



深圳市昱晟通讯设备有限公司

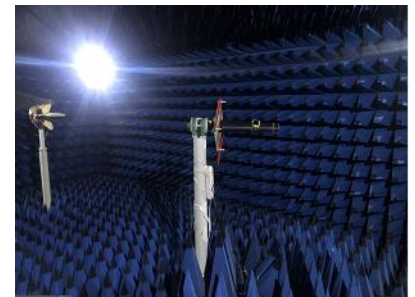
Yusheng Communications-equipment Co.,LTD

# Euroclide T1030 Test Report

RF: He Lei

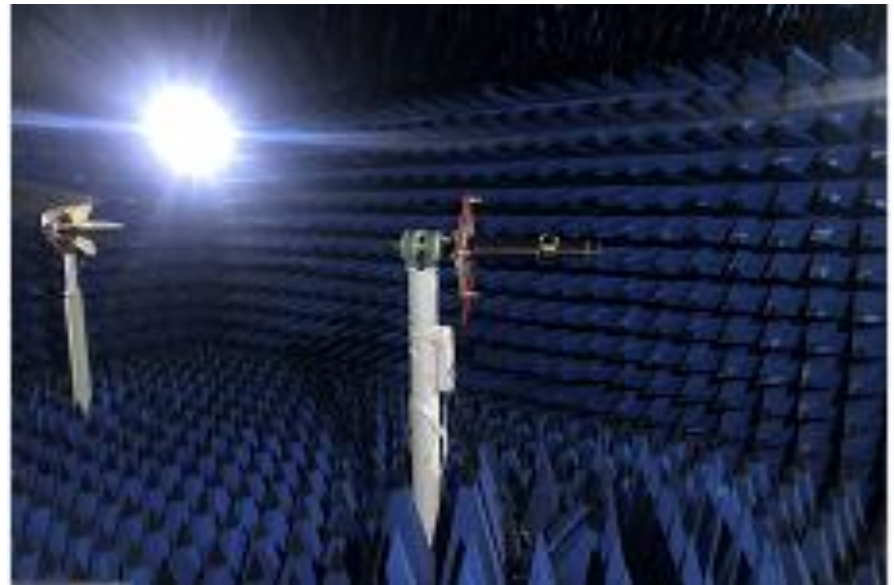
Date: 2024-7-12

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## Project development environment

We are moving from the Internet era to the era of intelligence, and the country is building a digital society and smart city. There will be great potential for development in both the consumer electronics market and the Internet of Things market in the next 5-10 years. The field of wireless communication is very diversified. In the future, Yusheng relies on the advantages of the main customer platform of the antenna industry and its own comprehensive strength to provide customers with market-competitive professional product solutions.



Yusheng Communication's products cover antenna applications of almost all wireless terminal equipment, including automotive antennas, high-precision measurement and mapping antennas, drone ground and satellite data navigation, high-precision positioning antennas, wireless transmission of medical equipment, consumer antennas (mobile phone antennas, PAD, laptop antennas), base station/indoor distribution antennas, smart wear antennas (smart watches, TWS headphones), security home antennas, and a variety of wireless data transmission and wireless control smart device antennas.

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Antenna passive parameters

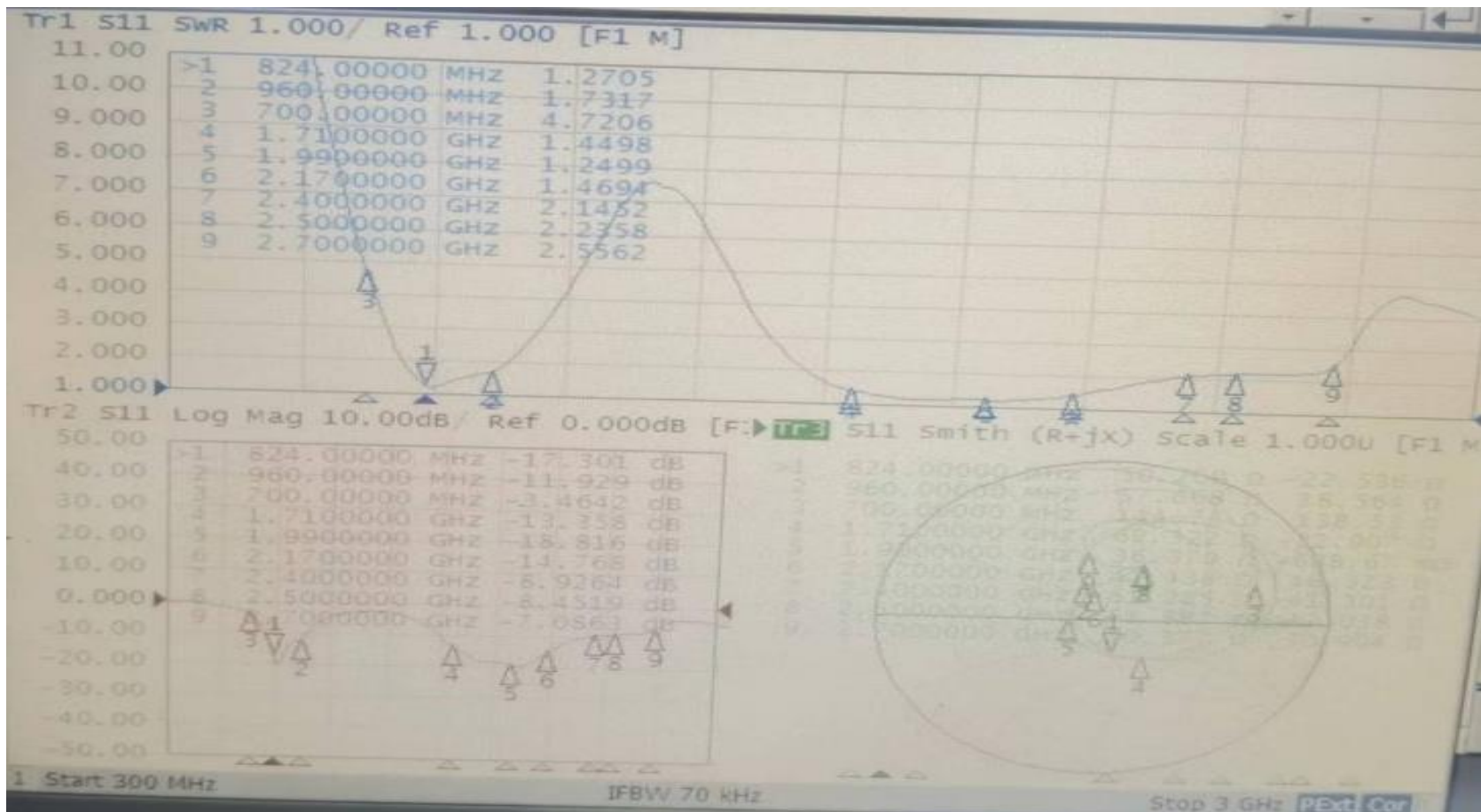
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Summary & Additional Notes

TRX passive standing wave ratio



## TRX Passive Efficiency

| LTE         |      |        |             |      |        |             |      |        |             |      |        |
|-------------|------|--------|-------------|------|--------|-------------|------|--------|-------------|------|--------|
| Freq        | Effi | Gain   | Freq        | Effi | Gain   | Freq        | Effi | Gain   | Freq        | Effi | Gain   |
| (MHz)       | (%)  | (dBi ) | (MHz)       | (%)  | (dBi ) | (MHz)       | (%)  | (dBi ) | (MHz)       | (%)  | (dBi ) |
| <b>700</b>  | 22%  | 0.35   | <b>1850</b> | 36%  | 0.52   | <b>2170</b> | 37%  | 0.58   | <b>2490</b> | 40%  | 1.04   |
| <b>740</b>  | 24%  | 0.44   | <b>1870</b> | 35%  | 0.44   | <b>2190</b> | 40%  | 0.77   | <b>2510</b> | 38%  | 0.98   |
| <b>780</b>  | 25%  | 0.48   | <b>1890</b> | 37%  | 0.47   | <b>2210</b> | 41%  | 0.86   | <b>2530</b> | 37%  | 0.75   |
| <b>820</b>  | 26%  | 0.56   | <b>1910</b> | 34%  | 0.53   | <b>2230</b> | 38%  | 0.81   | <b>2550</b> | 37%  | 0.64   |
| <b>860</b>  | 26%  | 0.62   | <b>1930</b> | 35%  | 0.46   | <b>2250</b> | 38%  | 0.76   | <b>2570</b> | 36%  | 0.45   |
| <b>900</b>  | 27%  | 0.59   | <b>1950</b> | 35%  | 0.32   | <b>2270</b> | 37%  | 0.72   | <b>2590</b> | 37%  | 0.57   |
| <b>920</b>  | 27%  | 0.61   | <b>1970</b> | 36%  | 0.47   | <b>2290</b> | 36%  | 0.64   | <b>2610</b> | 38%  | 0.42   |
| <b>940</b>  | 25%  | 0.53   | <b>1990</b> | 37%  | 0.38   | <b>2310</b> | 36%  | 0.47   | <b>2630</b> | 39%  | 0.39   |
| <b>960</b>  | 24%  | 0.49   | <b>2010</b> | 36%  | 0.63   | <b>2330</b> | 38%  | 0.49   | <b>2650</b> | 37%  | 0.66   |
| <b>1710</b> | 32%  | 0.26   | <b>2030</b> | 35%  | 0.57   | <b>2350</b> | 36%  | 0.54   | <b>2670</b> | 37%  | 0.32   |
| <b>1730</b> | 34%  | 0.29   | <b>2050</b> | 37%  | 0.63   | <b>2370</b> | 35%  | 0.52   | <b>2690</b> | 35%  | 0.41   |
| <b>1750</b> | 35%  | 0.37   | <b>2070</b> | 39%  | 0.68   | <b>2390</b> | 37%  | 0.39   |             |      |        |
| <b>1770</b> | 35%  | 0.42   | <b>2090</b> | 35%  | 0.52   | <b>2410</b> | 38%  | 0.44   |             |      |        |
| <b>1790</b> | 38%  | 0.46   | <b>2110</b> | 36%  | 0.41   | <b>2430</b> | 39%  | 0.46   |             |      |        |
| <b>1810</b> | 37%  | 0.58   | <b>2130</b> | 35%  | 0.33   | <b>2450</b> | 42%  | 0.55   |             |      |        |
| <b>1830</b> | 35%  | 0.41   | <b>2150</b> | 36%  | 0.38   | <b>2470</b> | 41%  | 0.58   |             |      |        |

Active parameters of the  
main antenna

| Test      | GSM 850 |       |         | EGSM 900 |       |         |
|-----------|---------|-------|---------|----------|-------|---------|
| Channel   | 128     | 190   | 251     | 1        | 62    | 124     |
| TRP (dBm) | 26.45   | 26.51 | 26.92   | 27.11    | 26.54 | 26.11   |
| TIS (dBm) |         |       | -102.32 |          |       | -100.49 |

| Test      | DCS 1800 |       |         | PCS 1900 |       |         |
|-----------|----------|-------|---------|----------|-------|---------|
| Channel   | 512      | 698   | 885     | 512      | 661   | 810     |
| TRP (dBm) | 24.51    | 24.66 | 24.84   | 25.35    | 24.96 | 24.48   |
| TIS (dBm) |          |       | -102.18 |          |       | -102.27 |

Active parameters of  
the main antenna

| Test      | WCDMA_I |       |         | WCDMA_II |       |         |
|-----------|---------|-------|---------|----------|-------|---------|
| Channel   | 10562   | 10700 | 10838   | 9662     | 9800  | 9938    |
| TRP (dBm) | 17.13   | 17.25 | 17.09   | 17.36    | 17.51 | 17.23   |
| TIS (dBm) |         |       | -102.34 |          |       | -102.48 |

| Test      | WCDMA_V |       |         | WCDMA_V III |       |         |
|-----------|---------|-------|---------|-------------|-------|---------|
| Channel   | 4357    | 4408  | 4458    | 2937        | 3013  | 3088    |
| TRP (dBm) | 16.54   | 16.88 | 17.25   | 17.31       | 16.57 | 16.28   |
| TIS (dBm) |         |       | -102.38 |             |       | -100.52 |

