

Partial FCC Test Report

(PART 27)

Report No.: RF200522C02-8

FCC ID: S9E-EM7565

Test Model: EM7565

Received Date: May 22, 2020

Test Date: Jun. 09 ~ Jun. 30, 2020

Issued Date: Jul. 03, 2020

Applicant: Trimble Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration /
Designation Number: 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF200522C02-8	Original Release	Jul. 03, 2020

1 Certificate of Conformity

Product: LTE/UMTS Wireless Module

Brand: AirPrime

Test Model: EM7565

Sample Status: Identical Prototype

Applicant: Trimble Inc.

Test Date: Jun. 09 ~ Jun. 30, 2020

Standards: FCC Part 27, Subpart C, H, F, L

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , Date: Jul. 03, 2020
Lena Wang / Specialist

Approved by : Dylan Chiou , Date: Jul. 03, 2020
Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2 (WCDMA)			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(d)(4)	Equivalent Isotropic Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note 1
2.1055 27.54	Frequency Stability	N/A	Refer to Note 1
2.1049	Occupied Bandwidth	N/A	Refer to Note 1
27.50(d)(5)	Peak to Average Ratio	N/A	Refer to Note 1
27.53(h)	Band Edge Measurements	N/A	Refer to Note 1
2.1051 27.53(h)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -30.04 dB at 34.85 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 4)			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(d)(4)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note 1
2.1055 27.54	Frequency Stability	N/A	Refer to Note 1
2.1049	Occupied Bandwidth	N/A	Refer to Note 1
27.50(d)(5)	Peak to Average Ratio	N/A	Refer to Note 1
27.53(h)	Band Edge Measurements	N/A	Refer to Note 1
2.1051 27.53(h)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -31.59 dB at 5197.50 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 12)			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(c)(10)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note 1
2.1055 27.54	Frequency Stability	N/A	Refer to Note 1
2.1049	Occupied Bandwidth	N/A	Refer to Note 1
---	Peak to Average Ratio	N/A	Refer to Note 1
27.53(g)	Band Edge Measurements	N/A	Refer to Note 1
2.1051 27.53(g)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -13.38 dB at 2133.00 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 13)			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(b)(10)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note 1
2.1055 27.54	Frequency Stability	N/A	Refer to Note 1
2.1049	Occupied Bandwidth	N/A	Refer to Note 1
---	Peak to Average Ratio	N/A	Refer to Note 1
27.53(c)(2)(4)	Band Edge Measurements	N/A	Refer to Note 1
2.1051 27.53(c)(2)&(f)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(c)(2)&(f)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -8.98 dB at 1564.00 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 66)			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(d)(4)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note 1
2.1055 27.54	Frequency Stability	N/A	Refer to Note 1
2.1049	Occupied Bandwidth	N/A	Refer to Note 1
27.50(d)(5)	Peak to Average Ratio	N/A	Refer to Note 1
27.53(h)	Band Edge Measurements	N/A	Refer to Note 1
2.1051 27.53(h)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -15.54 dB at 36.79 MHz.

Note:

1. This report is a partial report, only test item of Effective Radiated Power and Radiated Spurious Emissions tests were performed for this report. Radiated Emission test according to the maximum output power (EPR/EIRP) channel. Other testing data please refer to the SPORTON report no.: FG791919A, FG791919B for module (Brand: Sierra, Model: EM7565).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 18, 2020	Mar. 17, 2021
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 12, 2019	Dec. 11, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSW26	102023	Oct. 08, 2019	Oct. 07, 2020
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 24, 2019	Nov. 23, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 08, 2019	Nov. 07, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-171	Nov. 11, 2019	Nov. 10, 2020
Fixed Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Loop Antenna	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier EMCI	EMC 012645	980115	Oct. 08, 2019	Oct. 07, 2020
Preamplifier EMCI	EMC 184045	980116	Oct. 08, 2019	Oct. 07, 2020
Preamplifier EMCI	EMC 330H	980112	Oct. 08, 2019	Oct. 07, 2020
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-8000&3000	140811+170717	Oct. 08, 2019	Oct. 07, 2020
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 08, 2019	Oct. 07, 2020
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 08, 2019	Oct. 07, 2020
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Radio Communication Analyzer Anritsu	MT8821C	6261786083	Jun. 27, 2019	Jun. 26, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101582	Mar. 31, 2020	Mar. 30, 2021

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.

