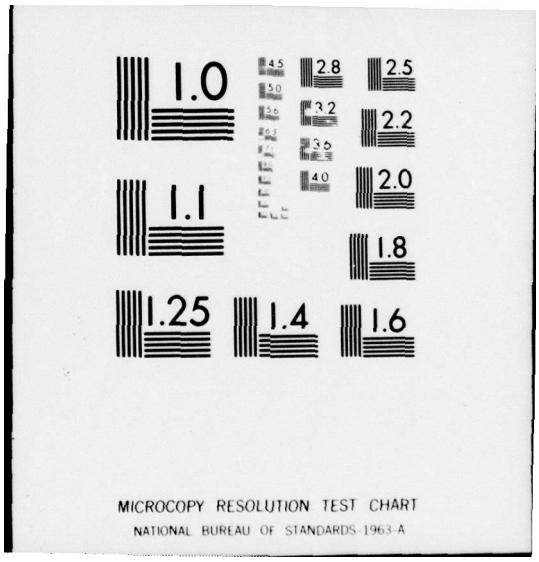
AD-A037 040 NAVY ELECTRONICS LAB SAN DIEGO CALIF F/G 17/1
SURFACE CHANNEL PROPAGATION LOSS. FREQUENCY 13 KC/S. GAMMA 0 .0--ETC(U)
SEP 66

UNCLASSIFIED NL

1 OF 2
ADA037040


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

MOST P.

ADA037040

TECHNICAL DATA

(11) 9 Sep 66

(12) 219 p.

(6)

SURFACE CHANNEL PROPAGATION L

D D
MAR

FREQUENCY
13 Kc/s,

GAMMA 0 .018
GAMMA 1 −.333,

COPY AVAILABLE TO DDC DOES NOT PERMIT FULLY LEGIBLE PRODUCTION

LAYER DEP
50, 100, 150,
200, 300, 500

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

GRI

U. S. Navy Electronics Laboratory | San Diego, Califor

253 55

CODE 3110D TECHNICAL DATA

The enclosed Technical Data were computed using a surface channel prediction model developed at the U. S. Navy Electronics Laboratory in San Diego. These results have been compiled for use by personnel at NEL and other Naval Laboratories in predicting sonar system performance in the surface channel propagation mode. These data are not to be considered an official NEL Report. It is hoped that a limited distribution of this information will also facilitate the comparison of these predictions with the results of fleet operational tests.

D D C
RELEASED
MAR 9 1977
C

9 September 1966

ACCESSION for
NTIS White Section
D D C Buff Section
UNANNOUNCED
JUSTIFICATION
on file
BY
DISTRIBUTION/AVAILABILITY CODES
Dist. AVAIL. and/or SPECIAL
A

U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO, CALIFORNIA 92152

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

INTRODUCTION

The ~~enclosed~~ propagation loss data have been obtained using a computational prediction program developed by NEL Code 3110D. These loss data have been compiled in order to provide a convenient reference manual for use in surface channel sonar predictions.

These computations were carried out using Surface Channel Propagation Loss Model (I) which has been described in NEL Tech Memo 921 (1). This prediction model computes propagation loss from the expression:

PROPAGATION LOSS = SPREADING LOSS + SURFACE SCATTERING LOSS + ABSORPTION LOSS,

The spreading loss is calculated by use of Normal-Mode expressions developed by NEL Code 3185 (2).

Surface scattering loss is calculated from the expressions developed by Marsh and Schulkin which appear in the "AMOS" Report (3). These basic "AMOS" expressions have been modified to allow the velocity gradient in the layer to vary, and to also exhibit a more gradual transition between low and high sea-state conditions.

Absorption loss is calculated from the expressions of Marsh and Schulkin which are given in the "AMOS" Report (3).

UNITS AND DEFINITION OF SYMBOLS

SYMBOL	DESCRIPTION
ZTG	Target Depth in Feet.
TEMP	Surface Water in Degrees F.
LWA	Wave Height in Feet.
ZL	Layer Depth in Feet.
ZX	Source Depth in Feet.
CS	Surface Sound Velocity in FT/SEC.

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

UNITS AND DEFINITION OF SYMBOLS, Continued

SYMBOL	DESCRIPTION
FREQ	Frequency in KC/Sec.
GAMMAO	Gradient within Layer in FPS/FT.
GAMMA1	Gradient Below Layer in FPS/FT.
HSC	Total One-Way Propagation Loss in dB.
HSCUM	Total Two-Way Propagation Loss in dB.
HSSC	One-Way Surface Scattering Loss in dB.
HKSC	One-Way Absorption Loss in dB.

The computed results have been presented in tabular form to give one-way propagation loss, two-way propagation loss, one-way surface scattering loss, and one-way absorption loss for a series of horizontal range values.

The data in this manual was computed for the following constant conditions:

FREQUENCY = 13 KC

SOURCE DEPTH = 20 FT.

GRADIENT IN LAYER = .018 FPS/FT.

GRADIENT BELOW LAYER = -.3333 FPS/FT.

SURFACE WATER TEMPERATURE = 60 DEGREES F.

SURFACE SOUND VELOCITY = 4947 FPS.

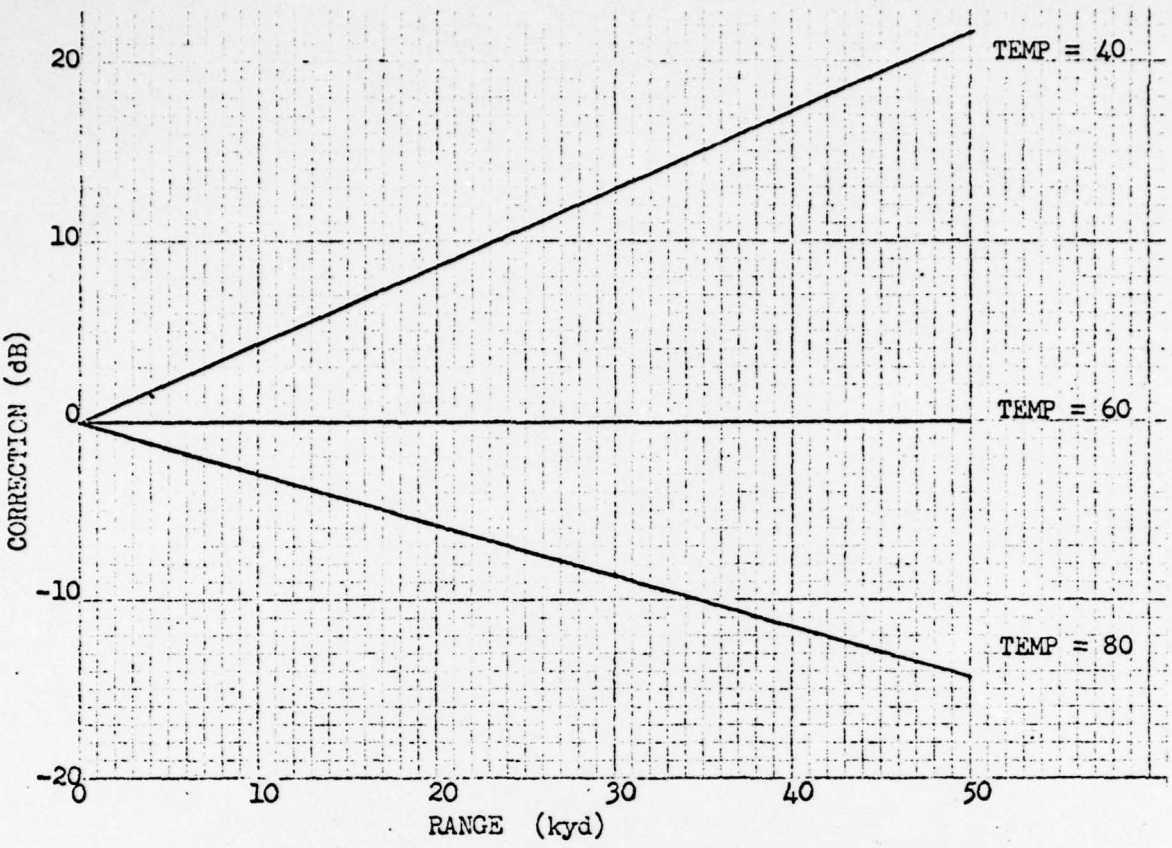
Computations have been carried out for several values of layer depth, target depth, and wave height. Six values of layer depth were selected, and for each of these six layer depths four and sometimes five associated target depths were used.

The layer depths selected are 50 FT, 100 FT, 150 FT, 200 FT, 300 FT, and 500 FT. The computed print-outs for these various depths are indexed with visible external tabs. For each of these layer depths the target depth was fixed at periscope depth, layer depth, 100 FT below the layer, and at the depth computed from the expression $30\sqrt{\text{LAYER DEPTH}}$. For the 300 FT and 500 FT layers a mid-channel target was also included.

For each layer depth and associated target depth, a series of loss computations were carried out for wave heights of 1, 2, 3, 4, 6, 8, and 10 FT.

The resulting data have been organized by labeled separators in order to facilitate finding a particular set of data. Each tabulated page includes a list of the input parameters which apply.

For sea surface temperatures which differ from the 60 Degrees Fahrenheit used in the computations, a slight correction can be carried out by using the following temperature correction curves. The corrections indicated are for one-way propagation and should be doubled for two-way cases.



REFERENCES

1. Watson, W. H. and McGirr, R. W., A Surface Channel Propagation Loss Model (I), NEL Tech Memo 921, 30 March 1966.

2. Pederson, M. A. and Gordon, D. F., "Normal-Mode Theory Applied to Short-Range Propagation in an Underwater Acoustic Surface Duct", JASA Volume 37, No. 1, Jan 1956.

3. Marsh, Jr., H. W. and Schulkin, Morris, Report on the Status of Project AMOS (Acoustic, Meteorological, and Oceanographic Survey)", USL/Report 255, 21 March 1955.

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.9952	119.990	2.32171	1.00159
1	1.50000	63.8084	127.617	3.48256	1.50239
2	2.00000	67.0038	134.008	4.64341	2.00319
3	3.00000	72.5148	145.030	6.96512	3.00478
4	4.00000	77.4408	154.882	9.28682	4.00637
5	5.00000	82.0569	164.114	11.6085	5.00796
6	6.00000	86.4770	172.954	13.9302	6.00956
7	8.00000	94.9347	189.869	18.5736	8.01274
8	10.0000	103.051	206.101	23.2171	10.0159
9	15.0000	122.426	244.853	34.8256	15.0239
10	20.0000	140.984	281.969	46.4341	20.0319
11	25.0000	159.038	318.077	58.0426	25.0398
12	30.0000	176.769	353.537	69.6512	30.0478
13	40.0000	211.661	423.323	92.8682	40.0637

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
∠TG	35.0000	∠X	20.0000	GAMMA0	0.0180000
∠L	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.0309	120.062	2.35740	1.00159
1	1.50000	63.8619	127.724	3.53610	1.50239
2	2.00000	67.0752	134.150	4.71481	2.00319
3	3.00000	72.6219	145.244	7.07221	3.00478
4	4.00000	77.5836	155.167	9.42961	4.00637
5	5.00000	82.2354	164.471	11.7870	5.00796
6	6.00000	86.6912	173.382	14.1444	6.00956
7	8.00000	95.2203	190.441	18.8592	8.01274
8	10.0000	103.408	206.815	23.5740	10.0159
9	15.0000	122.962	245.924	35.3610	15.0239
10	20.0000	141.698	283.397	47.1481	20.0319
11	25.0000	159.931	319.862	58.9351	25.0398
12	30.0000	177.839	355.679	70.7221	30.0478
13	40.0000	213.089	426.179	94.2961	40.0637

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.4034	120.807	2.72994	1.00159
1	1.50000	64.4207	128.841	4.09491	1.50239
2	2.00000	67.8202	135.640	5.45989	2.00319
3	3.00000	73.7395	147.479	8.18983	3.00478
4	4.00000	79.0737	158.147	10.9198	4.00637
5	5.00000	84.0981	168.196	13.6497	5.00796
6	6.00000	88.9264	177.853	16.3797	6.00956
7	8.00000	98.2006	196.401	21.8395	8.01274
8	10.0000	107.133	214.266	27.2994	10.0159
9	15.0000	128.550	257.100	40.9491	15.0239
10	20.0000	149.149	298.298	54.5989	20.0319
11	25.0000	169.244	338.489	68.2486	25.0398
12	30.0000	189.016	378.031	81.8983	30.0478
13	40.0000	227.991	455.982	109.198	40.0637

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
∠TG	35.0000	∠X	20.0000	GAMMA0	0.0180000
∠L	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	61.7624	123.525	4.08891	1.00159
1	1.50000	66.4592	132.918	6.13336	1.50239
2	2.00000	70.5382	141.076	8.17781	2.00319
3	3.00000	77.8164	155.633	12.2667	3.00478
4	4.00000	84.5096	169.019	16.3556	4.00637
5	5.00000	90.8929	181.786	20.4445	5.00796
6	6.00000	97.0802	194.160	24.5334	6.00956
7	8.00000	109.072	218.145	32.7112	8.01274
8	10.0000	120.723	241.445	40.8891	10.0159
9	15.0000	148.934	297.869	61.3336	15.0239
10	20.0000	176.328	352.657	81.7781	20.0319
11	25.0000	203.218	406.437	102.223	25.0398

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
∠TG	35.0000	∠X	20.0000	GAMMA0	0.0180000
∠L	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.3157	124.631	4.64228	1.00159
1	1.50000	67.2892	134.578	6.96342	1.50239
2	2.00000	71.6449	143.290	9.28455	2.00319
3	3.00000	79.4765	158.953	13.9268	3.00478
4	4.00000	86.7231	173.446	18.5691	4.00637
5	5.00000	93.6598	187.320	23.2114	5.00796
6	6.00000	100.400	200.801	27.8537	6.00956
7	8.00000	113.499	226.998	37.1382	8.01274
8	10.0000	126.256	252.513	46.4228	10.0159
9	15.0000	157.235	314.470	69.6342	15.0239
10	20.0000	187.396	374.791	92.8455	20.0319
11	25.0000	217.053	434.106	116.057	25.0398

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.3157	124.631	4.64228	1.00159
1	1.50000	67.2892	134.578	6.96342	1.50239
2	2.00000	71.6449	143.290	9.28455	2.00319
3	3.00000	79.4765	158.953	13.9268	3.00478
4	4.00000	86.7231	173.446	18.5691	4.00637
5	5.00000	93.6598	187.320	23.2114	5.00796
6	6.00000	100.400	200.801	27.8537	6.00956
7	8.00000	113.499	226.998	37.1382	8.01274
8	10.0000	126.256	252.513	46.4228	10.0159
9	15.0000	157.235	314.470	69.6342	15.0239
10	20.0000	187.396	374.791	92.8455	20.0319
11	25.0000	217.053	434.106	116.057	25.0398

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.3157	124.631	4.64228	1.00159
1	1.50000	67.2892	134.578	6.96342	1.50239
2	2.00000	71.6449	143.290	9.28455	2.00319
3	3.00000	79.4765	158.953	13.9268	3.00478
4	4.00000	86.7231	173.446	18.5691	4.00637
5	5.00000	93.6598	187.320	23.2114	5.00796
6	6.00000	100.400	200.801	27.8537	6.00956
7	8.00000	113.499	226.998	37.1382	8.01274
8	10.0000	126.256	252.513	46.4228	10.0159
9	15.0000	157.235	314.470	69.6342	15.0239
10	20.0000	187.396	374.791	92.8455	20.0319
11	25.0000	217.053	434.106	116.057	25.0398

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ℰTG	150.000	ℱX	20.0000	GAMMA0	0.0180000
ℰL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3384	148.677	2.32171	1.00159
1	1.50000	80.5449	161.090	3.48256	1.50239
2	2.00000	85.7589	171.518	4.64341	2.00319
3	3.00000	93.9321	187.864	6.96512	3.00478
4	4.00000	100.059	200.119	9.28682	4.00637
5	5.00000	105.214	210.428	11.6085	5.00796
6	6.00000	109.955	219.909	13.9302	6.00956
7	8.00000	118.005	237.811	18.5736	8.01274
8	10.0000	127.493	254.987	23.2171	10.0159
9	15.0000	148.123	296.246	34.8256	15.0239
10	20.0000	167.072	335.944	46.4341	20.0319
11	25.0000	187.202	374.405	58.0426	25.0398
12	30.0000	205.879	411.758	69.6512	30.0478

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3741	148.748	2.35740	1.00159
1	1.50000	80.5985	161.197	3.53610	1.50239
2	2.00000	85.8303	171.661	4.71481	2.00319
3	3.00000	94.0392	188.078	7.07221	3.00478
4	4.00000	100.202	200.404	9.42961	4.00637
5	5.00000	105.393	210.785	11.7870	5.00796
6	6.00000	110.169	220.338	14.1444	6.00956
7	8.00000	119.191	238.382	18.8592	8.01274
8	10.0000	127.850	255.701	23.5740	10.0159
9	15.0000	148.659	297.317	35.3610	15.0239
10	20.0000	168.686	337.372	47.1481	20.0319
11	25.0000	188.095	376.190	58.9351	25.0398
12	30.0000	206.950	413.900	70.7221	30.0478

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ETG	150.000	ZX	20.0000	GAMMA0	0.0180000
EL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.7466	149.493	2.72994	1.00159
1	1.50000	81.1573	162.315	4.09491	1.50239
2	2.00000	86.5754	173.151	5.45989	2.00319
3	3.00000	95.1569	190.314	8.18983	3.00478
4	4.00000	101.692	203.384	10.9198	4.00637
5	5.00000	107.255	214.511	13.6497	5.00796
6	6.00000	112.404	224.808	16.3797	6.00956
7	8.00000	122.171	244.342	21.8395	8.01274
8	10.0000	131.576	263.152	27.2994	10.0159
9	15.0000	154.247	308.494	40.9491	15.0239
10	20.0000	176.137	352.274	54.5989	20.0319
11	25.0000	197.408	394.817	68.2486	25.0398
12	30.0000	218.126	436.252	81.8983	30.0478

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ΣTG	150.000	ΣX	20.0000	GAMMA0	0.0180000
ΣL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.6590	153.318	4.64228	1.00159
1	1.50000	84.0258	168.052	6.96342	1.50239
2	2.00000	90.4001	180.800	9.28455	2.00319
3	3.00000	100.894	201.788	13.9268	3.00478
4	4.00000	109.342	218.683	18.5691	4.00637
5	5.00000	116.817	233.634	23.2114	5.00796
6	6.00000	123.878	247.756	27.8537	6.00956
7	8.00000	137.470	274.940	37.1382	8.01274
8	10.0000	150.699	301.398	46.4228	10.0159
9	15.0000	182.932	365.864	69.6342	15.0239
10	20.0000	214.384	428.767	92.8455	20.0319

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.6590	153.318	4.64228	1.00159
1	1.50000	84.0258	168.052	6.96342	1.50239
2	2.00000	90.4001	180.800	9.28455	2.00319
3	3.00000	100.894	201.788	13.9268	3.00478
4	4.00000	109.342	218.683	18.5691	4.00637
5	5.00000	116.817	233.634	23.2114	5.00796
6	6.00000	123.878	247.756	27.8537	6.00956
7	8.00000	137.470	274.940	37.1382	8.01274
8	10.0000	150.699	301.398	46.4228	10.0159
9	15.0000	182.932	365.864	69.6342	15.0239
10	20.0000	214.384	428.767	92.8455	20.0319

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.6590	153.318	4.64228	1.00159
1	1.50000	84.0258	168.052	6.96342	1.50239
2	2.00000	90.4001	180.800	9.28455	2.00319
3	3.00000	100.894	201.788	13.9268	3.00478
4	4.00000	109.342	218.683	18.5691	4.00637
5	5.00000	116.817	233.634	23.2114	5.00796
6	6.00000	123.878	247.756	27.8537	6.00956
7	8.00000	137.470	274.940	37.1382	8.01274
8	10.0000	150.699	301.398	46.4228	10.0159
9	15.0000	182.932	365.864	69.6342	15.0239
10	20.0000	214.384	428.767	92.8455	20.0319

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	212.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.4119	148.824	2.32171	1.00159
1	1.50000	80.7669	161.534	3.48256	1.50239
2	2.00000	86.1368	172.274	4.64341	2.00319
3	3.00000	94.6199	189.240	6.96512	3.00478
4	4.00000	100.929	201.857	9.28682	4.00637
5	5.00000	106.151	212.303	11.6085	5.00796
6	6.00000	110.914	221.829	13.9302	6.00956
7	8.00000	119.877	239.754	18.5736	8.01274
8	10.0000	128.470	256.939	23.2171	10.0159
9	15.0000	149.107	298.215	34.8256	15.0239
10	20.0000	168.966	337.933	46.4341	20.0319
11	25.0000	188.209	376.418	58.0426	25.0398
12	30.0000	206.898	413.796	69.6512	30.0478

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ETG	212.000	ZX	20.0000	GAMMA0	0.0180000
EL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.4476	148.895	2.35740	1.00159
1	1.50000	80.8204	161.641	3.53610	1.50239
2	2.00000	86.2082	172.416	4.71481	2.00319
3	3.00000	94.7270	189.454	7.07221	3.00478
4	4.00000	101.071	202.143	9.42961	4.00637
5	5.00000	106.330	212.660	11.7870	5.00796
6	6.00000	111.128	222.257	14.1444	6.00956
7	8.00000	120.163	240.326	18.8592	8.01274
8	10.0000	128.827	257.653	23.5740	10.0159
9	15.0000	149.643	299.286	35.3610	15.0239
10	20.0000	169.680	339.361	47.1481	20.0319
11	25.0000	189.101	378.203	58.9351	25.0398
12	30.0000	207.069	415.938	70.7221	30.0478

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	212.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.8202	149.640	2.72994	1.00159
1	1.50000	81.3792	162.758	4.09491	1.50239
2	2.00000	86.9533	173.907	5.45989	2.00319
3	3.00000	95.8446	191.689	8.18983	3.00478
4	4.00000	102.562	205.123	10.9198	4.00637
5	5.00000	108.193	216.385	13.6497	5.00796
6	6.00000	113.364	226.727	16.3797	6.00956
7	8.00000	123.143	246.286	21.8395	8.01274
8	10.0000	132.552	265.104	27.2994	10.0159
9	15.0000	155.231	310.462	40.9491	15.0239
10	20.0000	177.131	354.262	54.5989	20.0319
11	25.0000	198.415	396.830	68.2486	25.0398
12	30.0000	219.145	438.291	81.8983	30.0478

