FCC PART 22/24/27 TEST REPORT

FCC Part 22/24/27

Report Reference No...... LCS180522039AEG

Testing Laboratory Name Shenzhen LCS Compliance Testing Laboratory Ltd.

Bao'an District, Shenzhen, Guangdong, China

Applicant's name...... SHENZHEN KENXINDA TECHNOLOGY CO.,LTD

SHENZHEN, CHINA

Test specification:

FCC CFR Title 47 Part 2, Part 22, Part 24, Part 27

Standard ANSI/TIA-603-E-2016

KDB 971168 D01

Test Report Form No...... LCSEMC-1.0

TRF Originator...... Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF...... Dated 2011-03

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Test item description 4G smartphones

Trade Mark Kenxinda, Ken mobile, KXD, E&L, EL

Model/Type reference...... Y50

Listed Models Y55, Y50S, Y55S

Modulation Type QPSK, 16QAM

Rating DC 3.7V by Rechargeable Li-ion Battery(2100mAh)

Recharged by DC 5V/1A TRAVEL CHARGER

Hardware version SN15-MB-1V1

Software version...... Y50 KENXINDA V05

Frequency...... FDD band 2, FDD band 4, FDD band 7, FDD band 17

Result..... PASS

Compiled by:

Supervised by:

Approved by:

Calvin Weng/File administrators

Leo Lee/Technique principal

Gavin Liang/ Manager

TEST REPORT

Nov 27, 2018 Test Report No. : LCS180522039AEG Date of issue

4G smartphones Equipment under Test

Y50 Model /Type

Listed Models Y55, Y50S, Y55S

All the models are identical with each other, except the model number is different, so full tests were applied on Model Declaration

Y50, other models are deemed to fulfil the requirement

without further test.

Applicant SHENZHEN KENXINDA TECHNOLOGY CO.,LTD

18TH FLOOR, FUCHUN ORIENT BUILDING, SHENNAN Address

AV 7006, SHENZHEN, CHINA

Manufacturer SHENZHEN KENXINDA TECHNOLOGY CO.,LTD

18TH FLOOR, FUCHUN ORIENT BUILDING, Address

SHENNAN AV 7006, SHENZHEN, CHINA

Factory SHENZHEN KENXINDA TECHNOLOGY CO.,LTD

No.8 Building, Shiao Second Industrial Zone, Dalang Address

Clothing Base, Longhua New District, Shenzhen, China

Test Result:	PASS
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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.

Revision History

Revision	Issue Date	Revisions	Revised By
000	Nov 27, 2018	Initial Issue	Gavin Liang

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Part 22 (10-1-17 Edition): PRIVATE LAND MOBILE RADIO SERVICES.

FCC Part 24(10-1-17 Edition): PUBLIC MOBILE SERVICES

FCC Part 27(10-1-17 Edition): MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

ANSI/TIA-603-E-2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

<u>971168 D01 Power Meas License Digital Systems v03</u>: Measurement Guidance For Certification of Licensed Digital Transmitters

FCC Part 2: Frequency Allocations And Radio Treaty Matters: General Rules And Regulations.

ANSI C63.26:2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services.

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	Sep 11, 2018
Testing commenced on	:	Sep 11, 2018
Testing concluded on	:	Oct 24, 2018

2.2 Product Description

The **SHENZHEN KENXINDA TECHNOLOGY CO.,LTD**'s Model: Y50 or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

Name of EUT	4G smartphones
Test Model	Y50
Modulation Type	GMSK for GSM/GPRS; 8-PSK for EDGE; QPSK for UMTS, QPSK, 16QAM for LTE
Antenna Gain	1 dBi (max.) For GSM 850, PCS 1900; 1 dBi (max.) For WCDMA Band II, V; 1 dBi (max.) For LTE Band 2, 4, 7, 17; 0.8 dBi (max.) For BT and WLAN
Hardware version	SN15-MB-1V1
Software version	Y50 KENXINDA V05
GSM/EDGE/GPRS Operation Frequency Band	GSM850/PCS1900/GPRS850/GPRS1900/EDGE850/EDGE1900
UMTS Operation Frequency Band	UMTS FDD Band II/V
LTE Operation Frequency Band	LTE Band 2, 4, 7, 17
GSM/EDGE/GPRS	Supported GSM/GPRS/EDGE
GSM Release Version	R99
GSM/EDGE/GPRS Power Class	GSM850:Power Class 4/ PCS1900:Power Class 1
GPRS/EDGE Multislot Class	GPRS/EDGE: Multi-slot Class 12
GPRS operation mode	Class B
WCDMA Release Version	R8
HSDPA Release Version	Release 8
HSUPA Release Version	Release 6
DC-HSUPA Release Version	Not Supported
LTE Release Version	Release 9
LTE/UMTS Power Class	Class 3
WLAN FCC Modulation Type	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
WLAN FCC Operation frequency	IEEE 802.11b:2412-2462MHz IEEE 802.11g:2412-2462MHz IEEE 802.11n HT20:2412-2462MHz IEEE 802.11n HT40:2422-2452MHz
Antenna Type	PIFA Antenna
BT Modulation Type	GFSK, π/4-DQPSK, 8-DPSK (BT V4.2)
Extreme temp. Tolerance	-20°C to +55°C
GPS function	Support and only RX
FM function	Support and only RX
NFC Function	Not Supported
Extreme vol. Limits	3.40VDC to 4.20VDC (nominal: 3.70VDC)

2.3 Equipment under Test

Power supply system utilised

Power supply voltage	:	0	120V/ 60 Hz	0	115V/60Hz
		0	12 V DC	0	24 V DC
		•	Other (specified in blank bel	ow)

DC 3.70V

2.4 Short description of the Equipment under Test (EUT)

2.4.1 GeneralDescription

Y50 is subscriber equipment in the LTE/WCDMA/GSM system. The HSPA/UMTS frequency band is Band II/V, LTE frequency band isband 2,band 4, band 7, band 17. The GSM/GPRS/EDGE frequency band includes GSM850 and PCS1900. The 4G smartphones implements such functions as RF signal receiving/transmitting, HSPA/UMTS and GSM/GPRS/EDGE protocol processing, voice, video MMS service and etc. Externally it provides micro SD card interface and SIM card interface.

NOTE: Unless otherwise noted in the report, the functional boards installed in the units shall be selected from the below list, but not means all the functional boards listed below shall be installed in one unit.

2.5 Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery (2100mAh)
AE2	TRAVEL CHARGER

AE2

Model: HA-21050100UUB

INPUT: AC 100-240V, 50Hz 0.25A Max.

OUTPUT: DC 5V/1A

*AE ID: is used to identify the test sample in the lab internally.

2.6 Normal Accessory setting

Fully charged battery was used during the test.

2.7 EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer
- O supplied by the lab

0	Power Cable	Length (m):	1
		Shield :	1
		Detachable :	1
0	Multimeter	Manufacturer:	1
		Model No. :	1

2.8 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID:ZSH-Y50Y55** filing to comply with FCC Part 22, Part 24&FCC Part 27 Rules

2.9 Modifications

No modifications were implemented to meet testing criteria.

2.10 General Test Conditions/Configurations

2.10.1 Test Environment

EnvironmentParameter	SelectedValuesDuringTests			
Relative Humidity	Ambient			
Temperature	TN	Ambient		
	VL	3.40V		
Voltage	VN	3.70V		
	VH	4.20V		

NOTE:VL=lower extreme testvoltageVN=nominalvoltage VH=upperextreme testvoltageTN=normaltemperature

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen LCS Compliance Testing Laboratory Ltd

1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China

The sites are constructed in conformance with the requirements of ANSI C63.4 (2014) and CISPR Publication 22.

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC Registration Number. is 254912.

Industry Canada Registration Number. is 9642A-1.

ESMD Registration Number. is ARCB0108. UL Registration Number. is 100571-492. TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

3.3 Environmental conditions

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

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

3.4 Test Description

3.4.1 PCSBand (1850-1910MHz pairedwith 1930-1990MHz)(band 2)

Test Item	FCC Rule No.	Requirements	Verdict
Effective(Isotropic) Radiated Output Power	§2.1046, §24.232	EIRP ≤ 2W	Pass
Peak-Average Ratio	§2.1046, §24.232	FCC:Limit≤13dB	Pass
Modulation Characteristics	§2.1047	Digital modulation	N/A
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Pass
Band Edges Compliance	§2.1051, §24.238	≤ -13dBm/1%*EBW, In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block.	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238	≤-13dBm/1MHz, from 9kHz to10th harmonics but outside authorized Operating frequency ranges.	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238	≤ -13dBm/1MHz.	Pass
Frequency Stability	§2.1055, §24.235	FCC: within authorized frequency block. not applicable",the"N/T"de notes "not tested".	Pass

3.4.2 AWS Band (1710-1755MHz pairedwith 2110-2155MHz)(band 4)

Test Item	FCC RuleNo.	Requirements	Verdict		
Effective(Isotropic)Radiate dPowerOutputData	§2.1046, §27.50(d)	EIRP ≤ 1W;	Pass		
Peak-AverageRatio	§2.1046, §27.50(d)	Limit≤13dB	Pass		
ModulationCharacteristics	§2.1047	Digitalmodulation	N/A		
Bandwidth	§2.1049	OBW: Nolimit. EBW: Nolimit.	Pass		
BandEdgesCompliance	§2.1051, §27.53(h)	≤ -13dBm/1%*EBW, In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block.	Pass		
SpuriousEmissionatAnten naTerminals	§2.1051, §27.53(h)	≤ -13dBm/1MHz, from9kHzto10thharmonicsbutoutsideauthorized operatingfrequency ranges.	Pass		
Frequency Stability	§2.1055, §27.54	Withinauthorizedbands of operation/frequency block.	Pass		
Radiatedspurious emission	§2.1053, §27.53(h)	≤ -13dBm/1MHz.	Pass		
NOTE 1: For the verdict, the "N/A" denotes "not applicable", the "N/T" de notes "not tested"					

3.4.3 Band 7 (2500-2570MHz pairedwith 2620-2690MHz)

Radiated Output Power §27.50(n) Peak-AverageRatio §2.1046, §27.50(a) Limit≤13dB Passion	Test Item	FCC Rule No.	Requirements	Verdict
Peak-AverageRatio §27.50(a) Limits 13dB Pass Modulation Characteristics §2.1047 Digital modulation N/// Bandwidth §2.1049 OBW: No limit. EBW: No limit. Pass Band Edges Compliance §2.1051, §27.53(m4) ≤ -13dBm/1%*EBW, In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block. Pass Spurious Emissionat AntennaTerminals §2.1051, §27.53(m) FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges. Pass Field Strength of Spurious Radiation §2.1053, §27.53(m) FCC: ≤ -13dBm/100kHz. Pass		,	FCC: ERP ≤ 3W.	Pass
Characteristics§2.1047Digital modulationN//Bandwidth§2.1049OBW: No limit. EBW: No limit.PasBand Edges Compliance§2.1051, §27.53(m4)≤ -13dBm/1%*EBW, 	Peak-AverageRatio		Limit≤13dB	Pass
Bandwidth §2.1049 Band Edges S2.1051, S27.53(m4) Spurious Emissionat AntennaTerminals Field Strength of Spurious Radiation Spurious Satisfactor S2.1053, S27.53(m) FEBW: No limit. ≤ -13dBm/1%*EBW, In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block. FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges. FIELD Strength of S2.1053, S27.53(m) FCC: ≤ -13dBm/100kHz. Pass S2.1051, FCC: ≤ -13dBm/100kHz.		§2.1047	Digital modulation	N/A
Band Edges Compliance §2.1051, §27.53(m4) In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block. Passion Thefrequency block. Spurious Emissionat AntennaTerminals §2.1051, §27.53(m) FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges. Passion	Bandwidth	§2.1049		Pass
Spurious Emissionat AntennaTerminals §2.1051, §27.53(m) from 9kHz to 10th harmonics but outside authorized operating frequency ranges. Field Strength of Spurious Radiation §2.1053, §27.53(m) FCC: ≤ -13dBm/100kHz. Passion Passion	<u> </u>		In1MHzbandsimmediatelyoutsideandadjacentto	Pass
Spurious §2.1053, §27.53(m) FCC: ≤ -13dBm/100kHz. Pas	•	-	from 9kHz to 10th harmonics but outside authorized	Pass
00.4055	Spurious	•	FCC: ≤ -13dBm/100kHz.	Pass
Frequency Stability $\begin{cases} \$2.1055, \\ \$27.53(g) \end{cases} \le \pm 2.5 \text{ppm.}$ Pas NOTE 1:For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				Pass

3.4.4 Band 17(704-716MHz pairedwith 734-746MHz)

No. §2.1046, §27.50c(10)	FCC: ERP ≤ 3W.	
§27.50c(10)	FCC: ERP ≤ 3W.	_
22 1016		Pass
§2.1046, §27.50(c)	Limit≤13dB	Pass
§2.1047	Digital modulation	N/A
§2.1049	OBW: No limit. EBW: No limit.	Pass
§2.1051, §27.53(g)	≤ -13dBm/1%*EBW, In1MHzbandsimmediatelyoutsideandadjacentto Thefrequency block.	Pass
§2.1051, §27.53(g)	FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges.	Pass
§2.1051, §27.53(g)	FCC: ≤ -13dBm/100kHz.	Pass
§2.1055, §27.53(g)	≤ ±2.5ppm.	Pass
	\$2.1049 \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) \$2.1055, \$27.53(g)	\$2.1049 \$2.1049 \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges. \$2.1051, \$27.53(g) \$2.1051, \$27.53(g) \$2.1055, \$2.10

3.5 Equipments Used during the Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power Meter	R&S	NRVS	100444	2018-06-16	2019-06-15
2	Power Sensor	R&S	NRV-Z81	100458	2018-06-16	2019-06-15
3	Power Sensor	R&S	NRV-Z32	10057	2018-06-16	2019-06-15
4	ESA-E SERIES SPECTRUM ANALYZER	Agilent	E4407B	MY41440754	2017-11-17	2018-11-16
5	MXA Signal Analyzer	Agilent	N9020A	MY49100040	2018-06-16	2019-06-15
6	SPECTRUM ANALYZER	R&S	FSP	100503	2018-06-16	2019-06-15
7	MXG Vector Signal Generator	Agilent	N5182A	MY47071151	2017-11-17	2018-11-16
8	ESG VECTOR SIGNAL GENERATOR	Agilent	E4438C	MY42081396	2017-11-17	2018-11-16
9	PSG Analog Signal Generator	Agilent	E8257D	MY4520521	2017-11-17	2018-11-16
10	Universal Radio Communication Tester	R&S	CMU 200	105788	2018-06-16	2019-06-15
11	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW 500	103818	2018-06-16	2019-06-15
12	RF Control Unit	Tonscend	JS0806-1	158060009	2018-06-16	2019-06-15
13	DC Power Supply	Agilent	E3642A	N/A	2017-11-17	2018-11-16
14	WCDMA Test Software	Tonscend	JS1120-3	N/A	N/A	N/A
15	Temperature & Humidity Chamber	GUANGZHOU GOGNWEN	GDS-100	70932	2018-10-10	2019-10-9
16	DC Source	CHROMA	62012P-80-60	34782951	2018-10-10	2019-10-9
17	RF Filter	Micro-Tronics	BRC50718	S/N-017	2018-06-16	2019-06-15
18	RF Filter	Micro-Tronics	BRC50719	S/N-011	2018-06-16	2019-06-15
19	RF Filter	Micro-Tronics	BRC50720	S/N-011	2018-06-16	2019-06-15
20	RF Filter	Micro-Tronics	BRC50721	S/N-013	2018-06-16	2019-06-15
21	RF Filter	Micro-Tronics	BRM50702	S/N-195	2018-06-16	2019-06-15
22	Splitter/Combiner	Micro-Tronics	PS2-15	CB11-20	2018-06-16	2019-06-15
23	Splitter/Combiner	Micro-Tronics	CB11-20	N/A	2018-06-16	2019-06-15
24	Attenuator	Micro-Tronics	PAS-8-10	S/N23466	2018-06-16	2019-06-15
25	Exposure Level Tester	Narda	ELT-400	N-0713	2018-04-02	2019-04-01
26	B-Field Probe	Narda	ELT-400	M-1154	2018-04-10	2019-04-09
27	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16	2019-06-15
28	Positioning Controller	MF	MF-7082	1	2018-06-16	2019-06-15
29	EMI Test Software	AUDIX	E3	N/A	2018-06-16	2019-06-15
30	EMI Test Receiver	R&S	ESR 7	101181	2018-06-16	2019-06-15
31	AMPLIFIER	QuieTek	QTK-A2525G	CHM10809065	2017-11-17	2018-11-16
32	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2018-06-22	2019-06-21
33	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-05-01	2019-04-30
34	Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1925	2018-07-02	2019-07-01
35	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2018-09-20	2019-09-19
36	Broadband Preamplifier	SCHWARZBECK	BBV 9719	9719-025	2018-09-20	2019-09-19
37	RF Cable-R03m	Jye Bao	RG142	CB021	2018-06-16	2019-06-15
38	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2018-06-16	2019-06-15
	equipment is calibrated through GUANG	l .			<u>I</u>	

3.6 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 LCS Compliance Testing Laboratory 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 LCS Compliance Testing Laboratory 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)
Occuiped Bandwidth	9KHz~40GHz	-	(1)

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

4 TEST CONDITIONS AND RESULTS

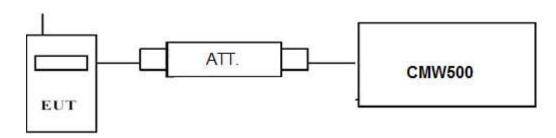
4.1 Output Power

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.

4.1.1. Conducted Output Power

TEST CONFIGURATION



TEST PROCEDURE

Conducted Power 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 CMW500 by an Att.
- c) EUT Communicate with CMW500 then selects a channel for testing.
- d) Add a correction factor to the display CMW500, and then test.

TEST RESULTS

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. For E-UTRA Band 2, please refer to Appendix A: Section A.1
- 3. For E-UTRA Band 4, please refer to Appendix B: Section B.1
- 4. For E-UTRA Band 7, please refer to Appendix C: Section C.1
- 5. For E-UTRA Band 17, please refer to Appendix D: Section D.1

4.1.2. Radiated Output Power

<u>LIMIT</u>

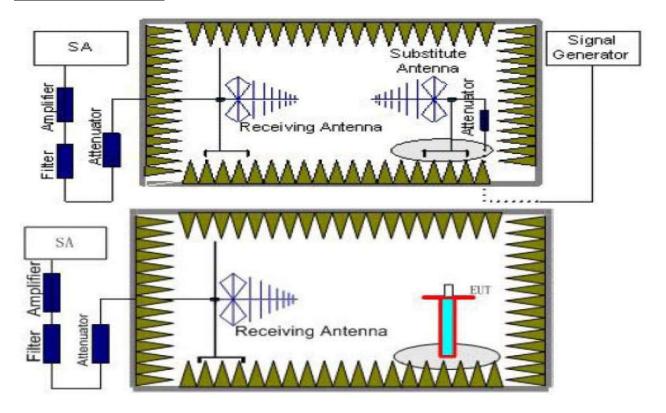
This is the test for the maximum radiated power from the EUT.