3 General Information

3.1 General Description of EUT

Product	LTE/UMTS Wireless Module	
Brand	AirPrime	
Test Model	EM7565	
Status of EUT	Identical Prototype	
Power Supply Rating	5.0 Vdc (adapter)	
Modulation Type	WCDMA	QPSK
	LTE	QPSK, 16QAM, 64QAM
Frequency Range	WCDMA	1712.4 ~ 1752.6 MHz
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1754.3 MHz
	LTE Band 4 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1753.5 MHz
	LTE Band 4 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1752.5 MHz
	LTE Band 4 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1750.0 MHz
	LTE Band 4 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1747.5 MHz
	LTE Band 4 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1745.0 MHz
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	699.7 ~ 715.3 MHz
	LTE Band 12 (Channel Bandwidth: 3 MHz)	700.5 ~ 714.5 MHz
	LTE Band 12 (Channel Bandwidth: 5 MHz)	701.5 ~ 713.5 MHz
	LTE Band 12 (Channel Bandwidth: 10 MHz)	704.0 ~ 711.0 MHz
	LTE Band 13 (Channel Bandwidth: 5 MHz)	779.5 ~ 784.5 MHz
	LTE Band 13 (Channel Bandwidth: 10 MHz)	782.0 MHz
	LTE Band 66 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1779.3 MHz
	LTE Band 66 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1778.5 MHz
	LTE Band 66 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1777.5 MHz
	LTE Band 66 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1775.0 MHz
	LTE Band 66 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1772.5 MHz
	LTE Band 66 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1770.0 MHz
Max. ERP Power	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	79.07 mW
	LTE Band 12 (Channel Bandwidth: 3 MHz)	83.95 mW
	LTE Band 12 (Channel Bandwidth: 5 MHz)	88.92 mW
	LTE Band 12 (Channel Bandwidth: 10 MHz)	112.72 mW
	LTE Band 13 (Channel Bandwidth: 5 MHz)	100.23 mW
	LTE Band 13 (Channel Bandwidth: 10 MHz)	105.6 mW
Max. EIRP Power	WCDMA	363.92 mW
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	274.79 mW
	LTE Band 4 (Channel Bandwidth: 3 MHz)	291.07 mW
	LTE Band 4 (Channel Bandwidth: 5 MHz)	309.03 mW
	LTE Band 4 (Channel Bandwidth: 10 MHz)	326.59 mW
	LTE Band 4 (Channel Bandwidth: 15 MHz)	344.35 mW
	LTE Band 4 (Channel Bandwidth: 20 MHz)	364.75 mW

	LTE Band 66 (Channel Bandwidth: 1.4 MHz)	256.45 mW
	LTE Band 66 (Channel Bandwidth: 3 MHz)	273.53 mW
	LTE Band 66 (Channel Bandwidth: 5 MHz)	291.07 mW
	LTE Band 66 (Channel Bandwidth: 10 MHz)	308.32 mW
	LTE Band 66 (Channel Bandwidth: 15 MHz)	325.84 mW
	LTE Band 66 (Channel Bandwidth: 20 MHz)	345.14 mW
Antenna Type	Refer to Note as below	
Antenna Gain	Refer to Note as below	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

- The EUT is authorized for use in specific End-product. Please refer to below table for more details.

Product	Brand	Model
10" Handheld computer	Trimble Inc.	121800

- The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	ADAPTER TECH	APD065T-A200	I/P: 100-240 Vac, 50/60 Hz, 1.6 A O/P: 5 Vdc, 3 A 1 meter, non-shielded cable, with ferrite core
POWER CORD	ADAPTER TECH	N/A	1.75 meter, non-shielded cable, w/o ferrite core

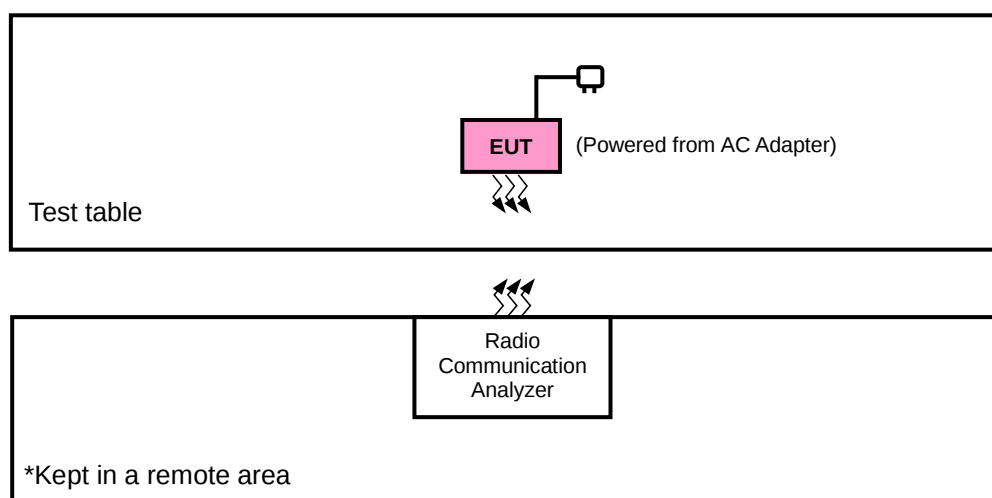
- The antenna information is listed as below.

