



# Spot Check Evaluation

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## 1. Introduction Section

The original model (FCC ID: QISLYA-LX9) and the variant model (FCC ID: QISLYA-L0C) has identical PCB layout, antenna, for GSM/WCDMA/LTE/Bluetooth/Wi-Fi. Based on their similarity, the FCC Part 22, 27, Part 90s, (equipment class: PCE) and FCC Part 15E (equipment class: NII) test data issued test data of QISLYA-L0C references the test data of QISLYA-LX9

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID (FCC ID: QISLYA-L0C).



## 2. Difference Section

The original model (FCC ID: QISLYA-LX9) and the variant model (FCC ID: QISLYA-L0C) has identical PCB layout, antenna, for GSM/WCDMA/LTE/Bluetooth/Wi-Fi. The details of similarity and difference can be found in the Operating Description.

Cellular transmitter RF components are different in QISLYA-L0C, to support capability for different cellular bands.

The product specification is outlined in the following table:

| FCC ID        |   | QISLYA-LX9   | QISLYA-L0C   |
|---------------|---|--|--|
| Wireless Tech | Mode  | Frequency (MHz)  |  |
| GSM           | GSM   | 850/1900   | 850/1900   |
| UMTS          | AMR/RCM12.2Kbps<br>HSDPA/HSUPA/HSPA+<br>/DC-HSDPA | B5/B2/B4   | B5/B2/B4   |
| LTE (FDD)     | QPSK<br>16QAM<br>64QAM                            | B2/4/5/7/12/17/38/40/41(2<br>545~2655MHz, support<br>AXGP) | B2/4/5/7/12/17/38/40/4<br>1(2545~2655MHz,<br>support AXGP)/B66 |
| Wi-Fi         | 11b/11g/11n(HT20)/11n(HT40)                       | 2412-2472  |  |
|               | 11a/11n(HT20)/11n(HT40)                           | 5180-5240  |  |
|               | /11ac(VHT20)/11ac(VHT40)                          | 5260-5320  |  |
|               | /11ac(VHT80)/11ac(VHT160)                         | 5500-5720<br>5745-5825                                     |  |
| Bluetooth     | EDR/LE  | 2402-2480 MHz  |  |



### 3. Spot Check Verification Data Section

Summary of the spot check:

| Test Item   | Mode                  | QISLYA-LX988880204 Worst Result | QISLYA-L0C Worst Result | Difference (dB) |
|---|-----------------------|---------------------------------|-------------------------|-----------------|
| Peak Radiated Spurious Emission (Band Edge) (dBuV/m)    | 11ac VHT160, 5.5GHz   | 60.91                           | 51.92                   | 8.99            |
|   | Test date             | 2018/08/16~2018/08/28           | 2018/09/01              |                 |
| Average Radiated Spurious Emission (Band Edge) (dBuV/m) | 11ac VHT160, 5.5GHz   | 52.00                           | 45.21                   | 6.79            |
|   | Test date             | 2018/08/16~2018/08/28           | 2018/09/01              |                 |
| Peak Radiated Spurious Emission (Harmonic) (dBuV/m)     | 11ac VHT160, 5.5GHz   | 47.50                           | 47.03                   | 0.47            |
|   | Test date             | 2018/08/16~2018/08/28           | 2018/09/01              |                 |
|   | Up Antenna            |                                 |                         |                 |
|   | LTE B7 CA (FDD-QPSK)  | -53.30                          | -53.59                  | 0.29            |
|   | Down Antenna          |                                 |                         |                 |
|   | LTE B38 CA (TDD-QPSK) | -53.38                          | -53.95                  | 0.57            |
|   | LTE B41 CA (TDD-QPSK) | -53.17                          | -53.83                  | 0.66            |
| Test date   | 2018/08/14~2018/09/08 | 2018/08/29~2018/09/02           |                         |                 |

**Conclusion:**

Radiated spurious emission test against the variant model for non-cellular part based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

The unwanted, harmonics, radiated spurious emission is reported peak measurement only due to spurious lower than 20dB than the limit, 74dBuV/m, without further reporting the average measurement



