



AFTtEch

深圳市安弗特电子有限公司

AFT tech Electronic Co., Ltd. (Shenzhen)

Antenna specification

Antenna model: CW115 US

Antenna type: PIFA

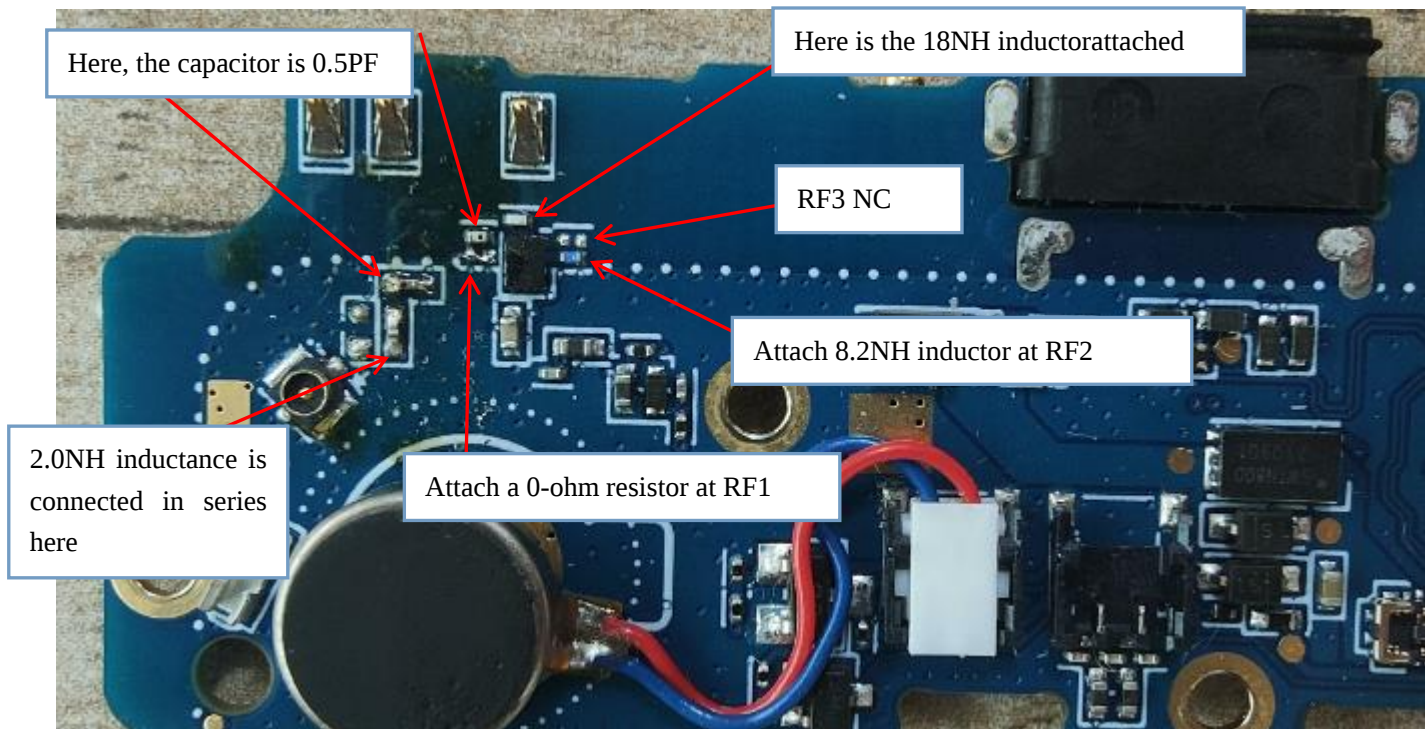
Issue date:2025-05-27

ANT0 antenna matching circuit----- Changes have

Address: Room 302, 3rd Floor, Building B, Gangshen Innovation Park, No.40 Huaning Road, Dalang Street, Longhua District, Shenzhen

Apply 33NH inductor on RF4

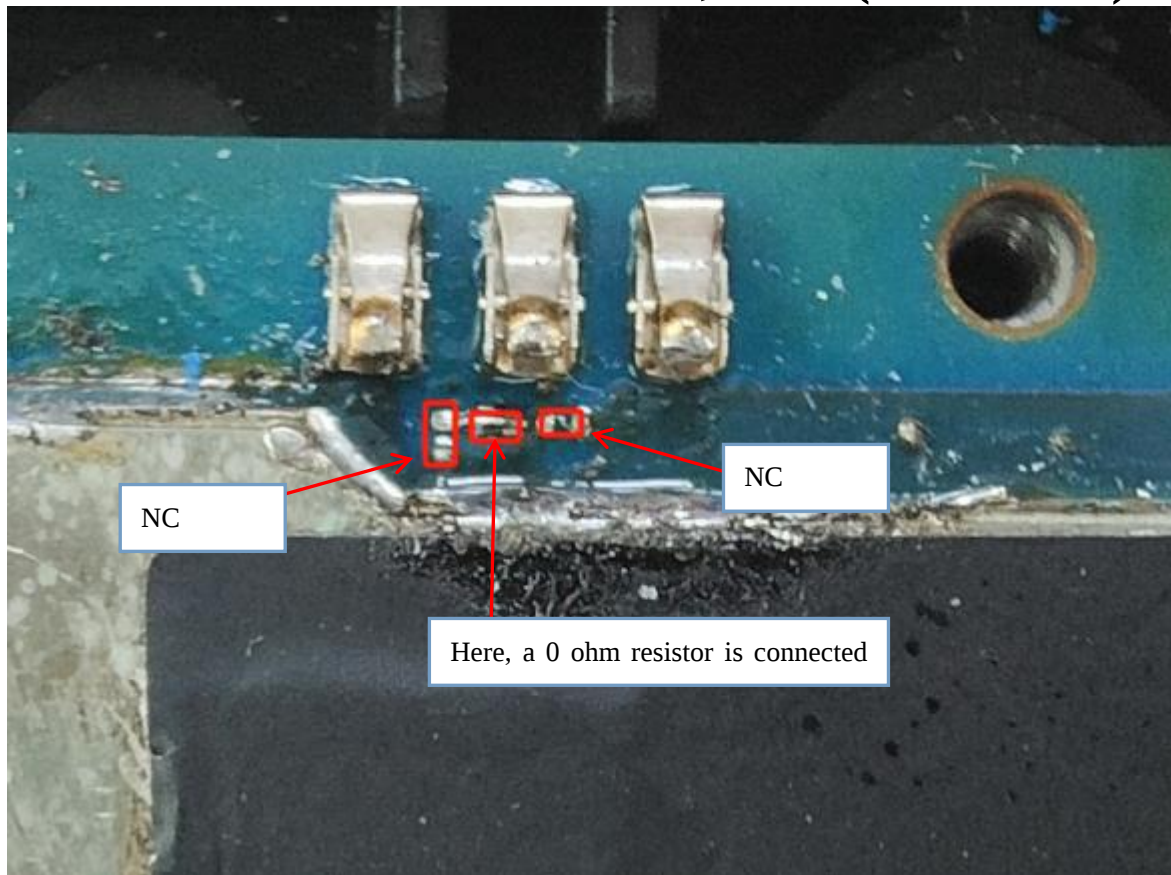
been made

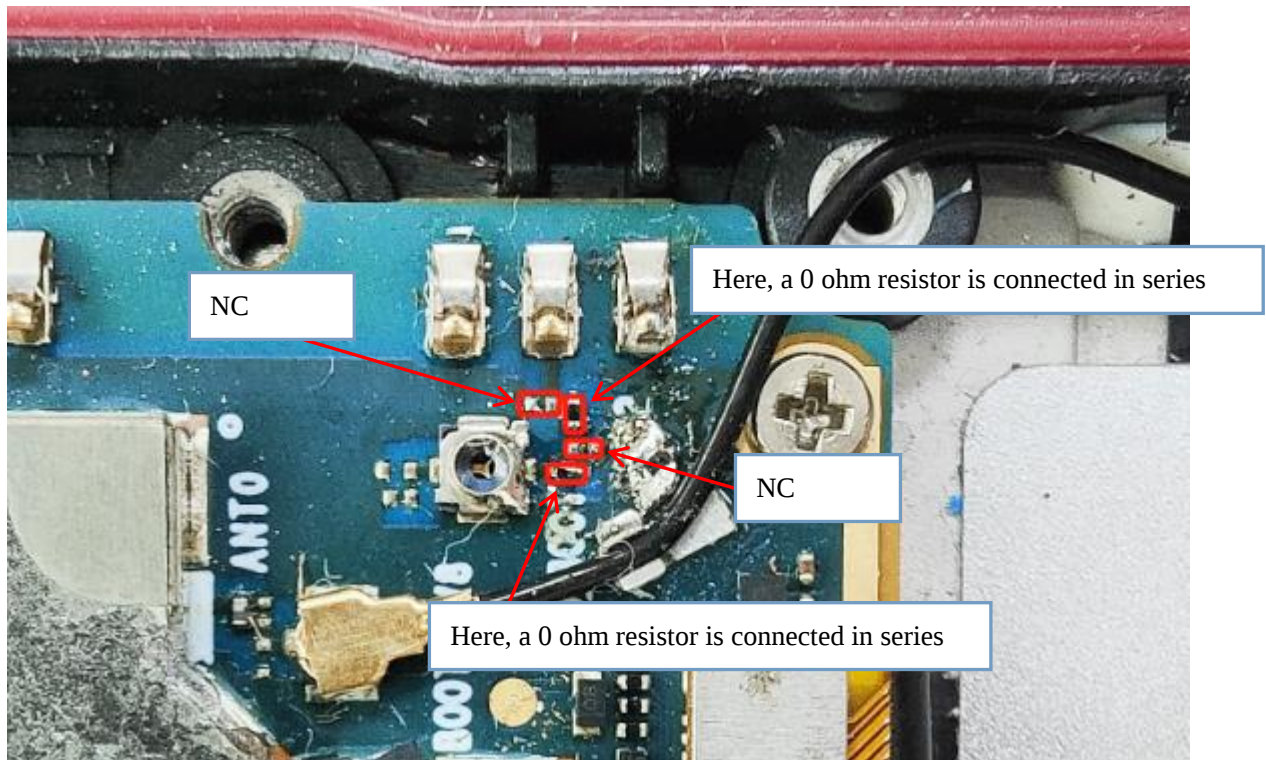


CW115 US ANT0 antenna switching logic	
RF	BAND
RF1	PCS1900, W2/4, LTE:2/3/4/7/25/38/41, NR:2/3/7/25/38/41/77/78
RF2	GSM850, LTE:5/26, NR:5/26
RF3	LTE:12/28, NR:12/28
RF4	LTE:13, NR:13