Antenna Type		PIFA				
Band		WCDMA	LTE			
		IV	4	12	13	66
Gain	Main	0.77	0.77	-0.7	-1.55	0.97
	Aux.	2.18	2.18	N/A	-0.93	2.18

- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
- The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test> & <E.R.P. / E.I.R.P. Test>



3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, and antenna ports

The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	ERP / EIRP	Radiated Emission
WCDMA	X-plane	X-plane
LTE Band 4	X-plane	X-plane
LTE Band 12	X-plane	X-plane
LTE Band 13	Z-plane	Z-plane
LTE Band 66	X-plane	X-plane

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
-	Radiated Emission	1312 to 1513	1413	WCDMA

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	20050 to 20300	20175	20 MHz	QPSK	1 RB / 0 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

LTE Band 12

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	23060 to 23130	23130	10 MHz	QPSK	1 RB / 0 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing

LTE Band 13

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23230	23230	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	23230	23230	10 MHz	QPSK	1 RB / 0 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing

LTE Band 66

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	131979 to 132665	131979, 132322, 132665	1.4 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		131987 to 132657	131987, 132322, 132657	3 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		131997 to 132647	131997, 132322, 132647	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		132022 to 132622	132022, 132322, 132622	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		132047 to 132597	132047, 132322, 132597	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		132072 to 132572	132072, 132322, 132572	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	132072 to 132572	132322	20 MHz	QPSK	1 RB / 0 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP / EIRP	25 deg. C, 65 % RH	120 Vac, 60 Hz	Wayne Lin
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Tim Chen

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards and references

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

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

ANSI 63.26-2015

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-E 2016

Note: All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

Portable stations (hand-held devices) operating in the 746-757 MHz, 776-788 MHz and 805-806 MHz band are limited to 3 watts ERP

Portable stations (hand-held device) operating 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.

4.1.2 Test Procedures

EIRP / ERP Measurement:

- All measurements were done at low, middle and high operational frequency range. RBW is 5 MHz for WCDMA and 5MHz 、 10 MHz 、 15MHz 、 20MHz for LTE mode, and VBW $\geq 3 \times$ RBW.
- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step b. Record the power level of S.G.
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}$.

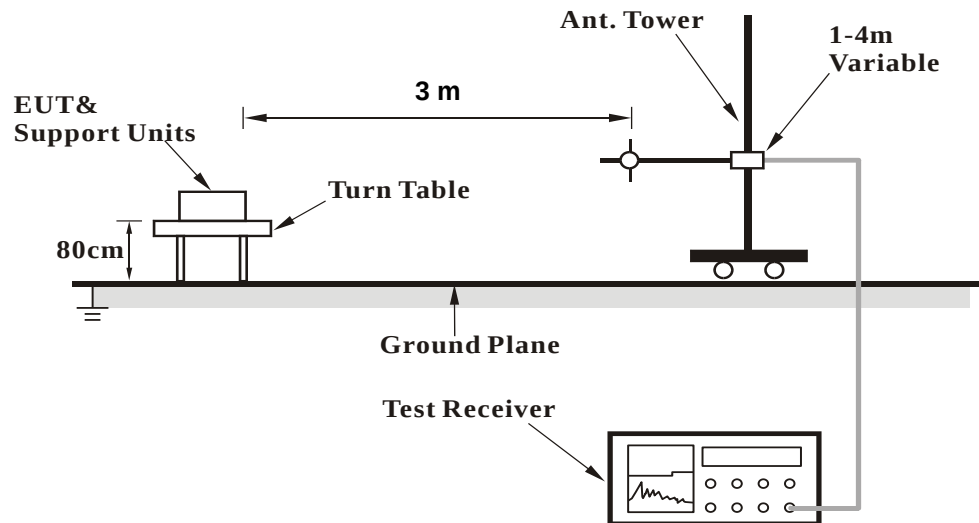
Conducted Power Measurement:

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

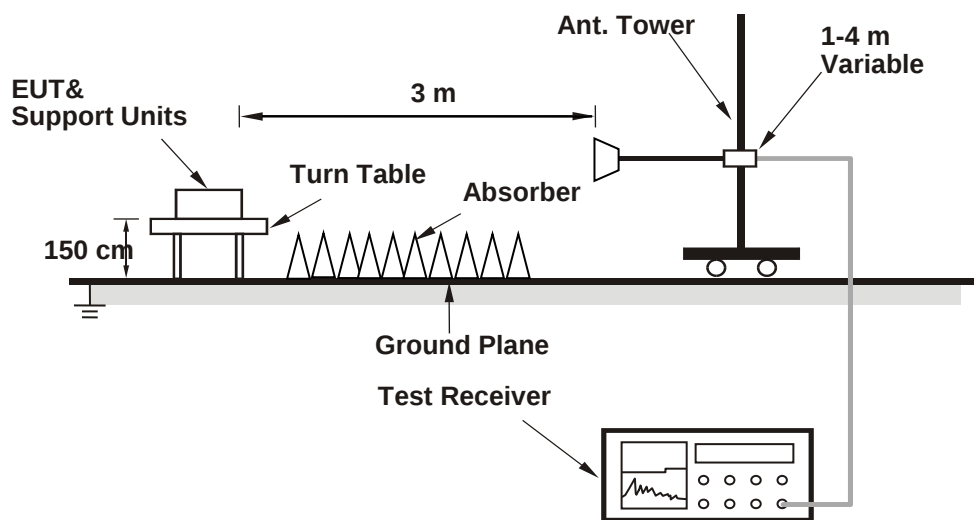
4.1.3 Test Setup

EIRP / ERP Measurement:

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

Conducted Power Measurement:



4.1.4 Test Results

Conducted Output Power (dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	23.51	23.53	23.43
HSDPA Subtest-1	22.41	22.43	22.33
HSDPA Subtest-2	22.39	22.41	22.31
HSDPA Subtest-3	21.88	21.90	21.80
HSDPA Subtest-4	21.87	21.89	21.79
DC-HSDPA Subtest-1	22.32	22.34	22.24
DC-HSDPA Subtest-2	22.30	22.32	22.22
DC-HSDPA Subtest-3	21.79	21.81	21.71
DC-HSDPA Subtest-4	21.78	21.80	21.70
HSUPA Subtest-1	22.37	22.39	22.29
HSUPA Subtest-2	20.45	20.47	20.37
HSUPA Subtest-3	21.29	21.31	21.21
HSUPA Subtest-4	20.36	20.38	20.28
HSUPA Subtest-5	22.30	22.32	22.22

LTE Band 4															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20050	20175	20300				Channel		20025	20175	20325	
		Frequency (MHz)		1720.0	1732.5	1745.0				Frequency (MHz)		1717.5	1732.5	1747.5	
20M	QPSK	1	0	23.36	23.43	23.39	0	15M	QPSK	1	0	23.30	23.39	23.35	0
		1	50	23.34	23.41	23.37	0			1	37	23.32	23.39	23.36	0
		1	99	23.30	23.37	23.33	0			1	74	23.24	23.28	23.26	0
		50	0	22.32	22.39	22.35	1			36	0	22.32	22.39	22.28	1
		50	25	22.29	22.36	22.32	1			36	19	22.27	22.34	22.31	1
		50	50	22.26	22.33	22.29	1			36	39	22.23	22.31	22.19	1
		100	0	22.25	22.32	22.28	1			75	0	22.20	22.28	22.25	1
		1	0	22.29	22.36	22.32	1			1	0	22.19	22.31	22.22	1
	16QAM	1	50	22.26	22.33	22.29	1			1	37	22.19	22.28	22.28	1
		1	99	22.20	22.27	22.23	1			1	74	22.12	22.20	22.15	1
		50	0	21.12	21.19	21.15	2			36	0	21.04	21.10	21.05	2
		50	25	21.05	21.12	21.08	2			36	19	21.02	21.09	21.05	2
		50	50	21.04	21.11	21.07	2			36	39	21.02	21.08	21.01	2
		100	0	21.02	21.09	21.05	2			75	0	20.98	20.99	21.04	2
		1	0	21.26	21.33	21.29	2			1	0	21.17	21.25	21.25	2
		1	50	21.24	21.31	21.27	2			1	37	21.22	21.25	21.24	2
	64QAM	1	99	21.21	21.28	21.24	2			1	74	21.18	21.26	21.20	2
		50	0	20.17	20.24	20.20	3			36	0	20.09	20.23	20.11	3
		50	25	20.15	20.22	20.18	3			36	19	20.10	20.16	20.12	3
		50	50	20.10	20.17	20.13	3			36	39	20.04	20.12	20.08	3
		100	0	20.06	20.13	20.09	3			75	0	20.06	20.11	19.99	3
10M	QPSK	1	0	23.24	23.32	23.31	0	5M	QPSK	1	0	23.24	23.25	23.21	0
		1	24	23.21	23.32	23.19	0			1	12	23.19	23.31	23.20	0
		1	49	23.14	23.30	23.18	0			1	24	23.13	23.25	23.23	0
		25	0	22.18	22.28	22.17	1			12	0	22.12	22.27	22.12	1
		25	12	22.19	22.27	22.20	1			12	6	22.09	22.25	22.16	1
		25	25	22.04	22.23	22.16	1			12	13	22.16	22.23	22.05	1
		50	0	22.20	22.21	22.07	1			25	0	22.17	22.10	22.05	1
		1	0	22.14	22.27	22.27	1			1	0	22.23	22.33	22.26	1
	16QAM	1	24	22.24	22.20	22.15	1			1	12	22.18	22.13	22.13	1
		1	49	22.07	22.16	22.08	1			1	24	22.00	22.18	22.09	1
		25	0	21.00	21.05	20.95	2			12	0	21.04	21.16	21.05	2
		25	12	20.89	21.04	20.95	2			12	6	20.94	21.10	20.91	2
		25	25	20.88	21.06	20.97	2			12	13	21.02	21.00	20.92	2
		50	0	20.89	20.99	20.89	2			25	0	20.96	20.96	20.85	2
		1	0	21.14	21.25	21.21	2			1	0	21.06	21.29	21.07	2
		1	24	21.12	21.20	21.12	2			1	12	21.11	21.14	21.13	2
	64QAM	1	49	21.16	21.12	21.13	2			1	24	21.12	21.19	21.10	2
		25	0	19.95	20.18	20.00	3			12	0	20.13	20.12	20.09	3
		25	12	19.94	20.09	20.01	3			12	6	20.13	20.09	20.03	3
		25	25	19.91	20.14	19.91	3			12	13	19.92	20.05	20.03	3
		50	0	20.01	19.99	20.01	3			25	0	19.93	20.00	20.07	3
3M	QPSK	1	0	23.28	23.38	23.30	0	1.4M	QPSK	1	0	23.21	23.27	23.22	0
		1	7	23.19	23.26	23.29	0			1	2	23.29	23.29	23.22	0
		1	14	23.20	23.26	23.12	0			1	5	23.27	23.23	23.25	0
		8	0	22.16	22.37	22.22	1			3	0	23.16	23.23	23.33	0
		8	3	22.08	22.26	22.15	1			3	1	23.16	23.29	23.08	0
		8	7	22.19	22.23	22.08	1			3	3	23.18	23.28	23.26	0
		15	0	22.09	22.21	22.18	1			6	0	22.09	22.09	22.25	1
		1	0	22.18	22.25	22.20	1			1	0	22.07	22.13	22.18	1
	16QAM	1	7	22.07	22.19	22.27	1			1	2	22.15	22.15	22.15	1
		1	14	22.15	22.12	22.11	1			1	5	21.99	22.08	22.16	1
		8	0	21.04	21.08	21.04	2			3	0	21.90	22.04	22.02	1
		8	3	20.92	20.90	20.95	2			3	1	21.82	21.96	22.04	1
		8	7	20.88	20.88	20.90	2			3	3	21.89	21.99	22.00	1
		15	0	20.86	21.07	20.90	2			6	0	20.93	20.89	20.97	2
		1	0	21.10	21.21	21.16	2			1	0	21.10	21.19	21.23	2
		1	7	21.02	21.21	21.10	2			1	2	21.09	21.26	21.25	2
	64QAM	1	14	21.17	21.17	21.16	2			1	5	21.04	21.05	21.03	2
		8	0	20.05	20.14	20.10	3			3	0	21.06	21.00	21.11	2
		8	3	20.13	20.08	19.94	3			3	1	21.04	21.08	21.06	2
		8	7	19.89	20.05	19.96	3			3	3	20.95	21.09	21.04	2
		15	0	19.96	20.01	19.93	3			6	0	19.92	19.92	19.93	3

