



TEST REPORT

Report Number : TZ0059241106FRF22
Product Name : 4G Mobile Phone
Model/Type reference : M10, KM0466, M10 FLIP, AGM_M10_FLIP
FCC ID : 2A3DR-M10
Prepared for : AGM MOBILE LIMITED
FLAT/RM 2253 22/F HOI TAI FACTORY ESTATE TSING YEUNG CIRCUIT
TUEN MUN NT HONG KONG,CHINA

Prepared By : Shenzhen Tongzhou Testing Co.,Ltd.
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Standards : FCC CFR Title 47 Part 22, FCC CFR Title 47 Part 24, FCC CFR Title 47 Part 27,
FCC CFR Title 47 Part 90, ANSI C63.26:2015
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**** Report Revise Record ****

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1. SUMMARY

1.1. Client Information

Applicant	: AGM MOBILE LIMITED
Address	: FLAT/RM 2253 22/F HOI TAI FACTORY ESTATE TSING YEUNG CIRCUIT TUEN MUN NT HONG KONG, CHINA
Manufacturer	: GUANGDONG AIJEMO ELECTRONIC INDUSTRY CO., LTD
Address	: AGM TECHNOLOGY PARK, NO.187 LIANFA ROAD, TONGQIAO TOWN, ZHONGKAI HIGH-TECH DISTRICT, HUIZHOU CITY, P.R.CHINA

1.2. Description of Device (EUT)

Product Name	: 4G Mobile Phone
Trade Mark	: AGM
Model Number	: M10, KM0466, M10 FLIP, AGM_M10_FLIP
Model Declaration	: All the same except for the model name
Test Model	: M10
Power Supply	: DC 3.7V by Built-in Li-ion Battery
Hardware version	: FF628-MB-V0.3
Software version	: FF628V03

1.3. Wireless Function Tested in this Report

E-UTRA	
E-UTRA FCC Operation Frequency	: FDD Band 2 (UL: 1850 – 1910 MHz/DL: 1930 – 1990 MHz) FDD Band 4 (UL: 1710 – 1755 MHz/DL: 2110 – 2155 MHz) FDD Band 5 (UL: 824 – 849 MHz/DL: 869 – 894 MHz) FDD Band 7 (UL: 2500 – 2570 MHz/DL: 2620 – 2690 MHz) FDD Band 12 (UL: 99 – 787MHz/DL: 729 – 746 MHz) FDD Band 13 (UL: 777 – 2570 MHz/DL: 729 – 746 MHz) FDD Band 17 (UL: 706 – 716 MHz/DL: 734 – 746 MHz) FDD Band 26 (UL: 814 – 849 MHz/DL: 859 – 894 MHz) FDD Band 66 (UL: 1710 – 1780 MHz/DL: 2110 – 2200 MHz)
Channel Separation	: 0.1 MHz
Modulation Technology	: OFDM (16QAM, QPSK)
Power Class	: Power Class 3
Antenna Type And Gain	: PIFA Antenna Band 2:-0.96dBi; Band 4:-1.09dBi; Band 5:-2.01dBi; Band 7:-0.04dBi Band 12:-4.18dBi; Band 13:-2.81dBi; Band 17:-2.81dBi; Band 26:-2.01dBi; Band 66:-1.09dBi

Note 1: Antenna position refer to EUT Photos.

Note 2: the above information was supplied by the applicant.

Note 3: The default power level of the equipment test configuration meets the technical claim requirements



1.4. Normal Accessory setting

Fully charged battery was used during the test.

1.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2A3DR-M10** filing to comply with FCC Rules.

1.6. Modifications

No modifications were implemented to meet testing criteria.



2. TEST ENVIRONMENT

2.1. Test Facility

FCC

Designation Number: CN1275

Test Firm Registration Number: 167722

Shenzhen Tongzhou Testing Co.,Ltd has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA

Certificate Number: 5463.01

Shenzhen Tongzhou Testing Co.,Ltd has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

IC

ISED#: 22033

CAB identifier: CN0099

Shenzhen Tongzhou Testing Co.,Ltd has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4 and CISPR 16-1-4:2010

2.2. Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to ETSI TR 100 028 " Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics" and is documented in the Shenzhen Tongzhou Testing Co.,Ltd. quality system acc. to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Tongzhou Testing Co.,Ltd. is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	3.10 dB	(1)
Radiated Emission	1~18GHz	3.70 dB	(1)
Radiated Emission	18-40GHz	3.90 dB	(1)
Conducted Disturbance	0.15~30MHz	1.63 dB	(1)
Conducted Power	9KHz~18GHz	0.61 dB	(1)
Spurious RF Conducted Emission	9KHz~40GHz	1.22 dB	(1)
Band Edge Compliance of RF Emission	9KHz~40GHz	1.22 dB	(1)
Occupied Bandwidth	9KHz~40GHz	-	(1)
Frequency Error	9KHz~40GHz	1×10^{-7}	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.



3. SUMMARY OF TEST RESULTS

Test Item	FCC Rule No.	Judgement	Sample ID
Effective Radiated Power Effective (Isotropic) Radiated Power	§2.1046, §24.232(c), §27.50(d)(4), §22.913(a)(5), §27.50(c)(10), §27.50(b)(10), §27.50(h)(2)	Pass	TZ0059241106-1#
Occupied Bandwidth	§2.1049	Pass	TZ0059241106-1#
Band Edges Compliance	§2.1051, §24.238(a), §27.53(h), §22.917(a), §27.53(g), §27.53(c), §90.691, §27.53(m)(4)	Pass	TZ0059241106-1#
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a), §27.53(h), §22.917(a), §27.53(g), §27.53(c), §90.691, §27.53(m)(4)	Pass	TZ0059241106-1#
Field Strength of Spurious Radiation	§2.1053, §24.238(a), §27.53(h), §22.917(a), §27.53(g), §27.53(c), §90.691, §27.53(m)(4)	Pass	TZ0059241106-2#
Undesirable Emissions in the 1559-1610MHz band	§2.1053, §27.53(f)	Pass	TZ0059241106-2#
Frequency Stability	§2.1055, §24.235, §27.54, §22.355, §90.213	Pass	TZ0059241106-1#
Peak to Average Ratio	§24.232(d), §27.50(d)(5)	Pass	TZ0059241106-1#

Remark: The measurement uncertainty is not included in the test result.

