

**SAMSUNG**

**Unlicensed Band Antenna Gain (UWB)**

**Model: SC-56F, SCG34**

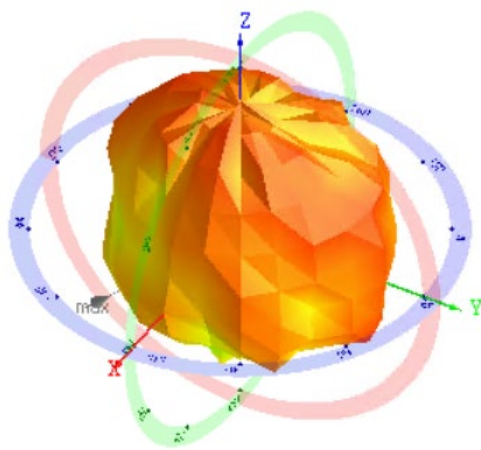
**FCC ID: A3LSMF966JPN**

**Date : 2025. 04. 17**

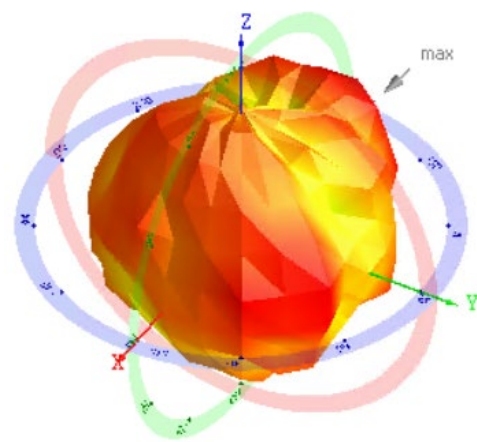
### Q7 UWB ANT1 (Sub3, Inverted-F Antenna)

| Metal ANT | Frequency | Avg. Gain (dBi) | Peak Gain (dBi) |
|-----------|-----------|-----------------|-----------------|
| CH5       | 6.25GHz   | -13.8           | -7.4            |
|           | 6.50GHz   | -11             | -6.1            |
|           | 6.75GHz   | -10.5           | -5.1            |
| CH9       | 7.75GHz   | -8.8            | -3.8            |
|           | 8.0GHz    | -9.3            | -3.3            |
|           | 8.25GHz   | -9.3            | -3.5            |

### Radiation plots for max gain plane (3D)



6500MHz

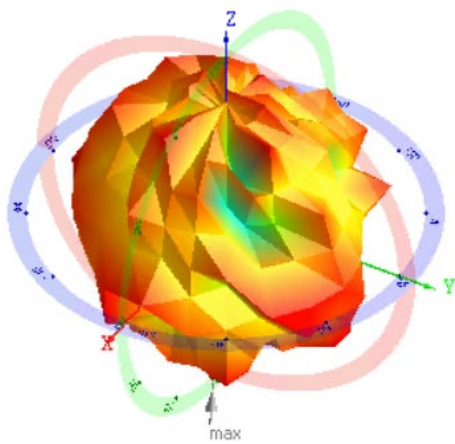


8000MHz

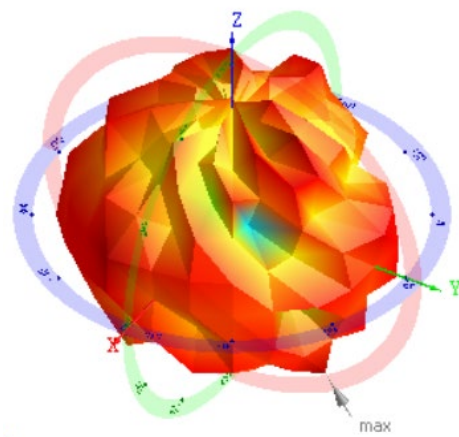
### Q7 UWB ANT2 (SUB4, Inverted-F Antenna)

| Metal ANT | Frequency | Avg. Gain (dBi) | Peak Gain (dBi) |
|-----------|-----------|-----------------|-----------------|
| CH5       | 6.25GHz   | -9.0            | -3.1            |
|           | 6.50GHz   | -9.2            | -3.8            |
|           | 6.75GHz   | -10.0           | -4.3            |
| CH9       | 7.75GHz   | -8.2            | -3.5            |
|           | 8.0GHz    | -7.8            | -3.6            |
|           | 8.25GHz   | -6.4            | -4.3            |

### Radiation plots for max gain plane (3D)



**6500MHz**



**8000MHz**

## Radiation Pattern Test

Antennas tested for Gain and Efficiency must be assembled into the enclosure and tested in the fully assembled and operation SC-56F 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.



