

---

# Antenna Reports

Main Antenna vendor: SHen ZHen Deman Electronics Co.,Ltd.

Address: Floor 5, Building C, No.28, Tangqing West Road, Shitanpu, Tangxia Town,  
Dongguan City, Guangdong Province

Antenna gain and radiation pattern measured in SATIMO anechoic chamber.

Antenna model name: T613P

Issue date: 2024/2/26

Test engineer: Peng Wang

王鹏

## Test Equipment list

Description	Manufacturer	Model	Cal Date
Vector Network Analyzer	Agilent Technologies	E5071B	2023.11.25
Anechoic Chamber	SATIMO	SG16	2023.11.25

# 1、 Test system introduction

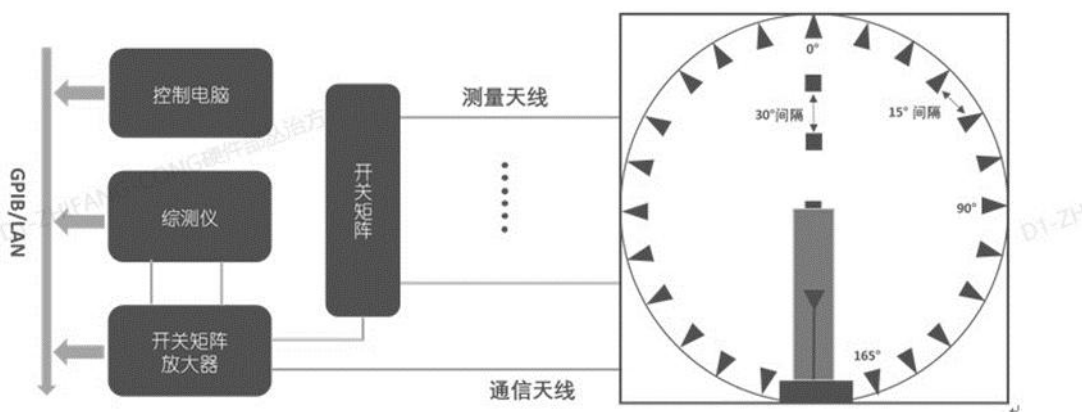
## 1.1 Anechoic chamber

Our company has a number of anechoic chamber for OTA test. It is ranging from 400 MHz to 8.5 GHz, which can provide passive test and active test, including OTA overall 2G, 3G, 4G, 5G FR test, WiFi multi-mode test, GPS active test, Bluetooth active test. The test system can provide antenna gain, efficiency, radiation pattern, upper and lower hemisphere efficiency values and mutual disturbance correlation coefficient analysis.

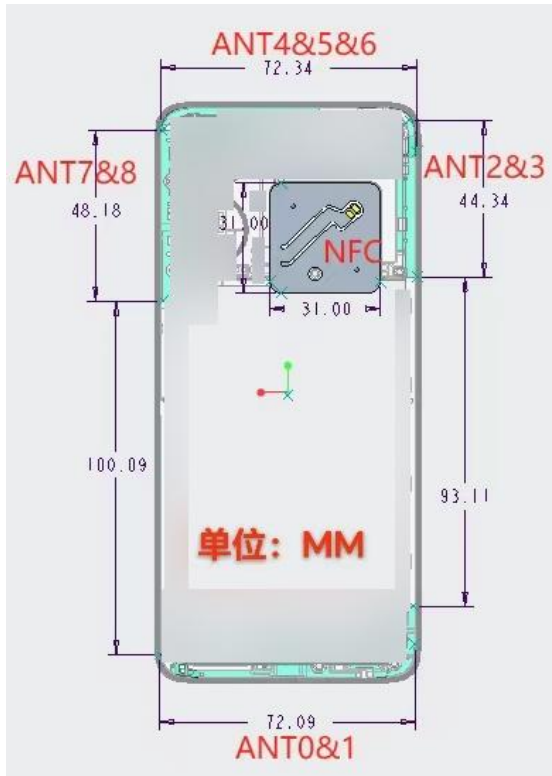


## 1.2 Test system Architecture

The figure above shows the connection and control process between the anechoic chamber of our company and the testing system and computer. The testing system has the characteristics of accurate, fast and simple testing. The operation interface is simple and humanized.



## 2、Antenna Location



**ANT6 WBG+B32**  
WIFI 2.4G TRX(b/g/n)&BT  
WIFI 5G(a/n/ac)  
GPS L1&LTE B32 DRX

**ANT7: MB DRX 2 +UHB TRX**  
LTE B1/2/3/4/66 DRX2  
NR n1/2/3/66 DRX2  
LTE B42/48 TX/PRX  
NR n45/77/78 TX/PRX

**ANT8: HB DRX**  
LTE B7/38/40/41 DRX  
NR n7/38/40/41 DRX  
ENDC N28/B20 DRX

**ANT0: LB DRX+MB TX/PRX**  
GSM 850/900 DRX  
WCDMA B5/6 DRX  
LTE B5/8/12/13/17/20/26/28 DRX  
NR n5/8/20/26/28 DRX  
GSM 1800/1900 TX/PRX  
WCDMA B1/2/4 TX/PRX  
LTE B1/2/3/4/5/66 TX/PRX  
NR n1/2/3/66 TX/PRX

**ANTS: B32+UHB PRX2**

LTE B32 PRX  
LTE B42/48 PRX2  
NR n77/78 PRX2

**ANT4: LB TX/PRX+MB DRX**  
GSM 850/900 TX/PRX  
WCDMA B5/6 TX/PRX  
LTE B5/8/12/13/17/20/26/28 TX/PRX  
NR n5/8/20/26/28/77 TX/PRX

GSM 1800/1900 DRX  
WCDMA B1/2/4/66 DRX  
LTE B1/2/3/4/66 DRX  
NR n1/2/3/66 DRX

**ANT3: HB TRX+UHB DRX**

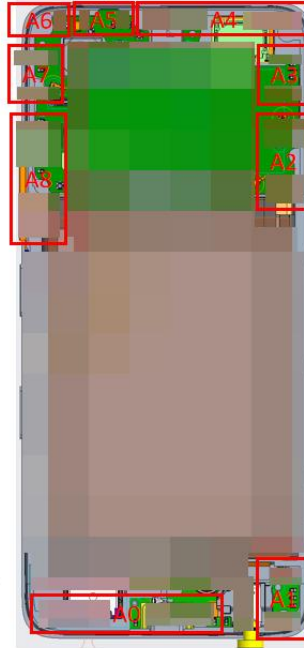
LTE B7/38/40/41 TX/PRX  
NR n7/38/40/41 TX/PRX  
LTE B42/48 DRX  
NR n77/78 DRX

