Shenzhen HUAK Testing Technology Co., Ltd. Report No.: HK2109063337-8E

TEST REPORT FCC Part 27

 Report Reference No......
 HK2109063337-8E

 FCC ID......
 2A3MB-VT5500-C

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Date of issue...... Dec. 10, 2021

Testing Laboratory Name Shenzhen HUAK Testing Technology Co., Ltd.

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Address Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong,

China

Applicant's name...... VISIONTRACK LIMITED

SEVENOAKS, KENT, TN13 2QB United Kingdom

Test specification:

Standard FCC CFR Title 47 Part 2, Part 27

TRF Originator...... Shenzhen HUAK Testing Technology Co., Ltd.

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Test item description Mobile Digital Video Recorder

Trade Mark OVISIONTRACK

Manufacturer VISIONTRACK LIMITED

Model/Type reference...... VT5500-C (NA)

Series Model N/A

Modulation Type QPSK, 16QAM

Rating DC 8-36V

Hardware version V2.0

Software version V2.0

Result..... PAS

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TEST REPORT

Test Report No. :	HK2109063337-8E	Dec. 10, 2021
rest Report No	11K21U9UU3337-0L	Date of issue

Equipment under Test : Mobile Digital Video Recorder

Model /Type : VT5500-C (NA)

Series Model : N/A

Applicant : VISIONTRACK LIMITED

Address : MARKERSTUDY HOUSE, 45 WESTERHAM ROAD,

SEVENOAKS, KENT, TN13 2QB United Kingdom

Report No.: HK2109063337-8E

Manufacturer : VISIONTRACK LIMITED

Address : MARKERSTUDY HOUSE, 45 WESTERHAM ROAD,

SEVENOAKS, KENT, TN13 2QB United Kingdom

(3)	(89)
Test result	Pass
, all	

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





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· <u>—</u>	STIME HUAK!	HUAK	STING	
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1 SUMMARY

1.1 Test Standards

The tests were performed according to following standards: FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES.

TIA/EIA 603 D June 2010:Land Mobile FM or PM Communications Equipment Measurement and Performance Standards 47 CFR FCC Part 15 Subpart B: - Unintentional Radiators.

FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS.

KDB971168 D01: v02r02 MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS.

1.2 Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 27.50(d)(4)	Pass
Peak-to-Average Ratio	Part 27.50(d)(4)	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 27.53(h)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 27.53(h)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 27.53(h)	Pass
Out of band emission, Band Edge	Part 2.1051 Part 27.53(h)	Pass
Frequency stability	Part 2.1055 Part 27.54	Pass

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1.3 Information of The Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd. Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01. FCC Designation Number is CN1229. Canada IC CAB identifier is CN0045. CNAS Registration Number is L9589.

1.4 Statement of The 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 CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen HUAK Testing Technology Co., Ltd.quality system acc. to DIN EN 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 HUAK Testing Technology Co., Ltd.is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10dB	(1)
Radiated Emission	Above 1GHz	4.32dB	(1)
Conducted Disturbance	0.15~30MHz	3.20dB	(1)

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

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2 **GENERAL INFORMATION**

2.1 Environmental Conditions

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

Normal Temperature:	25°C	-	
Relative Humidity:	55 %	,n/G	-nIG
Air Pressure:	101 kPa	LAKTESTI	MAKTESTI

2.2 Description of Test Modes

The EUT has been tested under typical operating condition. The CMW500 used to control the EUT staying in continuous transmitting and receiving mode for testing. Regards to the frequency band operation: the lowest middle and highest frequency of channel were selected to perform the test, then shown on this report.

Note:

- 1. For the ERP/EIRP and radiated emission test, every axis (X, Y, Z) was verified, and show the worst resulton this report.
- 2. Test method and refer to 3GPP TS136521.

2.3 Test Frequency List

STILL	STILL	STILL
NK. IL	MAKTE	HUAKTE
TX Channel Bandwidth	Frequency (MHz)	channel
Dariuwiutii	(IVITIZ)	TING
4.4.8411=1,445.11	1710.7	131979
1.4 MHz	1745	132322
	1779.3	132665
	1711.5	131987
3 MHz	1745	132322
	1778.5	132657
	1712.5	131997
5 MHz	1745	132322
	1777.5	132647
TING	1715.0	132022
10 MHz	1745	132322
	1775.0	132622
aNG	1717.5	132047
15 MHz	1745	132322
	1772.5	132597
(i)	1720.0	132072
20 MHz	1745	132322
	1770.0	132572

6

CATION



2.4 Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	ENV216	R&S	HKE-059	2020/12/10	2021/12/09
LISN	R&S	ENV216	HKE-002	2020/12/10	2021/12/09
Broadband antenna	Schwarzbeck	VULB 9163		2020/12/10	2021/12/09
Receiver	R&S	ESCI 7	HKE-010	2020/12/10	2021/12/09
Spectrum analyzer	Agilent	N9020A	HKE-048	2020/12/10	2021/12/09
RF automatic control unit	Tonscend	JS0806-2	HKE-060	2020/12/10	2021/12/09
Horn antenna	Schwarzbeck	9120D	HKE-013	2020/12/10	2021/12/09
Loop antenna	Schwarzbeck	FMZB 1519 B	HKE-014	2020/12/10	2021/12/09
Preamplifier	EMCI	EMC051845SE	HKE-015	2020/12/10	2021/12/09
Preamplifier	Agilent	83051A	HKE-016	2020/12/10	2021/12/09
Temperature and humidity meter	Boyang	HTC-1	HKE-075	2020/12/10	2021/12/09
High pass filter unit	Tonscend	JS0806-F	HKE-055	2020/12/10	2021/12/09
RF cable	Times	1-40G	HKE-034	2020/12/10	2021/12/09
Power meter	Agilent	E4419B	HKE-085	2020/12/10	2021/12/09
Power Sensor	Agilent	E9300A	HKE-086	2020/12/10	2021/12/09
Wireless Communication Test Set	R&S	CMW500	HKE-026	2020/12/10	2021/12/09
Wireless Communication Test Set	R&S MARTES	CMU200	HKE-029	2020/12/10	2021/12/09
High gain antenna	Schwarzbeck	LB-180400KF	HKE-054	2020/12/10	2021/12/09
Horn antenna	Schwarzbeck	9120D	HKE-135	2020/12/10	2021/12/09
High gain antenna	Schwarzbeck	LB-180400KF	HKE-128	2020/12/10	2021/12/09
Broadband antenna	Schwarzbeck	VULB 9163	HKE-087	2020/12/10	2021/12/09
Signal generator	Agilent	E4433B	HKE-120	2020/12/10	2021/12/09
Signal generator	Agilent	E4421B	HKE-121	2020/12/10	2021/12/09
	-				

