

A3LSMG990U2 Main RF & BT/WIFI Ant Specification

Main Ant A/B, Sub Ant F/G/H/I/J/M

- Antenna Type : Metal
- Antenna Manufacturer : Samsung Electronics Co.Ltd

Main Ant C/D/E

- Antenna Type : LDS
- Antenna Manufacturer : Galtronics

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	R&S	ZNB 8	105157	2022.04.21.

- Return Loss & VSWR Test

The VSWR measurement of antennas assembled into a fully operating SM-G990U2 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 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-G990U2 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 (RTS60) we use does not have an axis because the cradle does not move.

- Test Method (Manufacturing)

All measurements are done with SM-G990U2 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.

A3LSMG990U

Main RF Antenna Gain

Antenna A

-Metal

-Manufacturer : Samsung electronics.

Antenna A	Band	B2	B4	B5	B12	B13	B14	B25
	Peak gain (dBi)	-4	-4.5	-6	-7.5	-7.1	-6.9	-4
	Ave. gain (dBi)	-4.9	-5	-7.5	-8.5	-8.3	-8.1	-4.9
	Band	B26	B29	B66	B71			
	Peak gain (dBi)	-4	-7.5	-4.5	-7.5			
	Ave. gain (dBi)	-4.9	-8.5	-5	-9.5			

Antenna B

-Metal

-Manufacturer : Samsung electronics.

Antenna	Band	B7	B30	B38	B40	B41
	Peak gain (dBi)	-4.8	-4.8	-4.8	-4.6	-4.8

B	Ave. gain (dBi)	-5.5	-5.4	-5.5	-5.3	-5.5
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Antenna C

-LDS

-Manufacturer : Galtronics.

Antenna C	Band	B41
	Peak gain (dBi)	-3.3
	Ave. gain (dBi)	-9.2

Antenna D

-LDS

-Manufacturer : Galtronics.

Antenna D	Band	B2	B4	B25	N48	B66	N77
	Peak gain (dBi)	-4.2	-4.2	-4.2	-3.2	-3.4	-0.8
	Ave. gain (dBi)	-10.4	-10.4	-10.4	-8.2	-9.8	-5.5

Antenna E

-LDS

-Manufacturer : Galtronics.

Antenna E	Band	B48	N77
	Peak gain (dBi)	-4	-4.1
	Ave. gain (dBi)	-8	-7.5

Antenna F

-Metal

-Manufacturer : Samsung electronics.

Antenna F	Band	B5	B12	B13	B14	B26	B29
	Peak gain (dBi)	-7.2	-6.6	-7	-7.6	-7.2	-6.6
	Ave. gain (dBi)	-7.7	-7	-7.5	-7.4	-7.7	-7
	Band	B41	B71				
	Peak gain (dBi)	-8	-7.7				
	Ave. gain (dBi)	-9.5	-9				

Antenna G

-Metal

-Manufacturer : Samsung electronics.

Antenna G	Band	B2	B4	B7	B25	B30	B38
	Peak gain (dBi)	-3.6	-3.7	-4.4	-3.6	-4.7	-4.4
	Ave. gain (dBi)	-3.9	-4	-5.2	-3.8	-4.9	-5.2
	Band	B40	B41	B66	WiFi 2.4G		
	Peak gain (dBi)	-4.5	-4.5	-3.6	-4.6		
	Ave. gain (dBi)	-5.3	-5.3	-4.1	-5		

Antenna H

-Metal

-Manufacturer : Samsung electronics.

Antenna H	Band	B48	N77	WiFi 5G
	Peak gain (dBi)	-6	-6.6	-6.2
	Ave. gain (dBi)	-6.7	-7.5	-4.5

Antenna I

-Metal

-Manufacturer : Samsung electronics.

Antenna I	Band	B46	WiFi 2.4G	WiFi 5G
	Peak gain (dBi)	-9.9	-8.5	-9.9
	Ave. gain (dBi)	-10.5	-9.2	-10.5

Antenna J

-Metal

-Manufacturer : Galtronics.

Antenna J	Band	B2	B4	B25	B66
	Peak gain (dBi)	-10	-11.4	-10.5	-11.1
	Ave. gain (dBi)	-14.2	-15.4	-14.5	-15.4

Antenna M

-Metal

-Manufacturer : Samsung electronics.

Antenna M	Band	N48	N77
	Peak gain (dBi)	-7	-7.9
	Ave. gain (dBi)	-9.6	-9.9

● Radiation Pattern

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