

- Model : SM-A566E/DS
- FCC ID : A3LSMA566E
- Antenna Manufacturer
 - Intops
- Antenna Type: Metal

Sub1 : WIFI_5G 2nd ,

Sub3 : WIFI_5G 1st

Sub4 : WIFI_2.4G 1st

Sub6 : WIFI_2.4G 2nd

SUB1 5G_2 nd _ANT	1	2	3
Frequency(MHz)	5150	5500	5825
Efficiency(dB)	-7	-7.3	-8.5
Efficiency(%)	19.9	18.6	14.1
Peak Gain(dBi)	-8.9	-8.9	-8.8

SUB3 5G_1 st _ANT	1	2	3
Frequency(MHz)	5150	5500	5825
Efficiency(dB)	-10.8	-9	-19.8
Efficiency(%)	8.3	12.6	10.4
Peak Gain(dBi)	-10.1	-10.9	-10.8

SUB4 2.4G_1 st _ANT	1	2	3
Frequency(MHz)	2400	2440	2480
Efficiency(dB)	-6.4	-6.4	-7.1
Efficiency(%)	22.8	23	19.4
Peak Gain(dBi)	-8.9	-8.8	-8.7

SUB6 2.4G_2 nd _ANT	1	2	3
Frequency(MHz)	2400	2440	2480
Efficiency(dB)	-9.64	-8.92	-9.07
Efficiency(%)	10.9	12.8	12.4
Peak Gain(dBi)	-10.9	-10.2	-10.7

■ Antenna Measurement information

- **Measurement information**

Gain value is measured by Samsung Electronics.
Gain Value is measured in active call & Antenna selection.

Antenna gain is measured in KSS Chamber.

*Test Equipment list

Description	Manufacturer	Model	S/N	Cal Due
Network Analyzer	R&S	ZNB 8	105157	2025.04.01.

- **Return Loss & VSWR Test**

The VSWR measurement of antennas assembled into a fully operating SM-M346B phone handset is measured on the Network Analyzer. The handset is set up with a 50 Ohm coaxial cable connected to the 50 Ohm point. Calibration is done at the end of the 50 Ohm coaxial cable connection. The other end of the 50 Ohm coaxial cable is connected to a network analyzer. The handset is positioned on a non-conductive table for free space measurements.

[See Photo #1](#)

- **Return Loss & VSWR Test**

Samsung has a system that can measure VSWR using KSS chamber and ZNB 8 network analyzer for passive measurement. In order to measure the VSWR of each antenna, the lab connects the coaxial cable to the point in contact with the antenna on the main board. The VSWR is measured through the coaxial cable connected in the set. At this time, SM-M346B is assembled in the same state as the user environment

[See Photo #2](#)

- **Radiation Pattern Test**

The AC chamber has an axis because the cradle moves left and right up and down, and the RC chamber we use does not have an axis because the cradle does not move.

- **Test Method (Manufacturing)**

All measurements are done with SM-M346B fully assembled. Measure in consideration of the Customer's usage environment. Use a fully shielded chamber environment to prevent any noise-induced errors. Typically. The electrical properties of antenna are measured using a jig that can hold the set.

- **Radiation Pattern**

There is no Radiation Pattern due to passive measurement with RC chamber.

Radiation Pattern Test

Antennas tested for Gain and Efficiency must be assembled into the enclosure and tested in the fully assembled and operating SM-A566E handset. 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.