Active parameters of  
the main antenna

| Test      | FDD B1 |       |        | FDD B2 |       |        |
|-----------|--------|-------|--------|--------|-------|--------|
| Channel   | 18050  | 18300 | 18550  | 18650  | 18900 | 19150  |
| TRP (dBm) | 17.33  | 17.23 | 17.13  | 17.09  | 17.26 | 17.39  |
| TIS (dBm) |        |       | -93.28 |        |       | -92.45 |

| Test      | FDD B3 |       |        | FDD B5 |       |        |
|-----------|--------|-------|--------|--------|-------|--------|
| Channel   | 19250  | 19575 | 19900  | 20450  | 20525 | 20600  |
| TRP (dBm) | 16.78  | 16.89 | 17.03  | 16.68  | 17.04 | 16.92  |
| TIS (dBm) |        |       | -92.11 |        |       | -90.27 |

| Test      | FDD B7 |       |        | FDD B8 |       |        |
|-----------|--------|-------|--------|--------|-------|--------|
| Channel   | 20800  | 21100 | 21400  | 21500  | 21650 | 21750  |
| TRP (dBm) | 16.23  | 16.52 | 16.39  | 17.21  | 16.89 | 16.41  |
| TIS (dBm) |        |       | -91.38 |        |       | -90.19 |

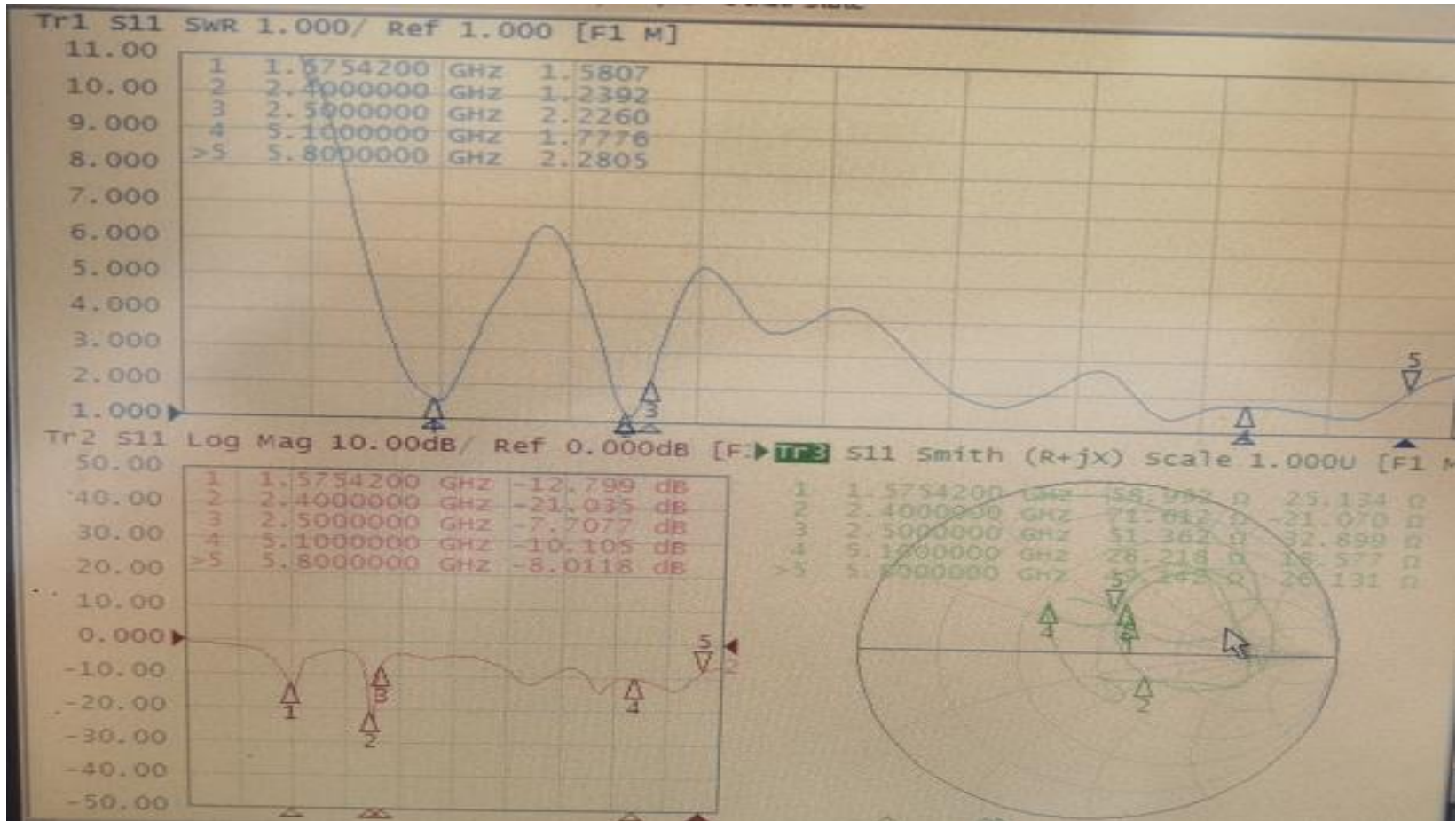
| Test      | FDD B20 |       |        |
|-----------|---------|-------|--------|
| Channel   | 24200   | 24300 | 24400  |
| TRP (dBm) | 16.55   | 16.72 | 17.03  |
| TIS (dBm) |         |       | -90.38 |

Active parameters of the  
main antenna

| Test      | FDD B28A |       |        | TDD B38 |       |        |
|-----------|----------|-------|--------|---------|-------|--------|
| Channel   | 27260    | 27360 | 27460  | 37850   | 38000 | 38150  |
| TRP (dBm) | 15.23    | 15.47 | 16.02  | 16.35   | 16.41 | 16.95  |
| TIS (dBm) |          |       | -90.23 |         |       | -90.47 |

| Test      | TDD B40 |       |        | FDD B41 |        |  |
|-----------|---------|-------|--------|---------|--------|--|
| Channel   | 38750   | 39150 | 39550  |         | 40620  |  |
| TRP (dBm) | 16.61   | 16.88 | 16.73  |         | 16.74  |  |
| TIS (dBm) |         |       | -90.38 |         | -90.29 |  |

### GWB passive standing wave ratio



## GPS/WIFI/BT/5.8G WIFI Passive Efficiency

| Global Positioning System |      |        |  |  | WIFI/BT |      |        |  |  | 5.8Gwifi |      |        |  |  |
|---------------------------|------|--------|--|--|---------|------|--------|--|--|----------|------|--------|--|--|
| Freq                      |      |        |  |  | Freq    |      |        |  |  | Freq     |      |        |  |  |
| Freq                      | Effi | Gain   |  |  | Freq    | Effi | Gain   |  |  | Freq     | Effi | Gain   |  |  |
| (MHz)                     | (%)  | (dBi ) |  |  | (MHz)   | (%)  | (dBi ) |  |  | (MHz)    | (%)  | (dBi ) |  |  |
| 1515                      | 31%  | 0.65   |  |  | 2400    | 38%  | 0.53   |  |  | 5100.0   | 36%  | 0.88   |  |  |
| 1525                      | 30%  | 0.72   |  |  | 2410    | 39%  | 0.74   |  |  | 5150.0   | 37%  | 0.94   |  |  |
| 1535                      | 33%  | 0.79   |  |  | 2420    | 42%  | 0.86   |  |  | 5200.0   | 39%  | 1.01   |  |  |
| 1545                      | 34%  | 0.85   |  |  | 2430    | 43%  | 0.91   |  |  | 5250.0   | 41%  | 1.05   |  |  |
| 1555                      | 32%  | 0.92   |  |  | 2440    | 44%  | 0.94   |  |  | 5300.0   | 43%  | 1.12   |  |  |
| 1565                      | 36%  | 0.98   |  |  | 2450    | 45%  | 1.05   |  |  | 5350.0   | 42%  | 1.09   |  |  |
| 1575                      | 35%  | 1.13   |  |  | 2460    | 42%  | 0.79   |  |  | 5400.0   | 40%  | 0.98   |  |  |
| 1585                      | 33%  | 0.87   |  |  | 2470    | 41%  | 0.75   |  |  | 5450.0   | 39%  | 0.86   |  |  |
| 1595                      | 30%  | 0.72   |  |  | 2480    | 41%  | 0.72   |  |  | 5500.0   | 37%  | 0.81   |  |  |
|                           |      |        |  |  | 2490    | 40%  | 0.81   |  |  | 5550.0   | 38%  | 0.92   |  |  |
|                           |      |        |  |  | 2500    | 39%  | 0.75   |  |  | 5600.0   | 35%  | 0.71   |  |  |
|                           |      |        |  |  |         |      |        |  |  | 5650.0   | 37%  | 0.92   |  |  |
|                           |      |        |  |  |         |      |        |  |  | 5700.0   | 37%  | 0.94   |  |  |
|                           |      |        |  |  |         |      |        |  |  | 5750.0   | 39%  | 0.85   |  |  |
|                           |      |        |  |  |         |      |        |  |  | 5800.0   | 40%  | 0.89   |  |  |
|                           |      |        |  |  |         |      |        |  |  |          |      |        |  |  |

## WIFI active parameters

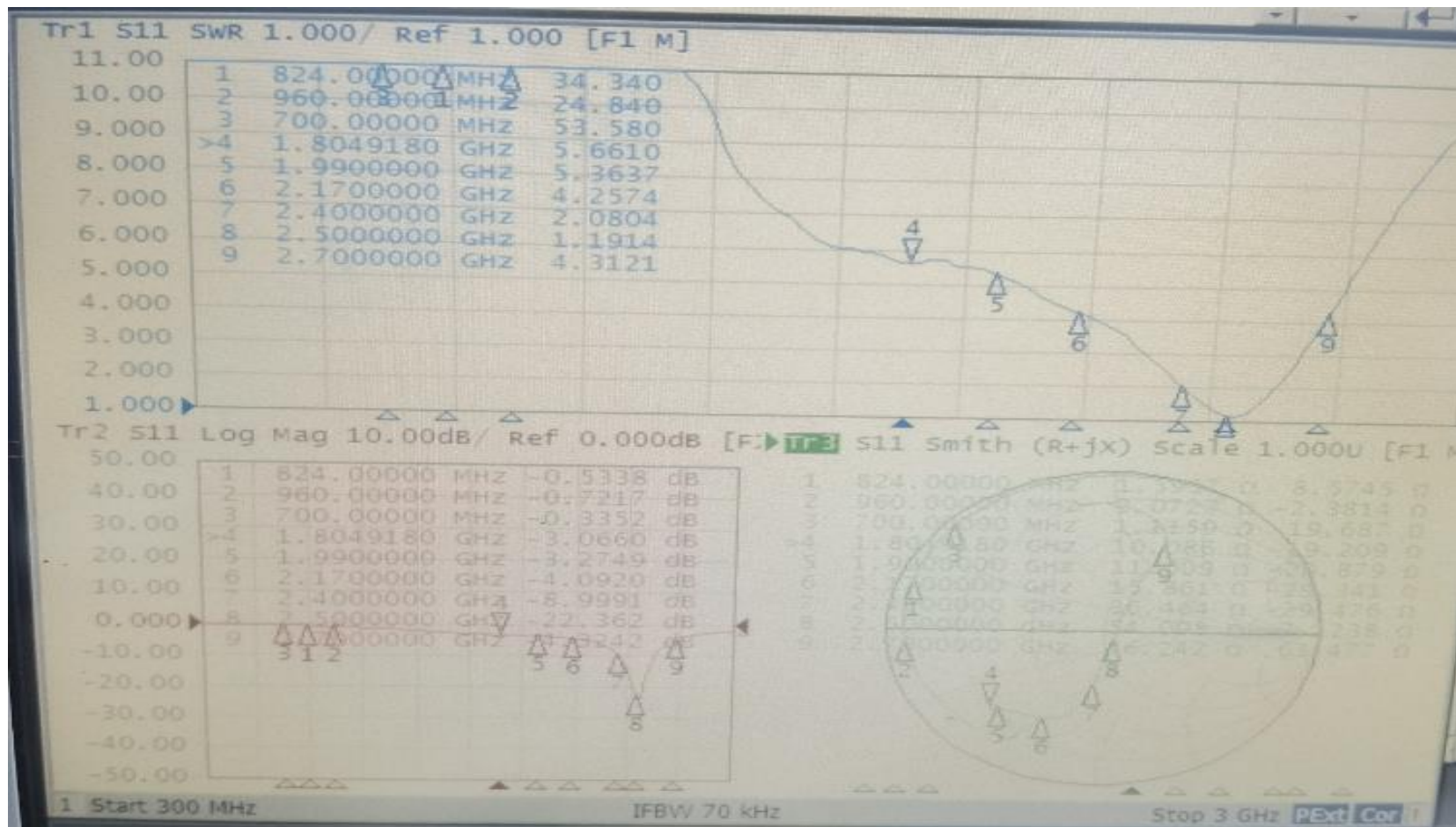
| Test      | 2.4 WIFI-B |       |        | 2.4 WIFI-G |       |        |
|-----------|------------|-------|--------|------------|-------|--------|
| Channel   | 1          | 6     | 11     | 1          | 6     | 11     |
| TRP (dBm) | 13.36      | 13.67 | 13.59  | 12.47      | 12.49 | 12.36  |
| TIS (dBm) |            |       | -83.44 |            |       | -69.22 |

| Test      | 2.4 WIFI-N |       |        | 5GWIFI-A |      |        |
|-----------|------------|-------|--------|----------|------|--------|
| Channel   | 1          | 7     | 13     | 1        | 6    | 11     |
| TRP (dBm) | 11.28      | 11.15 | 11.33  | 9.52     | 9.36 | 9.67   |
| TIS (dBm) |            |       | -66.69 |          |      | -69.52 |

