

GALTRONICS

WHEN CONNECTIONS COUNT



Adtran Gemtek SKU #2 Pre Production Antenna Performance

Galtronics Project:
7756

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Introduction

- » Galtronics tuned the antenna solution for Adtran Gemtek SKU #2
- » There are 8 antennas such as four Dual Band antennas (DB1,DB2,DB3, and DB4) , for 5 GHz antennas (5G1,5G2,5G3, and 5G4), and one DFS antenna
- » All antennas are DC-grounded antennas
- » The operating frequency of the Dual band Antennas is 2.4 GHz-2.5 GHz and 5.47 GHz-5.85 GHz. The operating frequency of 5 GHz antenna is 5.15 GHz- 5.35 GHz.
- » The operating frequency of DFS antenna is 5.15 GHz- 5.825 GHz.
- » Measured return loss, isolation, peak gain, efficiency, composite gain and gain pattern of the antennas

DB Antenna Peak Gain and Efficiency

DB1 LB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	2400	3.588	5.075	71.00 %
	2450	3.618	5.332	67.39 %
	2500	4.356	6.480	61.32 %
	Average			66.57 %

DB1 HB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5500	4.287	5.493	75.76 %
	5725	4.341	5.376	78.80 %
	5825	3.988	5.058	78.17 %
	Average			77.58 %

DB2 LB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	2400	1.745	3.976	59.83 %
	2450	3.414	5.538	61.32 %
	2500	3.624	6.212	55.11 %
	Average			58.75 %

DB2 HB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5500	4.289	5.211	80.86 %
	5725	4.174	5.296	77.24 %
	5825	3.970	5.511	70.12 %
	Average			76.07 %

DB3 LB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	2400	2.890	4.801	64.40 %
	2450	3.099	4.586	71.02 %
	2500	3.309	4.929	68.87 %
	Average			68.10 %

DB3 HB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5500	4.302	5.610	74.00 %
	5725	4.634	5.626	79.58 %
	5825	4.483	5.615	77.05 %
	Average			76.88 %

DB4 LB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	2400	4.196	6.141	63.90 %
	2450	4.574	6.073	70.80 %
	2500	4.732	6.542	65.91 %
	Average			66.87 %

DB4 HB	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5500	4.188	5.318	77.08 %
	5725	3.938	5.040	77.59 %
	5825	4.223	5.377	76.67 %
	Average			77.11 %

5GHz and DFS Antenna Peak Gain and Efficiency

DFS	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5150	5.014	7.143	61.24 %
	5250	5.444	7.514	62.08 %
	5350	5.756	7.981	59.91 %
	5500	5.013	7.454	57.00 %
	5725	4.517	6.852	58.42 %
	5825	5.026	7.440	57.36 %
	Average			59.34 %

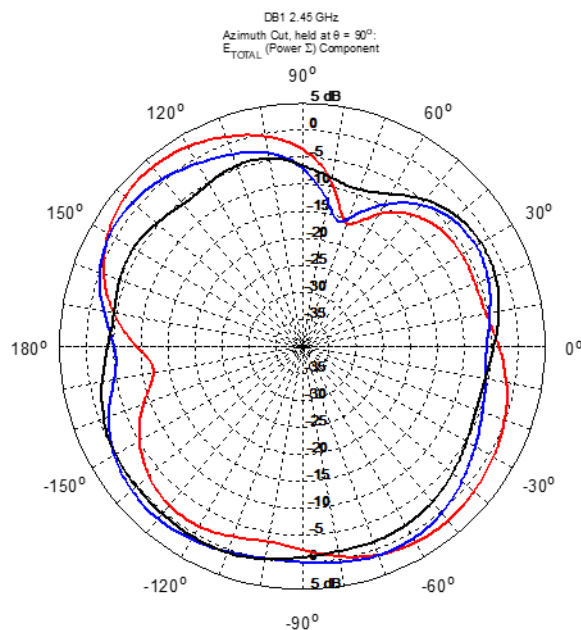
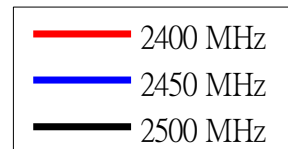
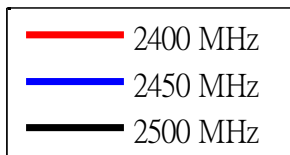
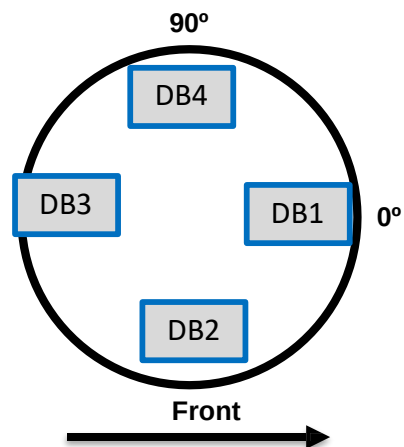
5G1	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5150	3.983	5.404	72.09 %
	5250	3.544	5.018	71.21 %
	5350	3.254	4.447	75.99 %
	Average			73.10 %

5G2	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5150	3.679	5.498	65.78 %
	5250	3.713	5.316	69.14 %
	5350	4.354	5.664	73.96 %
	Average			69.63 %

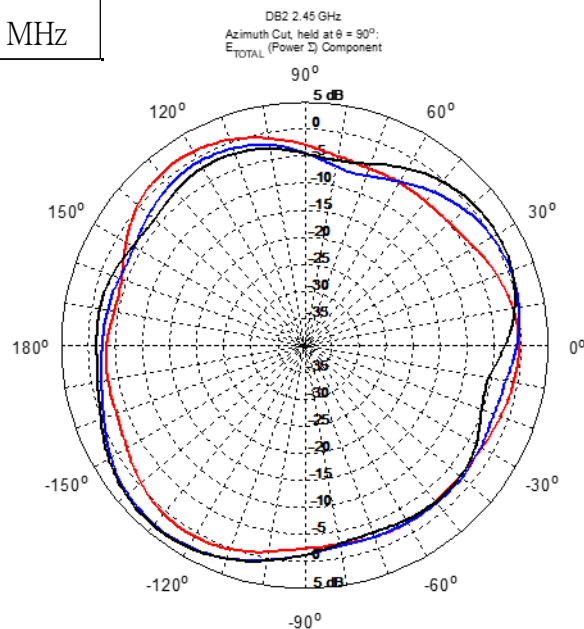
5G3	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5150	3.151	5.068	64.31 %
	5250	3.385	4.997	69.01 %
	5350	4.633	5.786	76.68 %
	Average			70.00 %

5G4	Freq (MHz)	Peak Gain (dBi)	Directivity (dBi)	Efficiency
	5150	4.194	5.663	71.30 %
	5250	4.338	5.902	69.76 %
	5350	4.690	6.035	73.37 %
	Average			71.48 %

