



**Charter MDU Robin EV2
STAR4245 Measurements**

2023.03.08

Introduction

❑ **Adant developed a smart antenna solution for Charter MDU Robin**

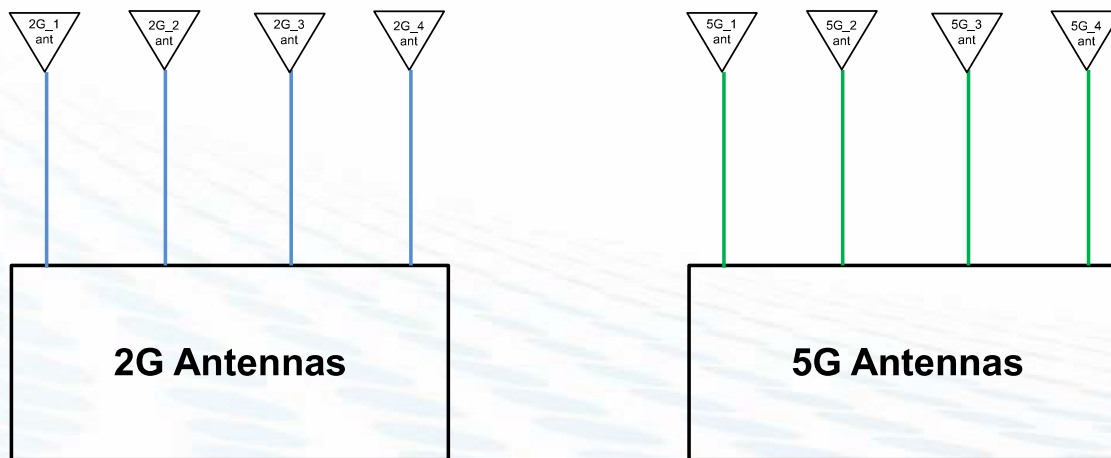
- Manufactured by: Galtronics Electronics (Wuxi) Co.
No. 1, Xishi Road, Wuxi New District
Jiangsu Province 214028, China

❑ **There are 8 PIFA-Like antennas:**

- 4 antenna for 2G applications (2G_1, 2G_2, 2G_3, 2G_4)
- 4 antenna for 5G applications (5G_1, 5G_2, 5G_3, 5G_4)

❑ **2G frequency band: 2.4 – 2.5 GHz**

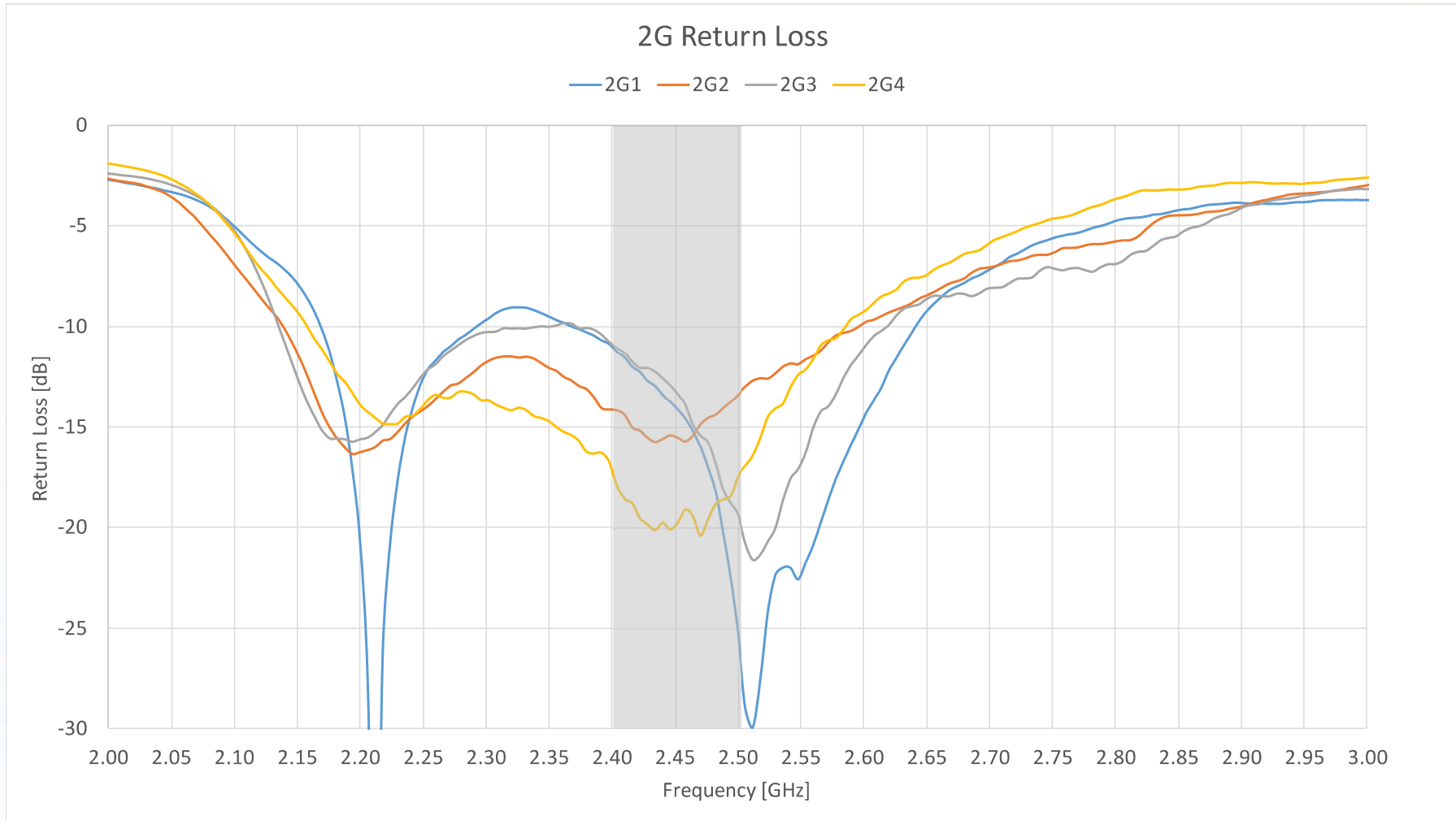
❑ **5G frequency band: 5.15 – 5.925 GHz**