**ANT2: MB PRX 2+ HB DRX 2**

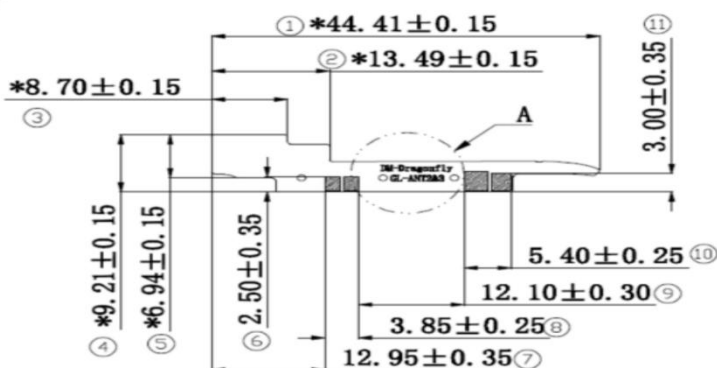
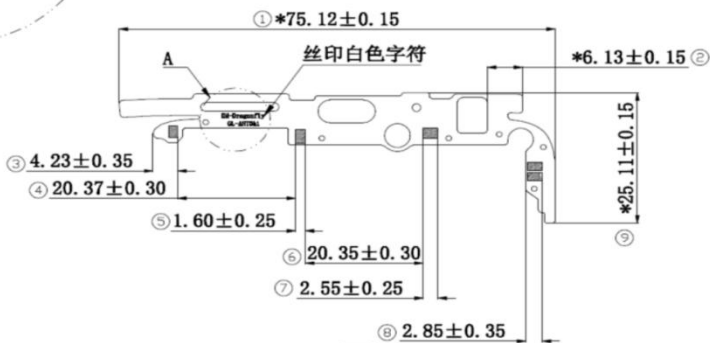
LTE B1/2/3/4/66 PRX2 B7/38/40/41 DRX 2  
NR n1/2/3/66 PRX2 n7/38/40/41 DRX 2

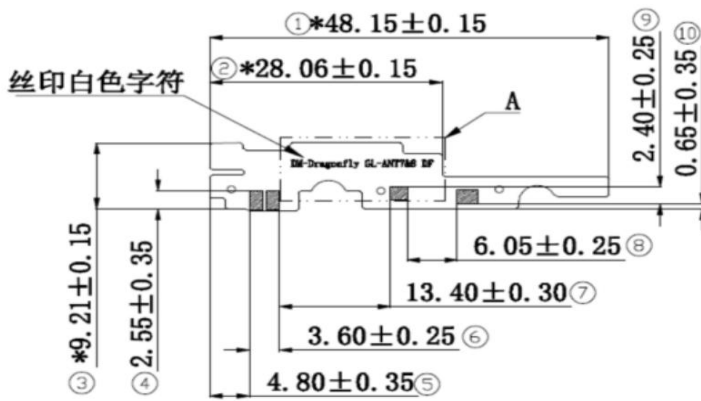
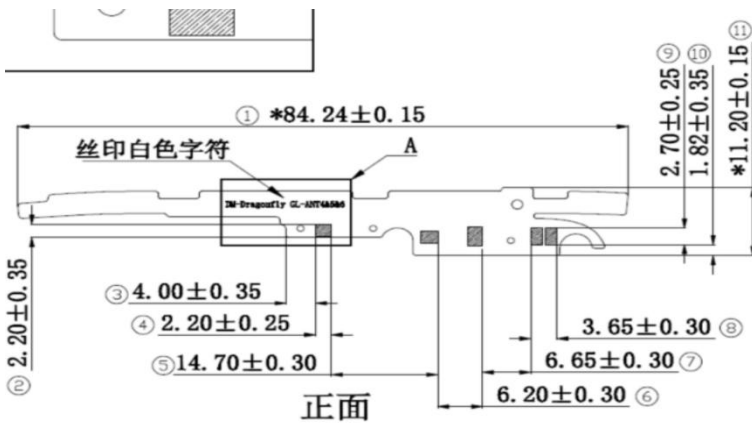
**ANT1: HB PRX2+UHB DRX2**

LTE B7/38/40/41 PRX2  
LTE B42/48 DRX2  
NR n7/38/40/41 PRX2  
NR n77/78 DRX2

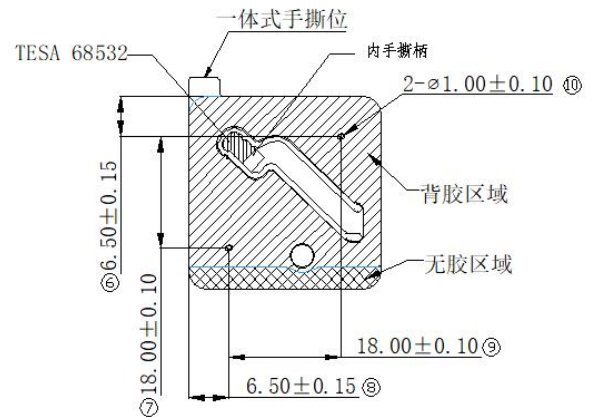
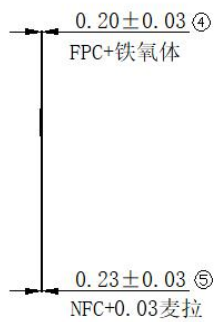
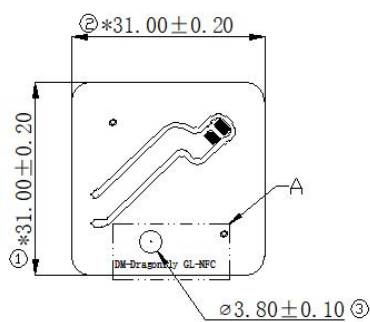


## 3、Antenna Pattern





## NFC Antenna



NFC antenna gain description:

The device does not support the test of NFC gain. In addition, all measurements were performed radiated and therefore additional antenna gain documentation is not required.