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ETG	212.000	ZX	20.0000	GAMMA0	0.0180000
EL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.1791	152.358	4.08891	1.00159
1	1.50000	83.4177	166.835	6.13336	1.50239
2	2.00000	89.6712	179.342	8.17781	2.00319
3	3.00000	99.9215	199.843	12.2667	3.00478
4	4.00000	107.997	215.995	16.3556	4.00637
5	5.00000	114.987	229.975	20.4445	5.00796
6	6.00000	121.517	243.035	24.5334	6.00956
7	8.00000	134.015	268.030	32.7112	8.01274
8	10.0000	146.142	292.283	40.8891	10.0159
9	15.0000	175.615	351.231	61.3336	15.0239
10	20.0000	204.310	408.621	81.7781	20.0319

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	212.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.7325	153.465	4.64228	1.00159
1	1.50000	84.2477	168.495	6.96342	1.50239
2	2.00000	90.7779	181.556	9.28455	2.00319
3	3.00000	101.582	203.163	13.9268	3.00478
4	4.00000	110.211	220.422	18.5691	4.00637
5	5.00000	117.754	235.508	23.2114	5.00796
6	6.00000	124.838	249.675	27.8537	6.00956
7	8.00000	138.442	276.884	37.1382	8.01274
8	10.0000	151.675	303.351	46.4228	10.0159
9	15.0000	183.916	367.832	69.6342	15.0239
10	20.0000	215.378	430.756	92.8455	20.0319

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	212.000	ZX	20.0000	GAMMA0	0.0180000
EL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.7325	153.465	4.64228	1.00159
1	1.50000	84.2477	168.495	6.96342	1.50239
2	2.00000	90.7779	181.556	9.28455	2.00319
3	3.00000	101.582	203.163	13.9268	3.00478
4	4.00000	110.211	220.422	18.5691	4.00637
5	5.00000	117.754	235.508	23.2114	5.00796
6	6.00000	124.838	249.675	27.8537	6.00956
7	8.00000	138.442	276.884	37.1382	8.01274
8	10.0000	151.675	303.351	46.4228	10.0159
9	15.0000	183.916	367.832	69.6342	15.0239
10	20.0000	215.378	430.756	92.8455	20.0319

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	212.000	ZX	20.0000	GAMMA0	0.0180000
ZL	50.0000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.7325	153.465	4.64228	1.00159
1	1.50000	84.2477	168.495	6.96342	1.50239
2	2.00000	90.7779	181.556	9.28455	2.00319
3	3.00000	101.582	203.163	13.9268	3.00478
4	4.00000	110.211	220.422	18.5691	4.00637
5	5.00000	117.754	235.508	23.2114	5.00796
6	6.00000	124.838	249.675	27.8537	6.00956
7	8.00000	138.442	276.884	37.1382	8.01274
8	10.0000	151.675	303.351	46.4228	10.0159
9	15.0000	183.916	367.832	69.6342	15.0239
10	20.0000	215.378	430.756	92.8455	20.0319

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.7959	117.592	1.64160	1.00159
1	1.50000	61.9442	123.888	2.46240	1.50239
2	2.00000	64.5621	129.124	3.28320	2.00319
3	3.00000	69.0328	138.066	4.92480	3.00478
4	4.00000	72.9737	145.947	6.56640	4.00637
5	5.00000	76.6241	153.248	8.20801	5.00796
6	6.00000	80.0904	160.181	9.84961	6.00956
7	8.00000	86.6746	173.349	13.1328	8.01274
8	10.0000	92.9660	185.932	16.4160	10.0159
9	15.0000	108.002	216.004	24.6240	15.0239
10	20.0000	122.503	245.007	32.8320	20.0319
11	25.0000	136.713	273.425	41.0400	25.0398
12	30.0000	150.738	301.476	49.2480	30.0478
13	40.0000	178.443	356.886	65.6640	40.0637
14	50.0000	205.861	411.722	82.0801	50.0796

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ℰTG	35.0000	ℰX	20.0000	GAMMA0	0.0180000
ℰL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.8211	117.642	1.66684	1.00159
1	1.50000	61.9821	123.964	2.50026	1.50239
2	2.00000	64.6126	129.225	3.33368	2.00319
3	3.00000	69.1085	138.217	5.00053	3.00478
4	4.00000	73.0746	146.149	6.66737	4.00637
5	5.00000	76.7503	153.501	8.33421	5.00796
6	6.00000	80.2419	160.484	10.0011	6.00956
7	8.00000	86.8766	173.753	13.3347	8.01274
8	10.0000	93.2184	186.437	16.6684	10.0159
9	15.0000	108.381	216.761	25.0026	15.0239
10	20.0000	123.008	246.016	33.3368	20.0319
11	25.0000	137.344	274.687	41.6711	25.0398
12	30.0000	151.495	302.990	50.0053	30.0478
13	40.0000	179.453	358.905	66.6737	40.0637
14	50.0000	207.123	414.246	83.3421	50.0796

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMAO	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.0845	118.169	1.93025	1.00159
1	1.50000	62.3772	124.754	2.89538	1.50239
2	2.00000	65.1394	130.279	3.86051	2.00319
3	3.00000	69.8987	139.797	5.79076	3.00478
4	4.00000	74.1283	148.257	7.72101	4.00637
5	5.00000	78.0674	156.135	9.65126	5.00796
6	6.00000	81.8223	163.645	11.5815	6.00956
7	8.00000	88.9839	177.968	15.4420	8.01274
8	10.0000	95.8525	191.705	19.3025	10.0159
9	15.0000	112.332	224.664	28.9538	15.0239
10	20.0000	128.276	256.553	38.6051	20.0319
11	25.0000	143.929	287.858	48.2563	25.0398
12	30.0000	159.397	318.795	57.9076	30.0478
13	40.0000	189.989	379.978	77.2101	40.0637
14	50.0000	220.293	440.587	96.5126	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.0454	120.091	2.89113	1.00159
1	1.50000	63.8185	127.637	4.33670	1.50239
2	2.00000	67.0611	134.122	5.78226	2.00319
3	3.00000	72.7813	145.563	8.67339	3.00478
4	4.00000	77.9718	155.944	11.5645	4.00637
5	5.00000	82.8718	165.744	14.4557	5.00796
6	6.00000	87.5876	175.175	17.3468	6.00956
7	8.00000	96.6709	193.342	23.1290	8.01274
8	10.0000	105.461	210.923	28.9113	10.0159
9	15.0000	126.745	253.490	43.3670	15.0239
10	20.0000	147.494	294.988	57.8226	20.0319
11	25.0000	167.951	335.902	72.2783	25.0398
12	30.0000	188.224	376.447	86.7339	30.0478
13	40.0000	228.424	456.848	115.645	40.0637

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMAO	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.4367	120.873	3.28240	1.00159
1	1.50000	64.4054	128.811	4.92360	1.50239
2	2.00000	67.8437	135.687	6.56480	2.00319
3	3.00000	73.9552	147.910	9.84720	3.00478
4	4.00000	79.5369	159.074	13.1296	4.00637
5	5.00000	84.8281	169.656	16.4120	5.00796
6	6.00000	89.9352	179.870	19.6944	6.00956
7	8.00000	99.8010	199.602	26.2592	8.01274
8	10.0000	109.374	218.748	32.8240	10.0159
9	15.0000	132.614	265.228	49.2360	15.0239
10	20.0000	155.319	310.639	65.6480	20.0319
11	25.0000	177.733	355.465	82.0600	25.0398
12	30.0000	199.962	399.924	98.4720	30.0478
13	40.0000	244.075	488.150	131.296	40.0637

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.4367	120.873	3.28240	1.00159
1	1.50000	64.4054	128.811	4.92360	1.50239
2	2.00000	67.8437	135.687	6.56480	2.00319
3	3.00000	73.9552	147.910	9.84720	3.00478
4	4.00000	79.5369	159.074	13.1296	4.00637
5	5.00000	84.8281	169.656	16.4120	5.00796
6	6.00000	89.9352	179.870	19.6944	6.00956
7	8.00000	99.8010	199.602	26.2592	8.01274
8	10.0000	109.374	218.748	32.8240	10.0159
9	15.0000	132.614	265.228	49.2360	15.0239
10	20.0000	155.319	310.639	65.6480	20.0319
11	25.0000	177.733	355.465	82.0600	25.0398
12	30.0000	199.962	399.924	98.4720	30.0478
13	40.0000	244.075	488.150	131.296	40.0637

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	60.4367	120.873	3.28240	1.00159
1	1.50000	64.4054	128.811	4.92360	1.50239
2	2.00000	67.8437	135.687	6.56480	2.00319
3	3.00000	73.9552	147.910	9.84720	3.00478
4	4.00000	79.5369	159.074	13.1296	4.00637
5	5.00000	84.8281	169.656	16.4120	5.00796
6	6.00000	89.9352	179.870	19.6944	6.00956
7	8.00000	99.8010	199.602	26.2592	8.01274
8	10.0000	109.374	218.748	32.8240	10.0159
9	15.0000	132.614	265.228	49.2360	15.0239
10	20.0000	155.319	310.639	65.6480	20.0319
11	25.0000	177.733	355.465	82.0600	25.0398
12	30.0000	199.962	399.924	98.4720	30.0478
13	40.0000	244.075	488.150	131.296	40.0637

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.8624	137.725	1.64160	1.00159
1	1.50000	73.6673	147.335	2.46240	1.50239
2	2.00000	77.4262	154.852	3.28320	2.00319
3	3.00000	83.3317	166.663	4.92480	3.00478
4	4.00000	88.1876	176.375	6.56640	4.00637
5	5.00000	92.5236	185.047	8.20801	5.00796
6	6.00000	96.5463	193.093	9.84961	6.00956
7	8.00000	104.004	208.007	13.1328	8.01274
8	10.0000	110.957	221.914	16.4160	10.0159
9	15.0000	127.126	254.252	24.6240	15.0239
10	20.0000	142.364	284.728	32.8320	20.0319
11	25.0000	157.104	314.207	41.0400	25.0398
12	30.0000	171.531	343.062	49.2480	30.0478
13	40.0000	199.813	399.626	65.6640	40.0637
14	50.0000	227.647	455.293	82.0801	50.0796

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ETG	100.000	EX	20.0000	GAMMA0	0.0180000
EL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.8877	137.775	1.66684	1.00159
1	1.50000	73.7052	147.410	2.50026	1.50239
2	2.00000	77.4767	154.953	3.33368	2.00319
3	3.00000	83.4074	166.815	5.00053	3.00478
4	4.00000	88.2886	176.577	6.66737	4.00637
5	5.00000	92.6498	185.300	8.33421	5.00796
6	6.00000	96.6978	193.396	10.0011	6.00956
7	8.00000	104.206	208.411	13.3347	8.01274
8	10.0000	111.209	222.419	16.6684	10.0159
9	15.0000	127.504	255.009	25.0026	15.0239
10	20.0000	142.869	285.738	33.3368	20.0319
11	25.0000	157.735	315.469	41.6711	25.0398
12	30.0000	172.288	344.576	50.0053	30.0478
13	40.0000	200.823	401.645	66.6737	40.0637

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.1511	138.302	1.93025	1.00159
1	1.50000	74.1003	148.201	2.89538	1.50239
2	2.00000	78.0036	156.007	3.86051	2.00319
3	3.00000	84.1977	168.395	5.79076	3.00478
4	4.00000	89.3422	178.684	7.72101	4.00637
5	5.00000	93.9669	187.934	9.65126	5.00796
6	6.00000	98.2782	196.556	11.5815	6.00956
7	8.00000	106.313	212.626	15.4420	8.01274
8	10.0000	113.844	227.687	19.3025	10.0159
9	15.0000	131.456	262.911	28.9538	15.0239
10	20.0000	148.137	296.274	38.6051	20.0319
11	25.0000	164.320	328.640	48.2563	25.0398
12	30.0000	180.190	360.381	57.9076	30.0478
13	40.0000	211.359	422.718	77.2101	40.0637

NPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
!TG	100.000	ZX	20.0000	GAMMAO	0.0180000
!L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	70.1120	140.224	2.89113	1.00159
1	1.50000	75.5416	151.083	4.33670	1.50239
2	2.00000	79.9253	159.851	5.78226	2.00319
3	3.00000	87.0803	174.161	8.67339	3.00478
4	4.00000	93.1857	186.371	11.5645	4.00637
5	5.00000	98.7712	197.542	14.4557	5.00796
6	6.00000	104.044	208.087	17.3468	6.00956
7	8.00000	114.000	228.000	23.1290	8.01274
8	10.0000	123.452	246.905	28.9113	10.0159
9	15.0000	145.869	291.737	43.3670	15.0239
10	20.0000	167.355	334.710	57.8226	20.0319
1	25.0000	188.342	376.684	72.2783	25.0398
12	30.0000	209.017	418.034	86.7339	30.0478

NPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
:TG	100.000	ZX	20.0000	GAMMA0	0.0180000
:L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	70.5032	141.006	3.28240	1.00159
1	1.50000	76.1285	152.257	4.92360	1.50239
2	2.00000	80.7078	161.416	6.56480	2.00319
3	3.00000	88.2541	176.508	9.84720	3.00478
4	4.00000	94.7508	189.502	13.1296	4.00637
5	5.00000	100.728	201.455	16.4120	5.00796
6	6.00000	106.391	212.782	19.6944	6.00956
7	8.00000	117.130	234.260	26.2592	8.01274
8	10.0000	127.365	254.730	32.8240	10.0159
9	15.0000	151.738	303.476	49.2360	15.0239
10	20.0000	175.180	350.360	65.6480	20.0319
11	25.0000	198.124	396.247	82.0600	25.0398
12	30.0000	220.755	441.510	98.4720	30.0478

NPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
TG	100.000	ZX	20.0000	GAMMA0	0.0180000
L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	70.5032	141.006	3.28240	1.00159
1	1.50000	76.1285	152.257	4.92360	1.50239
2	2.00000	80.7078	161.416	6.56480	2.00319
3	3.00000	88.2541	176.508	9.84720	3.00478
4	4.00000	94.7508	189.502	13.1296	4.00637
5	5.00000	100.728	201.455	16.4120	5.00796
6	6.00000	106.391	212.782	19.6944	6.00956
7	8.00000	117.130	234.260	26.2592	8.01274
8	10.0000	127.365	254.730	32.8240	10.0159
9	15.0000	151.738	303.476	49.2360	15.0239
10	20.0000	175.180	350.360	65.6480	20.0319
1	25.0000	198.124	396.247	82.0600	25.0398
12	30.0000	220.755	441.510	98.4720	30.0478

NPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
TG	100.000	ZX	20.0000	GAMMA0	0.0180000
LL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	70.5032	141.006	3.28240	1.00159
1	1.50000	76.1285	152.257	4.92360	1.50239
2	2.00000	80.7078	161.416	6.56480	2.00319
3	3.00000	88.2541	176.508	9.84720	3.00478
4	4.00000	94.7508	189.502	13.1296	4.00637
5	5.00000	100.728	201.455	16.4120	5.00796
6	6.00000	106.391	212.782	19.6944	6.00956
7	8.00000	117.130	234.260	26.2592	8.01274
8	10.0000	127.365	254.730	32.8240	10.0159
9	15.0000	151.738	303.476	49.2360	15.0239
10	20.0000	175.180	350.360	65.6480	20.0319
11	25.0000	198.124	396.247	82.0600	25.0398
12	30.0000	220.755	441.510	98.4720	30.0478

NPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
TG	200.000	ZX	20.0000	GAMMAO	0.0180000
L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5332	149.066	1.64160	1.00159
1	1.50000	80.5712	161.142	2.46240	1.50239
2	2.00000	85.2813	170.563	3.28320	2.00319
3	3.00000	92.2650	184.530	4.92480	3.00478
4	4.00000	97.5922	195.184	6.56640	4.00637
5	5.00000	102.181	204.361	8.20801	5.00796
6	6.00000	106.373	212.746	9.84961	6.00956
7	8.00000	114.071	228.142	13.1328	8.01274
8	10.0000	121.201	242.402	16.4160	10.0159
9	15.0000	137.667	275.333	24.6240	15.0239
10	20.0000	153.094	306.189	32.8320	20.0319
1	25.0000	167.970	335.939	41.0400	25.0398
2	30.0000	182.499	364.998	49.2480	30.0478
13	40.0000	210.919	421.839	65.6640	40.0637

NPUT PARAMETERS

WA	2.00000	FREQ	13.0000	CS	4947.00
TG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5584	149.117	1.66684	1.00159
1	1.50000	80.6090	161.218	2.50026	1.50239
2	2.00000	85.3317	170.663	3.33368	2.00319
3	3.00000	92.3407	184.681	5.00053	3.00478
4	4.00000	97.6932	195.386	6.66737	4.00637
5	5.00000	102.307	204.614	8.33421	5.00796
6	6.00000	106.524	213.049	10.0011	6.00956
7	8.00000	114.273	228.546	13.3347	8.01274
8	10.0000	121.454	242.907	16.6684	10.0159
9	15.0000	138.045	276.090	25.0026	15.0239
10	20.0000	153.599	307.198	33.3368	20.0319
11	25.0000	168.601	337.201	41.6711	25.0398
12	30.0000	183.256	366.513	50.0053	30.0478
13	40.0000	211.929	423.858	66.6737	40.0637

NPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
:TG	200.000	ZX	20.0000	GAMMA0	0.0180000
:L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.8218	149.644	1.93025	1.00159
1	1.50000	81.0041	162.008	2.89538	1.50239
2	2.00000	85.8586	171.717	3.86051	2.00319
3	3.00000	93.1309	186.262	5.79076	3.00478
4	4.00000	98.7468	197.494	7.72101	4.00637
5	5.00000	103.624	207.248	9.65126	5.00796
6	6.00000	108.105	216.210	11.5815	6.00956
7	8.00000	116.380	232.760	15.4420	8.01274
8	10.0000	124.088	248.175	19.3025	10.0159
9	15.0000	141.996	283.993	28.9538	15.0239
10	20.0000	158.867	317.735	38.6051	20.0319
1	25.0000	175.186	350.372	48.2563	25.0398
12	30.0000	191.159	382.317	57.9076	30.0478
13	40.0000	222.466	444.931	77.2101	40.0637

AGE 17

NPUT PARAMETERS

WA	4.00000	FREQ	13.0000	CS	4947.00
TG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.7827	151.565	2.89113	1.00159
1	1.50000	82.4454	164.891	4.33670	1.50239
2	2.00000	87.7803	175.561	5.78226	2.00319
3	3.00000	96.0136	192.027	8.67339	3.00478
4	4.00000	102.590	205.181	11.5645	4.00637
5	5.00000	108.428	216.857	14.4557	5.00796
6	6.00000	113.870	227.740	17.3468	6.00956
7	8.00000	124.067	248.134	23.1290	8.01274
8	10.0000	133.696	267.393	28.9113	10.0159
9	15.0000	156.410	312.819	43.3670	15.0239
10	20.0000	178.085	356.170	57.8226	20.0319
11	25.0000	199.208	398.416	72.2783	25.0398
12	30.0000	219.985	439.970	86.7339	30.0478

AGE 18

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	200.000	ZX	20.0000	GAMMA0	0.0180000
EL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.1740	152.348	3.28240	1.00159
1	1.50000	83.0324	166.065	4.92360	1.50239
2	2.00000	88.5629	177.126	6.56480	2.00319
3	3.00000	97.1874	194.375	9.84720	3.00478
4	4.00000	104.155	208.311	13.1296	4.00637
5	5.00000	110.385	220.769	16.4120	5.00796
6	6.00000	116.218	232.435	19.6944	6.00956
7	8.00000	127.197	254.395	26.2592	8.01274
8	10.0000	137.609	275.218	32.8240	10.0159
9	15.0000	162.279	324.557	49.2360	15.0239
10	20.0000	185.910	371.821	65.6480	20.0319
1	25.0000	208.990	417.979	82.0600	25.0398

NPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
:TG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.1740	152.348	3.28240	1.00159
1	1.50000	83.0324	166.065	4.92360	1.50239
2	2.00000	88.5629	177.126	6.56480	2.00319
3	3.00000	97.1874	194.375	9.84720	3.00478
4	4.00000	104.155	208.311	13.1296	4.00637
5	5.00000	110.385	220.769	16.4120	5.00796
6	6.00000	116.218	232.435	19.6944	6.00956
7	8.00000	127.197	254.395	26.2592	8.01274
8	10.0000	137.609	275.218	32.8240	10.0159
9	15.0000	162.279	324.557	49.2360	15.0239
10	20.0000	185.910	371.821	65.6480	20.0319
11	25.0000	208.990	417.979	82.0600	25.0398

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ΣTG	200.000	ΣX	20.0000	GAMMA0	0.0180000
ΣL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.1740	152.348	3.28240	1.00159
1	1.50000	83.0324	166.065	4.92360	1.50239
2	2.00000	88.5629	177.126	6.56480	2.00319
3	3.00000	97.1874	194.375	9.84720	3.00478
4	4.00000	104.155	208.311	13.1296	4.00637
5	5.00000	110.385	220.769	16.4120	5.00796
6	6.00000	116.218	232.435	19.6944	6.00956
7	8.00000	127.197	254.395	26.2592	8.01274
8	10.0000	137.609	275.218	32.8240	10.0159
9	15.0000	162.279	324.557	49.2360	15.0239
10	20.0000	185.910	371.821	65.6480	20.0319
1	25.0000	208.990	417.979	82.0600	25.0398

AGE 21

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
HTG	300.000	ZX	20.0000	GAMMA0	0.0180000
HL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.2824	148.565	1.64160	1.00159
1	1.50000	80.7757	161.551	2.46240	1.50239
2	2.00000	85.8549	171.710	3.28320	2.00319
3	3.00000	93.3004	186.601	4.92480	3.00478
4	4.00000	98.8138	197.628	6.56640	4.00637
5	5.00000	103.481	206.962	8.20801	5.00796
6	6.00000	107.715	215.431	9.84961	6.00956
7	8.00000	115.461	230.922	13.1328	8.01274
8	10.0000	122.620	245.239	16.4160	10.0159
9	15.0000	139.124	278.249	24.6240	15.0239
10	20.0000	154.571	309.141	32.8320	20.0319
11	25.0000	169.457	338.914	41.0400	25.0398
12	30.0000	183.994	367.988	49.2480	30.0478
13	40.0000	212.423	424.846	65.6640	40.0637