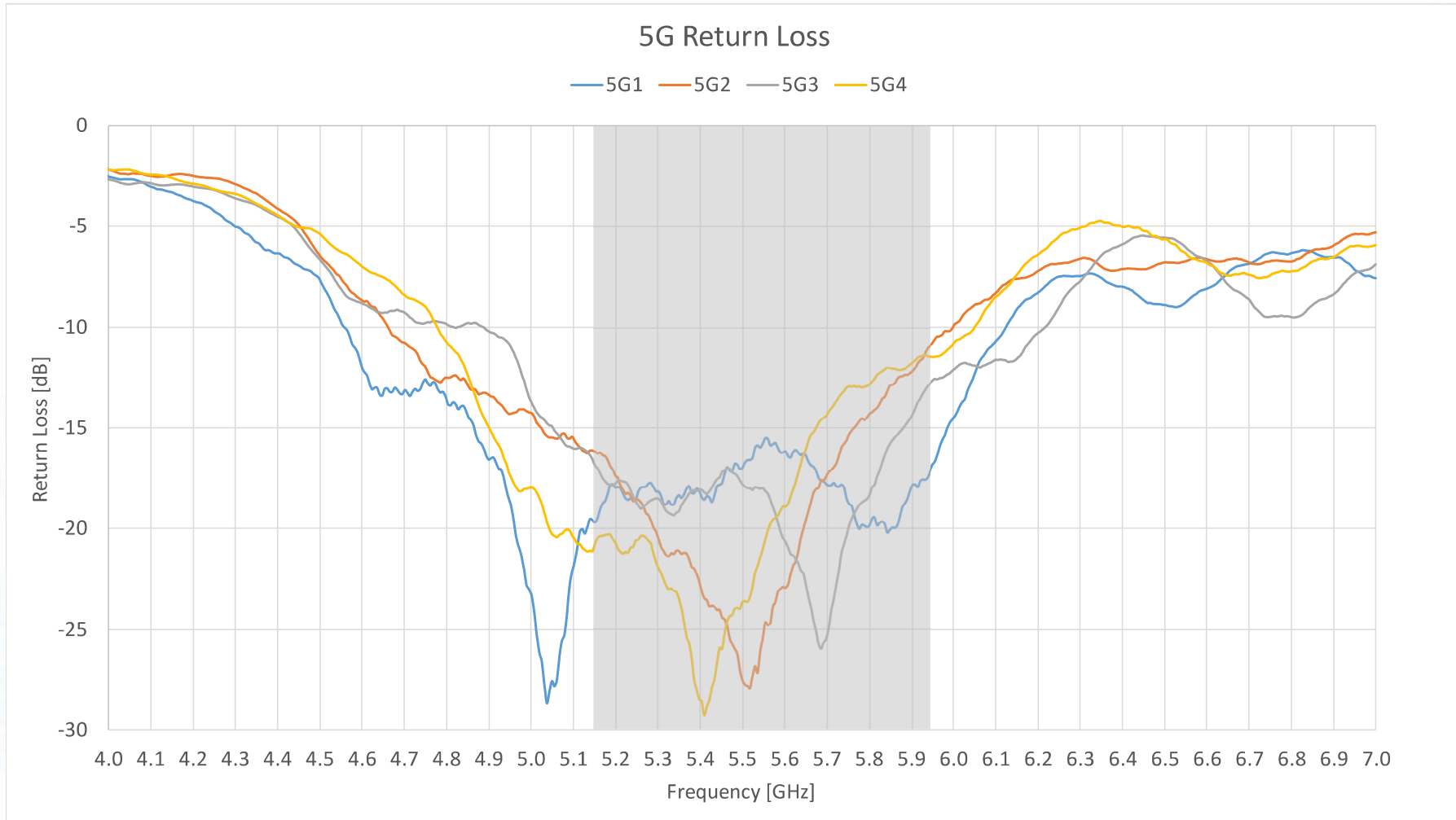


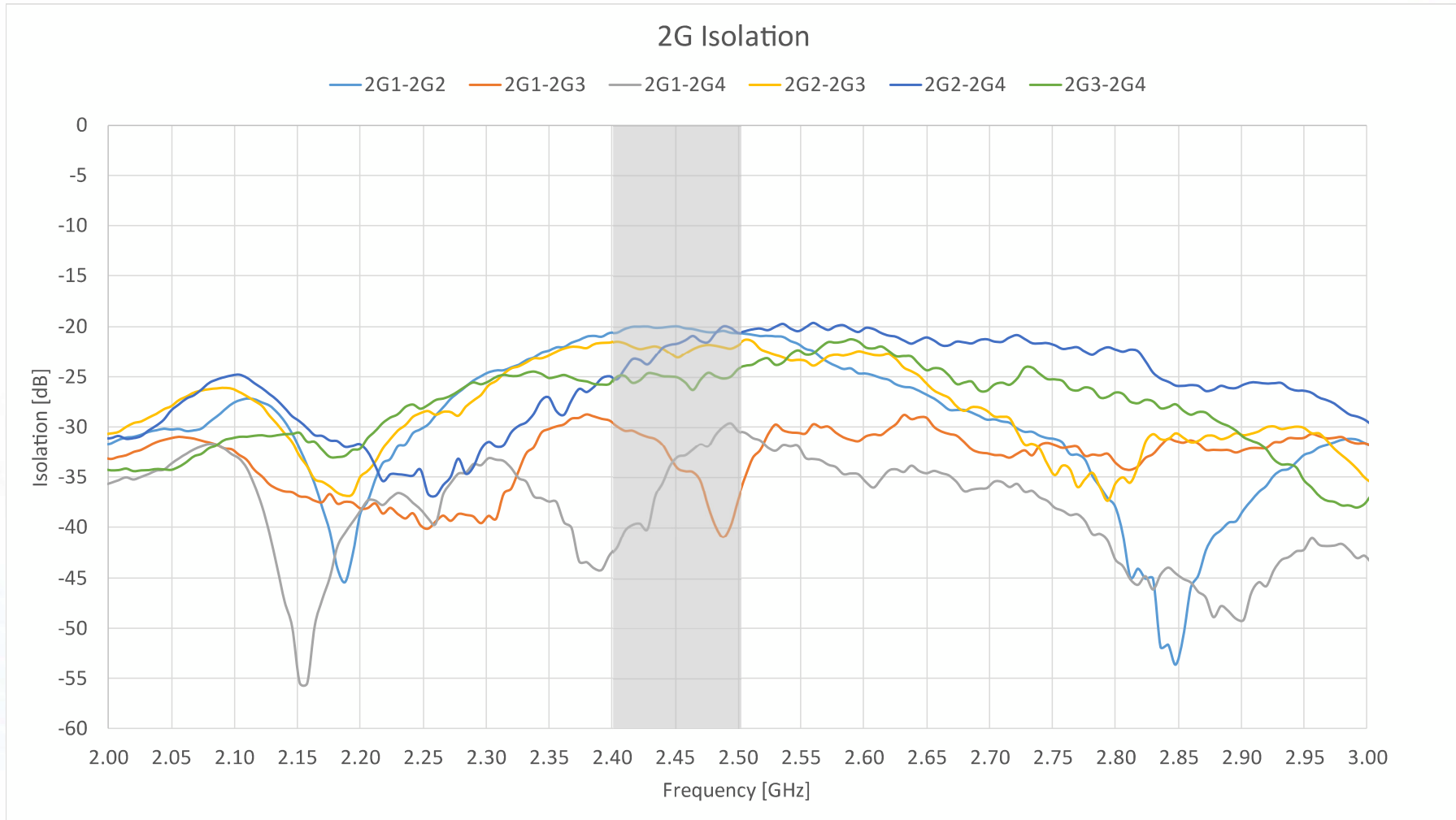
System Overview

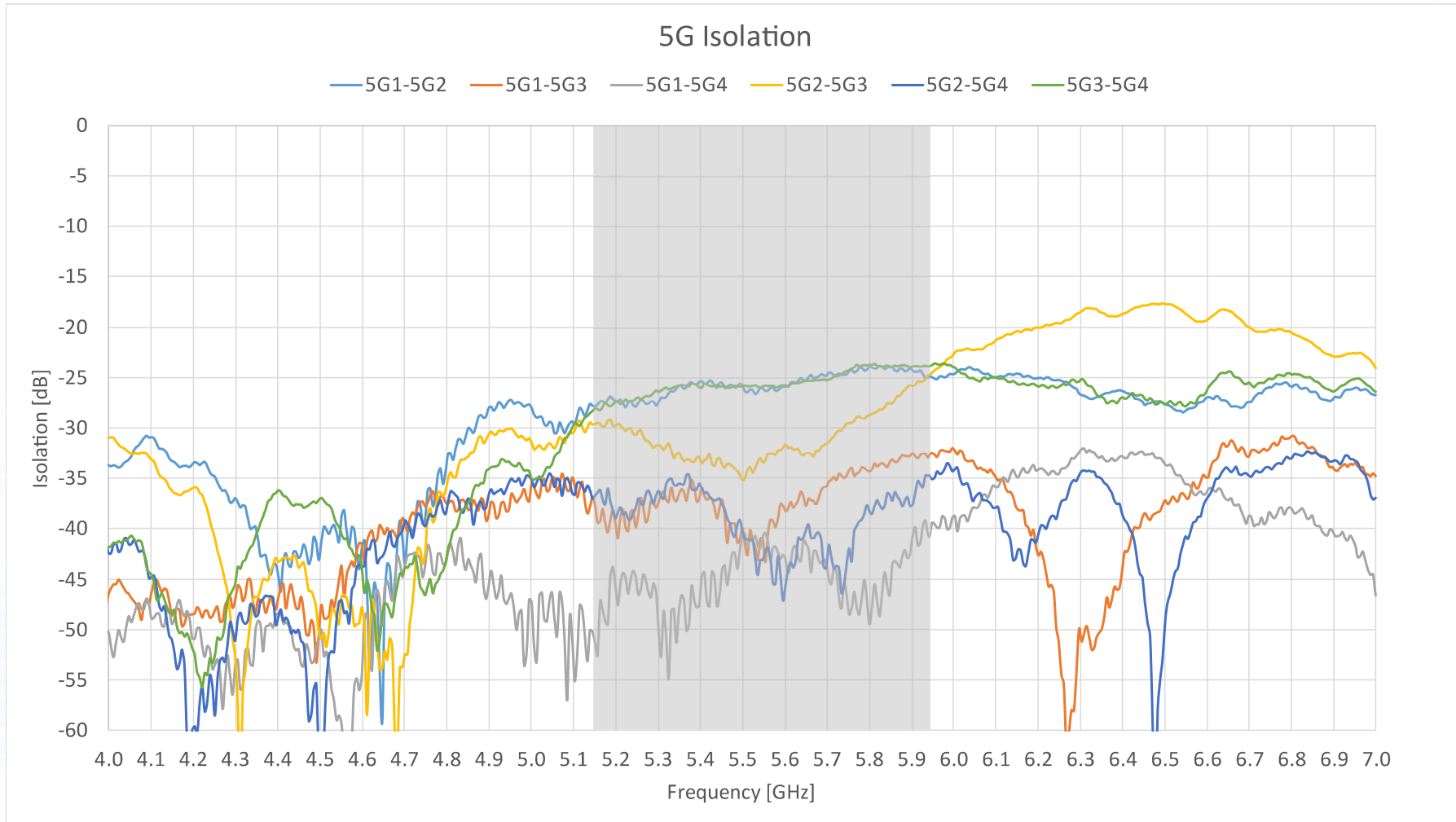


S-Parameters









Antenna Gain and Efficiency

2G Antennas – Peak Gain and Efficiency



2G_1	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	2.40	4.3	68.7%
	2.45	4.7	70.1%
	2.50	4.3	67.6%

2G_2	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	2.40	5.8	76.1%
	2.45	5.5	72.1%
	2.50	5.6	68.7%

2G Antennas – Peak Gain and Efficiency



2G_3	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	2.40	4.5	69.1%
	2.45	5.1	75.0%
	2.50	5.5	70.4%

2G_4	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	2.40	4.8	77.5%
	2.45	4.6	75.8%
	2.50	4.3	73.2%

5G_1	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	5.15	5.5	69.8%
	5.50	5.3	71.0%
	5.925	4.9	68.6%

5G_2	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	5.15	5.8	76.7%
	5.50	5.9	79.0%
	5.925	5.5	73.0%

5G_3	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	5.15	5.8	67.4%
	5.50	5.9	68.9%
	5.925	5.7	65.7%

