

VARIANT FCC TEST REPORT

(PART 27)



| | |
|------------|--|
| Applicant: | FIH International Co., Ltd. |
| Address: | No.18, Tongji zhonglu, Beijing Economic & Technological Development Area |

| | |
|---------------------------|----------------------------------|
| Manufacturer or Supplier: | HMD Global Oy |
| Address: | Karaportti 2 02610 Espoo FINLAND |
| Product: | GSM/WCDMA/LTE Mobile Phone |
| Brand Name: | Nokia |
| Model Name: | TA-1074 |
| FCC ID: | 2AJOTTA-1074 |
| Date of tests: | Jun. 05, 2018 ~ Oct. 19, 2018 |

The tests have been carried out according to the requirements of the following standard:

☒ FCC Part 27, Subpart C, L ☒ ANSI/TIA/EIA-603- D
☒ FCC Part 2 ☒ ANSI/TIA/EIA-603-E ☒ ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

| | |
|--|--|
| Prepared by Roger Li Engineer / Mobile Department | Approved by Sam Tung Manager / Mobile Department |
|  Date: Oct. 19, 2018 |  Date: Oct. 19, 2018 |

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Test Report No.: RF180604W006-12

RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|-----------------|-------------------|---------------|
| RF180604W006-12 | Original release | Oct. 19, 2018 |

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 27 & Part 2 | | | |
|--|------------------------------|--------|---|
| STANDARD SECTION | TEST TYPE AND LIMIT | RESULT | REMARK |
| 2.1046 27.50(d)(4) | Maximum Peak Output Power | PASS | Meet the requirement of limit. |
| 2.1055 27.54 | Frequency Stability | N/A | N/A |
| 2.1049 27.53(h) | Occupied Bandwidth | N/A | N/A |
| 27.50(d)(5) | Peak to average ratio | N/A | N/A |
| 27.53(h) | Band Edge Measurements | N/A | N/A |
| 2.1051 27.53(h) | Conducted Spurious Emissions | N/A | N/A |
| 2.1053 27.53(h) | Radiated Spurious Emissions | PASS | Meet the requirement of limit. Minimum passing margin is -21.15dB at 44.86MHz. |

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT | FREQUENCY | UNCERTAINTY |
|---------------------|---------------|-------------|
| Conducted emissions | 9kHz~30MHz | 2.66dB |
| Radiated emissions | 9KHz ~ 30MHz | 2.68dB |
| | 30MHz ~ 1GMHz | 3.26dB |
| | 1GHz ~ 18GHz | 4.48dB |
| | 18GHz ~ 40GHz | 4.12dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.2 TEST SITE AND INSTRUMENTS

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|--------------|-------------------------------------|---------------------------------|------------|------------|
| MXE EMI Receiver | KEYSIGHT | N9038A-544 | MY54450026 | Mar. 16,18 | Mar. 15,19 |
| EXA Signal Analyzer | KEYSIGHT | N9010A-526 | MY54510322 | Mar. 16,18 | Mar. 15,19 |
| Bilog Antenna 1 | ETS-LINDGREN | 3143B | 00161964 | Nov. 26,16 | Nov. 25,18 |
| Bilog Antenna 2 | ETS-LINDGREN | 3143B | 00161965 | Nov. 26,16 | Nov. 25,18 |
| Horn Antenna 1 | ETS-LINDGREN | 3117 | 00168728 | Nov. 26,16 | Nov. 25,18 |
| Horn Antenna 2 | ETS-LINDGREN | 3117 | 00168692 | Nov. 26,16 | Nov. 25,18 |
| Loop antenna | Daze | ZN30900A | 0708 | Nov. 20,17 | Nov. 19,18 |
| Horn Antenna (18GHz-40GHz) | N/A | QWH-SL-18-40 -K-SG/QMS-00 361 | 15433 | Dec. 16,16 | Dec. 15,18 |
| Radio Communication Analyzer | ANRITSU | MT8820C | 6201465426 | Mar. 02,18 | Mar. 01,19 |
| Signal Pre-Amplifier | EMSI | EMC 9135 | 980249 | Jul. 09,18 | Jul. 08,19 |
| Signal Pre-Amplifier | EMSI | EMC 012645B | 980257 | Jul. 09,18 | Jul. 08,19 |
| Signal Pre-Amplifier | EMSI | EMC 184045B | 980259 | Jul. 09,18 | Jul. 08,19 |
| 3m Semi-anechoic Chamber | ETS-LINDGREN | 9m*6m*6m | Euroshieldpn- CT0001143-1216 | Apr. 21,18 | Apr. 20,19 |
| Test Software | E3 | V 9.160323 | N/A | N/A | N/A |
| Test Software | ADT | ADT_Radiated _V7.6.15.9.2 | N/A | N/A | N/A |
| 10dB Attenuator | JFW/USA | 50HF-010-SM A | 1505 | Jul. 09,18 | Jul. 08,19 |
| Power Meter | Anritsu | ML2495A | 1506002 | Mar. 02,18 | Mar. 01,19 |
| Power Sensor | Anritsu | MA2411B | 1339352 | Mar. 16,18 | Mar. 15,19 |
| Humid & Temp Programmable Tester | Juyi | ITH-120-45-CP -AR | IAA1504-001 | Jul. 09,18 | Jul. 08,19 |
| MXG Analog Microvave Signal Generator | KEYSIGHT | N5183A | MY50143024 | Mar. 13,18 | Mar. 12,19 |

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 525120.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | | |
|------------------------------|--|-------------------------------------|
| PRODUCT | GSM/WCDMA/LTE Mobile Phone | |
| MODEL NAME | TA-1074 | |
| POWER SUPPLY | 5.0Vdc (adapter or host equipment) 3.9Vdc (Li-ion, battery) | |
| MODULATION TECHNOLOGY | WCDMA IV | BPSK |
| | LTE | QPSK, 16QAM |
| FREQUENCY RANGE | WCDMA IV | 1712.4MHz ~ 1752.6MHz |
| | LTE Band 4 Channel Bandwidth: 1.4MHz | 1710.7MHz ~ 1754.3MHz |
| | LTE Band 4 Channel Bandwidth: 3MHz | 1711.5MHz ~ 1753.5MHz |
| | LTE Band 4 Channel Bandwidth: 5MHz | 1712.5MHz ~ 1752.5MHz |
| | LTE Band 4 Channel Bandwidth: 10MHz | 1715.0MHz ~ 1750.0MHz |
| | LTE Band 4 Channel Bandwidth: 15MHz | 1717.5MHz ~ 1747.5MHz |
| | LTE Band 4 Channel Bandwidth: 20MHz | 1720.0MHz ~ 1745.0MHz |
| | LTE Band 12 Channel Bandwidth: 1.4MHz | 699.7MHz ~ 715.3MHz |
| | LTE Band 12 Channel Bandwidth: 3MHz | 700.5MHz ~ 714.5MHz |
| | LTE Band 12 Channel Bandwidth: 5MHz | 701.5MHz ~ 713.5MHz |
| | LTE Band 12 Channel Bandwidth: 10MHz | 704.0MHz ~ 711.0MHz |
| | LTE Band 17 Channel Bandwidth: 5MHz | 706.5MHz ~ 713.5MHz |
| | LTE Band 17 Channel Bandwidth: 10MHz | 709.0MHz ~ 711.0MHz |
| MAX. ERP/EIRP POWER | WCDMA IV | 194mW |
| | LTE Band 4 Channel Bandwidth: 3MHz | 151mW |
| | LTE Band 12 Channel Bandwidth: 3MHz | 158mW |
| | LTE Band 17 Channel Bandwidth: 5MHz | 183mW |
| ANTENNA TYPE | WCDMA IV | Fixed Internal Antenna with 2.76dBi |
| | LTE Band 4 | Fixed Internal Antenna with 2.76dBi |



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| | | |
|-------------------------|---|--------------------------------------|
| | LTE Band 12 | Fixed Internal Antenna with -1.29dBi |
| | LTE Band 17 | Fixed Internal Antenna with -1.29dBi |
| HW VERSION | HW0359 | |
| SW VERSION | 000C_0_34A | |
| ACCESSORY DEVICE | Refer to note as below | |
| DATA CABLE | USB cable: non-shielded, detachable, 1.0m Earphone cable: non-shielded, detachable, 1.5m | |

NOTE:

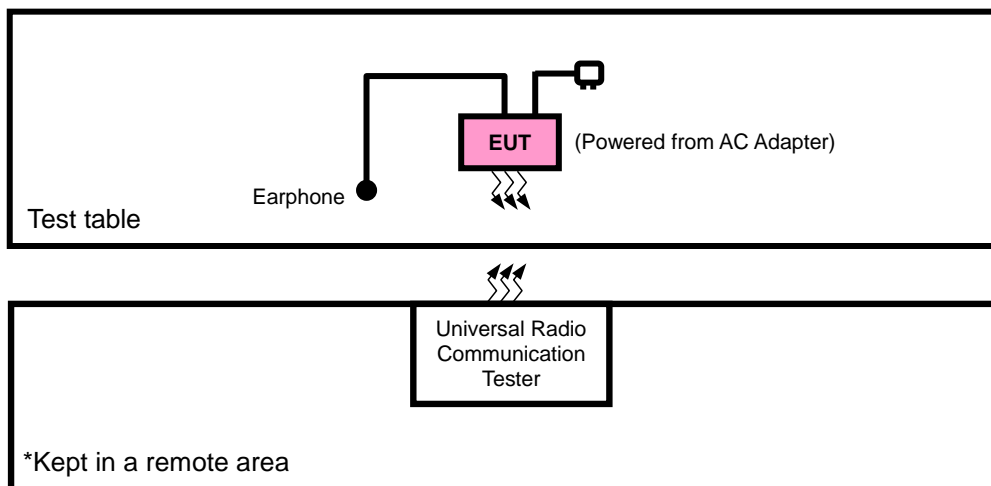
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The test data include in this report is copied from the original report RF180604W006-5. The differences compared with original report changing model name & FCC ID and disable one SIM card.