---

#### 4、 Antenna Peak Gain

ANT0

Antenna model name: FPC

Antenna type: IFA

<b>GSM BAND</b>	<b>Peak Gain(dBi)</b>
GSM 1800	-0.36
GSM 1900	-0.2

<b>WCDMA BAND</b>	<b>Peak Gain(dBi)</b>
WCDMA B1	-0.2
WCDMA B2	-0.2
WCDMA B4	-0.2

<b>LTE BAND</b>	<b>Peak Gain(dBi)</b>
LTE B1	-0.2
LTE B2	-0.2
LTE B3	-0.36
LTE B4	-0.2
LTE B25	-0.2
LTE B66	-0.2

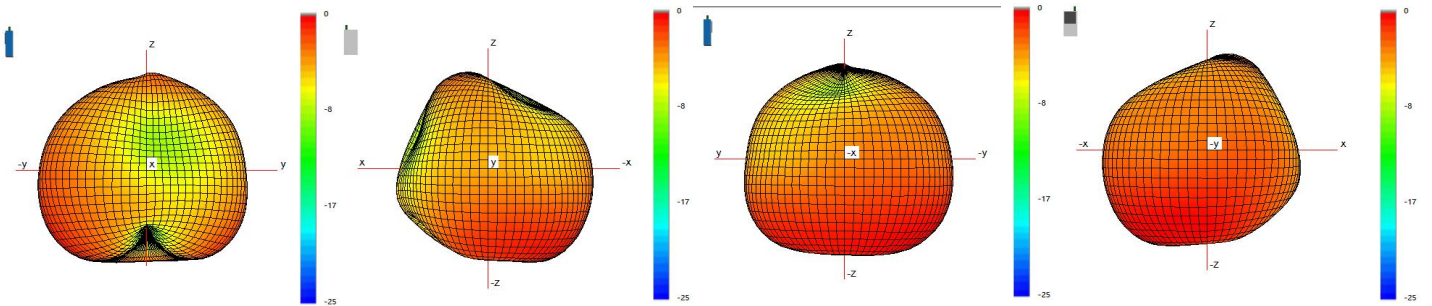
<b>NR BAND</b>	<b>Peak Gain(dBi)</b>
NR n1	-0.2
NR n2	-0.2
NR n3	-0.36
NR n66	-0.2

Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document

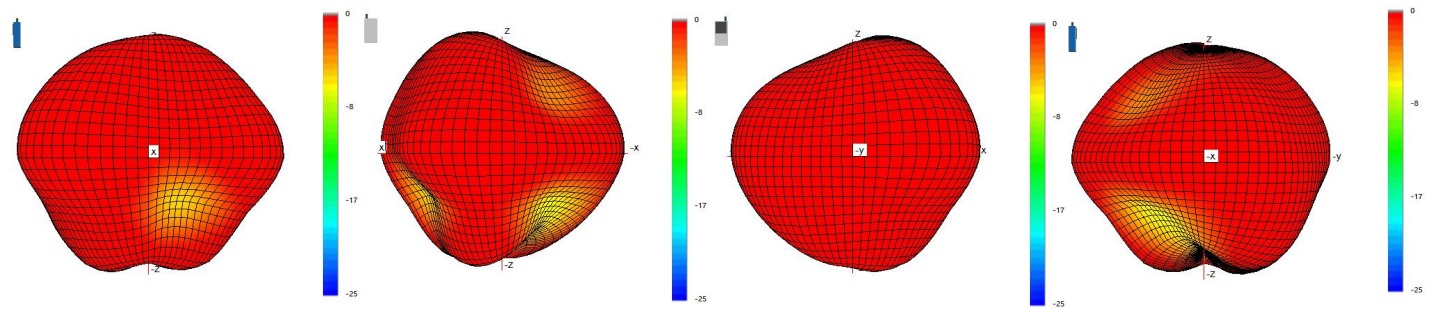


( Right view – Rear view – Left view – Front view)

