



# A Test Lab Techno Corp.

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## MPE Report

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Test Report No.       | : 1208FS11-01                                                     |
| Applicant             | : HON HAI Precision IND. CO., LTD.                                |
| Manufacturer          | : HON HAI Precision IND. CO., LTD.                                |
| Product Type          | : PCI-E Embedded Module                                           |
| Trade Name            | : N/A                                                             |
| Model Number          | : TangoP1001                                                      |
| Dates of Received     | : Jul. 17, 2012                                                   |
| Dates of Test         | : Aug. 03, 2012                                                   |
| Dates of Issued       | : Aug. 22, 2012                                                   |
| Test Specification    | : 47 CFR § 2.1091<br>47 CFR §1.1310<br>ANSI / IEEE Std.C95.1-1992 |
| Location of Test Lab. | : Chang-an Lab.                                                   |

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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Approved By : Yung-Tan Tsai Tested By : Bill Hu  
(Yung Tan Tsai) (Bill Hu)



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## 1. Description of Equipment under Test (EUT)

|                                     |                                                                                                                                                                                                                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant                           | HON HAI Precision IND. CO., LTD.                                                                                                                                                                                                                                            |
| Applicant Address                   | 5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C                                                                                                                                                                                                    |
| Manufacturer                        | HON HAI Precision IND. CO., LTD.                                                                                                                                                                                                                                            |
| Manufacturer Address                | 5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C                                                                                                                                                                                                    |
| Product Type                        | PCI-E Embedded Module                                                                                                                                                                                                                                                       |
| Trade Name                          | N/A                                                                                                                                                                                                                                                                         |
| Model Number                        | TangoP1001                                                                                                                                                                                                                                                                  |
| FCC ID                              | MCLT77Z29500                                                                                                                                                                                                                                                                |
| Hardware Version                    | Rev.F                                                                                                                                                                                                                                                                       |
| Software Version                    | P1001.3.03_0.1                                                                                                                                                                                                                                                              |
| Frequency Range                     | 824.2 - 848.8 MHz GPRS/EGPRS 850<br>1850.2 - 1909.8 MHz GPRS/EGPRS 1900<br>1852.4 - 1907.6 MHz WCDMA(RMC 12.2K)/HSDPA/HSUPA Band II<br>826.4 - 846.6 MHz WCDMA(RMC 12.2K)/HSDPA/HSUPA Band V<br>1710 - 1755 MHz LTE Band 4<br>704 - 716 MHz LTE Band 17                     |
| Transmit Power<br>(conducted power) | GPRS/EGPRS 850: 1.778 W / 32.50 dBm<br>GPRS/EGPRS 1900: 0.871 W / 29.40 dBm<br>WCDMA(RMC 12.2K)/HSDPA/HSUPA Band II: 0.230 W / 23.62 dBm<br>WCDMA(RMC 12.2K)/HSDPA/HSUPA Band V: 0.225 W / 23.53 dBm<br>LTE Band 4: 0.201 W / 23.03 dBm<br>LTE Band 17: 0.208 W / 23.18 dBm |
| Antenna for test                    | Tel Cab, T-AT314                                                                                                                                                                                                                                                            |
| Antenna Specification               | GSM 850: 2.14 dBi<br>PCS 1900: 2.14 dBi<br>WCDMA Band II: 2.14 dBi<br>WCDMA Band V: 2.14 dBi<br>LTE Band 4: 2.14 dBi<br>LTE Band 17: 2.14 dBi                                                                                                                               |
| Antenna Designation                 | External Antenna                                                                                                                                                                                                                                                            |
| Temperature Range                   | -30 ~ +70°C                                                                                                                                                                                                                                                                 |

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 & 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties



## 2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR §1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. " This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: "IMPORTANT: To meet the FCC's RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna". Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a "mobile device" as defined in section § 2.1091 paragraph (b).

### Exposure evaluation

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna.