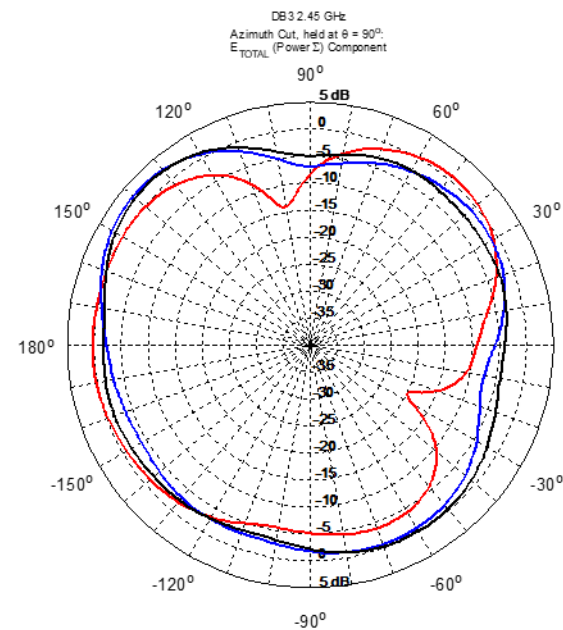
Azimuth Cut - Power Sum 2.45 GHz Band Antennas



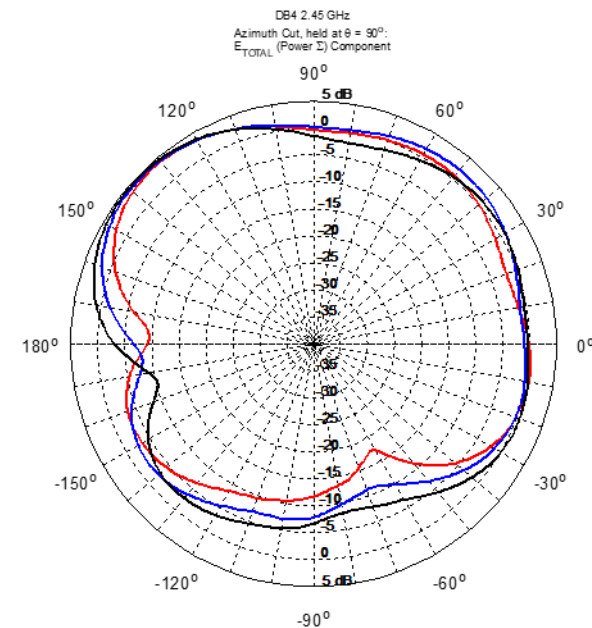
DB1



DB2

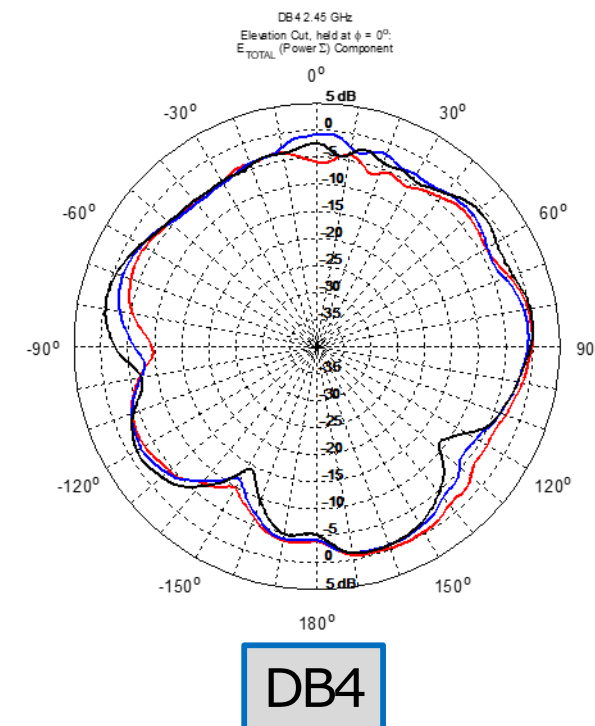
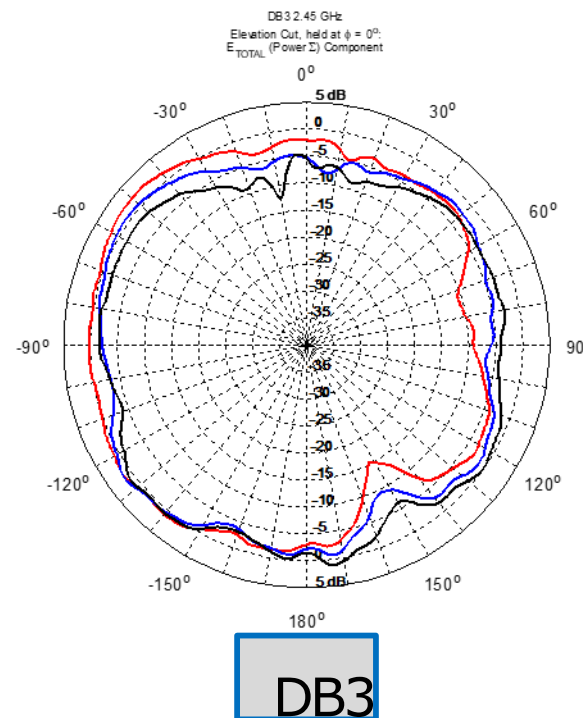
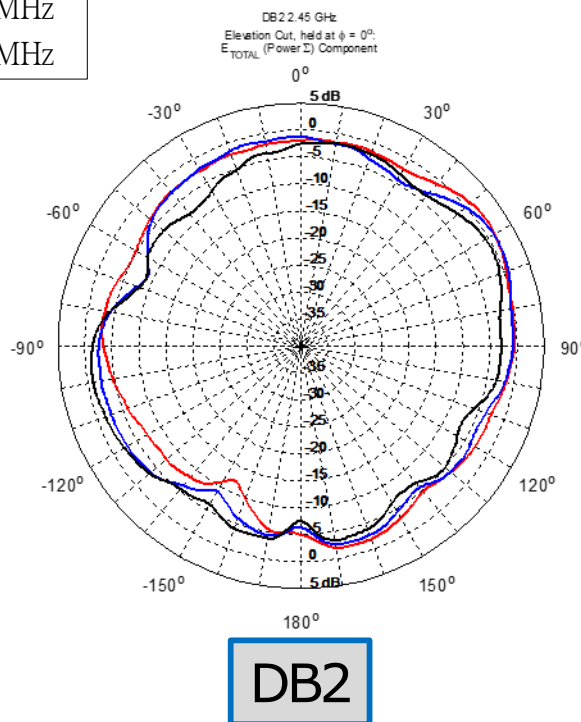
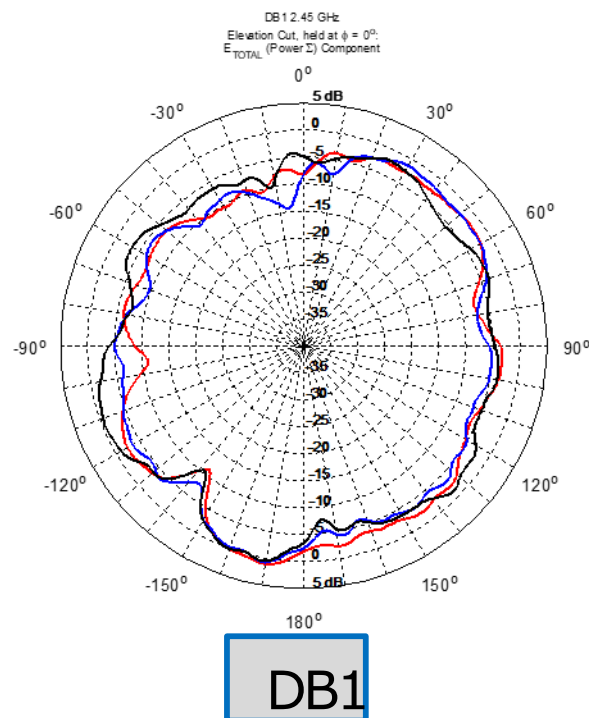
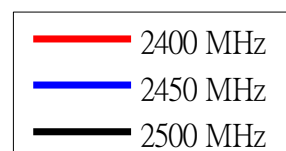
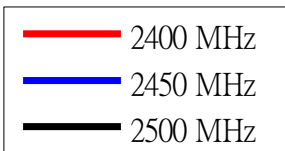
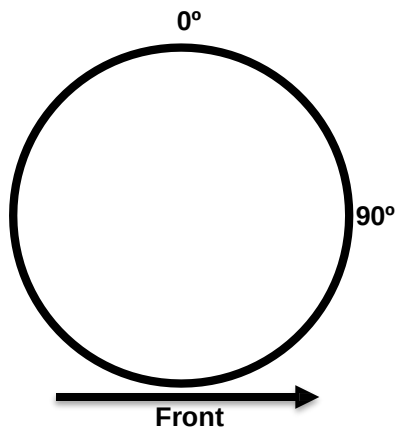