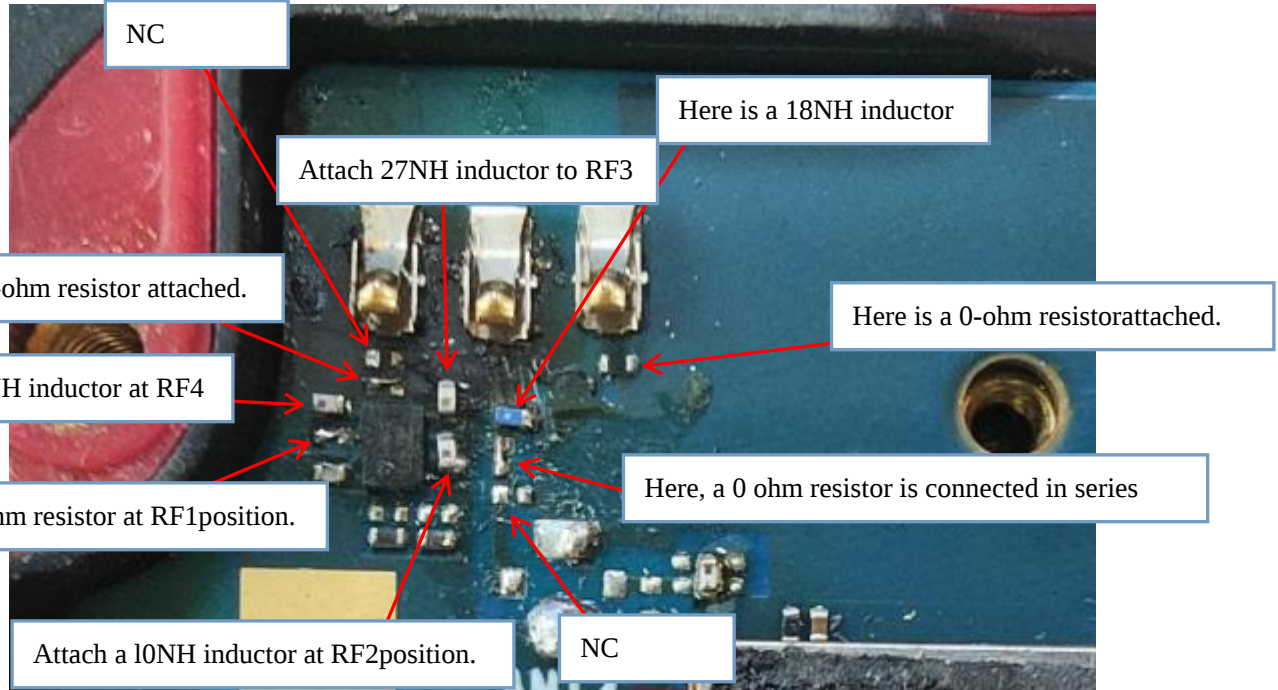
ANT1 antenna matching circuit----- Make no change

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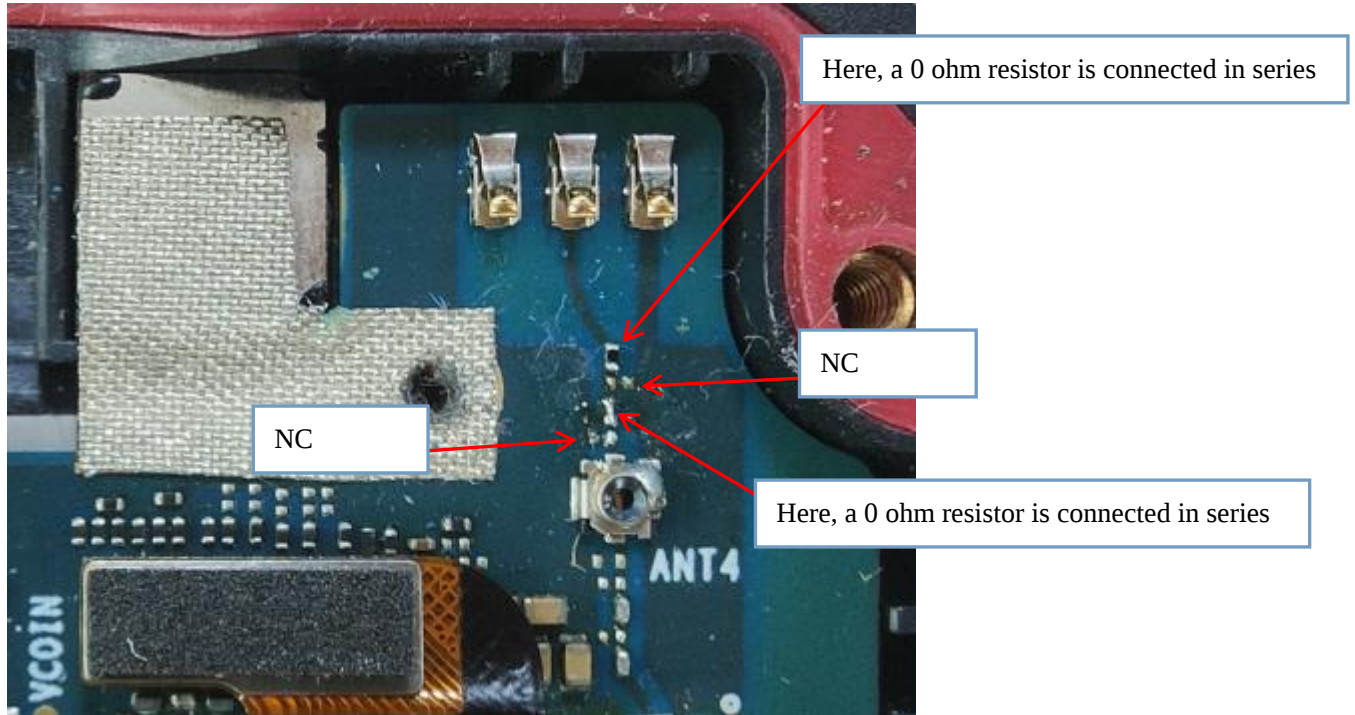


ANT3 antenna matching circuit ----- **Changes have been made**

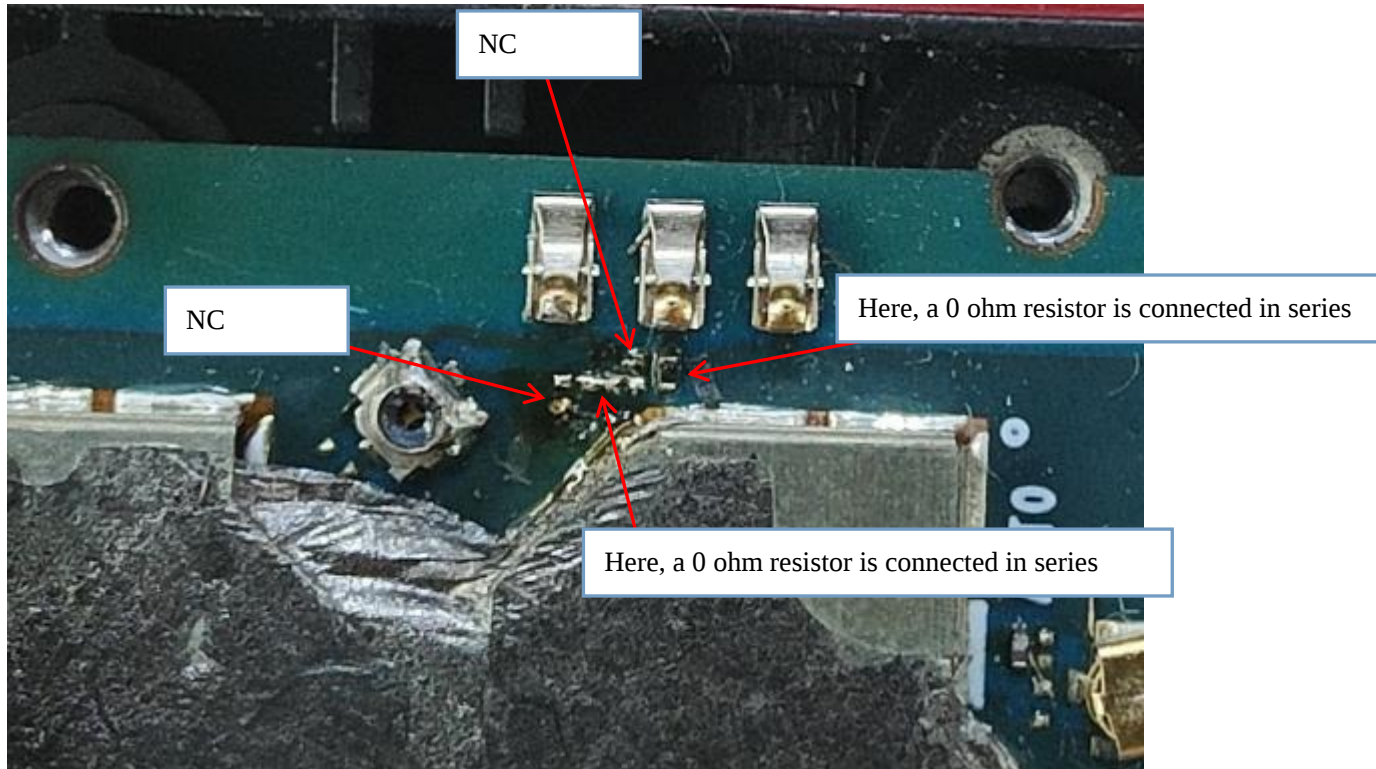


CW115US ANT3 antenna switching logic	
RF	BAND
RF1	PCS1900, W2/4, LTE:2/3/4/7/25/38/41, NR:2/3/7/25/38/41/77/78
RF2	GSM850, LTE:5/26, NR:5/26
RF3	LTE:12/28, NR:12/28
RF4	LTE:13, NR:13

