SAMSUNG

Unlicensed Band Antenna Gain

Model: SM-L500

FCC ID: A3LSML500

BT/WIFI _2.4GHz(Front Metal Antenna, PIFA)

WiFi 2.4G	
Freq	Peak.[dBi]
2400	-12.2
2412	-11.9
2437	-11.2
2451	-11.8
2472	-11.4
2485	-11.9

Radiation Pattern Test

The Bluetest Reverberation Test Systems is the ideal choice for developers of wireless devices and components as well as operators wanting to verify their suppliers' wireless devices. Over-The-Air (OTA) measurements reflect the true performance of the device and ensure that the tested product performs as intended once released to the market. The patented design creates a rich and isotropic multipath environment inside the chamber allowing for fast, easy and realistic performance measurements on SISO as well as MIMO devices like LTE and WLAN. The RTS is capable of performing passive measurements like antenna efficiency, diversity and MIMO gain as well as active measurements like TRP, TIS and Throughput (TPUT)..

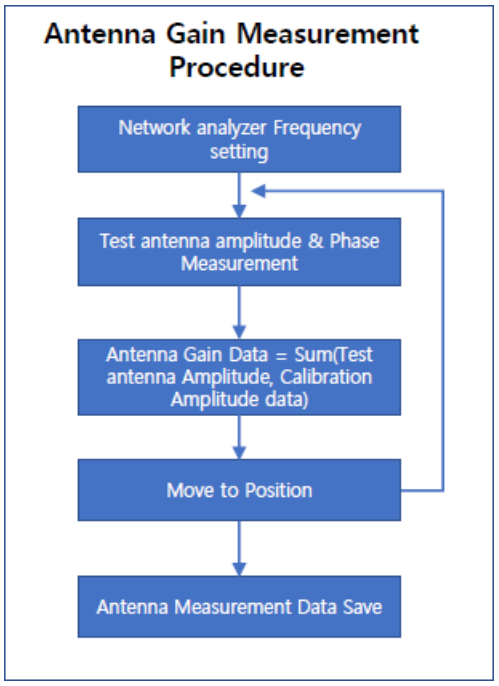
A picture showing the geometry for this device is included in the test setup photos.

Chamber Information

Figure 1: Geometry of Anechoic Chamber for Radiation patterns.

- ✓ Location : Samsung R&D Center R5 bld
- ✓ Size : 6 x 3 x 3m
- ✓ Frequency : 450 MHz - 6GHz
- ✓ TX Antenna : 0.3GHz –6GHz Dual Polarization
- ✓ 2-axis DUT positioner -360°continuous rotation

Antenna Gain Measurement Procedure

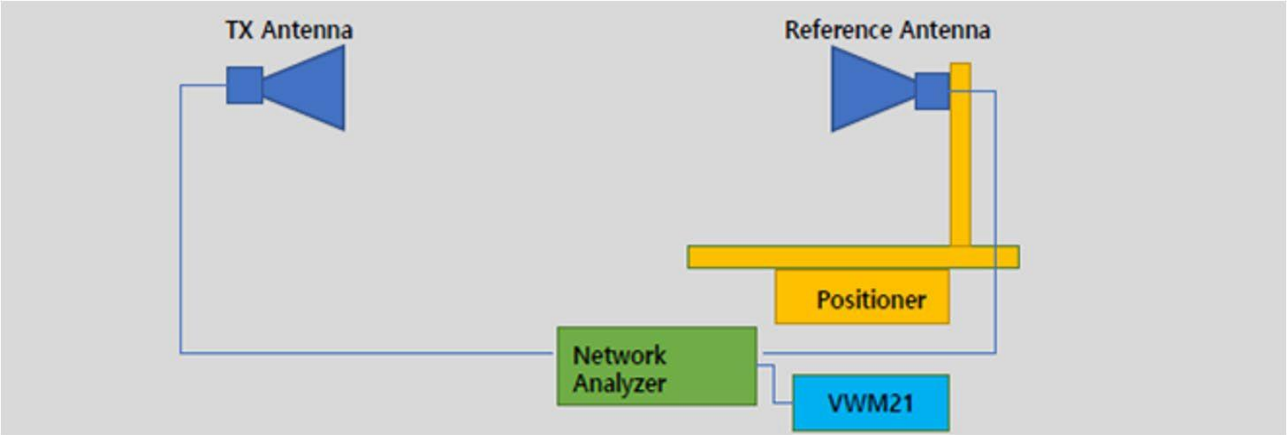


Detail antenna description

- ✓ Antenna type :
  - Front Metal PIFA
- ✓ Antenna manufacturer : Samsung

Please refer to the Appendix.

Table of calibrated equipment



Part	Model Name	Specification	S/N	Cal Date
Tx Antenna	AST-H	400MHz to 6GHz	4060	
Reference Antenna	BBHA9120E	400MHz to 6GHz	488	
Network Analyzer	Rohde&Schwarz ZNB8	9kHz to 8.5GHz	C000022650	Cal. Date : 2025.03.10 Due Date : 2026.03.10
Measurement Software	Athene Passive Test (Ver. : 2.7.7A)			

Test dates

2025.05.08

Names of test personnel

MH Jeong

Test setup photos

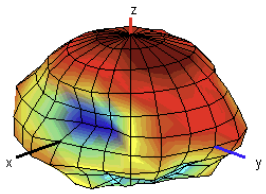
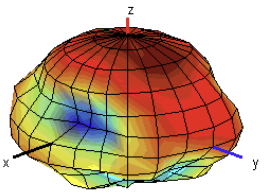
Radiation Pattern Test

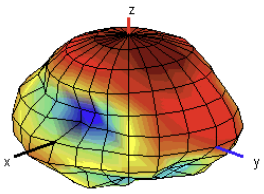
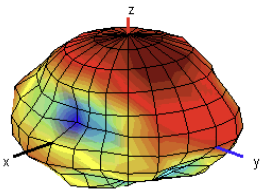
Antennas tested for Gain and Efficiency must be assembled into the enclosure and tested in the fully assembled and operating A3LSML500 Smart Watch. The antenna is tested in free space in the anechoic chamber in the H, E1 and, E2 planes. The radiation patterns are measured at the center of transmit and receive bands.

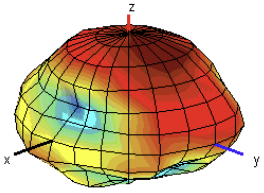
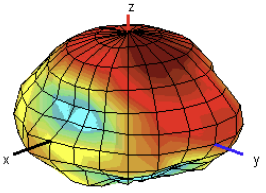
Test setup photos

Please refer to the Appendix.

Radiation plots for max gain plane (3D)

Frequency	2400MHz	2412MHz
3D Radiation Pattern		
Peak Gain [dBi]	-12.2	-11.9

Frequency	2437MHz	2451MHz
3D Radiation Pattern		
Peak Gain [dBi]	-11.2	-11.8

Frequency	2472MHz	2485MHz
3D Radiation Pattern		
Peak Gain [dBi]	-11.4	-11.9