## 4. Reference detail Section

| Rule Part | Equipment Class | Wireless Technology | Frequency Band (MHz) | Reference FCC ID | Type Grant/Permissive Change | Reference Report Title | Reference Application | Reference Report Sections |
|-----------|-----------------|---------------------|----------------------|------------------|------------------------------|------------------------|-----------------------|---------------------------|
| 15E       | NII             | Wi-Fi               | 5470-5725            | QISLYA-LX9       | Original Grant               | FCC RF Test Report     | QISLYA-L0C            | Part 15E (FR880204A )     |
|           | NII             | DFS                 | 5470-5725            | QISLYA-LX9       | Original Grant               | FCC RF Test Report     | QISLYA-L0C            | Part 15E (FZ880204 )      |

| Rule Part  | Equipment Class | Wireless Technology | Band                     | Reference FCC ID | Type Grant/Permissive Change | Reference Report Title | Reference Application | Reference Report Sections          |
|------------|-----------------|---------------------|--------------------------|------------------|------------------------------|------------------------|-----------------------|------------------------------------|
| Part 22.27 | PCE             | LTE                 | LTE<br>B7CA/26/38CA/41CA | QISLYA-LX9       | Original Grant               | FCC RF Test Report     | QISLYA-L0C            | Part 22.27 (FG880204A, FG880204C ) |



# Appendix A. Spot Check Test Result

## 1.1 Radiated Spurious Emission

### 5.5GHz WLAN

| Mode            | Ch     | Freq.<br>(MHz) | Peak<br>/Avg. | FCC ID<br>QISLYA-LX9 |          |          |           |          |          | FCC ID<br>QISLYA-L0C |          |          |           |          |          |
|-----------------|--------|----------------|---------------|----------------------|----------|----------|-----------|----------|----------|----------------------|----------|----------|-----------|----------|----------|
|                 |        |                |               | Band edge            |          |          | Harmonic  |          |          | Band edge            |          |          | Harmonic  |          |          |
|                 |        |                |               | Frequency            | Level    | Limit    | Frequency | Level    | Limit    | Frequency            | Level    | Limit    | Frequency | Level    | Limit    |
|                 |        |                |               | (MHz)                | (dBuV/m) | (dBuV/m) | (MHz)     | (dBuV/m) | (dBuV/m) | (MHz)                | (dBuV/m) | (dBuV/m) | (MHz)     | (dBuV/m) | (dBuV/m) |
| 802.11ac-VHT160 | CH 114 | 5570           | P             | 5441.44              | 60.91    | 74       | 16710     | 56.11    | 74       | 5748.2               | 51.92    | 74       | 16710     | 54.78    | 74       |
| 802.11ac-VHT160 | CH 114 | 5570           | A             | 5436.16              | 52       | 54       | 16710     | 47.5     | 54       | 5749.6               | 45.21    | 54       | 16710     | 47.03    | 54       |

### WWAN

| Mode     | Band  | Ch     | FCC ID<br>QISLYA-LX9 |                |                | FCC ID<br>QISLYA-L0C |                |                |
|----------|-------|--------|----------------------|----------------|----------------|----------------------|----------------|----------------|
|          |       |        | Harmonic             |                |                | Harmonic             |                |                |
|          |       |        | Frequency (MHz)      | Level (dBuV/m) | Limit (dBuV/m) | Frequency (MHz)      | Level (dBuV/m) | Limit (dBuV/m) |
| Part 90s | 26    | Middle | 3267                 | -64.63         | -13            | 2457.75              | -60.58         | -13            |
| Part 27  | 7 CA  | Middle | 10135                | -53.57         | -25            | 10131                | -53.59         | -25            |
| Part 22  | 26    | Middle | 3299                 | -65.48         | -13            | 3319                 | -65.76         | -13            |
| Part 27  | 38 CA | Low    | 7785                 | -53.38         | -25            | 10340.00             | -53.96         | -25            |
| Part 27  | 41 CA | Low    | 7669                 | -54.11         | -25            | 10225                | -53.83         | -25            |





