1. Measurement information

- Measurement : Samsung Electronics Ant Lab.
- Equipment : RTS60 Chamber, ZNB 8 Network Analyzer.
- Equipment Cal Date : Jun.27.2022
- Test Date : Jan.10.2025
- Tester : Jeong-Wan Park 박정완

2.1. Return Loss & VSWR Test

The VSWR measurement of antennas assembled into a fully operating SM-X620 Tablet 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.

2.2. Return Loss & VSWR Test

Samsung Antenna Lab has a system that can measure VSWR using RTS60 chamber and ZNB8 network analyzer. In order to measure the VSWR of each antenna, the antenna 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, the SM-X620 is assembled in the same state as the user environment.

Please refer to the appendix.

3. Radiation Pattern Test

Antennas tested for Gain and Efficiency must be assembled into the enclosure and tested in the fully assembled and operating SM-X620 tablet. 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.

Please refer to the appendix.

4. Test Method (Manufacturing)

All measurements are done with SM-X620 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 the antenna are measured using a jig that can hold the set.

4. Radiation Patterns

4.2. SM-X620 WiFi Antenna

Ant	Band	Freg MHz	EFF	AVG	Peak
BT/WIFI1	BT/WIFI	2400	21.2	-6.7	-3.7
		2451	19.7	-7.1	-4.4
		2473	22.6	-6.5	-5.3
		2480	24.1	-6.2	-5
		5150	33.9	-4.7	-3.2
		5350	36.5	-4.4	-3
		5500	28.3	-5.5	-3.3
		5700	22	-6.6	-3.9
		5815	16.2	-7.9	-4.2
		5855	15.8	-8	-4.5
		5925	13.3	-8.7	-4.8

Ant	Band	Freg MHz	EFF	AVG	Peak
WIFI2	WIFI	2400	19	-7.2	-4.5
		2451	23.4	-6.3	-3.5
		2473	24.5	-6.1	-3.2
		2480	24.6	-6.1	-3.3
		5150	35.9	-4.4	-3
		5350	26.7	-5.7	-3.4
		5500	20.1	-7	-3.8
		5700	17.1	-7.7	-4.1
		5815	20	-7	-3.8
		5855	20.4	-6.9	-3.6
		5925	17.7	-7.5	-4

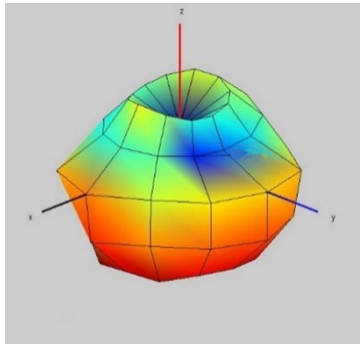
5. Antenna Info

Antenna Type : Metal ANT

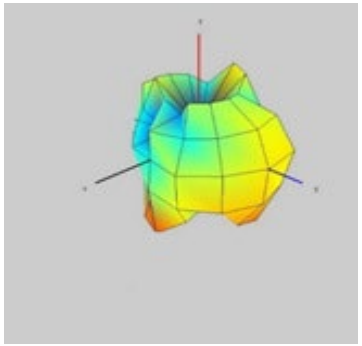
Please refer to the appendix.

6. Radiation plots for max gain plane (3D)

WiFi #1

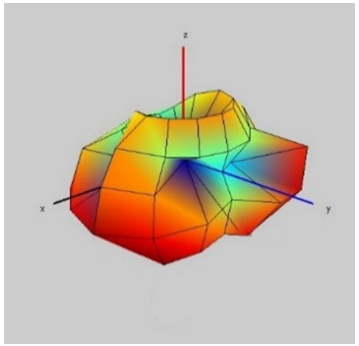


2.4G



5G

WiFi #2



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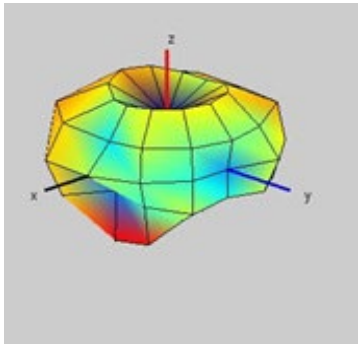

5G