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

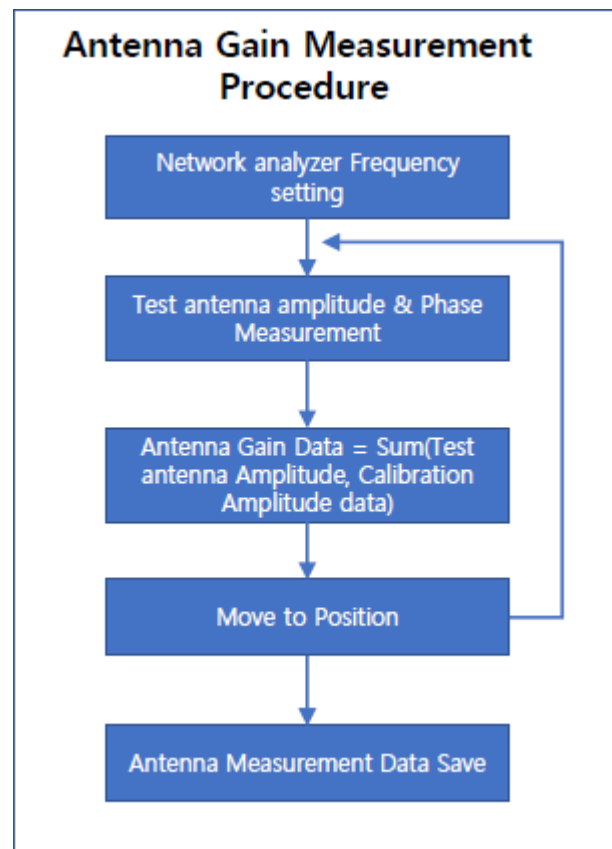
Chamber Information



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

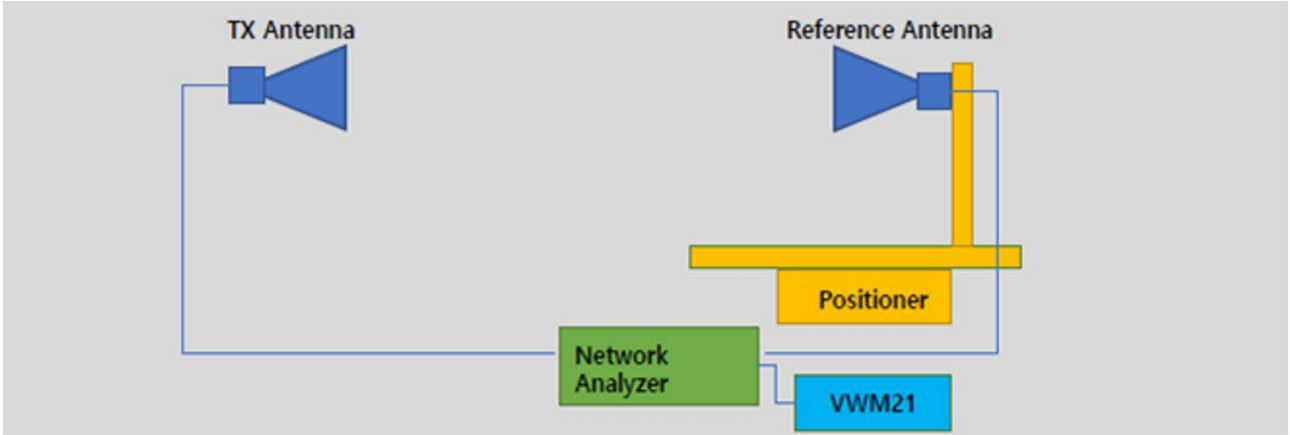
Antenna type : Metal type

Antenna manufacturer : SAMSUNG.

Photo #1

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

2024.12.02

Names of test personnel

YoungSung Lee

Names of commercial test software being used

MTG Visual Wave-Mobile (Ver.2.1)

Test Setup

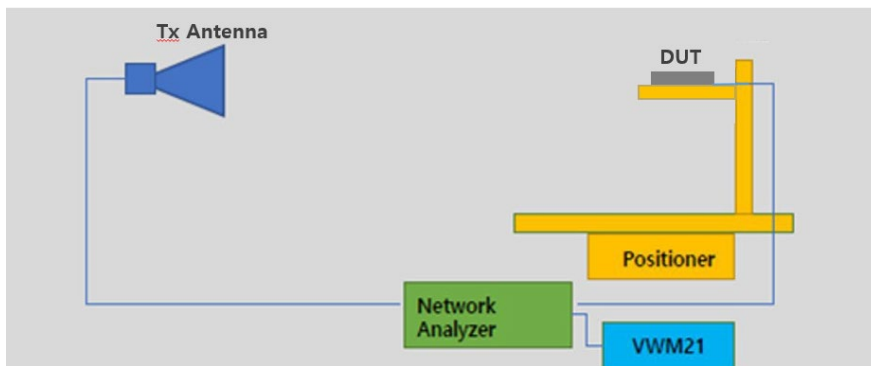


Photo #2