



Unlicensed Band Antenna Gain(BT/WLAN/UWB/NFC)

Model: SM-S926U, SM-S926U1

FCC ID: A3LSMS926U

1. BT+ WLAN antenna type : Metal

BT/WIFI #1_2.4GHz_5/6GHz (SUB4 ANT)

Freq. [Hz]	Peak. [dBi]
2,400,000,000 Hz	-7.26
2,412,000,000 Hz	-6.58
2,437,000,000 Hz	-5.49
2,442,000,000 Hz	-4.91
2,450,000,000 Hz	-3.55
2,462,000,000 Hz	-3.11
2,472,000,000 Hz	-2.53
2,484,000,000 Hz	-3.02
2,500,000,000 Hz	-3.74
5,150,000,000 Hz	-7.65
5,200,000,000 Hz	-6.44
5,220,000,000 Hz	-5.14
5,250,000,000 Hz	-5.73
5,280,000,000 Hz	-5.43
5,300,000,000 Hz	-4.61
5,350,000,000 Hz	-4.32
5,400,000,000 Hz	-3.02
5,500,000,000 Hz	-4.76
5,600,000,000 Hz	-3.65
5,700,000,000 Hz	-4.69
5,785,000,000 Hz	-4.06
5,800,000,000 Hz	-5.09
5,805,000,000 Hz	-5.27
5,850,000,000 Hz	-5.14
5,885,000,000 Hz	-4.49
5,895,000,000 Hz	-5.37
5,925,000,000 Hz	-7.78
6,025,000,000 Hz	-9.05
6,125,000,000 Hz	-8.12
6,225,000,000 Hz	-8.33
6,325,000,000 Hz	-8.91
6,425,000,000 Hz	-7.7
6,525,000,000 Hz	-7.65
6,625,000,000 Hz	-9.36
6,725,000,000 Hz	-9.84
6,825,000,000 Hz	-9.57
6,925,000,000 Hz	-10.76
7,025,000,000 Hz	-9.61
7,125,000,000 Hz	-11.63

BT/WIFI #2_2.4GHz (SUB6 ANT), WIFI #2_5/6GHz (SUB1 ANT)

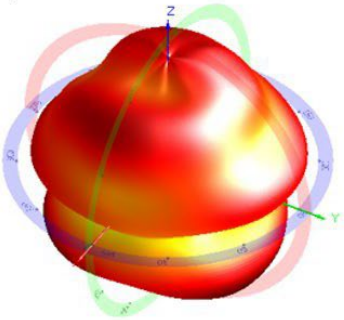
Freq. [Hz]	Peak. [dBi]
2,400,000,000 Hz	-10.7
2,412,000,000 Hz	-10.41
2,437,000,000 Hz	-7.67
2,442,000,000 Hz	-6.59
2,450,000,000 Hz	-4.79
2,462,000,000 Hz	-4.75
2,472,000,000 Hz	-5
2,484,000,000 Hz	-4.75
2,500,000,000 Hz	-5.38
5,150,000,000 Hz	-6.42
5,200,000,000 Hz	-5.92
5,220,000,000 Hz	-6.08
5,250,000,000 Hz	-5.33
5,280,000,000 Hz	-4.99
5,300,000,000 Hz	-4.76
5,350,000,000 Hz	-5.99
5,400,000,000 Hz	-5.12
5,500,000,000 Hz	-7.41
5,600,000,000 Hz	-6.49
5,700,000,000 Hz	-6.25
5,785,000,000 Hz	-6.16
5,800,000,000 Hz	-5.53
5,805,000,000 Hz	-6.08
5,850,000,000 Hz	-5.58
5,885,000,000 Hz	-5.7
5,895,000,000 Hz	-5.25
5,925,000,000 Hz	-8.61
6,025,000,000 Hz	-7.39
6,125,000,000 Hz	-9.32
6,225,000,000 Hz	-8.05
6,325,000,000 Hz	-7.22
6,425,000,000 Hz	-7.54
6,525,000,000 Hz	-7.88
6,625,000,000 Hz	-8.12
6,725,000,000 Hz	-8.26
6,825,000,000 Hz	-9
6,925,000,000 Hz	-9.23
7,025,000,000 Hz	-8.33
7,125,000,000 Hz	-7.44

Test setup photos

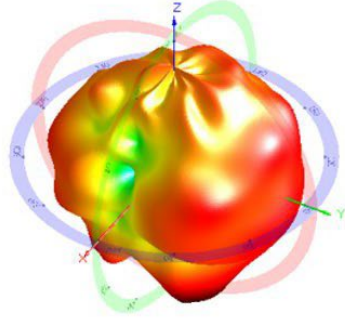
The antenna gain report test setup photos includes pictures of the measurement setup.