### 3. RF Output Power

| Band     | Date Rate                   | CH  | Frequency (MHz) | Conducted power Avg.-Burst (dBm) | Worst Case                          |
|----------|-----------------------------|-----|-----------------|----------------------------------|-------------------------------------|
| GPRS850  | 4Down1Up<br>Duty factor 1/8 | 128 | 824.2           | 32.40                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | <b>32.50</b>                     | <input checked="" type="checkbox"/> |
|          |                             | 251 | 848.8           | 32.40                            | <input type="checkbox"/>            |
|          | 3Down2Up<br>Duty factor 2/8 | 128 | 824.2           | 30.50                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 30.10                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 29.80                            | <input type="checkbox"/>            |
|          | 2Down3Up<br>Duty factor 3/8 | 128 | 824.2           | 28.60                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 28.40                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 28.00                            | <input type="checkbox"/>            |
|          | 1Down4Up<br>Duty factor 4/8 | 128 | 824.2           | 27.40                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 27.10                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 26.90                            | <input type="checkbox"/>            |
| EGPRS850 | 4Down1Up<br>Duty factor 1/8 | 128 | 824.2           | 27.40                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | <b>27.50</b>                     | <input checked="" type="checkbox"/> |
|          |                             | 251 | 848.8           | 27.30                            | <input type="checkbox"/>            |
|          | 3Down2Up<br>Duty factor 2/8 | 128 | 824.2           | 25.40                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 25.20                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 25.10                            | <input type="checkbox"/>            |
|          | 2Down3Up<br>Duty factor 3/8 | 128 | 824.2           | 23.40                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 23.20                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 23.40                            | <input type="checkbox"/>            |
|          | 1Down4Up<br>Duty factor 4/8 | 128 | 824.2           | 22.30                            | <input type="checkbox"/>            |
|          |                             | 190 | 836.6           | 22.10                            | <input type="checkbox"/>            |
|          |                             | 251 | 848.8           | 22.00                            | <input type="checkbox"/>            |

| Band      | Date Rate                   | CH  | Frequency (MHz) | Conducted power Avg.-Burst (dBm) | Worst Case |
|-----------|-----------------------------|-----|-----------------|----------------------------------|------------|
| GPRS1900  | 4Down1Up<br>Duty factor 1/8 | 512 | 1850.2          | <b>29.40</b>                     | ■          |
|           |                             | 661 | 1880.0          | 29.30                            | □          |
|           |                             | 810 | 1909.8          | 29.20                            | □          |
|           | 3Down2Up<br>Duty factor 2/8 | 512 | 1850.2          | 27.20                            | □          |
|           |                             | 661 | 1880.0          | 27.10                            | □          |
|           |                             | 810 | 1909.8          | 27.00                            | □          |
|           | 2Down3Up<br>Duty factor 3/8 | 512 | 1850.2          | 25.50                            | □          |
|           |                             | 661 | 1880.0          | 25.40                            | □          |
|           |                             | 810 | 1909.8          | 25.30                            | □          |
|           | 1Down4Up<br>Duty factor 4/8 | 512 | 1850.2          | 24.30                            | □          |
|           |                             | 661 | 1880.0          | 24.20                            | □          |
|           |                             | 810 | 1909.8          | 24.10                            | □          |
| EGPRS1900 | 4Down1Up<br>Duty factor 1/8 | 512 | 1850.2          | <b>26.50</b>                     | ■          |
|           |                             | 661 | 1880.0          | 26.40                            | □          |
|           |                             | 810 | 1909.8          | 26.30                            | □          |
|           | 3Down2Up<br>Duty factor 2/8 | 512 | 1850.2          | 24.40                            | □          |
|           |                             | 661 | 1880.0          | 24.30                            | □          |
|           |                             | 810 | 1909.8          | 24.20                            | □          |
|           | 2Down3Up<br>Duty factor 3/8 | 512 | 1850.2          | 22.50                            | □          |
|           |                             | 661 | 1880.0          | 22.40                            | □          |
|           |                             | 810 | 1909.8          | 22.30                            | □          |
|           | 1Down4Up<br>Duty factor 4/8 | 512 | 1850.2          | 21.30                            | □          |
|           |                             | 661 | 1880.0          | 21.20                            | □          |
|           |                             | 810 | 1909.8          | 21.10                            | □          |

