
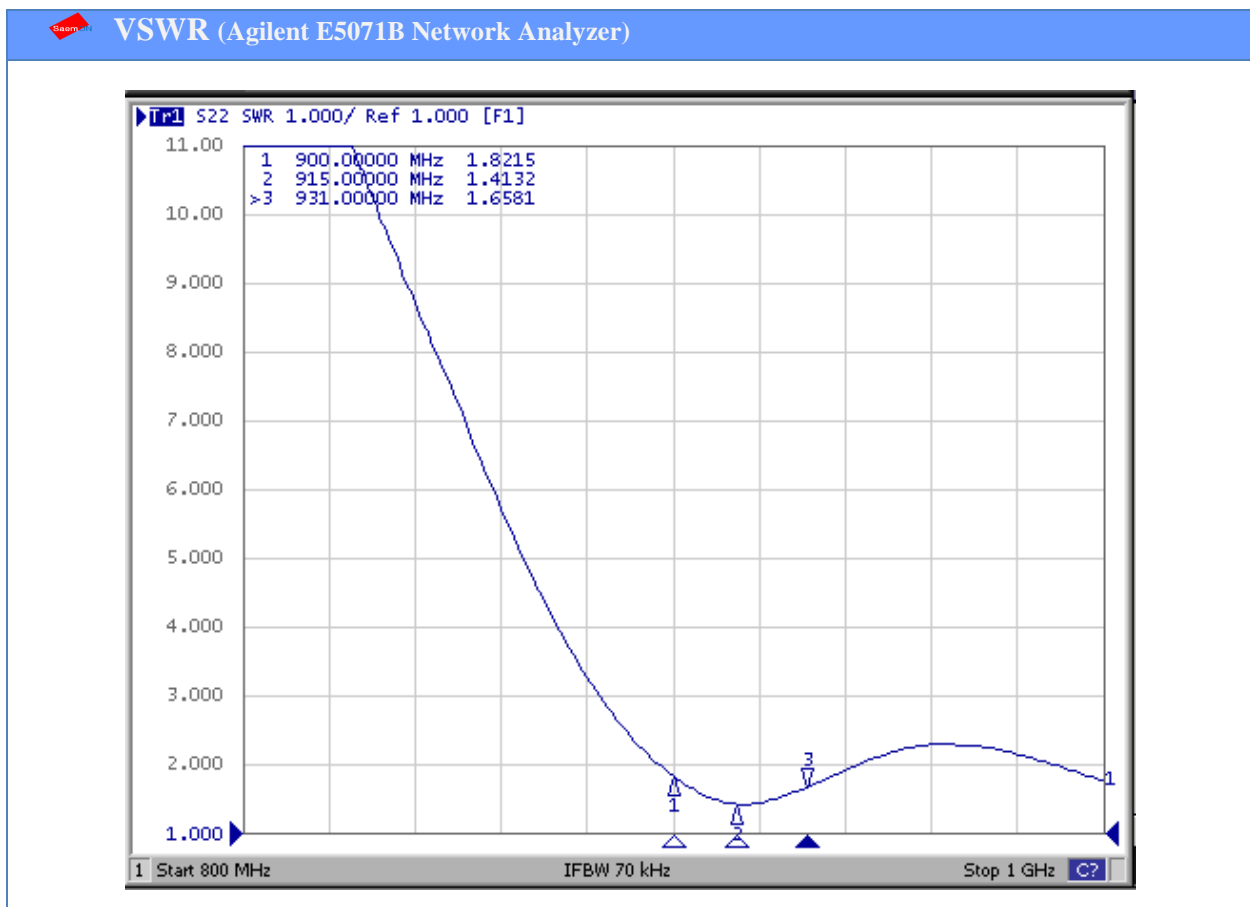


	Date	Rev	Model Name	Page
	2021-12-20	1.0	SME-A089-RS	1 / 7

 Mechanical Specifications		
	Antenna Size (Length x Width)	195mm × 13ø
	Weight	26g
	Connector Type	RPSMA(M) RG174
	Operation Temperature	-40 ~ 70 (°C)
	Operation Humidity	0 ~ 95 (%)