List of Accessories:

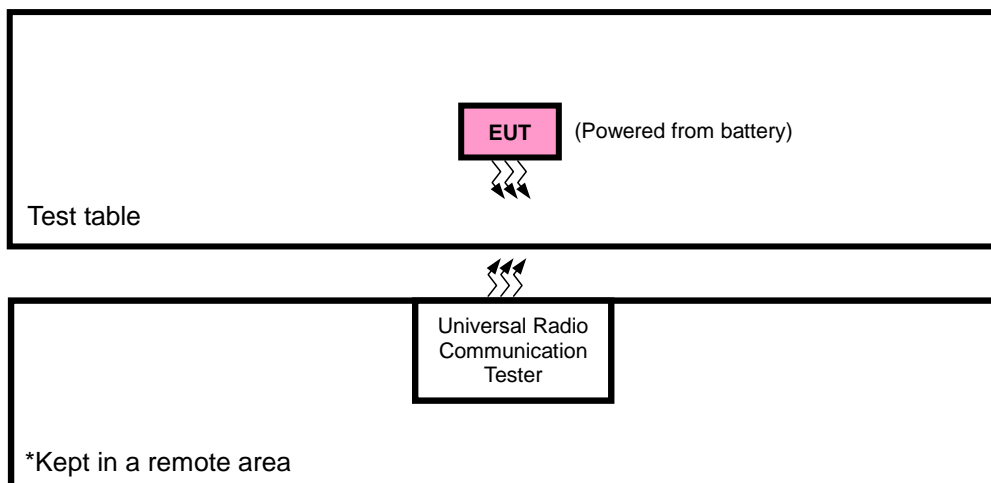
| ACCESSORIES | BRAND | MANUFACTURER | MODEL | SPECIFICATION |
|-------------|---------|--|----------|---|
| Adapter 1 | Salcomp | Salcomp (Shenzhen) Co., Ltd. | FC0202 | I/P: 100-240Vac, 150mA O/P: 5Vdc, 1000mA |
| Adapter 2 | Aohai | DONGGUAN AOHA TECHNOLOGY CO., LTD. | AD-5WU | I/P: 100-240Vac, 150mA O/P: 5Vdc, 1000mA |
| Battery | SCUD | SCUD (Fujian) Electronics CO., Ltd. | HE336 | Rating: 3.85Vdc, 2900mAh |
| Earphone 1 | Nokia | FIT | WH-108 | 1.5m non-shielded cable w/o core |
| Earphone 2 | Nokia | OBO | WH-108 | 1.5m non-shielded cable w/o core |
| USB Cable | Nokia | FIH | CA-190CD | 1.0m non-shielded cable w/o core |

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



FOR CONDUCTED & E.R.P./E.I.R.P TEST



2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|-----|-----------|----------|-----------|------------|--------|
| 1 | DC source | LONG WEI | PS-6403D | 010934269 | N/A |
| 2 | PC | HP | A6608CN | 3CR83825X3 | N/A |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1 | DC Line: Unshielded, Detachable 1.0m |
| 2 | AC Line: Unshielded, Detachable 1.5m |

NOTE:

1. All power cords of the above support units are non shielded (1.8m).

2.4 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case in ERP/EIRP and radiated emission was found when positioned on X-plane for LTE. Following channel(s) was (were) selected for the final test as listed below:

| EUT CONFIGURE MODE | DESCRIPTION |
|--------------------------|--|
| A | EUT + Adapter + USB Cable + Earphone with LTE link |
| B | EUT + Battery with LTE link |

WCDMA MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | MODE |
|--------------------------|-------------------|-------------------|------------------|-------|
| B | EIRP | 1312 to 1513 | 1312, 1413, 1513 | WCDMA |
| A | RADIATED EMISSION | 1312 to 1513 | 1312, 1413, 1513 | WCDMA |

LTE BAND 4

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|--------------------|-------------------|-------------------|---------------------|-------------------|-------------|--------------------|
| B | EIRP | 19957 to 20393 | 19957, 20175, 20393 | 1.4MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 19965 to 20385 | 19965, 20175, 20385 | 3MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 19975 to 20375 | 19975, 20175, 20375 | 5MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 20000 to 20350 | 20000, 20175, 20350 | 10MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 20025 to 20325 | 20025, 20175, 20325 | 15MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 20050 to 20300 | 20050, 20175, 20300 | 20MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| A | RADIATED EMISSION | 19957 to 20393 | 20175 | 1.4MHz | QPSK | 1 RB / 0 RB Offset |
| | | 19965 to 20385 | 20175 | 3MHz | QPSK | 1 RB / 0 RB Offset |
| | | 19975 to 20375 | 20175 | 5MHz | QPSK | 1 RB / 0 RB Offset |
| | | 20000 to 20350 | 20175 | 10MHz | QPSK | 1 RB / 0 RB Offset |
| | | 20025 to 20325 | 20175 | 15MHz | QPSK | 1 RB / 0 RB Offset |
| | | 20050 to 20300 | 20050, 20175, 20300 | 20MHz | QPSK | 1 RB / 0 RB Offset |

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND 12

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|--------------------|-------------------|-------------------|---------------------|-------------------|-------------|--------------------|
| B | ERP | 23017 to 23173 | 23017, 23095, 23173 | 1.4MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 23025 to 23165 | 23025, 23095, 23165 | 3MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 23035 to 23155 | 23035, 23095, 23155 | 5MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 23060 to 23130 | 23060, 23095, 23130 | 10MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| A | RADIATED EMISSION | 23017 to 23173 | 23095 | 1.4MHz | QPSK | 1 RB / 0 RB Offset |
| | | 23025 to 23165 | 23025, 23095, 23165 | 3MHz | QPSK | 1 RB / 0 RB Offset |
| | | 23035 to 23155 | 23095 | 5MHz | QPSK | 1 RB / 0 RB Offset |
| | | 23060 to 23130 | 23095 | 10MHz | QPSK | 1 RB / 0 RB Offset |

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND 17

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|--------------------|-------------------|-------------------|---------------------|-------------------|-------------|--------------------|
| B | ERP | 23755 to 23825 | 23755, 23790, 23825 | 5MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| | | 23780 to 23800 | 23780, 23790, 23800 | 10MHz | QPSK, 16QAM | 1 RB / 0 RB Offset |
| A | RADIATED EMISSION | 23755 to 23825 | 23755, 23790, 23825 | 5MHz | QPSK | 1 RB / 0 RB Offset |
| | | 23780 to 23800 | 23790 | 10MHz | QPSK | 1 RB / 0 RB Offset |

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

| TEST ITEM | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|-------------------|--------------------------|---------------------|-----------|
| EIRP(ERP) | 24deg. C, 60%RH | 3.9Vdc from Battery | Vincent |
| RADIATED EMISSION | 24deg. C, 60%RH | 5Vdc from adapter | Vincent |

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

Portable stations (hand-held devices) operating in the 699-716 MHz bands are limited to 3 watts ERP.

