

Antenna Report

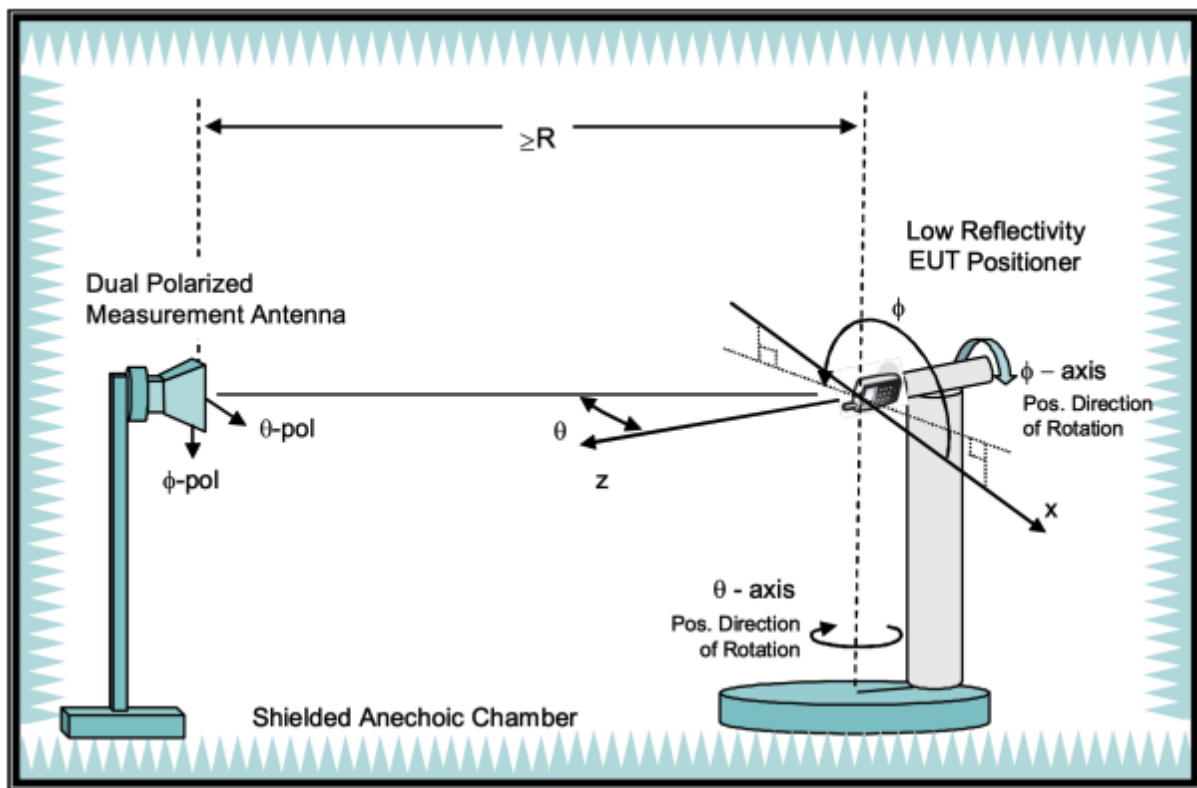
FCC ID: A4RGTU8P
12/22/2022

1. Test Method

The antenna gains are obtained through measurements in a fully anechoic OTA chamber with a 3D positioner.

Measurements are taken in discrete steps in theta and phi direction, data is being recorded using the spectrum analyzer (active) or network analyzer (passive) for both theta and phi polarizations at each position resulting in a 3D gain pattern. Step size is <30 deg along both axes.

Gain is either derived directly through spatial averaging of VNA S21 measurements (passive measurement) or by the ratio of spatial averaging of 3D EIRP/TRP measurements vs the conducted power (active measurement).



Measurements were obtained through an active non-signalling measurement (test mode) plus measured conductive RF power.

2. Test Setup

See separate appendix document for pictures of the test setup in this filing.

3. Test Equipment

Site Description	Chamber Manufacture	Type
ETS 8813	ETS	Anechoic Chamber
Site Location	1600 Amphitheatre Pkwy, Mountain View, CA 94043	

4. Other information

Equipment Calibration Status	Chamber Passive Calibration 09/02/2022
Test Dates	12/6/2022
Names of test personnel	Huanyu Chen Jerry Kuo

5. WLAN/BT Antennas

Antenna	Frequency band	Antenna Gain (dBi)	Antenna Type
Ant 0	2.4 GHz	2.5	PIFA
	5 GHz	3.5	
Ant 2	2.4 GHz	2.5	PIFA
	5 GHz	4	