Per §22.913(2) Extend coverage on a secondary basis into cellular unserved areas, as those areas are defined in §22.949, the ERP of base transmitters and cellular repeaters of such systems must not exceed 1000 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts. Rule Part 24.232(c) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(e) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage." Rule Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts."

Per Part 27.50(d) (4) specifies, Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755MHz band are limited to 1W EIRP. Fixed stations operating in this band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in this band must employ a means for limiting power to the minimum necessary for successful communications.

According to § 27.50 C(10): Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP."

TEST CONFIGURATION



TEST PROCEDURE

- 1. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 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, an 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: Power(EIRP)= P_{Mea} P_{Ag} P_{cl} + G_a
- 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, ERP = EIRP-2.15dBi.

TEST RESULTS

Radiated Measurement:

Remark:

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2,LTE FDD Band 4, LTE FDD Band 7; recorded worst case for each Channel Bandwidth of LTE FDD Band 2,LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17.
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+P_{Ag}(dB)+G_a(dBi)$
- 3. ERP = EIRP 2.15dBi as EIRP by subtracting the gain of the dipole.
- 4. Margin = Emission Level Limit
- 5. We test the H direction and V direction recorded worst case

LTE FDD Band 2 Channel Bandwidth 1.4MHz QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1850.70	-19.01	4.03	8.38	35.51	20.85	33.01	-12.16	V
1880.00	-19.01	4.08	8.33	35.56	20.80	33.01	-12.21	V
1909.30	-19.23	4.14	8.26	35.63	20.52	33.01	-12.49	V

LTE FDD Band 2_Channel Bandwidth 3MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1851.50	-20.34	4.03	8.38	35.51	19.52	33.01	-13.49	V
1880.00	-19.77	4.08	8.33	35.56	20.04	33.01	-12.97	V
1908.50	-20.22	4.14	8.26	35.63	19.53	33.01	-13.48	V

LTE FDD Band 2 Channel Bandwidth 5MHz QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1852.50	-20.52	4.03	8.38	35.51	19.34	33.01	-13.67	V
1880.00	-20.91	4.08	8.33	35.56	18.90	33.01	-14.11	V
1907.50	-20.37	4.14	8.26	35.63	19.38	33.01	-13.63	V

LTE FDD Band 2_Channel Bandwidth 10MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1855.00	-20.92	4.03	8.38	35.51	18.94	33.01	-14.07	V
1880.00	-21.37	4.08	8.33	35.56	18.44	33.01	-14.57	V
1905.00	-20.95	4.14	8.26	35.63	18.80	33.01	-14.21	V

			G LABORATOR		FCC ID: ZSH-Y	30133	<i></i>	<u>8180522036AEG</u>
Frequency (MHz)	end 2_Chan P _{Mea} (dBm)	P _{cl} (dB)	dth 15MHz_G G _a Antenna Gain(dB)	PSK P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1857.50	-21.08	4.03	8.38	35.51	18.78	33.01	-14.23	V
1880.00	-21.38	4.08	8.33	35.56	18.43	33.01	-14.58	V
1902.50	-21.63	4.14	8.26	35.63	18.12	33.01	-14.89	V
LTE FDD Ba	and 2 Chan	nel Bandwi	dth 20MHz_G)PSK				
			G _a		Peak	Limit	Margin	
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	(dBm)	(dB)	Polarization
1860.00	-21.65	4.03	8.38	35.51	18.21	33.01	-14.80	V
1880.00	-21.97	4.08	8.33	35.56	17.84	33.01	-15.17	V
1900.00	-22.46	4.14	8.26	35.63	17.29	33.01	-15.72	V
I TE ENN Ra	and 2 Chan	nel Randwii	dth 1.4MHz	160AM				
	_		G _a		Peak			
Frequency	P_{Mea}	P _{cl}	Antenna	P_{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	1 Glarization
1850.70	-19.61	4.03	8.38	35.51	20.25	33.01	-12.76	V
1880.00	-19.93	4.08	8.33	35.56	19.88	33.01	-13.13	V
1909.30	-19.54	4.14	8.26	35.63	20.21	33.01	-12.80	V
I TE ENN Ra	and 2 Chan	nel Randwii	dth 3MHz 16	OAM				
			G _a		Peak			
Frequency	P_{Mea}	P _{cl}	Antenna	P_{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	1 Glanzation
1851.50	-20.46	4.03	8.38	35.51	19.40	33.01	-13.61	V
1880.00	-20.09	4.08	8.33	35.56	19.72	33.01	-13.29	V
1908.50	-20.55	4.14	8.26	35.63	19.20	33.01	-13.81	V
I TE EDD Ba	and 2 Chan	nel Bandwi	dth 5MHz 16	OAM				
	_		G _a		Peak	,	I	
Frequency	P _{Mea}	P _{cl}	Antenna	P _{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	
1852.50	-20.70	4.03	8.38	35.51	19.16	33.01	-13.85	V
1880.00	-20.79	4.08	8.33	35.56	19.02	33.01	-13.99	V
1907.50	-21.26	4.14	8.26	35.63	18.49	33.01	-14.52	V
LTE FDD Ba	and 2 Chan	nel Bandwi	dth 10MHz_1	6QAM				
	_		G _a		Peak	1		
Frequency	P _{Mea}	P _{cl}	Antenna	P _{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	
1855.00	-21.93	4.03	8.38	35.51	17.93	33.01	-15.08	V
1880.00	-21.07	4.08	8.33	35.56	18.74	33.01	-14.27	V
1905.00	-21.85	4.14	8.26	35.63	17.90	33.01	-15.11	V
LTE FDD Ba	and 2 Chan	nel Bandwi	dth 15MHz_1	6QAM				
	_		G _a		Peak	1.1	l	
Frequency	P _{Mea}	P _{cl}	Antenna	P _{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	
1857.50	-22.42	4.03	8.38	35.51	17.44	33.01	-15.57	V
		4.08	8.33	35.56	17.77	33.01	-15.24	V
1880.00	-22.04	4.00	0.55	33.30	17.77	00.01	-13.27	V

17.92

33.01

-15.09

1902.50

-21.83

4.14

CHENZHENI	CS COMPLIA	NCE TESTING	C I ADODATOD	VITD I	ECC ID. 78H V	SOVES D		1190522026AEC
			G LABORATOR htth 20MHz_1		FCC ID: ZSH-Y	<u> 30133 K</u>	eport No.: LCS	180522036AEG
LIE FUU B	and Z_Chan	i iei bariuwio	G _a	OQAIVI	Peak		1	
Frequency	P _{Mea}	P _{cl}	Antenna	P _{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	
1860.00	-22.39	4.03	8.38	35.51	17.47	33.01	-15.54	V
1880.00	-22.50	4.08	8.33	35.56	17.31	33.01	-15.70	V
1900.00	-22.16	4.14	8.26	35.63	17.59	33.01	-15.42	V
LTE FDD Ba	and 4_Chan	nel Bandwid	dth 1.4MHz_(QPSK				
Frequency	P_{Mea}	P _{cl}	Ga	D.	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Antenna	P _{Ag} (dB)	EIRP	(dBm)	(dB)	Polarization
(IVII 12)	,	(ub)	Gain(dB)	, ,	(dBm)	(ubiii)	(ub)	
1710.7	-19.21	3.93	9.05	34.96	20.87	30.00	-9.13	V
1732.5	-18.63	3.93	8.89	35.01	21.34	30.00	-8.66	V
1754.3	-19.02	3.94	8.76	35.08	20.88	30.00	-9.12	V
LTE FDD Ba	and 4 Chan	nel Bandwid	dth 3MHz QI	PSK				
	_		Ga		Peak	,		
Frequency	P _{Mea}	P _{cl}	Antenna	P _{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	
1711.50	-19.34	3.93	9.05	34.96	20.74	30.00	-9.26	V
1732.50	-19.81	3.93	8.89	35.01	20.16	30.00	-9.84	V
1753.40	-19.45	3.94	8.76	35.08	20.45	30.00	-9.55	V
			dth 5MHz_QI		Peak		l	
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1712.50	-18.59	3.93	9.05	34.96	21.49	30.00	-8.51	V
1732.50	-18.78	3.93	8.89	35.01	21.19	30.00	-8.81	V
1752.50	-19.21	3.94	8.76	35.08	20.69	30.00	-9.31	V
I TE EDD B	and 4 Chan	nel Bandwid	dth 10MHz ()PSK				
	_		G _a		Peak		1	
Frequency	P _{Mea}	P _{cl}	Antenna	P_{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	· Glanzation
1715.00	-19.65	3.93	9.05	34.96	20.43	30.00	-9.57	V
1732.50	-19.69	3.93	8.89	35.01	20.28	30.00	-9.72	V
1750.00	-19.57	3.94	8.76	35.08	20.33	30.00	-9.67	V
		•	dth 15MHz (1 0.0.	
	_		G _a	<u> </u>	Peak			
Frequency	P_{Mea}	P _{cl}	Antenna	P_{Ag}	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Gain(dB)	(dB)	(dBm)	(dBm)	(dB)	1 Glarization
1717.50	-18.95	3.93	9.05	34.96	21.13	30.00	-8.87	V
1732.50	-19.33	3.93	8.89	35.01	20.64	30.00	-9.36	V
1747.50	-19.45	3.94	8.76	35.08	20.45	30.00	-9.55	V
		•	•				1 0.00	
LIE FUU Ba	ana 4_Chan	riei Bandwid	dth 20MHz_0	yrsk	Daal			
Frequency	P_{Mea}	P _{cl}	Ga	P_{Ag}	Peak	Limit	Margin	Delevier - 4' -
(MHz)	(dBm)	(dB)	Antenna	(dB)	EIRP	(dBm)	(dB)	Polarization
, ,	, ,		Gain(dB)	` '	(dBm)	, ,	` '	
1720.00	-19.02	3.93	9.05	34.96	21.06	30.00	-8.94	V
1732.50	-19.24	3.93	8.89	35.01	20.73	30.00	-9.27	V
1745.00	-19.50	3.94	8.76	35.08	20.40	30.00	-9.60	V

SHENZHEN L	CS COMPLIA	NCE TESTINO	G LABORATOR	Y LTD.	FCC ID: ZSH-Y.	50Y55 R	eport No.: LCS	S180522036AEG
LTE FDD Ba	and 4 Chan	nel Bandwi	dth 1.4MHz_1	16QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1710.70	-19.48	3.93	9.05	34.96	20.60	30.00	-9.40	V
1732.50	-19.58	3.93	8.89	35.01	20.39	30.00	-9.61	V
1754.30	-19.50	3.94	8.76	35.08	20.40	30.00	-9.60	V
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 3MHz_16	QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1711.50	-18.88	3.93	9.05	34.96	21.20	30.00	-8.80	V
1732.50	-19.11	3.93	8.89	35.01	20.86	30.00	-9.14	V
1753.40	-18.64	3.94	8.76	35.08	21.26	30.00	-8.74	V
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 5MHz_16	QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1712.50	-19.42	3.93	9.05	34.96	20.66	30.00	-9.34	V
1732.50	-18.93	3.93	8.89	35.01	21.04	30.00	-8.96	V
1752.50	-19.09	3.94	8.76	35.08	20.81	30.00	-9.19	V
LTE FDD Ba	and 4 Chan	nel Bandwi	dth 10MHz_1	6QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1715.00	-18.53	3.93	9.05	34.96	21.55	30.00	-8.45	V
1732.50	-19.18	3.93	8.89	35.01	20.79	30.00	-9.21	V
1750.00	-18.58	3.94	8.76	35.08	21.32	30.00	-8.68	V
LTE FDD Ba	and 4 Chan	nel Bandwi	dth 15MHz 1	6QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	dth 15MHz_1 G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
Frequency	P _{Mea} (dBm) -19.31	P _{cl}	G _a Antenna	P_{Ag}	EIRP			V
Frequency (MHz) 1717.50 1732.50	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	(dBm)	(dB)	V
Frequency (MHz) 1717.50	P _{Mea} (dBm) -19.31	P _{cl} (dB) 3.93	G _a Antenna Gain(dB) 9.05	P _{Ag} (dB) 34.96	EIRP (dBm) 20.77	(dBm) 30.00	(dB) -9.23	V
Frequency (MHz) 1717.50 1732.50 1747.50	P _{Mea} (dBm) -19.31 -19.06 -19.12	P _{cl} (dB) 3.93 3.93 3.94	G _a Antenna Gain(dB) 9.05 8.89 8.76	P _{Ag} (dB) 34.96 35.01 35.08	EIRP (dBm) 20.77 20.91	(dBm) 30.00 30.00	(dB) -9.23 -9.09	V
Frequency (MHz) 1717.50 1732.50 1747.50	P _{Mea} (dBm) -19.31 -19.06 -19.12	P _{cl} (dB) 3.93 3.93 3.94	G _a Antenna Gain(dB) 9.05 8.89	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB)	EIRP (dBm) 20.77 20.91	(dBm) 30.00 30.00	(dB) -9.23 -9.09	V V Polarization
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Bate Frequency (MHz) 1720.00	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Channe	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid	G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 20MHz_1 G _a Antenna	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag}	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP	(dBm) 30.00 30.00 30.00	(dB) -9.23 -9.09 -9.22 Margin	V V V Polarization
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Bate Frequency (MHz) 1720.00 1732.50	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Chann P _{Mea} (dBm)	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB)	G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 20MHz_1 G _a Antenna Gain(dB)	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB)	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm)	(dBm) 30.00 30.00 30.00 Limit (dBm)	(dB) -9.23 -9.09 -9.22 Margin (dB)	V V V Polarization V V
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Bate Frequency (MHz) 1720.00	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Chann P _{Mea} (dBm) -19.23	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid (dB) 3.93	G _a Antenna Gain(dB) 9.05 8.89 8.76 dth 20MHz_1 G _a Antenna Gain(dB) 9.05	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB) 34.96	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm) 20.85	(dBm) 30.00 30.00 30.00 Limit (dBm) 30.00	(dB) -9.23 -9.09 -9.22 Margin (dB) -9.15	V V V V Polarization
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Bates Frequency (MHz) 1720.00 1732.50 1745.00	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Chana (dBm) -19.23 -19.37 -19.24	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB) 3.93 3.94	G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 20MHz_1 G _a Antenna Gain(dB) 9.05 8.89	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB) 34.96 35.01 35.08	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm) 20.85 20.60	(dBm) 30.00 30.00 30.00 Limit (dBm) 30.00 30.00	(dB) -9.23 -9.09 -9.22 Margin (dB) -9.15 -9.40	V V V Polarization V V
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Ba Frequency (MHz) 1720.00 1732.50 1745.00 LTE FDD Ba Frequency (MHz)	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Channel (dBm) -19.23 -19.37 -19.24 and 7_Channel P _{Mea} (dBm)	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB)	G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 20MHz_1 G _a Antenna Gain(dB) 9.05 8.89 8.76	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB) 34.96 35.01 35.08	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm) 20.85 20.60 20.66 Peak EIRP (dBm)	(dBm) 30.00 30.00 30.00 Limit (dBm) 30.00 30.00 Limit (dBm)	(dB) -9.23 -9.09 -9.22 Margin (dB) -9.15 -9.40 -9.34 Margin (dB)	V V V Polarization
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Ba Frequency (MHz) 1720.00 1732.50 1745.00 LTE FDD Ba Frequency (MHz) 2502.5	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Chane (dBm) -19.23 -19.37 -19.24 and 7_Chane (dBm) -18.51	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB) 3.93 3.94 nel Bandwid P _{cl} (dB) 4.32	G _a Antenna Gain(dB) 9.05 8.89 8.76 th 20MHz_1 G _a Antenna Gain(dB) 9.05 8.89 8.76 th 5MHz_QF G _a Antenna Gain(dB) 6.8	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB) 34.96 35.01 35.08 PSK P _{Ag} (dB) 36.14	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm) 20.85 20.60 20.66 Peak EIRP (dBm) 20.11	(dBm) 30.00 30.00 30.00 Limit (dBm) 30.00 30.00 Limit (dBm) 30.00 30.00 30.00	(dB) -9.23 -9.09 -9.22 Margin (dB) -9.15 -9.40 -9.34 Margin (dB) -12.90	V V V Polarization V V V
Frequency (MHz) 1717.50 1732.50 1747.50 LTE FDD Ba Frequency (MHz) 1720.00 1732.50 1745.00 LTE FDD Ba Frequency (MHz)	P _{Mea} (dBm) -19.31 -19.06 -19.12 and 4_Channel (dBm) -19.23 -19.37 -19.24 and 7_Channel P _{Mea} (dBm)	P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB) 3.93 3.93 3.94 nel Bandwid P _{cl} (dB)	G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 20MHz_1 G _a Antenna Gain(dB) 9.05 8.89 8.76 ath 5MHz_QF G _a Antenna Gain(dB)	P _{Ag} (dB) 34.96 35.01 35.08 6QAM P _{Ag} (dB) 34.96 35.01 35.08	EIRP (dBm) 20.77 20.91 20.78 Peak EIRP (dBm) 20.85 20.60 20.66 Peak EIRP (dBm)	(dBm) 30.00 30.00 30.00 Limit (dBm) 30.00 30.00 Limit (dBm)	(dB) -9.23 -9.09 -9.22 Margin (dB) -9.15 -9.40 -9.34 Margin (dB)	V V V Polarization