3.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.2. EUT Exercise Software

The device system configuration parameters are linked to the communication integrated tester. The manufacturer claims that the device uses the engineering command program name FF628V03. Version: V03. The device is configured with a power level according to the requirements of 3GPP. Refer to the report section 1.3 Device parameter information



4. EQUIPMENTS USED DURING THE TEST

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
1	MXA Signal Analyzer	Keysight	N9020B	MY56101792	2024-01-04	2025-01-03
1	MXA Signal Analyzer	Keysight	N9020B	MY56101792	2024-12-31	2025-12-30
2	Power Sensor	Agilent	U2021XA	MY5365004	2024-01-04	2025-01-03
2	Power Sensor	Agilent	U2021XA	MY5365004	2024-12-31	2025-12-30
3	Loop Antenna	schwarzbeck	FMZB1519 B	00023	2022-11-13	2025-11-12
4	Wideband Antenna	schwarzbeck	VULB 9163	958	2022-11-13	2025-11-12
5	Horn Antenna	schwarzbeck	BBHA 9120D	01989	2022-11-13	2025-11-12
6	EMI Test Receiver	R&S	ESCI	100849/003	2024-01-04	2025-01-03
6	EMI Test Receiver	R&S	ESCI	100849/003	2024-12-31	2025-12-30
7	Controller	MF	MF7802	N/A	N/A	N/A
8	Amplifier	schwarzbeck	BBV 9743	209	2024-01-04	2025-01-03
8	Amplifier	schwarzbeck	BBV 9743	209	2024-12-31	2025-12-30
9	Amplifier	Tonscend	TSAMP-0518SE	--	2024-01-04	2025-01-03
9	Amplifier	Tonscend	TSAMP-0518SE	--	2024-12-31	2025-12-30
10	RF Cable(below 1GHz)	HUBER+SUHNER	RG214	N/A	2024-01-04	2025-01-03
10	RF Cable(below 1GHz)	HUBER+SUHNER	RG214	N/A	2024-12-31	2025-12-30
11	RF Cable(above 1GHz)	HUBER+SUHNER	RG214	N/A	2024-01-04	2025-01-03
11	RF Cable(above 1GHz)	HUBER+SUHNER	RG214	N/A	2024-12-31	2025-12-30
12	RE test software	Tonscend	JS32-RE	V5.0.0.0	N/A	N/A
12	Test Software	Tonscend	JS1120-3	V3.2.22	N/A	N/A
14	Horn Antenna	A-INFO	LB-180400-KF	J211020657	2024-01-04	2025-01-03
14	Horn Antenna	A-INFO	LB-180400-KF	J211020657	2024-12-31	2025-12-30
15	Amplifier	Chengyi	EMC18404 5SE	980508	2024-09-20	2025-09-19
16	Spectrum Analyzer	R&S	FSV40	101321	2024-06-07	2025-06-06
17	UNIVERSAL RADIO COMMUNICATION	R&S	CMW500	101855	2024-01-04	2025-01-03
17	UNIVERSAL RADIO COMMUNICATION	R&S	CMW500	101855	2024-12-31	2025-12-30
18	Signal Generator	Keysight	N5182A	MY4620709	2024-01-04	2025-01-03



18	Signal Generator	Keysight	N5182A	MY4620709	2024-12-31	2025-12-30
19	Climate Chamber	KRUOMR	KRM-1000	KRM16072901	2024-01-04	2025-01-03
19	Climate Chamber	KRUOMR	KRM-1000	KRM16072901	2024-12-31	2025-12-30
20	Horn Antenna	ETS	3117	00218874	2022-11-13	2025-11-12
21	Wideband Antenna	Sunol	JB3	A020115	2022-07-03	2025-07-02
22	Power Splitter	Agilent	11667B	N/A	2022-07-03	2025-07-02
23	DC Source	Agilent	E3646A	MY40006693	2024-01-04	2025-01-03
23	DC Source	Agilent	E3646A	MY40006693	2024-12-31	2025-12-30



5. TEST CONDITIONS AND RESULTS

5.1. Conducted Output Power / E.I.R.P / E.R.P / Peak-to-Average Ratio (PAR)

5.1.1. TEST APPLICABLE

During the process of testing, the EUT was controlled via R&S Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation. This result contains output power and EIRP measurements for the EUT. In all cases, output power is within the specified limits.

5.1.2. LIMIT

For Conducted Power

Within Tune-up Value

For Radiated Power

The conduction test is carried out in a shielded room.

According to the test, connect the device under test to the antenna port on the non-conductive platform directly to the test device for evaluation and measurement (ANSI-C63.26-2015 Clause 5.2)

The following rules are for the maximum radiated power limit requirements of the product:

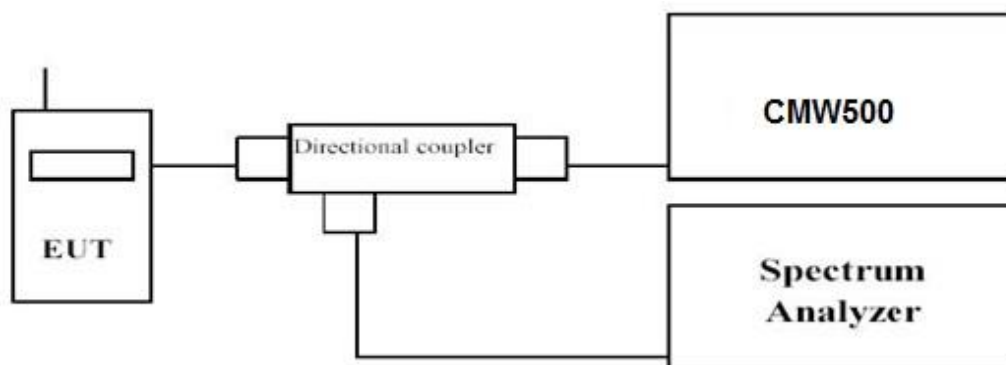
Mode	Nominal Max. Power
LTE Band 2	< 2 Watts max. EIRP (33dBm)
LTE Band 4	< 1 Watts max. EIRP (30dBm)
LTE Band 5	< 7 Watts max. ERP (38.45dBm)
LTE Band 7	< 2 Watts max. EIRP (33dBm)
LTE Band 12	< 3 Watts max. ERP (34.77dBm)
LTE Band 13	< 3 Watts max. ERP (34.77dBm)
LTE Band 17	< 3 Watts max. ERP (34.77dBm)
LTE Band 26 (814-824MHz)	< 7 Watts max. ERP (38.45dBm)
LTE Band 26 (824-849MHz)	< 7 Watts max. ERP (38.45dBm) < 100 Watts. Conducted Power (50dBm)
LTE Band 66	< 1 Watts max. EIRP (30dBm)

For Peak-to-Average Ratio (PAR)

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.