2.5 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2A3MB-VT5500-C filing to comply with of the FCC Part 27 Rules.

2.6 Modifications

No modifications were implemented to meet testing criteria.

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3 TEST CONDITIONS AND RESULTS

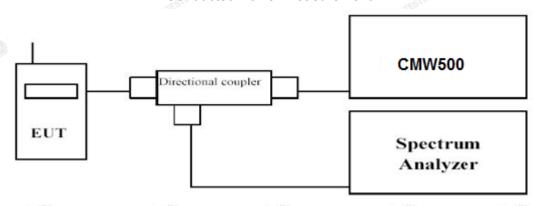
3.1 Output Power

LIMIT

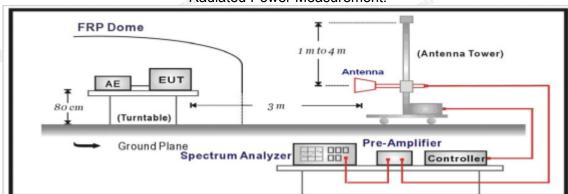
According to §27.50 (d) (4): Fixed, mobile, and portable (hand- held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

TEST CONFIGURATION

Conducted Power Measurement



Radiated Power Measurement:



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D.

Conducted Power Measurement:

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

Radiated Power Measurement:

- a. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to thefrequency of the transmitter.
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal



level is detected by the measuring receiver.

- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal leve is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The transmitter shall be replaced by a substitution antenna.
- j. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k. The substitution antenna shall be connected to a calibrated signal generator.
- I. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. Test site anechoic chamber refer to ANSI C63.4.

TEST RESULTS

Conducted Measurement:

ESTING	LTE FDD Band 66							
TX Channel	Frequency	RB Size/Offset	Average Po	ower [dBm]				
Bandwidth	(MHz)	RB Size/Offset	QPSK	16QAM				
	TESTINE	1 RB low	23.45	22.39				
	1710 7	1 RB high	23.48	22.93				
TESTING	1710.7	50% RB mid	23.75	22.74				
WAKTE		100% RB	23.54	22.29				
	(i)	1 RB low	23.72	22.35				
1.4 MHz	1745	1 RB high	23.56	22.37				
	1745	50% RB mid	22.61	21.47				
TING		100% RB	23.74	22.69				
TEST	ED.	1 RB low	23.64	22.69				
W HOL	1779.3	1 RB high	23.63	22.54				
ING.	1779.3	50% RB mid	23.54	22.34				
		100% RB	23.69	22.29				
MG	- WAKTE	1 RB low	23.60	22.41				
MANAY TES	1711.5	1 RB high	23.57	22.40				
		50% RB mid	23.61	22.74				
		100% RB	22.62	21.71				
	MAKTE	1 RB low	22.62	21.88				
2 1411-	We White	1 RB high	22.65	21.76				
3 MHz	1745	50% RB mid	22.64	21.84				
		100% RB	23.61	22.85				
		1 RB low	23.38	22.55				
	4770 E	1 RB high	23.55	22.74				
AG.	1778.5	50% RB mid	22.67	21.74				
ESTIN-		100% RB	22.59	21.65				
A HIM	HUAN	1 RB low	23.46	22.58				
E MILE	4740 E	1 RB high	23.82	22.68				
5 MHz	1712.5	50% RB mid	23.80	22.50				
-1Gs		100% RB	22.61	21.58				

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	"IAK TES	1 RB low	22.52	21.56
ING ST	1745	1 RB high	22.77	21.63
AKTESTI MAKTES	1745	50% RB mid	22.66	21.77
Oly Ho	HUM	100% RB	23.80	22.96
		1 RB low	23.38	22.37
	1777 5	1 RB high	23.62	22.38
.0	1777.5	50% RB mid	22.56	21.70
ESTING		100% RB	22.58	21.52
AND HIVAR	HUAM	1 RB low	22.99	22.20
	4745.0	1 RB high	23.35	22.63
G	1715.0	50% RB mid	23.46	22.83
HU/G		100% RB	22.60	21.66
TESTING	HOPE HOPE	1 RB low	22.47	21.53
40 MULHUAK	4745	1 RB high	22.54	21.73
10 MHz	1745	50% RB mid	22.59	21.59
		100% RB	23.39	22.12
	NG HUAN	1 RB low	23.36	22.56
HUAN TESTING	1775.0	1 RB high	23.20	22.27
		50% RB mid	22.43	21.50
		100% RB	22.46	21.59
TING	1717.5	1 RB low	23.21	22.39
		1 RB high	23.60	23.41
		50% RB mid	23.63	22.84
EST		100% RB	22.93	22.59
		1 RB low	23.27	22.98
		1 RB high	22.83	22.73
6 15 MHz	1745	50% RB mid	22.60	21.62
- ING		100% RB	23.22	22.47
LAK TES	<u></u>	1 RB low	23.05	22.65
Mary House		1 RB high	23.21	22.18
	1772.5	50% RB mid	22.45	22.01
		100% RB	22.71	22.58
TING	Lac D	1 RB low	23.34	22.50
AKTES - WAKTES	4 TO CONTRACT	1 RB high	24.01	23.14
	1720.0	50% RB mid	23.45	22.31
		100% RB	22.77	21.75
		1 RB low	22.72	21.79
	ωG	1 RB high	22.74	21.88
20 MHz	1745	50% RB mid	22.72	21.70
HI AM		100% RB	23.48	22.61
		1 RB low	23.57	22.39
JG	TING	1 RB high	23.32	22.16
NG.	1770.0	50% RB mid	22.64	21.74
TESTIME		100% PR	22.54	21.74