| Band          | Date Rate | CH   | Frequency (MHz) | Conducted power Time-Avg. (dBm) | Worst Case                          |
|---------------|-----------|------|-----------------|---------------------------------|-------------------------------------|
| WCDMA Band II | ---       | 9262 | 1852.4          | 23.58                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 23.59                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 23.62                           | <input checked="" type="checkbox"/> |
| HSDPA Band II | 1         | 9262 | 1852.4          | 23.37                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 23.40                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 23.44                           | <input type="checkbox"/>            |
|               | 2         | 9262 | 1852.4          | 23.35                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 23.39                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 23.43                           | <input type="checkbox"/>            |
|               | 3         | 9262 | 1852.4          | 22.86                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 22.91                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 22.94                           | <input type="checkbox"/>            |
|               | 4         | 9262 | 1852.4          | 22.85                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 22.89                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 22.95                           | <input type="checkbox"/>            |
| HSUPA Band II | 1         | 9262 | 1852.4          | 21.33                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 21.36                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 21.43                           | <input type="checkbox"/>            |
|               | 2         | 9262 | 1852.4          | 19.30                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 19.35                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 19.43                           | <input type="checkbox"/>            |
|               | 3         | 9262 | 1852.4          | 20.30                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 20.35                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 20.44                           | <input type="checkbox"/>            |
|               | 4         | 9262 | 1852.4          | 19.31                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 19.35                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 19.44                           | <input type="checkbox"/>            |
|               | 5         | 9262 | 1852.4          | 21.30                           | <input type="checkbox"/>            |
|               |           | 9400 | 1880.0          | 21.35                           | <input type="checkbox"/>            |
|               |           | 9538 | 1907.6          | 21.42                           | <input type="checkbox"/>            |

| Band         | Date Rate | CH   | Frequency (MHz) | Conducted power Time-Avg. (dBm) | Worst Case                          |
|--------------|-----------|------|-----------------|---------------------------------|-------------------------------------|
| WCDMA Band V | ---       | 4132 | 826.4           | 23.53                           | <input checked="" type="checkbox"/> |
|              |           | 4183 | 836.6           | 23.48                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 23.22                           | <input type="checkbox"/>            |
| HSDPA Band V | 1         | 4132 | 826.4           | 23.37                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 23.29                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 23.02                           | <input type="checkbox"/>            |
|              | 2         | 4132 | 826.4           | 23.36                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 23.28                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 23.01                           | <input type="checkbox"/>            |
|              | 3         | 4132 | 826.4           | 22.89                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 22.80                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 22.52                           | <input type="checkbox"/>            |
|              | 4         | 4132 | 826.4           | 22.90                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 22.80                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 22.54                           | <input type="checkbox"/>            |
| HSUPA Band V | 1         | 4132 | 826.4           | 21.31                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 21.05                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 20.55                           | <input type="checkbox"/>            |
|              | 2         | 4132 | 826.4           | 19.32                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 19.04                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 18.53                           | <input type="checkbox"/>            |
|              | 3         | 4132 | 826.4           | 20.35                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 20.07                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 19.55                           | <input type="checkbox"/>            |
|              | 4         | 4132 | 826.4           | 19.32                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 19.03                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 18.52                           | <input type="checkbox"/>            |
|              | 5         | 4132 | 826.4           | 21.28                           | <input type="checkbox"/>            |
|              |           | 4183 | 836.6           | 21.00                           | <input type="checkbox"/>            |
|              |           | 4233 | 846.6           | 20.49                           | <input type="checkbox"/>            |



| Band       | Channel Bandwidth | Modulation | CH    | Frequency (MHz) | RB Configuration |        | Conducted power Time-Avg. (dBm) | Worst Case                          |
|------------|-------------------|------------|-------|-----------------|------------------|--------|---------------------------------|-------------------------------------|
|            |                   |            |       |                 | Size             | Offset |                                 |                                     |
| LTE Band 4 | 5MHz              | QPSK       | 19975 | 1712.5          | 1                | 0      | 21.63                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 24     | 21.37                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 21.57                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 21.51                           | <input type="checkbox"/>            |
|            |                   |            | 20175 | 1732.5          | 1                | 0      | 23.03                           | <input checked="" type="checkbox"/> |
|            |                   |            |       |                 | 1                | 24     | 23.01                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 22.53                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 22.51                           | <input type="checkbox"/>            |
|            |                   |            | 20375 | 1752.5          | 1                | 0      | 21.51                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 24     | 21.47                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 21.54                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 21.48                           | <input type="checkbox"/>            |
|            |                   | 16QAM      | 19975 | 1712.5          | 1                | 0      | 22.01                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 24     | 21.71                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 21.64                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 21.52                           | <input type="checkbox"/>            |
|            |                   |            | 20175 | 1732.5          | 1                | 0      | 22.62                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 24     | 22.54                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 21.67                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 21.53                           | <input type="checkbox"/>            |
|            |                   |            | 20375 | 1752.5          | 1                | 0      | 21.66                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 24     | 21.52                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 12               | 6      | 21.53                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 0      | 21.43                           | <input type="checkbox"/>            |
|            | 10MHz             | QPSK       | 20000 | 1715.0          | 1                | 0      | 21.34                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 21.33                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 21.85                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 21.68                           | <input type="checkbox"/>            |
|            |                   |            | 20175 | 1732.5          | 1                | 0      | 22.71                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 22.48                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 22.69                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 22.44                           | <input type="checkbox"/>            |
|            |                   |            | 20350 | 1750.0          | 1                | 0      | 21.94                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 21.62                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 21.96                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 21.75                           | <input type="checkbox"/>            |
|            |                   | 16QAM      | 20000 | 1715.0          | 1                | 0      | 21.83                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 21.62                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 21.77                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 21.62                           | <input type="checkbox"/>            |
|            |                   |            | 20175 | 1732.5          | 1                | 0      | 21.67                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 21.79                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 21.73                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 21.51                           | <input type="checkbox"/>            |
|            |                   |            | 20350 | 1750.0          | 1                | 0      | 21.67                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 1                | 49     | 21.52                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 25               | 12     | 21.65                           | <input type="checkbox"/>            |
|            |                   |            |       |                 | 50               | 0      | 21.62                           | <input type="checkbox"/>            |