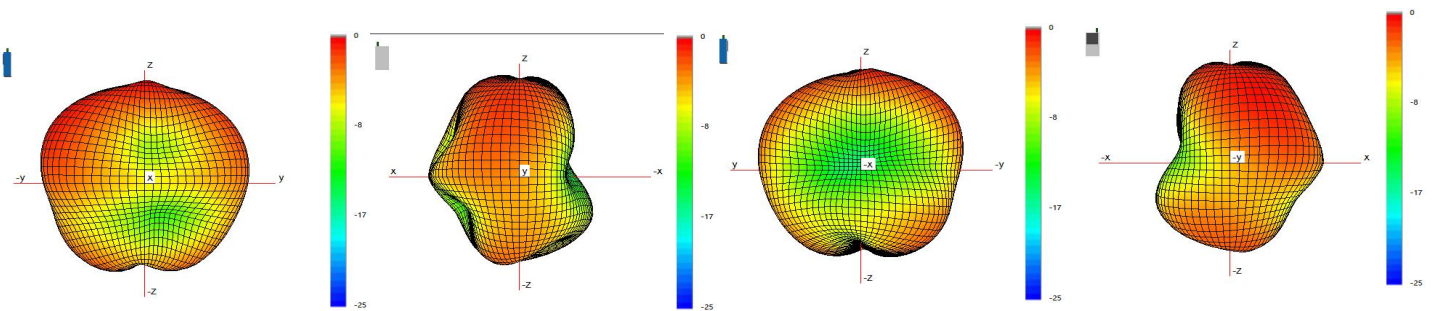
GSM 1800/LTE B3/NR N3



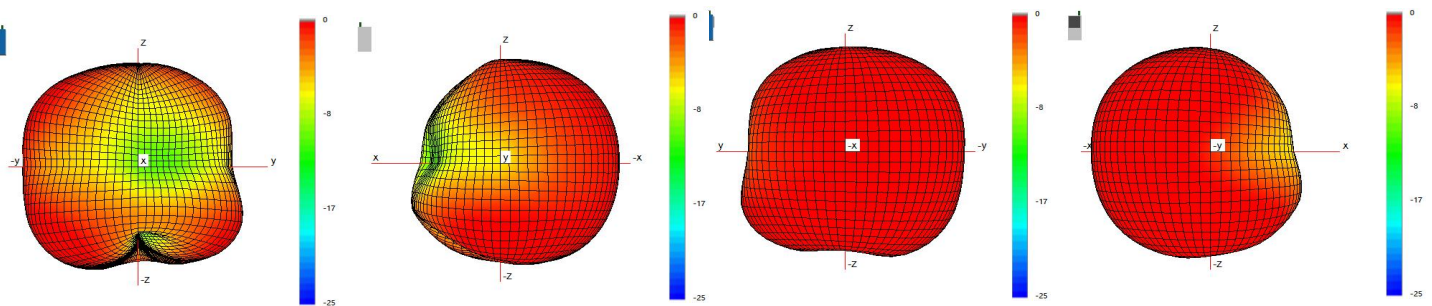
GSM 1900/LTE B2/WCDMA B2/NR N2



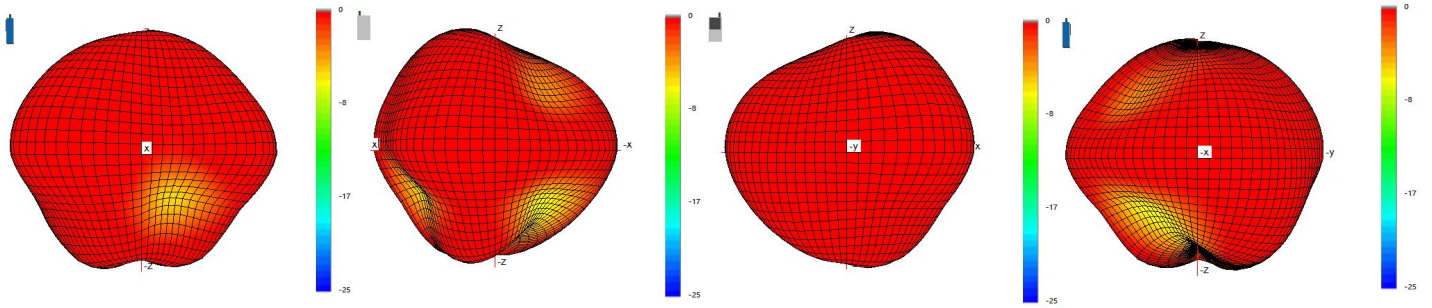
NR N1/LTE B1/WCDMA B1



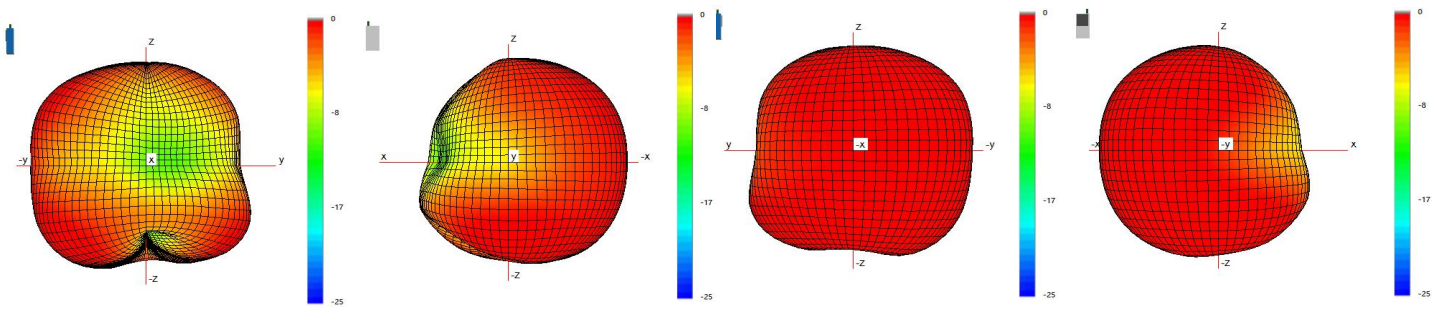
LTE B4/WCDMA B4



LTE B25



LTEB26/NR N26



# ANT3

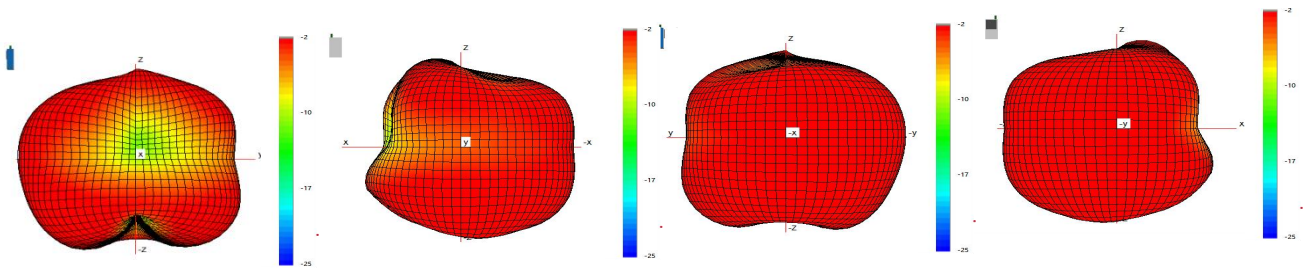
Antenna model name: FPC

Antenna type: IFA

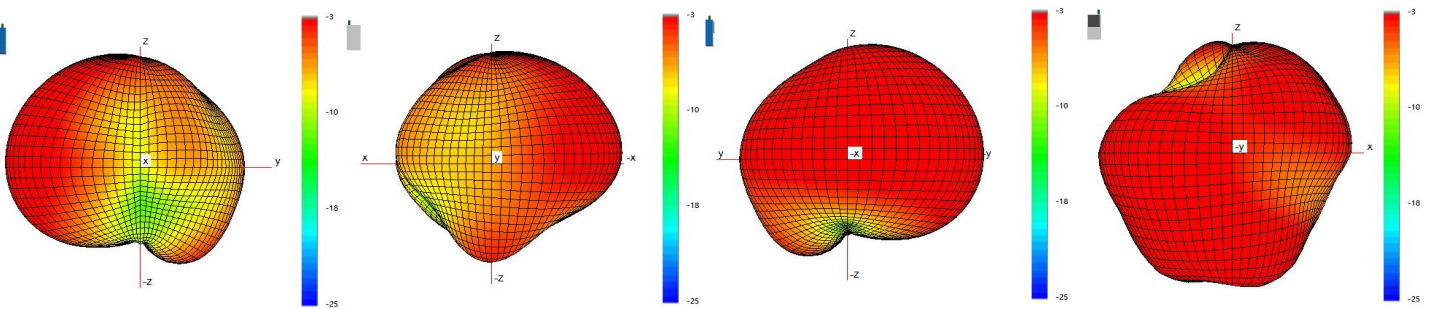
LTE BAND	Peak Gain(dBi)
LTE B7	-2.5
LTE B38	-2.5
LTE B40	-3.8
LTE B41	-2.5