Radiated Measurement:

Remark:

- We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.
- $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+P_{Aq}(dB)+G_{a}(dBi)$

LTE FDD Band 66_Channel Bandwidth 1.4MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1710.7	-16.37	3.06	9.68	34.80	25.05	30.00	4.95	V
1745	-16.99	3.17	9.68	34.80	24.32	30.00	5.68	V
1779.3	-17.45	3.22	9.75	34.80	23.88	30.00	6.12	TING V
1710.7	-16.47	3.06	9.68	34.80	24.95	30.00	5.05	Н
1745	-17.26	3.17	9.68	34.80	24.05	30.00	5.95	Н
1779.3	-17.42	3.22	9.75	34.80	23.91	30.00	6.09	Н

LTE FDD Band 66_Channel Bandwidth 3MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1711.5	-16.39	3.06	9.68	34.80	25.03	30.00	4.97	V
1745	-16.57	3.17	9.68	34.80	24.74	30.00	5.26	VG
1778.5	-17.00	3.22	9.75	34.80	24.33	30.00	5.67	V
1711.5	-16.37	3.06	9.68	34.80	25.05	30.00	4.95	H H
1745	-16.82	3.17	9.68	34.80	24.49	30.00	5.51	Н
1778.5	-16.56	3.22	9.75	34.80	24.77	30.00	5.23	Н

LTE FDD Band 66_Channel Bandwidth 5MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1712.5	-17.74	3.06	9.68	34.80	23.68	30.00	6.32	V MH
1745	-16.66	3.17	9.68	34.80	24.65	30.00	5.35	NKTES! V
1777.5	-16.43	3.22	9.75	34.80	24.90	30.00	5.10	V
1712.5	-17.33	3.06	9.68	34.80	24.09	30.00	5.91	Н
1745	-17.06	3.17	9.68	34.80	24.25	30.00	5.75	Н
1777.5	-17.75	3.22	9.75	34.80	23.58	30.00	6.42	Н

LTE FDD Band 66_Channel Bandwidth 10MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1715.0	-16.85	3.06	9.68	34.80	24.57	30.00	5.43	TING V
1745	-16.02	3.17	9.68	34.80	25.29	30.00	4.71	V
1775.0	-17.65	3.22	9.75	34.80	23.68	30.00	6.32	V
1715.0	-16.52	3.06	9.68	34.80	24.90	30.00	5.10	Н
1745	-17.05	3.17	9.68	34.80	24.26	30.00	5.74	H
1775.0	-17.00	3.22	9.75	34.80	24.33	30.00	5.67	TESTIN'H W

LTE FDD Band 66 Channel Bandwidth 15MHz QPSK

LILIDDD	and oo_ona	Titlet Bariaw	Iddi Tolvii IZ_	WI OIL		(0000)		
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1717.5	-16.88	3.06	9.68	34.80	24.54	30.00	5.46	V
1745	-16.21	3.17	9.68	34.80	25.10	30.00	4.90	N V
1772.5	-16.40	3.22	9.75	34.80	24.93	30.00	5.07	V
1717.5	-17.50	3.06	9.68	34.80	23.92	30.00	6.08	Н
1745	-16.64	3.17	9.68	34.80	24.67	30.00	5.33	_m G H
1772.5	-17.60	3.22	9.75	34.80	23.73	30.00	6.27	β ¹ H

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LTE FDD Band 66_Channel Bandwidth 20MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1720.0	-17.25	3.06	9.68	34.80	24.17	30.00	5.83	V
1745	-17.16	3.17	9.68	34.80	24.15	30.00	5.85	V
1770.0	-16.48	3.22	9.75	34.80	24.85	30.00	5.15	V
1720.0	-17.32	3.06	9.68	34.80	24.10	30.00	5.90	75H
1745	-16.23	3.17	9.68	34.80	25.08	30.00	4.92	AUAK H
1770.0	-18.10	3.22	9.75	34.80	23.23	30.00	6.77	Н

LTE FDD Band 66_Channel Bandwidth 1.4MHz_16QAM

	Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	1710.7	-17.23	3.06	9.68	34.80	24.19	30.00	5.81	V
	1745	-16.29	3.17	9.68	34.80	25.02	30.00	4.98	V
Ī	1779.3	-17.42	3.22	9.75	34.80	23.91	30.00	6.09	TESTIV W
	1710.7	-16.01	3.06	9.68	34.80	25.41	30.00	4.59	J ^{AM} H
	1745	-17.06	3.17	9.68	34.80	24.25	30.00	5.75	Н
	1779.3	-17.66	3.22	9.75	34.80	23.67	30.00	6.33	Н

