

FCC Composite Gain Test Report

TP-Link Systems Inc.
10 Mauchly, Irvine, CA 926187



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Basic Information

EUT Description:	BE68		
Brand Name:	tp-link		
Model Name:	BE68		
Tested By:	Zhao Han Zhao Han	Date:	2024/12/19

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1 Operation Mode and Antenna Information

1.1 EUT Operation Mode

The BE68 is the Tri-band wireless router of 8 internal antennas, 2 were 2.4G & 5G Dual-Band antennas, 2 were 5G antennas(only one is active at a time) ,3 were 6G antennas,1 were Bluetooth antennas,.

1.2 Antenna Information

The Antennas are internal , the Locations of Antennas are shown below:

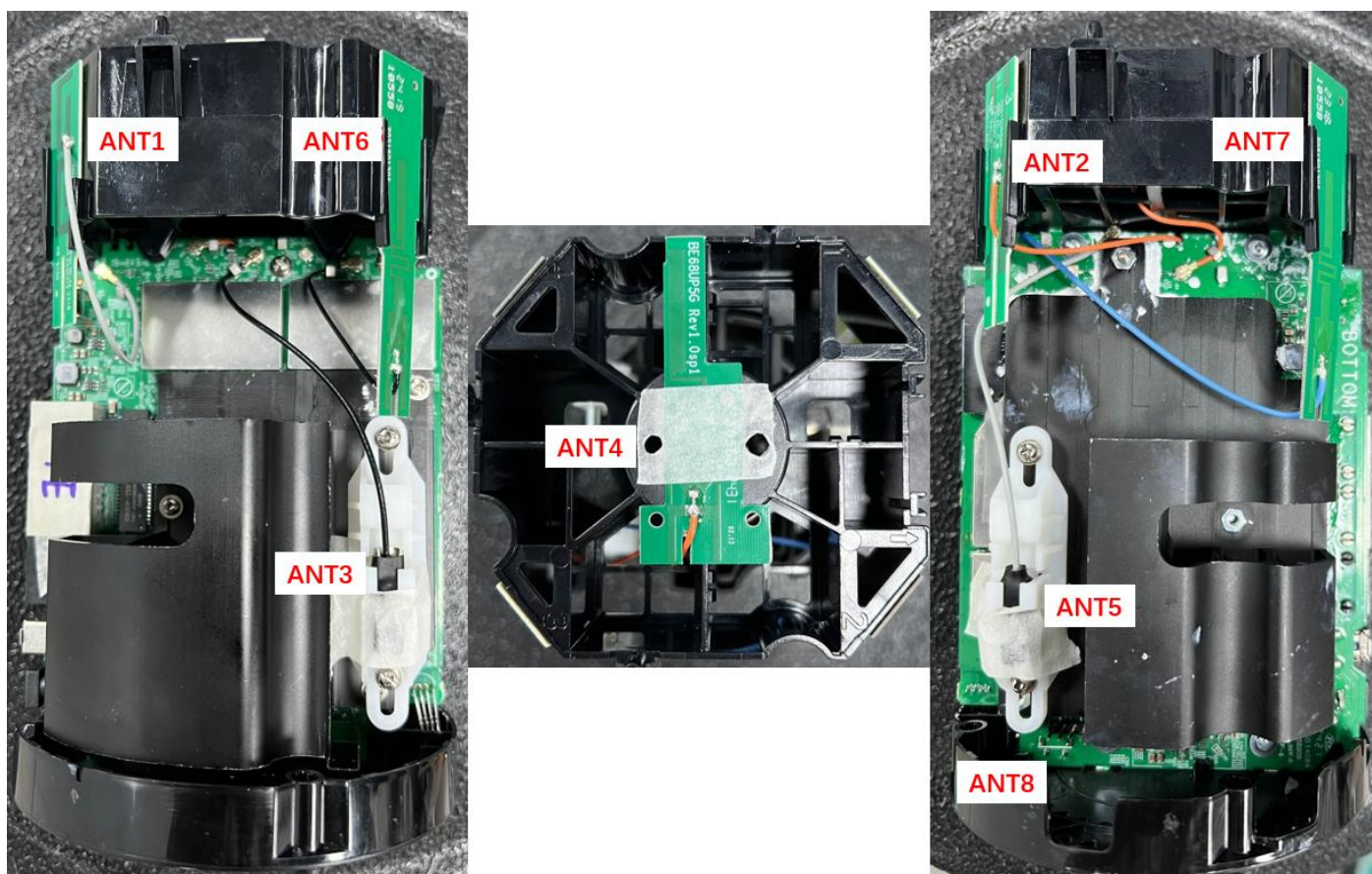


Figure 1- 1 Locations of Antennas

The Antenna Information was shown below:

Table 1- 1 Antenna Information

Antenna Position	Antenna Type	Connector	Mode of operation
Ant1	Dipole	ipex	2.4G&5G
Ant2	Dipole	ipex	2.4G&5G
Ant3	Dipole	ipex	5G
Ant4	Dipole	ipex	5G
Ant5	Dipole	ipex	6G



Ant6	Dipole	ipex	6G
Ant7	Dipole	ipex	6G
Ant8	Dipole	ipex	Bluetooth

1.3 Test Frequency

The Listed frequency of each bands are selected to represent each frequency bands.

Table 1- 2 Test Frequency

Frequency Band(MHz)	Test Frequency(MHz)
2400-2483.5	2450
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5800
5925-6425	6175
6425-6525	6475
6525-6875	6725
6875-7125	7025

2 Test System

2.1 Test Equipment

Table 2- 1Test System

Equipment	Model	Manufacturer	S/N	Cali. Interval	Cali. Due Date
Chamber	Rayzone2800	GTS	MY53470435	12months	2025/04/15
Vector Network Analyzer	E5071C	Keysight	MY46315238	24months	2026/05/27

2.2 Test Software

Table 2- 2 Test Software

Software	Version	Function
GTS MaxSign100	V2.1	Passive Antenna Measurements

3 Test Summary

3.1 Measurement Environment

This measurement experiment adopted an antenna near-field measurement system, and the diagram of the measurement system was shown in Figure 3-1. The excitation signal was generated by the Keysight E5071C (300kHz-20GHz). Under the control of the central computer, the probe rotated in the θ direction, and the EUT rotated in the ϕ direction with the turntable. The probe sampling frame received and collected signals in the near-field range of the EUT. The software system which was controlled by the central computer completed the processing, output and display of the test data.

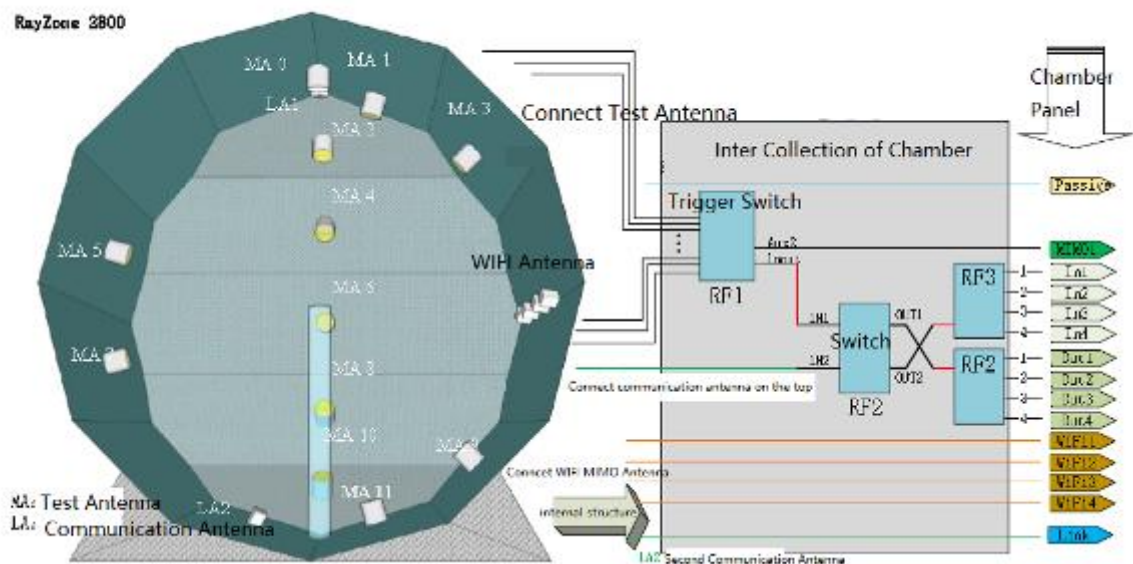


Figure 3- 1 Schematic diagram of antenna near-field measurement system

The test site was a full anechoic chamber with a size of 3.0m×3.1m×2.97m, which was built by GTS Rayzone2800. All six surfaces of the anechoic chamber were pasted with absorbing materials. And the chamber was calibrated by the authoritative third-party lab every year. The antenna anechoic chamber measurement system adopted a 13-probe multi-probe system. The probe antennas were evenly distributed on the spherical surface surrounding the EUT, and their operating frequency was 600MHz~8.5GHz.

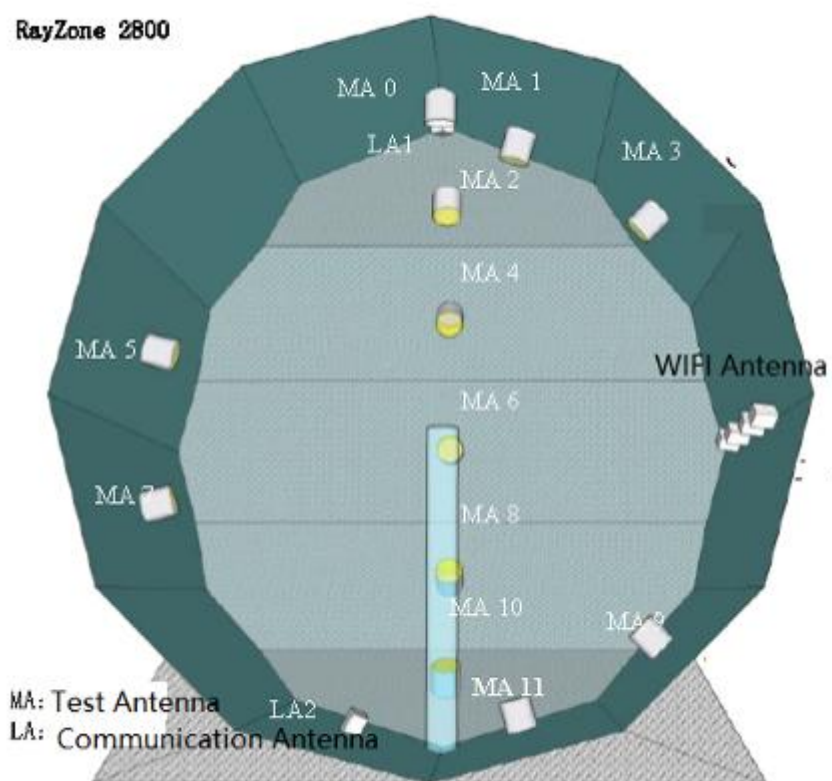


Figure 3-2 Antenna anechoic chamber for near-field measurement

During the measurement, the probe antennas were rotated in the θ direction under the control of the probe holder to sample the near-field data at the θ angle. At the same time, the EUT rotated with the turntable in the ϕ direction to sample the near field data at the ϕ angle. The system diagram was shown in Figure 3-3. From the sampling results, the EUT's near-field test data of θ component, ϕ component and total component could be obtained.

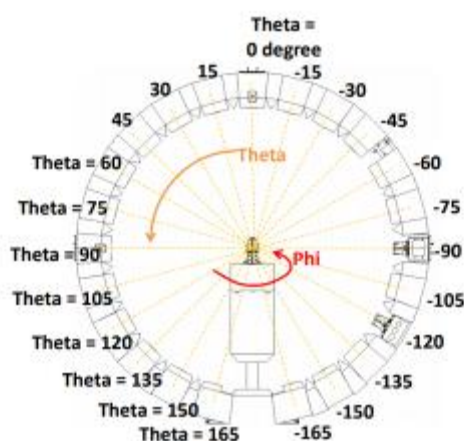


Figure 3-3 System diagram

Before the measurement, calibrated the vector network analyzer, and then connected the input end of each antenna to the output end of the vector network analyzer, and evenly the antennas to be measured. The Calibration information was shown in table 2-1.

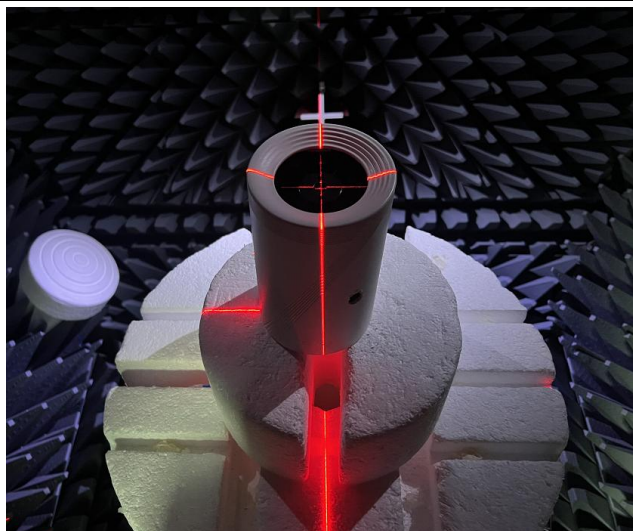


Figure 3-4 Antennas measurement diagram

Table 3- 1 Calibration information

Measurement Class	Standard
Cal Type	2p/1-2
Cal Kit	N4691B

3.2 Measurement Quantity

In this measurement experiment, the Directional Gain was measured at a certain frequency interval within the whole frequency range. The measurement frequency interval of the 2.4G antennas was 10MHz, while the 5G and 6G antennas was 50MHz.

3.3 Test Method

During the measurement, the probe antennas were rotated in the θ direction under the control of the probe holder to sample the near-field data at the θ angle. At the same time, the EUT rotated with the turntable in the ϕ direction to sample the near field data at the ϕ angle. The sampling accuracy was 15° . The system diagram was shown in Figure 2-6. From the sampling results, the EUT's near-field test data of θ component, ϕ component and total component could be obtained.

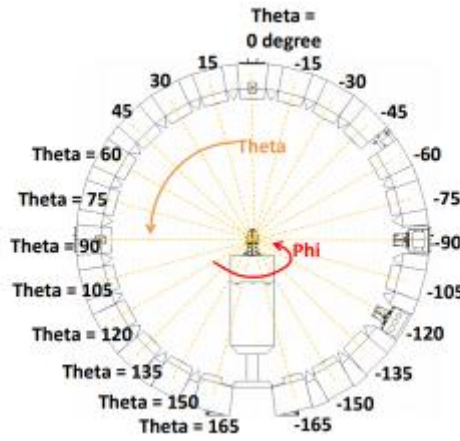


Figure 3-5 Test angle

3.4 Directional Gain Calculations

Multiple antennas system, each of which has one of two (or three) polarizations that are orthogonal to one another (i.e., cross polarized), The total gain—including array gain—is computed separately for each of the two (or three) polarizations using the procedures presented in this document. The highest of the total gains shall apply.

Theoretical Directional Gain represented the theoretical value calculated by formula 2-1. As we all know, the effect of array gain must be included in the calculation of overall directional antenna gain for devices that transmit on multiple outputs simultaneously in the same band, in the same or in overlapping frequency ranges. Therefore, in formula 2-1, the directional gain calculation needs to include all directions and all Frequencies and all Polarizations, and then take the maximum value as the final directional gain value. Therefore, the calculation formula of theoretical directional gain value can be modified as formula 2-2

$$\text{Directional Gain} = 10\log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] \quad (2-1)$$

Where

N_{SS} = the number of independent spatial streams of data; $N_{SS} = 1$.

N_{ANT} = the total number of antennas: $N_{ANT} = 4$ for 2.4G & 5G antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna .

$$\text{Directional Gain} = \text{Maximum} \left[10\log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] \right] \quad (2-2)$$

Maximum function is the max directional gain overall directions and all frequency all polarizations.

3.5 Test Procedure

The calculation method of DG (Directional Gain) in this scheme is summarized as follows:

- 1) The antenna anechoic chamber is used to measure the gain of each antenna, the gain of each antenna at this angle is taken every 15° to calculate the Directional Gain;
- 2) Use formula below to calculate and the Directional Gain of the system at this angle is obtained

$$\text{Directional Gain} = 10\log \left[\frac{\sum_{j=1}^{N_{ST}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] \quad (2-3)$$

- 3) For each frequency point, the Directional Gain value under 24 different angles can be obtained, and finally the maximum value is taken as the system Directional Gain value.

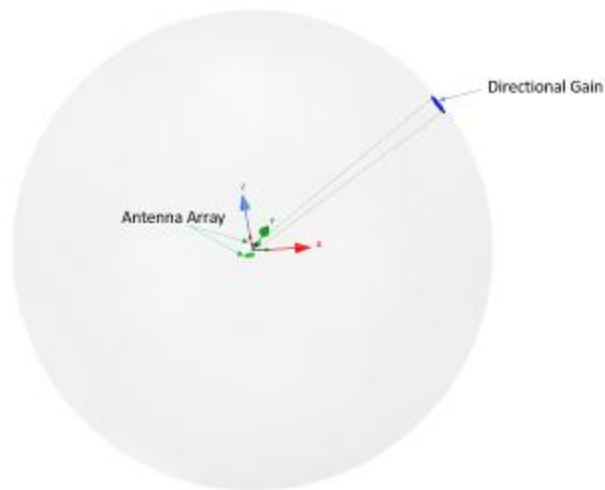


Figure 3- 6 Directional Gain Calculation Sketch Map

4 Measured Value and Maximum Gain Positions

4.1 Antenna Number

The Antennas number for measured in the following section was shown below:

Table 4- 1 Antennas number

Antenna Number	Antenna Position		
	2G	5G	6G
Ant1	Ant1	Ant1	Ant5
Ant2	Ant2	Ant2	Ant6
Ant3		Ant3	Ant7
Ant4		Ant4	

4.2 2G

4.2.1 DG_1SS Max Value Position

Table 4- 2 DG_1SS Max Value Position

Frequency(GHz)	2.45
Ant1(dBi)	0.56
Ant2(dBi)	4.60
Polarization	Theta
Φ (°)	105
θ (°)	75

4.2.2 DG_1SS Max Value Position Calculation

Table 4- 3 DG_1SS Max Value Position Calculation

Frequency(GHz)	2.45
Ant1[$10^{(G/20)}$]	$10^{(0.56/20)}$
Ant2[$10^{(G/20)}$]	$10^{(4.60/20)}$
Ant1[$10^{(G/20)}$] value	1.067
Ant2[$10^{(G/20)}$] value	1.698
Sum of Ants Value(Antmax)	2.765
DG[$10 * \text{Log}(\text{Antmax}^2 / \text{Nant})$] (dBi)	5.82

4.2.3 DG_2SS Max Value Position

Table 4- 4 DG_2SS Max Value Position

Frequency(GHz)	2.45
Ant1(dBi)	0.56
Ant2(dBi)	4.60
Polarization	Theta
Φ (°)	105
θ (°)	75

4.2.4 DG_2SS Max Value Position Calculation

Table 4- 5 DG_2SS Max Value Position Calculation

Frequency(GHz)	2.45
Ant1[$10^{(G/10)}$]	$10^{(0.56/10)}$
Ant2[$10^{(G/10)}$]	$10^{(4.60/10)}$
Ant1[$10^{(G/10)}$] value	1.138
Ant2[$10^{(G/10)}$] value	2.884
Sum of Ants Value(Antmax)	4.022
DG[$10 \cdot \log(\text{Antmax}/N_{\text{ant}})$] (dBi)	3.03

4.3 5G(Ant1+ Ant2+ Ant3)

4.3.1 DG_1SS Max Value Position

Table 4- 6 DG_1SS Max Value Position

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1(dBi)	1.93	-1.28	0.35	-0.19
Ant2(dBi)	-5.42	0.5	-2.63	-4.98
Ant3(dBi)	5.25	5.53	4.8	4.92
Polarization	Theta	Theta	Theta	Theta
Φ (°)	330	345	345	345
θ (°)	90	75	90	90

4.3.2 DG_1SS Max Value Position Calculation

Table 4- 7 DG_1SS Max Value Position Calculation

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1[$10^{(G/20)}$]	$10^{(1.93/20)}$	$10^{(-1.28/20)}$	$10^{(0.35/20)}$	$10^{(-0.19/20)}$
Ant2[$10^{(G/20)}$]	$10^{(-5.42/20)}$	$10^{(0.5/20)}$	$10^{(-2.63/20)}$	$10^{(-4.98/20)}$
Ant3[$10^{(G/20)}$]	$10^{(5.25/20)}$	$10^{(5.53/20)}$	$10^{(4.8/20)}$	$10^{(4.92/20)}$

Ant1[10 ^{^(G/20)}] value	1.249	0.863	1.041	0.978
Ant2[10 ^{^(G/20)}] value	0.536	1.059	0.739	0.564
Ant3[10 ^{^(G/20)}] value	1.830	1.890	1.738	1.762
Sum of Ants Value(Antmax)	3.615	3.812	3.518	3.304
DG[10*Log(Antmax ² /Nant)] (dBi)	6.39	6.85	6.15	5.61

4.3.3 DG_3SS Max Value Position

Table 4- 8 DG_3SS Max Value Position

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1(dBi)	1.93	-1.28	0.35	-0.19
Ant2(dBi)	-5.42	0.5	-2.63	-4.98
Ant3(dBi)	5.25	5.53	4.8	4.92
Polarization	Theta	Theta	Theta	Theta
Φ (°)	330	330	345	345
θ (°)	90	75	75	90

4.3.4 DG_3SS Max Value Position Calculation

Table 4- 9 DG_3SS Max Value Position Calculation

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1[10 ^{^(G/10)}]	10 ^{^(1.93/10)}	10 ^{^(-1.28/10)}	10 ^{^(0.35/10)}	10 ^{^(-0.19/10)}
Ant2[10 ^{^(G/10)}]	10 ^{^(-5.42/10)}	10 ^{^(0.5/10)}	10 ^{^(-2.63/10)}	10 ^{^(-4.98/10)}
Ant3[10 ^{^(G/10)}]	10 ^{^(5.25/10)}	10 ^{^(5.53/10)}	10 ^{^(4.8/10)}	10 ^{^(4.92/10)}
Ant1[10 ^{^(G/10)}] value	1.560	0.745	1.084	0.957
Ant2[10 ^{^(G/10)}] value	0.287	1.122	0.546	0.318
Ant3[10 ^{^(G/10)}] value	3.350	3.573	3.020	3.105
Sum of Ants Value(Antmax)	5.196	5.439	4.650	4.379
DG[10*Log(Antmax/Nant)] (dBi)	2.39	2.58	1.90	1.64

4.4 5G(Ant1+ Ant2+ Ant4)

4.4.1 DG_1SS Max Value Position

Table 4- 10 DG_1SS Max Value Position

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1(dBi)	0.41	-0.78	0.35	1.82
Ant2(dBi)	-0.18	1.11	-2.63	3.06
Ant4(dBi)	4.38	2.95	3.15	-6.81
Polarization	Phi	Phi	Phi	Phi

Φ (°)	15	15	345	150
θ (°)	75	75	90	75

4.4.2 DG_1SS Max Value Position Calculation

Table 4- 11 DG_1SS Max Value Position Calculation

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1[10 ^{^(G/20)}]	10 ^{^(0.41/20)}	10 ^{^(-0.78/20)}	10 ^{^(0.35/20)}	10 ^{^(1.82/20)}
Ant2[10 ^{^(G/20)}]	10 ^{^(-0.18/20)}	10 ^{^(1.11/20)}	10 ^{^(-2.63/20)}	10 ^{^(3.06/20)}
Ant4[10 ^{^(G/20)}]	10 ^{^(4.38/20)}	10 ^{^(2.95/20)}	10 ^{^(3.15/20)}	10 ^{^(-6.81/20)}
Ant1[10 ^{^(G/20)}] value	1.048	0.914	1.041	1.233
Ant2[10 ^{^(G/20)}] value	0.979	1.136	0.739	1.422
Ant4[10 ^{^(G/20)}] value	1.656	1.404	1.437	0.457
Sum of Ants Value(Antmax)	3.684	3.455	3.217	3.112
DG[10*Log(Antmax ² /Nant)] (dBi)	6.55	6.00	5.38	5.09

4.4.3 DG_3SS Max Value Position

Table 4- 12 DG_3SS Max Value Position

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1(dBi)	0.41	-0.78	-9.42	-10.53
Ant2(dBi)	-0.18	1.11	-5.74	-3.69
Ant4(dBi)	4.38	2.95	5.94	5.77
Polarization	Phi	Phi	Phi	Phi
Φ (°)	15	15	345	345
θ (°)	75	75	45	45

4.4.4 DG_3SS Max Value Position Calculation

Table 4- 13 DG_3SS Max Value Position Calculation

Frequency(GHz)	5.20	5.30	5.60	5.80
Ant1[10 ^{^(G/10)}]	10 ^{^(0.41/10)}	10 ^{^(-0.78/10)}	10 ^{^(-9.42/10)}	10 ^{^(-10.53/10)}
Ant2[10 ^{^(G/10)}]	10 ^{^(-0.18/10)}	10 ^{^(1.11/10)}	10 ^{^(-5.74/10)}	10 ^{^(-3.69/10)}
Ant4[10 ^{^(G/10)}]	10 ^{^(4.38/10)}	10 ^{^(2.95/10)}	10 ^{^(5.94/10)}	10 ^{^(5.77/10)}
Ant1[10 ^{^(G/10)}] value	1.099	0.836	0.114	0.089
Ant2[10 ^{^(G/10)}] value	0.959	1.291	0.267	0.428
Ant4[10 ^{^(G/10)}] value	2.742	1.972	3.926	3.776
Sum of Ants Value(Antmax)	4.800	4.099	4.307	4.292
DG[10*Log(Antmax/Nant)] (dBi)	2.04	1.36	1.57	1.56

4.5 6G

4.5.1 DG_1SS Max Value Position

Table 4- 14 DG_1SS Max Value Position

Frequency(GHz)	6.175	6.475	6.725	7.025
Ant5(dBi)	6.28	5.52	7.29	6.66
Ant6(dBi)	1.4	-1.23	-0.28	1.25
Ant7(dBi)	6.51	4.21	7.43	4.79
Polarization	Theta	Theta	Theta	Theta
Φ (°)	45	45	45	30
θ (°)	75	75	90	90

4.5.2 DG_1SS Max Value Position Calculation

Table 4- 15 DG_1SS Max Value Position Calculation

Frequency(GHz)	6.175	6.475	6.725	7.025
Ant5[10 ^{^(G/20)}]	10 ^{^(6.28/20)}	10 ^{^(5.52/20)}	10 ^{^(7.29/20)}	10 ^{^(6.66/20)}
Ant6[10 ^{^(G/20)}]	10 ^{^(1.4/20)}	10 ^{^(-1.23/20)}	10 ^{^(-0.28/20)}	10 ^{^(1.25/20)}
Ant7[10 ^{^(G/20)}]	10 ^{^(6.51/20)}	10 ^{^(4.21/20)}	10 ^{^(7.43/20)}	10 ^{^(4.79/20)}
Ant5[10 ^{^(G/20)}] value	2.061	1.888	2.315	2.153
Ant6[10 ^{^(G/20)}] value	1.175	0.868	0.968	1.155
Ant7 [10 ^{^(G/20)}] value	2.116	1.624	2.352	1.736
Sum of Ants Value(Antmax)	5.351	4.380	5.635	5.043
DG[10*Log(Antmax ² /Nant)] (dBi)	9.80	8.06	10.25	9.28

4.5.3 DG_3SS Max Value Position

Table 4- 16 DG_3SS Max Value Position

Frequency(GHz)	6.175	6.475	6.725	7.025
Ant5(dBi)	6.28	5.52	7.29	7.47
Ant6(dBi)	1.4	-1.23	-0.28	-2.35
Ant7(dBi)	6.51	4.21	7.43	4.97
Polarization	Theta	Theta	Theta	Theta
Φ (°)	45	45	45	45
θ (°)	75	75	90	75

4.5.4 DG_3SS Max Value Position Calculation

Table 4- 17 DG_3SS Max Value Position Calculation

Frequency(GHz)	6.175	6.475	6.725	7.025
----------------	-------	-------	-------	-------

Ant5[10^(G/10)]	10^(6.28/10)	10^(5.52/10)	10^(7.29/10)	10^(7.47/10)
Ant6[10^(G/10)]	10^(1.4/10)	10^(-1.23/10)	10^(-0.28/10)	10^(-2.35/10)
Ant7[10^(G/10)]	10^(6.51/10)	10^(4.21/10)	10^(7.43/10)	10^(4.97/10)
Ant5[10^(G/10)] value	4.246	3.565	5.358	5.585
Ant6[10^(G/10)] value	1.380	0.753	0.938	0.582
Ant7[10^(G/10)] value	4.477	2.636	5.534	3.141
Sum of Ants Value(Antmax)	10.104	6.954	11.829	9.307
DG[10*Log(Antmax/Nant)] (dBi)	5.27	3.65	5.96	4.92

5 Test and Calculate Result

5.1 Antenna Test Result

Table 5- 1 Antenna Test Result

Frequency(GHz)	2.45	5.20	5.30	5.60	5.80	6.175	6.475	6.725	7.025
Ant1 MaxGain(dBi)	3.84	2.89	2.03	2.57	2.33				
Ant2 MaxGain(dBi)	4.60	2.07	2.69	2.82	3.06				
Ant3 MaxGain(dBi)		5.25	5.74	4.84	4.92				
Ant4 MaxGain(dBi)		5.86	4.3	5.94	5.77				
Ant5 MaxGain(dBi)						7.01	5.62	8.21	7.47
Ant6 MaxGain(dBi)						7.28	4.75	7.33	6.23
Ant7 MaxGain(dBi)						6.51	5.13	7.43	5.78
Ant1 Polarization/ Φ (°) / θ (°)	Theta/ 180/90	Theta/ 165/90	Theta/ 165/90	Theta/ 150/90	Theta/ 150/90				
Ant2 Polarization/ Φ (°) / θ (°)	Theta/ 105/75	Theta/ 150/60	Theta/ 150/60	Theta/ 150/75	Theta/ 150/75				
Ant3 Polarization/ Φ (°) / θ (°)		Theta/ 330/90	Theta/ 330/75	Theta/ 345/75	Theta/ 345/90				
Ant4 Polarization/ Φ (°) / θ (°)		Phi/ 0/30	Phi/ 0/30	Phi/ 345/45	Phi/ 345/45				
Ant5 Polarization/ Φ (°) / θ (°)						Theta/ 30/105	Theta/ 30/105	Theta/ 45/75	Theta/ 45/75
Ant6 Polarization/ Φ (°) / θ (°)						Theta/ 270/90	Theta/ 270/90	Theta/ 270/75	Theta/ 270/90
Ant7 Polarization/ Φ (°) / θ (°)						Theta/ 45/75	Theta/ 150/90	Theta/ 45/90	Theta/ 45/90
Max Gain(dBi)	4.60	5.86	5.74	5.94	5.77	7.28	5.62	8.21	7.47

5.2 Directional Gain Calculate Result

Table 5- 2Test & Calculate Result

Frequency Band(MHz)	Max Antenna Gain	Max Composite Gain	NSS	Polarization/ Φ (°) / θ (°)
2400-2483.5(2450)	4.6	5.82	1	Theta/105/75
5150-5250(5200) (Ant1+ Ant2+ Ant3)	5.25	6.39	1	Theta/330/90
5250-5350(5300) (Ant1+ Ant2+ Ant3)	5.74	6.85	1	Theta/345/75
5470-5725(5600) (Ant1+ Ant2+ Ant3)	4.84	6.15	1	Theta/345/90
5725-5850(5800) (Ant1+ Ant2+ Ant3)	4.92	5.61	1	Theta/345/90
5150-5250(5200) (Ant1+ Ant2+ Ant4)	5.86	6.55	1	Phi/15/75
5250-5350(5300) (Ant1+ Ant2+ Ant4)	4.3	6	1	Phi/15/75
5470-5725(5600) (Ant1+ Ant2+ Ant4)	5.94	5.38	1	Phi/345/90
5725-5850(5800) (Ant1+ Ant2+ Ant4)	5.77	5.09	1	Phi/150/75
5925-6425(6175)	7.28	9.8	1	Theta/45/75
6425-6525(6475)	5.62	8.06	1	Theta/45/75
6525-6875(6725)	8.21	10.25	1	Theta/45/90
6875-7125(7025)	7.47	9.28	1	Theta/30/90

Table 5- 3Test & Calculate Result

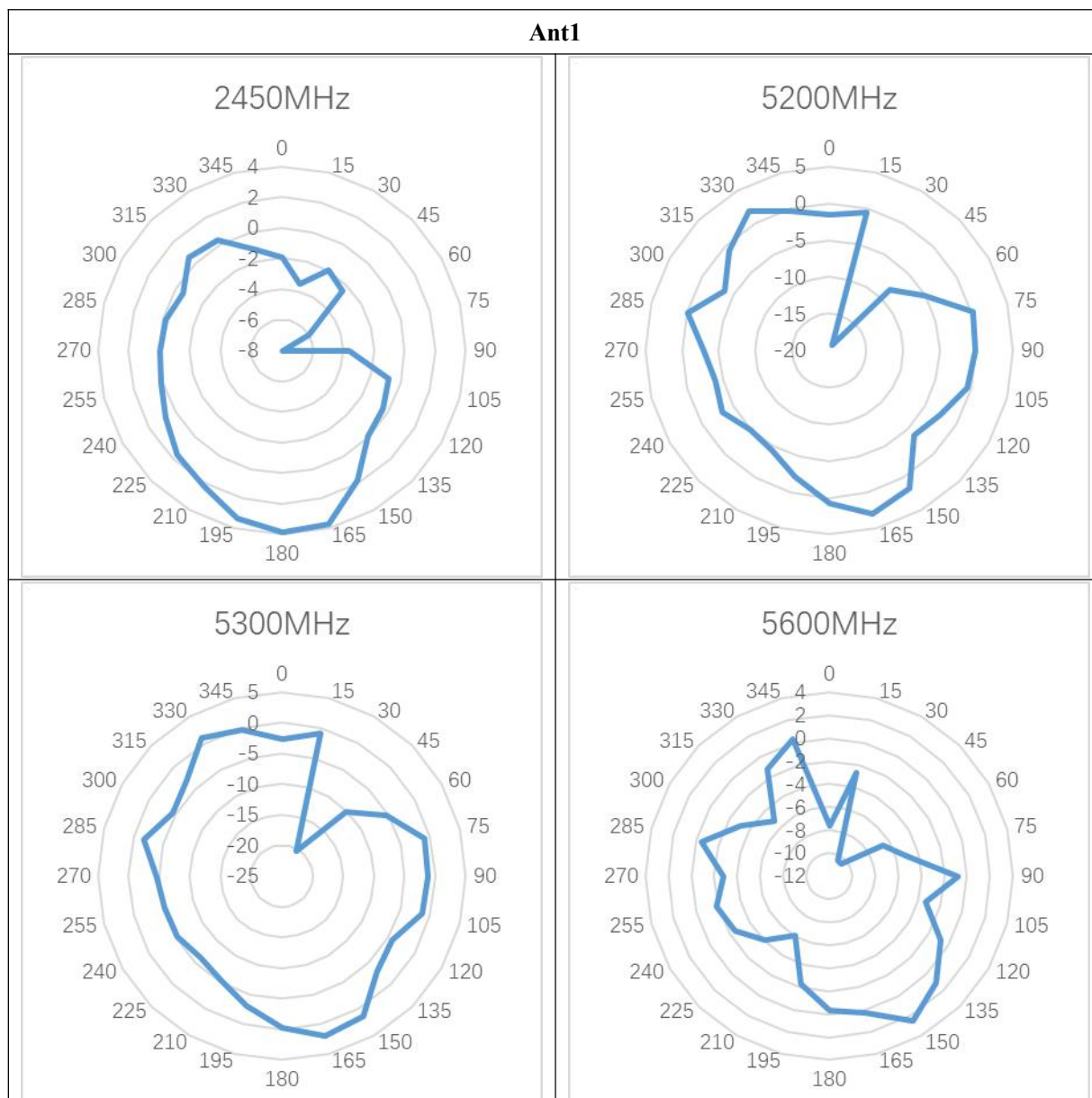
Frequency Band(MHz)	Max Antenna Gain	Max Directional Gain	NSS	Polarization/ Φ (°) / θ (°)
2400-2483.5(2450)	4.6	3.03	2	Theta/105/75
5150-5250(5200) (Ant1+ Ant2+ Ant3)	5.25	2.39	3	Theta/330/90
5250-5350(5300) (Ant1+ Ant2+ Ant3)	5.74	2.58	3	Theta/330/75
5470-5725(5600) (Ant1+ Ant2+ Ant3)	4.84	1.9	3	Theta/345/75
5725-5850(5800) (Ant1+ Ant2+ Ant3)	4.92	1.64	3	Theta/345/90
5150-5250(5200) (Ant1+ Ant2+ Ant4)	5.86	2.04	3	Phi/15/75