**Band 3 - 5470~5725MHz**

**WIFI 802.11ac VHT160 (Band Edge @ 3m)**

| WIFI Ant. 1+2                         | Note  | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. ( P/A ) | Pol. ( H/V ) |
|---------------------------------------|---|-------------------|------------------|-------------------|-----------------------|---------------------|-------------------------|-------------------|----------------------|----------------|-------------------|-------------------|--------------|
| <b>802.11ac VHT160 CH 114 5570MHz</b> |   | 5382.4            | 50.38            | -23.62            | 74                    | 37.56               | 34.18                   | 33.1              | 11.74                | 114            | 39                | P                 | H            |
|                                       |   | 5447.44           | 43.7             | -10.3             | 54                    | 30.7                | 34.26                   | 33.1              | 11.84                | 114            | 39                | A                 | H            |
|                                       |   | 5570              | 84.59            | -                 | -                     | 71.25               | 34.41                   | 33.1              | 12.03                | 114            | 39                | P                 | H            |
|                                       |   | 5570              | 79.08            | -                 | -                     | 65.74               | 34.41                   | 33.1              | 12.03                | 114            | 39                | A                 | H            |
|                                       |   | 5726.5            | 51.9             | -22.1             | 74                    | 38.03               | 34.46                   | 33.1              | 12.51                | 114            | 39                | P                 | H            |
|                                       |   | 5733.15           | 44.84            | -9.16             | 54                    | 30.97               | 34.46                   | 33.1              | 12.51                | 114            | 39                | A                 | H            |
|                                       |   | 5461.12           | 51.36            | -22.64            | 74                    | 38.36               | 34.26                   | 33.1              | 11.84                | 180            | 10                | P                 | V            |
|                                       |   | 5391.76           | 44.33            | -9.67             | 54                    | 31.47               | 34.18                   | 33.1              | 11.78                | 180            | 10                | A                 | V            |
|                                       |   | 5570              | 89.79            | -                 | -                     | 76.45               | 34.41                   | 33.1              | 12.03                | 180            | 10                | P                 | V            |
|                                       |   | 5570              | 83.52            | -                 | -                     | 70.18               | 34.41                   | 33.1              | 12.03                | 180            | 10                | A                 | V            |
|                                       |   | 5748.2            | 51.92            | -22.08            | 74                    | 37.92               | 34.45                   | 33.1              | 12.65                | 180            | 10                | P                 | V            |
|                                       | 5749.6  | 45.21             | -8.79            | 54                | 31.21                 | 34.45               | 33.1                    | 12.65             | 180                  | 10             | A                 | V                 |              |
| <b>Remark</b>                         | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                   |                  |                   |                       |                     |                         |                   |                      |                |                   |                   |              |



**Band 3 - 5470~5725MHz**

**WIFI 802.11ac VHT160 (Harmonic @ 3m)**

| WIFI Ant. 1+2                  | Note  | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. ( P/A ) | Pol. ( H/V ) |
|--------------------------------|---|-------------------|------------------|-------------------|-----------------------|---------------------|-------------------------|-------------------|----------------------|----------------|-------------------|-------------------|--------------|
| 802.11ac VHT160 CH 114 5570MHz |   | 11140             | 49.78            | -24.22            | 74                    | 53.4                | 37.48                   | 55.9              | 14.8                 | 170            | 200               | P                 | H            |
|                                |   | 11140             | 41.46            | -12.54            | 54                    | 45.08               | 37.48                   | 55.9              | 14.8                 | 170            | 200               | A                 | H            |
|                                |   | 16710             | 54.78            | -19.22            | 74                    | 49.65               | 43.82                   | 56.16             | 17.47                | 156            | 350               | P                 | H            |
|                                |   | 16710             | 47.03            | -6.97             | 54                    | 41.9                | 43.82                   | 56.16             | 17.47                | 156            | 350               | A                 | H            |
|                                |   | 11140             | 50.39            | -23.61            | 74                    | 54.01               | 37.48                   | 55.9              | 14.8                 | 170            | 200               | P                 | V            |
|                                |   | 11140             | 41.55            | -12.45            | 54                    | 45.17               | 37.48                   | 55.9              | 14.8                 | 170            | 200               | A                 | V            |
|                                |   | 16710             | 53.95            | -20.05            | 74                    | 48.82               | 43.82                   | 56.16             | 17.47                | 156            | 350               | P                 | V            |
|                                |   | 16710             | 46.71            | -7.29             | 54                    | 41.58               | 43.82                   | 56.16             | 17.47                | 156            | 350               | A                 | V            |
| <b>Remark</b>                  | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                   |                  |                   |                       |                     |                         |                   |                      |                |                   |                   |              |