Figure 1 : Geometry for SC-56F for Radiation patterns

## Chamber Information

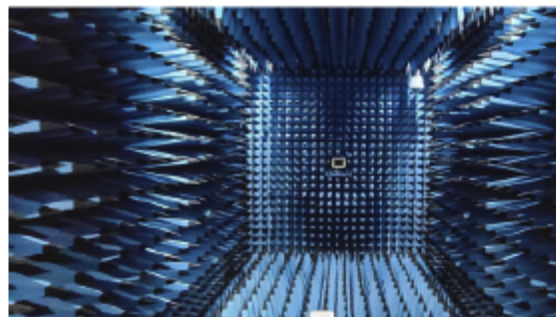
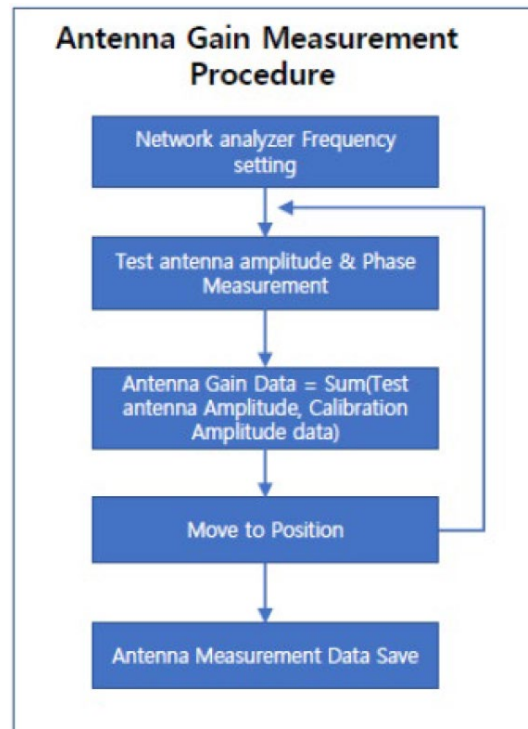


Figure 2: Geometry of Anechoic Chamber for Radiation patterns.

- ✓ 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

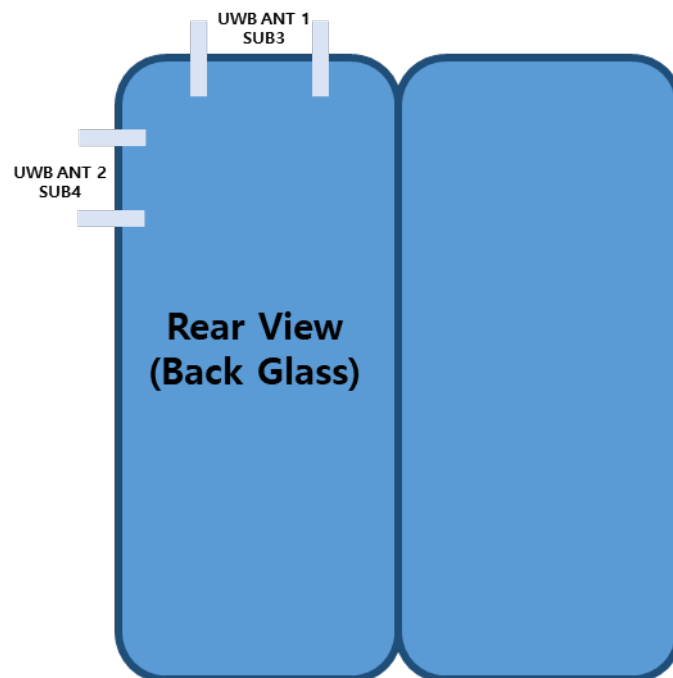
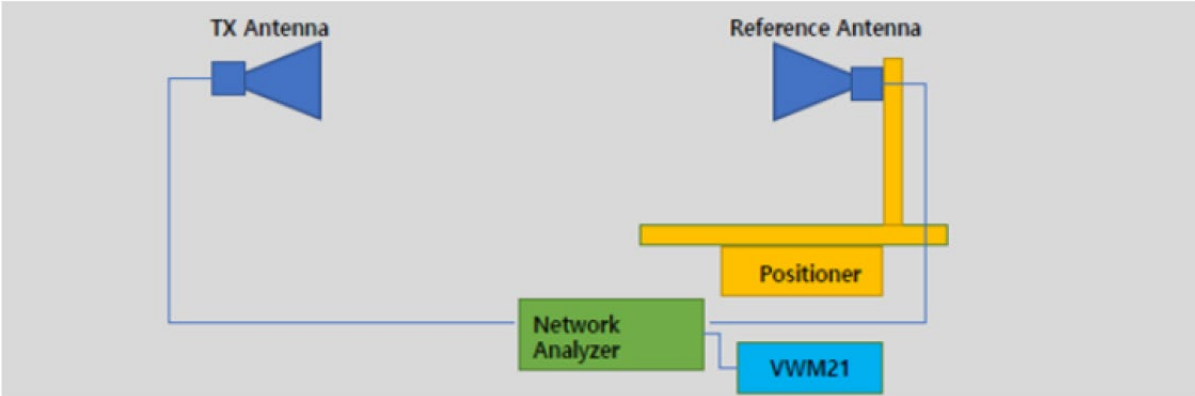


Table of calibrated equipment



| Part                 | Model Name    | Specification     |                                        |
|----------------------|---------------|-------------------|----------------------------------------|
| TX Antenna           | QRH-006M-006G | 600MHz to 6GHz    |                                        |
|                      | QRH-002G-018G | 2GHz to 18GHz     |                                        |
| Reference Antenna    | BBHA9120LFA   | 680MHz to 6500MHz | Calibration Frequency (680MHz to 6GHz) |
|                      | BBHA9120C     | 2GHz to 18GHz     | Calibration Frequency (2GHz to 8.5GHz) |
| Network Analyzer     | Agilent 5071B | 300KHz to 8.5GHz  | Cal. Due : 2023.12.28                  |
| Measurement Software | VWM21         |                   | MTG Visual Wave-Mobile (Ver.2.1)       |

Test date

2025. 04. 15

Name of test personnel

Hyun-jeong Lee

Names of commercial test software being used

MTG Visual Wave-Mobile (Ver.2.1)