 Electrical Specifications	
Frequency Range (MHz)	900~931MHz
V.S.W.R (Min)	2 : 1
Gain (Max)	0.93(dBi)@915MHz
Input Impedance	50 (Ω)
Polarization	Linear

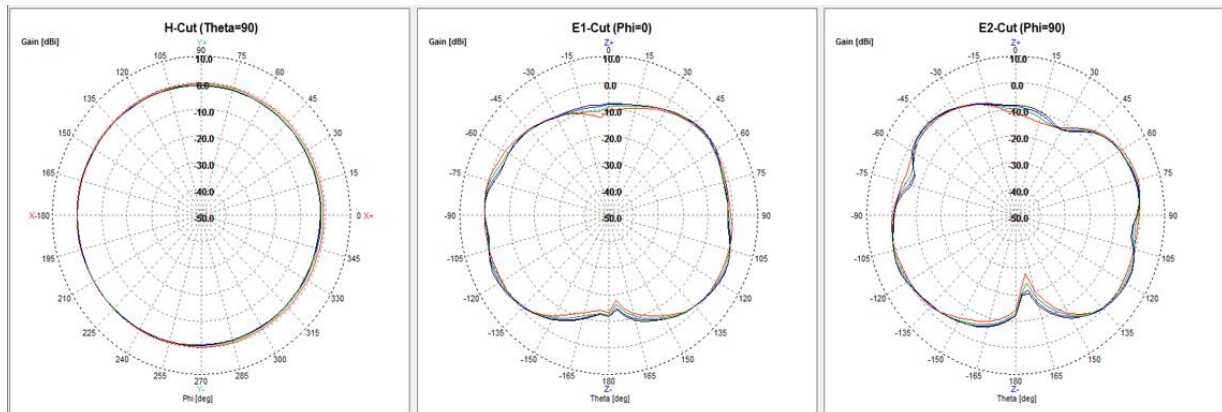


GAIN Pattern (MTG Chamber)