**Note symbol**

|     |  |
|-----|--|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| !   | Test result is <b>over limit</b> line.   |
| P/A | <b>Peak</b> or <b>Average</b>  |
| H/V | <b>Horizontal</b> or <b>Vertical</b>   |



A calculation example for radiated spurious emission is shown as below:

| WIFI Ant. 1+2               | Note | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. ( P/A ) | Pol. ( H/V ) |
|-----------------------------|------|-------------------|------------------|-------------------|-----------------------|---------------------|-------------------------|-------------------|----------------------|----------------|-------------------|-------------------|--------------|
| 802.11b<br>CH 01<br>2412MHz |      | 2390              | 55.45            | -18.55            | 74                    | 54.51               | 32.22                   | 4.58              | 35.86                | 103            | 308               | P                 | H            |
|                             |      | 2390              | 43.54            | -10.46            | 54                    | 42.6                | 32.22                   | 4.58              | 35.86                | 103            | 308               | A                 | H            |

- Level(dBμV/m) =  
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

- Level(dBμV/m)  
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

- Level(dBμV/m)  
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 43.54(dBμV/m) – 54(dBμV/m)  
= -10.46(dB)

**Both peak and average measured complies with the limit line, so test result is “PASS”.**

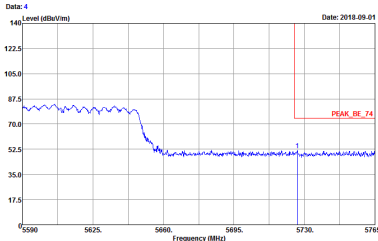
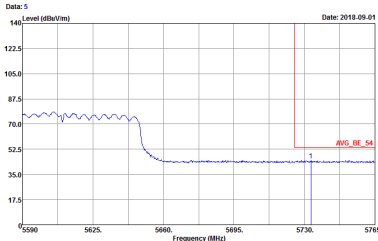


Band 3 - 5470~5725MHz

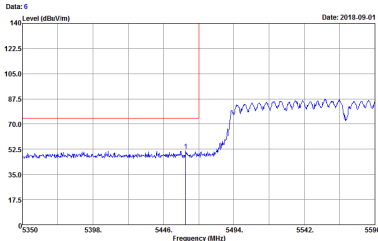
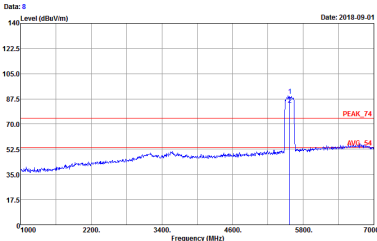
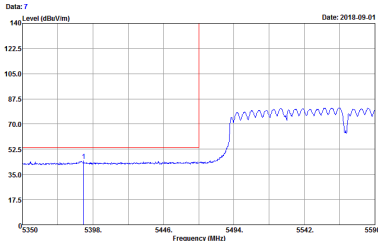
WIFI 802.11ac VHT160 (Band Edge @ 3m)

| WIFI | Band 3 5470~5725MHz Band Edge @ 3m   |   |
|------|--|---|
| ANT  | 802.11ac VHT160 CH114 5570 - L   |   |
| 1+2  | Horizontal   | Fundamental   |
| Peak | <p>Site : 03CH01-SZ<br/>           Condition : PEAK_BE_74 3m HF_ANT(1117)_119436 HORIZONTAL<br/>           RBW: 1000.000kHz VBW: 3000.000kHz<br/>           SBT: 104<br/>           Project : Mode 31<br/>           MEI : 061420040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> | <p>Site : 03CH01-SZ<br/>           Condition : PEAK_74 3m HF_ANT(1117)_119436 HORIZONTAL<br/>           RBW: 1000.000kHz VBW: 3000.000kHz<br/>           SBT: 104<br/>           Project : Mode 31<br/>           MEI : 061420040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> |
| Avg. | <p>Site : 03CH01-SZ<br/>           Condition : AVG_BE_54 3m HF_ANT(1117)_119436 HORIZONTAL<br/>           RBW: 1000.000kHz VBW: 10.000kHz<br/>           SBT: 104<br/>           Project : Mode 31<br/>           MEI : 061420040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p>    | Left blank  |

