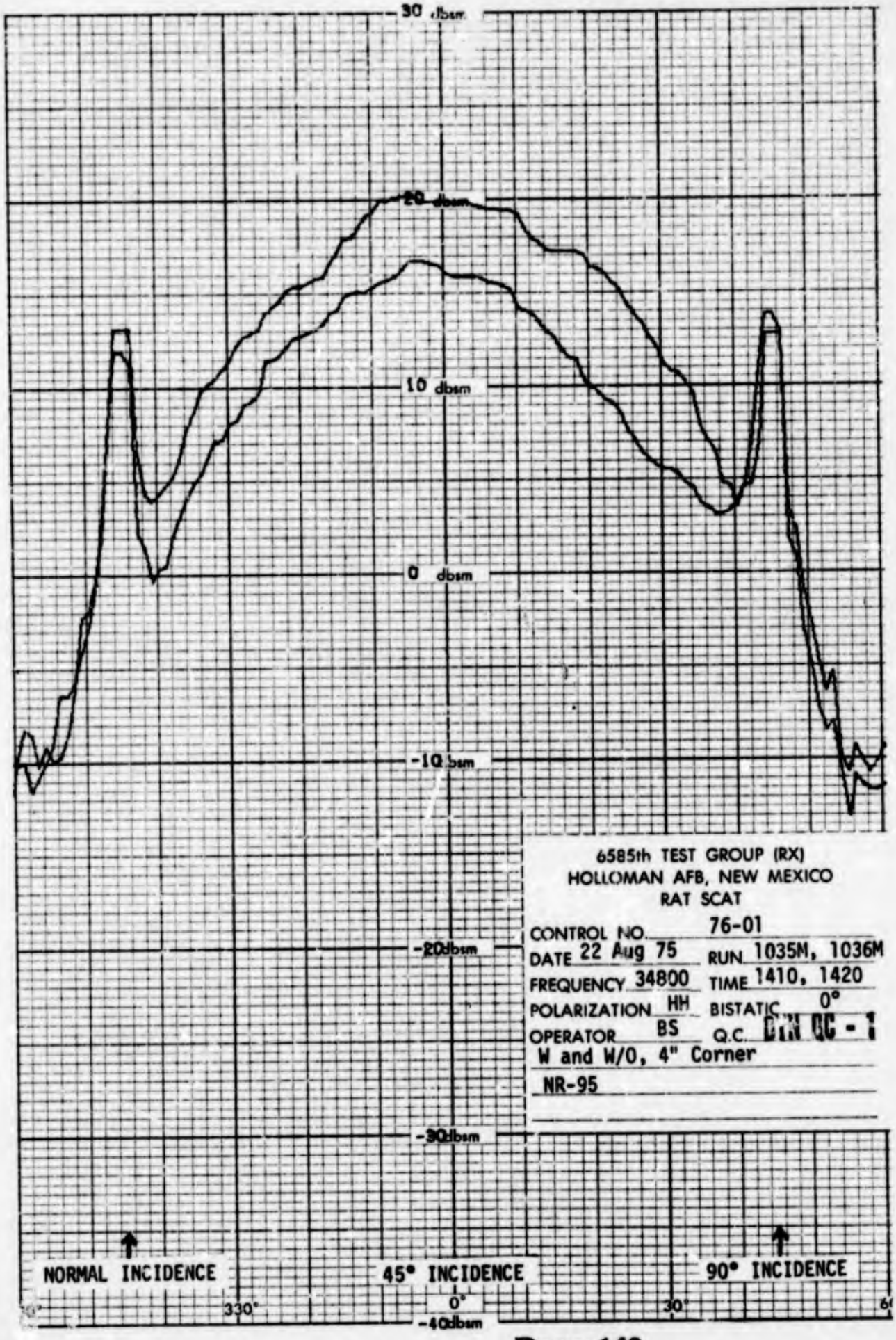
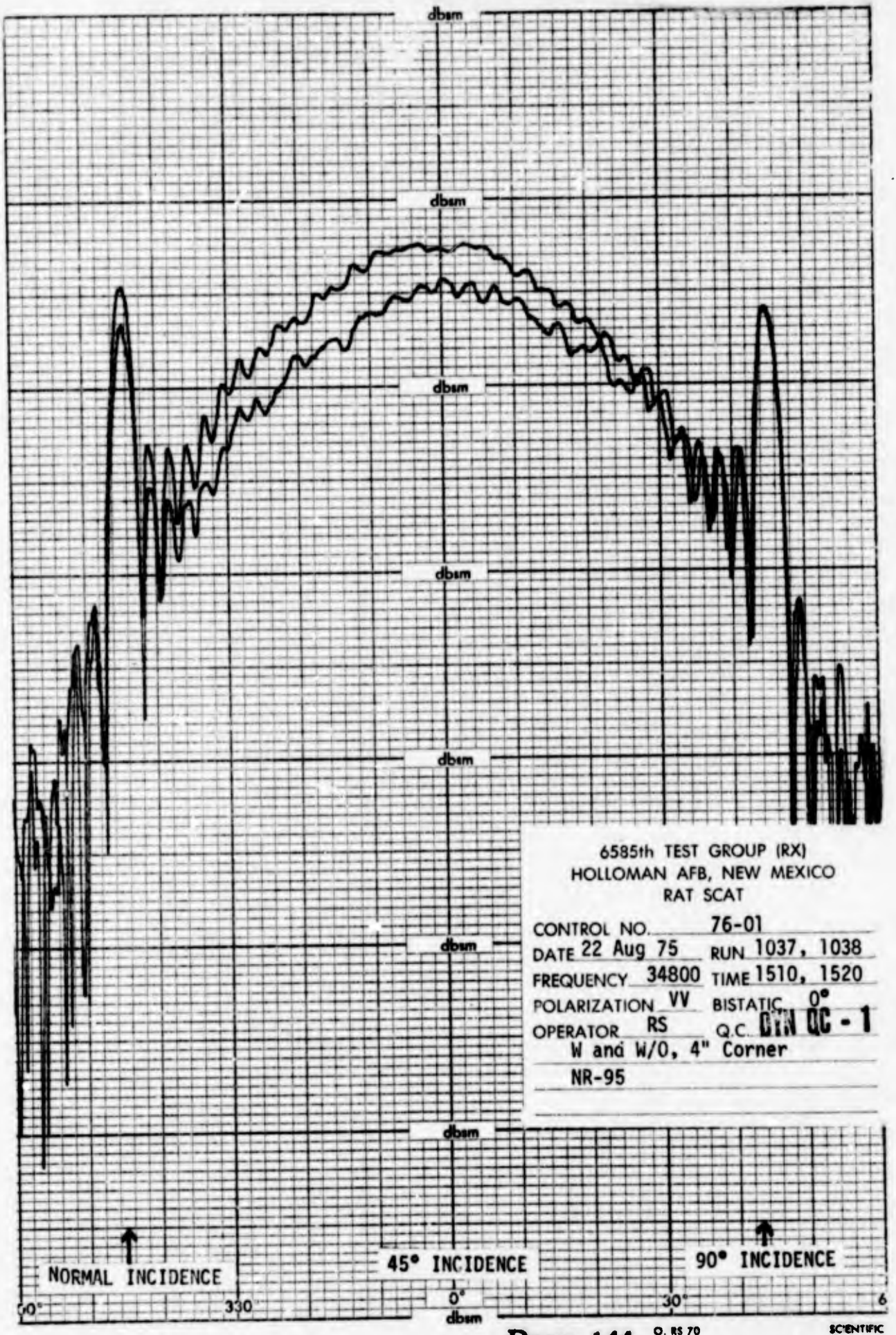
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1033, 1034
FREQUENCY 34800
TIME 1400, 1405
POLARIZATION HH
BISTATIC 0°
OPERATOR BS
Q.C. DYN QC - 1
W and W/O, 4" Corner
GRAM-52
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30
dbsm


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 76-01
DATE 22 Aug 75 RUN 1033M, 1034M
FREQUENCY 34800 TIME 1400, 1405
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. CTN QC - 1
W and W/O, 4" Corner
GRAM-52


dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1035, 1036
FREQUENCY 34800 TIME 1410, 1420
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
dbsm
00°
330°
30°


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75
RUN 1035M, 1036M
FREQUENCY 34800
TIME 1410, 1420
POLARIZATION HH
BISTATIC 0°
OPERATOR BS
Q.C. DTN QC - 1
W and W/O, 4" Corner
NR-95



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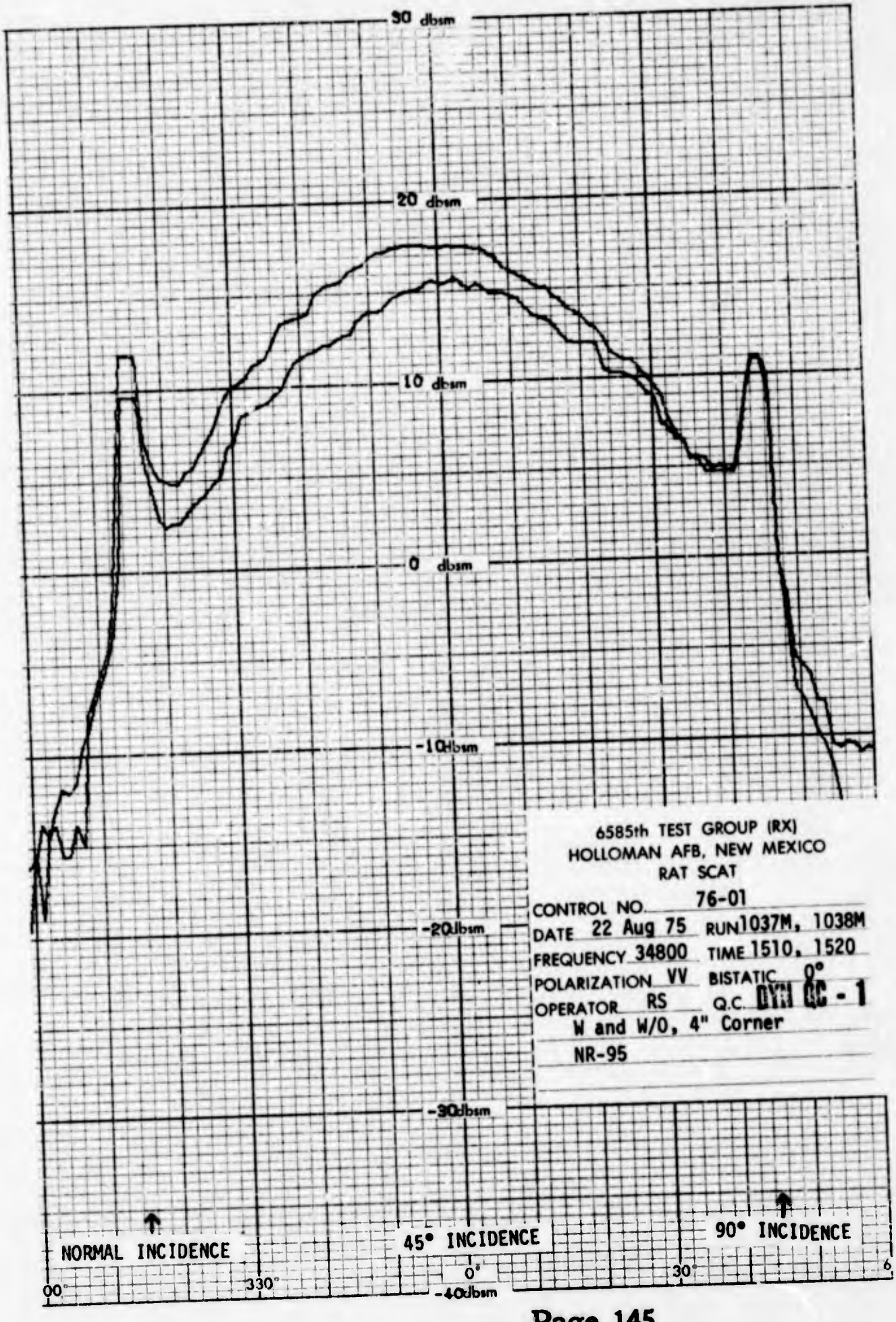
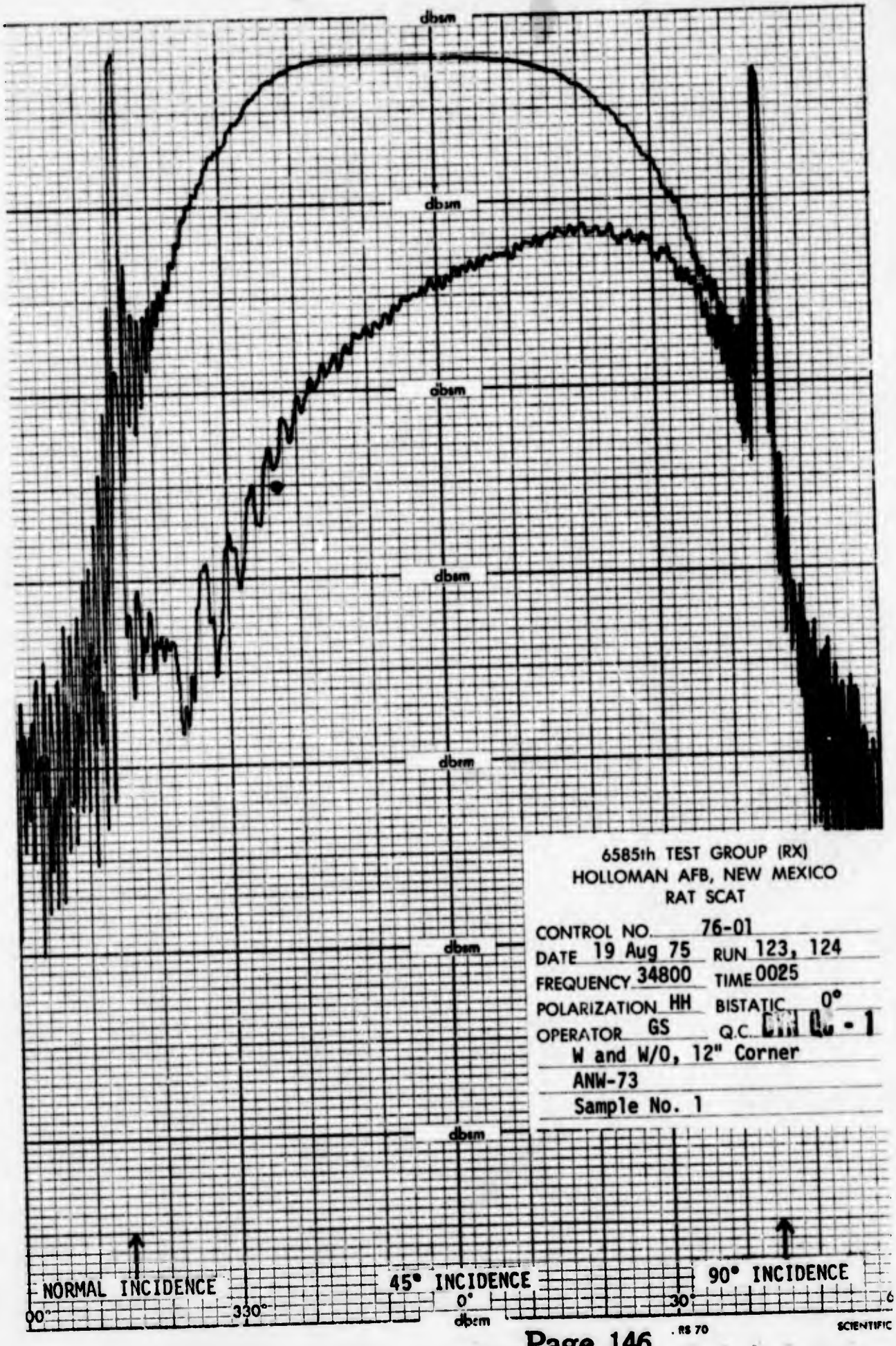

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Aug 75 RUN 1037M, 1038M
FREQUENCY 34800 TIME 1510, 1520
POLARIZATION VV BISTATIC 0°
OPERATOR RS Q.C. DYN QC - 1
W and W/O, 4" Corner
NR-95
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°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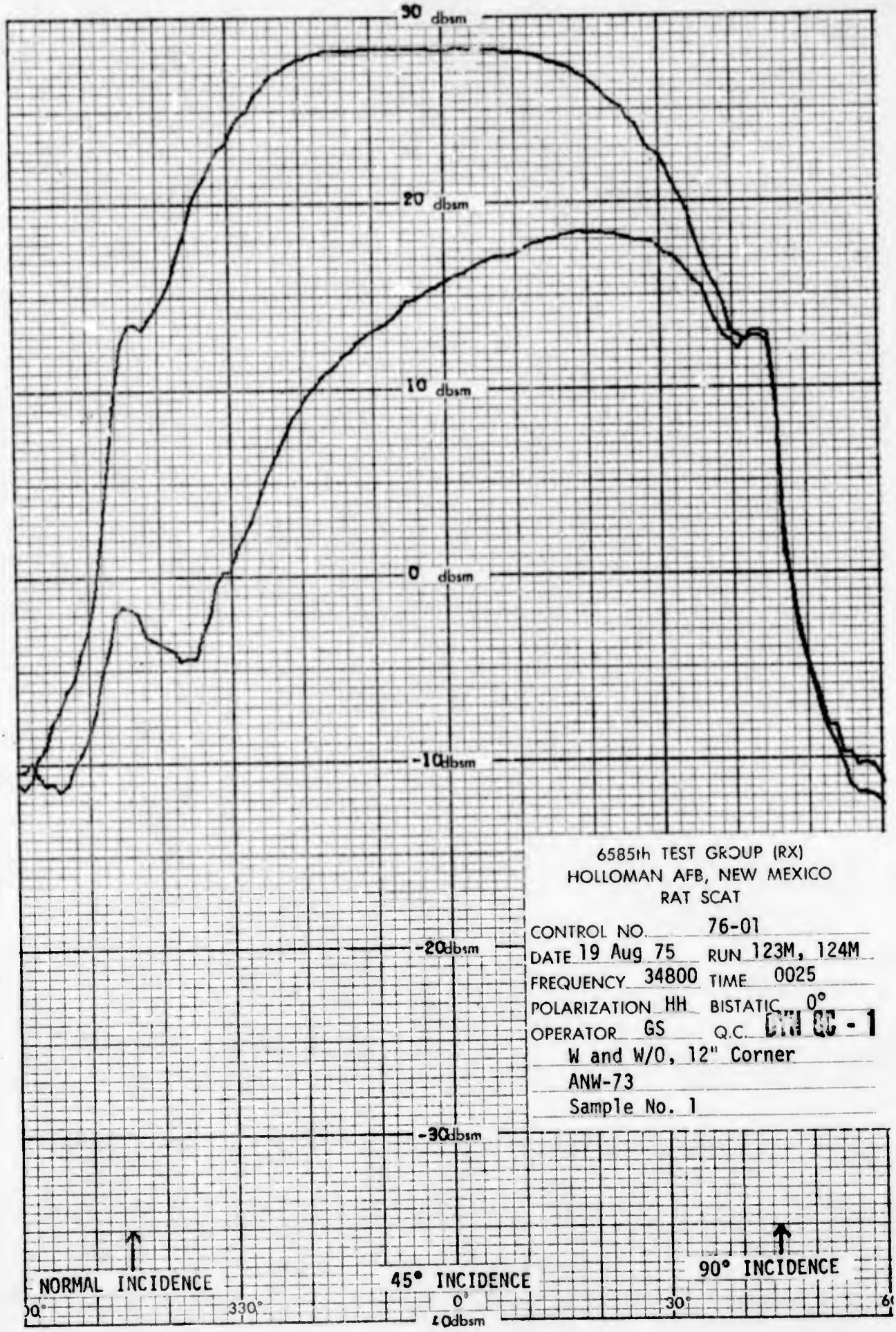
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75
RUN 123, 124
FREQUENCY 34800
TIME 0025
POLARIZATION HH
BISTATIC 0°
OPERATOR GS
Q.C.
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm
SCIENTIFIC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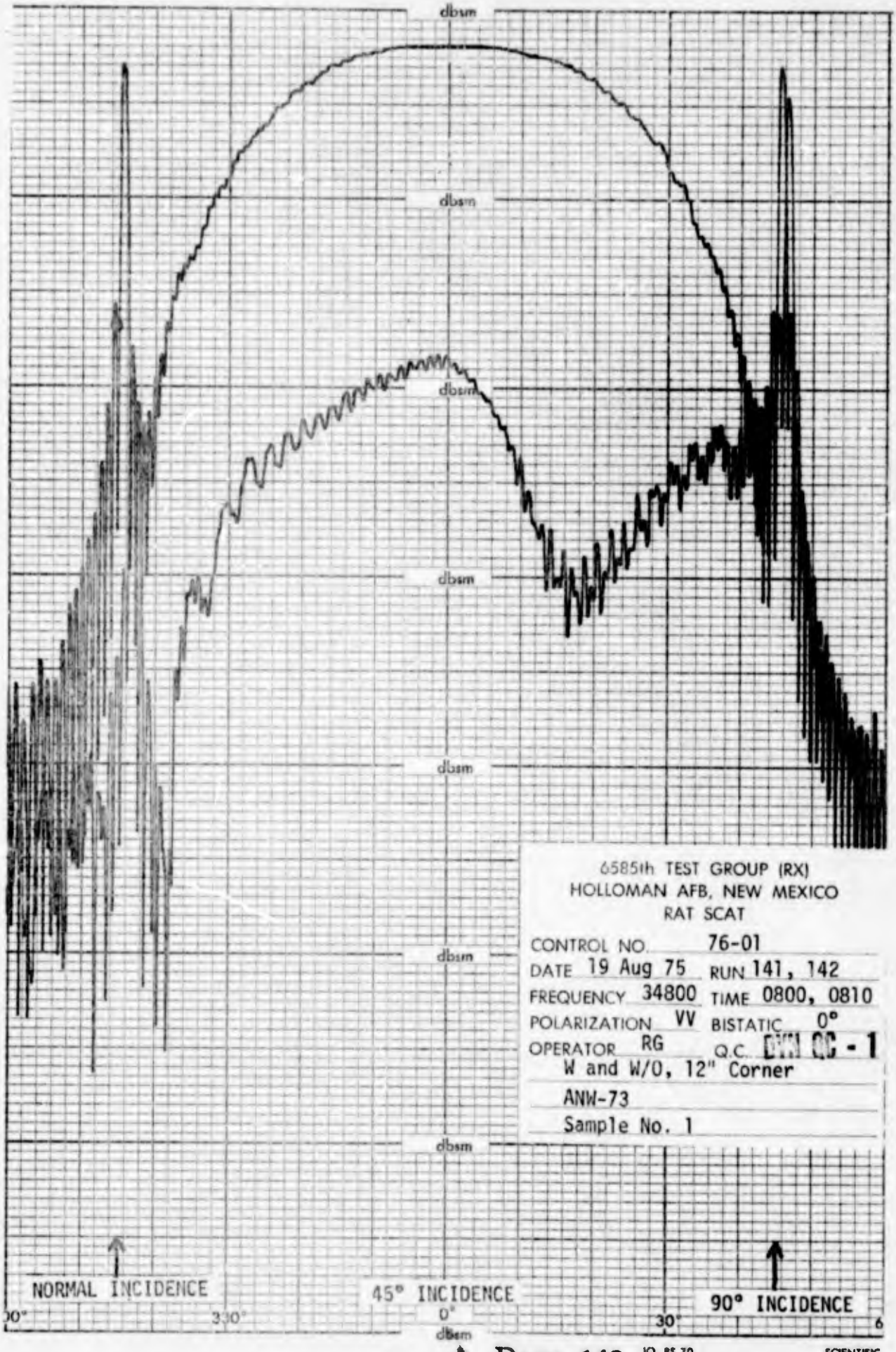
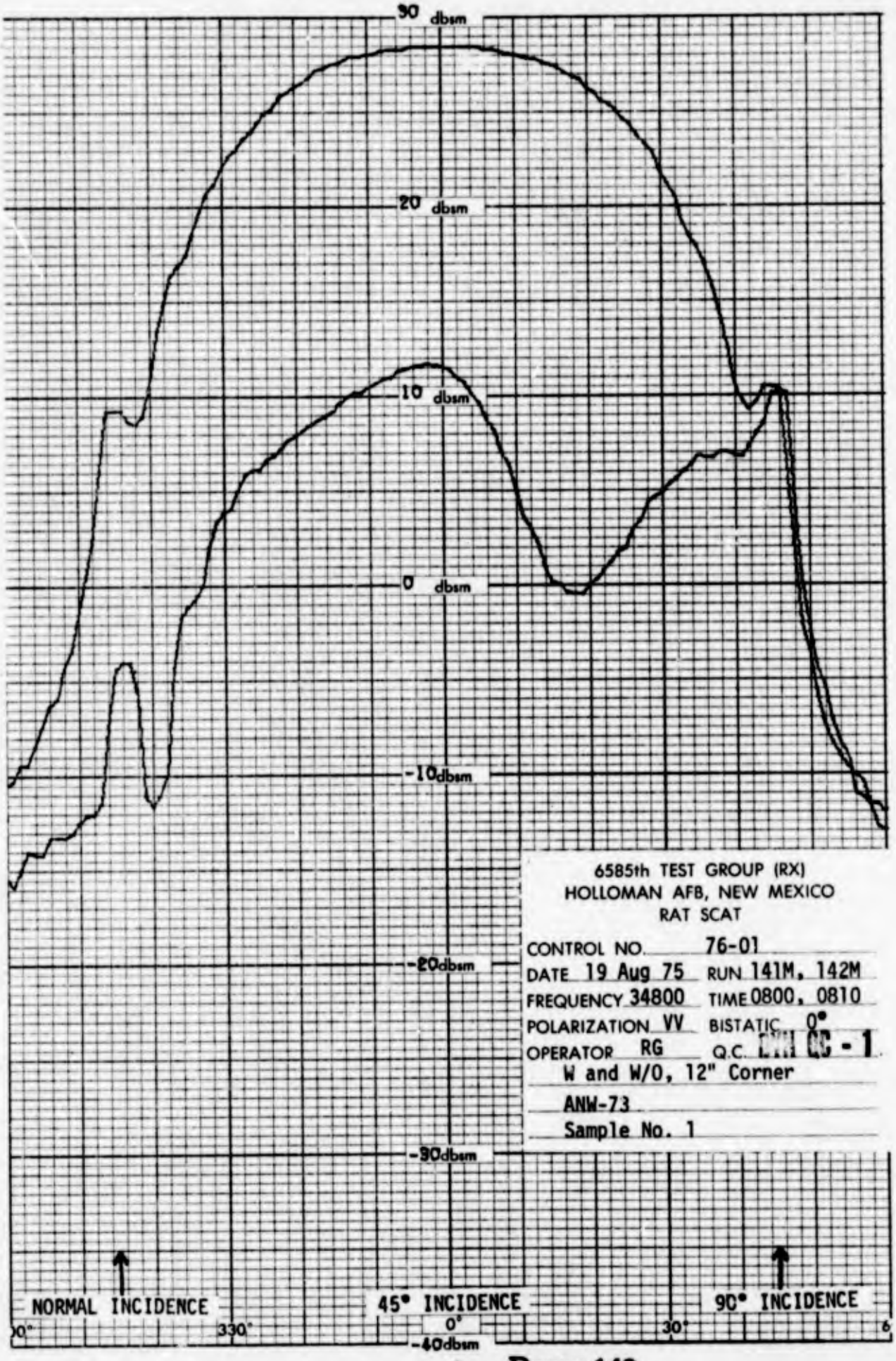
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 123M, 124M
FREQUENCY 34800 TIME 0025
POLARIZATION HH BISTATIC 0°
OPERATOR GS Q.C. DWG CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
40dbsm