LTE Band 12															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23060	23095	23130				Channel		23035	23095	23155	
		Frequency (MHz)		704.0	707.5	711.0				Frequency (MHz)		701.5	707.5	713.5	
10M	QPSK	1	0	23.31	23.37	23.42	0	5M	QPSK	1	0	23.30	23.27	23.40	0
		1	24	23.25	23.31	23.36	0			1	12	23.22	23.30	23.27	0
		1	49	22.21	22.27	22.32	0			1	24	22.11	22.22	22.22	0
		25	0	22.29	22.35	22.40	1			12	0	22.28	22.28	22.35	1
		25	12	22.24	22.30	22.35	1			12	6	22.20	22.22	22.29	1
		25	25	22.22	22.28	22.33	1			12	13	22.14	22.18	22.26	1
		50	0	22.19	22.25	22.30	1			25	0	22.09	22.19	22.27	1
		50	12	22.14	22.20	22.25	1			25	12	22.04	22.14	22.22	1
	16QAM	1	0	22.35	22.41	22.46	1		16QAM	1	0	22.35	22.39	22.37	1
		1	24	22.32	22.38	22.43	1			1	12	22.24	22.34	22.40	1
		1	49	22.26	22.32	22.37	1			1	24	22.26	22.26	22.31	1
		25	0	21.25	21.31	21.36	2			12	0	21.21	21.30	21.36	2
		25	12	21.19	21.25	21.30	2			12	6	21.18	21.18	21.27	2
		25	25	21.12	21.18	21.23	2			12	13	21.02	21.11	21.15	2
		50	0	21.10	21.16	21.21	2			25	0	21.04	21.06	21.12	2
		50	12	21.04	21.10	21.15	2			25	12	20.99	21.09	21.17	2
	64QAM	1	0	21.33	21.39	21.44	2		64QAM	1	0	21.27	21.36	21.40	2
		1	24	21.29	21.35	21.40	2			1	12	21.24	21.34	21.37	2
		1	49	21.25	21.31	21.36	2			1	24	21.25	21.21	21.33	2
		25	0	20.16	20.22	20.27	3			12	0	20.09	20.13	20.20	3
		25	12	20.11	20.17	20.22	3			12	6	20.07	20.11	20.16	3
		25	25	20.09	20.15	20.20	3			12	13	20.07	20.14	20.10	3
		50	0	20.10	20.16	20.21	3			25	0	20.01	20.14	20.19	3
		50	12	20.04	20.10	20.15	3			25	12	19.99	20.09	20.17	3
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23025	23095	23165				Channel		23017	23095	23173	
		Frequency (MHz)		700.5	707.5	714.5				Frequency (MHz)		699.7	707.5	715.3	
3M	QPSK	1	0	23.22	23.18	23.28	0	1.4M	QPSK	1	0	23.14	23.33	23.29	0
		1	7	23.17	23.14	23.22	0			1	2	23.10	23.14	23.28	0
		1	14	22.01	22.12	22.31	0			1	5	22.13	22.03	22.14	0
		8	0	22.14	22.23	22.34	1			3	0	23.19	23.22	23.19	0
		8	3	22.19	22.27	22.29	1			3	1	23.15	23.20	23.17	0
		8	7	22.06	22.13	22.28	1			3	3	23.11	23.21	23.17	0
		15	0	22.03	22.19	22.23	1			6	0	22.12	22.14	22.29	1
		15	7	22.25	22.26	22.37	1			6	1	22.26	22.33	22.30	1
	16QAM	1	0	22.27	22.25	22.30	1		16QAM	1	2	22.30	22.30	22.32	1
		1	7	22.19	22.19	22.20	1			1	5	22.20	22.22	22.28	1
		1	14	22.19	22.19	22.20	1			3	0	22.05	22.28	22.26	1
		8	0	21.16	21.20	21.23	2			3	1	22.12	22.14	22.25	1
		8	3	21.06	21.10	21.26	2			3	3	21.96	22.11	22.21	1
		8	7	20.98	21.06	21.07	2			6	0	20.85	21.06	21.09	2
		15	0	20.92	21.12	21.03	2			6	1	21.23	21.31	21.30	2
		15	7	21.16	21.24	21.20	2			6	2	21.21	21.17	21.23	2
	64QAM	1	0	21.13	21.26	21.36	2		64QAM	1	0	21.23	21.31	21.30	2
		1	7	21.16	21.24	21.20	2			1	2	21.21	21.17	21.23	2
		1	14	21.14	21.09	21.13	2			1	5	21.13	21.13	21.13	2
		8	0	19.93	20.04	20.11	3			3	0	21.10	21.10	21.12	2
		8	3	20.11	20.12	20.16	3			3	1	20.94	21.00	21.16	2
		8	7	20.04	19.92	20.14	3			3	3	20.94	20.99	21.10	2
		15	0	19.91	20.05	20.05	3			6	0	19.93	19.94	20.09	3
		15	7	19.91	20.05	20.05	3			6	1	19.93	19.94	20.09	3