DB3

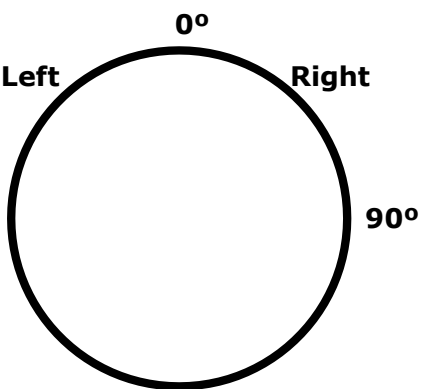


DB4

Elevation (Front to Back) Cut - Power Sum 2.45 GHz Band Antennas

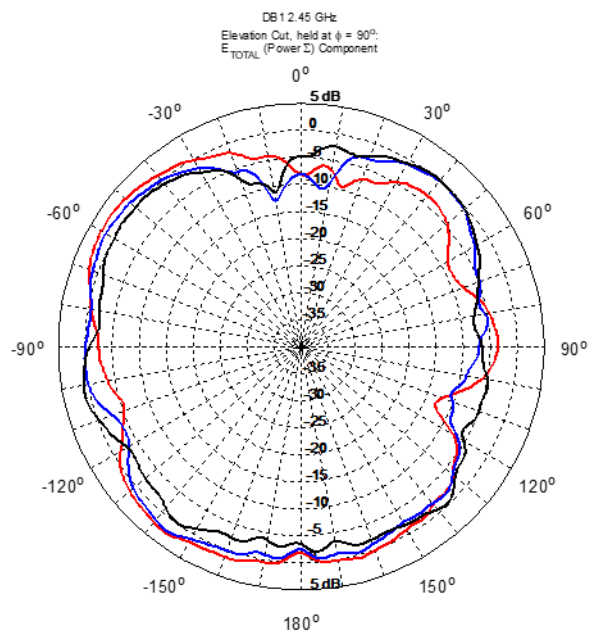
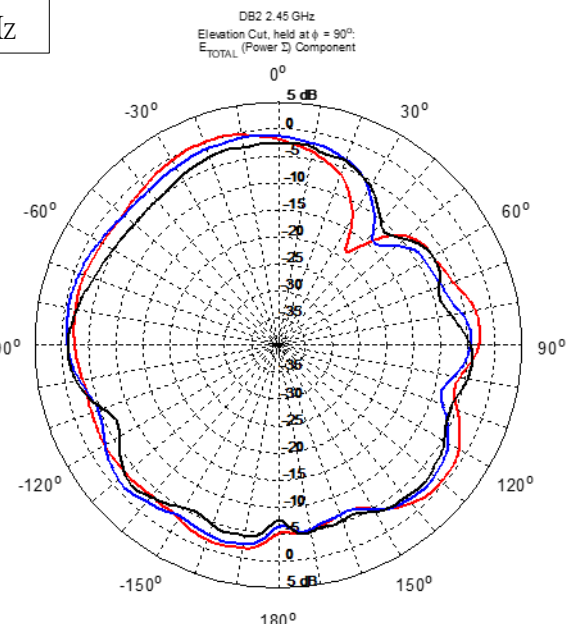
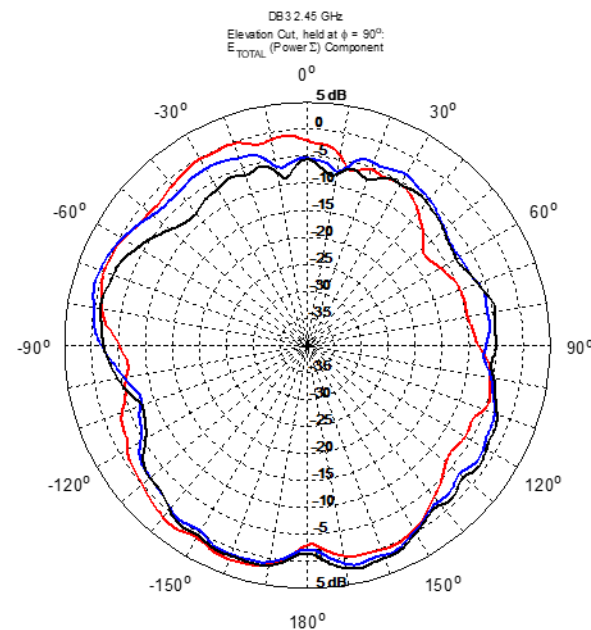
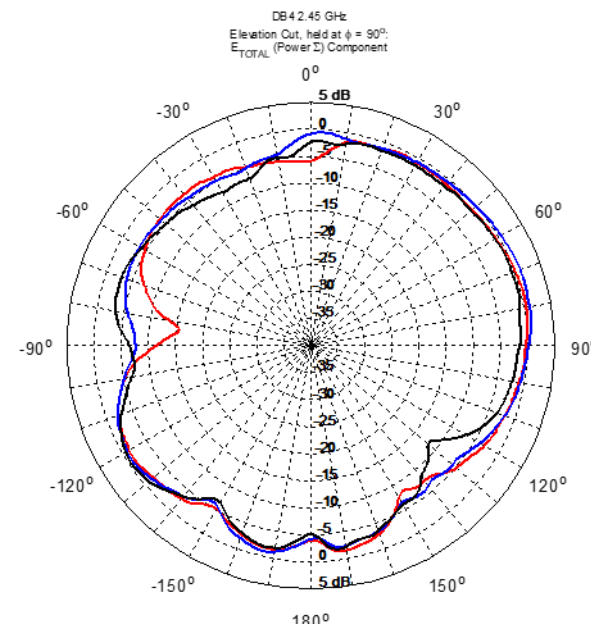