**BT active  
parameters**

| Test      | BT   |      |        |
|-----------|------|------|--------|
| Channel   | 0    | 39   | 78     |
| TRP (dBm) | 1.46 | 2.11 | 1.57   |
| TIS (dBm) |      |      | -88.34 |

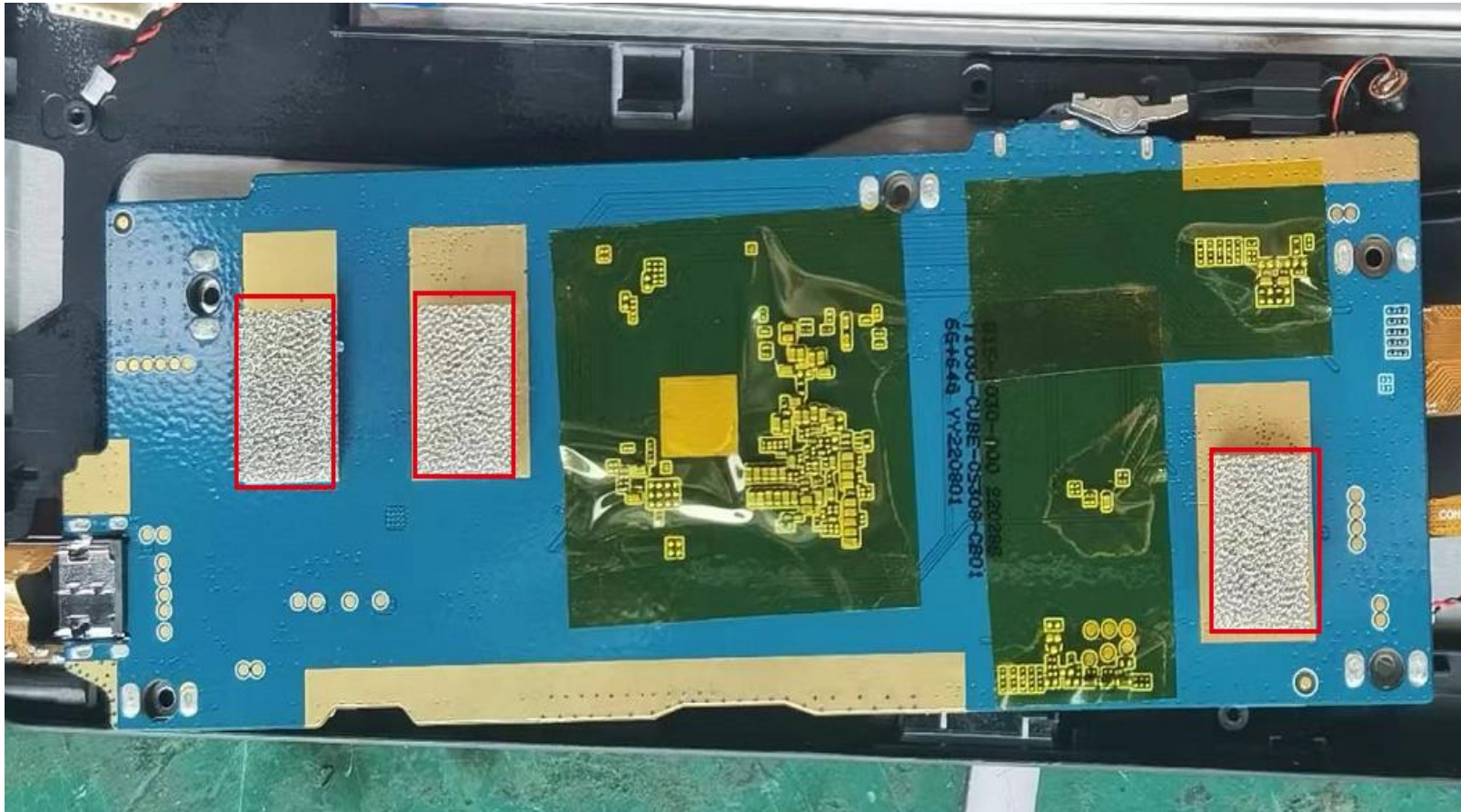
## DRX passive standing wave ratio



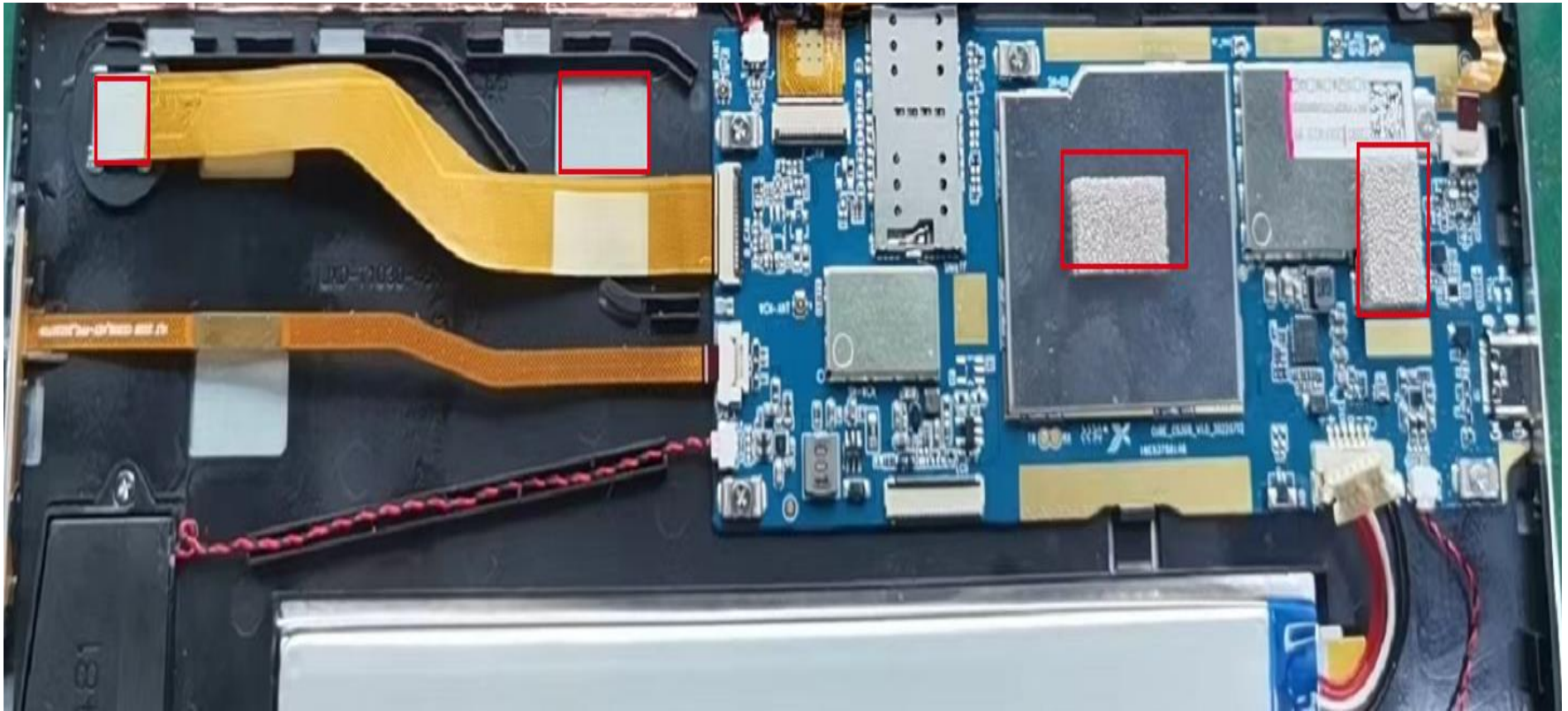
## DRX Passive Efficiency

| DRX         |      |        |  |  |
|-------------|------|--------|--|--|
| Freq        | Effi | Gain   |  |  |
| (MHz)       | (%)  | (dBi ) |  |  |
| <b>1710</b> | 47%  | 0. 67  |  |  |
| <b>1810</b> | 47%  | 0. 75  |  |  |
| <b>1910</b> | 47%  | 0. 83  |  |  |
| <b>2010</b> | 49%  | 0. 89  |  |  |
| <b>2110</b> | 51%  | 1. 12  |  |  |
| <b>2210</b> | 52%  | 1. 23  |  |  |
| <b>2310</b> | 53%  | 1. 27  |  |  |
| <b>2410</b> | 47%  | 0. 88  |  |  |
| <b>2510</b> | 46%  | 0. 64  |  |  |
| <b>2610</b> | 46%  | 0. 61  |  |  |
| <b>2700</b> | 45%  | 0. 49  |  |  |
|             |      |        |  |  |
|             |      |        |  |  |
|             |      |        |  |  |
|             |      |        |  |  |
|             |      |        |  |  |

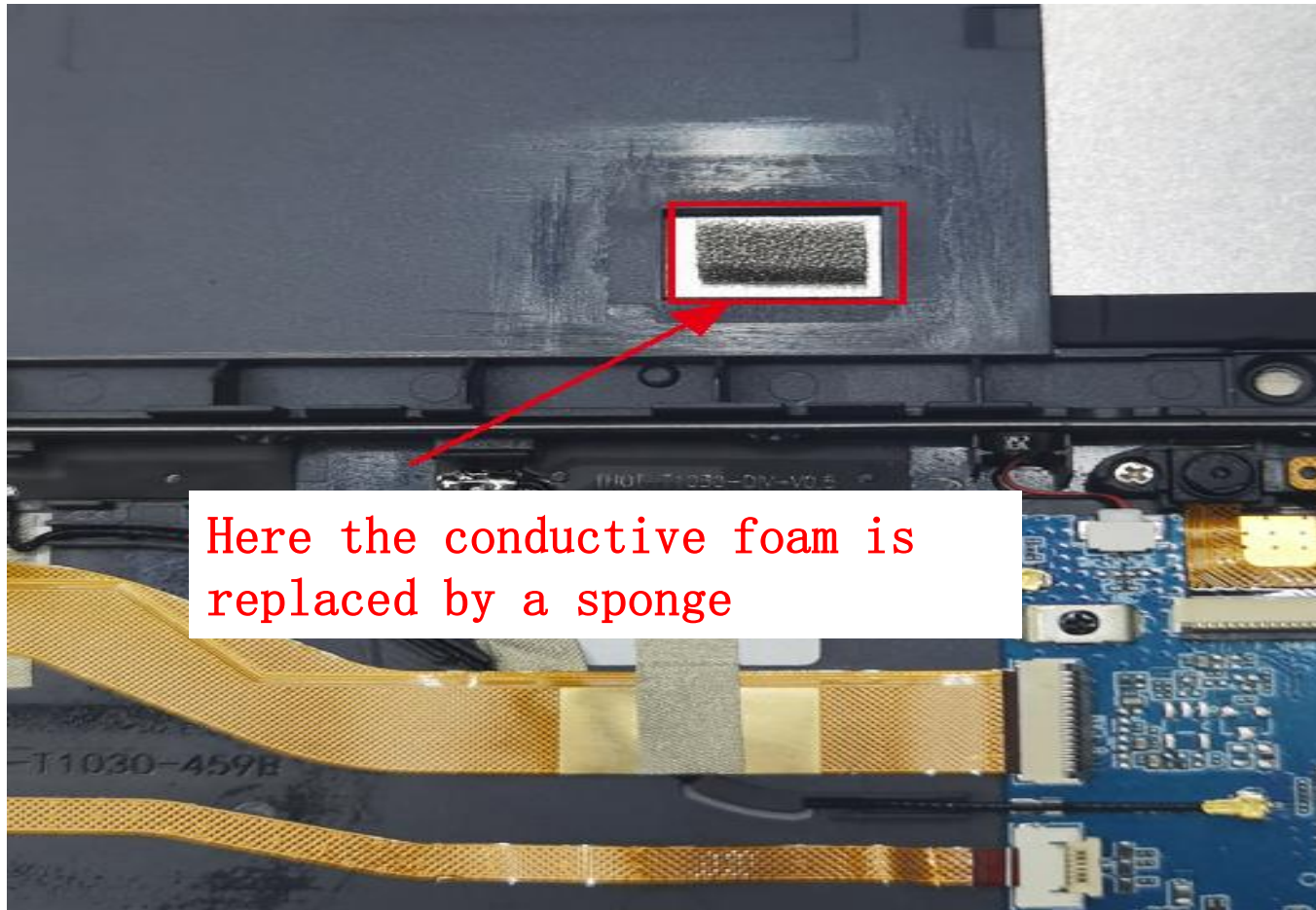
## Antenna environment treatment and improvement