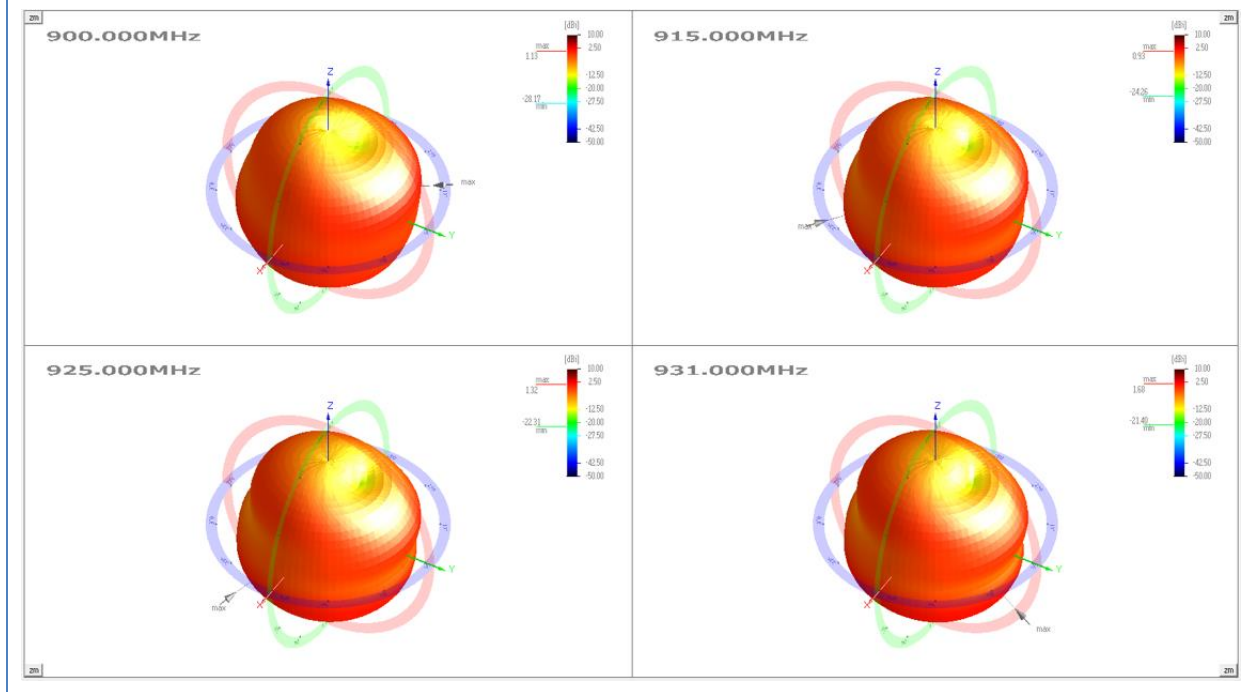
Gain Data

Freq.[MHz]	Theta-Pol(H)					Phi-Pol(V)					PwrSum				
	Eff.[%]	Avg.[dBi]	Peak[dBi]	Theta[deg]	Phi[deg]	Eff.[%]	Avg.[dBi]	Peak[dBi]	Theta[deg]	Phi[deg]	Eff.[%]	Avg.[dBi]	Peak[dBi]	Theta[deg]	Phi[deg]
900	67.93	-1.68	1.1	75	100	3.39	-14.7	-8.34	50	5	71.32	-1.47	1.13	75	105
915	64.51	-1.9	0.88	105	285	5.08	-12.94	-6.42	55	10	69.59	-1.57	0.93	105	305
925	63.84	-1.95	1.22	110	285	6.31	-12	-5.39	55	10	70.15	-1.54	1.32	110	330
931	64.95	-1.87	1.55	120	120	7	-11.55	-4.91	60	10	71.95	-1.43	1.68	120	85