SHENZHEN L	CS COMPLIAI	NCE TESTING	G LABORATORY	Y LTD.	FCC ID: ZSH-Y.	50Y55 R	eport No.: LCS	S180522036AEG
LTE FDD Ba	and 7 Chan	nel Bandwi	dth 10MHz_Q	PSK				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2505.0	-18.33	4.32	6.8	36.14	20.29	33.01	-12.72	V
2535.0	-18.32	4.32	6.61	36.17	20.14	33.01	-12.87	V
2565.0	-18.38	4.33	6.57	36.22	20.08	33.01	-12.93	V
LTE FDD Ba	and 7_Chani	nel Bandwi	dth 15MHz_Q	PSK				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2507.5	-18.51	4.32	6.8	36.14	20.11	33.01	-12.90	V
2535.0	-18.26	4.32	6.61	36.17	20.20	33.01	-12.81	V
2562.5	-18.88	4.33	6.57	36.22	19.58	33.01	-13.43	V
LTE FDD Ba	and 7_Chan	nel Bandwi	dth 20MHz_Q	PSK				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2510.0	-18.12	4.32	6.8	36.14	20.50	33.01	-12.51	V
2535.0	-18.61	4.32	6.61	36.17	19.85	33.01	-13.16	V
2560.0	-18.85	4.33	6.57	36.22	19.61	33.01	-13.40	V
LTE FDD B	and 7_Chani	nel Bandwi	dth 5MHz_16	QAM				
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2502.5	-19.37	4.32	6.8	36.14	19.25	33.01	-13.76	V
2535.0	-19.34	4.32	6.61	36.17	19.12	33.01	-13.89	V
2567.5	-19.23	4.33	6.57	36.22	19.23	33.01	-13.78	V
LTE FDD Ba	and 7 Chan	nel Bandwi	dth 10MHz_1	6QAM				
			Ga		Do L			
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Antenna Gain(dB)	P _{Ag} (dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
		P _{cl} (dB) 4.32	Antenna	P _{Ag} (dB) 36.14	EIRP			Polarization
(MHz)	(dBm)	(dB)	Antenna Gain(dB)	(dB)	EIRP (dBm)	(dBm)	(dB)	
(MHz) 2505.0	(dBm) -19.82	(dB) 4.32	Antenna Gain(dB) 6.8	(dB) 36.14	EIRP (dBm) 18.80	(dBm) 33.01	(dB) -14.21	V
(MHz) 2505.0 2535.0 2565.0	(dBm) -19.82 -19.64 -18.98	(dB) 4.32 4.32 4.33	Antenna Gain(dB) 6.8 6.61 6.57	(dB) 36.14 36.17 36.22	EIRP (dBm) 18.80 18.82	(dBm) 33.01 33.01	(dB) -14.21 -14.19	V
(MHz) 2505.0 2535.0 2565.0	(dBm) -19.82 -19.64 -18.98	(dB) 4.32 4.32 4.33	Antenna Gain(dB) 6.8 6.61	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB)	EIRP (dBm) 18.80 18.82	(dBm) 33.01 33.01	(dB) -14.21 -14.19	V V Polarization
(MHz) 2505.0 2535.0 2565.0 LTE FDD Bate of the second	(dBm) -19.82 -19.64 -18.98 and 7_Chann	(dB) 4.32 4.32 4.33 nel Bandwid	Antenna Gain(dB) 6.8 6.61 6.57 dth 15MHz_1 Ga Antenna	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB) 36.14	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP	(dBm) 33.01 33.01 33.01 Limit	(dB) -14.21 -14.19 -13.53 Margin	V V V Polarization
(MHz) 2505.0 2535.0 2565.0 LTE FDD Bate Frequency (MHz) 2507.5 2535.0	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm)	(dB) 4.32 4.32 4.33 nel Bandwid P _{cl} (dB)	Antenna Gain(dB) 6.8 6.61 6.57 dth 15MHz_1 Ga Antenna Gain(dB)	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB)	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm)	(dBm) 33.01 33.01 33.01 Limit (dBm)	(dB) -14.21 -14.19 -13.53 Margin (dB)	V V V Polarization V V
(MHz) 2505.0 2535.0 2565.0 LTE FDD Bate of the second	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm) -19.46	(dB) 4.32 4.32 4.33 nel Bandwid P _{cl} (dB) 4.32	Antenna Gain(dB) 6.8 6.61 6.57 dth 15MHz_1 Ga Antenna Gain(dB) 6.8	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB) 36.14	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm) 19.16	(dBm) 33.01 33.01 33.01 Limit (dBm) 33.01	(dB) -14.21 -14.19 -13.53 Margin (dB) -13.85	V V V V Polarization
(MHz) 2505.0 2535.0 2565.0 LTE FDD Ba Frequency (MHz) 2507.5 2535.0 2562.5	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm) -19.46 -19.66 -19.35	(dB) 4.32 4.33 nel Bandwid Pcl (dB) 4.32 4.32 4.33	Antenna Gain(dB) 6.8 6.61 6.57 ath 15MHz_1 Ga Antenna Gain(dB) 6.8 6.61	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB) 36.14 36.17 36.22	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm) 19.16 18.80	(dBm) 33.01 33.01 33.01 Limit (dBm) 33.01 33.01	(dB) -14.21 -14.19 -13.53 Margin (dB) -13.85 -14.21	V V V Polarization V V
(MHz) 2505.0 2535.0 2565.0 LTE FDD Ba Frequency (MHz) 2507.5 2535.0 2562.5 LTE FDD Ba Frequency (MHz)	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm) -19.46 -19.66 -19.35 and 7_Chann P _{Mea} (dBm)	(dB) 4.32 4.33 nel Bandwid (dB) 4.32 4.32 4.33 nel Bandwid Pcl (dB) Pcl (dB)	Antenna Gain(dB) 6.8 6.61 6.57 ath 15MHz_1 Ga Antenna Gain(dB) 6.8 6.61 6.57	(dB) 36.14 36.17 36.22 6QAM Pag (dB) 36.14 36.17 36.22 6QAM Pag (dB)	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm) 19.16 18.80 19.11 Peak EIRP (dBm)	(dBm) 33.01 33.01 33.01 Limit (dBm) 33.01 33.01 33.01 Limit (dBm)	(dB) -14.21 -14.19 -13.53 Margin (dB) -13.85 -14.21 -13.90 Margin (dB)	V V V Polarization
(MHz) 2505.0 2535.0 2565.0 LTE FDD Ba Frequency (MHz) 2507.5 2535.0 2562.5 LTE FDD Ba Frequency (MHz) 2510.0	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm) -19.46 -19.66 -19.35 and 7_Chann P _{Mea} (dBm) -19.24	(dB) 4.32 4.33 nel Bandwid (dB) 4.32 4.32 4.33 nel Bandwid Pcl (dB) 4.32 4.33	Antenna Gain(dB) 6.8 6.61 6.57 ath 15MHz_1 Ga Antenna Gain(dB) 6.8 6.61 6.57 ath 20MHz_1 Ga Antenna Gain(dB) 6.8 6.61 6.57	(dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB) 36.14 36.17 36.22 6QAM P _{Ag} (dB) 36.14	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm) 19.16 18.80 19.11 Peak EIRP (dBm) 19.38	(dBm) 33.01 33.01 33.01 Limit (dBm) 33.01 33.01 33.01 Limit (dBm) 33.01	(dB) -14.21 -14.19 -13.53 Margin (dB) -13.85 -14.21 -13.90 Margin (dB) -13.63	V V V Polarization V V V
(MHz) 2505.0 2535.0 2565.0 LTE FDD Ba Frequency (MHz) 2507.5 2535.0 2562.5 LTE FDD Ba Frequency (MHz)	(dBm) -19.82 -19.64 -18.98 and 7_Chann P _{Mea} (dBm) -19.46 -19.66 -19.35 and 7_Chann P _{Mea} (dBm)	(dB) 4.32 4.33 nel Bandwid (dB) 4.32 4.32 4.33 nel Bandwid Pcl (dB) Pcl (dB)	Antenna Gain(dB) 6.8 6.61 6.57 ath 15MHz_1 Ga Antenna Gain(dB) 6.8 6.61 6.57 ath 20MHz_1 Ga Antenna Gain(dB)	(dB) 36.14 36.17 36.22 6QAM Pag (dB) 36.14 36.17 36.22 6QAM Pag (dB)	EIRP (dBm) 18.80 18.82 19.48 Peak EIRP (dBm) 19.16 18.80 19.11 Peak EIRP (dBm)	(dBm) 33.01 33.01 33.01 Limit (dBm) 33.01 33.01 33.01 Limit (dBm)	(dB) -14.21 -14.19 -13.53 Margin (dB) -13.85 -14.21 -13.90 Margin (dB)	V V V Polarization

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LTE FDD Band 17 Channel Bandwidth 5MHz QPSK

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Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
706.5	-15.86	3.02	8.29	2.15	33.52	20.78	34.77	-13.99	V
710.0	-15.55	3.06	8.29	2.15	33.52	21.05	34.77	-13.72	V
713.5	-16.35	3.06	8.29	2.15	33.52	20.25	34.77	-14.52	V

LTE FDD Band 17_Channel Bandwidth 10MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
709.0	-16.26	3.06	8.29	2.15	33.52	20.34	34.77	-14.43	V
710.0	-15.60	3.06	8.29	2.15	33.52	21.00	34.77	-13.77	V
711.0	-15.51	3.06	8.29	2.15	33.52	21.09	34.77	-13.68	V

LTE FDD Band 17_Channel Bandwidth 5MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
706.5	-16.76	3.02	8.29	2.15	33.52	19.88	34.77	-14.89	V
710.0	-16.98	3.06	8.29	2.15	33.52	19.62	34.77	-15.15	V
713.5	-17.06	3.06	8.29	2.15	33.52	19.54	34.77	-15.23	V

LTE FDD Band 17_Channel Bandwidth 10MHz_16QAM

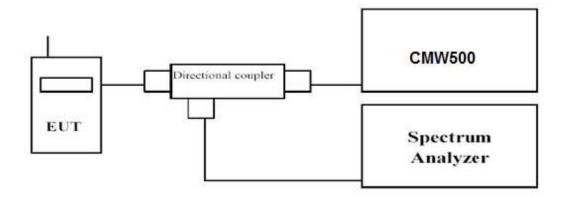
	Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	709.0	-16.89	3.06	8.29	2.15	33.52	19.71	34.77	-15.06	V
Ī	710.0	-16.51	3.06	8.29	2.15	33.52	20.09	34.77	-14.68	V
	711.0	-17.14	3.06	8.29	2.15	33.52	19.46	34.77	-15.31	V

4.2 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:
- 2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve;
- 4. 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

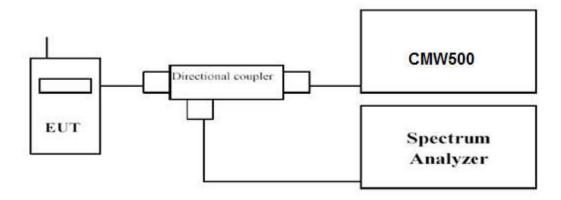
- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. For E-UTRA Band 2, please refer to Appendix A: Section A.2
- 3. For E-UTRA Band 4, please refer to Appendix B: Section B.2
- 4. For E-UTRA Band 7, please refer to Appendix C: Section C.2
- 5. For E-UTRA Band 17, please refer to Appendix D: Section D.2

4.3 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

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. For E-UTRA Band 2, please refer to Appendix A: Section A.3
- 3. For E-UTRA Band 4, please refer to Appendix B: Section B.3
- 4. For E-UTRA Band 7, please refer to Appendix C: Section C.3
- 5. For E-UTRA Band 17, please refer to Appendix D: Section D.3

4.4 Band Edge compliance

LIMIT

For LTE FDD Band 2:Per FCC §24.238 the 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 + 10log(P) dB. For LTE FDD Band 4: Per §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.

For LTE FDD Band 5:Per FCC §22.917 the 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 + 10log(P) dB. For LTE FDD Band 7: Per FCC §27.53 (m)(4): For mobile digital stations, the attenuation factor shall be not less than:

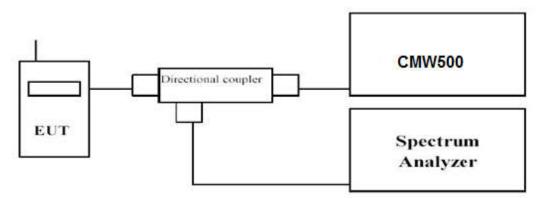
- ○40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge,
- \bigcirc 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge, and
- \bigcirc 55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB). [§ 27.53(m)(4)]

In addition, the attenuation factor (fixed limit) shall not be less than:

- ○43+10logP dB on all frequencies between 2490.5 MHz and 2496 MHz, and
- ○55+10logP dB at or below 2490.5 MHz. [§ 27.53(m)(4)]

For LTE FDD Band 17: Per §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.Translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

TEST CONFIGURATION



TEST PROCEDURE

- 1. The transmitter output port was connected to base station.
- 2. 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 lowestand highest channels for each band and different modulation.
- 5. Measure Band edge using RMS (Average) detector by spectrum

TEST RESULTS

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. For E-UTRA Band 2, please refer to Appendix A: Section A.4
- 3. For E-UTRA Band 4, please refer to Appendix B: Section B.4
- 4. For E-UTRA Band 7, please refer to Appendix C: Section C.4
- 5. For E-UTRA Band 17, please refer to Appendix D: Section D.4

4.5 Spurious Emssion on Antenna Port

LIMIT

For LTE FDD Band 2:Per FCC §24.238 the 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 + 10log(P) dB. For LTE FDD Band 4: Per §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.

For LTE FDD Band 5:Per FCC §22.917 the 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 + 10log(P) dB. For LTE FDD Band 7: Per FCC §27.53 (m)(4): For mobile digital stations, the attenuation factor shall be not less than:

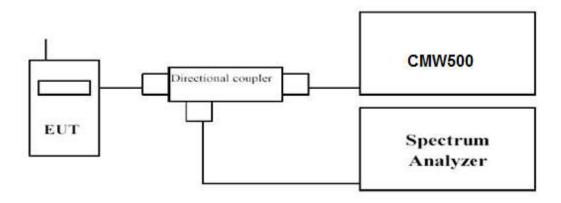
- ○40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge,
- \bigcirc 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge, and
- ○55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB). [§ 27.53(m)(4)]

In addition, the attenuation factor (fixed limit) shall not be less than:

- ○43+10logP dB on all frequencies between 2490.5 MHz and 2496 MHz, and
- ○55+10logP dB at or below 2490.5 MHz. [§ 27.53(m)(4)]

For LTE FDD Band 17: Per §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

The EUT was setup according to EIA/TIA 603D

- 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 setsufficient scans were taken to show the out of band Emission if any up to10th harmonic.
- f. Please refer to following tables for test antenna conducted emissions.

Working Sub range Frequency (GHz)		RBW	VBW	Sweep time (s)
	0.000009~0.000015	1KHz	3KHz	Auto
LTE FDD Band 2	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
	0.000009~0.000015	1KHz	3KHz	Auto
LTE FDD Band 4	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
	0.000009~0.000015	1KHz	3KHz	Auto
LTE FDD Band 7	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
	0.000009~0.000015	1KHz	3KHz	Auto
LTE FDD Band 17	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto

TEST RESULTS

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. For E-UTRA Band 2, please refer to Appendix A: Section A.5
- 3. For E-UTRA Band 4, please refer to Appendix B: Section B.5
- 4. For E-UTRA Band 7, please refer to Appendix C: Section C.5
- 5. For E-UTRA Band 17, please refer to Appendix D: Section D.5

4.6 Radiated Spurious Emssion

LIMIT

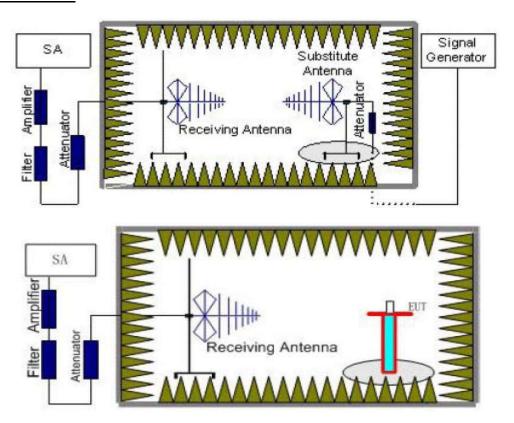
For LTE FDD Band 2:Per FCC §24.238 the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB. For LTE FDD Band 4: Per §27.53(h): For operations in the 1710–1755 MHz and 2110–2155 MHz bands, 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.

For LTE FDD Band 5:Per FCC §22.917 the 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 + 10log(P) dB. For LTE FDD Band 7: Per FCC §27.53 (m)(4): For mobile digital stations, the attenuation factor shall be not less than:

- ○40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge,
- \bigcirc 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge, and
- ○55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB). [§ 27.53(m)(4)]
- In addition, the attenuation factor (fixed limit) shall not be less than:
- ○43+10logP dB on all frequencies between 2490.5 MHz and 2496 MHz, and
- ○55+10logP dB at or below 2490.5 MHz. [§ 27.53(m)(4)]

For LTE FDD Band 17: Per §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. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated

- 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, an 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: $Power(EIRP) = P_{Mea} P_{Ag} P_{cl} + G_a$
- 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, ERP = EIRP -2.15dBi.
- 8. In order to make sure test results more clearly, we set frequency range and sweep time for difference frequency range as follows table:

Working Frequency	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
LTE EDD Dond 0	2~5	1 MHz	3 MHz	3
LTE FDD Band 2	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2
	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
LTE FDD Band 4	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	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
LTE FDD Band 7	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2
	20~26	1 MHz	3 MHz	2
LTE FDD Band 17	0.00009~0.15	1KHz	3KHz	30
LILIDD Danu II	0.00015~0.03	10KHz	30KHz	10

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	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
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2
	20~26	1 MHz	3 MHz	2

TEST LIMITS

According to 27.53(h) specify that the 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. 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. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Frequency	Channel	Frequency Range	Verdict
	Low	9KHz -20GHz	PASS
LTE FDD Band 2	Middle	9KHz -20GHz	PASS
	High	9KHz -20GHz	PASS
	Low	9KHz -18GHz	PASS
LTE FDD Band 4	Middle	9KHz -18GHz	PASS
	High	9KHz -18GHz	PASS
	Low	9KHz -26GHz	PASS
LTE FDD Band 7	Middle	9KHz -26GHz	PASS
	High	9KHz -26GHz	PASS
	Low	9KHz -26GHz	PASS
LTE FDD Band 17	Middle	9KHz -26GHz	PASS
	High	9KHz -26GHz	PASS

Radiated Measurement:

Remark:

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band
- 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+G_a(dBi)$
- 3. We were not recorded other points as values lower than limits.
- 4. Margin = EIRP Limit

LTE FDD Band 2_Channel Bandwidth 1.4MHz_QPSK_ Low Channel

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3701.4	-40.25	5.26	3.00	9.88	-35.63	-13.00	-22.63	Н
5552.1	-44.37	6.11	3.00	11.36	-39.12	-13.00	-26.12	Н
3701.4	-30.98	5.26	3.00	9.88	-26.36	-13.00	-13.36	V
5552.1	-35.08	6.11	3.00	11.36	-29.83	-13.00	-16.83	V

LTE FDD Band 2 Channel Bandwidth 1.4MHz QPSK Middle Channel

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization				
3760.0	-38.46	5.32	3.00	10.03	-33.75	-13.00	-20.75	Н				
5640.0	-43.52	6.19	3.00	11.41	-38.30	-13.00	-25.30	Н				
3760.0	-29.24	5.32	3.00	10.03	-24.53	-13.00	-11.53	V				
5640.0	-34.29	6.19	3.00	11.41	-29.07	-13.00	-16.07	V				