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ƵTG	300.000	ƵX	20.0000	GAMMA0	0.0180000
ƵL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3076	148.615	1.66684	1.00159
1	1.50000	80.8136	161.627	2.50026	1.50239
2	2.00000	85.9053	171.811	3.33368	2.00319
3	3.00000	93.3761	186.752	5.00053	3.00478
4	4.00000	98.9147	197.829	6.66737	4.00637
5	5.00000	103.607	207.215	8.33421	5.00796
6	6.00000	107.867	215.734	10.0011	6.00956
7	8.00000	115.663	231.325	13.3347	8.01274
8	10.0000	122.872	245.744	16.6684	10.0159
9	15.0000	139.503	279.006	25.0026	15.0239
10	20.0000	155.076	310.151	33.3368	20.0319
11	25.0000	170.088	340.176	41.6711	25.0398
12	30.0000	184.751	369.502	50.0053	30.0478
13	40.0000	213.432	426.865	66.6737	40.0637

AGE 23

NPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
TG	300.000	ZX	20.0000	GAMMA0	0.0180000
-L	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5710	149.142	1.93025	1.00159
1	1.50000	81.2087	162.417	2.89538	1.50239
2	2.00000	86.4322	172.864	3.86051	2.00319
3	3.00000	94.1663	188.333	5.79076	3.00478
4	4.00000	99.9684	199.937	7.72101	4.00637
5	5.00000	104.924	209.849	9.65126	5.00796
6	6.00000	109.447	218.895	11.5815	6.00956
7	8.00000	117.770	235.540	15.4420	8.01274
8	10.0000	125.506	251.012	19.3025	10.0159
9	15.0000	143.454	286.908	28.9538	15.0239
10	20.0000	160.344	320.688	38.6051	20.0319
11	25.0000	176.673	353.346	48.2563	25.0398
12	30.0000	192.653	385.307	57.9076	30.0478
13	40.0000	223.969	447.938	77.2101	40.0637

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ETG	300.000	ZX	20.0000	GAMMA0	0.0180000
EL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.5319	151.064	2.89113	1.00159
1	1.50000	82.6500	165.300	4.33670	1.50239
2	2.00000	88.3539	176.708	5.78226	2.00319
3	3.00000	97.0490	194.098	8.67339	3.00478
4	4.00000	103.812	207.624	11.5645	4.00637
5	5.00000	109.729	219.458	14.4557	5.00796
6	6.00000	115.213	230.425	17.3468	6.00956
7	8.00000	125.457	250.914	23.1290	8.01274
8	10.0000	135.115	270.230	28.9113	10.0159
9	15.0000	157.867	315.734	43.3670	15.0239
10	20.0000	179.561	359.123	57.8226	20.0319
1	25.0000	200.695	401.390	72.2783	25.0398

AGE 25

NPUT PARAMETERS

WA	6.00000	FREQ	13.0000	CS	4947.00
TG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.9232	151.846	3.28240	1.00159
1	1.50000	83.2369	166.474	4.92360	1.50239
2	2.00000	89.1365	178.273	6.56480	2.00319
3	3.00000	98.2228	196.446	9.84720	3.00478
4	4.00000	105.377	210.754	13.1296	4.00637
5	5.00000	111.685	223.370	16.4120	5.00796
6	6.00000	117.560	235.120	19.6944	6.00956
7	8.00000	128.587	257.174	26.2592	8.01274
8	10.0000	139.028	278.055	32.8240	10.0159
9	15.0000	163.736	327.473	49.2360	15.0239
10	20.0000	187.387	374.773	65.6480	20.0319
11	25.0000	210.477	420.954	82.0600	25.0398

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	300.000	ZX	20.0000	GAMMA0	0.0180000
EL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.9232	151.846	3.28240	1.00159
1	1.50000	83.2369	166.474	4.92360	1.50239
2	2.00000	89.1365	178.273	6.56480	2.00319
3	3.00000	98.2228	196.446	9.84720	3.00478
4	4.00000	105.377	210.754	13.1296	4.00637
5	5.00000	111.685	223.370	16.4120	5.00796
6	6.00000	117.560	235.120	19.6944	6.00956
7	8.00000	128.587	257.174	26.2592	8.01274
8	10.0000	139.028	278.055	32.8240	10.0159
9	15.0000	163.736	327.473	49.2360	15.0239
10	20.0000	187.387	374.773	65.6480	20.0319
1	25.0000	210.477	420.954	82.0600	25.0398

AGE 27

NPUT PARAMETERS

WA	10.0000	FREQ	13.0000	CS	4947.00
TG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	100.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.9232	151.846	3.28240	1.00159
1	1.50000	83.2369	166.474	4.92360	1.50239
2	2.00000	89.1365	178.273	6.56480	2.00319
3	3.00000	98.2228	196.446	9.84720	3.00478
4	4.00000	105.377	210.754	13.1296	4.00637
5	5.00000	111.685	223.370	16.4120	5.00796
6	6.00000	117.560	235.120	19.6944	6.00956
7	8.00000	128.587	257.174	26.2592	8.01274
8	10.0000	139.028	278.055	32.8240	10.0159
9	15.0000	163.736	327.473	49.2360	15.0239
10	20.0000	187.387	374.773	65.6480	20.0319
11	25.0000	210.477	420.954	82.0600	25.0398

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.2593	116.519	1.34030	1.00159
1	1.50000	61.2339	122.468	2.01045	1.50239
2	2.00000	63.6841	127.368	2.68060	2.00319
3	3.00000	67.8251	135.650	4.02090	3.00478
4	4.00000	71.4396	142.879	5.36120	4.00637
5	5.00000	74.7666	149.533	6.70150	5.00796
6	6.00000	77.9124	155.825	8.04180	6.00956
7	8.00000	83.8633	167.727	10.7224	8.01274
8	10.0000	89.5293	179.059	13.4030	10.0159
9	15.0000	103.022	206.043	20.1045	15.0239
10	20.0000	115.995	231.989	26.8060	20.0319
11	25.0000	128.683	257.366	33.5075	25.0398
12	30.0000	141.192	282.384	40.2090	30.0478
13	40.0000	165.871	331.742	53.6120	40.0637
14	50.0000	190.266	380.533	67.0150	50.0796
15	60.0000	214.483	428.966	80.4180	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.2799	116.560	1.36091	1.00159
1	1.50000	61.2648	122.530	2.04136	1.50239
2	2.00000	63.7253	127.451	2.72181	2.00319
3	3.00000	67.8869	135.774	4.08272	3.00478
4	4.00000	71.5220	143.044	5.44363	4.00637
5	5.00000	74.8696	149.739	6.80454	5.00796
6	6.00000	78.0360	156.072	8.16544	6.00956
7	8.00000	84.0282	168.056	10.8873	8.01274
8	10.0000	89.7354	179.471	13.6091	10.0159
9	15.0000	103.331	206.662	20.4136	15.0239
10	20.0000	116.407	232.814	27.2182	20.0319
11	25.0000	129.198	258.397	34.0227	25.0398
12	30.0000	141.810	283.620	40.8272	30.0478
13	40.0000	166.695	333.390	54.4363	40.0637
14	50.0000	191.297	382.594	68.0454	50.0796
15	60.0000	215.719	431.439	81.6545	60.0956

NPUT PARAMETERS

WA	3.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMAO	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.4950	116.990	1.57597	1.00159
1	1.50000	61.5874	123.175	2.36396	1.50239
2	2.00000	64.1554	128.311	3.15194	2.00319
3	3.00000	68.5321	137.064	4.72791	3.00478
4	4.00000	72.3823	144.765	6.30389	4.00637
5	5.00000	75.9450	151.890	7.87986	5.00796
6	6.00000	79.3264	158.653	9.45583	6.00956
7	8.00000	85.7487	171.497	12.6078	8.01274
8	10.0000	91.8860	183.772	15.7597	10.0159
9	15.0000	106.557	213.114	23.6396	15.0239
10	20.0000	120.708	241.416	31.5194	20.0319
11	25.0000	134.575	269.150	39.3993	25.0398
12	30.0000	148.262	296.524	47.2791	30.0478
13	40.0000	175.298	350.595	63.0389	40.0637
14	50.0000	202.050	404.100	78.7986	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.2795	118.559	2.36049	1.00159
1	1.50000	62.7642	125.528	3.54073	1.50239
2	2.00000	65.7244	131.449	4.72098	2.00319
3	3.00000	70.8856	141.771	7.08146	3.00478
4	4.00000	75.5203	151.041	9.44195	4.00637
5	5.00000	79.8675	159.735	11.8024	5.00796
6	6.00000	84.0335	168.067	14.1629	6.00956
7	8.00000	92.0248	184.050	18.8839	8.01274
8	10.0000	99.7312	199.462	23.6049	10.0159
9	15.0000	118.325	236.649	35.4073	15.0239
10	20.0000	136.398	272.797	47.2098	20.0319
11	25.0000	154.188	308.376	59.0122	25.0398
12	30.0000	171.797	343.595	70.8146	30.0478
13	40.0000	206.678	413.357	94.4195	40.0637

NPUT PARAMETERS

WA	6.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.5989	119.198	2.67994	1.00159
1	1.50000	63.2434	126.487	4.01992	1.50239
2	2.00000	66.3634	132.727	5.35989	2.00319
3	3.00000	71.8440	143.688	8.03983	3.00478
4	4.00000	76.7982	153.596	10.7198	4.00637
5	5.00000	81.4648	162.930	13.3997	5.00796
6	6.00000	85.9502	171.900	16.0797	6.00956
7	8.00000	94.5805	189.161	21.4396	8.01274
8	10.0000	102.926	205.851	26.7994	10.0159
9	15.0000	123.116	246.233	40.1992	15.0239
10	20.0000	142.788	285.575	53.5989	20.0319
11	25.0000	162.174	324.348	66.9986	25.0398
12	30.0000	181.381	362.762	80.3983	30.0478
13	40.0000	219.457	438.913	107.198	40.0637

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
EL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.5989	119.198	2.67994	1.00159
1	1.50000	63.2434	126.487	4.01992	1.50239
2	2.00000	66.3634	132.727	5.35989	2.00319
3	3.00000	71.8440	143.688	8.03983	3.00478
4	4.00000	76.7982	153.596	10.7198	4.00637
5	5.00000	81.4648	162.930	13.3997	5.00796
6	6.00000	85.9502	171.900	16.0797	6.00956
7	8.00000	94.5805	189.161	21.4396	8.01274
8	10.0000	102.926	205.851	26.7994	10.0159
9	15.0000	123.116	246.233	40.1992	15.0239
10	20.0000	142.788	285.575	53.5989	20.0319
11	25.0000	162.174	324.348	66.9986	25.0398
12	30.0000	181.381	362.762	80.3983	30.0478
13	40.0000	219.457	438.913	107.198	40.0637

NPUT PARAMETERS

.WA	10.0000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.5989	119.198	2.67994	1.00159
1	1.50000	63.2434	126.487	4.01992	1.50239
2	2.00000	66.3634	132.727	5.35989	2.00319
3	3.00000	71.8440	143.688	8.03983	3.00478
4	4.00000	76.7982	153.596	10.7198	4.00637
5	5.00000	81.4648	162.930	13.3997	5.00796
6	6.00000	85.9502	171.900	16.0797	6.00956
7	8.00000	94.5805	189.161	21.4396	8.01274
8	10.0000	102.926	205.851	26.7994	10.0159
9	15.0000	123.116	246.233	40.1992	15.0239
10	20.0000	142.788	285.575	53.5989	20.0319
11	25.0000	162.174	324.348	66.9986	25.0398
12	30.0000	181.381	362.762	80.3983	30.0478
13	40.0000	219.457	438.913	107.198	40.0637

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ETG	150.000	ZX	20.0000	GAMMA0	0.0180000
EL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.9662	131.932	1.34030	1.00159
1	1.50000	70.3932	140.786	2.01045	1.50239
2	2.00000	74.1323	148.265	2.68060	2.00319
3	3.00000	80.4932	160.986	4.02090	3.00478
4	4.00000	85.9748	171.950	5.36120	4.00637
5	5.00000	90.8939	181.788	6.70150	5.00796
6	6.00000	95.4030	190.806	8.04180	6.00956
7	8.00000	103.536	207.071	10.7224	8.01274
8	10.0000	110.846	221.693	13.4030	10.0159
9	15.0000	127.067	254.134	20.1045	15.0239
10	20.0000	141.716	283.431	26.8060	20.0319
11	25.0000	155.544	311.087	33.5075	25.0398
12	30.0000	168.878	337.756	40.2090	30.0478
13	40.0000	194.670	389.340	53.6120	40.0637
14	50.0000	219.784	439.568	67.0150	50.0796

NPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
TG	150.000	ZX	20.0000	GAMMA0	0.0180000
L	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.9868	131.974	1.36091	1.00159
1	1.50000	70.4242	140.848	2.04136	1.50239
2	2.00000	74.1735	148.347	2.72181	2.00319
3	3.00000	80.5550	161.110	4.08272	3.00478
4	4.00000	86.0573	172.115	5.44363	4.00637
5	5.00000	90.9969	181.994	6.80454	5.00796
6	6.00000	95.5267	191.053	8.16544	6.00956
7	8.00000	103.701	207.401	10.8873	8.01274
8	10.0000	111.052	222.105	13.6091	10.0159
9	15.0000	127.376	254.753	20.4136	15.0239
10	20.0000	142.128	284.256	27.2182	20.0319
11	25.0000	156.059	312.118	34.0227	25.0398
12	30.0000	169.496	338.993	40.8272	30.0478
13	40.0000	195.494	390.988	54.4363	40.0637
14	50.0000	220.814	441.629	68.0454	50.0796

AGE 9

NPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
TG	150.000	ZX	20.0000	GAMMA0	0.0180000
L	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.2019	132.404	1.57597	1.00159
1	1.50000	70.7468	141.494	2.36396	1.50239
2	2.00000	74.6037	149.207	3.15194	2.00319
3	3.00000	81.2002	162.400	4.72791	3.00478
4	4.00000	86.9175	173.835	6.30389	4.00637
5	5.00000	92.0723	184.145	7.87986	5.00796
6	6.00000	96.8170	193.634	9.45583	6.00956
7	8.00000	105.421	210.842	12.6078	8.01274
8	10.0000	113.203	226.406	15.7597	10.0159
9	15.0000	130.602	261.204	23.6396	15.0239
10	20.0000	146.429	292.858	31.5194	20.0319
1	25.0000	161.435	322.871	39.3993	25.0398
12	30.0000	175.948	351.897	47.2791	30.0478
13	40.0000	204.097	408.194	63.0389	40.0637

AGE 10

NPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
TG	150.000	ZX	20.0000	GAMMA0	0.0180000
LL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.9864	133.973	2.36049	1.00159
1	1.50000	71.9235	143.847	3.54073	1.50239
2	2.00000	76.1727	152.345	4.72098	2.00319
3	3.00000	83.5538	167.108	7.08146	3.00478
4	4.00000	90.0556	180.111	9.44195	4.00637
5	5.00000	95.9948	191.990	11.8024	5.00796
6	6.00000	101.524	203.048	14.1629	6.00956
7	8.00000	111.697	223.394	18.8839	8.01274
8	10.0000	121.048	242.096	23.6049	10.0159
9	15.0000	142.370	284.740	35.4073	15.0239
10	20.0000	162.119	324.239	47.2098	20.0319
11	25.0000	181.048	362.097	59.0122	25.0398
12	30.0000	199.484	398.968	70.8146	30.0478
13	40.0000	235.477	470.955	94.4195	40.0637

NPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
:TG	150.000	ZX	20.0000	GAMMA0	0.0180000
:L	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	67.3058	134.612	2.67994	1.00159
1	1.50000	72.4027	144.805	4.01992	1.50239
2	2.00000	76.8116	153.623	5.35989	2.00319
3	3.00000	84.5122	169.024	8.03983	3.00478
4	4.00000	91.3334	182.667	10.7198	4.00637
5	5.00000	97.5921	195.184	13.3997	5.00796
6	6.00000	103.441	206.882	16.0797	6.00956
7	8.00000	114.253	228.506	21.4396	8.01274
8	10.0000	124.243	248.485	26.7994	10.0159
9	15.0000	147.162	294.324	40.1992	15.0239
10	20.0000	168.508	337.017	53.5989	20.0319
11	25.0000	189.035	378.070	66.9986	25.0398
12	30.0000	209.068	418.135	80.3983	30.0478

INPUT PARAMETERS

WA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	67.3058	134.612	2.67994	1.00159
1	1.50000	72.4027	144.805	4.01992	1.50239
2	2.00000	76.8116	153.623	5.35989	2.00319
3	3.00000	84.5122	169.024	8.03983	3.00478
4	4.00000	91.3334	182.667	10.7198	4.00637
5	5.00000	97.5921	195.184	13.3997	5.00796
6	6.00000	103.441	206.882	16.0797	6.00956
7	8.00000	114.253	228.506	21.4396	8.01274
8	10.0000	124.243	248.485	26.7994	10.0159
9	15.0000	147.162	294.324	40.1992	15.0239
10	20.0000	168.508	337.017	53.5989	20.0319
11	25.0000	189.035	378.070	66.9986	25.0398
12	30.0000	209.068	418.135	80.3983	30.0478

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ℰTG	150.000	ℰX	20.0000	GAMMA0	0.0180000
ℰL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	67.3058	134.612	2.67994	1.00159
1	1.50000	72.4027	144.805	4.01992	1.50239
2	2.00000	76.8116	153.623	5.35989	2.00319
3	3.00000	84.5122	169.024	8.03983	3.00478
4	4.00000	91.3334	182.667	10.7198	4.00637
5	5.00000	97.5921	195.184	13.3997	5.00796
6	6.00000	103.441	206.882	16.0797	6.00956
7	8.00000	114.253	228.506	21.4396	8.01274
8	10.0000	124.243	248.485	26.7994	10.0159
9	15.0000	147.162	294.324	40.1992	15.0239
10	20.0000	168.508	337.017	53.5989	20.0319
11	25.0000	189.035	378.070	66.9986	25.0398
12	30.0000	209.068	418.135	80.3983	30.0478

INPUT PARAMETERS

WA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	72.4959	144.992	1.34030	1.00159
1	1.50000	77.3618	154.724	2.01045	1.50239
2	2.00000	81.4408	162.882	2.68060	2.00319
3	3.00000	88.2842	176.568	4.02090	3.00478
4	4.00000	94.1107	188.221	5.36120	4.00637
5	5.00000	99.3112	198.622	6.70150	5.00796
6	6.00000	104.063	208.127	8.04180	6.00956
7	8.00000	112.593	225.186	10.7224	8.01274
8	10.0000	120.203	240.407	13.4030	10.0159
9	15.0000	136.917	273.833	20.1045	15.0239
10	20.0000	151.875	303.751	26.8060	20.0319
11	25.0000	165.929	331.857	33.5075	25.0398
12	30.0000	179.439	358.878	40.2090	30.0478
13	40.0000	205.489	410.979	53.6120	40.0637

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	72.5165	145.033	1.36091	1.00159
1	1.50000	77.3928	154.786	2.04136	1.50239
2	2.00000	81.4820	162.964	2.72181	2.00319
3	3.00000	88.3461	176.692	4.08272	3.00478
4	4.00000	94.1931	188.386	5.44363	4.00637
5	5.00000	99.4143	198.829	6.80454	5.00796
6	6.00000	104.187	208.374	8.16544	6.00956
7	8.00000	112.758	225.515	10.8873	8.01274
8	10.0000	120.410	240.819	13.6091	10.0159
9	15.0000	137.226	274.452	20.4136	15.0239
10	20.0000	152.288	304.575	27.2182	20.0319
11	25.0000	166.444	332.888	34.0227	25.0398
12	30.0000	180.057	360.115	40.8272	30.0478
13	40.0000	206.314	412.628	54.4363	40.0637

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	72.7316	145.463	1.57597	1.00159
1	1.50000	77.7154	155.431	2.36396	1.50239
2	2.00000	81.9122	163.824	3.15194	2.00319
3	3.00000	88.9912	177.982	4.72791	3.00478
4	4.00000	95.0533	190.107	6.30389	4.00637
5	5.00000	100.490	200.979	7.87986	5.00796
6	6.00000	105.477	210.955	9.45583	6.00956
7	8.00000	114.478	228.956	12.6078	8.01274
8	10.0000	122.560	245.120	15.7597	10.0159
9	15.0000	140.452	280.903	23.6396	15.0239
10	20.0000	156.589	313.178	31.5194	20.0319
11	25.0000	171.821	343.641	39.3993	25.0398
12	30.0000	186.509	373.019	47.2791	30.0478
13	40.0000	214.916	429.833	63.0389	40.0637

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.5161	147.032	2.36049	1.00159
1	1.50000	78.8921	157.784	3.54073	1.50239
2	2.00000	83.4812	166.962	4.72098	2.00319
3	3.00000	91.3448	182.690	7.08146	3.00478
4	4.00000	98.1914	196.383	9.44195	4.00637
5	5.00000	104.412	208.824	11.8024	5.00796
6	6.00000	110.185	220.369	14.1629	6.00956
7	8.00000	120.754	241.509	18.8839	8.01274
8	10.0000	130.405	260.811	23.6049	10.0159
9	15.0000	152.219	304.439	35.4073	15.0239
10	20.0000	172.279	344.558	47.2098	20.0319
11	25.0000	191.433	382.867	59.0122	25.0398
12	30.0000	210.045	420.090	70.8146	30.0478

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.8355	147.671	2.67994	1.00159
1	1.50000	79.3713	158.743	4.01992	1.50239
2	2.00000	84.1201	168.240	5.35989	2.00319
3	3.00000	92.3032	184.606	8.03983	3.00478
4	4.00000	99.4692	198.938	10.7198	4.00637
5	5.00000	106.009	212.019	13.3997	5.00796
6	6.00000	112.101	224.203	16.0797	6.00956
7	8.00000	123.310	246.620	21.4396	8.01274
8	10.0000	133.600	267.200	26.7994	10.0159
9	15.0000	157.011	314.023	40.1992	15.0239
10	20.0000	178.668	357.336	53.5989	20.0319
11	25.0000	199.420	398.840	66.9986	25.0398
12	30.0000	219.628	439.257	80.3983	30.0478