LTE FDD Band 66_Channel Bandwidth 3MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1711.5	-17.58	3.06	9.68	34.80	23.84	30.00	6.16	V
1745	-16.69	3.17	9.68	34.80	24.62	30.00	5.38	_{mi} G V
1778.5	-17.92	3.22	9.75	34.80	23.41	30.00	6.59	V
1711.5	-17.63	3.06	9.68	34.80	23.79	30.00	6.21	Н
1745	-16.70	3.17	9.68	34.80	24.61	30.00	5.39	Н
1778.5	-18.10	3.22	9.75	34.80	23.23	30.00	6.77	Н

LTE FDD Band 66_Channel Bandwidth 5MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1712.5	-16.12	3.06	9.68	34.80	25.30	30.00	4.70	V
1745	-16.75	3.17	9.68	34.80	24.56	30.00	5.44	V
1777.5	-17.67	3.22	9.75	34.80	23.66	30.00	6.34	NAK V
1712.5	-17.07	3.06	9.68	34.80	24.35	30.00	5.65	Н
1745	-16.25	3.17	9.68	34.80	25.06	30.00	4.94	Н
1777.5	-16.74	3.22	9.75	34.80	24.59	30.00	5.41	Д

LTE FDD Band 66 Channel Bandwidth 10MHz 16QAM

LIETUU D	and 66_Cha	illei balluwi	uui iuivinz_	TOQAM			ATTE HOLL	
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1715.0	-17.10	3.06	9.68	34.80	24.32	30.00	5.68	TESTIV W
1745	-17.06	3.17	9.68	34.80	24.25	30.00	5.75	V
1775.0	-16.39	3.22	9.75	34.80	24.94	30.00	5.06	V
1715.0	-16.70	3.06	9.68	34.80	24.72	30.00	5.28	Н
1745	-16.96	3.17	9.68	34.80	24.35	30.00	5.65	Н
1775.0	-18.27	3.22	9.75	34.80	23.06	30.00	6.94	HG

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LTE FDD Band 66_Channel Bandwidth 15MHz_16QAM

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Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1717.5	-17.33	3.06	9.68	34.80	24.09	30.00	5.91	V
1745	-16.46	3.17	9.68	34.80	24.85	30.00	5.15	V
1772.5	-16.98	3.22	9.75	34.80	24.35	30.00	5.65	V
1717.5	-16.99	3.06	9.68	34.80	24.43	30.00	5.57	HUAK H
1745	-16.48	3.17	9.68	34.80	24.83	30.00	5.17	Н
1772.5	-17.56	3.22	9.75	34.80	23.77	30.00	6.23	Н

LTE FDD Band 66_Channel Bandwidth 20MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1720.0	-17.30	3.06	9.68	34.80	24.12	30.00	5.88	V
1745	-16.73	3.17	9.68	34.80	24.58	30.00	5.42	TESTIV W
1770.0	-18.06	3.22	9.75	34.80	23.27	30.00	6.73	V
1720.0	-17.52	3.06	9.68	34.80	23.90	30.00	6.10	Н
1745	-17.89	3.17	9.68	34.80	23.42	30.00	6.58	Н
1770.0	-18.26	3.22	9.75	34.80	23.07	30.00	6.93	Н

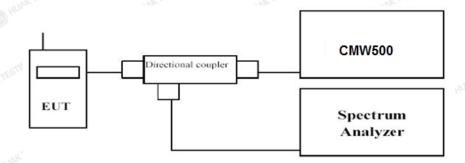


3.2 Peak-to-Average Ratio (PAR)

LIMIT

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

TEST CONFIGURATION



TEST PROCEDURE

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function:
- Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval as follows:
 - 1). for continuous transmissions, set to 1 ms;
 - 2). for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
- 5. Record the maximum PAPR level associated with a probability of 0.1%.

TEST RESULTS

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.

	LTE FDD Band 66		
Frequency	DD Sizo/Offset	PAP	R (dB)
(MHz)	RB Size/Offset	QPSK	16QAM
1710.7	-G	8.45	4.52
1745	1RB#0	4.36	5.25
1779.3	TESTING	3.45	4.33
1711.5	THAN !	3.71	4.56
1745	1RB#0	4.48	5.40
1778.5		3.54	4.28
1712.5	HUA	3.73	4.56
1745	1RB#0	4.48	5.41
1777.5	JAK TE	3.69	4.58
1715.0		3.67	4.53
1745	1RB#0	4.52	5.41
1775.0		4.18	5.03
1717.5	THE THE	8.47	4.62
1745	1RB#0	4.45	5.50
1772.5	HOW	4.38	5.49
1720.0		3.68	4.53
1745	[©] 1RB#0	4.56	5.44
1770.0	TING	4.28	5.14
	(MHz) 1710.7 1745 1779.3 1711.5 1745 1778.5 1712.5 1745 1777.5 1715.0 1745 1775.0 1717.5 1745 1772.5 1720.0 1745	Frequency (MHz) 1710.7 1745 1779.3 1711.5 1745 1778.5 1712.5 1745 1777.5 1715.0 1745 1745 178#0 1775.0 1717.5 1745 1745 178#0 1772.5 1720.0 1745 1RB#0	Frequency (MHz) RB Size/Offset PAP QPSK 1710.7 8.45 1745 1RB#0 4.36 1779.3 3.45 1711.5 3.71 1745 1RB#0 4.48 1778.5 3.54 1712.5 3.73 1745 1RB#0 4.48 1777.5 3.69 1715.0 3.67 1745 1RB#0 4.52 1775.0 4.18 1717.5 8.47 1745 1RB#0 4.45 1772.5 4.38 1720.0 3.68 1745 1RB#0 4.56