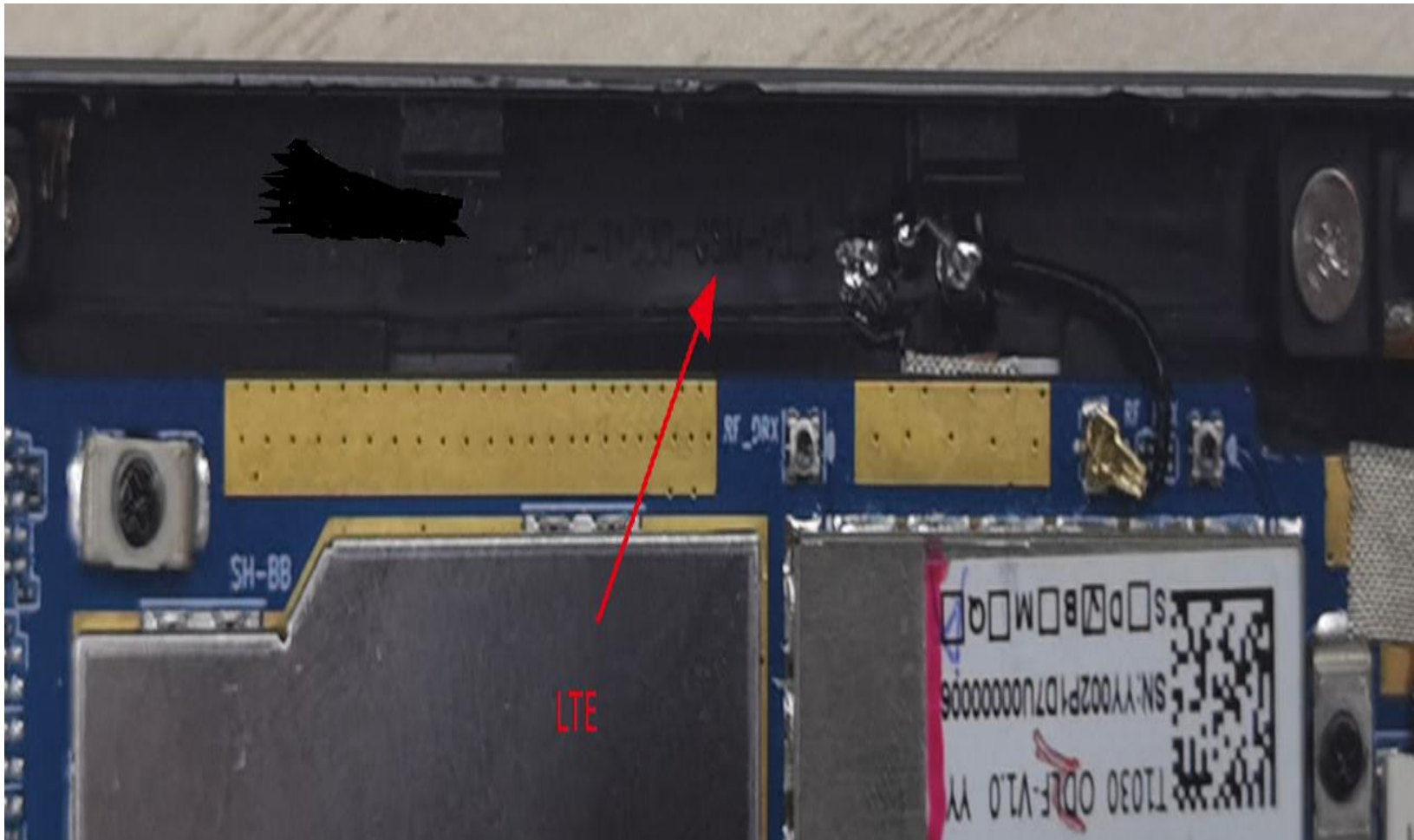
## Antenna environment treatment and improvement



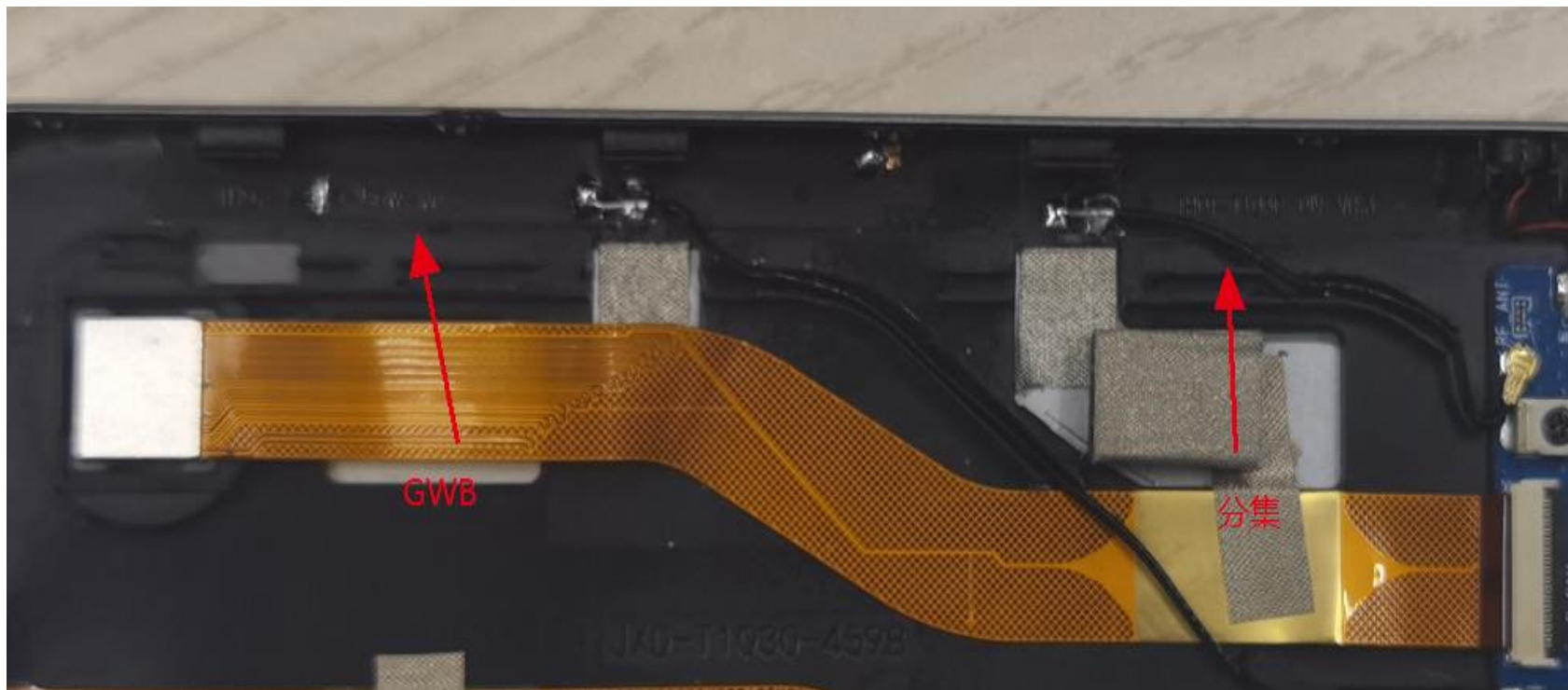
## Antenna environment treatment and improvement



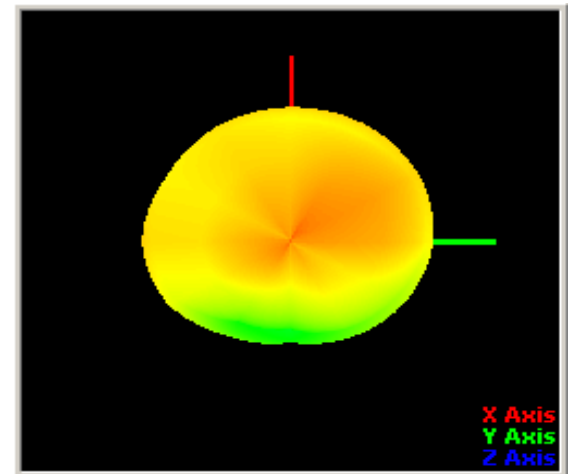
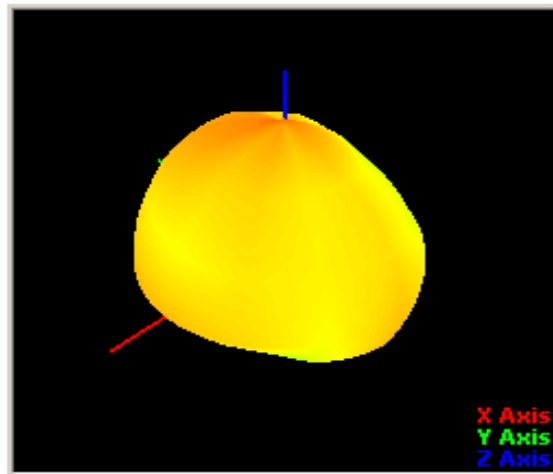
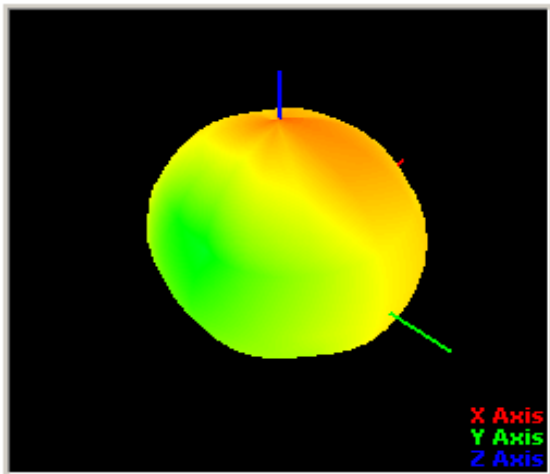
## Antenna layout:



## Antenna layout:



WIFI/BT Passive  
Apple Diagram

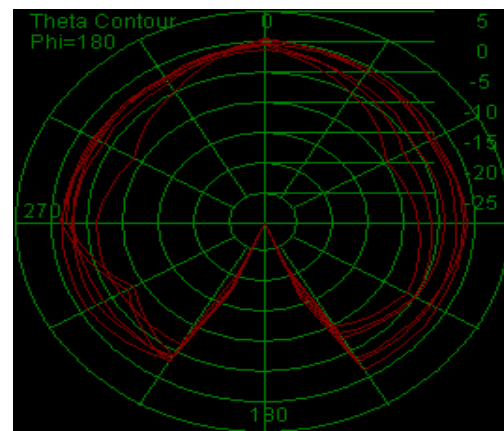
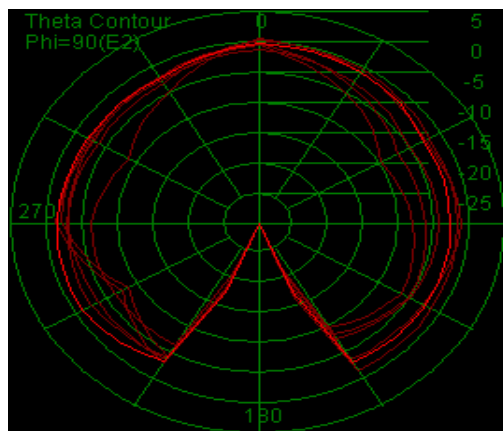
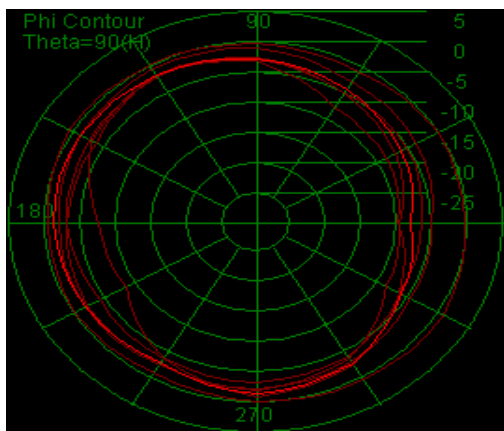


