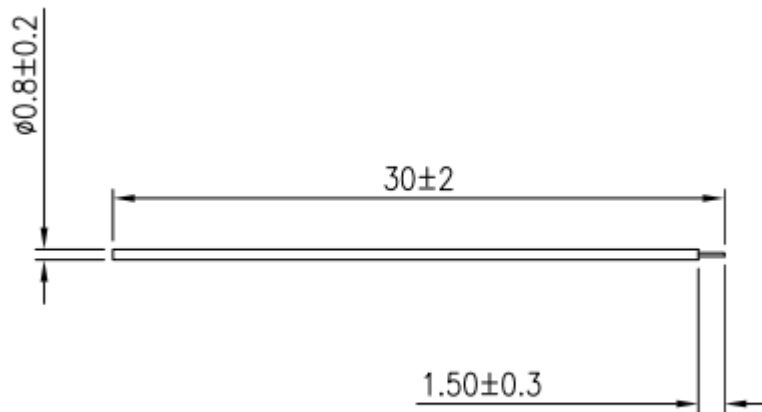


1. Antenna Description:

Antenna type	Internal antenna
Model	N18
Frequency range	2400-2500MHz
Manufacturer	Shenzhen Wanshida Communication Equipment Co.,LTD
ANT Peak Gain	2.41 dBi

2. Antenna Photo:



3. Test Equipment & Conditions

3.1 Test instrument

VSWR is tested using Agilent E5071B connected to a hand mechanism, and the status is free space.

3.2 Test environment and methods

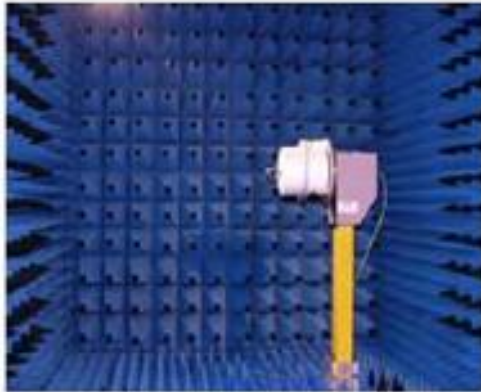
Dark room specifications: ETS-743

TD-SCDMA test equipment: StarPoint SP6010/Agilent 8960

LTE-TDD/FDD-SCDMA test equipment: StarPoint SP8011/CMW500

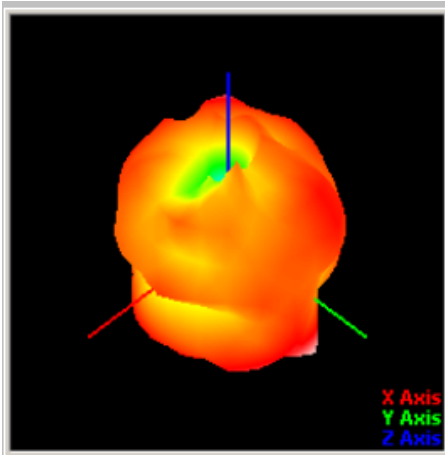
WCDMA/GSM/CDMA test equipment: Agilent 8960

Passive efficiency testing equipment: Agilent Technologies E5071B



4 . Antenna Radiation Pattern

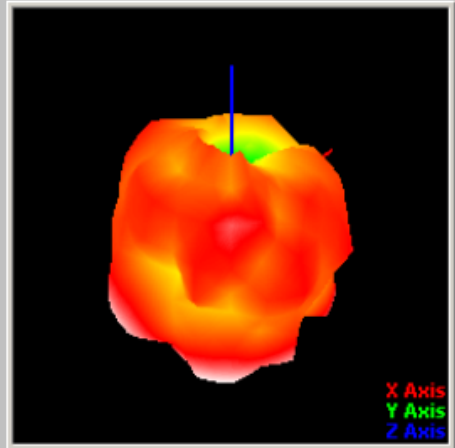
Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2400.0	2400.00	-0.57	4.61	30.3%
2410.0	2410.00	-0.68	4.32	31.7%
2420.0	2420.00	1.48	6.15	34.1%
2430.0	2430.00	0.41	5.09	34.0%
2440.0	2440.00	0.02	5.10	31.1%
2450.0	2450.00	-0.09	4.35	36.0%
2460.0	2460.00	-0.63	4.00	34.4%
2470.0	2470.00	0.24	4.98	33.6%
2480.0	2480.00	-0.97	3.10	39.2%
2490.0	2490.00	0.92	4.42	44.7%
2500.0	2500.00	2.41	5.19	52.7%



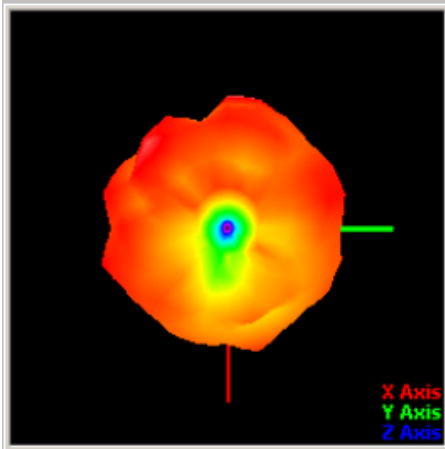
T45-P45



-0.57
-6.19
-11.8
-17.41
-23.02
-28.64
-34.25
-39.86
-45.47
-51.09
-56.7
-62.31
-67.93
-73.54
-79.15
-84.76
-90.38
-95.99



T45-P225



-0.57
-6.19
-11.8
-17.41
-23.02
-28.64
-34.25
-39.86
-45.47
-51.09
-56.7
-62.31
-67.93
-73.54
-79.15
-84.76
-90.38
-95.99

Coordination System Description:
Line Colr XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L. Axis Y Theta90-Phi90
Blue L. Axis Z Theta0