IO. RS 70 SCIENTIFIC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-20dbsm
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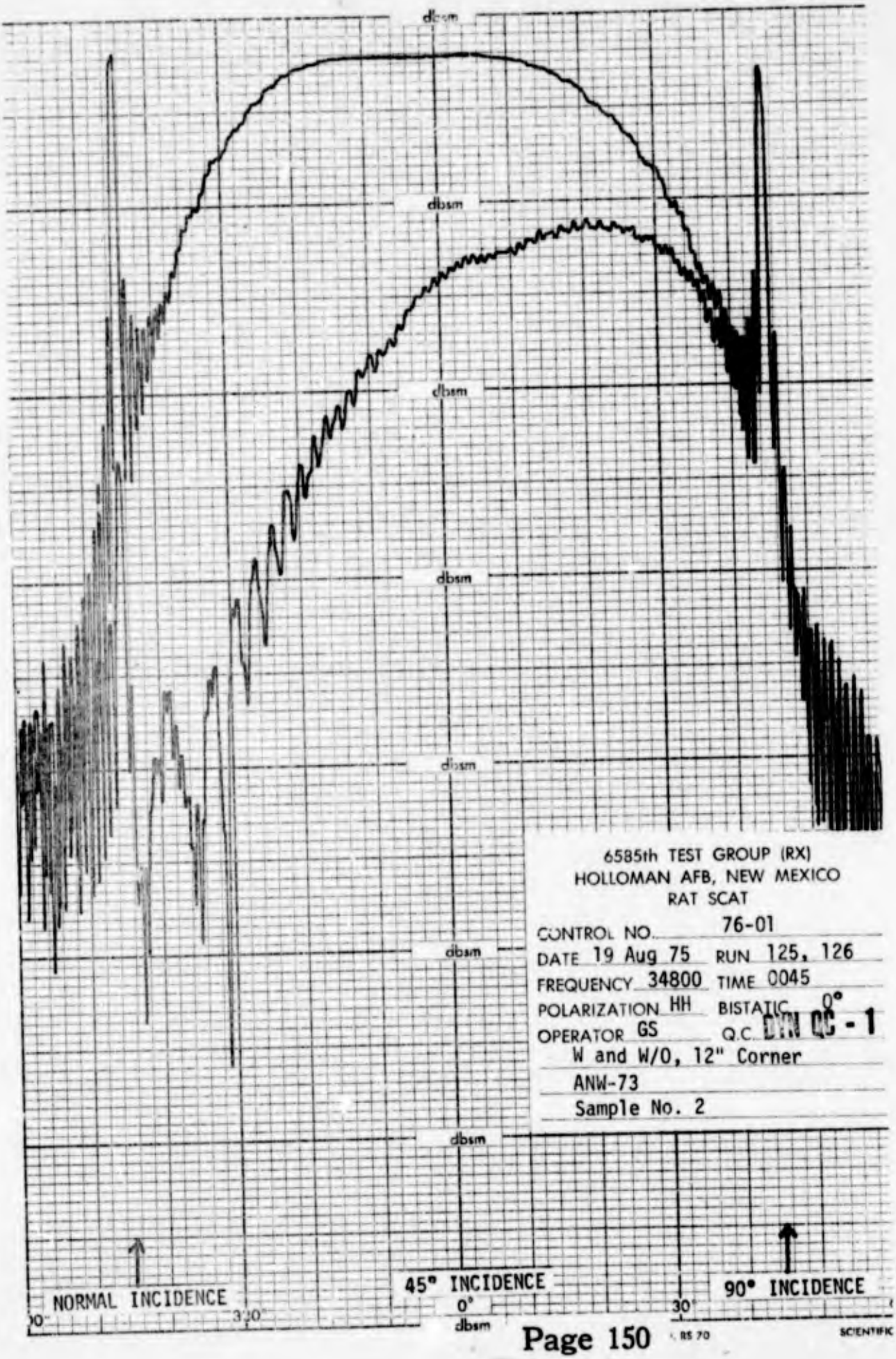
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 141M, 142M
FREQUENCY 34800 TIME 0800, 0810
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. CC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°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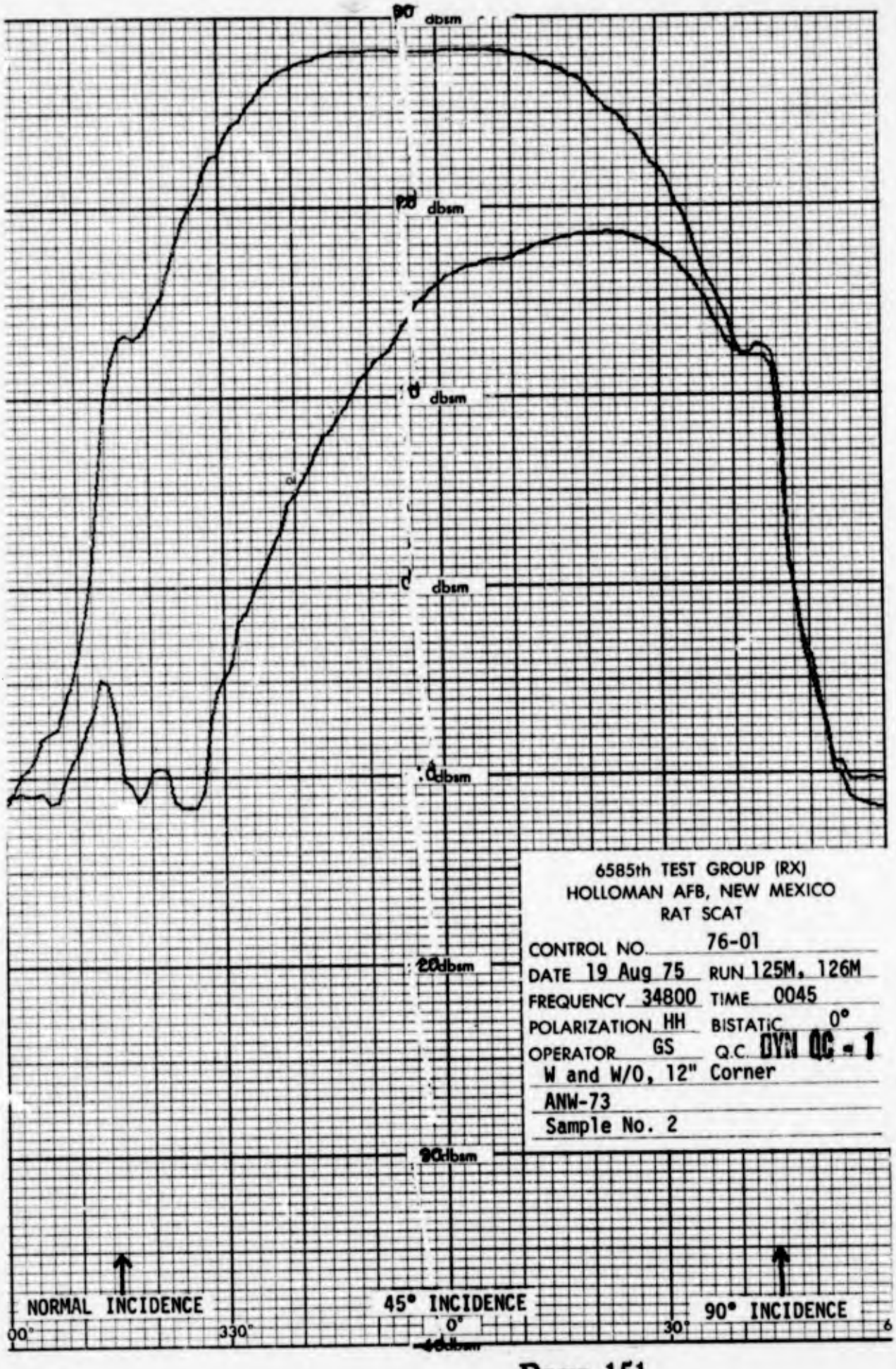
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 125, 126
FREQUENCY 34800 TIME 0045
POLARIZATION HH BISTATIC 0°
OPERATOR GS Q.C. DIN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
SCIENTIFIC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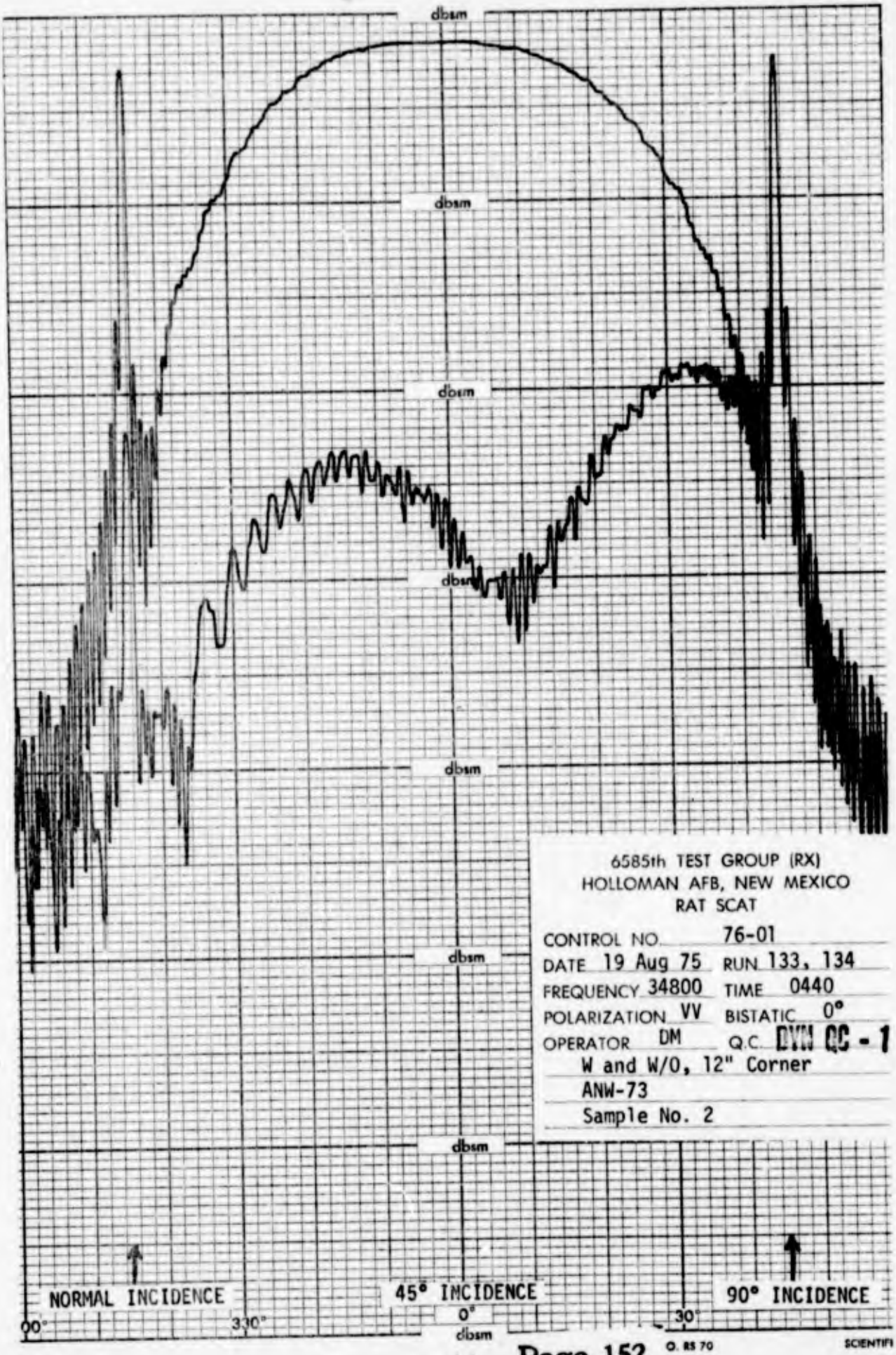
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 125M, 126M
FREQUENCY 34800 TIME 0045
POLARIZATION HH BISTATIC 0°
OPERATOR GS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°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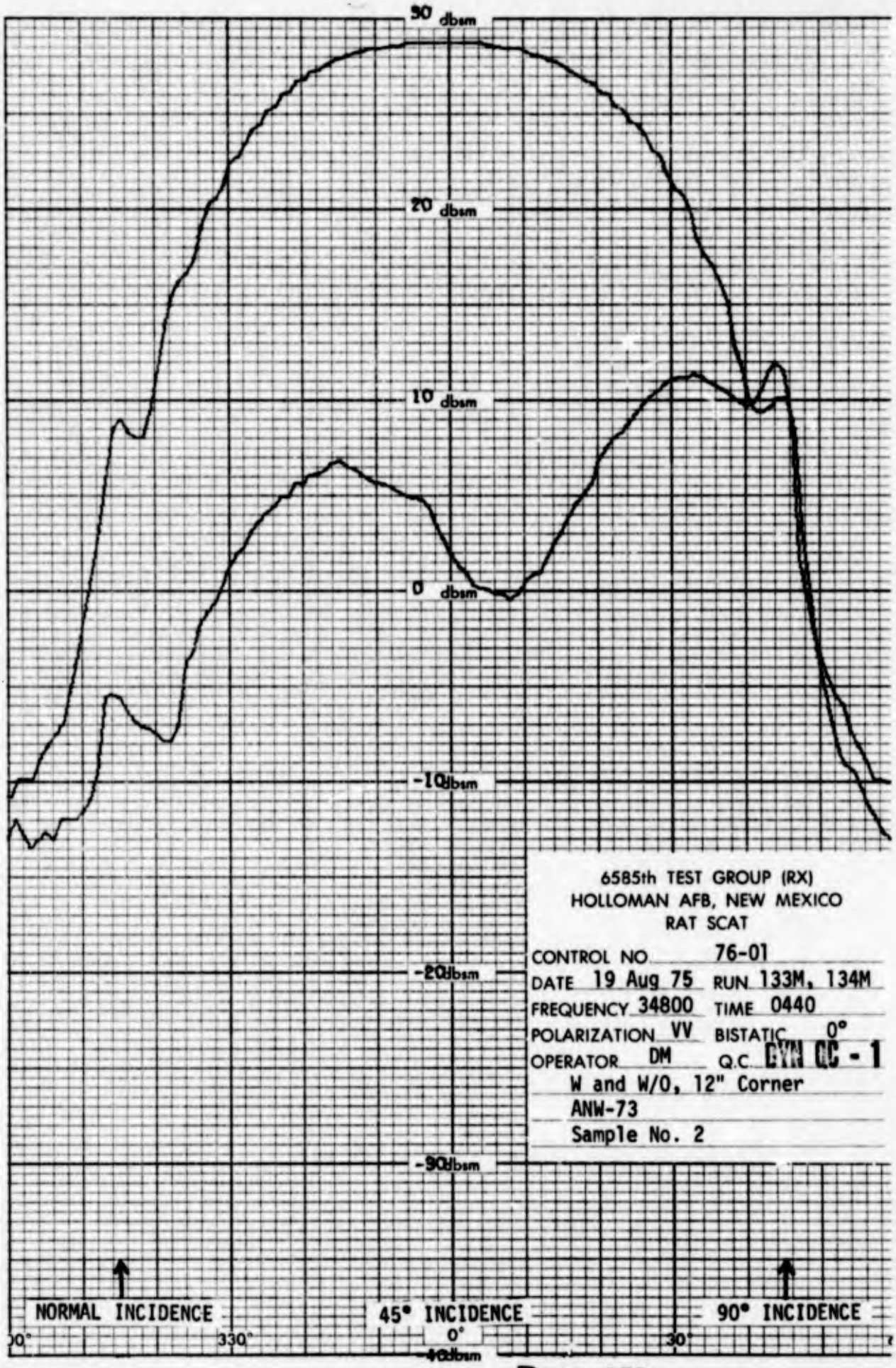
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 133, 134
FREQUENCY 34800 TIME 0440
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C. DVW QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm
O. RS 70
SCIENTIFI


30 dbsm
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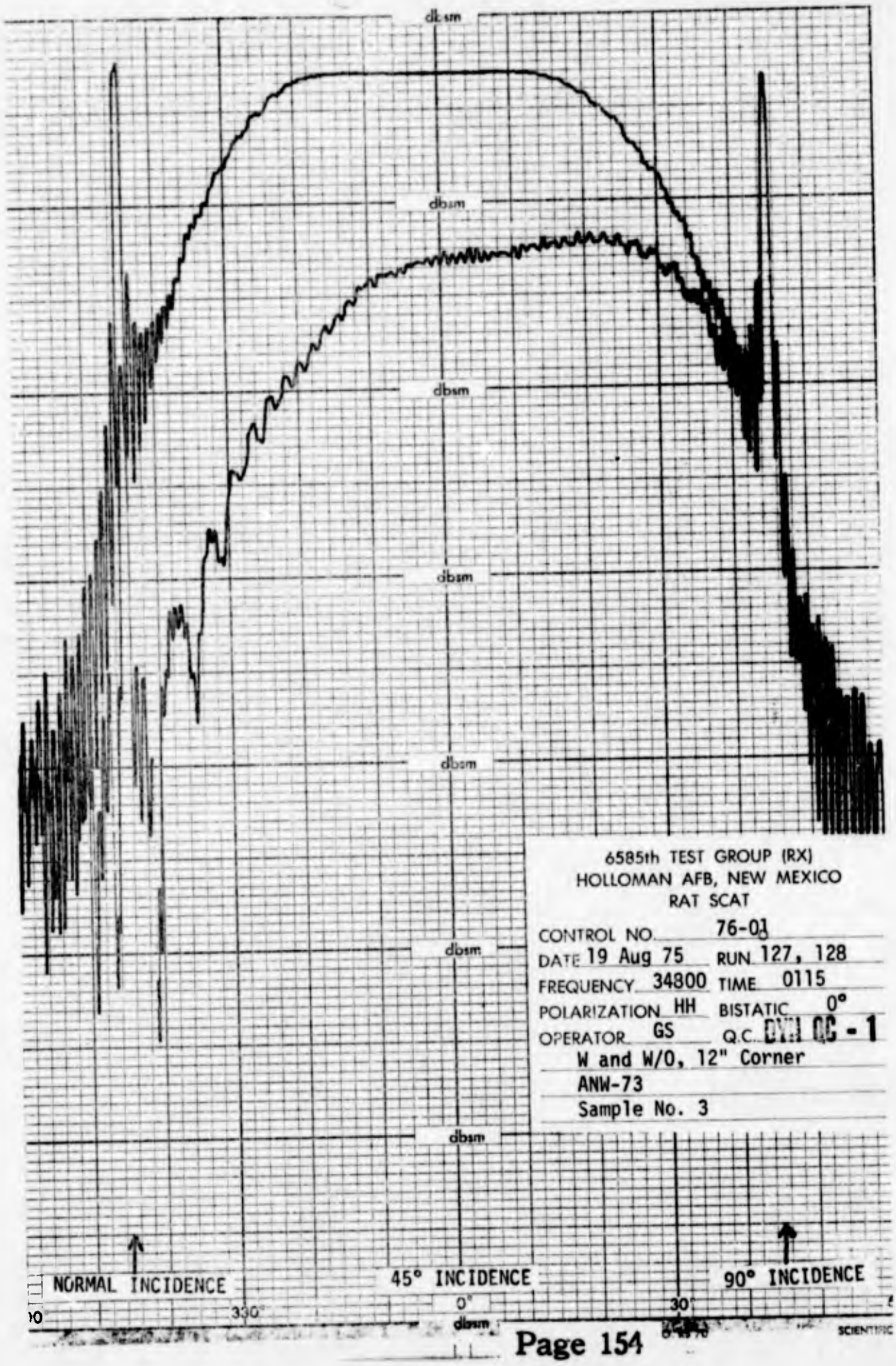
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 76-01
DATE 19 Aug 75 RUN 133M, 134M
FREQUENCY 34800 TIME 0440
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C GYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°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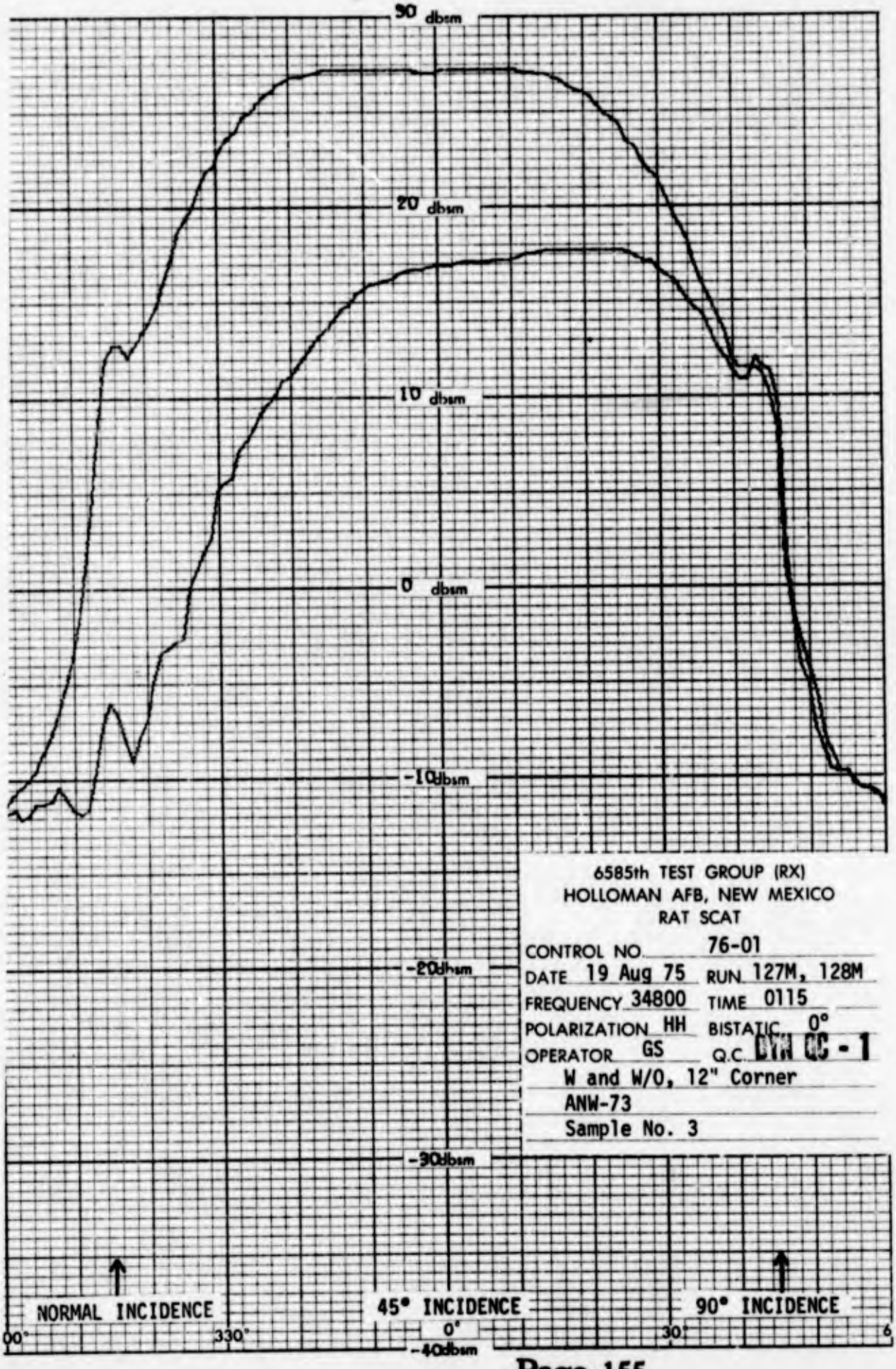
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 127, 128
FREQUENCY 34800 TIME 0115
POLARIZATION HH BISTATIC 0°
OPERATOR GS Q.C. DVH QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm
SCIENTIFIC


30 dbsm
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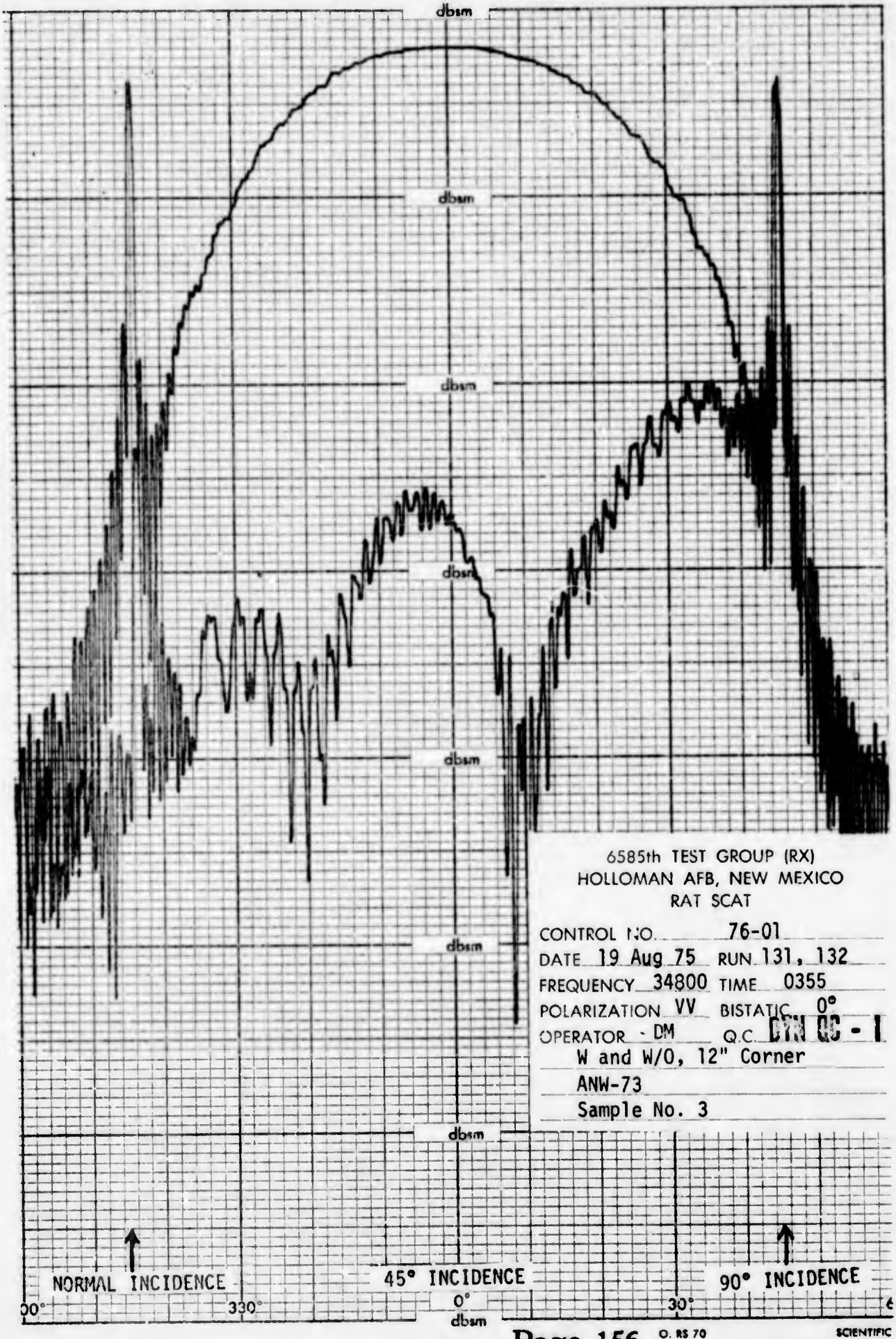
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
6
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 127M, 128M
FREQUENCY 34800 TIME 0115
POLARIZATION HH BISTATIC 0°
OPERATOR GS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3


dbsm
dbsm
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dbsm
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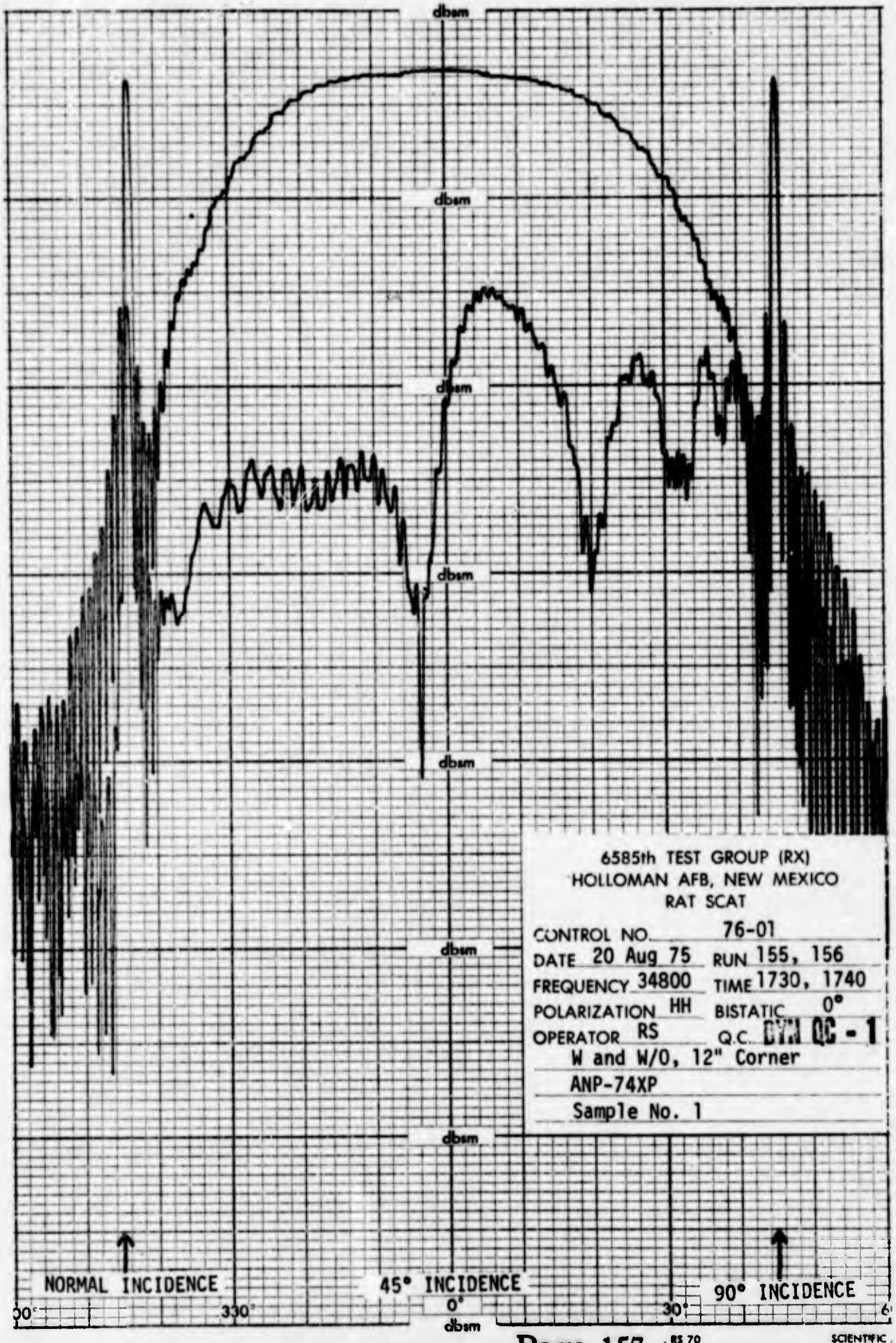
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 19 Aug 75 RUN 131, 132
FREQUENCY 34800 TIME 0355
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C. DTN QC - 1
W and W/O, 12" Corner
ANW-73
Sample No. 3
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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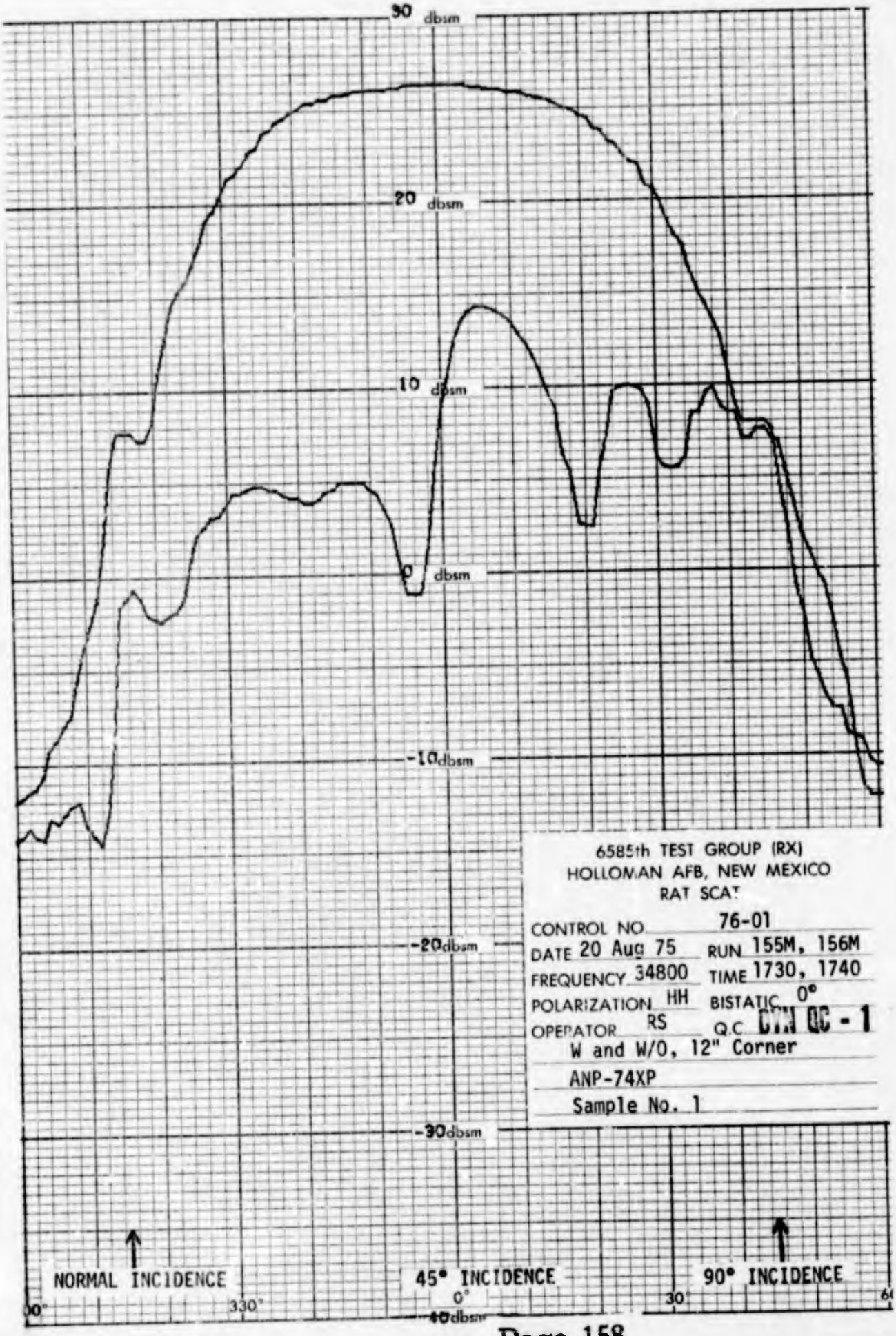
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 155, 156
FREQUENCY 34800 TIME 1730, 1740
POLARIZATION HH BISTATIC 0°
OPERATOR RS Q.C. DTH QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm


30 dbsm
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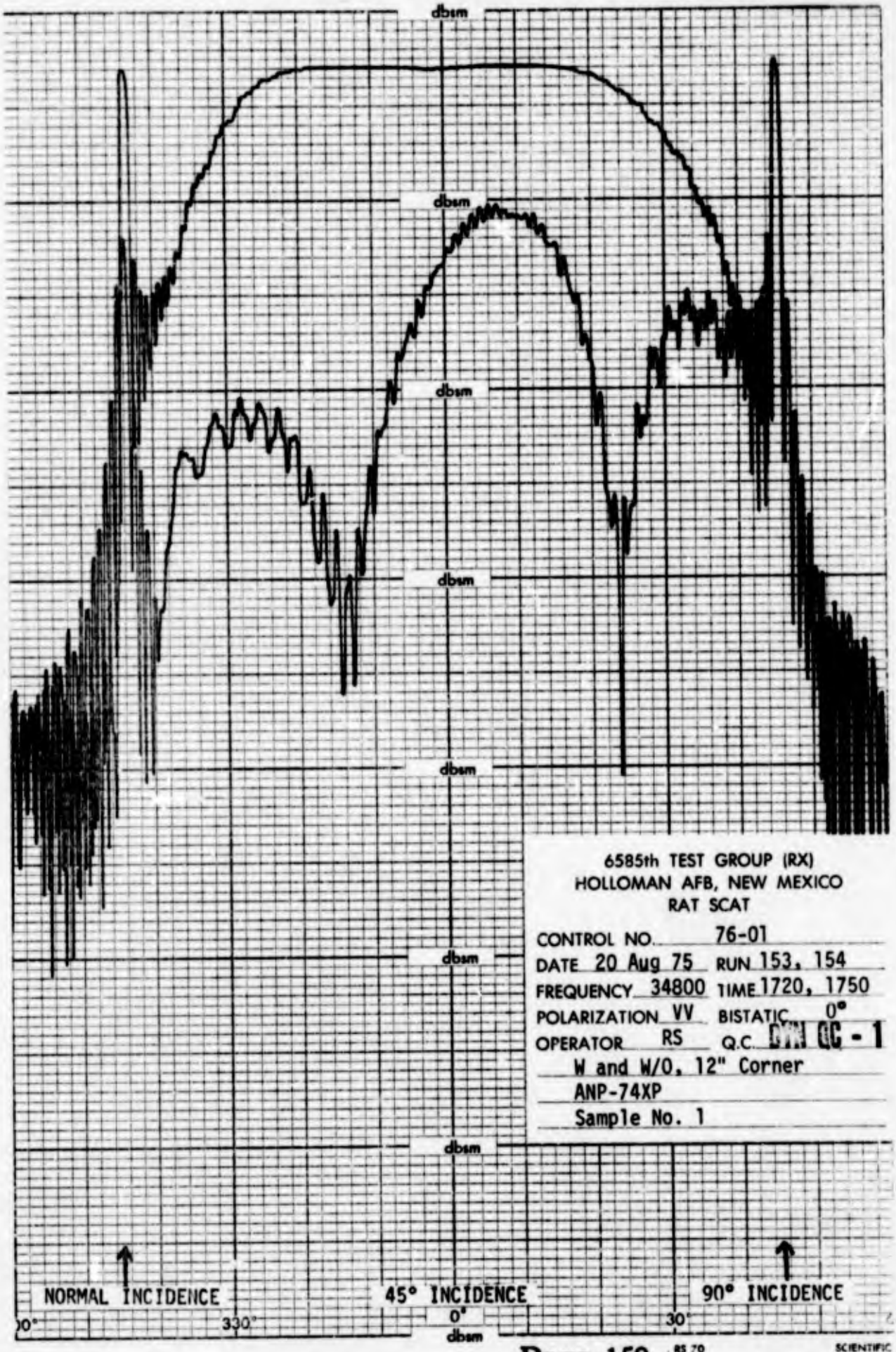
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 76-01
DATE 20 Aug 75 RUN 155M, 156M
FREQUENCY 34800 TIME 1730, 1740
POLARIZATION HH BISTATIC 0°
OPERATOR RS Q.C DTM QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°