Elevation (Side to Side) Cut - Power Sum 2.45 GHz Band Antennas

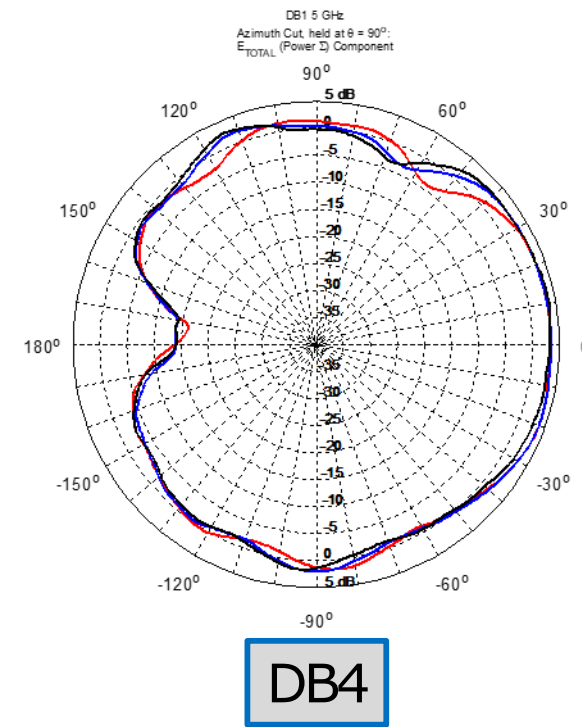
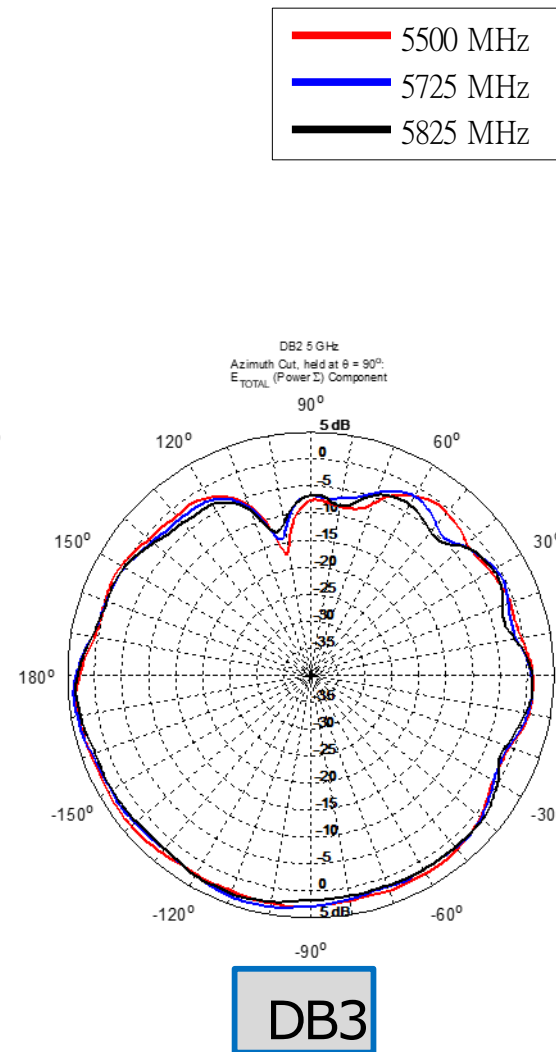
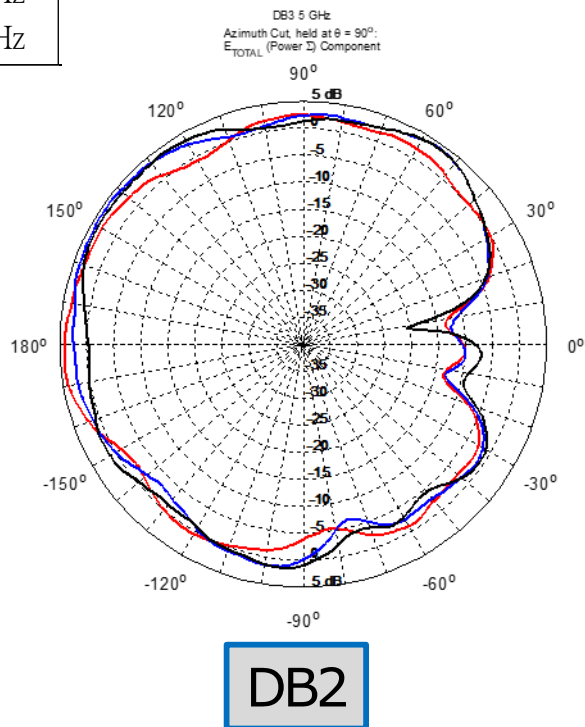
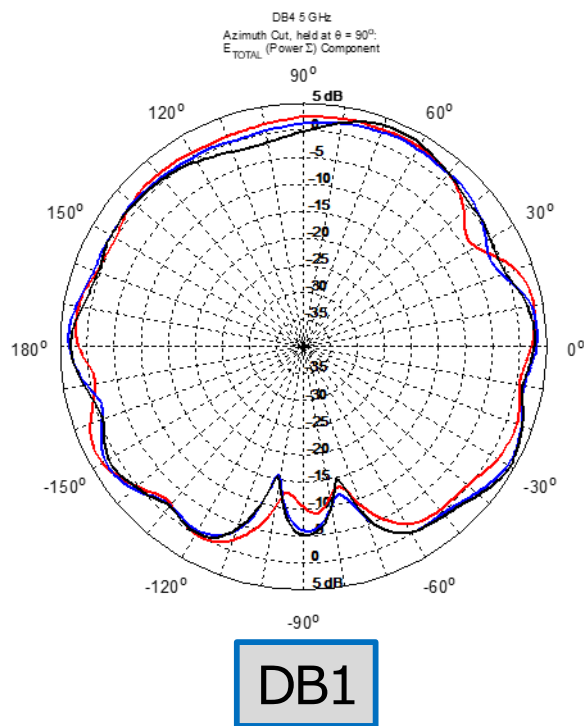
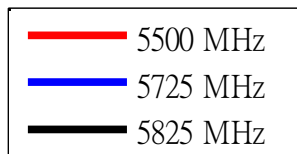
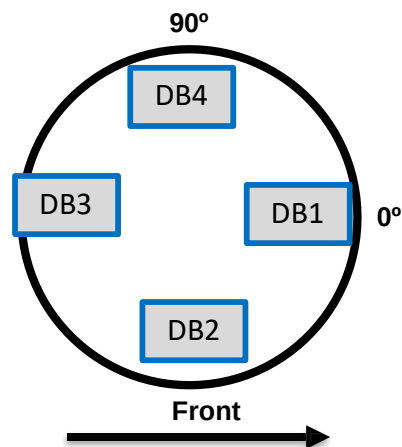


