



Bridgestone HP Antenna Test Report

May 27, 2024

Prepared by John Hsieh

Outline

- Test Information
- Test Configuration
- Test Setup & Procedure
- Test Equipment & Calibration
- Return Loss & Isolation
- Gain & Efficiency Table
- Radiation Pattern
- Directional Gain Calculations
- Raw Data

Test Information

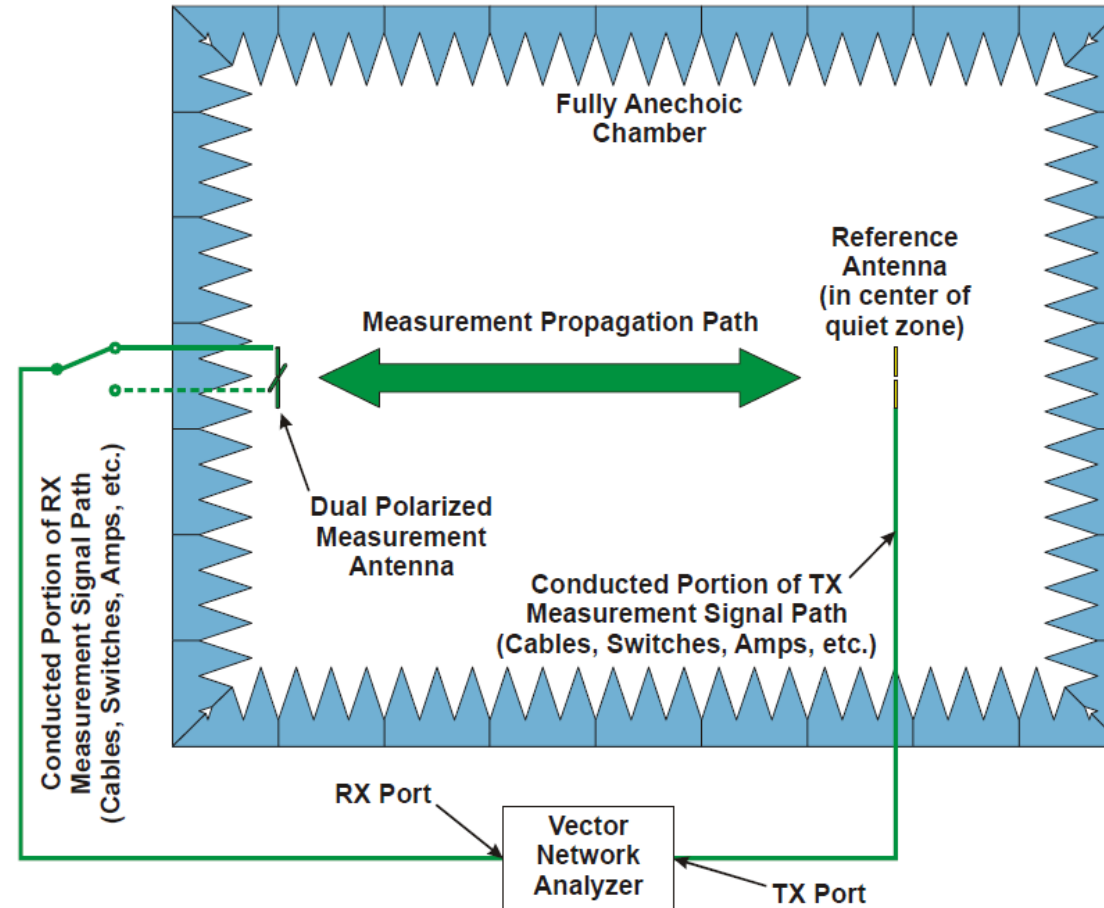
Item	Description
Brand Name	Sercomm
Equipment	SCO5165P
Test Location	2F, No. 3-1, YuanQu St. Taipei, Taiwan 115 R.O.C.
Test Condition	Radiation
Test Engineer	John Hsieh, Sercomm
Test Environment	ETS-Lindgren AMS-8500 Antenna Measurement Chamber
Test Date	May 2, 2024 ~ May 14, 2024

Test Setup & Procedure

1. Fix the DUT on the dielectric support structure and connect the feeding cable to the antenna used for test
2. Set measurement parameters such as frequency range and sampling angle
3. Perform test and then get far-field data (radiation pattern, gain, efficiency)
4. Repeat test procedure for other antennas

Test Equipment & Calibration

Network analyzer and reference antennas are used for calibration. Path loss and cable loss for different frequency bands can be checked and calculated.