LTE Band 13															
BW	MCS Index	RB Size	RB Offset		Mid		3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			23230					Channel		23205	23230	23225	
		Frequency (MHz)			782.0					Frequency (MHz)		779.5	782.0	784.5	
10M	QPSK	1	0		23.32		0	5M	QPSK	1	0	23.15	23.20	23.11	0
		1	24		23.28		0			1	12	23.11	23.16	23.07	0
		1	49		23.23		0			1	24	23.06	23.11	23.02	0
		25	0		22.42		1			12	0	22.25	22.30	22.21	1
		25	12		22.39		1			12	6	22.22	22.27	22.18	1
		25	25		22.37		1			12	13	22.20	22.25	22.16	1
		50	0		22.34		1			25	0	22.17	22.22	22.13	1
		50	12		22.34		1			25	12	22.17	22.22	22.13	1
	16QAM	1	0		22.46		1		16QAM	1	0	22.29	22.34	22.25	1
		1	24		22.41		1			1	12	22.24	22.29	22.20	1
		1	49		22.37		1			1	24	22.20	22.25	22.16	1
		25	0		21.44		2			12	0	21.27	21.32	21.23	2
		25	12		21.42		2			12	6	21.25	21.30	21.21	2
		25	25		21.38		2			12	13	21.21	21.26	21.17	2
		50	0		21.43		2			25	0	21.26	21.31	21.22	2
		50	12		21.43		2			25	12	21.26	21.31	21.22	2
	64QAM	1	0		21.46		2		64QAM	1	0	21.29	21.34	21.25	2
		1	24		21.43		2			1	12	21.26	21.31	21.22	2
		1	49		21.42		2			1	24	21.25	21.30	21.21	2
		25	0		20.44		3			12	0	20.27	20.32	20.23	3
		25	12		20.41		3			12	6	20.24	20.29	20.20	3
		25	25		20.38		3			12	13	20.21	20.26	20.17	3
		50	0		20.42		3			25	0	20.25	20.30	20.21	3
		50	12		20.42		3			25	12	20.25	20.30	20.21	3
50		25		20.42		3	25	25		20.25	20.30	20.21	3		