5.1.3. TEST CONFIGURATION



5.1.4. TEST PROCEDURE

Place the EUT on a bench and set it in transmitting mode.

Connect a low loss RF cable from the antenna port to a CMW500 by an Att.

EUT Communicate with CMW500 then selects a channel for testing.

Add a correction factor to the display CMW500, and then test.

Record the Peak power(P1) and Average power(P2).

Peak-to-Average Ratio (PAR) = Peak power(P1) - Average power(P2)

EIRP = Average power(P2) + Antenna Gain(dBi), ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

5.1.5. TEST RESULTS

Pass

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth as list in section 3.3 of this report;

please refer to RF output power in Appendix Test data for LTE Band2.

please refer to RF output power in Appendix Test data for LTE Band4.

please refer to RF output power in Appendix Test data for LTE Band5.

please refer to RF output power in Appendix Test data for LTE Band7.

please refer to RF output power in Appendix Test data for LTE Band12.

please refer to RF output power in Appendix Test data for LTE Band13.

please refer to RF output power in Appendix Test data for LTE Band17.

please refer to RF output power in Appendix Test data for LTE Band26 (814-824).

please refer to RF output power in Appendix Test data for LTE Band26 (824-849).

please refer to RF output power in Appendix Test data for LTE Band66.

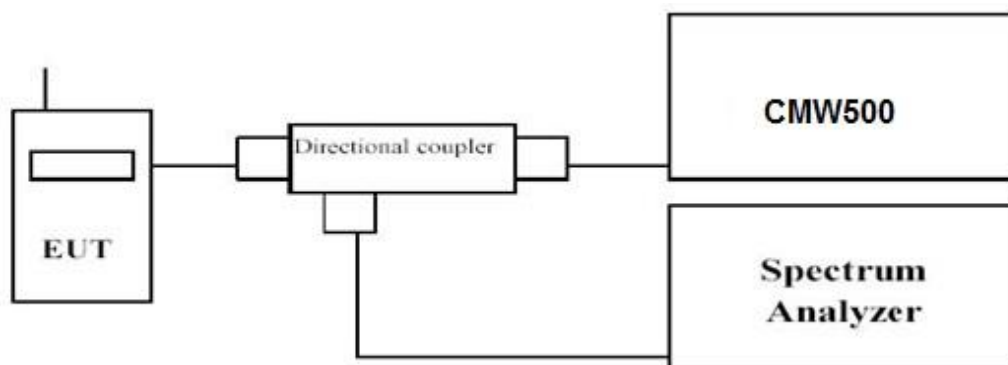


5.2. Occupied Bandwidth and Emission Bandwidth

5.2.1. LIMIT

N/A

5.2.2. TEST CONFIGURATION



5.2.3. TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at low, middle and high channel in each band. The -26dBc Emission bandwidth was also measured and recorded. Set RBW was set to about 1% of emission BW, VBW $\geq$ 3 times RBW. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

5.2.4. TEST RESULTS

Pass

Remark:

1. We were tested full RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth as list in section 3.3 of this report;
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band2.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band4.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band5.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band7.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band12.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band13.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band17.
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band 26(814-824).
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band 26(824-849).
please refer to Emission bandwidth and OBW in Appendix Test data for LTE Band 66.



5.3. Band Edge compliance

5.3.1. LIMIT

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section. According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. All measurements were done at 2 channels (low and high operational frequency range.) The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

§90.543(e)

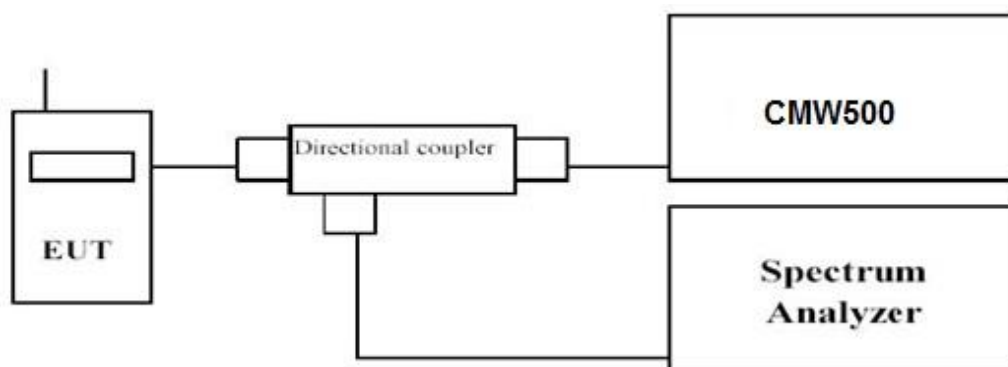
- On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- On any frequency between 775-788MHz, above 805MHz, and below 758 MHz, by at least $43+10\log(P)$ dB.
- Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.
- However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30kHz may be employed.

■ §27.53(c)

- On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
- (6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

**■ §27.53(m)**

- Equipment shall comply with the following unwanted emission limits:
- for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$
- for mobile subscriber equipment, the power of any unwanted emissions measured as above
- shall be attenuated (in dB) below the transmitter power, P (dBW), by at least: $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges In addition, the attenuation shall not be less
- than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or
- below 2490.5 MHz.
- In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment
- occupied bandwidth, whichever is greater.