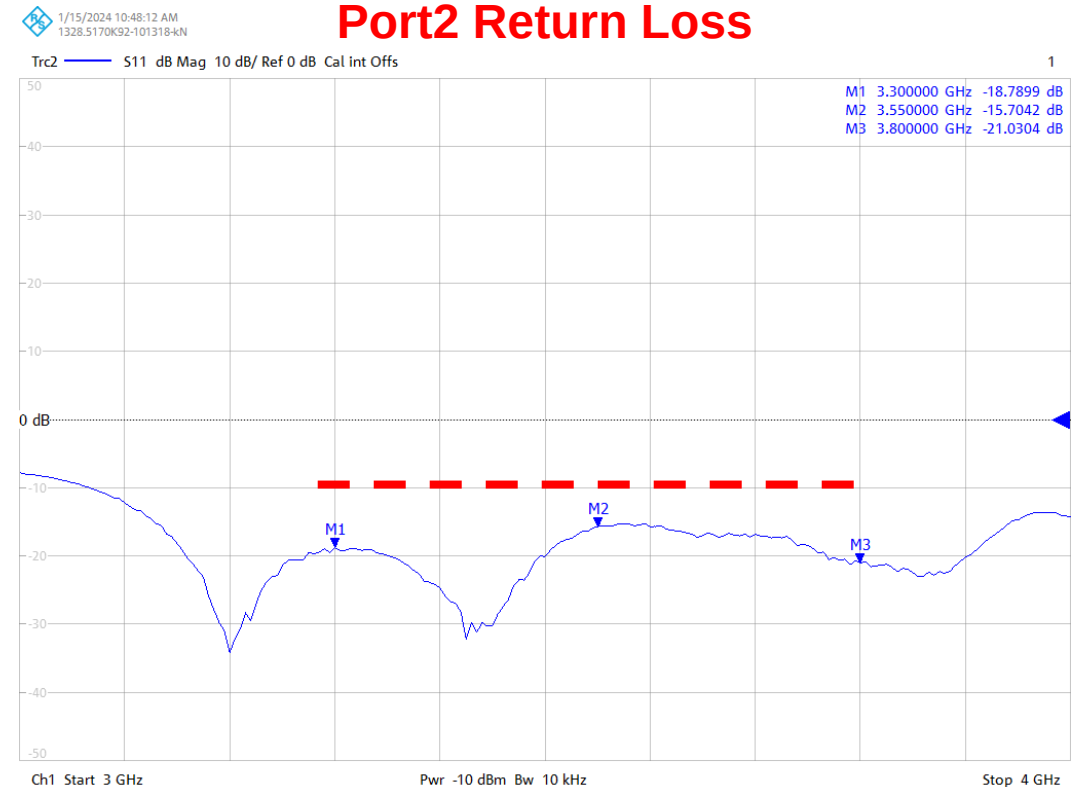
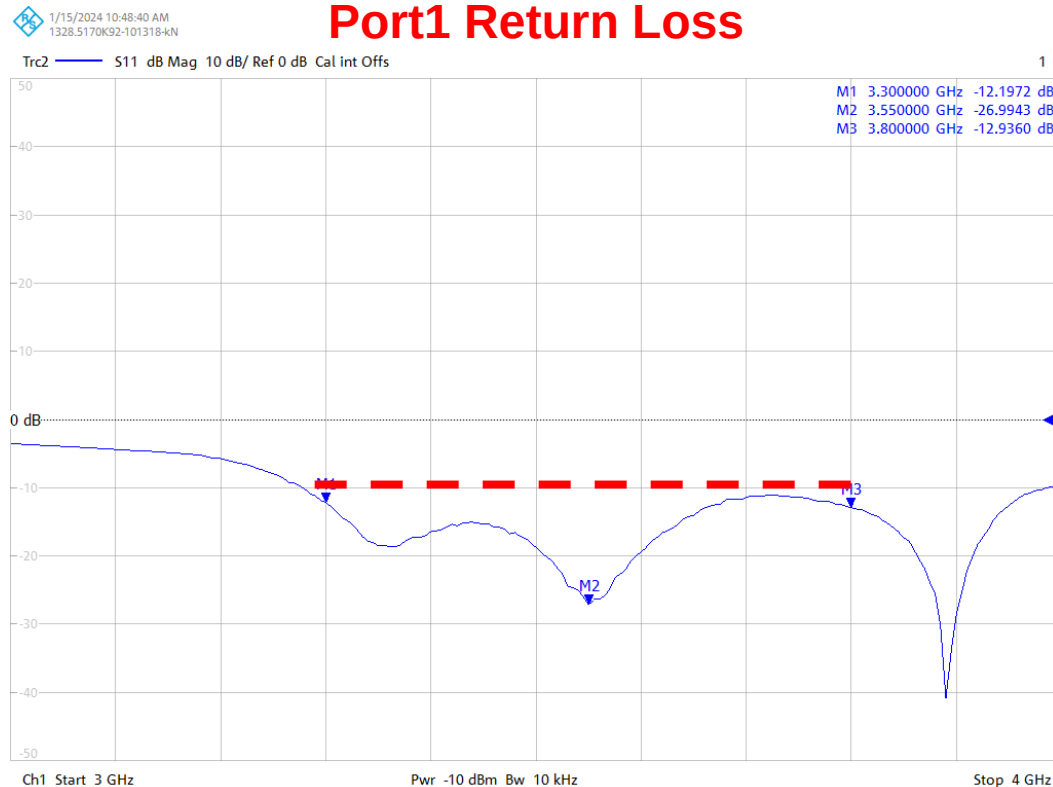


Test Equipment & Calibration

Instrument	Brand	Characteristics	Model No.	Serial No.	Calibration Due Date
Precision Sleeve Dipole	ETS-Lindgren	700 MHz ~ 900 MHz	3126-700	00169715	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	900 MHz ~ 1000 MHz	3126-900	00169592	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	1400 MHz ~ 1700 MHz	3126-1550	00164599	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	1700 MHz ~ 2000 MHz	3126-1850	00169588	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	2000 MHz ~ 2300 MHz	3126-2150	00169593	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	2300 MHz ~ 2700 MHz	3126-2500	00169597	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	3000 MHz ~ 4000 MHz	3126-3500	00239652	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	4000 MHz ~ 5000 MHz	3126-4500	00239796	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	5000 MHz ~ 6000 MHz	3126-5500	00169728	Nov. 2, 2024
Precision Sleeve Dipole	ETS-Lindgren	6000 MHz ~ 7200 MHz	3126-6500	00235488	Nov. 2, 2024
Horn Antenna	SCHWARZBECK	1 GHz ~ 18 GHz	BBHA 9120D	BBHA 9120D-1294	Oct. 7, 2024
EMQuest Antenna Measurement Software	ETS-Lindgren	Control chamber system	EMQ-100	1437	Non-Calibration Required