## WIFI/BT passive field diagram

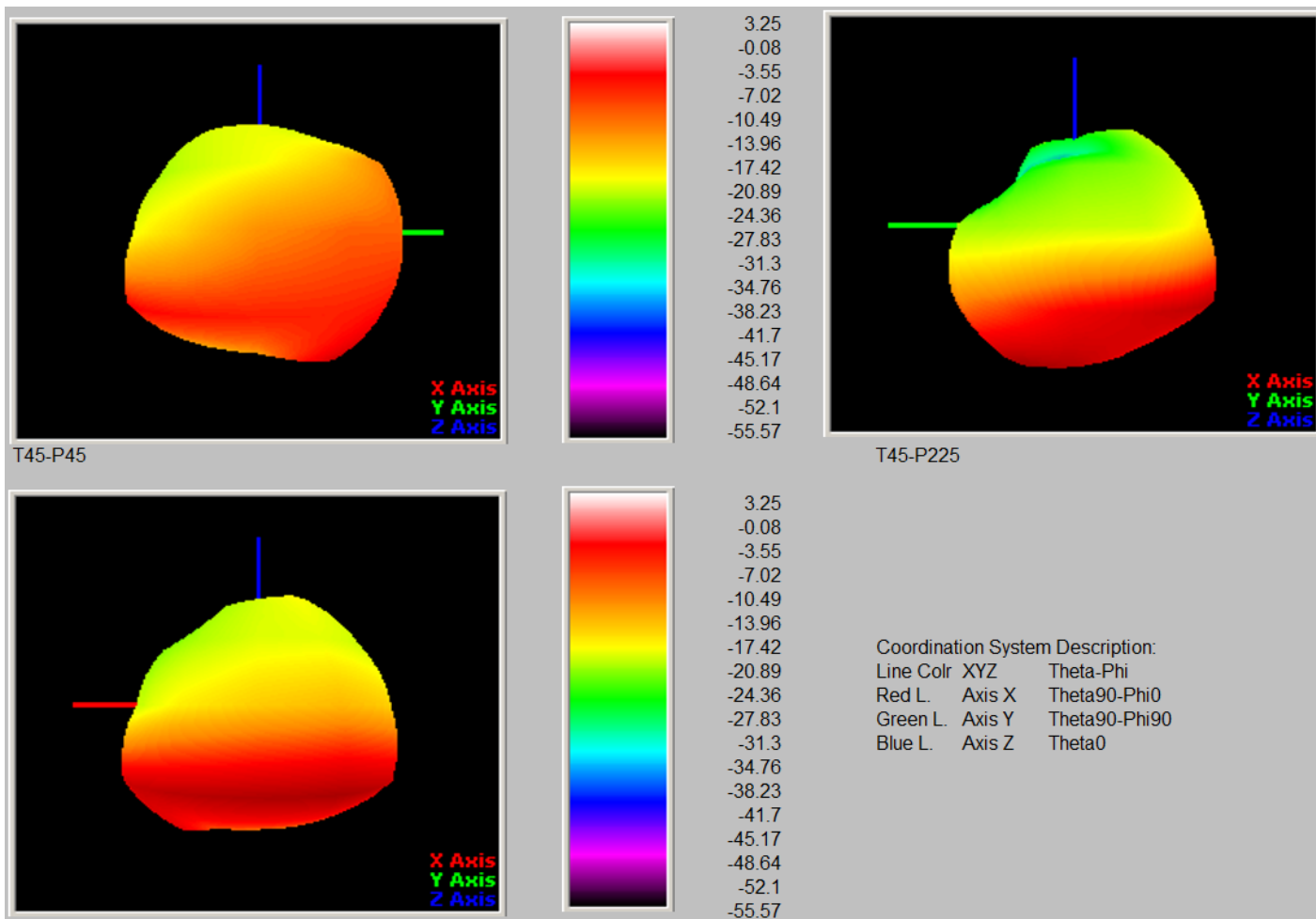
Thete=90 (Phi=270° is directly in front)

Phi=90°

Phi=180°



## 5.8G wifi passive Apple Diagram

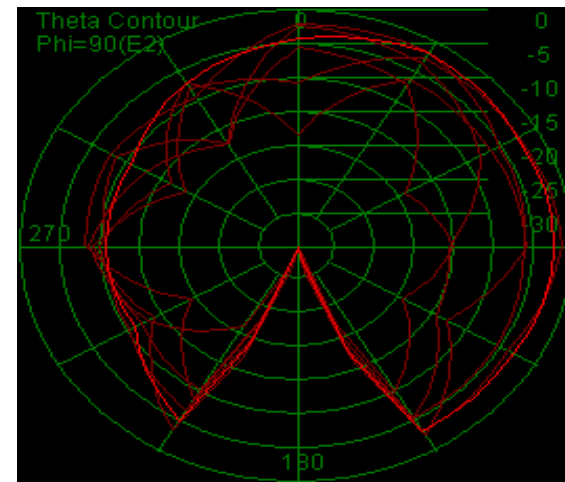
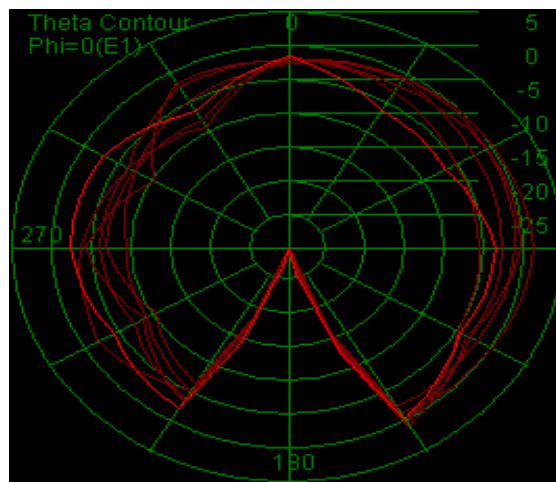
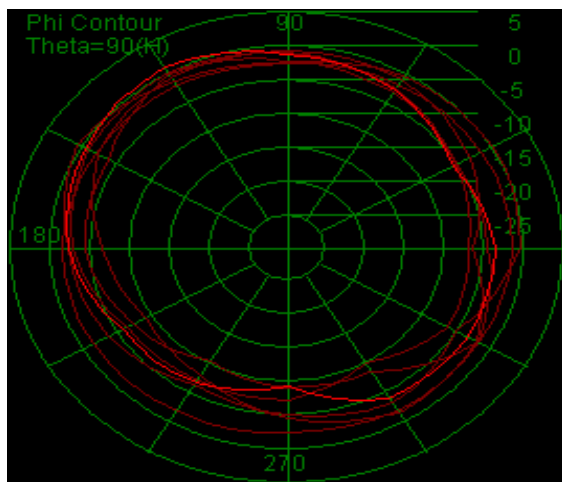


5.8G wifi passive  
Apple Diagram

Theta=90 (Phi=270° is directly in front)