LTE FDD Band 2_Channel Bandwidth 1.4MHz_QPSK_ High Channel

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3806.6	-40.62	5.36	3.00	9.62	-36.36	-13.00	-23.36	Н
5709.9	-44.08	6.24	3.00	11.46	-38.86	-13.00	-25.86	Н
3806.6	-29.11	5.36	3.00	9.62	-24.85	-13.00	-11.85	V
5709.9	-35.10	6.24	3.00	11.46	-29.88	-13.00	-16.88	V

LTE FDD Band 2_Channel Bandwidth 3MHz_QPSK_ Low Channel

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3703.0	-39.46	5.26	3.00	9.88	-34.84	-13.00	-21.84	Н
5554.5	-43.09	6.11	3.00	11.36	-37.84	-13.00	-24.84	Н
3703.0	-29.50	5.26	3.00	9.88	-24.88	-13.00	-11.88	V
5554.5	-34.90	6.11	3.00	11.36	-29.65	-13.00	-16.65	V

LTE FDD Band 2 Channel Bandwidth 3MHz QPSK Middle Channel

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-37.77	5.32	3.00	10.03	-33.06	-13.00	-20.06	Н
5640.00	-46.26	6.19	3.00	11.41	-41.04	-13.00	-28.04	Н
3760.00	-30.70	5.32	3.00	10.03	-25.99	-13.00	-12.99	V
5640.00	-33.47	6.19	3.00	11.41	-28.25	-13.00	-15.25	V

LTE FDD Band 2 Channel Bandwidth 3MHz QPSK High Channel

Fı	requency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	3817.0	-38.37	5.36	3.00	9.62	-34.11	-13.00	-21.11	Н
	5725.5	-46.15	6.24	3.00	11.46	-40.93	-13.00	-27.93	Н
	3817.0	-30.32	5.36	3.00	9.62	-26.06	-13.00	-13.06	V
	5725.5	-36.59	6.24	3.00	11.46	-31.37	-13.00	-18.37	V

LTE FDD Band 2 Channel Bandwidth 5MHz QPSK Low Channel

	1114 <u>2</u> 011411	no banawa	1611 OIVII 12_Q1	011_ 2011 0	i idi ii ici			
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3705.0	-40.54	5.26	3.00	9.88	-35.92	-13.00	-22.92	Н
5557.5	-45.59	6.11	3.00	11.36	-40.34	-13.00	-27.34	Н
3705.0	-28.66	5.26	3.00	9.88	-24.04	-13.00	-11.04	V
5557.5	-36.65	6.11	3.00	11.36	-31.40	-13.00	-18.40	V

LTE FDD Band 2 Channel Bandwidth 5MHz QPSK Middle Channel

	ana z_onan	nei Banawia	1611 OIVII 12_Q1	OK_ Wildaid	Onanici			
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.0	-39.61	5.32	3.00	10.03	-34.90	-13.00	-21.90	Н
5640.0	-43.05	6.19	3.00	11.41	-37.83	-13.00	-24.83	Н
3760.0	-28.31	5.32	3.00	10.03	-23.60	-13.00	-10.60	V
5640.0	-33.91	6.19	3.00	11.41	-28.69	-13.00	-15.69	V

			<u> LABORATOR</u> Sth 5MHz O	<u>YLTD. </u>	<u>CCC ID: ZSH-Y</u> Channel	750Y55 R	eport No.: LCS	S180522036AEC
Frequency	P _{Mea}	P _{cl}	1111 OWN 12_Q1	G _a	Peak	Limit	Margin	
(MHz)	г _{меа} (dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
, ,		, ,		Gain(dB)	(dBm)	` ′	` ′	
3815.0	-40.47	5.36	3.00	9.62	-36.21	-13.00	-23.21	Н
5722.5	-44.26	6.24	3.00	11.46	-39.04	-13.00	-26.04	Н
3815.0	-29.54	5.36	3.00	9.62	-25.28	-13.00	-12.28	V
5722.5	-36.54	6.24	3.00	11.46	-31.32	-13.00	-18.32	V
LTE FDD B	and 2_Chan	nel Bandwid	dth 10MHz_C	QPSK_ Low		.		<u> </u>
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` ,	, ,	, ,		Gain(dB)	(dBm)	` ′	` ′	
3710.0	-40.42	5.26	3.00	9.88	-35.80	-13.00	-22.80	Н
5565.0	-45.16	6.11	3.00	11.36	-39.91	-13.00	-26.91	Н
3710.0	-28.78	5.26	3.00	9.88	-24.16	-13.00	-11.16	V
5565.0	-36.14	6.11	3.00	11.36	-30.89	-13.00	-17.89	V
TE FDD Ba	and 2_Chan	nel Bandwid	dth 10MHz_C	QPSK_ Middl	e Channel			
			_	G _a	Peak	1 ::-	Manailla	
requency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	Antenna	EIRP	Limit (dBm)	Margin (dB)	Polarizatio
` ′		` ′		Gain(dB)	(dBm)	, ,	` ,	
3760.0	-40.14	5.32	3.00	10.03	-35.43	-13.00	-22.43	Н
5640.0	-46.78	6.19	3.00	11.41	-41.56	-13.00	-28.56	Н
3760.0	-30.81	5.32	3.00	10.03	-26.10	-13.00	-13.10	V
5640.0	-35.51	6.19	3.00	11.41	-30.29	-13.00	-17.29	V
TE FDD Ba	and 2_Chan	nel Bandwid	dth 10MHz_C	QPSK_ High			I	T
Frequency	P_{Mea}	P_{cl}	Diatance	G _a Antenna	Peak EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	Polarizatio
3810.0	-39.64	5.36	3.00	9.62	-35.38	-13.00	-22.38	Н
5715.0	-44.29	6.24	3.00	11.46	-39.07	-13.00	-26.07	Н
3810.0	-30.35	5.36	3.00	9.62	-26.09	-13.00	-13.09	V
5715.0	-35.26	6.24	3.00	11.46	-30.04	-13.00	-17.04	V
LTE FDD B	and 2_Chan	nel Bandwid	dth 15MHz_C	QPSK_ Low			1	
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` '	. ,	, ,		Gain(dB)	(dBm)	` ′	` '	
3715.0	-38.81	5.26	3.00	9.88	-34.19	-13.00	-21.19	Н
5572.5	-44.31	6.11	3.00	11.36	-39.06	-13.00	-26.06	Н
3715.0	-29.66	5.26	3.00	9.88	-25.04	-13.00	-12.04	V
5572.5	-34.07	6.11	3.00	11.36	-28.82	-13.00	-15.82	V
TE FDD Ba	and 2 Chan	nel Bandwid	dth 15MHz(QPSK Middl	le Channel			
	_		_	Ga	Peak	1.1.11		
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	. 5.62410
3760.0	-39.83	5.32	3.00	10.03	-35.12	-13.00	-22.12	Н
5640.0	-45.13	6.19	3.00	11.41	-39.91	-13.00	-26.91	H
3760.0	-45.13 -28.78	5.32	3.00	10.03	-39.91	-13.00	-11.07	V
5640.0	-28.78 -36.71	6.19	3.00	11.41	-24.07	-13.00	-11.07	V
			•					<u>, </u>
LIE FUU Ba	ana 2_Chan	nei Bandwid	วเท 15MHZ_(QPSK_ High			1	1
Frequency	P_{Mea}	P_{cl}	Distan	Ga	Peak	Limit	Margin	Deles 0
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` '	, ,	, ,		Gain(dB)	(dBm)	` ′	` ′	
3805.0	-38.77	5.36	3.00	9.62	-34.51	-13.00	-21.51	Н
5707.5	-44.82	6.24	3.00	11.46	-39.60	-13.00	-26.60	Н
3805.0	-31 58	5.36	3 00	9.62	-27 32	-13 00	-14 32	V

9.62

11.46

-27.32

-28.59

-13.00

-13.00

-14.32

-15.59

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3.00

3.00

-31.58

-33.81

3805.0

5707.5

5.36

			GLABORATOR Hth 20MHz (YLTD. F QPSK_Low(<u>CC ID: ZSH-Y</u> Channel	750Y55 R	eport No.: LCS	S180522036AEC
			ZOIVII 12_C	G _a	Peak	l imais	Manain	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3715.0	-38.78	5.26	3.00	9.88	-34.16	-13.00	-21.16	Н
5572.5	-44.34	6.11	3.00	11.36	-39.09	-13.00	-26.09	Н
3715.0	-30.64	5.26	3.00	9.88	-26.02	-13.00	-13.02	V
5572.5	-33.15	6.11	3.00	11.36	-27.90	-13.00	-14.90	V
LTE FDD Ba	and 2_Chan	nel Bandwid	dth 20MHz_C	QPSK_ Middl	e Channel			
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` ,	, ,	` ′		Gain(dB)	(dBm)	, ,	` ′	
3720.0	-37.78	5.32	3.00	10.03	-33.07	-13.00	-20.07	Н
5580.0	-44.65	6.19	3.00	11.41	-39.43	-13.00	-26.43	Н
3720.0	-29.12	5.32	3.00	10.03	-24.41	-13.00	-11.41	V
5580.0	-33.24	6.19	3.00	11.41	-28.02	-13.00	-15.02	V
		na I Danahui	-111- 001411- 0		Oh 1			
.TE FDD Ba	ana 2_Cnan	nei Banawio	ath 20MHZ_C	QPSK_ High				
Frequency	P_{Mea}	P_{cl}	D: 1	Ga	Peak	Limit	Margin	.
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
, ,	, ,			Gain(dB)	(dBm)	, ,	` ,	
3800.0	-40.24	5.36	3.00	9.62	-35.98	-13.00	-22.98	Н
5700.0	-45.59	6.24	3.00	11.46	-40.37	-13.00	-27.37	Н
3800.0	-30.99	5.36	3.00	9.62	-26.73	-13.00	-13.73	V
5700.0	-36.55	6.24	3.00	11.46	-31.33	-13.00	-18.33	V
requency	P _{Mea}	P _{cl}	dth 1.4MHz_ Diatance	16QAM_ Lo G _a Antenna	<u>w Channel</u> Peak EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	0.00	Gain(dB)	(dBm)	(dBm)	(dB)	
3701.4	-42.33	5.26	3.00	9.88	-37.71	-13.00	-24.71	H
5552.1	-48.96	6.11	3.00	11.36	-43.71	-13.00	-30.71	Н
3701.4	-33.87	5.26	3.00	9.88	-29.25	-13.00	-16.25	V
5552.1	-40.20	6.11	3.00	11.36	-34.95	-13.00	-21.95	V
LTE FDD Ba	and 2_Chan	nel Bandwid	dth 1.4MHz_	16QAM_ Mi	ddle Channe	el		T
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
(1711 12)	(dDill)	(GD)		Gain(dB)	(dBm)	(dDIII)	(GD)	
3760.0	-42.79	5.32	3.00	10.03	-38.08	-13.00	-25.08	Н
5640.0	-49.37	6.19	3.00	11.41	-44.15	-13.00	-31.15	Н
3760.0	-32.80	5.32	3.00	10.03	-28.09	-13.00	-15.09	V
5640.0	-40.43	6.19	3.00	11.41	-35.21	-13.00	-22.21	V
TE EDD R	and 2 Chan	nel Randwii	oth 1 AMHz	16QAM_Hig	ah Channel			•
				G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
3806.6	-40.01	5.36	3.00	9.62	-35.75	12.00	-22.75	ы
						-13.00		Н
5709.9	-46.91	6.24	3.00	11.46	-41.69	-13.00	-28.69	H
3806.6 5709.9	-32.38 -38.73	5.36 6.24	3.00 3.00	9.62 11.46	-28.12 -33.51	-13.00 -13.00	-15.12 -20.51	V
3109.9	-30.13	0.24	3.00	11.40	-33.31	-13.00	-20.31	V
LTE FDD Ba	and 2_Chan	nel Bandwid	dth 3MHz_16	SQAM_Low				1
Frequency	P_{Mea}	P_{cl}	Dietassa	Ga	Peak	Limit	Margin	Dolowi-st'-
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` '	. ,	, ,		Gain(dB)	(dBm)	, ,	` ′	
3703.0	-43.20	5.26	3.00	9.88	-38.58	-13.00	-25.58	Н
5554.5	-49.77	6.11	3.00	11.36	-44.52	-13.00	-31.52	Н
3703 0	-33 47	5.26	3 00	9 88	-28 85	-13 00	-15 85	V

11.36

-28.85

-33.14

-15.85

-20.14

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-13.00

-13.00

3.00

3.00

5.26

6.11

-33.47

-38.39

3703.0

Columbia				GLABORATOR		CC ID: ZSH-Y	750Y55 R	eport No.: LCS	S180522036AEC
Polarizatin	LIE FUU Ba	ana 2_Cnan	nei Banawi	atn 3MHZ_16	_		1	1	T
Margin M	Frequency	P_{Mea}	P_{cl}	Dietopoo			Limit	Margin	Dolorizatio
3760.00	(MHz)		(dB)	Diatance			(dBm)	(dB)	Polarizatio
Sead	, ,	, ,	, ,		` ,		` ,	` ′	
3760.00									
Terepuency (MHz)									
	3760.00	-32.58	5.32	3.00	10.03	-27.87	-13.00	-14.87	
Frequency (MHz)	5640.00	-41.35	6.19	3.00	11.41	-36.13	-13.00	-23.13	V
Frequency (MHz)	I TE EDD Ba	and 2 Chan	nel Bandwi	dth 3MHz 16	SQAM High	Channel			
Prequency Press Press Class Press Class							<u> </u>		
Mint Margin Mar		P_{Mea}	P_{cl}	Diatance			_	Margin	Polarizatio
Salific Sali	(MHz)		(dB)	Diatance			(dBm)	(dB)	Polarizatio
S725.5	, ,	` ,	` ,					` ′	
Satt									
S725.5 -39.16 6.24 3.00 11.46 -33.94 -13.00 -20.94 V									
Tre FDD Band 2	3817.0	-34.70	5.36	3.00	9.62	-30.44	-13.00	-17.44	V
Frequency (MHz)	5725.5	-39.16	6.24	3.00	11.46	-33.94	-13.00	-20.94	V
Frequency (MHz)		and 2 Chan	nal Bandui	dth ENNU- 16	SOAM Law	Channal			
Prequency (MHz)		illu Z_Cliali	nei banuwi	utii Sivimz_10			Ī	1	
MHz (dBm) (dB) Diatance Antenna Cain(dBm) (dBm)	Frequency	P_{Mea}	P_{cl}	Distance			Limit	Margin	Dalarianti
3705.0				Diatance					Polarization
S557.5	` ,	, ,	` ,				` ′	` ′	
3705.0				3.00	9.88	-37.47	-13.00	-24.47	
Tempor T	5557.5	-47.80	6.11	3.00	11.36	-42.55	-13.00	-29.55	Н
S557.5	3705.0	-32.14	5.26	3.00	9.88	-27.52	-13.00	-14.52	V
Temporary Page Pa		-40.31	6.11	3.00	11.36	-35.06	-13.00	-22.06	V
3760.0	requency	P _{Mea}	P _{cl}	_	Ga	Peak			Polarizatio
3760.0	(IVI⊟Z)	(dBIII)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
Sea	3760.0	-43.70	5.32	3.00	10.03	-38.99	-13.00	-25.99	Н
3760.0									
Tequency PMea (dBm) Cannel Bandwidth 10MHz 16QAM Limit (dBm) Cannel Bandwidth 10MHz 16QAM Limit (dBm) Cannel Bandwidth 10MHz Cannel									
Company Comp									
Pack							10.00	20.70	, v
Feducity (MHz) (dBm) (LTE FDD B	and 2_Chan	nel Bandwi	dth 5MHz_16			T	1	1
(MHz) (dBm) (dB) Diatance Antenue Antenue (dBm) (dBm) (dB) Totalization 3815.0 -43.61 5.36 3.00 9.62 -39.35 -13.00 -26.35 H 5722.5 -48.52 6.24 3.00 11.46 -43.30 -13.00 -30.30 H 3815.0 -32.57 5.36 3.00 9.62 -28.31 -13.00 -15.31 V 5722.5 -40.92 6.24 3.00 11.46 -35.70 -13.00 -15.31 V LTE FDD Band 2 Channel Bandwidth 10MHz 16QAM Low Channel Channel EIRP Limit (dBm) Margin (dB) Polarization 3710.0 -42.54 5.26 3.00 9.88 -37.92 -13.00 -24.92 H 5565.0 -46.58 6.11 3.00 11.36 -41.33 -13.00 -28.33 H 3710.0 -33.84 5.26 3.00 9.88 -29.22 -13.00 -23.24 V	Frequency	PMaa	Pal	1			Limit	Margin	
Salfi(dB) Galfi(dB) Galf				Diatance					Polarization
ST22.5	` ,	, ,	` '		Gain(dB)		` ′	` '	
3815.0	3815.0	-43.61	5.36	3.00	9.62	-39.35	-13.00	-26.35	
Tequency (MHz)	5722.5	-48.52	6.24	3.00	11.46	-43.30	-13.00	-30.30	Н
Tequency (MHz)		-32.57	5.36	3.00	9.62	-28.31			V
Frequency (MHz)									V
Frequency (MHz)		and 2 Chan	nal Bandui	dth 101/14= 1	160AM 10	v Channal			
Prequency (MHz)	' TE ENN P	anu Z_Chall	nei DailuWl	uui 101VI∏Z_1 │			I	T	T
(MHz) (dBm) (dB) Diatance Gain(dB) Attentia Gain(dB) (dBm) Polarization Margin (dBm) (dBm) (dBm) (dBm) (dBm) (dBm) Polarization	LTE FDD Ba		D	Distant.			Limit	Margin	Dolon''
3710.0		P_{Mea}	l ⊏ _{cl}		Antenna		(dBm)		Polarization
5565.0 -46.58 6.11 3.00 11.36 -41.33 -13.00 -28.33 H 3710.0 -33.84 5.26 3.00 9.88 -29.22 -13.00 -16.22 V 5565.0 -41.49 6.11 3.00 11.36 -36.24 -13.00 -23.24 V LTE FDD Band 2_Channel Bandwidth 10MHz_16QAM_Middle Channel Ga Peak Limit Margin Margin (dB) Polarization Frequency (MHz) P _{Mea} (dBm) P _{Cl} (dB) Diatance Gain(dB) EIRP (dBm) Limit (dBm) Margin (dB) Polarization	requency			Diatance				(\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
3710.0	requency		(dB)			(dBm)	, ,	` ′	
3710.0	requency (MHz)	(dBm)	(dB)		Gain(dB)		` ′	-24.92	
Terest	requency (MHz) 3710.0	(dBm) -42.54	(dB) 5.26	3.00	Gain(dB) 9.88	-37.92	-13.00		
TTE FDD Band 2_Channel Bandwidth 10MHz_16QAM _ Middle Channel Frequency (MHz) P _{Mea} (dBm) P _{cl} (dB) Diatance Antenna EIRP (dBm) (dBm) (dBm) Polarization	requency (MHz) 3710.0 5565.0	(dBm) -42.54 -46.58	(dB) 5.26 6.11	3.00 3.00	Gain(dB) 9.88 11.36	-37.92 -41.33	-13.00 -13.00	-28.33	Н
Frequency (MHz) (Bm) $(Bm$	Frequency (MHz) 3710.0 5565.0 3710.0	(dBm) -42.54 -46.58 -33.84	(dB) 5.26 6.11 5.26	3.00 3.00 3.00	Gain(dB) 9.88 11.36 9.88	-37.92 -41.33 -29.22	-13.00 -13.00 -13.00	-28.33 -16.22	H V
requency P_{Mea} (dBm) (dB) Diatance Antenna $EIRP$ (dBm) (dBm) (dB) Polarization	3710.0 5565.0 3710.0 5565.0	(dBm) -42.54 -46.58 -33.84 -41.49	(dB) 5.26 6.11 5.26 6.11	3.00 3.00 3.00 3.00	Gain(dB) 9.88 11.36 9.88 11.36	-37.92 -41.33 -29.22 -36.24	-13.00 -13.00 -13.00 -13.00	-28.33 -16.22	H V
(MHz) (dBm) (dB) Blatafice Afficilità (dBm) (dBm) (dB) Folarization (dBm)	Frequency (MHz) 3710.0 5565.0 3710.0 5565.0	(dBm) -42.54 -46.58 -33.84 -41.49	(dB) 5.26 6.11 5.26 6.11	3.00 3.00 3.00 3.00	Gain(dB) 9.88 11.36 9.88 11.36	-37.92 -41.33 -29.22 -36.24 Idle Channe	-13.00 -13.00 -13.00 -13.00	-28.33 -16.22	H V
Gain(dB) (dBm) \ \ \ \ \	710.0 5565.0 3710.0 5565.0	(dBm) -42.54 -46.58 -33.84 -41.49 and 2_Chan	(dB) 5.26 6.11 5.26 6.11 nel Bandwi	3.00 3.00 3.00 3.00 3.00	Gain(dB) 9.88 11.36 9.88 11.36 6QAM_Mid Ga	-37.92 -41.33 -29.22 -36.24 Idle Channe Peak	-13.00 -13.00 -13.00 -13.00	-28.33 -16.22 -23.24	H V V
	7710.0 5565.0 3710.0 5565.0 5565.0	(dBm) -42.54 -46.58 -33.84 -41.49 and 2_Chan	(dB) 5.26 6.11 5.26 6.11 nel Bandwi Pcl	3.00 3.00 3.00 3.00 3.00	Gain(dB) 9.88 11.36 9.88 11.36 6QAM _ Mid G _a Antenna	-37.92 -41.33 -29.22 -36.24 ddle Channe Peak EIRP	-13.00 -13.00 -13.00 -13.00	-28.33 -16.22 -23.24 Margin	H V
3760.0 -43.69 5.32 3.00 10.03 -38.98 -13.00 -25.98 H	Frequency (MHz) 3710.0 5565.0 3710.0 5565.0 LTE FDD Bater Frequency (MHz)	(dBm) -42.54 -46.58 -33.84 -41.49 and 2_Chan P _{Mea} (dBm)	(dB) 5.26 6.11 5.26 6.11 nel Bandwi P _{cl} (dB)	3.00 3.00 3.00 3.00 3.00 dth 10MHz_1	Gain(dB) 9.88 11.36 9.88 11.36 6QAM _ Mid Ga Antenna Gain(dB)	-37.92 -41.33 -29.22 -36.24 ddle Channe Peak EIRP (dBm)	-13.00 -13.00 -13.00 -13.00 / Limit (dBm)	-28.33 -16.22 -23.24 Margin (dB)	H V V