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.8355	147.671	2.67994	1.00159
1	1.50000	79.3713	158.743	4.01992	1.50239
2	2.00000	84.1201	168.240	5.35989	2.00319
3	3.00000	92.3032	184.606	8.03983	3.00478
4	4.00000	99.4692	198.938	10.7198	4.00637
5	5.00000	106.009	212.019	13.3997	5.00796
6	6.00000	112.101	224.203	16.0797	6.00956
7	8.00000	123.310	246.620	21.4396	8.01274
8	10.0000	133.600	267.200	26.7994	10.0159
9	15.0000	157.011	314.023	40.1992	15.0239
10	20.0000	178.668	357.336	53.5989	20.0319
11	25.0000	199.420	398.840	66.9986	25.0398
12	30.0000	219.628	439.257	80.3983	30.0478

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.8355	147.671	2.67994	1.00159
1	1.50000	79.3713	158.743	4.01992	1.50239
2	2.00000	84.1201	168.240	5.35989	2.00319
3	3.00000	92.3032	184.606	8.03983	3.00478
4	4.00000	99.4692	198.938	10.7198	4.00637
5	5.00000	106.009	212.019	13.3997	5.00796
6	6.00000	112.101	224.203	16.0797	6.00956
7	8.00000	123.310	246.620	21.4396	8.01274
8	10.0000	133.600	267.200	26.7994	10.0159
9	15.0000	157.011	314.023	40.1992	15.0239
10	20.0000	178.668	357.336	53.5989	20.0319
11	25.0000	199.420	398.840	66.9986	25.0398
12	30.0000	219.628	439.257	80.3983	30.0478

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	368.000	ZX	20.0000	GAMMA0	0.0180000
ZL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	72.9709	145.942	1.34030	1.00159
1	1.50000	78.0228	156.046	2.01045	1.50239
2	2.00000	82.2450	164.490	2.68060	2.00319
3	3.00000	89.2786	178.557	4.02090	3.00478
4	4.00000	95.2234	190.447	5.36120	4.00637
5	5.00000	100.510	201.021	6.70150	5.00796
6	6.00000	105.333	210.665	8.04180	6.00956
7	8.00000	113.971	227.942	10.7224	8.01274
8	10.0000	121.658	243.316	13.4030	10.0159
9	15.0000	138.476	276.952	20.1045	15.0239
10	20.0000	153.484	306.967	26.8060	20.0319
11	25.0000	167.564	335.129	33.5075	25.0398
12	30.0000	181.092	362.184	40.2090	30.0478
13	40.0000	207.163	414.325	53.6120	40.0637

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ETG	368.000	ZX	20.0000	GAMMAO	0.0180000
EL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	72.9915	145.983	1.36091	1.00159
1	1.50000	78.0537	156.107	2.04136	1.50239
2	2.00000	82.2862	164.572	2.72181	2.00319
3	3.00000	89.3405	178.681	4.08272	3.00478
4	4.00000	95.3058	190.612	5.44363	4.00637
5	5.00000	100.613	201.227	6.80454	5.00796
6	6.00000	105.457	210.913	8.16544	6.00956
7	8.00000	114.136	228.272	10.8873	8.01274
8	10.0000	121.864	243.728	13.6091	10.0159
9	15.0000	138.785	277.570	20.4136	15.0239
10	20.0000	153.896	307.791	27.2182	20.0319
11	25.0000	168.079	336.159	34.0227	25.0398
12	30.0000	181.710	363.421	40.8272	30.0478
13	40.0000	207.987	415.974	54.4363	40.0637

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ETG	368.000	ZX	20.0000	GAMMA0	0.0180000
EL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.2066	146.413	1.57597	1.00159
1	1.50000	78.3763	156.753	2.36396	1.50239
2	2.00000	82.7163	165.433	3.15194	2.00319
3	3.00000	89.9856	179.971	4.72791	3.00478
4	4.00000	96.1661	192.332	6.30389	4.00637
5	5.00000	101.689	203.378	7.87986	5.00796
6	6.00000	106.747	213.494	9.45583	6.00956
7	8.00000	115.857	231.713	12.6078	8.01274
8	10.0000	124.015	248.029	15.7597	10.0159
9	15.0000	142.011	284.022	23.6396	15.0239
10	20.0000	158.197	316.394	31.5194	20.0319
11	25.0000	173.456	346.912	39.3993	25.0398
12	30.0000	188.162	376.324	47.2791	30.0478
13	40.0000	216.590	433.179	63.0389	40.0637

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
HTG	368.000	ZX	20.0000	GAMMA0	0.0180000
HL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.9911	147.982	2.36049	1.00159
1	1.50000	79.5531	159.106	3.54073	1.50239
2	2.00000	84.2853	168.571	4.72098	2.00319
3	3.00000	92.3392	184.678	7.08146	3.00478
4	4.00000	99.3041	198.608	9.44195	4.00637
5	5.00000	105.611	211.223	11.8024	5.00796
6	6.00000	111.454	222.908	14.1629	6.00956
7	8.00000	122.133	244.265	18.8839	8.01274
8	10.0000	131.860	263.720	23.6049	10.0159
9	15.0000	153.779	307.557	35.4073	15.0239
10	20.0000	173.887	347.775	47.2098	20.0319
11	25.0000	193.069	386.138	59.0122	25.0398
12	30.0000	211.698	423.395	70.8146	30.0478

NPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
TG	368.000	ZX	20.0000	GAMMA0	0.0180000
LL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3106	148.621	2.67994	1.00159
1	1.50000	80.0323	160.065	4.01992	1.50239
2	2.00000	84.9242	169.848	5.35989	2.00319
3	3.00000	93.2976	186.595	8.03983	3.00478
4	4.00000	100.582	201.164	10.7198	4.00637
5	5.00000	107.209	214.417	13.3997	5.00796
6	6.00000	113.371	226.742	16.0797	6.00956
7	8.00000	124.688	249.377	21.4396	8.01274
8	10.0000	135.054	270.109	26.7994	10.0159
9	15.0000	158.570	317.141	40.1992	15.0239
10	20.0000	180.276	360.553	53.5989	20.0319
11	25.0000	201.055	402.111	66.9986	25.0398

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	368.000	EX	20.0000	GAMMA0	0.0180000
EL	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3106	148.621	2.67994	1.00159
1	1.50000	80.0323	160.065	4.01992	1.50239
2	2.00000	84.9242	169.848	5.35989	2.00319
3	3.00000	93.2976	186.595	8.03983	3.00478
4	4.00000	100.582	201.164	10.7198	4.00637
5	5.00000	107.209	214.417	13.3997	5.00796
6	6.00000	113.371	226.742	16.0797	6.00956
7	8.00000	124.688	249.377	21.4396	8.01274
8	10.0000	135.054	270.109	26.7994	10.0159
9	15.0000	158.570	317.141	40.1992	15.0239
10	20.0000	180.276	360.553	53.5989	20.0319
1	25.0000	201.055	402.111	66.9986	25.0398

AGE 27

NPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
TG	368.000	ZX	20.0000	GAMMA0	0.0180000
_L	150.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3106	148.621	2.67994	1.00159
1	1.50000	80.0323	160.065	4.01992	1.50239
2	2.00000	84.9242	169.848	5.35989	2.00319
3	3.00000	93.2976	186.595	8.03983	3.00478
4	4.00000	100.582	201.164	10.7198	4.00637
5	5.00000	107.209	214.417	13.3997	5.00796
6	6.00000	113.371	226.742	16.0797	6.00956
7	8.00000	124.688	249.377	21.4396	8.01274
8	10.0000	135.054	270.109	26.7994	10.0159
9	15.0000	158.570	317.141	40.1992	15.0239
10	20.0000	180.276	360.553	53.5989	20.0319
11	25.0000	201.055	402.111	66.9986	25.0398

NPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
:TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
:L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.9511	115.902	1.16067	1.00159
1	1.50000	60.8168	121.634	1.74101	1.50239
2	2.00000	63.1628	126.326	2.32135	2.00319
3	3.00000	67.1030	134.206	3.48202	3.00478
4	4.00000	70.5228	141.046	4.64269	4.00637
5	5.00000	73.6602	147.320	5.80337	5.00796
6	6.00000	76.6160	153.232	6.96404	6.00956
7	8.00000	82.1931	164.386	9.28539	8.01274
8	10.0000	87.4895	174.979	11.6067	10.0159
9	15.0000	100.068	200.136	17.4101	15.0239
10	20.0000	112.134	224.267	23.2135	20.0319
1	25.0000	123.919	247.837	29.0168	25.0398
12	30.0000	135.526	271.052	34.8202	30.0478
13	40.0000	158.405	316.810	46.4269	40.0637
4	50.0000	181.003	362.006	58.0337	50.0796
15	60.0000	203.423	406.845	69.6404	60.0956

NPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.9689	115.938	1.17852	1.00159
1	1.50000	60.8436	121.687	1.76778	1.50239
2	2.00000	63.1985	126.397	2.35704	2.00319
3	3.00000	67.1566	134.313	3.53556	3.00478
4	4.00000	70.5941	141.188	4.71408	4.00637
5	5.00000	73.7494	147.499	5.89260	5.00796
6	6.00000	76.7231	153.446	7.07112	6.00956
7	8.00000	82.3359	164.672	9.42816	8.01274
8	10.0000	87.6680	175.336	11.7852	10.0159
9	15.0000	100.336	200.671	17.6778	15.0239
10	20.0000	112.491	224.981	23.5704	20.0319
11	25.0000	124.365	248.730	29.4630	25.0398
12	30.0000	136.061	272.123	35.3556	30.0478
13	40.0000	159.119	318.238	47.1408	40.0637
14	50.0000	181.895	363.790	58.9260	50.0796
15	60.0000	204.494	408.987	70.7112	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
HTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
HL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.1552	116.310	1.36476	1.00159
1	1.50000	61.1230	122.246	2.04714	1.50239
2	2.00000	63.5709	127.142	2.72952	2.00319
3	3.00000	67.7153	135.431	4.09428	3.00478
4	4.00000	71.3391	142.678	5.45904	4.00637
5	5.00000	74.6806	149.361	6.82380	5.00796
6	6.00000	77.8406	155.681	8.18856	6.00956
7	8.00000	83.8258	167.652	10.9181	8.01274
8	10.0000	89.5304	179.061	13.6476	10.0159
9	15.0000	103.129	206.258	20.4714	15.0239
10	20.0000	116.215	232.431	27.2952	20.0319
1	25.0000	129.021	258.042	34.1190	25.0398
12	30.0000	141.648	283.297	40.9428	30.0478
13	40.0000	166.569	333.137	54.5904	40.0637
4	50.0000	191.207	382.414	68.2380	50.0796
15	60.0000	215.668	431.336	81.8856	60.0956

NPUT PARAMETERS

WA	4.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.8346	117.669	2.04414	1.00159
1	1.50000	62.1420	124.284	3.06621	1.50239
2	2.00000	64.9297	129.859	4.08827	2.00319
3	3.00000	69.7534	139.507	6.13241	3.00478
4	4.00000	74.0566	148.113	8.17655	4.00637
5	5.00000	78.0775	156.155	10.2207	5.00796
6	6.00000	81.9168	163.834	12.2648	6.00956
7	8.00000	89.2608	178.522	16.3531	8.01274
8	10.0000	96.3241	192.648	20.4414	10.0159
9	15.0000	113.320	226.640	30.6621	15.0239
10	20.0000	129.803	259.606	40.8827	20.0319
11	25.0000	146.005	292.011	51.1034	25.0398
12	30.0000	162.030	324.060	61.3241	30.0478
13	40.0000	193.744	387.487	81.7655	40.0637
14	50.0000	225.176	450.352	102.207	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.1112	118.222	2.32078	1.00159
1	1.50000	62.5570	125.114	3.48117	1.50239
2	2.00000	65.4830	130.966	4.64156	2.00319
3	3.00000	70.5833	141.167	6.96234	3.00478
4	4.00000	75.1632	150.326	9.28312	4.00637
5	5.00000	79.4607	158.921	11.6039	5.00796
6	6.00000	83.5767	167.153	13.9247	6.00956
7	8.00000	91.4739	182.948	18.5662	8.01274
8	10.0000	99.0906	198.181	23.2078	10.0159
9	15.0000	117.469	234.939	34.8117	15.0239
10	20.0000	135.336	270.672	46.4156	20.0319
11	25.0000	152.921	305.843	58.0195	25.0398
12	30.0000	170.329	340.658	69.6234	30.0478
13	40.0000	204.809	409.619	92.8312	40.0637

AGE 5

NPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.1112	118.222	2.32078	1.00159
1	1.50000	62.5570	125.114	3.48117	1.50239
2	2.00000	65.4830	130.966	4.64156	2.00319
3	3.00000	70.5833	141.167	6.96234	3.00478
4	4.00000	75.1632	150.326	9.28312	4.00637
5	5.00000	79.4607	158.921	11.6039	5.00796
6	6.00000	83.5767	167.153	13.9247	6.00956
7	8.00000	91.4739	182.948	18.5662	8.01274
8	10.0000	99.0906	198.181	23.2078	10.0159
9	15.0000	117.469	234.939	34.8117	15.0239
10	20.0000	135.336	270.672	46.4156	20.0319
11	25.0000	152.921	305.843	58.0195	25.0398
12	30.0000	170.329	340.658	69.6234	30.0478
13	40.0000	204.809	409.619	92.8312	40.0637

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
STG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	59.1112	118.222	2.32078	1.00159
1	1.50000	62.5570	125.114	3.48117	1.50239
2	2.00000	65.4830	130.966	4.64156	2.00319
3	3.00000	70.5833	141.167	6.96234	3.00478
4	4.00000	75.1632	150.326	9.28312	4.00637
5	5.00000	79.4607	158.921	11.6039	5.00796
6	6.00000	83.5767	167.153	13.9247	6.00956
7	8.00000	91.4739	182.948	18.5662	8.01274
8	10.0000	99.0906	198.181	23.2078	10.0159
9	15.0000	117.469	234.939	34.8117	15.0239
10	20.0000	135.336	270.672	46.4156	20.0319
11	25.0000	152.921	305.843	58.0195	25.0398
12	30.0000	170.329	340.658	69.6234	30.0478
13	40.0000	204.809	409.619	92.8312	40.0637

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ETG	100.000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	41.0200	82.0400	1.16067	1.00159
1	1.50000	43.8620	87.7240	1.74101	1.50239
2	2.00000	46.1925	92.3851	2.32135	2.00319
3	3.00000	50.1157	100.231	3.48202	3.00478
4	4.00000	53.5274	107.055	4.64269	4.00637
5	5.00000	56.6587	113.317	5.80337	5.00796
6	6.00000	59.6128	119.226	6.96404	6.00956
7	8.00000	65.1867	130.373	9.28539	8.01274
8	10.0000	70.4804	140.961	11.6067	10.0159
9	15.0000	83.0526	166.105	17.4101	15.0239
10	20.0000	95.1133	190.227	23.2135	20.0319
11	25.0000	106.894	213.788	29.0168	25.0398
12	30.0000	118.497	236.994	34.8202	30.0478
13	40.0000	141.369	282.738	46.4269	40.0637
14	50.0000	163.961	327.921	58.0337	50.0796
15	60.0000	186.375	372.750	69.6404	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ETG	100.000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	41.0378	82.0757	1.17852	1.00159
1	1.50000	43.8888	87.7776	1.76778	1.50239
2	2.00000	46.2282	92.4565	2.35704	2.00319
3	3.00000	50.1693	100.339	3.53556	3.00478
4	4.00000	53.5988	107.198	4.71408	4.00637
5	5.00000	56.7480	113.496	5.89260	5.00796
6	6.00000	59.7199	119.440	7.07112	6.00956
7	8.00000	65.3295	130.659	9.42816	8.01274
8	10.0000	70.6588	141.318	11.7852	10.0159
9	15.0000	83.3203	166.641	17.6778	15.0239
10	20.0000	95.4703	190.941	23.5704	20.0319
11	25.0000	107.340	214.680	29.4630	25.0398
12	30.0000	119.032	238.065	35.3556	30.0478
13	40.0000	142.083	284.166	47.1408	40.0637
14	50.0000	164.853	329.706	58.9260	50.0796
15	60.0000	187.446	374.892	70.7112	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	41.2241	82.4481	1.36476	1.00159
1	1.50000	44.1682	88.3363	2.04714	1.50239
2	2.00000	46.6007	93.2014	2.72952	2.00319
3	3.00000	50.7280	101.456	4.09428	3.00478
4	4.00000	54.3437	108.687	5.45904	4.00637
5	5.00000	57.6792	115.358	6.82380	5.00796
6	6.00000	60.8373	121.675	8.18856	6.00956
7	8.00000	66.8194	133.639	10.9181	8.01274
8	10.0000	72.5212	145.042	13.6476	10.0159
9	15.0000	86.1139	172.228	20.4714	15.0239
10	20.0000	99.1951	198.390	27.2952	20.0319
11	25.0000	111.996	223.992	34.1190	25.0398
12	30.0000	124.620	249.239	40.9428	30.0478
13	40.0000	149.532	299.065	54.5904	40.0637
14	50.0000	174.165	348.330	68.2380	50.0796
15	60.0000	198.620	397.241	81.8856	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
HTG	100.000	ZX	20.0000	GAMMA0	0.0180000
HL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	41.9034	83.8069	2.04414	1.00159
1	1.50000	45.1872	90.3744	3.06621	1.50239
2	2.00000	47.9595	95.9189	4.08827	2.00319
3	3.00000	52.7661	105.532	6.13241	3.00478
4	4.00000	57.0612	114.122	8.17655	4.00637
5	5.00000	61.0761	122.152	10.2207	5.00796
6	6.00000	64.9136	129.827	12.2648	6.00956
7	8.00000	72.2544	144.509	16.3531	8.01274
8	10.0000	79.3150	158.630	20.4414	10.0159
9	15.0000	96.3046	192.609	30.6621	15.0239
10	20.0000	112.783	225.565	40.8827	20.0319
11	25.0000	128.980	257.961	51.1034	25.0398
12	30.0000	145.001	290.002	61.3241	30.0478
13	40.0000	176.707	353.415	81.7655	40.0637
14	50.0000	208.134	416.268	102.207	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	42.1801	84.3602	2.32078	1.00159
1	1.50000	45.6022	91.2044	3.48117	1.50239
2	2.00000	48.5128	97.0255	4.64156	2.00319
3	3.00000	53.5960	107.192	6.96234	3.00478
4	4.00000	58.1678	116.336	9.28312	4.00637
5	5.00000	62.4593	124.919	11.6039	5.00796
6	6.00000	66.5735	133.147	13.9247	6.00956
7	8.00000	74.4676	148.935	18.5662	8.01274
8	10.0000	82.0814	164.163	23.2078	10.0159
9	15.0000	100.454	200.908	34.8117	15.0239
10	20.0000	118.315	236.631	46.4156	20.0319
11	25.0000	135.896	271.793	58.0195	25.0398
12	30.0000	153.300	306.600	69.6234	30.0478
13	40.0000	187.773	375.546	92.8312	40.0637
14	50.0000	221.966	443.932	116.039	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	42.1801	84.3602	2.32078	1.00159
1	1.50000	45.6022	91.2044	3.48117	1.50239
2	2.00000	48.5128	97.0255	4.64156	2.00319
3	3.00000	53.5960	107.192	6.96234	3.00478
4	4.00000	58.1678	116.336	9.28312	4.00637
5	5.00000	62.4593	124.919	11.6039	5.00796
6	6.00000	66.5735	133.147	13.9247	6.00956
7	8.00000	74.4676	148.935	18.5662	8.01274
8	10.0000	82.0814	164.163	23.2078	10.0159
9	15.0000	100.454	200.908	34.8117	15.0239
10	20.0000	118.315	236.631	46.4156	20.0319
11	25.0000	135.896	271.793	58.0195	25.0398
12	30.0000	153.300	306.600	69.6234	30.0478
13	40.0000	187.773	375.546	92.8312	40.0637
14	50.0000	221.966	443.932	116.039	50.0796

INPUT PARAMETERS

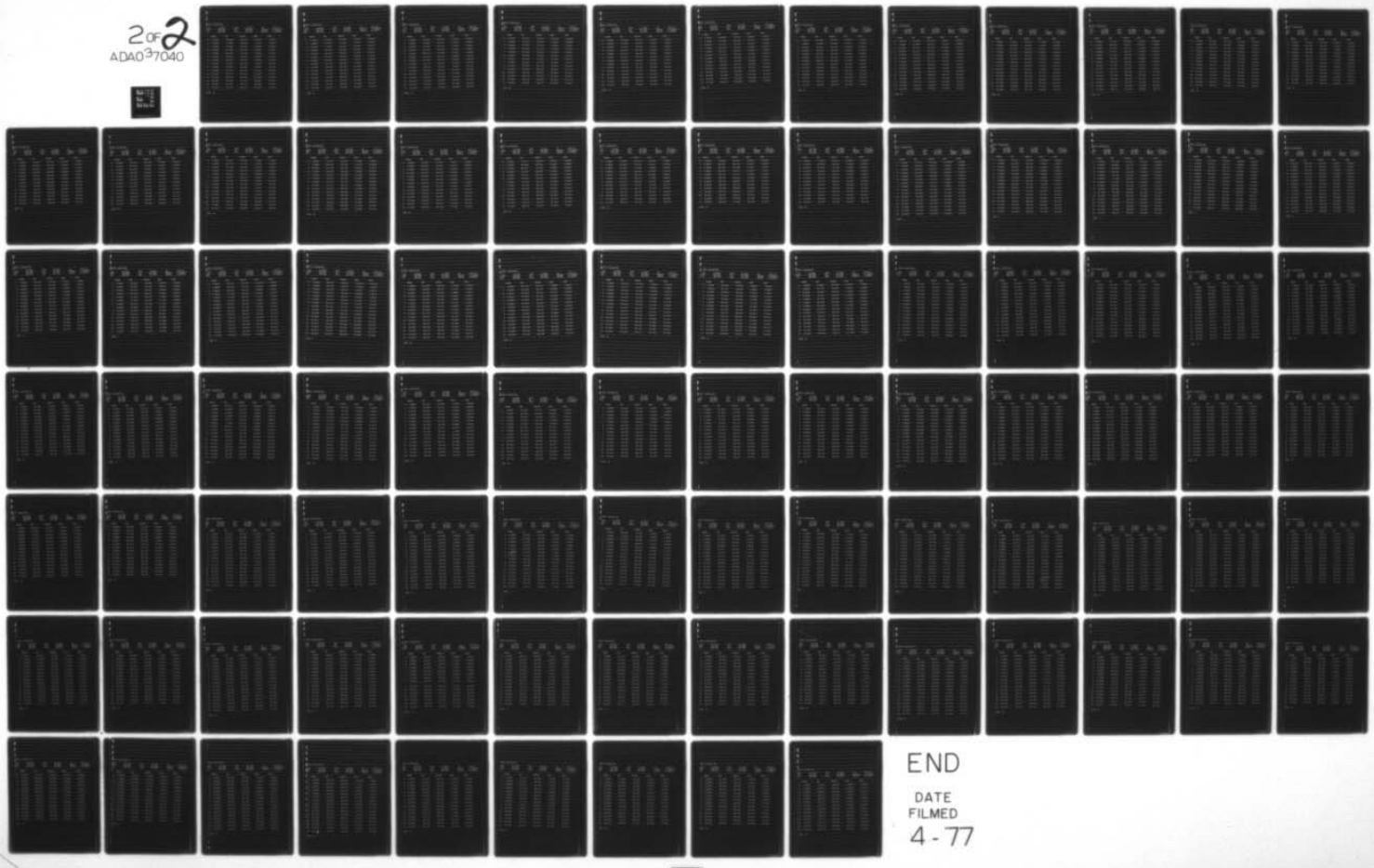
LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	100.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	42.1801	84.3602	2.32078	1.00159
1	1.50000	45.6022	91.2044	3.48117	1.50239
2	2.00000	48.5128	97.0255	4.64156	2.00319
3	3.00000	53.5960	107.192	6.96234	3.00478
4	4.00000	58.1678	116.336	9.28312	4.00637
5	5.00000	62.4593	124.919	11.6039	5.00796
6	6.00000	66.5735	133.147	13.9247	6.00956
7	8.00000	74.4676	148.935	18.5662	8.01274
8	10.0000	82.0814	164.163	23.2078	10.0159
9	15.0000	100.454	200.908	34.8117	15.0239
10	20.0000	118.315	236.631	46.4156	20.0319
11	25.0000	135.896	271.793	58.0195	25.0398
12	30.0000	153.300	306.600	69.6234	30.0478
13	40.0000	187.773	375.546	92.8312	40.0637
14	50.0000	221.966	443.932	116.039	50.0796

