Doc - No	ALDSBA145EU

SPECIFICATION

Product Name	INTENNA
Specification	ALDSBA145EU
Model Name	A3LSMA145M
SEC CODE	GH42-06961A
Weight	6.43g
Special Specification	WiFi(2.4GHz,5GHz)
Classification	Sub
Form of Production	LDS
REVISION	Ver_0.1
production company	P A R T R O N

MSL	LEAD FREE	Halogen Free
MSL LEVEL 1	LEAD-FREE	HF BFRs/CFRs/PVC-Free

Drafter	Examination (Structure)	Examination (Passive)	Examination (Quality)	Admission
H.S.SHIN	C.Y.Lee	C.S.Kim	H.S.J	C.I.JEON
Shin Hyun Seok	Lee Chang Yeop	Kim Chung Soo	Jeon Hyo Sang	Jeon Chan Ik

- Contents -

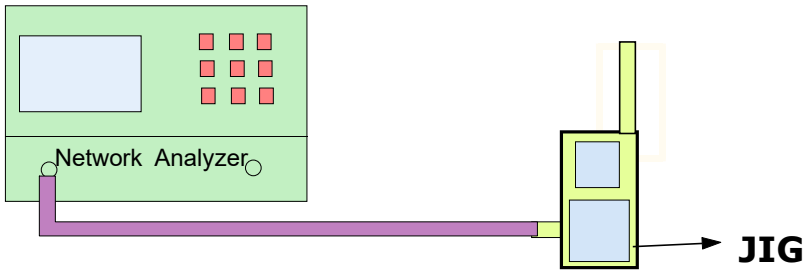
1. Revision history

Revision no.	Originator	Description of changes	Date of changes
Ver_0.1	Shin Hyun Seok	Initial release	2023.01.13

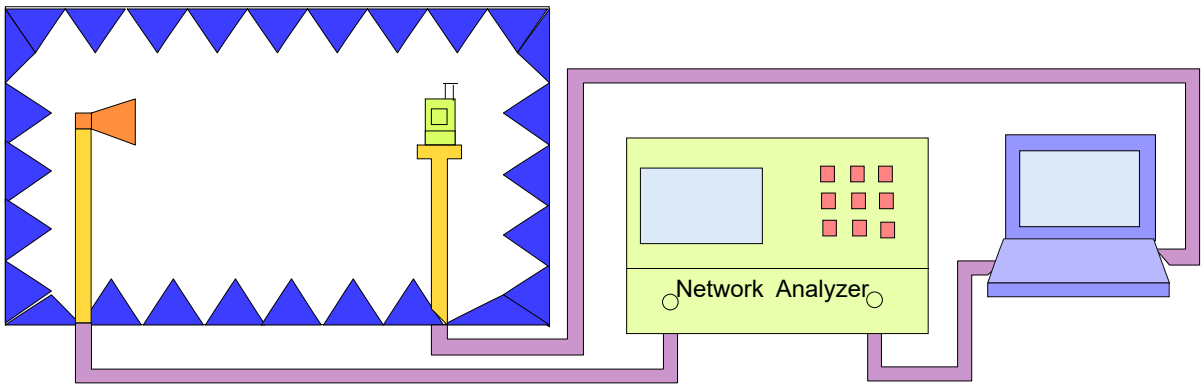
2. Making Measurements

Connect the device under test and required test equipment (Network analyzer). Measuring VSWR and frequency. Measurements include the magnitude and phase of both the vertical and horizontal components of the 3-D antenna pattern of actual hardware in an anechoic chamber (Partron). all measurements are made with antennas installed.

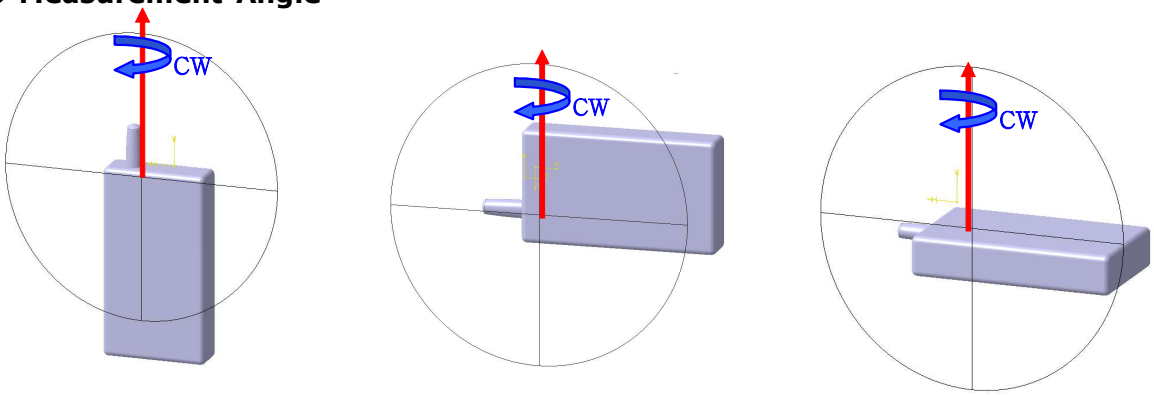
2.1 Frequency, VSWR Measurement



2.2 Gain Measurement



2.3 Measurement Angle



Azimuth Plane Elevation 1 Plane Elevation 2 Plane

- Co-Polarization, Cross-Polarization Meaning
- Co-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant. Co-Polarization is Higher Polarization that is Ave. Gain Value
- Cross-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant. Co-Polarization is Lower Polarization that is Ave. Gain Value