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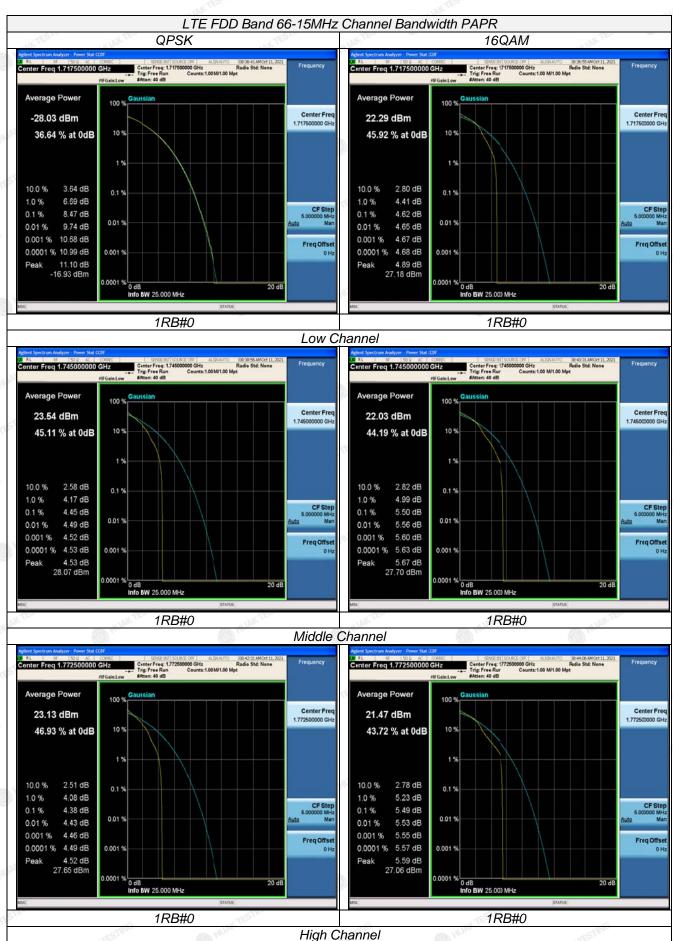


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High Channel









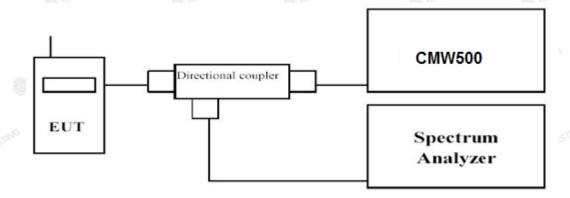


3.3 Occupied Bandwidth and Emission Bandwidth

LIMIT

N/A

TEST CONFIGURATION



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≥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.

TEST RESULTS

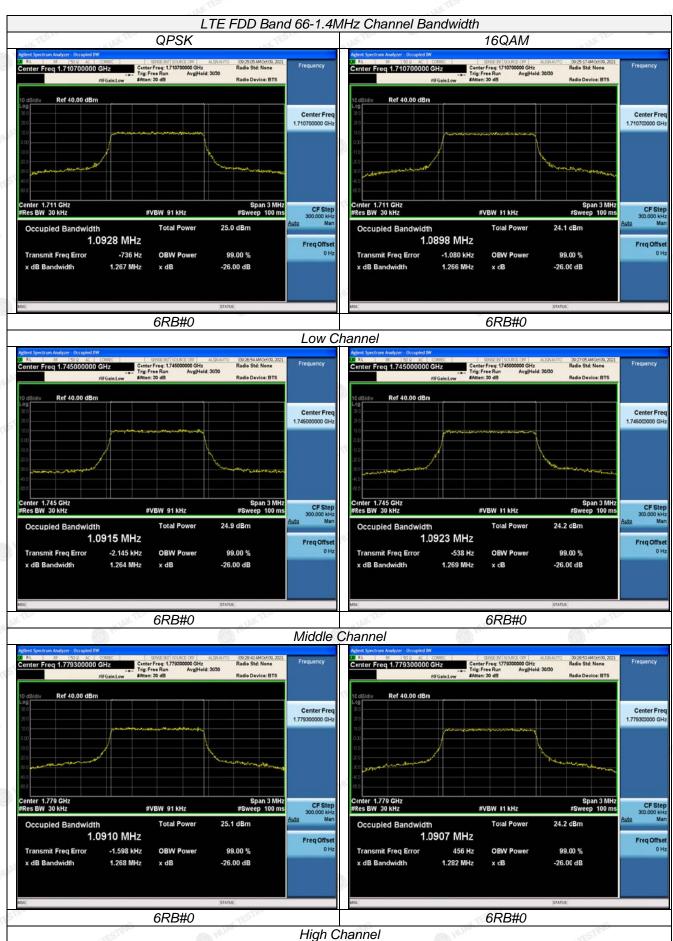
Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.

		LTE FDD	Band 66			
TX Channel	RB Size/Offset	Frequency		Emission Ith (MHz)		ied bandwidth IHz)
Bandwidth		(MHz)	QPSK	16QAM	QPSK	16QAM
.0		1710.7	1.267	1.266	1.0928	1.0898
1.4 MHz	6RB#0	1745	1.264	1.269	1.0915	1.0923
	ESTING HUAK .	1779.3	1.268	1.282	1.0910	1.0907
(I) a	T. C.	1711.5	2.899	2.927	2.6878	2.6925
3 MHz	15RB#0	1745	2.913	2.906	2.6930	2.6921
	TESTING	1778.5	2.923	2.938	2.6956	2.6932
	HUAN	1712.5	4.887	4.876	4.4990	4.4970
5 MHz	25RB#0	1745	4.903	4.885	4.5030	4.5055
MAKTES	HUAK	1777.5	4.842	4.885	4.4885	4.5005
),	<i>3</i> 3	1715.0	9.582	9.516	8.9581	8.9511
10 MHz	50RB#0	1745	9.523	9.516	8.9739	8.9604
		1775.0	9.561	9.519	8.9562	8.9493
TNG.	TNG	1717.5	14.32	14.25	13.428	13.423
15 MHz	75RB#0	1745	14.27	14.25	13.425	13.416
	HOW HOLE	1772.5	14.26	14.27	13.425	13.417
	7	1720.0	18.92	18.94	17.899	17.893
20 MHz	100RB#0	1745	18.96	18.95	17.872	17.871
P	TING	1770.0	18.93	18.98	17.908	17.896