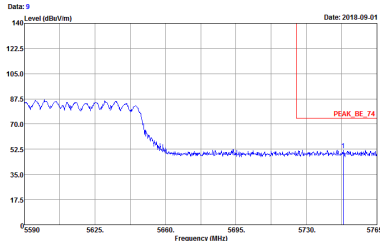
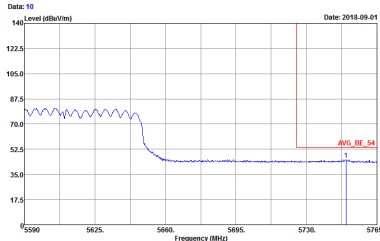


| WIFI               | Band 3 5470~5725MHz Band Edge @ 3m  |                   |
|--------------------|---|-------------------|
| ANT                | 802.11ac VHT40 CH102 5510MHz - R  |                   |
| 1+2                | Horizontal  | Fundamental       |
| <p><b>Peak</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : PEAK_BE_74 3m HF_ANT(3117)_119436 HORIZONTAL<br/>           Project : B81704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p>  | <p>Left blank</p> |
| <p><b>Avg.</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : AVG_BE_54 3m HF_ANT(3117)_119436 HORIZONTAL<br/>           Project : B81704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> | <p>Left blank</p> |



| WIFI               | Band 3 5470~5725MHz Band Edge @ 3m  |  |
|--------------------|---|--|
| ANT                | 802.11ac VHT40 CH102 5510MHz - L  |  |
| 1+2                | Vertical  | Fundamental  |
| <p><b>Peak</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : PEAK_BE_74 3m HF_ANT(1117)_119436 VERTICAL<br/>           Project : 881704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p>  |  <p>Site : 03CH01-SZ<br/>           Condition : PEAK_74 3m HF_ANT(1117)_119436 VERTICAL<br/>           Project : 881704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> |
| <p><b>Avg.</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : AVG_BE_54 3m HF_ANT(1117)_119436 VERTICAL<br/>           Project : 881704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> | <p>Left blank</p>  |



| WIFI               | Band 3 5470~5725MHz Band Edge @ 3m  |                   |
|--------------------|---|-------------------|
| ANT                | 802.11ac VHT40 CH102 5510MHz - R  |                   |
| 1+2                | Vertical  | Fundamental       |
| <p><b>Peak</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : PEAK_BE_74 3m HF_ANT(3117)_119436 VERTICAL<br/>           Project : B81704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p>  | <p>Left blank</p> |
| <p><b>Avg.</b></p> |  <p>Site : 03CH01-SZ<br/>           Condition : AVG_BE_54 3m HF_ANT(3117)_119436 VERTICAL<br/>           Project : B81704<br/>           Mode : Mode 31<br/>           MEI : 861430040000710<br/>           Plane : Y with Accessory (adapter+usb cable)<br/>           Data Rate : MSC0</p> | <p>Left blank</p> |





**Band 3 - 5470~5725MHz**

**WIFI 802.11ac VHT160 (Harmonic @ 3m)**

|                      |  |  |
|----------------------|--|--|
| <b>WIFI</b>          | <b>Band 3 5470~5725MHz Harmonic @ 3m</b>   |  |
| <b>ANT</b>           | <b>802.11ac VHT160 CH114 5570</b>  |  |
| <b>1+2</b>           | <b>Horizontal</b>  | <b>Vertical</b>  |
| <b>Peak<br/>Avg.</b> | <p>Data: 15<br/>Date: 2018-09-01</p> <p>Site : 03CH01-S2<br/>Condition : PEAK_74_3m HF_ANT(3117)_119436 HORIZONTAL<br/>Project : 881704<br/>Mode : Mode 31<br/>MEI : 881430040000710<br/>Plane : Y with Accessory (adapter+usb cable)<br/>Data Rate : MSC0</p> | <p>Data: 16<br/>Date: 2018-09-01</p> <p>Site : 03CH01-S2<br/>Condition : PEAK_74_3m HF_ANT(3117)_119436 VERTICAL<br/>Project : 881704<br/>Mode : Mode 31<br/>MEI : 881430040000710<br/>Plane : Y with Accessory (adapter+usb cable)<br/>Data Rate : MSC0</p> |