6. UWB Antennas

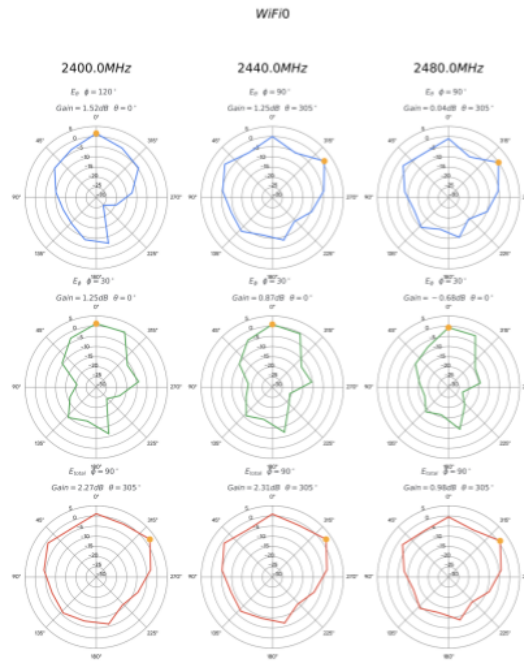
- Ch5 Peak Gain=3dBi, PIFA Antenna
- Ch9 Peak Gain=4.5dBi, PIFA Antenna

Appendix: Radiation Plots

- Wi-Fi, BT/BLE

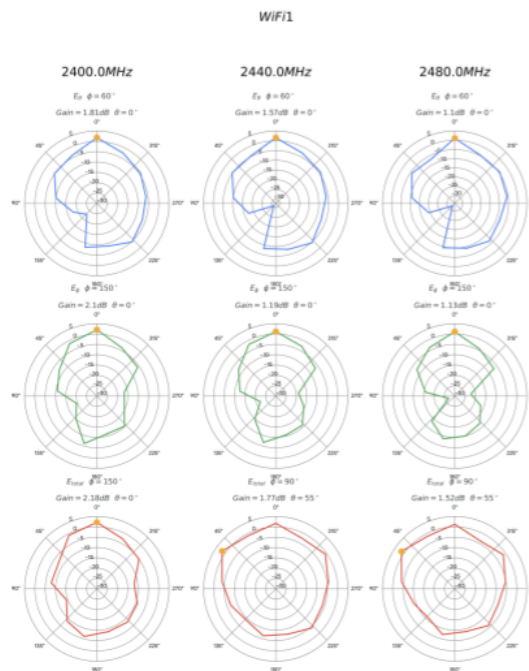
ANT0 2.4GHz

No Wall Plate



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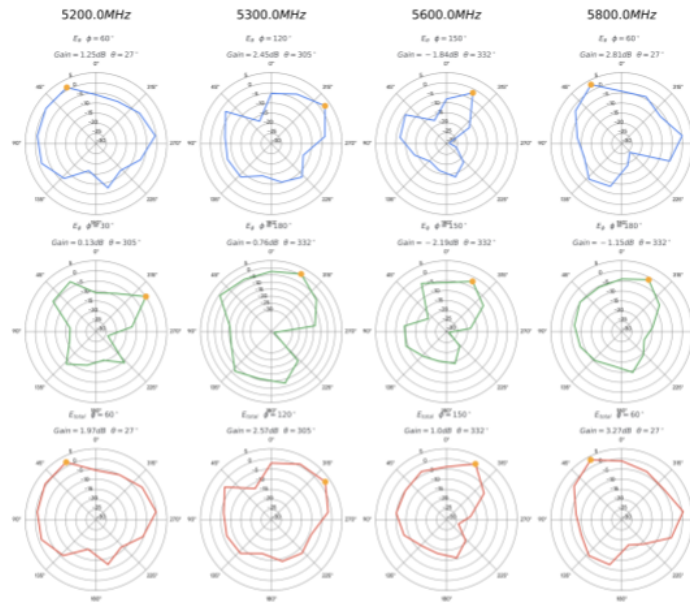
ANT2 2.4GHz