AD-A037 040 NAVY ELECTRONICS LAB SAN DIEGO CALIF F/G 17/1
SURFACE CHANNEL PROPAGATION LOSS. FREQUENCY 13 KC/S. GAMMA 0 .0--ETC(U)
SEP 66

UNCLASSIFIED NL

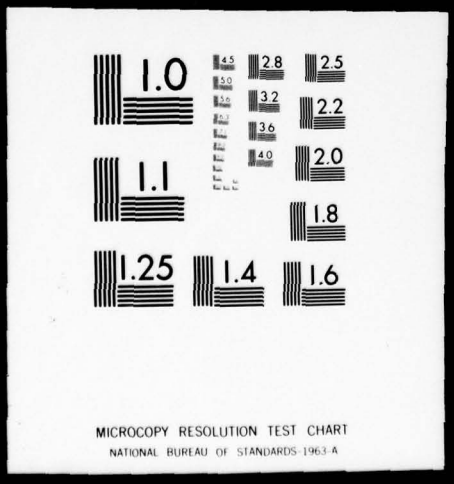
2 OF 2
AD A037040



END

DATE
FILMED
4-77

2 OF 2
AD A037040



INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
STG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.8284	137.657	1.16067	1.00159
1	1.50000	73.2525	146.505	1.74101	1.50239
2	2.00000	76.9899	153.980	2.32135	2.00319
3	3.00000	83.1590	166.318	3.48202	3.00478
4	4.00000	88.0613	176.123	4.64269	4.00637
5	5.00000	92.0765	184.153	5.80337	5.00796
6	6.00000	95.5234	191.047	6.96404	6.00956
7	8.00000	101.534	203.067	9.28539	8.01274
8	10.0000	107.004	214.008	11.6067	10.0159
9	15.0000	119.799	239.598	17.4101	15.0239
10	20.0000	132.018	264.036	23.2135	20.0319
11	25.0000	143.935	287.870	29.0168	25.0398
12	30.0000	155.662	311.324	34.8202	30.0478
13	40.0000	178.759	357.517	46.4269	40.0637
14	50.0000	201.557	403.114	58.0337	50.0796

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.8463	137.693	1.17852	1.00159
1	1.50000	73.2792	146.558	1.76778	1.50239
2	2.00000	77.0256	154.051	2.35704	2.00319
3	3.00000	83.2126	166.425	3.53556	3.00478
4	4.00000	88.1326	176.265	4.71408	4.00637
5	5.00000	92.1657	184.331	5.89260	5.00796
6	6.00000	95.6305	191.261	7.07112	6.00956
7	8.00000	101.676	203.353	9.42816	8.01274
8	10.0000	107.183	214.365	11.7852	10.0159
9	15.0000	120.067	240.133	17.6778	15.0239
10	20.0000	132.375	264.750	23.5704	20.0319
11	25.0000	144.381	288.762	29.4630	25.0398
12	30.0000	156.197	312.394	35.3556	30.0478
13	40.0000	179.472	358.945	47.1408	40.0637
14	50.0000	202.449	404.899	58.9260	50.0796

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ETG	200.000	EX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.0325	138.065	1.36476	1.00159
1	1.50000	73.5586	147.117	2.04714	1.50239
2	2.00000	77.3980	154.796	2.72952	2.00319
3	3.00000	83.7713	167.543	4.09428	3.00478
4	4.00000	88.8776	177.755	5.45904	4.00637
5	5.00000	93.0969	186.194	6.82380	5.00796
6	6.00000	96.7479	193.496	8.18856	6.00956
7	8.00000	103.166	206.333	10.9181	8.01274
8	10.0000	109.045	218.090	13.6476	10.0159
9	15.0000	122.860	245.721	20.4714	15.0239
10	20.0000	136.100	272.200	27.2952	20.0319
11	25.0000	149.037	298.074	34.1190	25.0398
12	30.0000	161.784	323.569	40.9428	30.0478
13	40.0000	186.922	373.844	54.5904	40.0637
14	50.0000	211.761	423.523	68.2380	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.7119	139.424	2.04414	1.00159
1	1.50000	74.5777	149.155	3.06621	1.50239
2	2.00000	78.7568	157.514	4.08827	2.00319
3	3.00000	85.8094	171.619	6.13241	3.00478
4	4.00000	91.5951	183.190	8.17655	4.00637
5	5.00000	96.4938	192.988	10.2207	5.00796
6	6.00000	100.824	201.648	12.2648	6.00956
7	8.00000	108.601	217.203	16.3531	8.01274
8	10.0000	115.839	231.678	20.4414	10.0159
9	15.0000	133.051	266.102	30.6621	15.0239
10	20.0000	149.687	299.375	40.8827	20.0319
11	25.0000	166.022	332.043	51.1034	25.0398
12	30.0000	182.166	364.331	61.3241	30.0478
13	40.0000	214.097	428.194	81.7655	40.0637

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.9885	139.977	2.32078	1.00159
1	1.50000	74.9926	149.985	3.48117	1.50239
2	2.00000	79.3101	158.620	4.64156	2.00319
3	3.00000	86.6393	173.279	6.96234	3.00478
4	4.00000	92.7017	185.403	9.28312	4.00637
5	5.00000	97.8770	195.754	11.6039	5.00796
6	6.00000	102.484	204.968	13.9247	6.00956
7	8.00000	110.814	221.629	18.5662	8.01274
8	10.0000	118.605	237.211	23.2078	10.0159
9	15.0000	137.201	274.401	34.8117	15.0239
10	20.0000	155.220	310.440	46.4156	20.0319
11	25.0000	172.938	345.875	58.0195	25.0398
12	30.0000	190.465	380.930	69.6234	30.0478
13	40.0000	225.163	450.326	92.8312	40.0637

INPUT PARAMETERS

WA	8.00000	FREQ	13.0000	CS	4947.00
TG	200.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.9885	139.977	2.32078	1.00159
1	1.50000	74.9926	149.985	3.48117	1.50239
2	2.00000	79.3101	158.620	4.64156	2.00319
3	3.00000	86.6393	173.279	6.96234	3.00478
4	4.00000	92.7017	185.403	9.28312	4.00637
5	5.00000	97.8770	195.754	11.6039	5.00796
6	6.00000	102.484	204.968	13.9247	6.00956
7	8.00000	110.814	221.629	18.5662	8.01274
8	10.0000	118.605	237.211	23.2078	10.0159
9	15.0000	137.201	274.401	34.8117	15.0239
10	20.0000	155.220	310.440	46.4156	20.0319
11	25.0000	172.938	345.875	58.0195	25.0398
12	30.0000	190.465	380.930	69.6234	30.0478
13	40.0000	225.163	450.326	92.8312	40.0637

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ETG	200.000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.9885	139.977	2.32078	1.00159
1	1.50000	74.9926	149.985	3.48117	1.50239
2	2.00000	79.3101	158.620	4.64156	2.00319
3	3.00000	86.6393	173.279	6.96234	3.00478
4	4.00000	92.7017	185.403	9.28312	4.00637
5	5.00000	97.8770	195.754	11.6039	5.00796
6	6.00000	102.484	204.968	13.9247	6.00956
7	8.00000	110.814	221.629	18.5662	8.01274
8	10.0000	118.605	237.211	23.2078	10.0159
9	15.0000	137.201	274.401	34.8117	15.0239
10	20.0000	155.220	310.440	46.4156	20.0319
11	25.0000	172.938	345.875	58.0195	25.0398
12	30.0000	190.465	380.930	69.6234	30.0478
13	40.0000	225.163	450.326	92.8312	40.0637

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ETG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.0692	150.138	1.16067	1.00159
1	1.50000	79.8592	159.718	1.74101	1.50239
2	2.00000	83.9790	167.958	2.32135	2.00319
3	3.00000	91.0617	182.123	3.48202	3.00478
4	4.00000	96.9805	193.961	4.64269	4.00637
5	5.00000	101.888	203.776	5.80337	5.00796
6	6.00000	105.959	211.918	6.96404	6.00956
7	8.00000	112.549	225.098	9.28539	8.01274
8	10.0000	118.196	236.391	11.6067	10.0159
9	15.0000	131.093	262.186	17.4101	15.0239
10	20.0000	143.347	286.694	23.2135	20.0319
11	25.0000	155.287	310.574	29.0168	25.0398
12	30.0000	167.031	334.061	34.8202	30.0478
13	40.0000	190.151	380.303	46.4269	40.0637
14	50.0000	212.967	425.934	58.0337	50.0796

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.0871	150.174	1.17852	1.00159
1	1.50000	79.8860	159.772	1.76778	1.50239
2	2.00000	84.0147	168.029	2.35704	2.00319
3	3.00000	91.1152	182.230	3.53556	3.00478
4	4.00000	97.0519	194.104	4.71408	4.00637
5	5.00000	101.977	203.955	5.89260	5.00796
6	6.00000	106.066	212.132	7.07112	6.00956
7	8.00000	112.692	225.384	9.42816	8.01274
8	10.0000	118.374	236.748	11.7852	10.0159
9	15.0000	131.361	262.721	17.6778	15.0239
10	20.0000	143.704	287.408	23.5704	20.0319
11	25.0000	155.733	311.466	29.4630	25.0398
12	30.0000	167.566	335.132	35.3556	30.0478
13	40.0000	190.865	381.730	47.1408	40.0637
14	50.0000	213.859	427.718	58.9260	50.0796

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
STG	300.000	ZX	20.0000	GAMMAO	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.2733	150.547	1.36476	1.00159
1	1.50000	80.1654	160.331	2.04714	1.50239
2	2.00000	84.3872	168.774	2.72952	2.00319
3	3.00000	91.6739	183.348	4.09428	3.00478
4	4.00000	97.7969	195.594	5.45904	4.00637
5	5.00000	102.908	205.817	6.82380	5.00796
6	6.00000	107.184	214.367	8.18856	6.00956
7	8.00000	114.182	228.364	10.9181	8.01274
8	10.0000	120.237	240.473	13.6476	10.0159
9	15.0000	134.154	268.308	20.4714	15.0239
10	20.0000	147.429	294.858	27.2952	20.0319
11	25.0000	160.389	320.778	34.1190	25.0398
12	30.0000	173.153	346.306	40.9428	30.0478
13	40.0000	198.315	396.630	54.5904	40.0637
14	50.0000	223.171	446.342	68.2380	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ETG	300.000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	75.9527	151.905	2.04414	1.00159
1	1.50000	81.1844	162.369	3.06621	1.50239
2	2.00000	85.7459	171.492	4.08827	2.00319
3	3.00000	93.7121	187.424	6.13241	3.00478
4	4.00000	100.514	201.029	8.17655	4.00637
5	5.00000	106.305	212.611	10.2207	5.00796
6	6.00000	111.260	222.520	12.2648	6.00956
7	8.00000	119.617	239.234	16.3531	8.01274
8	10.0000	127.030	254.061	20.4414	10.0159
9	15.0000	144.345	288.690	30.6621	15.0239
10	20.0000	161.016	322.033	40.8827	20.0319
11	25.0000	177.373	354.747	51.1034	25.0398
12	30.0000	193.535	387.069	61.3241	30.0478
13	40.0000	225.490	450.980	81.7655	40.0637

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.2293	152.459	2.32078	1.00159
1	1.50000	81.5994	163.199	3.48117	1.50239
2	2.00000	86.2992	172.598	4.64156	2.00319
3	3.00000	94.5420	189.084	6.96234	3.00478
4	4.00000	101.621	203.242	9.28312	4.00637
5	5.00000	107.689	215.377	11.6039	5.00796
6	6.00000	112.920	225.839	13.9247	6.00956
7	8.00000	121.830	243.660	18.5662	8.01274
8	10.0000	129.797	259.593	23.2078	10.0159
9	15.0000	148.494	296.989	34.8117	15.0239
10	20.0000	166.549	333.098	46.4156	20.0319
11	25.0000	184.289	368.579	58.0195	25.0398
12	30.0000	201.834	403.668	69.6234	30.0478

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	300.000	ZX	20.0000	GAMMA0	0.0180000
EL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.2293	152.459	2.32078	1.00159
1	1.50000	81.5994	163.199	3.48117	1.50239
2	2.00000	86.2992	172.598	4.64156	2.00319
3	3.00000	94.5420	189.084	6.96234	3.00478
4	4.00000	101.621	203.242	9.28312	4.00637
5	5.00000	107.689	215.377	11.6039	5.00796
6	6.00000	112.920	225.839	13.9247	6.00956
7	8.00000	121.830	243.660	18.5662	8.01274
8	10.0000	129.797	259.593	23.2078	10.0159
9	15.0000	148.494	296.989	34.8117	15.0239
10	20.0000	166.549	333.098	46.4156	20.0319
11	25.0000	184.289	368.579	58.0195	25.0398
12	30.0000	201.834	403.668	69.6234	30.0478

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.2293	152.459	2.32078	1.00159
1	1.50000	81.5994	163.199	3.48117	1.50239
2	2.00000	86.2992	172.598	4.64156	2.00319
3	3.00000	94.5420	189.084	6.96234	3.00478
4	4.00000	101.621	203.242	9.28312	4.00637
5	5.00000	107.689	215.377	11.6039	5.00796
6	6.00000	112.920	225.839	13.9247	6.00956
7	8.00000	121.830	243.660	18.5662	8.01274
8	10.0000	129.797	259.593	23.2078	10.0159
9	15.0000	148.494	296.989	34.8117	15.0239
10	20.0000	166.549	333.098	46.4156	20.0319
11	25.0000	184.289	368.579	58.0195	25.0398
12	30.0000	201.834	403.668	69.6234	30.0478

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ETG	424.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.4279	146.856	1.16067	1.00159
1	1.50000	80.5078	161.016	1.74101	1.50239
2	2.00000	84.7108	169.422	2.32135	2.00319
3	3.00000	91.9590	183.918	3.48202	3.00478
4	4.00000	98.0833	196.167	4.64269	4.00637
5	5.00000	103.206	206.413	5.80337	5.00796
6	6.00000	107.455	214.909	6.96404	6.00956
7	8.00000	114.228	228.456	9.28539	8.01274
8	10.0000	119.928	239.856	11.6067	10.0159
9	15.0000	132.847	265.694	17.4101	15.0239
10	20.0000	145.105	290.209	23.2135	20.0319
11	25.0000	157.046	314.092	29.0168	25.0398
12	30.0000	168.791	337.582	34.8202	30.0478
13	40.0000	191.913	383.826	46.4269	40.0637
14	50.0000	214.729	429.458	58.0337	50.0796

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	424.000	ZX	20.0000	GAMMA0	0.0180000
ZL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.4457	146.891	1.17852	1.00159
1	1.50000	80.5346	161.069	1.76778	1.50239
2	2.00000	84.7465	169.493	2.35704	2.00319
3	3.00000	92.0126	184.025	3.53556	3.00478
4	4.00000	98.1547	196.309	4.71408	4.00637
5	5.00000	103.296	206.591	5.89260	5.00796
6	6.00000	107.562	215.124	7.07112	6.00956
7	8.00000	114.371	228.741	9.42816	8.01274
8	10.0000	120.107	240.213	11.7852	10.0159
9	15.0000	133.115	266.230	17.6778	15.0239
10	20.0000	145.462	290.923	23.5704	20.0319
11	25.0000	157.492	314.985	29.4630	25.0398
12	30.0000	169.326	338.653	35.3556	30.0478
13	40.0000	192.627	385.253	47.1408	40.0637
14	50.0000	215.621	431.243	58.9260	50.0796

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
HTG	424.000	ZX	20.0000	GAMMA0	0.0180000
HL	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	73.6320	147.264	1.36476	1.00159
1	1.50000	80.8139	161.628	2.04714	1.50239
2	2.00000	85.1190	170.238	2.72952	2.00319
3	3.00000	92.5713	185.143	4.09428	3.00478
4	4.00000	98.8997	197.799	5.45904	4.00637
5	5.00000	104.227	208.454	6.82380	5.00796
6	6.00000	108.679	217.358	8.18856	6.00956
7	8.00000	115.860	231.721	10.9181	8.01274
8	10.0000	121.969	243.938	13.6476	10.0159
9	15.0000	135.909	271.817	20.4714	15.0239
10	20.0000	149.186	298.373	27.2952	20.0319
11	25.0000	162.148	324.297	34.1190	25.0398
12	30.0000	174.914	349.827	40.9428	30.0478
13	40.0000	200.076	400.153	54.5904	40.0637

NPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
TG	424.000	ZX	20.0000	GAMMA0	0.0180000
L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.3114	148.623	2.04414	1.00159
1	1.50000	81.8330	163.666	3.06621	1.50239
2	2.00000	86.4777	172.955	4.08827	2.00319
3	3.00000	94.6094	189.219	6.13241	3.00478
4	4.00000	101.617	203.234	8.17655	4.00637
5	5.00000	107.624	215.247	10.2207	5.00796
6	6.00000	112.755	225.511	12.2648	6.00956
7	8.00000	121.295	242.591	16.3531	8.01274
8	10.0000	128.763	257.526	20.4414	10.0159
9	15.0000	146.099	292.198	30.6621	15.0239
10	20.0000	162.774	325.548	40.8827	20.0319
11	25.0000	179.133	358.265	51.1034	25.0398
12	30.0000	195.295	390.590	61.3241	30.0478
13	40.0000	227.251	454.503	81.7655	40.0637

AGE 32

NPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
:TG	424.000	ZX	20.0000	GAMMA0	0.0180000
:L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5880	149.176	2.32078	1.00159
1	1.50000	82.2480	164.496	3.48117	1.50239
2	2.00000	87.0310	174.062	4.64156	2.00319
3	3.00000	95.4393	190.879	6.96234	3.00478
4	4.00000	102.724	205.447	9.28312	4.00637
5	5.00000	109.007	218.014	11.6039	5.00796
6	6.00000	114.415	228.831	13.9247	6.00956
7	8.00000	123.509	247.017	18.5662	8.01274
8	10.0000	131.529	263.058	23.2078	10.0159
9	15.0000	150.249	300.498	34.8117	15.0239
10	20.0000	168.307	336.614	46.4156	20.0319
11	25.0000	186.049	372.098	58.0195	25.0398
12	30.0000	203.594	407.188	69.6234	30.0478

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
TG	424.000	ZX	20.0000	GAMMA0	0.0180000
L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5880	149.176	2.32078	1.00159
1	1.50000	82.2480	164.496	3.48117	1.50239
2	2.00000	87.0310	174.062	4.64156	2.00319
3	3.00000	95.4393	190.879	6.96234	3.00478
4	4.00000	102.724	205.447	9.28312	4.00637
5	5.00000	109.007	218.014	11.6039	5.00796
6	6.00000	114.415	228.831	13.9247	6.00956
7	8.00000	123.509	247.017	18.5662	8.01274
8	10.0000	131.529	263.058	23.2078	10.0159
9	15.0000	150.249	300.498	34.8117	15.0239
10	20.0000	168.307	336.614	46.4156	20.0319
1	25.0000	186.049	372.098	58.0195	25.0398
2	30.0000	203.594	407.188	69.6234	30.0478

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
TG	424.000	ZX	20.0000	GAMMA0	0.0180000
L	200.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	74.5880	149.176	2.32078	1.00159
1	1.50000	82.2480	164.496	3.48117	1.50239
2	2.00000	87.0310	174.062	4.64156	2.00319
3	3.00000	95.4393	190.879	6.96234	3.00478
4	4.00000	102.724	205.447	9.28312	4.00637
5	5.00000	109.007	218.014	11.6039	5.00796
6	6.00000	114.415	228.831	13.9247	6.00956
7	8.00000	123.509	247.017	18.5662	8.01274
8	10.0000	131.529	263.058	23.2078	10.0159
9	15.0000	150.249	300.498	34.8117	15.0239
10	20.0000	168.307	336.614	46.4156	20.0319
1	25.0000	186.049	372.098	58.0195	25.0398
12	30.0000	203.594	407.188	69.6234	30.0478

NPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
TG	35.0000	ZX	20.0000	GAMMA0	0.0180000
L	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.5467	115.093	0.947602	1.00159
1	1.50000	60.2884	120.577	1.42140	1.50239
2	2.00000	62.5165	125.033	1.89520	2.00319
3	3.00000	66.2332	132.466	2.84281	3.00478
4	4.00000	69.4337	138.867	3.79041	4.00637
5	5.00000	72.3538	144.708	4.73801	5.00796
6	6.00000	75.0962	150.192	5.68561	6.00956
7	8.00000	80.2464	160.493	7.58081	8.01274
8	10.0000	85.1159	170.232	9.47602	10.0159
9	15.0000	96.6265	193.253	14.2140	15.0239
10	20.0000	107.625	215.249	18.9520	20.0319
11	25.0000	118.342	236.684	23.6900	25.0398
12	30.0000	128.881	257.763	28.4281	30.0478
13	40.0000	149.626	299.252	37.9041	40.0637
14	50.0000	170.090	340.180	47.3801	50.0796
15	60.0000	190.376	380.752	56.8561	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.5613	115.123	0.962172	1.00159
1	1.50000	60.3103	120.621	1.44326	1.50239
2	2.00000	62.5457	125.091	1.92434	2.00319
3	3.00000	66.2769	132.554	2.88652	3.00478
4	4.00000	69.4920	138.984	3.84869	4.00637
5	5.00000	72.4266	144.853	4.81086	5.00796
6	6.00000	75.1837	150.367	5.77303	6.00956
7	8.00000	80.3630	160.726	7.69738	8.01274
8	10.0000	85.2616	170.523	9.62172	10.0159
9	15.0000	96.8450	193.690	14.4326	15.0239
10	20.0000	107.916	215.832	19.2434	20.0319
1	25.0000	118.706	237.412	24.0543	25.0398
12	30.0000	129.319	258.637	28.8652	30.0478
3	40.0000	150.209	300.418	38.4869	40.0637
4	50.0000	170.818	341.637	48.1086	50.0796
15	60.0000	191.250	382.500	57.7303	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
STG	35.0000	ZX	20.0000	GAMMA0	0.0180000
SL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.7133	115.427	1.11422	1.00159
1	1.50000	60.5383	121.077	1.67134	1.50239
2	2.00000	62.8498	125.700	2.22845	2.00319
3	3.00000	66.7331	133.466	3.34267	3.00478
4	4.00000	70.1002	140.200	4.45689	4.00637
5	5.00000	73.1869	146.374	5.57112	5.00796
6	6.00000	76.0960	152.192	6.68534	6.00956
7	8.00000	81.5794	163.159	8.91379	8.01274
8	10.0000	86.7821	173.564	11.1422	10.0159
9	15.0000	99.1258	198.252	16.7134	15.0239
10	20.0000	110.957	221.914	22.2845	20.0319
11	25.0000	122.507	245.015	27.8556	25.0398
12	30.0000	133.880	267.760	33.4267	30.0478
13	40.0000	156.291	312.582	44.5689	40.0637
14	50.0000	178.421	356.842	55.7112	50.0796
15	60.0000	200.373	400.747	66.8534	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.2680	116.536	1.66888	1.00159
1	1.50000	61.3703	122.741	2.50332	1.50239
2	2.00000	63.9591	127.918	3.33777	2.00319
3	3.00000	68.3970	136.794	5.00665	3.00478
4	4.00000	72.3189	144.638	6.67553	4.00637
5	5.00000	75.9602	151.920	8.34441	5.00796
6	6.00000	79.4239	158.848	10.0133	6.00956
7	8.00000	86.0167	172.033	13.3511	8.01274
8	10.0000	92.3287	184.657	16.6888	10.0159
9	15.0000	107.446	214.891	25.0332	15.0239
10	20.0000	122.050	244.100	33.3777	20.0319
11	25.0000	136.374	272.748	41.7221	25.0398
12	30.0000	150.520	301.040	50.0665	30.0478
13	40.0000	178.477	356.954	66.7553	40.0637
14	50.0000	206.154	412.308	83.4441	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
EL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.4938	116.988	1.89474	1.00159
1	1.50000	61.7091	123.418	2.84211	1.50239
2	2.00000	64.4108	128.822	3.78948	2.00319
3	3.00000	69.0746	138.149	5.68422	3.00478
4	4.00000	73.2223	146.445	7.57896	4.00637
5	5.00000	77.0895	154.179	9.47370	5.00796
6	6.00000	80.7791	161.558	11.3684	6.00956
7	8.00000	87.8235	175.647	15.1579	8.01274
8	10.0000	94.5873	189.175	18.9474	10.0159
9	15.0000	110.834	221.667	28.4211	15.0239
10	20.0000	126.567	253.135	37.8948	20.0319
11	25.0000	142.020	284.041	47.3685	25.0398
12	30.0000	157.296	314.591	56.8422	30.0478
13	40.0000	187.512	375.023	75.7896	40.0637
14	50.0000	217.447	434.893	94.7370	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.4938	116.988	1.89474	1.00159
1	1.50000	61.7091	123.418	2.84211	1.50239
2	2.00000	64.4108	128.822	3.78948	2.00319
3	3.00000	69.0746	138.149	5.68422	3.00478
4	4.00000	73.2223	146.445	7.57896	4.00637
5	5.00000	77.0895	154.179	9.47370	5.00796
6	6.00000	80.7791	161.558	11.3684	6.00956
7	8.00000	87.8235	175.647	15.1579	8.01274
8	10.0000	94.5873	189.175	18.9474	10.0159
9	15.0000	110.834	221.667	28.4211	15.0239
10	20.0000	126.567	253.135	37.8948	20.0319
11	25.0000	142.020	284.041	47.3685	25.0398
12	30.0000	157.296	314.591	56.8422	30.0478
13	40.0000	187.512	375.023	75.7896	40.0637
14	50.0000	217.447	434.893	94.7370	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ℰTG	35.0000	ℰX	20.0000	GAMMA0	0.0180000
ℰL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.4938	116.988	1.89474	1.00159
1	1.50000	61.7091	123.418	2.84211	1.50239
2	2.00000	64.4108	128.822	3.78948	2.00319
3	3.00000	69.0746	138.149	5.68422	3.00478
4	4.00000	73.2223	146.445	7.57896	4.00637
5	5.00000	77.0895	154.179	9.47370	5.00796
6	6.00000	80.7791	161.558	11.3684	6.00956
7	8.00000	87.8235	175.647	15.1579	8.01274
8	10.0000	94.5873	189.175	18.9474	10.0159
9	15.0000	110.834	221.667	28.4211	15.0239
10	20.0000	126.567	253.135	37.8948	20.0319
11	25.0000	142.020	284.041	47.3685	25.0398
12	30.0000	157.296	314.591	56.8422	30.0478
13	40.0000	187.512	375.023	75.7896	40.0637
14	50.0000	217.447	434.893	94.7370	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.9791	125.958	0.947602	1.00159
1	1.50000	65.7564	131.513	1.42140	1.50239
2	2.00000	68.0080	136.016	1.89520	2.00319
3	3.00000	71.7500	143.500	2.84281	3.00478
4	4.00000	74.9654	149.931	3.79041	4.00637
5	5.00000	77.8944	155.789	4.73801	5.00796
6	6.00000	80.6440	161.288	5.68561	6.00956
7	8.00000	85.8021	171.604	7.58081	8.01274
8	10.0000	90.6784	181.357	9.47602	10.0159
9	15.0000	102.203	204.407	14.2140	15.0239
10	20.0000	113.213	226.427	18.9520	20.0319
11	25.0000	123.941	247.882	23.6900	25.0398
12	30.0000	134.490	268.980	28.4281	30.0478
13	40.0000	155.250	310.501	37.9041	40.0637
14	50.0000	175.728	351.457	47.3801	50.0796
15	60.0000	196.028	392.056	56.8561	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
℄TG	150.000	℄X	20.0000	GAMMA0	0.0180000
℄L	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.9937	125.987	0.962172	1.00159
1	1.50000	65.7783	131.557	1.44326	1.50239
2	2.00000	68.0372	136.074	1.92434	2.00319
3	3.00000	71.7937	143.587	2.88652	3.00478
4	4.00000	75.0237	150.047	3.84869	4.00637
5	5.00000	77.9672	155.934	4.81086	5.00796
6	6.00000	80.7314	161.463	5.77303	6.00956
7	8.00000	85.9186	171.837	7.69738	8.01274
8	10.0000	90.8241	181.648	9.62172	10.0159
9	15.0000	102.422	204.844	14.4326	15.0239
10	20.0000	113.505	227.010	19.2434	20.0319
11	25.0000	124.305	248.611	24.0543	25.0398
12	30.0000	134.927	269.854	28.8652	30.0478
13	40.0000	155.833	311.667	38.4869	40.0637
14	50.0000	176.457	352.914	48.1086	50.0796
15	60.0000	196.902	393.804	57.7303	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.1458	126.292	1.11422	1.00159
1	1.50000	66.0064	132.013	1.67134	1.50239
2	2.00000	68.3413	136.683	2.22845	2.00319
3	3.00000	72.2499	144.500	3.34267	3.00478
4	4.00000	75.6319	151.264	4.45689	4.00637
5	5.00000	78.7275	157.455	5.57112	5.00796
6	6.00000	81.6437	163.287	6.68534	6.00956
7	8.00000	87.1350	174.270	8.91379	8.01274
8	10.0000	92.3446	184.689	11.1422	10.0159
9	15.0000	104.703	209.406	16.7134	15.0239
10	20.0000	116.546	233.092	22.2845	20.0319
11	25.0000	128.107	256.213	27.8556	25.0398
12	30.0000	139.488	278.977	33.4267	30.0478
13	40.0000	161.915	323.831	44.5689	40.0637
14	50.0000	184.060	368.119	55.7112	50.0796
15	60.0000	206.025	412.050	66.8534	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.7004	127.401	1.66888	1.00159
1	1.50000	66.8384	133.677	2.50332	1.50239
2	2.00000	69.4506	138.901	3.33777	2.00319
3	3.00000	73.9138	147.828	5.00665	3.00478
4	4.00000	77.8505	155.701	6.67553	4.00637
5	5.00000	81.5008	163.002	8.34441	5.00796
6	6.00000	84.9716	169.943	10.0133	6.00956
7	8.00000	91.5723	183.145	13.3511	8.01274
8	10.0000	97.8912	195.782	16.6888	10.0159
9	15.0000	113.023	226.045	25.0332	15.0239
10	20.0000	127.639	255.278	33.3777	20.0319
11	25.0000	141.973	283.946	41.7221	25.0398
12	30.0000	156.128	312.257	50.0665	30.0478
13	40.0000	184.102	368.203	66.7553	40.0637
14	50.0000	211.793	423.585	83.4441	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.9263	127.853	1.89474	1.00159
1	1.50000	67.1771	134.354	2.84211	1.50239
2	2.00000	69.9023	139.805	3.78948	2.00319
3	3.00000	74.5914	149.183	5.68422	3.00478
4	4.00000	78.7540	157.508	7.57896	4.00637
5	5.00000	82.6301	165.260	9.47370	5.00796
6	6.00000	86.3268	172.654	11.3684	6.00956
7	8.00000	93.3792	186.758	15.1579	8.01274
8	10.0000	100.150	200.300	18.9474	10.0159
9	15.0000	116.411	232.821	28.4211	15.0239
10	20.0000	132.156	264.312	37.8948	20.0319
11	25.0000	147.619	295.239	47.3685	25.0398
12	30.0000	162.904	325.808	56.8422	30.0478
13	40.0000	193.136	386.272	75.7896	40.0637
14	50.0000	223.085	446.171	94.7370	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.9263	127.853	1.89474	1.00159
1	1.50000	67.1771	134.354	2.84211	1.50239
2	2.00000	69.9023	139.805	3.78948	2.00319
3	3.00000	74.5914	149.183	5.68422	3.00478
4	4.00000	78.7540	157.508	7.57896	4.00637
5	5.00000	82.6301	165.260	9.47370	5.00796
6	6.00000	86.3268	172.654	11.3684	6.00956
7	8.00000	93.3792	186.758	15.1579	8.01274
8	10.0000	100.150	200.300	18.9474	10.0159
9	15.0000	116.411	232.821	28.4211	15.0239
10	20.0000	132.156	264.312	37.8948	20.0319
11	25.0000	147.619	295.239	47.3685	25.0398
12	30.0000	162.904	325.808	56.8422	30.0478
13	40.0000	193.136	386.272	75.7896	40.0637
14	50.0000	223.085	446.171	94.7370	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	150.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.9263	127.853	1.89474	1.00159
1	1.50000	67.1771	134.354	2.84211	1.50239
2	2.00000	69.9023	139.805	3.78948	2.00319
3	3.00000	74.5914	149.183	5.68422	3.00478
4	4.00000	78.7540	157.508	7.57896	4.00637
5	5.00000	82.6301	165.260	9.47370	5.00796
6	6.00000	86.3268	172.654	11.3684	6.00956
7	8.00000	93.3792	186.758	15.1579	8.01274
8	10.0000	100.150	200.300	18.9474	10.0159
9	15.0000	116.411	232.821	28.4211	15.0239
10	20.0000	132.156	264.312	37.8948	20.0319
11	25.0000	147.619	295.239	47.3685	25.0398
12	30.0000	162.904	325.808	56.8422	30.0478
13	40.0000	193.136	386.272	75.7896	40.0637
14	50.0000	223.085	446.171	94.7370	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	50.3734	100.747	0.947602	1.00159
1	1.50000	53.1149	106.230	1.42140	1.50239
2	2.00000	55.3448	110.690	1.89520	2.00319
3	3.00000	59.0668	118.134	2.84281	3.00478
4	4.00000	62.2773	124.555	3.79041	4.00637
5	5.00000	65.2075	130.415	4.73801	5.00796
6	6.00000	67.9604	135.921	5.68561	6.00956
7	8.00000	73.1320	146.264	7.58081	8.01274
8	10.0000	78.0233	156.047	9.47602	10.0159
9	15.0000	89.5897	179.179	14.2140	15.0239
10	20.0000	100.645	201.289	18.9520	20.0319
11	25.0000	111.419	222.838	23.6900	25.0398
12	30.0000	122.017	244.033	28.4281	30.0478
13	40.0000	142.877	285.754	37.9041	40.0637
14	50.0000	163.457	326.914	47.3801	50.0796
15	60.0000	183.860	367.720	56.8561	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	50.3880	100.776	0.962172	1.00159
1	1.50000	53.1367	106.273	1.44326	1.50239
2	2.00000	55.3739	110.748	1.92434	2.00319
3	3.00000	59.1105	118.221	2.88652	3.00478
4	4.00000	62.3356	124.671	3.84869	4.00637
5	5.00000	65.2803	130.561	4.81086	5.00796
6	6.00000	68.0478	136.096	5.77303	6.00956
7	8.00000	73.2486	146.497	7.69738	8.01274
8	10.0000	78.1690	156.338	9.62172	10.0159
9	15.0000	89.8083	179.617	14.4326	15.0239
10	20.0000	100.936	201.872	19.2434	20.0319
11	25.0000	111.783	223.567	24.0543	25.0398
12	30.0000	122.454	244.907	28.8652	30.0478
13	40.0000	143.460	286.920	38.4869	40.0637
14	50.0000	164.186	328.371	48.1086	50.0796
15	60.0000	184.734	369.468	57.7303	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ƵTG	300.000	ƵX	20.0000	GAMMA0	0.0180000
ƵL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	50.5400	101.080	1.11422	1.00159
1	1.50000	53.3648	106.730	1.67134	1.50239
2	2.00000	55.6780	111.356	2.22845	2.00319
3	3.00000	59.5667	119.133	3.34267	3.00478
4	4.00000	62.9438	125.888	4.45689	4.00637
5	5.00000	66.0406	132.081	5.57112	5.00796
6	6.00000	68.9601	137.920	6.68534	6.00956
7	8.00000	74.4650	148.930	8.91379	8.01274
8	10.0000	79.6895	159.379	11.1422	10.0159
9	15.0000	92.0891	184.178	16.7134	15.0239
10	20.0000	103.977	207.954	22.2845	20.0319
11	25.0000	115.585	231.170	27.8556	25.0398
12	30.0000	127.015	254.030	33.4267	30.0478
13	40.0000	149.542	299.084	44.5689	40.0637
14	50.0000	171.788	343.576	55.7112	50.0796
15	60.0000	193.857	387.714	66.8534	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ℨTG	300.000	ℨX	20.0000	GAMMA0	0.0180000
ℨL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	MSC	MSCSUM	MSSC	MKSC
0	1.00000	51.0947	102.189	1.66888	1.00159
1	1.50000	54.1968	108.394	2.50332	1.50239
2	2.00000	56.7874	113.575	3.33777	2.00319
3	3.00000	61.2306	122.461	5.00665	3.00478
4	4.00000	65.1624	130.325	6.67553	4.00637
5	5.00000	68.8139	137.628	8.34441	5.00796
6	6.00000	72.2881	144.576	10.0133	6.00956
7	8.00000	78.9023	157.805	13.3511	8.01274
8	10.0000	85.2361	170.472	16.6888	10.0159
9	15.0000	100.409	200.818	25.0332	15.0239
10	20.0000	115.070	230.140	33.3777	20.0319
11	25.0000	129.451	258.903	41.7221	25.0398
12	30.0000	143.655	287.310	50.0665	30.0478
13	40.0000	171.728	343.456	66.7553	40.0637
14	50.0000	199.521	399.042	83.4441	50.0796
15	60.0000	227.137	454.273	100.133	60.0956