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

- a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RBW and VBW is 10MHz for LTE.
- b. E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
- d. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- e. $E.R.P = E.I.R.P - 2.15 \text{ dB}$

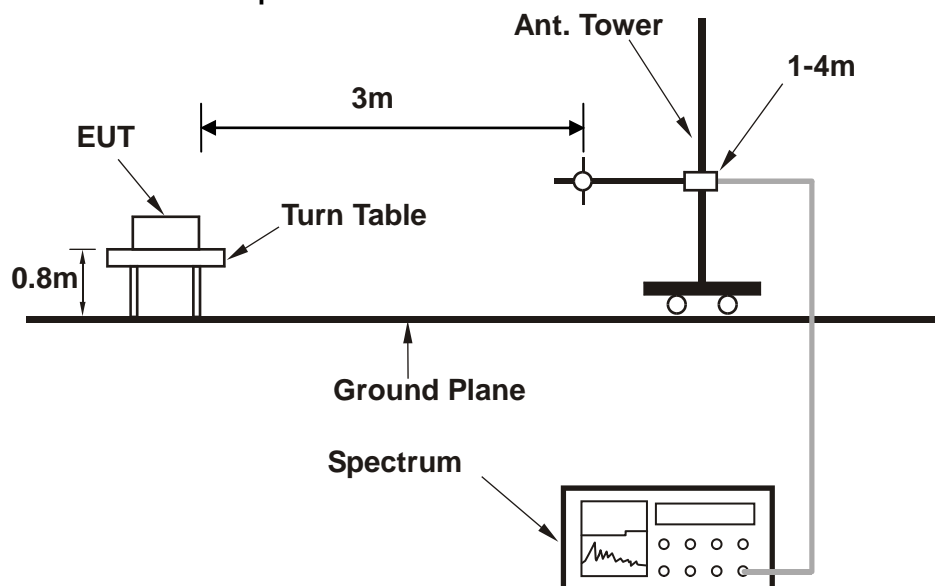
CONDUCTED POWER MEASUREMENT:

- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

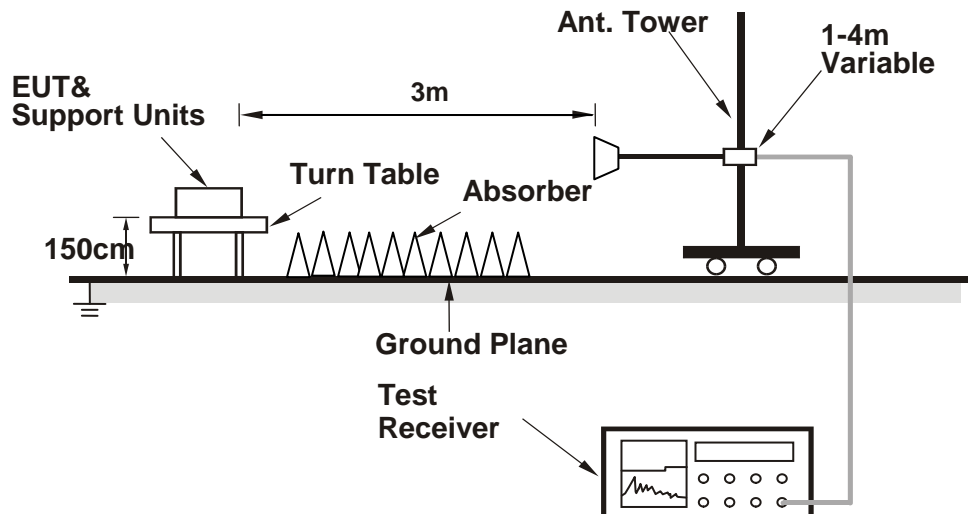
3.1.3 TEST SETUP

EIRP / ERP Measurement:

<Radiated Emission below or equal 1 GHz>

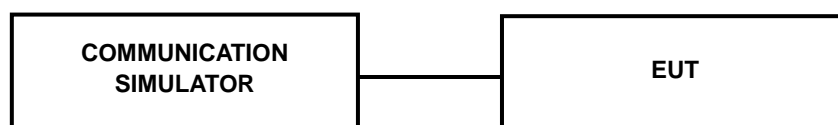


<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

CONDUCTED POWER MEASUREMENT:





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3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

| Band | WCDMA IV | | |
|-----------------|----------|--------|--------|
| Channel | 1312 | 1413 | 1513 |
| Frequency (MHz) | 1712.4 | 1732.6 | 1752.6 |
| RMC 12.2K | 23.57 | 23.51 | 23.49 |
| HSPA | | | |
| HSDPA Subtest-1 | 22.63 | 22.57 | 22.55 |
| HSDPA Subtest-2 | 22.62 | 22.56 | 22.54 |
| HSDPA Subtest-3 | 22.10 | 22.04 | 22.02 |
| HSDPA Subtest-4 | 22.08 | 22.02 | 22.00 |
| HSUPA Subtest-1 | 22.57 | 22.51 | 22.49 |
| HSUPA Subtest-2 | 20.71 | 20.65 | 20.63 |
| HSUPA Subtest-3 | 21.70 | 21.64 | 21.62 |
| HSUPA Subtest-4 | 20.69 | 20.63 | 20.61 |
| HSUPA Subtest-5 | 22.53 | 22.47 | 22.45 |

| LTE Band 4 | | | | | | | |
|------------|------------|---------|-----------|-------------------------|-------------------------|-------------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 19957 | Mid CH 20175 | High CH 20393 | MPR |
| | | | | Frequency 1710.7 MHz | Frequency 1732.5 MHz | Frequency 1754.3 MHz | |
| 1.4MHz | QPSK | 1 | 0 | 22.10 | 22.03 | 22.05 | 0 |
| | | 1 | 2 | 21.91 | 21.84 | 21.86 | 0 |
| | | 1 | 5 | 21.89 | 21.82 | 21.84 | 0 |
| | | 3 | 0 | 22.08 | 22.01 | 22.03 | 0 |
| | | 3 | 1 | 21.89 | 21.82 | 21.84 | 0 |
| | | 3 | 3 | 21.87 | 21.80 | 21.82 | 0 |
| | | 6 | 0 | 21.17 | 21.10 | 21.12 | 1 |
| | 16QAM | 1 | 0 | 21.24 | 21.17 | 21.19 | 1 |
| | | 1 | 2 | 21.21 | 21.14 | 21.16 | 1 |
| | | 1 | 5 | 21.16 | 21.09 | 21.11 | 1 |
| | | 3 | 0 | 21.23 | 21.16 | 21.18 | 1 |
| | | 3 | 1 | 21.20 | 21.13 | 21.15 | 1 |
| | | 3 | 3 | 21.15 | 21.08 | 21.10 | 1 |
| | | 6 | 0 | 20.15 | 20.08 | 20.10 | 2 |
| BW | Modulation | RB Size | RB Offset | Low CH 19965 | Mid CH 20175 | High CH 20385 | MPR |
| | | | | Frequency 1711.5 MHz | Frequency 1732.5 MHz | Frequency 1753.5 MHz | |
| 3 MHz | QPSK | 1 | 0 | 22.11 | 22.04 | 22.06 | 0 |
| | | 1 | 7 | 21.92 | 21.85 | 21.87 | 0 |
| | | 1 | 14 | 21.90 | 21.83 | 21.85 | 0 |
| | | 8 | 0 | 21.22 | 21.15 | 21.17 | 1 |
| | | 8 | 3 | 21.01 | 20.94 | 20.96 | 1 |
| | | 8 | 7 | 21.03 | 20.96 | 20.98 | 1 |
| | | 15 | 0 | 21.18 | 21.11 | 21.13 | 1 |
| | 16QAM | 1 | 0 | 21.25 | 21.18 | 21.20 | 1 |
| | | 1 | 7 | 21.22 | 21.15 | 21.17 | 1 |
| | | 1 | 14 | 21.17 | 21.10 | 21.12 | 1 |
| | | 8 | 0 | 20.10 | 20.03 | 20.05 | 2 |
| | | 8 | 3 | 20.07 | 20.00 | 20.02 | 2 |
| | | 8 | 7 | 20.04 | 19.97 | 19.99 | 2 |
| | | 15 | 0 | 20.16 | 20.09 | 20.11 | 2 |

| LTE Band 4 | | | | | | | |
|------------|------------|---------|-----------|-------------------------|-------------------------|-------------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 19975 | Mid CH 20175 | High CH 20375 | MPR |
| | | | | Frequency 1712.5 MHz | Frequency 1732.5 MHz | Frequency 1752.5 MHz | |
| 5 MHz | QPSK | 1 | 0 | 22.14 | 22.07 | 22.09 | 0 |
| | | 1 | 12 | 21.95 | 21.88 | 21.90 | 0 |
| | | 1 | 24 | 21.93 | 21.86 | 21.88 | 0 |
| | | 12 | 0 | 21.25 | 21.18 | 21.20 | 1 |
| | | 12 | 6 | 21.04 | 20.97 | 20.99 | 1 |
| | | 12 | 13 | 21.06 | 20.99 | 21.01 | 1 |
| | | 25 | 0 | 21.21 | 21.14 | 21.16 | 1 |
| | 16QAM | 1 | 0 | 21.28 | 21.21 | 21.23 | 1 |
| | | 1 | 12 | 21.25 | 21.18 | 21.20 | 1 |
| | | 1 | 24 | 21.20 | 21.13 | 21.15 | 1 |
| | | 12 | 0 | 20.13 | 20.06 | 20.08 | 2 |
| | | 12 | 6 | 20.10 | 20.03 | 20.05 | 2 |
| | | 12 | 13 | 20.07 | 20.00 | 20.02 | 2 |
| | | 25 | 0 | 20.19 | 20.12 | 20.14 | 2 |
| BW | Modulation | RB Size | RB Offset | Low CH 20000 | Mid CH 20175 | High CH 20350 | MPR |
| | | | | Frequency 1715 MHz | Frequency 1732.5 MHz | Frequency 1750 MHz | |
| 10 MHz | QPSK | 1 | 0 | 22.18 | 22.11 | 22.13 | 0 |
| | | 1 | 24 | 21.99 | 21.92 | 21.94 | 0 |
| | | 1 | 49 | 21.97 | 21.90 | 21.92 | 0 |
| | | 25 | 0 | 21.29 | 21.22 | 21.24 | 1 |
| | | 25 | 12 | 21.08 | 21.01 | 21.03 | 1 |
| | | 25 | 25 | 21.10 | 21.03 | 21.05 | 1 |
| | | 50 | 0 | 21.25 | 21.18 | 21.20 | 1 |
| | 16QAM | 1 | 0 | 21.32 | 21.25 | 21.27 | 1 |
| | | 1 | 24 | 21.29 | 21.22 | 21.24 | 1 |
| | | 1 | 49 | 21.24 | 21.17 | 21.19 | 1 |
| | | 25 | 0 | 20.17 | 20.10 | 20.12 | 2 |
| | | 25 | 12 | 20.14 | 20.07 | 20.09 | 2 |
| | | 25 | 25 | 20.11 | 20.04 | 20.06 | 2 |
| | | 50 | 0 | 20.23 | 20.16 | 20.18 | 2 |

