

TEST REPORT

Test Items: Radiation above 18GHz

Applicant: PCD, LLC.

Address of applicant: 1500 Tradeport Drive, Suite A. Orlando, FL.

Product Description: Monkey II LTE

Tested Model: PL5003

Tested Date: September 15, 2017

Tested By: Lifan He / Engineer

Approved & Authorized By: Jimmy Li / Manager



Prepared By:

Centre Testing International Group Co., Ltd.

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen,
China



Centre Testing International Group Co., Ltd Laboratory has been recognized by FCC as the Designation Number is CN1164 and Test Firm Registration Number is 260439 which compliance with ANSI C63.10-2013 and ANSI/TIA-603-D:2010.

Test Equipment List

| No. | Description | Manufacturer | Model | Serial No. | Cal Date | Due Date |
|-----|----------------------|-----------------------------------------|-------------|------------|------------|------------|
| 1 | Pre-amplifier | Compliance Direction Systems Inc. | PAP-1840-60 | N/A | 2017-07-09 | 2018-07-08 |
| 2 | Spectrum Analyzer | R&S | ESIB 40 | 10116 | 2017-07-09 | 2018-07-08 |
| 3 | DRG Horn Antenna | DRG Horn Antenna | SAS-574 | 374 | 2017-07-09 | 2018-07-08 |

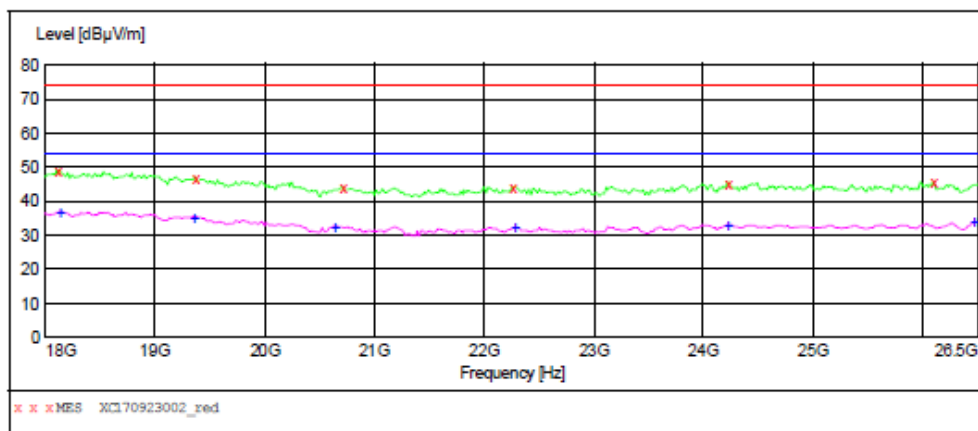
Spurious Emissions Above 18GHz

FCC Part 15.205, 15.209 and 15.247 standards

Operating Condition: Worst case BT DHS low channel (2402MHz)
Test Site: 3M CHAMBER
Operator: HLF
Test Specification: DC3.8V
Comment: PL5003
Start of Test: 9/23/2017 / 8:18:05PM

SWEEP TABLE: "test (18G-40G) P"

| Start | Stop | Detector | Meas. | IF | Transducer |
|-----------|-----------|----------|---------|-------|------------|
| Frequency | Frequency | Time | Bandw. | | |
| 18.0 GHz | 40.0 GHz | MaxPeak | Coupled | 1 MHz | SAS-574 |
| | | Average | | | |



MEASUREMENT RESULT: "XC170923002_red"

9/23/2017 8:22PM

| Frequency MHz | Level dBμV/m | Transd dB | Limit dBμV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18102.204409 | 49.10 | -19.6 | 74.0 | 24.9 | --- | 200.0 | 196.00 | VERTICAL |
| 19362.725451 | 47.10 | -24.7 | 74.0 | 26.9 | --- | 100.0 | 61.00 | VERTICAL |
| 20708.416834 | 44.00 | -26.7 | 74.0 | 30.0 | --- | 100.0 | 334.00 | VERTICAL |
| 22258.517034 | 44.20 | -25.3 | 74.0 | 29.8 | --- | 100.0 | 279.00 | VERTICAL |
| 24217.434870 | 45.50 | -22.8 | 74.0 | 28.5 | --- | 100.0 | 290.00 | VERTICAL |
| 26091.182365 | 45.80 | -22.2 | 74.0 | 28.2 | --- | 200.0 | 350.00 | VERTICAL |