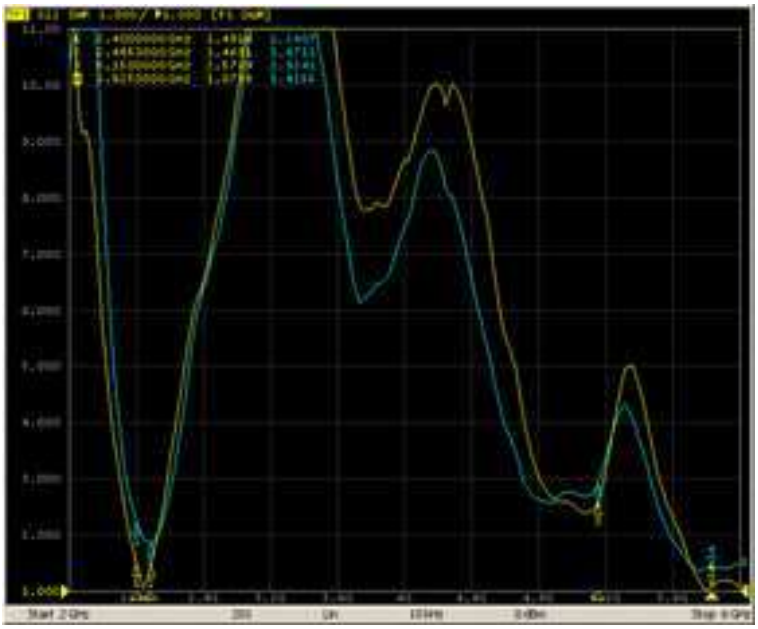
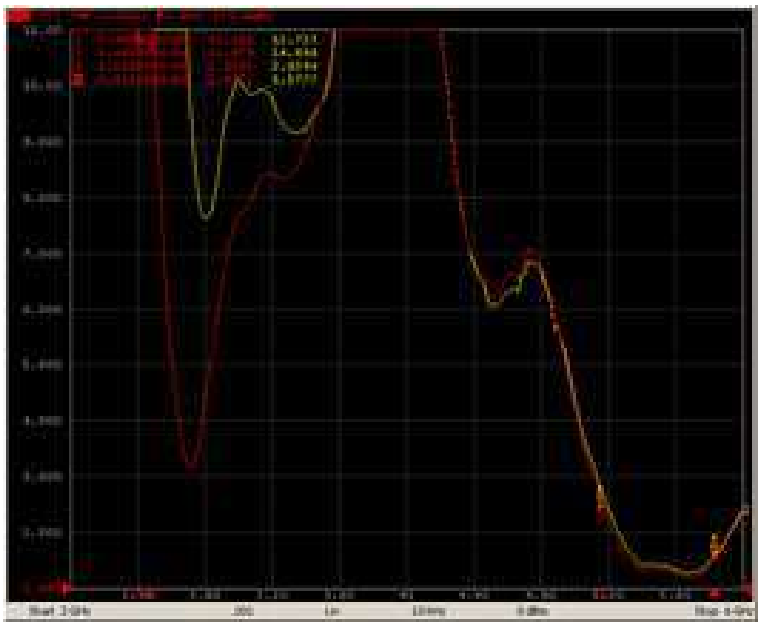
3. Electrical Specification

3.1 VSWR & POLARIZATION

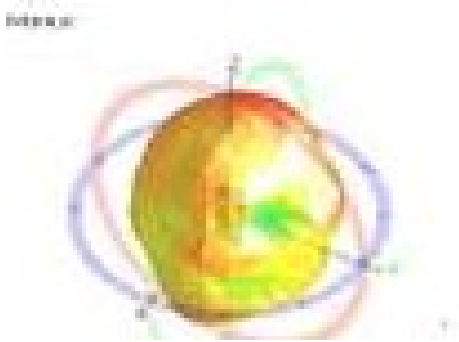
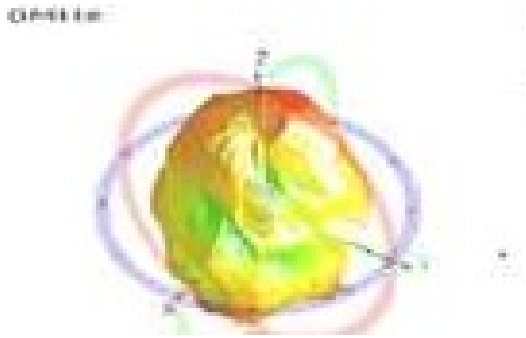
FREQUENCY	WiFi			
	2400 MHz	2485 MHz	5150 MHz	5825 MHz
VSWR	2.24	1.87	2.83	1.57
Impedance	50 ohm			
Polariztion	Vertical			
Radiation pattern	Isotropic			