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	51.3205	102.641	1.89474	1.00159
1	1.50000	54.5356	109.071	2.84211	1.50239
2	2.00000	57.2391	114.478	3.78948	2.00319
3	3.00000	61.9082	123.816	5.68422	3.00478
4	4.00000	66.0659	132.132	7.57896	4.00637
5	5.00000	69.9432	139.886	9.47370	5.00796
6	6.00000	73.6432	147.286	11.3684	6.00956
7	8.00000	80.7091	161.418	15.1579	8.01274
8	10.0000	87.4947	174.989	18.9474	10.0159
9	15.0000	103.797	207.594	28.4211	15.0239
10	20.0000	119.587	239.175	37.8948	20.0319
11	25.0000	135.098	270.195	47.3685	25.0398
12	30.0000	150.431	300.861	56.8422	30.0478
13	40.0000	180.763	361.525	75.7896	40.0637
14	50.0000	210.814	421.628	94.7370	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	51.3205	102.641	1.89474	1.00159
1	1.50000	54.5356	109.071	2.84211	1.50239
2	2.00000	57.2391	114.478	3.78948	2.00319
3	3.00000	61.9082	123.816	5.68422	3.00478
4	4.00000	66.0659	132.132	7.57896	4.00637
5	5.00000	69.9432	139.886	9.47370	5.00796
6	6.00000	73.6432	147.286	11.3684	6.00956
7	8.00000	80.7091	161.418	15.1579	8.01274
8	10.0000	87.4947	174.989	18.9474	10.0159
9	15.0000	103.797	207.594	28.4211	15.0239
10	20.0000	119.587	239.175	37.8948	20.0319
11	25.0000	135.098	270.195	47.3685	25.0398
12	30.0000	150.431	300.861	56.8422	30.0478
13	40.0000	180.763	361.525	75.7896	40.0637
14	50.0000	210.814	421.628	94.7370	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	300.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	51.3205	102.641	1.89474	1.00159
1	1.50000	54.5356	109.071	2.84211	1.50239
2	2.00000	57.2391	114.478	3.78948	2.00319
3	3.00000	61.9082	123.816	5.68422	3.00478
4	4.00000	66.0659	132.132	7.57896	4.00637
5	5.00000	69.9432	139.886	9.47370	5.00796
6	6.00000	73.6432	147.286	11.3684	6.00956
7	8.00000	80.7091	161.418	15.1579	8.01274
8	10.0000	87.4947	174.989	18.9474	10.0159
9	15.0000	103.797	207.594	28.4211	15.0239
10	20.0000	119.587	239.175	37.8948	20.0319
11	25.0000	135.098	270.195	47.3685	25.0398
12	30.0000	150.431	300.861	56.8422	30.0478
13	40.0000	180.763	361.525	75.7896	40.0637
14	50.0000	210.814	421.628	94.7370	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	400.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.8671	125.734	0.947602	1.00159
1	1.50000	65.6085	131.217	1.42140	1.50239
2	2.00000	67.8385	135.677	1.89520	2.00319
3	3.00000	71.5605	143.121	2.84281	3.00478
4	4.00000	74.7710	149.542	3.79041	4.00637
5	5.00000	77.7012	155.402	4.73801	5.00796
6	6.00000	80.4541	160.908	5.68561	6.00956
7	8.00000	85.6257	171.251	7.58081	8.01274
8	10.0000	90.5170	181.034	9.47602	10.0159
9	15.0000	102.083	204.167	14.2140	15.0239
10	20.0000	113.138	226.277	18.9520	20.0319
11	25.0000	123.913	247.826	23.6900	25.0398
12	30.0000	134.510	269.020	28.4281	30.0478
13	40.0000	155.371	310.741	37.9041	40.0637
14	50.0000	175.951	351.901	47.3801	50.0796
15	60.0000	196.353	392.707	56.8561	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ℰTG	400.000	ℰX	20.0000	GAMMA0	0.0180000
ℰL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	62.8816	125.763	0.962172	1.00159
1	1.50000	65.6304	131.261	1.44326	1.50239
2	2.00000	67.8676	135.735	1.92434	2.00319
3	3.00000	71.6042	143.208	2.88652	3.00478
4	4.00000	74.8292	149.658	3.84869	4.00637
5	5.00000	77.7740	155.548	4.81086	5.00796
6	6.00000	80.5415	161.083	5.77303	6.00956
7	8.00000	85.7422	171.484	7.69738	8.01274
8	10.0000	90.6627	181.325	9.62172	10.0159
9	15.0000	102.302	204.604	14.4326	15.0239
10	20.0000	113.430	226.859	19.2434	20.0319
11	25.0000	124.277	248.554	24.0543	25.0398
12	30.0000	134.947	269.895	28.8652	30.0478
13	40.0000	155.953	311.907	38.4869	40.0637
14	50.0000	176.679	353.358	48.1086	50.0796
15	60.0000	197.228	394.455	57.7303	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	400.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.0337	126.067	1.11422	1.00159
1	1.50000	65.8584	131.717	1.67134	1.50239
2	2.00000	68.1717	136.343	2.22845	2.00319
3	3.00000	72.0603	144.121	3.34267	3.00478
4	4.00000	75.4374	150.875	4.45689	4.00637
5	5.00000	78.5343	157.069	5.57112	5.00796
6	6.00000	81.4538	162.908	6.68534	6.00956
7	8.00000	86.9586	173.917	8.91379	8.01274
8	10.0000	92.1832	184.366	11.1422	10.0159
9	15.0000	104.583	209.165	16.7134	15.0239
10	20.0000	116.471	232.941	22.2845	20.0319
11	25.0000	128.078	256.157	27.8556	25.0398
12	30.0000	139.509	279.018	33.4267	30.0478
13	40.0000	162.035	324.071	44.5689	40.0637
14	50.0000	184.282	368.563	55.7112	50.0796
15	60.0000	206.351	412.702	66.8534	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ℰTG	400.000	ℰX	20.0000	GAMMA0	0.0180000
ℰL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.5883	127.177	1.66888	1.00159
1	1.50000	66.6904	133.381	2.50332	1.50239
2	2.00000	69.2810	138.562	3.33777	2.00319
3	3.00000	73.7243	147.449	5.00665	3.00478
4	4.00000	77.6561	155.312	6.67553	4.00637
5	5.00000	81.3076	162.615	8.34441	5.00796
6	6.00000	84.7818	169.564	10.0133	6.00956
7	8.00000	91.3959	182.792	13.3511	8.01274
8	10.0000	97.7298	195.460	16.6888	10.0159
9	15.0000	112.903	225.805	25.0332	15.0239
10	20.0000	127.564	255.128	33.3777	20.0319
11	25.0000	141.945	283.890	41.7221	25.0398
12	30.0000	156.149	312.297	50.0665	30.0478
13	40.0000	184.222	368.444	66.7553	40.0637
14	50.0000	212.015	424.029	83.4441	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	400.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.8142	127.628	1.89474	1.00159
1	1.50000	67.0292	134.058	2.84211	1.50239
2	2.00000	69.7327	139.465	3.78948	2.00319
3	3.00000	74.4019	148.804	5.68422	3.00478
4	4.00000	78.5595	157.119	7.57896	4.00637
5	5.00000	82.4368	164.874	9.47370	5.00796
6	6.00000	86.1369	172.274	11.3684	6.00956
7	8.00000	93.2028	186.406	15.1579	8.01274
8	10.0000	99.9883	199.977	18.9474	10.0159
9	15.0000	116.290	232.581	28.4211	15.0239
10	20.0000	132.081	264.162	37.8948	20.0319
11	25.0000	147.591	295.183	47.3685	25.0398
12	30.0000	162.924	325.849	56.8422	30.0478
13	40.0000	193.256	386.512	75.7896	40.0637
14	50.0000	223.308	446.615	94.7370	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	400.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.8142	127.628	1.89474	1.00159
1	1.50000	67.0292	134.058	2.84211	1.50239
2	2.00000	69.7327	139.465	3.78948	2.00319
3	3.00000	74.4019	148.804	5.68422	3.00478
4	4.00000	78.5595	157.119	7.57896	4.00637
5	5.00000	82.4368	164.874	9.47370	5.00796
6	6.00000	86.1369	172.274	11.3684	6.00956
7	8.00000	93.2028	186.406	15.1579	8.01274
8	10.0000	99.9883	199.977	18.9474	10.0159
9	15.0000	116.290	232.581	28.4211	15.0239
10	20.0000	132.081	264.162	37.8948	20.0319
11	25.0000	147.591	295.183	47.3685	25.0398
12	30.0000	162.924	325.849	56.8422	30.0478
13	40.0000	193.256	386.512	75.7896	40.0637
14	50.0000	223.308	446.615	94.7370	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	400.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	63.8142	127.628	1.89474	1.00159
1	1.50000	67.0292	134.058	2.84211	1.50239
2	2.00000	69.7327	139.465	3.78948	2.00319
3	3.00000	74.4019	148.804	5.68422	3.00478
4	4.00000	78.5595	157.119	7.57896	4.00637
5	5.00000	82.4368	164.874	9.47370	5.00796
6	6.00000	86.1369	172.274	11.3684	6.00956
7	8.00000	93.2028	186.406	15.1579	8.01274
8	10.0000	99.9883	199.977	18.9474	10.0159
9	15.0000	116.290	232.581	28.4211	15.0239
10	20.0000	132.081	264.162	37.8948	20.0319
11	25.0000	147.591	295.183	47.3685	25.0398
12	30.0000	162.924	325.849	56.8422	30.0478
13	40.0000	193.256	386.512	75.7896	40.0637
14	50.0000	223.308	446.615	94.7370	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMAO	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	64.6012	129.202	0.947602	1.00159
1	1.50000	67.3427	134.685	1.42140	1.50239
2	2.00000	69.5726	139.145	1.89520	2.00319
3	3.00000	73.2946	146.589	2.84281	3.00478
4	4.00000	76.5051	153.010	3.79041	4.00637
5	5.00000	79.4353	158.871	4.73801	5.00796
6	6.00000	82.1882	164.376	5.68561	6.00956
7	8.00000	87.3598	174.720	7.58081	8.01274
8	10.0000	92.2511	184.502	9.47602	10.0159
9	15.0000	103.818	207.635	14.2140	15.0239
10	20.0000	114.872	229.745	18.9520	20.0319
11	25.0000	125.647	251.294	23.6900	25.0398
12	30.0000	136.244	272.489	28.4281	30.0478
13	40.0000	157.105	314.209	37.9041	40.0637
14	50.0000	177.685	355.370	47.3801	50.0796
15	60.0000	198.088	396.175	56.8561	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	64.6158	129.232	0.962172	1.00159
1	1.50000	67.3645	134.729	1.44326	1.50239
2	2.00000	69.6017	139.203	1.92434	2.00319
3	3.00000	73.3383	146.677	2.88652	3.00478
4	4.00000	76.5634	153.127	3.84869	4.00637
5	5.00000	79.5081	159.016	4.81086	5.00796
6	6.00000	82.2756	164.551	5.77303	6.00956
7	8.00000	87.4764	174.953	7.69738	8.01274
8	10.0000	92.3968	184.794	9.62172	10.0159
9	15.0000	104.036	208.072	14.4326	15.0239
10	20.0000	115.164	230.328	19.2434	20.0319
11	25.0000	126.011	252.023	24.0543	25.0398
12	30.0000	136.681	273.363	28.8652	30.0478
13	40.0000	157.688	315.375	38.4869	40.0637
14	50.0000	178.413	356.827	48.1086	50.0796
15	60.0000	198.962	397.924	57.7303	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	64.7678	129.536	1.11422	1.00159
1	1.50000	67.5926	135.185	1.67134	1.50239
2	2.00000	69.9058	139.812	2.22845	2.00319
3	3.00000	73.7945	147.589	3.34267	3.00478
4	4.00000	77.1716	154.343	4.45689	4.00637
5	5.00000	80.2684	160.537	5.57112	5.00796
6	6.00000	83.1879	166.376	6.68534	6.00956
7	8.00000	88.6928	177.386	8.91379	8.01274
8	10.0000	93.9173	187.835	11.1422	10.0159
9	15.0000	106.317	212.634	16.7134	15.0239
10	20.0000	118.205	236.410	22.2845	20.0319
11	25.0000	129.813	259.625	27.8556	25.0398
12	30.0000	141.243	282.486	33.4267	30.0478
13	40.0000	163.770	327.539	44.5689	40.0637
14	50.0000	186.016	372.032	55.7112	50.0796
15	60.0000	208.085	416.170	66.8534	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ETG	520.000	EX	20.0000	GAMMA0	0.0180000
EL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.3225	130.645	1.66888	1.00159
1	1.50000	68.4246	136.849	2.50332	1.50239
2	2.00000	71.0152	142.030	3.33777	2.00319
3	3.00000	75.4584	150.917	5.00665	3.00478
4	4.00000	79.3902	158.780	6.67553	4.00637
5	5.00000	83.0417	166.083	8.34441	5.00796
6	6.00000	86.5159	173.032	10.0133	6.00956
7	8.00000	93.1300	186.260	13.3511	8.01274
8	10.0000	99.4639	198.928	16.6888	10.0159
9	15.0000	114.637	229.273	25.0332	15.0239
10	20.0000	129.298	258.596	33.3777	20.0319
11	25.0000	143.679	287.358	41.7221	25.0398
12	30.0000	157.883	315.765	50.0665	30.0478
13	40.0000	185.956	371.912	66.7553	40.0637
14	50.0000	213.749	427.498	83.4441	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.5483	131.097	1.89474	1.00159
1	1.50000	68.7634	137.527	2.84211	1.50239
2	2.00000	71.4669	142.934	3.78948	2.00319
3	3.00000	76.1360	152.272	5.68422	3.00478
4	4.00000	80.2936	160.587	7.57896	4.00637
5	5.00000	84.1710	168.342	9.47370	5.00796
6	6.00000	87.8710	175.742	11.3684	6.00956
7	8.00000	94.9369	189.874	15.1579	8.01274
8	10.0000	101.722	203.445	18.9474	10.0159
9	15.0000	118.025	236.049	28.4211	15.0239
10	20.0000	133.815	267.630	37.8948	20.0319
11	25.0000	149.325	298.651	47.3685	25.0398
12	30.0000	164.658	329.317	56.8422	30.0478
13	40.0000	194.990	389.981	75.7896	40.0637
14	50.0000	225.042	450.083	94.7370	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.5483	131.097	1.89474	1.00159
1	1.50000	68.7634	137.527	2.84211	1.50239
2	2.00000	71.4669	142.934	3.78948	2.00319
3	3.00000	76.1360	152.272	5.68422	3.00478
4	4.00000	80.2936	160.587	7.57896	4.00637
5	5.00000	84.1710	168.342	9.47370	5.00796
6	6.00000	87.8710	175.742	11.3684	6.00956
7	8.00000	94.9369	189.874	15.1579	8.01274
8	10.0000	101.722	203.445	18.9474	10.0159
9	15.0000	118.025	236.049	28.4211	15.0239
10	20.0000	133.815	267.630	37.8948	20.0319
11	25.0000	149.325	298.651	47.3685	25.0398
12	30.0000	164.658	329.317	56.8422	30.0478
13	40.0000	194.990	389.981	75.7896	40.0637
14	50.0000	225.042	450.083	94.7370	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	520.000	ZX	20.0000	GAMMA0	0.0180000
ZL	300.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.5483	131.097	1.89474	1.00159
1	1.50000	68.7634	137.527	2.84211	1.50239
2	2.00000	71.4669	142.934	3.78948	2.00319
3	3.00000	76.1360	152.272	5.68422	3.00478
4	4.00000	80.2936	160.587	7.57896	4.00637
5	5.00000	84.1710	168.342	9.47370	5.00796
6	6.00000	87.8710	175.742	11.3684	6.00956
7	8.00000	94.9369	189.874	15.1579	8.01274
8	10.0000	101.722	203.445	18.9474	10.0159
9	15.0000	118.025	236.049	28.4211	15.0239
10	20.0000	133.815	267.630	37.8948	20.0319
11	25.0000	149.325	298.651	47.3685	25.0398
12	30.0000	164.658	329.317	56.8422	30.0478
13	40.0000	194.990	389.981	75.7896	40.0637
14	50.0000	225.042	450.083	94.7370	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.9157	115.831	0.733874	1.00159
1	1.50000	60.5443	121.089	1.10081	1.50239
2	2.00000	62.6614	125.323	1.46775	2.00319
3	3.00000	66.1578	132.316	2.20162	3.00478
4	4.00000	69.1427	138.285	2.93550	4.00637
5	5.00000	71.8472	143.694	3.66937	5.00796
6	6.00000	74.3745	148.749	4.40325	6.00956
7	8.00000	79.0948	158.190	5.87100	8.01274
8	10.0000	83.5349	167.070	7.33874	10.0159
9	15.0000	93.9731	187.946	11.0081	15.0239
10	20.0000	103.900	207.800	14.6775	20.0319
11	25.0000	113.546	227.093	18.3469	25.0398
12	30.0000	123.015	246.031	22.0162	30.0478
13	40.0000	141.619	283.239	29.3550	40.0637
14	50.0000	159.943	319.886	36.6937	50.0796
15	60.0000	178.090	356.179	44.0325	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ℰTG	35.0000	ℨX	20.0000	GAMMA0	0.0180000
ℰL	500.000	TEMp	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	57.9269	115.854	0.745158	1.00159
1	1.50000	60.5612	121.122	1.11774	1.50239
2	2.00000	62.6840	125.368	1.49032	2.00319
3	3.00000	66.1916	132.383	2.23548	3.00478
4	4.00000	69.1878	138.376	2.98063	4.00637
5	5.00000	71.9036	143.807	3.72579	5.00796
6	6.00000	74.4422	148.884	4.47095	6.00956
7	8.00000	79.1851	158.370	5.96127	8.01274
8	10.0000	83.6477	167.295	7.45158	10.0159
9	15.0000	94.1424	188.285	11.1774	15.0239
10	20.0000	104.126	208.251	14.9032	20.0319
11	25.0000	113.828	227.657	18.6290	25.0398
12	30.0000	123.354	246.708	22.3548	30.0478
13	40.0000	142.071	284.142	29.8063	40.0637
14	50.0000	160.507	321.015	37.2579	50.0796
15	60.0000	178.767	357.534	44.7095	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.0447	116.089	0.862916	1.00159
1	1.50000	60.7379	121.476	1.29437	1.50239
2	2.00000	62.9195	125.839	1.72583	2.00319
3	3.00000	66.5449	133.090	2.58875	3.00478
4	4.00000	69.6588	139.318	3.45166	4.00637
5	5.00000	72.4924	144.985	4.31458	5.00796
6	6.00000	75.1487	150.297	5.17749	6.00956
7	8.00000	80.1271	160.254	6.90333	8.01274
8	10.0000	84.8253	169.651	8.62916	10.0159
9	15.0000	95.9087	191.817	12.9437	15.0239
10	20.0000	106.481	212.961	17.2583	20.0319
11	25.0000	116.772	233.545	21.5729	25.0398
12	30.0000	126.887	253.773	25.8875	30.0478
13	40.0000	146.781	293.562	34.5166	40.0637
14	50.0000	166.395	332.791	43.1458	50.0796
15	60.0000	185.832	371.664	51.7749	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ℓTG	35.0000	ℓX	20.0000	GAMMA0	0.0160000
ℓL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.4743	116.949	1.29247	1.00159
1	1.50000	61.3822	122.764	1.93871	1.50239
2	2.00000	63.7786	127.557	2.58495	2.00319
3	3.00000	67.8336	135.667	3.87742	3.00478
4	4.00000	71.3771	142.754	5.16990	4.00637
5	5.00000	74.6402	149.280	6.46237	5.00796
6	6.00000	77.7261	155.452	7.75484	6.00956
7	8.00000	83.5636	167.127	10.3398	8.01274
8	10.0000	89.1208	178.242	12.9247	10.0159
9	15.0000	102.352	204.704	19.3871	15.0239
10	20.0000	115.072	230.144	25.8495	20.0319
11	25.0000	127.511	255.022	32.3118	25.0398
12	30.0000	139.773	279.547	38.7742	30.0478
13	40.0000	163.963	327.927	51.6990	40.0637
14	50.0000	187.873	375.746	64.6237	50.0796
15	60.0000	211.606	423.211	77.5484	60.0956

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.6492	117.298	1.46739	1.00159
1	1.50000	61.6446	123.289	2.20109	1.50239
2	2.00000	64.1285	128.257	2.93478	2.00319
3	3.00000	68.3583	136.717	4.40217	3.00478
4	4.00000	72.0767	144.153	5.86956	4.00637
5	5.00000	75.5148	151.030	7.33695	5.00796
6	6.00000	78.7756	157.551	8.80434	6.00956
7	8.00000	84.9629	169.926	11.7391	8.01274
8	10.0000	90.8700	181.740	14.6739	10.0159
9	15.0000	104.976	209.952	22.0109	15.0239
10	20.0000	118.570	237.140	29.3478	20.0319
11	25.0000	131.884	263.768	36.6848	25.0398
12	30.0000	145.021	290.042	44.0217	30.0478
13	40.0000	170.960	341.920	58.6956	40.0637
14	50.0000	196.619	393.238	73.3695	50.0796
15	60.0000	222.101	444.201	88.0434	60.0956

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ETG	35.0000	ZX	20.0000	GAMMA0	0.0180000
EL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.6492	117.298	1.46739	1.00159
1	1.50000	61.6446	123.289	2.20109	1.50239
2	2.00000	64.1285	128.257	2.93478	2.00319
3	3.00000	68.3583	136.717	4.40217	3.00478
4	4.00000	72.0767	144.153	5.86956	4.00637
5	5.00000	75.5148	151.030	7.33695	5.00796
6	6.00000	78.7756	157.551	8.80434	6.00956
7	8.00000	84.9629	169.926	11.7391	8.01274
8	10.0000	90.8700	181.740	14.6739	10.0159
9	15.0000	104.976	209.952	22.0109	15.0239
10	20.0000	118.570	237.140	29.3478	20.0319
11	25.0000	131.884	263.768	36.6848	25.0398
12	30.0000	145.021	290.042	44.0217	30.0478
13	40.0000	170.960	341.920	58.6956	40.0637
14	50.0000	196.619	393.238	73.3695	50.0796
15	60.0000	222.101	444.201	88.0434	60.0956

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	35.0000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	58.6492	117.298	1.46739	1.00159
1	1.50000	61.6446	123.289	2.20109	1.50239
2	2.00000	64.1285	128.257	2.93478	2.00319
3	3.00000	68.3583	136.717	4.40217	3.00478
4	4.00000	72.0767	144.153	5.86956	4.00637
5	5.00000	75.5148	151.030	7.33695	5.00796
6	6.00000	78.7756	157.551	8.80434	6.00956
7	8.00000	84.9629	169.926	11.7391	8.01274
8	10.0000	90.8700	181.740	14.6739	10.0159
9	15.0000	104.976	209.952	22.0109	15.0239
10	20.0000	118.570	237.140	29.3478	20.0319
11	25.0000	131.884	263.768	36.6848	25.0398
12	30.0000	145.021	290.042	44.0217	30.0478
13	40.0000	170.960	341.920	58.6956	40.0637
14	50.0000	196.619	393.238	73.3695	50.0796
15	60.0000	222.101	444.201	88.0434	60.0956

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.8474	131.695	0.733874	1.00159
1	1.50000	68.4761	136.952	1.10081	1.50239
2	2.00000	70.5932	141.186	1.46775	2.00319
3	3.00000	74.0896	148.179	2.20162	3.00478
4	4.00000	77.0744	154.149	2.93550	4.00637
5	5.00000	79.7790	159.558	3.66937	5.00796
6	6.00000	82.3063	164.613	4.40325	6.00956
7	8.00000	87.0966	174.053	5.87100	8.01274
8	10.0000	91.4666	182.933	7.33874	10.0159
9	15.0000	101.905	203.810	11.0081	15.0239
10	20.0000	111.832	223.663	14.6775	20.0319
11	25.0000	121.478	242.956	18.3469	25.0398
12	30.0000	130.947	261.894	22.0162	30.0478
13	40.0000	149.551	299.103	29.3550	40.0637
14	50.0000	167.875	335.750	36.6937	50.0796
15	60.0000	186.022	372.043	44.0325	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.8587	131.717	0.745158	1.00159
1	1.50000	68.4930	136.986	1.11774	1.50239
2	2.00000	70.6158	141.232	1.49032	2.00319
3	3.00000	74.1234	148.247	2.23548	3.00478
4	4.00000	77.1196	154.239	2.98063	4.00637
5	5.00000	79.8354	159.671	3.72579	5.00796
6	6.00000	82.3740	164.748	4.47095	6.00956
7	8.00000	87.1169	174.234	5.96127	8.01274
8	10.0000	91.5795	183.159	7.45158	10.0159
9	15.0000	102.074	204.148	11.1774	15.0239
10	20.0000	112.057	224.115	14.9032	20.0319
11	25.0000	121.760	243.520	18.6290	25.0398
12	30.0000	131.286	262.571	22.3548	30.0478
13	40.0000	150.003	300.005	29.8063	40.0637
14	50.0000	168.439	336.878	37.2579	50.0796
15	60.0000	186.699	373.397	44.7095	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ℰTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ℰL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	65.9765	131.953	0.862916	1.00159
1	1.50000	68.6696	137.339	1.29437	1.50239
2	2.00000	70.8513	141.703	1.72583	2.00319
3	3.00000	74.4767	148.953	2.58875	3.00478
4	4.00000	77.5903	155.181	3.45166	4.00637
5	5.00000	80.4242	160.848	4.31458	5.00796
6	6.00000	83.0805	166.161	5.17749	6.00956
7	8.00000	88.0589	176.118	6.90333	8.01274
8	10.0000	92.7571	185.514	8.62916	10.0159
9	15.0000	103.841	207.681	12.9437	15.0239
10	20.0000	114.412	228.825	17.2583	20.0319
11	25.0000	124.704	249.408	21.5729	25.0398
12	30.0000	134.818	269.637	25.8875	30.0478
13	40.0000	154.713	309.426	34.5166	40.0637
14	50.0000	174.327	348.654	43.1458	50.0796
15	60.0000	193.764	387.528	51.7749	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.4060	132.812	1.29247	1.00159
1	1.50000	69.3140	138.628	1.93871	1.50239
2	2.00000	71.7104	143.421	2.58495	2.00319
3	3.00000	75.7654	151.531	3.87742	3.00478
4	4.00000	79.3088	158.618	5.16990	4.00637
5	5.00000	82.5720	165.144	6.46237	5.00796
6	6.00000	85.6579	171.316	7.75484	6.00956
7	8.00000	91.4954	182.991	10.3398	8.01274
8	10.0000	97.0526	194.105	12.9247	10.0159
9	15.0000	110.284	220.568	19.3871	15.0239
10	20.0000	123.004	246.007	25.8495	20.0319
11	25.0000	135.443	270.886	32.3118	25.0398
12	30.0000	147.705	295.410	38.7742	30.0478
13	40.0000	171.895	343.790	51.6990	40.0637
14	50.0000	195.805	391.610	64.6237	50.0796
15	60.0000	219.537	439.075	77.5484	60.0956