MEASUREMENT RESULT: "XC170923002_red2"

9/23/2017 8:22PM

| Frequency MHz | Level dBμV/m | Transd dB | Limit dBμV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18136.272545 | 37.00 | -19.8 | 54.0 | 17.0 | --- | 200.0 | 102.00 | VERTICAL |
| 19345.691383 | 35.50 | -24.6 | 54.0 | 18.5 | --- | 200.0 | 139.00 | VERTICAL |
| 20640.280561 | 32.80 | -26.7 | 54.0 | 21.2 | --- | 100.0 | 0.00 | VERTICAL |
| 22275.551102 | 32.50 | -25.3 | 54.0 | 21.5 | --- | 200.0 | 333.00 | VERTICAL |
| 24217.434870 | 33.20 | -22.8 | 54.0 | 20.8 | --- | 100.0 | 158.00 | VERTICAL |
| 26465.931864 | 34.10 | -21.7 | 54.0 | 19.9 | --- | 100.0 | 34.00 | VERTICAL |

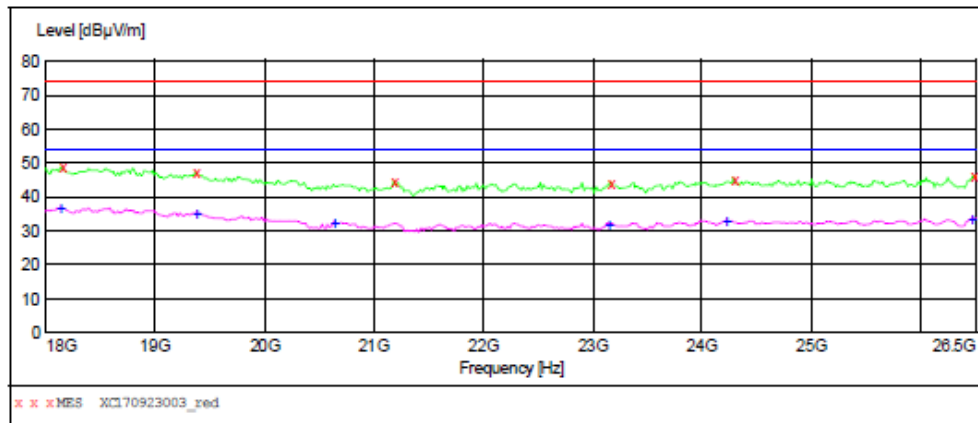


Centre Testing International Group Co., Ltd

Operating Condition: Worst case BT DHS low channel (2402MHz)
 Test Site: 3M CHAMBER
 Operator: HLF
 Test Specification: DC3.8V
 Comment: PL5003
 Start of Test: 9/23/2017 / 8:24:39PM

SWEEP TABLE: "test (18G-40G) P"

| Start | Stop | Detector | Meas. | IF | Transducer |
|-----------|-----------|----------|---------|--------|------------|
| Frequency | Frequency | | Time | Bandw. | |
| 18.0 GHz | 40.0 GHz | MaxPeak | Coupled | 1 MHz | SAS-574 |
| | | Average | | | |



MEASUREMENT RESULT: "XC170923003_red"

9/23/2017 8:29PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18153.306613 | 48.80 | -19.9 | 74.0 | 25.2 | --- | 100.0 | 312.00 | HORIZONTAL |
| 19379.759519 | 47.20 | -24.7 | 74.0 | 26.8 | --- | 100.0 | 85.00 | HORIZONTAL |
| 21185.370741 | 44.70 | -26.7 | 74.0 | 29.3 | --- | 200.0 | 162.00 | HORIZONTAL |
| 23161.322645 | 44.40 | -24.2 | 74.0 | 29.6 | --- | 200.0 | 179.00 | HORIZONTAL |
| 24285.571142 | 45.40 | -22.8 | 74.0 | 28.6 | --- | 100.0 | 136.00 | HORIZONTAL |
| 26482.965932 | 46.40 | -21.7 | 74.0 | 27.6 | --- | 100.0 | 336.00 | HORIZONTAL |

MEASUREMENT RESULT: "XC170923003_red2"