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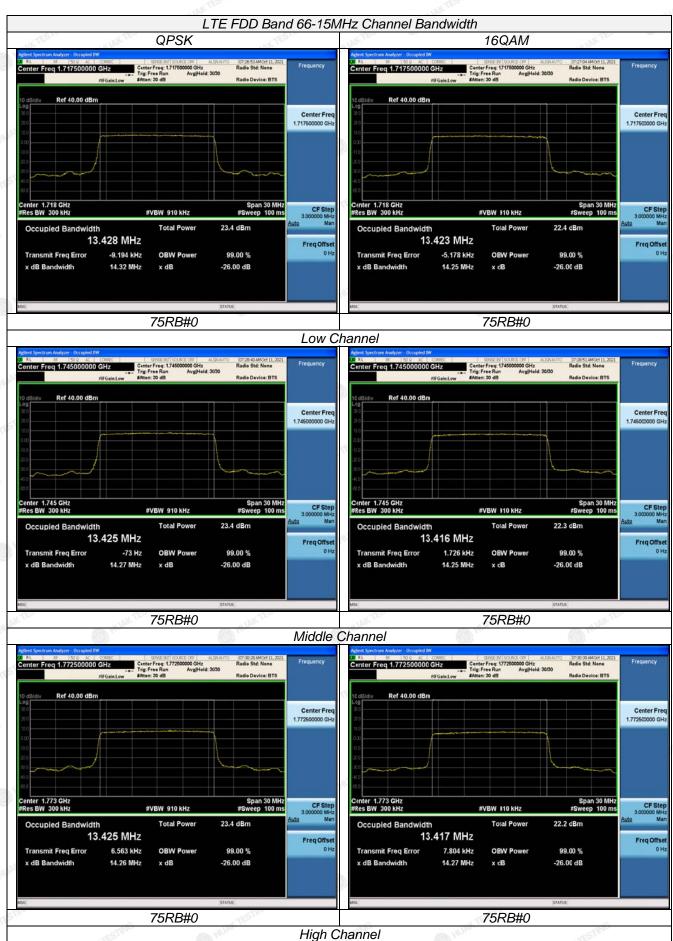
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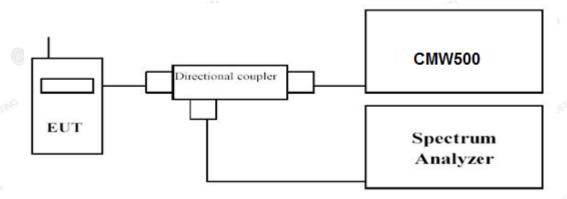


3.4 Band Edge Compliance

LIMIT

According to §27.53 (h): For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST CONFIGURATION