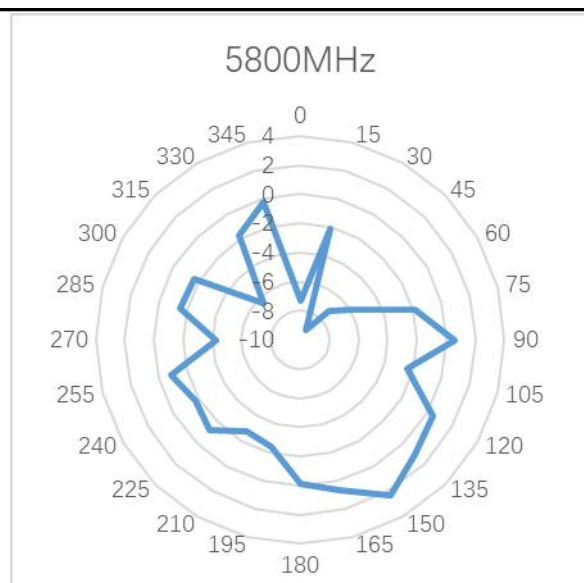


5250-5350(5300) (Ant1+ Ant2+ Ant4)	4.3	1.36	3	Phi/15/75
5470-5725(5600) (Ant1+ Ant2+ Ant4)	5.94	1.57	3	Phi/345/45
5725-5850(5800) (Ant1+ Ant2+ Ant4)	5.77	1.56	3	Phi/345/45
5925-6425(6175)	7.28	5.27	3	Theta/45/75
6425-6525(6475)	5.62	3.65	3	Theta/45/75
6525-6875(6725)	8.21	5.96	3	Theta/45/90
6875-7125(7025)	7.47	4.92	3	Theta/45/75

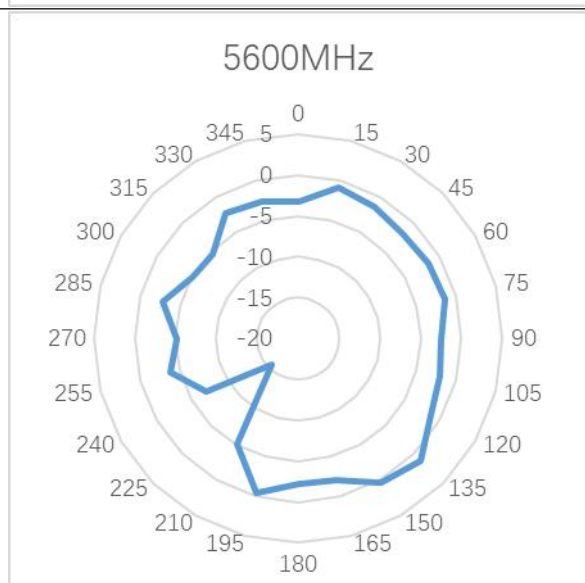
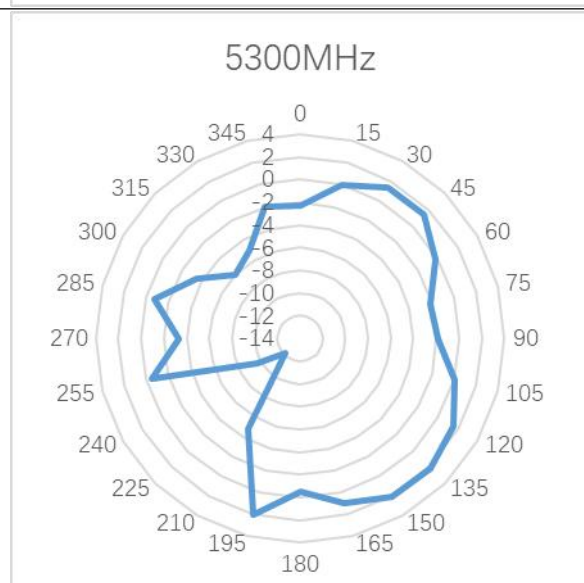
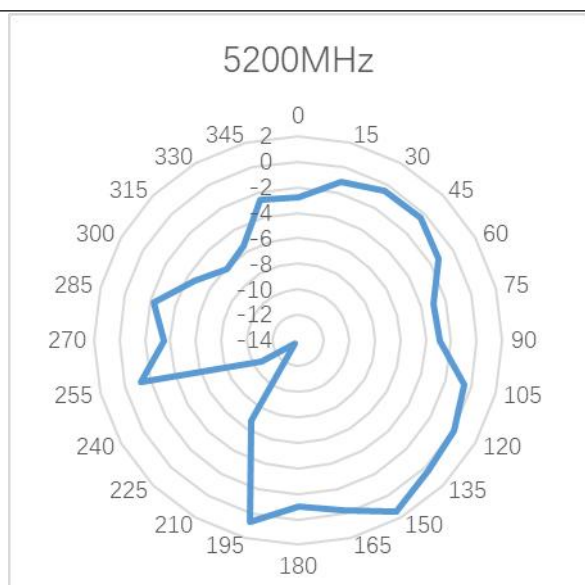
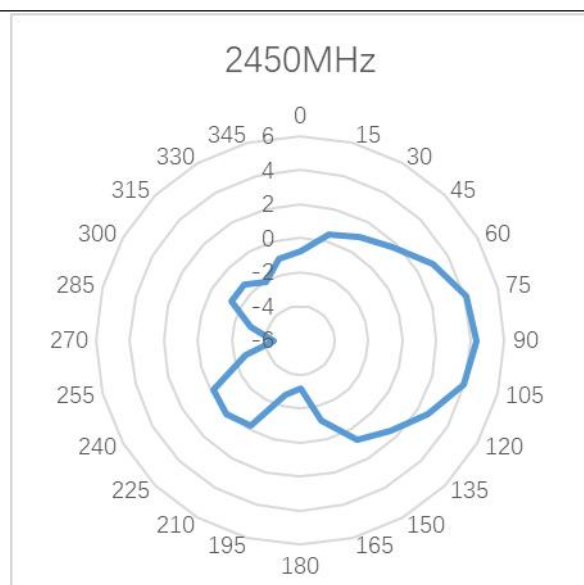
6 Test Pattern

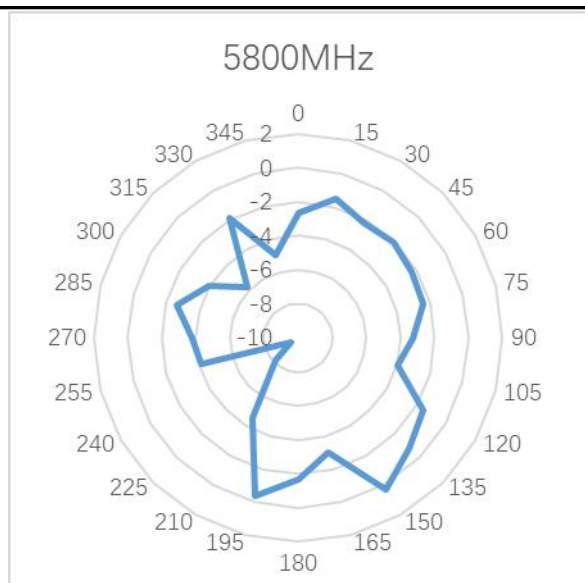
6.1 Antenna Pattern



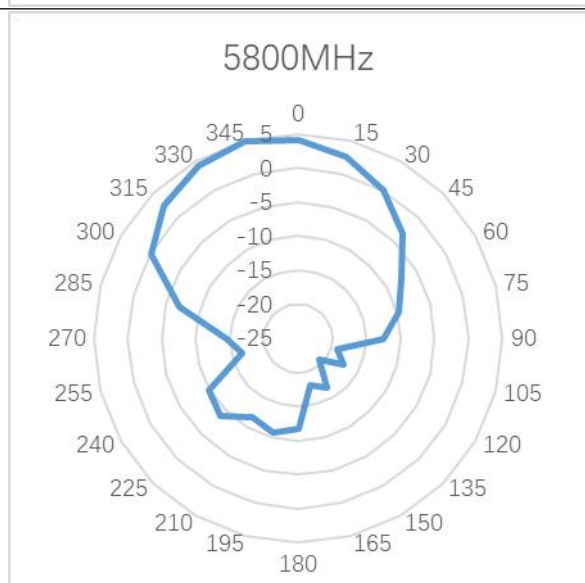
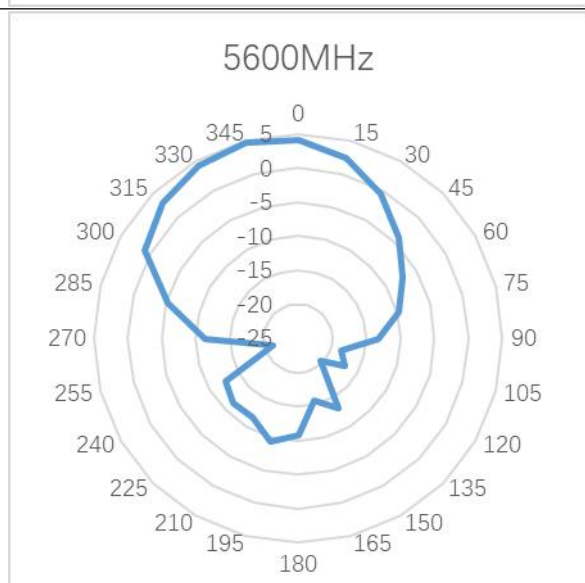
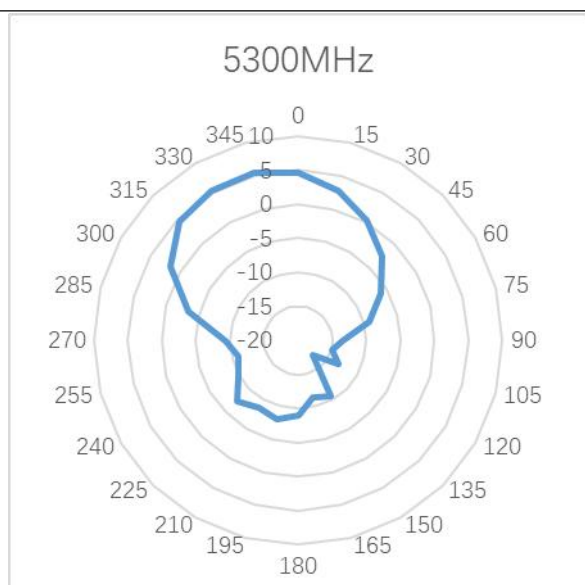
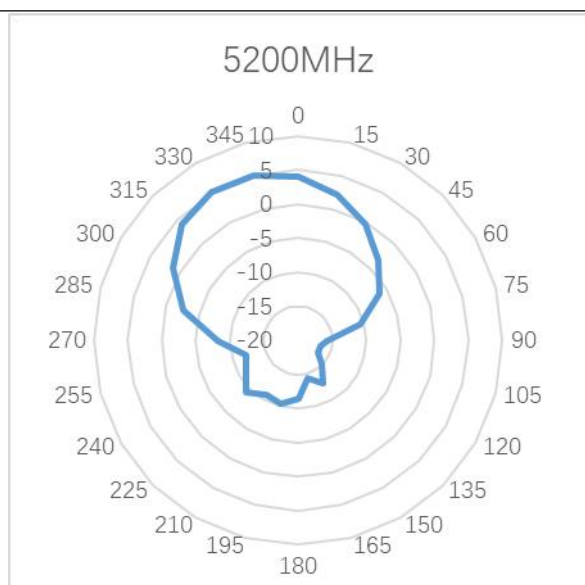


Ant2

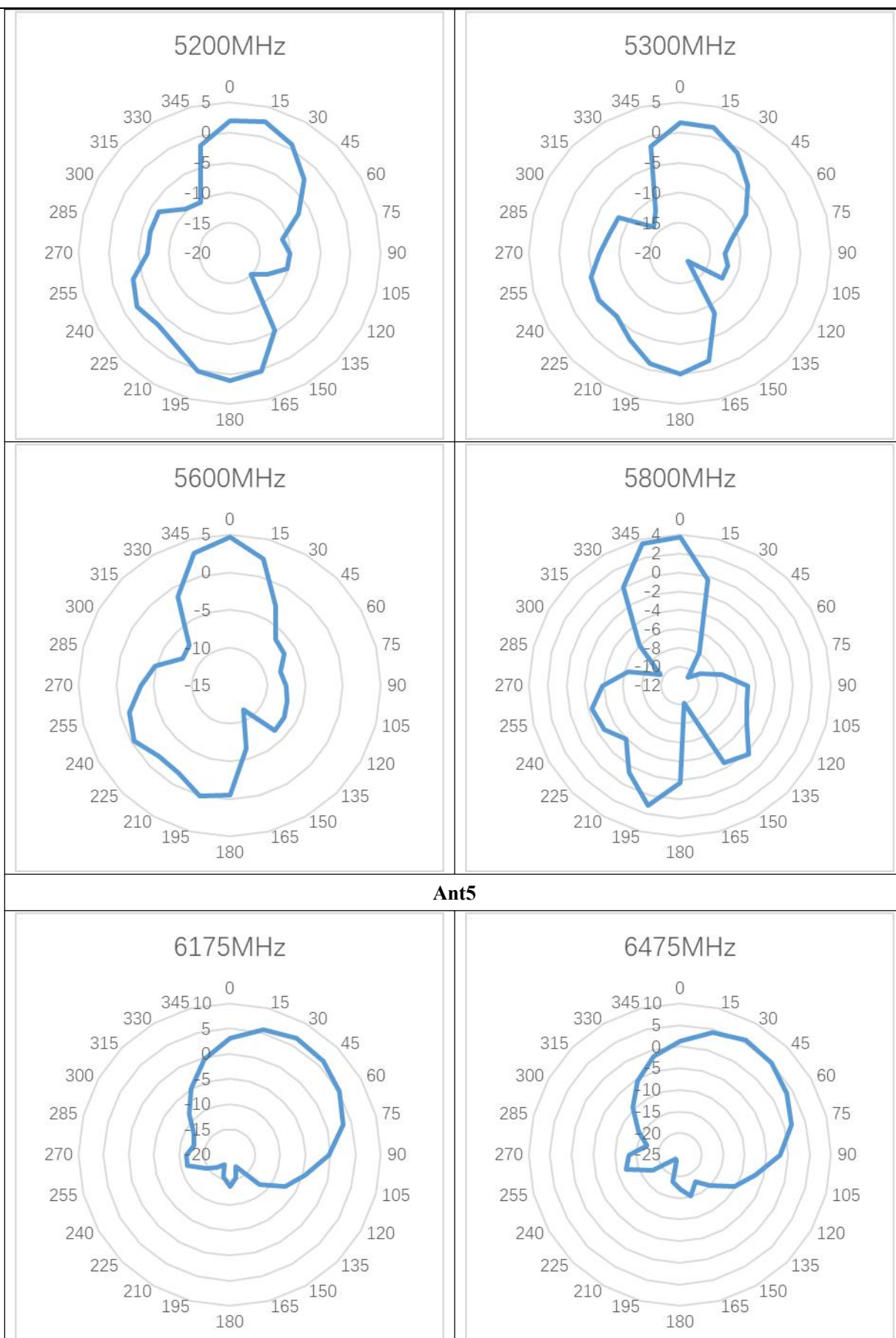


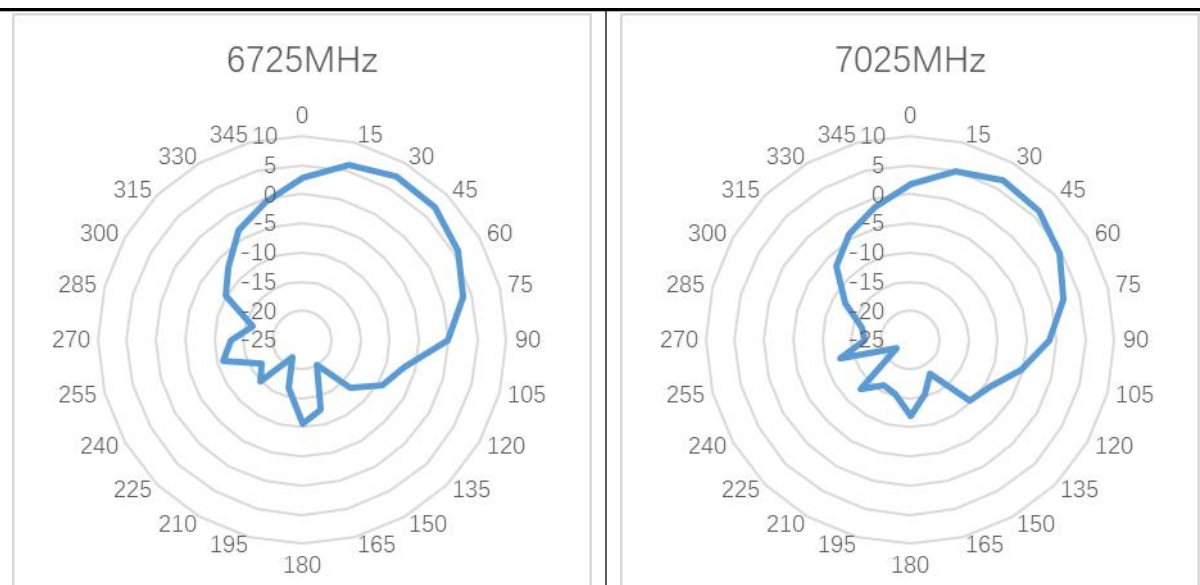


Ant3

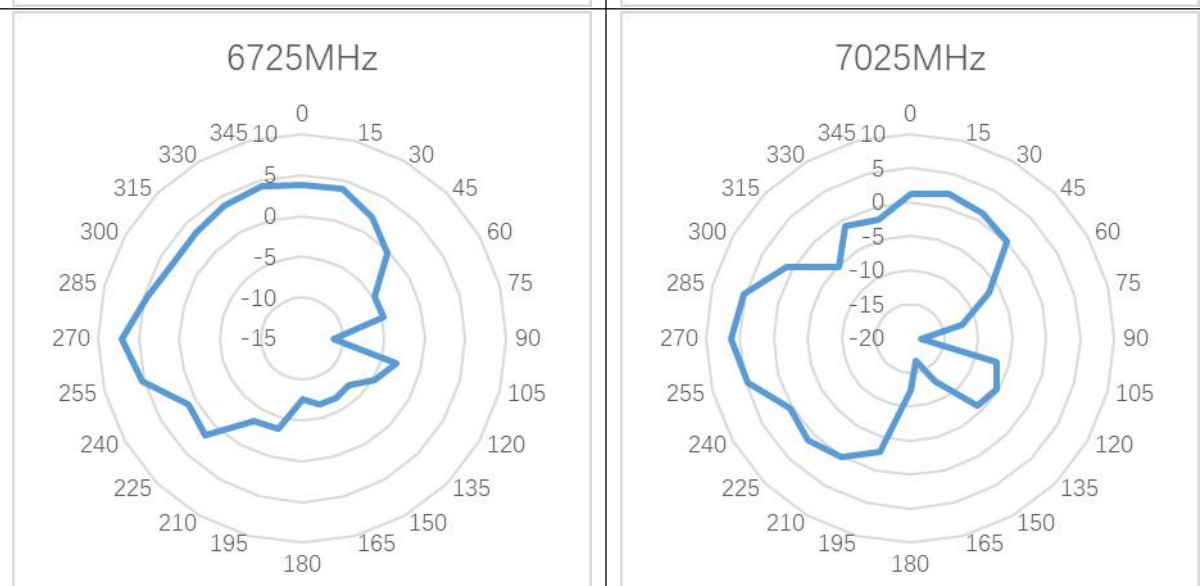
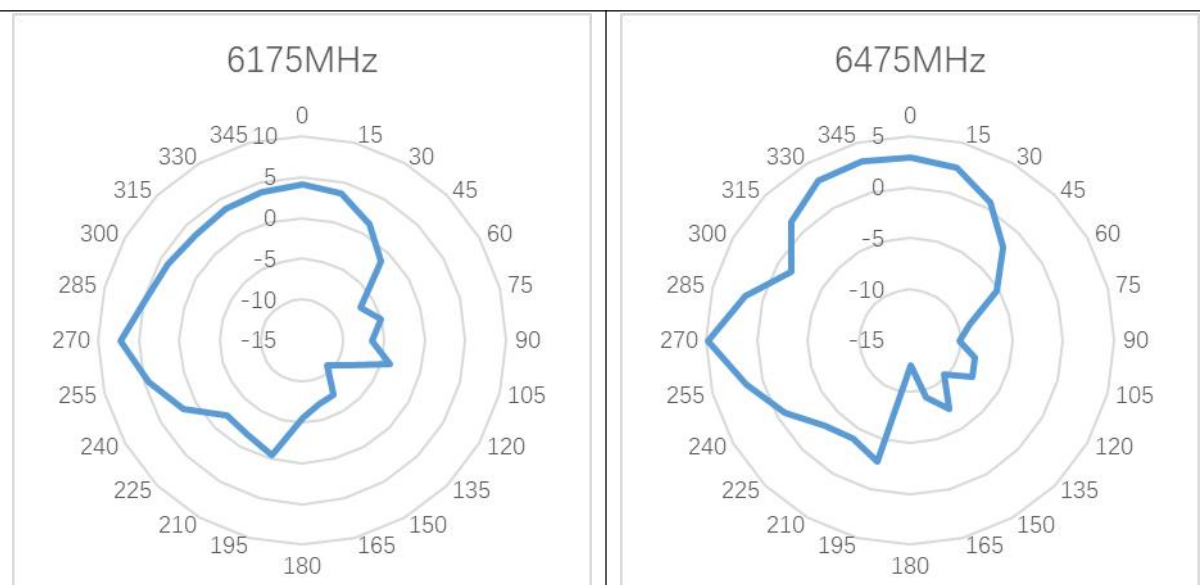


Ant4

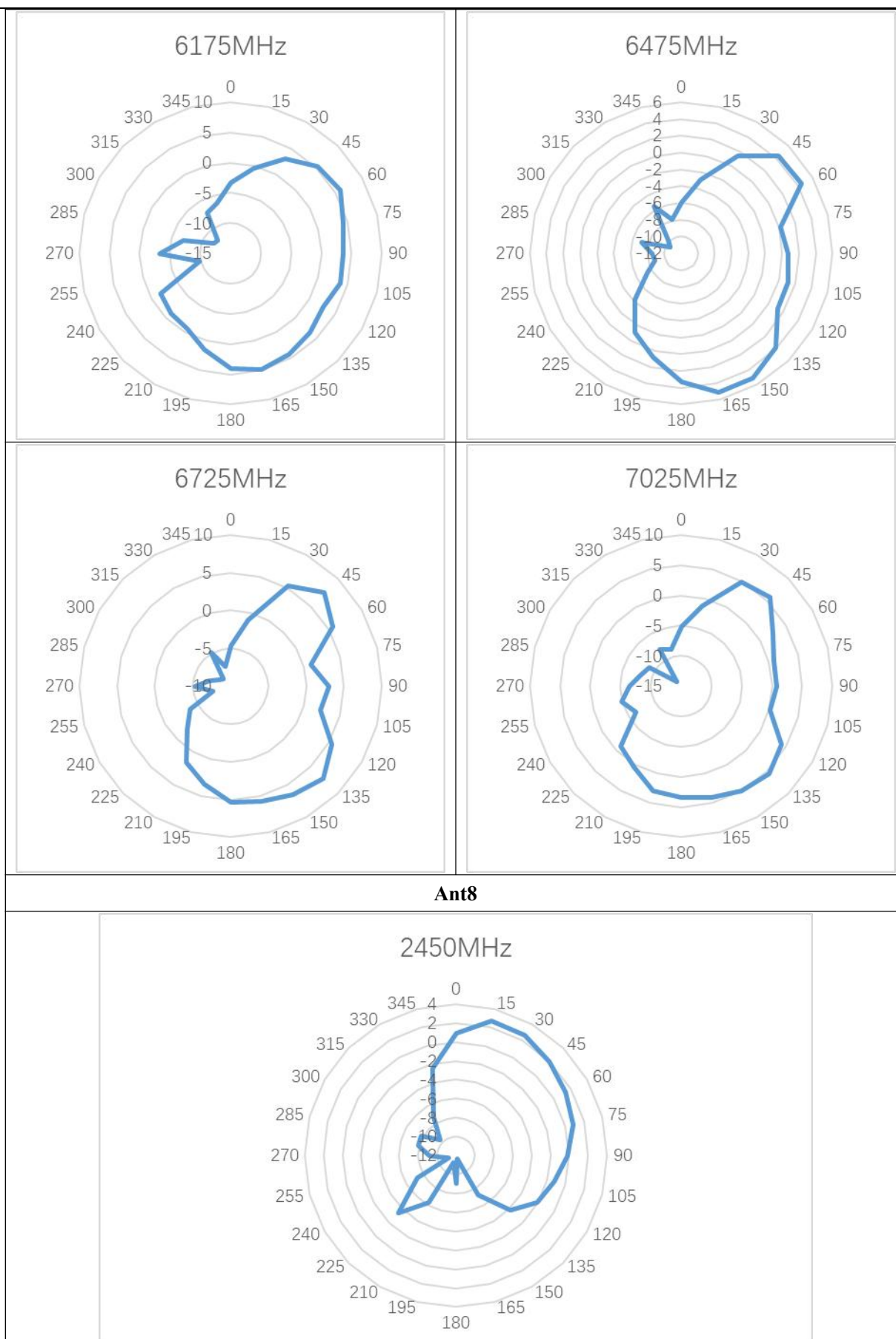




Ant6



Ant7



7 Test Pattern

Ant1													
Freq	2450												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-8.61	-	-	-	-	-	-	-	-	-	-	-	-
		6.27	2.96	2.23	1.25	0.4	0.73	2.49	6.04	5.04	8.01	10.18	18.19
15.00	-	-	-	-	-	-	0	-	-	-	-	-	-
	8.63	7.65	3.85	1.74	0.06	0.12	.47	1.41	4.64	4.72	5.12	8.5	18.19
30.00	-	-	-	-	0	1	1	-	-	-	-	-	-
	8.55	9.42	5.1	1.99	.35	.16	.02	0.38	5.64	3.82	4.97	8.11	18.19
45.00	-	-	-	-	-	2	1	0	-	-	-	-	-
	8.35	11.25	6.26	1.95	0.22	.25	.69	.23	5.04	3.63	6.28	7.95	18.19
60.00	-	-	-	-	-	2	3	0	-	-	-	-	-
	8.14	12.23	6.61	1.77	0.27	.77	.01	.63	3.8	3.66	7.15	7.57	18.19
75.00	-	-	-	-	0	3	4	1	-	-	-	-	-
	7.97	12.07	5.74	1.25	.76	.37	.08	.36	2.43	3.88	6.79	7.01	18.19
90.00	-	-	-	-	2	4	4	2	-	-	-	-	-
	7.81	11.41	4.28	0.36	.02	.36	.37	.05	2.13	3.36	7.51	6.87	18.19
105.00	-	-	-	0	3	4	3	1	-	-	-	-	-
	7.81	10.87	3.18	.8	.03	.6	.94	.8	1.74	4.36	10.03	7.05	18.19
120.00	-	-	-	1	3	4	2	1	-	-	-	-	-
	7.77	10.66	2.75	.54	.38	.16	.63	.22	2.49	6.21	14.77	8.04	18.19
135.00	-	-	-	1	3	3	1	0	-	-	-	-	-
	7.66	11.09	3.02	.52	.06	.22	.47	.67	3.87	9.35	18.25	10.2	18.19
150.00	-	-	-	0	1	1	0	-	-	-	-	-	-
	7.47	11.97	3.85	.83	.91	.99	.73	0.58	5.54	13.98	15.41	13.66	18.19
165.00	-	-	-	-	0	0	-	-	-	-	-	-	-
	7.31	12.81	4.64	0.3	.01	.08	1.1	3.95	10.41	15.19	15.27	18.19	18.19
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	7.39	12.68	5.59	1.67	2.53	2.61	3.21	9.46	13.85	7.81	11.75	14.82	18.19
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	7.52	11.48	7.14	3.37	3.64	1.73	2.72	6.14	6.56	4.51	8.96	12.21	18.19
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	7.64	9.79	8.19	4.88	2.89	0.21	0.26	3.07	3.1	3.42	8.17	11.22	18.19
225.00	-	-	-	-	-	0	0	-	-	-	-	-	-
	7.75	8.39	7.5	5.63	4.11	.9	.14	1.34	2.75	3.07	7.48	10.23	18.19



240.0 0	- 7.8	- 7.15	- 6.23	- 6.13	- 5.9	0 .01	- 0.15	- 4.32	- 2.73	- 3.8	- 7.12	- 8.66	- 18.19
255.0 0	- 7.84	- 6.05	- 5.08	- 6.32	- 6.54	- 3.57	- 2.69	- 6.44	- 6.14	- 7.01	- 7.43	- 8.02	- 18.19
270.0 0	- 8.1	- 5.19	- 3.99	- 4.52	- 4.7	- 4.56	- 4.48	- 6.11	- 11.88	- 12.93	- 8.35	- 8.32	- 18.19
285.0 0	- 8.29	- 4.67	- 3.01	- 2.35	- 0.89	- 1.8	- 2.99	- 3.13	- 6.58	- 15.14	- 10.55	- 9.02	- 18.19
300.0 0	- 8.4	- 4.46	- 2.26	- 1.8	- 0.12	0 .76	- 1.36	- 2.18	- 4.26	- 9.44	- 11.45	- 9.65	- 18.19
315.0 0	- 8.45	- 4.43	- 1.84	- 2.44	- 0.59	1 .05	- 1.36	- 3.19	- 4.44	- 6.64	- 14.03	- 10.87	- 18.19
330.0 0	- 8.53	- 4.72	- 2.03	- 2.49	- 1.85	- 0.47	- 1.99	- 5.43	- 6.33	- 6.14	- 17.94	- 12.71	- 18.19
345.0 0	- 8.58	- 5.28	- 2.45	- 2.56	- 2.05	- 1.93	- 1.07	- 4.97	- 7.22	- 6.65	- 12.42	- 12.39	- 18.19

Ant2													
Freq	2450												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-10.2 5	- 8.12	- 9.46	- 5.24	- 2.27	- 2.47	- 1.95	- 3.46	- 5.25	- 5.27	- 3.9	- 9.39	- 19.19
15.00	- 10.25	- 8.35	- 8.18	- 5.72	- 2.06	- 0.93	- 3.52	- 2.86	- 4.12	- 3.47	- 3.38	- 7.51	- 19.19
30.00	- 10.03	- 8.11	- 5.76	- 5.83	- 1.81	- 0.81	- 1.97	- 0.97	- 1.92	- 6.15	- 3.76	- 5.54	- 19.19
45.00	- 9.88	- 7.92	- 3.86	- 5.46	- 3.08	- 1.28	- 2.45	- 1.82	- 0.78	- 10.19	- 5.42	- 4.46	- 19.19
60.00	- 9.94	- 7.92	- 2.99	- 3.28	- 6.61	- 3.69	- 5.94	- 2.52	- 3.02	- 8.12	- 6.02	- 4.24	- 19.19
75.00	- 9.93	- 8.06	- 2.47	- 1.66	- 5.66	- 6.37	- 7.99	- 5.87	- 4.05	- 5.72	- 6.65	- 4.56	- 19.19
90.00	- 9.87	- 8.72	- 1.9	- 0.21	- 2.22	- 2.02	- 3.63	- 3.31	- 3.35	- 3.98	- 7.76	- 5.31	- 19.19
105.0 0	- 9.53	- 10	- 2.1	0 .31	- 0.56	0 .56	- 0.82	- 0.7	- 3.13	- 4.33	- 8.81	- 6.14	- 19.19
120.0	-	-	-	-	-	0	-	-	-	-	-	-	-



0	9.21	12.07	3.66	0.94	0.59	.84	0.42	1.41	5.32	6.06	10.47	7.19	19.19
135.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	8.93	14.23	6.01	3.15	2.19	0.11	0.08	2.08	7.28	7.15	7.51	9.68	19.19
150.0	-	-	-	-	-	0	1	0	-	-	-	-	-
0	8.85	14.51	7.25	4.36	3.52	.03	.8	.81	4.46	4.57	5.15	14.64	19.19
165.0	-	-	-	-	-	0	3	2	-	-	-	-	-
0	8.84	12.7	6.48	3.04	2.48	.99	.75	.48	0.89	3.97	5.92	19.19	19.19
180.0	-	-	-	-	-	2	3	3	-	-	-	-	-
0	8.97	10.5	5.38	2.05	1.42	.13	.84	.65	0.31	3.06	8.56	12.13	19.19
195.0	-	-	-	-	-	2	3	3	-	-	-	-	-
0	8.94	8.93	5.36	2.25	0.09	.03	.34	.61	0.35	3.6	10.29	8.85	19.19
210.0	-	-	-	-	0	2	2	2	-	-	-	-	-
0	8.92	7.94	6.13	2.19	.79	.02	.19	.76	0.37	6.82	7.12	7.1	19.19
225.0	-	-	-	-	0	0	1	1	-	-	-	-	-
0	8.74	7.33	6.01	2.52	.76	.53	.67	.82	1.57	4.91	4.35	6.01	19.19
240.0	-	-	-	-	0	0	0	0	-	-	-	-	-
0	8.68	6.86	5.41	2.53	.26	.5	.77	.33	0.99	3.04	3.94	5.59	19.19
255.0	-	-	-	-	0	0	0	0	0	-	-	-	-
0	8.82	6.57	5.2	1.34	.31	.35	.18	.33	.58	1.72	4.1	5.95	19.19
270.0	-	-	-	0	0	1	-	1	1	-	-	-	-
0	9.28	6.37	4.82	.15	.49	.21	0.08	.18	.27	0.64	4.52	7.05	19.19
285.0	-	-	-	0	1	1	-	1	1	-	-	-	-
0	9.56	6.37	4.09	.33	.53	.2	0.14	.71	.48	0.55	6.09	7.89	19.19
300.0	-	-	-	0	1	1	-	2	0	-	-	-	-
0	9.67	6.69	3.97	.11	.55	.2	0.54	.37	.49	2.44	7.34	7.79	19.19
315.0	-	-	-	-	1	0	0	2	-	-	-	-	-
0	9.65	6.97	5.08	0.22	.18	.25	.62	.02	1.45	7.32	6.76	7.64	19.19
330.0	-	-	-	-	0	-	0	1	-	-	-	-	-
0	9.72	7.2	7.38	1.17	.67	0.83	.31	.67	4.73	11.19	6.26	8.12	19.19
345.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.9	7.57	9.37	2.92	0.88	2.03	1.13	0.08	5.69	5.84	5.38	9.11	19.19

2450MHz Composite Gain (1SS)													
Freq	2450												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	-	1	1	1	0	-	-	-	-	-	-
	-6.38	4.14	2.61	0.59	.27	.64	.69	.05	2.63	2.14	2.70	6.77	15.67

15.00	-	-	-	-	2	2	1	0	-	-	-	-	-
	6.39	4.98	2.74	0.49	.01	.49	.71	.91	1.37	1.06	1.20	4.98	15.67
30.00	-	-	-	-	2	3	2	2	-	-	-	-	-
	6.25	5.73	2.41	0.69	.35	.24	.66	.34	0.57	1.90	1.33	3.72	15.67
45.00	-	-	-	-	1	3	2	2	0	-	-	-	-
	6.07	6.42	1.97	0.52	.48	.67	.87	.28	.36	3.29	2.83	3.02	15.67
60.00	-	-	-	0	0	3	2	2	-	-	-	-	-
	5.98	6.80	1.60	.52	.14	.14	.65	.21	0.39	2.60	3.56	2.74	15.67
75.00	-	-	-	1	1	2	3	1	-	-	-	-	-
	5.88	6.83	0.94	.56	.14	.81	.00	.49	0.19	1.74	3.71	2.69	15.67
90.00	-	-	0	2	3	4	4	2	0	-	-	-	-
	5.77	6.95	.00	.73	.17	.75	.27	.79	.29	0.65	4.62	3.04	15.67
105.00	-	-	0	3	4	5	4	3	0	-	-	-	-
	5.62	7.41	.39	.57	.43	.82	.89	.65	.60	1.33	6.39	3.57	15.67
120.00	-	-	-	3	4	5	4	3	-	-	-	-	-
	5.45	8.33	0.18	.40	.63	.67	.25	.01	0.78	3.12	9.35	4.59	15.67
135.00	-	-	-	2	3	4	3	2	-	-	-	-	-
	5.26	9.51	1.38	.51	.84	.72	.74	.41	2.40	5.17	8.31	6.93	15.67
150.00	-	-	-	1	2	4	4	3	-	-	-	-	-
	5.12	10.14	2.37	.63	.62	.08	.29	.15	1.97	5.05	5.84	11.13	15.67
165.00	-	-	-	1	1	3	4	2	-	-	-	-	-
	5.03	9.74	2.50	.45	.86	.56	.67	.86	1.40	4.87	6.38	15.67	15.67
180.00	-	-	-	1	1	3	4	2	-	-	-	-	-
	5.13	8.51	2.47	.15	.05	.09	.02	.37	1.66	2.10	7.00	10.36	15.67
195.00	-	-	-	0	1	3	3	3	0	-	-	-	-
	5.19	7.10	3.19	.22	.33	.36	.84	.05	.10	1.03	6.59	7.36	15.67
210.00	-	-	-	-	2	3	4	3	1	-	-	-	-
	5.25	5.81	4.09	0.42	.15	.99	.06	.34	.38	1.94	4.62	5.91	15.67
225.00	-	-	-	-	1	3	3	3	0	-	-	-	-
	5.22	4.83	3.71	0.93	.67	.73	.95	.39	.87	0.93	2.76	4.86	15.67
240.00	-	-	-	-	0	3	3	1	1	-	-	-	-
	5.22	3.99	2.80	1.13	.73	.27	.33	.32	.19	0.40	2.37	3.98	15.67
255.00	-	-	-	-	0	1	1	0	0	-	-	-	-
	5.31	3.30	2.13	0.47	.55	.62	.87	.60	.86	0.96	2.60	3.91	15.67
270.00	-	-	-	1	1	1	1	1	-	-	-	-	-
	5.66	2.75	1.38	.14	.29	.81	.01	.29	0.01	1.76	3.22	4.65	15.67
285.00	-	-	-	2	3	2	1	2	1	-	-	-	-
	5.89	2.47	0.52	.10	.41	.84	.56	.63	.36	2.08	5.03	5.43	15.67