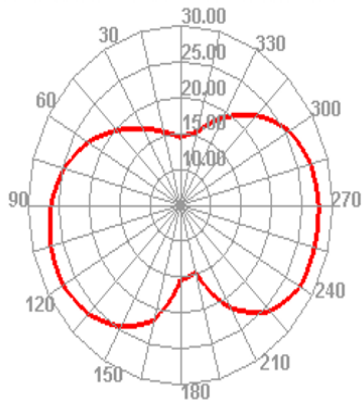
Phi=90°

Phi=180°

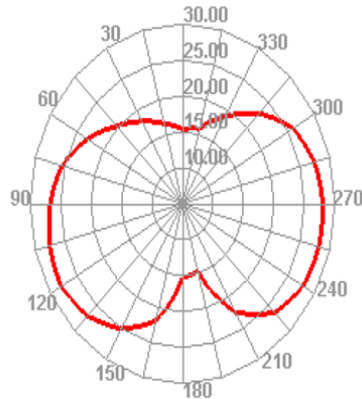


TRX, Apple chart

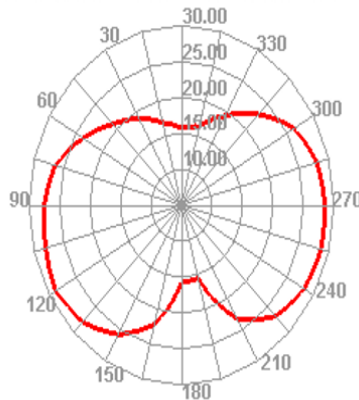
GSM850 128 TRP Phi=45



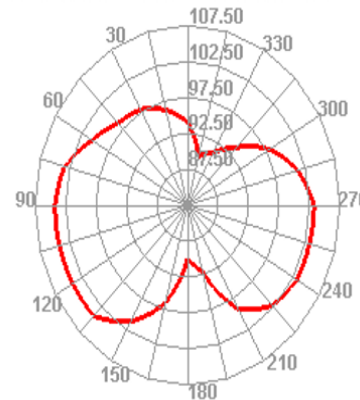
GSM850 190 TRP Phi=45



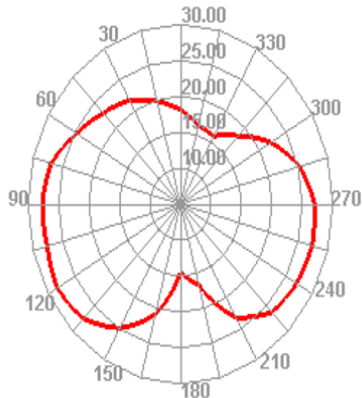
GSM850 251 TRP Phi=45



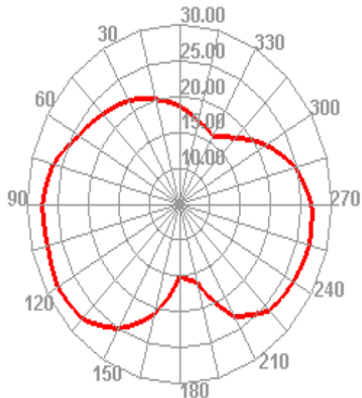
GSM850 251 TIS Phi=45



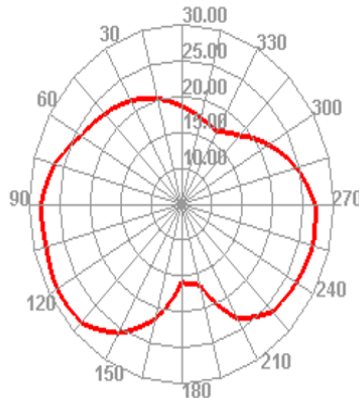
EGSM 1 TRP Phi=45



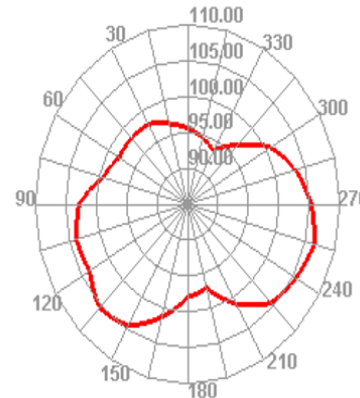
EGSM 62 TRP Phi=45



EGSM 124 TRP Phi=45

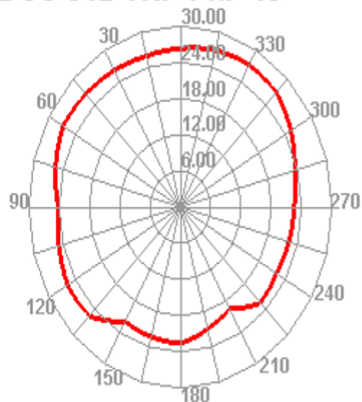


EGSM 124 TIS Phi=45

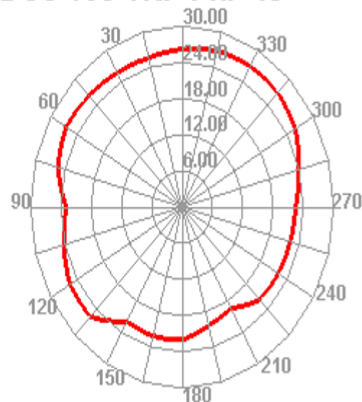


TRX, Apple chart

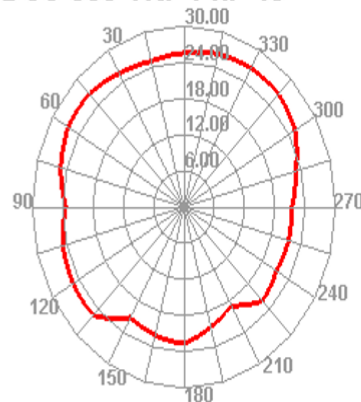
**DCS 512 TRP Phi=45**



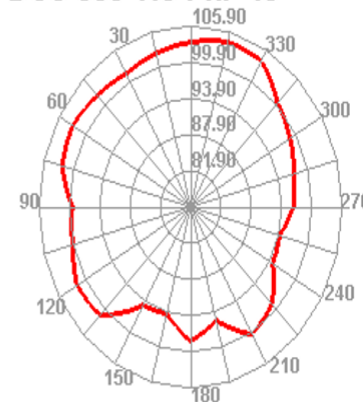
**DCS 698 TRP Phi=45**



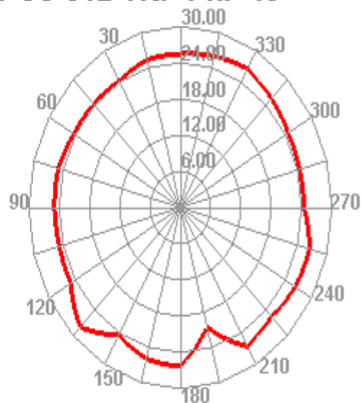
**DCS 885 TRP Phi=45**



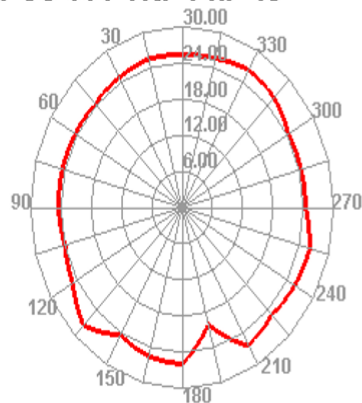
**DCS 885 TIS Phi=45**



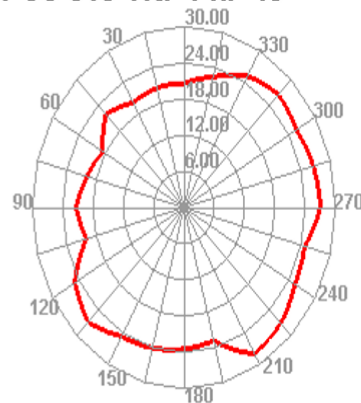
**PCS 512 TRP Phi=45**



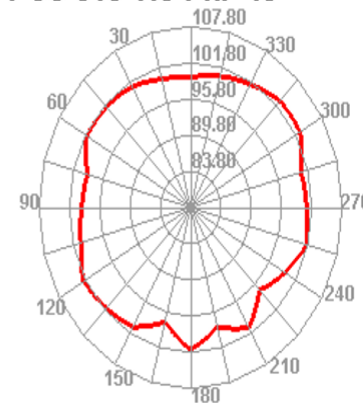
**PCS 661 TRP Phi=45**



**PCS 810 TRP Phi=45**

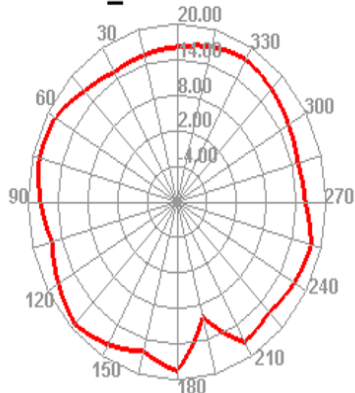


**PCS 810 TIS Phi=45**

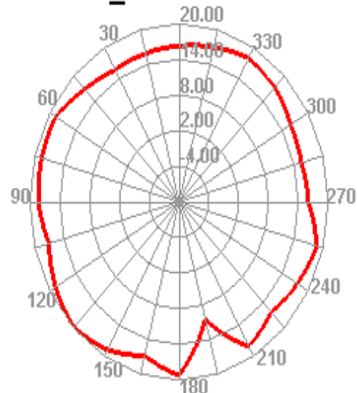


TRX, Apple chart

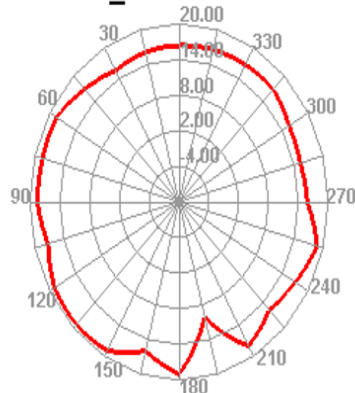
WCDMA\_I 9612 TRP Phi=45



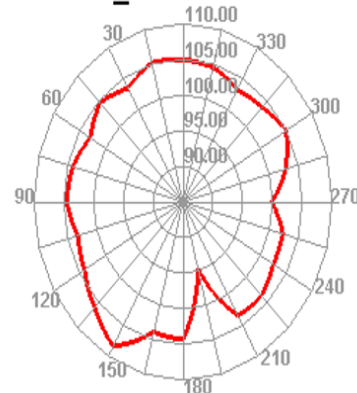
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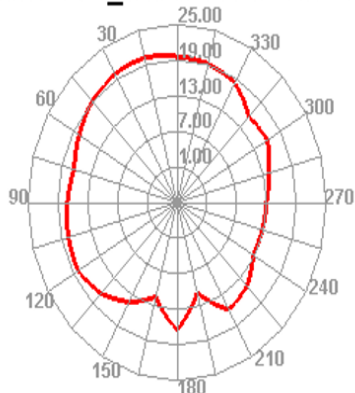
WCDMA\_I 9888 TRP Phi=45



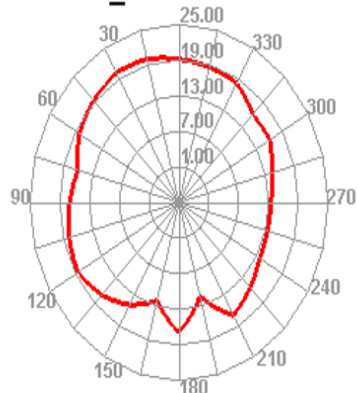
WCDMA\_I 10838 TIS Phi=45



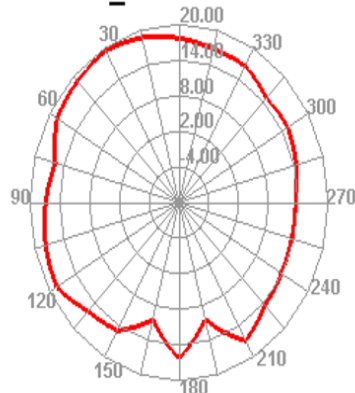
WCDMA\_II 9262 TRP Phi=45



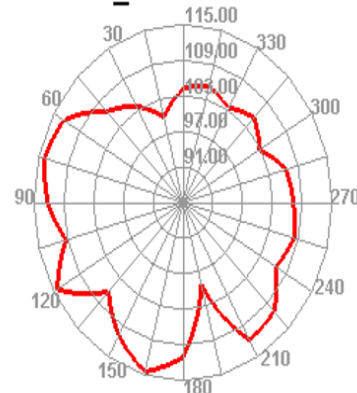
WCDMA\_II 9400 TRP Phi=45



WCDMA\_II 9538 TRP Phi=45

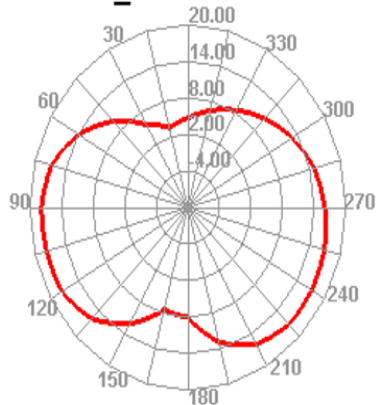


WCDMA\_II 9938 TIS Phi=45

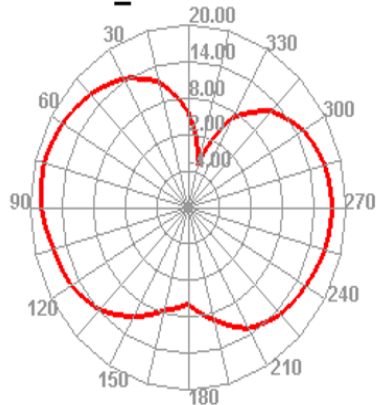


TRX, Apple chart

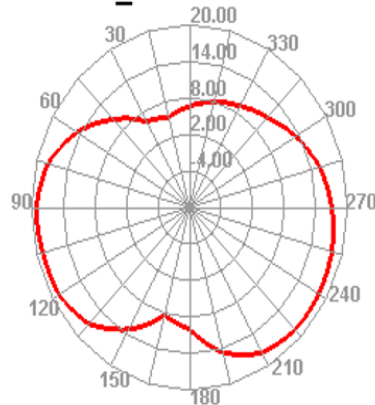
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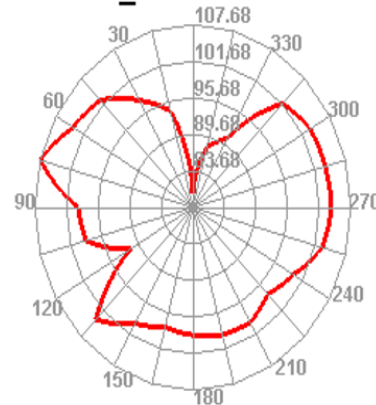
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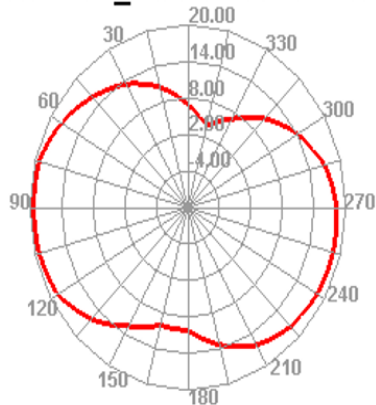
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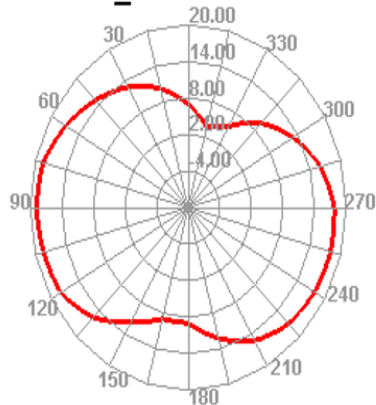
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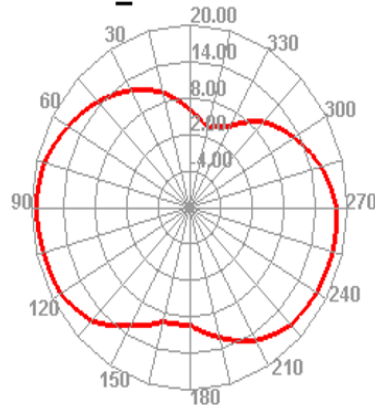
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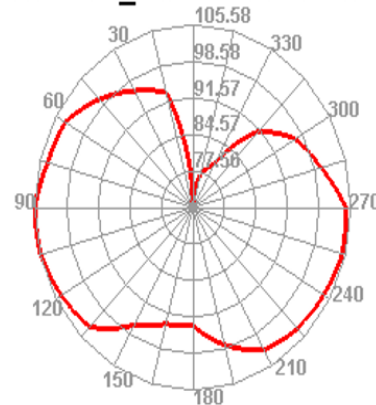
WCDMA\_VIII 2788 TRP Phi=45