Return Loss & Isolation

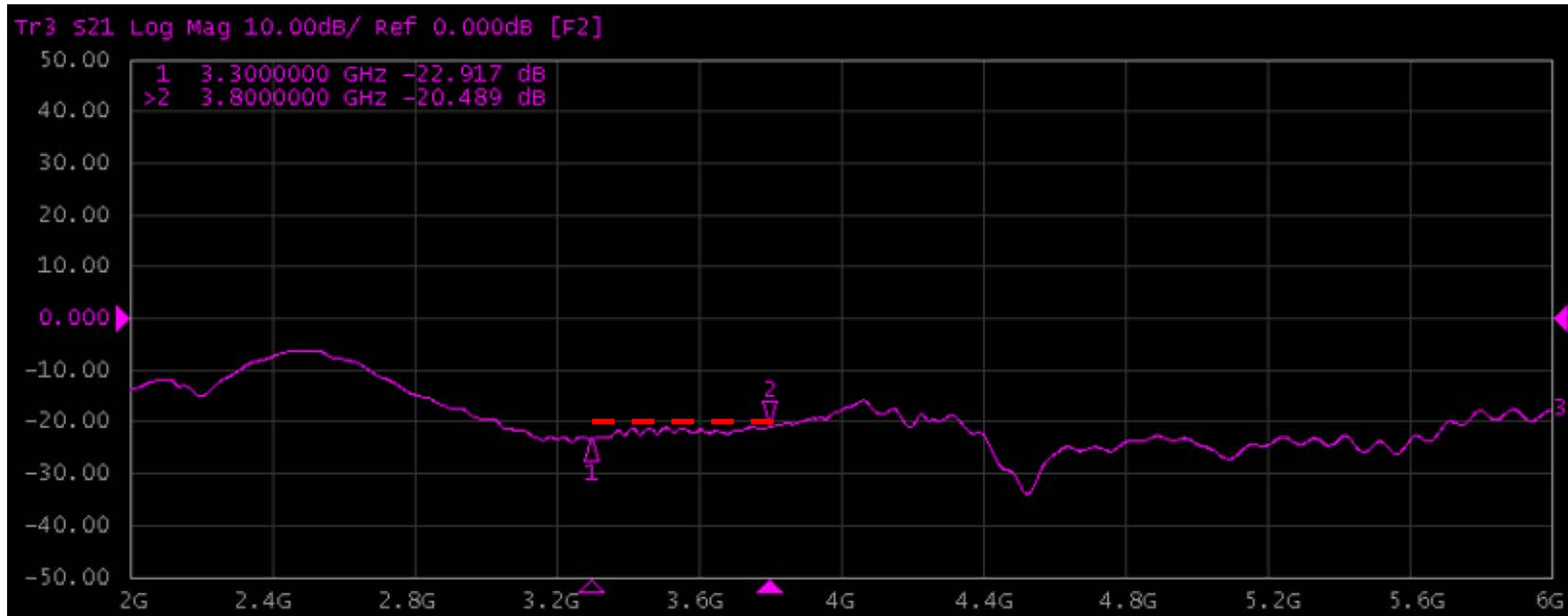
- Return Loss



Return Loss Spec < -10 dB

Return Loss & Isolation

- Isolation



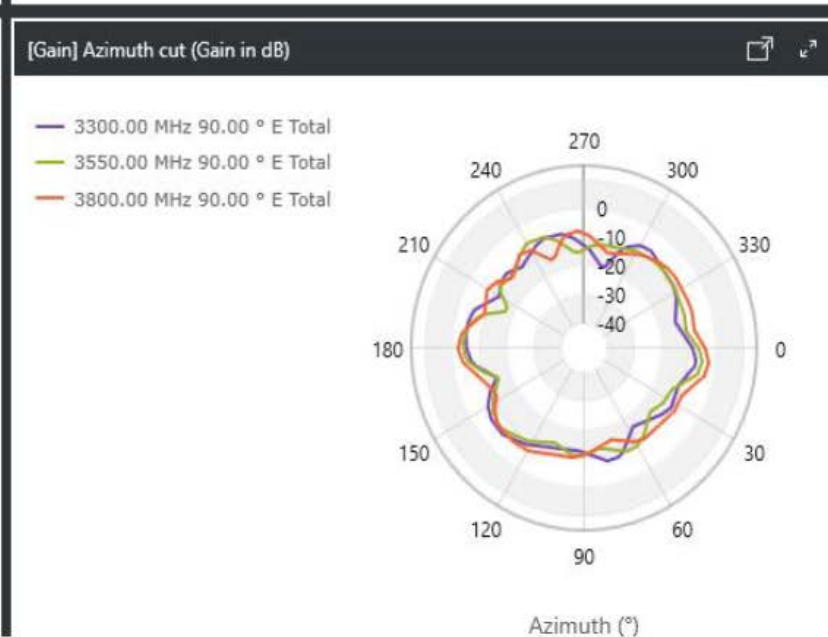
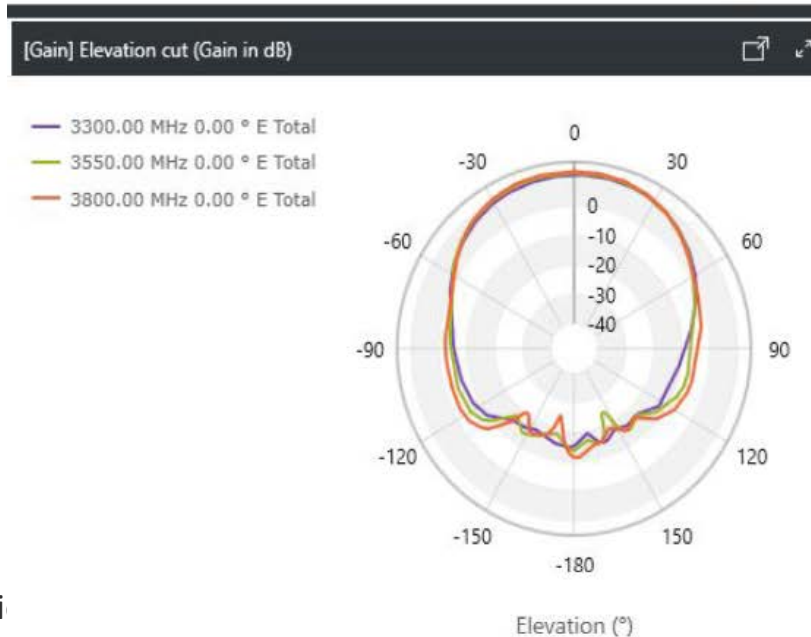
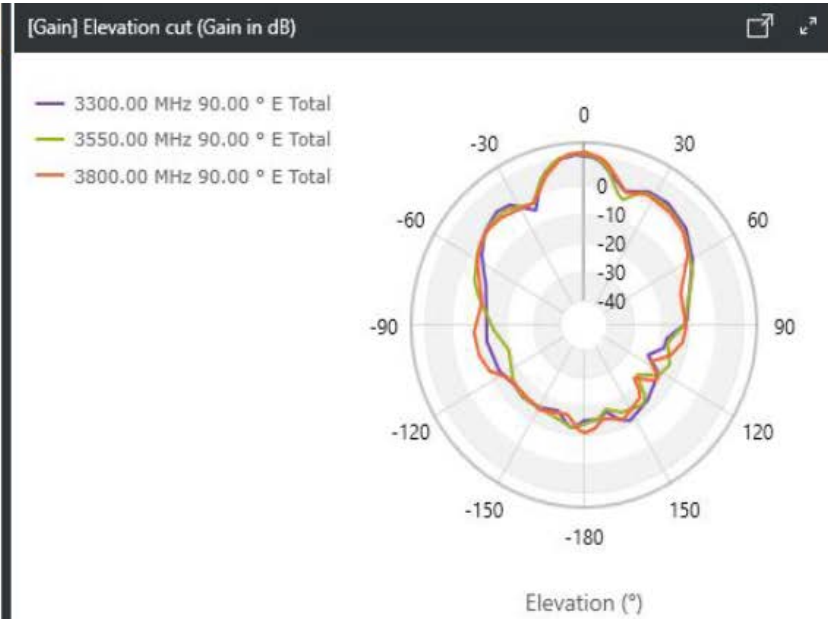
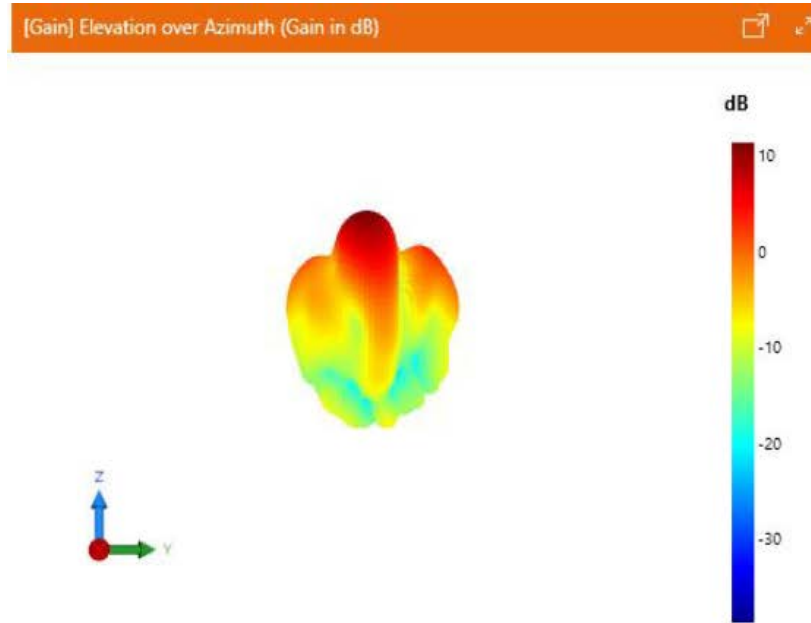
Isolation Spec < -20 dB