2D Radiation Pattern

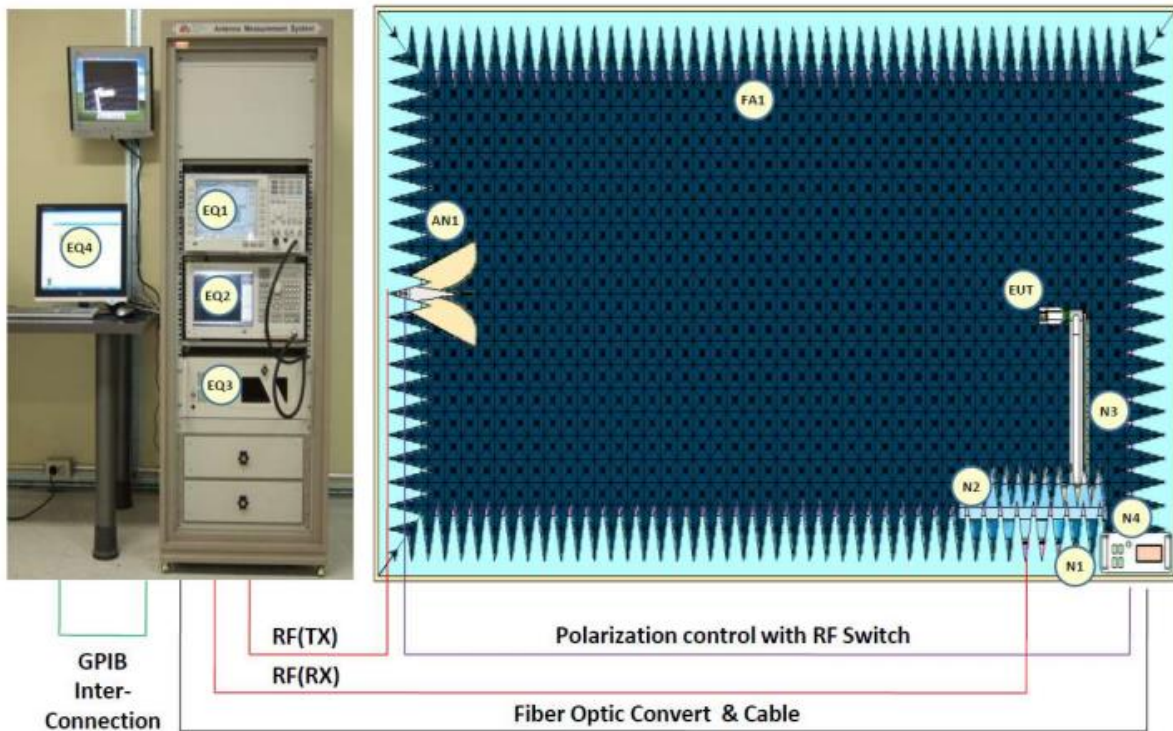


3D Radiation Pattern



1. Test Conditions

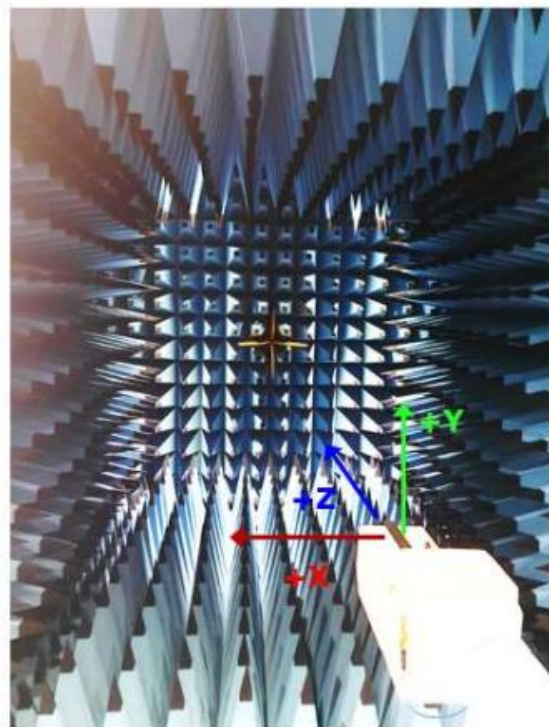
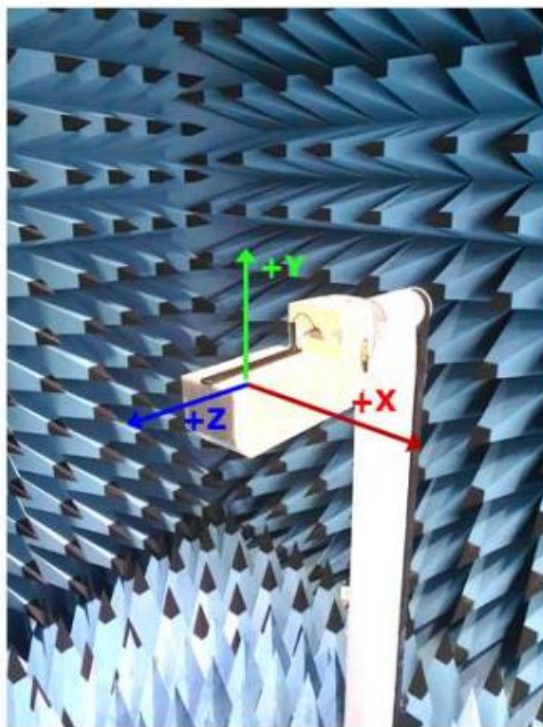
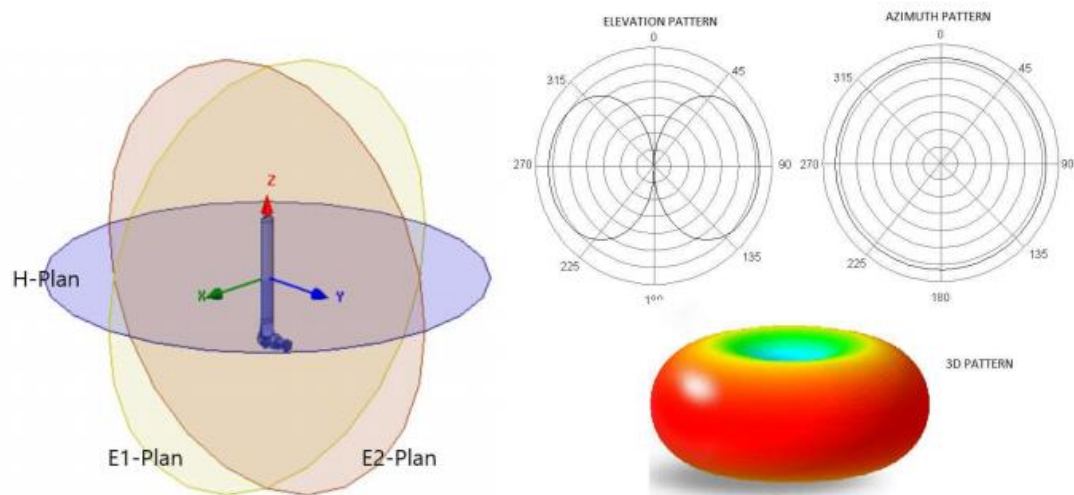
1.1. System Configuration for Performance Test