| LTE Band 4 | | | | | | | |
|------------|------------|---------|-----------|-------------------------|-------------------------|-------------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 20025 | Mid CH 20175 | High CH 20325 | MPR |
| | | | | Frequency 1717.5 MHz | Frequency 1732.5 MHz | Frequency 1747.5 MHz | |
| 15 MHz | QPSK | 1 | 0 | 22.24 | 22.17 | 22.19 | 0 |
| | | 1 | 37 | 22.05 | 21.98 | 22.00 | 0 |
| | | 1 | 74 | 22.03 | 21.96 | 21.98 | 0 |
| | | 36 | 0 | 21.35 | 21.28 | 21.30 | 1 |
| | | 36 | 19 | 21.14 | 21.07 | 21.09 | 1 |
| | | 36 | 39 | 21.16 | 21.09 | 21.11 | 1 |
| | | 75 | 0 | 21.31 | 21.24 | 21.26 | 1 |
| | 16QAM | 1 | 0 | 21.38 | 21.31 | 21.33 | 1 |
| | | 1 | 37 | 21.35 | 21.28 | 21.30 | 1 |
| | | 1 | 74 | 21.30 | 21.23 | 21.25 | 1 |
| | | 36 | 0 | 20.23 | 20.16 | 20.18 | 2 |
| | | 36 | 19 | 20.20 | 20.13 | 20.15 | 2 |
| | | 36 | 39 | 20.17 | 20.10 | 20.12 | 2 |
| | | 75 | 0 | 20.29 | 20.22 | 20.24 | 2 |
| BW | Modulation | RB Size | RB Offset | Low CH 20050 | Mid CH 20175 | High CH 20300 | MPR |
| | | | | Frequency 1720 MHz | Frequency 1732.5 MHz | Frequency 1745 MHz | |
| 20MHz | QPSK | 1 | 0 | 22.27 | 22.20 | 22.22 | 0 |
| | | 1 | 50 | 22.08 | 22.01 | 22.03 | 0 |
| | | 1 | 99 | 22.06 | 21.99 | 22.01 | 0 |
| | | 50 | 0 | 21.38 | 21.31 | 21.33 | 1 |
| | | 50 | 25 | 21.17 | 21.10 | 21.12 | 1 |
| | | 50 | 50 | 21.19 | 21.12 | 21.14 | 1 |
| | | 100 | 0 | 21.34 | 21.27 | 21.29 | 1 |
| | 16QAM | 1 | 0 | 21.41 | 21.34 | 21.36 | 1 |
| | | 1 | 50 | 21.38 | 21.31 | 21.33 | 1 |
| | | 1 | 99 | 21.33 | 21.26 | 21.28 | 1 |
| | | 50 | 0 | 20.26 | 20.19 | 20.21 | 2 |
| | | 50 | 25 | 20.23 | 20.16 | 20.18 | 2 |
| | | 50 | 50 | 20.20 | 20.13 | 20.15 | 2 |
| | | 100 | 0 | 20.32 | 20.25 | 20.27 | 2 |

| LTE Band 12 | | | | | | | |
|-------------|------------|---------|-----------|---------------------|---------------------|---------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 23017 | Mid CH 23095 | High CH 23173 | MPR |
| | | | | Frequency 699.7 MHz | Frequency 707.5 MHz | Frequency 715.3 MHz | |
| 1.4 MHz | QPSK | 1 | 0 | 21.90 | 21.92 | 21.99 | 0 |
| | | 1 | 2 | 21.86 | 21.88 | 21.95 | 0 |
| | | 1 | 5 | 21.84 | 21.86 | 21.93 | 0 |
| | | 3 | 0 | 21.88 | 21.90 | 21.97 | 0 |
| | | 3 | 1 | 21.84 | 21.86 | 21.93 | 0 |
| | | 3 | 3 | 21.82 | 21.84 | 21.91 | 0 |
| | | 6 | 0 | 20.93 | 20.95 | 21.02 | 1 |
| | 16QAM | 1 | 0 | 21.03 | 21.05 | 21.12 | 1 |
| | | 1 | 2 | 20.99 | 21.01 | 21.08 | 1 |
| | | 1 | 5 | 20.97 | 20.99 | 21.06 | 1 |
| | | 3 | 0 | 21.02 | 21.04 | 21.11 | 1 |
| | | 3 | 1 | 20.98 | 21.00 | 21.07 | 1 |
| | | 3 | 3 | 20.96 | 20.98 | 21.05 | 1 |
| | | 6 | 0 | 19.95 | 19.97 | 20.04 | 2 |
| LTE Band 12 | | | | | | | |
| BW | Modulation | RB Size | RB Offset | Low CH 23025 | Mid CH 23095 | High CH 23165 | MPR |
| | | | | Frequency 700.5 MHz | Frequency 707.5 MHz | Frequency 714.5 MHz | |
| 3 MHz | QPSK | 1 | 0 | 21.94 | 21.96 | 22.03 | 0 |
| | | 1 | 7 | 21.90 | 21.92 | 21.99 | 0 |
| | | 1 | 14 | 21.88 | 21.90 | 21.97 | 0 |
| | | 8 | 0 | 21.02 | 21.04 | 21.11 | 1 |
| | | 8 | 3 | 20.99 | 21.01 | 21.08 | 1 |
| | | 8 | 7 | 20.96 | 20.98 | 21.05 | 1 |
| | | 15 | 0 | 20.97 | 20.99 | 21.06 | 1 |
| | 16QAM | 1 | 0 | 21.07 | 21.09 | 21.16 | 1 |
| | | 1 | 7 | 21.03 | 21.05 | 21.12 | 1 |
| | | 1 | 14 | 21.01 | 21.03 | 21.10 | 1 |
| | | 8 | 0 | 20.05 | 20.07 | 20.14 | 2 |
| | | 8 | 3 | 20.01 | 20.03 | 20.10 | 2 |
| | | 8 | 7 | 20.00 | 20.02 | 20.09 | 2 |
| | | 15 | 0 | 19.99 | 20.01 | 20.08 | 2 |

| LTE Band 12 | | | | | | | |
|-------------|------------|---------|-----------|------------------------|------------------------|------------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 23035 | Mid CH 23095 | High CH 23155 | MPR |
| | | | | Frequency 701.5 MHz | Frequency 707.5 MHz | Frequency 713.5 MHz | |
| 5 MHz | QPSK | 1 | 0 | 22.00 | 22.02 | 22.09 | 0 |
| | | 1 | 12 | 21.96 | 21.98 | 22.05 | 0 |
| | | 1 | 24 | 21.94 | 21.96 | 22.03 | 0 |
| | | 12 | 0 | 21.08 | 21.10 | 21.17 | 1 |
| | | 12 | 6 | 21.05 | 21.07 | 21.14 | 1 |
| | | 12 | 13 | 21.02 | 21.04 | 21.11 | 1 |
| | | 25 | 0 | 21.03 | 21.05 | 21.12 | 1 |
| | 16QAM | 1 | 0 | 21.13 | 21.15 | 21.22 | 1 |
| | | 1 | 12 | 21.09 | 21.11 | 21.18 | 1 |
| | | 1 | 24 | 21.07 | 21.09 | 21.16 | 1 |
| | | 12 | 0 | 20.11 | 20.13 | 20.20 | 2 |
| | | 12 | 6 | 20.07 | 20.09 | 20.16 | 2 |
| | | 12 | 13 | 20.06 | 20.08 | 20.15 | 2 |
| | | 25 | 0 | 20.05 | 20.07 | 20.14 | 2 |
| LTE Band 12 | | | | | | | |
| BW | Modulation | RB Size | RB Offset | Low CH 23060 | Mid CH 23095 | High CH 23130 | MPR |
| | | | | Frequency 704 MHz | Frequency 707.5 MHz | Frequency 711 MHz | |
| 10 MHz | QPSK | 1 | 0 | 22.03 | 22.05 | 22.12 | 0 |
| | | 1 | 24 | 21.99 | 22.01 | 22.08 | 0 |
| | | 1 | 49 | 21.97 | 21.99 | 22.06 | 0 |
| | | 25 | 0 | 21.11 | 21.13 | 21.20 | 1 |
| | | 25 | 12 | 21.08 | 21.10 | 21.17 | 1 |
| | | 25 | 25 | 21.05 | 21.07 | 21.14 | 1 |
| | | 50 | 0 | 21.06 | 21.08 | 21.15 | 1 |
| | 16QAM | 1 | 0 | 21.16 | 21.18 | 21.25 | 1 |
| | | 1 | 24 | 21.12 | 21.14 | 21.21 | 1 |
| | | 1 | 49 | 21.10 | 21.12 | 21.19 | 1 |
| | | 25 | 0 | 20.14 | 20.16 | 20.23 | 2 |
| | | 25 | 12 | 20.10 | 20.12 | 20.19 | 2 |
| | | 25 | 25 | 20.09 | 20.11 | 20.18 | 2 |
| | | 50 | 0 | 20.08 | 20.10 | 20.17 | 2 |