5G_4	Freq [GHz]	Peak Gain [dBi]	Efficiency [%]
	5.15	5.6	73.5%
	5.50	5.0	77.2%
	5.925	5.4	67.2%

Radiation Patterns

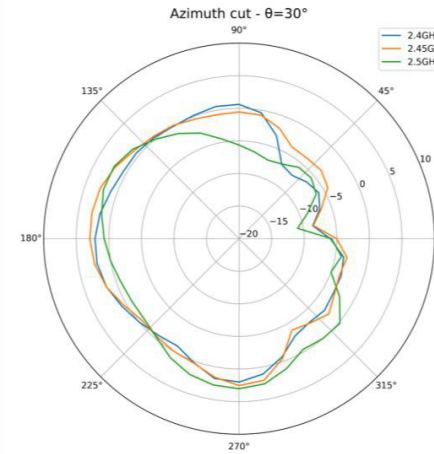
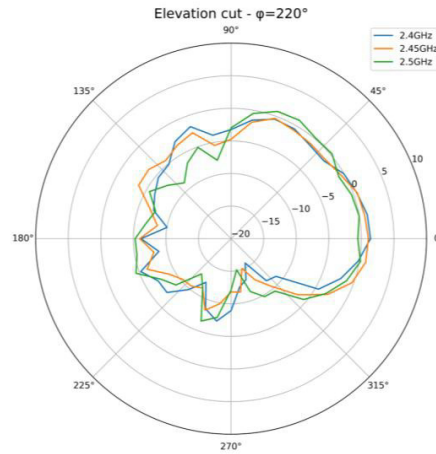
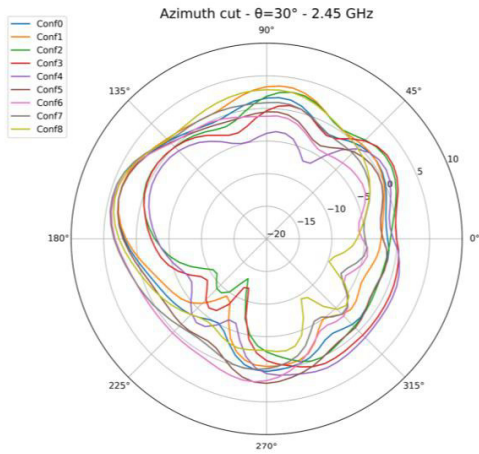
2G Antennas

Azimuth – XY (All Conf.)

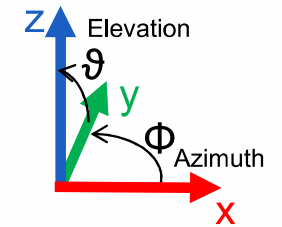
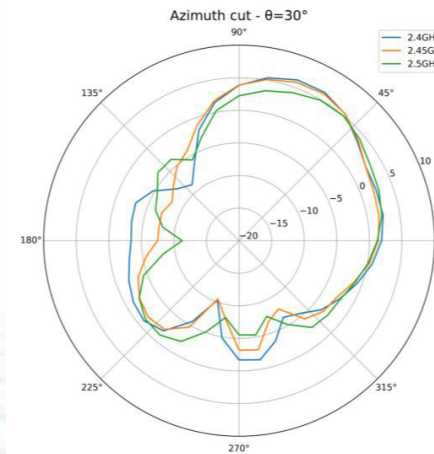
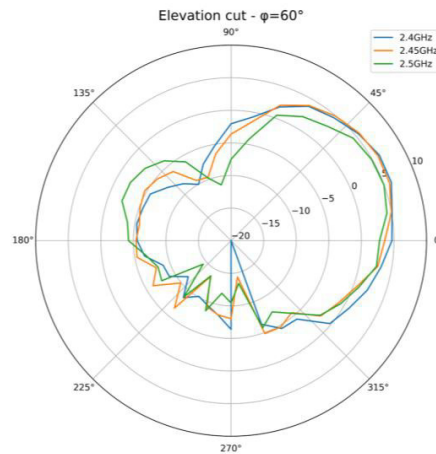
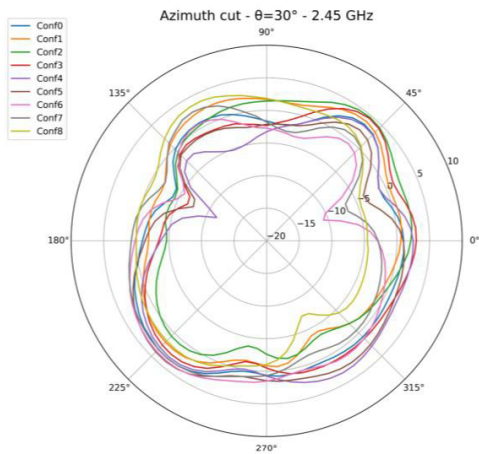
Elevation – YZ