5.3.2. TEST CONFIGURATION**5.3.3. TEST PROCEDURE**

1. The transmitter output port was connected to base station.
The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
Set EUT at maximum power through base station.
Select lowest and highest channels for each band and different modulation.
Measure Band edge using RMS (Average) detector by spectrum

5.3.4. TEST RESULTS**Pass**

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth as list in section 3.3 of this report;
please refer to Band Edge Emission in Appendix Test data for LTE Band2.
please refer to Band Edge Emission in Appendix Test data for LTE Band4.
please refer to Band Edge Emission in Appendix Test data for LTE Band5.
please refer to Band Edge Emission in Appendix Test data for LTE Band7.
please refer to Band Edge Emission in Appendix Test data for LTE Band12.
please refer to Band Edge Emission in Appendix Test data for LTE Band13.
please refer to Band Edge Emission in Appendix Test data for LTE Band17.
please refer to Band Edge Emission in Appendix Test data for LTE Band 26(814-824).
please refer to Band Edge Emission in Appendix Test data for LTE Band 26(824-849).
please refer to Band Edge Emission in Appendix Test data for LTE Band66.



5.4. Spurious Emission on Antenna Port

5.4.1. LIMIT

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

General limit requirements for measurement frequency bands:

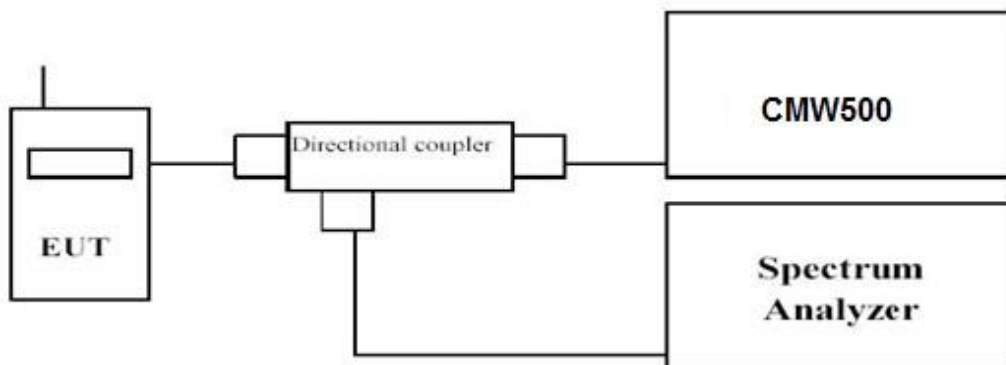
(Involving frequency band Band2/4/5/7/12/13/17/26/66)

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

The limits required by special restrictions correspond to the measurement frequency band:

- For Band 13: On all frequencies between 763-775 MHz and 793-805 MHz: $< 65 + 10\log_{10}(P[\text{Watts}])$

5.4.2. TEST CONFIGURATION



5.4.3. TEST PROCEDURE

The EUT was setup according to ANSI C63.26

- a. Place the EUT on a bench and set it in transmitting mode.
- b. Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- c. EUT Communicate with CMW500, then select a channel for testing.
- d. Add a correction factor to the display of spectrum, and then test.
- e. The resolution bandwidth of the spectrum analyzer was set sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.
- f. Please refer to following tables for test antenna conducted emissions.

Sub range (GHz)	RBW	VBW	Sweep time (s)
0.000009~0.000015	1KHz	3KHz	Auto
0.000015~0.03	10KHz	30KHz	Auto
0.03~26	1 MHz	3 MHz	Auto



5.4.4. TEST RESULTS

Pass

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth as list in section 3.3 of this report;

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band2.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band4.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band5.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band7.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band12.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band13.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band17.

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band 26(814-824).

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band 26(824-849).

please refer to Conducted Spurious Emission in Appendix Test data for LTE Band66.

5.5. Radiated Spurious Emission

5.5.1. LIMIT

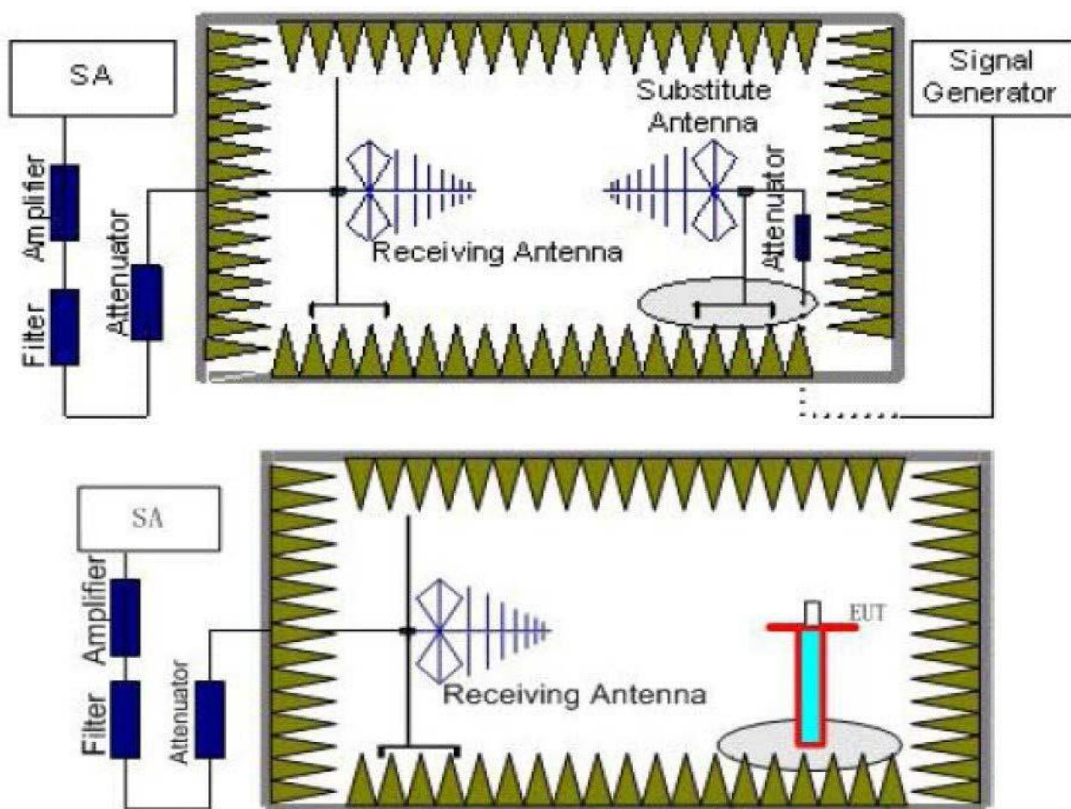
The general requirement for all radiated spurious emissions is: the power of any emission shall be attenuated below the transmitter power (P , in Watts) by at least $43 + 10 \log(P)$ dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm.