| Band        | Channel Bandwidth | Modulation | CH    | Frequency (MHz) | RB Configuration |        | Conducted power Time-Avg. (dBm) | Worst Case                          |
|-------------|-------------------|------------|-------|-----------------|------------------|--------|---------------------------------|-------------------------------------|
|             |                   |            |       |                 | Size             | Offset |                                 |                                     |
| LTE Band 17 | 5MHz              | QPSK       | 23755 | 706.5           | 1                | 0      | 22.10                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 24     | 22.63                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 21.93                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 21.86                           | <input type="checkbox"/>            |
|             |                   |            | 23790 | 710.0           | 1                | 0      | 22.46                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 24     | 22.92                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 22.41                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 22.16                           | <input type="checkbox"/>            |
|             |                   |            | 23825 | 713.5           | 1                | 0      | 23.18                           | <input checked="" type="checkbox"/> |
|             |                   |            |       |                 | 1                | 24     | 21.83                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 22.37                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 22.19                           | <input type="checkbox"/>            |
|             |                   | 16QAM      | 23755 | 706.5           | 1                | 0      | 21.69                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 24     | 22.06                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 21.47                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 20.90                           | <input type="checkbox"/>            |
|             |                   |            | 23790 | 710.0           | 1                | 0      | 22.02                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 24     | 22.19                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 21.54                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 21.25                           | <input type="checkbox"/>            |
|             |                   |            | 23825 | 713.5           | 1                | 0      | 22.51                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 24     | 21.35                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 12               | 6      | 21.47                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 0      | 21.19                           | <input type="checkbox"/>            |
|             | 10MHz             | QPSK       | 23780 | 709.0           | 1                | 0      | 21.84                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 22.65                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 22.62                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 22.41                           | <input type="checkbox"/>            |
|             |                   |            | 23790 | 710.0           | 1                | 0      | 21.84                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 21.74                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 22.38                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 22.00                           | <input type="checkbox"/>            |
|             |                   |            | 23800 | 711.0           | 1                | 0      | 21.35                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 21.23                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 22.44                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 21.99                           | <input type="checkbox"/>            |
|             |                   | 16QAM      | 23780 | 709.0           | 1                | 0      | 21.35                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 21.78                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 21.76                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 21.48                           | <input type="checkbox"/>            |
|             |                   |            | 23790 | 710.0           | 1                | 0      | 21.14                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 21.04                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 21.57                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 21.18                           | <input type="checkbox"/>            |
|             |                   |            | 23800 | 711.0           | 1                | 0      | 21.28                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 1                | 49     | 20.92                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 25               | 12     | 21.47                           | <input type="checkbox"/>            |
|             |                   |            |       |                 | 50               | 0      | 20.94                           | <input type="checkbox"/>            |