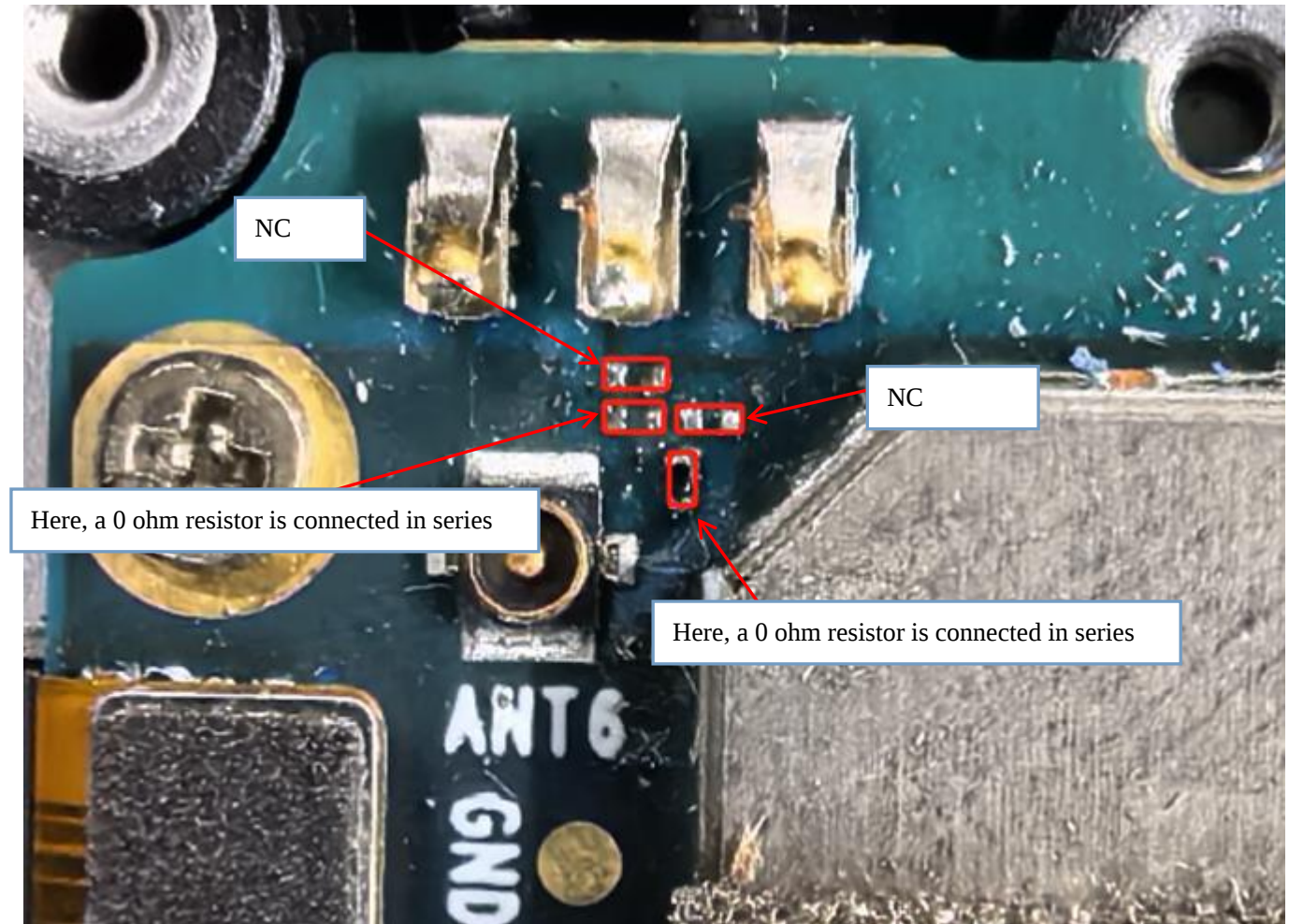
ANT4 antenna matching circuit ----- **Changes have been made**



ANT5 antenna matching circuit ----- **Changes have been made**



ANT6 antenna matching circuit ———— **Changes have been made**



Free Space OTA

Band	Channel	TRP (dBm)	TIS (dBm)	Band	Channel	TRP (dBm)	TIS (dBm)
GSM850	L	26.0		PCS1900	L	25.5	
	M	25.5			M	25.5	
	H	25.6	-100.5		H	25.0	-102.5
W850	L	18.5		W1700	L	17.5	
	M	18.2			M	17.7	
	H	18.4	-105.5		H	18.1	-105.2
W1900	L	18.1		LTE-B2 (10MHZ)	L	18.5	
	M	18.2			M	18.6	
	H	18.3	-105.2		H	18.2	-92.5
LTE-B3 (10MHZ)	L	18.0		LTE-B4 (10MHZ)	L	18.0	
	M	18.3			M	18.2	
	H	18.5	-92.1		H	18.4	-92.5
LTE-B5 (10MHZ)	L	17.0		LTE-B7 (10MHZ)	L	16.4	
	M	18.0			M	16.2	
	H	18.1	-91.8		H	16.1	-92.3
LTE-B12 (10MHZ)	L	17.7		LTE-B25 (10MHZ)	L	18.5	
	M	17.8			M	18.4	
	H	17.9	-92.2		H	18.2	-93.2
LTE-B26 (10MHZ)	L	18.1		LTE-B28 (10MHZ)	L	17.8	
	M	18.3			M	18.1	
	H	18.2	-92.2		H	18.0	-92.0
LTE-B38 (20MHZ)	L	16.3		LTE-B41 (20MHZ)	L	16.0	
	M	16.2			M	16.5	
	H	17.0	-87.0		H	17.1	-87.2

Band	Channel	TRP (dBm)	TIS (dBm)	Band	Channel	TRP (dBm)	TIS (dBm)
N2 (20MHZ)	L	18.8		N3 (20MHZ)	L	18.8	
	M	18.9			M	19.0	
	H	18.7	-89.7		H	18.9	-89.2
N5 (20MHZ)	L	18.2		N7 (20MHZ)	L	17.2	
	M	18.3			M	17.2	
	H	18.1	-86.1		H	16.9	-86.5
N12 (20MHZ)	L	17.2		N25 (20MHZ)	L	18.9	
	M	17.2			M	18.6	
	H	17.4	-87.0		H	18.7	-91.5
N26 (20MHZ)	L	17.5		N28 (20MHZ)	L	17.8	
	M	18.1			M	18.1	
	H	18.2	-88.2		H	18.3	-86.1
N38 (20MHZ)	L	17.2		N41 (100MHZ)	L	18.8	
	M	17.2			M	18.8	
	H	16.8	-89.8		H	19.3	-83.5
N77 (100MHZ)	L	20.2		N78 (100MHZ)	L	19.2	
	M	19.7			M	19.3	
	H	20.3	-86.5		H	20.0	-87.0

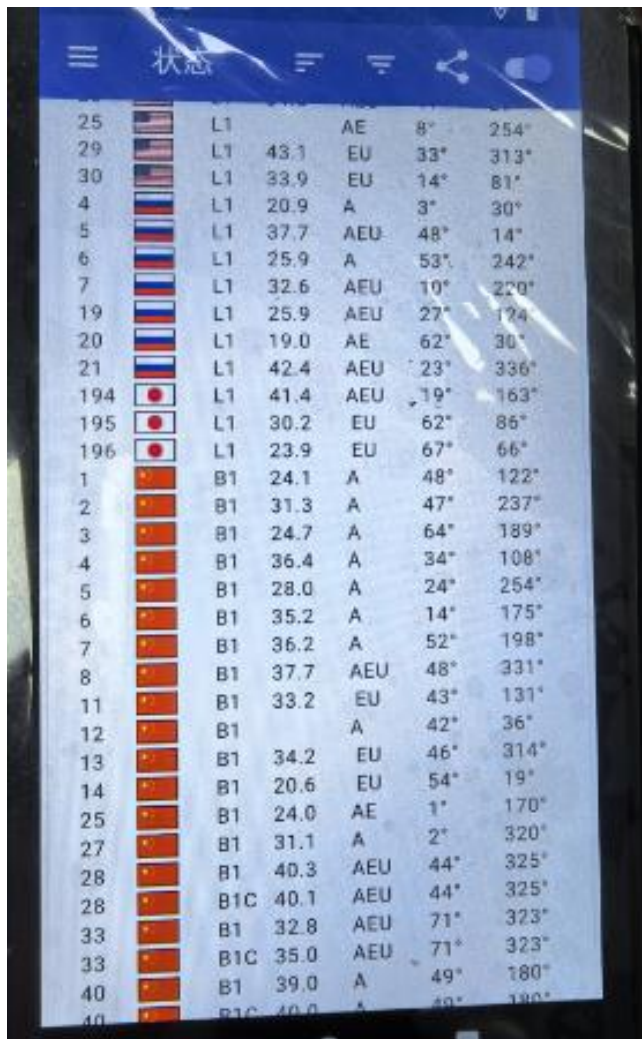
WIFI OTA, Bright screen test

Band	Channel	TRP (dBm)	TIS (dBm)	Band	Channel	TRP (dBm)	TIS (dBm)
WIFI-2.4 B-11M	1	11.6	-81.5	WIFI-5G A-54M	36	10.0	-68.5
	6	11.8	-82.2		64	12.3	-71.5
	13	12.4	-83.3		165	11.0	-70.2

GPS measurement:

纬度: 22.6934465°	时间: 08:52:30 下午
经度: 113.9785761°	TTFF: 34 sec
高度: 103.2 m	H/V 精度: 3.8/2.5 m
高度(MSL): 107.0 m	卫星数量: 23/43/44
速度: 0.0 m/s	方位:
速度精度: 0.1 m/s	方位精度:
PDOP: 0.9	H/V DOP: 0.6/0.7

ID	GNSS	CF	C/N0	标识	高度角	方位角
5		L1	39.8	EU	51°	335°
6		L1	41.0	EU	24°	103°
11		L1	32.8	EU	48°	77°
12		L1	36.7	AEU	12°	220°
13		L1	22.9	AEU	69°	151°
15		L1	33.8	AEU	42°	217°
19		L1	18.5	A	2°	151°
20		L1	23.8	AEU	41°	29°
25		L1	21.3	AE	8°	254°
29		L1	45.0	EU	33°	313°
30		L1	32.5	EU	14°	81°
4		L1	20.3	A	3°	30°
5		L1	39.4	AEU	48°	14°
6		L1	25.1	A	53°	242°
7		L1	32.7	AEU	10°	220°
19		L1	25.9	AEU	27°	124°
20		L1	22.0	AEU	62°	30°
21		L1	43.4	AEU	23°	336°
194		L1	39.0	AEU	19°	163°
195		L1	26.0	EU	62°	86°
196		L1	30.8	EU	67°	66°
1		B1	24.1	A	48°	122°



ID	Flag	Code	Signal Strength	Frequency	Azimuth
25	US	L1		AE	8°
29	US	L1	43.1	EU	33°
30	US	L1	33.9	EU	14°
4	US	L1	20.9	A	3°
5	US	L1	37.7	AEU	48°
6	US	L1	25.9	A	53°
7	US	L1	32.6	AEU	10°
19	US	L1	25.9	AEU	27°
20	US	L1	19.0	AE	62°
21	US	L1	42.4	AEU	23°
194	RU	L1	41.4	AEU	19°
195	RU	L1	30.2	EU	62°
196	RU	L1	23.9	EU	67°
1	CH	B1	24.1	A	48°
2	CH	B1	31.3	A	47°
3	CH	B1	24.7	A	64°
4	CH	B1	36.4	A	34°
5	CH	B1	28.0	A	24°
6	CH	B1	35.2	A	14°
7	CH	B1	36.2	A	52°
8	CH	B1	37.7	AEU	48°
11	CH	B1	33.2	EU	43°
12	CH	B1		A	42°
13	CH	B1	34.2	EU	46°
14	CH	B1	20.6	EU	54°
25	CH	B1	24.0	AE	1°
27	CH	B1	31.1	A	2°
28	CH	B1	40.3	AEU	44°
28	CH	B1C	40.1	AEU	44°
33	CH	B1	32.8	AEU	71°
33	CH	B1C	35.0	AEU	71°
40	CH	B1	39.0	A	49°
40	CH	B1C	40.0	A	49°

Note: 5. The time of searching for stars and positioning by GPS on the roof test is shown in the above figure.

Antenna gain:

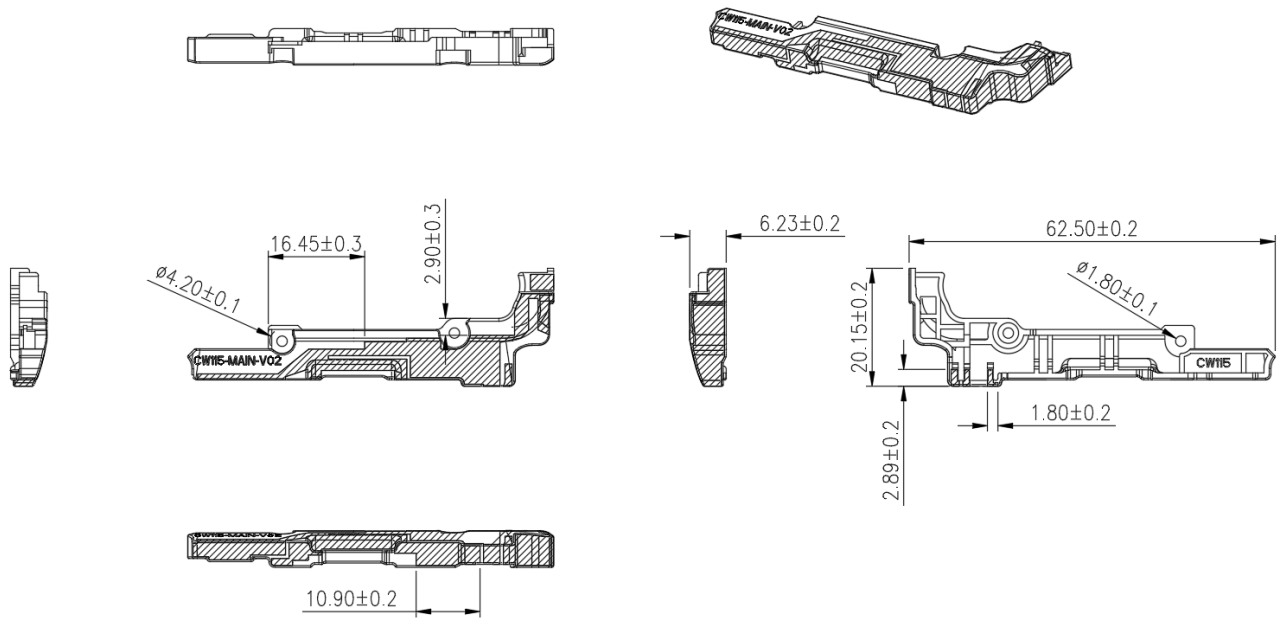
GSM850: -1.4dbi
PCS1900: -0.9dbi
WCDMA-B2: -0.9dbi
WCDMA-B4: 2.2dbi
WCDMA-B5: -1.4dbi
LTE-B2: -0.9dbi
LTE-B3: 2.2dbi
LTE-B4: 2.2dbi
LTE-B5: -1.4dbi
LTE-B7: -1.0dbi
LTE-B12: -3.5dbi
LTE-B13: -4.0dbi
LTE-B25: 2.2dbi
LTE-B26: -1.4dbi
LTE-B28: -3.5dbi
LTE-B38: -1.7dbi
LTE-B41: -1.0dbi
NR-N2: -0.9dbi
NR-N3: 2.2dbi
NR-N5: -1.4dbi
NR-N7: -1.0dbi
NR-N12: -3.5dbi
NR-N25: 2.2dbi
NR-N26: -1.4dbi
NR-N28: -3.5dbi
NR-N38: -1.7dbi
NR-N41: -1.0dbi
NR-N77: 1.5dbi
NR-N78: -2.5dbi
GPS: -1.5dbi
BT: 2.4dbi
2.4G WiFi: 2.4dbi
5G WiFi: 0.3dbi
WIFI 6E:0.7dbi

WIFI 2

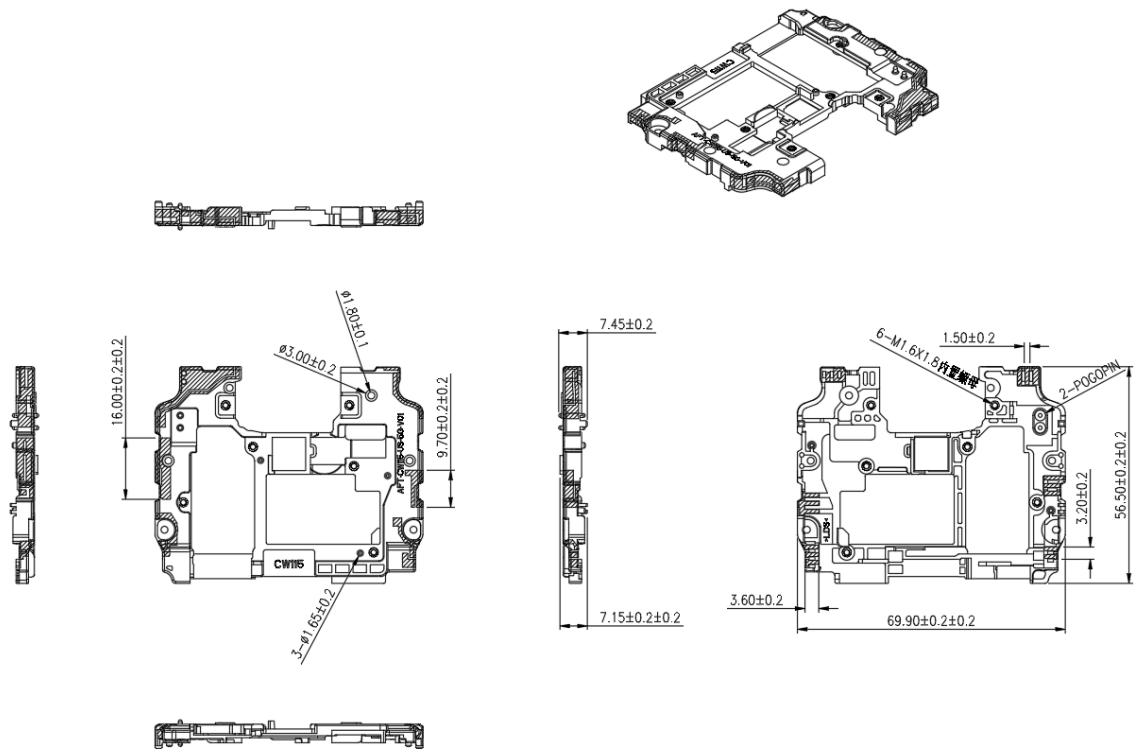
2.4G WiFi: 1.1dbi
5G WiFi: 1.1dbi
WIFI 6E:1.5dbi

Antenna size:

Main antenna:



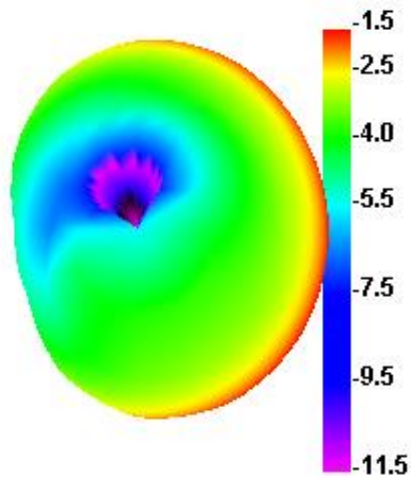
5G antenna:



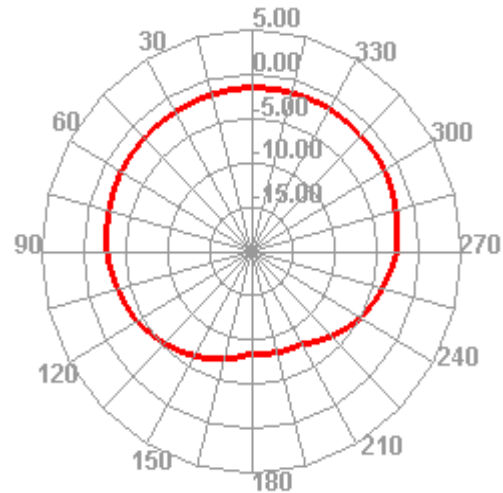
Antenna apple pattern

GSM850, W850, LTE-B5/26, NR-N5/26

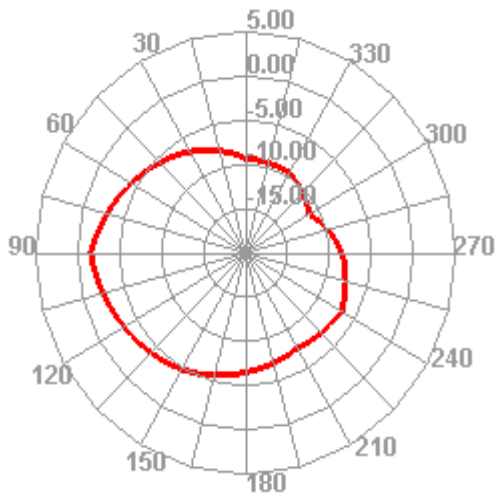
840.000MHz



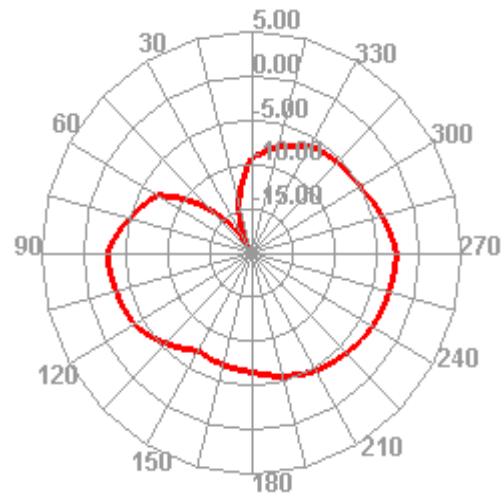
840.000MHz H



840.000MHz E1

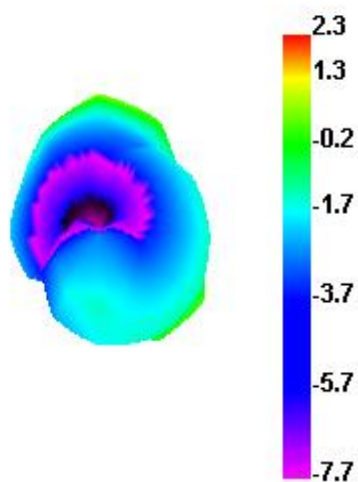


840.000MHz E2

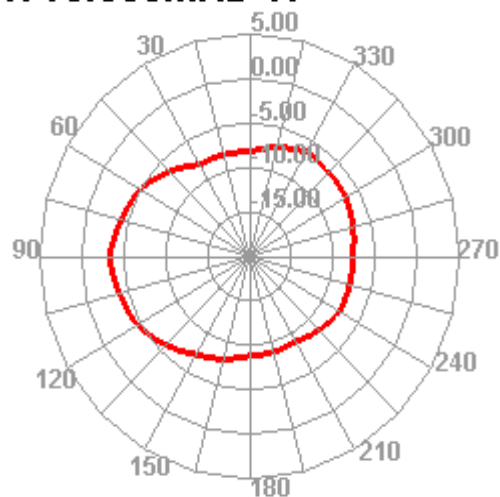


WCDMA-B4, LTE-B3/4/25, NR-N3/25

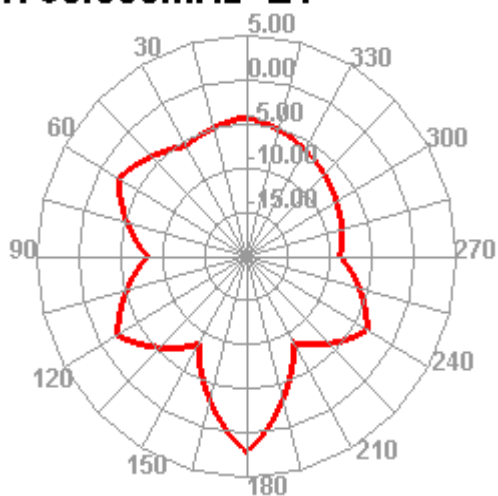
1760.000MHz



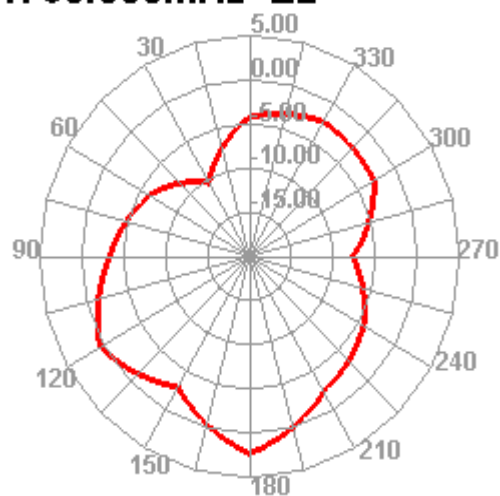
1760.000MHz H



1760.000MHz E1

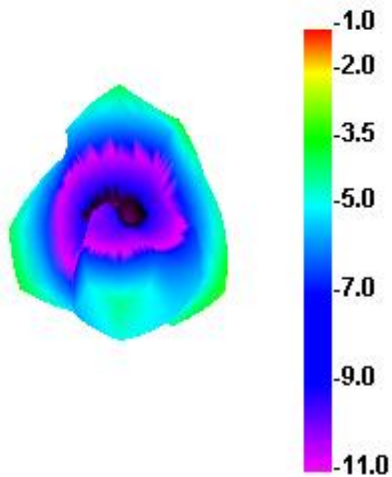


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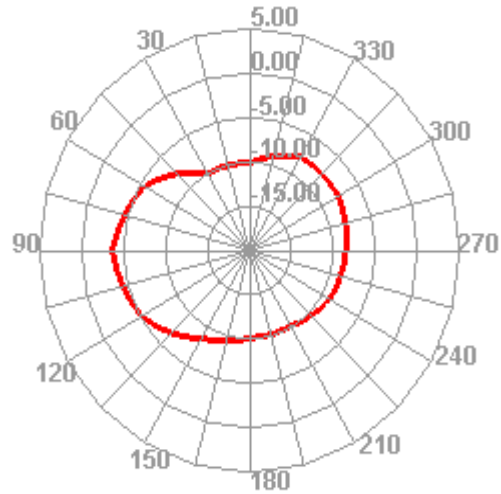


PCS1900, WCDMA-B2, LTE-B2, NR-N2

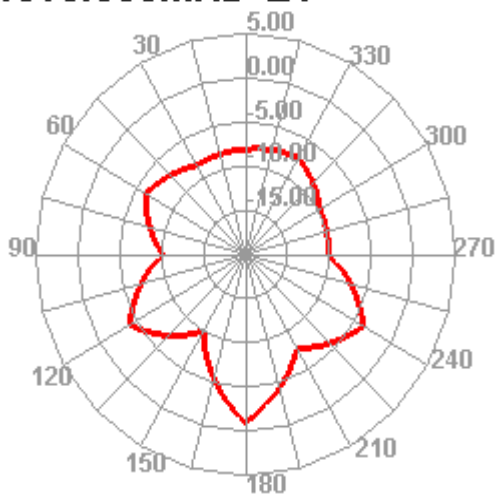
1860.000MHz



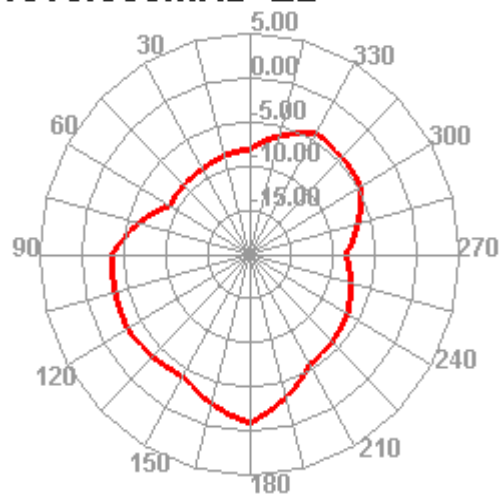
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1860.000MHz E1