dbsm
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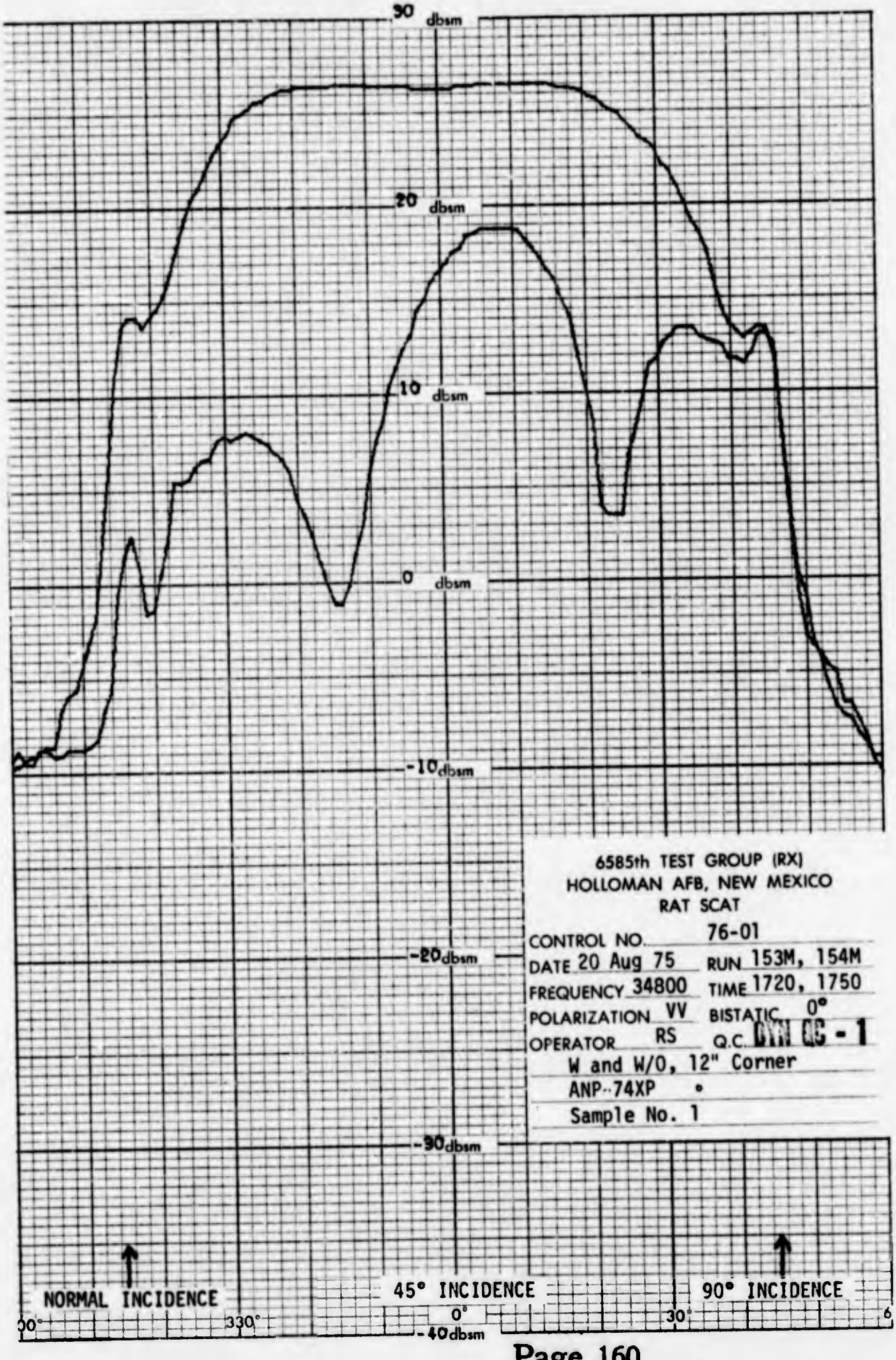
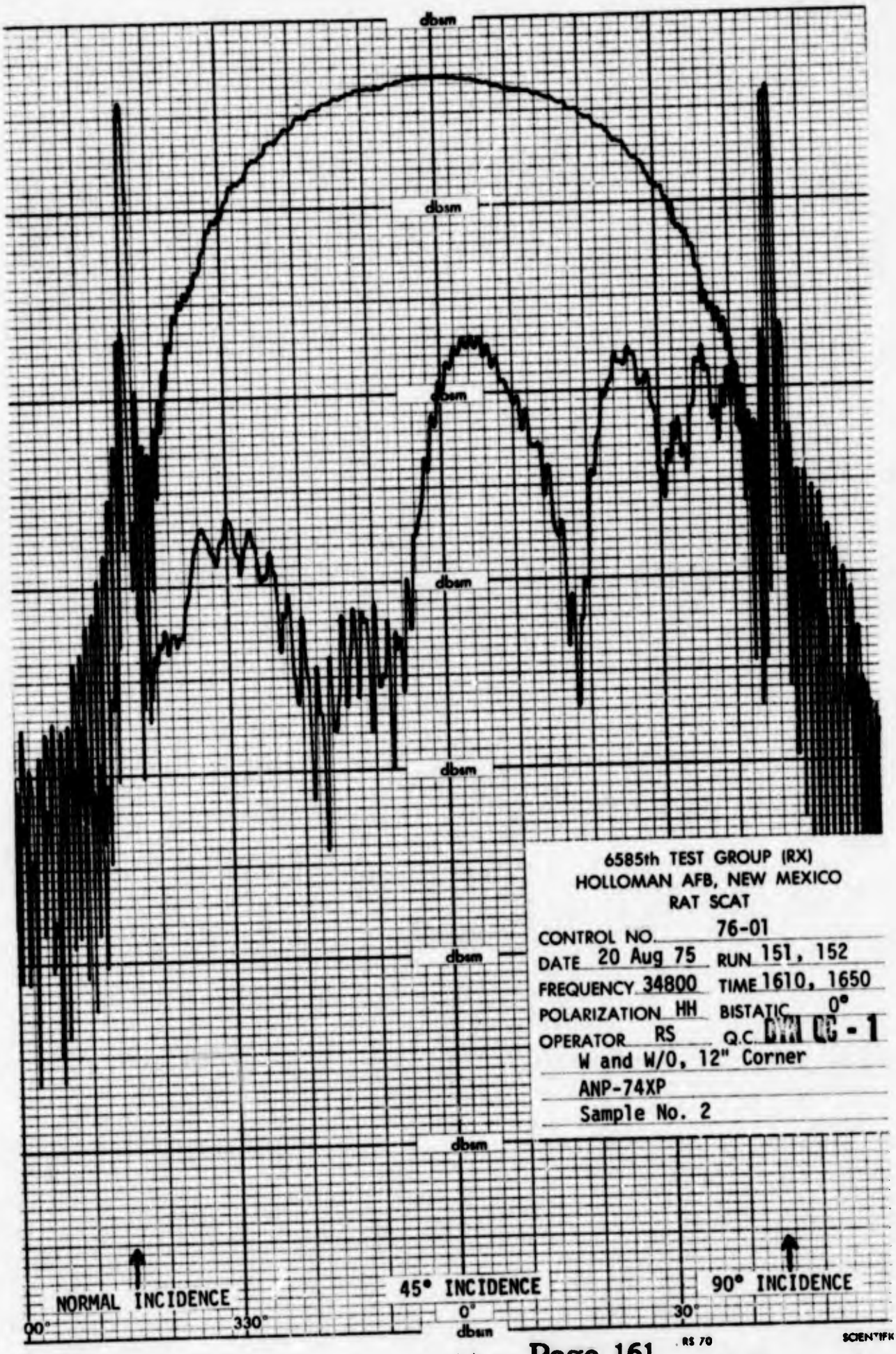
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 153, 154
FREQUENCY 34800 TIME 1720, 1750
POLARIZATION VV BISTATIC 0°
OPERATOR RS Q.C. DTN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75
RUN 153M, 154M
FREQUENCY 34800
TIME 1720, 1750
POLARIZATION VV
BISTATIC 0°
OPERATOR RS
Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 1
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
30°
330°
0°
30°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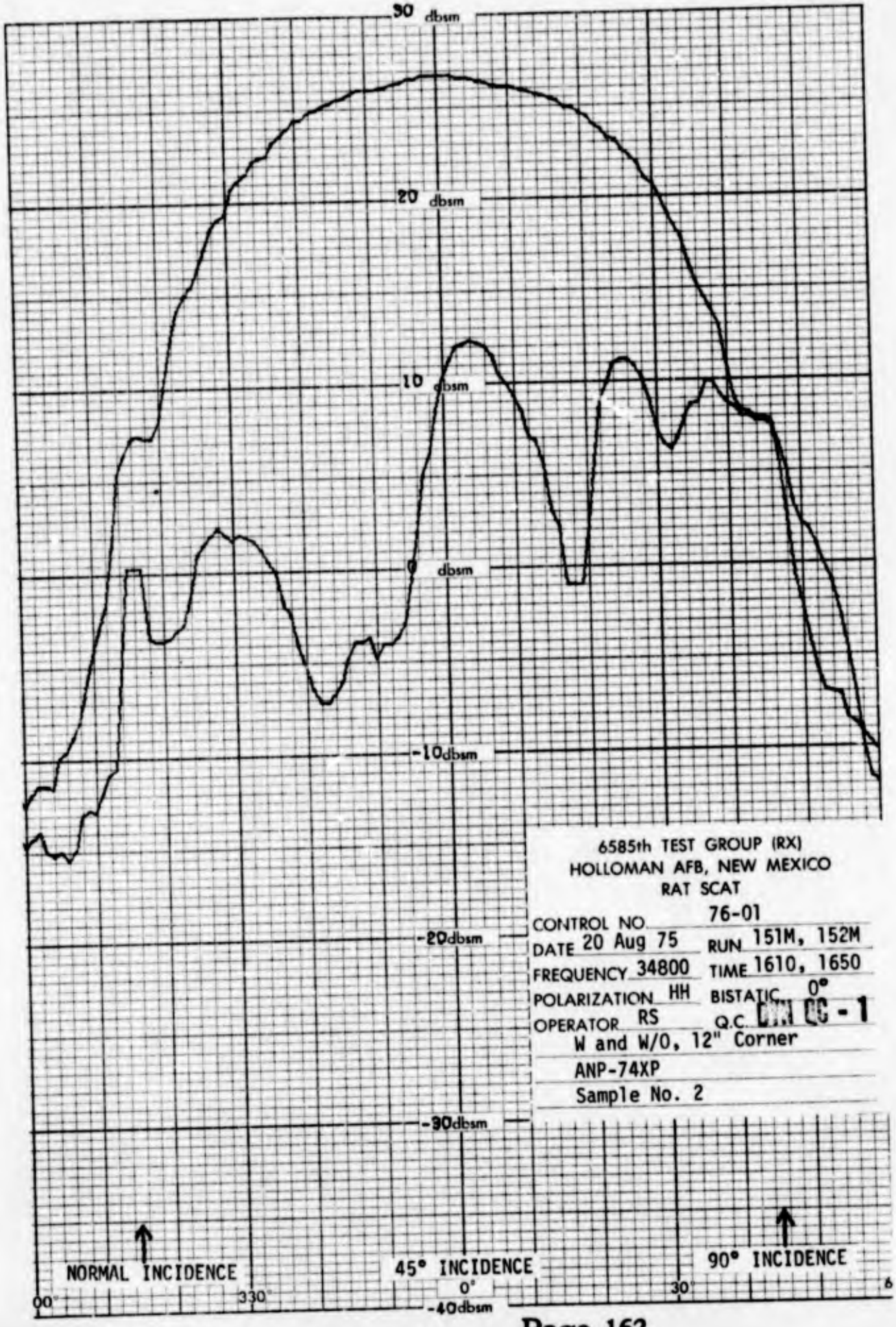
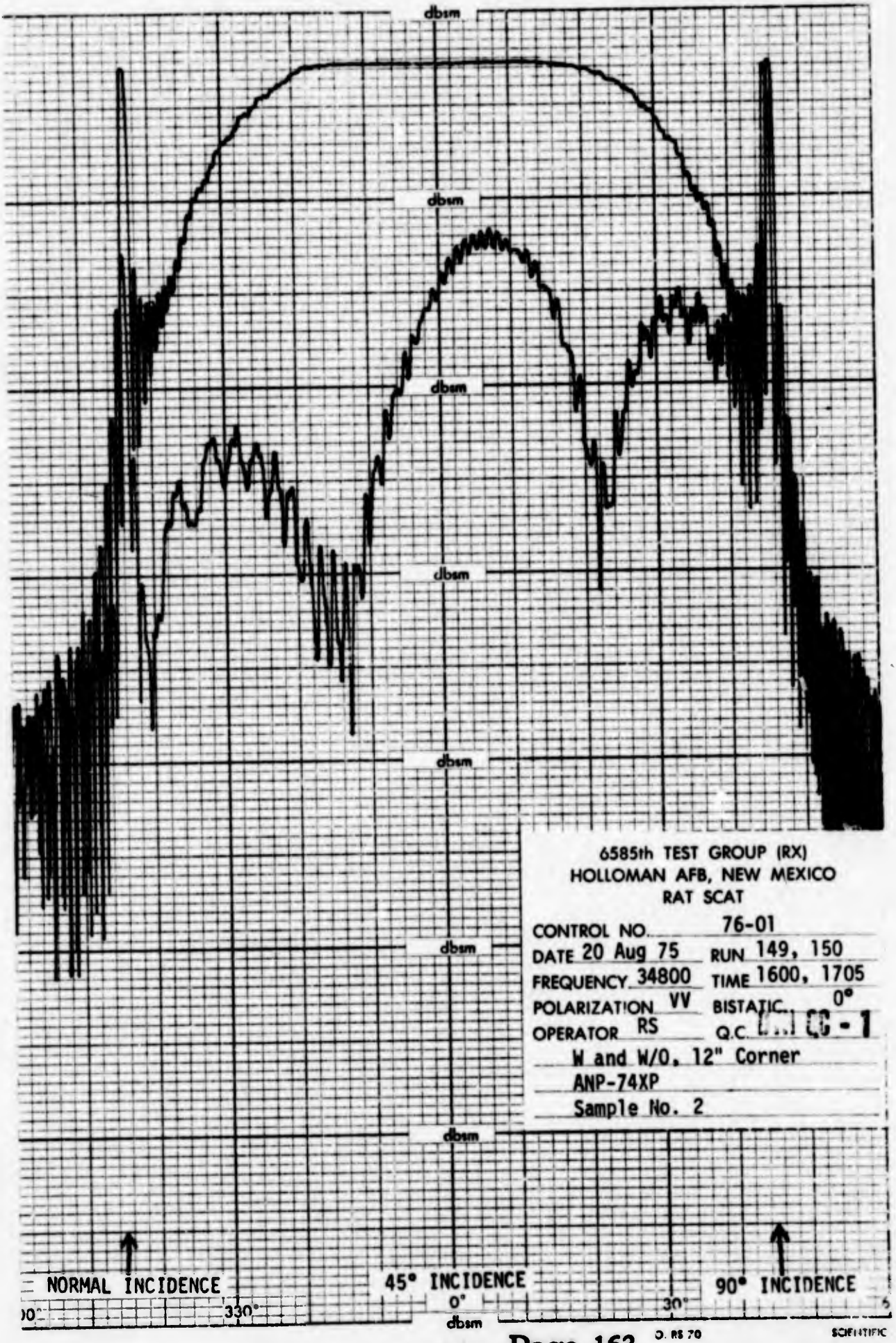
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 151, 152
FREQUENCY 34800 TIME 1610, 1650
POLARIZATION HH BISTATIC 0°
OPERATOR RS Q.C. DWI CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
dbsm
RS 70
SCIENTIFIC


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
00
330
45° INCIDENCE
0°
90° INCIDENCE
30
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 151M, 152M
FREQUENCY 34800 TIME 1610, 1650
POLARIZATION HH BISTATIC 0°
OPERATOR RS Q.C. DNI QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2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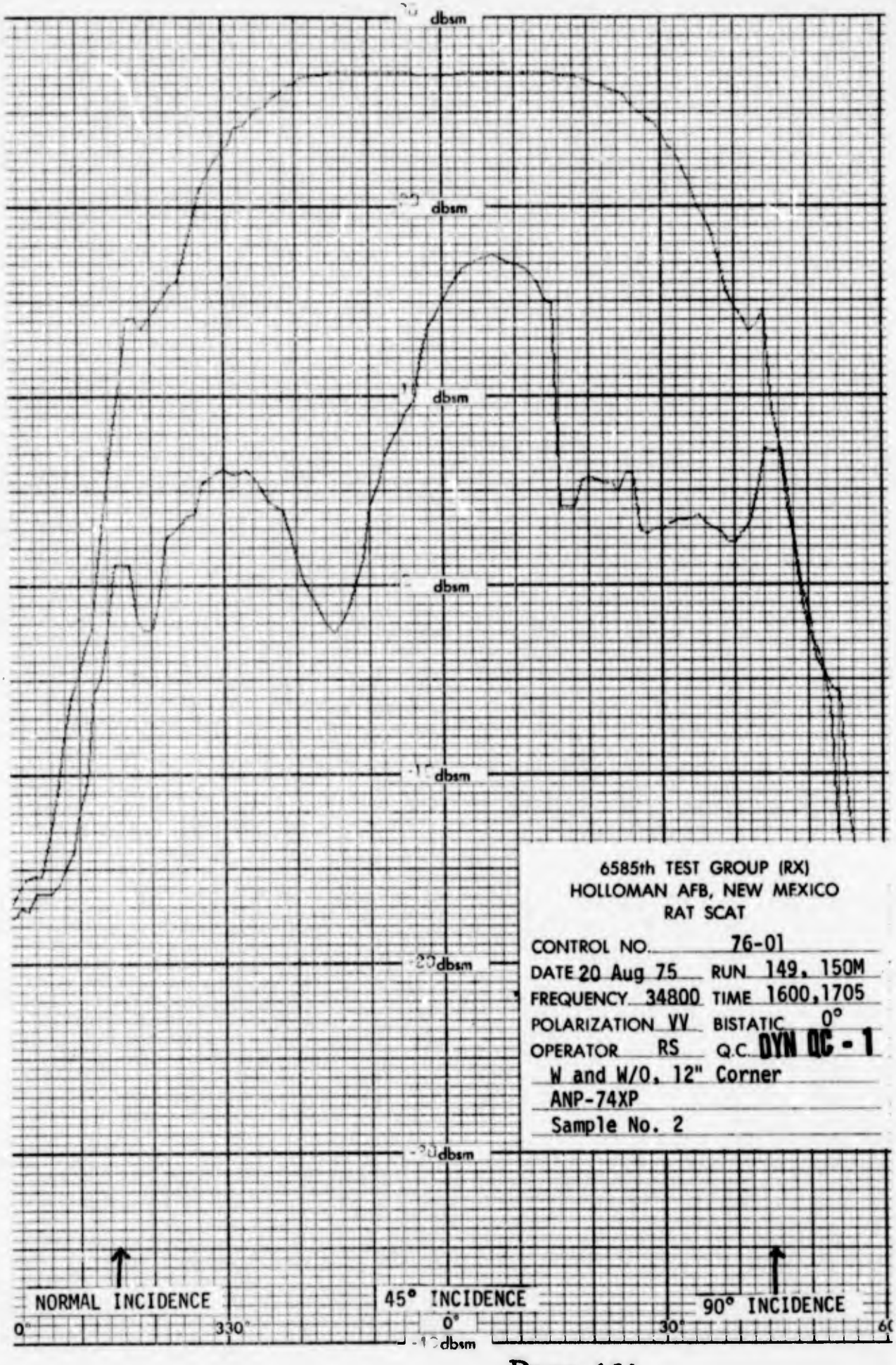
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75
RUN 149, 150
FREQUENCY 34800
TIME 1600, 1705
POLARIZATION VV
BISTATIC 0°
OPERATOR RS
Q.C. CC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm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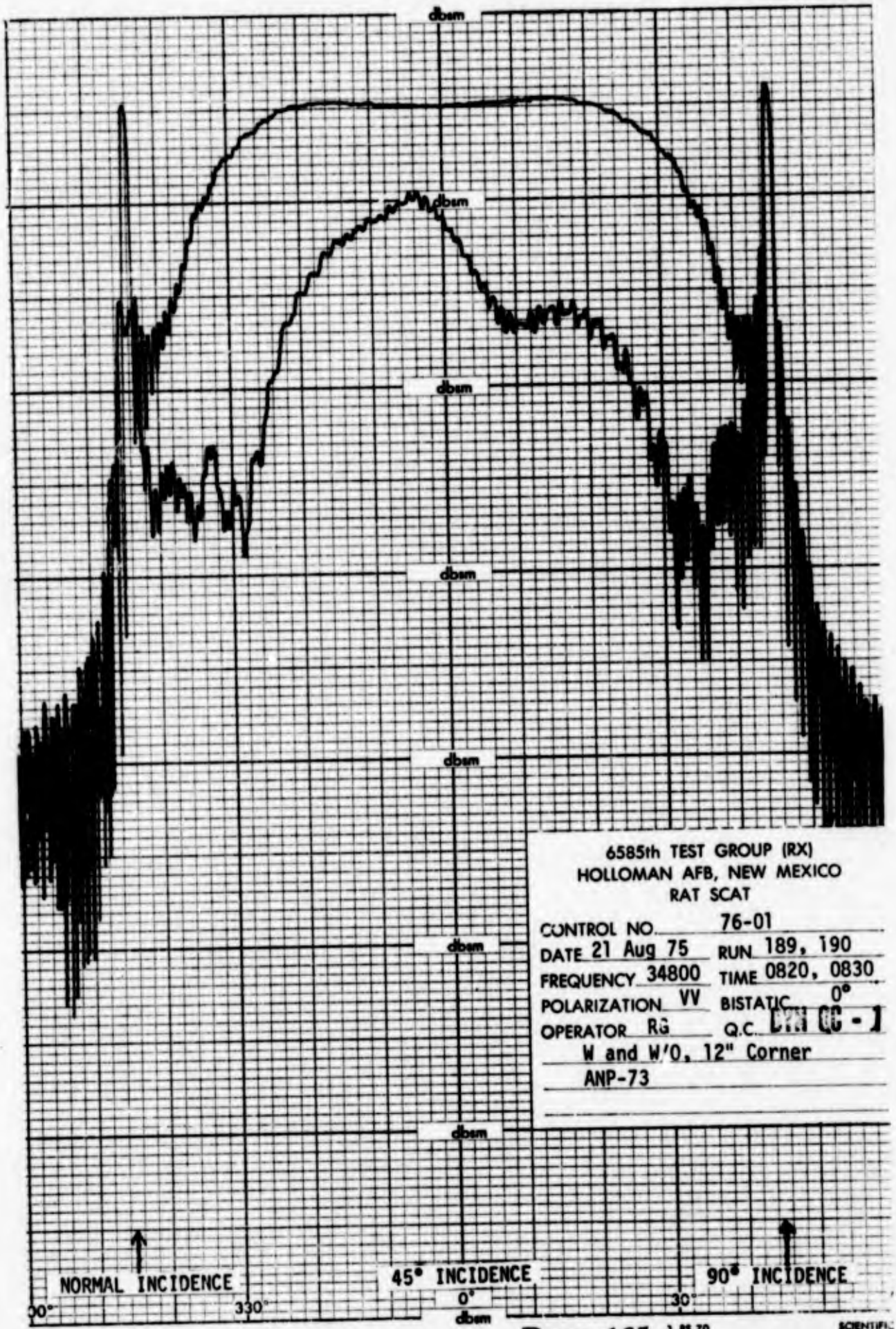
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Aug 75 RUN 149, 150M
FREQUENCY 34800 TIME 1600,1705
POLARIZATION VV BISTATIC 0°
OPERATOR RS Q.C. DYN QC - 1
W and W/O, 12" Corner
ANP-74XP
Sample No. 2
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
0°
30°
dbsm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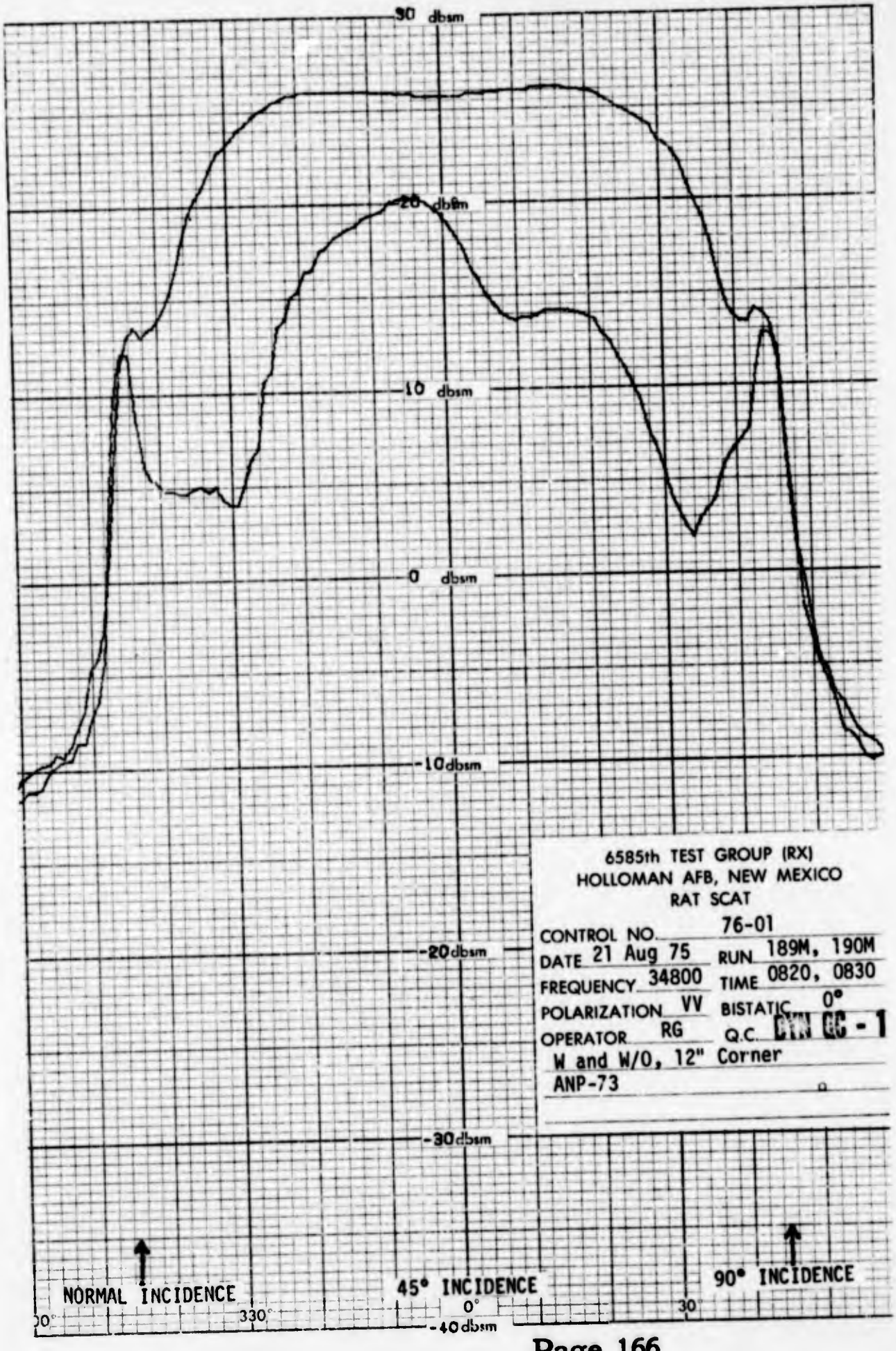
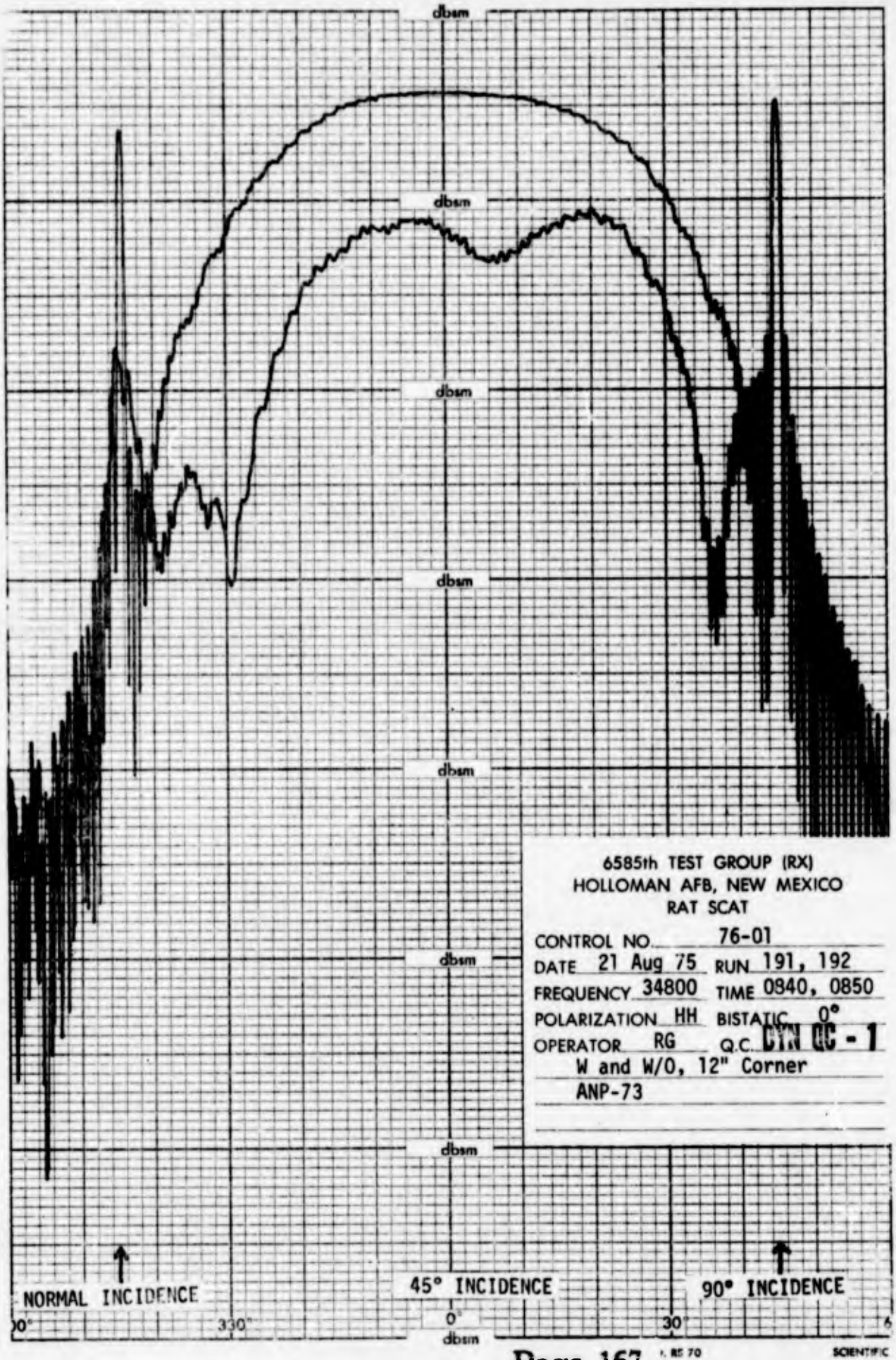
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 189, 190
FREQUENCY 34800
TIME 0820, 0830
POLARIZATION VV
BISTATIC 0°
OPERATOR RG
Q.C. DRA CC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 189M, 190M
FREQUENCY 34800
TIME 0820, 0830
POLARIZATION VV
BISTATIC 0°
OPERATOR RG
Q.C. DTN GC - 1
W and W/O, 12" Corner
ANP-73