— 2400 MHz
— 2450 MHz
— 2500 MHz

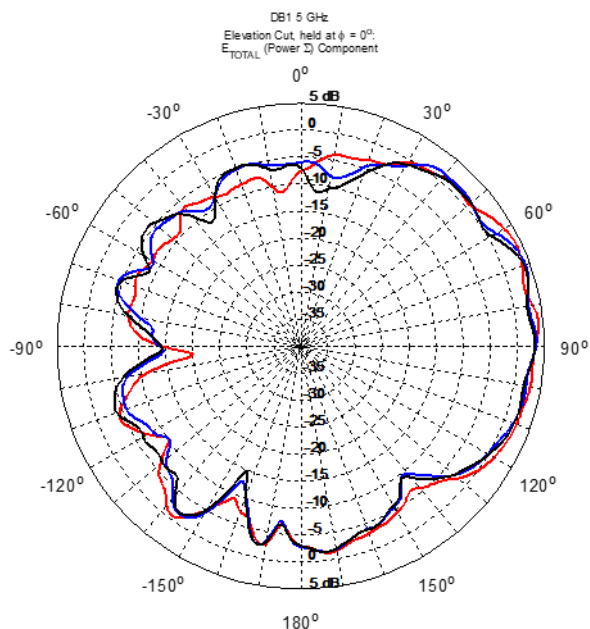
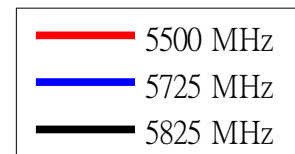
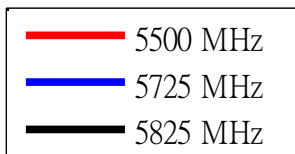
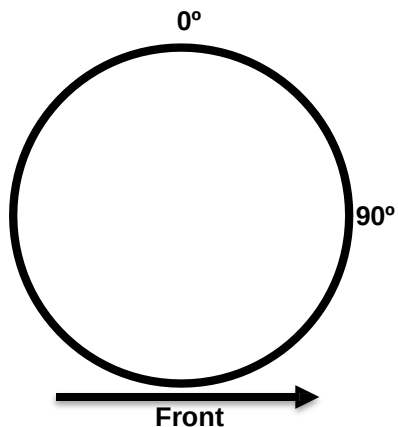
— 2400 MHz
— 2450 MHz
— 2500 MHz

**DB1****DB2****DB3****DB4**

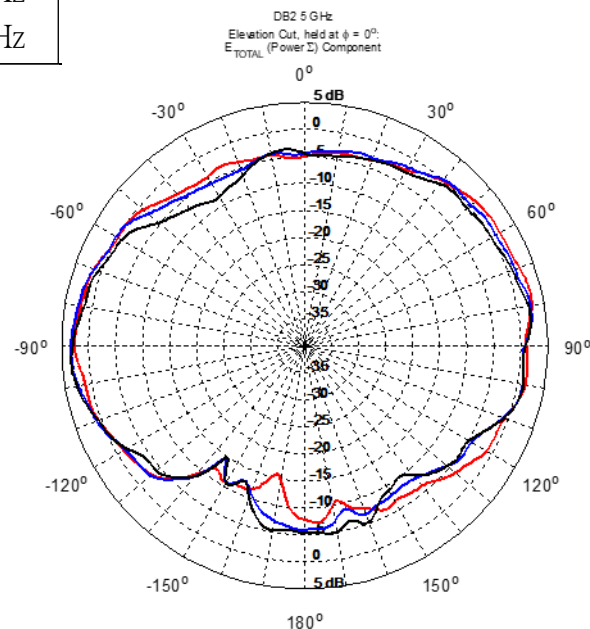
Azimuth Cut - Power Sum 5 GHz High Band Antennas



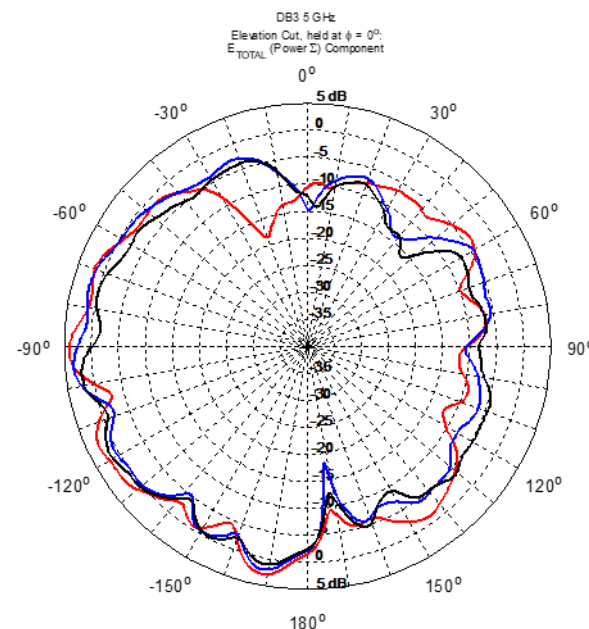
Elevation (Front to Back) Cut - Power Sum 5 GHz High Band Antennas