10.03

11.41

-13.00

-13.00

-13.00

-44.49

-27.90

-33.08

-31.49

-14.90

-20.08

Н

V V

3.00

3.00

3.00

6.19

5.32

6.19

-49.71

-32.61

-38.30

5640.0

3760.0

			<i>G LABORATOR</i> dth 10MHz_1		CC ID: ZSH-Y	750Y55 Re	eport No.: LCS	S180522036AE
LIE FUU D	and 2_Chan	nei Bandwi	<u>ατη ΤΟΙΜΗΖ_ Ι</u> Π				I	T
Frequency	P_{Mea}	P_{cl}	Distance	Ga	Peak	Limit	Margin	Dalaminatia
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` ,	` '	` ,		Gain(dB)	(dBm)	, ,	` ′	
3810.0	-43.86	5.36	3.00	9.62	-39.60	-13.00	-26.60	Н
5715.0	-46.13	6.24	3.00	11.46	-40.91	-13.00	-27.91	Н
3810.0	-33.01	5.36	3.00	9.62	-28.75	-13.00	-15.75	V
5715.0	-38.25	6.24	3.00	11.46	-33.03	-13.00	-20.03	V
I TF FDD Ba	and 2 Chan	nel Bandwii	dth 15MHz_1	60AM Lov	v Channel			
	_		T	G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	Folanzanc
2745.0	44.44	F 06	2.00			12.00	22.40	- 11
3715.0	-41.11	5.26	3.00	9.88	-36.49	-13.00	-23.49	H
5572.5	-49.09	6.11	3.00	11.36	-43.84	-13.00	-30.84	Н
3715.0	-34.52	5.26	3.00	9.88	-29.90	-13.00	-16.90	V
5572.5	-39.25	6.11	3.00	11.36	-34.00	-13.00	-21.00	V
LTE FDD Ba	and 2 Chan	nel Bandwi	dth 15MHz_1	6QAM Mic	ldle Channe	I		
	_			Ga	Peak			
requency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	Folarizatio
2760.0	40.00	F 22	2.00		` ,	12.00	22.05	11
3760.0	-40.96	5.32	3.00	10.03	-36.25	-13.00	-23.25	H
5640.0	-49.75	6.19	3.00	11.41	-44.53	-13.00	-31.53	Н
3760.0	-33.98	5.32	3.00	10.03	-29.27	-13.00	-16.27	V
5640.0	-40.02	6.19	3.00	11.41	-34.80	-13.00	-21.80	V
requency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarizatio
2225				0 (=)				
3805 0	-41 52	5.36	3 00	9 62		-13 00	-24 26	Н
3805.0 5707.5	-41.52 -47.39	5.36	3.00	9.62 11.46	-37.26	-13.00 -13.00	-24.26 -29.17	H
5707.5	-47.39	6.24	3.00	11.46	-37.26 -42.17	-13.00	-29.17	Н
5707.5 3805.0	-47.39 -33.70	6.24 5.36	3.00 3.00	11.46 9.62	-37.26 -42.17 -29.44	-13.00 -13.00	-29.17 -16.44	H V
5707.5	-47.39	6.24	3.00	11.46	-37.26 -42.17	-13.00	-29.17	Н
5707.5 3805.0 5707.5	-47.39 -33.70 -38.52	6.24 5.36 6.24	3.00 3.00	11.46 9.62 11.46	-37.26 -42.17 -29.44 -33.30 v Channel	-13.00 -13.00	-29.17 -16.44	H V
5707.5 3805.0 5707.5	-47.39 -33.70 -38.52 and 2_Chan	6.24 5.36 6.24 nel Bandwi	3.00 3.00 3.00 3th 20MHz_1	11.46 9.62 11.46 6QAM_Low G _a	-37.26 -42.17 -29.44 -33.30 v Channel Peak	-13.00 -13.00	-29.17 -16.44 -20.30	H V V
5707.5 3805.0 5707.5 LTE FDD Ba	-47.39 -33.70 -38.52 and 2_Chan	6.24 5.36 6.24 nel Bandwid	3.00 3.00 3.00	11.46 9.62 11.46 6QAM_ Low G _a Antenna	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP	-13.00 -13.00 -13.00 Limit	-29.17 -16.44 -20.30 Margin	H V V
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz)	-47.39 -33.70 -38.52 and 2_Chan P _{Mea} (dBm)	6.24 5.36 6.24 nel Bandwid P _{cl} (dB)	3.00 3.00 3.00 dth 20MHz_1 Diatance	11.46 9.62 11.46 6QAM Low G _a Antenna Gain(dB)	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm)	-13.00 -13.00 -13.00 Limit (dBm)	-29.17 -16.44 -20.30 Margin (dB)	H V V
5707.5 3805.0 5707.5 	-47.39 -33.70 -38.52 and 2_Chan P _{Mea} (dBm) -43.72	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26	3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00	11.46 9.62 11.46 6QAM_ Low G _a Antenna Gain(dB) 9.88	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10	-13.00 -13.00 -13.00 -13.00 Limit (dBm) -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10	H V V V Polarization
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz)	-47.39 -33.70 -38.52 and 2_Chan P _{Mea} (dBm)	6.24 5.36 6.24 nel Bandwid Pcl (dB) 5.26 6.11	3.00 3.00 3.00 dth 20MHz_1 Diatance	11.46 9.62 11.46 6QAM Low G _a Antenna Gain(dB)	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm)	-13.00 -13.00 -13.00 Limit (dBm)	-29.17 -16.44 -20.30 Margin (dB)	H V V V Polarization H H H
5707.5 3805.0 5707.5 	-47.39 -33.70 -38.52 and 2_Chan P _{Mea} (dBm) -43.72	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26	3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00	11.46 9.62 11.46 6QAM_ Low G _a Antenna Gain(dB) 9.88	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10	-13.00 -13.00 -13.00 -13.00 Limit (dBm) -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10	H V V V Polarization
5707.5 3805.0 5707.5 -TE FDD Barrequency (MHz) 3715.0 5572.5	-47.39 -33.70 -38.52 and 2_Chana P _{Mea} (dBm) -43.72 -47.53	6.24 5.36 6.24 nel Bandwid Pcl (dB) 5.26 6.11	3.00 3.00 3.00 3.00 3.00 Diatance 3.00 3.00	11.46 9.62 11.46 6QAM_Low Ga Antenna Gain(dB) 9.88 11.36	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28	-13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28	H V V V Polarization H H H
5707.5 3805.0 5707.5 LTE FDD Bate Prequency (MHz) 3715.0 5572.5 3715.0 5572.5	-47.39 -33.70 -38.52 and 2_Channel (dBm) -43.72 -47.53 -32.55 -40.76	6.24 5.36 6.24 nel Bandwie P _{cl} (dB) 5.26 6.11 5.26 6.11	3.00 3.00 3.00 3.00 Diatance 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM_Low Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93	Polarization H H V
5707.5 3805.0 5707.5 LTE FDD Bate of the second of the	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid	3.00 3.00 3.00 3.00 2th 20MHz_1 Diatance 3.00 3.00 3.00	11.46 9.62 11.46 6QAM_ Low G _a Antenna Gain(dB) 9.88 11.36 9.88 11.36	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51	Polarization H
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5	-47.39 -33.70 -38.52 and 2_Channel (dBm) -43.72 -47.53 -32.55 -40.76	6.24 5.36 6.24 nel Bandwie P _{cl} (dB) 5.26 6.11 5.26 6.11	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM Low G _a Antenna Gain(dB) 9.88 11.36 9.88 11.36	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93	Polarization H H V
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid	3.00 3.00 3.00 3.00 Diatance 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM _ Lov G _a Antenna Gain(dB) 9.88 11.36 9.88 11.36 Ga Antenna	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak EIRP	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51	Polarization H H V
5707.5 3805.0 5707.5 LTE FDD Bates requency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Bates requency (MHz)	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm)	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 nel Bandwid P _{cl} (dB)	3.00 3.00 3.00 3.00 th 20MHz_1 Diatance 3.00 3.00 3.00 3.00 th 20MHz_1 Diatance	11.46 9.62 11.46 6QAM _ Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM _ Mic Ga Antenna Gain(dB)	-37.26 -42.17 -29.44 -33.30 V Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 Idle Channe Peak EIRP (dBm)	-13.00 -13.00 -13.00 Limit (dBm) -13.00 -13.00 -13.00 -13.00 /	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB)	Polarization Polarization
5707.5 3805.0 5707.5 LTE FDD Bates requency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Bates requency (MHz) 3720.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm)	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid P _{cl} (dB) 5.32	3.00 3.00 3.00 3.00 2th 20MHz_1 Diatance 3.00 3.00 3.00 3.00 3.00 Diatance 3.00 3.00 3.00	11.46 9.62 11.46 6QAM_Low Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 9.88 11.36 10.03	-37.26 -42.17 -29.44 -33.30 V Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 Idle Channe Peak EIRP (dBm) -36.95	-13.00 -13.00 -13.00 Limit (dBm) -13.00 -13.00 -13.00 / Limit (dBm) -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95	Polarization H V V Polarization H H H H H H H H H H H H H H H H H H H
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Barrequency (MHz) 3720.0 5580.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid P _{cl} (dB) 5.32 6.19	3.00 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 3.00	11.46 9.62 11.46 9.62 11.46 6QAM_Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM_Min Ga Antenna Gain(dB) 10.03 11.41	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak EIRP (dBm) -36.95 -40.98	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 / Limit (dBm) -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98	Polarization H H V V Polarization H H H H H H H H H H H H H H H H H H H
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Barrequency (MHz) 3720.0 5580.0 3720.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20 -31.65	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid P _{cl} (dB) 5.32 6.19 5.32	3.00 3.00 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM Low Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM Mic Ga Antenna Gain(dB) 10.03 11.41 10.03	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak EIRP (dBm) -36.95 -40.98 -26.94	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98 -13.94	Polarization H H V V V Polarization H H V V V
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Barrequency (MHz) 3720.0 5580.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20	6.24 5.36 6.24 mel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid P _{cl} (dB) 5.32 6.19	3.00 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 3.00	11.46 9.62 11.46 9.62 11.46 6QAM_Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM_Min Ga Antenna Gain(dB) 10.03 11.41	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak EIRP (dBm) -36.95 -40.98	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 / Limit (dBm) -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98	Polarization H H V V Polarization H H H H H H H H H H H H H H H H H H H
5707.5 3805.0 5707.5 LTE FDD Bate of the second of the	-47.39 -33.70 -38.52 and 2_Chana (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Chana (dBm) -41.66 -46.20 -31.65 -39.79	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 nel Bandwid P _{cl} (dB) 5.32 6.19 5.32 6.19	3.00 3.00 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 ath 20MHz_1 Diatance 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM _ Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM _ Mic Ga Antenna Gain(dB) 10.03 11.41 10.03 11.41	-37.26 -42.17 -29.44 -33.30 V Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 Idle Channe Peak EIRP (dBm) -36.95 -40.98 -26.94 -34.57	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98 -13.94	Polarization H H V V V Polarization H H V V V
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Barrequency (MHz) 3720.0 5580.0 3720.0 5580.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20 -31.65 -39.79 and 2_Channel	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 nel Bandwid P _{cl} (dB) 5.32 6.19 5.32 6.19	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 9.62 11.46 6QAM_Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM_Mic Ga Antenna Gain(dB) 10.03 11.41 10.03 11.41 10.03	-37.26 -42.17 -29.44 -33.30 V Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 Idle Channe Peak EIRP (dBm) -36.95 -40.98 -26.94 -34.57	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98 -13.94 -21.57	Polarization H H V V V Polarization H H V V V
5707.5 3805.0 5707.5 LTE FDD Bases Frequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Bases Frequency (MHz) 3720.0 5580.0 3720.0 5580.0 LTE FDD Bases Frequency (MHz)	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20 -31.65 -39.79 and 2_Channel P _{Mea}	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 mel Bandwid P _{cl} (dB) 5.32 6.19 5.32 6.19 nel Bandwid P _{cl}	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 6QAM _ Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM _ Mio Ga Antenna Gain(dB) 10.03 11.41 10.03 11.41 10.03 11.41	-37.26 -42.17 -29.44 -33.30 v Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 ddle Channe Peak EIRP (dBm) -36.95 -40.98 -26.94 -34.57 th Channel Peak	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98 -13.94 -21.57 Margin	Polarization H H V V V Polarization H H V V V
5707.5 3805.0 5707.5 LTE FDD Barrequency (MHz) 3715.0 5572.5 3715.0 5572.5 LTE FDD Barrequency (MHz) 3720.0 5580.0 3720.0 5580.0	-47.39 -33.70 -38.52 and 2_Channel P _{Mea} (dBm) -43.72 -47.53 -32.55 -40.76 and 2_Channel P _{Mea} (dBm) -41.66 -46.20 -31.65 -39.79 and 2_Channel	6.24 5.36 6.24 nel Bandwid P _{cl} (dB) 5.26 6.11 5.26 6.11 nel Bandwid P _{cl} (dB) 5.32 6.19 5.32 6.19	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	11.46 9.62 11.46 9.62 11.46 6QAM_Lov Ga Antenna Gain(dB) 9.88 11.36 9.88 11.36 6QAM_Mic Ga Antenna Gain(dB) 10.03 11.41 10.03 11.41 10.03	-37.26 -42.17 -29.44 -33.30 V Channel Peak EIRP (dBm) -39.10 -42.28 -27.93 -35.51 Idle Channe Peak EIRP (dBm) -36.95 -40.98 -26.94 -34.57	-13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00 -13.00	-29.17 -16.44 -20.30 Margin (dB) -26.10 -29.28 -14.93 -22.51 Margin (dB) -23.95 -27.98 -13.94 -21.57	Polarization H H V V V Polarization H H V V V