300.0 0	- 6.00	- 2.49	- 0.06	2 .22	3 .77	3 .99	2 .07	3 .40	1 .45	- 2.24	- 6.14	- 5.66	- 15.67
315.0 0	- 6.02	- 2.60	- 0.30	1 .75	3 .35	3 .67	2 .70	2 .81	0 .19	- 3.96	- 6.65	- 6.10	- 15.67
330.0 0	- 6.09	- 2.86	- 1.29	1 .21	2 .51	2 .36	2 .25	1 .84	- 2.48	- 5.29	- 7.26	- 7.10	- 15.67
345.0 0	- 6.20	- 3.34	- 2.23	0 .27	1 .56	1 .03	1 .91	0 .82	- 3.41	- 3.23	- 5.20	- 7.59	- 15.67

2450MHz Composite Gain (2SS)													
Freq	2450												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-9.35	7.10	5.09	3.48	1.73	1.31	1.30	2.95	5.63	5.15	5.49	9.77	18.66
15.00	9.36	7.99	5.50	3.29	0.95	0.51	1.08	2.07	4.37	4.05	4.16	7.98	18.66
30.00	9.23	8.72	5.42	3.50	0.60	.29	0.22	0.66	3.39	4.83	4.32	6.64	18.66
45.00	9.05	9.27	4.90	3.36	1.42	.83	.10	0.68	2.41	5.77	5.83	5.86	18.66
60.00	8.95	9.56	4.43	2.46	2.37	.64	.52	0.67	3.39	5.34	6.55	5.59	18.66
75.00	8.84	9.62	3.80	1.45	1.36	.80	.33	0.90	3.16	4.70	6.72	5.61	18.66
90.00	8.72	9.86	2.93	0.28	.40	.25	.00	.15	2.70	3.66	7.63	6.02	18.66
105.0 0	8.59	10.41	2.61	.56	.60	.03	.18	.73	2.38	4.34	9.38	6.57	18.66
120.0 0	8.43	11.31	3.18	.47	.83	.81	.37	.10	3.68	6.13	12.11	7.59	18.66
135.0 0	8.25	12.38	4.26	0.22	.18	.87	.76	0.49	5.25	8.11	10.17	9.93	18.66
150.0 0	8.11	13.06	5.23	1.03	0.01	.12	.30	.17	4.97	7.11	7.77	14.12	18.66
165.0 0	8.01	12.75	5.46	1.46	1.06	.56	.97	.36	3.44	6.66	8.45	18.66	18.66
180.0 0	-	-	-	-	-	0	1	0	-	-	-	-	-



	8.11	11.45	5.48	1.86	1.94	.38	.61	.85	3.13	4.82	9.87	13.27	18.66
195.0 0	- 8.17	- 10.02	- 6.16	- 2.77	- 1.51	0 .54	1 .29	1 .04	- 2.43	- 4.03	- 9.57	- 10.21	- 18.66
210.0 0	- 8.23	- 8.77	- 7.04	- 3.33	- 0.67	1 .05	1 .14	0 .76	- 1.52	- 4.80	- 7.61	- 8.69	- 18.66
225.0 0	- 8.22	- 7.83	- 6.69	- 3.80	- 1.03	0 .72	0 .97	0 .52	- 2.12	- 3.89	- 5.64	- 7.63	- 18.66
240.0 0	- 8.22	- 7.00	- 5.80	- 3.97	- 1.81	0 .26	0 .33	- 1.40	- 1.77	- 3.40	- 5.25	- 6.86	- 18.66
255.0 0	- 8.30	- 6.30	- 5.14	- 3.15	- 1.88	- 1.18	- 1.02	- 1.85	- 1.59	- 3.60	- 5.45	- 6.86	- 18.66
270.0 0	- 8.65	- 5.74	- 4.39	- 1.59	- 1.37	- 0.78	- 1.75	- 1.09	- 1.53	- 3.40	- 6.03	- 7.64	- 18.66
285.0 0	- 8.88	- 5.44	- 3.52	- 0.81	0 .49	- 0.05	- 1.34	- 0.07	- 0.90	- 3.41	- 7.77	- 8.42	- 18.66
300.0 0	- 8.99	- 5.43	- 3.03	- 0.74	0 .79	0 .99	- 0.93	0 .67	- 1.27	- 4.66	- 8.93	- 8.62	- 18.66
315.0 0	- 9.01	- 5.52	- 3.16	- 1.19	0 .38	0 .67	- 0.26	0 .15	- 2.69	- 6.97	- 9.02	- 8.96	- 18.66
330.0 0	- 9.08	- 5.79	- 3.93	- 1.78	- 0.41	- 0.65	- 0.69	- 0.57	- 5.46	- 7.97	- 8.98	- 9.83	- 18.66
345.0 0	- 9.19	- 6.28	- 4.66	- 2.74	- 1.43	- 1.98	- 1.10	- 1.87	- 6.39	- 6.23	- 7.61	- 10.45	- 18.66

Ant1													
Freq	5200.0 0												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-7.0 9	- 10.11	- 10.7	- 8.79	- 1.05	- 1.24	- 1.56	- 3.73	- 8.22	- 8.29	- 5.84	- 6.61	- 18.22
15.0 0	- 7.13	- 8.67	- 11.98	- 8.08	- 0.58	0 .41	- 0.55	- 1.42	- 6.88	- 10.8	- 7.58	- 6.55	- 18.22
30.0 0	- 7.11	- 7.91	- 8.93	- 6.43	- 6.09	- 7.37	- 19.11	- 12.28	- 8.89	- 10.01	- 9.5	- 6.66	- 18.22
45.0 0	- 7.08	- 7.83	- 8.17	- 4.6	- 8.13	- 10.42	- 8.31	- 8.91	- 7.28	- 12.4	- 20.33	- 5.95	- 18.22
60.0	-	-	-	-	-	-	-	-	-	-	-	-	-

0	7.05	8.53	8.31	3.06	4.06	6.98	5.04	7.26	7.95	5.42	10.7	6.01	18.22
75.0	-	-	-	-	-	0	0	-	-	-	-	-	-
0	7.04	9.06	8.55	2.89	1.04	.83	.22	3.07	14.51	4.97	7.32	5.04	18.22
90.0	-	-	-	-	-	0	-	-	-	-	-	-	-
0	6.96	9.34	6.46	3.05	3	.16	0.1	3.7	8.35	9.22	7.44	4.61	18.22
105.	-	-	-	-	1	0	-	-	-	-	-	-	-
00	6.99	9.34	5.5	0.09	.06	.82	0.57	2.19	8.02	10.08	11.58	6.4	18.22
120.	-	-	-	-	0	0	-	-	-	-	-	-	-
00	6.97	9	6.14	0.17	.44	.55	2.47	3.97	7.59	8.08	10.02	8.06	18.22
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.04	8.35	8.44	2.51	1.82	1.87	3.65	4.33	6.59	6.08	7.29	9	18.22
150.	-	-	-	-	-	1	1	-	-	-	-	-	-
00	7.15	7.49	9.36	3.14	0.97	.03	.66	2.68	4.83	3.53	5.07	7.81	18.22
165.	-	-	-	-	-	1	2	-	-	-	-	-	-
00	7.14	6.79	7.67	4.56	2.7	.81	.89	0.56	5.01	1.43	3.74	6.54	18.22
180.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	6.92	7	7.76	5.16	6.02	1.31	.81	1.2	3.55	1.12	3.66	7.24	18.22
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.75	7.66	7.38	5.2	5.98	6.29	2.29	4.75	2.61	1.64	3.9	10.26	18.22
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.6	7.09	6.56	3.06	5.07	11.46	4.41	8.11	5.33	4.04	4.07	10.55	18.22
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.72	7.01	4.35	2.06	4.22	12.04	4.76	4.61	7.51	8.97	7.53	10.18	18.22
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.83	8.13	3.46	2.16	4.04	8.51	3.15	2.98	6.01	10.06	8.69	11.11	18.22
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.01	8.32	4.17	2.92	4.17	5	4	3.22	4.04	10.68	8.65	13.08	18.22
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.06	7.84	2.94	2.33	5.79	5.84	3.01	0.52	3.7	8.76	11.93	18.22	18.22
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.89	8.43	2.35	1.99	5.46	2.68	0.04	0.07	4.66	10.73	11.5	17.94	18.22
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.73	9.9	3.61	2.51	4.7	1.64	3.65	5.41	8.92	8.16	10.17	16.48	18.22
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	6.76	11.31	4.73	4.45	8.24	7.34	0.87	2.08	4.5	5.13	8.62	13.85	18.22
330.	-	-	-	-	-	-	1	1	-	-	-	-	-
00	6.73	12.33	6.24	5.84	7.14	2.48	.93	.42	4.7	4.11	8.34	9.99	18.22
345.	-	-	-	-	-	-	-	-	-	-	-	-	-



00	6.91	12.11	7.92	8.06	3.88	0.82	0.43	0.9	5.94	7.76	7.18	8.17	18.22
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Ant2													
Freq	5200.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-15.99	-12.71	-3.87	-3.81	-3.32	-1.13	-2.76	-4.63	-7.06	-9.12	-15.15	-8.95	-16.6
15.00	-16.21	-13.45	-5.12	-4.85	-3.16	-0.18	-1.15	-2.84	-4.9	-4.72	-11.21	-7.44	-16.6
30.00	-17.23	-13.21	-6.78	-5.93	-2.99	0.58	-0.46	-1.34	-4.07	-3.32	-7.19	-5.93	-16.6
45.00	-17.25	-12.27	-8.94	-7.21	-5.04	-0.39	-0.37	-1.28	-3.92	-3.51	-6.2	-4.77	-16.6
60.00	-16.69	-11.82	-11.05	-7.75	-6.92	-2.74	-1.3	-3.44	-3.6	-3.83	-3.6	-4.37	-16.6
75.00	-16.05	-12.35	-9.59	-6.8	-7.97	-2.97	-2.99	-5.12	-3.08	-3.77	-2.34	-4.33	-16.6
90.00	-15.35	-13.1	-7.67	-5.13	-5.27	-3.04	-2.94	-3.15	-3.95	-1.91	-3.02	-4.5	-16.6
105.00	-15.19	-13.82	-6.42	-3.08	-2.31	-1.91	-0.55	-1.41	-4.85	-2.38	-4.97	-5.31	-16.6
120.00	-15.34	-14.13	-5.47	-1.85	-0.85	-0.56	0.05	-1.2	-5.76	-3.54	-6.67	-6.01	-16.6
135.00	-15.36	-13.41	-4.43	-0.36	0.64	0.26	0.46	-1.45	-4.73	-5.53	-7.9	-7.36	-16.6
150.00	-15.75	-13.08	-3.47	0.53	0.2	0.42	0.44	-1.43	-3.14	-7.88	-5.66	-10.17	-16.6
165.00	-15.86	-13.1	-3.79	0.74	0.9	1.15	0.21	-2.33	-5.35	-8.86	-7	-13.4	-16.6
180.00	-15.58	-13.64	-5.88	3.8	2.08	2.3	1.04	-6.89	-12.85	-16.32	-10.4	-16.49	-16.6
195.00	-15.38	-13.34	-8.5	6.59	1.43	0.19	0.68	-2.76	-12.29	-9.75	-10.53	-16.6	-16.6
210.00	-15.07	-11.46	-10.72	10.14	5.35	5.41	6.74	-6.67	-13	-8.78	-10.51	-14.13	-16.6
225.00	-15.03	-9.32	-13.01	12.32	11.76	11.03	13.67	-20.09	-14.3	-14.85	-14.92	-10.29	-16.6



240. 00	- 15.46	- 7.85	- 14.49	- 5.94	- 7.82	- 10.31	- 10.69	- 8.45	- 6.66	- 8.86	- 15.93	- 7.82	- 16.6
255. 00	- 15.29	- 7.25	- 11.22	- 3.08	- 1.64	- 0.63	- 1.3	- 4.57	- 6.63	- 10.69	- 13.56	- 5.75	- 16.6
270. 00	- 16.26	- 7.34	- 5.72	- 3.49	- 1.35	- 0.36	- 3.48	- 6.39	- 8	- 13.28	- 13.93	- 5.8	- 16.6
285. 00	- 16.45	- 7.49	- 2.6	- 1.45	- 2.25	- 0.26	- 2.32	- 3.06	- 10.97	- 14.58	- 13.39	- 7.14	- 16.6
300. 00	- 16.82	- 7.9	- 1.94	- 0.56	- 1.29	- 0.52	- 4.63	- 5.4	- 15.58	- 14.79	- 14.08	- 8.39	- 16.6
315. 00	- 16.75	- 8.6	- 2.84	- 1.6	- 2.85	- 1.44	- 6.05	- 6.22	- 14.54	- 11.75	- 11.74	- 8.68	- 16.6
330. 00	- 16.33	- 9.96	- 3.61	- 2.34	- 3	- 1.78	- 5.42	- 7.84	- 14.82	- 17.82	- 13.45	- 9.24	- 16.6
345. 00	- 15.46	- 11.47	- 3.34	- 2.33	- 2.31	- 0.31	- 2.63	- 5.49	- 11.46	- 16.27	- 17.55	- 9.79	- 16.6

Ant3													
Freq	5200.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-12.5 1	- 8.84	- 9.35	- 5.34	- 1.35	3 .41	3 .99	3 .37	0 .07	- 2.09	- 5.55	- 10.01	- 27.87
15.0 0	- 12.73	- 9.08	- 10.69	- 6.45	- 3.51	1 .51	2 .19	2 .09	- 1.32	- 3.35	- 6.91	- 10.88	- 27.87
30.0 0	- 12.66	- 9.36	- 10.65	- 8.46	- 5.86	- 0.71	- 0.22	- 0.04	- 3.35	- 5.48	- 8.76	- 11.54	- 27.87
45.0 0	- 12.62	- 9.67	- 9.19	- 10.74	- 7.56	- 4.08	- 3.42	- 2.07	- 5.65	- 8.63	- 10.67	- 12.69	- 27.87
60.0 0	- 12.26	- 10.21	- 8.95	- 13.05	- 9.14	- 7.32	- 6.28	- 4.9	- 8.69	- 11.22	- 12.23	- 15.29	- 27.87
75.0 0	- 11.95	- 11.35	- 9.65	- 14	- 13.03	- 10.14	- 10.51	- 8.59	- 10.01	- 10.64	- 15.41	- 19.1	- 27.87
90.0 0	- 11.81	- 12.6	- 9.2	- 12.21	- 15.52	- 11.11	- 15.78	- 8.48	- 13.89	- 12.38	- 16.12	- 17.3	- 27.87
105. 00	- 11.71	- 13.27	- 10.32	- 12.06	- 19.77	- 13.92	- 16.62	- 13	- 13.29	- 15.78	- 15.2	- 15.37	- 27.87
120.	-	-	-	-	-	-	-	-	-	-	-	-	-



00	11.82	13.17	11.13	9.04	23.9	20.25	16.56	12.08	12.91	11.52	18.75	14.9	27.87
135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.95	12.98	11.24	10.81	17.7	19.14	14.98	16.7	17.51	12.35	17.84	17.56	27.87
150.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.99	13.26	12.18	17.95	22.51	23.17	12.83	14.62	14.04	15.87	15.72	19.44	27.87
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.79	14.37	13.77	13.42	21.34	18.13	14.24	12.77	11.53	12.76	17.74	19.59	27.87
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.6	15.41	16.07	12.42	17.33	15.46	11.38	12.44	10.4	10.11	18.4	23.91	27.87
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.5	17.32	17.7	11.61	13.83	15.63	10.4	13.31	8.15	10.2	17.42	27.87	27.87
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.68	18.78	15.9	9.59	11.23	16.05	10.84	14.87	8	12.31	20.26	25.56	27.87
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.74	19.76	17.8	8.63	10.28	13.15	9.33	18.92	10.45	10.97	16.05	24.49	27.87
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.97	18.43	15.08	8.4	11.04	13.03	11.2	15.99	6.35	6.99	17.24	19.77	27.87
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.18	14.78	8.64	5.81	9.05	10.36	12.03	9.33	9.51	11.85	14.51	14.26	27.87
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.27	11.6	5.93	4.18	7.23	7.21	8.17	8.18	7.06	12.68	10.26	13.01	27.87
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.47	10.1	6.19	4.07	5.26	1.58	2.57	2.88	3.02	8.62	8.91	10.69	27.87
300.00	-	-	-	-	-	1	1	1	-	-	-	-	-
	12.5	9.62	7.75	4.15	2.5	.03	.25	.13	2.87	7.14	9.3	9.26	27.87
315.00	-	-	-	-	-	2	4	2	-	-	-	-	-
	12.38	9.43	7.61	3.4	0.63	.85	.19	.77	0.4	5.02	8.52	9.48	27.87
330.00	-	-	-	-	0	4	5	3	1	-	-	-	-
	12.24	9.2	7.45	3.34	.15	.62	.25	.49	.25	2.51	5.69	10.32	27.87
345.00	-	-	-	-	-	4	5	3	0	-	-	-	-
	12.35	8.98	8.59	3.94	0.08	.68		.69	.97	1.92	5.4	9.87	27.87

Ant4													
Freq	5200.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	4.42	4.77	5.86	4.35	-0.86	4.04	1.91	3.79	3.26	1.71	-0.57	-2.81	-13.79

15.0 0	4 .4	4 .75	5 .18	3 .24	1 .12	4 .38	2 .57	4 .34	3 .29	1 .63	- 0.86	- 3.28	- 13.79
30.0 0	4 .37	4 .44	3 .85	2 .01	0 .82	2 .05	0 .71	2 .69	1 .01	0 .66	- 1.5	- 3.88	- 13.79
45.0 0	4 .39	3 .93	2 .53	0 .36	- 1.9	- 1.62	- 2.68	- 0.98	- 1.74	- 1.49	- 4.65	- 3.66	- 13.79
60.0 0	4 .42	3 .48	1 .07	- 0.91	- 5.92	- 6.27	- 6.93	- 4.56	- 4.18	- 4.57	- 8.17	- 4.99	- 13.79
75.0 0	4 .48	3 .14	- 0.25	- 4.45	- 8.16	- 7.08	- 10.96	- 5.05	- 5.65	- 6.65	- 7.42	- 7.82	- 13.79
90.0 0	4 .45	2 .89	- 1.79	- 10.38	- 7.51	- 7.51	- 10.08	- 6.32	- 6.75	- 7.1	- 7.01	- 11.38	- 13.79
105. 00	4 .47	2 .88	- 2.49	- 14.29	- 8.57	- 11.93	- 10.24	- 9.14	- 9.43	- 9.33	- 6.71	- 12.59	- 13.79
120. 00	4 .45	3 .17	- 1.69	- 15.69	- 13.07	- 15.66	- 12.93	- 9.98	- 7.63	- 7.85	- 6.33	- 10.89	- 13.79
135. 00	4 .42	3 .65	0 .37	- 8.94	- 8.2	- 12.63	- 15.09	- 7.8	- 4.54	- 5.03	- 5.76	- 7.88	- 13.79
150. 00	4 .45	4 .24	2 .73	- 2.22	- 2.33	- 5.14	- 5.19	- 2.01	- 0.76	- 2.61	- 5.24	- 6.55	- 13.79
165. 00	4 .47	4 .72	4 .5	1 .41	0 .25	- 0.87	0 .16	2 .5	1 .45	- 1.94	- 4.18	- 5.97	- 13.79
180. 00	4 .45	5 .1	5 .26	2 .25	0 .29	1 .11	1 .13	4 .45	2 .96	- 0.53	- 4.83	- 5.97	- 13.79
195. 00	4 .47	5 .19	4 .76	0 .47	- 1.96	0 .24	0 .23	3 .24	1 .71	- 2.31	- 7.61	- 5.95	- 13.79
210. 00	4 .45	5 .09	3 .36	- 2.42	- 7.08	- 4.35	- 2.32	- 0.98	- 1.87	- 3.81	- 8.75	- 6.63	- 13.79
225. 00	4 .39	4 .79	1 .98	- 7.25	- 10	- 5.19	- 3.33	- 6.18	- 7.65	- 8.77	- 11.97	- 9.36	- 13.79
240. 00	4 .41	4 .39	0 .98	- 12.94	- 8.08	- 3.45	- 2.4	- 8.12	- 10.13	- 16.28	- 13.4	- 10.02	- 13.79
255. 00	4 .39	4 .07	0 .34	- 13.91	- 8.49	- 5.08	- 3.52	- 9.14	- 11.12	- 16.27	- 10.89	- 11.82	- 13.79
270. 00	4 .43	3 .8	0 .21	- 10.57	- 6.33	- 6.36	- 6.5	- 10.59	- 10.02	- 14.49	- 10.91	- 13.79	- 13.79
285. 00	4 .4	3 .67	0 .34	- 10.45	- 4.9	- 4.63	- 6.48	- 9.13	- 10.36	- 16.35	- 13.31	- 11.19	- 13.79



300.00	4 .37	3 .64	1 .1	- 6.62	- 5.99	- 4.66	- 6.41	- 6.17	- 12.5	- 8.24	- 8.44	- 11.55	- 13.79
315.00	4 .37	3 .83	2 .6	- 1.66	- 7.5	- 8.05	- 9.58	- 7.38	- 9.98	- 3.99	- 4.91	- 9.82	- 13.79
330.00	4 .38	4 .16	4 .38	1 .89	- 7.49	- 6.95	- 10.33	- 5.69	- 2.14	- 1.85	- 4.04	- 6.74	- 13.79
345.00	4 .4	4 .55	5 .52	3 .98	- 4.49	0 .2	- 1.55	0 .06	1 .65	1 .07	- 2.23	- 3.95	- 13.79

5200MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant3)													
Freq	5200.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-6.31	5.64	2.67	0.97	2 .92	5 .40	5 .19	3 .89	0 .52	- 1.13	- 3.09	- 3.63	- 14.91
15.00	6.43	5.38	3.96	1.59	2 .46	5 .38	5 .06	4 .30	0 .72	- 0.97	- 3.60	- 3.33	- 14.91
30.00	6.59	5.12	3.87	2.10	- 0.09	2 .90	1 .40	1 .66	- 0.34	- 1.08	- 3.66	- 2.94	- 14.91
45.00	6.56	4.96	3.98	2.39	- 2.03	0 .72	1 .32	1 .29	- 0.74	- 2.64	- 5.89	- 2.40	- 14.91
60.00	6.34	5.31	4.59	2.26	- 1.69	- 0.65	0 .83	- 0.29	- 1.67	- 1.52	- 3.21	- 2.65	- 14.91
75.00	6.13	6.04	4.48	2.01	- 1.19	1 .76	1 .39	- 0.53	- 3.15	- 1.22	- 2.07	- 2.64	- 14.91
90.00	5.92	6.74	2.93	1.23	- 1.72	1 .26	0 .64	- 0.03	- 3.05	- 1.92	- 2.58	- 2.36	- 14.91
105.00	5.87	7.13	2.40	0 .99	1 .24	1 .69	1 .35	0 .58	- 3.29	- 2.93	- 4.76	- 3.25	- 14.91
120.00	5.92	7.03	2.47	1 .85	1 .35	1 .67	0 .84	0 .10	- 3.49	- 2.33	- 5.74	- 4.14	- 14.91
135.00	6.00	6.49	2.81	1 .23	1 .33	1 .56	0 .76	- 0.69	- 3.32	- 2.72	- 5.10	- 5.54	- 14.91
150.00	6.15	6.07	2.78	0 .74	2 .23	2 .73	3 .59	0 .18	- 1.43	- 2.97	- 2.88	- 6.46	- 14.91
165.00	6.10	5.98	2.73	- 0.04	0 .93	2 .20	3 .41	0 .95	- 2.06	- 1.61	- 3.00	- 6.82	- 14.91
180.00	-	-	-	-	-	0	2	-	-	-	-	-	-



	5.88	6.45	4.15	1.62	1.71	.32	.29	0.90	3.23	2.20	4.12	8.54	14.91
195.0	-	-	-	-	-	0	1	-	-	-	-	-	-
0	5.72	7.09	5.37	2.62	0.94	.32	.88	1.12	2.01	1.47	4.18	10.88	14.91
210.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	5.64	6.45	5.48	2.19	2.02	5.11	2.17	4.45	3.46	2.94	4.59	10.03	14.91
225.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	5.71	5.77	5.14	1.84	3.34	7.26	3.73	6.71	5.55	6.50	7.19	8.18	14.91
240.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	5.92	5.52	4.46	0.34	2.39	5.65	2.74	2.86	1.56	3.77	8.32	6.85	14.91
255.0	-	-	-	0	0	0	0	-	-	-	-	-	-
0	6.04	4.77	2.74	.93	.33	.31	.05	0.57	1.67	6.29	7.07	5.39	14.91
270.0	-	-	0	1	0	0	0	0	-	-	-	-	-
0	6.28	3.96	.02	.47	.36	.83	.18	.39	1.28	6.56	7.14	6.09	14.91
285.0	-	-	1	2	0	3	3	2	-	-	-	-	-
0	6.28	3.84	.23	.34	.58	.32	.20	.88	0.83	6.20	6.30	6.10	14.91
300.0	-	-	0	2	2	4	2	2	-	-	-	-	-
0	6.26	4.32	.66	.49	.05	.46	.83	.13	2.88	4.66	6.18	5.93	14.91
315.0	-	-	-	1	1	3	4	3	0	-	-	-	-
0	6.23	4.94	0.07	.70	.41	.74	.84	.70	.03	2.01	4.73	5.62	14.91
330.0	-	-	-	1	1	5	6	4	0	-	-	-	-
0	6.10	5.63	0.84	.05	.94	.52	.39	.99	.89	1.25	3.83	5.07	14.91
345.0	-	-	-	0	2	6	6	4	0	-	-	-	-
0	6.07	5.97	1.52	.31	.82	.33	.03	.66	.76	2.07	3.89	4.47	14.91

5200MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant4)													
Freq	5200.0												
0													
Phi\T	0	15	30	45	60	75	90	105	120	135	150	165	180
heta													
0.00	2	4	3	3	5	4	4	2	1	-	-	-	-
	2.33	.37	.46	.72	.10	.70	.20	.12	.41	.04	0.57	0.98	11.24
15.00	2	2	3	2	4	6	5	5	3	1	-	-	-
	.29	.50	.60	.90	.07	.55	.22	.38	.13	.57	0.70	0.80	11.24
30.00	2	2	2	2	2	4	1	3	1	1	-	-	-
	.20	.42	.74	.24	.48	.06	.85	.06	.71	.58	0.62	0.64	11.24
45.00	2	2	1	1	0	1	1	1	0	0	-	0	-
	.22	.16	.61	.54	.12	.62	.58	.73	.75	.09	3.40	.03	11.24
60.00	2	1	0	1	-	-	0	-	-	0	-	-	-
	.29	.77	.31	.31	0.78	0.35	.67	0.17	0.27	.19	2.21	0.33	11.24



75.00	2 .38	1 .37	- 0.28	0 .20	- 0.28	2 .28	1 .33	0 .41	- 1.78	- 0.28	- 0.58	- 0.83	- 11.24
90.00	2 .42	1 .06	- 0.15	- 0.91	- 0.29	1 .86	1 .31	0 .49	- 1.39	- 0.74	- 0.81	- 1.52	- 11.24
105.0 0	2 .44	0 .98	0 .13	0 .73	2 .35	1 .90	2 .01	1 .15	- 2.45	- 1.75	- 2.56	- 2.79	- 11.24
120.0 0	2 .42	1 .21	0 .57	1 .04	2 .00	1 .95	1 .18	0 .44	- 2.18	- 1.46	- 2.75	- 3.32	- 11.24
135.0 0	2 .38	1 .75	1 .35	1 .53	2 .37	2 .06	0 .75	0 .62	- 0.47	- 0.76	- 2.16	- 3.28	- 11.24
150.0 0	2 .35	2 .36	2 .76	3 .30	4 .56	4 .35	4 .60	2 .75	2 .02	0 .38	- 0.55	- 3.28	- 11.24
165.0 0	2 .36	2 .84	3 .98	3 .81	4 .39	4 .81	5 .83	4 .87	2 .40	1 .29	- 0.09	- 3.28	- 11.24
180.0 0	2 .41	3 .02	4 .01	3 .16	2 .54	4 .06	5 .12	4 .75	2 .46	1 .13	- 1.07	- 4.04	- 11.24
195.0 0	2 .47	3 .00	3 .30	1 .56	1 .87	3 .73	4 .41	4 .04	2 .08	0 .89	- 2.15	- 5.14	- 11.24
210.0 0	2 .51	3 .21	2 .21	0 .19	- 1.02	- 1.79	0 .47	0 .09	- 0.84	- 0.49	- 2.56	- 5.13	- 11.24
225.0 0	2 .45	3 .27	1 .61	- 1.45	- 3.26	- 4.09	- 1.44	- 3.35	- 4.53	- 5.67	- 6.16	- 5.16	- 11.24
240.0 0	2 .41	3 .03	1 .16	- 1.19	- 1.67	- 2.15	0 .07	- 1.36	- 2.65	- 6.41	- 7.37	- 4.77	- 11.24
255.0 0	2 .37	2 .89	0 .96	- 0.59	0 .44	1 .46	1 .91	- 0.53	- 2.02	- 7.41	- 6.03	- 4.82	- 11.24
270.0 0	2 .32	2 .77	2 .29	- 0.01	0 .58	1 .03	0 .57	- 0.08	- 2.06	- 7.04	- 7.40	- 6.29	- 11.24
285.0 0	2 .32	2 .56	3 .34	0 .99	0 .68	2 .43	2 .22	1 .44	- 3.40	- 8.79	- 7.92	- 6.26	- 11.24
300.0 0	2 .31	2 .25	3 .51	1 .89	1 .01	2 .67	- 0.05	- 0.88	- 7.14	- 5.12	- 5.82	- 6.76	- 11.24
315.0 0	2 .30	2 .07	3 .69	2 .30	- 1.08	- 0.30	0 .01	- 0.15	- 3.94	- 1.58	- 3.20	- 5.74	- 11.24
330.0 0	2 .35	1 .97	4 .18	3 .25	- 0.86	1 .32	1 .63	1 .68	- 0.99	- 0.91	- 3.02	- 3.77	- 11.24
345.0 0	2 .39	2 .09	4 .69	3 .99	1 .26	4 .47	3 .28	2 .98	1 .17	- 0.19	- 2.21	- 2.17	- 11.24

5200MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant3)													
Freq	5200.00												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-10.35	-	-	-	-	0	0	-	-	-	-	-	-
	10.27	6.91	5.53	1.80	.93	.95	0.09	3.42	5.28	7.21	8.28	18.91	
15.00	-	-	-	-	-	0	0	-	-	-	-	-	-
	10.44	9.93	8.18	6.26	2.21	.64	.42	0.21	3.74	5.31	8.20	7.93	18.91
30.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.50	9.65	8.50	6.81	4.74	1.40	2.07	2.26	4.84	5.48	8.37	7.44	18.91
45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.47	9.56	8.74	6.84	6.69	3.32	2.95	3.03	5.40	6.71	9.52	6.70	18.91
60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.33	9.98	9.29	6.25	6.21	5.14	3.66	4.93	6.13	5.87	7.13	6.67	18.91
75.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.20	10.69	9.23	5.95	4.79	2.19	2.61	5.04	6.80	5.61	5.75	6.35	18.91
90.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.05	11.34	7.63	5.41	5.60	2.70	2.98	4.55	7.06	5.62	6.30	6.20	18.91
105.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.03	11.65	6.97	2.91	2.04	2.00	2.27	3.38	7.51	6.30	8.56	7.35	18.91
120.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.06	11.49	6.96	2.37	1.91	1.71	2.73	3.90	7.86	6.52	9.61	8.34	18.91
135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.14	10.93	7.14	2.83	2.14	1.76	2.80	4.33	7.19	7.10	9.15	9.62	18.91
150.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.26	10.38	6.80	2.65	0.94	0.52	0.13	3.65	5.46	6.76	6.92	10.41	18.91
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.22	10.07	6.77	3.84	2.28	1.15	0.09	2.96	6.46	5.22	6.72	10.32	18.91
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.00	10.43	8.23	5.86	5.29	3.45	1.62	4.68	7.10	5.26	7.48	11.44	18.91
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.84	11.04	9.44	7.06	4.71	2.79	2.10	5.17	5.96	5.29	7.66	14.06	18.91
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.75	10.30	9.57	6.31	6.46	8.93	6.60	8.72	7.77	7.09	7.87	13.65	18.91
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.84	9.63	8.40	5.64	7.46	11.99	7.84	9.11	9.93	10.98	11.09	11.91	18.91
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.01	9.56	7.63	4.74	6.72	10.24	6.67	6.50	6.33	8.45	12.23	10.74	18.91



255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.16	9.10	7.03	3.75	4.01	3.72	3.97	5.03	6.18	11.04	11.43	9.30	18.91
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.30	8.56	4.64	3.27	4.03	3.40	4.35	3.74	5.84	11.08	11.79	9.61	18.91
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.24	8.54	3.40	2.36	4.06	1.39	1.49	1.77	5.13	10.68	10.88	10.08	18.91
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.16	9.05	3.83	2.16	2.61	0.24	1.53	2.05	6.50	8.98	10.74	10.21	18.91
315.00	-	-	-	-	-	-	0	-	-	-	-	-	-
	10.15	9.64	4.64	2.99	2.91	0.25	.90	0.38	3.63	6.39	9.39	10.16	18.91
330.00	-	-	-	-	-	1	2	1	-	-	-	-	-
	10.07	10.31	5.46	3.61	2.39	.38	.39	.01	2.45	4.92	8.13	9.83	18.91
345.00	-	-	-	-	-	1	1	0	-	-	-	-	-
	10.14	10.63	5.94	4.18	1.81	.95	.87	.59	2.79	5.56	7.80	9.20	18.91

5200MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant4)													
Freq	5200.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-0.02	0.21	0.61	1.38	1.61	0.31	0.33	0.23	0.85	2.33	4.10	5.38	15.81
15.00	0.04	0.23	0.87	0.64	0.54	0.04	0.61	0.20	0.52	2.04	4.47	5.37	15.81
30.00	0.07	0.02	0.36	1.61	1.86	0.10	1.57	0.54	2.26	2.39	4.72	5.32	15.81
45.00	0.05	0.46	1.61	2.67	4.31	2.48	2.72	2.54	3.76	3.93	7.05	4.69	15.81
60.00	0.02	0.91	2.99	3.09	5.47	4.91	3.78	4.81	4.86	4.56	6.48	5.07	15.81
75.00	0.04	1.26	4.00	4.43	4.36	1.96	2.64	4.30	5.74	4.97	4.99	5.49	15.81
90.00	0.02	1.53	4.52	5.26	4.88	2.44	2.77	4.19	5.96	4.95	5.34	5.89	15.81
105.00	0.04	1.55	4.46	2.98	1.75	1.95	2.09	3.16	7.00	5.78	6.98	7.15	15.81
120.00	0.02	1.27	3.96	2.62	1.81	1.67	2.65	3.77	6.90	5.95	7.39	7.88	15.81
135.00	-	-	-	-	-	-	-	-	-	-	-	-	-