NR BAND	Peak Gain(dBi)
NR N7	-2.5
NR N38	-2.5
NR N40	-3.8
NR N41	-2.5

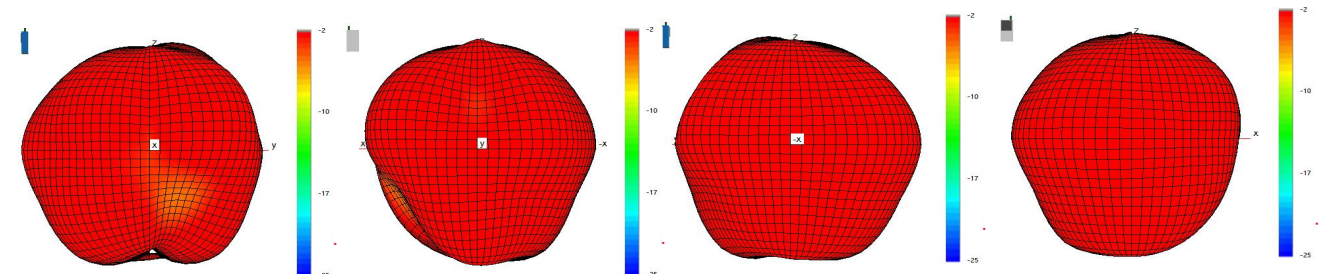
## NR N7/LTE B7



## NR N38/LTE B38

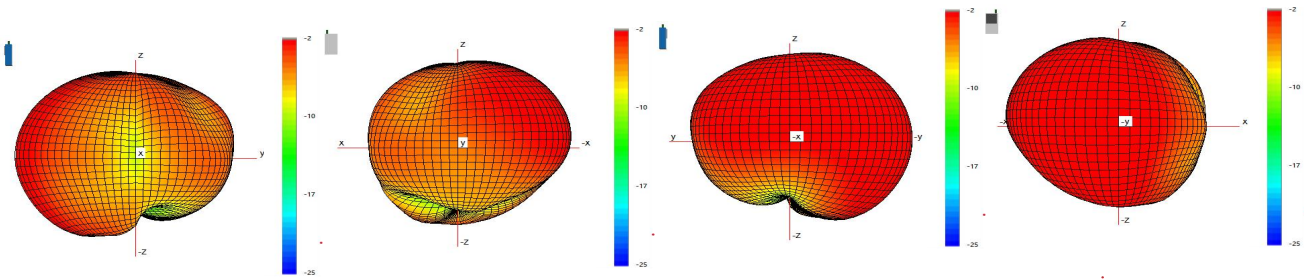


## NR N40/LTE B40





## NR N41/LTE B41



### ANT4

Antenna model name: FPC

Antenna type: IFA

GSM BAND	Peak Gain(dBi)
GSM 850	-5
GSM 900	-3.6

WCDMA BAND	Peak Gain(dBi)
WCDMA B5	-5
WCDMA B8	-3.6

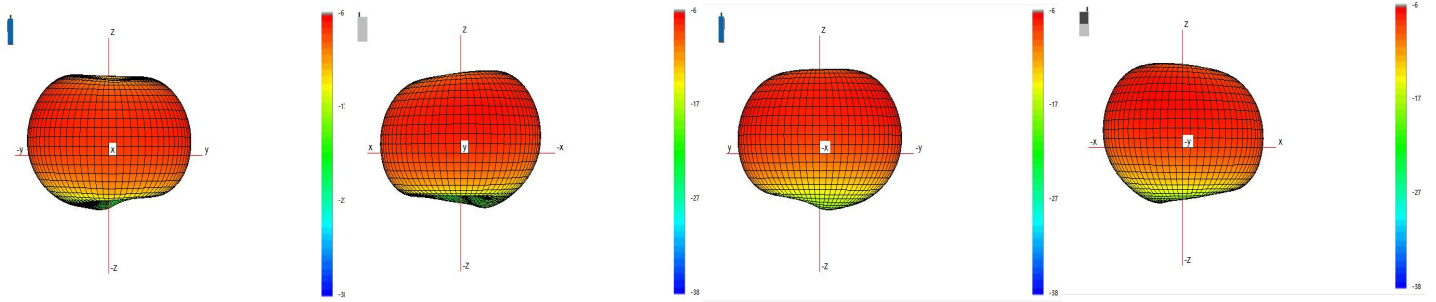
LTE BAND	Peak Gain(dBi)
LTE B5	-5
LTE B8	-3.6
LTE B13	-5
LTE B17	-5
LTE B20	-5
LTE B26	-5
LTE B28	-5

NR BAND	Peak Gain(dBi)
NR N5	-5
NR N8	-3.6
NR N20	-5
NR N26	-5
NR N28	-5
NR N71	-6.3

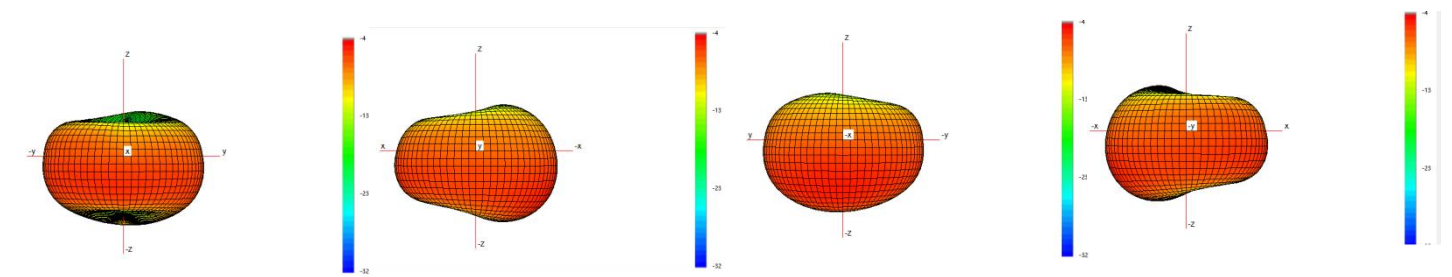
Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document

( Right view – Rear view – Left view – Front view)