dbsm
dbsm
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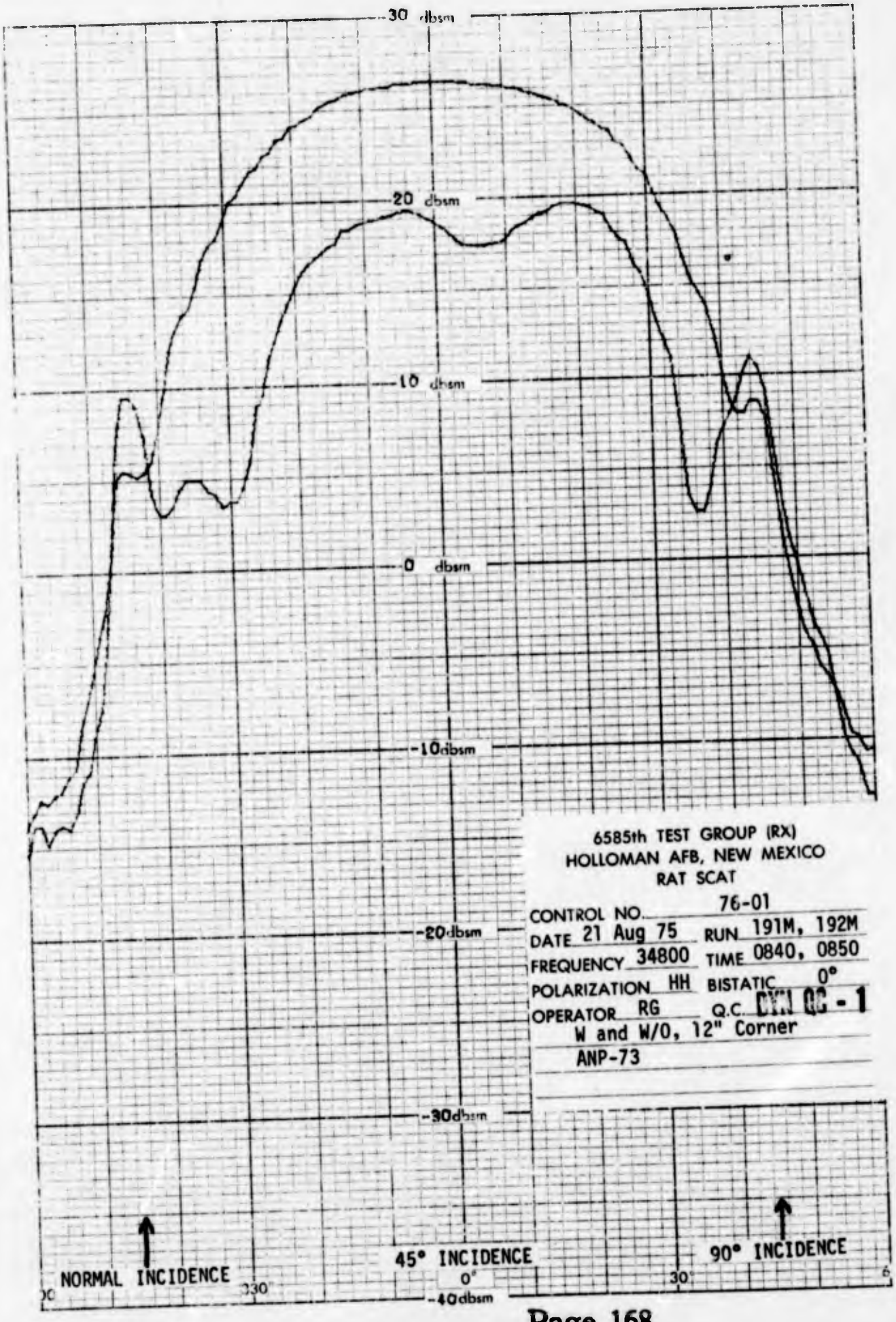
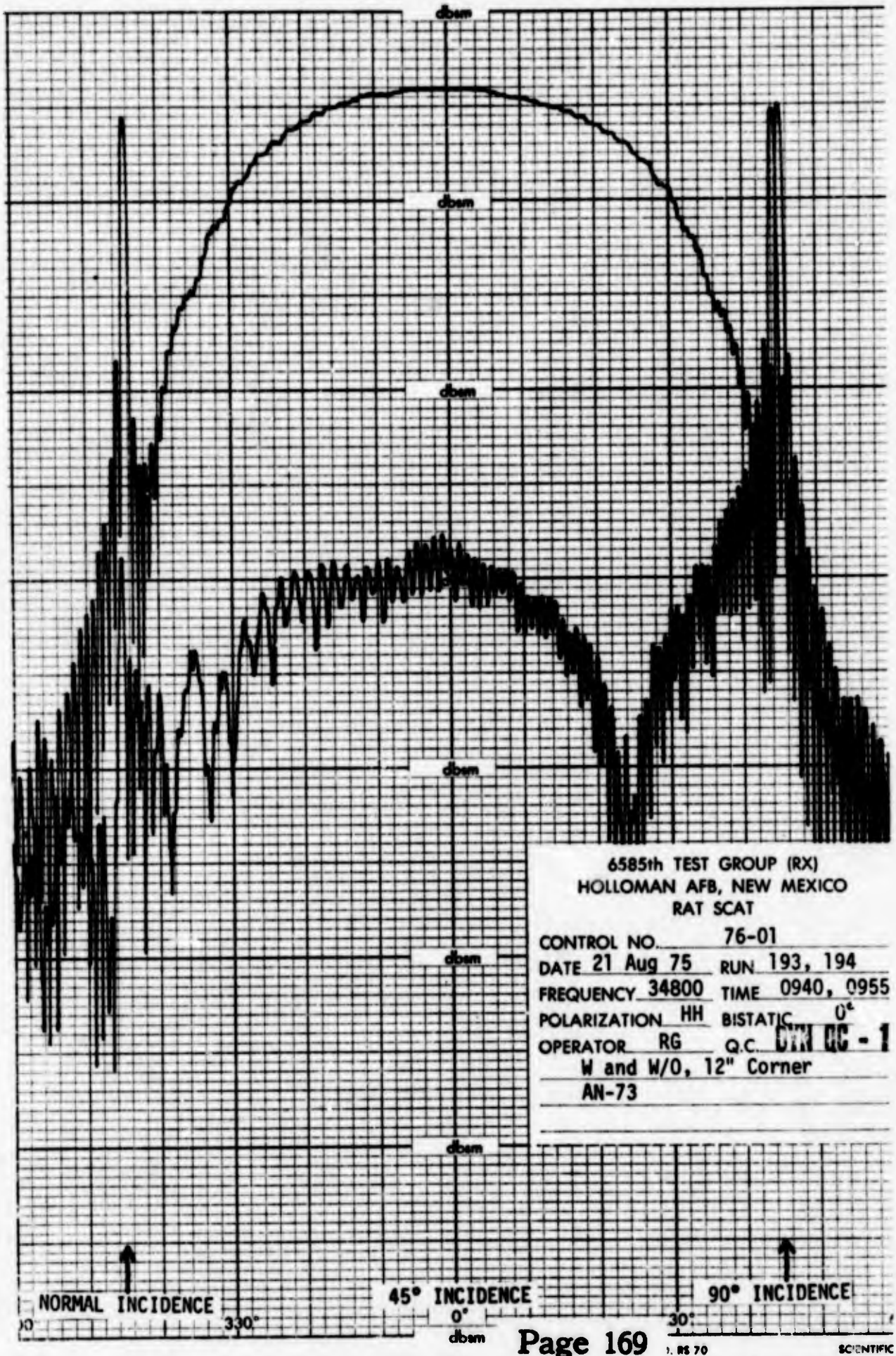
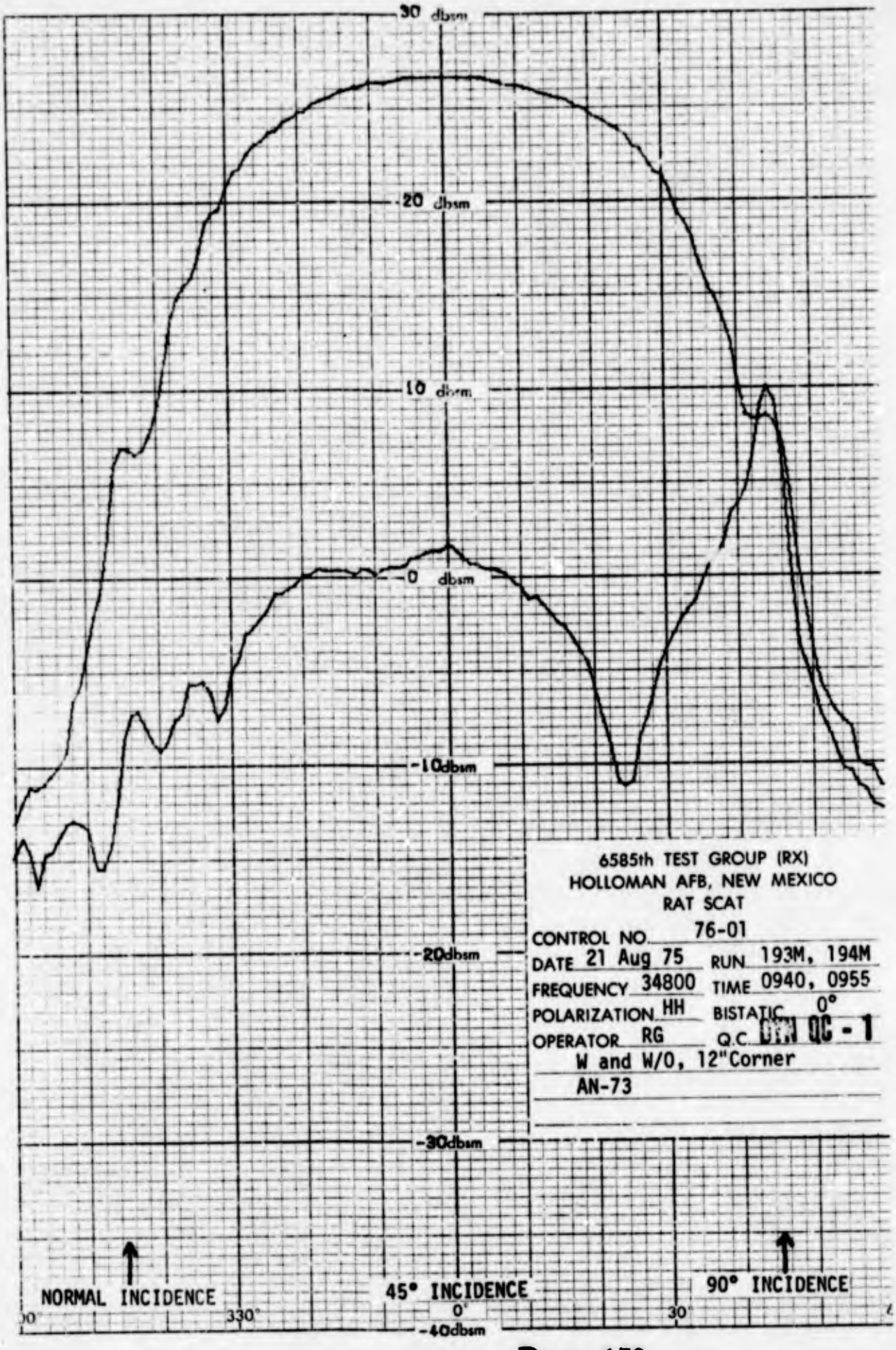
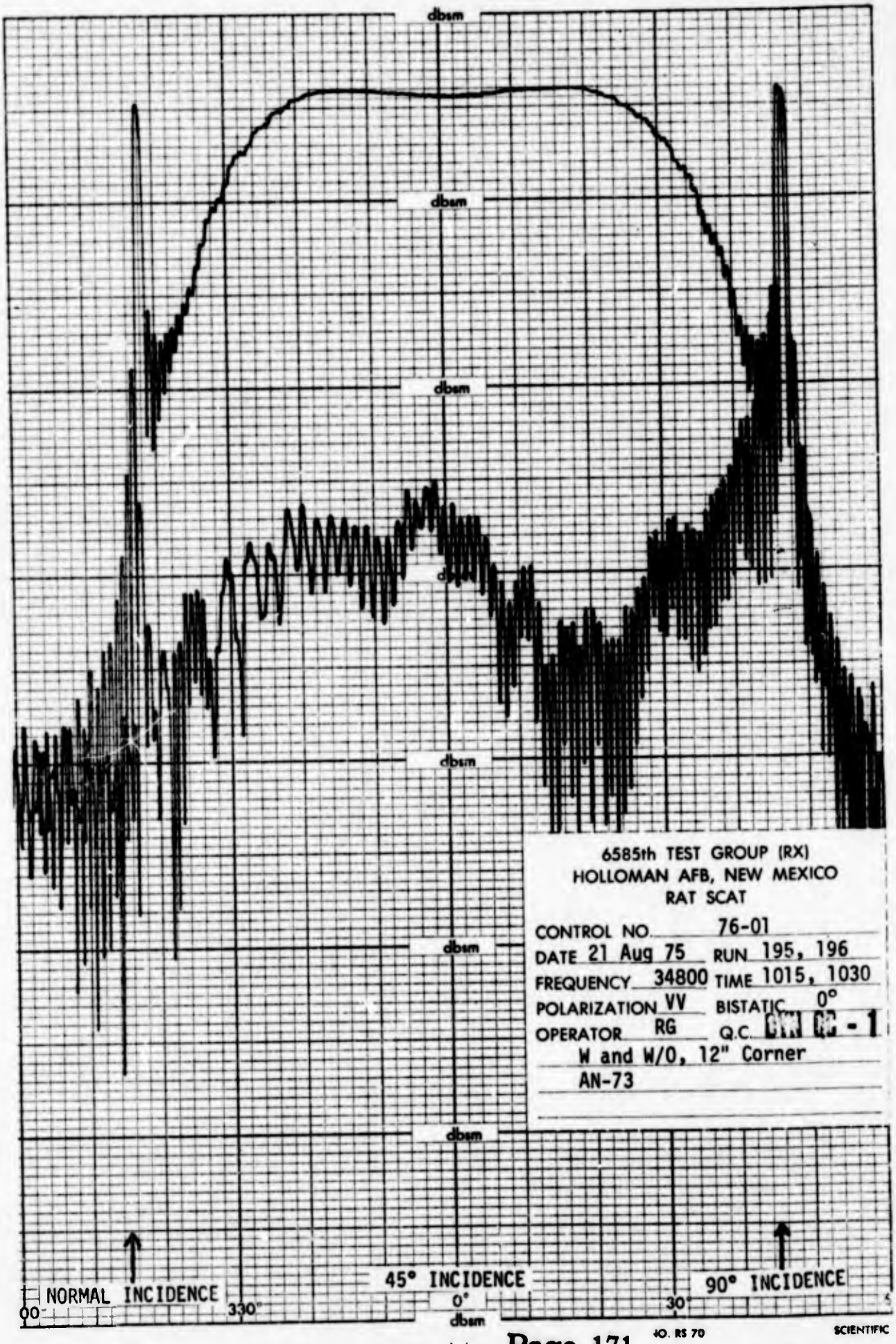
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 191, 192
FREQUENCY 34800 TIME 0840, 0850
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DTN QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 191M, 192M
FREQUENCY 34800
TIME 0840, 0850
POLARIZATION HH
BISTATIC 0°
OPERATOR RG
Q.C. CH1 QC - 1
W and W/O, 12" Corner
ANP-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°


dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 193, 194
FREQUENCY 34800 TIME 0940, 0955
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DTN QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm
SCIENTIFIC


30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 193M, 194M
FREQUENCY 34800
TIME 0940, 0955
POLARIZATION HH
BISTATIC 0°
OPERATOR RG
Q.C. OPN QC - 1
W and W/O, 12"Corner
AN-73


dbsm
dbsm
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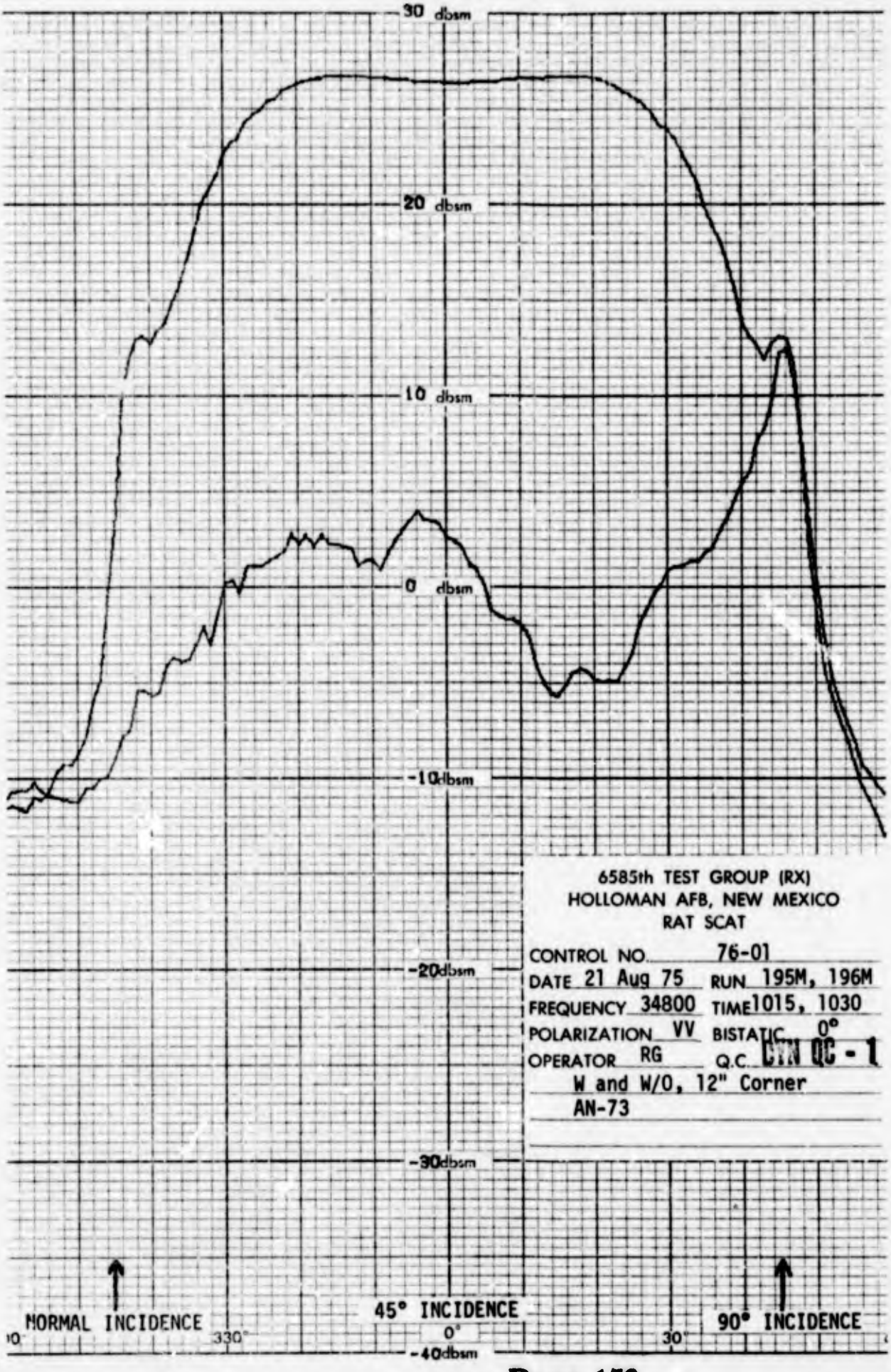
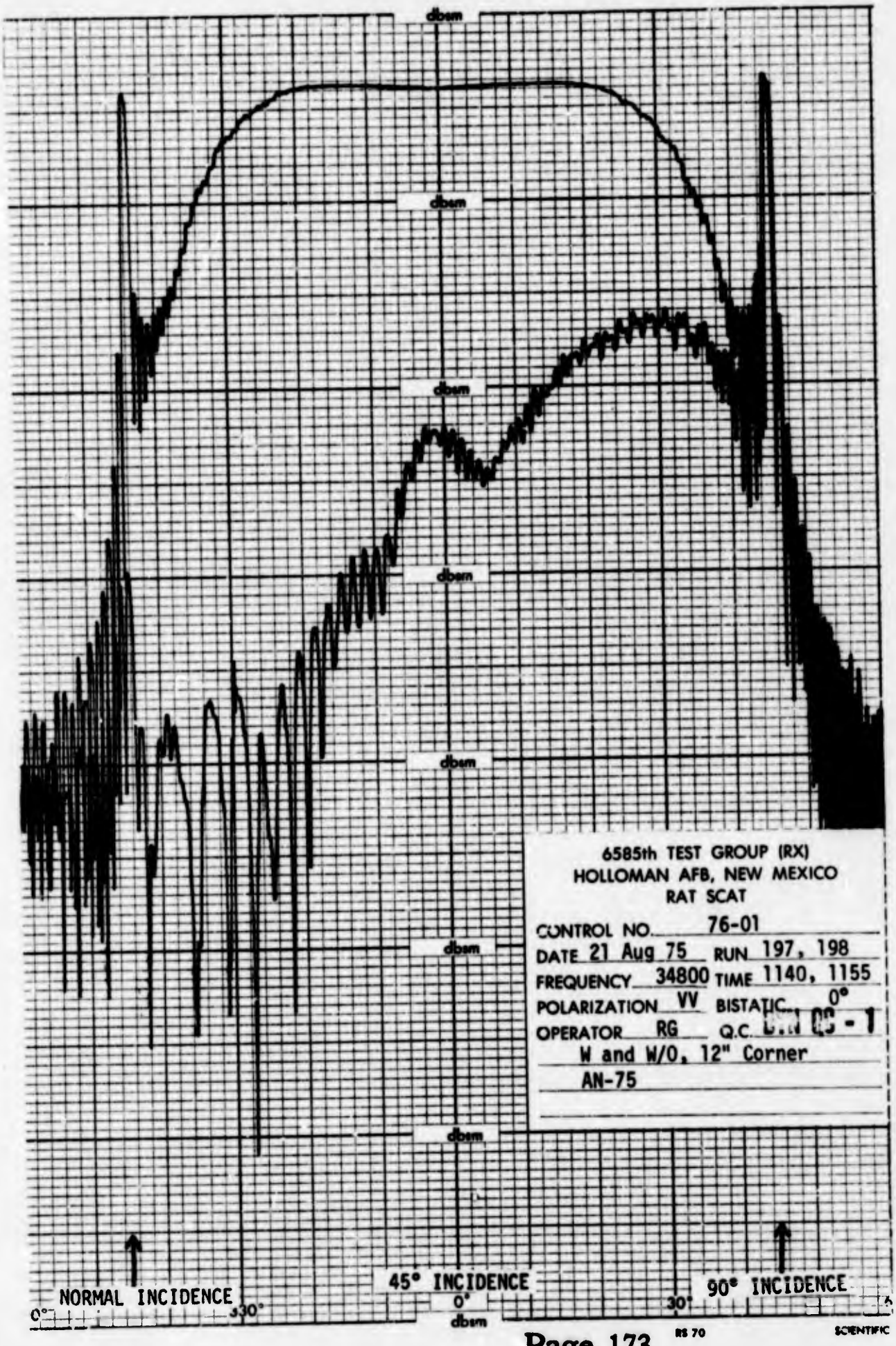
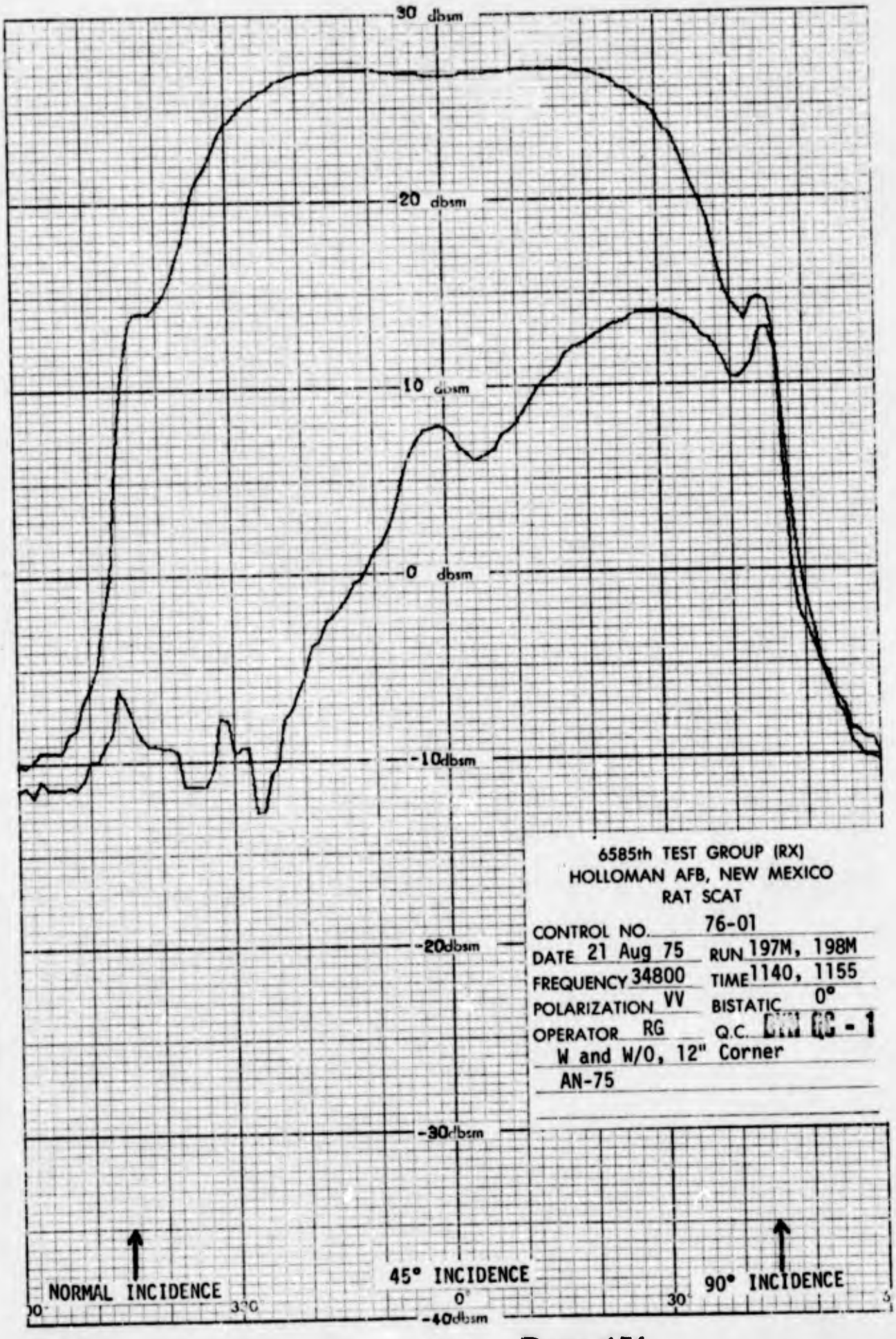
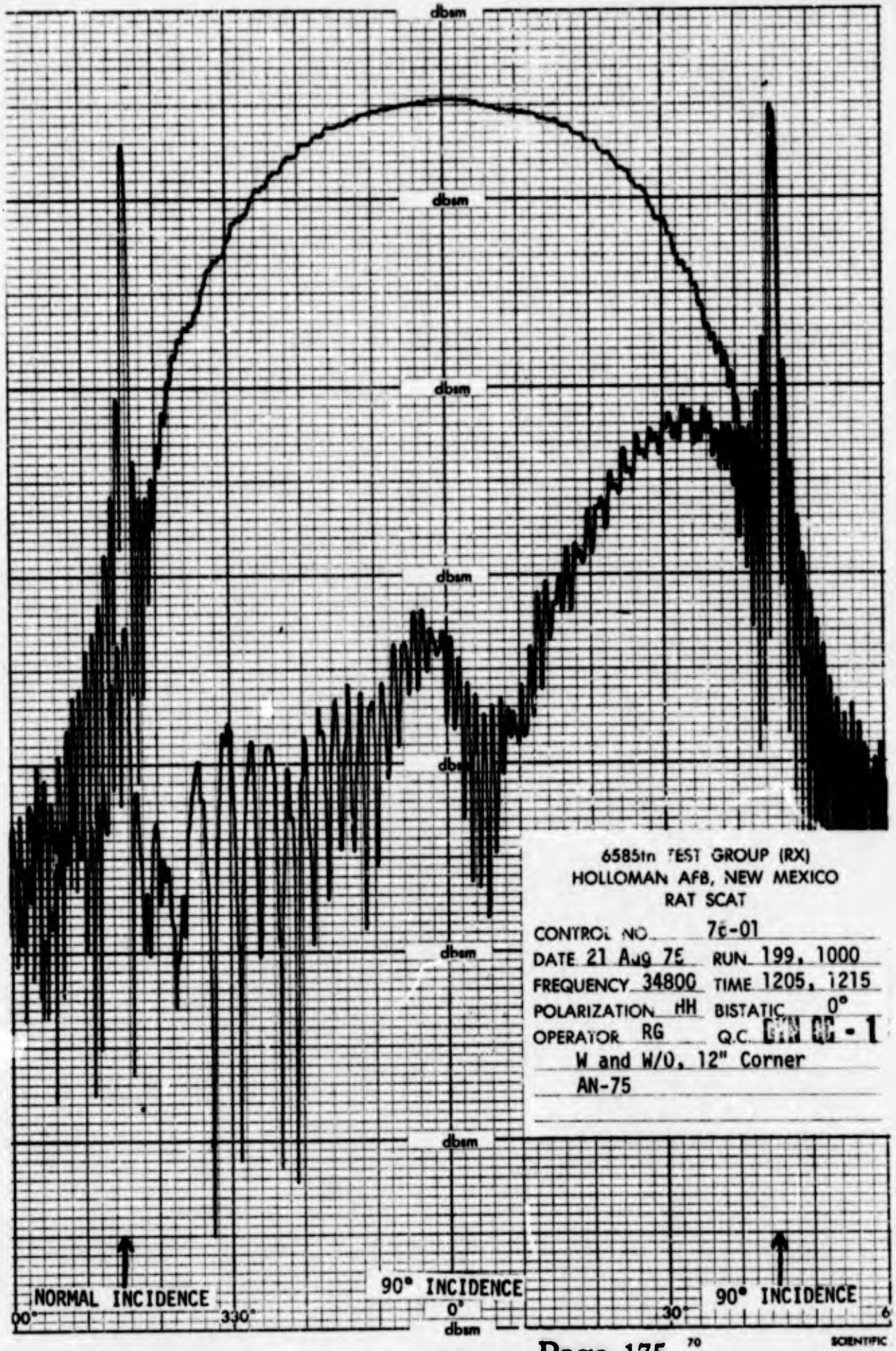
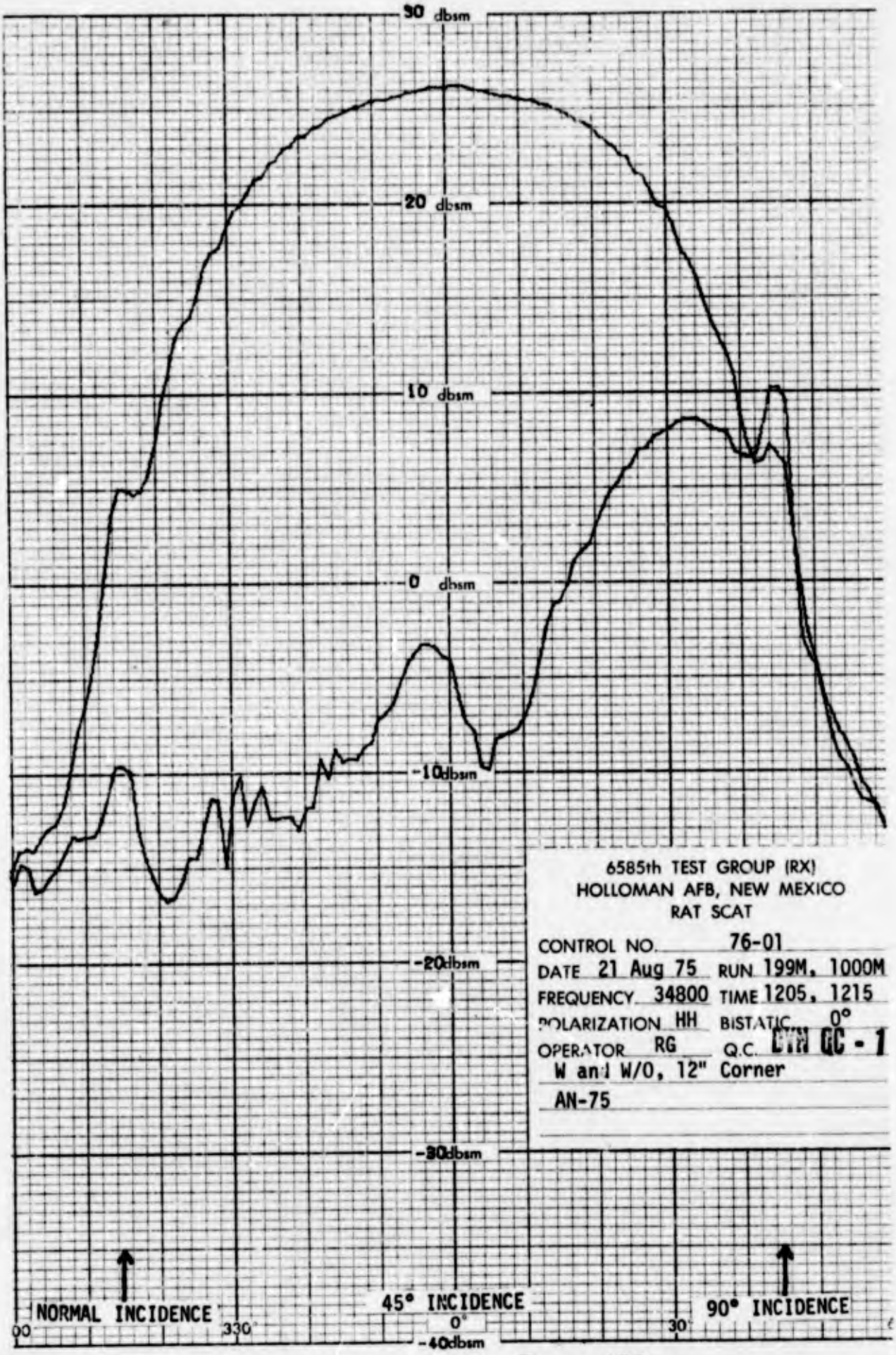
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 195, 196
FREQUENCY 34800 TIME 1015, 1030
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. GWM
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
00
330°
45° INCIDENCE
0°
30°
90° INCIDENCE
dbsm

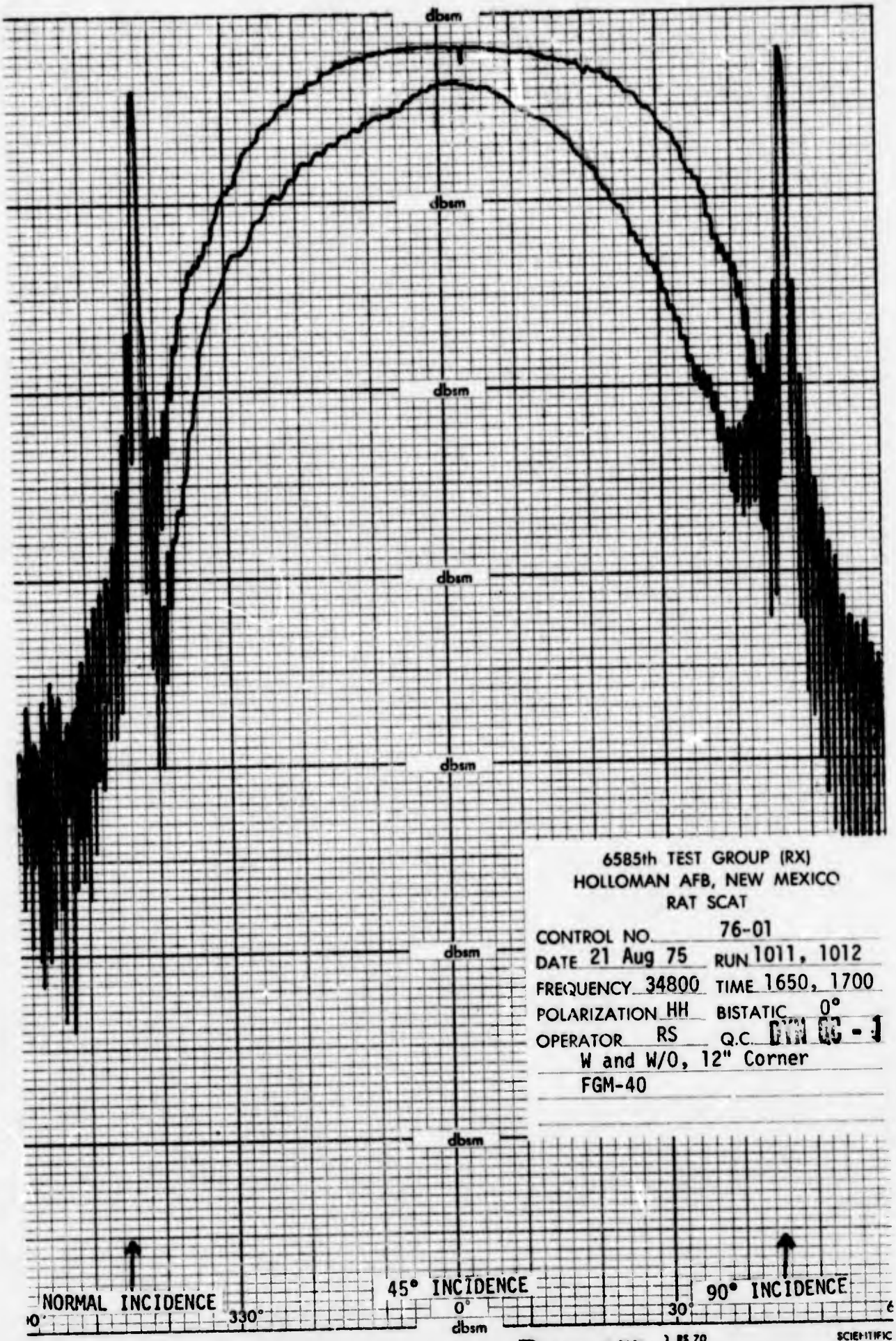

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 195M, 196M
FREQUENCY 34800 TIME 1015, 1030
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. CTN QC - 1
W and W/O, 12" Corner
AN-73
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°