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			G LABORATOR		CC ID: ZSH-Y	750Y55 Re	eport No.: LCS	S180522036AEG
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 1.4MHz_	QPSK_ Low		T		1
Frequency	P_{Mea}	P_{cl}	Distance	Ga	Peak	Limit	Margin	Dalariantina
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` ,	` ,	. ,		Gain(dB)	(dBm)		, ,	
3421.4	-42.18	4.62	3.00	9.81	-36.99	-13.00	-23.99	Н
5132.1	-48.91	5.94	3.00	10.86	-43.99	-13.00	-30.99	Н
3421.4	-33.59	4.62	3.00	9.81	-28.40	-13.00	-15.40	V
5132.1	-40.64	5.94	3.00	10.86	-35.72	-13.00	-22.72	V
			•					
LTE FDD B	and 4_Chan	nel Bandwi	dth 1.4MHz_	QPSK_ Midd	le Channel			
Frequency	P _{Mea}	P_{cl}		G_a	Peak	Limit	Margin	
	(dBm)		Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(MHz)	(ubiii)	(dB)		Gain(dB)	(dBm)	(ubiii)	(ub)	
3465.0	-41.33	4.63	3.00	9.84	-36.12	-13.00	-23.12	Н
5197.5	-46.80	5.94	3.00	10.86	-41.88	-13.00	-28.88	Н
3465.0	-34.45	4.63	3.00	9.84	-29.24	-13.00	-16.24	V
5197.5	-41.75	5.94	3.00	10.86	-36.83	-13.00	-23.83	V
0.00			1 0.00					<u> </u>
LTE FDD Ba	and 4_Chani	nel Bandwid	dth 1.4MHz_	QPSK_ High	Channel			
Eroguese	D	ח		Ga	Peak	Limit	Moroin	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP		Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3508.6	-43.24	4.65	3.00	9.9	-37.99	-13.00	-24.99	Н
5262.9	-48.82	5.95	3.00	10.91	-43.86	-13.00	-30.86	Н
3508.6	-33.08	4.65	3.00	9.9	-27.83	-13.00	-14.83	V
5262.9	-41.79	5.95	3.00	10.91	-36.83	-13.00	-23.83	V
0202.0	41.70	0.00	0.00	10.01	00.00	10.00	20.00	, v
LTE FDD Ba	and 4 Chani	nel Bandwi	dth 3MHz Qi	PSK Low C	hannel			
	_			Ga	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Biatarioo	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarization
3423.0	-42.45	4.62	3.00	9.81	-37.26	-13.00	-24.26	Н
5134.5	-47.21	5.94	3.00	10.86	-42.29	-13.00	-29.29	Н Н
3423.0	-34.37	4.62	3.00	9.81	-29.18	-13.00	-16.18	V
	-34.37	5.94	3.00	10.86		-13.00	-20.93	V
5134.5	-30.00	5.94	3.00	10.60	-33.93	-13.00	-20.93	v
I TE EDD Ba	and 4 Chani	nel Bandwii	dth 3MHz O	PSK Middle	Channel			
	_			Ga	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarization
2465.00	44.40	4.62	2.00			12.00	22.00	ш
3465.00	-41.19	4.63	3.00	9.84	-35.98	-13.00	-22.98	H
5197.50	-48.53	5.94	3.00	10.86	-43.61	-13.00	-30.61	Н
3465.00	-33.93	4.63	3.00	9.84	-28.72	-13.00	-15.72	V
5197.50	-38.58	5.94	3.00	10.86	-33.66	-13.00	-20.66	V
	and 1 Cham	nal Dandui	-1415 2MALI = . O.		·hannal			
	_		<i> </i>	PSK_ High C G _a	Peak			1
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Dolorization
(MHz)	(dBm)	(dB)	Diatance			(dBm)	(dB)	Polarization
0507.0	44.70	4.05	0.00	Gain(dB)	(dBm)	40.00	00.54	1
3507.0	-41.79	4.65	3.00	9.9	-36.54	-13.00	-23.54	Н
5260.5	-45.69	5.95	3.00	10.91	-40.73	-13.00	-27.73	Н
3507.0	-36.81	4.65	3.00	9.9	-31.56	-13.00	-18.56	V
5260.5	-40.77	5.95	3.00	10.91	-35.81	-13.00	-22.81	V
LTE FDD Ba	and 4 Chani	nel Bandwi	dth 5MHz Oi	PSK_ Low C	hannel			
- = = = = = = = = = = = = = = = = = = =				Ga	Peak			
-			i			Limit	Margin	1
	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP			Polarization
Frequency (MHz)	P _{Mea} (dBm)	(dB)	Diatance	Antenna Gain(dB)	EIRP (dBm)	(dBm)	(dB)	Polarization
			Diatance 3.00	Antenna Gain(dB) 9.81	EIRP (dBm) -37.21			Polarization

9.81

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-20.63

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-31.78

-33.63

SHENZHEN LO					Channal	750Y55 Re	eport No.: LCS	S180522036AEC
LTE FDD Ba	ana 4_Chan	nei Banawi	atn SMHZ_Qi	PSK_ Middle		1		T
Frequency	P_{Mea}	P_{cl}	Distance	Ga	Peak	Limit	Margin	Dalaminatia
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
,	, ,	` '		Gain(dB)	(dBm)	` '	` ,	
3465.0	-40.64	4.63	3.00	9.84	-35.43	-13.00	-22.43	Н
5197.5	-48.81	5.94	3.00	10.86	-43.89	-13.00	-30.89	Н
3465.0	-34.68	4.63	3.00	9.84	-29.47	-13.00	-16.47	V
5197.5	-38.32	5.94	3.00	10.86	-33.40	-13.00	-20.40	V
I TE EDD Ba	and 4 Chan	nel Bandwii	dth 5MHz Q	PSK_ High C	Channel			
			T = Q.	G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatarioc	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
3505.0	-43.04	4.65	3.00	9.9	-37.79	-13.00	-24.79	Н
	-43.0 4 -47.43		3.00			-13.00		H
5257.5		5.95		10.91	-42.47		-29.47	
3505.0	-33.28	4.65	3.00	9.9	-28.03	-13.00	-15.03	V
5257.5	-38.84	5.95	3.00	10.91	-33.88	-13.00	-20.88	V
TE FDD Ba	and 4_Chan	nel Bandwi	dth 10MHz (QPSK_Low(Channel			
	_		_	G _a	Peak	l imait	Manaira	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3430.0	-43.63	4.62	3.00	9.81	-38.44	-13.00	-25.44	Н
5145.0	-47.04	5.94	3.00	10.86	-42.12	-13.00	-29.12	H
3430.0	-33.68	4.62	3.00	9.81	-28.49	-13.00	-15.49	V
5145.0	-41.27	5.94	3.00	10.86	-36.35	-13.00	-13.49	V
3143.0	-41.21	3.94	3.00	10.00	-30.33	-13.00	-23.33	V
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 10MHz_0	QPSK_ Middl	e Channel			
		Б	_	G _a	Peak	1 2 16	NA i	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3465.0	-42.57	4.63	3.00	9.84	-37.36	-13.00	-24.36	Н
5197.5	-47.64	5.94	3.00	10.86	-42.72	-13.00	-29.72	H
3465.0	-36.95	4.63	3.00	9.84	-31.74	-13.00	-18.74	V
5197.5	-40.84	5.94	3.00	10.86	-31.74	-13.00	-10.74	V
5197.5	-40.04	5.94	3.00	10.00	-35.92	-13.00	-22.92	l V
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 10MHz_C	QPSK_ High		1		
Frequency	P_{Mea}	P_{cl}		G_a	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(IVII IZ)	(dbiii)	(UD)		Gain(dB)	(dBm)	(dDill)	(ub)	
3500.0	-41.11	4.65	3.00	9.9	-35.86	-13.00	-22.86	Н
5250.0	-46.77	5.95	3.00	10.91	-41.81	-13.00	-28.81	Н
3500.0	-35.19	4.65	3.00	9.9	-29.94	-13.00	-16.94	V
5250.0	-41.51	5.95	3.00	10.91	-36.55	-13.00	-23.55	V
						10.00		-
LIE FDD Ba	and 4_Chan	nel Bandwi	ath 15MHz_(QPSK_ Low (I	I	
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` ,	` ′	` '		Gain(dB)	(dBm)	` ′	` '	1
3435.0	-43.09	4.62	3.00	9.81	-37.90	-13.00	-24.90	Н
5152.5	-46.90	5.94	3.00	10.86	-41.98	-13.00	-28.98	Н
3435.0	-34.31	4.62	3.00	9.81	-29.12	-13.00	-16.12	V
5152.5	-38.82	5.94	3.00	10.86	-33.90	-13.00	-20.90	V
			1					<u>. </u>
LTE FDD Ba	and 4_Chan	nel Bandwi	dth 15MHz_0	QPSK_ Middl		I	1	
Frequency	P_{Mea}	P_{cl}		G_a	Peak	Limit	Margin	
			Diatance	Antenna	EIRP		(dB)	Polarizatio
	(dRm)	(AB)						
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(ub)	
	(dBm) -43.04	(dB) 4.63	3.00	Gain(dB) 9.84	(dBm) -37.83	-13.00	-24.83	Н

9.84

10.86

-40.78

-30.28

-34.95

-13.00

-13.00

-13.00

5197.5

3465.0

5197.5

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SHENZHEN L					CC ID: ZSH-Y	750Y55 R	eport No.: LCS	S180522036AEC
LTE FDD B	and 4_Chan	nel Bandwid	dth 15MHz_C	QPSK_ High		Г	T	
Frequency	P_{Mea}	P_{cl}	Distance	Ga	Peak	Limit	Margin	Dalasiastias
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
, ,	, ,	` '		Gain(dB)	(dBm)	` ′	` ′	
3495.0	-41.58	4.65	3.00	9.9	-36.33	-13.00	-23.33	Н
5242.5	-47.56	5.95	3.00	10.91	-42.60	-13.00	-29.60	Н
3495.0	-33.12	4.65	3.00	9.9	-27.87	-13.00	-14.87	V
5242.5	-40.85	5.95	3.00	10.91	-35.89	-13.00	-22.89	V
I TE EDD Ba	and 4 Chan	nel Bandwid	dth 20MHz (QPSK Low(Channel			
	_			G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatarice	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
2440.0	40.00	4.60	2.00	` '		12.00	24.40	
3440.0	-42.29	4.62	3.00	9.81	-37.10	-13.00	-24.10	H
5160.0	-45.40	5.94	3.00	10.86	-40.48	-13.00	-27.48	Н
3440.0	-33.39	4.62	3.00	9.81	-28.20	-13.00	-15.20	V
5160.0	-40.57	5.94	3.00	10.86	-35.65	-13.00	-22.65	V
TE EDD Ba	and 4 Chan	nel Bandwid	dth 20MHz (QPSK_ Middl	e Channel			
				G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance			(dBm)	(dB)	Folanzatio
` ′	, ,	` '	0.00	Gain(dB)	(dBm)	, ,	` ′	
3465.0	-43.99	4.63	3.00	9.84	-38.78	-13.00	-25.78	Н
5197.5	-46.28	5.94	3.00	10.86	-41.36	-13.00	-28.36	Н
3465.0	-33.07	4.63	3.00	9.84	-27.86	-13.00	-14.86	V
5197.5	-41.36	5.94	3.00	10.86	-36.44	-13.00	-23.44	V
TTE FDD Ba	and 4_Chan P _{Mea}	nel Bandwid P _{cl}	_	QPSK_ High G _a	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna Gain(dB)	EIRP (dBm)	(dBm)	(dB)	Polarizatio
3490.0	-40.77	4.65	3.00	9.9	-35.52	-13.00	-22.52	Н
5235.0	-46.30	5.95	3.00	10.91	-41.34	-13.00	-28.34	H
3490.0	-36.66	4.65	3.00	9.9	-31.41	-13.00	-18.41	V
								V
5235.0	-38.56	5.95	3.00	10.91	-33.60	-13.00	-20.60	V
LTE FDD Ba	and 4_Chan	nel Bandwid	dth 1.4MHz_	16QAM_Lo	w Channel			
Frequency	D	P _{cl}		Ga	Peak	Limit	Margin	
	P _{Mea}		Diatance	Antenna	EIRP			Polarizatio
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3421.4	-44.13	4.62	3.00	9.81	-38.94	-13.00	-25.94	Н
5132.1	-49.85	5.94	3.00	10.86	-44.93	-13.00	-31.93	H
3421.4	-38.12	4.62	3.00	9.81	-32.93	-13.00	-19.93	V
								V
5132.1	-43.10	5.94	3.00	10.86	-38.18	-13.00	-25.18	V
I TE EDD B	and 4_Chan	nel Bandwid	dth 1.4MHz_	16QAM_ Mic		el .		
				G_a	Peak	Limit	Margin	
	D	D					iviaigiii	Dolovinstia
requency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP		(4D)	Polarizatio
	P _{Mea} (dBm)	P _{cl} (dB)	Diatance			(dBm)	(dB)	Polarizatio
requency (MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	` ′	
requency (MHz) 3465.0	(dBm) -44.49	(dB) 4.63	3.00	Gain(dB) 9.84	(dBm) -39.28	(dBm) -13.00	-26.28	Н
Frequency (MHz) 3465.0 5197.5	(dBm) -44.49 -49.07	(dB) 4.63 5.94	3.00 3.00	Gain(dB) 9.84 10.86	(dBm) -39.28 -44.15	(dBm) -13.00 -13.00	-26.28 -31.15	H H
Frequency (MHz) 3465.0 5197.5 3465.0	(dBm) -44.49 -49.07 -36.67	(dB) 4.63 5.94 4.63	3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84	(dBm) -39.28 -44.15 -31.46	(dBm) -13.00 -13.00 -13.00	-26.28 -31.15 -18.46	H H V
requency (MHz) 3465.0 5197.5	(dBm) -44.49 -49.07	(dB) 4.63 5.94	3.00 3.00	Gain(dB) 9.84 10.86	(dBm) -39.28 -44.15	(dBm) -13.00 -13.00	-26.28 -31.15	H H
Frequency (MHz) 3465.0 5197.5 3465.0 5197.5	(dBm) -44.49 -49.07 -36.67 -41.69	(dB) 4.63 5.94 4.63 5.94	3.00 3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84	(dBm) -39.28 -44.15 -31.46 -36.77	(dBm) -13.00 -13.00 -13.00	-26.28 -31.15 -18.46	H H V
Trequency (MHz) 3465.0 5197.5 3465.0 5197.5	(dBm) -44.49 -49.07 -36.67 -41.69	(dB) 4.63 5.94 4.63 5.94 mel Bandwid	3.00 3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84 10.86	(dBm) -39.28 -44.15 -31.46 -36.77 gh Channel	(dBm) -13.00 -13.00 -13.00 -13.00	-26.28 -31.15 -18.46 -23.77	H H V
Trequency (MHz) 3465.0 5197.5 3465.0 5197.5 LTE FDD Barrequency	(dBm) -44.49 -49.07 -36.67 -41.69 and 4_Chan	(dB) 4.63 5.94 4.63 5.94 mel Bandwid Pcl	3.00 3.00 3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84 10.86 16QAM Higher	(dBm) -39.28 -44.15 -31.46 -36.77 gh Channel Peak	(dBm) -13.00 -13.00 -13.00 -13.00 -Limit	-26.28 -31.15 -18.46 -23.77	H V V
Trequency (MHz) 3465.0 5197.5 3465.0 5197.5	(dBm) -44.49 -49.07 -36.67 -41.69	(dB) 4.63 5.94 4.63 5.94 mel Bandwid	3.00 3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84 10.86 16QAM_ Higher Gare Antenna	(dBm) -39.28 -44.15 -31.46 -36.77 gh Channel Peak EIRP	(dBm) -13.00 -13.00 -13.00 -13.00	-26.28 -31.15 -18.46 -23.77	H H V
Frequency (MHz) 3465.0 5197.5 3465.0 5197.5 LTE FDD Ba	(dBm) -44.49 -49.07 -36.67 -41.69 and 4_Chan	(dB) 4.63 5.94 4.63 5.94 mel Bandwid Pcl	3.00 3.00 3.00 3.00 3.00	Gain(dB) 9.84 10.86 9.84 10.86 16QAM Higher	(dBm) -39.28 -44.15 -31.46 -36.77 gh Channel Peak	(dBm) -13.00 -13.00 -13.00 -13.00 -Limit	-26.28 -31.15 -18.46 -23.77	H H V V

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			G LABORATOR		<u>CCC ID: ZSH-1</u>	750Y55 R	eport No.: LCS	S180522036AEC
LIE FUU Ba	ana 4_Cnani	nei Banawi	dth 3MHz_16		Channel	ı	ı	1
Frequency	P_{Mea}	P_{cl}	5	Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
(1711 12)	(dDIII)	(GD)		Gain(dB)	(dBm)	(dDIII)	(db)	
3423.0	-44.59	4.62	3.00	9.81	-39.40	-13.00	-26.40	Н
5134.5	-51.51	5.94	3.00	10.86	-46.59	-13.00	-33.59	Н
3423.0	-39.25	4.62	3.00	9.81	-34.06	-13.00	-21.06	V
5134.5	-41.86	5.94	3.00	10.86	-36.94	-13.00	-23.94	V
, TE EDD D	<u>'</u>		.			l	•	.
LIE FUU BE	and 4_Chani	nei Bariawi	<u> 31/11 31/11 12_1 6</u>	SQAM _ Midd		I	ı	
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	1
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(1411 12)	(dDIII)	(GD)		Gain(dB)	(dBm)	(abiii)	(GD)	
3465.00	-44.09	4.63	3.00	9.84	-38.88	-13.00	-25.88	Н
5197.50	-50.44	5.94	3.00	10.86	-45.52	-13.00	-32.52	Н
3465.00	-36.40	4.63	3.00	9.84	-31.19	-13.00	-18.19	V
5197.50	-43.21	5.94	3.00	10.86	-38.29	-13.00	-25.29	V
3137.30	- 1 0.21	0.04	0.00	10.00	-50.25	-10.00	-20.20	V
TE FDD Ba	and 4_Chani	nel Bandwi	dth 3MHz_16	QAM _ High			T	
Frequency	P _{Mea}	P_{cl}		G_a	Peak	Limit	Margin	
			Diatance	Antenna	EIRP			Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3507.0	-45.28	4.65	3.00	9.9	-40.03	-13.00	-27.03	Н
5260.5	-50.89	5.95	3.00	10.91	-45.93	-13.00	-32.93	Н
			1					V
3507.0	-38.73	4.65	3.00	9.9	-33.48	-13.00	-20.48	
5260.5	-44.53	5.95	3.00	10.91	-39.57	-13.00	-26.57	V
LTE FDD Ba	and 4 Chani	nel Bandwi	dth 5MHz 16	SQAM _ Low	Channel			
_				Ga	Peak	,		
requency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diataoo	Gain(dB)	(dBm)	(dBm)	(dB)	. Granzatio
3425.0	-46.48	4.62	3.00	9.81	-41.29	-13.00	-28.29	Н
			1					
5137.5	-48.64	5.94	3.00	10.86	-43.72	-13.00	-30.72	Н
3425.0	-37.69	4.62	3.00	9.81	-32.50	-13.00	-19.50	V
5137.5	-42.14	5.94	3.00	10.86	-37.22	-13.00	-24.22	V
LTE FDD Ba	and 4 Chani	nel Bandwi	dth 5MHz 16	SQAM_ Midd	lle Channel			
	Б	Б.		Ga	Peak	1 216	N.A	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	2.0.00	Gain(dB)	(dBm)	(dBm)	(dB)	
3465.0	-43.85	4.63	3.00	9.84	-38.64	-13.00	-25.64	Н
5197.5	-50.23	5.94	3.00	10.86	-45.31	-13.00	-32.31	Н
3465.0	-39.68	4.63	3.00	9.84	-34.47	-13.00	-21.47	V
5197.5	-43.78	5.94	3.00	10.86	-38.86	-13.00	-25.86	V
LTE FDD Ba	and 4 Chani	nel Bandwi	dth 5MHz 16	6QAM_ High	Channel			
	_			G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatance			(dBm)	(dB)	Folarizatio
0505.0	` '	4.0=	0.00	Gain(dB)	(dBm)	` ′	00.00	
3505.0	-46.45	4.65	3.00	9.9	-41.20	-13.00	-28.20	Н
5257.5	-50.90	5.95	3.00	10.91	-45.94	-13.00	-32.94	Н
3505.0	-37.68	4.65	3.00	9.9	-32.43	-13.00	-19.43	V
5257.5	-42.70	5.95	3.00	10.91	-37.74	-13.00	-24.74	V
	and 1 Char	nal Pandui	dth 101/14= 1	16044 10	y Channal			
_ I E FUU Ba	anu 4_Cnani	iei Bariawii	<u>มเท เบเพเศz_1</u> 	6QAM_Lov		1		1
Frequency	P_{Mea}	P_{cl}	.	Ga	Peak	Limit	Margin]
	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(IVIHZ)			i	Coin(dD)	(al D)			•
(MHz)	` ,	. ,		Gain(dB)	(dBm)	` ′	` ′	
(MHZ) 3430.0	-46.58	4.62	3.00	9.81	-41.39	-13.00	-28.39	Н