| LTE Band 17 | | | | | | | |
|-------------|------------|---------|-----------|------------------------|----------------------|------------------------|-----|
| BW | Modulation | RB Size | RB Offset | Low CH 23755 | Mid CH 23790 | High CH 23825 | MPR |
| | | | | Frequency 706.5 MHz | Frequency 710 MHz | Frequency 713.5 MHz | |
| 5 MHz | QPSK | 1 | 0 | 21.97 | 21.99 | 21.95 | 0 |
| | | 1 | 12 | 21.94 | 21.96 | 21.92 | 0 |
| | | 1 | 24 | 21.90 | 21.92 | 21.88 | 0 |
| | | 12 | 0 | 21.04 | 21.06 | 21.02 | 1 |
| | | 12 | 6 | 21.03 | 21.05 | 21.01 | 1 |
| | | 12 | 13 | 20.95 | 20.97 | 20.93 | 1 |
| | | 25 | 0 | 20.99 | 21.01 | 20.97 | 1 |
| | 16QAM | 1 | 0 | 21.18 | 21.20 | 21.16 | 1 |
| | | 1 | 12 | 21.13 | 21.15 | 21.11 | 1 |
| | | 1 | 24 | 21.10 | 21.12 | 21.08 | 1 |
| | | 12 | 0 | 20.08 | 20.10 | 20.06 | 2 |
| | | 12 | 6 | 20.04 | 20.06 | 20.02 | 2 |
| | | 12 | 13 | 19.99 | 20.01 | 19.97 | 2 |
| | | 25 | 0 | 20.03 | 20.05 | 20.01 | 2 |
| BW | Modulation | RB Size | RB Offset | Low CH 23780 | Mid CH 23790 | High CH 23800 | MPR |
| | | | | Frequency 709 MHz | Frequency 710 MHz | Frequency 711 MHz | |
| 10 MHz | QPSK | 1 | 0 | 22.01 | 22.03 | 21.99 | 0 |
| | | 1 | 24 | 21.98 | 22.00 | 21.96 | 0 |
| | | 1 | 49 | 21.94 | 21.96 | 21.92 | 0 |
| | | 25 | 0 | 21.08 | 21.10 | 21.06 | 1 |
| | | 25 | 12 | 21.07 | 21.09 | 21.05 | 1 |
| | | 25 | 25 | 20.99 | 21.01 | 20.97 | 1 |
| | | 50 | 0 | 21.03 | 21.05 | 21.01 | 1 |
| | 16QAM | 1 | 0 | 21.22 | 21.24 | 21.20 | 1 |
| | | 1 | 24 | 21.17 | 21.19 | 21.15 | 1 |
| | | 1 | 49 | 21.14 | 21.16 | 21.12 | 1 |
| | | 25 | 0 | 20.12 | 20.14 | 20.10 | 2 |
| | | 25 | 12 | 20.08 | 20.10 | 20.06 | 2 |
| | | 25 | 25 | 20.03 | 20.05 | 20.01 | 2 |
| | | 50 | 0 | 20.07 | 20.09 | 20.05 | 2 |

EIRP

WCDMA IV

| Channel | Frequency (MHz) | SPA LVL (dBm) | Correction Factor(dB) | EIRP(dBm) | EIRP(mW) | Polarization (H/V) |
|---------|-----------------|---------------|-----------------------|-----------|---------------|--------------------|
| 1312 | 1712.40 | -18.88 | 41.39 | 22.51 | 178.20 | H |
| 1413 | 1732.60 | -19.48 | 41.36 | 21.88 | 154.17 | H |
| 1513 | 1752.60 | -19.74 | 42.63 | 22.89 | 194.49 | H |
| 1312 | 1712.40 | -26.37 | 44.17 | 17.80 | 60.20 | V |
| 1413 | 1732.60 | -26.45 | 44.20 | 17.75 | 59.57 | V |
| 1513 | 1752.60 | -26.56 | 44.35 | 17.79 | 60.05 | V |

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

LTE BAND 4

CHANNEL BANDWIDTH: 3MHz QPSK

| Channel | Frequency (MHz) | SPA LVL (dBm) | Correction Factor(dB) | EIRP(dBm) | EIRP(mW) | Polarization (H/V) | LIMIT (W) |
|---------|-----------------|---------------|-----------------------|-----------|---------------|--------------------|-----------|
| 19965 | 1711.5 | -20.29 | 41.27 | 20.98 | 125.23 | H | 1 |
| 20175 | 1732.5 | -20.05 | 41.36 | 21.31 | 135.21 | H | 1 |
| 20385 | 1753.5 | -20.97 | 42.76 | 21.79 | 150.90 | H | 1 |
| 19965 | 1711.5 | -26.89 | 44.26 | 17.37 | 54.60 | V | 1 |
| 20175 | 1732.5 | -27.23 | 44.20 | 16.97 | 49.77 | V | 1 |
| 20385 | 1753.5 | -27.25 | 44.23 | 16.98 | 49.91 | V | 1 |

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

LTE BAND 12

CHANNEL BANDWIDTH: 3MHz QPSK

| Channel | Frequency (MHz) | SPA LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) | LIMIT (W) |
|---------|-----------------|---------------|-----------------------|----------|---------------|--------------------|-----------|
| 23025 | 700.5 | -8.98 | 32.63 | 21.50 | 141.29 | H | 3 |
| 23095 | 707.5 | -9.08 | 33.23 | 22.00 | 158.49 | H | 3 |
| 23165 | 714.5 | -9.90 | 33.21 | 21.16 | 130.47 | H | 3 |
| 23025 | 700.5 | -16.78 | 32.33 | 13.40 | 21.86 | V | 3 |
| 23095 | 707.5 | -16.94 | 32.60 | 13.51 | 22.44 | V | 3 |
| 23165 | 714.5 | -16.73 | 32.30 | 13.42 | 21.98 | V | 3 |

REMARKS: 1. ERP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB) -2.15(dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

LTE BAND 17

CHANNEL BANDWIDTH: 5MHz QPSK

| Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) | LIMIT (W) |
|---------|-----------------|-----------|-----------------------|----------|---------------|--------------------|-----------|
| 23755 | 706.5 | -7.87 | 32.64 | 22.62 | 182.60 | H | 3 |
| 23790 | 710.0 | -8.45 | 32.92 | 22.32 | 170.61 | H | 3 |
| 23825 | 713.5 | -8.84 | 32.83 | 21.84 | 152.62 | H | 3 |
| 23755 | 706.5 | -17.08 | 32.14 | 12.91 | 19.53 | V | 3 |
| 23790 | 710.0 | -17.02 | 32.18 | 13.01 | 20.00 | V | 3 |
| 23825 | 713.5 | -17.26 | 31.95 | 12.54 | 17.96 | V | 3 |

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

3.2.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$

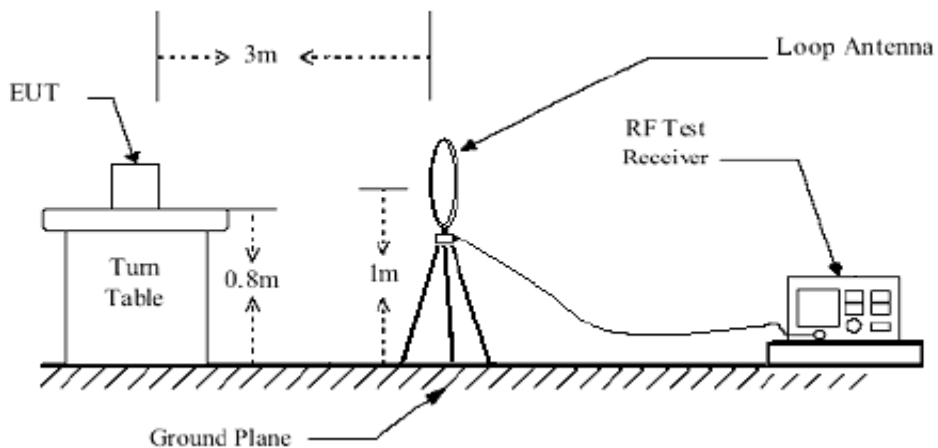
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.2.3 DEVIATION FROM TEST STANDARD

