

1. Antenna Information

Antenna Manufacturer	Etheta Communication Technology (shenzhen) co..Ltd
Manufacturer Address	Block B and D, 3rd Floor, Building 1, Baisha Science and Technology Industrial Park, 3011 Shahe West Road, Nanshan District, Shenzhen
Antenna Type	FPC
Antenna Model	HDT659
Antenna Frequency Range	2400 - 2500 MHz
Antenna Gain	1.02 dBi
Antenna Polarity	Linear polarization
Antenna Size	51.38 mm (L) x 12.62 mm (W) x 0.25 mm (H)
Test Laboratory	Etheta Communication Technology (shenzhen) co..Ltd
Laboratory Address	Block B and D, 3rd Floor, Building 1, Baisha Science and Technology Industrial Park, 3011 Shahe West Road, Nanshan District, Shenzhen

3. Test Equipment & Conditions

3.1 Test instrument

VSWR is tested using Agilent E5071C connected to a hand mechanism, and the status is free space.

3.2 Test environment and methods

Dark room specifications: GTS1800/SATIMO SG24

SCDMA test equipment: CMW500

LTE-TDD/FDD-SCDMA test equipment: CMW500

WCDMA/GSM/CDMA test equipment: CMW500

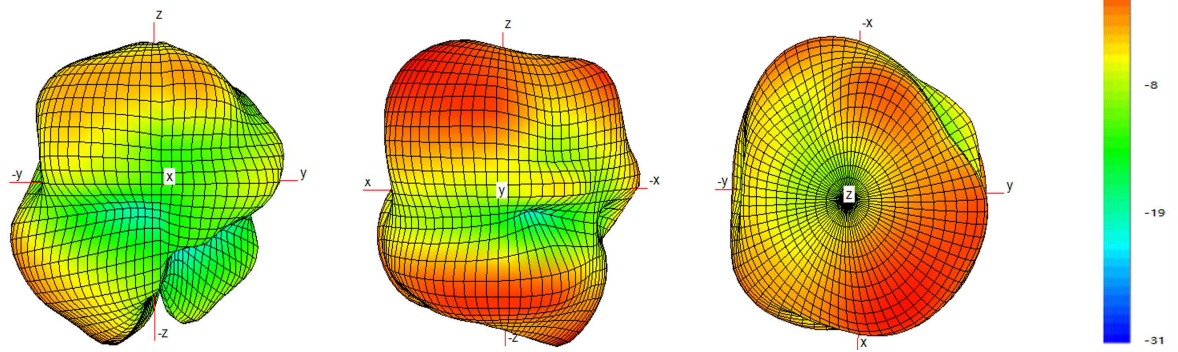
Passive efficiency testing equipment: Agilent E5071C