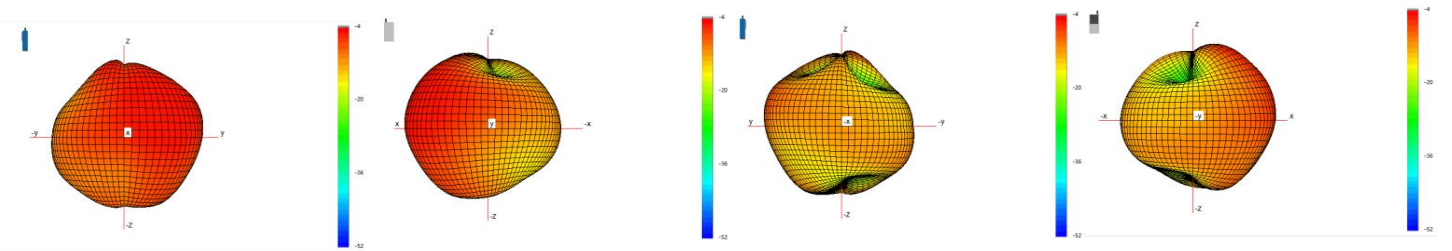
NR N5/LTE B5/WCDMA B5/GSM 850



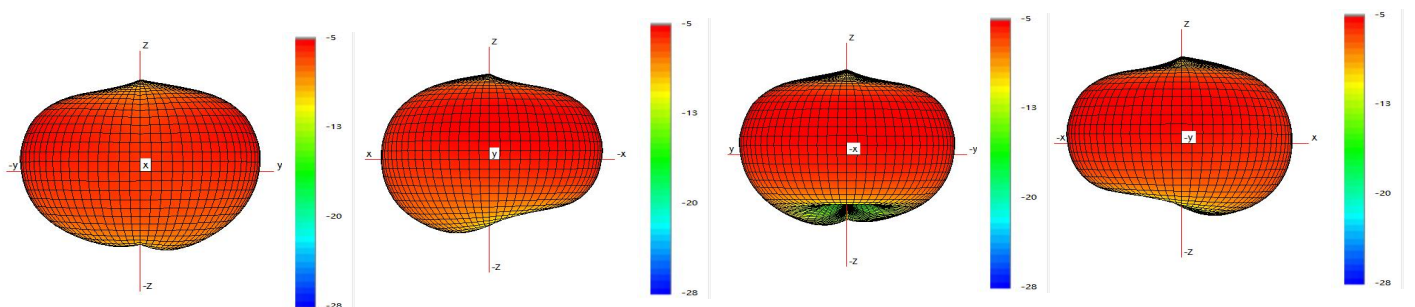
NR N8/LTE B8/WCDMA B8/GSM 900



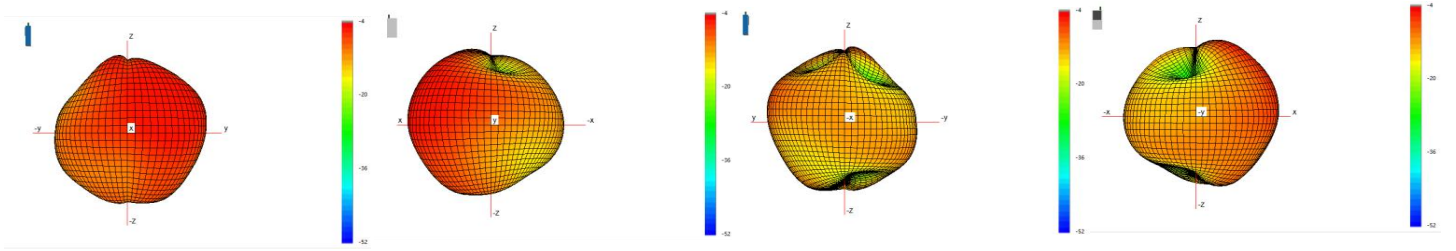
LTE B13



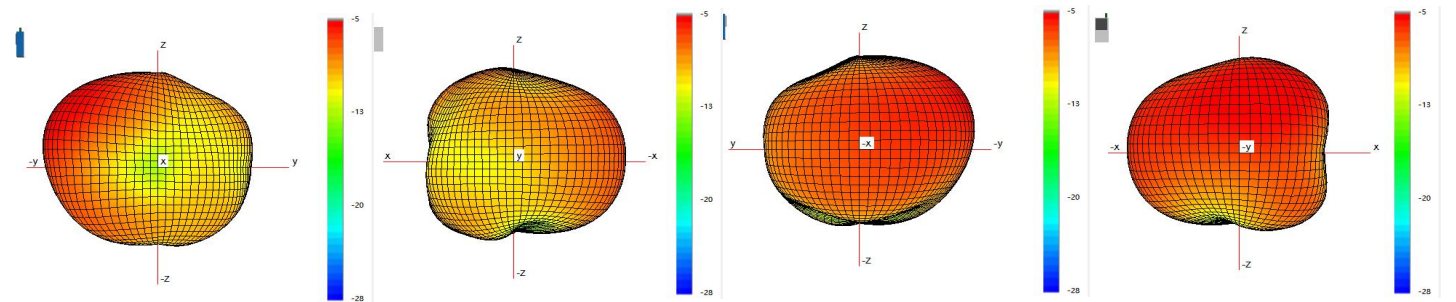
LTE B17



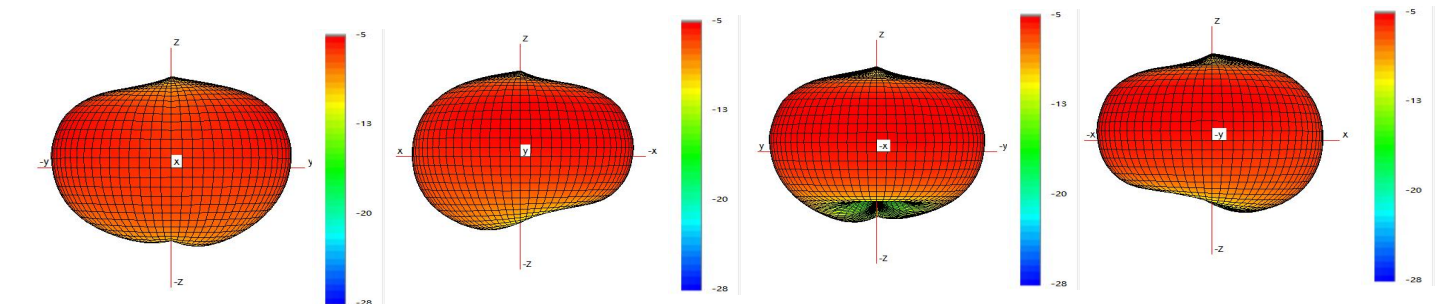
NR N20/LTE B20



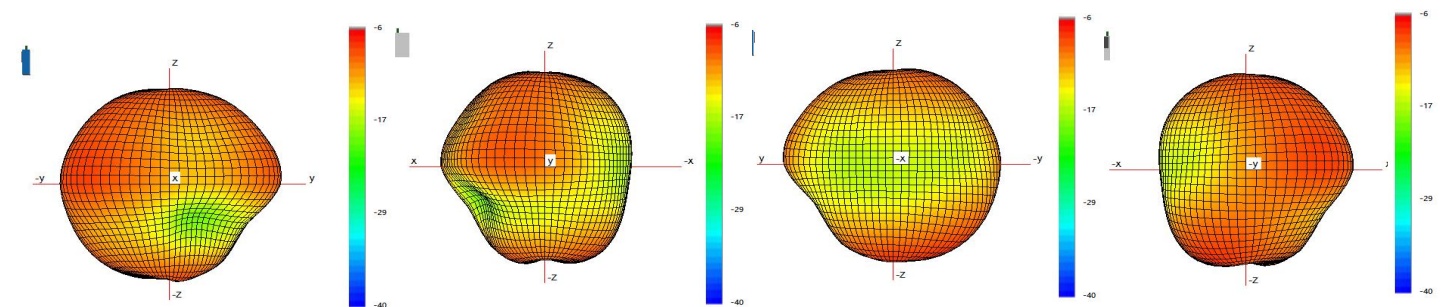
NR N26/B26



NR N28/B28



NR N71



## ANT6

Antenna model name: FPC