Gain & Efficiency Table

Freq. (MHz)	Ant.1		Ant.2	
	Efficiency (dB)	Peak gain (dBi)	Efficiency (dB)	Peak gain (dBi)
3300	-1.56	10.9	-2.23	11.0
3350	-1.53	11.0	-1.88	11.2
3400	-1.5	11.2	-1.74	11.3
3450	-1.44	11.4	-1.68	11.4
3500	-1.52	11.4	-1.67	11.5
3550	-1.54	11.5	-1.74	11.4
3600	-1.49	11.6	-1.83	11.0
3650	-1.4	11.8	-1.9	10.9
3700	-1.47	11.8	-2.13	10.8
3750	-1.54	11.8	-2.05	11.1
3800	-1.54	11.8	-1.92	11.3

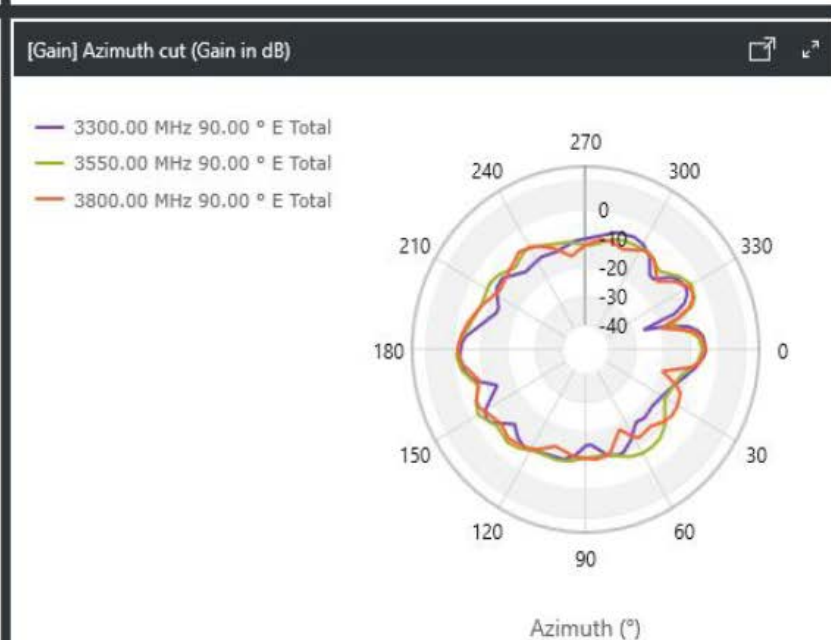
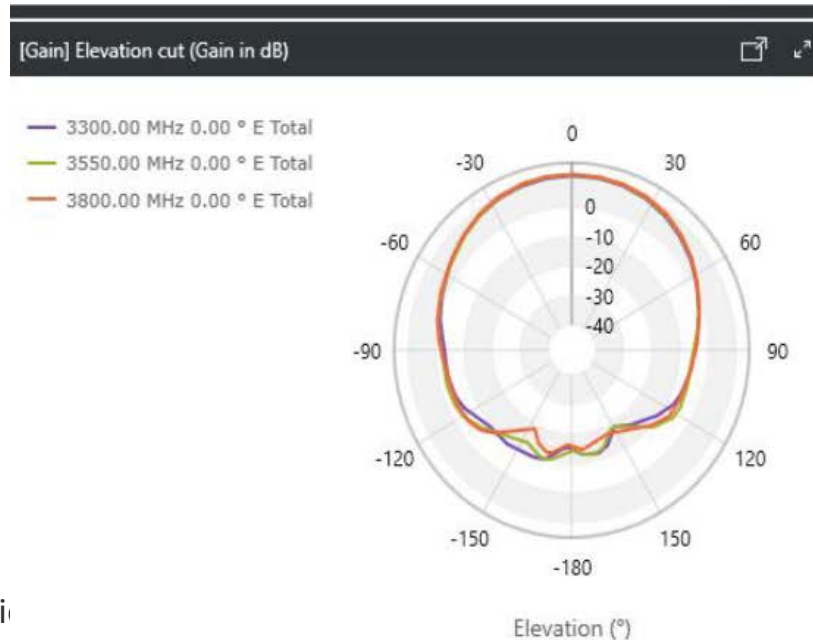
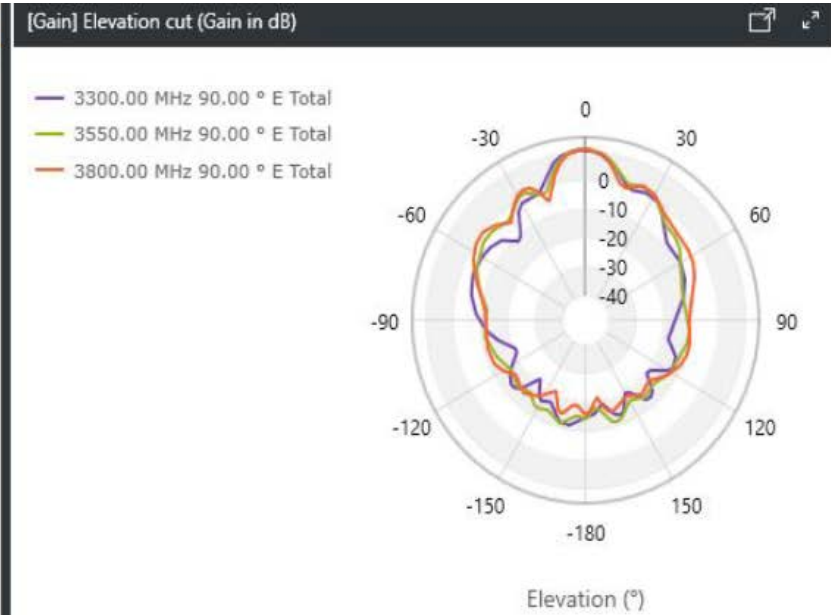
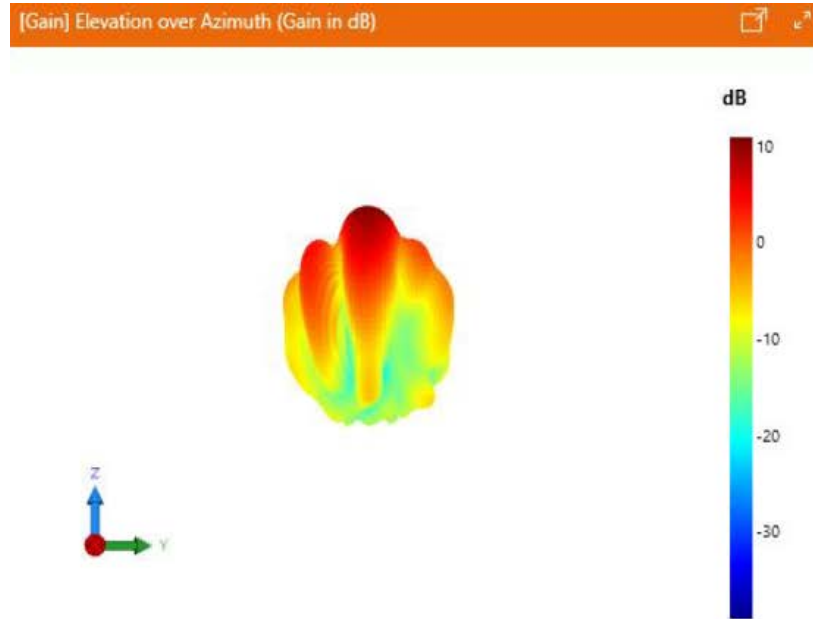
Radiation Pattern