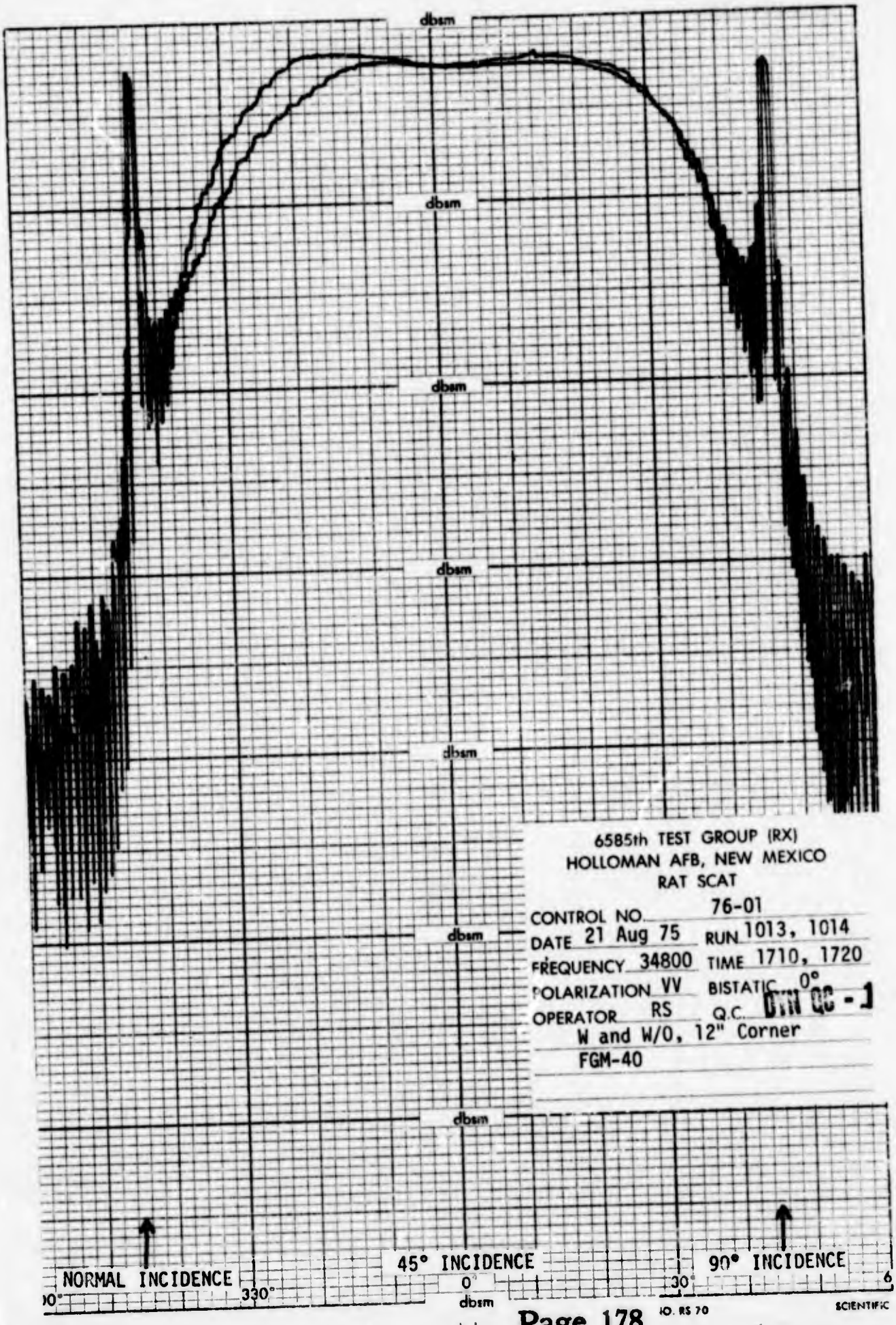

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 197, 198
FREQUENCY 34800 TIME 1140, 1155
POLARIZATION VV BISTATIC 0°
OPERATOR RG Q.C. D.N 05 - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE

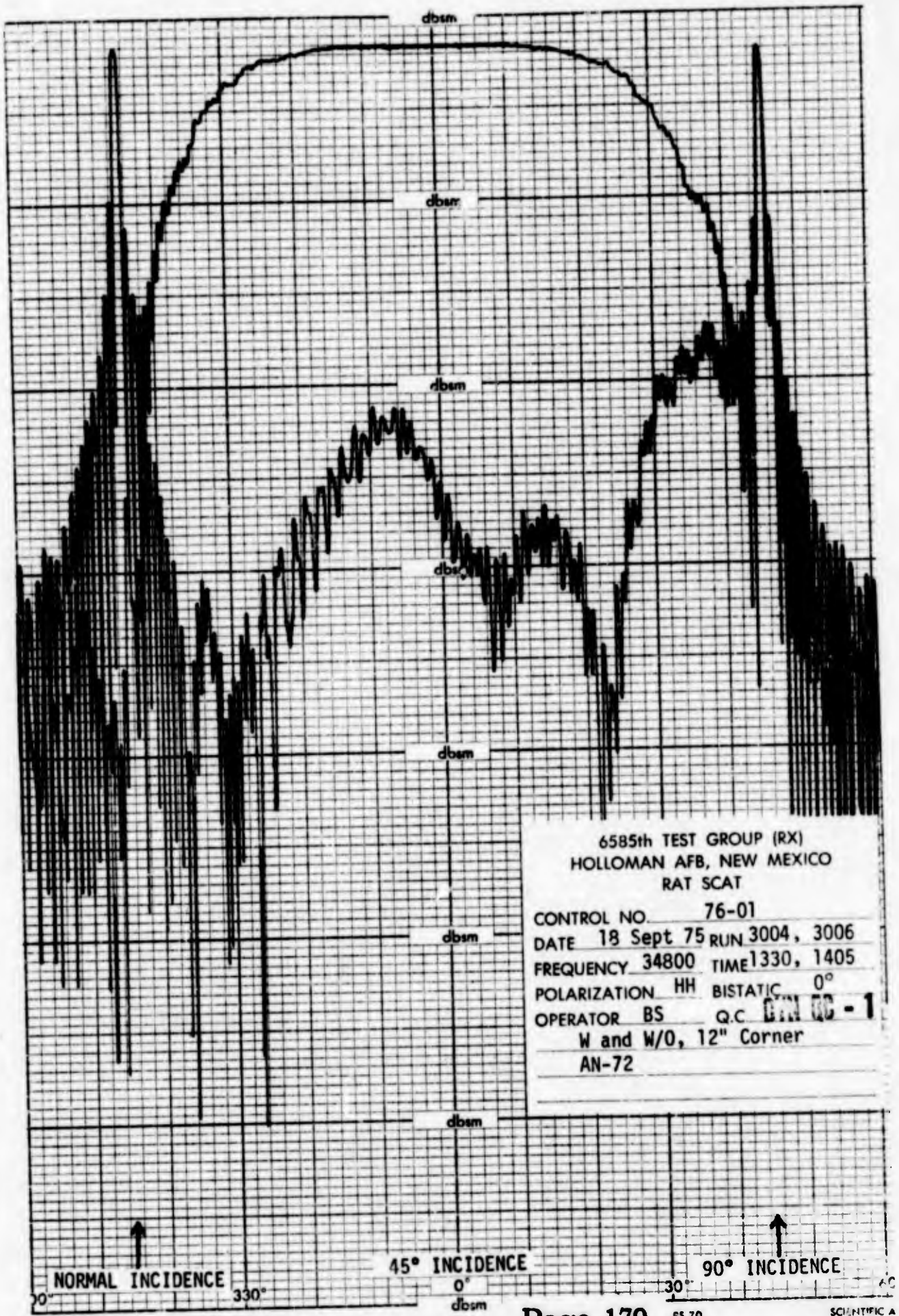

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75
RUN 197M, 198M
FREQUENCY 34800
TIME 1140, 1155
POLARIZATION VV
BISTATIC 0°
OPERATOR RG
Q.C. DRM QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
30°

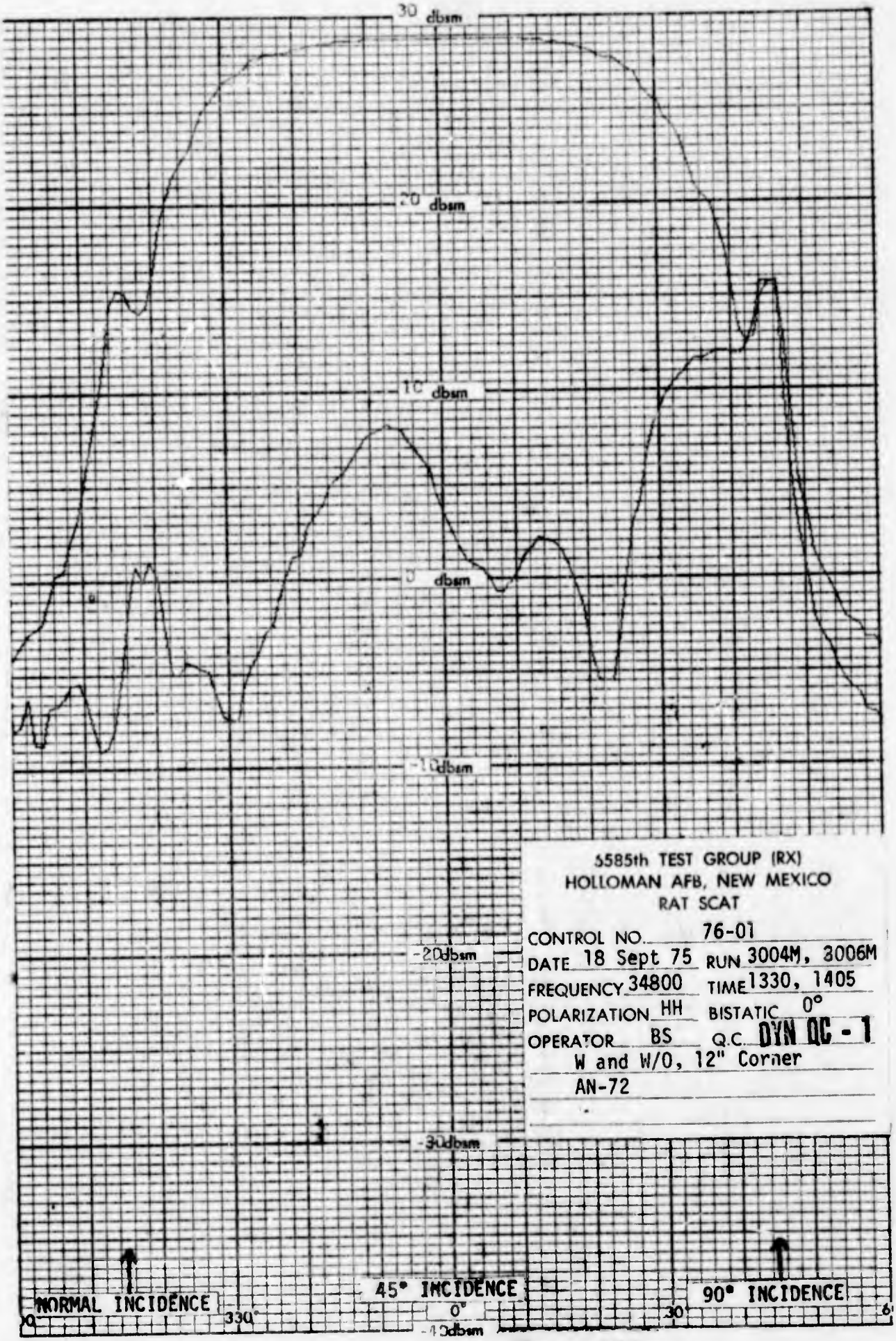

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 76 RUN 199, 1000
FREQUENCY 34800 TIME 1205, 1215
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DIN QC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
00°
330°
90° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
6
70
SCIENTIFIC

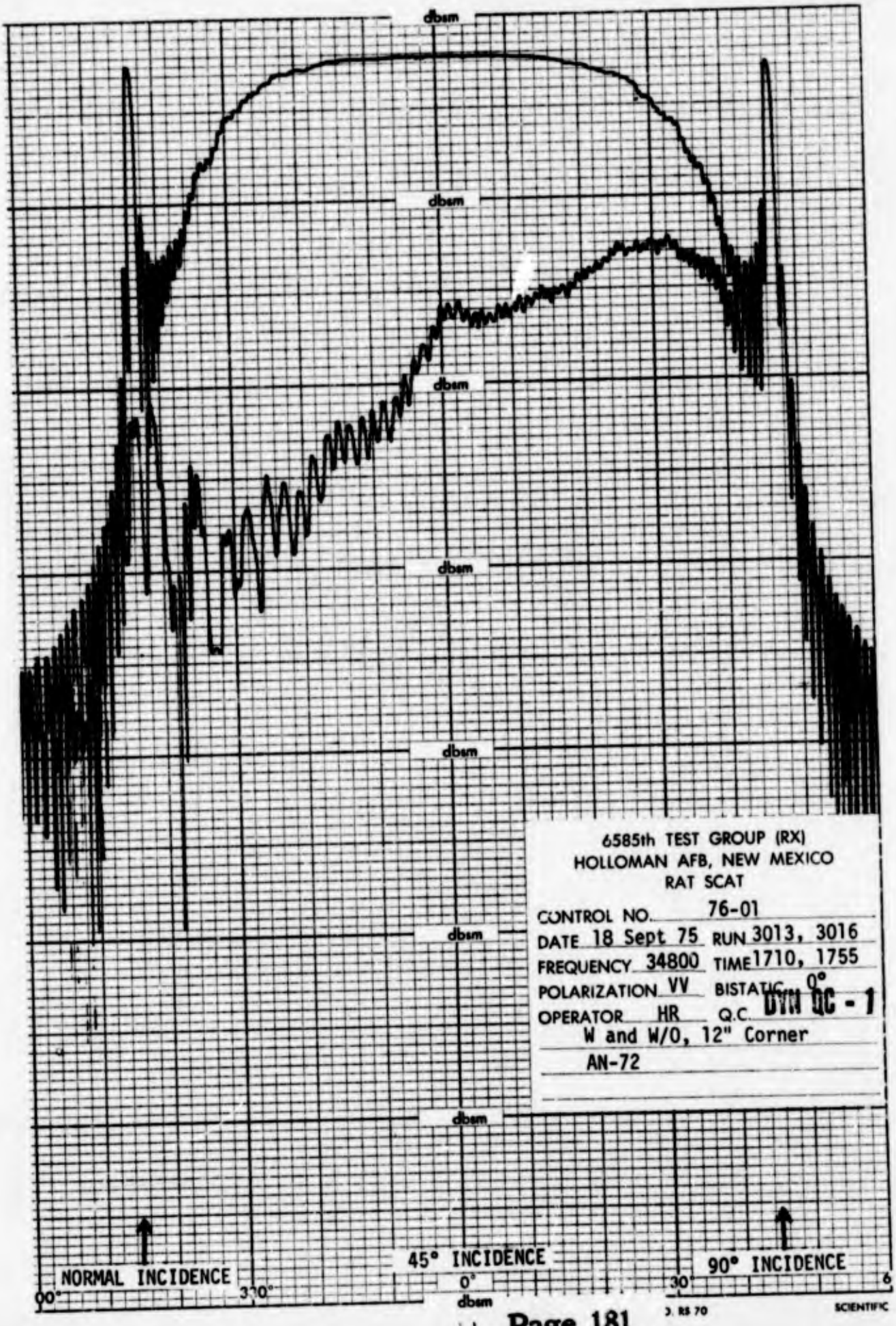

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 199M, 1000M
FREQUENCY 34800 TIME 1205, 1215
POLARIZATION HH BISTATIC 0°
OPERATOR RG Q.C. DTM GC - 1
W and W/O, 12" Corner
AN-75
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00
330
0°
30

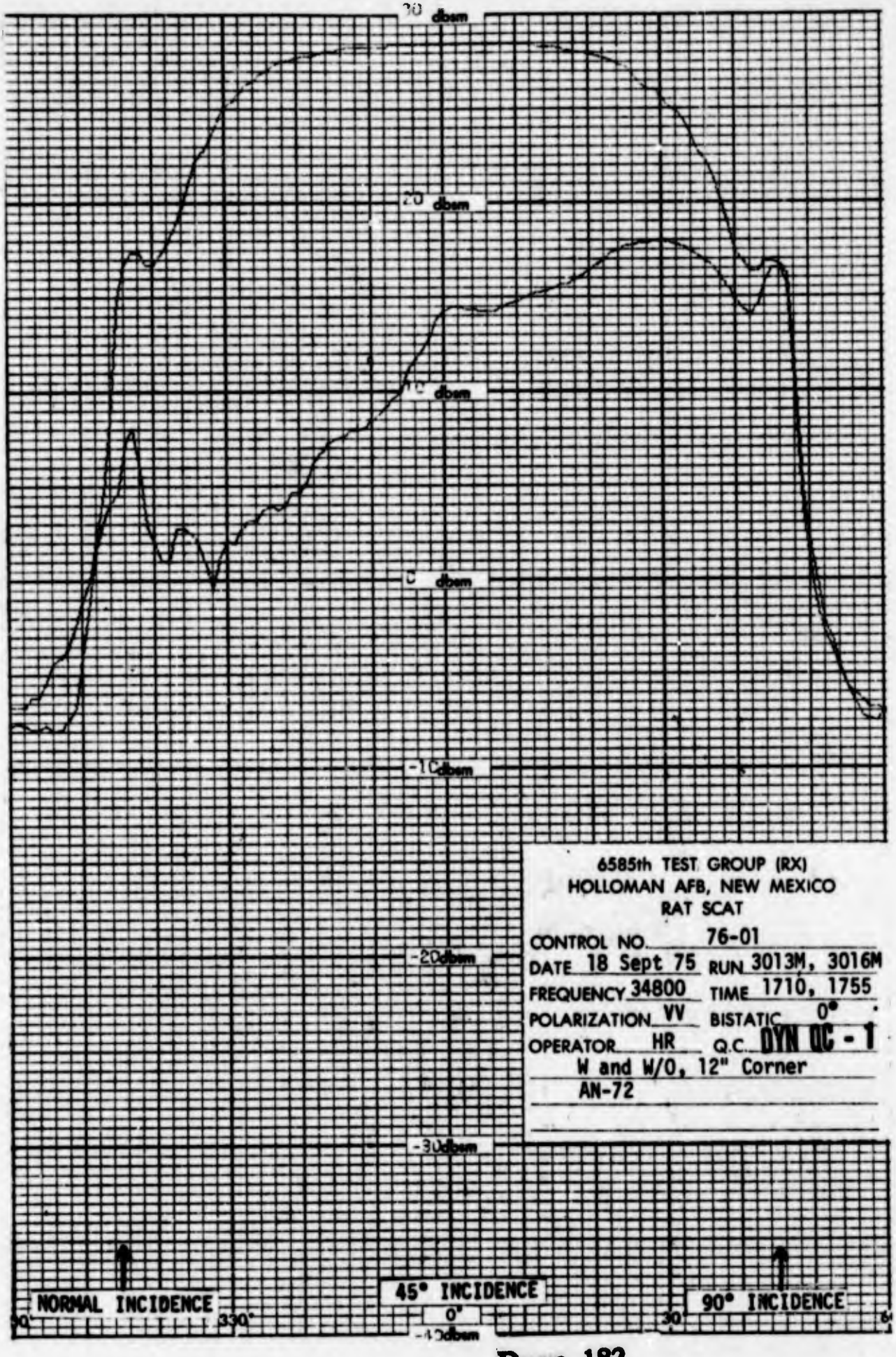

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 1011, 1012
FREQUENCY 34800 TIME 1650, 1700
POLARIZATION HH BISTATIC 0°
OPERATOR RS Q.C.
W and W/O, 12" Corner
FGM-40
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE

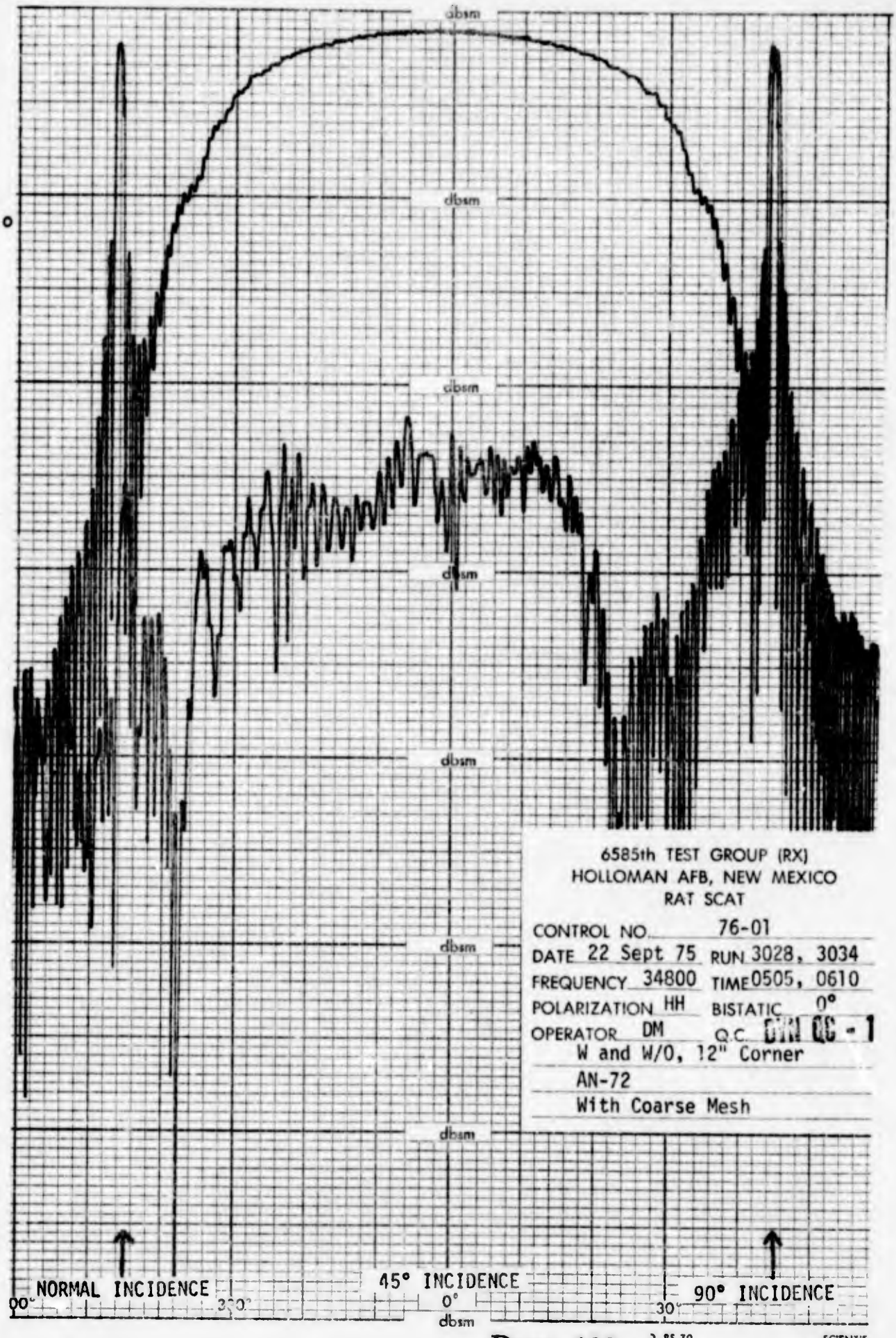

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 21 Aug 75 RUN 1013, 1014
FREQUENCY 34800 TIME 1710, 1720
POLARIZATION VV BISTATIC 0°
OPERATOR RS Q.C. DTW QC - 1
W and W/O, 12" Corner
FGM-40
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm
SCIENTIFIC

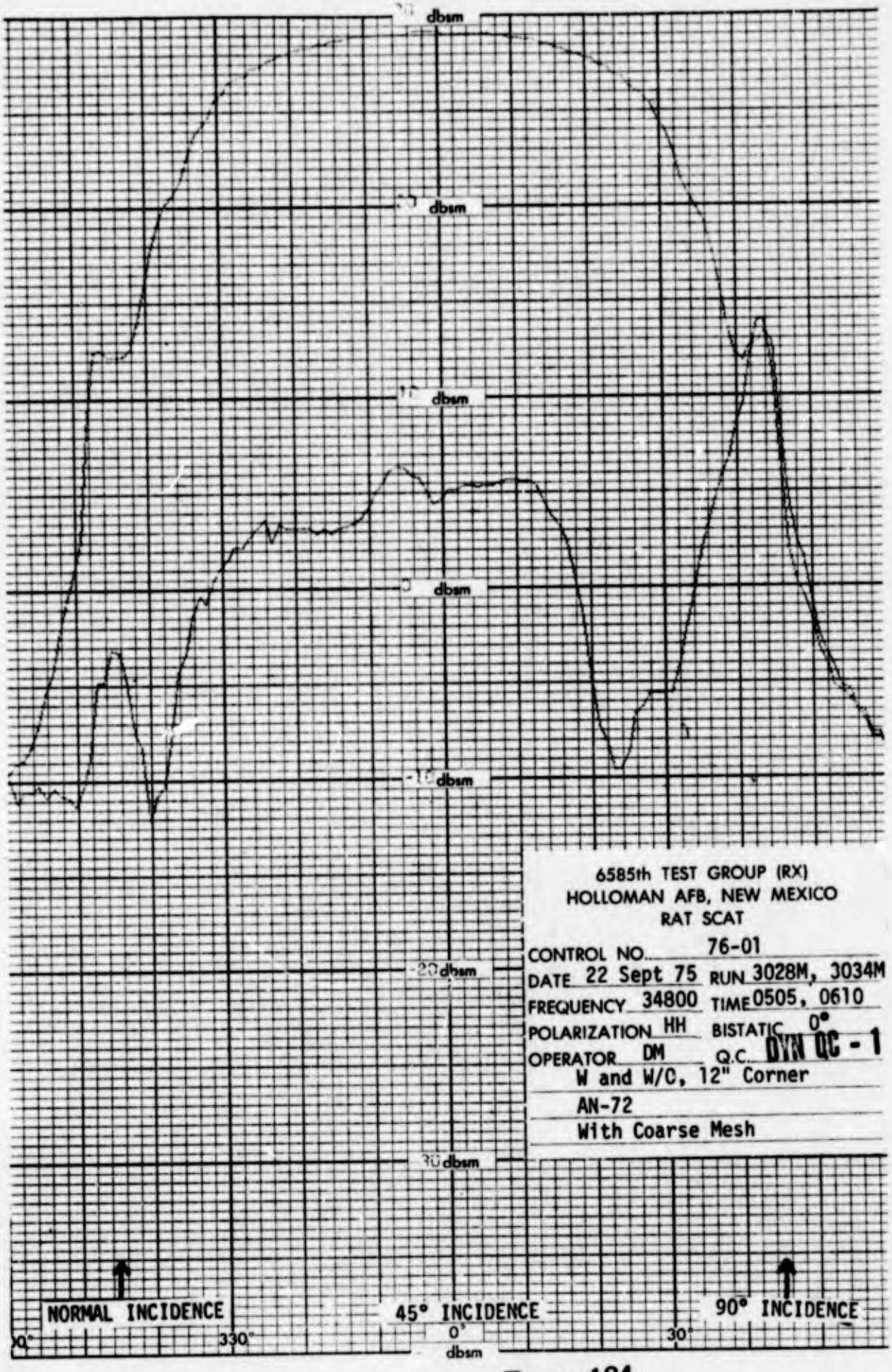

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 18 Sept 75 RUN 3004, 3006
FREQUENCY 34800 TIME 1330, 1405
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

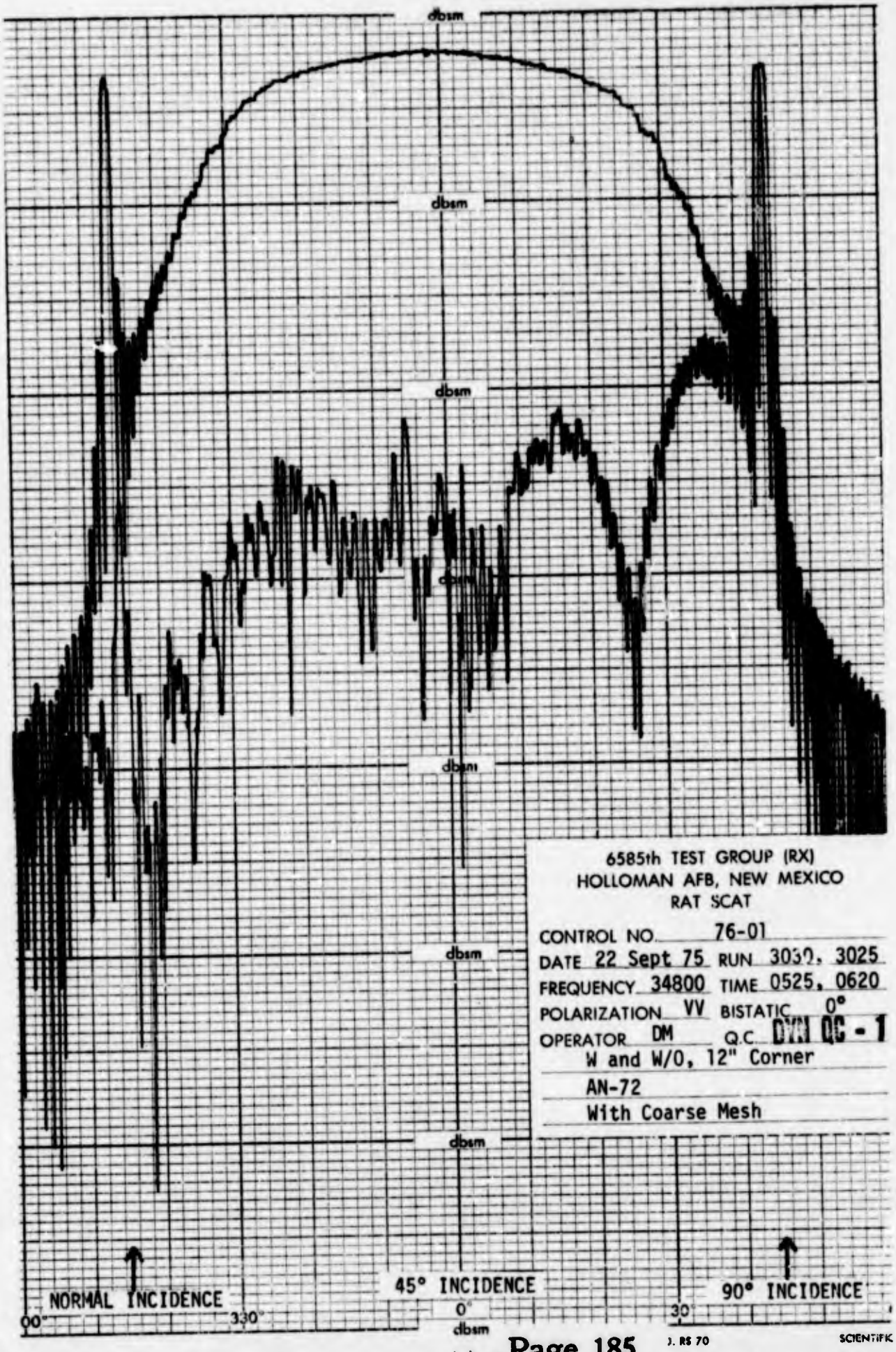

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
5585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 18 Sept 75 RUN 3004M, 3006M
FREQUENCY 34800 TIME 1330, 1405
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
90° INCIDENCE
30°