For special radiation spurious emission requirements, please refer to the specific divisions in Chapter 5.4.1 of this report.

For Undesirable Emissions in the 1559 – 1610 MHz band (Only available for Band 13&14):

- 70dBW/MHz (-40dBm/MHz) EIRP (Wideband Limit)
- 80dBW/MHz (-50dBm/MHz) EIRP (Narrowband Limit)

5.5.2. TEST CONFIGURATION





5.5.3. TEST PROCEDURE

1. Setup as illustrated above the DUT placed on the 0.8m height (for frequencies < 1GHz) or 1.5m (for frequencies > 1GHz) 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.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as (P_r).
4. The EUT shall be replaced by a substitution antenna. In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (P_{cl}), the Substitution Antenna Gain (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test.
The measurement results are obtained as described below: $\text{Power(EIRP)} = P_{Mea} + P_{Ag} - P_{cl} + G_a$
It can omit power amplifier if signal generator level meets requirement;
6. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
7. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.
8. In order to make sure test results more clearly, we set frequency range and sweep time for difference frequency range as follows table:

Subrange (GHz)	RBW	VBW	Sweep time (s)
0.00009~0.15	1KHz	3KHz	30
0.00015~0.03	10KHz	30KHz	10
0.03~1	100KHz	300KHz	10
1~2	1 MHz	3 MHz	2
2~5	1 MHz	3 MHz	3
5~8	1 MHz	3 MHz	3
8~10 th	1 MHz	3 MHz	3

**5.5.4. TEST LIMITS**

The measurement limits are selected according to the frequency band and report section 5.5.1 requirements

Channel	Frequency Range	Verdict
Low	9 KHz – 10 th GHz	PASS
Middle	9 KHz – 10 th GHz	PASS
High	9 KHz – 10 th GHz	PASS

5.5.5. TEST RESULTS**Pass**

Temperature	24.8°C	Humidity	58%
Test Engineer	Anna Hu		

Remark:

1. $\text{Margin(dB)} = \text{Emission Level(dBm)} - \text{Limit(dBm)}$, $\text{Emission Level(dBm)} = \text{Reading(dBm)} + \text{Factor(dB)}$
2. $\text{Factor(dB)} = \text{Ant Gain} - \text{Cable Loss} + \text{Pre-amplifier}$
3. The radiated spurious emission has been tested with maximum bandwidth QPSK modulation, resource block size 1 and resource block offset 0.
4. The spurious emissions found in the frequency band 1559-1610MHz meet the stricter Wideband limits.
5. Below 30MHz, no spurious emission was found, and only the worst mode data above 30MHz is recorded in the report.



LTE Band 2 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	5640.0	-43.02	5.66	-37.37	-13	-24.37	V
	3760.0	-34.19	2.09	-32.10	-13	-19.10	V
	718.63	-64.66	35.85	-28.81	-13	-15.81	V
	523.16	-62.27	32.38	-29.90	-13	-16.90	V
	5640.0	-46.18	5.66	-40.52	-13	-27.52	H
	3760.0	-38.31	2.09	-36.22	-13	-23.22	H
	711.23	-69.50	35.85	-33.65	-13	-20.65	H
	563.25	-69.29	32.38	-36.91	-13	-23.91	H

LTE Band 2 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	5580.0	-43.90	5.59	-38.31	-13	-25.31	V
	3720.0	-33.73	2.11	-31.61	-13	-18.61	V
	662.14	-65.33	35.13	-30.20	-13	-17.20	V
	363.52	-63.05	29.05	-34.00	-13	-21.00	V
	5580.0	-45.91	5.59	-40.32	-13	-27.32	H
	3720.0	-36.77	2.11	-34.66	-13	-21.66	H
	748.63	-68.62	35.13	-33.49	-13	-20.49	H
	636.57	-70.65	29.05	-41.59	-13	-28.59	H

LTE Band 2 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	5700.0	-42.69	5.72	-36.97	-13	-23.97	V
	3800.0	-33.45	2.07	-31.38	-13	-18.38	V
	635.62	-64.88	35.23	-29.65	-13	-16.65	V
	315.12	-62.72	28.64	-34.08	-13	-21.08	V
	5700.0	-45.09	5.72	-39.37	-13	-26.37	H
	3800.0	-38.26	2.07	-36.19	-13	-23.19	H
	574.21	-69.19	35.23	-33.95	-13	-20.95	H
	416.69	-70.43	28.64	-41.78	-13	-28.78	H



LTE Band 4 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	5160.0	-43.17	4.81	-38.35	-13	-25.35	V
	3440.0	-34.09	2.16	-31.92	-13	-18.92	V
	607.15	-63.57	35.49	-28.08	-13	-15.08	V
	436.15	-63.10	31.80	-31.30	-13	-18.30	V
	5160.0	-46.71	4.81	-41.90	-13	-28.90	H
	3440.0	-37.42	2.16	-35.26	-13	-22.26	H
	341.51	-68.31	35.49	-32.81	-13	-19.81	H
	251.14	-69.74	31.80	-37.95	-13	-24.95	H

LTE Band 4 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	5197.5	-44.34	4.89	-39.46	-13	-26.46	V
	3465.0	-33.35	2.19	-31.16	-13	-18.16	V
	425.14	-63.77	31.32	-32.45	-13	-19.45	V
	299.14	-61.54	28.67	-32.87	-13	-19.87	V
	5197.5	-46.74	4.89	-41.85	-13	-28.85	H
	3465.0	-38.10	2.19	-35.91	-13	-22.91	H
	536.25	-69.81	31.32	-38.50	-13	-25.50	H
	475.17	-69.76	28.67	-41.09	-13	-28.09	H

LTE Band 4 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	5235.0	-43.13	4.96	-38.17	-13	-25.17	V
	3490.0	-34.49	2.23	-32.26	-13	-19.26	V
	663.54	-64.91	35.14	-29.78	-13	-16.78	V
	412.15	-63.10	30.75	-32.35	-13	-19.35	V
	5235.0	-46.59	4.96	-41.63	-13	-28.63	H
	3490.0	-37.22	2.23	-34.99	-13	-21.99	H
	585.25	-68.39	35.14	-33.26	-13	-20.26	H
	474.96	-70.55	30.75	-39.80	-13	-26.80	H