#### 4. Test Result

| Band             | Data Rate<br>or<br>Sub-Test | Frequency<br>(MHz) | Limit<br>(mw) | Distance<br>(cm)<br>[R] | Power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | [P]+ [G]<br>(W)<br>[TP] | Power<br>Density<br>[S] | Min.<br>distance<br>(cm) |
|------------------|-----------------------------|--------------------|---------------|-------------------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|
| GPRS 850         | 4Down1Up                    | 824.2              | 0.549         | 20                      | 32.40                 | 2.14                     | 2.844                   | 0.043                   | 20cm                     |
|                  |                             | 836.6              | 0.558         | 20                      | 32.50                 | 2.14                     | 2.911                   | 0.044                   | 20cm                     |
|                  |                             | 848.8              | 0.566         | 20                      | 32.40                 | 2.14                     | 2.844                   | 0.043                   | 20cm                     |
| EGPRS 850        | 4Down1Up                    | 824.2              | 0.549         | 20                      | 27.40                 | 2.14                     | 0.899                   | 0.014                   | 20cm                     |
|                  |                             | 836.6              | 0.558         | 20                      | 27.50                 | 2.14                     | 0.920                   | 0.014                   | 20cm                     |
|                  |                             | 848.8              | 0.566         | 20                      | 27.30                 | 2.14                     | 0.879                   | 0.013                   | 20cm                     |
| GPRS 1900        | 4Down1Up                    | 1850.2             | 1.000         | 20                      | 29.40                 | 2.14                     | 1.426                   | 0.022                   | 20cm                     |
|                  |                             | 1880.0             | 1.000         | 20                      | 29.30                 | 2.14                     | 1.393                   | 0.021                   | 20cm                     |
|                  |                             | 1909.8             | 1.000         | 20                      | 29.20                 | 2.14                     | 1.361                   | 0.021                   | 20cm                     |
| EGPRS 1900       | 4Down1Up                    | 1850.2             | 1.000         | 20                      | 26.50                 | 2.14                     | 0.731                   | 0.011                   | 20cm                     |
|                  |                             | 1880.0             | 1.000         | 20                      | 26.40                 | 2.14                     | 0.714                   | 0.011                   | 20cm                     |
|                  |                             | 1909.8             | 1.000         | 20                      | 26.30                 | 2.14                     | 0.698                   | 0.011                   | 20cm                     |
| WCDMA<br>Band II | -----                       | 1852.4             | 1.000         | 20                      | 23.58                 | 2.14                     | 0.373                   | 0.045                   | 20cm                     |
|                  |                             | 1880.0             | 1.000         | 20                      | 23.59                 | 2.14                     | 0.374                   | 0.045                   | 20cm                     |
|                  |                             | 1909.7             | 1.000         | 20                      | 23.62                 | 2.14                     | 0.377                   | 0.046                   | 20cm                     |
| HSDPA<br>Band II | 1                           | 1852.4             | 1.000         | 20                      | 23.37                 | 2.14                     | 0.356                   | 0.043                   | 20cm                     |
|                  |                             | 1880.0             | 1.000         | 20                      | 23.40                 | 2.14                     | 0.358                   | 0.043                   | 20cm                     |
|                  |                             | 1909.7             | 1.000         | 20                      | 23.44                 | 2.14                     | 0.361                   | 0.044                   | 20cm                     |
| HSUPA<br>Band II | 1                           | 1852.4             | 1.000         | 20                      | 21.33                 | 2.14                     | 0.222                   | 0.027                   | 20cm                     |
|                  |                             | 1880.0             | 1.000         | 20                      | 21.36                 | 2.14                     | 0.224                   | 0.027                   | 20cm                     |
|                  |                             | 1909.7             | 1.000         | 20                      | 21.43                 | 2.14                     | 0.228                   | 0.028                   | 20cm                     |
| WCDMA<br>Band V  | -----                       | 826.4              | 0.551         | 20                      | 23.53                 | 2.14                     | 0.369                   | 0.045                   | 20cm                     |
|                  |                             | 836.4              | 0.558         | 20                      | 23.48                 | 2.14                     | 0.365                   | 0.044                   | 20cm                     |
|                  |                             | 846.6              | 0.564         | 20                      | 23.22                 | 2.14                     | 0.344                   | 0.042                   | 20cm                     |
| HSDPA<br>Band V  | 1                           | 826.4              | 0.551         | 20                      | 23.37                 | 2.14                     | 0.356                   | 0.043                   | 20cm                     |
|                  |                             | 836.4              | 0.558         | 20                      | 23.29                 | 2.14                     | 0.349                   | 0.042                   | 20cm                     |
|                  |                             | 846.6              | 0.564         | 20                      | 23.02                 | 2.14                     | 0.328                   | 0.040                   | 20cm                     |
| HSUPA<br>Band V  | 1                           | 826.4              | 0.551         | 20                      | 21.31                 | 2.14                     | 0.221                   | 0.027                   | 20cm                     |
|                  |                             | 836.4              | 0.558         | 20                      | 21.05                 | 2.14                     | 0.208                   | 0.025                   | 20cm                     |
|                  |                             | 846.6              | 0.564         | 20                      | 20.55                 | 2.14                     | 0.186                   | 0.023                   | 20cm                     |