Azimuth – XY

2G_1



2G_2



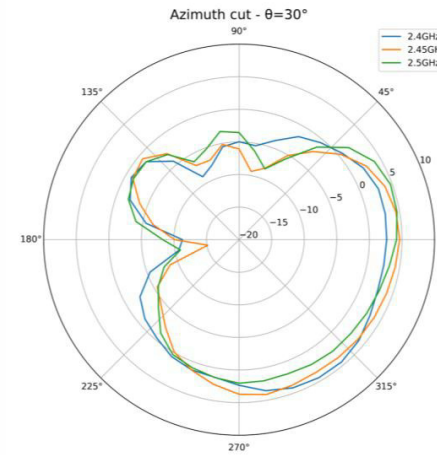
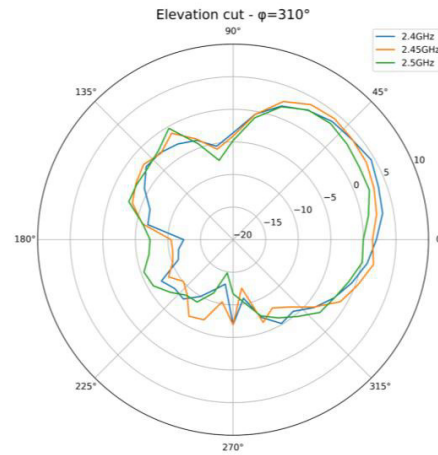
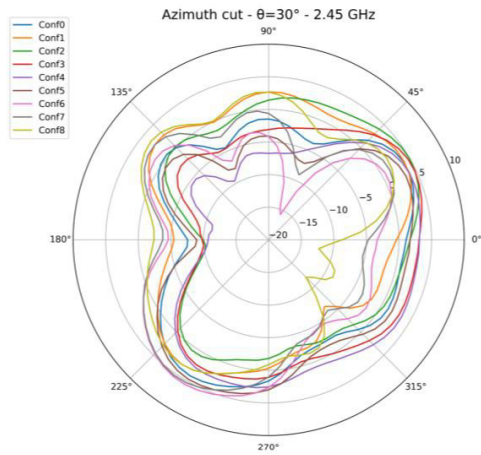
2G Antennas

Azimuth – XY (All Conf.)

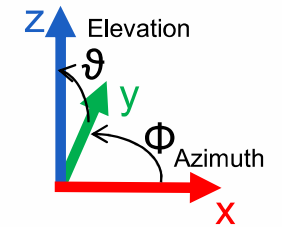
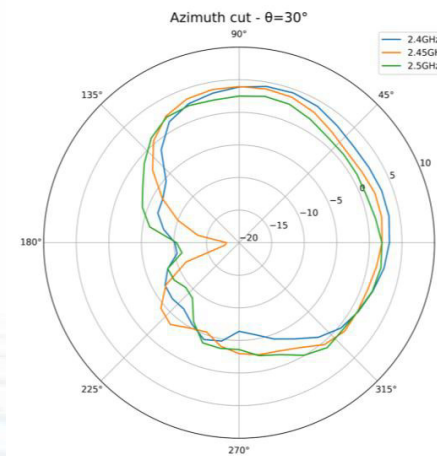
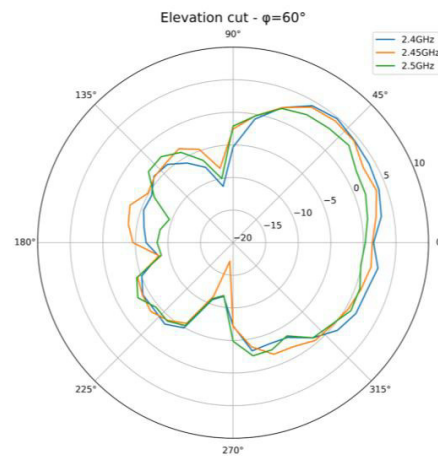
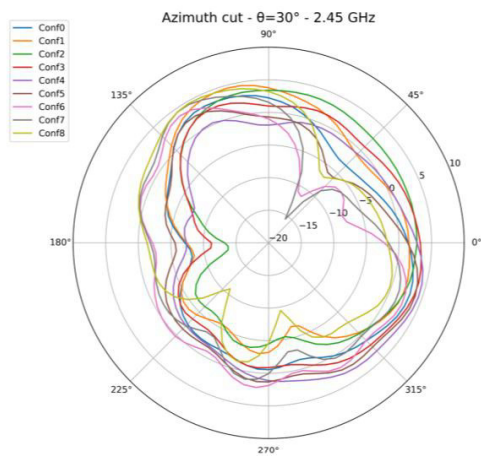
Elevation – YZ