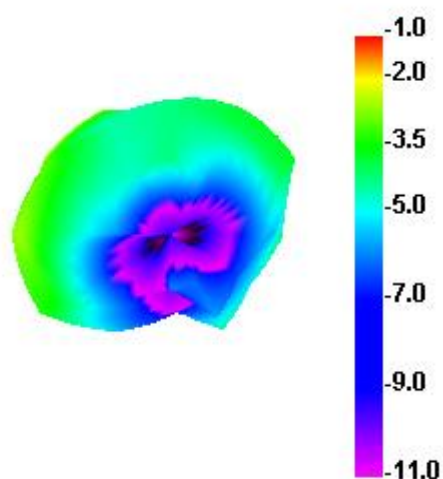


1860.000MHz E2

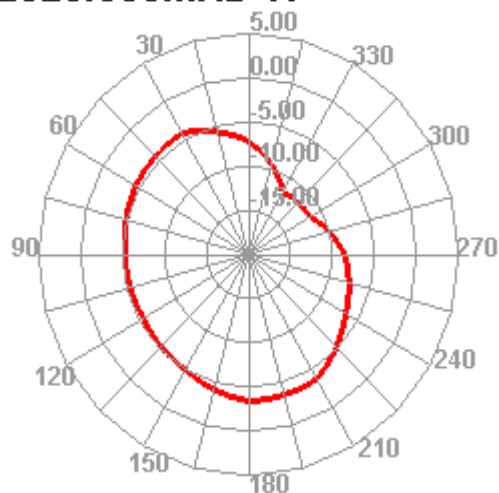


LTE-B7/41, NR-N7/41

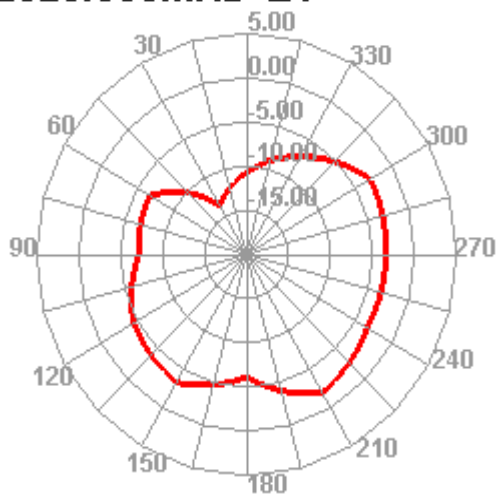
2520.000MHz



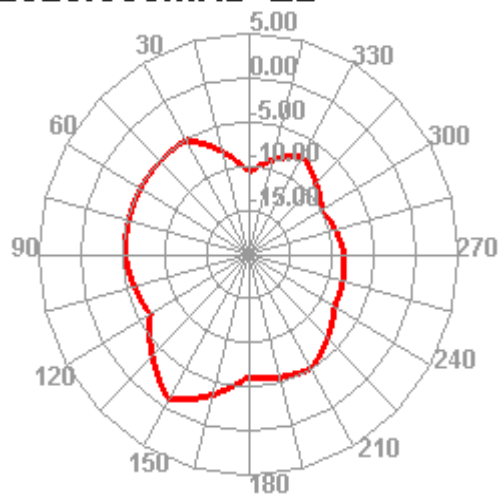
2520.000MHz H



2520.000MHz E1

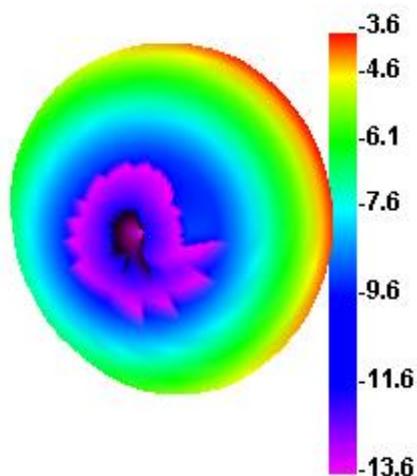


2520.000MHz E2

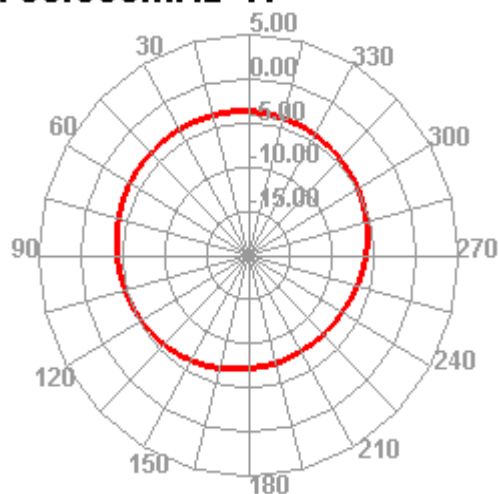


LTE-B12/28, NR-N12/28

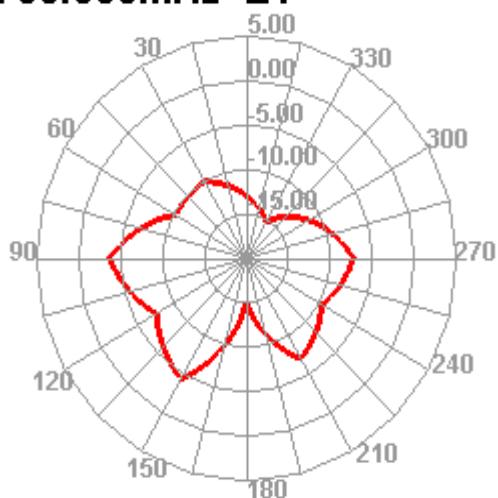
730.000MHz



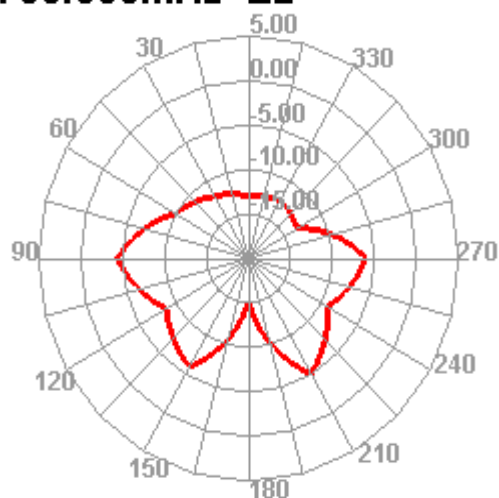
730.000MHz H



730.000MHz E1

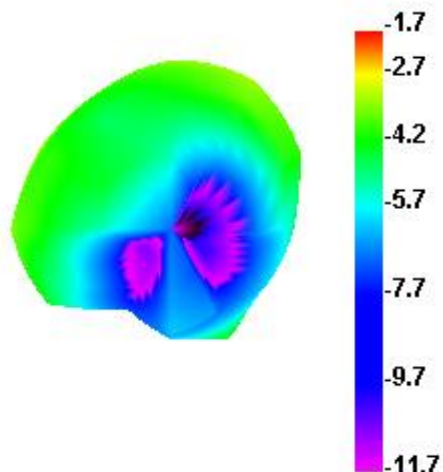


730.000MHz E2

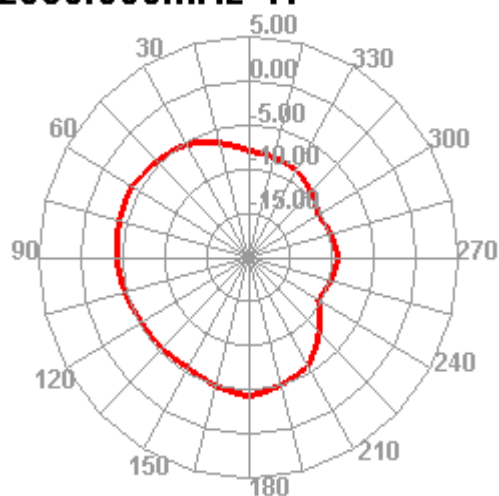


LTE-B38, NR-N38

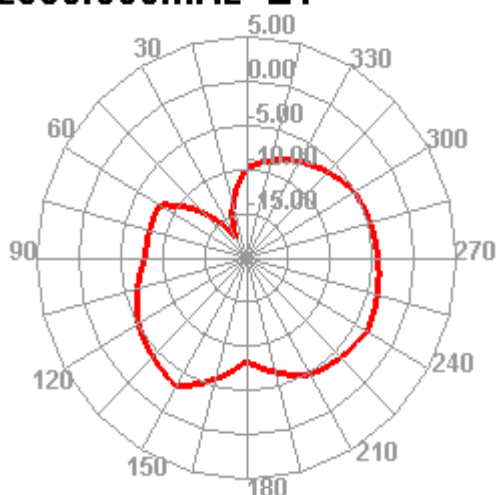
2580.000MHz



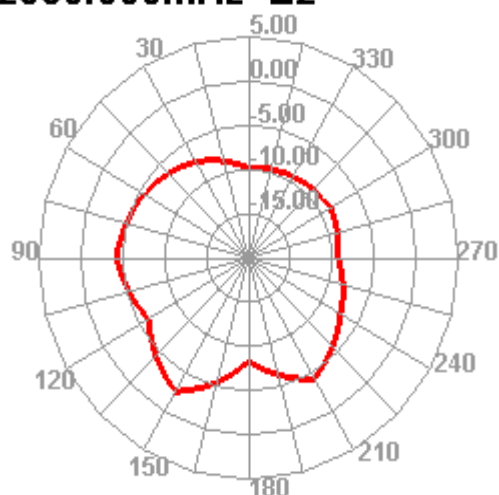
2580.000MHz H



2580.000MHz E1

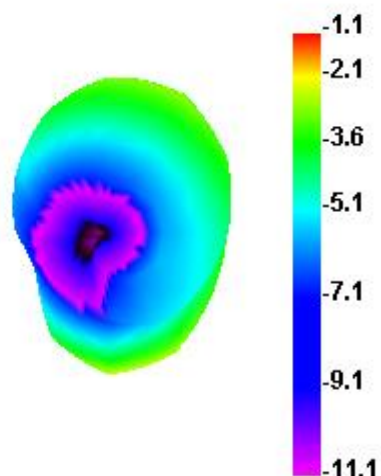


2580.000MHz E2