| Band        | Channel Bandwidth | Modulation | Frequency (MHz) | Limit (mw) | Distance (cm) [R] | Power (dBm) [P] | ANT Gain (dBi) [G] | [P]+ [G] (W) [TP] | Power Density [S] | Min. distance (cm) |
|-------------|-------------------|------------|-----------------|------------|-------------------|-----------------|--------------------|-------------------|-------------------|--------------------|
| LTE Band 4  | 5 MHz             | QPSK       | 1712.5          | 1.000      | 20                | 21.63           | 2.14               | 0.238             | 0.029             | 20cm               |
|             |                   |            | 1732.5          | 1.000      | 20                | 23.03           | 2.14               | 0.329             | 0.040             | 20cm               |
|             |                   |            | 1752.5          | 1.000      | 20                | 21.51           | 2.14               | 0.232             | 0.028             | 20cm               |
|             |                   | 16QAM      | 1712.5          | 1.000      | 20                | 22.01           | 2.14               | 0.260             | 0.031             | 20cm               |
|             |                   |            | 1732.5          | 1.000      | 20                | 22.62           | 2.14               | 0.299             | 0.036             | 20cm               |
|             |                   |            | 1752.5          | 1.000      | 20                | 21.66           | 2.14               | 0.240             | 0.029             | 20cm               |
|             | 10 MHz            | QPSK       | 1715.0          | 1.000      | 20                | 21.34           | 2.14               | 0.223             | 0.027             | 20cm               |
|             |                   |            | 1732.5          | 1.000      | 20                | 22.71           | 2.14               | 0.305             | 0.037             | 20cm               |
|             |                   |            | 1750.0          | 1.000      | 20                | 21.94           | 2.14               | 0.256             | 0.031             | 20cm               |
|             |                   | 16QAM      | 1715.0          | 1.000      | 20                | 21.83           | 2.14               | 0.249             | 0.030             | 20cm               |
|             |                   |            | 1732.5          | 1.000      | 20                | 21.67           | 2.14               | 0.240             | 0.029             | 20cm               |
|             |                   |            | 1750.0          | 1.000      | 20                | 21.67           | 2.14               | 0.240             | 0.029             | 20cm               |
| LTE Band 17 | 5 MHz             | QPSK       | 706.5           | 0.471      | 20                | 22.10           | 2.14               | 0.265             | 0.032             | 20cm               |
|             |                   |            | 710.0           | 0.473      | 20                | 22.46           | 2.14               | 0.288             | 0.035             | 20cm               |
|             |                   |            | 713.5           | 0.476      | 20                | 23.18           | 2.14               | 0.340             | 0.041             | 20cm               |
|             |                   | 16QAM      | 706.5           | 0.471      | 20                | 21.69           | 2.14               | 0.242             | 0.029             | 20cm               |
|             |                   |            | 710.0           | 0.473      | 20                | 22.02           | 2.14               | 0.261             | 0.032             | 20cm               |
|             |                   |            | 713.5           | 0.476      | 20                | 22.51           | 2.14               | 0.292             | 0.035             | 20cm               |
|             | 10 MHz            | QPSK       | 709.0           | 0.473      | 20                | 22.65           | 2.14               | 0.301             | 0.037             | 20cm               |
|             |                   |            | 710.0           | 0.473      | 20                | 21.74           | 2.14               | 0.244             | 0.030             | 20cm               |
|             |                   |            | 711.0           | 0.474      | 20                | 21.23           | 2.14               | 0.217             | 0.026             | 20cm               |
|             |                   | 16QAM      | 709.0           | 0.473      | 20                | 21.78           | 2.14               | 0.247             | 0.030             | 20cm               |
|             |                   |            | 710.0           | 0.473      | 20                | 21.04           | 2.14               | 0.208             | 0.025             | 20cm               |
|             |                   |            | 711.0           | 0.474      | 20                | 20.92           | 2.14               | 0.202             | 0.025             | 20cm               |