Radiation plots for max gain plane (3D)

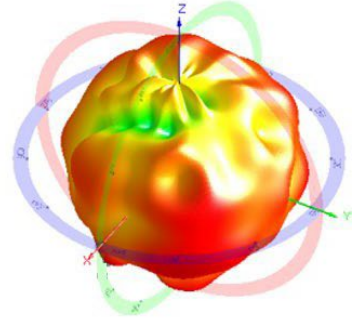
WiFi-1



2.5G

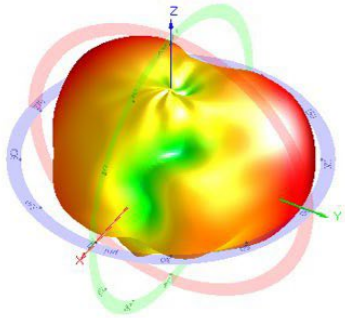


5G

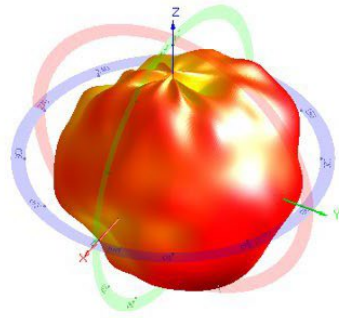


6G

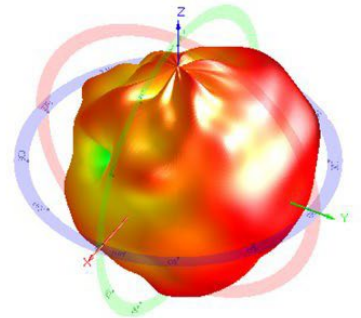
WiFi-2



2.5G



5G



6G

UWB Sub5, Ant I -Metal

No.	Freq.[MHz]	Avg.[dBi]	Peak[dBi]
1	6250	-12.62	-5.57
2	6300	-13.1	-5.43
3	6350	-12.71	-5.36
4	6400	-12.72	-4.87
5	6450	-12.46	-5.05
6	6500	-12.66	-4.99
7	6550	-12.78	-5.09
8	6600	-12.21	-4.04
9	6650	-12.95	-5.01
10	6700	-13.14	-4.74
11	6750	-11.51	-4.1
12	7750	-13.32	-7.54
13	7800	-13.09	-6.82
14	7850	-12.66	-6.08
15	7900	-12.71	-5.97
16	7950	-12.67	-5.51
17	8000	-12.73	-6.05
18	8050	-12.26	-5.22
19	8100	-12.48	-5.52
20	8150	-13.33	-6.33
21	8200	-13.16	-5.53
22	8250	-12.77	-6.22