LTE Band 5 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2487.0	-44.28	2.00	-42.28	-13	-29.28	V
	1658.0	-34.54	-1.63	-36.17	-13	-23.17	V
	431.26	-63.76	31.58	-32.17	-13	-19.17	V
	274.25	-63.05	29.25	-33.80	-13	-20.80	V
	2487.0	-46.91	2.00	-44.91	-13	-31.91	H
	1658.0	-36.73	-1.63	-38.36	-13	-25.36	H
	305.52	-69.62	31.58	-38.04	-13	-25.04	H
	212.31	-69.88	29.25	-40.63	-13	-27.63	H

LTE Band 5 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2509.5	-43.55	2.01	-41.54	-13	-28.54	V
	1673.0	-34.66	-1.51	-36.17	-13	-23.17	V
	596.14	-64.87	35.36	-29.50	-13	-16.50	V
	244.31	-62.11	29.17	-32.94	-13	-19.94	V
	2509.5	-45.85	2.01	-43.83	-13	-30.83	H
	1673.0	-37.78	-1.51	-39.29	-13	-26.29	H
	552.95	-68.50	35.36	-33.14	-13	-20.14	H
	415.18	-70.04	29.17	-40.87	-13	-27.87	H

LTE Band 5 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2532.0	-43.48	1.99	-41.49	-13	-28.49	V
	1688.0	-32.80	-1.38	-34.18	-13	-21.18	V
	637.51	-63.97	35.21	-28.75	-13	-15.75	V
	355.24	-62.19	28.79	-33.40	-13	-20.40	V
	2532.0	-46.25	1.99	-44.26	-13	-31.26	H
	1688.0	-36.50	-1.38	-37.88	-13	-24.88	H
	675.17	-68.91	35.21	-33.70	-13	-20.70	H
	422.77	-69.71	28.79	-40.93	-13	-27.93	H



LTE Band 7 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	7507.5	-47.92	7.23	-40.69	-25	-15.69	V
	5005.0	-51.57	4.50	-47.07	-25	-22.07	V
	925.73	-89.26	38.09	-51.18	-25	-26.18	V
	678.92	-86.41	35.18	-51.24	-25	-26.24	V
	7507.5	-50.11	7.23	-42.88	-25	-17.88	H
	5005.0	-50.51	4.50	-46.01	-25	-21.01	H
	873.64	-90.56	38.09	-52.47	-25	-27.47	H
	662.72	-90.86	35.18	-55.69	-25	-30.69	H

LTE Band 7 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	7605.0	-47.25	7.23	-40.02	-25	-15.02	V
	5070.0	-49.75	4.63	-45.12	-25	-20.12	V
	833.75	-88.44	38.18	-50.26	-25	-25.26	V
	521.22	-87.73	32.33	-55.40	-25	-30.40	V
	7605.0	-48.35	7.23	-41.12	-25	-16.12	H
	5070.0	-52.03	4.63	-47.40	-25	-22.40	H
	819.63	-91.58	38.18	-53.40	-25	-28.40	H
	520.53	-90.21	32.33	-57.88	-25	-32.88	H

LTE Band 7 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	7702.5	-46.25	7.23	-39.02	-25	-14.02	V
	5135.0	-50.01	4.76	-45.25	-25	-20.25	V
	752.61	-91.03	36.93	-54.09	-25	-29.09	V
	511.46	-86.72	32.10	-54.63	-25	-29.63	V
	7702.59	-48.79	7.23	-41.56	-25	-16.56	H
	5135.0	-52.19	4.76	-47.43	-25	-22.43	H
	701.11	-90.28	36.93	-53.35	-25	-28.35	H
	507.12	-91.22	32.10	-59.13	-25	-34.13	H



LTE Band 12 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2112.0	-43.46	1.37	-42.10	-13	-29.10	V
	1408.0	-34.15	-3.27	-37.42	-13	-24.42	V
	563.89	-63.43	33.73	-29.70	-13	-16.70	V
	415.11	-61.66	30.88	-30.78	-13	-17.78	V
	2112.0	-45.55	1.37	-44.18	-13	-31.18	H
	1408.0	-36.52	-3.27	-39.79	-13	-26.79	H
	362.62	-69.18	33.73	-35.45	-13	-22.45	H
	268.01	-70.34	30.88	-39.46	-13	-26.46	H

LTE Band 12 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2122.5	-42.60	1.39	-41.22	-13	-28.22	V
	1415.0	-34.64	-3.24	-37.89	-13	-24.89	V
	785.10	-65.28	37.47	-27.82	-13	-14.82	V
	465.05	-62.31	32.23	-30.09	-13	-17.09	V
	2122.5	-45.09	1.39	-43.71	-13	-30.71	H
	1415.0	-36.48	-3.24	-39.72	-13	-26.72	H
	724.33	-68.95	37.47	-31.49	-13	-18.49	H
	599.75	-69.66	32.23	-37.44	-13	-24.44	H

LTE Band 12 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2133.0	-43.36	1.40	-41.96	-13	-28.96	V
	1422.0	-33.48	-3.22	-36.69	-13	-23.69	V
	725.41	-64.90	36.07	-28.82	-13	-15.82	V
	296.11	-62.99	28.74	-34.25	-13	-21.25	V
	2133.0	-46.20	1.40	-44.79	-13	-31.79	H
	1422.0	-36.59	-3.22	-39.81	-13	-26.81	H
	841.05	-69.95	36.07	-33.87	-13	-20.87	H
	385.07	-69.44	28.74	-40.69	-13	-27.69	H



LTE Band 13 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2338.5	-88.30	37.37	-50.93	-13	-10.93	V
	1559.0	-94.48	37.41	-57.07	-40	-17.07	V
	563.25	-94.66	37.46	-57.20	-13	-17.20	V
	247.39	-94.96	37.37	-57.59	-40	-17.59	V
	2338.5	-92.40	37.41	-54.99	-13	-14.99	H
	1559.0	-94.35	37.46	-56.89	-40	-16.89	H
	669.58	-93.06	37.37	-55.69	-13	-15.69	H
	531.15	-89.76	37.41	-52.35	-13	-12.35	H