- Port1



Radiation Pattern

- Port2



Directional Gain Calculations

The system has two ports, each port cross polarized to the other port. For 3.8GHz, Port1 is +45 degree, Port2 is -45 degree. Antennas have fixed orientations relative to one another that ensure that the antennas are cross-polarized regardless of any user actions.

The directional gain is therefore the maximum gain of an individual antenna between Port 1 and 2 per KDB 662911 D01 Multiple Transmitter Output v02r01.

Appendix

Raw Data (Port1 3300MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	10.79	10.41	9.14	6.73	3.25	-0.87	-3.19	-5.95	-8.24	-12.05	-17.93	-18.51	-14.54
15	10.79	10.35	8.31	6.57	2.07	-0.59	-6.59	-9.12	-16.55	-16.53	-10.6	-17.47	-14.54
30	10.79	9.62	4.27	0.9	-11.17	-9.53	-14.25	-16.76	-8.83	-11.66	-10.69	-15.21	-14.54
45	10.79	8.19	-3.51	-14.99	-12.57	-8.31	-7.6	-9.29	-9.33	-9.25	-16.62	-16.52	-14.54
60	10.79	6.33	-4.22	-5.14	-9.59	-10.69	-6.33	-7.91	-14.14	-13.38	-16.7	-19.78	-14.54
75	10.79	4.59	-0.06	-1	-5.89	-6.04	-8.4	-7.53	-13.82	-16.37	-13.8	-22.82	-14.54
90	10.79	3.76	0.66	0.85	-5.35	-8.74	-13.49	-14.37	-26.08	-15.24	-17.17	-24.47	-14.54
105	10.79	4.25	-1.65	1.38	-3.55	-8.95	-11.01	-14.51	-16.96	-13.82	-18.54	-22.86	-14.54
120	10.79	5.76	-7.46	-0.14	-2.68	-5.56	-7.56	-9.5	-8.67	-13.28	-17.17	-18.99	-14.54
135	10.79	7.73	-1.27	-3.91	-4.66	-5.54	-7.26	-8.92	-8.73	-13.26	-13.16	-16.3	-14.54
150	10.79	9.44	5.41	-4.35	-6.36	-7.53	-12.72	-11.56	-18.14	-11.02	-15.2	-14.71	-14.54
165	10.79	10.41	8.62	2.28	-1.92	-10.15	-14.06	-16.44	-10.2	-13.42	-35.61	-14.07	-14.54
180	10.79	10.48	9.11	6.25	2.66	-2.87	-6.91	-8.51	-12.19	-10.4	-14.65	-12.02	-14.54
195	10.79	9.65	6.67	4.99	-1.99	-3.17	-10.52	-10.96	-25.97	-10.21	-11.08	-11.76	-14.54
210	10.79	8.09	0.65	-5.24	-6.75	-9.34	-11.62	-13.18	-15.6	-15.67	-12.2	-13.79	-14.54
225	10.79	5.89	-4.99	-5.44	-7.24	-10.2	-13.31	-17.8	-10.07	-13.66	-13.91	-18.31	-14.54
240	10.79	3.47	0.72	-0.73	-4.75	-13.91	-16.32	-12.71	-14.5	-13.32	-16.18	-26.24	-14.54
255	10.79	1.65	2.96	1.38	-2	-5.36	-7.86	-14.35	-14.6	-12.36	-14.13	-20.04	-14.54
270	10.79	0.83	2.89	2.46	-3.85	-8.29	-12.71	-12.46	-18.21	-11.87	-11.39	-16.64	-14.54
285	10.79	1.28	1.11	1.75	-4.81	-10.38	-10.54	-15.58	-11.28	-12.4	-12.17	-16.87	-14.54
300	10.79	3.07	-2.34	-0.77	-4.73	-6.46	-8.12	-7.32	-12.64	-14.31	-12.74	-16.48	-14.54
315	10.79	5.55	-3.14	-4.79	-7.86	-4.38	-6.15	-8.2	-11.76	-9.93	-10.87	-15.8	-14.54
330	10.79	7.83	3.15	-5.92	-6.86	-7.63	-9.17	-12.5	-9.04	-7.99	-10.47	-15.49	-14.54
345	10.79	9.46	6	0.86	-4.26	-11.18	-12.77	-20.38	-14.31	-16.32	-11.23	-18.11	-14.54
360	10.79	10.41	9.14	6.73	3.25	-0.87	-3.19	-5.95	-8.24	-12.05	-17.93	-18.51	-14.54