No	Description
FA1	Anechoic Chamber
EQ1	Network Analyzer
EQ2	Wireless Communications Test Set
EQ3	System Controller
EQ4	System Monitor
N1	Azimuth Positioner
N2	Turn-Table & Linear Slide
N3	3D Transparent Positioner
N4	Positioner Controller
AN1	Dual Polarized Transmit Antenna
EUT	AUT

	Date	Rev	Model Name	Page
	2021-12-20	1.0	SME-A089-RS	4 / 7

1.2. Performance Test Conditions



Gain Measurement Position
(Saemon Technology anechoic chamber - 6x3x3)

	Date	Rev	Model Name	Page
	2021-12-20	1.0	SME-A089-RS	5 / 7

1.3. Environmental Test Conditions

Electrical, mechanical, and environmental tests are conducted after preprocessing of test pieces according to the standard conditions. The standard conditions refer to the environmental conditions with 15°C ~ 25°C in temperature, 25% ~ 80% in relative humidity, and 86 ~ 106kPa in atmospheric pressure. The purpose of the preprocessing is to remove the influences made on the test pieces before the test or neutralize them in part. It is the initial step of the test process to stabilize the characteristics of the test pieces before starting measurement and testing. (Reference standard condition: 20°C in atmospheric pressure)

- The preprocessing time for mechanical test shall be one (1) hour.
- The preprocessing time for mechanical test after having conducted environmental test shall be two (2) hours.
- In case any past influence made in previous tests after taking the preprocessing remains, the preprocessing time shall be extended.

1.4. Test Equipment.

The following equipment and tools are necessary for testing the antenna.

- A network analyzer to measure VSWR and impedance of the antenna
- A conveying unit to move transmitting antenna upward and downward, a positioner to rotate the receiving antenna, and a controller to activate them.
- A standard horn antenna for WLAN bandwidth
- An anechoic chamber equipped with cables, connectors, and measuring equipment
- Digital Vernier Calipers to measure dimension
- Temperature chamber for environment tests
- Salt spray testing instrument.

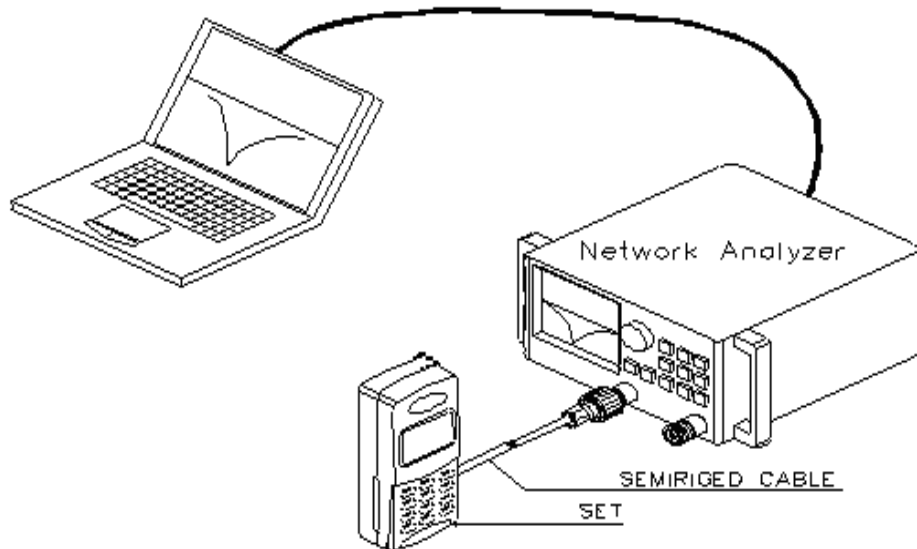
2. Electric Requirements

2.1. VSWR

안 The antenna shall meet the requirement on VSWR specified in the electrical specifications.