Azimuth – XY

2G_3



2G_4



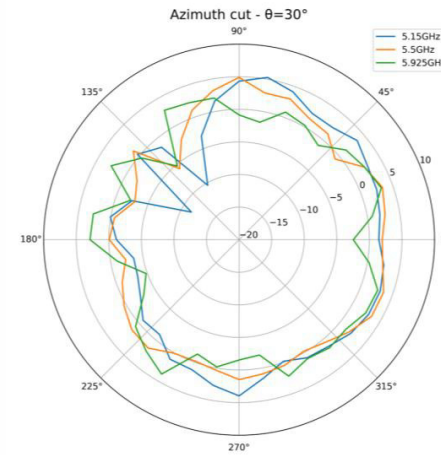
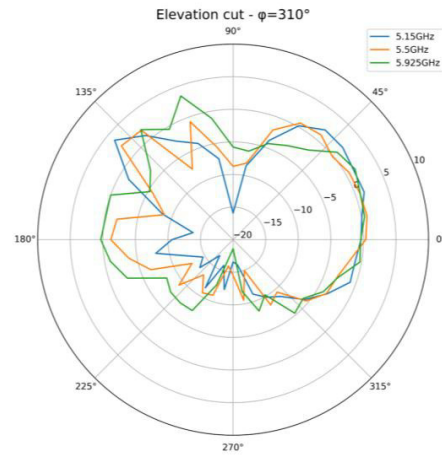
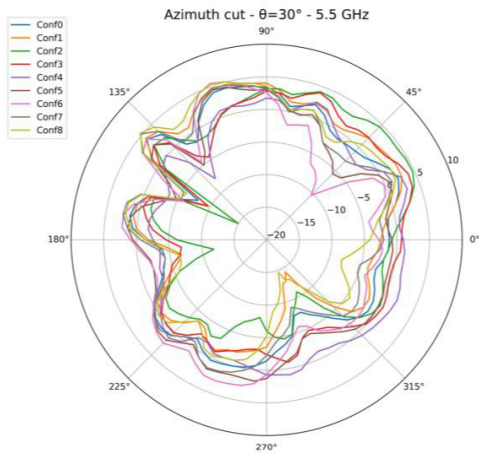
5G Antennas

Azimuth – XY (All Conf.)

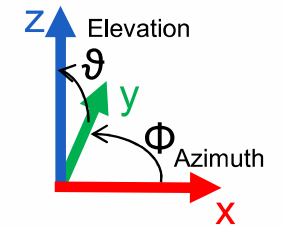
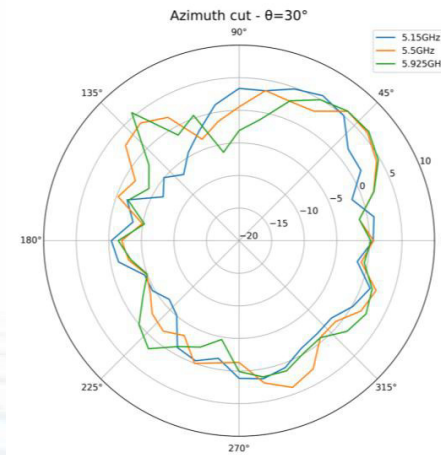
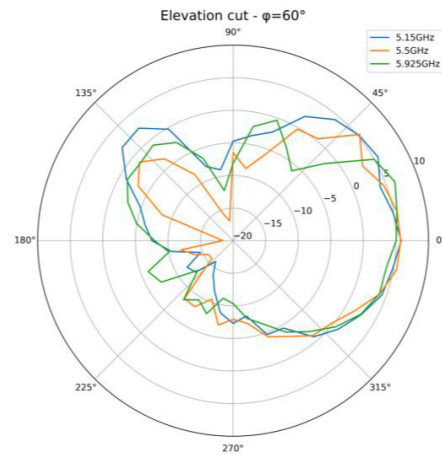
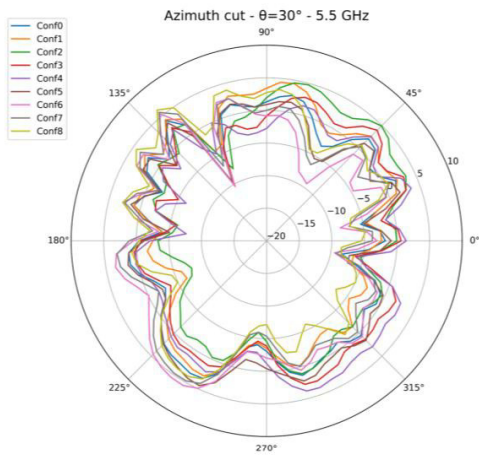
Elevation – YZ