WCDMA\_VIII 2863 TRP Phi=45

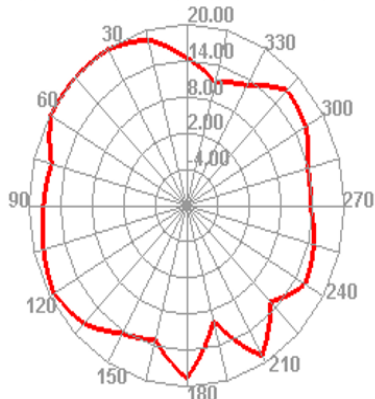


WCDMA\_VIII 3088 TIS Phi=45

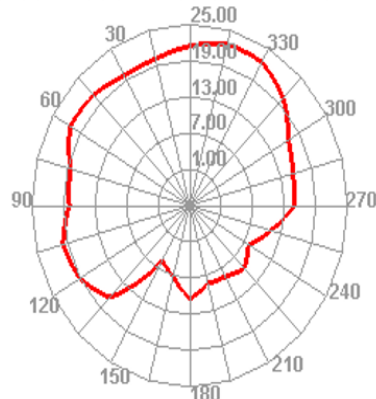


TRX, Apple chart

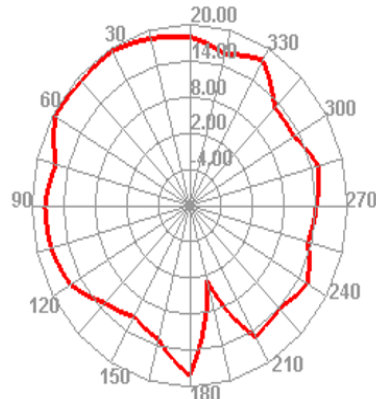
LTE1 18050 TRP Phi=45



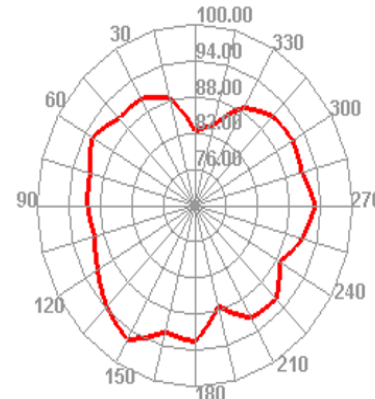
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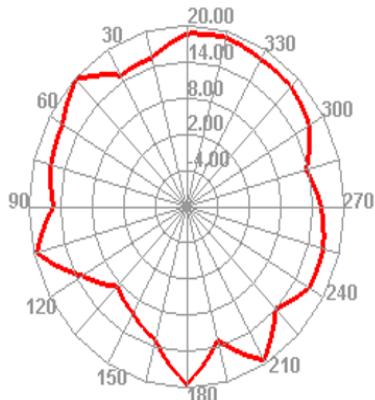
LTE1 18550 TRP Phi=45



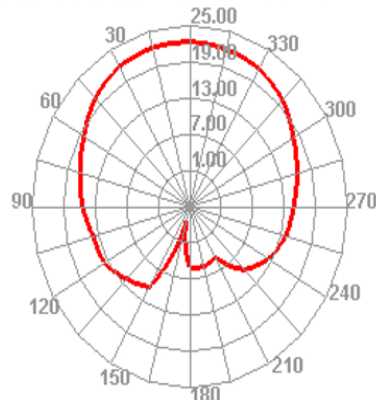
LTE1 550 TIS Phi=45



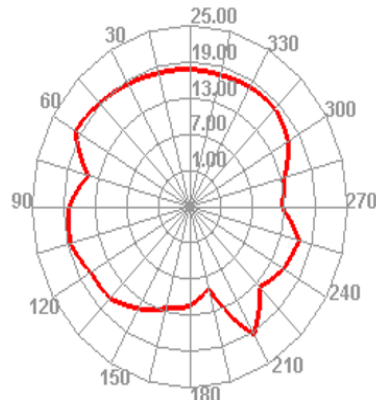
LTE2 18650 TRP Phi=45



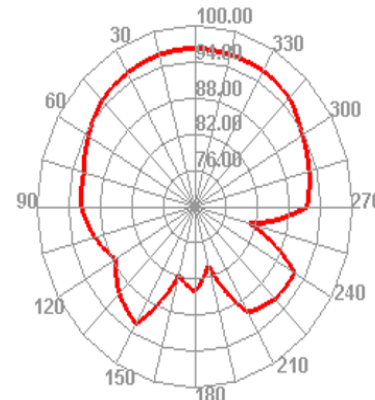
LTE2 18900 TRP Phi=45



LTE2 19150 TRP Phi=45

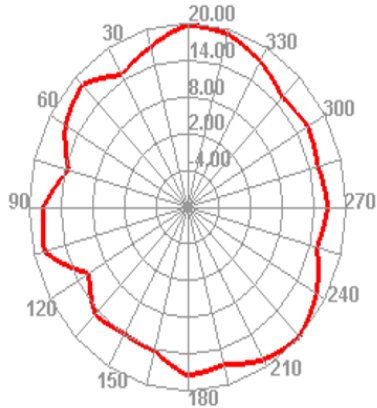


LTE2 1150 TIS Phi=45

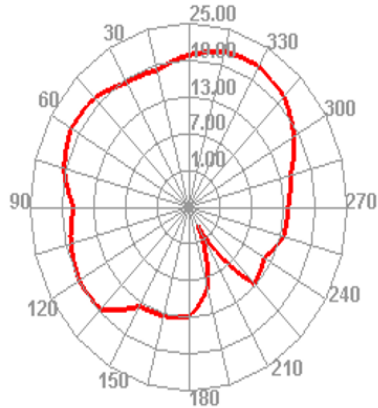


TRX, Apple chart

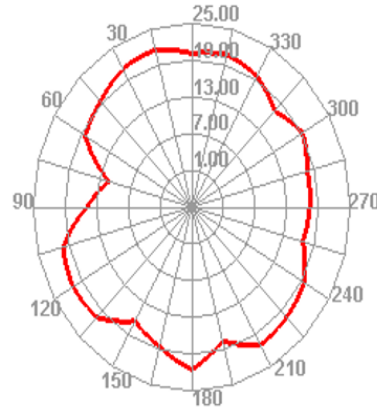
LTE3 19250 TRP Phi=45



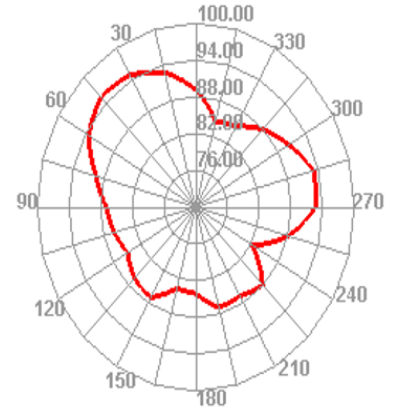
LTE3 19575 TRP Phi=45



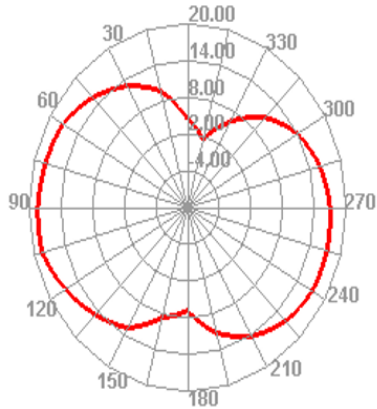
LTE3 19575 TRP Phi=45



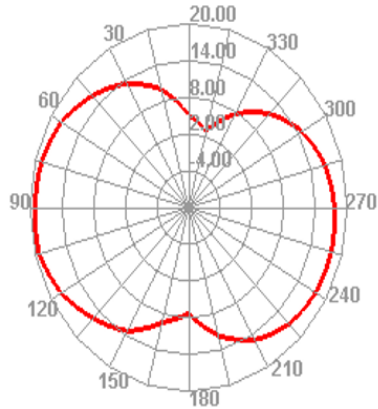
LTE3 1900 TIS Phi=45



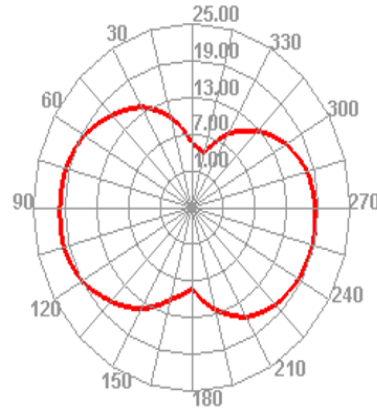
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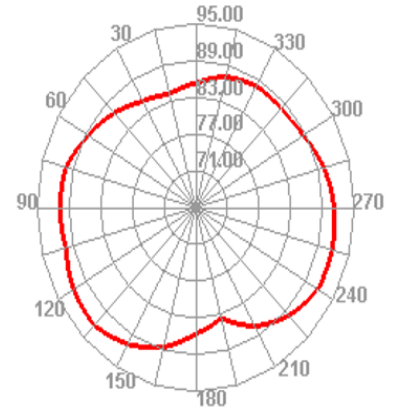
LTE5 20525 TRP Phi=45



LTE5 20600 TRP Phi=45

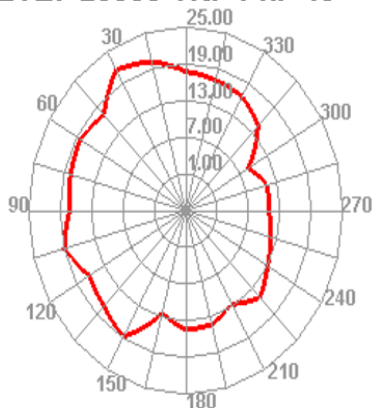


LTE5 2600 TIS Phi=45

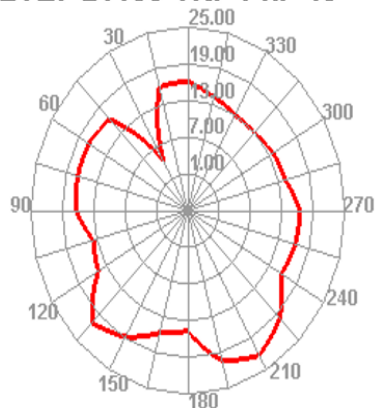


TRX, Apple chart

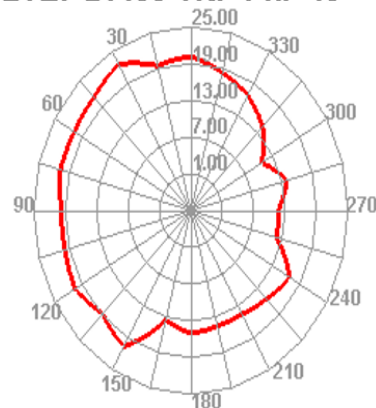
LTE7 20800 TRP Phi=45



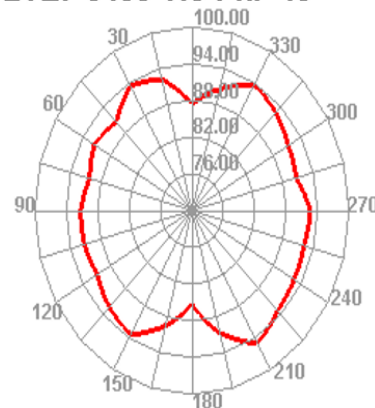
LTE7 21100 TRP Phi=45



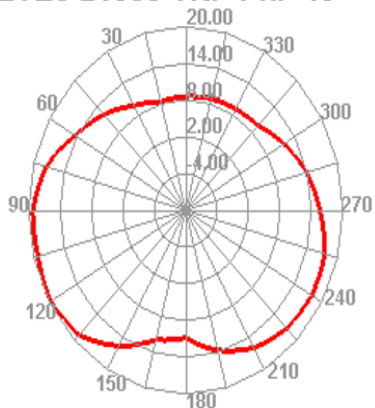
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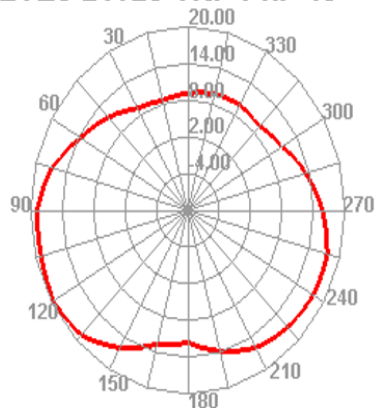
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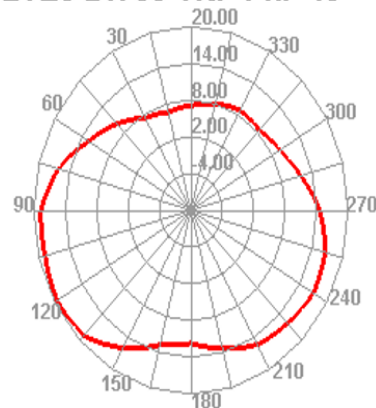
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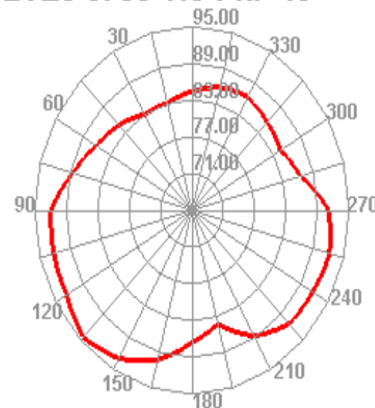
LTE8 21625 TRP Phi=45