9/23/2017 8:29PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18136.272545 | 37.00 | -19.8 | 54.0 | 17.0 | --- | 100.0 | 98.00 | HORIZONTAL |
| 19362.725451 | 35.30 | -24.7 | 54.0 | 18.7 | --- | 100.0 | 248.00 | HORIZONTAL |
| 20640.280561 | 32.80 | -26.7 | 54.0 | 21.2 | --- | 100.0 | 0.00 | HORIZONTAL |
| 23144.288577 | 32.40 | -24.2 | 54.0 | 21.6 | --- | 100.0 | 163.00 | HORIZONTAL |
| 24217.434870 | 33.10 | -22.8 | 54.0 | 20.9 | --- | 100.0 | 136.00 | HORIZONTAL |
| 26465.931864 | 33.80 | -21.7 | 54.0 | 20.2 | --- | 100.0 | 14.00 | HORIZONTAL |

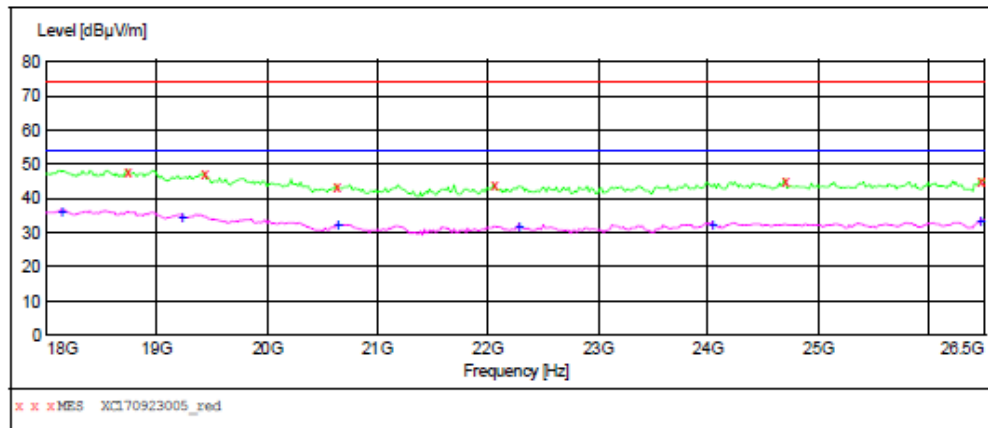


Centre Testing International Group Co., Ltd

Operating Condition: Worst case BT BLE low channel (2402MHz)
 Test Site: 3M CHAMBER
 Operator: HLF
 Test Specification: DC3.8V
 Comment: PL5003
 Start of Test: 9/23/2017 / 8:37:01PM

SWEEP TABLE: "test (18G-40G) P"

| | | | | | |
|-----------|-----------|----------|---------|--------|------------|
| Start | Stop | Detector | Meas. | IF | Transducer |
| Frequency | Frequency | | Time | Bandw. | |
| 18.0 GHz | 40.0 GHz | MaxPeak | Coupled | 1 MHz | SAS-574 |
| | | Average | | | |



MEASUREMENT RESULT: "XC170923005_red"

9/23/2017 8:41PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18732.464930 | 48.20 | -22.6 | 74.0 | 25.8 | --- | 200.0 | 0.00 | VERTICAL |
| 19430.861723 | 47.50 | -24.9 | 74.0 | 26.5 | --- | 100.0 | 226.00 | VERTICAL |
| 20623.246493 | 43.90 | -26.7 | 74.0 | 30.1 | --- | 200.0 | 162.00 | VERTICAL |
| 22054.108216 | 44.30 | -25.6 | 74.0 | 29.7 | --- | 100.0 | 12.00 | VERTICAL |
| 24694.388778 | 45.60 | -22.8 | 74.0 | 28.4 | --- | 200.0 | 280.00 | VERTICAL |
| 26465.931864 | 45.50 | -21.7 | 74.0 | 28.5 | --- | 100.0 | 100.00 | VERTICAL |

MEASUREMENT RESULT: "XC170923005_red2"

9/23/2017 8:41PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 18136.272545 | 36.70 | -19.8 | 54.0 | 17.3 | --- | 200.0 | 323.00 | VERTICAL |
| 19226.452906 | 35.10 | -24.4 | 54.0 | 18.9 | --- | 100.0 | 0.00 | VERTICAL |
| 20640.280561 | 32.60 | -26.7 | 54.0 | 21.4 | --- | 100.0 | 0.00 | VERTICAL |
| 22275.551102 | 32.10 | -25.3 | 54.0 | 21.9 | --- | 200.0 | 299.00 | VERTICAL |
| 24030.060120 | 32.80 | -22.8 | 54.0 | 21.2 | --- | 200.0 | 192.00 | VERTICAL |
| 26465.931864 | 33.90 | -21.7 | 54.0 | 20.1 | --- | 100.0 | 0.00 | VERTICAL |