9.81

10.86

-45.71

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-38.14

-13.00

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-32.71

-20.13

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5145.0

-50.63

-38.32

-43.06

5.94

4.62

5.94

3.00

3.00

			<u>GLABORATOR</u> dth 10MHz 1		<u>CC ID: ZSH-Y</u> Idle Channe		eport No.: LCS	S180522036AEC
	_		10101112_1	G _a	Peak		Morain	
Frequency	P _{Mea} (dBm)	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(ubiii)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3465.0	-44.88	4.63	3.00	9.84	-39.67	-13.00	-26.67	Н
5197.5	-51.35	5.94	3.00	10.86	-46.43	-13.00	-33.43	Н
3465.0	-38.80	4.63	3.00	9.84	-33.59	-13.00	-20.59	V
5197.5	-43.55	5.94	3.00	10.86	-38.63	-13.00	-25.63	V
LTE FDD Ba	and 4 Chan	nel Bandwi	dth 10MHz 1	16QAM_Hig	h Channel			
	_			G _a	Peak	1		
requency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3500.0	-45.61	4.65	3.00	9.9	-40.36	-13.00	-27.36	Н
5250.0	-51.24	5.95	3.00	10.91	-46.28	-13.00	-33.28	Н
3500.0	-38.74	4.65	3.00	9.9	-33.49	-13.00	-20.49	V
5250.0	-41.27	5.95	3.00	10.91	-36.31	-13.00	-23.31	V
'			1					<u>. </u>
	_		dth 15MHz_1 	16QAM _ Lov G _a	<i>v Channel</i> Peak			
requency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
3435.0	-44.69	4.62	3.00	9.81	-39.50	-13.00	-26.50	Н
5152.5	-49.15	5.94	3.00	10.86	-44.23	-13.00	-31.23	H
3435.0	-39.67	4.62	3.00	9.81	-34.48	-13.00	-21.48	V
5152.5	-39.07 -44.28	5.94	3.00	10.86	-34.46	-13.00	-21.46	V
3132.3	-44.20	3.94	3.00	10.00	-39.30	-13.00	-20.30	l v
TE FDD Ba	and 4_Chan	nel Bandwi	dth 15MHz_1	6QAM_ Mic	ddle Channe	I		
requency	В	P _{cl}		G_a	Peak	Limit	Margin	
	P _{Mea}		Diatance	Antenna	EIRP			Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3465.0	-46.27	4.63	3.00	9.84	-41.06	-13.00	-28.06	Н
5197.5	-50.61	5.94	3.00	10.86	-45.69	-13.00	-32.69	Н
3465.0	-38.41	4.63	3.00	9.84	-33.20	-13.00	-20.20	V
5197.5	-41.61	5.94	3.00	10.86	-36.69	-13.00	-23.69	V
	and 4 Chan	nol Donderi	dth 45141- 4	160 414 11:0	ch Channal		ı	•
_IE FUU Ba	and 4_Chan	nei Bandwid		16QAM _ Hig	Peak			1
requency	P_{Mea}	P _{cl}	Dietones	Ga		Limit	Margin	Dolorizatio
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` ′	` ′	` '	0.00	Gain(dB)	(dBm)	, ,	` ′	
3495.0	-45.27	4.65	3.00	9.9	-40.02	-13.00	-27.02	H
5242.5	-51.45	5.95	3.00	10.91	-46.49	-13.00	-33.49	Н
3495.0	-39.50	4.65	3.00	9.9	-34.25	-13.00	-21.25	V
5242.5	-42.37	5.95	3.00	10.91	-37.41	-13.00	-24.41	V
TE FDD B	and 4_Chan	nel Bandwi	dth 20MHz_1		v Channel			
requency	P_{Mea}	P _{cl}		Ga	Peak	Limit	Margin	1
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
····· · <i>-</i> /	` ,	` '		Gain(dB)	(dBm)	` ′	` ′	1
	-43.34	4.62	3.00	9.81	-38.15	-13.00	-25.15	Н
3440.0	40.00	5.94	3.00	10.86	-44.08	-13.00	-31.08	Н
5160.0	-49.00			0.01	-33.60	-13.00	-20.60	V
	-49.00 -38.79	4.62	3.00	9.81	00.00			
5160.0		4.62 5.94	3.00	10.86	-38.46	-13.00	-25.46	V
5160.0 3440.0 5160.0	-38.79 -43.38	5.94	3.00		-38.46	-13.00		
5160.0 3440.0 5160.0	-38.79 -43.38 and 4_Chan	5.94 nel Bandwid	3.00	10.86 16QAM_ Mic	-38.46	-13.00	-25.46	
5160.0 3440.0 5160.0 -TE FDD Ba	-38.79 -43.38 and 4_Chan P _{Mea}	5.94 nel Bandwid	3.00 dth 20MHz_1	10.86 16QAM_ Mic G _a	-38.46 Idle Channe Peak	-13.00 / Limit	-25.46 Margin	V
5160.0 3440.0 5160.0	-38.79 -43.38 and 4_Chan	5.94 nel Bandwid	3.00	10.86 6QAM_ Mid G _a Antenna	-38.46 Idle Channe Peak EIRP	-13.00	-25.46	
5160.0 3440.0 5160.0 -TE FDD Ba	-38.79 -43.38 and 4_Chan P _{Mea}	5.94 nel Bandwid	3.00 dth 20MHz_1	10.86 16QAM_ Mic G _a	-38.46 Idle Channe Peak	-13.00 / Limit	-25.46 Margin	V

9.84

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-45.20

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-13.00

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-32.20

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5197.5

-50.12

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-43.55

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			<u>G LABORATOR</u> dth 20MHz 1		<u>'CC ID: ZSH-Y</u> h Channel	750Y55 R	eport No.: LCS	S180522036AEC
	_			G _a	Peak	Limaid	Manain	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
3490.0	-45.60	4.65	3.00	9.9	-40.35	-13.00	-27.35	Н
5235.0	-50.83	5.95	3.00	10.91	-45.87	-13.00	-32.87	Н
3490.0	-39.83	4.65	3.00	9.9	-34.58	-13.00	-21.58	V
5235.0	-44.29	5.95	3.00	10.91	-39.33	-13.00	-26.33	V
I TE EDD Ba	and 7 Chan	nel Bandwi	dth 5MHz Q	PSK Low C	hannel			
	_			G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatarice	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
5005.0	-39.44	5.88	3.00	10.77	-34.55	-13.00	-21.55	Н
7507.5	-39. 44 -47.11	7.12	3.00	12.26	-34.55 -41.97	-13.00	-21.55	Н
								V
5005.0	-35.82	5.88	3.00	10.77	-30.93	-13.00	-17.93	
7507.5	-38.19	7.12	3.00	12.26	-33.05	-13.00	-20.05	V
LTE FDD Ba	and 7_Chan	nel Bandwi	dth 5MHz_Q	PSK_ Middle	Channel			
Eroguenev	D	D		Ga	Peak	Limit	Morgin	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5070.0	-39.00	5.9	3.00	10.81	-34.09	-13.00	-21.09	Н
7605.0	-46.50	7.19	3.00	12.32	-41.37	-13.00	-28.37	Н
5070.0	-33.24	5.9	3.00	10.81	-28.33	-13.00	-15.33	V
7605.0	-36.95	7.19	3.00	12.32	-31.82	-13.00	-18.82	V
7 000.0	00.00	7.10	0.00	12.02	01.02	10.00	10.02	<u> </u>
LTE FDD Ba	and 7 Chan	nel Bandwi	dth 5MHz_Q	PSK High C	hannel			
				Ga	Peak	,		
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatario	Gain(dB)	(dBm)	(dBm)	(dB)	i olanizatio
5135.0	-38.20	5.94	3.00	10.86	-33.28	-13.00	-20.28	Н
7702.5	-44.82	7.25	3.00	12.98	-39.09	-13.00	-26.09	H
				10.86				V
5135.0	-35.04	5.94	3.00		-30.12	-13.00	-17.12	V
7702.5	-37.97	7.25	3.00	12.98	-32.24	-13.00	-19.24	V
LTE FDD B	and 7_Chan	nel Bandwi	dth 10MHz_0	_		Γ		T
Frequency	P_{Mea}	P_{cl}	1	Ga	Peak	Limit	Margin	1
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` '	` ,	` '		Gain(dB)	(dBm)	` ′	` ′	1
5010.0	-41.70	5.88	3.00	10.77	-36.81	-13.00	-23.81	Н
7515.0	-46.32	7.12	3.00	12.26	-41.18	-13.00	-28.18	Н
5010.0	-34.49	5.88	3.00	10.77	-29.60	-13.00	-16.60	V
7515.0	-38.43	7.12	3.00	12.26	-33.29	-13.00	-20.29	V
LTE FDD Ra	and 7 Chan	nel Bandwi	dth 10MHz(DPSK Middl	le Channel			
	_			G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	Folanzatio
5070.0	44.00	5 0	2.00			40.00	00.47	+
5070.0	-41.08	5.9	3.00	10.81	-36.17	-13.00	-23.17	H
7605.0	-45.05	7.19	3.00	12.32	-39.92	-13.00	-26.92	Н
	-36.48	5.9	3.00	10.81	-31.57	-13.00	-18.57	V
5070.0	-38.74	7.19	3.00	12.32	-33.61	-13.00	-20.61	V
5070.0 7605.0								
7605.0	and 7_Chan	nel Bandwi	dth 10MHz_0	QPSK_ High	Channel			
7605.0 LTE FDD Ba	_		dth 10MHz_0		Channel Peak	1.59	NA '	
7605.0 LTE FDD Ba	P _{Mea}	P _{cl}	dth 10MHz_0	QPSK_ High G _a Antenna		Limit	Margin	Polarizatio
7605.0 LTE FDD Ba	_			G _a Antenna	Peak EIRP	Limit (dBm)	Margin (dB)	Polarizatio
7605.0 LTE FDD Ba	P _{Mea}	P _{cl}		G _a	Peak		_	Polarizatio

10.86

12.98

-39.09

-28.71

-32.80

-13.00

-13.00

-13.00

-26.09

-15.71

-19.80

Н

3.00

3.00

3.00

7.25

5.94

7.25

7695.0

5130.0

7695.0

-44.82

-33.63

-38.53

			GLABORATOR Hth 15MHz (YLTD. F QPSK Low (<u>CC ID: ZSH-Y</u> Channel	<u>'50Y55 R</u>	eport No.: LCS	<u>8180522036AEG</u>
	-		1011112_0	G _a	Peak	1.316	NA i -	
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5015.0	-38.52	5.88	3.00	10.77	-33.63	-13.00	-20.63	Н
7522.5	-46.78	7.12	3.00	12.26	-41.64	-13.00	-28.64	Н
5015.0	-34.02	5.88	3.00	10.77	-29.13	-13.00	-16.13	V
7522.5	-36.20	7.12	3.00	12.26	-31.06	-13.00	-18.06	V
LTE FDD Ba	and 7_Chan	nel Bandwid	dth 15MHz_0	QPSK_ Middl	e Channel			
Frequency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` ′	, ,	, ,		Gain(dB)	(dBm)	, ,	` ′	
5070.0	-41.84	5.9	3.00	10.81	-36.93	-13.00	-23.93	Н
7605.0	-45.76	7.19	3.00	12.32	-40.63	-13.00	-27.63	Н
5070.0	-34.95	5.9	3.00	10.81	-30.04	-13.00	-17.04	V
7605.0	-39.20	7.19	3.00	12.32	-34.07	-13.00	-21.07	V
LTE FDD Ba	and 7 Chan	nel Bandwid	dth 15MHz(QPSK_ High	Channel			
			_	Ga	Peak	Limit	Marain	
Frequency	P _{Mea}	P ^{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5125.0	-39.83	5.94	3.00	10.86	-34.91	-13.00	-21.91	Н
7687.5	-45.15	7.25	3.00	12.98	-39.42	-13.00	-26.42	Н
5125.0	-35.88	5.94	3.00	10.86	-30.96	-13.00	-17.96	V
7687.5	-36.00	7.25	3.00	12.98	-30.27	-13.00	-17.27	V
<i>LTE FDD Ba</i> Frequency	and 7_Chan P _{Mea}	nel Bandwid P _{cl}	dth 20MHz_0	Q <i>PSK_ Low</i> (G _a Antenna	Channel Peak EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5020.0	-38.16	5.88	3.00	10.77	-33.27	-13.00	-20.27	Н
7530.0	-47.84	7.12	3.00	12.26	-42.70	-13.00	-29.70	Н
5020.0	-33.49	5.88	3.00	10.77	-28.60	-13.00	-15.60	V
7530.0	-37.94	7.12	3.00	12.26	-32.80	-13.00	-19.80	V
LTE FDD Ba	and 7_Chan	nel Bandwid	dth 20MHz_C	QPSK_ Middl	e Channel			
Frequency	D	P _{cl}		Ga	Peak	Limit	Margin	
(MHz)	P _{Mea} (dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(IVITZ)	(ubiii)	(ub)		Gain(dB)	(dBm)	(ubiii)	(ub)	
5070.0	-40.49	5.9	3.00	10.81	-35.58	-13.00	-22.58	Н
7605.0	-44.01	7.19	3.00	12.32	-38.88	-13.00	-25.88	Н
5070.0	-34.69	5.9	3.00	10.81	-29.78	-13.00	-16.78	V
7605.0	-37.59	7.19	3.00	12.32	-32.46	-13.00	-19.46	V
LTE FDD 7	Channel Ba	ndwidth 20	MHz QPSK	High Chanı	nel			
			,	G _a	Peak	1		
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5120.0	-38.49	5.94	3.00	10.86	-33.57	-13.00	-20.57	Н
7680.0	-47.93	7.25	3.00	12.98	-42.20	-13.00	-29.20	Н
5120.0	-35.14	5.94	3.00	10.86	-30.22	-13.00	-17.22	V
7680.0	-38.85	7.25	3.00	12.98	-33.12	-13.00	-20.12	V
		nel Bandwir	dth 5MHz 16	QAM Low				
	_			G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diataile	Gain(dB)	(dBm)	(dBm)	(dB)	i GiarizatiOi
5005.0	-41.50	5.88	3.00	10.77	-36.61	-13.00	-23.61	Н
7507.5	-41.50 -46.75	7.12	3.00	12.26	-41.61	-13.00	-28.61	Н
1301.5					-32 34			
5005.0	-37 23	5 88	3 00	10 77	.5.) .7 //	-13 00	-19 34	V

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-32.34

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-39.01

5005.0

SHENZHEN L	CS COMPLIAT	VCE TESTING	G LABORATOR dth 5MHz_16	YLTD. F	CC ID: ZSH-Y lle Channel	750Y55 R	eport No.: LCS	\$180522036AE
LIE FUU Ba	and /_Chan	nei Bandwid	<u> </u>		Peak			T
Frequency	P_{Mea}	P_{cl}	Dietones	Ga		Limit	Margin	Dolorizatio
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` ,	` '	, ,		Gain(dB)	(dBm)	, ,	` ,	
5070.0	-41.18	5.9	3.00	10.81	-36.27	-13.00	-23.27	Н
7605.0	-46.88	7.19	3.00	12.32	-41.75	-13.00	-28.75	Н
5070.0	-37.86	5.9	3.00	10.81	-32.95	-13.00	-19.95	V
7605.0	-41.18	7.19	3.00	12.32	-36.05	-13.00	-23.05	V
I TE EDD Ba	and 7 Chan	nel Bandwi	dth 5MHz_16	SQAM High	Channel			
	_		 	G _a	Peak			
Frequency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatarice	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
5135.0	-44.72	5.94	3.00	10.86	-39.80	-13.00	-26.80	Н
7702.5	-48.78	7.25	3.00	12.98	-43.05	-13.00	-30.05	Н
5135.0	-37.63	5.94	3.00	10.86	-32.71	-13.00	-19.71	V
7702.5	-40.89	7.25	3.00	12.98	-35.16	-13.00	-22.16	V
TE FDD Ba	and 7 Chan	nel Bandwi	dth 10MHz_1	16QAM Lov	v Channel			
				G _a	Peak			
requency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	l Glarizatio
5010.0	-44.68	5.88	3.00	10.77	-39.79	-13.00	-26.79	Н
7515.0	-46.49	7.12	3.00	12.26	-41.35	-13.00	-28.35	Н
5010.0	-38.30	5.88	3.00	10.77	-33.41	-13.00	-20.41	V
7515.0	-40.68	7.12	3.00	12.26	-35.54	-13.00	-22.54	V
requency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5070.0	-44.20	5.9	3.00	10.81	-39.29	-13.00	-26.29	Н
7605.0	-49.23	7.19	3.00	12.32	-44.10	-13.00	-31.10	Н
5070.0	-36.15	5.9	3.00	10.81	-31.24	-13.00	-18.24	V
7605.0	-39.27	7.19	3.00	12.32	-34.14	-13.00	-21.14	V
TE FDD Ba	and 7_Chan	nel Bandwi	dth 10MHz_1				T	_
requency	P_{Mea}	P_{cl}		Ga	Peak	Limit	Margin	
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(1411 12)	(dDIII)	(GD)		Gain(dB)	(dBm)	(dDIII)	(GD)	
5130.0	-42.10	5.94	3.00	10.86	-37.18	-13.00	-24.18	Н
7695.0	-48.95	7.25	3.00	12.98	-43.22	-13.00	-30.22	Н
5130.0	-37.89	5.94	3.00	10.86	-32.97	-13.00	-19.97	V
7695.0	-39.19	7.25	3.00	12.98	-33.46	-13.00	-20.46	V
•		nal Dandui	-145 4 EN 41 1 - 1				•	•
	inu /_Criani	ilei balluwii	dth 15MHz_1				T	1
Frequency	P_{Mea}	P_{cl}	Diate :	Ga	Peak	Limit	Margin	Dolori"
	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
(MHz)	, ,	` ,		Gain(dB)	(dBm)	` ′	` ′	
(MHz)	-42.48	5.88	3.00	10.77	-37.59	-13.00	-24.59	Н
5015.0			3.00	12.26	-44.70	-13.00	-31.70	Н
` ,	-49.84	7.12	3.00					
5015.0		7.12 5.88	3.00	10.77	-34.52	-13.00	-21.52	V
5015.0 7522.5	-49.84				-34.52 -35.82	-13.00 -13.00	-21.52 -22.82	
5015.0 7522.5 5015.0 7522.5	-49.84 -39.41 -40.96	5.88 7.12	3.00 3.00	10.77 12.26	-35.82	-13.00		V
5015.0 7522.5 5015.0 7522.5	-49.84 -39.41 -40.96	5.88 7.12	3.00	10.77 12.26 6QAM _ Mid	-35.82 Idle Channe	-13.00		V
5015.0 7522.5 5015.0 7522.5	-49.84 -39.41 -40.96 and 7_Chan	5.88 7.12 nel Bandwid	3.00 3.00 dth 15MHz_1	10.77 12.26 (6QAM_Mic G _a	-35.82 Idle Channe Peak	-13.00		V
5015.0 7522.5 5015.0 7522.5	-49.84 -39.41 -40.96	5.88 7.12	3.00 3.00	10.77 12.26 6QAM _ Mid G _a Antenna	-35.82 Idle Channe Peak EIRP	-13.00	-22.82	V
5015.0 7522.5 5015.0 7522.5 LTE FDD Ba	-49.84 -39.41 -40.96 and 7_Chan	5.88 7.12 nel Bandwid	3.00 3.00 dth 15MHz_1	10.77 12.26 (6QAM_Mic G _a	-35.82 Idle Channe Peak	-13.00 / Limit	-22.82 Margin	V