00	0.01	0.78	2.75	2.71	1.83	1.67	2.80	3.80	5.19	5.53	6.89	8.03	15.81
150.00	0.01	-	-	-	-	-	0.23	-	-	-	-	-	-
		0.17	0.90	1.32	0.01	0.06		2.01	2.59	4.15	5.32	7.93	15.81
165.00	0.03	0.31	0.55	-	-	0.15	1.18	0.34	-	-	-	-	-
			0.66	0.26					1.75	3.04	4.75	7.61	15.81
180.00	0.02	0.64	1.01	-	-	-	0.40	0.97	-	-	-	-	-
			0.97	1.90	0.59				0.84	2.52	5.47	8.10	15.81
195.00	0.06	0.70	0.44	-	-	-	0.28	0.04	-	-	-	-	-
			2.63	2.71	0.61				1.57	3.38	6.52	9.09	15.81
210.00	0.05	0.66	-	-	-	-	-	-	-	-	-	-	-
			0.84	4.11	5.75	6.16	4.13	4.10	4.80	5.03	6.89	9.41	15.81
225.00	0.01	0.45	-	-	-	-	-	-	-	-	-	-	-
			1.77	5.38	7.41	8.30	5.52	7.01	8.90	10.11	10.42	9.92	15.81
240.00	0.01	0.09	-	-	-	-	-	-	-	-	-	-	-
			2.37	5.16	6.23	6.41	4.18	5.74	7.26	10.75	11.62	9.43	15.81
255.00	0.03	0.16	-	-	-	-	-	-	-	-	-	-	-
			2.90	4.59	3.94	3.03	2.77	5.01	6.39	11.88	10.59	8.96	15.81
270.00	0.01	0.38	-	-	-	-	-	-	-	-	-	-	-
			2.16	4.28	3.87	3.27	4.08	3.96	6.42	11.43	12.08	9.72	15.81
285.00	0.03	0.54	-	-	-	-	-	-	-	-	-	-	-
			1.32	3.19	3.97	2.16	2.21	2.73	7.66	13.23	12.64	10.22	15.81
300.00	0.05	0.66	-	-	-	-	-	-	-	-	-	-	-
			1.04	2.58	3.52	1.95	4.75	5.65	11.51	9.51	10.32	11.02	15.81
315.00	0.05	0.58	-	-	-	-	-	-	-	-	-	-	-
			0.50	2.38	5.49	4.52	4.06	4.60	7.87	5.89	7.55	10.28	15.81
330.00	0.03	0.35	0	-	-	-	-	-	-	-	-	-	-
			.56	0.99	5.36	3.22	1.89	2.17	4.85	4.53	7.09	8.42	15.81
345.00	0.02	0.02	1	0	-	-	-	-	-	-	-	-	-
			.45	.34	3.46	0.29	1.44	1.53	2.25	3.10	5.70	6.58	15.81

Ant1													
Freq	5300.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-9.65	-	-	-	-	-	-	-	-	-	-	-	-
		11.11	14.04	10.61	3	3.5	2.75	6.52	9.3	9.1	8.22	6.2	18.95
15.0	-	-	-	-	-	-	-	-	-	-	-	-	-



0	9.49	10.36	14.98	11.7	1.84	0.78	0.97	2.01	7.91	13.65	10.71	5.72	18.95
30.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.38	10.15	12.11	8.28	8.56	7.14	20.23	12.23	10.54	12.79	12.43	6	18.95
45.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.3	10.86	10.89	7.47	10.48	11.34	10.15	9.23	8.54	14.91	19.01	5.49	18.95
60.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.42	11.56	9.97	5.09	5.2	7.89	5.35	7.67	9.51	6.35	10.09	5.66	18.95
75.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.5	11.54	9.04	4.74	3.04	0.48	0.97	4.18	15.81	6.21	7.64	5.14	18.95
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.41	11.31	7.29	3.17	3.94	1.32	1.09	4.23	9.05	10.8	9.27	5.34	18.95
105.	-	-	-	-	0	0	-	-	-	-	-	-	-
00	9.39	10.98	7.24	1.63	.09	.03	1.37	3.51	9.34	11.36	13.37	7.78	18.95
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.35	10.72	9.55	2.79	1.47	1.08	4.29	5.49	8.59	10.48	10.6	8.69	18.95
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.27	10.41	11.94	4.67	2.19	2.36	3.08	4.93	6.5	6.02	7.34	9.07	18.95
150.	-	-	-	-	-	0	1	-	-	-	-	-	-
00	9.39	9.67	10.46	4.9	1.79	.09	.37	2.87	4.88	3.53	5.5	8.41	18.95
165.	-	-	-	-	-	0	2	-	-	-	-	-	-
00	9.55	8.72	9.35	6.73	3.31	.08	.03	1.42	4.68	2.36	4.35	7.43	18.95
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.44	8.27	9.02	7.03	5.4	3.22	0.18	2.34	4.74	2.25	4.19	8.39	18.95
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.44	8.97	8.59	6.34	5.75	10.45	3.13	5.57	4.26	3.35	4.3	11.36	18.95
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.33	9.85	8.06	3.99	5.01	14.17	5.3	7.52	6.62	6.36	4.37	11.64	18.95
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.49	9.37	5.93	3.23	4.24	10.77	6.15	4.82	7.24	10.27	7.97	10.51	18.95
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.51	9.25	4.52	2.29	4.37	8.46	5.4	3.7	6.12	11.36	9.51	11.21	18.95
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.55	9.63	4.73	3.14	4.38	6	5.17	4.29	4.68	11.82	10.35	13.53	18.95
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.68	9.34	4.82	4.28	6.88	6.68	4.57	2.11	5.22	9.47	13.02	18.92	18.95
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.53	9.38	3.88	3.13	6.92	4.3	1.79	1.44	5.88	11.58	12.86	18.95	18.95
300.	-	-	-	-	-	-	-	-	-	-	-	-	-



00	9.37	10.63	4.01	2.68	4.22	2.91	4.48	6.19	9.8	9.06	13.43	17.56	18.95
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.52	12.47	5.52	4.93	8.41	7.13	2.91	3.42	6.28	6.51	11.31	15.22	18.95
330.00	-	-	-	-	-	-	1	0	-	-	-	-	-
	9.55	14.08	7.98	8.28	9.26	3.16	.03	.14	5.41	5.26	11.1	10.84	18.95
345.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.51	13.04	10.9	9.05	5.8	1.28	0.25	1.97	5.83	8.41	9.29	8.33	18.95

Ant2													
Freq	5300.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-14.82	-13.36	-3.97	-3.44	-2.7	0.01	-2.33	-4.19	-6.37	-8.02	-15.49	-8.82	-15.16
15.00	-15.27	-12.87	-6.06	-4.38	-2.38	.11	.05	2.32	4.88	4.1	11.41	7.24	15.16
30.00	-15.69	-11.51	-8.09	-4.52	-2.13	.89	.41	0.15	3.53	2.47	7.48	5.38	15.16
45.00	-15.83	-10.32	-10.86	-4.58	-3.6	.8	.42	.46	3.26	2.64	6.22	4.35	15.16
60.00	-15.65	-9.95	-13.2	-7.48	-5.52	1.39	0.18	1.41	2.55	2.89	3.95	4.13	15.16
75.00	-15.33	-9.84	-14.1	-7.19	-7.82	2.22	2.16	3.15	2.57	3.18	2.08	3.81	15.16
90.00	-14.96	-10.42	-10.54	-5.68	-4.25	1.43	1.88	1.79	3.03	1.29	2.71	3.83	15.16
105.00	-14.92	-11.64	-7.34	-3.36	-1.57	1.52	.08	0.66	3.56	1.42	4.26	4.82	15.16
120.00	-14.81	-12.52	-5.48	-1.03	.2	0.2	.54	0.01	3.68	2.35	5.62	5.53	15.16
135.00	-15.28	-12.63	-4.02	.9	.61	.45	.24	.38	3.23	3.93	6.72	6.29	15.16
150.00	-15.48	-12.1	-2.84	.93	.69	.6	.15	1.06	2.4	7.54	5.03	8.65	15.16
165.00	-15.43	-12.19	-2.64	.84	.93	.89	.99	1.18	4.04	8.48	6.11	11.8	15.16
180.00	-14.75	-12.34	-4.24	2.68	2.06	2.56	0.49	5.21	11.04	14.75	9.07	15.16	15.16



195.00	-	-	-	-	-	2	2	-	-	-	-	-	-
	14.21	11.4	6.79	6.65	1.33	.19	.03	1.27	12.07	9.78	10.05	14.4	15.16
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.8	10.08	9.56	9.52	4.57	3.48	4.83	4.28	11.36	8.74	9.85	13.48	15.16
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.94	8.91	9.69	11.51	11.45	8.8	12.15	17.19	13.63	15.33	14.23	9.33	15.16
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.33	7.8	10.55	6.59	6.6	7.26	9.67	7.59	5.28	8.57	17.71	6.39	15.16
255.00	-	-	-	-	-	0	-	-	-	-	-	-	-
	14.21	7.17	9.11	3.69	0.9	.9	0.46	3.23	6.01	10.92	13.45	4.25	15.16
270.00	-	-	-	-	-	0	-	-	-	-	-	-	-
	14.61	7.48	5.03	3.39	0.95	.46	3.36	5.99	7.21	13.47	12.63	4.42	15.16
285.00	-	-	-	-	-	1	-	-	-	-	-	-	-
	14.51	8.15	2.02	0.57	1.16	.08	0.71	2.01	9.96	15.61	13.32	6.16	15.16
300.00	-	-	-	0	-	0	-	-	-	-	-	-	-
	14.49	9.07	1.57	.03	0.43	.66	3.55	5.31	14.53	14	13.24	7.04	15.16
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.34	10.03	2.97	1.76	2.31	0.68	5.99	5.59	14.4	11.01	11.34	7.28	15.16
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.45	11.45	3.13	1.8	2.4	0.88	4.99	6.34	14.21	18.71	13.87	8.42	15.16
345.00	-	-	-	-	-	0	-	-	-	-	-	-	-
	14.13	12.53	2.98	1.78	1.94	.5	1.99	4.06	10.3	13.84	19.53	9.71	15.16

Ant3													
Freq	5300.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-12.05	-	-	-	0	4	4	4	0	-	-	-	-
		11.14	9.01	5.18	.08	.04	.65	.17	.64	1.08	6.42	13.63	22.71
15.00	-	-	-	-	-	1	2	2	-	-	-	-	-
	12.25	10.58	10.97	6.8	1.72	.84	.82	.8	0.8	2.27	8.21	14.7	22.71
30.00	-	-	-	-	-	-	0	0	-	-	-	-	-
	12.27	10.02	12.44	7.93	4.16	0.23	.28	.67	3.08	4.25	10.75	14.66	22.71
45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.97	9.66	10.45	8.57	6.44	3.24	2.49	1.85	5.35	7.04	12.02	16.24	22.71
60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.93	9.97	9.83	11.61	8.17	6.13	6.02	3.93	8.46	9.95	12.16	19.12	22.71
75.00	-	-	-	-	-	-	-	-	-	-	-	-	-

0	11.67	10.82	10.07	13.58	12.14	9.44	9.2	8.09	8.9	9.43	13.62	18.71	22.71
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	11.54	11.7	9.44	12.52	11.36	11.28	13.56	8.6	12.3	9.31	13.19	12.79	22.71
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.56	12.25	9.56	9.92	16.72	11.7	14.88	10.42	13.55	14.13	12.91	10.95	22.71
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.36	12.17	10.22	7.71	21	21.8	13.15	11.42	10.38	10.29	18.24	11.09	22.71
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.08	12.26	10.34	9.98	18.49	14.26	16.84	15.34	16.69	10.96	20.85	13.23	22.71
150.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.82	12.52	11.63	18.88	23.59	15.94	10.51	13.03	10.44	14.67	16.66	14.28	22.71
165.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.79	13.42	13.53	14.29	17.79	17	11.4	11.87	9.38	10.81	17.12	15.15	22.71
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.99	15.37	16.44	11.66	12.31	15.53	9.07	12.26	8.46	8.76	15.55	18.6	22.71
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.08	17.81	19.71	9.58	9.19	16.77	8.13	11.63	6.25	9.07	15.12	22.71	22.71
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.92	22.16	17.93	7.83	7.62	12.3	8.56	11.37	7.12	11.38	19.31	19.22	22.71
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.93	22.22	15.83	7.29	8.56	10.29	7.29	19.54	9.17	10.59	16.11	15.59	22.71
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.9	16.05	10.88	7.37	11.8	12	9.84	12.76	5.25	7.51	14.11	14.23	22.71
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.1	12.28	7.4	5.17	10.37	10.2	10.9	9.04	9.09	14.21	10.24	12.4	22.71
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.44	10.28	6.31	4.55	7.6	4.73	9.35	6.67	6.78	12.95	8.67	10.97	22.71
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.69	9.69	7.41	5.03	4.2	0.4	3.25	2.17	4.19	9.55	8.76	10.33	22.71
300.	-	-	-	-	-	1	1	1	-	-	-	-	-
00	11.73	9.76	8.4	4.84	1.5	.73	.56	.26	3.52	7.01	9.01	9.52	22.71
315.	-	-	-	-	0	4	4	3	-	-	-	-	-
00	11.78	10.09	7.78	3.52	.4	.28	.55	.29	0.53	4.43	6.66	10.15	22.71
330.	-	-	-	-	1	5	5	4	1	-	-	-	-
00	12.03	10.39	7.68	3.27	.21	.74	.4	.25	.21	1.12	5.14	12.29	22.71
345.	-	-	-	-	1	5	5	4	1	-	-	-	-
00	12.07	10.57	8.04	3.66	.01	.53	.43	.67	.19	0.67	5.19	11.86	22.71



Ant4													
Freq	5300.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	1.02	2.36	4.3	4.09	-2.42	2.88	1.58	1.89	1.36	0.66	-1.97	-4.53	-15.52
15.00	1	2.07	3.55	2.68	-0.87	2.95	1.52	2.67	1.61	0.23	-2.72	-5.32	-15.52
30.00	0.96	1.56	2.12	0.8	-1.31	0.56	0.88	1.15	0.25	1.21	3.71	5.65	15.52
45.00	0.99	0.99	0.22	1.04	-3.88	-3.15	-4.05	-2.88	-3.25	-3.49	-6.97	-5.5	-15.52
60.00	0.92	0.31	1.38	2.49	-8.06	-7.8	-7.36	-6.81	-6.05	-5.99	-10.65	-7.5	-15.52
75.00	0.93	0.26	2.88	5.62	-10.42	-8.93	-11.11	-6.62	-7.36	-8.45	-10.7	-10.98	-15.52
90.00	0.99	0.66	4.77	11.71	-10	-8.54	-12.47	-8.04	-8.45	-8.86	-9.78	-14.5	-15.52
105.00	1.09	0.7	5.66	16.16	-10.44	-10.59	-11.74	-9.1	-8.88	-10.95	-9.45	-15.52	-15.52
120.00	1.16	0.42	4.8	16.25	-13.18	-12.71	-11.87	-10.79	-9.04	-10.47	-8.98	-12.91	-15.52
135.00	1.19	0.19	2.69	13.84	-10.18	-19.05	-18.11	-12.28	-7.52	-7.91	-8.6	-10.43	-15.52
150.00	1.14	0.81	0.26	5.55	-4.41	-8.77	-8.58	-5.35	-3.32	-4.97	-7.79	-9	-15.52
165.00	1.07	1.37	1.77	0.69	-1.74	-2.42	-1.63	0.24	0.51	3.81	6.31	8.39	15.52
180.00	1.04	1.74	2.74	0.94	-1.96	-0.09	0.01	0.57	1.08	2.39	6.25	8.72	15.52
195.00	1.09	1.87	2.7	0.34	-5.05	-0.36	1.1	0.43	0.22	3.49	9.45	8.33	15.52
210.00	1.19	1.73	1.83	1.29	-12.4	-5.18	-3.43	-2.94	-3.61	-5.38	-11.41	-8.27	-15.52
225.00	1.24	1.48	0.72	4.9	-12.13	-6.66	-5.16	-7.28	-9.72	-10.03	-15.48	-10.23	-15.52
240.00	1	1	-	-	-	-	-	-	-	-	-	-	-



00	.26	.2	0.59	10.06	9.61	4.4	4.46	8.28	13.17	14.21	16.9	10.61	15.52
255.00	1.23	1	-1.69	-13.28	-9.64	-5.09	-4.78	-7.92	-12.22	-13.45	-12.58	-11.71	-15.52
270.00	1.08	1	-1.65	-9.92	-8.9	-6.51	-6.69	-9.27	-10.66	-15.7	-11.58	-13.47	-15.52
285.00	1	1.03	-1.31	-9.18	-8.67	-6.57	-7.85	-10.96	-11.43	-19.22	-14.75	-11.06	-15.52
300.00	0.99	1.2	-0.59	-6.27	-8.98	-8.35	-8.27	-7.84	-13.96	-9.21	-9.22	-11.92	-15.52
315.00	1.05	1.53	1.2	-1.85	-10.61	-12.98	-13.87	-10.46	-11.39	-4.78	-6.23	-10.94	-15.52
330.00	1.04	1.98	2.93	1.66	-8.55	-8.32	-11.91	-7.14	-3.99	-3.19	-5.26	-7.8	-15.52
345.00	1.09	2.31	4.08	3.71	-4.99	-1.1	-1.62	-1.28	-0.51	0	-3.12	-5.25	-15.52

5300MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant3)													
Freq	5300.00												
Phi\Theta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-7.15	7.04	3.29	1.14	3.01	5.50	5.34	3.87	0.80	-0.52	-4.48	-4.26	-13.63
15.00	7.25	6.43	5.14	2.35	2.80	5.56	5.56	4.59	0.73	-0.68	-5.23	-3.66	-13.63
30.00	7.30	5.76	5.87	1.97	0.21	3.71	2.49	2.49	0.34	-0.72	-5.20	-3.01	-13.63
45.00	7.20	5.49	5.96	1.93	1.63	1.49	2.23	2.11	0.68	-2.09	-6.17	-2.55	-13.63
60.00	7.20	5.69	6.10	2.89	1.43	0.08	1.33	0.80	1.50	-1.15	-3.23	-2.81	-13.63
75.00	7.07	5.93	6.04	3.00	2.11	1.50	1.34	0.12	2.73	-1.13	-1.78	-2.40	-13.63
90.00	6.91	6.36	4.21	1.54	1.14	1.16	0.79	0.33	2.49	-1.29	-2.53	-1.77	-13.63
105.00	6.90	6.84	3.21	0.46	1.21	1.69	1.44	0.78	3.08	-2.39	-4.32	-2.72	-13.63
120.00	6.79	7.00	3.38	1.36	1.06	0.99	1.35	0.33	2.30	-2.05	-5.30	-3.37	-13.63



135.0 0	- 6.76	- 6.94	- 3.29	1 .29	1 .67	2 .39	1 .84	0 .25	- 2.43	- 1.73	- 4.93	- 4.31	- 13.63
150.0 0	- 6.76	- 6.57	- 2.61	0 .95	2 .25	3 .25	4 .02	0 .46	- 0.53	- 2.69	- 2.92	- 5.29	- 13.63
165.0 0	- 6.81	- 6.44	- 2.56	0 .12	1 .51	2 .30	3 .70	1 .15	- 0.96	- 1.68	- 2.90	- 6.11	- 13.63
180.0 0	- 6.68	- 6.73	- 3.80	- 1.60	- 0.86	- 0.68	2 .37	- 0.93	- 2.92	- 2.36	- 3.66	- 8.21	- 13.63
195.0 0	- 6.59	- 7.23	- 5.37	- 2.63	- 0.06	0 .00	2 .66	- 0.41	- 2.17	- 2.12	- 3.95	- 10.22	- 13.63
210.0 0	- 6.39	- 7.71	- 6.13	- 2.03	- 0.86	- 3.88	- 1.31	- 2.48	- 3.35	- 3.82	- 4.48	- 9.46	- 13.63
225.0 0	- 6.49	- 6.97	- 4.82	- 1.93	- 2.80	- 5.14	- 3.40	- 6.52	- 4.85	- 7.01	- 7.27	- 6.65	- 13.63
240.0 0	- 6.58	- 5.59	- 3.36	- 0.35	- 2.30	- 4.25	- 3.28	- 2.49	- 0.77	- 4.23	- 8.36	- 5.23	- 13.63
255.0 0	- 6.64	- 4.67	- 2.12	0 .81	0 .38	0 .89	0 .26	- 0.41	- 1.63	- 7.44	- 6.45	- 4.24	- 13.63
270.0 0	- 6.91	- 4.18	- 0.59	0 .71	0 .17	1 .66	- 0.63	0 .09	- 1.59	- 7.00	- 6.44	- 4.80	- 13.63
285.0 0	- 6.90	- 4.28	0 .61	2 .05	1 .00	3 .85	2 .92	2 .90	- 1.58	- 7.13	- 6.62	- 5.60	- 13.63
300.0 0	- 6.84	- 5.03	0 .55	2 .50	2 .86	4 .81	3 .04	2 .03	- 3.35	- 4.79	- 6.87	- 5.58	- 13.63
315.0 0	- 6.89	- 6.02	- 0.43	1 .47	2 .05	4 .78	4 .49	3 .73	- 0.60	- 2.13	- 4.71	- 5.53	- 13.63
330.0 0	- 7.01	- 7.07	- 1.19	0 .73	2 .28	6 .20	6 .24	5 .14	0 .71	- 1.02	- 4.48	- 5.60	- 13.63
345.0 0	- 6.93	- 7.21	- 1.90	0 .45	2 .96	6 .85	6 .44	5 .16	1 .09	- 1.20	- 4.78	- 5.08	- 13.63

5300MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant4)													
Freq	5300.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00		0	3	3	2	4	3	2	1	0.	-	-	-
	-0.50	.36	.09	.42	.07	.95	.83	.59	.22	46	2.14	1.57	11.61
15.00	-	0	2	2	3	6	5	4	1	0.	-	-	-

	0.53	.33	.00	.18	.10	.00	.03	.53	.98	61	2.55	1.28	11.61
30.00	-	0	0	1	1	4	1	2	0	0.	-	-	-
	0.58	.20	.89	.57	.32	.01	.99	.72	.96	58	2.40	0.90	11.61
45.00	-	-	-	0	-	1	1	1	0	-	-	-	-
	0.55	0.10	0.70	.81	0.69	.52	.74	.75	.08	0.76	4.36	0.33	11.61
60.00	-	-	-	-	-	-	1	-	-	-	-	-	-
	0.61	0.59	1.92	0.01	1.40	0.36	.02	0.06	0.81	0.16	2.90	0.88	11.61
75.00	-	-	-	-	-	1	1	0	-	-	-	-	-
	0.59	0.92	2.71	1.02	1.77	.58	.04	.24	2.27	0.91	1.29	1.36	11.61
90.00	-	-	-	-	-	1	0	0	-	-	-	-	-
	0.49	1.25	2.45	1.40	0.88	.60	.92	.45	1.63	1.19	1.85	2.02	11.61
105.00	-	-	-	-	1	1	1	1	-	-	-	-	-
	0.41	1.44	1.94	0.35	.86	.83	.76	.01	2.07	1.83	3.45	3.56	11.61
120.00	-	-	-	0	1	1	1	0	-	-	-	-	-
	0.34	1.36	1.60	.18	.62	.64	.50	.43	1.97	2.09	3.38	3.76	11.61
135.00	-	-	-	0	2	2	1	0	-	-	-	-	-
	0.35	0.92	0.60	.79	.43	.08	.76	.59	0.78	1.03	2.75	3.65	11.61
150.00	-	-	1	2	4	3	4	1	1	-	-	-	-
	0.43	0.29	.21	.63	.11	.93	.25	.85	.30	0.42	1.25	3.91	11.61
165.00	-	0	2	3	4	4	5	4	1	0.	-	-	-
	0.51	.25	.48	.14	.02	.40	.37	.02	.90	26	0.77	4.24	11.61
180.00	-	0	2	2	1	3	4	3	1	-	-	-	-
	0.43	.57	.61	.44	.77	.00	.55	.72	.22	0.09	1.51	5.48	11.61
195.00	-	0	2	1	0	3	4	3	0	-	-	-	-
	0.34	.64	.05	.19	.95	.35	.30	.43	.75	0.30	2.76	6.24	11.61
210.00	-	0	1	0	-	-	0	0	-	-	-	-	-
	0.20	.60	.09	.47	1.90	1.75	.29	.06	1.87	1.94	3.22	6.09	11.61
225.00	-	0	0	-	-	-	-	-	-	-	-	-	-
	0.21	.73	.89	1.11	3.72	3.81	2.55	3.60	5.04	6.79	7.13	5.24	11.61
240.00	-	0	0	-	-	-	-	-	-	-	-	-	-
	0.25	.81	.46	0.96	1.83	1.76	1.46	1.51	2.78	6.31	9.10	4.36	11.61
255.00	-	0	0	-	0	1	1	-	-	-	-	-	-
	0.27	.76	.11	0.87	.50	.95	.58	0.15	2.30	7.23	7.26	4.08	11.61
270.00	-	0	1	-	-	1	0	-	-	-	-	-	-
	0.44	.74	.08	0.65	0.12	.21	.00	0.53	2.64	7.72	7.62	5.43	11.61
285.00	-	0	2	1	-	2	1	0	-	-	-	-	-
	0.45	.60	.43	.17	0.19	.12	.84	.91	3.99	10.14	8.84	5.83	11.61
300.00	-	0	2	2	0	1	-	-	-	-	-	-	-



0	0.43	.31	.83	.17	.91	.98	0.43	1.61	7.72	5.70	6.97	6.38	11.61
315.0	-	0	2	2	-	-	-	-	-	-	-	-	-
0	0.40	.07	.79	.04	1.60	0.75	1.73	1.25	5.26	2.29	4.51	5.79	11.61
330.0	-	-	3	2	-	1	1	0	-	-	-	-	-
0	0.42	0.05	.18	.87	1.39	.17	.00	.97	2.08	2.14	4.54	4.15	11.61
345.0	-	0	3	3	0	4	3	2	0	-	-	-	-
0	0.34	.16	.51	.86	.69	.18	.52	.41	.14	0.77	3.58	2.79	11.61

5300MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant3)													
Freq	5300.00												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-11.68	-11.75	-7.24	-5.51	-1.64	1.23	1.29	0.30	-2.99	-4.52	-8.68	-8.60	-17.91
15.0	-11.72	-11.13	-9.21	-6.70	-1.97	0.86	0.94	0.17	-3.57	-4.66	-9.88	-7.86	-17.91
0	-11.73	-10.51	-10.40	-6.56	-4.22	0.48	0.86	1.36	-4.67	-4.79	-9.72	-7.17	-17.91
30.0	-11.73	-10.51	-10.40	-6.56	-4.22	0.48	0.86	1.36	-4.67	-4.79	-9.72	-7.17	-17.91
0	-11.61	-10.25	-10.73	-6.53	-6.00	2.34	1.66	2.02	-5.21	-5.88	-9.80	-6.49	-17.91
45.0	-11.61	-10.25	-10.73	-6.53	-6.00	2.34	1.66	2.02	-5.21	-5.88	-9.80	-6.49	-17.91
0	-11.64	-10.43	-10.75	-7.31	-6.11	4.23	3.01	3.64	-5.68	-5.49	-7.28	-6.51	-17.91
60.0	-11.64	-10.43	-10.75	-7.31	-6.11	4.23	3.01	3.64	-5.68	-5.49	-7.28	-6.51	-17.91
0	-11.56	-10.68	-10.59	-7.21	-6.18	2.71	2.93	4.68	-6.27	-5.56	-5.55	-6.10	-17.91
75.0	-11.56	-10.68	-10.59	-7.21	-6.18	2.71	2.93	4.68	-6.27	-5.56	-5.55	-6.10	-17.91
0	-11.41	-11.11	-8.87	-5.70	-5.46	2.92	3.10	4.06	-6.44	-5.02	-6.31	-5.97	-17.91
90.0	-11.41	-11.11	-8.87	-5.70	-5.46	2.92	3.10	4.06	-6.44	-5.02	-6.31	-5.97	-17.91
0	-11.40	-11.59	-7.92	-3.80	-2.37	2.27	2.27	3.32	-6.98	-5.57	-8.03	-7.16	-17.91
105.00	-11.40	-11.59	-7.92	-3.80	-2.37	2.27	2.27	3.32	-6.98	-5.57	-8.03	-7.16	-17.91
0	-11.30	-11.73	-7.88	-3.06	-2.30	2.36	2.11	3.46	-6.59	-5.93	-9.02	-7.84	-17.91
120.00	-11.30	-11.73	-7.88	-3.06	-2.30	2.36	2.11	3.46	-6.59	-5.93	-9.02	-7.84	-17.91
0	-11.23	-11.65	-7.35	-2.54	-1.62	1.01	1.37	3.18	-6.19	-6.11	-8.69	-8.68	-17.91
135.00	-11.23	-11.65	-7.35	-2.54	-1.62	1.01	1.37	3.18	-6.19	-6.11	-8.69	-8.68	-17.91
0	-11.23	-11.24	-6.45	-1.99	-0.75	0.20	0.14	3.47	-4.81	-6.62	-6.87	-9.75	-17.91
150.00	-11.23	-11.24	-6.45	-1.99	-0.75	0.20	0.14	3.47	-4.81	-6.62	-6.87	-9.75	-17.91
0	-11.29	-10.97	-6.29	-3.12	-1.67	1.22	0.11	2.87	-5.48	-5.71	-6.77	-10.34	-17.91
165.00	-11.29	-10.97	-6.29	-3.12	-1.67	1.22	0.11	2.87	-5.48	-5.71	-6.77	-10.34	-17.91
0	-11.21	-11.04	-7.57	-5.71	-4.91	4.52	1.81	5.02	-7.31	-5.95	-7.51	-12.00	-17.91
180.00	-11.21	-11.04	-7.57	-5.71	-4.91	4.52	1.81	5.02	-7.31	-5.95	-7.51	-12.00	-17.91



195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.16	11.43	9.23	7.30	4.27	2.30	1.28	4.39	6.48	6.37	7.77	14.17	17.91
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.98	11.60	10.25	6.47	5.54	7.40	5.94	6.82	7.91	8.36	7.95	13.79	17.91
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.09	10.79	8.87	6.12	7.08	9.87	7.87	9.21	9.29	11.54	11.31	11.09	17.91
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.15	9.86	7.59	4.80	6.64	8.82	7.78	6.62	5.53	8.87	12.53	9.42	17.91
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.22	9.21	6.70	3.92	3.74	2.79	3.68	4.89	6.23	12.11	11.12	7.98	17.91
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.47	8.87	5.34	4.04	4.04	2.56	5.10	4.43	6.32	11.58	10.96	8.20	17.91
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.46	9.02	3.91	2.52	3.47	0.68	1.79	1.86	6.08	11.59	11.13	9.36	17.91
300.00	-	-	-	-	-	0	-	-	-	-	-	-	-
	11.38	9.77	3.84	2.04	1.78	.23	1.29	2.05	7.10	9.17	11.38	9.63	17.91
315.00	-	-	-	-	-	0	0	-	-	-	-	-	-
	11.45	10.72	4.99	3.21	2.15	.94	.81	0.20	4.14	6.55	9.17	9.81	17.91
330.00	-	-	-	-	-	2	2	1	-	-	-	-	-
	11.56	11.72	5.65	3.70	1.73	.26	.26	.17	2.60	4.42	8.49	10.22	17.91
345.00	-	-	-	-	-	2	2	1	-	-	-	-	-
	11.49	11.91	6.07	3.91	1.42	.58	.28	.20	2.54	4.59	8.42	9.73	17.91

5300MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant4)													
Freq	5300.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-3.29	2.11	.19	.15	2.70	.53	0.70	1.45	2.43	3.17	5.66	6.18	16.24
15.00	3.31	2.33	0.72	1.18	1.65	.36	.32	.09	1.90	3.05	6.37	6.02	16.24
30.00	3.34	2.73	2.11	2.46	3.04	0.18	1.33	1.10	3.08	3.39	6.57	5.67	16.24
45.00	3.31	3.21	3.92	3.58	5.06	2.32	2.04	2.35	4.42	4.67	8.22	5.08	16.24
60.00	3.38	3.82	5.34	4.55	6.09	4.54	3.20	4.35	5.15	4.78	7.09	5.55	16.24
75.00	-	-	-	-	-	-	-	-	-	-	-	-	-

0	3.37	4.30	6.45	5.74	6.01	2.67	3.05	4.42	5.94	5.41	5.34	5.73	16.24
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	3.30	4.67	6.93	5.63	5.33	2.74	3.06	3.99	5.93	4.97	5.97	6.07	16.24
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.21	4.77	6.68	4.08	2.20	2.22	2.18	3.22	6.41	5.35	7.49	7.57	16.24
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.14	4.57	6.17	3.50	2.20	2.25	2.07	3.42	6.37	5.96	7.89	8.08	16.24
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.12	4.01	4.78	2.70	1.45	1.06	1.38	3.09	5.35	5.65	7.48	8.24	16.24
150.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	3.18	3.39	2.86	1.42	0.17	0.04	.21	2.75	3.42	5.05	5.95	8.68	16.24
165.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	3.25	2.82	1.42	1.19	0.46	0.27	.72	0.72	2.67	4.21	5.50	8.84	16.24
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.25	2.47	1.00	1.81	2.87	1.65	0.22	0.47	2.47	3.96	6.07	9.86	16.24
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.20	2.37	1.33	2.92	3.58	0.51	0.21	0.94	3.04	4.71	7.11	10.68	16.24
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.09	2.49	2.24	3.79	6.18	5.79	4.45	4.52	6.16	6.61	7.44	10.58	16.24
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.06	2.60	2.89	5.38	7.70	8.42	6.93	7.48	9.47	11.30	11.24	9.99	16.24
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.05	2.72	3.58	5.19	6.36	6.36	6.00	6.02	7.07	10.79	13.03	8.84	16.24
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.08	2.84	4.21	4.95	3.68	2.24	2.91	4.73	6.64	11.94	11.92	7.89	16.24
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.23	2.86	3.54	5.07	4.21	2.87	4.67	4.84	7.16	12.10	12.37	8.55	16.24
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.29	2.91	2.27	3.06	4.34	2.04	2.53	3.23	8.43	14.40	13.57	9.54	16.24
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.29	2.93	1.83	2.26	3.28	2.17	5.01	6.32	12.22	10.24	11.50	10.31	16.24
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.24	2.79	1.54	2.62	5.64	4.36	5.72	5.63	9.40	6.74	8.91	10.03	16.24
330.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	3.26	2.50	0.61	1.20	5.56	3.17	2.60	3.13	6.17	5.79	8.58	8.84	16.24
345.	-	-	0	0	-	-	-	-	-	-	-	-	-
00	3.20	2.20	.20	.20	3.91	0.55	1.22	2.28	3.82	4.02	6.87	7.35	16.24



Ant1													
Freq	5600.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-10.25	-12.73	-20.95	-12.22	-6.32	-5.07	-7.58	-10.63	-9.21	-6.8	-8.93	-7.1	-17.65
15.00	10.4	11.8	22.89	9.24	5.12	3.02	2.73	3.67	8.29	9.42	9.59	6.86	17.65
30.00	10.4	10.83	23.55	8.03	7.85	5.2	10.46	11.63	10.21	9.36	12.72	6.15	17.65
45.00	10.2	9.83	20.06	8.59	8.02	9.82	10.48	9.35	10.27	10	16.23	5.25	17.65
60.00	10.3	9.63	10.53	8.45	6.3	8.37	6.59	8.28	9.82	4.6	6.7	5.97	17.65
75.00	10.53	10.45	7.38	5.33	4.96	2.83	5.04	6.61	14.94	6.29	6.32	6.13	17.65
90.00	10.63	12.37	6.23	2.72	1.71	0.35	0.78	1.49	7.83	10.61	11.34	7.28	17.65
105.00	10.64	13.63	8.31	3.6	2.56	1	3.31	5.42	11.5	10.63	11	9.59	17.65
120.00	10.57	13.3	9.91	4.16	3.01	0.28	0.84	3.08	3.7	6.12	6.83	8.01	17.65
135.00	10.43	12.23	12.19	7.15	3.23	0.43	.15	2.29	3.1	4.31	5.46	6.4	17.65
150.00	10.6	10.92	10.84	7.65	2.35	.7	.57	1.06	0.62	3.31	4.94	6.59	17.65
165.00	10.76	9.89	7.21	6.97	4.24	0.97	.35	2.96	2.32	2.91	4.1	6.44	17.65
180.00	10.96	10.35	5.54	3.94	9.41	6.36	0.3	1.86	1.5	2.52	3.27	7.5	17.65
195.00	10.76	11.78	7.02	3.83	9.06	8.02	2.33	1.74	0.95	2.43	3.41	7.74	17.65
210.00	10.7	13.42	9.81	4.38	6.12	7.08	6.03	3.26	3.78	4.31	4.01	7.41	17.65
225.00	10.62	14.64	12.46	4.12	2.61	3.38	4.15	4.04	5.94	8.14	10.04	7.2	17.65
240.00	10.49	14.44	12.41	4.85	2.93	2.87	2.53	3.12	6	12.54	9.71	9.38	17.65