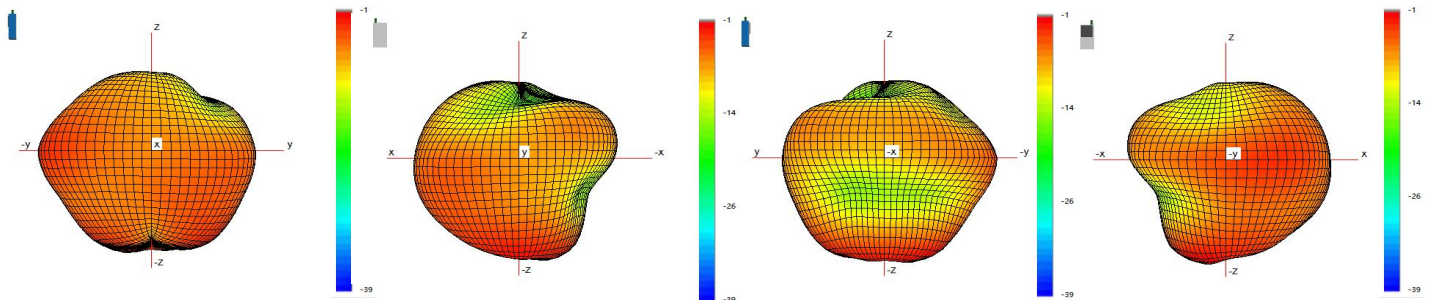
Antenna type: IFA

BT/WLAN Peak Gain (dBi)			
2400~2483.5MHz	-2.3	5470~5725MHz	-2
5150~5250MHz	-1	5725~5850MHz	-3
5250~5350MHz	-1	GPS	-0.5

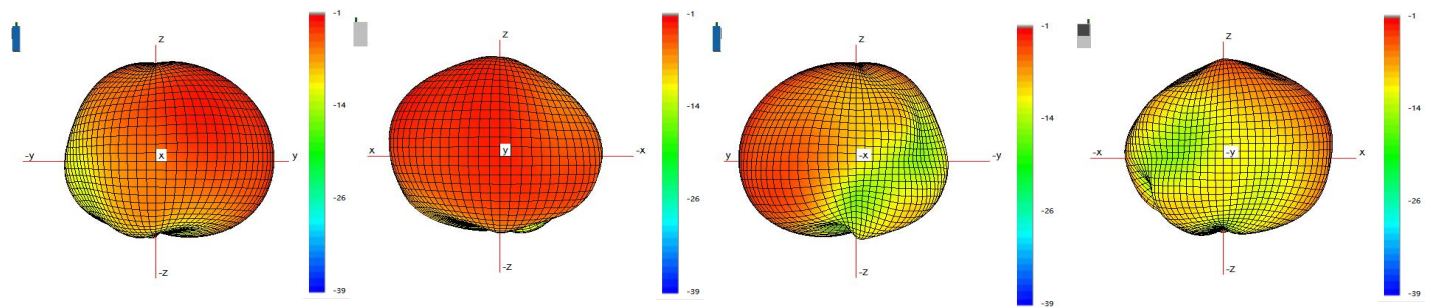
Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document

( Right view – Rear view – Left view – Front view)

WIFI 2.4G (2450 MHz)

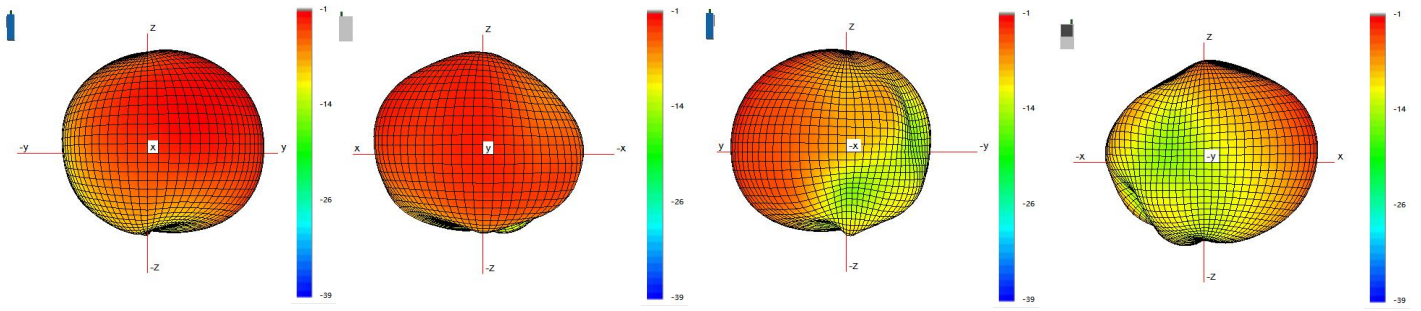


WIFI 5G ( 5200 MHz)