<Up Antenna>

**LTE Band 7 CA**

| LTE Band 7 / 15+20MHz / QPSK |                   |              |               |                   |                   |                    |                      |                       |                    |
|------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                      | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest                       | 5037.10           | -59.23       | -25           | -34.23            | -81.62            | -66.99             | 4.94                 | 12.70                 | H                  |
|                              | 7555.65           | -54.12       | -25           | -29.12            | -81.02            | -58.63             | 6.79                 | 11.30                 | H                  |
|                              | 10074.20          | -54.41       | -25           | -29.41            | -83.59            | -58.65             | 7.86                 | 12.10                 | H                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                              | 5037.10           | -60.05       | -25           | -35.05            | -81.83            | -67.81             | 4.94                 | 12.70                 | V                  |
|                              | 7555.65           | -54.74       | -25           | -29.74            | -81.62            | -59.25             | 6.79                 | 11.30                 | V                  |
|                              | 10074.20          | -56.12       | -25           | -31.12            | -83.28            | -60.36             | 7.86                 | 12.10                 | V                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Middle                       | 5066              | -59.05       | -25           | -34.05            | -81.44            | -66.81             | 4.94                 | 12.70                 | H                  |
|                              | 7598              | -54.72       | -25           | -29.72            | -81.62            | -59.23             | 6.79                 | 11.30                 | H                  |
|                              | 10131             | -53.59       | -25           | -28.59            | -82.77            | -57.83             | 7.86                 | 12.10                 | H                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                              | 5066              | -59.33       | -25           | -34.33            | -81.11            | -67.09             | 4.94                 | 12.70                 | V                  |
|                              | 7598              | -54.51       | -25           | -29.51            | -81.39            | -59.02             | 6.79                 | 11.30                 | V                  |
|                              | 10131             | -55.73       | -25           | -30.73            | -82.89            | -59.97             | 7.86                 | 12.10                 | V                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Highest                      | 5107              | -58.81       | -25           | -33.81            | -81.20            | -66.57             | 4.94                 | 12.70                 | H                  |
|                              | 7661              | -54.44       | -25           | -29.44            | -81.34            | -58.95             | 6.79                 | 11.30                 | H                  |
|                              | 10215             | -54.22       | -25           | -29.22            | -83.40            | -58.46             | 7.86                 | 12.10                 | H                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                              | 5107              | -59.28       | -25           | -34.28            | -81.06            | -67.04             | 4.94                 | 12.70                 | V                  |
|                              | 7661              | -54.41       | -25           | -29.41            | -81.29            | -58.92             | 6.79                 | 11.30                 | V                  |
|                              | 10215             | -55.95       | -25           | -30.95            | -83.11            | -60.19             | 7.86                 | 12.10                 | V                  |
|                              |                   |              |               |                   |                   |                    |                      |                       | V                  |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