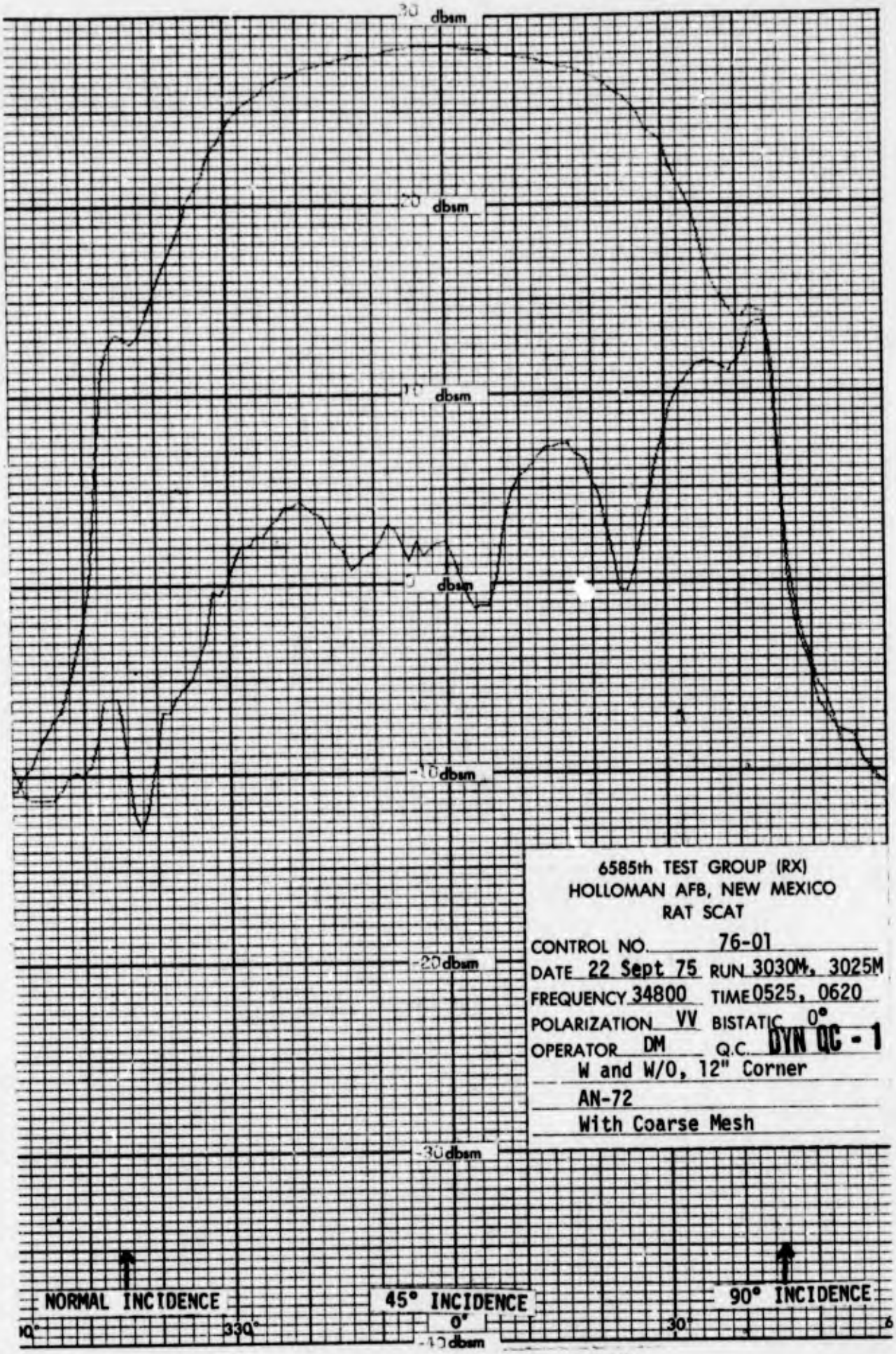

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 18 Sept 75 RUN 3013, 3016
FREQUENCY 34800 TIME 1710, 1755
POLARIZATION VV BISTATIC 0°
OPERATOR HR Q.C. DVH QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
6
SCIENTIFIC

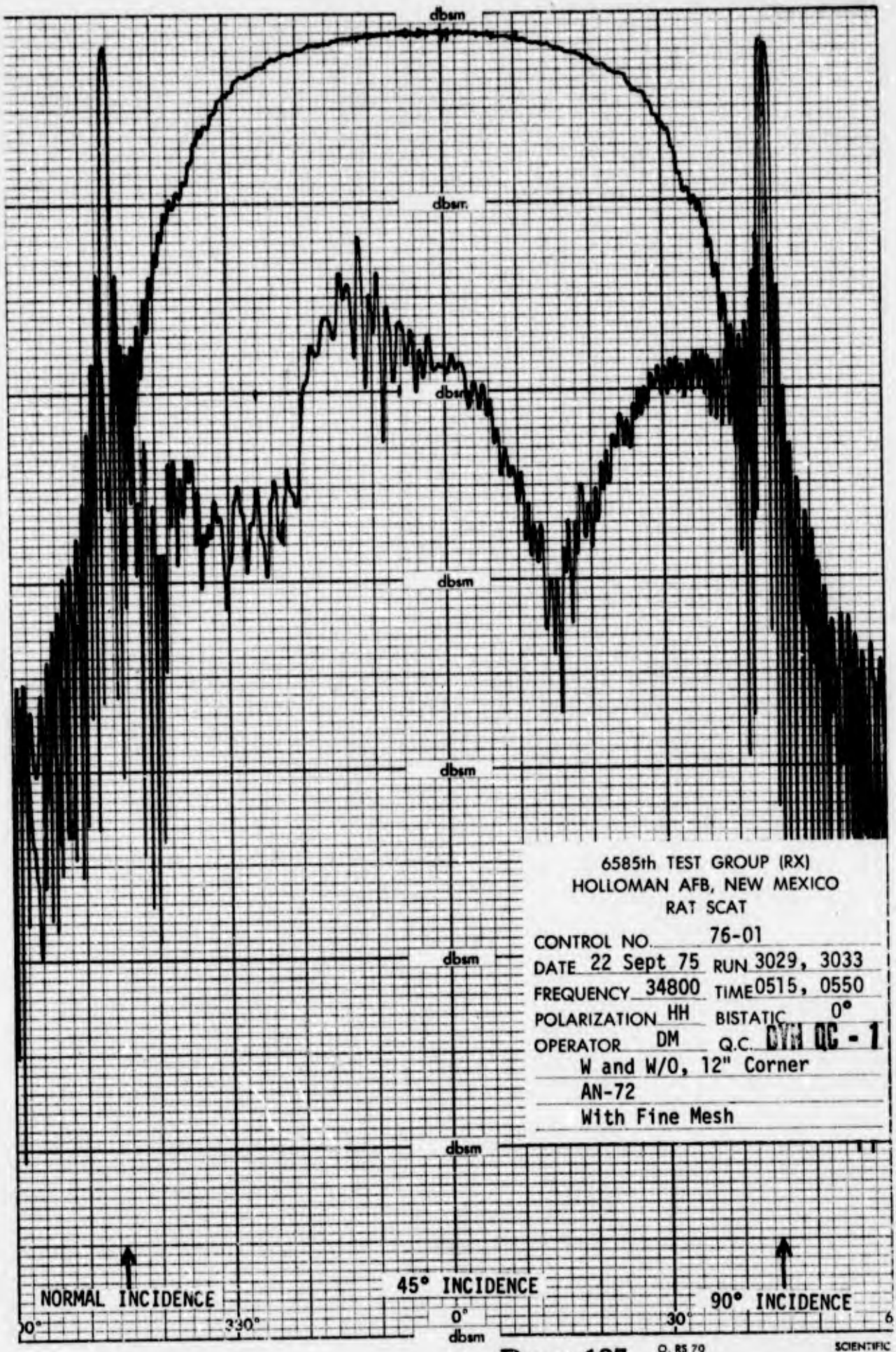

dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 18 Sept 75
RUN 3013M, 3016M
FREQUENCY 34800
TIME 1710, 1755
POLARIZATION VV
BISTATIC 0°
OPERATOR HR
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°

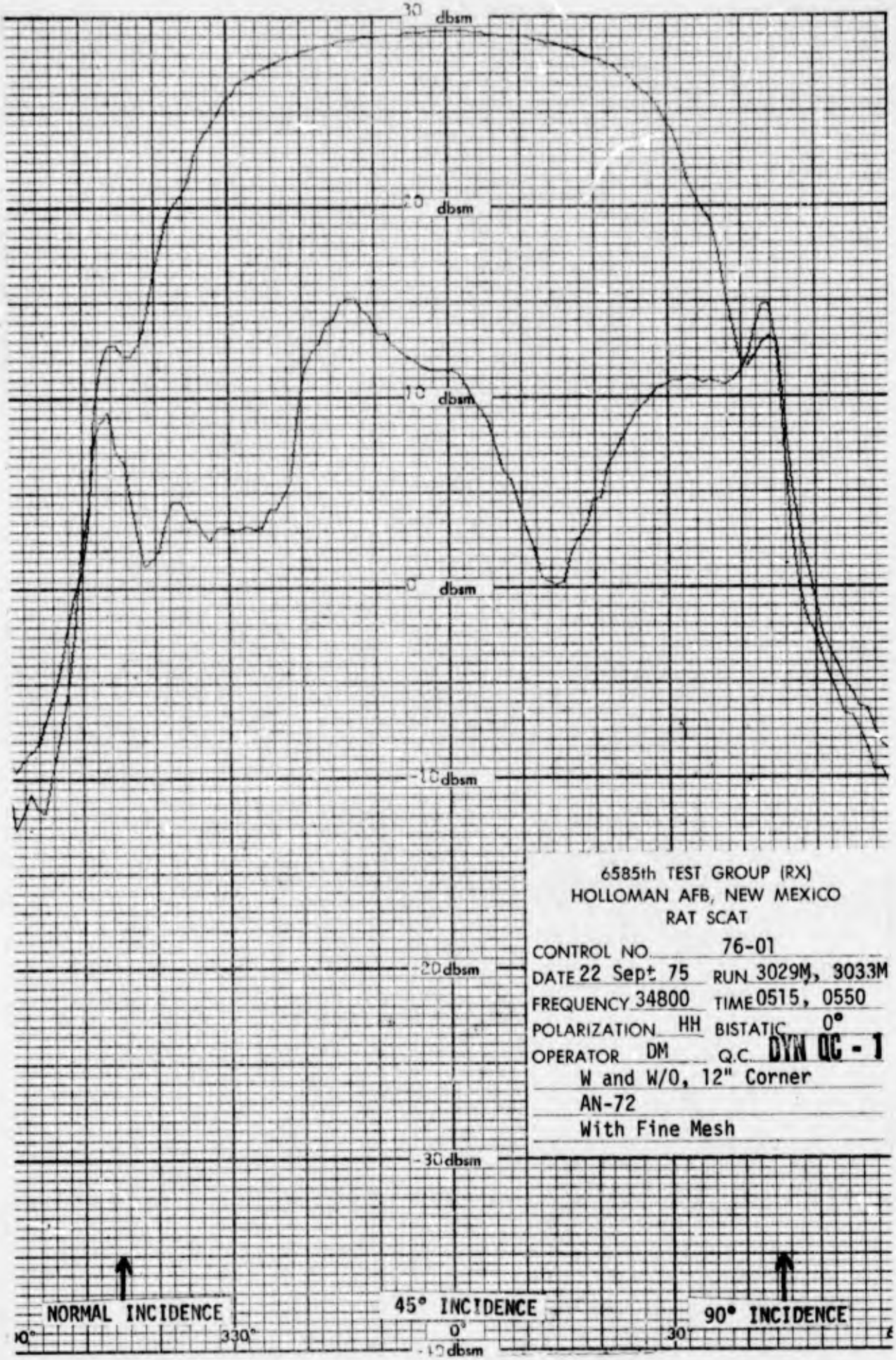

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
0
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3028, 3034
FREQUENCY 34800 TIME 0505, 0610
POLARIZATION HH BISTATIC 0°
OPERATOR DM Q.C. DTN QC - 1
W and W/O, 12" Corner
AN-72
With Coarse Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
0°
30°
dbsm

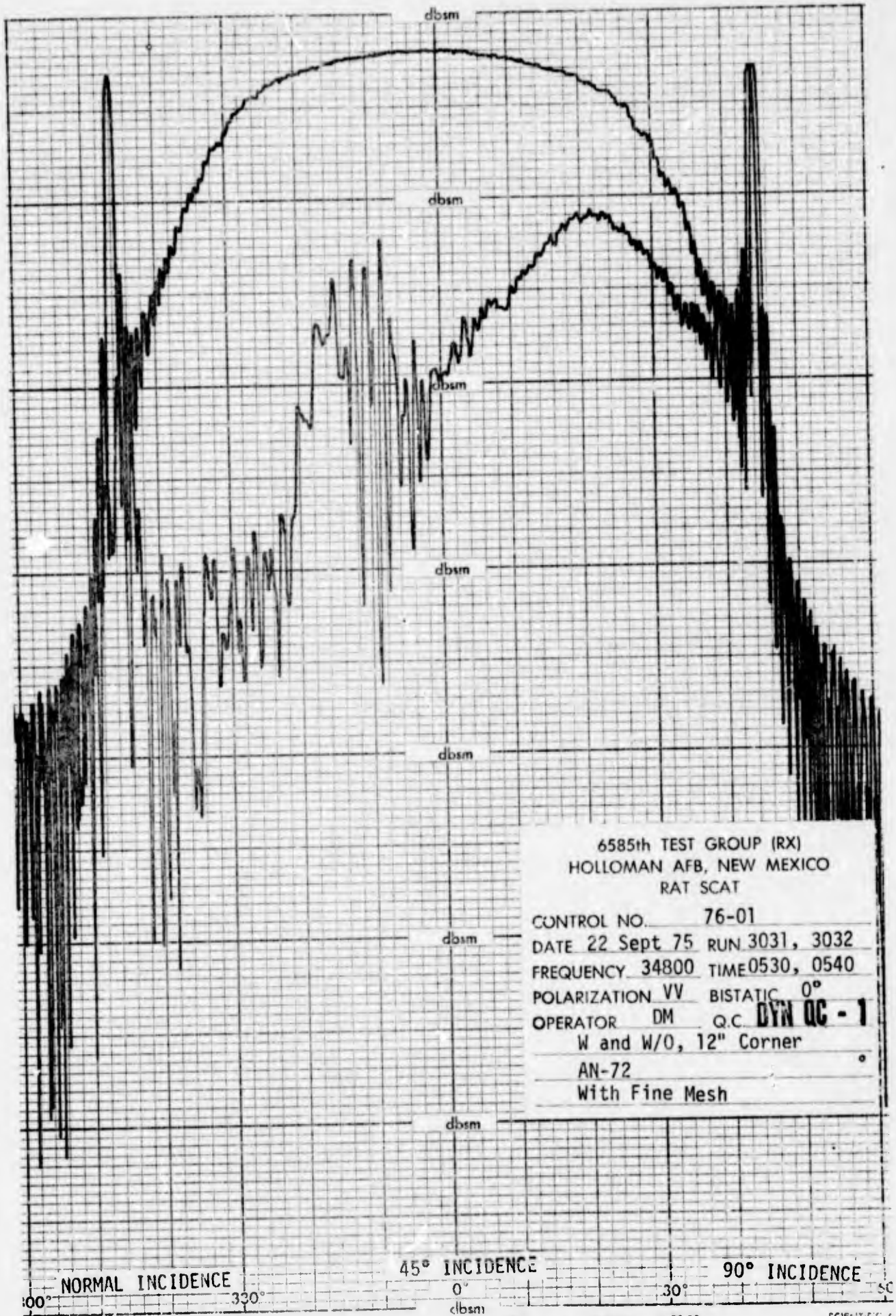

dbsm
dbsm
dbsm
dbsm
-20 dbsm
-30 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3028M, 3034M
FREQUENCY 34800 TIME 0505, 0610
POLARIZATION HH BISTATIC 0°
OPERATOR DM Q.C. DYN QC - 1
W and W/C, 12" Corner
AN-72
With Coarse Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
90°
330°
0°
30°
dbsm

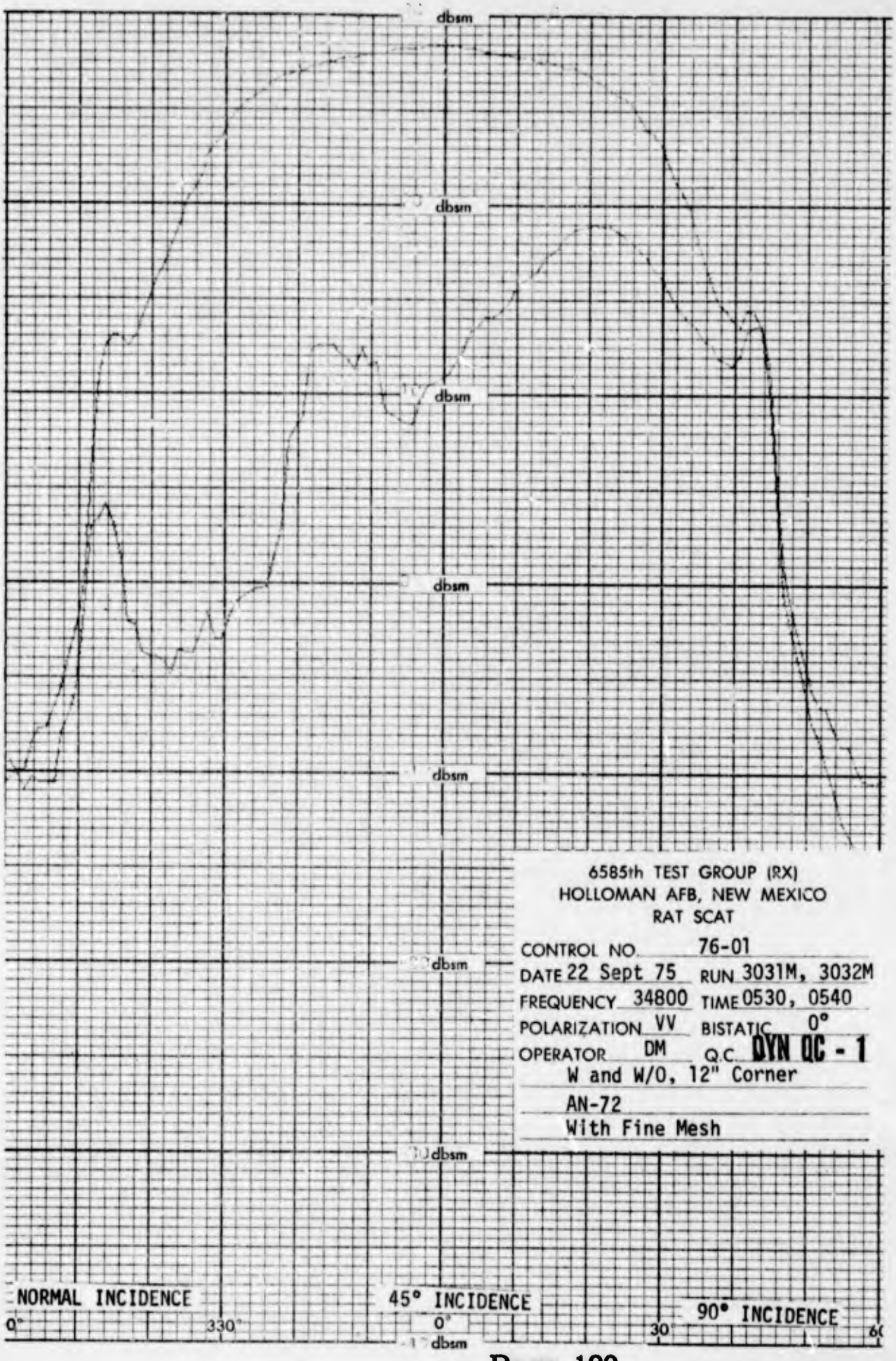

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3030, 3025
FREQUENCY 34800 TIME 0525, 0620
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C DYN QC - 1
W and W/O, 12" Corner
AN-72
With Coarse Mesh
NORMAL INCIDENCE
00°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°
J. RS 70
SCIENTIFIC

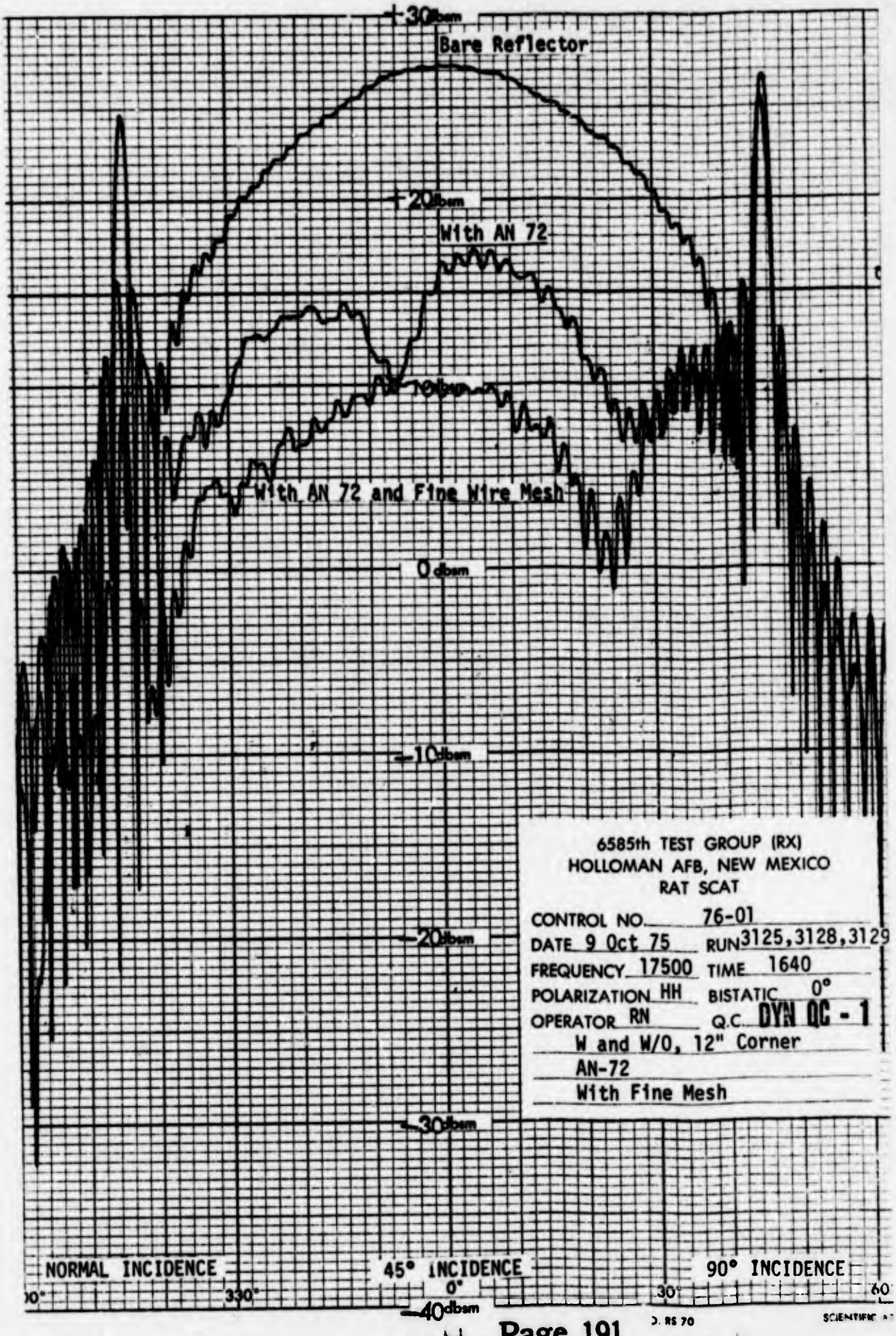

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3030M, 3025M
FREQUENCY 34800 TIME 0525, 0620
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Coarse Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°
-10 dbsm

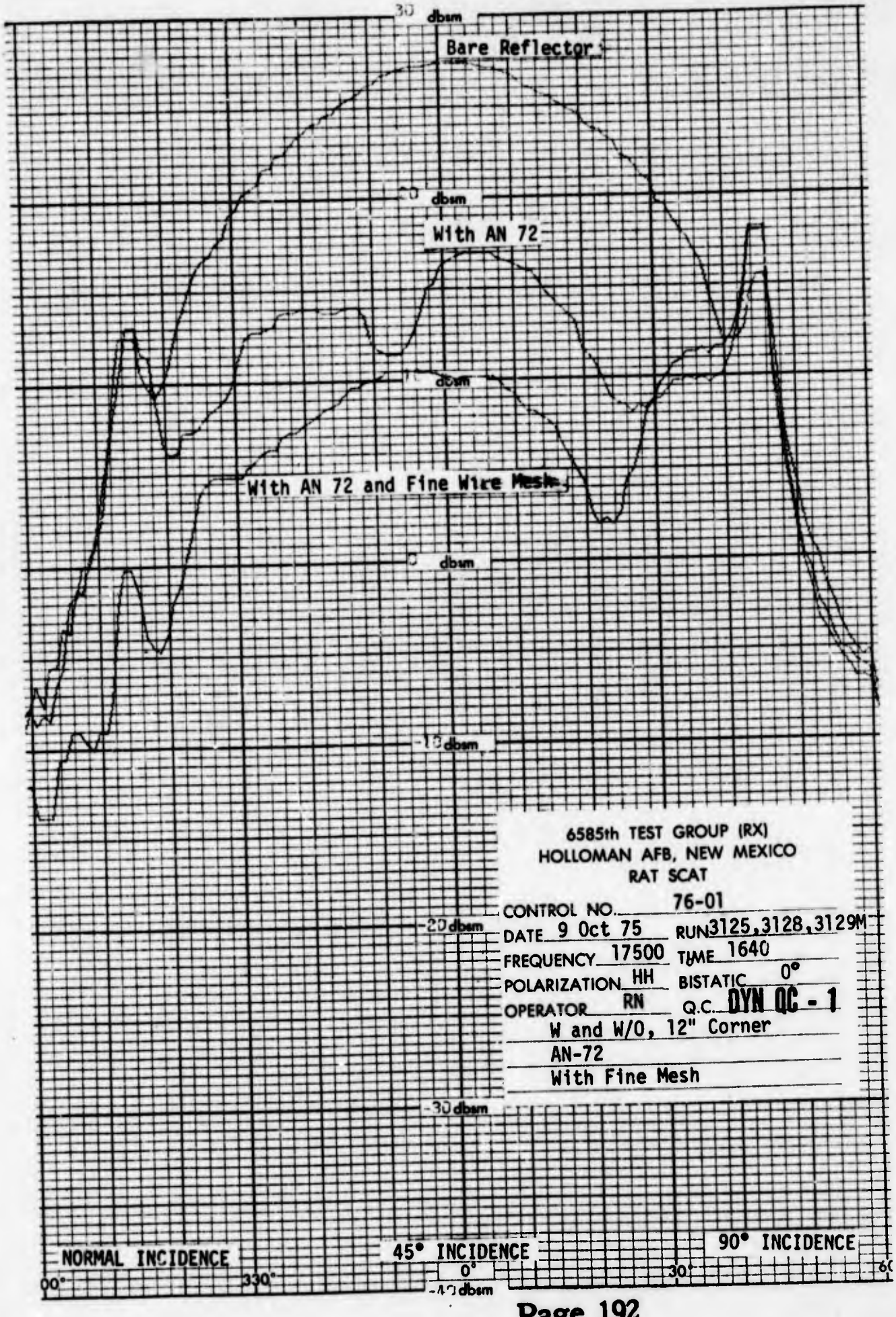

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3029, 3033
FREQUENCY 34800 TIME 0515, 0550
POLARIZATION HH BISTATIC 0°
OPERATOR DM Q.C. DVH QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
dbsm
O. RS 70
SCIENTIFIC

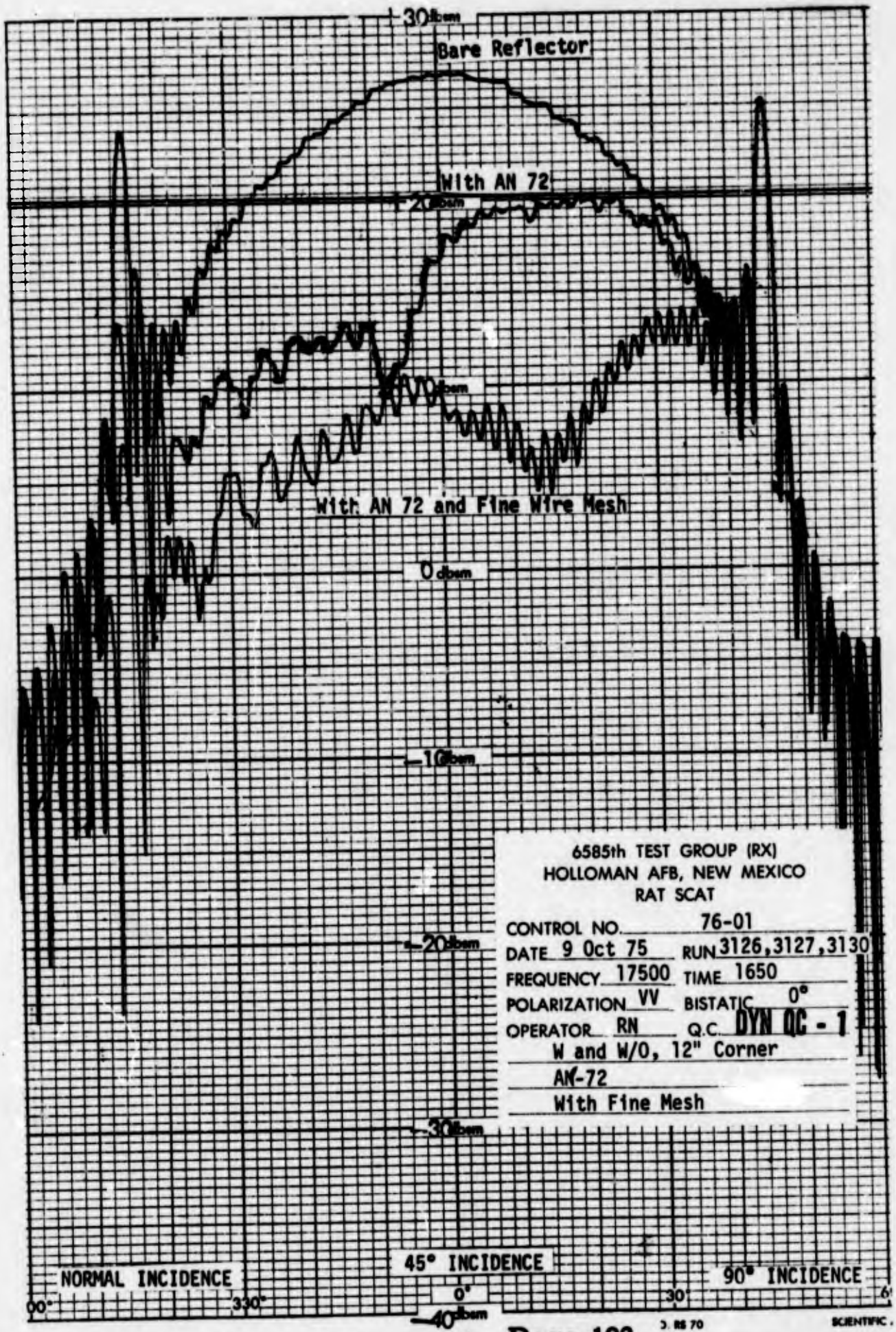

30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3029M, 3033M
FREQUENCY 34800 TIME 0515, 0550
POLARIZATION HH BISTATIC 0°
OPERATOR DM Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
-10 dbsm

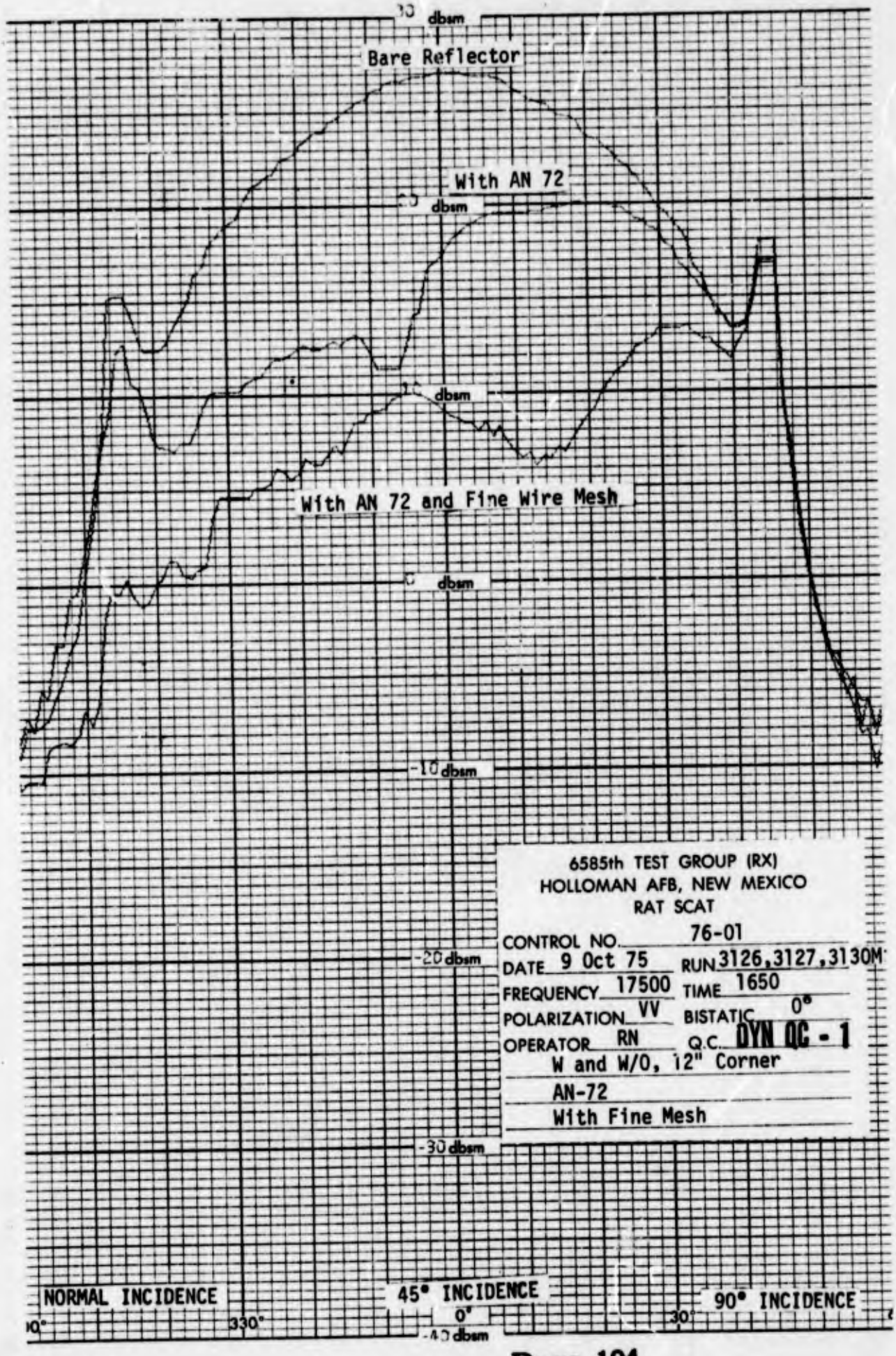

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3031, 3032
FREQUENCY 34800 TIME 0530, 0540
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
330°
45° INCIDENCE
0°
dbsm
30°
90° INCIDENCE