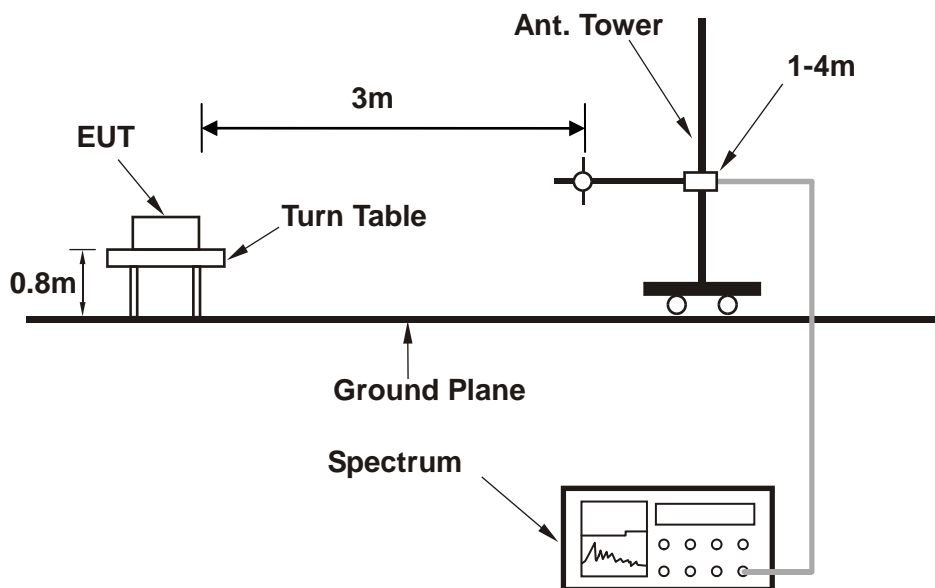
No deviation

3.2.4 TEST SETUP

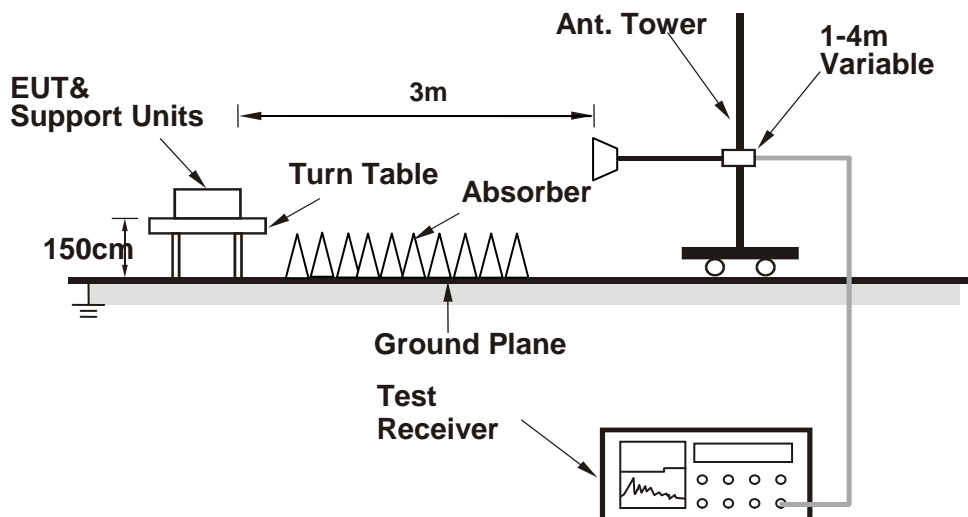
<Below 30MHz>



< Frequency Range 30MHz~1GHz >



< Frequency Range above 1GHz >



For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.2.5 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

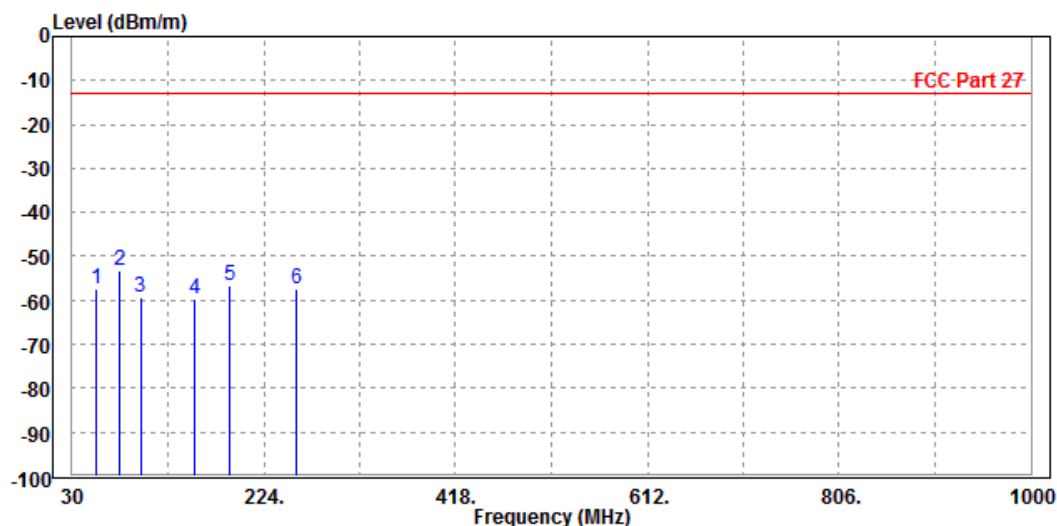
9 KHz – 30 MHz data: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

30 MHz – 1GHz data:

LTE Band 4:

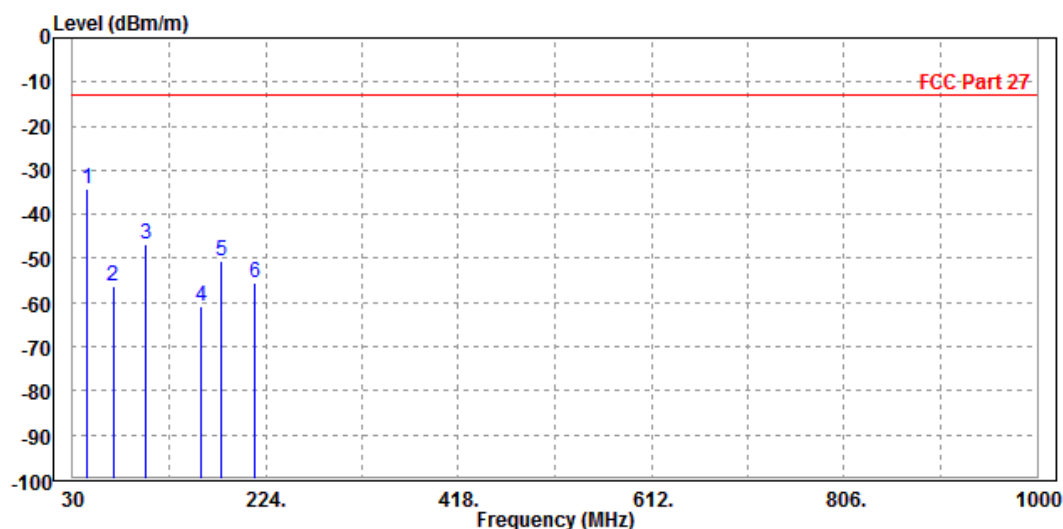
| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 20175 | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|---------|--------|------------|------------|------------|--------|--------|------------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 54.510 | -57.41 | -55.89 | -13.00 | -44.41 | -1.52 | Peak | Horizontal |
| 2 PP | 78.220 | -53.06 | -44.58 | -13.00 | -40.06 | -8.48 | Peak | Horizontal |
| 3 | 99.200 | -59.33 | -48.35 | -13.00 | -46.33 | -10.98 | Peak | Horizontal |
| 4 | 154.720 | -59.59 | -40.77 | -13.00 | -46.59 | -18.82 | Peak | Horizontal |
| 5 | 189.520 | -56.50 | -38.99 | -13.00 | -43.50 | -17.51 | Peak | Horizontal |
| 6 | 256.830 | -57.50 | -41.56 | -13.00 | -44.50 | -15.94 | Peak | Horizontal |



| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 20175 | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|---------|--------|------------|------------|------------|--------|--------|-----------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 PP | 44.860 | -34.15 | -31.02 | -13.00 | -21.15 | -3.13 | Peak | Vertical |
| 2 | 70.560 | -56.11 | -40.83 | -13.00 | -43.11 | -15.28 | Peak | Vertical |
| 3 | 102.870 | -46.67 | -35.62 | -13.00 | -33.67 | -11.05 | Peak | Vertical |
| 4 | 158.350 | -60.72 | -45.33 | -13.00 | -47.72 | -15.39 | Peak | Vertical |
| 5 | 178.600 | -50.40 | -37.08 | -13.00 | -37.40 | -13.32 | Peak | Vertical |
| 6 | 213.750 | -55.40 | -44.52 | -13.00 | -42.40 | -10.88 | Peak | Vertical |