<Down Antenna>

LTE Band 41 CA

| LTE Band 41 / 10+15MHz / QPSK |                   |              |               |                   |                   |                    |                      |                       |                    |
|-------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                       | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest                        | 5113              | -58.87       | -25           | -33.87            | -81.26            | -66.60             | 4.91                 | 12.64                 | H                  |
|                               | 7669              | -54.30       | -25           | -29.30            | -81.20            | -58.87             | 6.67                 | 11.24                 | H                  |
|                               | 10225             | -53.83       | -25           | -28.83            | -83.01            | -58.09             | 7.81                 | 12.07                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5113              | -60.00       | -25           | -35.00            | -81.78            | -67.73             | 4.91                 | 12.64                 | V                  |
|                               | 7669              | -54.24       | -25           | -29.24            | -81.12            | -58.81             | 6.67                 | 11.24                 | V                  |
|                               | 10225             | -56.18       | -25           | -31.18            | -83.34            | -60.44             | 7.81                 | 12.07                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Middle                        | 5190              | -59.24       | -25           | -34.24            | -81.63            | -67.00             | 4.94                 | 12.70                 | H                  |
|                               | 7785              | -54.54       | -25           | -29.54            | -81.44            | -59.05             | 6.79                 | 11.30                 | H                  |
|                               | 10380             | -53.91       | -25           | -28.91            | -83.09            | -58.15             | 7.86                 | 12.10                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5190              | -59.32       | -25           | -34.32            | -81.1             | -67.08             | 4.94                 | 12.70                 | V                  |
|                               | 7785              | -54.47       | -25           | -29.47            | -81.35            | -58.98             | 6.79                 | 11.30                 | V                  |
|                               | 10380             | -55.64       | -25           | -30.64            | -82.8             | -59.88             | 7.86                 | 12.10                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Highest                       | 5283              | -59.68       | -25           | -34.68            | -82.07            | -67.45             | 4.96                 | 12.73                 | H                  |
|                               | 7925              | -54.47       | -25           | -29.47            | -81.37            | -59.08             | 6.81                 | 11.42                 | H                  |
|                               | 10566             | -54.03       | -25           | -29.03            | -83.21            | -58.26             | 7.92                 | 12.15                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5283              | -60.24       | -25           | -35.24            | -82.02            | -68.01             | 4.96                 | 12.73                 | V                  |
|                               | 7925              | -54.38       | -25           | -29.38            | -81.26            | -58.99             | 6.81                 | 11.42                 | V                  |
|                               | 10566             | -56.02       | -25           | -31.02            | -83.18            | -60.25             | 7.92                 | 12.15                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



## LTE Band 38 CA

| LTE Band 38 / 15+15MHz / QPSK |                   |              |               |                   |                   |                    |                      |                       |                    |
|-------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                       | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest                        | 5170.00           | -59.30       | -25           | -34.30            | -81.69            | -67.06             | 4.94                 | 12.70                 | H                  |
|                               | 7755.00           | -54.85       | -25           | -29.85            | -81.75            | -59.36             | 6.79                 | 11.30                 | H                  |
|                               | 10340.00          | -53.96       | -25           | -28.96            | -83.14            | -58.20             | 7.86                 | 12.10                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5170.00           | -59.73       | -25           | -34.73            | -81.51            | -67.49             | 4.94                 | 12.70                 | V                  |
|                               | 7755.00           | -54.81       | -25           | -29.81            | -81.69            | -59.32             | 6.79                 | 11.30                 | V                  |
|                               | 10340.00          | -56.07       | -25           | -31.07            | -83.23            | -60.31             | 7.86                 | 12.10                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Middle                        | 5190              | -59.32       | -25           | -34.32            | -81.71            | -67.08             | 4.94                 | 12.70                 | H                  |
|                               | 7785              | -54.91       | -25           | -29.91            | -81.81            | -59.42             | 6.79                 | 11.30                 | H                  |
|                               | 10380             | -53.95       | -25           | -28.95            | -83.13            | -58.19             | 7.86                 | 12.10                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5190              | -59.89       | -25           | -34.89            | -81.67            | -67.65             | 4.94                 | 12.70                 | V                  |
|                               | 7785              | -54.45       | -25           | -29.45            | -81.33            | -58.96             | 6.79                 | 11.30                 | V                  |
|                               | 10380             | -56.19       | -25           | -31.19            | -83.35            | -60.43             | 7.86                 | 12.10                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |
| Highest                       | 5210              | -60.08       | -25           | -35.08            | -81.86            | -67.84             | 4.94                 | 12.70                 | H                  |
|                               | 7815              | -55.03       | -25           | -30.03            | -81.93            | -59.54             | 6.79                 | 11.30                 | H                  |
|                               | 10420             | -54.25       | -25           | -29.25            | -83.43            | -58.49             | 7.86                 | 12.10                 | H                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | H                  |
|                               | 5210              | -60.36       | -25           | -35.36            | -82.14            | -68.12             | 4.94                 | 12.70                 | V                  |
|                               | 7815              | -55.12       | -25           | -30.12            | -82               | -59.63             | 6.79                 | 11.30                 | V                  |
|                               | 10420             | -56.75       | -25           | -31.75            | -83.91            | -60.99             | 7.86                 | 12.10                 | V                  |
|                               |                   |              |               |                   |                   |                    |                      |                       | V                  |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

End of this report