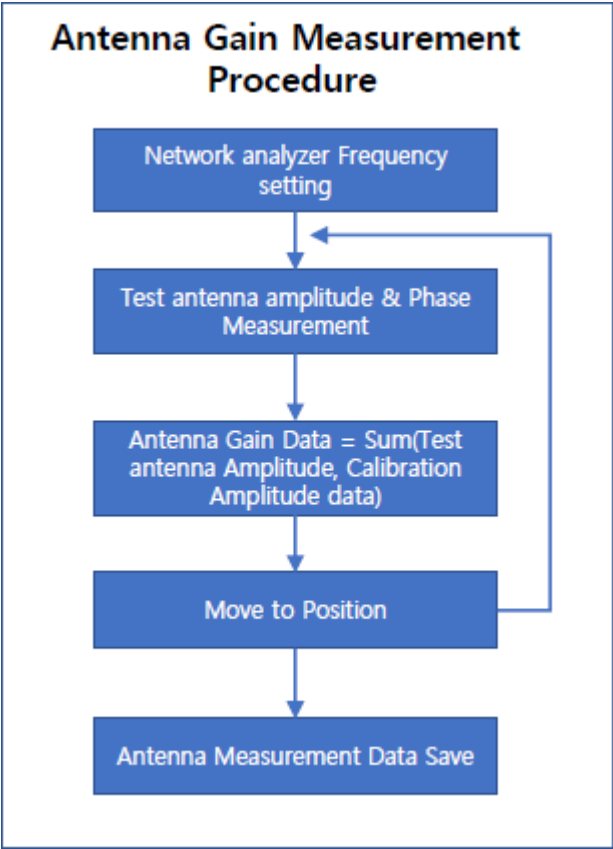
Chamber Information



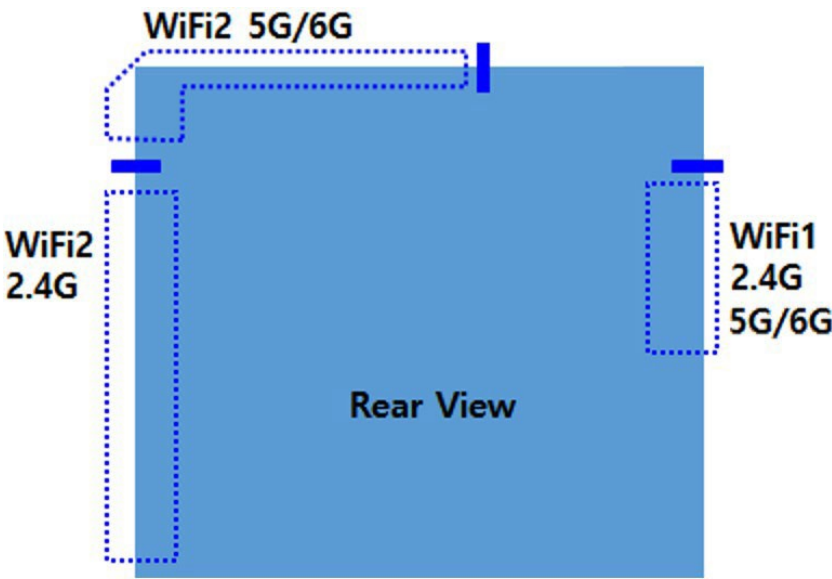
Figure 2: Geometry of Anechoic Chamber for Radiation patterns.

- ✓ Location : Samsung R&D Center R5 bld.
- ✓ Size : 4m x 2.5 x 2.5m (L x W x H)
- ✓ Frequency : 600 MHz -18GHz
- ✓ TX Antenna : 2GHz –18GHz Dual Polarization
- ✓ Quiet zone : 22cm @ 6GHz (Far-Field Length 2m)
- ✓ 2-axis DUT positioner -360°continuous rotation

Antenna Gain Measurement Procedure

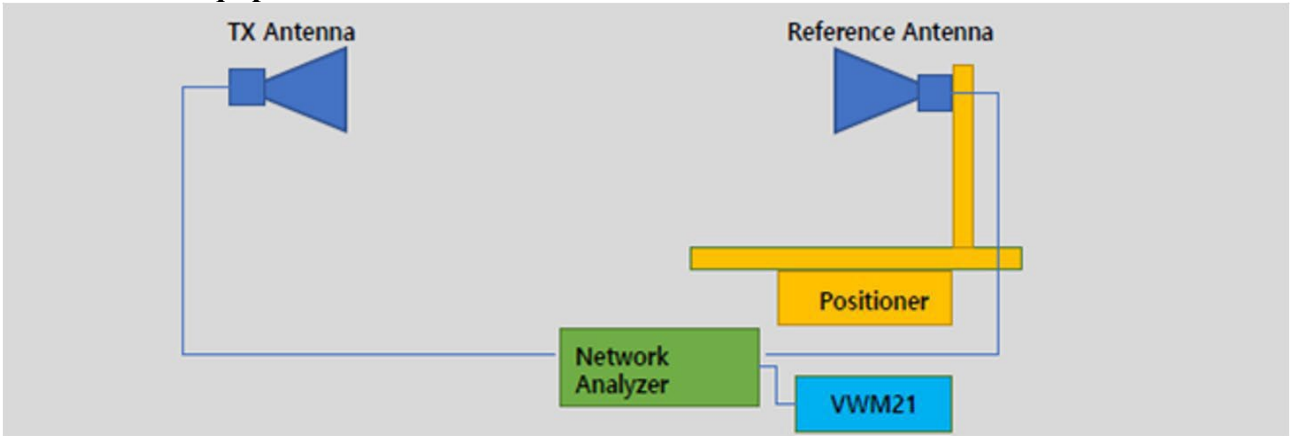


Detail antenna description



The antennas can be seen in the internal photos.

Table of calibrated equipment



Part	Model Name	Specification	Cal date	Serial number
Tx Antenna	QRH-006M-006G	600MHz to 6GHz	Calibrated date :2023.8.8 / Cal. Due : 2024.12.28	-
	QRH-002G-018G	2GHz to 18GHz	Calibrated date :2023.8.8 / Cal. Due : 2024.12.28	-
Reference Antenna	BBHA9120LFA	680MHz to 6500MHz	Calibration Frequency(680MHzto 6GHz) Calibrated date:2023.8.8 / Cal. Due : 2024.12.28	9120LF-365
	BBHA9120C	2GHz to 18GHz	Calibration Frequency(2GHz to 8.5GHz) Calibrated date:2023.8.8 / Cal. Due : 2024.12.28	BBHA9120C#714
Network Analyzer	Agilent 5071B	300KHz to 8.5GHz	Calibrated date :2023.8.8 / Cal. Due : 2024.12.28	C000026236
Measurement Software	VWM21		MTG Visual Wave-Mobile(Ver.2.1)	-

Test dates

2023.09.01

Names of test personnel

Hee-jun Lee, Myung-gu Kang, Byung-man Lim

Names of commercial test software being used

MTG Visual Wave-Mobile (Ver.2.1)

3. NFC antenna

- Antenna type : FPCB type
- Antenna number of turns : 3 turns
- Antenna size : 34.0 x 37.5 mm
- Antenna photo : Please refer to internal photo