LTE Band 66															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		132072	132322	132572				Channel		132047	132322	132597	
		Frequency (MHz)		1720.0	1745.0	1770.0				Frequency (MHz)		1717.5	1745.0	1772.5	
20M	QPSK	1	0	23.01	23.21	23.25	0	15M	QPSK	1	0	22.97	23.20	23.21	0
		1	50	22.93	23.13	23.17	0			1	37	22.93	23.12	23.07	0
		1	99	22.89	23.09	23.13	0			1	74	22.86	23.05	23.09	0
		50	0	21.94	22.14	22.18	1			36	0	21.94	22.08	22.15	1
		50	25	21.88	22.08	22.12	1			36	19	21.85	21.98	22.04	1
		50	50	21.87	22.07	22.11	1			36	39	21.77	22.06	22.08	1
		100	0	21.84	22.04	22.08	1			75	0	21.74	22.03	22.02	1
	16QAM	1	0	22.26	22.46	22.50	1		16QAM	1	0	22.26	22.37	22.47	1
		1	50	22.12	22.32	22.36	1			1	37	22.11	22.31	22.36	1
		1	99	22.08	22.28	22.32	1			1	74	22.00	22.25	22.22	1
		50	0	21.04	21.24	21.28	2			36	0	21.00	21.18	21.21	2
		50	25	20.96	21.16	21.20	2			36	19	20.92	21.14	21.12	2
		50	50	20.91	21.11	21.15	2			36	39	20.81	21.04	21.07	2
		100	0	20.88	21.08	21.12	2			75	0	20.88	20.99	21.04	2
	64QAM	1	0	21.16	21.36	21.40	2		64QAM	1	0	21.09	21.35	21.38	2
		1	50	21.02	21.22	21.26	2			1	37	20.94	21.22	21.26	2
		1	99	20.99	21.19	21.23	2			1	74	20.97	21.15	21.21	2
		50	0	19.96	20.16	20.20	3			36	0	19.96	20.11	20.19	3
		50	25	19.93	20.13	20.17	3			36	19	19.90	20.12	20.17	3
		50	50	19.89	20.09	20.13	3			36	39	19.84	20.07	20.12	3
		100	0	19.87	20.07	20.11	3			75	0	19.78	20.07	20.08	3
10M	QPSK	1	0	22.97	23.08	23.11	0	5M	QPSK	1	0	22.92	23.06	23.04	0
		1	24	22.91	23.01	22.97	0			1	12	22.83	22.99	22.87	0
		1	49	22.75	23.01	23.00	0			1	24	22.79	22.95	22.84	0
		25	0	21.91	22.02	22.13	1			12	0	21.92	22.03	22.09	1
		25	12	21.81	22.01	21.97	1			12	6	21.76	21.88	22.00	1
		25	25	21.69	21.89	21.95	1			12	13	21.69	21.94	21.82	1
		50	0	21.79	21.84	21.89	1			25	0	21.73	21.82	22.01	1
	16QAM	1	0	22.11	22.30	22.27	1		16QAM	1	0	22.15	22.42	22.35	1
		1	24	22.05	22.23	22.23	1			1	12	22.08	22.22	22.22	1
		1	49	21.92	22.11	22.23	1			1	24	21.88	22.21	22.25	1
		25	0	20.91	21.09	21.09	2			12	0	21.03	21.07	21.08	2
		25	12	20.85	21.01	21.17	2			12	6	20.77	21.06	21.04	2
		25	25	20.86	21.04	20.98	2			12	13	20.81	21.00	21.10	2
		50	0	20.77	20.92	21.03	2			25	0	20.69	20.88	21.03	2
	64QAM	1	0	21.03	21.29	21.29	2		64QAM	1	0	21.01	21.24	21.40	2
		1	24	20.99	21.07	21.23	2			1	12	20.95	21.18	21.12	2
		1	49	20.91	21.12	21.16	2			1	24	20.87	21.07	21.06	2
		25	0	19.86	19.95	20.03	3			12	0	19.83	20.05	20.11	3
		25	12	19.83	19.94	20.04	3			12	6	19.74	19.96	19.97	3
		25	25	19.67	19.96	20.02	3			12	13	19.76	19.86	19.93	3
		50	0	19.82	19.85	19.97	3			25	0	19.79	19.87	19.86	3
3M	QPSK	1	0	22.85	23.06	23.09	0	1.4M	QPSK	1	0	22.88	23.15	23.11	0
		1	7	22.83	22.99	22.92	0			1	2	22.78	22.99	23.05	0
		1	14	22.81	22.90	23.02	0			1	5	22.72	22.87	23.06	0
		8	0	21.84	22.09	22.15	1			3	0	22.75	23.10	23.00	0
		8	3	21.70	21.89	22.07	1			3	1	22.73	22.99	22.99	0
		8	7	21.79	21.95	21.94	1			3	3	22.79	22.99	23.03	0
		15	0	21.73	21.89	22.00	1			6	0	21.77	22.03	22.00	1
	16QAM	1	0	22.15	22.31	22.40	1		16QAM	1	0	22.16	22.39	22.38	1
		1	7	21.99	22.23	22.28	1			1	2	21.91	22.14	22.24	1
		1	14	22.07	22.13	22.22	1			1	5	21.96	22.15	22.12	1
		8	0	20.87	21.17	21.22	2			3	0	22.02	22.10	22.22	1
		8	3	20.82	20.97	21.04	2			3	1	21.81	22.01	22.18	1
		8	7	20.69	20.99	20.91	2			3	3	21.82	22.05	22.11	1
		15	0	20.67	20.86	20.92	2			6	0	20.83	20.89	21.03	2
	64QAM	1	0	21.07	21.20	21.25	2		64QAM	1	0	21.11	21.24	21.39	2
		1	7	20.87	21.07	21.08	2			1	2	20.77	20.98	21.20	2
		1	14	20.82	21.14	21.11	2			1	5	20.84	21.04	21.00	2
		8	0	19.76	20.03	20.06	3			3	0	20.79	21.13	21.06	2
		8	3	19.85	19.94	20.02	3			3	1	20.76	20.96	21.04	2
		8	7	19.81	20.01	19.89	3			3	3	20.84	20.85	21.03	2
		15	0	19.84	19.83	20.06	3			6	0	19.73	19.92	20.01	3

ERP Power (dBm)