255.00	- 10.4	- 13.35	- 11.32	- 5.44	- 3.96	- 2.91	- 1.89	- 3.01	- 3.62	- 12.17	- 9.57	- 9.74	- 17.65
270.00	- 10.54	- 13.05	- 10.47	- 5.27	- 2.93	- 4.37	- 2.81	- 3.91	- 2.91	- 10.42	- 10.8	- 10.51	- 17.65
285.00	- 10.51	- 13.36	- 9.39	- 6.17	- 5.03	- 2.29	- 0.54	- 0.94	- 4.35	- 10.85	- 9.87	- 12.95	- 17.65
300.00	- 10.52	- 15.15	- 8.05	- 5.33	- 6.36	- 4.32	- 3.14	- 4.86	- 10.78	- 8.44	- 12.14	- 14.74	- 17.65
315.00	- 10.38	- 17.85	- 9.6	- 6.21	- 6.43	- 7.43	- 5.28	- 4.81	- 6.4	- 8.2	- 11.65	- 17.65	- 17.65
330.00	- 10.2	- 17.2	- 13.08	- 9.8	- 16.84	- 7.83	- 1.29	- 0.29	- 5.2	- 4.68	- 11.69	- 14.95	- 17.65
345.00	- 10.19	- 14.93	- 19.03	- 9.42	- 6.27	- 1.49	0 .35	- 0.63	- 4.74	- 5.11	- 8.52	- 10.28	- 17.65

Ant2													
Freq	5600.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-15.22	- 10.99	- 7.6	- 4.76	- 4.58	- 1.78	- 3.33	- 5.28	- 8.84	- 11.62	- 12.31	- 11.55	- 13.61
15.00	- 16.04	- 12.07	- 7.98	- 2.83	- 4.55	- 0.04	- 0.96	- 1.48	- 5.52	- 6.53	- 9.49	- 12.16	- 13.61
30.00	- 15.43	- 14.02	- 11.39	- 3.42	- 6.16	- 1.29	- 1.33	- 1.14	- 5.25	- 4.33	- 8.84	- 10.91	- 13.61
45.00	- 15.19	- 15.15	- 16.18	- 6.34	- 7.57	- 2.95	- 1.84	- 1.77	- 6.29	- 5.3	- 9.27	- 9.55	- 13.61
60.00	- 14.94	- 13.9	- 16.46	- 10.33	- 8.36	- 2	- 1.62	- 2.44	- 4.66	- 6.7	- 9.1	- 8.11	- 13.61
75.00	- 15.01	- 12.29	- 15.56	- 11.4	- 7.85	- 2.75	- 1.33	- 2.67	- 3.98	- 6.75	- 5.32	- 6.94	- 13.61
90.00	- 15.11	- 12.04	- 12.53	- 10.81	- 7.78	- 3.85	- 2.47	- 2.95	- 5.82	- 3.15	- 5.12	- 6.56	- 13.61
105.00	- 14.83	- 12.27	- 10.4	- 7.93	- 4.56	- 2.52	- 2.07	- 2.27	- 6.38	- 3.32	- 6.14	- 6.84	- 13.61
120.00	- 15.04	- 12.89	- 9.03	- 6.39	- 5.17	- 3.97	- 1.29	- 1.55	- 5.61	- 5.68	- 8.24	- 6.94	- 13.61
135.00	-	-	-	-	-	0	1	-	-	-	-	-	-



00	15.59	13.5	7.12	0.92	1.27	.88	.19	0.76	4.87	6.29	9.31	7.58	13.61
150.00	-	-	-	1	0	2	0	-	-	-	-	-	-
	15.37	13.55	5.65	.31	.89	.82	.31	1.27	3.54	8.1	7.05	9.2	13.61
165.00	-	-	-	0	0	1	-	-	-	-	-	-	-
	14.94	12.81	5.68	.86	.87	.09	2.02	6.35	8.69	11.71	7.76	11.88	13.61
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.94	12.46	6.84	0.97	1.27	2.28	2.21	5.58	10.28	19.18	11.72	13.58	13.61
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.67	12.25	9.45	5.51	4.83	1.38	0.4	3.07	18.01	13.8	11.37	13.05	13.61
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.71	11	12.51	10.77	7.46	4.3	5.14	4.63	9.95	10.05	10.02	13.61	13.61
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.52	9.99	11.87	9.94	9.62	7.73	15.47	13.82	15.27	12.9	12.45	11.69	13.61
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.46	10.17	10.59	9.46	7.69	9.56	7.09	10.01	8.78	10.06	23.42	9.25	13.61
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	15.14	12.18	9.23	5.68	4.76	1.2	3.77	7.62	12.01	12.17	18.21	6.7	13.61
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	15.04	13.32	7.42	2.97	3.83	1.63	5.24	9.42	10.61	14.79	17.06	5.69	13.61
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	15.83	14.71	5.53	0.95	1.78	0.29	2.86	4.74	16.78	19.82	14.61	5.55	13.61
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	15.07	14.07	6.18	1.42	2.82	1.86	5.08	7.75	14.36	18.12	11.53	6.19	13.61
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.2	13.61	7.91	2.44	2.86	2.85	5.35	6.18	14.58	17.34	12.63	7.5	13.61
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.11	12.68	9.07	3.98	2.57	1.69	2.33	5.77	11.46	17.33	17.53	9.56	13.61
345.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	15.21	11.21	8.46	5.74	3.44	1.01	2.63	7.35	9.48	14.27	17.29	10.79	13.61

Ant3													
Freq	5600.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-14.36	-	-	-	0	4	4	3	0	-	-	-	-
		13.51	8.59	4	.89	.2	.21	.36	.41	2.64	5.41	8.04	20.88
15.00	-	-	-	-	-	2	2	1	-	-	-	-	-
	14.35	13.98	9.55	5.95	0.9	.35	.41	.56	1.13	3.47	6.63	8.53	20.88

30.0 0	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.14	14.98	10.96	8.37	3.24	0.64	0.56	1.05	3.7	4.48	7.58	9.64	20.88
45.0 0	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.96	15.74	12.45	10.57	6.21	3.62	4.07	3.92	6.23	6.38	9.94	10.76	20.88
60.0 0	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.08	16.17	13.17	11.19	9.26	7.73	7.2	6.06	8.81	9.96	13.14	11.26	20.88
75.0 0	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.81	16.52	14.01	12.23	11.49	10.34	9.74	8.59	11.53	14.32	14.67	11.82	20.88
90.0 0	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.75	17.47	14.48	16.39	12.67	13.98	13.26	11.09	14.27	14.24	16.18	12.66	20.88
105. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.82	19.38	15.39	14.59	17.16	16.87	18.54	14.69	15.39	23.91	19.34	13.53	20.88
120. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.53	22.7	17.14	13.13	23.24	19.85	17.08	13.5	14.85	15.18	21.8	15.64	20.88
135. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.46	24.19	19.67	14.26	30.74	19.42	20.34	20	19.4	16.15	26.73	17.8	20.88
150. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.52	22.9	25.39	19.65	25.53	17.34	13.11	18.04	18.21	16.53	20.96	15.67	20.88
165. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.63	21.03	23.53	21.3	19.61	16.58	15.63	18.34	16.36	13.9	20.51	14.7	20.88
180. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.54	18.55	20.41	15.37	17.34	15.59	10.88	25.72	12.8	13.42	17.87	18.62	20.88
195. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.54	17.14	19.34	12.34	14.77	18.04	9.34	22.39	9.95	13.43	15.51	20.88	20.88
210. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.46	15.78	17.43	11.13	11.68	16.71	11.61	14.64	8.74	11.79	13.18	16.92	20.88
225. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.5	14.35	13.11	10.94	12.52	13.55	11.53	17.06	6.97	9.15	13.31	12.53	20.88
240. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.71	12.99	9.94	8.87	11.31	12.19	12.61	18.33	6.89	10.03	11.61	12.6	20.88
255. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.85	12.25	8.69	7.33	7.15	9.64	21.13	13.45	14.27	16.1	9.67	9.88	20.88
270. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.11	11.81	8.83	5.99	5.14	6.41	11.32	8.63	7.72	9.31	8.77	9.72	20.88
285. 00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.03	11.63	8.32	4.21	3	3.47	5.25	5.37	7.11	8.62	8.66	10.99	20.88
300. 00	-	-	-	-	-	0	0	-	-	-	-	-	-
	14.06	11.81	6.99	3.21	1.39	.36	.93	0.59	2.54	4.34	6.87	10.63	20.88



315. 00	- 14	- 12.27	- 6.88	- 2.96	0 .48	3 .31	3 .12	2 .04	- 0.64	- 2.23	- 4.95	- 10.08	- 20.88
330. 00	- 14.3	- 13.04	- 7.26	- 2.52	1 .67	4 .47	4 .19	3 .7	0 .72	- 1.22	- 5.41	- 7.87	- 20.88
345. 00	- 14.04	- 13.35	- 7.9	- 2.93	1 .78	4 .84	4 .8	4 .19	1 .06	- 1.82	- 5	- 7.65	- 20.88

Ant4													
Freq	5600. 00												
Phi\ Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	0.94	0 .56	3 .47	5 .29	0 .8	2 .34	4 .68	4 .28	2 .79	1 .12	- 0.52	- 3.04	- 17.92
15.0 0	0 .96	- 0.23	1 .72	3 .03	- 0.37	1 .69	2 .36	4 .15	2 .44	- 0.11	- 2.25	- 4.68	- 17.92
30.0 0	1 .06	- 1.38	- 1.46	- 1.82	- 3.35	- 1.74	- 2.87	0 .85	- 0.03	- 2.22	- 5.4	- 5.36	- 17.92
45.0 0	1 .22	- 2.45	- 4.95	- 6.85	- 6.51	- 6.58	- 6.32	- 6.16	- 4.76	- 5.46	- 9.89	- 8.28	- 17.92
60.0 0	1 .26	- 3.04	- 9.42	- 9.42	- 9.58	- 8.41	- 6.65	- 7.6	- 8.45	- 8.92	- 13.8	- 13.04	- 17.92
75.0 0	1 .29	- 3.3	- 12.73	- 15.34	- 9.53	- 7.29	- 8.08	- 5.58	- 7.85	- 8.47	- 10.71	- 12.78	- 17.92
90.0 0	1 .24	- 3.23	- 10.2	- 18.76	- 8.59	- 5.36	- 7.51	- 6.69	- 9.45	- 10.44	- 9.25	- 14.33	- 17.92
105. 00	1 .21	- 2.64	- 7.15	- 12.98	- 7.15	- 5.27	- 7.14	- 9.81	- 10.11	- 9.46	- 11.15	- 17.92	- 17.92
120. 00	1 .21	- 1.73	- 4.98	- 10.05	- 6.52	- 6.14	- 6.66	- 8.62	- 9.44	- 9.91	- 12.72	- 14.05	- 17.92
135. 00	1 .27	- 0.78	- 2.71	- 9.83	- 8.24	- 9.03	- 6.61	- 9.04	- 9.76	- 11.2	- 11.85	- 9.98	- 17.92
150. 00	1 .3	0 .16	- 0.28	- 7.44	- 7.77	- 13.48	- 11.36	- 11.31	- 7.62	- 8	- 13	- 8.33	- 17.92
165. 00	1 .32	0 .86	2	- 1.5	- 4.11	- 4.91	- 6.34	- 2.15	- 2.16	- 4.7	- 10.16	- 7.21	- 17.92
180. 00	1 .3	1 .4	3 .44	1 .84	- 2.3	- 0.81	- 0.57	2 .67	1 .67	- 2.35	- 5.85	- 7.32	- 17.92



195.00	1.27	1.59	3.64	2.65	-2.82	-1.21	0.19	3.08	1.05	-1.09	-4.65	-8.92	-17.92
210.00	1.21	1.46	2.81	1.91	-3.26	-8.15	-1.6	0.66	-2.44	-4.29	-6.14	-9.16	-17.92
225.00	1.09	1.14	1.69	-0.32	-6.12	-8.1	-1.74	-3.62	-7.45	-10.32	-7.57	-10.42	-17.92
240.00	1.05	1.01	0.24	-2.47	-8.5	-2.48	-0.46	-5.94	-10.23	-16	-11.01	-13.29	-17.92
255.00	0.94	1.15	1.03	-3.49	-10.33	-2.97	-1.29	-4.33	-11.48	-13.44	-29.26	-12.17	-17.92
270.00	1.01	1.28	1.71	-5.41	-14.92	-3.78	-3.28	-6.95	-10.41	-20.45	-11.56	-8.22	-17.92
285.00	1.03	1.32	1.48	-6.69	-13.05	-3.39	-4.82	-14.2	-9.4	-21.29	-10.69	-4.88	-17.92
300.00	1.06	1.32	0.04	-2.67	-12.26	-5.87	-7.83	-11.15	-9.72	-8.89	-6.45	-4.11	-17.92
315.00	1.03	1.21	1.92	2.25	-8.13	-8.78	-7.41	-8.44	-7.11	-3.8	-2.74	-3.4	-17.92
330.00	1.01	1.1	3.37	5.05	-3.11	-4.24	-1.39	-1.91	-2.13	-2.97	-1.67	-2.29	-17.92
345.00	0.9	0.94	3.9	5.94	-0.27	0.64	3.15	2.74	0.9	0.45	0.15	-1.91	-17.92

5600MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant3)													
Freq	5600.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-8.22	7.57	5.90	1.52	2.00	4.75	3.93	2.50	0.12	-1.50	-3.66	-3.92	-12.10
15.00	8.49	7.79	6.67	0.85	1.46	4.81	4.61	3.84	0.30	-1.36	-3.69	-4.14	-12.10
30.00	8.28	8.32	8.94	1.53	0.77	2.61	1.65	1.36	1.20	-0.99	-4.68	-3.89	-12.10
45.00	8.08	8.37	10.91	3.56	2.46	0.19	0.01	0.30	2.63	-2.23	-6.53	-3.41	-12.10
60.00	8.09	8.03	8.28	5.14	3.11	0.76	0.01	0.48	2.69	-2.04	-4.49	-3.41	-12.10
75.00	-	-	-	-	-	0	0	-	-	-	-	-	-



	8.13	7.96	6.78	4.30	2.93	.11	.06	0.83	4.13	3.66	3.12	3.19	12.10
90.00	-	-	-	-	-	0	0	0	-	-	-	-	-
	8.18	8.86	5.56	3.40	1.47	.35	.73	.49	3.86	3.30	4.94	3.67	12.10
105.0	-	-	-	-	-	0	-	-	-	-	-	-	-
0	8.14	9.82	6.12	2.84	1.40	.25	0.75	1.31	5.53	4.43	5.85	4.80	12.10
120.0	-	-	-	-	-	-	0	0	-	-	-	-	-
0	8.07	10.51	6.58	2.37	2.31	0.15	.85	.09	2.11	3.27	5.46	4.66	12.10
135.0	-	-	-	-	-	1	2	0	-	-	-	-	-
0	8.13	10.49	6.82	1.07	0.78	.94	.78	.26	1.99	2.84	5.48	4.55	12.10
150.0	-	-	-	-	0	3	3	0	-	-	-	-	-
0	8.17	9.71	6.05	0.26	.91	.54	.53	.69	0.06	3.00	3.94	4.95	12.10
165.0	-	-	-	-	0	1	1	-	-	-	-	-	-
0	8.16	8.68	4.58	0.48	.45	.98	.25	2.40	2.59	3.36	3.73	5.54	12.10
180.0	-	-	-	-	-	-	1	-	-	-	-	-	-
0	8.22	8.38	4.11	0.16	2.24	1.75	.37	1.94	1.99	4.17	4.16	7.29	12.10
195.0	-	-	-	-	-	-	1	-	-	-	-	-	-
0	8.06	8.64	5.78	1.75	3.88	2.00	.51	0.71	2.23	3.38	3.84	7.59	12.10
210.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	8.02	8.41	7.94	3.40	3.34	3.20	2.39	1.49	2.29	3.33	3.44	6.96	12.10
225.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	7.95	7.95	7.69	3.01	2.44	2.50	4.32	5.02	3.75	5.06	7.05	5.37	12.10
240.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	7.94	7.58	6.15	2.70	1.86	2.51	1.70	3.67	2.38	6.03	8.42	5.51	12.10
255.0	-	-	-	-	-	0	-	-	-	-	-	-	-
0	8.12	7.81	4.90	1.34	0.42	.88	1.02	2.26	3.92	8.52	6.89	3.87	12.10
270.0	-	-	-	0	0	0	-	-	-	-	-	-	-
0	8.23	7.93	4.05	.13	.85	.86	1.01	2.19	1.72	6.43	6.79	3.60	12.10
285.0	-	-	-	1	1	2	2	1	-	-	-	-	-
0	8.40	8.37	2.82	.27	.60	.85	.10	.32	3.25	7.16	5.92	4.47	12.10
300.0	-	-	-	1	1	3	2	0	-	-	-	-	-
0	8.22	8.79	2.27	.60	.49	.04	.71	.87	2.99	3.87	5.07	5.06	12.10
315.0	-	-	-	1	2	3	3	2	-	-	-	-	-
0	7.90	9.50	3.29	.05	.28	.56	.25	.58	0.72	2.50	4.26	6.02	12.10
330.0	-	-	-	-	1	4	5	4	0	-	-	-	-
0	7.88	9.31	4.71	0.14	.67	.48	.46	.81	.82	0.75	5.41	5.54	12.10
345.0	-	-	-	-	2	6	6	4	1	-	-	-	-
0	8.10	8.26	5.76	0.86	.78	.06	.15	.71	.44	0.91	4.15	4.69	12.10



5600MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant4)													
Freq	5600.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	1	3	1	3	4	3	1	0	-	-	-
	-0.72	0.80	.24	.73	.96	.80	.21	.10	.62	.61	1.01	1.78	11.39
15.00	-	-	-	3	1	4	4	5	2	0	-	-	-
	0.82	1.37	0.21	.13	.69	.53	.59	.09	.23	.32	1.61	2.60	11.39
30.00	-	-	-	0	-	2	0	2	0	-	-	-	-
	0.68	2.23	3.32	.72	0.81	.19	.70	.24	.58	0.05	3.71	2.38	11.39
45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.51	2.82	6.49	2.44	2.57	1.23	0.74	0.43	2.04	1.89	6.51	2.73	11.39
60.00	-	-	-	-	-	-	0	-	-	-	-	-	-
	0.47	2.93	6.86	4.59	3.20	0.93	.15	0.92	2.59	1.79	4.62	3.80	11.39
75.00	-	-	-	-	-	0	0	-	-	-	-	-	-
	0.50	2.99	6.44	4.93	2.47	.72	.39	0.02	3.07	2.35	2.38	3.38	11.39
90.00	-	-	-	-	-	1	1	1	-	-	-	-	-
	0.56	3.33	4.49	3.67	0.68	.85	.62	.32	2.80	2.55	3.40	3.99	11.39
105.00	-	-	-	-	0	2	0	-	-	-	-	-	-
	0.56	3.26	3.75	2.58	.21	.02	.85	0.53	4.28	2.41	4.33	5.56	11.39
120.00	-	-	-	-	-	1	2	0	-	-	-	-	-
	0.57	2.75	2.93	1.77	0.01	.65	.21	.84	1.17	2.27	4.15	4.38	11.39
135.00	-	-	-	-	0	2	4	1	-	-	-	-	-
	0.56	2.04	1.74	0.36	.99	.88	.03	.41	0.71	2.04	3.70	3.09	11.39
150.00	-	-	0	1	2	3	3	1	1	-	-	-	-
	0.54	1.17	.22	.26	.39	.79	.70	.34	.30	1.40	2.94	3.20	11.39
165.00	-	-	2	2	2	3	2	1	0	-	-	-	-
	0.51	0.40	.14	.81	.62	.52	.52	.13	.86	0.92	2.21	3.43	11.39
180.00	-	-	3	4	1	1	3	3	2	-	-	-	-
	0.56	0.08	.08	.06	.12	.92	.78	.83	.69	0.58	1.51	4.25	11.39
195.00	-	-	2	3	-	1	3	4	1	0	-	-	-
	0.52	0.15	.48	.29	0.43	.76	.99	.61	.88	.54	1.07	4.85	11.39
210.00	-	-	0	1	-	-	0	2	-	-	-	-	-
	0.55	0.27	.99	.83	0.66	1.58	.73	.66	0.06	1.06	1.61	4.92	11.39
225.00	-	-	-	0	-	-	-	-	-	-	-	-	-
	0.60	0.46	0.12	.82	0.88	1.36	0.65	1.30	3.93	5.47	5.02	4.79	11.39
240.00	-	-	-	-	-	0	1	-	-	-	-	-	-
	0.60	0.56	1.20	0.36	1.24	.35	.83	1.14	3.38	7.76	8.17	5.68	11.39



255.0 0	- 0.74	- 0.67	- 1.22	- 0.04	- 1.15	2 .45	2 .52	- 0.01	- 3.36	- 7.80	- 10.97	- 4.48	- 11.39
270.0 0	- 0.70	- 0.70	- 0.98	0 .30	- 1.04	1 .59	1 .06	- 1.70	- 2.41	- 9.53	- 7.96	- 3.15	- 11.39
285.0 0	- 0.77	- 0.89	- 0.10	0 .58	- 0.70	2 .88	2 .21	- 0.31	- 4.02	- 11.24	- 6.72	- 2.34	- 11.39
300.0 0	- 0.67	- 1.04	0 .72	1 .78	- 1.56	0 .91	- 0.37	- 2.78	- 6.63	- 6.06	- 4.87	- 2.52	- 11.39
315.0 0	- 0.56	- 1.33	1 .17	3 .33	- 0.75	- 1.20	- 1.19	- 1.58	- 3.89	- 3.40	- 3.01	- 2.98	- 11.39
330.0 0	- 0.53	- 1.22	1 .45	4 .00	- 0.76	0 .54	3 .11	2 .40	- 0.69	- 1.67	- 3.06	- 2.63	- 11.39
345.0 0	- 0.73	- 0.86	1 .49	4 .28	1 .79	4 .20	5 .38	3 .95	1 .35	0 .34	- 1.08	- 1.86	- 11.39

5600MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant3)													
Freq	5600.00												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-12.7 0	- 12.28	- 9.72	- 5.78	- 2.20	0 .80	0 .38	- 0.70	- 3.47	- 5.62	- 8.01	- 8.52	- 16.39
15.0 0	- 12.93	- 12.51	- 10.37	- 5.26	- 3.09	0 .29	0 .11	- 0.67	- 3.98	- 5.81	- 8.34	- 8.67	- 16.39
30.0 0	- 12.77	- 12.90	- 12.81	- 5.97	- 5.32	- 1.97	- 2.45	- 2.67	- 5.63	- 5.52	- 9.22	- 8.41	- 16.39
45.0 0	- 12.57	- 12.70	- 15.19	- 8.16	- 7.20	- 4.58	- 4.22	- 4.03	- 7.23	- 6.81	- 10.91	- 7.84	- 16.39
60.0 0	- 12.61	- 12.37	- 12.75	- 9.84	- 7.79	- 5.02	- 4.36	- 4.92	- 7.15	- 6.57	- 8.91	- 7.94	- 16.39
75.0 0	- 12.69	- 12.43	- 10.79	- 8.48	- 7.33	- 4.18	- 4.14	- 5.24	- 7.76	- 7.93	- 7.28	- 7.68	- 16.39
90.0 0	- 12.74	- 13.36	- 9.59	- 6.71	- 5.25	- 3.39	- 3.16	- 3.65	- 8.11	- 6.93	- 8.69	- 8.12	- 16.39
105. 00	- 12.71	- 14.20	- 10.50	- 6.76	- 5.12	- 3.39	- 4.35	- 5.16	- 9.59	- 7.32	- 9.53	- 9.19	- 16.39
120. 00	- 12.64	- 14.62	- 10.85	- 6.56	- 5.69	- 3.47	- 2.77	- 3.85	- 6.11	- 7.41	- 9.16	- 8.89	- 16.39
135. 00	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -



	12.64	14.42	10.53	4.60	3.90	1.46	0.58	3.19	5.60	6.78	8.71	8.54	16.39
150.00	-	-	-	-	-	0	-	-	-	-	-	-	-
	12.71	13.63	9.24	2.91	2.19	.15	0.10	2.88	3.55	6.68	7.56	9.13	16.39
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.75	12.65	8.10	3.23	2.70	1.53	2.37	6.01	6.05	6.85	7.25	9.64	16.39
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.83	12.65	7.82	3.86	5.33	5.48	2.69	5.08	5.46	6.87	7.33	11.05	16.39
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.67	13.15	9.67	6.00	7.90	5.22	2.69	4.09	5.13	6.59	7.31	11.23	16.39
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.62	12.97	12.25	7.56	7.85	7.07	6.81	5.47	6.62	7.48	7.41	10.87	16.39
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.55	12.43	12.45	7.22	6.24	6.50	7.93	8.19	7.91	9.63	11.70	9.80	16.39
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.53	12.16	10.86	7.21	6.00	6.40	5.69	6.98	7.08	10.73	12.21	10.16	16.39
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.65	12.56	9.61	6.07	5.09	3.38	4.46	6.21	7.49	13.13	11.09	8.51	16.39
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.77	12.68	8.73	4.54	3.87	3.69	5.25	6.59	5.92	10.95	11.05	8.09	16.39
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.88	13.05	7.43	3.23	3.07	1.81	2.47	3.21	7.12	11.15	10.40	8.65	16.39
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.75	13.45	7.01	3.03	3.07	1.53	1.69	3.41	6.46	7.56	9.50	9.20	16.39
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	12.48	14.01	7.99	3.58	2.07	0.23	0.56	1.40	4.25	5.92	8.31	10.10	16.39
330.00	-	-	-	-	-	0	1	0	-	-	-	-	-
	12.43	13.88	9.20	4.50	1.67	.84	.20	.72	2.86	4.30	9.05	9.91	16.39
345.00	-	-	-	-	-	1	1	0	-	-	-	-	-
	12.59	12.89	9.76	5.28	1.36	.81	.90	.88	2.40	4.76	8.00	9.34	16.39

5600MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant4)													
Freq	5600.00												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-3.42	-	-	1.00	-	-	0.76	0.09	-	-	-	-	-
		3.73	0.96		2.26	0.48		1.44	2.81	4.46	5.95		15.91
15.00	-	-	-	-	-	-	0.08	0.96	-	-	-	-	-
	3.42	4.45	2.60	0.54	2.79	0.05			1.38	3.59	5.64	6.94	15.91

30.0 0	- 3.32	- 5.48	- 5.79	- 3.73	- 5.38	- 2.43	- 3.49	- 1.65	- 3.35	- 4.42	- 8.03	- 6.88	- 15.91
45.0 0	- 3.16	- 6.30	- 9.28	- 7.16	- 7.32	- 5.58	- 4.87	- 4.67	- 6.56	- 6.45	- 10.89	- 7.30	- 15.91
60.0 0	- 3.12	- 6.67	- 11.24	- 9.33	- 7.87	- 5.13	- 4.26	- 5.26	- 7.07	- 6.39	- 8.99	- 8.17	- 15.91
75.0 0	- 3.11	- 6.87	- 10.56	- 8.81	- 7.03	- 3.84	- 3.96	- 4.62	- 7.02	- 7.07	- 6.90	- 7.79	- 15.91
90.0 0	- 3.16	- 7.02	- 8.87	- 6.77	- 4.86	- 2.66	- 2.79	- 3.22	- 7.45	- 6.57	- 7.78	- 8.29	- 15.91
105. 00	- 3.19	- 6.66	- 8.42	- 6.66	- 4.37	- 2.59	- 3.70	- 4.84	- 8.77	- 6.54	- 8.76	- 9.55	- 15.91
120. 00	- 3.19	- 5.91	- 7.41	- 6.25	- 4.66	- 2.78	- 2.26	- 3.54	- 5.66	- 6.87	- 8.63	- 8.75	- 15.91
135. 00	- 3.13	- 5.04	- 5.79	- 4.33	- 3.40	- 1.24	- 0.24	- 2.86	- 5.13	- 6.44	- 8.08	- 7.75	- 15.91
150. 00	- 3.11	- 4.12	- 3.66	- 2.46	- 1.81	0 .19	- 0.07	- 2.72	- 3.06	- 5.85	- 7.23	- 7.90	- 15.91
165. 00	- 3.09	- 3.39	- 1.66	- 1.49	- 1.79	- 0.95	- 1.88	- 3.48	- 3.53	- 5.14	- 6.62	- 7.94	- 15.91
180. 00	- 3.12	- 2.93	- 0.47	- 0.41	- 3.16	- 2.59	- 0.95	- 0.33	- 1.21	- 4.15	- 5.75	- 8.67	- 15.91
195. 00	- 3.13	- 2.82	- 0.58	- 0.73	- 4.88	- 2.62	- 0.72	0 .27	- 1.56	- 3.34	- 5.37	- 9.38	- 15.91
210. 00	- 3.19	- 2.94	- 1.61	- 1.76	- 5.25	- 6.19	- 3.81	- 1.80	- 4.40	- 5.52	- 6.08	- 9.37	- 15.91
225. 00	- 3.29	- 3.20	- 2.74	- 3.26	- 5.22	- 5.84	- 4.43	- 5.37	- 8.10	- 10.03	- 9.57	- 9.34	- 15.91
240. 00	- 3.31	- 3.33	- 4.39	- 4.74	- 5.63	- 4.01	- 2.59	- 5.52	- 7.97	- 12.23	- 11.97	- 10.28	- 15.91
255. 00	- 3.42	- 3.28	- 4.85	- 4.75	- 5.59	- 2.28	- 2.19	- 4.59	- 7.22	- 12.55	- 13.74	- 8.97	- 15.91
270. 00	- 3.37	- 3.19	- 5.02	- 4.40	- 4.97	- 3.09	- 3.66	- 6.18	- 6.39	- 13.53	- 12.40	- 7.70	- 15.91
285. 00	- 3.36	- 3.20	- 4.33	- 3.77	- 4.65	- 1.80	- 2.39	- 4.06	- 7.75	- 14.77	- 11.29	- 6.61	- 15.91
300. 00	- 3.32	- 3.23	- 3.35	- 2.85	- 5.67	- 3.70	- 4.95	- 7.20	- 11.21	- 10.18	- 9.23	- 6.56	- 15.91



315. 00	- 3.32	- 3.37	- 2.15	- 0.81	- 5.23	- 5.57	- 5.91	- 6.23	- 8.16	- 7.09	- 6.61	- 6.63	- 15.91
330. 00	- 3.32	- 3.43	- 1.07	0 .91	- 4.51	- 3.91	- 1.65	- 2.11	- 4.83	- 5.41	- 5.93	- 6.12	- 15.91
345. 00	- 3.45	- 3.47	- 0.61	1 .57	- 2.65	- 0.52	0 .91	- 0.10	- 2.52	- 3.14	- 4.00	- 5.63	- 15.91

Ant1													
Freq	5800.0 0												
Phi\ Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-5.4	- 9.11	- 21	- 9.64	- 5.43	- 6.35	- 7.31	- 8.37	- 8.4	- 5.75	- 8.98	- 13.71	- 14.95
15.0 0	5.27	- 7.86	- 13.96	- 6.71	- 3.47	- 2.18	- 2.14	- 4.48	- 9.31	- 8.53	- 10.14	- 14.95	- 14.95
30.0 0	5.12	- 7.29	- 14.34	- 7.9	- 7.12	- 3.77	- 9.26	- 11.37	- 10.47	- 7.81	- 14.14	- 11.04	- 14.95
45.0 0	4.92	- 7.83	- 12.69	- 8.97	- 7.33	- 6.17	- 7.21	- 10.62	- 8.57	- 10.2	- 14.19	- 9.06	- 14.95
60.0 0	4.96	- 8.69	- 14.28	- 6.46	- 5.89	- 7.63	- 5.93	- 6.03	- 10.78	- 3.23	- 6.17	- 9.79	- 14.95
75.0 0	5.11	- 8.87	- 13	- 4.04	- 3.1	- 1.95	- 1.85	- 2.76	- 8.64	- 4.39	- 7.93	- 8.98	- 14.95
90.0 0	5.24	- 7.78	- 13.6	- 4.64	- 1.45	0 .23	0 .6	- 0.75	- 6.08	- 8.81	- 13.57	- 7.28	- 14.95
105. 00	5.47	- 7.1	- 10.85	- 3.46	- 2.26	0 .63	- 2.43	- 3.78	- 6.07	- 7.58	- 9.49	- 7.06	- 14.95
120. 00	5.57	- 6.61	- 11.56	- 3.63	- 2.91	0 .19	0 .47	- 1.72	- 3.34	- 6.31	- 8	- 6.42	- 14.95
135. 00	5.42	- 6.17	- 10.46	- 4.01	- 3.35	0 .13	1 .13	- 3.66	- 1.67	- 4.07	- 5.02	- 5.63	- 14.95
150. 00	5.16	- 5.97	- 6.93	- 4.38	- 3.25	1 .82	2 .33	- 0.38	- 0.41	- 2.08	- 2.06	- 6.16	- 14.95
165. 00	4.9	- 5.95	- 5.6	- 4.46	- 8.73	- 4.34	0 .67	- 1.04	- 1.4	- 1.63	- 1.51	- 5.84	- 14.95
180. 00	4.78	- 5.91	- 6.41	- 5.2	- 9.96	- 8.01	- 0.1	- 0.41	0 .21	- 0.63	- 1.24	- 6.79	- 14.95



195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.96	6.37	7.24	5.75	10.27	9.03	2.45	2.06	1	1.07	1.6	6.68	14.95
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.17	7.28	9.44	6.83	6.6	3.22	2.73	3.03	3.4	4.22	3.16	6.17	14.95
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.35	8.6	11.18	5.93	2.66	0.26	1.29	3.35	2.81	7.85	10.11	6.07	14.95
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.35	9.27	13.99	5.54	2.56	1.85	1.71	2.27	2.96	8.59	12.54	8.74	14.95
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.18	9.98	15.77	4.4	4.42	3.25	0.82	0.62	3.27	9.68	12.97	7.35	14.95
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.92	10.32	18.98	7	5.19	4.43	4.21	5.52	4.31	8.9	14.01	7.54	14.95
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.78	10.64	17.5	13.89	5.71	4.45	1.51	1.36	3.68	10.28	12.49	9.16	14.95
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.75	10.65	15.6	9.2	6.17	2.59	1.6	2.01	8.29	8.35	11.88	10.26	14.95
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.85	10.01	12.58	5.7	4.06	8.41	6.45	6.84	6.11	9.56	8.52	11.17	14.95
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.14	9.74	13.45	7.47	8.69	11.14	1.7	0.5	4.24	6.25	8.4	13.05	14.95
345.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.4	9.78	16.86	10.53	8.31	3.18	0.19	0.35	5.71	6.15	7.5	14.6	14.95

Ant2													
Freq	5800.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-13.49	-	-	-	-	-	-	-	-	-	-	-	-
		15.17	10.64	4.13	5.7	1.23	2.67	5.26	8.27	12.79	11.96	13.48	19.69
15.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.82	18.46	11.32	3.92	6.39	1.26	1.49	3.97	6.12	8.47	8.91	13.07	19.69
30.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	13.95	22.81	10.07	4.08	8.12	4.29	2.17	3.58	7.77	6.62	8.06	11.87	19.69
45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.3	27.55	9.06	5.67	9.09	4.86	2.1	2.49	6.27	6.77	8	10.17	19.69
60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.45	25.23	8.4	6.28	6.59	3.72	2.27	2.68	3.66	7.13	9.09	9.17	19.69
75.00	-	-	-	-	-	-	-	-	-	-	-	-	-