Item	Description	Remarks
Frequency	900~931MHz	
VSWR	Less than 2.0 : 1	

	Date	Rev	Model Name	Page
	2021-12-20	1.0	SME-A089-RS	6 / 7



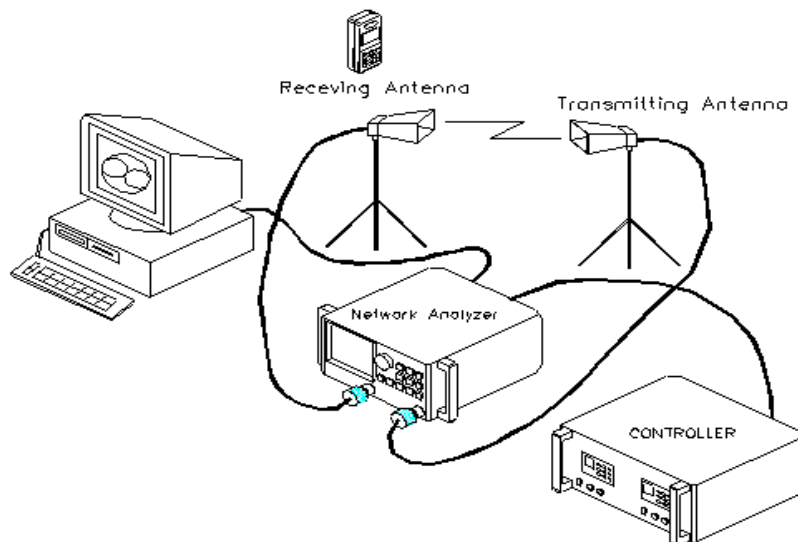
2.2. Radiation Patter

The radiation pattern of the antenna is Omni-directional on the H-Plane.

2.3. Antenna Gain

The antenna gain measured on the H-Plane using the standard horn antenna for WLAN bandwidth after calibration shall meet the specifications below. The unit of the antenna gain is 'dBi'.

Item	Description	Remarks
Frequency	900~931MHz	
Gain (dBi)	0.93(dBi)@915MHz	



	Date	Rev	Model Name	Page
	2021-12-20	1.0	SME-A089-RS	7 / 7

3. Environmental Requirements

3.1. Operating Temperature Test

Put the antenna in the chamber set to 0°C in temperature. Take out the antenna one hour later to measure VSWR immediately. Put the antenna in the chamber set to +50°C in temperature. Take out the antenna one hour later to measure VSWR immediately. No apparent external defect shall be found. The antenna shall meet the electrical requirements after the test.

3.2. High Humidity Storage Test.

Put the antenna in the chamber set with a cycle of temperature changes; maintaining 0°C for 2 hours, raising temperature from 0°C to +50°C for 2 hours, maintaining +50°C for 2 hours, and then lowering temperature from +50°C to 0°C for 2 hours. Repeat the cycle 10 times and finish it at room temperature 20°C. No apparent external defect shall be found. The antenna shall meet the electrical requirements after the test.

3.3. Humidity Test

Put the antenna in the chamber set to 80% of humidity and +50°C of temperature for 24 hours. Take out the antenna from the chamber and measure it 24 hours later at room temperature. No apparent external defect shall be found. The antenna shall meet the electrical requirements after the test.

3.4. How to Deal with Defective Parts.

In case any defective part is found, sorting process, reworking, or one-to-one exchange shall be conducted according to customer requirements.

3.5. Reliability Assurance Level

Parts Warranty Period: Min. 3 years