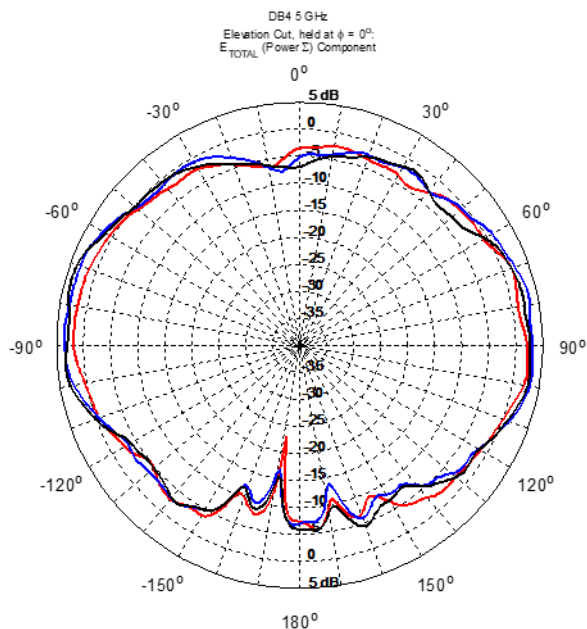
DB1



DB2

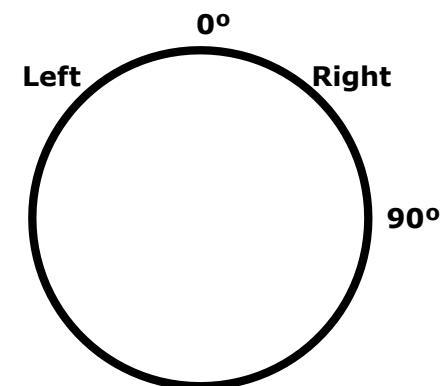


DB3



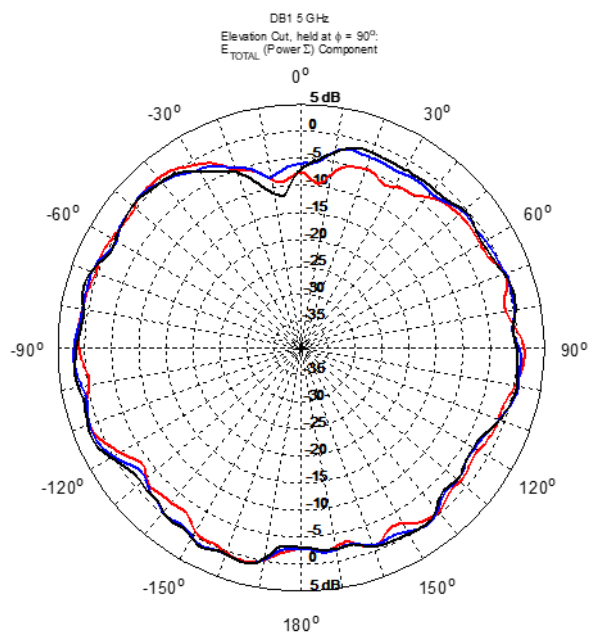
DB4

Elevation (Side to Side) Cut - Power Sum 5 GHz High Band Antennas

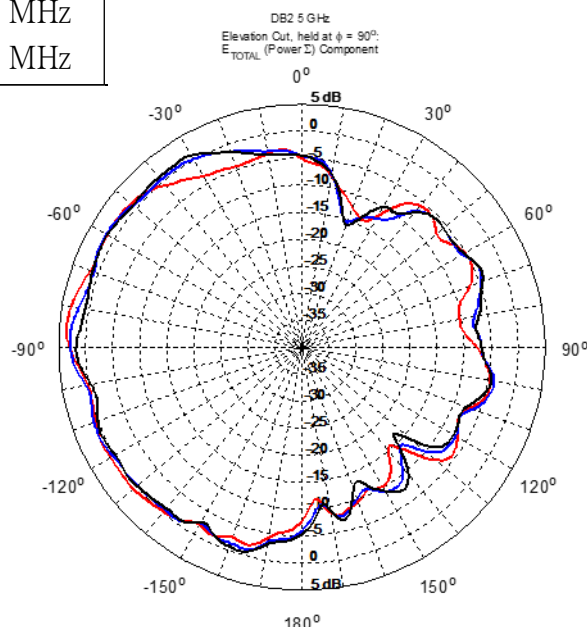


— 5500 MHz
— 5725 MHz
— 5825 MHz

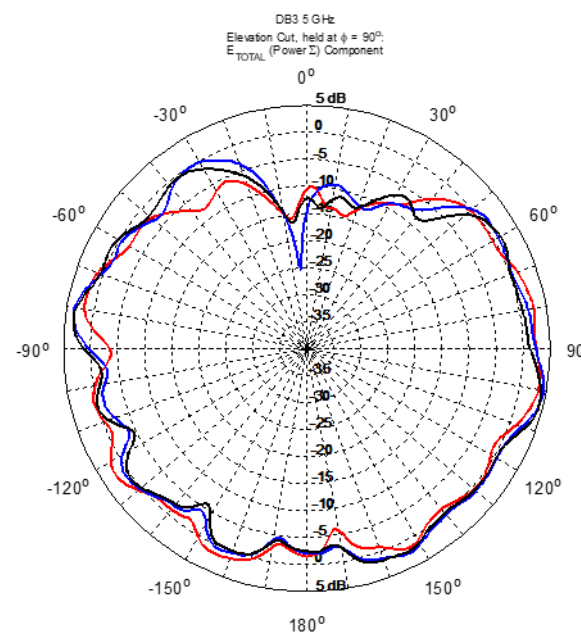
— 5500 MHz
— 5725 MHz
— 5825 MHz



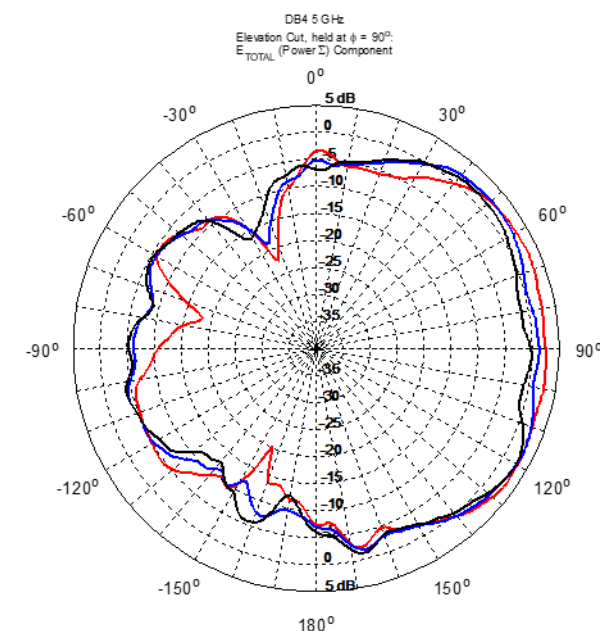
DB1



DB2

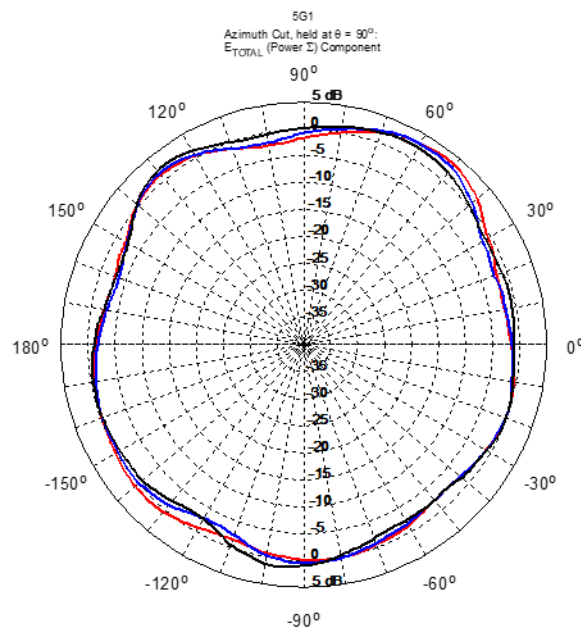
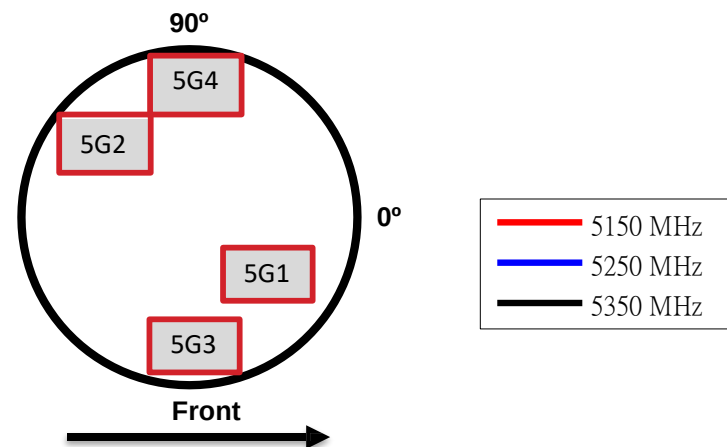