10.81

12.32

-13.00

-13.00

-13.00

-41.40

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-46.53

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-39.02

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			<u>GLABORATOR</u> dth 15MHz 1		<u>CC ID: ZSH-Y</u> h Channel	750Y55 Re	eport No.: LCS	S180522036AEC
LIE FUU Ba	and /_Chan	nei Bandwii	λίτι ΓοινιπΖ <u>_</u> Ι				T	1
Frequency	P_{Mea}	P_{cl}	Distance	Ga	Peak	Limit	Margin	Delevier
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
, ,		` '		Gain(dB)	(dBm)	, ,	` ′	
5125.0	-41.03	5.94	3.00	10.86	-36.11	-13.00	-23.11	H
7687.5	-47.89	7.25	3.00	12.98	-42.16	-13.00	-29.16	Н
5125.0	-37.09	5.94	3.00	10.86	-32.17	-13.00	-19.17	V
7687.5	-42.96	7.25	3.00	12.98	-37.23	-13.00	-24.23	V
							•	•
_IE FDD Ba	and /_Chan	nei Bandwi	ath 20MHz_1	16QAM_Lov			<u> </u>	1
requency	P_{Mea}	P_{cl}	D	Ga	Peak	Limit	Margin	.
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarizatio
` ,		` '		Gain(dB)	(dBm)	, ,	` ′	
5020.0	-42.81	5.88	3.00	10.77	-37.92	-13.00	-24.92	Н
7530.0	-46.82	7.12	3.00	12.26	-41.68	-13.00	-28.68	Н
5020.0	-38.49	5.88	3.00	10.77	-33.60	-13.00	-20.60	V
7530.0	-39.14	7.12	3.00	12.26	-34.00	-13.00	-21.00	V
7 000.0	00.11	7.12	0.00	12.20	01.00	10.00	21.00	
TE FDD Ba	and 7_Chan	nel Bandwi	dth 20MHz_1	6QAM_ Mic	ldle Channe	<u> </u>		
reguessy	D	D		Ga	Peak	Limit	Margin	
requency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP		Margin	Polarizatio
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
5070.0	-41.20	5.9	3.00	10.81	-36.29	-13.00	-23.29	Н
7605.0	-49.66	7.19	3.00	12.32	-44.53	-13.00	-31.53	H
5070.0	-38.49	5.9	3.00	10.81	-33.58	-13.00	-20.58	V
7605.0	-42.45	7.19	3.00	12.32	-37.32	-13.00	-24.32	V
TE EDD B	and 7 Chan	nel Randwii	oth 20MHz 1	16QAM_ Hig	h Channel			
	_		1011 201011 12_1	G _a	Peak			
requency	P_{Mea}	P_{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	1 Glarizatio
5120.0	-43.47	5.94	3.00	10.86	-38.55	-13.00	-25.55	ш
								H
7680.0	-49.66	7.25	3.00	12.98	-43.93	-13.00	-30.93	Н
5120.0	-39.79	5.94	3.00	10.86	-34.87	-13.00	-21.87	V
7680.0	-40.07	7.25	3.00	12.98	-34.34	-13.00	-21.34	V
TE EDD B	and 17 Cha	nnel Randu	iidth 5MHz (QPSK_ Low (Channel			
.727000	ana m_ona	Timer Barraw			Peak		1	1
requency	P_{Mea}	P_{cl}	D'atama	Ga		Limit	Margin	Dalaria dia
(MHz)	(dBm)	(dB)	Diatance	Antenna	EIRP	(dBm)	(dB)	Polarization
` ,	. ,	` ′		Gain(dB)	(dBm)	, ,	` ′	
1413.0	-39.55	3.72	3.00	9.04	-34.23	-13.00	-21.23	Н
2118.9	-45.63	4.23	3.00	8.6	-41.26	-13.00	-28.26	Н
1413.0	-34.61	3.72	3.00	9.04	-29.29	-13.00	-16.29	V
2118.9	-39.56	4.23	3.00	8.6	-35.19	-13.00	-22.19	V
l			1					1 -
TE FDD B	and 17_Cha	nnel Bandw	<u>idth 5MHz_(</u>	QPSK_ Middi			T	T
requency	D	ь		G_a	Peak	Limit	Margin	
	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP			Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
1420.0	-39.47	4.78	3.00	8.91	-35.34	-13.00	-22.34	Н
2130.0	-47.02	4.25	3.00	8.26	-43.01	-13.00	-30.01	H
		4.78					-19.45	V
1420.0 2130.0	-36.58 -39.47	4.78	3.00	8.91 8.26	-32.45 -35.46	-13.00 -13.00	-19.45	V
£ 100.0	-JJ. + 1	7.20	J 3.00	0.20	-33.40	-10.00	- <u></u> 22. 4 0	v
TE FDD Ba	and 17_Cha	nnel Bandw	idth_5MHz_C	QPSK_ High	Channel			
			_	G _a	Peak	1.221	N 4 = '	
requency	P_{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatario	Gain(dB)	(dBm)	(dBm)	(dB)	, Sianzanc
(1V11 1Z)			1	Janitab)	(upill)		Ĭ	
` ′	44.67	4 70	2.00	0.04	27.54	1000	04.54	1.1
1427.0	-41.67	4.78	3.00	8.91	-37.54	-13.00	-24.54	Н
` ,	-41.67 -44.52 -35.59	4.78 4.25 4.78	3.00 3.00 3.00	8.91 8.26 8.91	-37.54 -40.51 -31.46	-13.00 -13.00	-24.54 -27.51 -18.46	H H V

8.91

8.26

-13.00

-13.00

-18.46

-20.08

-31.46

-33.08

4.78

4.25

3.00

3.00

-35.59

-37.09

1427.0

			<u>G LABORATOR</u> vidth 10MHz_		<u>CCC ID: ZSH-Y</u> Channel	750Y55 R	eport No.: LCS	S180522036AE
LIE FUU D	and m_Cna	illei balluv	//UIII 10/VIIIZ_		Peak		1	1
Frequency	P_{Mea}	P _{cl}	Diatance	G _a Antenna	EIRP	Limit	Margin	Polarizatio
(MHz)	(dBm)	(dB)	Diatance	Gain(dB)	(dBm)	(dBm)	(dB)	Polarizatio
11100	20.00	3.72	2.00	_ ` /	. ,	12.00	20.64	Н
1418.0	-38.96		3.00	9.04	-33.64	-13.00	-20.64	
2127.0	-45.15	4.23	3.00	8.6	-40.78	-13.00	-27.78	Н
1418.0	-36.44	3.72	3.00	9.04	-31.12	-13.00	-18.12	V
2127.0	-39.22	4.23	3.00	8.6	-34.85	-13.00	-21.85	V
LTE FDD Ba	and 17 Cha	nnel Bandv	idth 10MHz	QPSK Mide	dle Channel			
				Ga	Peak			
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatario	Gain(dB)	(dBm)	(dBm)	(dB)	. Glanzan
1420.0	-41.88	4.78	3.00	8.91	-37.75	-13.00	-24.75	Н
2130.0	-44.91	4.25	3.00	8.26	-40.90	-13.00	-27.90	Н
								V
1420.0	-36.50	4.78	3.00	8.91	-32.37	-13.00	-19.37	
2130.0	-37.29	4.25	3.00	8.26	-33.28	-13.00	-20.28	V
LTE FDD Ba	and 17 Cha	nnel Bandv	idth 10MHz_	QPSK Hial	h Channel			
	_			G _a	Peak	1.224	N 4 = 1	
requency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
1422.0	-40.21	4.78	3.00	8.91	-36.08	-13.00	-23.08	Н
2133.0	-44.82	4.25	3.00	8.26	-40.81	-13.00	-27.81	H
1422.0	-36.33	4.78	3.00	8.91	-32.20	-13.00	-19.20	V
2133.0	-36.17	4.75	3.00	8.26	-32.20	-13.00	-19.20	V
2133.0	-30.17	4.20	3.00	0.20	-32.10	-13.00	-19.10	V
requency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	vidth 5MHz_1 Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1412.0	41.00	3.72	2.00		. ,	12.00	22.76	Н
1413.0	-41.08		3.00	9.04	-35.76	-13.00	-22.76	
2118.9	-45.47	4.23	3.00	8.6	-41.10	-13.00	-28.10	H
1413.0	-35.92	3.72	3.00	9.04	-30.60	-13.00	-17.60	V
2118.9	-37.08	4.23	3.00	8.6	-32.71	-13.00	-19.71	V
TE FDD Ba	and 17 Cha	nnel Bandv	idth 5MHz 1	16QAM Mic	ddle Channe	I		
			_	Ga	Peak			
Frequency	P _{Mea}	P _{cl}	Diatance	Antenna	EIRP	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)	Diatario	Gain(dB)	(dBm)	(dBm)	(dB)	- Granzan
1420.0	-40.26	4.78	3.00	8.91	-36.13	-13.00	-23.13	Н
2130.0	-47.51	4.25	3.00	8.26	-43.50	-13.00	-30.50	H
								V
1420.0	-33.68	4.78	3.00	8.91	-29.55	-13.00	-16.55	
2130.0	-36.45	4.25	3.00	8.26	-32.44	-13.00	-19.44	V
TE FDD Ba	and 17_Cha	nnel Bandv	/idth 5MHz_1					
Frequency	P_{Mea}	P _{cl}	_	Ga	Peak	Limit	Margin	
			Diatance	Antenna	EIRP			Polarization
/N/ILI\	(dBm)	(dB)		Gain(dB)	(dBm)	(dBm)	(dB)	
(MHz)	-40.73	4.78	3.00	8.91	-36.60	-13.00	-23.60	Н
` ,			3.00	8.26	-41.86	-13.00	-28.86	H
1427.0		4.25	3.00					
1427.0 2140.5	-45.87	4.25 4.78			-28 03	-13 00		
1427.0 2140.5 1427.0	-45.87 -33.06	4.25 4.78 4.25	3.00	8.91 8.26	-28.93 -33.56	-13.00 -13.00	-15.93	V
1427.0 2140.5 1427.0 2140.5	-45.87 -33.06 -37.57	4.78 4.25	3.00 3.00	8.91 8.26	-33.56	-13.00 -13.00		V
1427.0 2140.5 1427.0 2140.5	-45.87 -33.06 -37.57	4.78 4.25	3.00	8.91 8.26 16QAM_Lc	-33.56 ow Channel		-15.93	V
1427.0 2140.5 1427.0 2140.5	-45.87 -33.06 -37.57	4.78 4.25	3.00 3.00 vidth 10MHz	8.91 8.26 16QAM_LC	-33.56 ow Channel Peak		-15.93	V
1427.0 2140.5 1427.0 2140.5	-45.87 -33.06 -37.57 and 17_Cha	4.78 4.25 nnel Bandv	3.00 3.00	8.91 8.26 16QAM _ Lo G _a Antenna	-33.56 ow Channel Peak EIRP	-13.00	-15.93 -20.56	V
1427.0 2140.5 1427.0 2140.5 LTE FDD Ba	-45.87 -33.06 -37.57 and 17_Cha	4.78 4.25 nnel Bandw	3.00 3.00 vidth 10MHz	8.91 8.26 16QAM_LC	-33.56 ow Channel Peak	-13.00 Limit	-15.93 -20.56 Margin	V

9.04

8.6

2127.0

1418.0

2127.0

-46.60

-34.83

-38.63

4.23

3.72

4.23

3.00

3.00

3.00

-42.23

-29.51

-34.26

-13.00

-13.00

-13.00

-29.23

-16.51

-21.26

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SHENZHEN L	CS COMPLIA	NCE TESTING	<i>LABORATOR</i>	YLTD. F	FCC ID: ZSH-Y	750Y55 I	Report No.: LCS	180522036AEG
LTE FDD Band 17_Channel Bandwidth 10MHz_16QAM_ Middle Channel								_
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1420.0	-41.02	4.78	3.00	8.91	-36.89	-13.00	-23.89	Н
2130.0	-45.04	4.25	3.00	8.26	-41.03	-13.00	-28.03	Н
1420.0	-36.84	4.78	3.00	8.91	-32.71	-13.00	-19.71	V

-13.00

-34.96

-21.96

V

LTE FDD Band 17_Channel Bandwidth 10MHz_16QAM _ High Channel

3.00

4.25

2130.0

-38.97

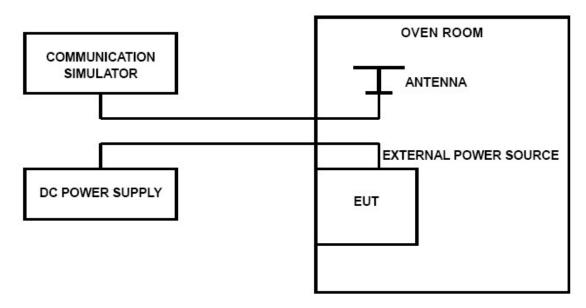
Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	Diatance	G _a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1427.0	-38.32	4.78	3.00	8.91	-34.19	-13.00	-21.19	Н
2140.5	-47.04	4.25	3.00	8.26	-43.03	-13.00	-30.03	Н
1427.0	-33.63	4.78	3.00	8.91	-29.50	-13.00	-16.50	V
2140.5	-36.51	4.25	3.00	8.26	-32.50	-13.00	-19.50	V

4.7 Frequency Stability under Temperature & Voltage Variations

LIMIT

According to §27.54, §2.1055 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.

TEST CONFIGURATION



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603E

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 LTE band 4, 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° increments from -30° to $+50^{\circ}$. 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 $^{\circ}$ C increments from +50 $^{\circ}$ C to -30 $^{\circ}$ 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.

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 (±15%) and endpoint, record the maximum frequency change.

TEST RESULTS

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7, LTE FDD Band 17;

LTE Band 2, 1.4MHz bandwidth(worst case of all bandwidths and modulation type)

	LTE FDD Band 2									
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict					
3.40	20	5	0.003	2.50	PASS					
3.70	20	23	0.012	2.50	PASS					
4.20	20	-1	-0.001	2.50	PASS					
3.70	-30	19	0.010	2.50	PASS					
3.70	-20	-9	-0.005	2.50	PASS					
3.70	-10	-21	-0.011	2.50	PASS					
3.70	0	21	0.011	2.50	PASS					
3.70	10	16	0.009	2.50	PASS					
3.70	20	20	0.011	2.50	PASS					
3.70	30	-26	-0.014	2.50	PASS					
3.70	40	-16	-0.009	2.50	PASS					
3.70	50	-2	-0.001	2.50	PASS					

LTE Band 4, 1.4MHz bandwidth(worst case of all bandwidths and modulation type)

	LTE FDD Band 4									
DC Power	Temperature (℃)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict					
3.40	20	19	0.011	2.50	PASS					
3.70	20	17	0.010	2.50	PASS					
4.20	20	13	0.008	2.50	PASS					
3.70	-30	-29	-0.017	2.50	PASS					
3.70	-20	-27	-0.016	2.50	PASS					
3.70	-10	9	0.005	2.50	PASS					
3.70	0	13	0.008	2.50	PASS					
3.70	10	2	0.001	2.50	PASS					
3.70	20	0	0.000	2.50	PASS					
3.70	30	-23	-0.013	2.50	PASS					
3.70	40	16	0.009	2.50	PASS					
3.70	50	-9	-0.005	2.50	PASS					

LTE Band 7, 5MHz bandwidth(worst case of all bandwidths and modulation type)

LTE FDD Band 7								
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict			
3.40	20	-3	-0.001	2.50	PASS			
3.70	20	-23	-0.009	2.50	PASS			
4.20	20	9	0.004	2.50	PASS			
3.70	-30	2	0.001	2.50	PASS			
3.70	-20	-15	-0.006	2.50	PASS			
3.70	-10	-15	-0.006	2.50	PASS			
3.70	0	-15	-0.006	2.50	PASS			
3.70	10	15	0.006	2.50	PASS			
3.70	20	23	0.009	2.50	PASS			
3.70	30	-12	-0.005	2.50	PASS			
3.70	40	-13	-0.005	2.50	PASS			
3.70	50	-14	-0.006	2.50	PASS			

LTE Band 17, 5MHz bandwidth(worst case of all bandwidths and modulation type)

LTE FDD Band 17								
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict			
3.40	20	-3	-0.004	2.50	PASS			
3.70	20	-26	-0.037	2.50	PASS			
4.20	20	12	0.017	2.50	PASS			
3.70	-30	-20	-0.028	2.50	PASS			
3.70	-20	4	0.006	2.50	PASS			
3.70	-10	-18	-0.025	2.50	PASS			
3.70	0	-6	-0.008	2.50	PASS			
3.70	10	-13	-0.018	2.50	PASS			
3.70	20	-8	-0.011	2.50	PASS			
3.70	30	26	0.037	2.50	PASS			
3.70	40	27	0.038	2.50	PASS			
3.70	50	-7	-0.010	2.50	PASS			

5 Test Setup Photos of the EUT

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

6 External Photos of the EUT

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

7 Internal Photos of the EUT

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

.....End of Report.....