Raw Data (Port1 3500MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	11.26	11.09	9.5	6.05	1.34	-2.27	-4.09	-3.95	-6.08	-11.87	-13.8	-19.28	-11.04
15	11.26	11.04	8.77	5.86	-0.72	-2.38	-9.38	-8.38	-21.84	-14.63	-7.02	-19.55	-11.04
30	11.26	10.2	4.11	-1.96	-9.06	-9.7	-13.21	-19.11	-12.77	-13.62	-8.4	-16.22	-11.04
45	11.26	8.67	-5.53	-11.87	-16.31	-12.39	-11.82	-12.27	-12.71	-11.22	-13.97	-16.71	-11.04
60	11.26	6.81	-4.9	-7.34	-7.69	-8.2	-6.45	-9.29	-13.62	-15.79	-25.45	-20.2	-11.04
75	11.26	4.95	-1.28	-1.66	-4.81	-5.76	-10.32	-10.67	-16.53	-17.56	-15.72	-19.21	-11.04
90	11.26	4.09	-0.38	0.13	-3.5	-8.99	-13.58	-19.95	-20.46	-13.59	-17.47	-18.33	-11.04
105	11.26	4.29	-1.9	-1.08	-4.99	-7.47	-13.54	-17.66	-16.13	-15.3	-21.85	-20.22	-11.04
120	11.26	5.74	-5.24	-2.22	-6.76	-9.16	-8.83	-12.4	-15.47	-14.48	-18.01	-17.54	-11.04
135	11.26	7.76	-3.25	-2.37	-3.24	-6.68	-8.23	-9.07	-11.41	-12.26	-9.59	-13.76	-11.04
150	11.26	9.61	4.88	-5.58	-5.61	-5.04	-9.37	-12.7	-14.22	-12.97	-12.11	-13.46	-11.04
165	11.26	10.78	8.51	0.9	-5.31	-11.19	-12.03	-13.46	-7.73	-15.36	-14.4	-11.85	-11.04
180	11.26	10.97	9.1	5.71	1.5	-6.07	-4.95	-9.6	-8.37	-8.79	-13.04	-10.8	-11.04
195	11.26	10.14	6.12	3.72	-6.18	-4.42	-13.35	-9.98	-16.13	-9.46	-8.79	-12.69	-11.04
210	11.26	8.33	-3.83	-8.78	-3.59	-9.69	-12.14	-14.83	-20.69	-11.66	-13.24	-14.1	-11.04
225	11.26	5.51	-5.75	-1.57	-4.52	-11.07	-14.71	-17.15	-15.63	-15.7	-14.92	-15.75	-11.04
240	11.26	1.97	0.13	-0.09	-2.54	-8.19	-11.29	-11.33	-11.93	-15.26	-12.88	-18.07	-11.04
255	11.26	-1.13	1.59	1.09	-2.05	-6.63	-9.72	-12.25	-12.4	-17.56	-10.31	-15.99	-11.04
270	11.26	-2.29	1.54	1.36	-5.03	-8.08	-12.29	-11.91	-13.4	-16.91	-10.46	-13.8	-11.04
285	11.26	-1.12	-0.06	0.25	-8.36	-16.27	-17.35	-23.68	-11.58	-20.91	-12.85	-13.04	-11.04
300	11.26	1.52	-3.29	-2.76	-7.56	-9.55	-10.07	-11.07	-10.47	-20.24	-16.49	-14.56	-11.04
315	11.26	4.84	-5.45	-6.6	-9.83	-7.14	-7.44	-9.17	-14.29	-13.14	-12.86	-14.6	-11.04
330	11.26	7.81	2.31	-6.48	-6.73	-7.7	-10.66	-9.17	-13.79	-8.92	-10.88	-13.95	-11.04
345	11.26	9.91	6.02	-0.92	-8.05	-10.11	-11.96	-17.4	-14.99	-10.75	-10.31	-14.65	-11.04
360	11.26	11.09	9.5	6.05	1.34	-2.27	-4.09	-3.95	-6.08	-11.87	-13.8	-19.28	-11.04

Raw Data (Port1 3800MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	11.78	11.51	9.9	5.98	1.68	-1.13	-3.07	-4.49	-4.44	-8.39	-11.25	-15.49	-8.29
15	11.78	11.1	7.4	4.27	-8.68	-5.43	-10.9	-10.35	-12.56	-14.07	-7.59	-17.01	-8.29
30	11.78	9.58	-1.26	-15.71	-4.33	-6.3	-9.91	-10.87	-19.97	-15.29	-10.52	-17.23	-8.29
45	11.78	7.17	-10.64	-3.77	-9.15	-12.57	-12.67	-16.99	-16.68	-11.41	-12.46	-18.16	-8.29
60	11.78	4.45	-5.86	-7.01	-2.93	-4.35	-11.06	-13.87	-12.72	-20.39	-17.21	-16.35	-8.29
75	11.78	2.13	-2.9	-1.1	-4.21	-8.61	-7.27	-10.5	-12.5	-23.43	-14.49	-15.63	-8.29
90	11.78	1.13	-1.71	0.07	-4.36	-10.14	-9.19	-7.88	-12.59	-22.37	-14.09	-17	-8.29
105	11.78	1.49	-1.9	-0.4	-1.93	-10.95	-19.01	-13.21	-17.51	-19.68	-19.01	-18.73	-8.29
120	11.78	3.44	-2.95	-1.93	-2.9	-6.41	-10.46	-14.19	-13.87	-22.34	-12.87	-21.01	-8.29
135	11.78	6.13	-6.44	-1.95	-2.2	-4.78	-6.81	-10.08	-12.43	-14	-10.21	-15.42	-8.29
150	11.78	8.59	1.96	-4.05	-3.04	-2.24	-6.29	-7.05	-12.97	-9.73	-7.6	-12.77	-8.29
165	11.78	10.32	7.89	-2.35	-7.18	-5.06	-6.48	-9.86	-8.47	-12.08	-10.55	-12.54	-8.29
180	11.78	11.12	9.88	5.67	2.19	-1.71	-2.27	-6.35	-5.53	-8.7	-13.05	-13.07	-8.29
195	11.78	10.8	7.3	3.93	-6.41	-2.25	-7.65	-5.22	-11.33	-9.03	-8.68	-13.97	-8.29
210	11.78	9.32	-3.62	-9.28	-2.83	-4.81	-9.8	-9.55	-13.6	-9.83	-12.56	-15.72	-8.29
225	11.78	6.68	-2.64	0.16	-3.27	-5.18	-10.98	-12.56	-13.37	-15	-17.96	-17.11	-8.29
240	11.78	3.65	1.06	0.2	-1.01	-5.77	-11.11	-12.12	-12.03	-15.56	-15.9	-19.91	-8.29
255	11.78	1.29	1.62	1.38	-2.13	-6.07	-13.02	-13.59	-13.1	-21.74	-12.58	-21.43	-8.29
270	11.78	0.25	0.77	-0.18	-7.05	-10.84	-10.64	-17.36	-16.22	-20.01	-12.7	-19.68	-8.29
285	11.78	0.92	-0.78	-2.67	-9.15	-9.84	-10.98	-17.19	-14.09	-16.93	-16.48	-19.52	-8.29
300	11.78	3.17	-2.11	-5.45	-5.78	-6.95	-8.41	-11.56	-13.88	-15.19	-19.61	-18.24	-8.29
315	11.78	6.18	-3.91	-6.59	-9.55	-5.42	-9.29	-7.84	-12.52	-12.8	-10.06	-14.85	-8.29
330	11.78	8.85	2.89	-7.33	-9.2	-8.35	-12.4	-10.59	-12.84	-10.72	-8.03	-14.15	-8.29
345	11.78	10.71	6.91	-1.34	-7.57	-8.1	-7.84	-11.32	-14.67	-10.34	-9.84	-12.89	-8.29
360	11.78	11.51	9.9	5.98	1.68	-1.13	-3.07	-4.49	-4.44	-8.39	-11.25	-15.49	-8.29