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.5810	133.162	1.46739	1.00159
1	1.50000	69.5764	139.153	2.20109	1.50239
2	2.00000	72.0602	144.120	2.93478	2.00319
3	3.00000	76.2901	152.580	4.40217	3.00478
4	4.00000	80.0085	160.017	5.86956	4.00637
5	5.00000	83.4466	166.893	7.33695	5.00796
6	6.00000	86.7074	173.415	8.80434	6.00956
7	8.00000	92.8947	185.789	11.7391	8.01274
8	10.0000	98.8018	197.604	14.6739	10.0159
9	15.0000	112.008	225.815	22.0109	15.0239
10	20.0000	126.502	253.004	29.3478	20.0319
11	25.0000	139.816	279.632	36.6848	25.0398
12	30.0000	152.953	305.905	44.0217	30.0478
13	40.0000	178.892	357.784	58.6956	40.0637
14	50.0000	204.551	409.102	73.3695	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	250.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.5810	133.162	1.46739	1.00159
1	1.50000	69.5764	139.153	2.20109	1.50239
2	2.00000	72.0602	144.120	2.93478	2.00319
3	3.00000	76.2901	152.580	4.40217	3.00478
4	4.00000	80.0085	160.017	5.86956	4.00637
5	5.00000	83.4466	166.893	7.33695	5.00796
6	6.00000	86.7074	173.415	8.80434	6.00956
7	8.00000	92.8947	185.789	11.7391	8.01274
8	10.0000	98.8018	197.604	14.6739	10.0159
9	15.0000	112.908	225.815	22.0109	15.0239
10	20.0000	126.502	253.004	29.3478	20.0319
11	25.0000	139.816	279.632	36.6848	25.0398
12	30.0000	152.053	305.905	44.0217	30.0478
13	40.0000	178.892	357.784	58.6956	40.0637
14	50.0000	204.551	409.102	73.3695	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ℰTG	250.000	ℱX	20.0000	GAMMA0	0.0180000
ℰL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	66.5810	133.162	1.46739	1.00159
1	1.50000	69.5764	139.153	2.20109	1.50239
2	2.00000	72.0602	144.120	2.93478	2.00319
3	3.00000	76.2901	152.580	4.40217	3.00478
4	4.00000	80.0085	160.017	5.86956	4.00637
5	5.00000	83.4466	166.893	7.33695	5.00796
6	6.00000	86.7074	173.415	8.80434	6.00956
7	8.00000	92.8947	185.789	11.7391	8.01274
8	10.0000	98.8018	197.604	14.6739	10.0159
9	15.0000	112.908	225.815	22.0109	15.0239
10	20.0000	126.502	253.004	29.3478	20.0319
11	25.0000	139.816	279.632	36.6848	25.0398
12	30.0000	152.953	305.905	44.0217	30.0478
13	40.0000	178.892	357.784	58.6956	40.0637
14	50.0000	204.551	409.102	73.3695	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	500.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.4888	136.978	0.733674	1.00159
1	1.50000	71.8557	143.711	1.10081	1.50239
2	2.00000	74.6796	149.359	1.46775	2.00319
3	3.00000	79.4934	158.987	2.20162	3.00478
4	4.00000	83.6684	167.337	2.93550	4.00637
5	5.00000	87.4310	174.862	3.66937	5.00796
6	6.00000	90.8792	181.758	4.40325	6.00956
7	8.00000	97.0697	194.139	5.87100	8.01274
8	10.0000	102.561	205.123	7.33874	10.0159
9	15.0000	114.438	228.876	11.0081	15.0239
10	20.0000	124.999	249.998	14.6775	20.0319
11	25.0000	134.981	269.962	18.3469	25.0398
12	30.0000	144.666	289.331	22.0162	30.0478
13	40.0000	163.560	327.121	29.3550	40.0637
14	50.0000	182.098	364.197	36.6937	50.0796
15	60.0000	200.428	400.857	44.0325	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
℄TG	500.000	℄X	20.0000	GAMMA0	0.0180000
℄L	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.5001	137.000	0.745158	1.00159
1	1.50000	71.8726	143.745	1.11774	1.50239
2	2.00000	74.7021	149.404	1.49032	2.00319
3	3.00000	79.5273	159.055	2.23548	3.00478
4	4.00000	83.7136	167.427	2.98063	4.00637
5	5.00000	87.4874	174.975	3.72579	5.00796
6	6.00000	90.9469	181.894	4.47095	6.00956
7	8.00000	97.1600	194.320	5.96127	8.01274
8	10.0000	102.674	205.349	7.45158	10.0159
9	15.0000	114.607	229.215	11.1774	15.0239
10	20.0000	125.225	250.450	14.9032	20.0319
11	25.0000	135.263	270.526	18.6290	25.0398
12	30.0000	145.004	290.008	22.3548	30.0478
13	40.0000	164.012	328.023	29.8063	40.0637
14	50.0000	182.663	365.325	37.2579	50.0796
15	60.0000	201.105	402.211	44.7095	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	500.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	68.6179	137.236	0.862916	1.00159
1	1.50000	72.0493	144.099	1.29437	1.50239
2	2.00000	74.9377	149.875	1.72583	2.00319
3	3.00000	79.8805	159.761	2.58875	3.00478
4	4.00000	84.1846	168.369	3.45166	4.00637
5	5.00000	88.0762	176.152	4.31458	5.00796
6	6.00000	91.6535	183.307	5.17749	6.00956
7	8.00000	98.1020	196.204	6.90333	8.01274
9	15.0000	116.374	232.747	12.9437	15.0239
10	20.0000	127.580	255.160	17.2583	20.0319
11	25.0000	138.207	276.414	21.5729	25.0398
12	30.0000	148.537	297.074	25.8875	30.0478
13	40.0000	168.722	337.444	34.5166	40.0637
14	50.0000	188.551	377.101	43.1458	50.0796
15	60.0000	208.171	416.342	51.7749	60.0956

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	500.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.0474	138.095	1.29247	1.00159
1	1.50000	72.6036	145.387	1.93871	1.50239
2	2.00000	75.7968	151.594	2.58495	2.00319
3	3.00000	81.1692	162.338	3.87742	3.00478
4	4.00000	85.9028	171.806	5.16990	4.00637
5	5.00000	90.2240	180.448	6.46237	5.00796
6	6.00000	94.2308	188.462	7.75484	6.00956
7	8.00000	101.539	203.077	10.3398	8.01274
8	10.0000	108.147	216.295	12.9247	10.0159
9	15.0000	122.817	245.634	19.3871	15.0239
10	20.0000	136.171	272.342	25.8495	20.0319
11	25.0000	148.946	297.892	32.3118	25.0398
12	30.0000	161.424	322.847	38.7742	30.0478
13	40.0000	185.904	371.809	51.6990	40.0637
14	50.0000	210.028	420.057	64.6237	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	500.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.2224	138.445	1.46739	1.00159
1	1.50000	72.9560	145.912	2.20109	1.50239
2	2.00000	76.1466	152.293	2.93478	2.00319
3	3.00000	81.6940	163.388	4.40217	3.00478
4	4.00000	86.6025	173.205	5.86956	4.00637
5	5.00000	91.0986	182.197	7.33695	5.00796
6	6.00000	95.2803	190.561	8.80434	6.00956
7	8.00000	102.938	205.876	11.7391	8.01274
8	10.0000	109.897	219.793	14.6739	10.0159
9	15.0000	125.441	250.882	22.0109	15.0239
10	20.0000	139.670	279.339	29.3478	20.0319
11	25.0000	153.319	306.638	36.6848	25.0398
12	30.0000	166.671	333.342	44.0217	30.0478
13	40.0000	192.901	385.802	58.6956	40.0637
14	50.0000	218.774	437.549	73.3695	50.0796

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
℄TG	500.000	℄X	20.0000	GAMMA0	0.0180000
℄L	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.2224	138.445	1.46739	1.00159
1	1.50000	72.9560	145.912	2.20109	1.50239
2	2.00000	76.1466	152.293	2.93478	2.00319
3	3.00000	81.6940	163.388	4.40217	3.00478
4	4.00000	86.6025	173.205	5.86956	4.00637
5	5.00000	91.0986	182.197	7.33695	5.00796
6	6.00000	95.2803	190.561	8.80434	6.00956
7	8.00000	102.938	205.876	11.7391	8.01274
8	10.0000	109.897	219.793	14.6739	10.0159
9	15.0000	125.441	250.882	22.0109	15.0239
10	20.0000	139.670	279.339	29.3478	20.0319
11	25.0000	153.319	306.638	36.6848	25.0398
12	30.0000	166.671	333.342	44.0217	30.0478
13	40.0000	192.901	385.802	58.6956	40.0637
14	50.0000	218.774	437.549	73.3695	50.0796

INPUT PARAMETERS

LWA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	500.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	69.2224	138.445	1.46739	1.00159
1	1.50000	72.9560	145.912	2.20109	1.50239
2	2.00000	76.1466	152.293	2.93478	2.00319
3	3.00000	81.6940	163.388	4.40217	3.00478
4	4.00000	86.6025	173.205	5.86956	4.00637
5	5.00000	91.0986	182.197	7.33695	5.00796
6	6.00000	95.2803	190.561	8.80434	6.00956
7	8.00000	102.938	205.876	11.7391	8.01274
8	10.0000	109.897	219.793	14.6739	10.0159
9	15.0000	125.441	250.882	22.0109	15.0239
10	20.0000	139.670	279.339	29.3478	20.0319
11	25.0000	153.319	306.638	36.6848	25.0398
12	30.0000	166.671	333.342	44.0217	30.0478
13	40.0000	192.901	385.802	58.6956	40.0637
14	50.0000	218.774	437.549	73.3695	50.0796

INPUT PARAMETERS

LWA	1.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.0710	152.142	0.733874	1.00159
1	1.50000	79.5524	159.105	1.10081	1.50239
2	2.00000	82.4923	164.985	1.46775	2.00319
3	3.00000	87.5441	175.088	2.20162	3.00478
4	4.00000	91.9737	183.947	2.93550	4.00637
5	5.00000	96.0141	192.028	3.66937	5.00796
6	6.00000	99.7609	199.522	4.40325	6.00956
7	8.00000	106.542	213.084	5.87100	8.01274
8	10.0000	112.580	225.161	7.33874	10.0159
9	15.0000	125.420	250.840	11.0081	15.0239
10	20.0000	136.439	272.878	14.6775	20.0319
11	25.0000	146.642	293.285	18.3469	25.0398
12	30.0000	156.443	312.885	22.0162	30.0478
13	40.0000	175.451	350.902	29.3550	40.0637
14	50.0000	194.043	388.086	36.6937	50.0795
15	60.0000	212.404	424.808	44.0325	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.0823	152.165	0.745158	1.00159
1	1.50000	79.5693	159.139	1.11774	1.50239
2	2.00000	82.5149	165.030	1.49032	2.00319
3	3.00000	87.5780	175.156	2.23548	3.00478
4	4.00000	92.0188	184.038	2.98063	4.00637
5	5.00000	96.0705	192.141	3.72579	5.00796
6	6.00000	99.8286	199.657	4.47095	6.00956
7	8.00000	106.632	213.264	5.96127	8.01274
8	10.0000	112.693	225.386	7.45158	10.0159
9	15.0000	125.589	251.178	11.1774	15.0239
10	20.0000	136.665	273.329	14.9032	20.0319
11	25.0000	146.924	293.849	18.6290	25.0398
12	30.0000	156.781	313.562	22.3548	30.0478
13	40.0000	175.002	351.805	29.8063	40.0637
14	50.0000	194.607	389.215	37.2579	50.0796
15	60.0000	213.081	426.162	44.7095	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.2001	152.400	0.862916	1.00159
1	1.50000	79.7459	159.492	1.29437	1.50239
2	2.00000	82.7504	165.501	1.72583	2.00319
3	3.00000	87.9312	175.862	2.58875	3.00478
4	4.00000	92.4899	184.980	3.45166	4.00637
5	5.00000	96.6593	193.319	4.31458	5.00796
6	6.00000	100.535	201.070	5.17749	6.00956
7	8.00000	107.574	215.149	6.90333	8.01274
8	10.0000	113.871	227.741	8.62916	10.0159
9	15.0000	127.356	254.711	12.9437	15.0239
10	20.0000	139.020	278.039	17.2583	20.0319
11	25.0000	149.868	299.737	21.5729	25.0398
12	30.0000	160.314	320.628	25.8875	30.0478
13	40.0000	180.613	361.225	34.5166	40.0637
14	50.0000	200.495	400.990	43.1458	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.6296	153.259	1.29247	1.00159
1	1.50000	80.3903	160.781	1.93871	1.50239
2	2.00000	83.6095	167.219	2.58495	2.00319
3	3.00000	89.2199	178.440	3.87742	3.00478
4	4.00000	94.2081	188.416	5.16990	4.00637
5	5.00000	98.8071	197.614	6.46237	5.00796
6	6.00000	103.113	206.225	7.75484	6.00956
7	8.00000	111.011	222.021	10.3398	8.01274
8	10.0000	118.166	236.333	12.9247	10.0159
9	15.0000	133.799	267.598	19.3871	15.0239
10	20.0000	147.611	295.222	25.8495	20.0319
11	25.0000	160.607	321.215	32.3118	25.0398
12	30.0000	173.201	346.401	38.7742	30.0478
13	40.0000	197.795	395.590	51.6990	40.0637
14	50.0000	221.973	443.946	64.6237	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.8046	153.609	1.46739	1.00159
1	1.50000	80.6526	161.305	2.20109	1.50239
2	2.00000	83.9594	167.919	2.93478	2.00319
3	3.00000	89.7447	179.489	4.40217	3.00478
4	4.00000	94.9078	189.816	5.86956	4.00637
5	5.00000	99.6817	199.363	7.33695	5.00796
6	6.00000	104.162	208.324	8.80434	6.00956
7	8.00000	112.410	224.820	11.7391	8.01274
8	10.0000	119.915	239.831	14.6739	10.0159
9	15.0000	136.423	272.845	22.0109	15.0239
10	20.0000	151.109	302.218	29.3478	20.0319
11	25.0000	164.980	329.960	36.6848	25.0398
12	30.0000	178.448	356.896	44.0217	30.0478
13	40.0000	204.792	409.583	58.6956	40.0637

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.8046	153.609	1.46739	1.00159
1	1.50000	80.6526	161.305	2.20109	1.50239
2	2.00000	83.9594	167.919	2.93478	2.00319
3	3.00000	89.7447	179.489	4.40217	3.00478
4	4.00000	94.9078	189.816	5.86956	4.00637
5	5.00000	99.6817	199.363	7.33695	5.00796
6	6.00000	104.162	208.324	8.80434	6.00956
7	8.00000	112.410	224.820	11.7391	8.01274
8	10.0000	119.015	239.831	14.6739	10.0159
9	15.0000	136.423	272.845	22.0109	15.0239
10	20.0000	151.109	302.218	29.3478	20.0319
11	25.0000	164.980	329.960	36.6848	25.0398
12	30.0000	178.448	356.896	44.0217	30.0478
13	40.0000	204.792	409.583	58.6956	40.0637

INPUT PARAMETERS

WA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	600.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.8046	153.609	1.46739	1.00159
1	1.50000	80.6526	161.305	2.20109	1.50239
2	2.00000	83.9594	167.919	2.93478	2.00319
3	3.00000	89.7447	179.489	4.40217	3.00478
4	4.00000	94.9078	189.816	5.86956	4.00637
5	5.00000	99.6817	199.363	7.33695	5.00796
6	6.00000	104.162	208.324	8.80434	6.00956
7	8.00000	112.410	224.820	11.7391	8.01274
8	10.0000	119.915	239.831	14.6739	10.0159
9	15.0000	136.423	272.845	22.0109	15.0239
10	20.0000	151.109	302.218	29.3478	20.0319
11	25.0000	164.980	329.960	36.6848	25.0398
12	30.0000	178.448	356.896	44.0217	30.0478
13	40.0000	204.792	409.583	58.6956	40.0637

INPUT PARAMETERS

CWA	1.00000	FREQ	13.0000	Cs	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.9163	153.833	0.733874	1.00159
1	1.50000	80.4031	160.806	1.10081	1.50239
2	2.00000	83.3589	166.718	1.46775	2.00319
3	3.00000	88.4314	176.863	2.20162	3.00478
4	4.00000	92.8824	185.765	2.93550	4.00637
5	5.00000	96.9391	193.878	3.66937	5.00796
6	6.00000	100.704	201.407	4.40325	6.00956
7	8.00000	107.540	215.080	5.87100	8.01274
8	10.0000	113.623	227.245	7.33874	10.0159
9	15.0000	126.537	253.074	11.0081	15.0239
10	20.0000	137.589	275.178	14.6775	20.0319
11	25.0000	147.806	295.612	18.3469	25.0398
12	30.0000	157.613	315.225	22.0162	30.0478
13	40.0000	176.626	353.252	29.3550	40.0637
14	50.0000	195.220	390.440	36.6937	50.0796
15	60.0000	213.582	427.163	44.0325	60.0956

INPUT PARAMETERS

LWA	2.00000	FREQ	13.0000	CS	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	76.9276	153.855	0.745158	1.00159
1	1.50000	80.4200	160.840	1.11774	1.50239
2	2.00000	83.3815	166.763	1.49032	2.00319
3	3.00000	88.4653	176.931	2.23548	3.00478
4	4.00000	92.9276	185.855	2.98063	4.00637
5	5.00000	96.9955	193.991	3.72579	5.00796
6	6.00000	100.771	201.543	4.47095	6.00956
7	8.00000	107.630	215.260	5.96127	8.01274
8	10.0000	113.736	227.471	7.45158	10.0159
9	15.0000	126.706	253.412	11.1774	15.0239
10	20.0000	137.815	275.629	14.9032	20.0319
11	25.0000	148.088	296.177	18.6290	25.0398
12	30.0000	157.951	315.902	22.3548	30.0478
13	40.0000	177.077	354.154	29.8063	40.0637
14	50.0000	195.784	391.568	37.2579	50.0796
15	60.0000	214.259	428.517	44.7095	60.0956

INPUT PARAMETERS

LWA	3.00000	FREQ	13.0000	CS	4947.00
ETG	671.000	ZX	20.0000	GAMMA0	0.0180000
EL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	77.0454	154.091	0.862916	1.00159
1	1.50000	80.5967	161.193	1.29437	1.50239
2	2.00000	83.6170	167.234	1.72583	2.00319
3	3.00000	88.8185	177.637	2.58875	3.00478
4	4.00000	93.3986	186.797	3.45166	4.00637
5	5.00000	97.5843	195.169	4.31458	5.00796
6	6.00000	101.478	202.956	5.17749	6.00956
7	8.00000	108.572	217.144	6.90333	8.01274
8	10.0000	114.913	229.826	8.62916	10.0159
9	15.0000	128.472	256.945	12.9437	15.0239
10	20.0000	140.170	280.340	17.2583	20.0319
11	25.0000	151.032	302.064	21.5729	25.0398
12	30.0000	161.484	322.968	25.8875	30.0478
13	40.0000	181.787	363.575	34.5166	40.0637
14	50.0000	201.672	403.344	43.1458	50.0796

INPUT PARAMETERS

LWA	4.00000	FREQ	13.0000	CS	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	77.4749	154.950	1.29247	1.00159
1	1.50000	81.2410	162.482	1.93871	1.50239
2	2.00000	84.4761	168.952	2.58495	2.00319
3	3.00000	90.1072	180.214	3.87742	3.00478
4	4.00000	95.1168	190.234	5.16990	4.00637
5	5.00000	99.7321	199.464	6.46237	5.00796
6	6.00000	104.055	208.111	7.75484	6.00956
7	8.00000	112.009	224.017	10.3398	8.01274
8	10.0000	119.209	238.417	12.9247	10.0159
9	15.0000	134.916	269.832	19.3871	15.0239
10	20.0000	148.761	297.522	25.8495	20.0319
11	25.0000	161.771	323.542	32.3118	25.0398
12	30.0000	174.371	348.741	38.7742	30.0478
13	40.0000	198.970	397.940	51.6990	40.0637
14	50.0000	223.150	446.299	64.6237	50.0796

INPUT PARAMETERS

LWA	6.00000	FREQ	13.0000	CS	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	77.6498	155.300	1.46739	1.00159
1	1.50000	81.5034	163.007	2.20109	1.50239
2	2.00000	84.8259	169.652	2.93478	2.00319
3	3.00000	90.6319	181.264	4.40217	3.00478
4	4.00000	95.8165	191.633	5.86956	4.00637
5	5.00000	100.607	201.213	7.33695	5.00796
6	6.00000	105.105	210.210	8.80434	6.00956
7	8.00000	113.408	226.816	11.7391	8.01274
8	10.0000	120.958	241.916	14.6739	10.0159
9	15.0000	137.540	275.079	22.0109	15.0239
10	20.0000	152.259	304.519	29.3478	20.0319
11	25.0000	166.144	332.288	36.6848	25.0398
12	30.0000	179.618	359.236	44.0217	30.0478
13	40.0000	205.966	411.933	58.6956	40.0637

INPUT PARAMETERS

LWA	8.00000	FREQ	13.0000	CS	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	77.6498	155.300	1.46739	1.00159
1	1.50000	81.5034	163.007	2.20109	1.50239
2	2.00000	84.8259	169.652	2.93478	2.00319
3	3.00000	90.6319	181.264	4.40217	3.00478
4	4.00000	95.8165	191.633	5.86956	4.00637
5	5.00000	100.607	201.213	7.33695	5.00796
6	6.00000	105.105	210.210	8.80434	6.00956
7	8.00000	113.408	226.816	11.7391	8.01274
8	10.0000	120.958	241.916	14.6739	10.0159
9	15.0000	137.540	275.079	22.0109	15.0239
10	20.0000	152.259	304.519	29.3478	20.0319
11	25.0000	166.144	332.288	36.6848	25.0398
12	30.0000	179.618	359.236	44.0217	30.0478
13	40.0000	205.966	411.933	58.6956	40.0637

INPUT PARAMETERS

WA	10.0000	FREQ	13.0000	CS	4947.00
ZTG	671.000	ZX	20.0000	GAMMA0	0.0180000
ZL	500.000	TEMP	60.0000	GAMMA1	-0.333300

	RANGE	HSC	HSCSUM	HSSC	HKSC
0	1.00000	77.6498	155.300	1.46739	1.00159
1	1.50000	81.5034	163.007	2.20109	1.50239
2	2.00000	84.8259	169.652	2.93478	2.00319
3	3.00000	90.6319	181.264	4.40217	3.00478
4	4.00000	95.8165	191.633	5.86956	4.00637
5	5.00000	100.607	201.213	7.33695	5.00796
6	6.00000	105.105	210.210	8.80434	6.00956
7	8.00000	113.408	226.816	11.7391	8.01274
8	10.0000	120.058	241.916	14.6739	10.0159
9	15.0000	137.540	275.079	22.0109	15.0239
10	20.0000	152.259	304.519	29.3478	20.0319
11	25.0000	166.144	332.288	36.6848	25.0398
12	30.0000	179.418	359.236	44.0217	30.0478
13	40.0000	205.966	411.933	58.6956	40.0637