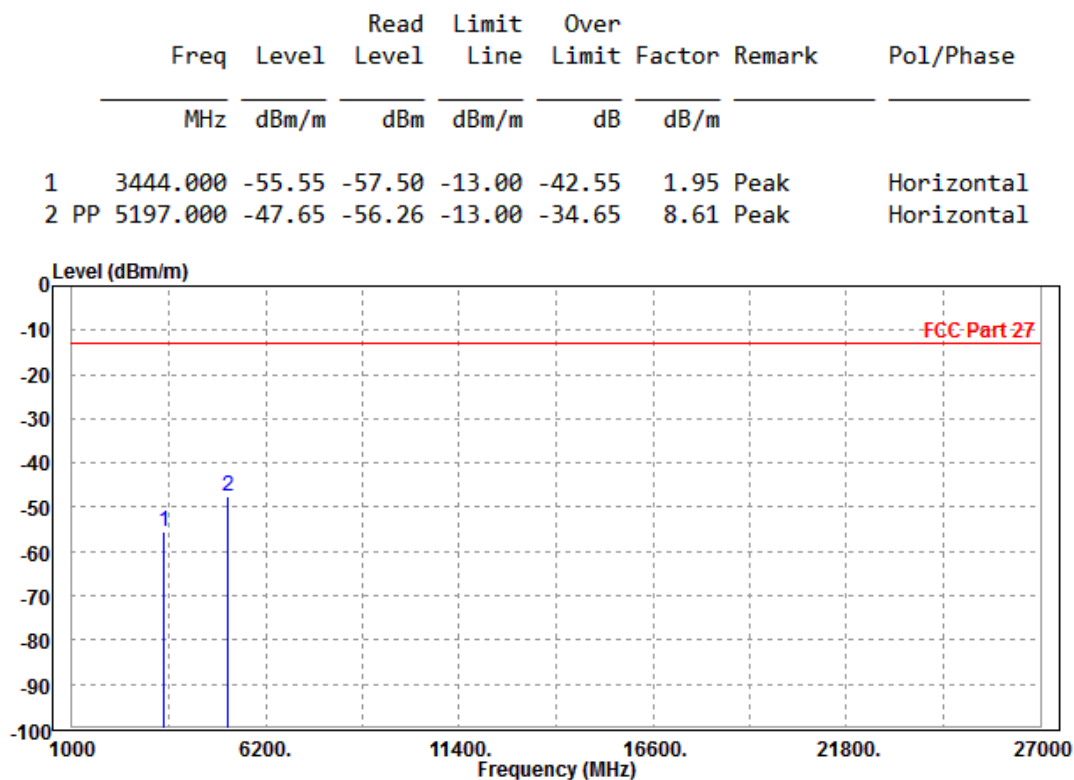
ABOVE 1GHz

Note: For higher frequency, the emission is too low to be detected.

WCDMA Band IV:

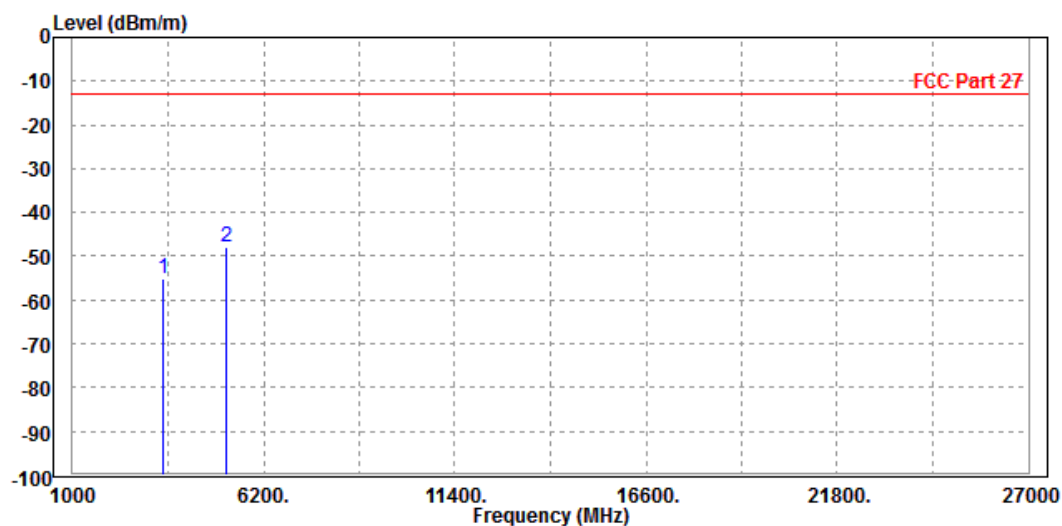
CH 1413

| | | | |
|---|-----------------|-----------------|--------------------|
| MODE | TX channel 1413 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | |



| | | | |
|---|-----------------|-----------------|--------------------|
| MODE | TX channel 1413 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 3444.000 | -55.04 | -57.54 | -13.00 | -42.04 | 2.50 | Peak | Vertical |
| 2 PP | 5197.000 | -47.76 | -55.74 | -13.00 | -34.76 | 7.98 | Peak | Vertical |



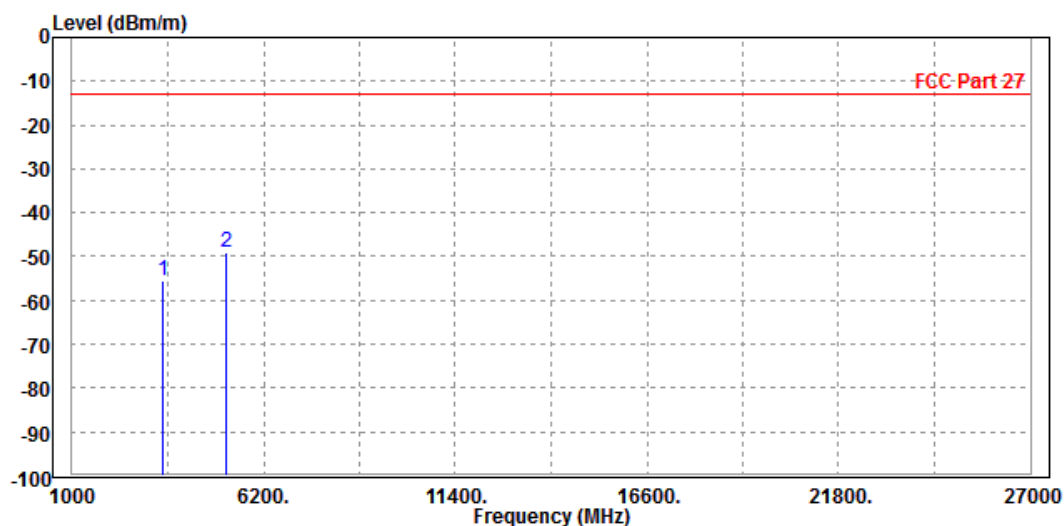
LTE BAND 4

CHANNEL BANDWIDTH: 20MHz / QPSK

CH 20175

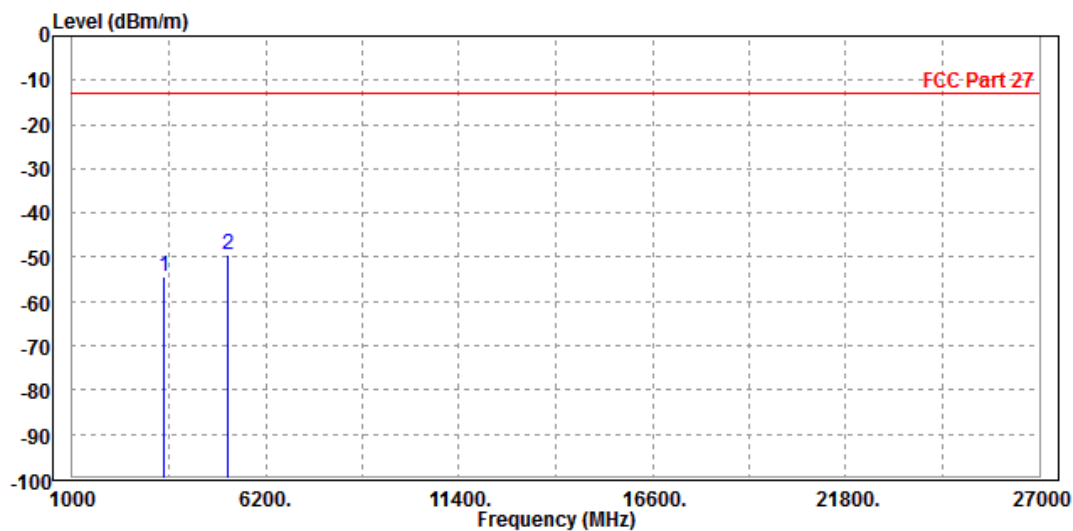
| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 20175 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 3444.000 | -55.58 | -57.53 | -13.00 | -42.58 | 1.95 | Peak | Horizontal |
| 2 PP | 5197.000 | -49.15 | -57.76 | -13.00 | -36.15 | 8.61 | Peak | Horizontal |



| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 20175 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 3444.000 | -54.36 | -56.86 | -13.00 | -41.36 | 2.50 | Peak | Vertical |
| 2 PP | 5197.000 | -49.49 | -57.47 | -13.00 | -36.49 | 7.98 | Peak | Vertical |