0	14.41	19.98	10.99	6.26	6.18	3.66	2.38	2.9	3.16	7.59	6.38	7.65	19.69
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	14.28	16.49	12.08	6.57	8.44	6.65	3.28	3.76	5.96	4.24	6.02	6.86	19.69
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.22	13.88	9.45	5.53	5.57	4.15	3.92	5.39	7.49	4.6	6.83	7.07	19.69
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.47	12.21	8.9	5.12	4.34	1.6	1.51	1.78	6.41	6.45	7.54	6.64	19.69
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	15.03	11.24	9.47	3.76	2.15	0.41	0.8	1.33	8.27	7.53	9.36	7.04	19.69
150.	-	-	-	-	1	3	0	-	-	-	-	-	-
00	15.59	10.81	8.27	0.31	.16	.06	.29	0.9	4.47	9.11	8.42	8.74	19.69
165.	-	-	-	0	0	0	-	-	-	-	-	-	-
00	15.66	10.91	7.18	.05	.52	.6	3.06	8.72	8.83	11.08	7.79	11.19	19.69
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	15.35	10.95	7.61	1.59	1.18	0.76	1.71	6.51	14.32	17.71	10.45	14.09	19.69
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.93	11.43	9.16	4.78	5.04	0.6	0.36	4.47	14.91	16.98	13.35	15.69	19.69
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.59	11.57	9.82	6.75	9.84	2.41	4.58	4.95	12.33	11.61	10.9	14.34	19.69
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.28	11.86	9.45	7.44	6.88	5.22	8.14	16.51	14.14	13.99	11.74	11.66	19.69
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.21	12.91	9.78	8.9	6.24	12.28	9.5	8.71	8.57	11.89	17.64	10.03	19.69
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.25	15.47	10.01	9.06	3.07	1.98	4.08	7.98	11.44	13.9	20.61	8.27	19.69
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.36	20.03	8.75	6.17	3.35	0.64	3.78	5.44	10.51	16.47	19.17	6.57	19.69
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.46	28.96	9.79	2.41	2.45	0.65	2.65	4.68	15.85	23.72	14.69	5.75	19.69
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	14.06	17.99	11.56	2.63	2.65	1.99	3.93	6.05	13.61	18.5	11.67	6.41	19.69
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	13.66	13.92	11.76	3.16	3.31	3.46	5.77	9.49	15.97	19.01	14.53	8.07	19.69
330.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	13.35	12.6	9.16	2.96	3	0.73	1.88	5.83	12.05	17.17	20.96	10.86	19.69
345.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	13.31	12.95	8.81	3.69	4.31	1.86	4.98	9.34	12.45	16.54	16.19	12.64	19.69



Ant3													
Freq	5800.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-14.23	-15.21	-8.69	-3.14	0.85	4.09	4.16	3.68	0.61	-2.48	-5.5	-8.64	-23.67
15.00	14.08	16.11	9.95	5.15	0.76	.18	.54	.95	0.93	3.8	7.28	9.29	23.67
30.00	13.76	16.47	12.03	8.02	2.76	0.85	.18	0.46	3.27	5.02	8.1	10.64	23.67
45.00	13.47	16.84	14.28	11.13	5.14	4.14	3.2	3.46	6.09	6.25	9.81	11.02	23.67
60.00	13.37	17.45	14.98	14.23	8.61	8.49	7.54	7.12	8.79	8.96	13.71	11.17	23.67
75.00	13.18	18.03	16.7	13.68	11.12	10.86	9.75	9.61	12.03	14.21	16.12	12.05	23.67
90.00	13.48	18.41	16.07	18.97	12.63	15.65	12.56	11.12	13.99	14.46	17.3	13.24	23.67
105.00	13.31	18.6	15.24	15.76	16.78	16.23	19.07	16.22	16.72	27.05	20.61	15.21	23.67
120.00	13.05	18.71	18.06	13.86	19.25	19.76	17.2	14.77	15.99	17.04	22.89	19.32	23.67
135.00	13.12	18.47	20.65	17.38	22.67	19.17	20.53	20.36	17.03	16.78	27.95	21.01	23.67
150.00	13.02	19.35	20.61	21.1	21.98	16.07	16.59	17.65	16.8	15.79	24.96	17.61	23.67
165.00	13.04	19.17	20.49	17.53	16.75	17.55	18	19.29	14.21	14.56	20.46	14.83	23.67
180.00	13.23	18.62	19.29	17.47	13.95	17.6	11.67	23.34	11.42	14.17	18.73	17.54	23.67
195.00	13.2	18.48	17.3	14.56	9.68	15.23	10.71	18.96	8.58	12.15	15.34	23.67	23.67
210.00	13.15	18.19	14.91	10.73	8.5	14.42	11.69	13.26	7.88	10.71	13.22	18.42	23.67
225.00	13.39	16.44	11.67	9.72	11.88	11.92	8.89	15.94	8.29	9.41	13.41	13.06	23.67
240.00	13.47	13.97	10.72	8.41	11.03	10.98	9.85	14.6	9.69	10.36	11.68	12.77	23.67



255. 00	- 13.63	- 12.09	- 9.88	- 6.5	- 8.4	- 8.94	- 16.59	- 12.55	- 18.15	- 17.04	- 9.31	- 10.69	- 23.67
270. 00	- 13.93	- 11.15	- 8.71	- 5.43	- 7.24	- 6.74	- 14.46	- 8.51	- 10.16	- 9.31	- 8.94	- 10.61	- 23.67
285. 00	- 13.95	- 11.3	- 7.86	- 4.24	- 4.27	- 3.61	- 6.87	- 6.03	- 7.83	- 7.96	- 9.28	- 11.73	- 23.67
300. 00	- 13.88	- 12.27	- 7.74	- 3.37	- 2.26	0	- 0.11	- 1.35	- 3.04	- 3.99	- 7.19	- 11.27	- 23.67
315. 00	- 13.77	- 13.45	- 7.35	- 2.55	0 .06	3 .31	2 .72	1 .72	- 1.12	- 1.51	- 5.22	- 10.31	- 23.67
330. 00	- 13.87	- 13.86	- 7.41	- 2.37	1 .71	4 .52	4 .35	3 .77	0 .67	- 0.83	- 5.24	- 8.71	- 23.67
345. 00	- 13.79	- 13.94	- 8.01	- 2.39	1 .9	4 .79	4 .92	4 .33	1 .26	- 1.32	- 5.11	- 8.8	- 23.67

Ant4													
Freq	5800.0 0												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-4.6 2	- 2.33	1 .66	4 .37	2 .46	- 0.38	3 .75	4 .85	3 .44	1 .38	- 1.56	- 2.67	- 21.62
15.0 0	- 4.7	- 3.2	- 0.27	0 .53	- 0.45	- 2.04	- 0.36	3 .79	2 .16	- 0.49	- 3.63	- 5.66	- 21.62
30.0 0	- 4.79	- 4.16	- 2.96	- 5.68	- 7.02	- 6.29	- 7.98	- 1.75	- 1.76	- 3.52	- 7.83	- 8.22	- 21.62
45.0 0	- 4.87	- 5.35	- 8.19	- 12.92	- 16.94	- 11.2	- 10.75	- 9.62	- 9.07	- 6.14	- 10.13	- 13.16	- 21.62
60.0 0	- 4.76	- 7.2	- 12.47	- 11.09	- 17.09	- 14.06	- 9.48	- 7.95	- 12.01	- 8.27	- 10.07	- 12.87	- 21.62
75.0 0	- 4.55	- 9.03	- 9.03	- 8.46	- 11.66	- 8.11	- 7.39	- 5.94	- 11.16	- 8.5	- 9.81	- 10.92	- 21.62
90.0 0	- 4.33	- 10.38	- 6.09	- 5.06	- 6.86	- 4.5	- 4.77	- 7.37	- 10.71	- 10.48	- 10.7	- 11.48	- 21.62
105. 00	- 4.24	- 10.66	- 5.58	- 4.32	- 4.69	- 2.91	- 4.71	- 7.63	- 7.12	- 7.59	- 11.59	- 14	- 21.62
120. 00	- 4.39	- 10.14	- 6.28	- 3.93	- 3.98	- 2.29	- 3.79	- 3.04	- 4.48	- 7.01	- 9.81	- 18.84	- 21.62



135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.57	8.9	8.22	4.82	5.37	3.61	1.73	1.45	5.17	10.1	9.83	21.62	21.62
150.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.66	7.34	7.49	11.51	11.46	6.81	2.56	5.39	10.34	12.72	10.77	18.91	21.62
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.59	5.4	2.63	6.78	7.65	8.44	10.08	8.53	4.56	7.2	11.54	13.06	21.62
180.00	-	-	0	1	-	-	-	0	1	-	-	-	-
	4.39	3.5	.87	.19	3.15	2.14	1.71	.61	.48	3.01	8.77	9.89	21.62
195.00	-	-	2	3	-	-	1	3	1	-	-	-	-
	4.24	1.9	.85	.82	1.21	0.41	.1	.58	.8	2.14	5.41	8.74	21.62
210.00	-	-	3	3	-	-	-	2	-	-	-	-	-
	4.32	0.71	.23	.88	2.59	3.79	1.35	.26	0.98	2.98	6.63	9.25	21.62
225.00	-	-	2	1	-	-	-	-	-	-	-	-	-
	4.26	0.43	.93	.9	7.55	12.39	3.99	1.96	7.2	5.64	5.88	10.53	21.62
240.00	-	-	2	-	-	-	-	-	-	-	-	-	-
	4.42	0.54	.14	2.08	9.89	6.24	2.78	6.61	9.15	13.18	6.82	13.36	21.62
255.00	-	-	0	-	-	-	-	-	-	-	-	-	-
	4.58	0.62	.47	6.05	9.28	7.06	2.4	4.55	10.92	14.57	9.1	14.38	21.62
270.00	-	-	0	-	-	-	-	-	-	-	-	-	-
	4.68	0.51	.01	5.54	11.31	8.16	3.86	4.91	15.81	14.62	6.31	7.41	21.62
285.00	-	-	0	-	-	-	-	-	-	-	-	-	-
	4.7	0.35	.18	3.7	13.78	8.51	6.36	8.13	16.46	14.98	10.48	3.93	21.62
300.00	-	-	1	0	-	-	-	-	-	-	-	-	-
	4.71	0.32	.01	.25	7.22	10.7	9.66	8.95	8.53	10.05	8.21	3.01	21.62
315.00	-	-	1	3	-	-	-	-	-	-	-	-	-
	4.54	0.57	.92	.73	1.98	8.95	5.99	4.11	4.41	3.95	3.9	2.07	21.62
330.00	-	-	2	5	0	-	-	0	0	-	-	-	-
	4.52	0.95	.36	.38	.95	5.24	0.02	.51	.05	2.53	3.18	1.08	21.62
345.00	-	-	2	5	2	-	3	3	2	0	-	-	-
	4.54	1.58	.44	.77	.6	1.22	.52	.93	.44	.82	1.06	1.02	21.62

5800MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant3)													
Freq	5800.00												
Phi\Theta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	-	-	1	4	4	3	0	-	-	-	-
	-5.28	7.89	7.26	0.43	.90	.63	.11	.03	.52	1.27	3.64	6.84	13.94
15.00	-	-	-	-	1	4	4	3	0	-	-	-	-



	5.25	8.12	6.82	0.41	.53	.56	.67	.12	.02	1.87	3.93	7.34	13.94
30.00	-	-	-	-	-	1	1	0	-	-	-	-	-
	5.12	8.45	7.20	1.69	0.90	.94	.85	.72	1.88	1.64	4.90	6.40	13.94
45.00	-	-	-	-	-	-	0	-	-	-	-	-	-
	5.01	9.33	6.96	3.52	2.26	0.25	.86	0.08	2.13	2.80	5.53	5.27	13.94
60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.05	9.86	7.25	3.52	2.18	1.58	0.19	0.29	2.43	1.33	4.36	5.23	13.94
75.00	-	-	-	-	-	0	0	0	-	-	-	-	-
	5.08	9.42	8.48	2.35	1.43	.05	.78	.21	2.39	3.08	4.45	4.60	13.94
90.00	-	-	-	-	-	-	1	0	-	-	-	-	-
	5.20	8.14	8.99	3.42	1.49	0.39	.22	.54	3.19	3.44	6.22	3.91	13.94
105.00	-	-	-	-	-	0	-	-	-	-	-	-	-
0	5.28	7.14	6.75	2.08	1.59	.57	1.23	2.23	4.22	4.34	5.84	4.26	13.94
120.00	-	-	-	-	-	1	1	0	-	-	-	-	-
0	5.33	6.41	7.29	1.75	1.66	.06	.40	.42	2.38	3.94	5.79	4.34	13.94
135.00	-	-	-	-	-	1	1	-	-	-	-	-	-
0	5.37	5.83	7.52	1.76	1.05	.52	.86	0.63	2.15	3.25	5.29	4.29	13.94
150.00	-	-	-	-	0	4	3	1	-	-	-	-	-
0	5.29	5.70	5.41	0.38	.85	.21	.15	.21	0.18	2.49	3.01	4.86	13.94
165.00	-	-	-	0	-	0	0	-	-	-	-	-	-
0	5.16	5.70	4.29	.03	0.84	.39	.85	2.09	1.80	2.52	2.21	5.06	13.94
180.00	-	-	-	-	-	-	1	-	-	-	-	-	-
0	5.08	5.62	4.75	1.16	1.90	1.57	.55	1.28	1.33	2.79	2.61	6.84	13.94
195.00	-	-	-	-	-	-	1	-	-	-	-	-	-
0	5.10	6.00	5.50	2.63	3.23	1.48	.27	1.25	1.58	2.68	3.06	7.95	13.94
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
0	5.14	6.50	6.29	3.14	3.44	0.48	0.79	1.32	2.35	3.41	3.20	6.67	13.94
225.00	-	-	-	-	-	0	-	-	-	-	-	-	-
0	5.24	6.96	5.94	2.79	1.58	.20	0.62	4.87	2.46	5.28	6.88	4.94	13.94
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
0	5.24	7.04	6.55	2.71	1.17	2.27	1.38	2.34	1.78	5.40	8.81	5.58	13.94
255.00	-	-	-	-	-	0	-	-	-	-	-	-	-
0	5.19	7.46	6.72	1.68	0.25	.53	0.25	0.88	4.12	8.24	8.38	3.89	13.94
270.00	-	-	-	-	-	1	-	-	-	-	-	-	-
0	5.12	8.10	6.24	1.41	0.34	.20	1.53	1.61	3.06	6.17	8.29	3.30	13.94
285.00	-	-	-	-	0	2	1	0	-	-	-	-	-
0	5.07	9.18	6.06	0.83	.73	.03	.38	.98	3.03	7.03	7.10	3.76	13.94
300.00	-	-	-	0	1	3	3	1	-	-	-	-	-



0	4.95	8.34	6.28	.16	.25	.32	.03	.87	2.50	3.69	5.19	4.28	13.94
315.0	-	-	-	1	2	3	2	1	-	-	-	-	-
0	4.91	7.51	5.47	.07	.53	.24	.68	.29	1.06	2.59	3.86	4.98	13.94
330.0	-	-	-	0	2	4	5	4	1	-	-	-	-
0	5.03	7.12	4.88	.78	.44	.41	.54	.77	.00	1.05	4.63	5.92	13.94
345.0	-	-	-	-	2	5	5	4	0	-	-	-	-
0	5.15	7.27	5.65	0.11	.22	.43	.61	.62	.86	1.25	3.69	6.90	13.94

5800MHz Composite Gain (1SS) (Ant1+ Ant2+ Ant4)													
Freq	5800.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	-	3	2	2	3	3	2	0	-	-	-
	-2.25	2.56	0.72	.55	.77	.49	.88	.78	.28	.88	1.58	3.53	13.51
15.00	-	-	-	1	1	2	3	4	1	-	-	-	-
	2.29	3.07	1.60	.92	.67	.95	.47	.10	.75	0.18	2.31	5.48	13.51
30.00	-	-	-	-	-	0	-	0	-	-	-	-	-
	2.28	3.76	3.07	0.98	2.63	.05	1.12	.09	1.11	1.02	4.79	5.46	13.51
45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.29	4.88	5.00	3.92	5.46	2.24	1.18	2.00	3.11	2.76	5.64	5.86	13.51
60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.28	6.09	6.59	2.91	3.82	2.73	0.63	0.50	3.22	1.16	3.51	5.69	13.51
75.00	-	-	-	-	-	0	1	1	-	-	-	-	-
	2.24	6.56	6.09	1.30	1.53	.56	.23	.02	2.22	1.87	3.16	4.31	13.51
90.00	-	-	-	-	-	1	2	1	-	-	-	-	-
	2.18	6.07	5.18	0.61	0.27	.62	.59	.22	2.55	2.66	4.76	3.53	13.51
105.0	-	-	-	0	0	2	1	-	-	-	-	-	-
0	2.22	5.34	3.56	.38	.71	.87	.14	0.69	2.10	1.70	4.31	4.05	13.51
120.0	-	-	-	0	1	3	3	2	0	-	-	-	-
0	2.37	4.57	3.88	.57	.05	.60	.33	.61	.12	1.81	3.62	4.29	13.51
135.0	-	-	-	0	1	3	4	2	0	-	-	-	-
0	2.47	3.75	4.56	.59	.25	.57	.39	.69	.15	2.11	3.02	4.34	13.51
150.0	-	-	-	0	1	5	5	2	0	-	-	-	-
0	2.47	3.04	2.77	.50	.67	.09	.02	.82	.60	2.05	1.50	5.03	13.51
165.0	-	-	-	1	0	1	1	-	0	-	-	-	-
0	2.34	2.32	0.16	.52	.54	.49	.66	0.54	.36	0.99	1.17	4.70	13.51
180.0	-	-	1	3	0	1	3	3	2	0	-	-	-
0	2.16	1.49	.25	.29	.74	.65	.63	.18	.84	.18	1.07	4.99	13.51



195.0 0	- 2.11	- 0.95	1 .96	3 .68	0 .02	2 .24	4 .32	4 .47	2 .47	0 .37	- 0.78	- 4.83	- 13.51
210.0 0	- 2.19	- 0.59	1 .72	3 .11	- 1.07	1 .65	1 .98	3 .42	0 .39	- 0.76	- 1.57	- 4.53	- 13.51
225.0 0	- 2.19	- 0.81	1 .31	1 .98	- 0.64	0 .13	0 .74	- 0.54	- 2.12	- 3.73	- 4.11	- 4.30	- 13.51
240.0 0	- 2.25	- 1.19	0 .35	- 0.29	- 0.95	- 1.03	0 .72	- 0.67	- 1.65	- 6.23	- 6.46	- 5.73	- 13.51
255.0 0	- 2.26	- 1.75	- 1.05	- 1.52	- 0.44	0 .93	2 .44	0 .91	- 2.91	- 7.66	- 8.27	- 4.72	- 13.51
270.0 0	- 2.21	- 2.18	- 1.37	- 1.44	- 1.24	0 .90	0 .82	- 0.51	- 4.19	- 7.93	- 6.79	- 2.39	- 13.51
285.0 0	- 2.18	- 2.56	- 1.38	- 0.62	- 1.38	0 .81	1 .50	0 .48	- 5.07	- 9.97	- 7.61	- 1.25	- 13.51
300.0 0	- 2.11	- 1.95	- 0.94	1 .73	- 0.35	0 .47	0 .32	- 0.43	- 5.05	- 6.54	- 5.65	- 1.30	- 13.51
315.0 0	- 2.02	- 1.52	0 .04	4 .02	1 .70	- 1.80	- 1.29	- 1.77	- 2.79	- 4.11	- 3.18	- 1.49	- 13.51
330.0 0	- 2.08	- 1.50	0 .68	4 .75	2 .04	0 .06	3 .61	3 .24	0 .66	- 2.02	- 3.46	- 1.90	- 13.51
345.0 0	- 2.19	- 1.95	0 .48	4 .46	2 .62	2 .72	4 .89	4 .40	1 .59	0 .04	- 1.47	- 2.43	- 13.51

5800MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant3)													
Freq	5800.0 0												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-9.0 8	- 12.14	- 11.16	- 4.86	- 2.29	0 .73	0 .46	- 0.34	- 3.17	- 5.31	- 8.03	- 11.26	- 18.05
15.0 0	- 9.00	- 11.71	- 11.44	- 5.11	- 2.96	0 .01	0 .16	- 1.11	- 4.09	- 6.32	- 8.62	- 11.78	- 18.05
30.0 0	- 8.86	- 11.46	- 11.81	- 6.25	- 5.34	- 2.69	- 2.30	- 3.28	- 6.15	- 6.33	- 9.33	- 11.15	- 18.05
45.0 0	- 8.70	- 12.05	- 11.44	- 8.01	- 6.89	- 4.98	- 3.68	- 4.35	- 6.84	- 7.42	- 9.98	- 10.01	- 18.05
60.0 0	- 8.74	- 12.83	- 11.47	- 7.79	- 6.89	- 6.09	- 4.67	- 4.85	- 6.67	- 5.76	- 8.67	- 9.97	- 18.05
75.0	-	-	-	-	-	-	-	-	-	-	-	-	-

0	8.83	12.85	12.98	6.49	5.70	4.16	3.51	4.16	6.43	7.17	8.58	9.20	18.05
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	8.96	11.68	13.62	7.16	5.16	3.64	2.53	3.50	7.45	7.41	9.82	8.33	18.05
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.11	10.80	11.24	5.98	5.26	2.83	4.82	6.13	8.27	7.58	9.60	8.51	18.05
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.18	10.12	11.46	5.84	5.27	2.35	2.12	3.40	6.21	7.96	9.46	8.18	18.05
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.12	9.57	11.52	5.55	4.45	1.93	1.47	4.07	5.48	7.07	8.41	7.97	18.05
150.	-	-	-	-	-	0	-	-	-	-	-	-	-
00	8.95	9.36	9.20	3.62	2.25	.75	0.30	2.35	3.67	5.91	5.91	8.83	18.05
165.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.75	9.36	8.00	3.35	3.69	2.91	2.53	5.07	5.26	5.74	5.32	9.09	18.05
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.65	9.32	8.60	4.71	5.21	4.71	2.42	4.21	4.13	5.13	5.45	10.52	18.05
195.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.76	9.76	9.60	6.75	7.65	4.66	2.80	4.80	4.92	5.41	5.92	10.86	18.05
210.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.89	10.43	10.79	7.75	8.11	4.41	5.00	5.40	6.46	7.51	6.90	10.11	18.05
225.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.03	11.23	10.66	7.43	5.68	3.61	4.66	7.69	6.26	9.74	11.55	9.15	18.05
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.03	11.56	11.16	7.35	5.37	5.78	5.28	5.95	6.01	10.07	13.28	10.21	18.05
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.92	11.97	11.17	6.25	4.78	3.86	3.83	4.43	7.30	12.51	12.31	8.56	18.05
270.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.76	12.23	10.29	6.15	4.98	3.20	5.56	6.28	7.32	10.48	12.23	7.93	18.05
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.66	12.68	10.20	4.81	3.94	2.58	3.14	3.56	6.85	10.66	11.58	8.20	18.05
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.59	12.70	10.53	4.25	3.38	1.38	1.61	2.70	6.39	7.29	9.67	8.78	18.05
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	8.62	12.09	9.91	3.60	2.05	0.40	1.04	2.21	4.59	5.58	7.99	9.65	18.05
330.	-	-	-	-	-	0	1	0	-	-	-	-	-
00	8.82	11.71	9.35	3.75	1.51	.97	.30	.71	2.71	4.43	8.22	10.52	18.05
345.	-	-	-	-	-	1	1	0	-	-	-	-	-
00	9.01	11.84	9.85	4.39	1.62	.40	.64	.97	2.56	4.76	7.69	11.33	18.05



5800MHz Composite Gain (3SS) (Ant1+ Ant2+ Ant4)													
Freq	5800.0												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-6.46	-6.09	-2.84	0.32	-1.12	-1.98	0.14	0.67	0.79	-2.49	-5.29	-6.79	-17.82
15.00	6.46	6.60	4.54	2.34	2.78	1.81	1.27	.21	1.75	4.07	6.58	9.29	17.82
30.00	6.45	7.17	6.70	5.62	7.39	4.66	5.30	4.05	5.12	5.59	9.21	10.08	17.82
45.00	6.41	8.16	9.59	8.25	9.61	6.68	5.27	5.97	7.79	7.37	10.09	10.48	17.82
60.00	6.39	9.60	11.00	7.45	7.81	6.73	4.94	5.00	7.16	5.64	8.11	10.34	17.82
75.00	6.35	10.54	10.71	5.89	5.75	3.90	3.27	3.64	6.34	6.45	7.82	8.98	17.82
90.00	6.29	10.29	9.31	5.35	4.50	2.66	1.87	3.17	7.10	7.01	8.98	8.10	17.82
105.00	6.33	9.70	8.03	4.36	3.94	1.65	3.58	5.32	6.85	6.35	8.87	8.41	17.82
120.00	6.47	9.03	8.39	4.18	3.70	1.10	1.27	2.14	4.57	6.58	8.34	8.16	17.82
135.00	6.53	8.28	9.29	4.17	3.43	1.07	0.30	2.02	4.23	6.54	7.49	7.98	17.82
150.00	6.48	7.61	7.53	3.42	2.10	.97	.46	1.72	3.44	5.76	5.48	8.88	17.82
165.00	6.33	6.82	4.72	2.79	3.21	2.57	2.32	4.51	3.96	4.97	5.03	8.90	17.82
180.00	6.16	5.83	2.67	1.13	3.48	2.71	1.10	1.18	0.80	3.37	4.88	9.32	17.82
195.00	6.15	5.00	1.27	.01	4.11	1.97	0.33	.36	1.08	3.27	4.66	9.03	17.82
210.00	6.27	4.33	1.11	0.20	5.36	3.10	2.69	0.79	3.59	4.99	5.84	8.78	17.82
225.00	6.30	4.32	1.44	1.79	5.12	3.63	3.65	4.27	6.01	7.99	8.51	8.71	17.82
240.00	6.38	4.55	2.26	4.65	5.25	4.99	3.59	5.01	5.93	10.77	10.29	10.31	17.82



255.00	- 6.39	- 4.79	- 3.84	- 6.11	- 4.89	- 3.62	- 2.23	- 3.38	- 6.82	- 12.14	- 12.17	- 9.10	- 17.82
270.00	- 6.33	- 4.81	- 4.17	- 6.20	- 5.53	- 3.38	- 3.95	- 5.28	- 7.91	- 12.08	- 10.21	- 7.15	- 17.82
285.00	- 6.28	- 4.73	- 4.11	- 4.59	- 5.33	- 3.43	- 3.07	- 3.89	- 7.98	- 13.64	- 12.22	- 5.78	- 17.82
300.00	- 6.24	- 4.64	- 3.44	- 2.40	- 4.88	- 3.74	- 3.96	- 4.75	- 9.56	- 10.63	- 10.24	- 5.62	- 17.82
315.00	- 6.19	- 4.70	- 2.52	0 .16	- 3.03	- 6.18	- 6.06	- 6.27	- 6.76	- 7.56	- 7.11	- 5.46	- 17.82
330.00	- 6.29	- 4.93	- 2.01	1 .39	- 2.03	- 3.90	- 1.12	- 1.20	- 3.16	- 5.66	- 6.75	- 5.17	- 17.82
345.00	- 6.40	- 5.47	- 1.97	1 .56	- 1.08	- 2.01	0 .70	0 .68	- 1.59	- 3.09	- 4.84	- 5.33	- 17.82

Ant5													
Freq	6175.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-9.58	- 5.56	- 3.43	- 0.94	0 .08	1 .07	3 .02	3 .79	2 .88	- 0.45	- 6.27	- 9.02	- 12.38
15.00	- 9.55	- 5.41	- 2.7	- 0.19	1 .42	3 .24	5 .59	6 .09	4 .09	0 .16	- 5.21	- 8.54	- 12.38
30.00	- 9.57	- 5.79	- 2.85	- 0.06	2 .32	5 .46	6 .64	7 .01	4 .49	1 .32	- 4.44	- 5.89	- 12.38
45.00	- 9.55	- 6.2	- 3.46	- 0.35	2 .71	6 .28	6 .17	6 .14	4 .69	1 .63	- 4.18	- 6.11	- 12.38
60.00	- 9.45	- 6.85	- 4.54	- 1.91	1 .36	5 .42	5 .15	4 .48	3 .49	0 .85	- 3.16	- 5.19	- 12.38
75.00	- 9.6	- 7.93	- 6.03	- 4.2	- 1.49	2 .83	3 .28	2 .77	0 .13	- 1.71	- 3.81	- 3.66	- 12.38
90.00	- 9.74	- 9.39	- 7.48	- 6.54	- 5.88	- 0.56	- 0.41	0 .88	- 2.48	- 5.14	- 4.77	- 3.57	- 12.38
105.00	- 9.65	- 11.18	- 8.15	- 6.39	- 8.84	- 5.22	- 4.58	- 3.09	- 3.95	- 8.59	- 6.14	- 3.42	- 12.38
120.00	-	-	-	-	-	-	-	-	-	-	-	-	-



00	9.61	13.3	7.64	5.65	8.97	12.26	7.31	5.21	5.14	7.39	7.46	4.97	12.38
135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.49	15.42	7.88	6.83	11.64	11.66	11.68	5.97	5.92	8.38	8.94	4.7	12.38
150.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.21	16.58	9.21	9.25	12.63	7.43	17.41	10.53	10.17	8.22	11.6	6	12.38
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.11	16.69	10.93	10.72	12.27	10.16	15.21	13.16	14.42	9.65	17.07	9.23	12.38
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.3	16.72	13.52	10.59	11.55	13.56	13.77	16.12	16.14	11.72	17.96	9.58	12.38
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.26	16.27	20.29	11.2	10.11	17.89	15.35	16.66	12.46	10.75	14.91	12.38	12.38
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.24	14.37	20.47	11.27	12.9	17.97	17.76	17.77	15.49	12.72	12.87	10.99	12.38
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.16	13.25	12.59	9.99	16.22	16.25	16.47	18.03	22.72	17.44	12.17	8.4	12.38
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.17	13.11	13.05	12.97	12.93	15.97	14.71	17.49	15.68	17.14	18.07	6.97	12.38
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.11	13.1	14.85	11.95	15.84	11.21	11.4	10.74	16.83	11.72	12.95	7.82	12.38
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.16	11.53	16.37	9.1	12.43	15.74	11.4	8.99	6.81	14.64	10.46	9.39	12.38
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.17	9.39	13.13	10.52	11.78	14.81	12.68	7.52	8.25	9.3	10.52	11.18	12.38
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.2	7.59	10.09	9.69	10.35	13.27	11.87	6.42	5.01	5.07	10.98	11.1	12.38
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.22	6.65	8.23	8.45	9.49	11.19	8.68	6.3	4.1	4.22	11.15	12.17	12.38
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.41	6.51	7.12	5.99	4.92	5.66	4.92	3.7	1.09	2.8	9.87	12.09	12.38
345.00	-	-	-	-	-	-	-	0	1	-	-	-	-
00	9.59	6.23	4.83	2.99	1.88	1.27	0.39	.61	.17	1.74	8.44	10.52	12.38

Ant6													
Freq	6175.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-9.0	-	-	-	-	1	4	2	-	-	-	-	-



	2	6.62	6.22	9.58	2.08	.2	.1	.71	2.38	3.82	4.66	12.59	14.22
15.0	-	-	-	-	-	1	3	2	-	-	-	-	-
0	8.9	7.56	6.87	8.41	2.21	.22	.66	.85	3.73	7.42	4.65	13.47	14.22
30.0	-	-	-	-	-	1	1	-	-	-	-	-	-
0	8.72	9.1	6.94	7.51	1.66	.59	.46	0.35	7.46	8.37	5.21	12.98	14.22
45.0	-	-	-	-	-	1	-	-	-	-	-	-	-
0	8.57	10.13	8.47	6.23	1.8	.4	1.39	4.19	8.74	8.47	9.5	12.78	14.22
60.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	8.63	9.65	16.2	10.42	5.64	0.6	6.8	9.97	11.14	6.35	11.11	14.02	14.22
75.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	8.81	8.41	10.75	12.71	11.26	3.08	5.03	16.08	10.7	4.79	15.06	12.53	14.22
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	9.21	7.21	4.02	2.97	4.66	2.18	6.46	7.27	10.01	4.47	13.4	12.53	14.22
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.34	6.13	2.74	2.04	5.64	4.16	3.95	16.38	8.75	11.05	9.65	11.99	14.22
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.29	5.58	5.13	6.37	13.93	10.21	9.06	15.68	17.13	10.05	8.81	13.91	14.22
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.23	5.7	10.21	12.58	4.45	4.9	10.63	10.38	14.07	10.2	12.01	13.05	14.22
150.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.04	6.31	13.41	10.01	1.38	1.51	7.27	11.36	8.69	8.36	11.53	9.65	14.22
165.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.05	7.42	11.64	8.5	2.77	0.38	6.92	12.06	9.55	6.56	10.94	8.98	14.22
180.	-	-	-	-	-	1	-	-	-	-	-	-	-
00	9.05	8.48	8.77	8.58	4.3	.6	5.59	5.83	4.24	6.66	11.77	9.22	14.22
195.	-	-	-	-	-	3	-	-	-	-	-	-	-
00	9.1	8.61	5.01	7.26	5.54	.13	0.55	2.55	3.02	7.37	15.21	9.24	14.22
210.	-	-	-	-	-	1	-	-	-	-	-	-	-
00	9.27	7.94	0.84	4.07	10.77	.57	1.75	0.33	8.72	10.77	13.99	9.09	14.22
225.	-	-	0	-	-	-	-	-	-	-	-	-	-
00	9.37	7.14	.84	1.26	8.4	3.62	1.94	1.11	11.42	14.31	13.45	9.43	14.22
240.	-	-	1	-	-	0	1	1	-	-	-	-	-
00	9.26	6.69	.1	1.07	5.47	.96	.7	.39	10.1	17.98	19.46	11.62	14.22
255.	-	-	0	-	-	1	4	3	-	-	-	-	-
00	9.03	6.97	.07	2.59	1.08	.2	.43	.27	14.65	12.01	15.96	13.2	14.22
270.	-	-	-	-	0	6	7	3	-	-	-	-	-
00	8.87	7.17	1.45	7.22	.22	.17	.28	.14	4.28	13.89	16.42	13.71	14.22
285.	-	-	-	-	-	2	4	-	-	-	-	-	-



00	8.68	6.92	1.27	3.25	4.31	.14	.72	2.31	3.31	8.41	9.31	14.22	14.22
300.	-	-	0	1	-	0	3	-	-	-	-	-	-
00	8.7	6.31	.01	.27	7.85	.01	.86	4.17	1.2	7.6	11.82	13.21	14.22
315.	-	-	0	1	-	0	3	-	1	-	-	-	-
00	8.69	5.6	.3	.17	2.56	.04	.36	1.16	.16	3.75	13.72	12.08	14.22
330.	-	-	-	-	-	-	3	-	2	-	-	-	-
00	8.84	5.38	0.99	3.38	0.96	0.1	.66	0.02	.41	0.94	7.44	11.53	14.22
345.	-	-	-	-	-	0	3	1	-	-	-	-	-
00	8.8	5.95	4.04	10.53	1.85	.66	.82	.18	0.27	0.71	5.42	10.66	14.22

Ant7													
Freq	6175.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-4.92	6.2	6.59	7.18	6.05	1.84	3.32	6.89	7.16	6.82	8.1	12.26	15.51
15.00	-	-	-	-	-	0	-	-	-	-	-	-	-
0	4.95	5.91	6.87	6.19	4.94	.43	0.36	2.75	4.56	5.44	10.22	10.38	15.51
30.00	-	-	-	-	-	4	3	1	-	-	-	-	-
0	5.14	6.04	7.67	5.71	2.21	.41	.13	.62	3.53	5.86	8.23	8.86	15.51
45.00	-	-	-	-	-	6	5	2	-	-	-	-	-
0	5.26	6.26	8.27	6.25	0.16	.51	.28	.43	4.37	6.14	5.83	8.68	15.51
60.00	-	-	-	-	-	6	5	1	-	-	-	-	-
0	5.14	6.39	8.49	4.96	0.24	.07	.92	.54	1.22	5.28	5.24	10.54	15.51
75.00	-	-	-	-	-	2	4	-	-	-	-	-	-
0	5.11	5.95	6.84	2.56	2.54	.67	.31	0.07	2.93	8.76	9.07	11.86	15.51
90.00	-	-	-	-	-	-	3	-	-	-	-	-	-
0	5.07	5.22	4.59	1.22	4.67	0.84	.62	0.92	5.73	12.93	12.11	11.66	15.51
105.00	-	-	-	-	-	1	3	1	-	-	-	-	-
0	5.2	4.68	4.51	2.55	4.99	.36	.73	.42	1.93	10.41	8.72	9.66	15.51
120.00	-	-	-	-	-	-	2	3	-	-	-	-	-
0	5.4	4.34	5.09	2.86	5.3	0.33	.68	.22	0.94	8.5	8.38	7.97	15.51
135.00	-	-	-	-	-	1	3	3	-	-	-	-	-
0	5.44	4.24	4.79	2.82	9.63	.4	.57	.45	1.43	6.05	7.25	6.53	15.51
150.00	-	-	-	-	-	3	4	2	-	-	-	-	-
0	5.34	4.16	4.25	5.18	4.99	.78	.25	.44	1.55	5.18	6.69	6.14	15.51
165.00	-	-	-	-	-	3	4	1	-	-	-	-	-