DB3

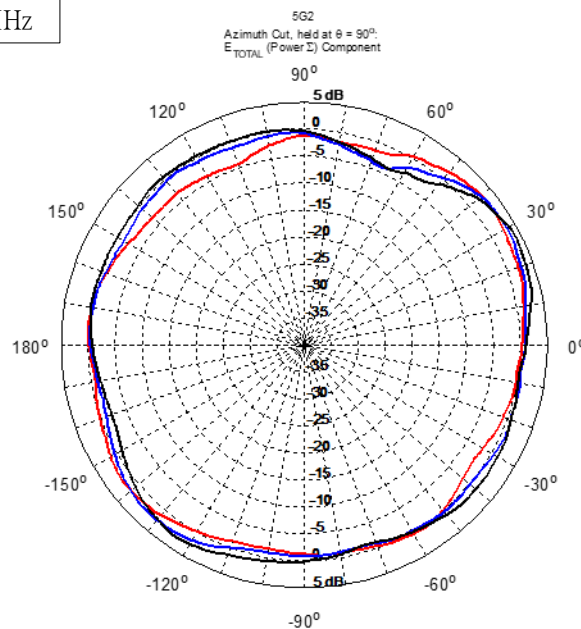


DB4

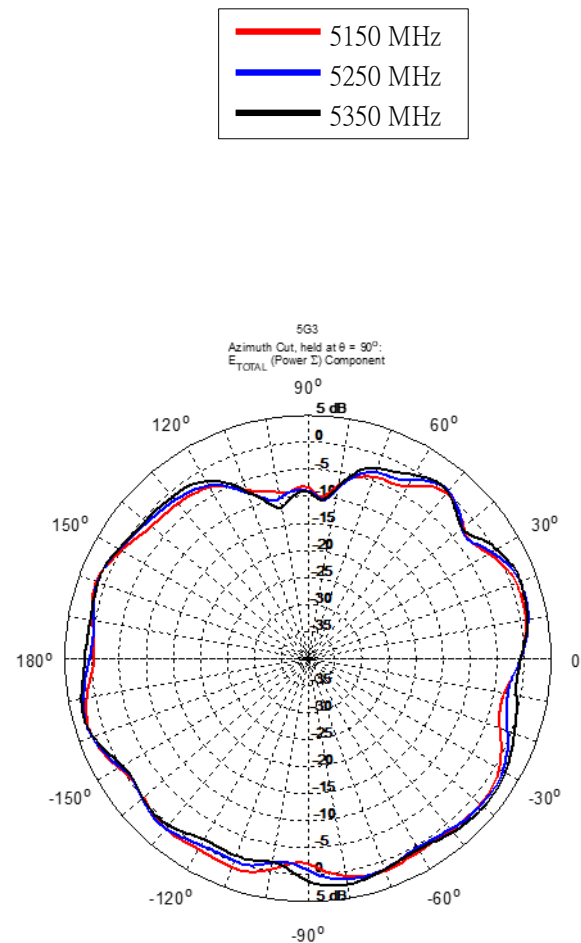
Azimuth Cut - Power Sum 5GHz Low Band Antennas



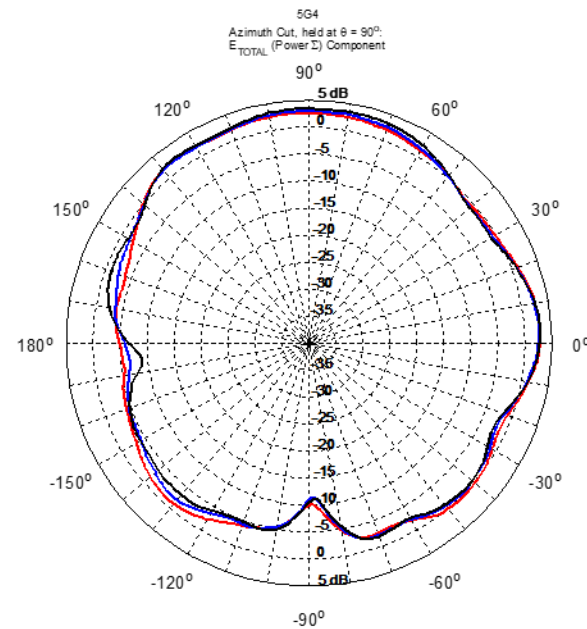
5G1



5G2

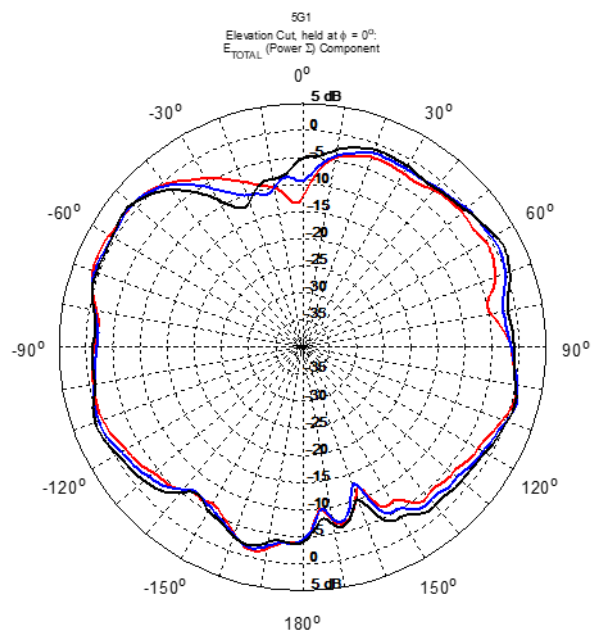
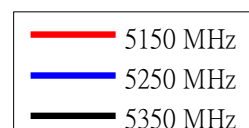
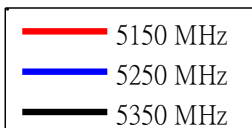
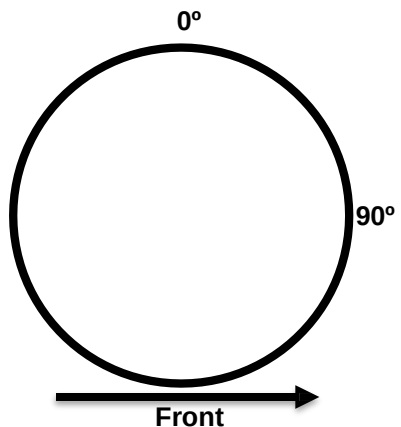
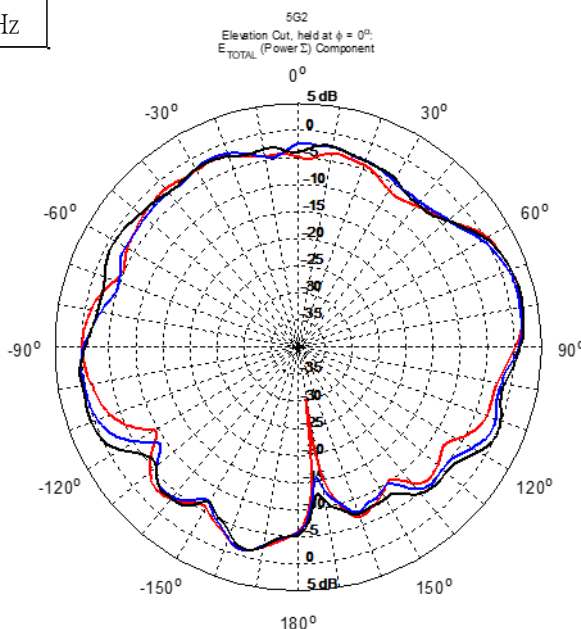
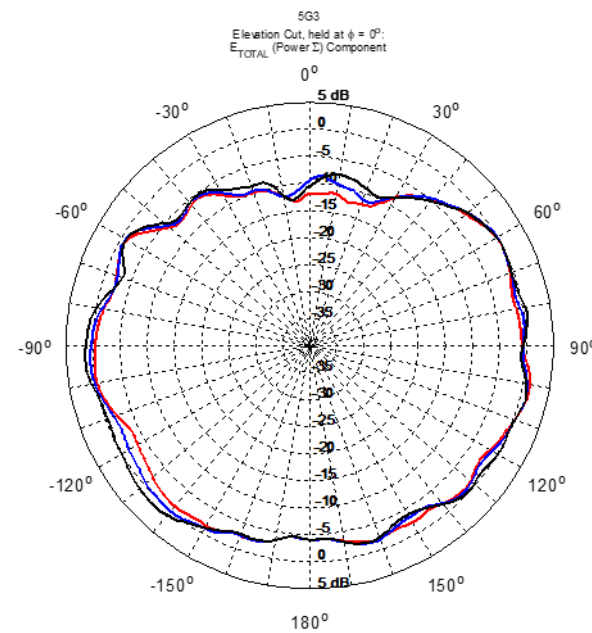
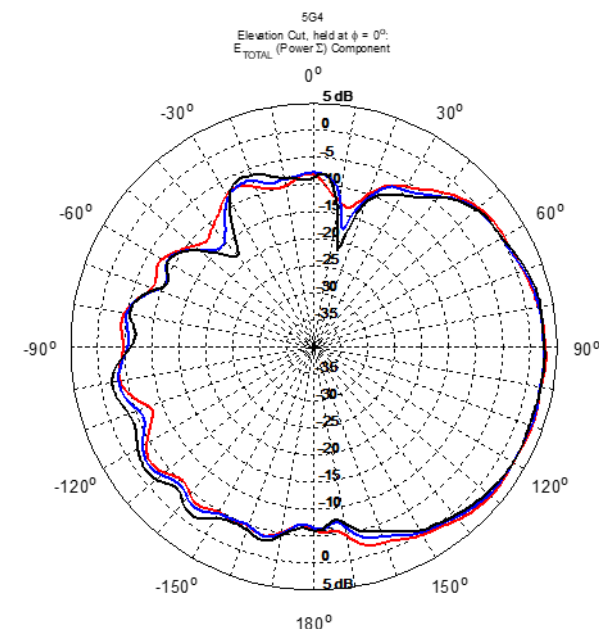