**BUREAU
VERITAS**

Test Report No.: RF180604W006-12

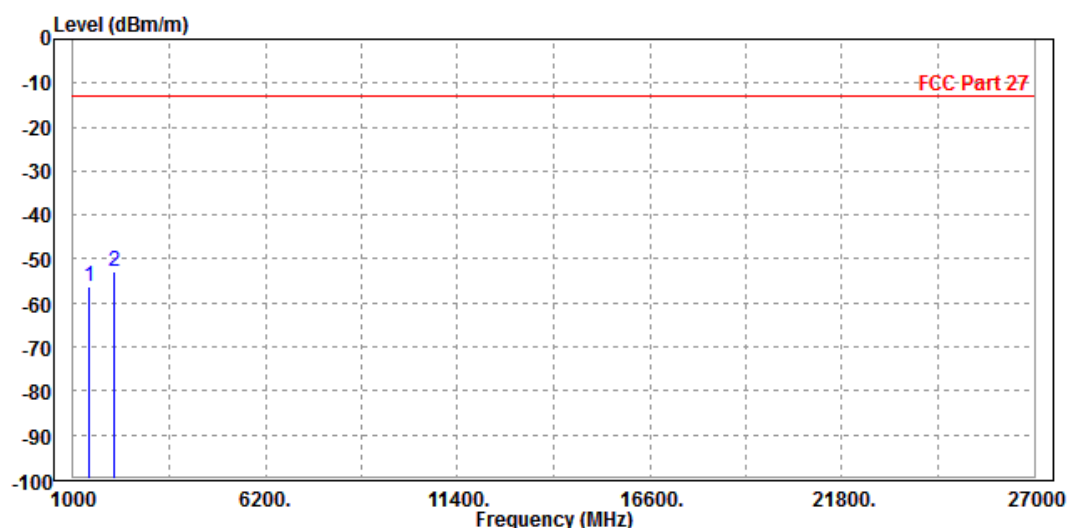
LTE BAND 12

CHANNEL BANDWIDTH: 3MHz / QPSK

CH 23095

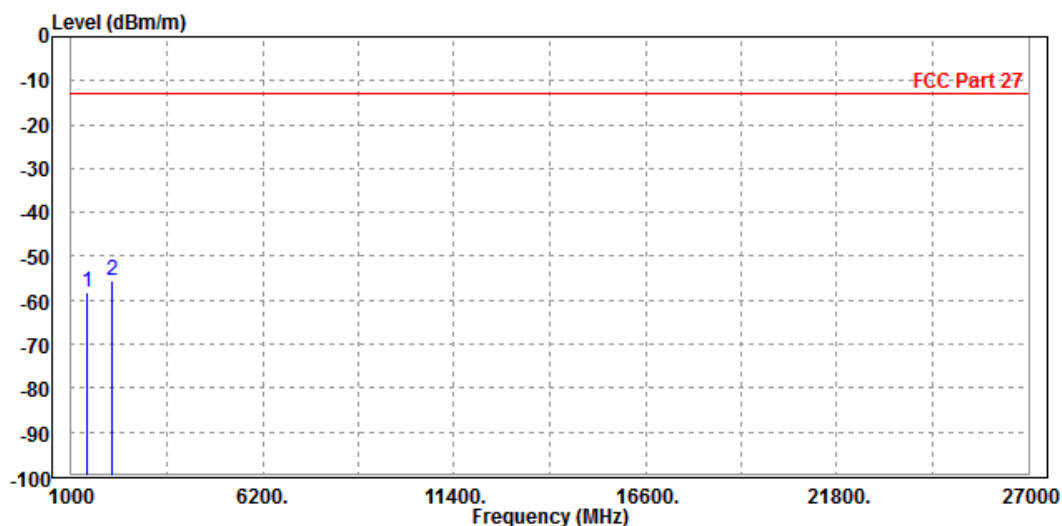
| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 23095 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 1416.000 | -56.24 | -49.52 | -13.00 | -43.24 | -6.72 | Peak | Horizontal |
| 2 PP | 2122.000 | -52.95 | -51.01 | -13.00 | -39.95 | -1.94 | Peak | Horizontal |



| | | | |
|---|------------------|-----------------|--------------------|
| MODE | TX channel 23095 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|-------------|--------|------------|------------|------------|--------|--------|-----------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 1416.000 | -58.16 | -52.72 | -13.00 | -45.16 | -5.44 | Peak | Vertical |
| 2 | PP 2122.000 | -55.43 | -55.19 | -13.00 | -42.43 | -0.24 | Peak | Vertical |



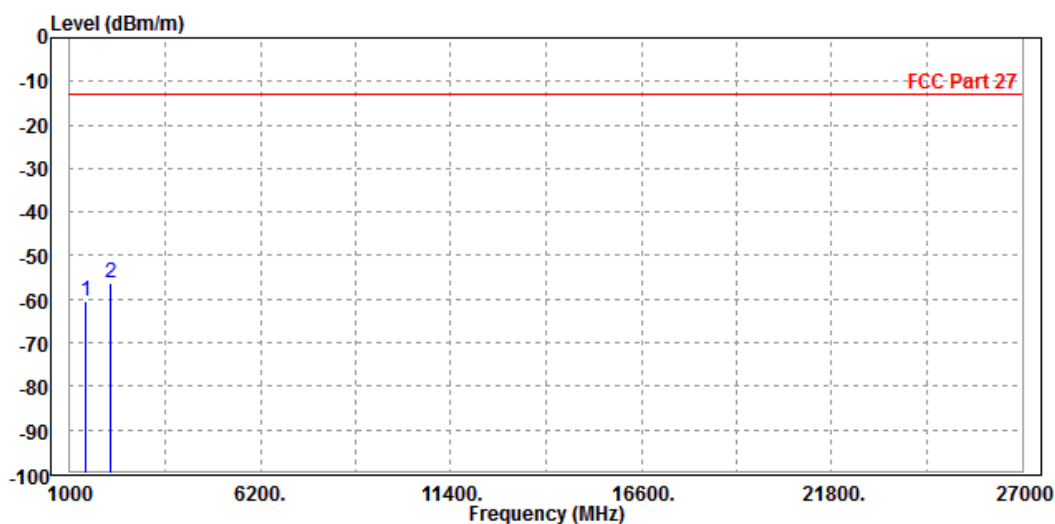
LTE Band 17

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 23825

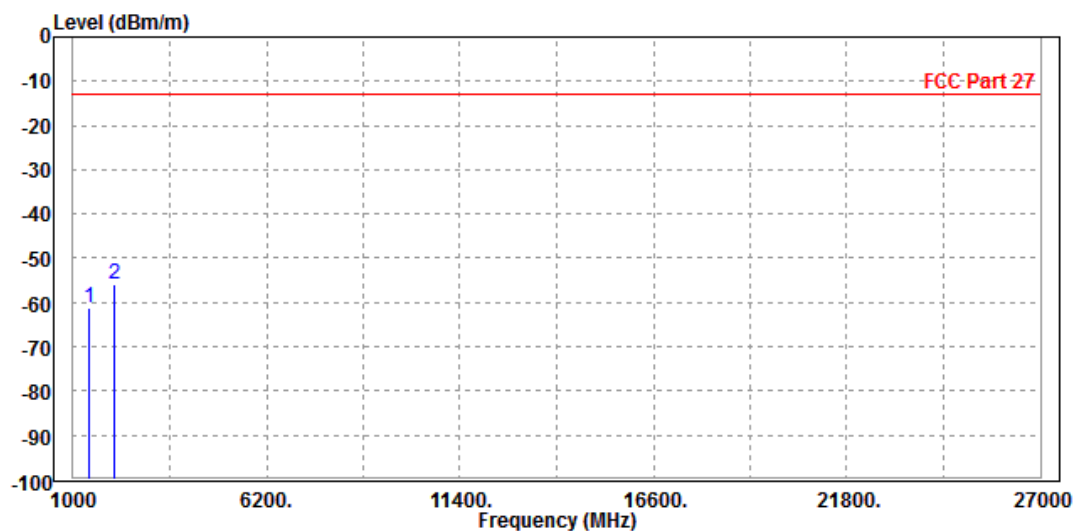
| | | | |
|---|------------------|-----------------|----------------------|
| MODE | TX channel 23825 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5/9V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 1416.000 | -60.35 | -53.63 | -13.00 | -47.35 | -6.72 | Peak | Horizontal |
| 2 PP | 2130.000 | -56.43 | -54.50 | -13.00 | -43.43 | -1.93 | Peak | Horizontal |



| | | | |
|---|------------------|-----------------|----------------------|
| MODE | TX channel 23825 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | DC 5/9V from adapter |
| TESTED BY | Vincent | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | 1416.000 | -61.24 | -55.80 | -13.00 | -48.24 | -5.44 | Peak | Vertical |
| 2 PP | 2130.000 | -55.94 | -55.70 | -13.00 | -42.94 | -0.24 | Peak | Vertical |





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4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: customerservice.dg@cn.bureauveritas.com

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



Test Report No.: RF180604W006-12

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---