Raw Data (Port2 3300MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	11.02	10.38	8.22	4.71	1.23	-2.01	-4.36	-7.35	-8.1	-13.81	-10.23	-8.56	-10
15	11.02	10.31	6.08	1.85	-9.5	-8.94	-15.95	-11.15	-22.04	-15.94	-8.27	-9.45	-10
30	11.02	9.35	0.16	-5.03	-4.88	-7.61	-9.94	-10.64	-10.83	-8.32	-11.99	-12.34	-10
45	11.02	7.51	-1.29	-2.11	-7.09	-9.64	-14.38	-10.44	-12.26	-14.68	-19.59	-15.92	-10
60	11.02	5.39	-0.04	-3.77	-7.93	-10.06	-10.26	-13.03	-16.3	-14.72	-13.78	-15.17	-10
75	11.02	4.02	-0.57	-10.23	-5.38	-8.22	-9.85	-11.21	-25.81	-19.92	-15.33	-13.98	-10
90	11.02	3.39	-0.5	-16.15	-4.04	-5.64	-8.98	-11.75	-16.42	-14.74	-16.94	-13.86	-10
105	11.02	3.87	-0.31	-10.99	-6.25	-5.3	-7.39	-10.08	-12.09	-13.37	-16.23	-14.53	-10
120	11.02	5.51	-3.13	-3.28	-8.72	-7.85	-9.02	-7.43	-11.56	-11.74	-14.1	-15.57	-10
135	11.02	7.62	-2.98	-0.25	-1.19	-9.73	-9.93	-11.68	-16.62	-19.69	-13.24	-15.59	-10
150	11.02	9.39	6.02	-10.02	-10.94	-3.46	-6.17	-7.02	-13.37	-13.2	-12.64	-13.67	-10
165	11.02	10.34	9.26	4.5	2.12	-7.05	-6.24	-21.88	-13.75	-17.63	-14.24	-12.45	-10
180	11.02	10.29	8.16	6.41	0.67	-1.57	-6.73	-5.46	-6.86	-12.86	-26.79	-12	-10
195	11.02	9.39	3.86	0.52	-6.24	-7.43	-11.97	-14.16	-16.71	-11.17	-14.37	-11.06	-10
210	11.02	7.68	-2.43	-5.65	-6.4	-9.45	-16.11	-13.87	-17.11	-10.54	-12.08	-10.57	-10
225	11.02	5.4	-1.95	-1.68	-6.82	-11.74	-12.81	-12.74	-9.03	-17.4	-14.48	-11.03	-10
240	11.02	2.9	0.56	-2.49	-7.99	-10.13	-9.25	-17.55	-11.41	-11.26	-17.17	-11.43	-10
255	11.02	1.17	0.9	-6.29	-10.58	-9.79	-14.11	-12.09	-13.76	-10.42	-16.85	-12.43	-10
270	11.02	0.66	1.05	-8.27	-8.27	-22.01	-13.66	-13.41	-13.96	-14.59	-15.93	-12.86	-10
285	11.02	0.94	1.93	-10.12	-6.07	-5.91	-7.86	-9.34	-12.59	-10.59	-19.28	-14.86	-10
300	11.02	2.23	1.64	-3.17	-14.19	-6.1	-9.73	-11.25	-11.12	-11.56	-12.05	-17.58	-10
315	11.02	4.62	-1.28	1.28	-0.95	-6.02	-8.06	-8.39	-11.41	-13.9	-10.73	-17.6	-10
330	11.02	7.17	2.46	-1.73	-4.81	-4.99	-12.07	-8.59	-12.13	-9.26	-12.99	-13.02	-10
345	11.02	9.1	5.64	1.8	-0.74	-4.56	-6.07	-9.34	-18.81	-9.07	-11.69	-9.89	-10
360	11.02	10.38	8.22	4.71	1.23	-2.01	-4.36	-7.35	-8.1	-13.81	-10.23	-8.56	-10