LTE Band 13 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2346.0	-87.50	37.37	-50.12	-13	-10.12	V
	1564.0	-94.12	37.41	-56.70	-40	-16.70	V
	374.17	-94.71	37.46	-57.26	-13	-17.26	V
	210.52	-94.36	37.37	-56.99	-40	-16.99	V
	2346.0	-91.16	37.41	-53.74	-13	-13.74	H
	1564.0	-92.21	37.46	-54.75	-40	-14.75	H
	353.17	-94.70	37.37	-57.33	-13	-17.33	H
	217.71	-90.67	37.41	-53.26	-13	-13.26	H

LTE Band 13 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2353.5	-89.18	37.37	-51.81	-13	-11.81	V
	1569.0	-95.71	37.41	-58.30	-40	-18.30	V
	269.21	-92.60	37.46	-55.15	-13	-15.15	V
	198.07	-94.99	37.37	-57.62	-40	-17.62	V
	2353.5	-92.43	37.41	-55.02	-13	-15.02	H
	1569.0	-91.76	37.46	-54.31	-40	-14.31	H
	563.02	-94.19	37.37	-56.82	-13	-16.82	H
	253.15	-90.90	37.41	-53.49	-13	-13.49	H



LTE Band 17 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2119.5	-43.85	1.38	-42.47	-13	-29.47	V
	1413.0	-33.44	-3.25	-36.69	-13	-23.69	V
	635.27	-64.77	35.24	-29.54	-13	-16.54	V
	351.58	-62.49	28.67	-33.82	-13	-20.82	V
	2119.5	-45.88	1.38	-44.50	-13	-31.50	H
	1413.0	-37.62	-3.25	-40.87	-13	-27.87	H
	413.45	-69.07	35.24	-33.84	-13	-20.84	H
	265.63	-68.89	28.67	-40.22	-13	-27.22	H

LTE Band 17 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2130.0	-43.43	1.40	-42.03	-13	-29.03	V
	1420.0	-32.96	-3.22	-36.18	-13	-23.18	V
	536.49	-63.78	32.70	-31.09	-13	-18.09	V
	263.74	-63.05	29.50	-33.56	-13	-20.56	V
	2130.0	-45.30	1.40	-43.91	-13	-30.91	H
	1420.0	-36.84	-3.22	-40.06	-13	-27.06	H
	637.78	-69.92	32.70	-37.22	-13	-24.22	H
	225.52	-69.78	29.50	-40.28	-13	-27.28	H

LTE Band 17 / 5MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2140.5	-43.18	1.42	-41.76	-13	-28.76	V
	1427.0	-33.81	-3.20	-37.01	-13	-24.01	V
	317.25	-64.82	28.64	-36.18	-13	-23.18	V
	258.36	-62.83	29.62	-33.21	-13	-20.21	V
	2140.5	-46.70	1.42	-45.29	-13	-32.29	H
	1427.0	-36.99	-3.20	-40.18	-13	-27.18	H
	425.24	-69.25	28.64	-40.61	-13	-27.61	H
	275.07	-69.67	29.62	-40.05	-13	-27.05	H



LTE Band 26 (824-849) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2494.5	-43.51	2.01	-41.50	-13	-28.50	V
	1663.0	-34.17	-1.59	-35.76	-13	-22.76	V
	584.08	-64.77	34.75	-30.02	-13	-17.02	V
	362.17	-62.56	29.01	-33.55	-13	-20.55	V
	2494.5	-45.02	2.01	-43.01	-13	-30.01	H
	1663.0	-36.86	-1.59	-38.45	-13	-25.45	H
	637.51	-68.92	34.75	-34.17	-13	-21.17	H
	452.21	-70.56	29.01	-41.55	-13	-28.55	H

LTE Band 26 (824-849) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2509.5	-44.26	2.01	-42.24	-13	-29.24	V
	1673.0	-34.27	-1.51	-35.78	-13	-22.78	V
	612.09	-63.44	35.45	-27.99	-13	-14.99	V
	413.25	-62.43	30.80	-31.63	-13	-18.63	V
	2509.5	-46.10	2.01	-44.08	-13	-31.08	H
	1673.0	-37.44	-1.51	-38.95	-13	-25.95	H
	752.44	-68.83	35.45	-33.38	-13	-20.38	H
	241.42	-68.79	30.80	-37.99	-13	-24.99	H

LTE Band 26 (824-849) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2524.5	-43.06	2.00	-41.06	-13	-28.06	V
	1683.0	-33.77	-1.43	-35.19	-13	-22.19	V
	682.15	-64.81	35.18	-29.62	-13	-16.62	V
	351.28	-62.21	28.66	-33.55	-13	-20.55	V
	2524.5	-45.30	2.00	-43.30	-13	-30.30	H
	1683.0	-37.68	-1.43	-39.10	-13	-26.10	H
	425.15	-68.40	35.18	-33.22	-13	-20.22	H
	362.17	-69.30	28.66	-40.64	-13	-27.64	H



LTE Band 26 (814-824) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	2444.1	-43.51	1.93	-41.58	-13	-28.58	V
	1638.0	-34.59	-1.80	-36.39	-13	-23.39	V
	623.74	-65.16	35.34	-29.82	-13	-16.82	V
	263.71	-63.15	29.50	-33.65	-13	-20.65	V
	2444.1	-46.32	1.93	-44.39	-13	-31.39	H
	1638.0	-38.10	-1.80	-39.89	-13	-26.89	H
	458.26	-69.11	35.34	-33.77	-13	-20.77	H
	346.74	-68.74	29.50	-39.24	-13	-26.24	H

LTE Band 26 (814-824) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	2457.0	-43.22	1.95	-41.27	-13	-28.27	V
	1638.0	-32.98	-1.80	-34.78	-13	-21.78	V
	452.15	-63.63	32.38	-31.25	-13	-18.25	V
	315.24	-61.57	28.64	-32.93	-13	-19.93	V
	2457.0	-46.39	1.95	-44.45	-13	-31.45	H
	1638.0	-38.07	-1.80	-39.86	-13	-26.86	H
	458.63	-68.28	32.38	-35.91	-13	-22.91	H
	297.14	-69.53	28.64	-40.88	-13	-27.88	H