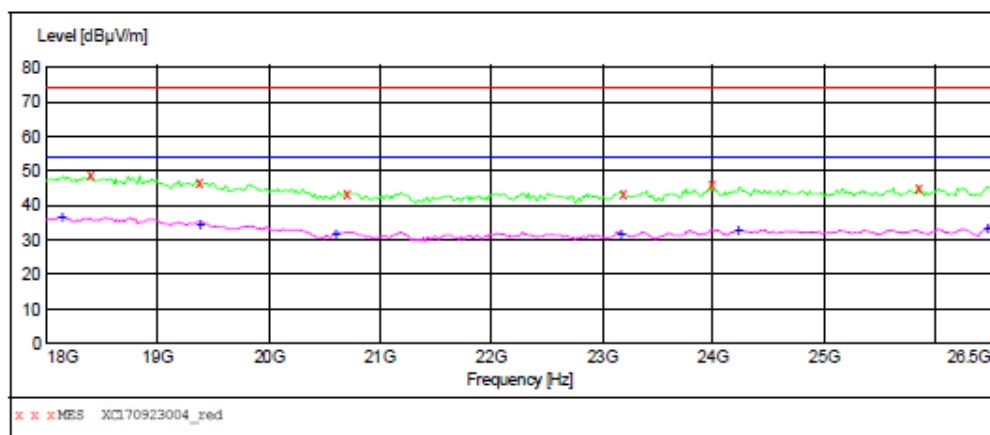


Centre Testing International Group Co., Ltd

Operating Condition: Worst case BT BLE low channel (2402MHz)
 Test Site: 3M CHAMBER
 Operator: HLF
 Test Specification: DC3.8V
 Comment: PL5003
 Start of Test: 9/23/2017 / 8:31:24PM

SWEEP TABLE: "test (18G-40G) P"

| Start Frequency | Stop Frequency | Detector | Meas. Time | IF Bandw. | Transducer |
|-----------------|----------------|-----------------|------------|-----------|------------|
| 18.0 GHz | 40.0 GHz | MaxPeak Average | Coupled | 1 MHz | SAS-574 |



MEASUREMENT RESULT: "XC170923004_red"

9/23/2017 8:35PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18391.783567 | 49.00 | -21.0 | 74.0 | 25.0 | --- | 100.0 | 281.00 | HORIZONTAL |
| 19362.725451 | 46.80 | -24.7 | 74.0 | 27.2 | --- | 100.0 | 318.00 | HORIZONTAL |
| 20691.382766 | 43.90 | -26.7 | 74.0 | 30.1 | --- | 100.0 | 220.00 | HORIZONTAL |
| 23178.356713 | 43.80 | -24.2 | 74.0 | 30.2 | --- | 200.0 | 259.00 | HORIZONTAL |
| 23978.957916 | 46.10 | -22.8 | 74.0 | 27.9 | --- | 200.0 | 293.00 | HORIZONTAL |
| 25835.671343 | 45.50 | -22.4 | 74.0 | 28.5 | --- | 100.0 | 135.00 | HORIZONTAL |

MEASUREMENT RESULT: "XC170923004_red2"

9/23/2017 8:35PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18136.272545 | 36.80 | -19.8 | 54.0 | 17.2 | --- | 100.0 | 54.00 | HORIZONTAL |
| 19379.759519 | 35.20 | -24.7 | 54.0 | 18.8 | --- | 100.0 | 0.00 | HORIZONTAL |
| 20589.178357 | 32.40 | -26.7 | 54.0 | 21.6 | --- | 100.0 | 0.00 | HORIZONTAL |
| 23161.322645 | 32.20 | -24.2 | 54.0 | 21.8 | --- | 100.0 | 0.00 | HORIZONTAL |
| 24217.434870 | 33.10 | -22.8 | 54.0 | 20.9 | --- | 200.0 | 279.00 | HORIZONTAL |
| 26465.931864 | 33.90 | -21.7 | 54.0 | 20.1 | --- | 100.0 | 294.00 | HORIZONTAL |