Raw Data (Port2 3500MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	10.73	10.47	8.33	4.91	1.2	-0.46	-3.13	-4.73	-6.04	-11.76	-12.44	-8.49	-11.83
15	10.73	10.31	5.87	1.97	-3.55	-3.84	-7.04	-7.4	-20.06	-19.98	-8.61	-8.65	-11.83
30	10.73	9.09	-0.3	-2.14	-0.85	-4.19	-8.55	-9.95	-9.57	-8.11	-9.21	-10.91	-11.83
45	10.73	6.78	-0.49	0.9	-4.76	-8.15	-8.42	-9.78	-11.42	-10.83	-16.31	-14.04	-11.83
60	10.73	4.01	0.5	-3.57	-9.45	-8.42	-7.46	-9.42	-14.55	-17.54	-12.76	-14.13	-11.83
75	10.73	1.5	-0.49	-9.05	-3.76	-6.24	-8.19	-8.75	-16.12	-17.9	-15.16	-12.79	-11.83
90	10.73	0.48	-0.15	-4.08	-2.27	-7.34	-11	-13.28	-15	-16.18	-16.77	-12.98	-11.83
105	10.73	0.64	1.3	-5.94	-4.17	-7.43	-8.28	-10.61	-11.42	-13.3	-14.96	-15.72	-11.83
120	10.73	2.52	0.97	-2.05	-7.77	-7.11	-7.58	-7.52	-9.69	-10.84	-11.7	-23.42	-11.83
135	10.73	5.38	-7.97	2.68	1.27	-6.41	-8.61	-11.72	-10.66	-11.18	-13.21	-20.56	-11.83
150	10.73	7.98	2.75	-2.12	-2.07	-0.24	-3.58	-5.59	-10.93	-15.39	-12.96	-15.01	-11.83
165	10.73	9.57	8.24	2.38	0.71	-10.4	-7.76	-18.51	-11.95	-19.49	-14.58	-14.34	-11.83
180	10.73	10.02	7.97	6.12	1.54	-2.39	-6.04	-7.71	-6.78	-8.94	-16.09	-12.73	-11.83
195	10.73	9.34	3.99	0.96	-8.01	-7.33	-11.14	-14.17	-19.73	-13.25	-19.2	-10.74	-11.83
210	10.73	7.59	-3.5	-6.23	-6.4	-12.27	-15.21	-16.74	-15.27	-13.6	-14.22	-9.98	-11.83
225	10.73	5.08	-1.55	-1.33	-5.13	-8.21	-10.33	-10.77	-8.79	-15.87	-10.71	-11.67	-11.83
240	10.73	2.66	0.11	-2.86	-3.42	-4.68	-8.77	-11.1	-11.53	-8.61	-10.28	-14.04	-11.83
255	10.73	1.23	-0.39	-4.31	-8.24	-7.99	-10.95	-11.34	-11.77	-11.13	-13.1	-13.47	-11.83
270	10.73	1.01	-0.74	-12.08	-10.05	-11.45	-9.84	-10.77	-11.63	-17.98	-15.05	-11.41	-11.83
285	10.73	1.59	0.5	-17.28	-4.9	-8.43	-9.72	-8.35	-13.83	-13.36	-15.88	-10.63	-11.83
300	10.73	2.68	2.23	-9.67	-6.37	-2.98	-5.78	-11.64	-15.93	-10.67	-16.11	-11.86	-11.83
315	10.73	4.71	0.64	1.59	-1.23	-7	-7.78	-9.59	-9.7	-19.89	-11.82	-15.5	-11.83
330	10.73	7.27	1.75	0.89	-1.69	-1.64	-5.5	-5.95	-7.9	-10.23	-10.78	-14.76	-11.83
345	10.73	9.36	5.41	0.11	-2.9	-4.63	-6.26	-8.39	-12.45	-8.48	-9.32	-11.06	-11.83
360	10.73	10.47	8.33	4.91	1.2	-0.46	-3.13	-4.73	-6.04	-11.76	-12.44	-8.49	-11.83

Raw Data (Port2 3800MHz)

Theta Angle (°)	0	15	30	45	60	75	90	105	120	135	150	165	180
Phi Angle (°)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)
0	11.13	10.9	9.39	5.81	2.65	0.27	-3.29	-5.86	-6.19	-8.91	-14.06	-9.81	-14.25
15	11.13	10.55	6.19	2.98	-3.07	-2.01	-8.49	-8	-18.51	-14.09	-8.38	-9.64	-14.25
30	11.13	8.87	-3.87	-4.06	-2.86	-6.86	-11.58	-14.41	-9.57	-12.63	-8.89	-11.59	-14.25
45	11.13	5.63	-0.71	-0.92	-5.57	-5.91	-9.01	-13.7	-12.27	-9.62	-10.26	-16.82	-14.25
60	11.13	1.25	0.7	-11.11	-4.52	-8.37	-8.34	-10.43	-14	-20.68	-14.71	-20.63	-14.25
75	11.13	-3.19	0.65	-5.07	-2.45	-8.87	-11.8	-12.22	-15.45	-13.37	-14.18	-18.13	-14.25
90	11.13	-5.09	2.15	-1.4	-1.93	-7.78	-10.62	-11.11	-12.76	-12.96	-15.6	-18.84	-14.25
105	11.13	-4.28	4.4	-6.95	-3.05	-7.36	-9.23	-10.71	-15.91	-19.28	-22.03	-17.53	-14.25
120	11.13	-0.73	5	-3.35	-8.56	-5.95	-6.71	-11.09	-13.15	-15.53	-12.76	-16.73	-14.25
135	11.13	3.92	-0.63	4.12	0.39	-12.15	-12.78	-13.51	-14.79	-10.47	-13.21	-17.92	-14.25
150	11.13	7.51	1.41	1.1	-0.86	-0.46	-3.95	-7.41	-13.95	-14.49	-12.98	-19.8	-14.25
165	11.13	9.79	8.89	2.25	0.66	-15.04	-10.32	-16.33	-23.06	-10.6	-10.43	-18.17	-14.25
180	11.13	10.55	9.08	6.94	0.86	-0.6	-6.64	-5.99	-6.94	-11.38	-14.72	-15.56	-14.25
195	11.13	9.67	4.39	1.18	-24.67	-16.9	-14.44	-16.05	-13.01	-12.64	-14.8	-15.58	-14.25
210	11.13	7.5	-9.53	-9.45	-9.29	-8.4	-8.62	-10.04	-10.72	-8.83	-28.48	-15.89	-14.25
225	11.13	4.17	-1.78	-4.05	-4.61	-8.45	-12.13	-15.48	-17.49	-13.51	-14.44	-17.59	-14.25
240	11.13	-0.05	0.76	-1.48	-2.99	-10.74	-15.58	-10.47	-13.79	-11.6	-8.71	-18.48	-14.25
255	11.13	-4.03	0.67	-0.94	-2.56	-8.74	-9.84	-15.5	-14.44	-16.91	-9.46	-23.83	-14.25
270	11.13	-4.79	-0.34	-3.78	-5.19	-8.61	-10.81	-9.74	-11.59	-14.91	-14.92	-30.63	-14.25
285	11.13	-3.04	-0.61	-9.33	-7.1	-9.13	-11.53	-9.77	-8.5	-13.2	-18.45	-20.5	-14.25
300	11.13	0.23	0.47	-13.11	-5.26	-7.45	-6.84	-10.88	-11.47	-12.57	-19.79	-16.95	-14.25
315	11.13	4	-0.89	-2.55	-4.56	-5.42	-7.87	-8.58	-15.83	-16.05	-16.53	-17.89	-14.25
330	11.13	7.38	0.57	0.34	-1.44	-3.8	-4.32	-7.73	-8.56	-18.81	-13.31	-18.34	-14.25
345	11.13	9.72	5.66	-1.17	-3.11	-6.5	-7.94	-13.35	-11.14	-8.33	-13.21	-14.49	-14.25
360	11.13	10.9	9.39	5.81	2.65	0.27	-3.29	-5.86	-6.19	-8.91	-14.06	-9.81	-14.25

SERCOMM

www.sercomm.com