3. Electrical Specification

3.2 SET VSWR

	WiFi	
VSWR	2.4GHz	
	5GHz	

3.2 Radiation pattern & Gain

BAND	WiFi					
2400 2485 MHz			5150 5825 MHz			
	Avg[dBi]	Peak[dBi]		Avg[dBi]		Peak[dBi]
	-5.08	-4.51		5150~5250	-5.40	-4.87
				5250~5350	-4.55	-4.04
				5470~5725	-3.61	-3.11
				5725~5875	-3.36	-2.98

■ 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 RTS60 Chamber.

*Test Equipment list

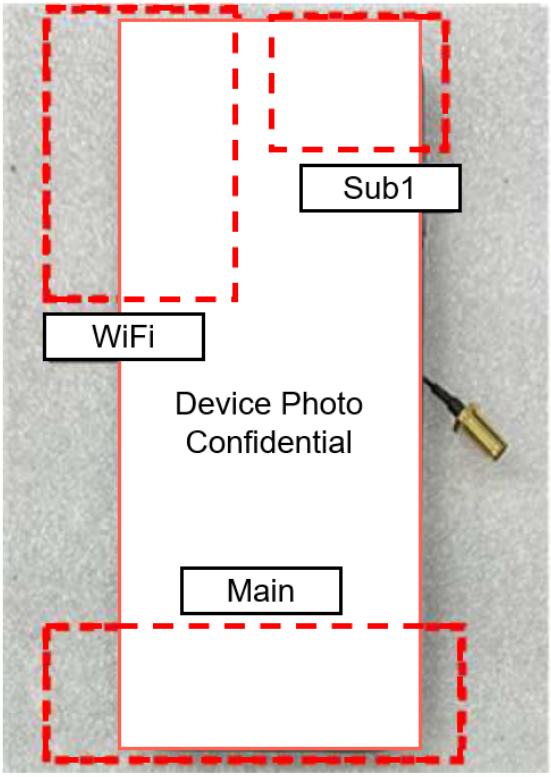
Description	Manufacturer	Model	S/N	Cal Due
Network Analyzer	Agilent Technologies	E5071C	B03704	2012.10.22

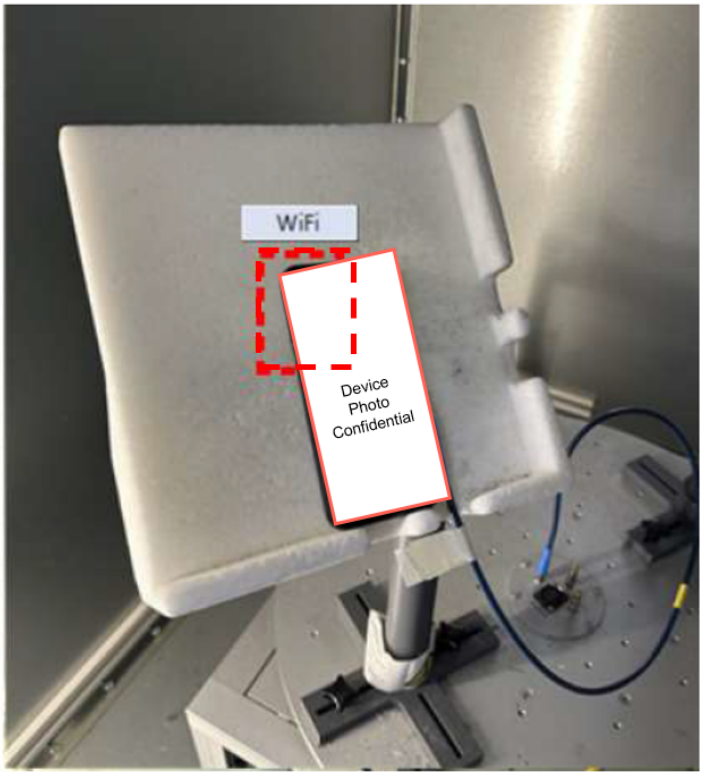
● Return Loss & VSWR Test

The VSWR measurement of antennas assembled into a fully operating SM-A145F 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 50alyzer. The handset is positioned on a non-conductive table for free space measurements.

● Return Loss & VSWR Test

Samsung has a system that can measure VSWR using RTS60 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-A145F is assembled in the same state as the user environment





● Radiation Pattern Test

The AC chamber has an axis because the cradle moves left and right up and down, and the RC chamber (RTS60) we use does not have an axis because the cradle does not move.

● Test Method (Manufacturing)

All measurements are done with SM-A145F 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.

● Antenna Gain Measurement Procesure