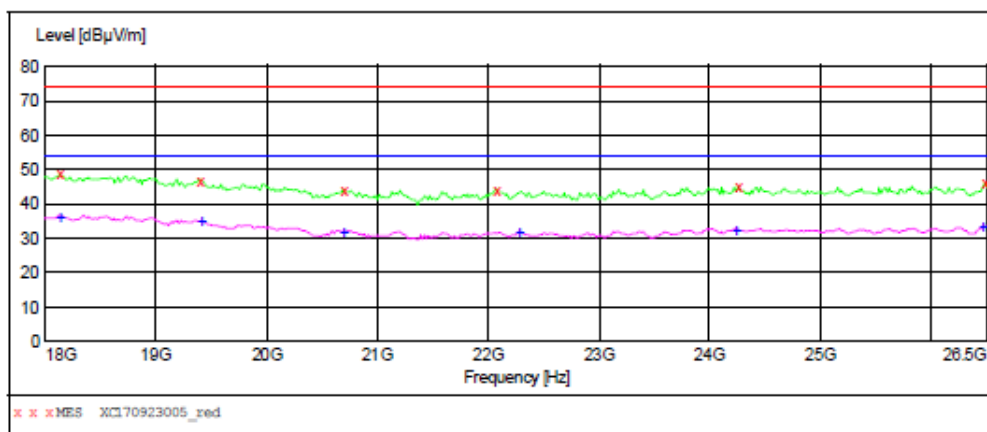


Centre Testing International Group Co., Ltd

Operating Condition: Worst case WIFI 802.11b low channel (2412MHz)
 Test Site: 3M CHAMBER
 Operator: HLF
 Test Specification: DC3.8V
 Comment: PL5003
 Start of Test: 9/23/2017 / 8:47:13PM

SWEEP TABLE: "test (18G-40G) P"

| Start Frequency | Stop Frequency | Detector | Meas. Time | IF Bandw. | Transducer |
|-----------------|----------------|-----------------|------------|-----------|------------|
| 18.0 GHz | 40.0 GHz | MaxPeak Average | Coupled | 1 MHz | SAS-574 |



MEASUREMENT RESULT: "XC170923005_red"

9/23/2017 8:51PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18136.272545 | 48.80 | -19.8 | 74.0 | 25.2 | --- | 200.0 | 4.00 | VERTICAL |
| 19396.793587 | 46.90 | -24.8 | 74.0 | 27.1 | --- | 200.0 | 110.00 | VERTICAL |
| 20691.382766 | 44.30 | -26.7 | 74.0 | 29.7 | --- | 100.0 | 112.00 | VERTICAL |
| 22071.142285 | 44.50 | -25.6 | 74.0 | 29.5 | --- | 100.0 | 292.00 | VERTICAL |
| 24251.503006 | 45.10 | -22.8 | 74.0 | 28.9 | --- | 100.0 | 228.00 | VERTICAL |
| 26482.965932 | 46.10 | -21.7 | 74.0 | 27.9 | --- | 200.0 | 120.00 | VERTICAL |

MEASUREMENT RESULT: "XC170923005_red2"

9/23/2017 8:51PM

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18119.238477 | 36.60 | -19.7 | 54.0 | 17.4 | --- | 200.0 | 79.00 | VERTICAL |
| 19413.827655 | 35.30 | -24.8 | 54.0 | 18.7 | --- | 200.0 | 46.00 | VERTICAL |
| 20691.382766 | 32.30 | -26.7 | 54.0 | 21.7 | --- | 100.0 | 61.00 | VERTICAL |
| 22275.551102 | 32.20 | -25.3 | 54.0 | 21.8 | --- | 100.0 | 71.00 | VERTICAL |
| 24234.468938 | 32.80 | -22.8 | 54.0 | 21.2 | --- | 200.0 | 79.00 | VERTICAL |
| 26465.931864 | 33.80 | -21.7 | 54.0 | 20.2 | --- | 100.0 | 241.00 | VERTICAL |