00	5.27	4.25	3.9	6.95	1.88	.26	.81	.84	2.13	5.74	6.89	6.53	15.51
180.00	-	-	-	-	-	1	4	1	-	-	-	-	-
	5.07	4.61	3.97	6.24	1.24	.35	.07	.3	2.18	9.1	7.44	7.36	15.51
195.00	-	-	-	-	-	-	1	-	-	-	-	-	-
	5	5.35	5.17	5.75	1.72	0.75	.45	1.13	2.43	12.05	6.53	8.5	15.51
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.96	6.57	7.49	6.93	2.98	0.78	0.6	5.59	4.76	10.55	6.04	11.34	15.51
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.84	8.2	8.48	6.5	5.25	0.78	1.02	7.96	8.61	11.82	8.01	15.51	15.51
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.82	10.31	7.3	8.42	11.57	2.53	1.72	5.81	12.01	18.27	12.21	15.49	15.51
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.89	12.92	6.02	6.42	8.43	6.73	9.64	9.85	11.66	13.1	12.75	12.44	15.51
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.93	16.67	6.65	4.85	7.02	3.1	3.34	9.01	20	17.85	18.93	10.51	15.51
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.76	19.69	13.63	9.79	11.35	6.47	6.97	7.77	13.58	19.69	26.22	10.16	15.51
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.73	15.84	17.94	7.66	4.96	8.06	11.74	14.06	21.6	13.68	17.49	11.54	15.51
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.68	11.86	9.25	4.6	3.94	6.08	11.96	8.15	10.44	17.1	14.05	13.54	15.51
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.65	9.23	7.84	6.84	9.04	5.62	7.29	9.27	9.58	11.22	12.2	13.14	15.51
345.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.74	7.33	7.19	9.2	8.51	6.08	6.5	19.75	12.94	8.95	9.37	13.17	15.51

6175MHz Composite Gain (1SS)													
Freq	6175.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	-	-	2	5	6	5	3	1.	-	-	-
	-2.81	1.34	0.52	0.33	.44	.02	.60	.77	.50	46	1.46	6.36	9.17
15.00	-	-	-	0	3	6	8	7	4	1.	-	-	-
	2.78	1.47	0.48	.56	.25	.48	.07	.55	.31	16	1.59	5.79	9.17
30.00	-	-	-	0	4	8	8	8	4	1.	-	-	-
	2.82	2.08	0.78	.95	.50	.74	.79	.11	.07	48	1.04	4.00	9.17
45.00	-	-	-	0	5	9	8	7	3	1.	-	-	-
	2.82	2.57	1.64	.96	.22	.80	.71	.20	.81	58	1.46	4.00	9.17

60.00	- 2.76	- 2.74	- 3.76	- 0.32	3 .74	8 .87	7 .78	5 .29	3 .66	1. 79	- 1.13	- 4.38	- 9.17
75.00	- 2.84	- 2.59	- 2.87	- 0.73	0 .63	5 .98	6 .50	3 .27	1 .34	0. 15	- 3.38	- 3.57	- 9.17
90.00	- 2.97	- 2.34	- 0.47	1 .47	- 0.28	3 .61	4 .61	2 .97	- 0.77	- 1.99	- 4.44	- 3.48	- 9.17
105.0 0	- 3.04	- 2.14	- 0.08	1 .32	- 1.56	2 .60	4 .05	1 .38	0 .34	- 5.18	- 3.27	- 2.80	- 9.17
120.0 0	- 3.11	- 2.17	- 1.10	- 0.05	- 3.94	- 1.16	1 .86	1 .93	- 0.74	- 3.81	- 3.43	- 3.44	- 9.17
135.0 0	- 3.08	- 2.48	- 2.57	- 1.77	- 3.25	1 .27	1 .52	2 .44	- 0.95	- 3.27	- 4.41	- 2.65	- 9.17
150.0 0	- 2.90	- 2.82	- 3.39	- 3.11	- 0.42	4 .21	2 .07	0 .77	- 1.17	- 2.35	- 4.85	- 2.34	- 9.17
165.0 0	- 2.85	- 3.30	- 3.30	- 3.82	0 .22	3 .93	2 .70	- 0.14	- 2.45	- 2.39	- 5.92	- 3.39	- 9.17
180.0 0	- 2.81	- 3.86	- 3.13	- 3.52	0 .04	3 .46	2 .57	0 .47	- 0.98	- 4.15	- 6.61	- 3.89	- 9.17
195.0 0	- 2.78	- 4.23	- 3.12	- 3.01	- 0.36	3 .11	2 .43	0 .19	- 0.16	- 5.05	- 6.44	- 5.11	- 9.17
210.0 0	- 2.81	- 4.25	- 1.70	- 2.17	- 3.01	2 .23	0 .71	- 0.59	- 3.84	- 6.52	- 5.44	- 5.64	- 9.17
225.0 0	- 2.76	- 4.38	- 0.10	- 0.40	- 4.09	- 0.02	0 .52	- 1.81	- 7.71	- 9.45	- 6.12	- 5.83	- 9.17
240.0 0	- 2.72	- 4.87	0 .28	- 1.32	- 4.58	1 .35	2 .16	0 .43	- 7.53	- 13.01	- 11.21	- 5.89	- 9.17
255.0 0	- 2.67	- 5.73	- 0.22	- 1.41	- 1.70	0 .73	2 .33	1 .55	- 9.35	- 7.49	- 9.00	- 6.04	- 9.17
270.0 0	- 2.66	- 6.18	- 1.47	- 2.11	- 0.11	4 .47	5 .50	1 .86	- 3.43	- 10.53	- 9.75	- 6.25	- 9.17
285.0 0	- 2.53	- 5.75	- 2.54	- 2.43	- 3.65	0 .97	2 .84	- 0.71	- 2.63	- 6.43	- 8.01	- 6.92	- 9.17
300.0 0	- 2.53	- 4.25	- 1.60	0 .80	- 2.67	- 0.62	1 .56	- 2.53	- 1.16	- 3.32	- 8.22	- 7.13	- 9.17
315.0 0	- 2.51	- 2.87	0 .18	1 .72	- 0.08	0 .22	1 .64	0 .09	1 .54	- 1.82	- 8.10	- 7.80	- 9.17
330.0 0	- 2.59	- 2.12	0 .03	- 0.50	0 .41	1 .39	3 .27	1 .23	3 .30	0. 79	- 4.85	- 7.46	- 9.17



345.0	-	-	-	-	1	2	4	2	2	1.	-	-	-
0	2.67	1.71	0.48	2.15	.20	.97	.72	.54	.61	66	2.80	6.60	9.17

6175MHz Composite Gain (3SS)													
Freq	6175.0 0												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-7.31	-6.10	-5.17	-4.33	-2.01	0.35	2.25	1.73	-0.44	-2.94	-6.12	-10.97	-13.84
15.00	-7.29	-6.20	-5.00	-3.49	-1.14	1.80	3.60	3.37	0.46	-3.00	-6.08	-10.35	-13.84
30.00	-7.36	-6.74	-5.27	-3.21	-0.02	4.10	4.30	3.92	0.59	-2.32	-5.68	-8.36	-13.84
45.00	-7.39	-7.19	-6.07	-3.32	0.66	5.27	4.39	3.18	0.60	-2.12	-5.99	-8.40	-13.84
60.00	-7.31	-7.41	-7.64	-4.54	0.64	4.47	3.92	1.60	0.09	-2.35	-5.43	-8.43	-13.84
75.00	-7.37	-7.29	-7.44	-4.82	-3.50	1.52	2.34	-0.15	-2.66	-4.20	-7.21	-7.36	-13.84
90.00	-7.47	-6.95	-5.12	-3.06	-5.03	-1.14	0.59	-1.31	-5.08	-6.23	-8.33	-7.26	-13.84
105.00	-7.55	-6.57	-4.60	-3.28	-6.20	-1.65	0.16	-1.98	-4.06	-9.89	-7.91	-6.80	-13.84
120.00	-7.65	-6.37	-5.80	-4.68	-8.12	-4.43	-1.42	-0.92	-4.24	-8.51	-8.18	-7.62	-13.84
135.00	-7.63	-6.48	-7.06	-5.82	-7.48	-2.29	-0.92	-0.69	-4.71	-7.88	-8.99	-6.91	-13.84
150.00	-7.47	-6.71	-7.44	-7.59	-4.36	0.38	-0.20	-1.95	-5.08	-6.99	-9.28	-6.97	-13.84
165.00	-7.41	-7.15	-7.32	-8.46	-3.85	0.19	-0.36	-2.63	-5.97	-7.02	-9.93	-8.07	-13.84
180.00	-7.34	-7.70	-7.15	-8.11	-4.00	-0.22	-0.19	-2.64	-4.74	-8.68	-10.57	-8.61	-13.84
195.00	-7.31	-8.21	-6.79	-7.53	-4.56	-0.13	-1.14	-3.47	-4.25	-9.59	-10.23	-9.74	-13.84
210.00	-7.32	-8.56	-4.72	-6.52	-6.72	-1.18	-2.85	-3.91	-7.81	-11.24	-9.45	-10.36	-13.84
225.00	-7.32	-8.56	-4.72	-6.52	-6.72	-1.18	-2.85	-3.91	-7.81	-11.24	-9.45	-10.36	-13.84



00	7.25	8.84	3.28	4.47	8.08	3.65	3.15	4.99	11.44	13.95	10.56	10.20	13.84
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.22	9.25	2.94	4.88	8.70	2.14	1.37	2.58	12.04	17.77	15.37	10.03	13.84
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.20	9.99	3.64	5.51	5.00	2.71	0.07	1.13	13.86	12.24	13.66	10.46	13.84
270.	-	-	-	-	-	1	2	-	-	-	-	-	-
00	7.19	10.24	4.97	6.71	3.61	.91	.92	1.13	7.05	15.15	13.78	10.85	13.84
285.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	7.06	9.60	5.54	6.53	7.69	1.99	.31	5.08	6.57	10.42	11.58	11.54	13.84
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.05	8.40	4.29	2.68	7.17	3.96	0.68	6.64	4.43	7.55	12.64	11.86	13.84
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.02	7.31	3.50	2.22	4.47	3.53	1.03	4.15	2.25	5.63	12.77	12.55	13.84
330.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	7.08	6.76	4.15	5.14	3.81	2.94	0.25	2.90	0.57	3.29	9.41	12.20	13.84
345.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	7.16	6.46	5.16	6.25	3.18	1.43	.73	0.84	1.15	2.61	7.40	11.29	13.84

Ant5													
Freq	6475.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-15.86	-12.14	-5.22	-1.42	-0.43	-0.5	1.31	1.77	1.13	-1.14	-5.74	-9.08	-15.02
15.00	-15.64	-12.23	-4.98	-0.47	-.25	-.99	.17	.67	.9	0.59	4.78	7.02	15.02
30.00	-15.41	-11.73	-5.23	-0.24	.48	.33	.53	.62	.56	.52	4.28	6.25	15.02
45.00	-15.59	-11.32	-6.62	-0.86	.92	.52	.03	.12	.88	.12	4.37	6.37	15.02
60.00	-15.83	-11.23	-7.59	-1.96	.99	.71	.59	.44	.96	.59	4.57	5.65	15.02
75.00	-15.97	-11.38	-7.71	-4.04	0.35	.07	.67	.46	.21	1.31	5.38	4.58	15.02
90.00	-16.52	-11.82	-8.37	-7.17	3.52	1.95	1.73	0.73	3.46	4.24	6.74	4.89	15.02
105.00	-16.41	-12.56	-8.35	-10.98	8.26	6.19	6.96	3.89	5.21	9.7	9.1	4.75	15.02



120.00	- 16.2	- 13.56	- 7.84	- 9.16	- 11.97	- 14.21	- 10.45	- 6.2	- 6.65	- 10.18	- 11.77	- 6.37	- 15.02
135.00	- 16.07	- 14.45	- 7.8	- 7.75	- 12.04	- 14.29	- 15.07	- 7.41	- 8.51	- 10.51	- 14.05	- 6.44	- 15.02
150.00	- 15.97	- 15.27	- 8.46	- 9.09	- 14.72	- 9.19	- 17.81	- 9.69	- 16.36	- 11.15	- 14.84	- 7.55	- 15.02
165.00	- 15.82	- 16.12	- 9.76	- 9.67	- 18.25	- 10.62	- 15.22	- 13.55	- 17.46	- 12.12	- 17.46	- 11.56	- 15.02
180.00	- 16.27	- 18.32	- 12.68	- 10.12	- 18.5	- 14.6	- 16.97	- 14.24	- 19.93	- 14.63	- 16.37	- 11.51	- 15.02
195.00	- 16.38	- 19.69	- 15.87	- 12.37	- 17.14	- 27.41	- 18.64	- 17.08	- 16.36	- 12.72	- 14.96	- 15.02	- 15.02
210.00	- 16.37	- 20.72	- 19.45	- 13.87	- 16.59	- 19.85	- 23.49	- 16.08	- 13.71	- 12.21	- 12.65	- 13.36	- 15.02
225.00	- 16.08	- 21.85	- 20.34	- 13.79	- 17.71	- 18.14	- 23.64	- 17.01	- 15.93	- 14.93	- 11.46	- 9.82	- 15.02
240.00	- 15.78	- 20.41	- 20.64	- 16.51	- 14.28	- 18.91	- 17.71	- 21.31	- 17.14	- 14.44	- 12.58	- 7.91	- 15.02
255.00	- 15.67	- 17.36	- 23.93	- 14.55	- 21.86	- 14.11	- 12.24	- 11.75	- 29.05	- 11.24	- 11.79	- 8.78	- 15.02
270.00	- 15.64	- 15.05	- 18.7	- 14.15	- 14.39	- 18.12	- 13.19	- 12.18	- 11.54	- 13.65	- 11.1	- 11.32	- 15.02
285.00	- 15.62	- 13.55	- 14.18	- 14.62	- 13.88	- 16.81	- 17.14	- 11.18	- 10.63	- 11.72	- 12.83	- 12.4	- 15.02
300.00	- 15.56	- 12.74	- 10.97	- 12.38	- 14.73	- 13.55	- 14.04	- 10.56	- 8.1	- 7.43	- 13.1	- 11.89	- 15.02
315.00	- 15.6	- 12.66	- 9.85	- 9.78	- 9.48	- 10.81	- 9.73	- 9.8	- 5.78	- 6.47	- 12.14	- 11.57	- 15.02
330.00	- 15.65	- 12.33	- 7.87	- 6.04	- 5.76	- 5.99	- 5.42	- 5.4	- 4.01	- 4.16	- 9.73	- 10.57	- 15.02
345.00	- 15.81	- 12.01	- 6.44	- 3.01	- 2.9	- 2.84	- 1.4	- 1.41	- 1.2	- 2.33	- 7.5	- 8.7	- 15.02

Ant6													
Freq	6475.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00



0.00	-7.3 4	- 4.7	- 12.87	- 4.79	- 5.32	0 .31	2 .94	- 3.3	- 4.59	- 2.05	- 4.98	- 15.96	- 16.19
15.0 0	- 7.24	- 7.03	- 10.25	- 4.77	- 7.28	1 .18	2 .53	- 2.59	- 5.79	- 5.58	- 4.91	- 16.19	- 16.19
30.0 0	- 7.24	- 8.81	- 10.34	- 6.61	- 6.32	- 0.43	0 .57	- 3.01	- 7.92	- 7.48	- 5.48	- 14.13	- 16.19
45.0 0	- 7.2	- 10.69	- 11.12	- 10.54	- 5.43	- 1.23	- 2.14	- 5.2	- 11.81	- 8.26	- 6.87	- 11.27	- 16.19
60.0 0	- 7.21	- 12.64	- 17.02	- 12.53	- 5.92	- 2.39	- 5.27	- 7.31	- 11.67	- 7.93	- 7.64	- 10.13	- 16.19
75.0 0	- 7.13	- 12.92	- 21.63	- 16.65	- 9.74	- 4.39	- 8.95	- 9.37	- 11.66	- 5.09	- 9.94	- 9.19	- 16.19
90.0 0	- 6.91	- 11.21	- 10.1	- 12.51	- 9.94	- 6.21	- 10.12	- 11.11	- 15.68	- 3.62	- 11.61	- 9.74	- 16.19
105. 00	- 6.67	- 9.24	- 7.25	- 6.05	- 10.32	- 7.86	- 8.38	- 16.78	- 10.23	- 8.37	- 15.93	- 11.83	- 16.19
120. 00	- 6.63	- 7.95	- 6.99	- 7.4	- 14.57	- 11.59	- 7.94	- 14.43	- 23.54	- 10.36	- 10.98	- 13.84	- 16.19
135. 00	- 6.62	- 7.64	- 8.81	- 16.04	- 9.91	- 10.79	- 10.28	- 24.19	- 18.28	- 14.59	- 13.06	- 13.4	- 16.19
150. 00	- 6.66	- 7.93	- 11.11	- 7.91	- 3.05	- 4.86	- 7.33	- 9.13	- 18.81	- 9.11	- 13.18	- 10.1	- 16.19
165. 00	- 6.69	- 8.74	- 13.21	- 7.36	- 2.39	- 3.79	- 9.17	- 10.53	- 16.32	- 7.62	- 11.37	- 8.53	- 16.19
180. 00	- 6.59	- 9.44	- 10.73	- 5.29	- 2.93	- 3.48	- 12.58	- 6.58	- 8.28	- 7.22	- 12.31	- 7.71	- 16.19
195. 00	- 6.57	- 8.43	- 4.23	- 2.72	- 1.98	1 .38	- 2.78	- 1.79	- 8.74	- 6.39	- 11.64	- 8.49	- 16.19
210. 00	- 6.55	- 6.68	- 1.42	- 1.56	- 4.69	1 .09	- 3.93	- 1.82	- 11.37	- 7.31	- 15.3	- 7.86	- 16.19
225. 00	- 6.58	- 5.84	0 .01	- 1.64	- 12.08	- 4	- 3.22	- 4.03	- 9.5	- 13.97	- 13.57	- 9.73	- 16.19
240. 00	- 6.64	- 5.78	- 0.56	- 2.68	- 10.72	- 0.89	- 0.87	- 0.84	- 7.04	- 14.35	- 12.3	- 12.18	- 16.19
255. 00	- 6.8	- 5.23	- 2.76	- 3.57	- 2.01	- 0.03	1 .54	1 .59	- 1.47	- 13.36	- 12.1	- 13.99	- 16.19
270. 00	- 6.99	- 3.95	- 4.89	- 8.38	0 .18	3 .94	4 .75	3 .26	- 3.47	- 11.23	- 14.29	- 10.24	- 16.19



285.00	- 7.12	- 2.61	- 3.3	- 8.76	- 5.51	0 .54	1 .67	- 0.08	- 7.02	- 9.81	- 12.06	- 7.76	- 16.19
300.00	- 7.15	- 1.77	- 1.7	- 5.69	- 4.71	- 0.45	- 1.59	- 5.25	- 9.57	- 9.27	- 13.8	- 8.52	- 16.19
315.00	- 7.16	- 1.63	- 2.56	- 9.8	- 1.63	- 1.5	1 .4	- 0.87	- 4.34	- 5.73	- 14.72	- 11.02	- 16.19
330.00	- 7.19	- 2.21	- 5.38	- 10	- 1.57	- 1.37	3 .06	2 .21	- 2.25	- 2.17	- 9.19	- 13.25	- 16.19
345.00	- 7.25	- 2.84	- 9.58	- 7	- 2.93	- 1.09	3 .17	0 .34	- 3.2	- 1.14	- 6.03	- 14.21	- 16.19

Ant7													
Freq	6475.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-11.5	- 16.22	- 9.68	- 10.33	- 4.84	- 0.79	- 5.99	- 7.39	- 10.81	- 12.06	- 12.69	- 7.79	- 13.46
15.00	- 11.44	- 16.36	- 9.57	- 8.63	- 3.25	0 .97	- 2.87	- 3.28	- 12.25	- 10.02	- 12.47	- 6.5	- 13.46
30.00	- 11.42	- 15.59	- 10.72	- 8.55	- 0.86	3 .54	1 .39	- 0.2	- 8.98	- 10.29	- 10.59	- 5.9	- 13.46
45.00	- 11.38	- 13.65	- 13.25	- 6.97	- 0.16	4 .21	4 .4	0 .95	- 4.76	- 9.14	- 9.55	- 5.88	- 13.46
60.00	- 11.3	- 11.58	- 14.7	- 6.45	- 1.59	2 .66	4 .57	0 .13	- 5.41	- 11.37	- 9.3	- 5.83	- 13.46
75.00	- 11.26	- 10.27	- 10.64	- 5.91	- 5.79	- 2.82	0 .2	- 3.31	- 9.66	- 9.98	- 7.92	- 5.68	- 13.46
90.00	- 11.23	- 9.81	- 8.12	- 5.61	- 6.89	- 3.55	0 .74	- 0.47	- 3.15	- 4.85	- 4.8	- 4.94	- 13.46
105.00	- 11.34	- 9.69	- 6.77	- 4.27	- 3.59	- 1.47	1 .14	0 .75	- 1.15	- 4.96	- 6.49	- 4.55	- 13.46
120.00	- 11.31	- 9.73	- 5.66	- 2.9	- 4.22	- 0.83	1 .22	- 0.38	- 2.05	- 4.23	- 6.69	- 5.26	- 13.46
135.00	- 11.34	- 9.83	- 4.95	- 3.79	- 5.92	2 .16	3 .87	0 .77	- 2.54	- 2.73	- 6.27	- 4.98	- 13.46
150.00	- 11.31	- 9.69	- 5.43	- 5.49	- 4.34	3 .48	5 .13	1 .79	- 3.28	- 2.68	- 5.98	- 5.2	- 13.46
165.00	- 11.31	- 9.69	- 5.43	- 5.49	- 4.34	2 .48	5 .13	1 .79	- 3.28	- 2.68	- 5.98	- 5.2	- 13.46



00	11.34	9.58	6.98	6.47	3.28	.77	.08	.86	3.21	5.05	6.54	5.83	13.46
180.00	-	-	-	-	-	0	3	0	-	-	-	-	-
	11.44	9.41	8.1	6.28	3.39	.91	.24	.89	4.85	7.52	8.49	6.81	13.46
195.00	-	-	-	-	-	-	0	-	-	-	-	-	-
	11.57	9.43	9.62	7.55	3.64	0.81	.81	1.44	6.61	11.92	10.9	7.93	13.46
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.63	10.34	14.89	9.18	5.16	1.32	1.07	4.55	8.7	19.64	11.9	9.39	13.46
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.65	12.15	15.42	11.08	7.39	3.14	4.29	5.54	10.52	19.76	11.41	11.12	13.46
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.68	13.91	13.88	12.12	13.86	5.29	7.42	9.74	13.86	19.51	12.77	13.46	13.46
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.77	15.72	14.2	15.23	12.38	7.13	8.77	10.35	13.78	26.21	13.2	11.15	13.46
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.72	17.86	10.7	7.21	9.98	8.03	8.58	15.55	15.4	16.17	16.71	8.6	13.46
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.69	18.59	10.42	9.08	17.5	10.99	7.09	12.74	23.33	16.78	22.85	9.86	13.46
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.75	17.78	13.35	21.41	12.17	9.8	10.47	15.97	21.58	17.23	19.66	9.77	13.46
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.69	16.47	13.65	11.33	11.9	10.77	9.81	10.96	19.2	17.34	17.64	9.98	13.46
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.66	15.9	12.55	11.32	14.31	6.6	5.57	10.39	15.51	12.8	13.55	9.57	13.46
345.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	11.68	15.94	10.58	13.47	7.91	4.86	7.89	13.1	14.44	11.45	12.09	8.77	13.46

6475MHz Composite Gain (1SS)													
Freq	6475.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	-	-	-	-	1	4	4	2	1	0	-	-	-
	-6.11	4.91	3.91	0.01	.53	.46	.96	.60	.32	.88	2.41	5.51	10.05
15.00	-	-	-	0	2	6	6	5	1	0	-	-	-
	6.00	6.27	3.16	.78	.37	.16	.53	.17	.89	.22	1.96	4.15	10.05
30.00	-	-	-	0	3	7	7	6	2	0	-	-	-
	5.95	6.84	3.61	.40	.92	.49	.55	.34	.33	.29	1.61	3.26	10.05
45.00	-	-	-	-	4	8	7	6	2	0	-	-	-
	5.96	7.03	5.11	0.42	.53	.06	.75	.03	.83	.68	1.90	2.75	10.05

60.00	- 5.98	- 7.03	- 7.36	- 1.19	3 .51	6 .91	6 .71	4 .57	2 .09	0 .05	- 2.17	- 2.20	- 10.05
75.00	- 5.95	- 6.68	- 6.84	- 2.62	0 .33	3 .51	3 .50	2 .10	- 0.61	0 .01	- 2.77	- 1.50	- 10.05
90.00	- 5.93	- 6.13	- 4.05	- 3.19	- 1.62	1 .04	2 .16	1 .86	- 1.07	0 .55	- 2.50	- 1.47	- 10.05
105.0 0	- 5.82	- 5.61	- 2.66	- 1.90	- 2.15	0 .04	1 .12	0 .68	0 .00	- 2.67	- 4.91	- 1.68	- 10.05
120.0 0	- 5.75	- 5.34	- 2.01	- 1.30	- 4.31	- 2.06	0 .58	- 0.49	- 2.35	- 2.99	- 4.74	- 2.98	- 10.05
135.0 0	- 5.74	- 5.43	- 2.26	- 3.09	- 4.14	0 .16	1 .44	- 0.80	- 2.88	- 3.08	- 5.62	- 2.81	- 10.05
150.0 0	- 5.73	- 5.67	- 3.25	- 2.59	- 1.28	2 .87	2 .70	0 .83	- 5.20	- 2.09	- 5.66	- 2.62	- 10.05
165.0 0	- 5.73	- 6.14	- 4.85	- 2.96	- 0.87	2 .53	2 .52	0 .07	- 4.97	- 3.02	- 5.93	- 3.56	- 10.05
180.0 0	- 5.79	- 6.74	- 5.53	- 2.22	- 1.20	1 .10	0 .47	0 .19	- 4.28	- 4.42	- 7.04	- 3.68	- 10.05
195.0 0	- 5.83	- 6.49	- 3.90	- 1.90	- 0.73	1 .78	0 .99	0 .34	- 4.90	- 5.09	- 7.56	- 5.17	- 10.05
210.0 0	- 5.84	- 6.09	- 3.67	- 1.94	- 2.61	1 .65	- 0.76	- 0.91	- 6.25	- 6.92	- 8.39	- 5.14	- 10.05
225.0 0	- 5.81	- 6.30	- 2.72	- 2.42	- 6.64	- 1.54	- 2.06	- 2.50	- 6.79	- 11.11	- 7.32	- 5.43	- 10.05
240.0 0	- 5.80	- 6.59	- 2.95	- 3.70	- 8.03	- 0.91	- 1.48	- 2.36	- 6.86	- 11.02	- 7.78	- 6.08	- 10.05
255.0 0	- 5.89	- 6.22	- 4.89	- 4.57	- 3.83	- 0.51	0 .35	0 .15	- 4.07	- 10.16	- 7.57	- 6.28	- 10.05
270.0 0	- 5.96	- 5.31	- 4.97	- 4.66	- 1.08	1 .65	2 .54	0 .66	- 3.90	- 8.68	- 8.96	- 5.21	- 10.05
285.0 0	- 6.02	- 4.20	- 3.33	- 5.67	- 6.02	- 1.30	0 .30	- 1.26	- 6.62	- 7.53	- 9.97	- 5.03	- 10.05
300.0 0	- 6.04	- 3.37	- 2.36	- 6.24	- 4.67	- 1.35	- 2.29	- 4.75	- 6.61	- 5.62	- 10.29	- 5.18	- 10.05
315.0 0	- 6.03	- 3.10	- 2.67	- 5.50	- 1.73	- 1.73	0 .45	- 1.18	- 2.97	- 3.73	- 9.78	- 6.06	- 10.05
330.0 0	- 6.05	- 3.35	- 3.35	- 4.05	- 1.01	0 .45	3 .13	1 .79	- 0.85	- 0.54	- 5.85	- 6.22	- 10.05



345.0	-	-	-	-	0	1	3	1	0	0	-	-	-
0	6.12	3.70	3.91	2.06	.49	.98	.84	.72	.10	.85	3.41	5.44	10.05

6475MHz Composite Gain (3SS)													
Freq	6475.00												
Phi\ Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-10.28	-8.50	-8.14	-4.18	-2.93	-0.30	0.76	1.44	2.40	3.14	6.72	9.78	14.75
15.00	-10.18	-10.28	-7.59	-3.41	-1.77	-.40	-.15	-.20	1.21	3.80	6.25	8.27	14.75
30.00	-10.15	-11.22	-7.99	-3.62	-0.26	-.92	-.08	-.31	0.69	3.31	6.06	7.51	14.75
45.00	-10.13	-11.71	-9.43	-4.32	-.29	-.65	-.39	-.04	0.23	2.83	6.43	7.26	14.75
60.00	-10.14	-11.78	-11.19	-5.14	-0.74	-.54	-.59	-.57	1.09	3.37	6.72	6.77	14.75
75.00	-10.09	-11.39	-10.58	-6.49	-3.66	-0.80	-0.55	-1.80	3.89	4.16	7.35	6.08	14.75
90.00	-9.98	-10.86	-8.78	-7.59	-6.02	-3.57	-1.86	-2.17	4.94	4.21	6.90	6.01	14.75
105.00	-9.84	-10.27	-7.41	-6.31	-6.45	-4.29	-2.60	-2.68	4.11	7.20	9.05	6.01	14.75
120.00	-9.79	-9.85	-6.74	-5.65	-7.99	-5.07	-2.80	-4.01	5.51	7.25	9.20	7.21	14.75
135.00	-9.78	-9.83	-6.87	-6.91	-8.53	-2.30	-0.68	-3.37	6.24	6.60	9.65	7.06	14.75
150.00	-9.79	-10.03	-7.73	-7.23	-5.24	-0.50	-.62	-2.37	7.73	6.08	9.54	7.17	14.75
165.00	-9.80	-10.49	-9.28	-7.64	-4.51	-0.97	-.51	-2.55	7.62	7.39	9.82	8.04	14.75
180.00	-9.79	-10.91	-10.10	-6.79	-4.85	-2.42	-1.38	-3.05	7.90	8.74	11.28	8.25	14.75
195.00	-9.82	-10.48	-7.67	-5.92	-4.41	-1.34	-2.35	-3.31	9.03	9.36	12.18	9.53	14.75
210.00	-9.81	-9.78	-5.94	-5.43	-6.53	-1.69	-4.01	-4.63	10.78	10.68	13.06	9.65	14.75
225.00	-9.81	-9.78	-5.94	-5.43	-6.53	-1.69	-4.01	-4.63	10.78	10.68	13.06	9.65	14.75



00	9.82	9.61	4.60	5.71	10.60	5.23	5.46	6.35	11.22	15.59	12.04	10.18	14.75
240.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.84	9.80	5.09	6.82	12.65	4.27	4.70	5.05	10.65	15.53	12.55	10.50	14.75
255.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	9.96	9.39	7.20	7.74	6.36	3.89	2.68	2.73	5.99	13.85	12.32	10.81	14.75
270.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	10.08	8.24	8.51	9.05	4.06	0.54	.24	1.33	7.38	13.23	13.43	9.91	14.75
285.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.16	6.94	7.01	10.13	9.46	3.86	2.51	4.31	10.15	11.92	14.00	9.61	14.75
300.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.19	6.11	5.73	9.52	8.41	4.56	5.62	8.63	10.42	9.75	14.71	9.85	14.75
315.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.18	5.94	6.31	10.25	5.40	5.35	2.75	4.76	6.68	7.69	14.28	10.81	14.75
330.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.20	6.41	7.71	8.51	4.77	3.98	0.64	1.67	4.68	4.59	10.44	10.87	14.75
345.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.26	6.93	8.49	6.05	4.04	2.66	0.06	2.09	3.72	3.23	7.88	9.92	14.75

Ant5													
Freq	6725.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-14.15	-11.85	-2.62	0.64	2.61	3.5	2.75	3.01	1.21	-0.84	-4.09	-5.77	-13.48
15.00	-14.31	-11.63	-1.84	.34	.27	.66	.98	.12	.53	0.29	3.7	4.26	13.48
30.00	-14.59	-11.24	-2.3	.38	.69	.23	.44	.46	.56	.65	3.26	4.79	13.48
45.00	-14.49	-9.85	-4.19	.22	.43	.21	.29	.25	.38	.53	2.89	4.35	13.48
60.00	-14.05	-8.52	-6.92	.57	.3	.75	.78	.31	.7	.89	3.13	3.66	13.48
75.00	-13.97	-8.05	-6.36	0.56	.85	.88	.5	.21	.58	.07	3	2.95	13.48
90.00	-13.65	-8.54	-6.57	3.97	0.16	.1	0.08	.99	3.21	2.74	4.27	3.23	13.48
105.00	-13.54	-9.39	-7.84	7.34	4.75	2.51	6.99	2.5	4.97	8.38	7.84	3.55	13.48



120.00	- 13.37	- 9.88	- 5.96	- 8.41	- 12.08	- 10.6	- 9.27	- 4.4	- 5.27	- 9.11	- 12.15	- 4.94	- 13.48
135.00	- 13.22	- 9.7	- 4.36	- 4.18	- 7.74	- 15.51	- 13.28	- 4.51	- 6.16	- 8.52	- 19.19	- 4.56	- 13.48
150.00	- 13.1	- 10.15	- 4.92	- 4.76	- 7.85	- 7.01	- 20	- 5.26	- 10.14	- 9.16	- 20.67	- 5.39	- 13.48
165.00	- 13.36	- 11.17	- 5.92	- 6.03	- 11.33	- 6.73	- 12.72	- 7.21	- 12.98	- 9.44	- 31.06	- 9.36	- 13.48
180.00	- 13.39	- 12.8	- 8.05	- 6.62	- 15.69	- 9.85	- 10.71	- 9.69	- 12.82	- 12.37	- 25.15	- 8.34	- 13.48
195.00	- 13.41	- 15.5	- 11.12	- 9	- 13.78	- 14.3	- 16.4	- 13.96	- 16.91	- 13.29	- 18.57	- 13.48	- 13.48
210.00	- 13.21	- 17.94	- 15.79	- 11.57	- 13.15	- 17.25	- 21.53	- 14.37	- 14.54	- 11.88	- 12.86	- 10.63	- 13.48
225.00	- 13.13	- 18.53	- 17.01	- 11.03	- 16.17	- 16.83	- 14.86	- 15.35	- 14.2	- 15.96	- 9.76	- 7.66	- 13.48
240.00	- 13.16	- 19.63	- 18.93	- 16.81	- 12.32	- 19.03	- 17.02	- 22.39	- 19.47	- 12.93	- 9.26	- 5.89	- 13.48
255.00	- 13.37	- 19.94	- 18.76	- 15.33	- 20.82	- 14.35	- 11.12	- 11.23	- 18.1	- 9.53	- 9.53	- 6.66	- 13.48
270.00	- 13.86	- 18.48	- 16.16	- 14.81	- 12.09	- 19.58	- 12.89	- 13.45	- 10.75	- 12.6	- 9.32	- 8.6	- 13.48
285.00	- 14.15	- 15.97	- 12.38	- 9.11	- 14.9	- 12.41	- 16.26	- 11.05	- 13.21	- 10.08	- 10.71	- 8.53	- 13.48
300.00	- 14.38	- 14.01	- 9.59	- 9.2	- 11.79	- 10.54	- 9.9	- 9.6	- 7.87	- 6.61	- 9.35	- 8.04	- 13.48
315.00	- 14.36	- 12.95	- 7.63	- 7.29	- 6.8	- 6.3	- 7.26	- 8.17	- 5.62	- 5.86	- 8.67	- 7.43	- 13.48
330.00	- 14.13	- 12.7	- 5.34	- 4.51	- 3.05	- 2.18	- 3.26	- 3.9	- 4.21	- 3.42	- 7.11	- 5.93	- 13.48
345.00	- 13.99	- 12.5	- 3.4	- 1.28	0 .11	0 .64	- 0.47	- 0.5	- 1.47	- 1.84	- 5.24	- 5.36	- 13.48

Ant6													
Freq	6725.00												
Phi\Theta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-1.1	-	-	0	-	-	3	1	-	0	-	-	-