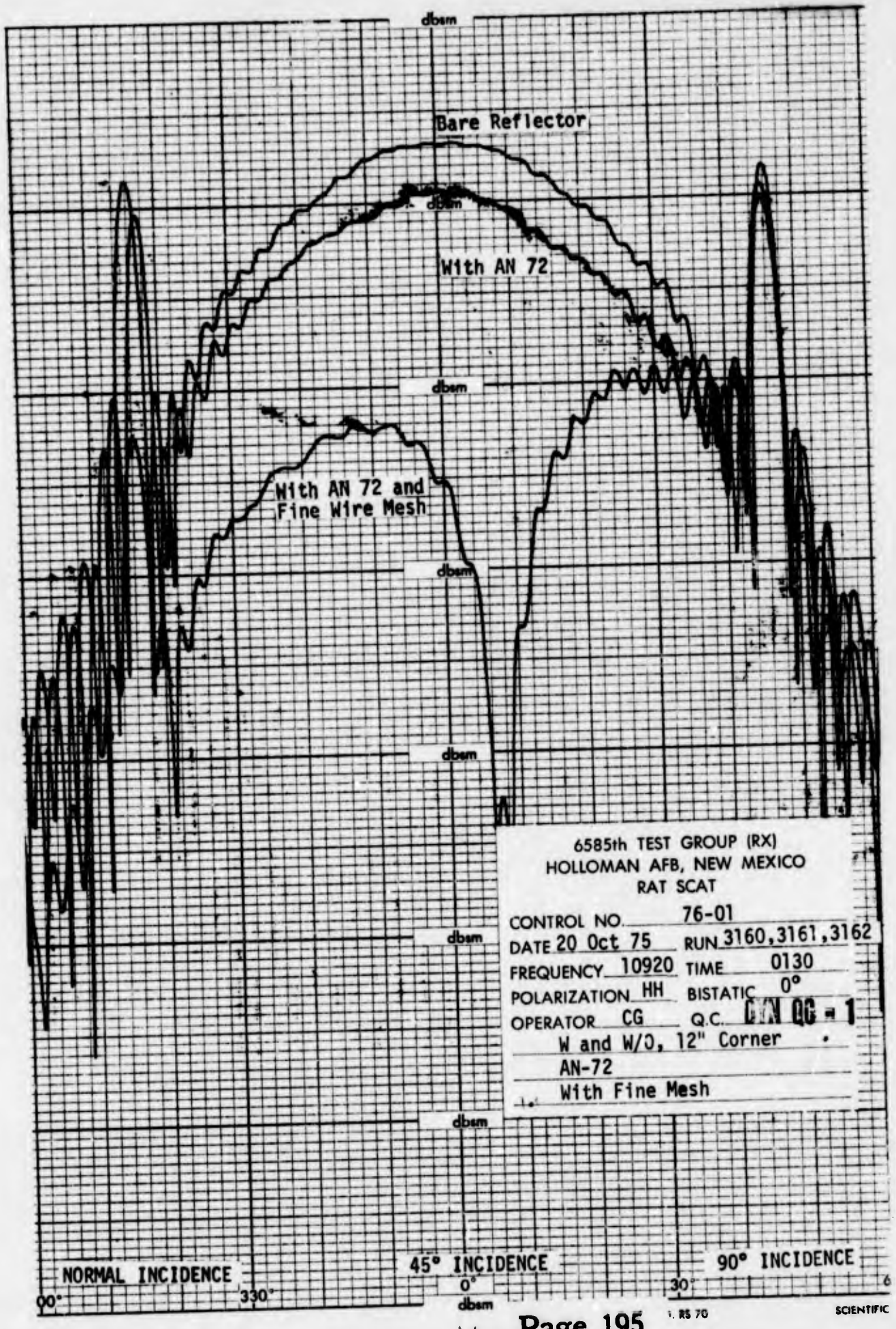

dbsm
dbsm
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 22 Sept 75 RUN 3031M, 3032M
FREQUENCY 34800 TIME 0530, 0540
POLARIZATION VV BISTATIC 0°
OPERATOR DM Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

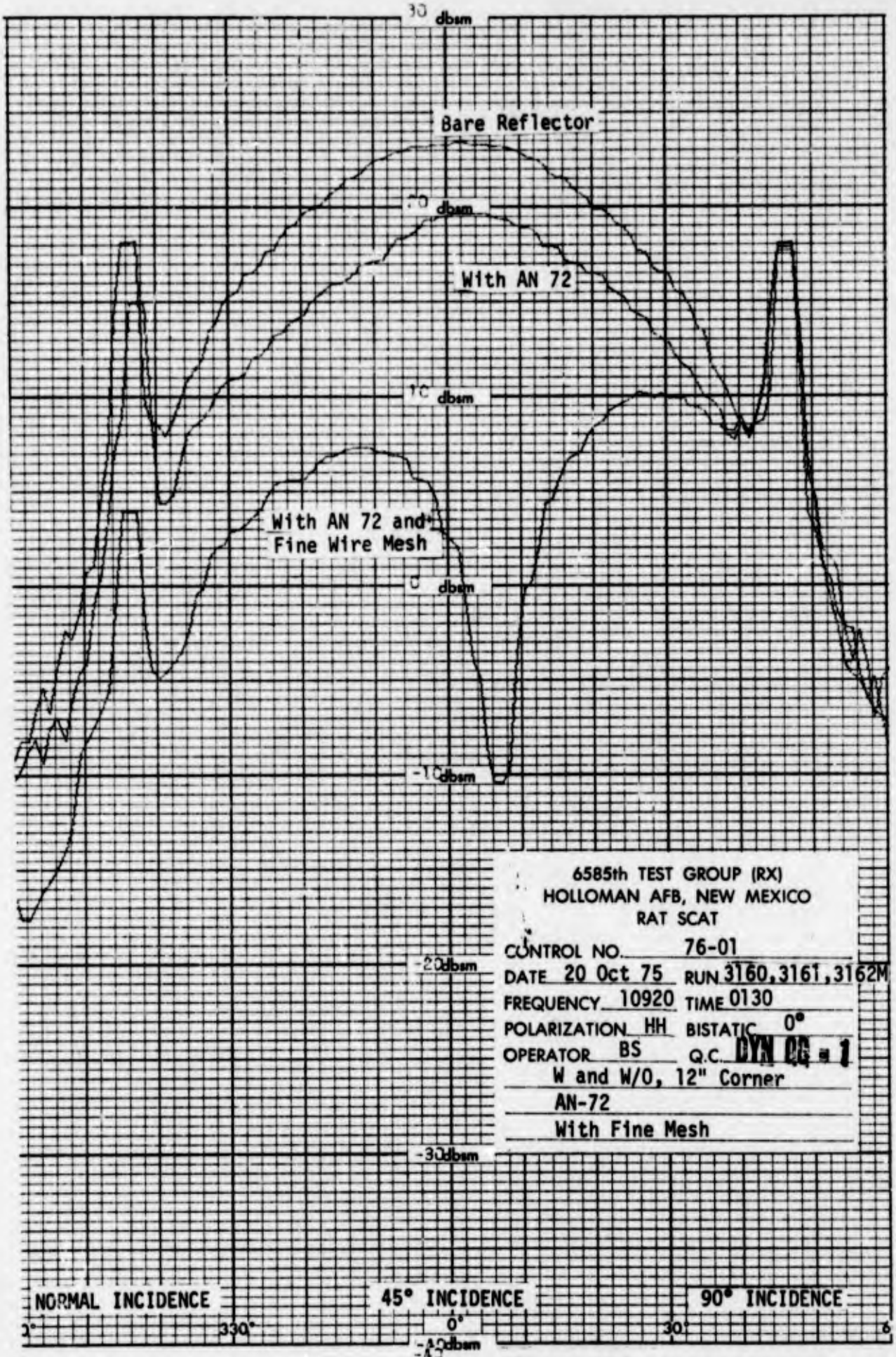

+30dbsm
Bare Reflector
+20dbsm
With AN 72
+10dbsm
With AN 72 and Fine Wire Mesh
0 dbsm
-10dbsm
-20dbsm
-30dbsm
-40dbsm
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
60°
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 9 Oct 75
RUN 3125,3128,3129
FREQUENCY 17500
TIME 1640
POLARIZATION HH
BISTATIC 0°
OPERATOR RN
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh

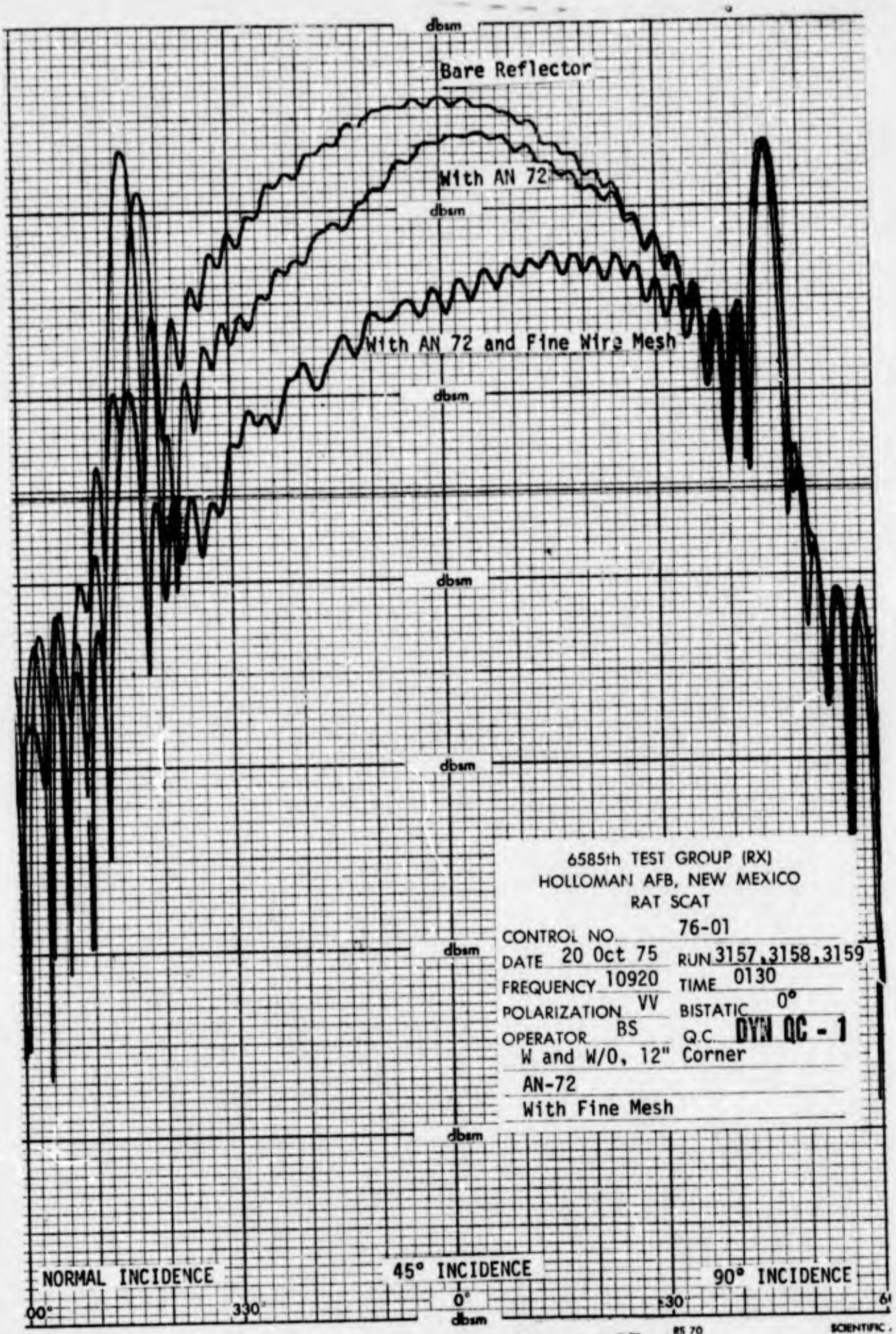

30 dbsm
Bare Reflector
0 dbsm
With AN 72
With AN 72 and Fine Wire Mesh
-10 dbsm
-20 dbsm
-30 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 9 Oct 75
RUN 3125,3128,3129M
FREQUENCY 17500
TIME 1640
POLARIZATION HH
BISTATIC 0°
OPERATOR RN
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
-40 dbsm

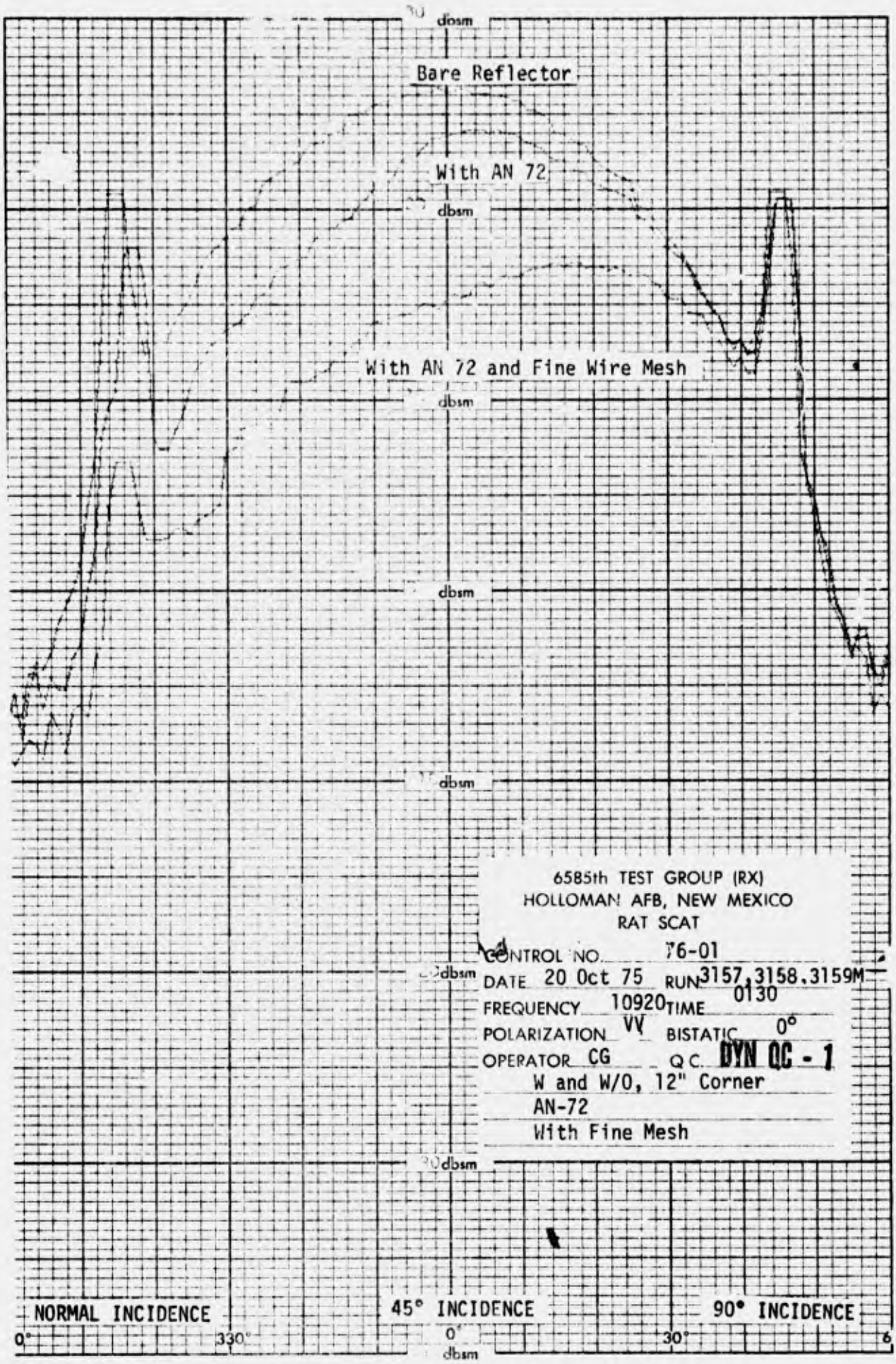

-30dbsm
Bare Reflector
With AN 72
-20dbsm
-10dbsm
With AN 72 and Fine Wire Mesh
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 9 Oct 75 RUN 3126,3127,3130
FREQUENCY 17500 TIME 1650
POLARIZATION VV BISTATIC 0°
OPERATOR RN Q.C. DYN QC - 1
W and W/O, 12" Corner
AM-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
-40dbsm


dbsm
Bare Reflector
With AN 72
dbsm
dbsm
With AN 72 and Fine Wire Mesh
dbsm
-10 dbsm
-20 dbsm
-30 dbsm
-40 dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 9 Oct 75
RUN 3126,3127,3130M
FREQUENCY 17500
TIME 1650
POLARIZATION VV
BISTATIC 0°
OPERATOR RN
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
0°
330°
30°


dbsm
Bare Reflector
With AN 72
With AN 72 and
Fine Wire Mesh
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Oct 75 RUN 3160,3161,3162
FREQUENCY 10920 TIME 0130
POLARIZATION HH BISTATIC 0°
OPERATOR CG Q.C.
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
30°
SCIENTIFIC


30 dbsm
Bare Reflector
20 dbsm
With AN 72
10 dbsm
With AN 72 and
Fine Wire Mesh
0 dbsm
-10dbsm
-20dbsm
-30dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Oct 75 RUN 3160,3161,3162M
FREQUENCY 10920 TIME 0130
POLARIZATION HH BISTATIC 0°
OPERATOR BS Q.C. DYN CC = 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
330°
0°
30°
-40dbsm


dbsm
Bare Reflector
With AN 72
dbsm
With AN 72 and Fine Wire Mesh
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Oct 75
RUN 3157,3158,3159
FREQUENCY 10920
TIME 0130
POLARIZATION VV
BISTATIC 0°
OPERATOR BS
Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
45° INCIDENCE
90° INCIDENCE
00°
330°
0°
dbsm
RS 70
SCIENTIFIC


dbsm
Bare Reflector
With AN 72
dbsm
With AN 72 and Fine Wire Mesh
dbsm
dbsm
dbsm
dbsm
6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 76-01
DATE 20 Oct 75 RUN 3157,3158,3159M
FREQUENCY 10920 TIME 0130
POLARIZATION VV BISTATIC 0°
OPERATOR CG Q.C. DYN QC - 1
W and W/O, 12" Corner
AN-72
With Fine Mesh
NORMAL INCIDENCE
0°
330°
45° INCIDENCE
0°
dbsm
90° INCIDENCE
30°

APPENDIX A
SITE INTRODUCTION

1. GENERAL

RAT SCAT is a static ground plane radar cross section measurement site located on Alkali Flats near Holloman Air Force Base, New Mexico. It is authorized by the DOD for use by governmental agencies. It is under the auspices of the 6585th Test Group, Air Force Special Weapons Center, Kirtland Air Force Base, New Mexico.

A ground plane range utilizes radar energy reflected from the earth as well as radar energy traveling directly to the target through the atmosphere. When the antennas and target are adjusted to proper heights, coherent phase addition of these electromagnetic waves into a flat wave front, enhances the system sensitivity. Radar returns from objects near the earth's surface are reduced thus suppressing target area interference. Target area interference is reduced further through the use of special polyfoam support columns, radar absorptive materials (RAM), and rotators located below the earth's surface (in pits).

Pulsed transmitters are employed to enable utilization of the range gated receiving system, which can selectively measure radar returns from the target area or the range displaced transfer standard. Background interference outside the target range is eliminated by range gating. Operation without background cancellation is therefore practical.

2. CAPABILITIES

The RAT SCAT electronic equipment and controls are housed in a permanent building. Four separate range lengths (458 feet, 1158 feet, 2458 feet and 5600 feet) are provided for range variation as shown in Figure A-1. This allows the use of convenient antenna and target heights while satisfying the far field criterion for most targets. (Special 40-foot antenna towers are attached to the building for antenna height positioning.) Further versatility is provided by two mobile equipment vans, one for monostatic range length variation and one for bistatic measurements. A duplicate set of control and data consoles in the main building enables simultaneous operation of any two of the three ranges. A summary of the RAT SCAT characteristics is contained in Table A-1.

3. CALIBRATION

The normal method of calibration at RAT SCAT is to mount a primary standard (precision sphere) scatterer with a known radar cross section

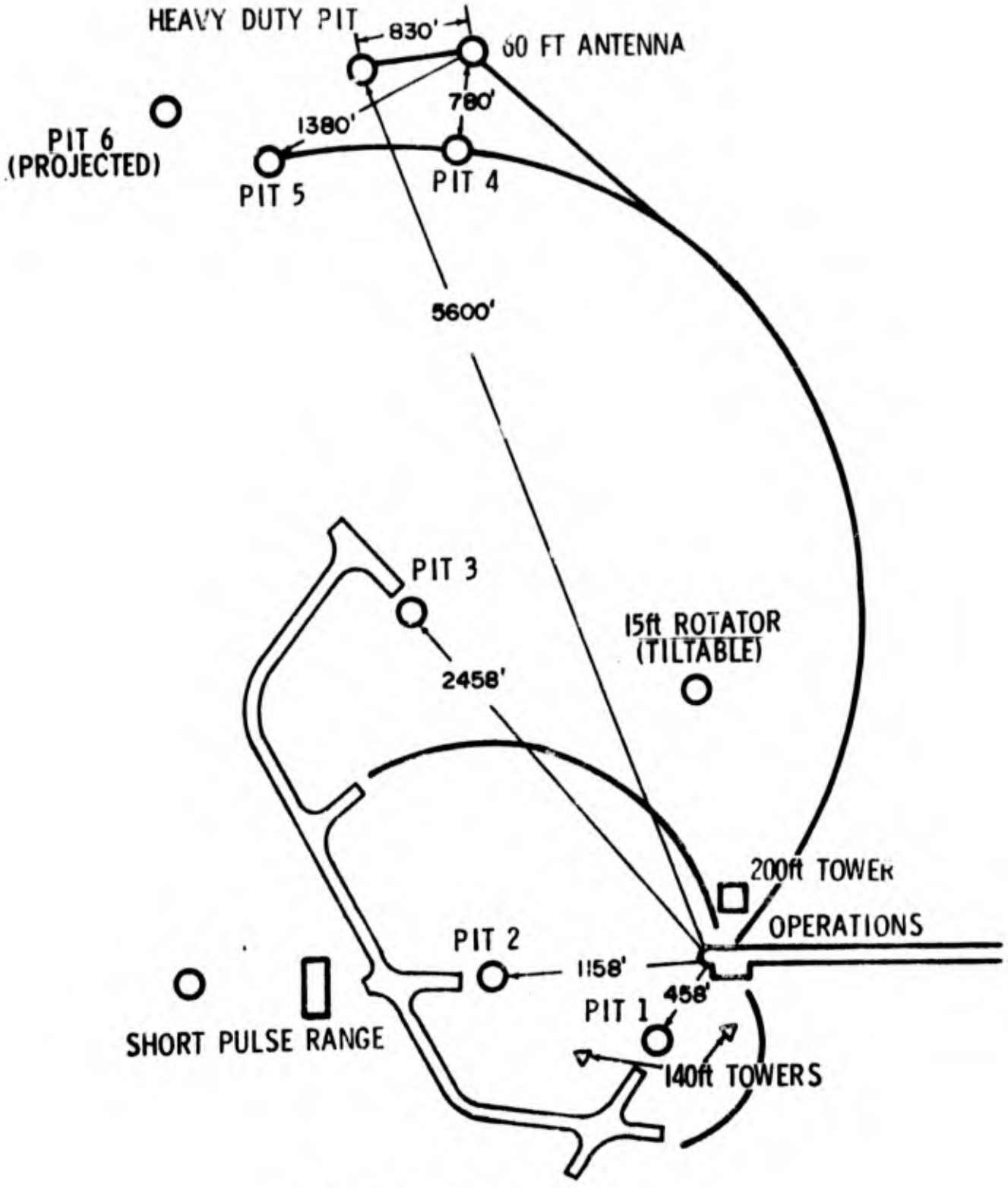


Figure A-1 MAP OF RAT SCAT SITE

TABLE A-1
RAT SCAT CHARACTERISTICS OF ELECTRONIC EQUIPMENT

Power Output	1 KW nominal bands 1 through 8, 25 KW nominal Ku, Ka bands
Pulse Width	0.1 to 1.0 microsecond
Pulse Repetition Frequency	500 to 5000 pps
No. of Receiving Systems	Two per band, (one monostatic and one bistatic)
Receiver Minimum Detectable Signal	-94 dBm nominal
Receiver Bandwidth	2 or 10 MHz (selectable)
Range Gate Width	0.1 to 1.0 microsecond (50 to 500 feet)
Dynamic Range	70 dB
Linearity	$\pm$0.5 dB
Equipment Stability	0.1 dB per hour (average)
Analog Data Format	Polar and rectilinear plots of cross section, glint and phase vs aspect angle
Digital Data Format	7 or 9 track magnetic (see Appendix C)
Antennas	1, 2, 3, 4, 6, 10 and 16 foot parabolic dishes (smaller and larger dishes available for special tests)
Antenna Feeds	Linear and circular horns with VSWR less than 2.0 to 1.0
Polarization	Horizontal, vertical, circular, elliptical in any transmitting and receiving configuration
Background Level	As low as -80 dBsm (frequency dependent)
Background Reduction	Tuned columns and vector subtraction by using phase and amplitude measurements to reduce background by 20 dB

TABLE A-1 (cont'd)

Phase Measurement	Unique RAT SCAT capability for vector subtraction or scattering matrix applications
Azimuth Resolution	0.1 or 0.01 degree as applicable
Maximum Target Weight	40,000 pounds
Target Size	Greater than 60-foot length
Bistatic Capability	Primary ranges of 458, 1158, and 2458 feet for 0 to 160 degree bistatic angle
Frequency Coverage	100 to 18,000 MHz continuous, Ku, Ka bands and 95 GHz Band 0 - 50 to 100 MHz Band 1 - 100 to 250 MHz Band 2 - 250 to 500 MHz Band 3 - 500 to 1000 MHz Band 4 - 1000 to 2000 MHz Band 5 - 2000 to 4000 MHz Band 6 - 4000 to 8000 MHz Band 7 - 8000 to 12,000 MHz Band 8 - 12,000 to 18,000 MHz Ka Band Ku Band 95 GHz
Range Length	300 feet minimum Building/Pit 1 - 458 feet Building/Pit 2 - 1158 feet Building/Pit 3 - 2458 feet Building/Heavy Duty Pit - 5600 feet Monostatic Van/Pits 1, 2, or 3 - variable range length

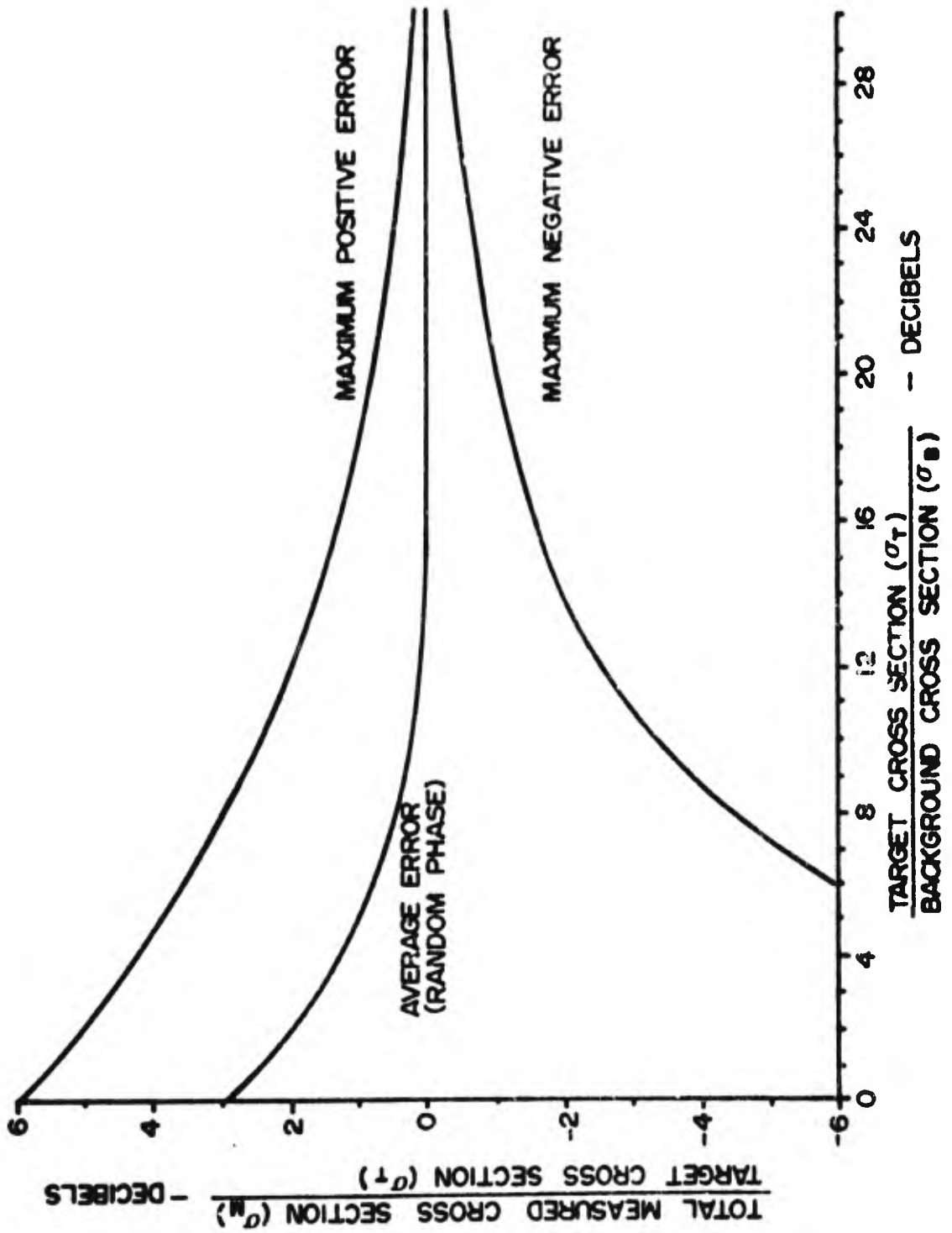


Figure A-2 Radar Cross Section Measurement Error as a Function of Target to Background Cross Section Ratio.

and record the corresponding signal level. Then the return from another secondary standard (corner or Luneberg lens) scatterer displaced in range is recorded as a transfer standard. Both the precision standard return and the transfer standard return are recorded on the same plot. Thereafter, radar cross section calibration is determined by referencing the transfer standard return for every run. Thus every run is recalibrated. The comparisons of primary and transfer standards accomplished before and after each measurement series are identified respectively as calibration and post-calibration. If the direct ratio of primary to secondary readings is not maintained before and after the measurement series, then all runs between are invalid and must be repeated.

The calibration reference level marked on each data plot is related to the transfer standard level. This reference level may under controlled conditions differ from the actual transfer standard signal level since precision calibrated attenuation is sometimes inserted in the receiver line. When such attenuation is inserted, returns from the transfer standard are reduced to a level compatible with the scale used for the target measurements. The 70 dB dynamic range of the plot is placed to include the range of returns expected from the vehicle being measured. In some cases two runs are necessary to be plotted for direct overlay to include the dynamic range of the vehicle if it exceeds 70 dB. Calibration plots are included with the target data when requested by the user.

In general the background return is the vector sum of several scattering sources. These include support columns, transitions, pit openings and other obstacles located in the vicinity of the target. When the presence of the target does not appreciably alter the background return it is possible to obtain estimates of background induced errors. If the true target cross section is denoted by σ_T (square meters), background by σ_B, and the total measured cross section by σ_M, then as a function of azimuth angle

$$\sigma_M = \sigma_T + \sigma_B + 2\sqrt{\sigma_T \sigma_B} \cos\phi \qquad \text{A-1}$$

In the above equation ϕ is the relative phase angle between target and background returns. Depending on the phase angle the magnitude of σ_M can vary between two extremes determined by whether the two signals are in-phase or out-of-phase ($\cos\phi = \pm 1$). These two values of σ_M represent the maximum upper and minimum lower bounds on the possible variations of the total measured signal. From Equation A-1,

$$\sigma_{M(max)} = \sigma_T + \sigma_B + 2\sqrt{\sigma_T \sigma_B} = \left(\sqrt{\sigma_T} + \sqrt{\sigma_B}\right)^2$$

$$\sigma_{M(min)} = \sigma_T + \sigma_B - 2\sqrt{\sigma_T \sigma_B} = \left(\sqrt{\sigma_T} - \sqrt{\sigma_B}\right)^2 \qquad \text{A-2}$$

The maximum possible errors corresponding to the values of σ_M in Equation A-2 can be expressed in decibels as:

$$10 \text{ Log}_{10} \frac{\sigma_{M(max)}}{\sigma_T} = 10 \text{ Log}_{10} \left(\sqrt{\sigma_T} + \sqrt{\sigma_B}\right)^2 / \sigma_T$$

$$10 \text{ Log}_{10} \frac{\sigma_{M(min)}}{\sigma_T} = 10 \text{ Log}_{10} \left(\sqrt{\sigma_T} - \sqrt{\sigma_B}\right)^2 / \sigma_T \qquad \text{A-3}$$

Graphs corresponding to these maximum error equations are shown in Figure A-2.

An estimate of the expected value of σ_M can be derived statistically by utilizing the "random phase" approach. This method yields an average value of σ_M between the two maximum error curves. In this case

$$\sigma_{M(av)} = (\sigma_T + \sigma_B) \qquad \text{A-4}$$

and the corresponding error in decibels is given by:

$$10 \text{ Log}_{10} \frac{\sigma_{M(av)}}{\sigma_T} = 10 \text{ Log}_{10} (\sigma_T + \sigma_B) / \sigma_T \qquad \text{A-5}$$

This average error equation is shown graphically in Figure A-2.