LTE Band 26 (814-824) / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	2469.9	-42.62	1.97	-40.65	-13	-27.65	V
	1646.6	-34.07	-1.72	-35.80	-13	-22.80	V
	712.42	-65.03	35.64	-29.38	-13	-16.38	V
	521.75	-61.94	32.34	-29.60	-13	-16.60	V
	2469.9	-46.70	1.97	-44.73	-13	-31.73	H
	1646.6	-37.19	-1.72	-38.92	-13	-25.92	H
	701.21	-68.38	35.64	-32.74	-13	-19.74	H
	623.52	-70.64	32.34	-38.30	-13	-25.30	H



LTE Band 66 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Low	5132.1	-42.86	4.76	-38.10	-13	-25.10	V
	3421.4	-33.19	2.14	-31.05	-13	-18.05	V
	412.53	-64.17	30.77	-33.41	-13	-20.41	V
	263.54	-62.56	29.50	-33.06	-13	-20.06	V
	5132.1	-46.32	4.76	-41.56	-13	-28.56	H
	3421.4	-37.91	2.14	-35.78	-13	-22.78	H
	417.58	-70.09	30.77	-39.32	-13	-26.32	H
	263.53	-70.17	29.50	-40.67	-13	-27.67	H

LTE Band 66 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
Middle	5235.0	-43.11	4.96	-38.14	-13	-25.14	V
	3490.0	-33.32	2.23	-31.09	-13	-18.09	V
	361.22	-63.90	28.98	-34.92	-13	-21.92	V
	213.28	-62.79	25.60	-37.19	-13	-24.19	V
	5235.0	-46.09	4.96	-41.12	-13	-28.12	H
	3490.0	-36.33	2.23	-34.10	-13	-21.10	H
	485.36	-69.83	28.98	-40.85	-13	-27.85	H
	198.74	-68.93	25.60	-43.32	-13	-30.32	H

LTE Band 66 / 1.4MHz / QPSK							
Channel	Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity (H/V)
High	5337.9	-42.79	5.17	-37.62	-13	-24.62	V
	3558.6	-33.19	2.21	-30.99	-13	-17.99	V
	603.78	-65.00	35.53	-29.47	-13	-16.47	V
	498.52	-62.93	31.84	-31.09	-13	-18.09	V
	5337.9	-45.17	5.17	-40.00	-13	-27.00	H
	3558.6	-37.88	2.21	-35.68	-13	-22.68	H
	365.79	-69.57	35.53	-34.05	-13	-21.05	H
	169.53	-69.55	31.84	-37.72	-13	-24.72	H



LTE Band 13 (1559 MHz ~ 1610 MHz Wideband Band)							
Operating Frequency (MHz)	Measured Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Emission Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Polarity (H/V)
779.5	1559	-87.60	37.37	-50.22	-13	-37.22	V
782.0	1564	-95.41	37.41	-57.99	-40	-17.99	V
784.5	1569	-94.72	37.46	-57.26	-13	-44.26	V
779.5	1559	-95.50	37.37	-58.13	-40	-18.13	V
782.0	1564	-92.01	37.41	-54.59	-13	-41.59	H
784.5	1569	-93.74	37.46	-56.28	-40	-16.28	H
779.5	1559	-94.50	37.37	-57.13	-13	-44.13	H
782.0	1564	-90.71	37.41	-53.30	-13	-40.30	H

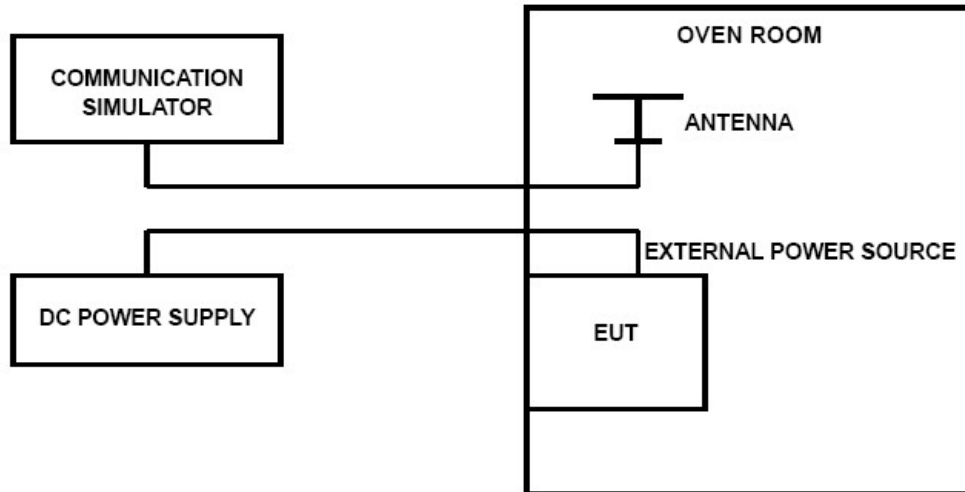


5.6. Frequency Stability under Temperature & Voltage Variations

5.6.1. LIMIT

According to FCC §2.1055, §22.355, §24.235 and §27.54 and §90.213 requirement, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation and should not exceed 2.5ppm.

5.6.2. TEST CONFIGURATION



5.6.3. TEST PROCEDURE

The EUT was setup according to ANSI C63.26.

5.6.4. Frequency Stability Under Temperature Variations:

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30°C.
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for Specific band, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 °C increments from +50°C to -30°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.



5.6.5. Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

5.6.6. TEST RESULTS

Pass

Remark:

1. We tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth as list in section 3.3 of this report, and record the worst case in this report.
please refer to Frequency Stability in Appendix Test data for LTE Band2.
please refer to Frequency Stability in Appendix Test data for LTE Band4.
please refer to Frequency Stability in Appendix Test data for LTE Band5.
please refer to Frequency Stability in Appendix Test data for LTE Band7.
please refer to Frequency Stability in Appendix Test data for LTE Band12.
please refer to Frequency Stability in Appendix Test data for LTE Band13.
please refer to Frequency Stability in Appendix Test data for LTE Band17.
please refer to Frequency Stability in Appendix Test data for LTE Band 26(814-824).
please refer to Frequency Stability in Appendix Test data for LTE Band 26(824-849).
please refer to Frequency Stability in Appendix Test data for LTE Band66.



6. TEST SETUP PHOTOS OF THE EUT

Please refer to separated files for Test Setup Photos of the EUT.

7. EXTERNAL PHOTOS OF THE EUT

Please refer to separated files for External Photos of the EUT.

8. INTERNAL PHOTOS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

-----THE END OF REPORT-----