	5	0.71	9.38	.61	1.11	1.23	.75	.45	0.21	.81	2.79	20.39	20.39
15.0	-	-	-	-	-	1	4	-	-	-	-	-	-
0	1.18	1.67	12.43	2.98	2.66	.38	.02	1.11	0.74	1.5	3.28	17.58	20.39
30.0	-	-	-	-	-	-	2	-	-	-	-	-	-
0	1.11	2.68	11.43	8.16	3.81	0.11	.21	3.38	7.06	2.77	4.88	11.71	20.39
45.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	1.04	3.71	9.6	8.63	2.17	3.25	0.28	3.99	11.97	3.23	4.08	9.92	20.39
60.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	0.98	4.85	7.87	7.67	2.07	3.08	4.75	6.68	7.2	3.36	2.84	13.28	20.39
75.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	0.97	6.12	7.32	8.99	7.51	7.88	4.68	5.51	4.06	3.64	3.26	10.08	20.39
90.0	-	-	-	-	-	-	-	-	-	0	-	-	-
0	0.97	7.52	11.79	11.32	5.2	6.86	11.1	3.9	8.06	.59	5	7.52	20.39
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	0.93	7.34	10.56	4.29	9.06	3.55	3.1	13.39	3.49	4.44	9.24	7.75	20.39
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	0.88	6.2	6.07	4.56	8.89	6.55	4.77	8.89	14.74	6.03	5.98	8.85	20.39
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	0.92	5.75	6.21	9.61	6.03	5.94	6.89	14.57	9.65	8.91	10.38	12.16	20.39
150.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	0.89	6.76	7.51	3.11	0.99	6.09	6.59	7.06	13.49	8.68	10.62	6.42	20.39
165.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	0.79	7.14	6.94	3.6	1.76	8.66	6.59	4.23	13.59	4.2	8.47	4.82	20.39
180.	-	-	-	-	0	-	-	-	-	-	-	-	-
00	0.78	5.51	3.64	1.39	.06	2.25	7.64	0.81	8.71	1.81	8.97	3.55	20.39
195.	-	-	-	1	2	4	-	0	-	0	-	-	-
00	0.81	4.01	0.61	.48	.51	.07	3.62	.99	8.56	.07	5.98	4.22	20.39
210.	-	-	1	3	0	2	-	1	-	-	-	-	-
00	0.88	3.18	.72	.07	.64	.68	3.36	.15	7.07	2.14	5.25	5.16	20.39
225.	-	-	1	1	-	-	1	-	-	-	-	-	-
00	1.06	2.22	.84	.84	8.26	1.02	.83	0.07	2.98	8.58	4.62	7.52	20.39
240.	-	-	1	-	-	1	1	1	0	-	-	-	-
00	1.05	0.99	.34	0.38	7.33	.54	.05	.34	.75	3.43	4.91	8.92	20.39
255.	-	0	-	-	0	3	5	5	3	-	-	-	-
00	0.99	.1	0.22	2.48	.64	.19	.19	.15	.4	2.24	6.07	8.63	20.39
270.	-	0	-	-	3	7	6	6	0	-	-	-	-
00	0.95	.9	1.94	8.13	.53	.33	.98	.51	.27	4.28	7.92	5.07	20.39
285.	-	1	-	-	-	3	4	1	-	-	-	-	-



00	1.05	.5	0.62	9.75	2.69	.1	.52	.12	3.39	11.52	8.7	2.94	20.39
300.	-	1	0	-	-	4	3	-	-	-	-	-	-
00	1.11	.78	.75	2.52	7.44	.43	.28	1.43	14.53	8.62	10.04	4.04	20.39
315.	-	1	0	-	0	2	3	1	-	-	-	-	-
00	1.17	.66	.11	1.84	.8	.15	.3	.84	3.26	3.1	11.77	7.18	20.39
330.	-	1	-	-	3	0	3	3	1	0	-	-	-
00	1.15	.07	2.27	0.35	.97	.72	.84	.88	.1	.61	5.65	10.82	20.39
345.	-	0	-	1	2	-	4	2	0	1	-	-	-
00	1.18	.21	5.05	.26	.43	0.2	.24	.9	.51	.48	3.42	15.34	20.39

Ant7													
Freq	6725.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-11.76	-14.28	-5.55	-4.17	-2.73	0.92	-4.67	-3.49	-7.26	-11.47	-12.57	-2.78	-17.1
15.00	-11.8	-19.46	-5.67	-4.57	0.47	2.58	-0.91	-0.25	-4.72	-9.77	-8.04	-1.64	-17.1
30.00	-11.73	-23.84	-7.98	-4.25	2.65	4.9	5.29	2.64	-2.67	-8.63	-5.97	-1.34	-17.1
45.00	-11.49	-16.74	-11.48	-2.62	2.64	6.17	7.43	2.93	-1.82	-5.78	-5.07	-1.57	-17.1
60.00	-11.39	-12.42	-8.96	-1.96	-0.42	4.21	5.65	1.64	-2.7	-3.64	-2.23	-2.33	-17.1
75.00	-11.34	-10.41	-5.59	-0.73	-5.6	-1.75	0.92	1.01	-0.94	-1.96	-2.22	-2.97	-17.1
90.00	-11.43	-9.7	-5.17	-0.87	-2.19	0.21	2.96	2.87	0.97	-0.96	-1.61	-2.19	-17.1
105.00	-11.44	-9.68	-5.3	-0.82	-0.35	1.23	2.22	1.73	1.13	-2.35	-4.28	-2.27	-17.1
120.00	-11.45	-9.21	-4.14	-1.56	-1.95	3.76	5.43	3.2	-0.17	-1.8	-4.16	-3.07	-17.1
135.00	-11.38	-8.27	-3.89	-6.82	-1.62	5.68	7.27	5.18	-0.32	-1.33	-3.83	-3.7	-17.1
150.00	-11.53	-7.36	-4.86	-7.4	0.06	4.86	6.51	5.29	-0.3	-1.87	-3.98	-4.22	-17.1
165.00	-11.82	-6.87	-6.79	-3.74	0.16	4.01	5.77	4.01	-0.53	-4.85	-5.55	-5.56	-17.1



180.00	- 12.05	- 7.18	- 7.98	- 3.67	- 0.97	3 .69	5 .31	2 .91	- 2.62	- 6.31	- 7.44	- 7.51	- 17.1
195.00	- 12.12	- 8.89	- 9.6	- 6.25	- 1.06	1 .07	3 .42	0 .97	- 4.51	- 9.74	- 11.63	- 9	- 17.1
210.00	- 12.26	- 11.49	- 10.79	- 8.56	- 1.98	0 .65	1 .63	- 1.86	- 6.11	- 14.03	- 15.65	- 10.15	- 17.1
225.00	- 12.39	- 13.16	- 12.21	- 11.73	- 4.25	- 2.58	- 1.95	- 2.79	- 8.24	- 17.54	- 12.81	- 11.8	- 17.1
240.00	- 12.43	- 14.75	- 13.74	- 11.55	- 7.77	- 1.05	- 3.87	- 7.97	- 10.88	- 18.34	- 11.79	- 17.1	- 17.1
255.00	- 12.35	- 16.96	- 16.28	- 11.84	- 14.76	- 8	- 7.54	- 6.42	- 10.54	- 19.32	- 12.59	- 11.45	- 17.1
270.00	- 12.44	- 17.26	- 10.08	- 5.74	- 6.96	- 4.3	- 5.25	- 12.06	- 10.28	- 16.24	- 12.78	- 6.11	- 17.1
285.00	- 12.55	- 14.92	- 7.37	- 4.29	- 11.32	- 12.32	- 7.12	- 8.93	- 24.77	- 14.69	- 15.46	- 6.19	- 17.1
300.00	- 12.6	- 12.67	- 6.42	- 12.63	- 15.35	- 11.08	- 8.23	- 11.37	- 13.69	- 12.6	- 15.8	- 5.89	- 17.1
315.00	- 12.53	- 11.41	- 7.75	- 10.49	- 8.78	- 12.31	- 8.7	- 8.82	- 17.99	- 14.86	- 14.91	- 6.12	- 17.1
330.00	- 12.26	- 11.13	- 9.28	- 7.28	- 11.28	- 6.22	- 4.85	- 7.22	- 8.93	- 11.35	- 10	- 5.83	- 17.1
345.00	- 11.81	- 12	- 7.6	- 5.88	- 6.9	- 3.13	- 7.33	- 7.78	- 6.87	- 10.49	- 9.58	- 4.62	- 17.1

6725MHz Composite Gain (1SS)													
Freq	6725.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	- -2.29	- 2.04	- 0.65	4 .07	4 .66	6 .05	6 .10	5 .51	3 .39	2 .36	- 0.77	- 2.25	- 11.76
15.00	- 2.34	- 3.23	- 0.86	3 .56	5 .93	8 .17	8 .25	6 .99	4 .77	1 .81	0 .01	- 0.84	- 11.76
30.00	- 2.32	- 4.16	- 1.64	3 .12	7 .11	9 .28	1 0.01	8 .08	4 .38	1 .98	0 .14	- 0.20	- 11.76
45.00	- 2.22	- 3.79	- 3.08	3 .39	7 .76	9 .71	1 0.25	7 .97	4 .54	2 .82	0 .80	0 .14	- 11.76
60.00	-	-	-	2	6	8	8	6	4	3	2	-	-

	2.09	3.29	3.11	.87	.31	.79	.18	.15	.44	.46	.05	0.49	11.76
75.00	-	-	-	2	2	4	5	5	3	3	1	0	-
	2.06	3.25	1.62	.13	.59	.70	.31	.06	.93	.06	.96	.02	11.76
90.00	-	-	-	0	2	3	3	5	2	3	1	0	-
	2.03	3.77	2.64	.38	.50	.57	.78	.20	.10	.84	.27	.75	11.76
105.0	-	-	-	1	0	3	2	2	2	0	-	0	-
0	1.99	3.97	2.87	.03	.77	.41	.97	.02	.73	.06	2.09	.55	11.76
120.0	-	-	-	0	-	2	4	2	-	-	-	-	-
0	1.94	3.51	0.57	.37	1.80	.49	.14	.86	0.12	0.36	2.05	0.53	11.76
135.0	-	-	0	-	0	3	4	3	0	-	-	-	-
0	1.93	2.98	.01	1.82	.04	.51	.71	.52	.26	0.74	4.30	1.30	11.76
150.0	-	-	-	-	2	3	3	4	-	-	-	-	-
0	1.92	3.20	0.91	0.14	.48	.83	.81	.26	1.31	1.12	4.60	0.53	11.76
165.0	-	-	-	0	1	2	3	3	-	-	-	-	-
0	1.95	3.41	1.77	.38	.70	.89	.67	.65	2.01	1.10	5.37	1.59	11.76
180.0	-	-	-	1	1	3	3	3	-	-	-	-	-
0	1.99	3.21	1.53	.14	.53	.60	.36	.65	2.26	1.04	6.33	1.43	11.76
195.0	-	-	-	1	2	4	2	2	-	-	-	-	-
0	2.02	3.50	1.01	.37	.92	.54	.44	.97	3.86	0.96	5.86	3.32	11.76
210.0	-	-	-	1	1	3	1	1	-	-	-	-	-
0	2.06	4.05	0.32	.51	.64	.45	.12	.84	3.74	2.94	5.32	3.50	11.76
225.0	-	-	-	0	-	0	2	0	-	-	-	-	-
0	2.19	3.84	0.57	.22	3.52	.22	.13	.75	2.55	8.32	3.62	4.01	11.76
240.0	-	-	-	-	-	2	0	-	-	-	-	-	-
0	2.20	3.34	1.33	2.06	4.10	.05	.85	0.46	1.35	4.59	3.41	4.73	11.76
255.0	-	-	-	-	-	1	3	3	0	-	-	-	-
0	2.18	2.80	2.88	3.34	2.16	.39	.24	.40	.81	3.08	4.22	3.92	11.76
270.0	-	-	-	-	2	4	4	3	-	-	-	-	-
0	2.24	2.07	2.70	4.02	.07	.89	.79	.45	0.54	4.78	5.01	1.70	11.76
285.0	-	-	-	-	-	0	2	0	-	-	-	-	-
0	2.37	1.09	0.69	2.59	3.30	.85	.38	.22	5.19	7.12	6.42	0.81	11.76
300.0	-	-	0	-	-	2	1	-	-	-	-	-	-
0	2.46	0.37	.80	2.30	6.15	.24	.94	1.55	6.72	4.16	6.52	1.07	11.76
315.0	-	-	0	-	0	1	2	1	-	-	-	-	-
0	2.48	0.14	.52	1.02	.88	.28	.32	.20	2.25	1.91	6.64	2.12	11.76
330.0	-	-	-	1	3	2	4	3	1	1	-	-	-
0	2.38	0.47	0.40	.20	.38	.66	.22	.65	.71	.33	2.63	2.47	11.76
345.0	-	-	-	3	4	4	4	4	2	2	-	-	-



0	2.30	1.18	0.41	.28	.13	.02	.79	.01	.68	.44	0.95	2.51	11.76
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6725MHz Composite Gain (3SS)													
Freq	6725.00												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-5.36	4.99	5.04	0.47	.19	.49	.85	.08	0.86	1.55	4.90	5.73	16.11
15.00	5.40	5.96	4.85	0.68	.59	.60	.86	.87	.59	2.34	4.54	4.45	16.11
30.00	5.34	6.86	5.63	0.45	.98	.94	.48	.19	.79	2.15	4.56	4.23	16.11
45.00	5.26	7.37	7.28	0.33	.58	.73	.96	.08	.43	1.42	3.92	4.11	16.11
60.00	5.18	7.57	7.84	1.26	.15	.81	.15	.28	.89	0.90	2.72	4.51	16.11
75.00	5.16	7.85	6.37	2.10	1.00	.15	.04	.84	0.56	1.58	2.80	4.32	16.11
90.00	5.16	8.50	7.06	3.65	2.05	0.72	.05	.79	2.02	0.83	3.37	3.78	16.11
105.00	5.12	8.67	7.39	3.36	3.37	1.10	1.05	1.55	1.63	4.41	6.60	3.97	16.11
120.00	5.07	8.12	5.30	4.01	5.58	0.48	.19	0.65	3.66	4.63	6.34	5.02	16.11
135.00	5.09	7.59	4.71	6.32	4.33	.23	.70	.89	3.70	4.75	7.63	5.54	16.11
150.00	5.07	7.86	5.60	4.75	1.82	.68	.96	.11	4.46	5.20	7.82	5.25	16.11
165.00	5.01	8.00	6.53	4.32	2.27	0.20	.30	.12	4.86	5.63	8.52	6.18	16.11
180.00	5.02	7.57	6.03	3.39	2.12	.05	.86	0.16	6.12	4.99	9.86	5.93	16.11
195.00	5.05	7.33	4.54	2.29	0.61	.11	0.53	0.71	7.66	4.09	9.52	7.37	16.11
210.00	5.12	7.23	2.74	1.28	2.12	.05	1.93	1.78	7.99	6.23	9.00	7.89	16.11
225.00	5.28	6.56	2.71	2.53	7.37	3.42	1.36	2.90	6.37	12.18	7.75	8.60	16.11



240.00	- 5.27	- 5.53	- 3.26	- 4.74	- 8.64	- 1.30	- 2.46	- 2.93	- 3.69	- 7.62	- 7.72	- 8.69	- 16.11
255.00	- 5.23	- 4.54	- 4.83	- 6.58	- 3.98	- 1.19	0 .74	0 .76	- 1.17	- 6.20	- 8.60	- 8.49	- 16.11
270.00	- 5.22	- 3.76	- 5.95	- 8.21	- 0.76	2 .86	2 .50	1 .84	- 3.83	- 8.22	- 9.57	- 6.36	- 16.11
285.00	- 5.33	- 3.10	- 4.33	- 6.98	- 6.68	- 1.43	0 .07	- 3.01	- 7.70	- 11.70	- 10.82	- 5.28	- 16.11
300.00	- 5.40	- 2.73	- 2.93	- 6.11	- 10.37	- 0.09	- 1.00	- 5.22	- 10.95	- 8.64	- 10.94	- 5.69	- 16.11
315.00	- 5.44	- 2.76	- 3.42	- 5.08	- 2.89	- 1.91	- 0.86	- 2.19	- 5.95	- 5.84	- 11.07	- 6.87	- 16.11
330.00	- 5.40	- 3.28	- 4.76	- 3.12	0 .09	- 1.71	0 .31	0 .06	- 2.23	- 2.52	- 7.24	- 6.99	- 16.11
345.00	- 5.39	- 4.09	- 5.02	- 1.08	- 0.03	- 0.62	0 .95	0 .01	- 1.67	- 1.45	- 5.40	- 6.54	- 16.11

Ant5													
Freq	7025.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-11.49	-10	-3.31	0.17	2.66	3.16	1.82	0.32	-2.34	-2.78	-4.32	-3.06	-18.39
15.00	-11.44	-9.54	-2.58	1.95	4.53	5.88	4.85	2.89	-0.3	-1.95	-4.66	-2.8	-18.39
30.00	-11.39	-9.49	-2.07	3.14	5.68	7.14	6.66	4.24	-0.85	-2.23	-5.52	-3.83	-18.39
45.00	-11.32	-9.84	-3	3.51	6.05	7.47	6.31	4.72	-1.21	-4.1	-5.68	-3.88	-18.39
60.00	-11.37	-9.41	-6.1	2.55	5.15	6.85	4.53	3.53	0.02	-4.15	-5.4	-4.88	-18.39
75.00	-11.39	-8.74	-8.25	0.05	2.55	4.55	2.18	0.95	-1.14	-3.86	-5.39	-5.33	-18.39
90.00	-11.61	-8.51	-6.79	-3.23	0.28	1.53	1.07	1.52	-6.4	-6.59	-7.16	-5.14	-18.39
105.00	-11.68	-8.76	-8.61	-7.04	3.56	2.14	5.38	5.31	-13.9	-15.3	-10.09	-5.01	-18.39
120.00	-	-	-	-	-	-	-	-	-	-	-	-	-



00	11.47	9.44	8.65	11.19	9.71	5.87	9.12	7.52	11.08	19.55	12.38	5.64	18.39
135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.29	10.1	5.44	4.84	14.82	14.85	10.41	6.58	7.65	15.87	15.29	5.33	18.39
150.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.01	10.56	5.38	3.13	8.52	5.75	18.2	7.64	6.61	13.08	14.11	6.98	18.39
165.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.77	12.14	7.18	4.75	9.92	3.11	15.36	8.28	7.99	13.79	13.57	10.82	18.39
180.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.93	14.97	9.37	6.21	12.07	6.21	11.85	10.5	8.11	16.24	15.71	9.74	18.39
195.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.12	16.96	13.67	8.25	12.81	10.74	15.4	14.95	10.92	16.79	14.75	18.39	18.39
210.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.2	19.45	20.11	11.64	12.53	12.51	16.11	17.7	10.05	14.54	12.16	13.47	18.39
225.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.23	23.62	17.24	9.36	20.27	14.99	13.18	21.18	12.18	15.5	10.73	10.45	18.39
240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.14	20.82	18.71	17.16	14.17	18.37	22.3	15.81	10.65	9.35	11.16	9.94	18.39
255.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.92	16.9	16.56	15.54	15.14	15.75	12.6	13.29	12.31	9.05	10.14	10.49	18.39
270.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.83	13.84	11.47	11.12	12.91	22.97	17.11	15.76	8.86	10.56	8.37	11.56	18.39
285.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	10.91	12.3	8.1	9.67	15.75	15.25	16.42	15.39	13.26	8.33	6.61	8.55	18.39
300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.12	12.09	7.88	9.39	11.61	11.05	12.3	15.47	9.91	8.18	6.64	6.98	18.39
315.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.26	11.9	6.56	7.96	5.93	8.93	7.11	11.33	10.33	10.35	6.13	6.16	18.39
330.00	-	-	-	-	-	-	-	-	-	-	-	-	-
00	11.51	10.94	5.26	3.8	2.4	6.23	4.13	6.53	6.97	7.1	5.92	4.02	18.39
345.00	-	-	-	-	0	-	-	-	-	-	-	-	-
00	11.57	10.13	4.47	1.78	.44	0.79	1.53	3.38	4.69	4.75	4.62	3.55	18.39

Ant6													
Freq	7025.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-2.6	-	-	-	-	2	1	0	-	-	-	-	-



	9	1.92	3.21	7.32	8.84	.36	.15	.2	7.11	3.22	6.91	9.81	17.98
15.0	-	-	-	-	-	1	1	-	-	-	-	-	-
0	2.81	3.49	7.11	12.78	5.4	.37	.87	1.1	4.4	6.33	6.09	10.36	17.98
30.0	-	-	-	-	-	1	1	-	-	-	-	-	-
0	2.98	5.27	10.35	16.75	5.14	.01	.25	6.65	5.91	7.39	8.2	7.42	17.98
45.0	-	-	-	-	-	-	0	-	-	-	-	-	-
0	3.03	6.57	11.37	6.85	7.75	2.35	.07	11.98	15.75	7.58	9.02	5.89	17.98
60.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	2.92	7.7	13.45	4.12	4.13	6.59	6.56	8.9	7.94	7.64	7.51	6.93	17.98
75.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	2.73	8.85	19.53	7.18	4.65	4.37	12.12	5.64	8.5	6.74	5.72	10.61	17.98
90.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	2.5	9.79	18.48	13.29	10.43	7.34	18.38	4.19	10.13	6.22	5.63	12.05	17.98
105.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.3	9.57	14.1	8.45	7.7	2.89	6.76	7.78	7.15	7.69	8.24	11.96	17.98
120.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.38	9.51	12.61	9.98	14.94	6.53	5.22	17.68	17.36	9.23	8.67	13.68	17.98
135.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.39	9.66	10.38	14.14	6.85	5.13	5.98	12.12	10.71	12.28	8.86	17.98	17.98
150.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.55	9.86	8.98	4.69	2.83	6.17	12.82	10.26	18.64	11.13	11.27	11.29	17.98
165.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.55	9.67	10.81	6.32	2.91	7.31	16.61	8.58	12.22	7.17	12.9	10.54	17.98
180.	-	-	-	-	-	-	-	-	-	-	-	-	-
00	2.52	8.93	8.65	10.54	0.98	1.47	12.4	4.24	11.87	4.74	11.61	8.58	17.98
195.	-	-	-	-	-	0	-	-	-	-	-	-	-
00	2.36	7.19	5.22	9.17	1.08	.76	2.72	0.43	12.44	3.83	10.19	6.87	17.98
210.	-	-	-	-	-	-	0	-	-	-	-	-	-
00	2.32	5.06	4.17	6.98	5.29	3.54	.03	1.54	13.09	5.97	10.3	8.68	17.98
225.	-	-	-	-	-	0	1	-	-	-	-	-	-
00	2.24	3.56	2.8	3.59	8.35	.1	.26	5.47	6.18	8.29	9.55	9.63	17.98
240.	-	-	-	-	-	0	0	-	-	-	-	-	-
00	2.37	2.68	2.69	0.89	1.43	.25	.3	1.91	2.15	5.83	7.57	9.76	17.98
255.	-	-	-	-	2	3	4	2	0	-	-	-	-
00	2.47	1.91	3.83	1.87	.42	.14	.68	.47	.37	3.71	4.74	9.5	17.98
270.	-	-	-	-	3	5	6	3	0	-	-	-	-
00	2.71	1.17	5.4	9.77	.7	.23	.23	.73	.34	3.39	6.47	9	17.98
285.	-	-	-	-	-	2	5	1	-	-	-	-	-



00	2.88	0.56	4.16	10.69	3.14	.53	.32	.99	3.49	9.09	11.7	7.58	17.98
300.	-	-	-	-	-	4	0	-	-	-	-	-	-
00	2.91	0.24	1.92	3.93	3.11	.06	.93	0.9	10.1	7.33	8.59	8.26	17.98
315.	-	-	-	-	-	0	-	1	-	-	-	-	-
00	2.85	0.13	0.66	6.63	14.55	.04	5.1	.49	6.69	5.74	12.35	8.31	17.98
330.	-	-	-	-	-	0	-	3	-	-	-	-	-
00	2.72	0.29	0.42	6.49	3.42	.78	0.9	.13	6.72	3.84	13.27	9.37	17.98
345.	-	-	-	-	-	2	-	1	-	-	-	-	-
00	2.64	0.85	1.46	6.5	5.94	.31	1.95	.25	7.92	2.84	9.21	10.39	17.98

Ant7													
Freq	7025.00												
Phi\Thet a	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-10.59	-20.62	-6.91	-3.03	-2.37	-0.71	-5.12	-5.39	-5.89	-10.93	-10.36	-4.3	-17.63
15.00	-10.54	-24.94	-7.2	-4.83	-0.73	-0.53	-1.19	-1.71	-2.83	-9.97	-7.65	-4.05	-17.63
30.00	-10.31	-19	-8.92	-3.83	0.9	0.16	0.79	0.66	2.15	7.46	5.76	3.84	17.63
45.00	-9.96	-15.54	-10.1	-3.15	0.64	0.97	0.78	0.07	2.28	3.69	3.86	4.08	17.63
60.00	-9.59	-14.18	-8.32	-2	1.55	0.88	0.51	0.78	2.28	2.49	2.65	5.01	17.63
75.00	-9.39	-12.78	-6.86	-1.58	2.67	4.33	0.87	0.21	1.15	2.73	4.93	6.11	17.63
90.00	-9.52	-11.28	-5.47	-2.6	3.47	2.8	0.81	0.06	0.57	4	6.56	5.88	17.63
105.00	-9.65	-9.56	-3.89	-3.19	2.21	0.44	0.27	0.57	2.13	4.06	8.46	6.04	17.63
120.00	-9.78	-8.33	-4.07	-4.31	1.83	0.76	0.19	0.6	5.86	4.96	6.75	7.03	17.63
135.00	-9.67	-7.65	-6.43	-7.16	1.49	0.43	0.45	0.69	2.57	10.2	6.39	9.04	17.63
150.00	-9.49	-7.46	-11.02	-3.79	0.57	0.43	0.5	0.13	0.9	10.06	8.11	10.32	17.63
165.00	-9.39	-7.63	-15.52	-1.69	0.78	0.75	0.13	0.28	2.61	7.67	10.82	12.32	17.63



180.00	- 9.51	- 8.15	- 14.32	- 2.21	- 2.37	5 .15	3 .45	- 0.78	- 6.49	- 6.75	- 11.78	- 14.38	- 17.63
195.00	- 9.64	- 8.69	- 12.74	- 3.54	- 5.02	3 .2	2 .99	- 2.91	- 10.7	- 8.05	- 14.48	- 15.73	- 17.63
210.00	- 9.89	- 9.26	- 10.34	- 7.52	- 4.36	- 0.35	0 .48	- 4.78	- 10.87	- 11.77	- 15.62	- 14.23	- 17.63
225.00	- 10.13	- 10.34	- 10.8	- 9.33	- 5.83	- 1.49	- 0.89	- 5.46	- 14.02	- 13.26	- 23.36	- 13.45	- 17.63
240.00	- 10.43	- 11.68	- 13.86	- 12.23	- 7.89	- 4.4	- 6.45	- 10.72	- 10.97	- 13.25	- 16.17	- 17.63	- 17.63
255.00	- 10.51	- 12.38	- 14.16	- 19.89	- 13.38	- 5.49	- 4.79	- 7.8	- 15.05	- 16.31	- 13.36	- 16.65	- 17.63
270.00	- 10.57	- 13.4	- 13.64	- 9.08	- 8.86	- 7.07	- 6.43	- 13.63	- 10.5	- 20.63	- 17.91	- 10.36	- 17.63
285.00	- 10.52	- 14.99	- 9.75	- 5.9	- 10.91	- 11.38	- 8.08	- 11.42	- 19.09	- 15.95	- 15.79	- 8.82	- 17.63
300.00	- 10.43	- 16.9	- 8.84	- 9.82	- 19.81	- 13.66	- 8.96	- 10.87	- 12.95	- 13.36	- 15	- 7.62	- 17.63
315.00	- 10.46	- 17.8	- 10.14	- 10.68	- 8.95	- 9.77	- 13.91	- 11.36	- 14.77	- 13.81	- 15.81	- 7.45	- 17.63
330.00	- 10.55	- 17.44	- 11.89	- 6.56	- 8.19	- 8.31	- 7.91	- 9.08	- 9.13	- 10.41	- 12.96	- 7.62	- 17.63
345.00	- 10.51	- 17.84	- 8.41	- 4.93	- 6.43	- 4.09	- 8.71	- 9.31	- 8.43	- 9.36	- 12.29	- 6.33	- 17.63

7025MHz Composite Gain (1SS)													
Freq	7025.00												
Phi\T heta	0	15	30	45	60	75	90	105	120	135	150	165	180
0.00	- -2.52	- 3.11	0 .46	1 .90	3 .12	6 .53	4 .56	3 .52	- 0.10	- 0.16	- 2.08	- 0.50	- 13.22
15.00	- 2.57	- 4.27	- 0.58	1 .48	5 .17	7 .44	6 .96	5 .05	2 .43	- 0.70	- 1.28	- 0.39	- 13.22
30.00	- 2.60	- 4.84	- 1.55	2 .17	6 .32	8 .92	9 .28	5 .61	2 .05	- 0.56	- 1.64	- 0.10	- 13.22
45.00	- 2.53	- 5.14	- 2.56	3 .69	6 .09	9 .03	9 .24	5 .07	0 .34	- 0.19	- 1.16	0 .20	- 13.22
60.00	-	-	-	4	5	7	6	4	1	0	-	-	-

	2.39	5.25	4.01	.04	.51	.07	.08	.64	.97	.27	0.19	0.79	13.22
75.00	-	-	-	2	3	4	3	4	1	0	-	-	-
	2.24	5.16	5.25	.38	.73	.48	.66	.13	.79	.49	0.57	2.29	13.22
90.00	-	-	-	-	0	2	1	3	-	-	-	-	-
	2.19	5.02	3.87	0.44	.98	.14	.68	.48	0.03	0.75	1.66	2.42	13.22
105.0	-	-	-	-	0	3	1	1	-	-	-	-	-
0	2.12	4.52	3.13	1.16	.58	.01	.37	.33	1.70	3.11	4.12	2.41	13.22
120.0	-	-	-	-	-	2	3	0	-	-	-	-	-
0	2.15	4.31	2.98	3.18	2.39	.67	.25	.11	5.46	4.64	4.19	3.37	13.22
135.0	-	-	-	-	-	2	3	1	-	-	-	-	-
0	2.10	4.30	2.40	3.13	1.38	.15	.78	.59	1.55	7.71	4.67	4.59	13.22
150.0	-	-	-	0	1	2	1	1	-	-	-	-	-
0	2.08	4.42	3.37	.92	.39	.02	.80	.90	1.33	6.56	6.05	4.56	13.22
165.0	-	-	-	0	1	3	0	0	-	-	-	-	-
0	2.01	4.85	5.75	.74	.02	.76	.93	.88	1.95	4.30	7.58	6.42	13.22
180.0	-	-	-	-	0	5	1	0	-	-	-	-	-
0	2.06	5.43	5.67	0.90	.82	.18	.18	.46	3.77	3.24	8.07	5.79	13.22
195.0	-	-	-	-	-	4	2	0	-	-	-	-	-
0	2.04	5.25	4.89	1.85	0.30	.26	.51	.55	6.55	3.30	8.11	7.42	13.22
210.0	-	-	-	-	-	0	2	-	-	-	-	-	-
0	2.09	4.69	4.59	3.71	1.94	.63	.14	0.99	6.47	5.23	7.65	6.99	13.22
225.0	-	-	-	-	-	1	2	-	-	-	-	-	-
0	2.11	4.48	3.56	2.21	4.85	.39	.38	3.53	5.35	7.04	7.97	6.26	13.22
240.0	-	-	-	-	-	0	-	-	-	-	-	-	-
0	2.23	4.05	4.33	2.59	1.56	.10	0.76	2.79	2.12	4.19	6.18	6.99	13.22
255.0	-	-	-	-	-	1	3	1	-	-	-	-	-
0	2.26	3.29	4.88	4.15	0.11	.80	.27	.04	1.47	3.50	3.90	6.92	13.22
270.0	-	-	-	-	1	2	3	0	-	-	-	-	-
0	2.39	2.55	4.67	5.18	.75	.61	.74	.84	0.17	4.21	4.92	5.47	13.22
285.0	-	-	-	-	-	0	2	-	-	-	-	-	-
0	2.49	2.11	2.24	3.73	3.60	.24	.80	0.18	4.79	5.75	5.79	3.53	13.22
300.0	-	-	-	-	-	1	-	-	-	-	-	-	-
0	2.53	2.07	0.87	2.50	4.23	.61	0.10	2.13	6.11	4.47	4.64	2.83	13.22
315.0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	2.53	2.05	0.12	3.49	4.35	0.23	3.20	0.02	5.22	4.56	5.72	2.49	13.22
330.0	-	-	0	-	0	1	0	2	-	-	-	-	-
0	2.53	1.94	.10	0.75	.44	.10	.92	.30	2.77	1.94	5.24	1.94	13.22
345.0	-	-	0	0	1	4	1	1	-	-	-	-	-



0	2.49	2.19	.44	.59	.39	.30	.27	.98	2.08	0.47	3.36	1.55	13.22
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7025MHz Composite Gain (3SS)													
Freq	7025.0 0												
Phi\T heta	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00
0.00	-6.3 4	- 6.01	- 4.17	- 2.41	- 0.70	1 .90	0 .19	- 0.95	- 4.62	- 4.42	- 6.54	- 4.90	- 17.99
15.0 0	- 6.42	- 7.27	- 5.05	- 1.87	1 .22	3 .10	2 .52	0 .54	- 2.18	- 4.90	- 5.96	- 4.73	- 17.99
30.0 0	- 6.52	- 8.52	- 5.52	- 0.80	2 .42	4 .53	4 .76	1 .60	- 2.50	- 4.95	- 6.34	- 4.74	- 17.99
45.0 0	- 6.49	- 9.31	- 6.50	- 0.10	2 .52	4 .92	4 .81	1 .57	- 3.39	- 4.81	- 5.70	- 4.53	- 17.99
60.0 0	- 6.36	- 9.68	- 8.36	- 0.27	1 .62	3 .43	2 .08	0 .77	- 2.32	- 4.28	- 4.73	- 5.51	- 17.99
75.0 0	- 6.19	- 9.76	- 9.13	- 1.99	- 0.49	0 .77	- 0.09	- 0.24	- 2.52	- 4.14	- 5.33	- 6.81	- 17.99
90.0 0	- 6.06	- 9.71	- 7.72	- 4.47	- 3.07	- 2.13	- 1.76	- 1.04	- 3.97	- 5.45	- 6.40	- 6.80	- 17.99
105. 00	- 5.93	- 9.28	- 7.10	- 5.63	- 3.94	- 1.70	- 2.83	- 2.73	- 5.50	- 7.05	- 8.86	- 6.79	- 17.99
120. 00	- 5.99	- 9.06	- 7.11	- 7.39	- 5.77	- 1.03	0 .07	- 2.62	- 9.26	- 8.24	- 8.70	- 7.66	- 17.99
135. 00	- 5.97	- 9.00	- 6.95	- 7.30	- 5.00	- 0.72	1 .08	- 1.47	- 5.69	- 12.21	- 8.87	- 8.40	- 17.99
150. 00	- 6.03	- 9.08	- 7.82	- 3.82	- 2.90	- 1.99	0 .32	- 1.11	- 4.58	- 11.25	- 10.49	- 9.12	- 17.99
165. 00	- 5.99	- 9.44	- 9.96	- 3.82	- 3.16	0 .07	- 0.56	- 2.65	- 5.92	- 8.70	- 12.27	- 11.16	- 17.99
180. 00	- 6.01	- 9.82	- 10.16	- 5.09	- 3.19	1 .49	- 1.09	- 3.63	- 8.30	- 7.21	- 12.67	- 10.28	- 17.99
195. 00	- 5.93	- 9.38	- 8.79	- 6.24	- 4.18	0 .50	- 0.70	- 3.16	- 11.29	- 7.05	- 12.60	- 10.85	- 17.99
210. 00	- 5.94	- 8.32	- 7.91	- 8.28	- 6.21	- 3.24	- 1.45	- 4.55	- 11.16	- 9.27	- 12.18	- 11.38	- 17.99
225. 00	- 5.91	- 7.47	- 6.80	- 6.51	- 8.57	- 2.30	- 1.35	- 7.17	- 9.44	- 11.28	- 11.76	- 10.89	- 17.99

240. 00	- 6.04	- 6.88	- 7.04	- 5.26	- 5.13	- 3.20	- 3.62	- 5.99	- 5.87	- 8.49	- 10.37	- 11.26	- 17.99
255. 00	- 6.10	- 6.18	- 8.01	- 6.39	- 2.16	- 1.02	0 .45	- 1.81	- 4.06	- 7.19	- 7.97	- 11.29	- 17.99
270. 00	- 6.28	- 5.47	- 8.72	- 9.91	- 0.75	0 .71	1 .71	- 0.91	- 3.63	- 7.33	- 8.89	- 10.18	- 17.99
285. 00	- 6.41	- 4.91	- 6.68	- 8.24	- 7.04	- 2.00	0 .77	- 2.51	- 7.72	- 10.06	- 9.83	- 8.28	- 17.99
300. 00	- 6.45	- 4.65	- 5.06	- 6.82	- 7.23	- 0.51	- 3.23	- 5.12	- 10.78	- 8.94	- 8.90	- 7.59	- 17.99
315. 00	- 6.42	- 4.55	- 4.06	- 8.12	- 8.56	- 3.83	- 7.41	- 2.85	- 9.45	- 8.74	- 9.61	- 7.22	- 17.99
330. 00	- 6.36	- 4.63	- 3.73	- 5.42	- 4.04	- 2.78	- 3.43	- 0.97	- 7.48	- 6.33	- 9.29	- 6.42	- 17.99
345. 00	- 6.30	- 5.06	- 3.92	- 3.95	- 2.76	- 0.11	- 3.08	- 1.96	- 6.68	- 4.90	- 7.58	- 5.93	- 17.99