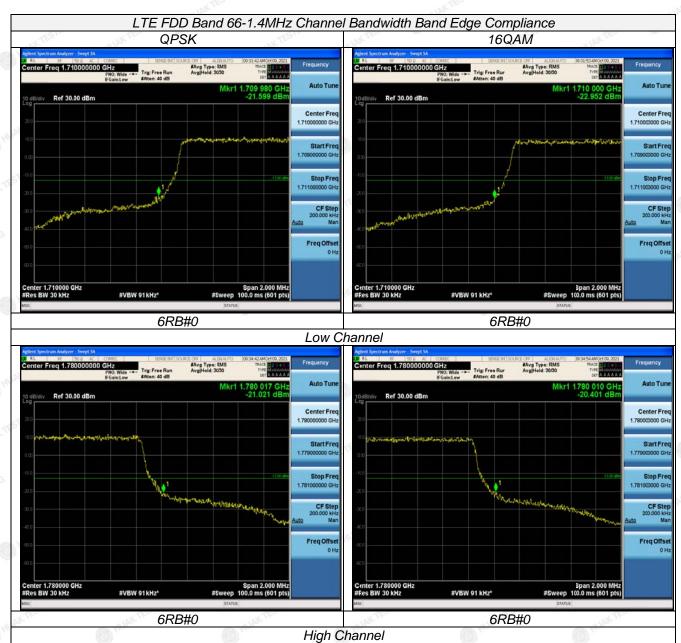
TEST PROCEDURE

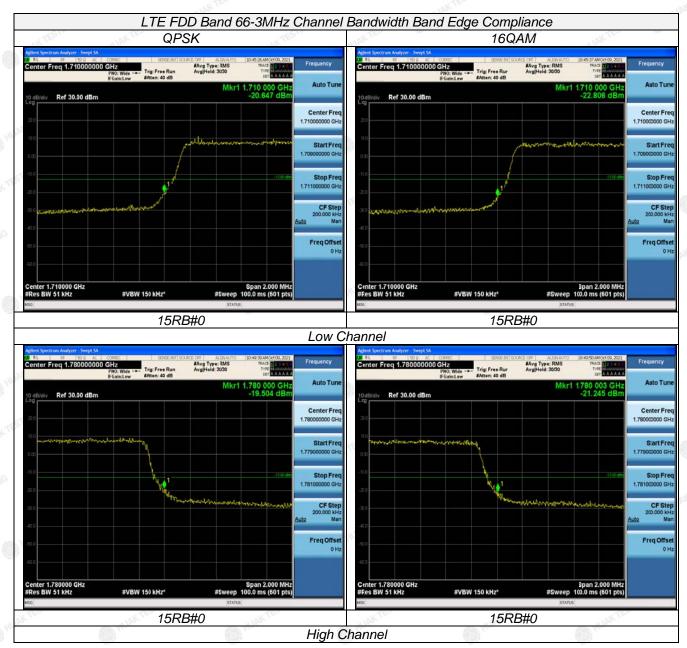
- 1. The transmitter output port was connected to base station.
- The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
- 3. Set EUT at maximum power through base station.
- 4. Select lowest and highest channels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

TEST RESULTS

Remark:

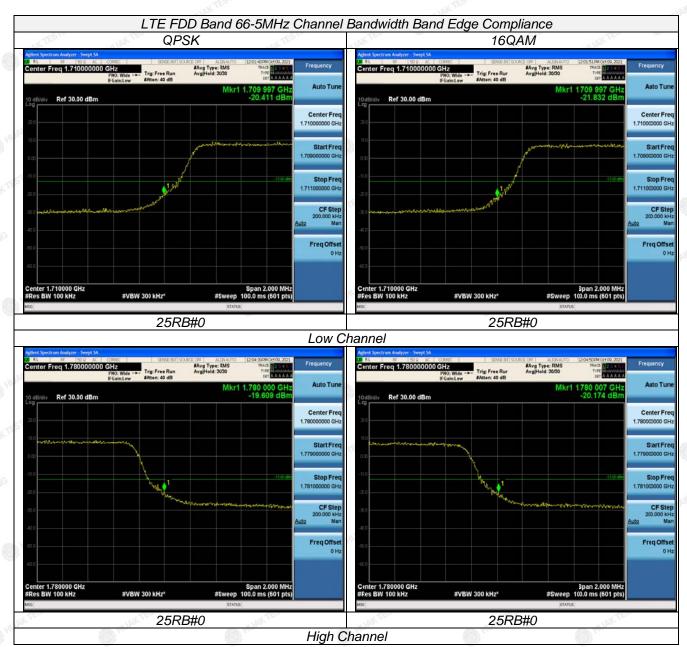
1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.