The sphere calibration plots will not necessarily be straight lines. If the background return is within 20 dB of the sphere return, for example, a variation in sphere return of approximately ± 1 dB can result. For calibration the sphere is intentionally placed at least 1/2 wavelength off the center of table rotation to insure sufficient phasing with the background return. The average sphere return is then chosen for a calibration level.

4. OPERATING PROCEDURES

The following step-by-step procedure is standard in obtaining monostatic radar cross section measurements after frequency, feeds, antennas, antenna height, target height, and pit (range length) have been chosen:

1. Calibration - As described in previous section.

2. Horizontal and vertical probes (field strength measurements at the target area) - Horizontal probes at the target area

have been shown to be redundant for azimuthal boresighting. For this reason, these probes are taken only upon request for examination of near field effects.

Vertical probes are taken at the target area to determine power variation as a function of target height. If necessary, antenna height is varied to obtain an acceptable vertical probe which then necessitates a new calibration.

3. Background - The background level with the target mount in place is measured in each polarization to be used.

4. Measurement - The measurement is made with the vehicle in the position previously occupied by the primary standard.

5. Calibration - The primary calibration is repeated to verify calibration (post-calibration).

APPENDIX B
TARGET ORIENTATION AND DATA FORMAT

1. COORDINATE SYSTEM

The coordinate system described herein has been adopted as a standard for RAT SCAT operations. The system is referenced both to the vehicle being measured and to the measurement site.

a. Vehicle Reference

A three-axis system, referenced to an arbitrary vehicle, is illustrated in Figure B-1. In this system three mutually perpendicular planes (yaw, pitch, and roll) are passed through the vehicle so that the pitch and yaw planes mutually intersect on the longitudinal axis of the vehicle. These planes remain fixed with respect to the vehicle, regardless of vehicle rotation with respect to the radar or ground plane. The yaw plane, which includes the pitch axis and the roll axis, is numbered from 0 degrees to 360 degrees in a clockwise direction when the vehicle is viewed from the above. The nose-on aspect corresponds to 0 degrees, the starboard side of the vehicle corresponds to 90 degrees, and the port side to 270 degrees. The pitch plane, which contains the roll axis and the yaw axis is numbered from 0 degrees to $\pm$180 degrees; the +90 degree point is below the center line, and the -90 degree point is above the center line. The roll plane contains the yaw axis and the pitch axis. It is numbered from 0 degrees to 360 degrees, and the numbers increase in a counterclockwise direction when the vehicle is viewed from the rear.

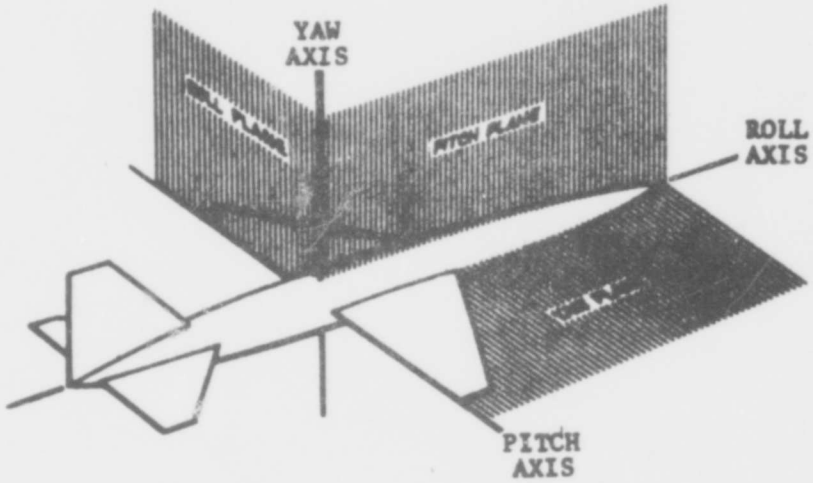
b. Site Reference

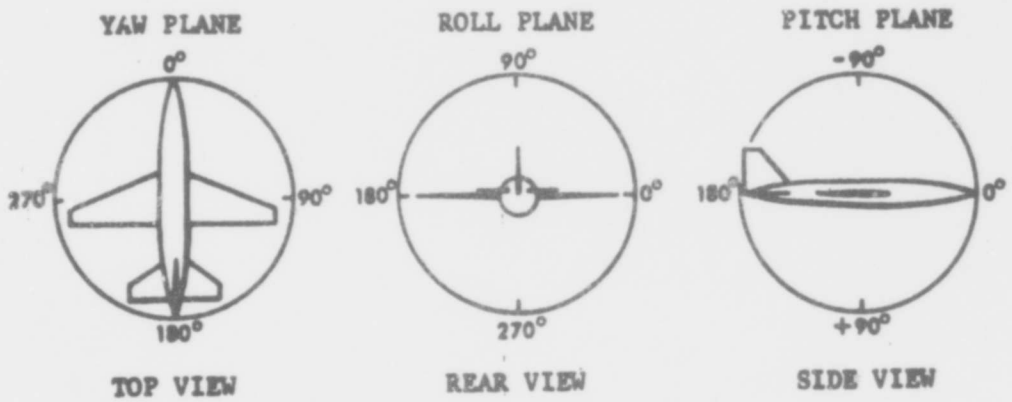
As previously stated the coordinate system is fixed with respect to the vehicle. It is referenced to the site by means of three index marks. The exact value of any of the three angles is determined by noting the value of the vehicle coordinate opposite the index marks. Index marks come from such devices as bubble levels, inclinometers and transits.

As illustrated in Figure B-2, the index for roll angles is normal to the axis of rotation. As illustrated in Figure B-3, the index for pitch angles is normal to the axis of rotation and in line with the apparent source of radiation. For measurements at the RAT SCAT Site, targets can be mounted to provide desired pitch and roll angles.

c. Coordinate System Tilt

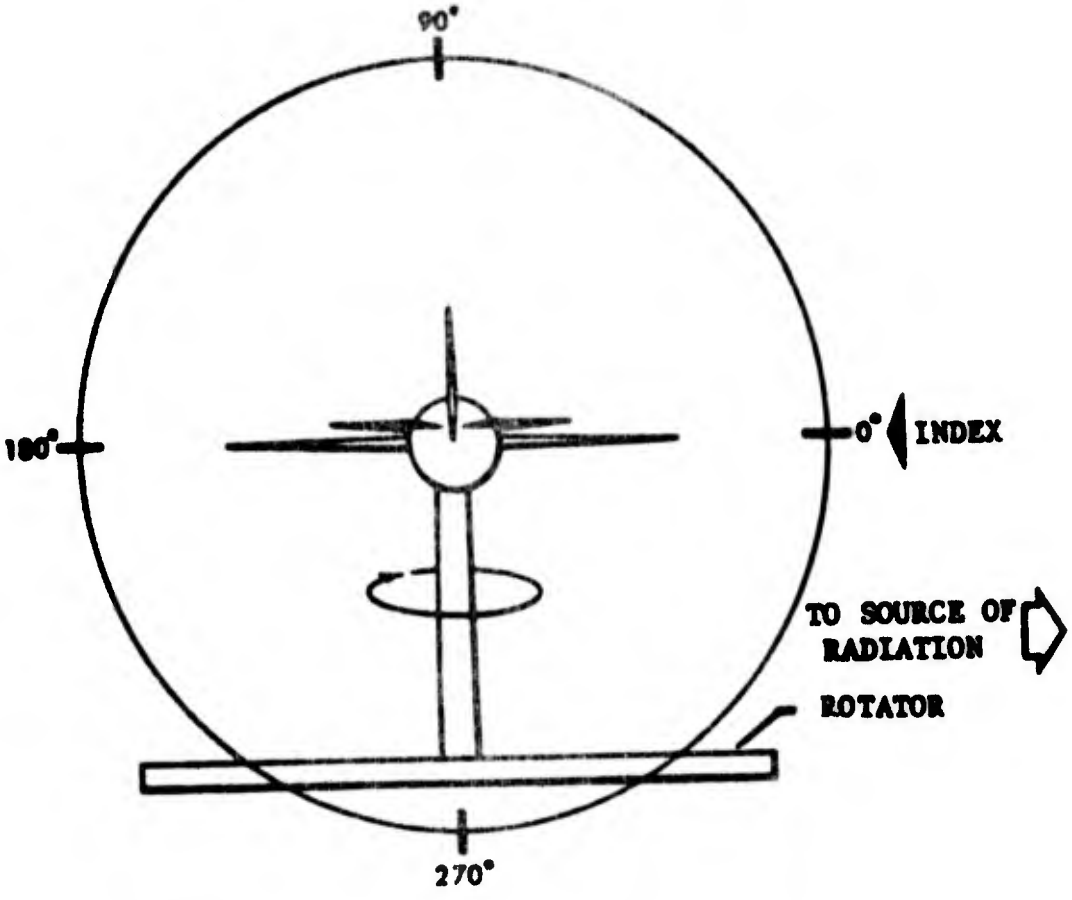
For small targets another angle, tilt, can be utilized in recording useful data. This angle, equipment-limited to less than 15 degrees, is formed by the axis of rotation and the normal to the line of sight to





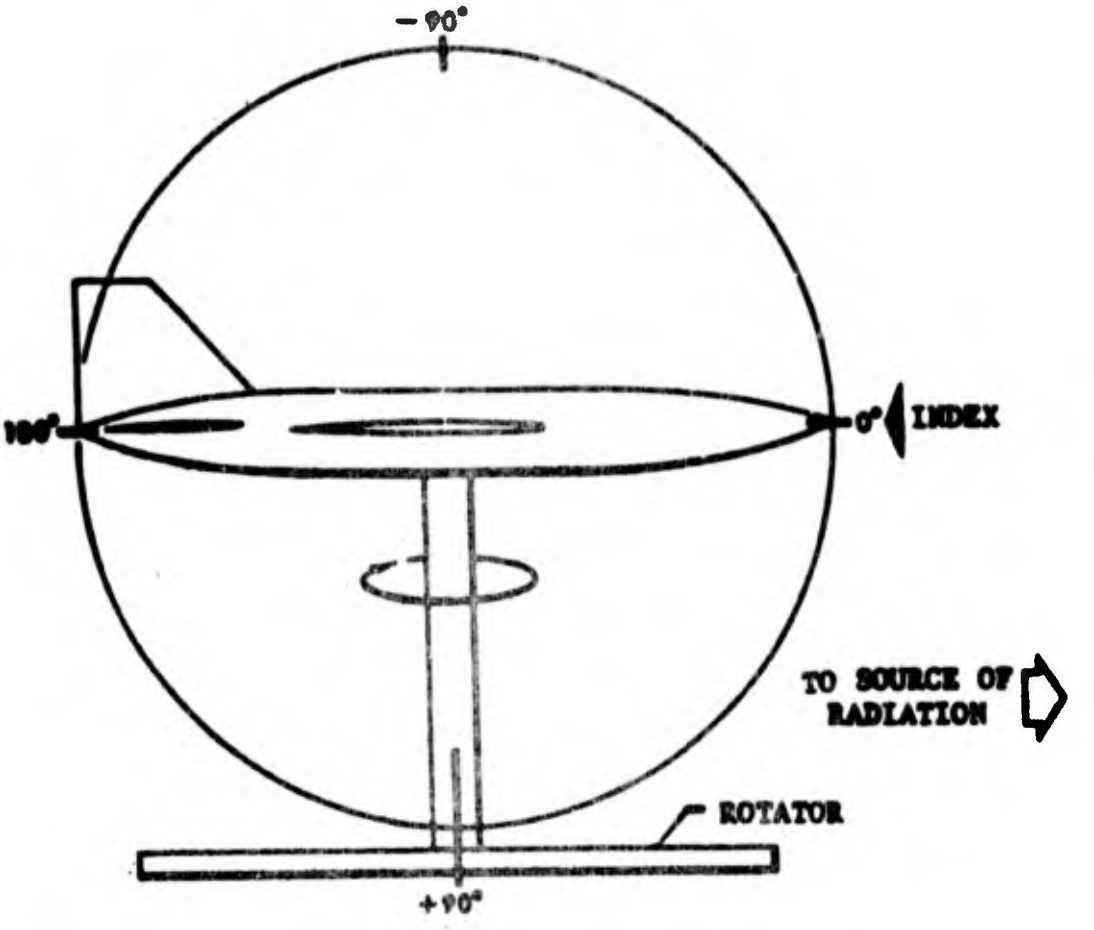
TOP VIEW REAR VIEW SIDE VIEW

Figure B-1 VEHICLE COORDINATE SYSTEM



NOTE: The roll scale is fixed to the vehicle. The amount of roll is determined by noting the number of degrees opposite the index. Clockwise rotation of the target (when viewed from the rear) increases the roll angle.

Figure B-2 TARGET ORIENTATION - ROLL



NOTE: The pitch scale is fixed to the vehicle. The number of degrees of pitch is determined by noting the scale value opposite the index.

Figure B-3 TARGET ORIENTATION - PITCH

the apparent source of radiation. Since, in a ground plane range, radiation can be considered to emanate from a point with zero height directly beneath the antennas, a zero-degree tilted axis of rotation is slightly off the geometrical vertical. This small deviation from the geometrical vertical is neglected in the following discussions.

A target mounted with a pitch angle other than zero displaces the yaw axis from the vertical, but not the axis of rotation. The axis of rotation is displaced from the vertical only when non-zero tilt is employed. Tilting toward the radar is considered positive tilt and away from the radar is negative tilt. For monostatic measurements tilt will be measured in the vertical plane containing the line of sight between the radar and the target. The difference between pitch and tilt is shown in Figure B-4.

2. DATA FORMAT

Data recorders obtain azimuth angle information by means of precision synchro signals from the position of the rotating table. The line of sight from the antennas to the center of the rotator, as illustrated in Figure B-5, indexes azimuth angles. As used here the term aximuth refers to the position of the target rotator table. With zero degrees of pitch and roll, azimuth and yaw are identical. It is standard practice to turn the rotator in a clockwise (cw) direction as viewed from above. Consequently, the aximuth angle varies, for example from 180 degrees (tail-on) to 90 degrees (starboard-side) to 0 degrees (nose-on) to 270 degrees (port-side).

a. Polar and Rectilinear Plots

Essential information pertinent to each plot is contained in the information block located in the upper right hand corner of the rectilinear plots and in the second quadrant of the polar plots. Each rectilinear plot has the recording of the return from the left side of the vehicle on the left side of the plot, 0 degrees at the center, and the recording of the return from the right side of the vehicle on the right side of the plot; 180 degrees (tail-on) appears at the right and left extremeties of the plot, as shown in Figure B-6. Since the paper moves from left to right under the recorder pen, it should be noted that measurements are limited at 180 degrees in order to obtain continuous measurements on the recorder paper. The table on the polar recorder is rotated in the same directions as the target so the 90 degree point appears on the right side of the polar plot, the 270 degree point on the left, and the zero or 360 degree point at the top of the plot.

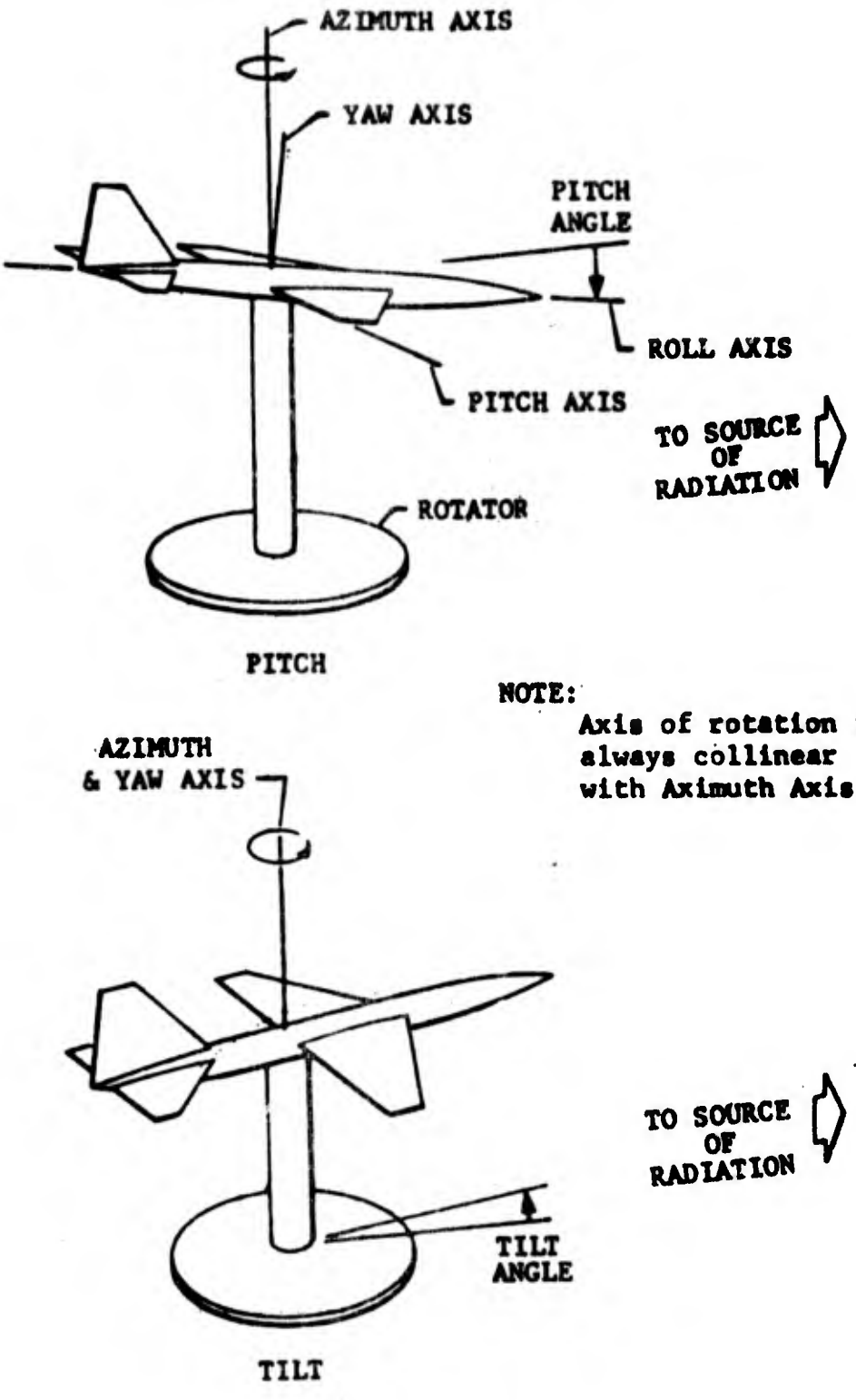
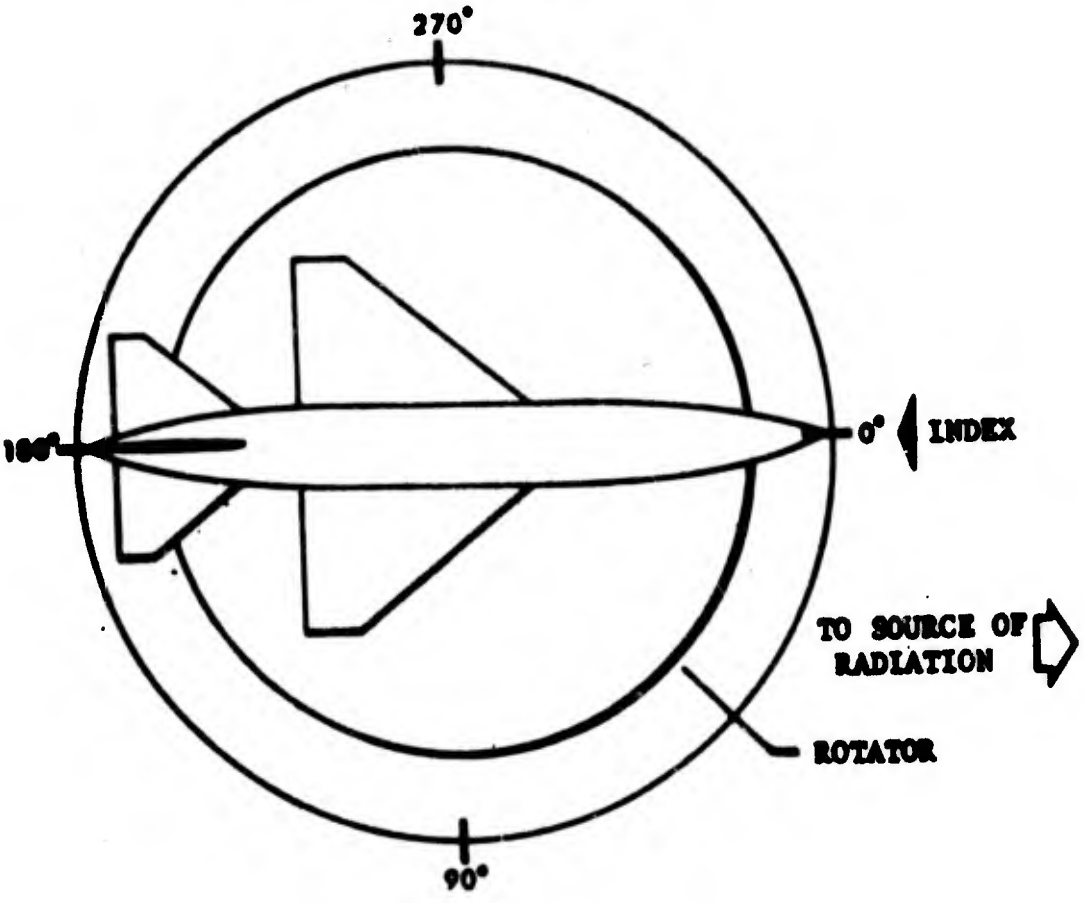


Figure B-4 COMPARISON OF PITCH AND TILT ORIENTATIONS



NOTE: The azimuth scale is fixed to the target rotator. The azimuth value is determined by noting the value of the scale opposite the index mark as the rotator and scale revolve. The index is the line-of-sight from the radar antennas to the center of the rotator. (Azimuth angle data are transmitted to the data recorders by means of synchro signals.) The standard direction of rotation will be clockwise.

Figure B-5 TARGET ORIENTATION - AZIMUTH

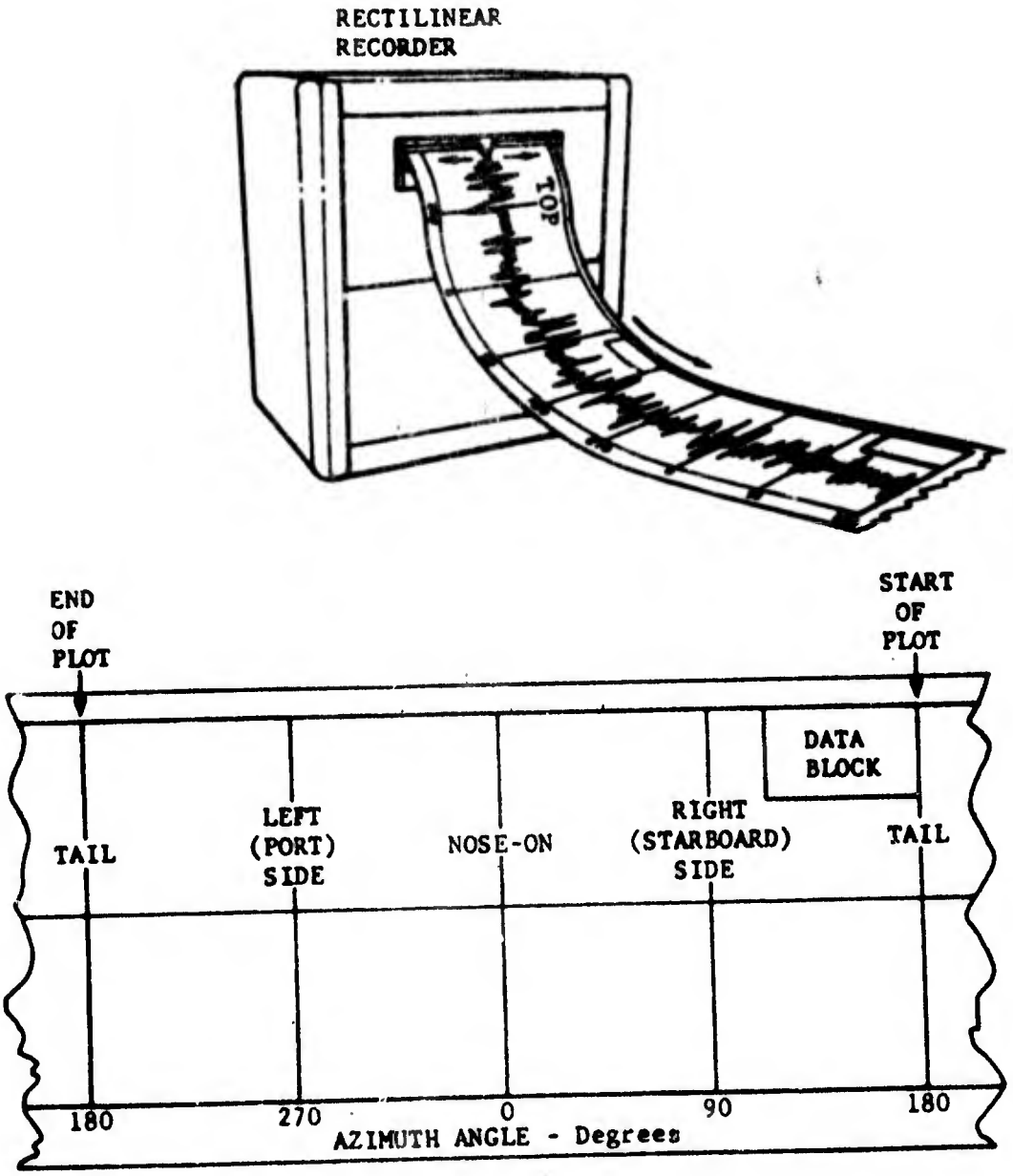


Figure B-6 FORMAT FOR RECTILINEAR PLOTS

APPENDIX C
DIGITAL DATA FORMATS L, M, AND N

RAT SCAT has the capability of supplying several types and formats of digital data. Edited magnetic tape formats L, M, and N as described herein are normally furnished to the user requesting digital data.

This appendix is not intended as a format specification, nor is it meant to restrict the data formats available to only those listed. It is intended solely as a guide for reference purposes.

The three formats are similar except for the presence or absence of a second dependent variable which is either phase or bistatic RCS amplitude.

Format	Type Data
L	Azimuth and Monostatic RCS
M	Azimuth, Monostatic RCS and Bistatic RCS
N	Azimuth, Monostatic RCS and Phase (or Glint)

Tapes are written in seven channels BCD card image. Each record contains 80 BCD characters. Azimuth is written in degrees, RCS in dBsm, and phase in degrees. All values contain signs and decimal points. The edited tapes are available in 200, 556, and 800 bits per inch recording densities.

Each tape may contain 40 runs (360 degrees of azimuth samples per run) or more depending on format, density, and user specifications. Each run is ended with an end of file mark (EoF). Each tape is ended with a double EoF.

The number of 80 character records per run depends on the azimuth increment, whether filler data is involved and the format used. The first record in each data run is a header constructed as follows:

Character	Information	Example	Format
1-4	Control Number	7307	A4
5-8	Blank	--	
9-12	Run Number	0015	A4
13-16	Blank	--	

Character	Information	Example	Format
17-20	Conversion Number*	-600	A4
21-24	Blank	-	
25-28	Bistatic Conversion*	-600	A4
29-32	Blank	-	
33-80	Alphanumeric Identification	RAT SCAT EDITED TAPE	A48

*RAT SCAT Use Only

The data records contain four or six samples of data depending on format. The makeup of a sample for a Format N tape is as follows:

Value	Format	Example
Azimuth (Degrees)	F7.2	+272.20
RCS (dBsm)	F5.1	- 25.5
Phase (Degrees)	F5.0	+179.
Flag	A-1	I

The third item, phase, would be replaced by bistatic RCS for Format M (F5.1) and would be absent for Format L. The meaning of the flag is: Blank = good data, I = interpolated data, B = band data, H = hand edited data, and F = filler data. Data with a filler flag should be ignored.

Data records can be read with Fortran Formats as follows:

Format	Read Statement Format
L	Format (2(3(F7.2, F5.1, A1), X))
M	Format (4(F7.2, F5.1, A1, F5.1, A1, X))
N	Format (4(F7.2, F5.1, A1, F5.0, A1, X))

The azimuth angle in the first sample of a run is usually 180.00 degrees. The value decreases until 0.00 degrees is reached and thereafter goes from 359.9 degrees (for 0.1 degree increments) to 180.0 degrees.

Typical magnetic tape character codes are shown in Figure C-1 and the physical characteristic of a typical format, including EoF gaps, etc., is shown in Figure C-2.

CHARACTER	Track Identification						
	1	2	4	8	A	B	C (parity)
0		X		X			
1	X						X
2		X					X
3	X	X					
4			X				X
5	X		X				
6		X	X				
7	X	X	X				X
8				X			X
9	X			X			
Space (Blank)					X		X
Plus (+)					X	X	
Minus (-)						X	X
E.O.F.	X	X	X	X			
Dec. Point	X	X		X	X	X	X
I	X			X	X	X	
F		X	X		X	X	
B		X			X	X	X
H				X	X	X	X

Figure C-1 Magnetic Tape Character Codes

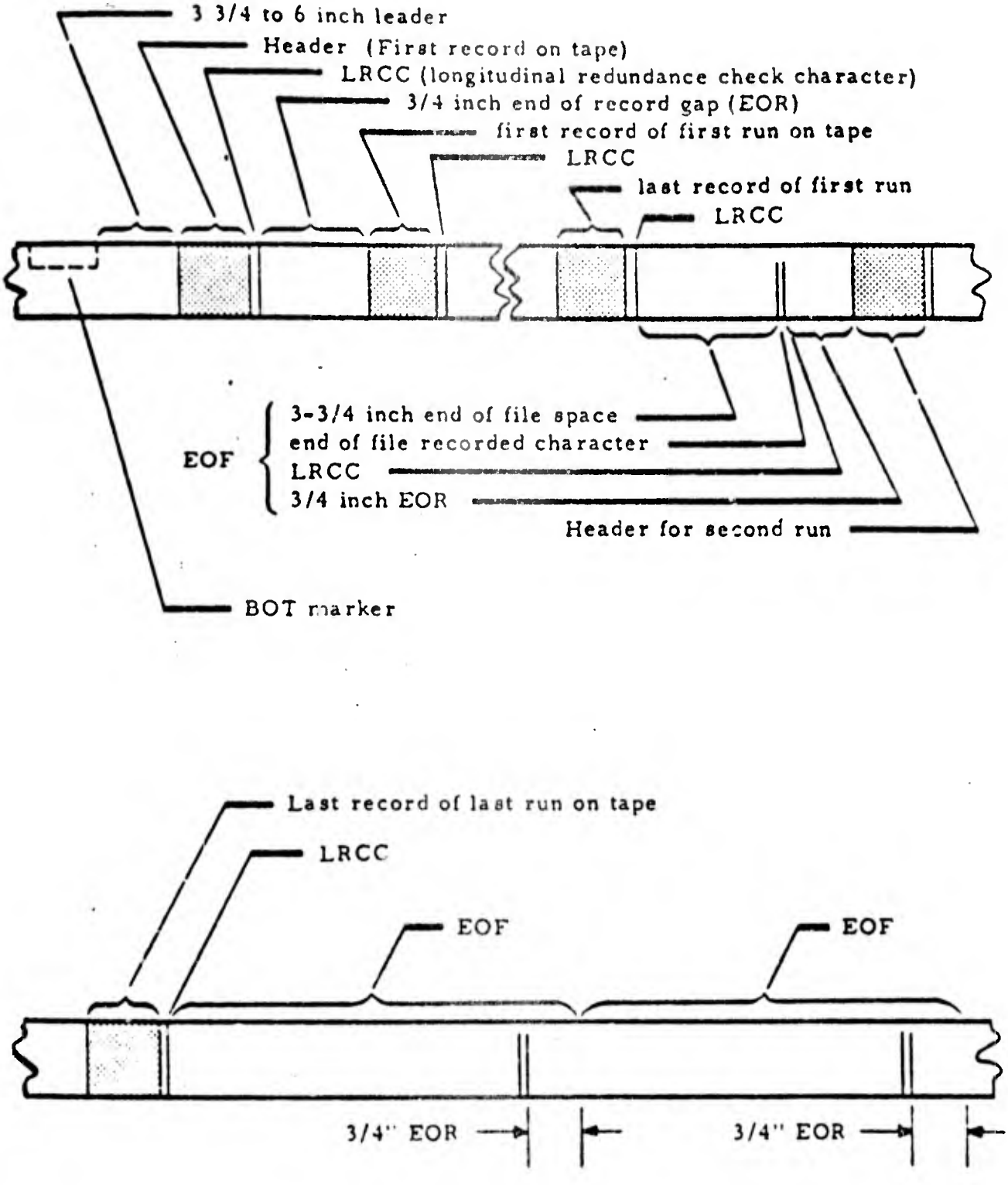


Figure C-2 Physical Characteristics of Magnetic Tape Formats L, M, and N

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13. ABSTRACT

This report summarizes performance evaluation tests on a variety of commercially available thin flexible sheet type radar absorber materials, including both resonant and non-resonant types. A corner reflector test technique was used which allowed test and evaluation of the absorber at both normal incidence and grazing angles out to ninety (90) degrees. Fourteen types of RAM were tested at frequencies near 11, 13, 17 and 35 GHz. The higher frequency data and off-normal incidence data in this report are often unavailable in RAM manufacturers literature.

RAM types tested include: FGM-40, ANW-73, ANP-74XP, AN-73, AN-72, AN-75, ANP-73, NRL-2764B, SF-14, GRAM-52 and NR-95.

This report provides reproductions of the data runs taken and 5 degree median plots of each run. The measurement configurations and parameters for each cut are identified on each pattern with an overall summary chart included in the main body of the report.

These measurements were taken at the Radar Target Scatter Division, 6585th Test Group, Holloman AFB, New Mexico for ASD/YH (B-1, SPO) of Wright Patterson Air Force Base, OH.

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RAT SCAT						
Corner Reflector						
Radar Absorbing Materials (RAM)						
High Grazing Angles						