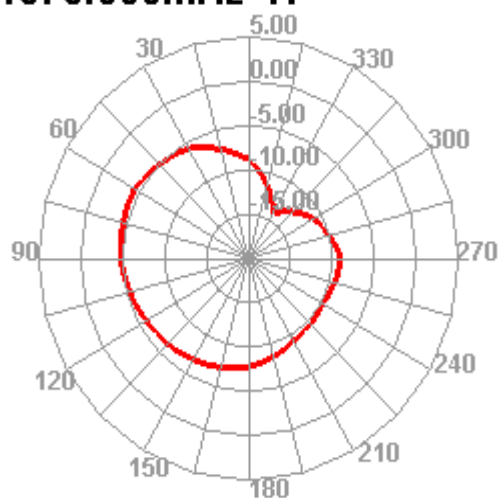


GPS

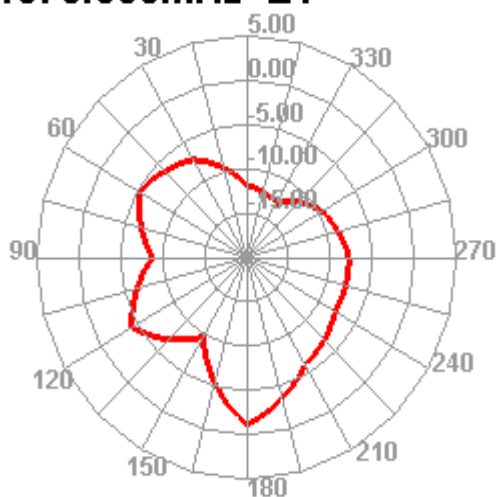
1575.000MHz



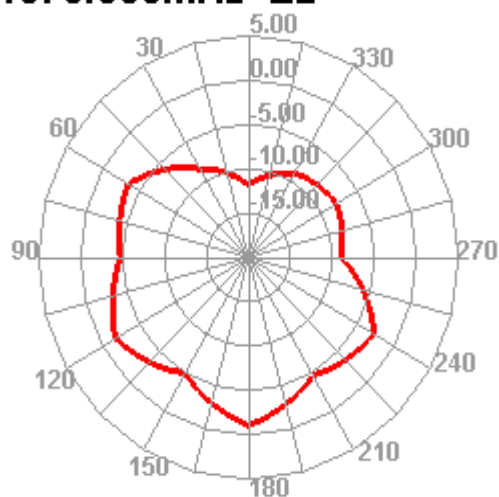
1575.000MHz H



1575.000MHz E1

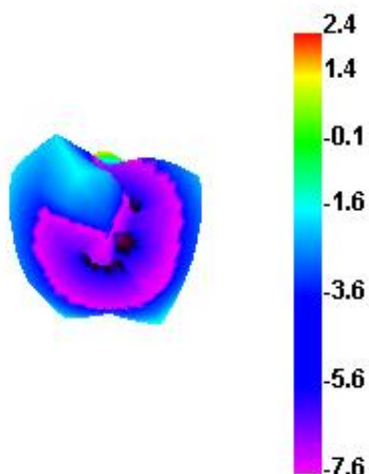


1575.000MHz E2

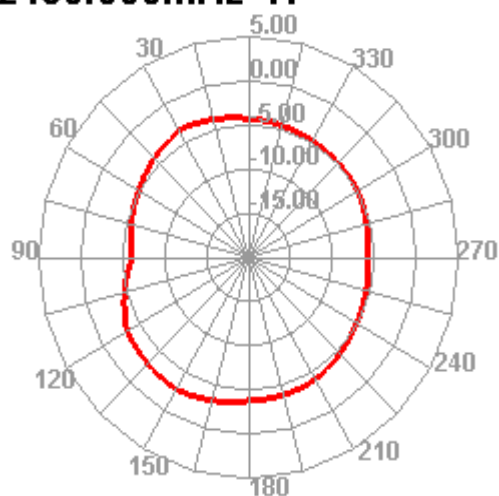


2.4G WIFI/BT

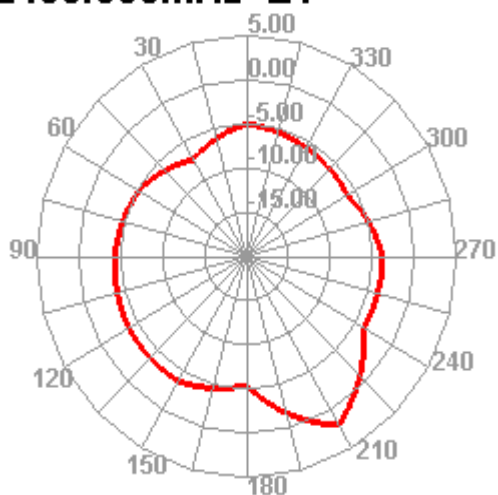
2480.000MHz



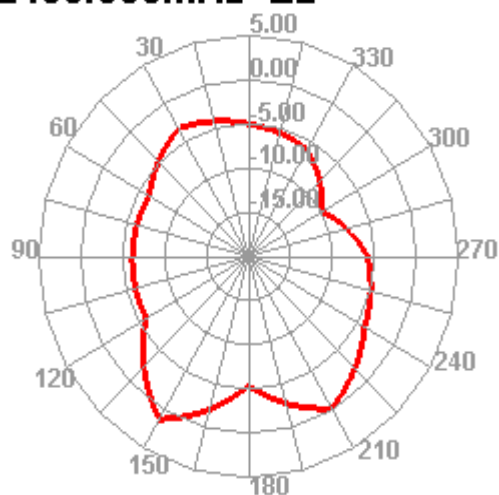
2480.000MHz H



2480.000MHz E1

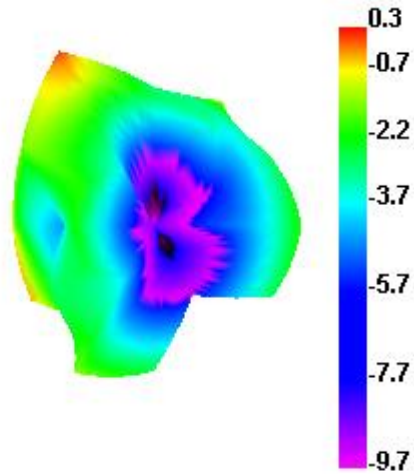


2480.000MHz E2

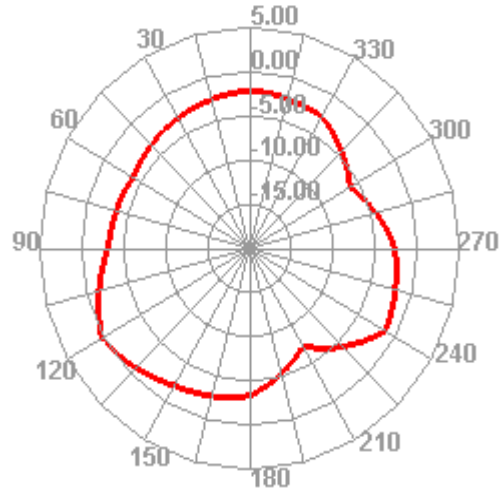


5G WIFI

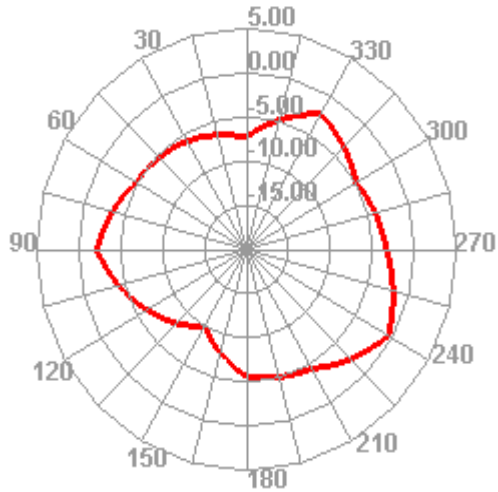
5232.000MHz



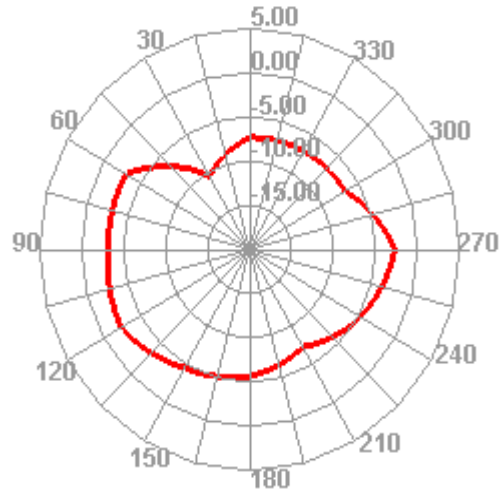
5232.000MHz H



5232.000MHz E1

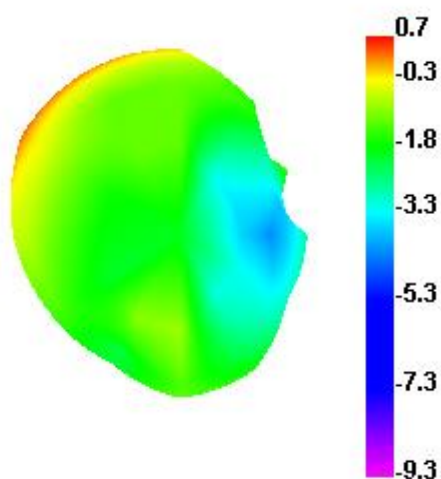


5232.000MHz E2

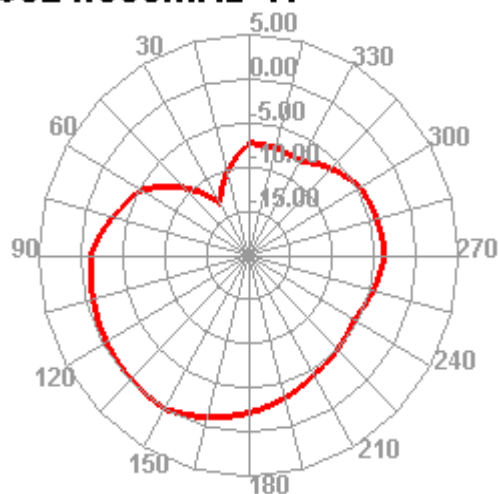


WIFI 6E

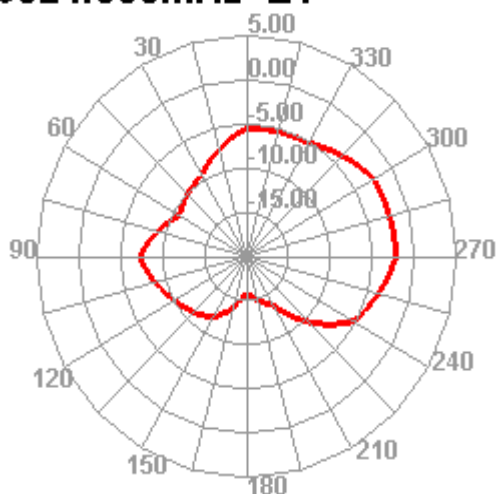