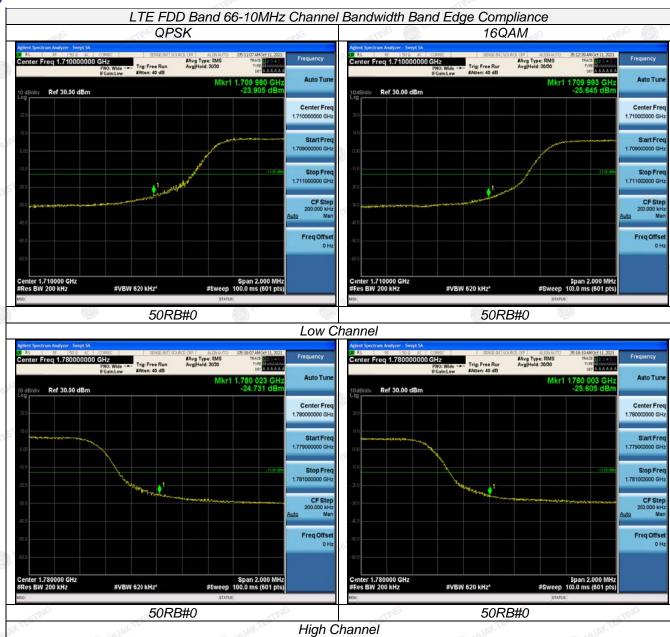


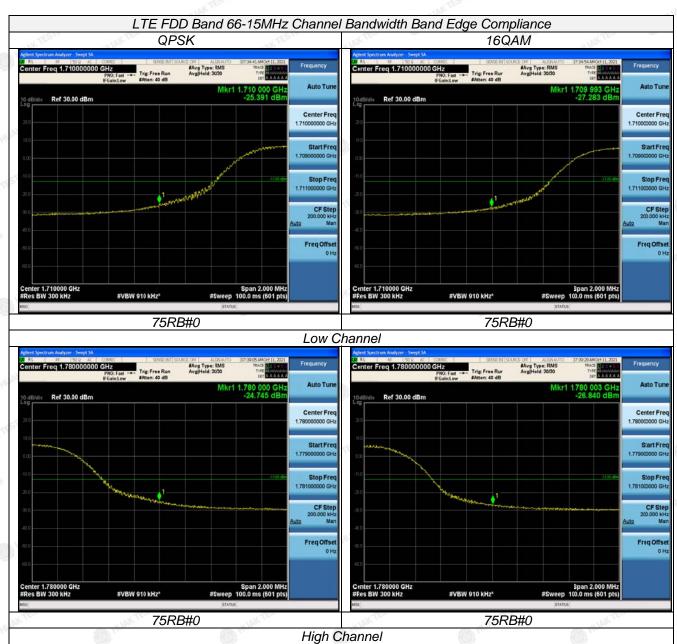


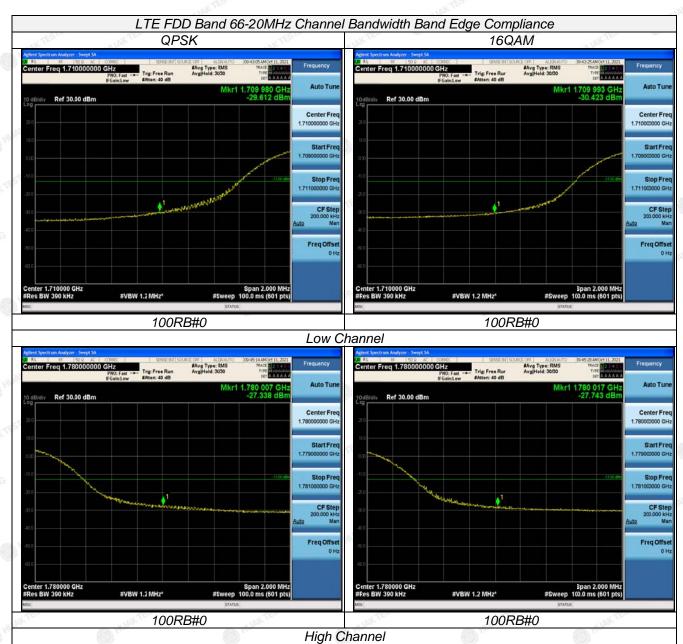
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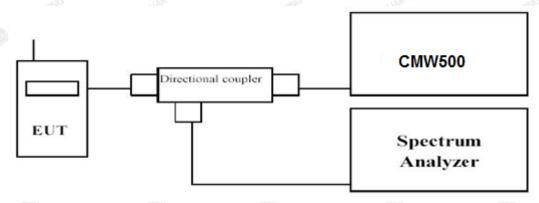
3.5 Spurious Emission

LIMIT

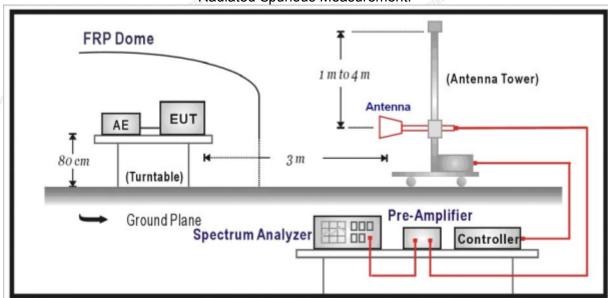
According to §27.53 (h): For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST CONFIGURATION

Conducted Spurious Measurement:



Radiated Spurious Measurement:



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D.

Conducted Spurious Measurement:

- 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 to10th harmonic.

f	· [Please ref	fer t	o fol	lowing	tab	iles 1	for t	test	: ant	tenna	cond	lucte	ed e	missions	٠.

Working Frequency	Sub range (GHz)	RBW	VBW	Sweep time (s)		
	0.000009~0.000015	1KHz	3KHz	Auto		
LTE FDD Band 66	0.000015~0.03	10KHz	30KHz	Auto		
	0.03~26.5	1 MHz	3 MHz	Auto		

Radiated Spurious Measurement:

- a. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The transmitter shall be replaced by a substitution antenna.
- j. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k. The substitution antenna shall be connected to a calibrated signal generator.
- I. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for Part 22 and 1MHz for Part 24.
 The frequency range was checked up to 10th harmonic.
- r. Test site anechoic chamber refer to ANSI C63.

TEST RESULTS

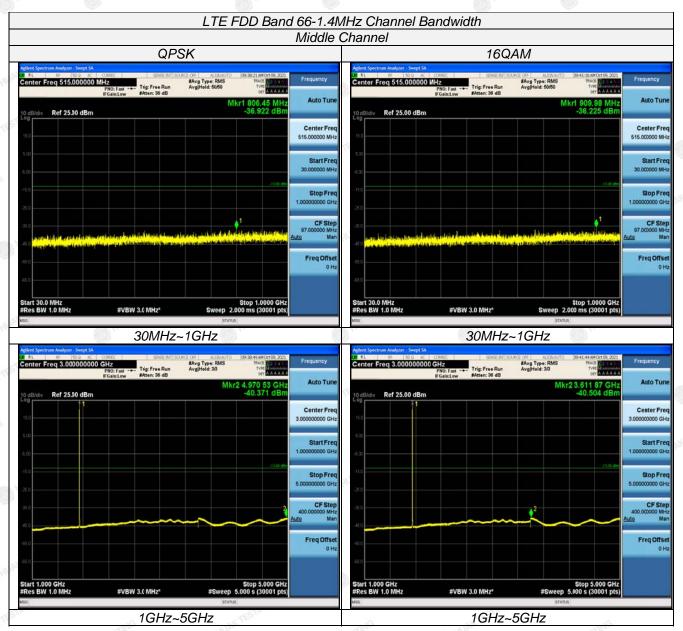
Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.

Conducted Measurement:

LTE FDD Band 66-1.4MHz Channel Bandwidth Low Channel QPSK 16QAM #Avg Type: RM Avg|Hold: 50/50 #Avg Type: RM Avg|Hold: 50/50 Ref 25.00 dBm Ref 25.00 dBm Center Fre Center Fre 30MHz~1GHz 30MHz~1GHz #Avg Type: RM AvgiHold: 3/3 Auto Tu Ref 25.00 dBn Ref 25.00 dBr Stop Fre Stop Fre CF Ste CFSt Freq Offs Stop 5.000 GHz #Sweep 5.000 s (30001 pts) Start 1.000 GHz Res BW 1.0 MH: Start 1.000 GHz Res BW 1.0 MHz #VBW 3.0 MHz* 1GHz~5GHz 1GHz~5GHz #Avg Type: Rf Avg|Hold: 3/3 Trig: Free Rur Ref 10.00 dBm Ref 10.00 dBm Center Fre Freq Offse 5GHz~12GHz 5GHz~12GHz





CF SI

Ref 10.00 dBm





#Avg Type: RMS AvgiHold: 3/3