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ANT0 5GHz

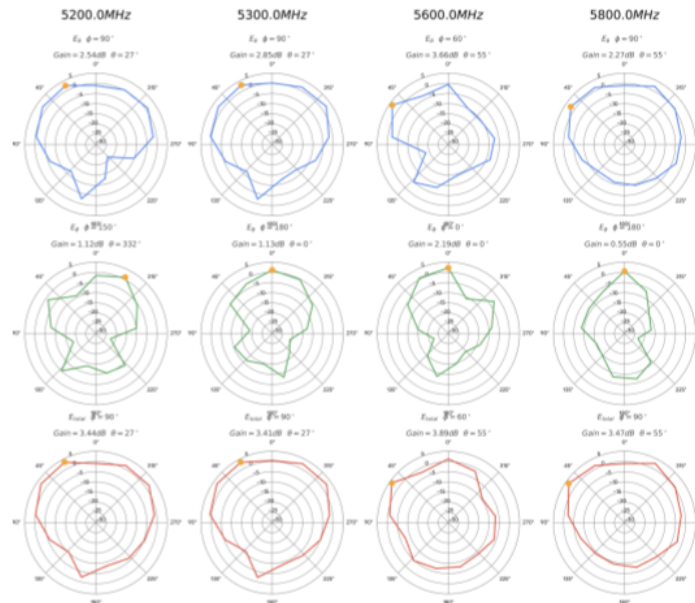
WiFi0



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ANT2 5GHz

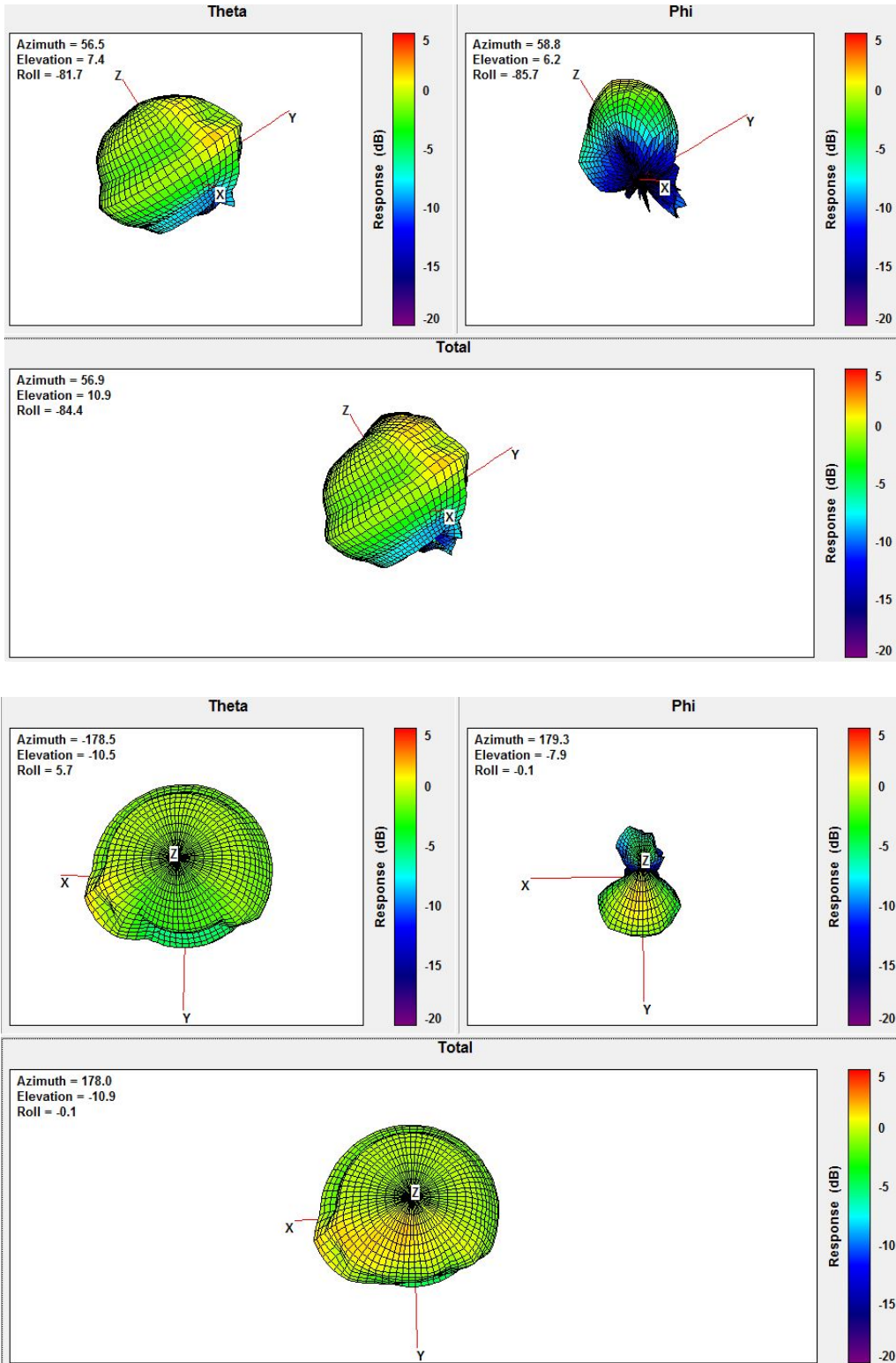
WiFi1



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- UWB

- 6500 MHz (CH5) :



○ 8000 MHz (CH9):