LTE8 21750 TRP Phi=45

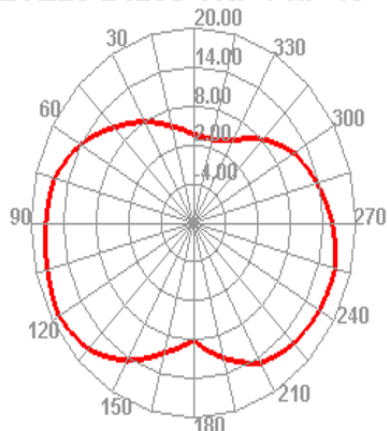


LTE8 3750 TIS Phi=45

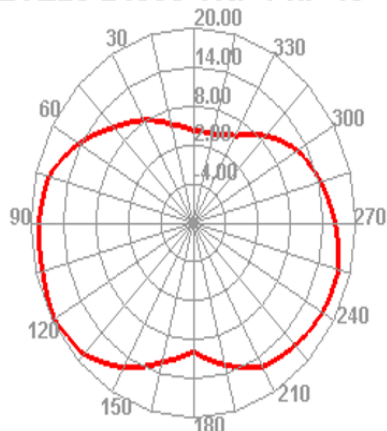


TRX, Apple chart

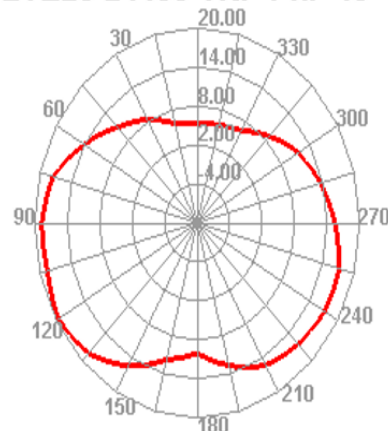
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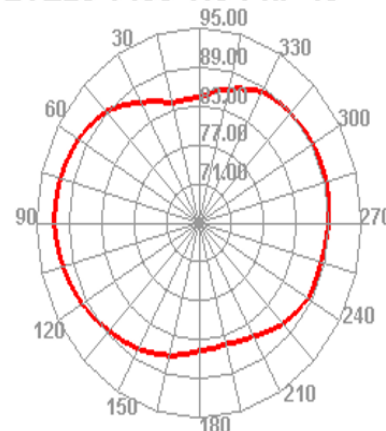
LTE20 24300 TRP Phi=45



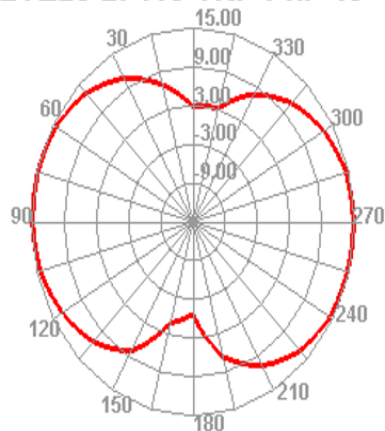
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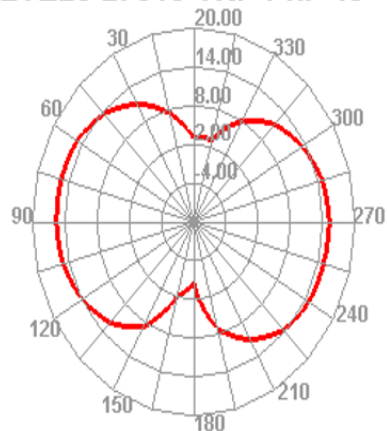
LTE20 6400 TIS Phi=45



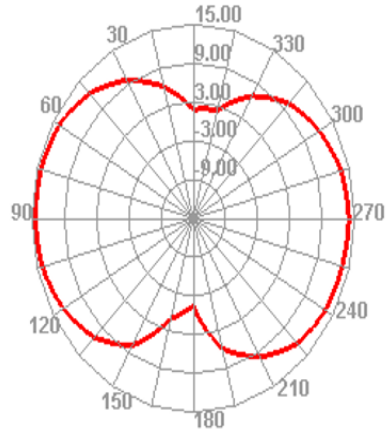
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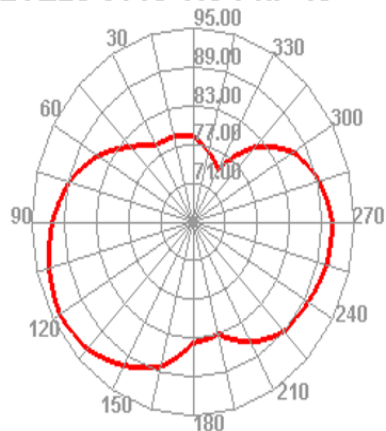
LTE28 27510 TRP Phi=45



LTE28 27610 TRP Phi=45

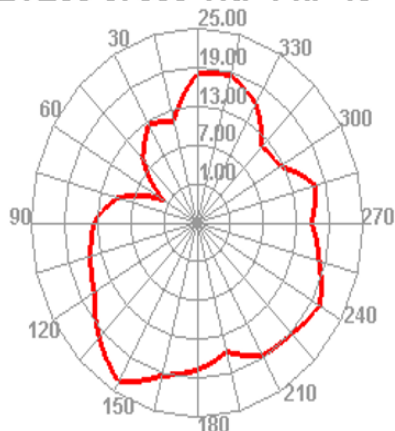


LTE28 9610 TIS Phi=45

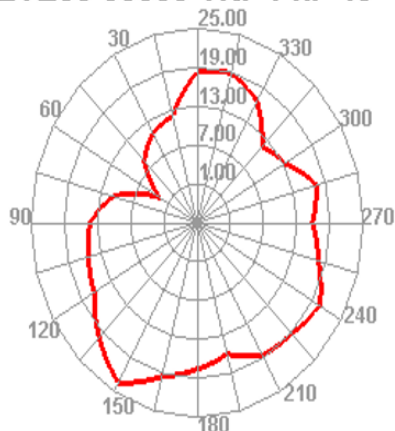


TRX, Apple chart

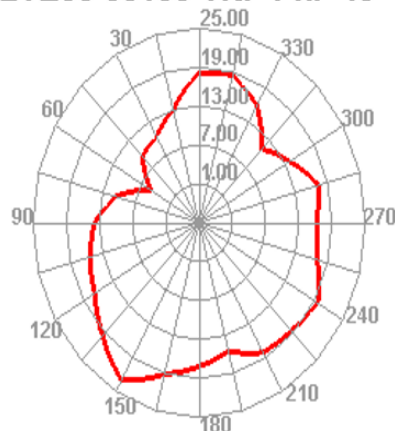
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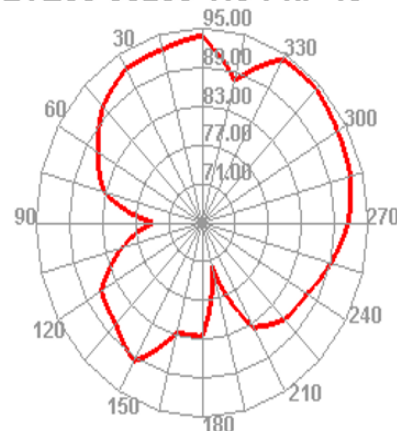
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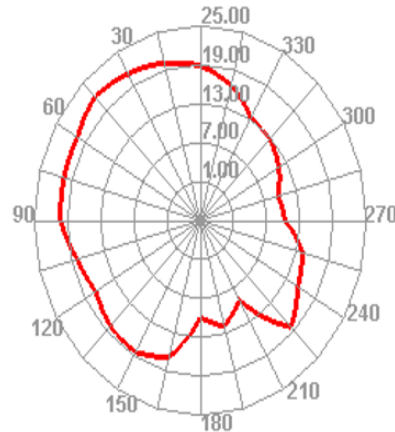
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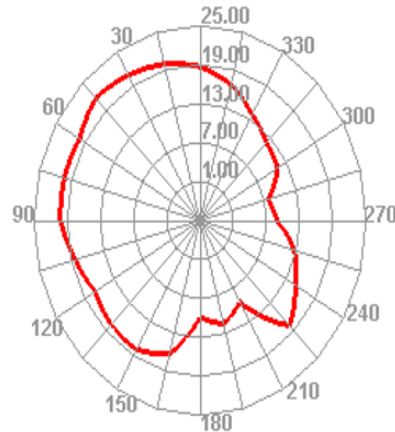
LTE38 38200 TIS Phi=45



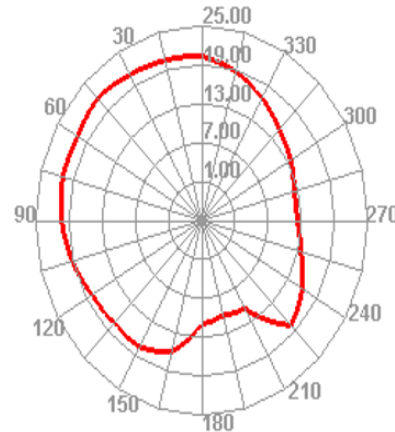
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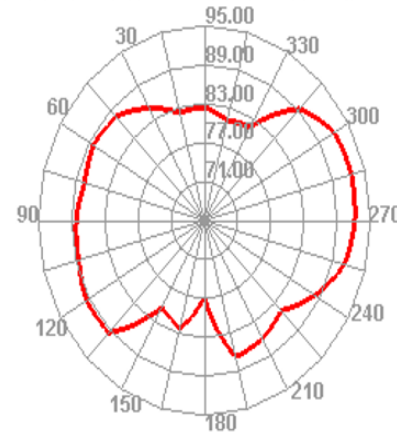
LTE40 38950 TRP Phi=45



LTE40 39550 TRP Phi=45

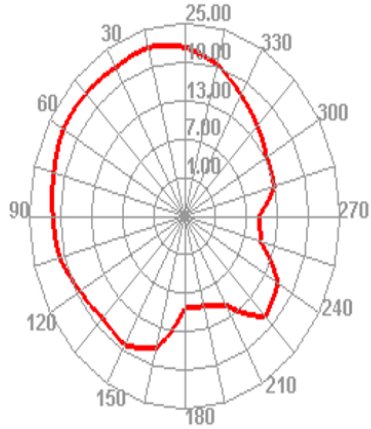


LTE40 39550 TIS Phi=45

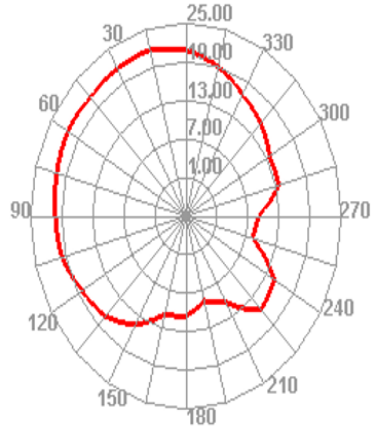


TRX, Apple chart

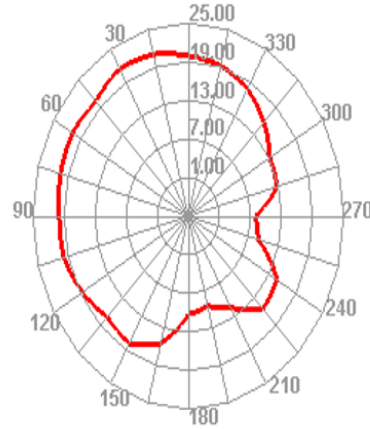
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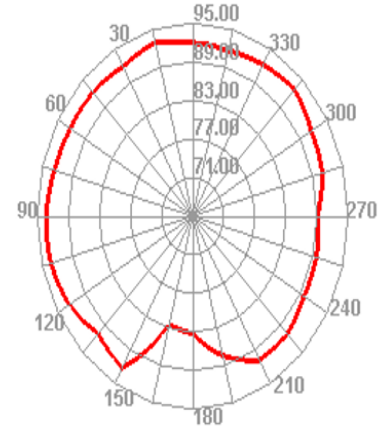
LTE41 40620 TRP Phi=45



LTE41 41240 TRP Phi=45



LTE41 40620 TIS Phi=45



# *Thank you!*



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