6024.000MHz



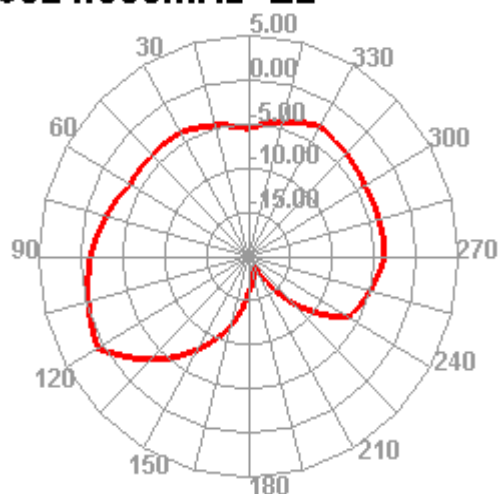
6024.000MHz H



6024.000MHz E1

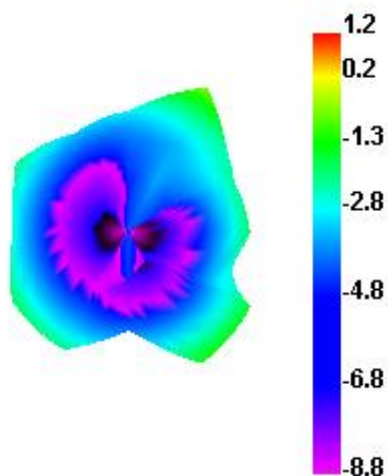


6024.000MHz E2

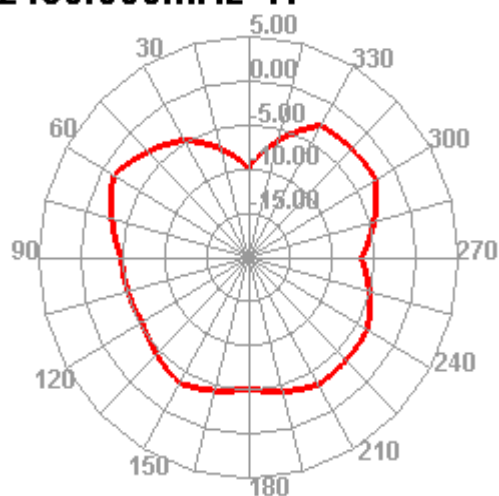


2.4G WIFI MIMO

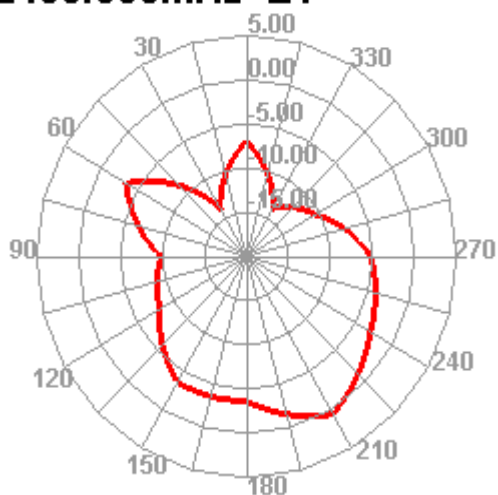
2480.000MHz



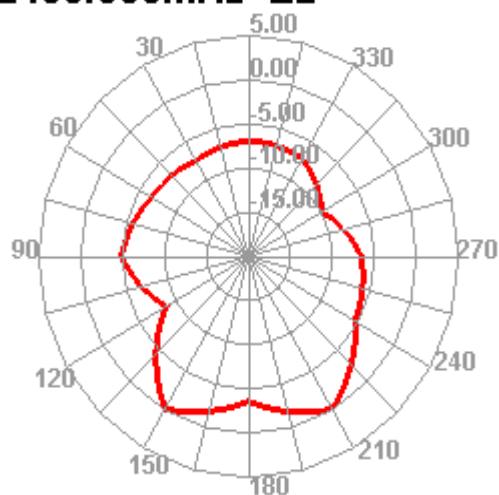
2480.000MHz H



2480.000MHz E1

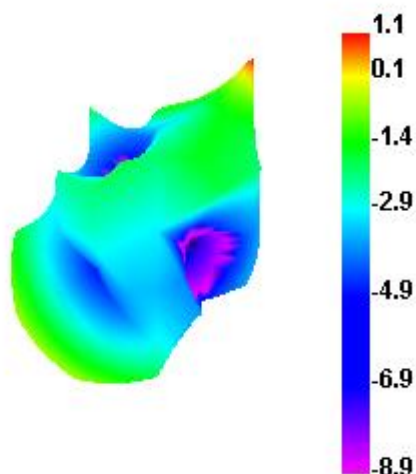


2480.000MHz E2

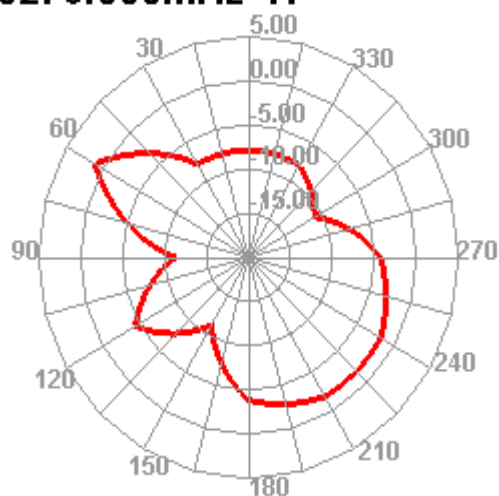


5G WIFI MIMMO

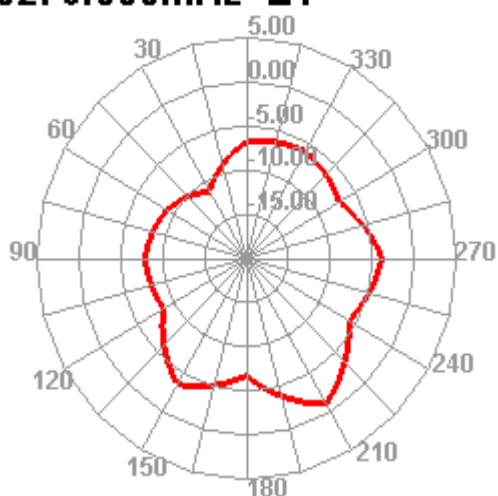
5276.000MHz



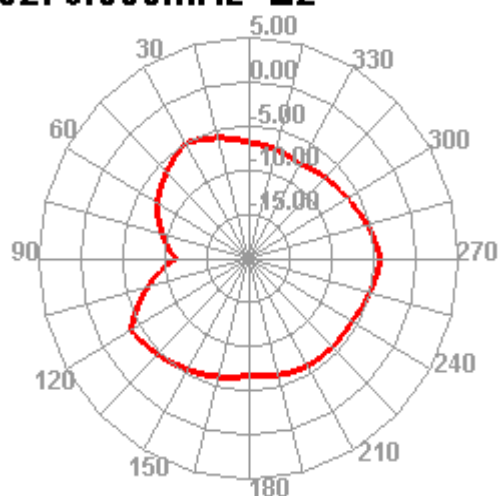
5276.000MHz H



5276.000MHz E1

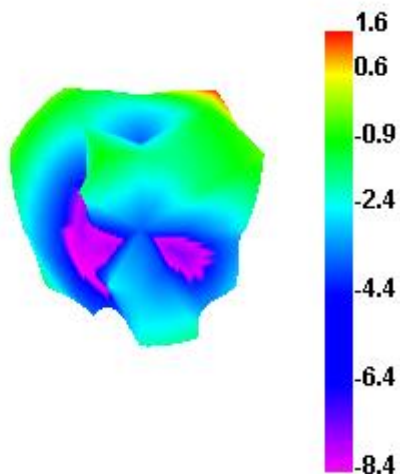


5276.000MHz E2

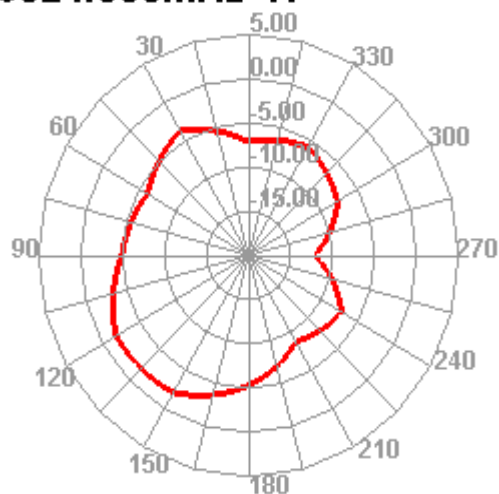


WIFI 6E MIMMO

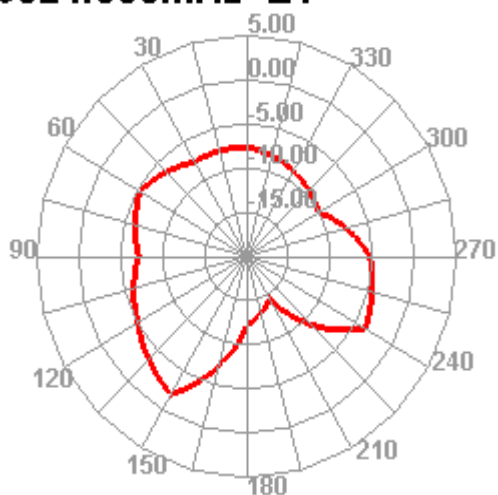
6024.000MHz



6024.000MHz H



6024.000MHz E1



6024.000MHz E2