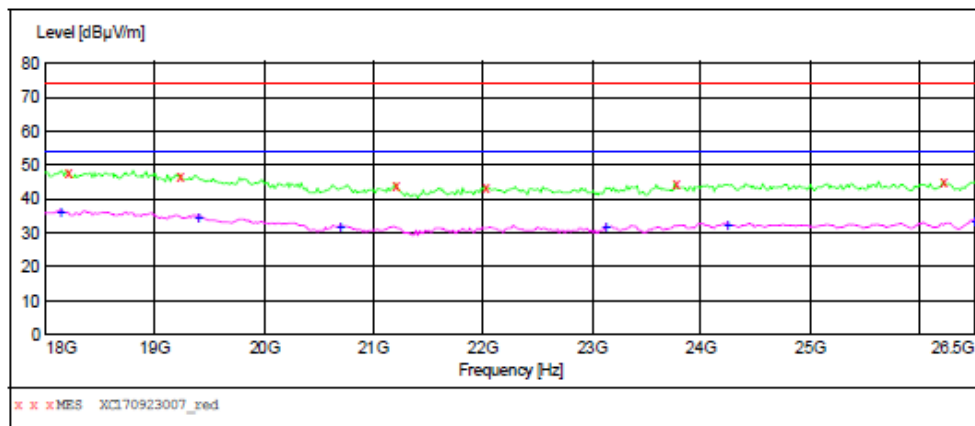


Centre Testing International Group Co., Ltd

Operating Condition: Worst case WIFI 802.11b low channel (2412MHz)
 Test Site: 3M CHAMBER
 Operator: HLF
 Test Specification: DC3.8V
 Comment: PL5003
 Start of Test: 9/23/2017 / 8:52:05PM

SWEEP TABLE: "test (18G-40G) P"

| Start Frequency | Stop Frequency | Detector | Meas. Time | IF Bandw. | Transducer |
|-----------------|----------------|-----------------|------------|-----------|------------|
| 18.0 GHz | 40.0 GHz | MaxPeak Average | Coupled | 1 MHz | SAS-574 |



MEASUREMENT RESULT: "XC170923007_red"

9/23/2017 8:56PM

| Frequency MHz | Level dBμV/m | Transd dB | Limit dBμV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18204.408818 | 48.40 | -20.1 | 74.0 | 25.6 | --- | 200.0 | 6.00 | HORIZONTAL |
| 19226.452906 | 47.00 | -24.4 | 74.0 | 27.0 | --- | 200.0 | 191.00 | HORIZONTAL |
| 21202.404810 | 44.50 | -26.7 | 74.0 | 29.5 | --- | 200.0 | 215.00 | HORIZONTAL |
| 22020.040080 | 43.70 | -25.6 | 74.0 | 30.3 | --- | 100.0 | 157.00 | HORIZONTAL |
| 23757.515030 | 44.60 | -23.2 | 74.0 | 29.4 | --- | 200.0 | 86.00 | HORIZONTAL |
| 26210.420842 | 45.20 | -22.0 | 74.0 | 28.8 | --- | 200.0 | 198.00 | HORIZONTAL |

MEASUREMENT RESULT: "XC170923007_red2"

9/23/2017 8:56PM

| Frequency MHz | Level dBμV/m | Transd dB | Limit dBμV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 18136.272545 | 36.70 | -19.8 | 54.0 | 17.3 | --- | 100.0 | 235.00 | HORIZONTAL |
| 19396.793587 | 35.20 | -24.8 | 54.0 | 18.8 | --- | 100.0 | 235.00 | HORIZONTAL |
| 20691.382766 | 32.20 | -26.7 | 54.0 | 21.8 | --- | 200.0 | 235.00 | HORIZONTAL |
| 23127.254509 | 32.30 | -24.3 | 54.0 | 21.7 | --- | 100.0 | 279.00 | HORIZONTAL |
| 24234.468938 | 32.90 | -22.8 | 54.0 | 21.1 | --- | 200.0 | 6.00 | HORIZONTAL |
| 26500.000000 | 33.80 | -21.7 | 54.0 | 20.2 | --- | 100.0 | 96.00 | HORIZONTAL |

FCC Part 22.917 and 24.238 standards

Spurious Emission From 18GHz to 26.5GHz

For Cellular Band_ GSM850 Mode; Band_ GSM1900 Mode; 3G Band 2 Mode;

FDD_LTE Band 2 Mode; For FDD_LTE Band 4 Mode; For FDD_LTE Band 7 Mode

Testing is carried out with frequency rang 18GHz to 26.5GHz, which emissions attenuated more than 20dB below the FCC limit, so the data is not display.



Test Setup Photographs



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