Azimuth – XY

5G_1



5G_2



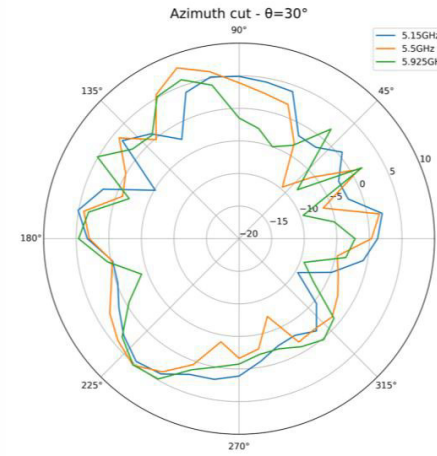
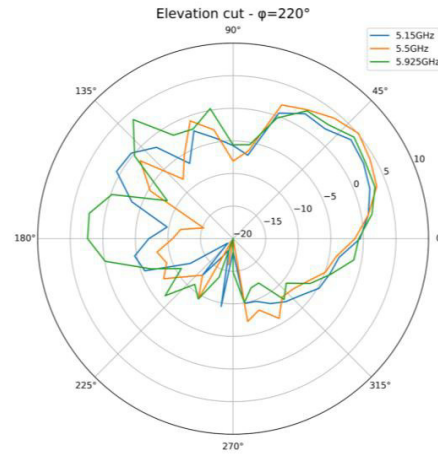
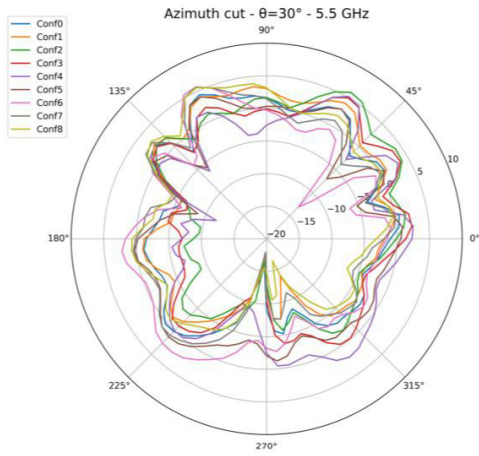
5G Antennas

Azimuth – XY (All Conf.)

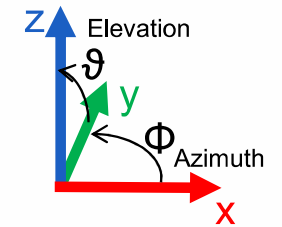
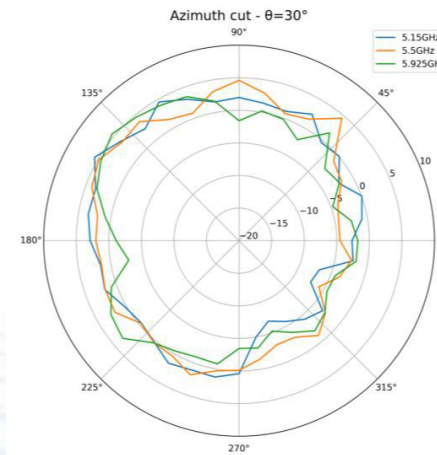
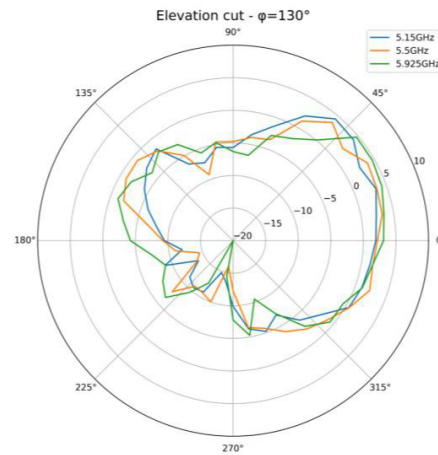
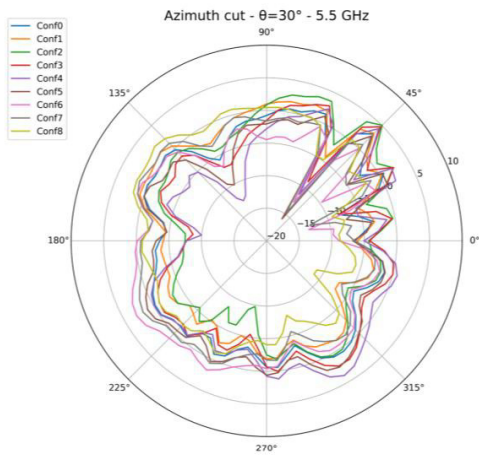
Elevation – YZ

Azimuth – XY

5G_3



5G_4



Band	Return Loss	Isolation	Peak Gain	Efficiency
2G	< -10dB	> 20dB	5.8dBi	~70%
5G	< -10dB	>20dB	5.9dBi	~70%



Thank you

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