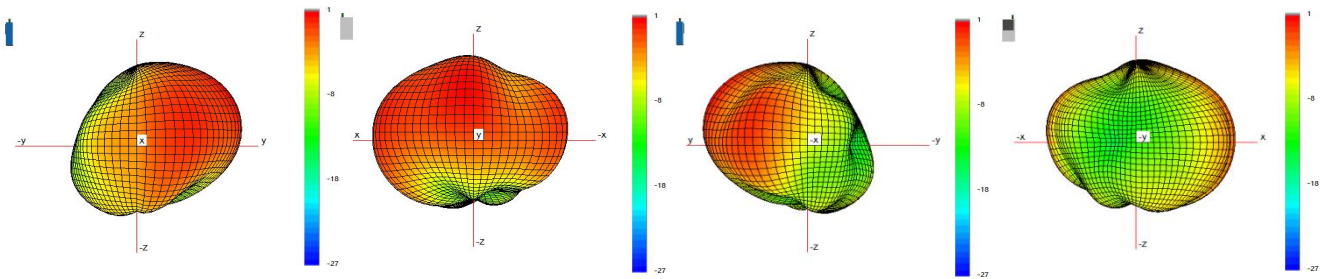




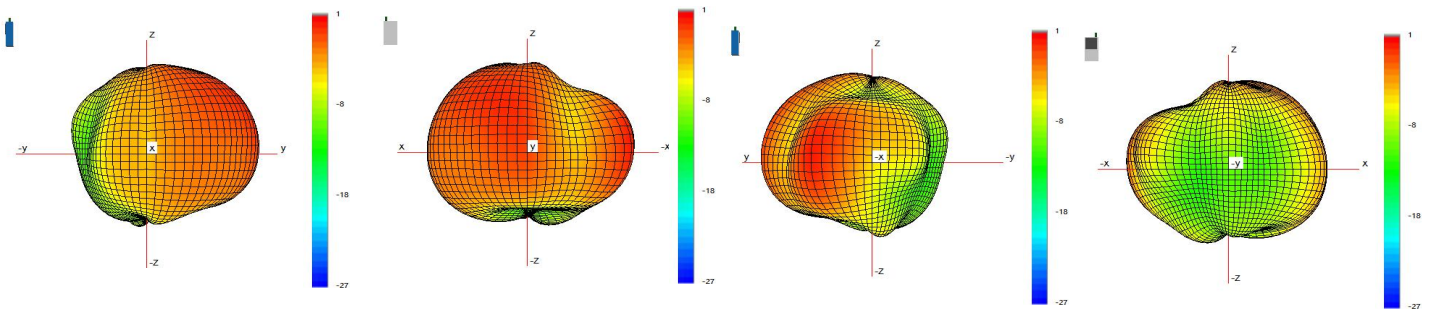
## WIFI 5G ( 5300 MHz)



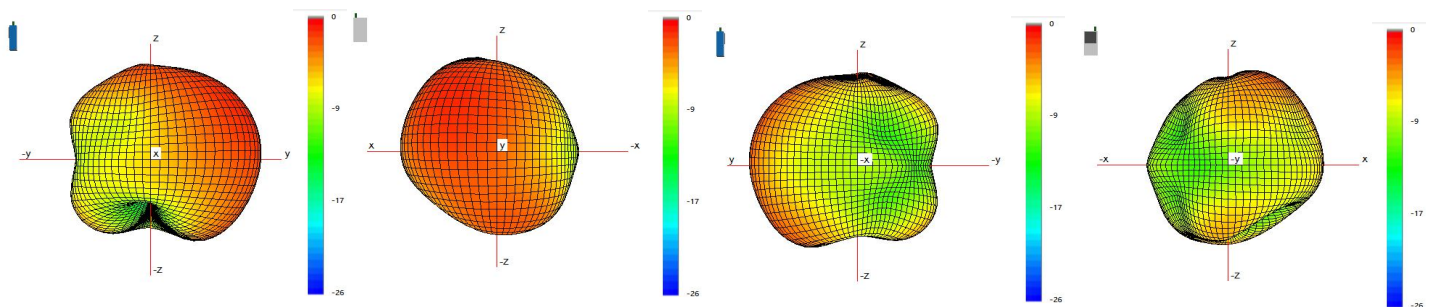
## WIFI 5G ( 5500 MHz)



## WIFI 5G ( 5800 MHz)



## GPS





# ANT7

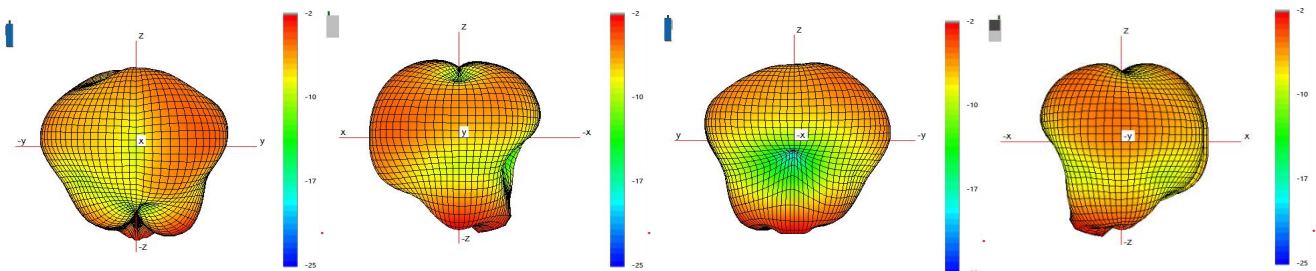
Antenna model name: FPC

Antenna type: IFA

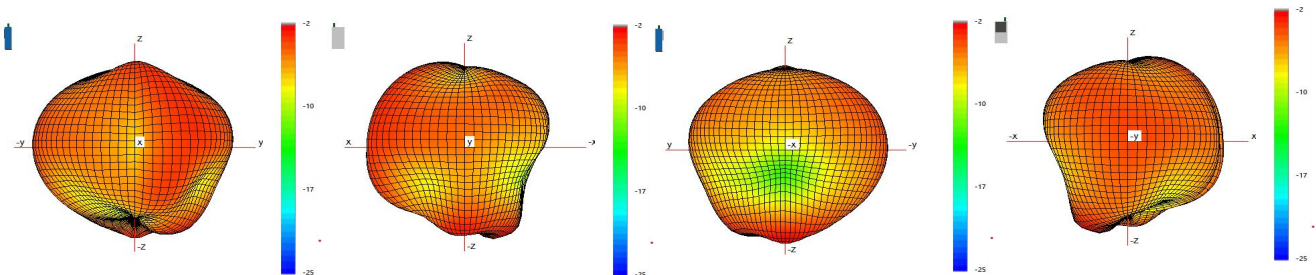
LTE BAND	Peak Gain(dBi)
LTE B42	-2.5
LTE B48	-2.6

NR BAND	Peak Gain(dBi)
NR n48	-2.6
NR n77	-2.5
NR n78	-2.7

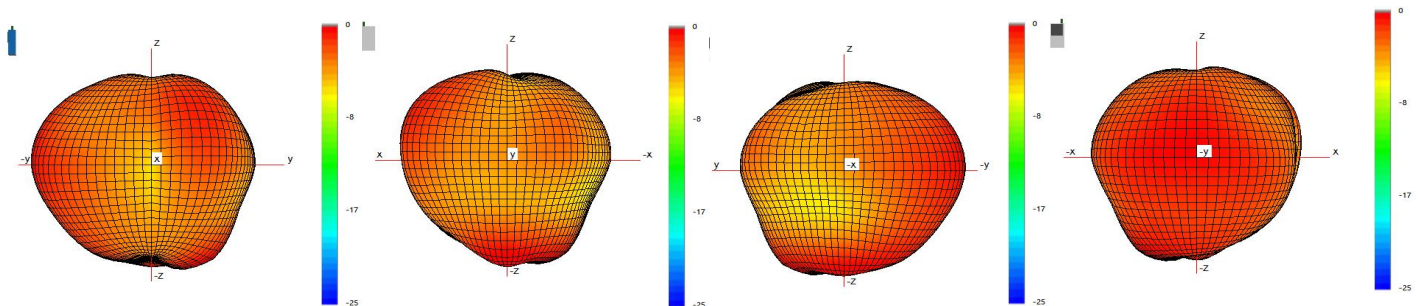
## LTE B42



## NR N48/LTE B48



## NR N77



NR N78