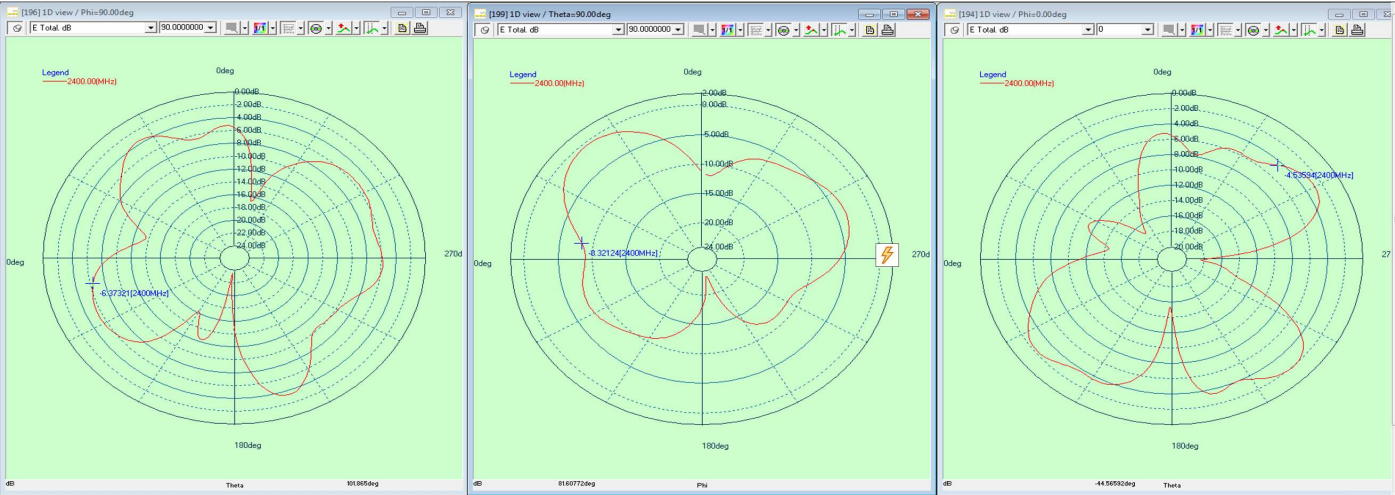
4. Antenna Gain

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	-0.15	0.24	0.10	-0.07	-0.03	0.15	0.43	0.75	0.79	1.02	1.00
Efficiency (dB)	-5.67	-5.19	-5.05	-5.14	-4.99	-4.85	-4.68	-4.59	-4.63	-4.99	-5.02
Efficiency (%)	27%	30%	31%	31%	32%	33%	34%	35%	34%	32%	31%

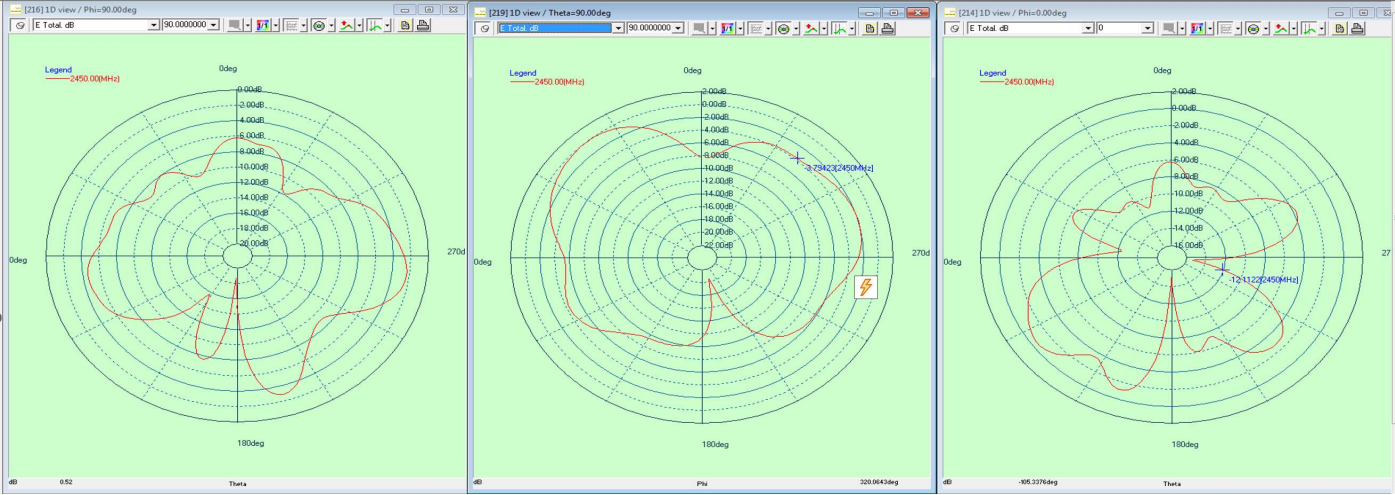
5. Antenna Radiation Pattern



2400 MHz



2450 MHz



2450 MHz