5G3

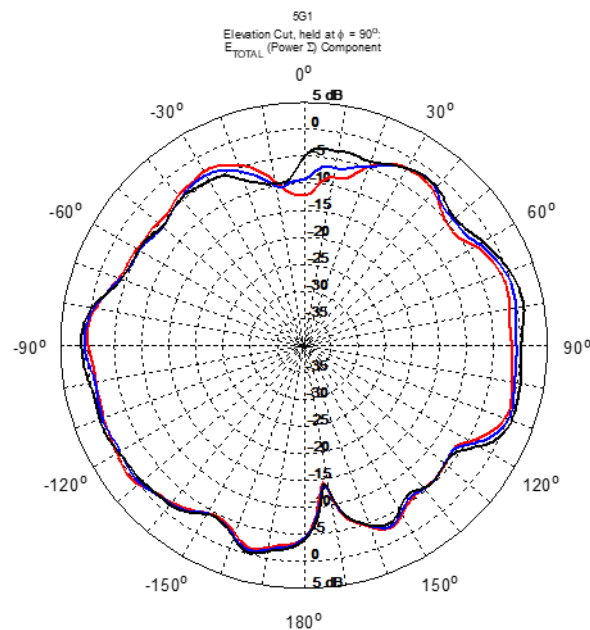
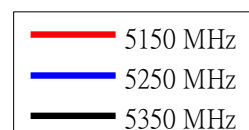
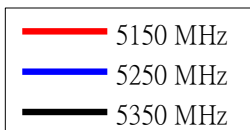
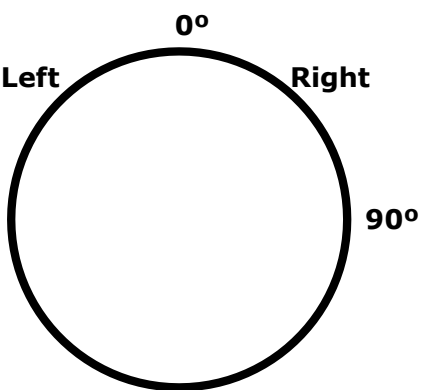


5G4

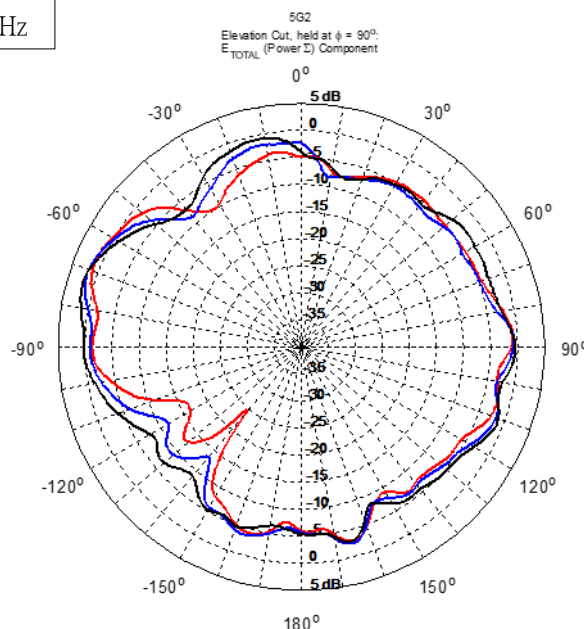
Elevation (Front to Back) Cut - Power Sum 5GHz Low Band Antennas

**5G1****5G2****5G3****5G4**

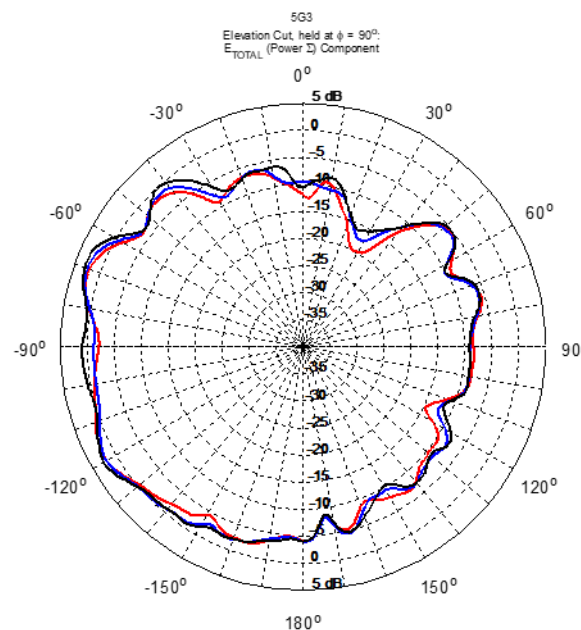
Elevation (Side to Side) Cut - Power Sum 5GHz Low Band Antennas



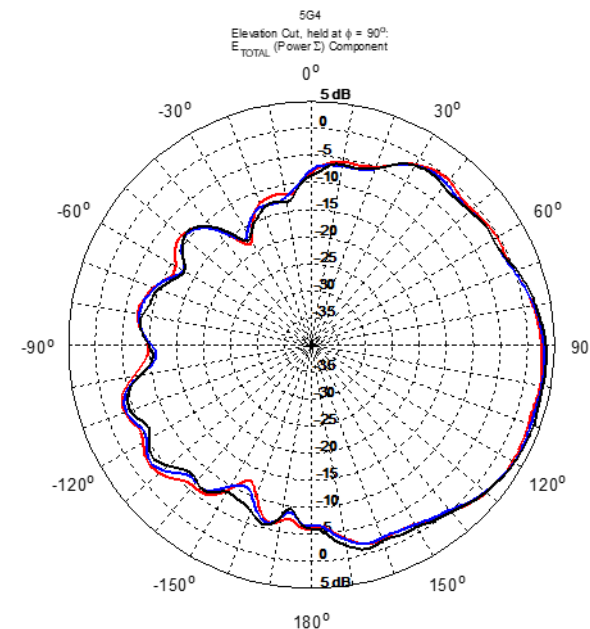
5G1



5G2



5G3



5G4

Thank You!

We Look Forward To Working Together