LTE Band 12							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23017	699.7	-16.75	30.36	13.61	22.96	H
	23095	707.5	-16.39	30.17	13.78	23.88	
	23173	715.3	-16.28	30.17	13.89	24.49	
	23017	699.7	-13.32	32.03	18.71	74.30	V
	23095	707.5	-13.09	31.98	18.89	77.45	
	23173	715.3	-13.08	32.06	18.98	79.07	
Channel Bandwidth: 1.4 MHz / 16QAM							
X	23017	699.7	-16.93	30.36	13.43	22.03	H
	23095	707.5	-16.57	30.17	13.60	22.91	
	23173	715.3	-16.46	30.17	13.71	23.50	
	23017	699.7	-13.50	32.03	18.53	71.29	V
	23095	707.5	-13.27	31.98	18.71	74.30	
	23173	715.3	-13.26	32.06	18.80	75.86	
Channel Bandwidth: 1.4 MHz / 64QAM							
X	23017	699.7	-17.93	30.36	12.43	17.50	H
	23095	707.5	-17.57	30.17	12.60	18.20	
	23173	715.3	-17.46	30.17	12.71	18.66	
	23017	699.7	-14.50	32.03	17.53	56.62	V
	23095	707.5	-14.27	31.98	17.71	59.02	
	23173	715.3	-14.26	32.06	17.80	60.26	

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

LTE Band 12							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23025	700.5	-16.30	30.17	13.87	24.38	H
	23095	707.5	-16.13	30.17	14.04	25.35	
	23165	714.5	-16.03	30.18	14.15	26.00	
	23025	700.5	-12.99	31.96	18.97	78.89	V
	23095	707.5	-12.83	31.98	19.15	82.22	
	23165	714.5	-12.79	32.03	19.24	83.95	
Channel Bandwidth: 3 MHz / 16QAM							
X	23025	700.5	-16.48	30.17	13.69	23.39	H
	23095	707.5	-16.31	30.17	13.86	24.32	
	23165	714.5	-16.21	30.18	13.97	24.95	
	23025	700.5	-13.17	31.96	18.79	75.68	V
	23095	707.5	-13.01	31.98	18.97	78.89	
	23165	714.5	-12.97	32.03	19.06	80.54	
Channel Bandwidth: 3 MHz / 64QAM							
X	23025	700.5	-17.48	30.17	12.69	18.58	H
	23095	707.5	-17.31	30.17	12.86	19.32	
	23165	714.5	-17.21	30.18	12.97	19.82	
	23025	700.5	-14.17	31.96	17.79	60.12	V
	23095	707.5	-14.01	31.98	17.97	62.66	
	23165	714.5	-13.97	32.03	18.06	63.97	

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

LTE Band 12							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23035	701.5	-16.05	30.17	14.12	25.82	H
	23095	707.5	-15.88	30.17	14.29	26.85	
	23155	713.5	-15.78	30.18	14.40	27.54	
	23035	701.5	-12.74	31.96	19.22	83.56	V
	23095	707.5	-12.58	31.98	19.40	87.10	
	23155	713.5	-12.54	32.03	19.49	88.92	
Channel Bandwidth: 5 MHz / 16QAM							
X	23035	701.5	-16.24	30.17	13.93	24.72	H
	23095	707.5	-16.07	30.17	14.10	25.70	
	23155	713.5	-15.97	30.18	14.21	26.36	
	23035	701.5	-12.93	31.96	19.03	79.98	V
	23095	707.5	-12.77	31.98	19.21	83.37	
	23155	713.5	-12.73	32.03	19.30	85.11	
Channel Bandwidth: 5 MHz / 64QAM							
X	23035	701.5	-17.23	30.17	12.94	19.68	H
	23095	707.5	-17.06	30.17	13.11	20.46	
	23155	713.5	-16.96	30.18	13.22	20.99	
	23035	701.5	-13.92	31.96	18.04	63.68	V
	23095	707.5	-13.76	31.98	18.22	66.37	
	23155	713.5	-13.72	32.03	18.31	67.76	

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

LTE Band 12							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23060	704.0	-15.02	30.17	15.15	32.73	H
	23095	707.5	-14.85	30.17	15.32	34.04	
	23130	711.0	-14.75	30.18	15.43	34.91	
	23060	704.0	-11.71	31.96	20.25	105.93	V
	23095	707.5	-11.55	31.98	20.43	110.41	
	23130	711.0	-11.51	32.03	20.52	112.72	
Channel Bandwidth: 10 MHz / 16QAM							
X	23060	704.0	-15.99	30.17	14.18	26.18	H
	23095	707.5	-15.82	30.17	14.35	27.23	
	23130	711.0	-15.72	30.18	14.46	27.93	
	23060	704.0	-12.68	31.96	19.28	84.72	V
	23095	707.5	-12.52	31.98	19.46	88.31	
	23130	711.0	-12.48	32.03	19.55	90.16	
Channel Bandwidth: 10 MHz / 64QAM							
X	23060	704.0	-17.02	30.17	13.15	20.65	H
	23095	707.5	-16.85	30.17	13.32	21.48	
	23130	711.0	-16.75	30.18	13.43	22.03	
	23060	704.0	-13.71	31.96	18.25	66.83	V
	23095	707.5	-13.55	31.98	18.43	69.66	
	23130	711.0	-13.51	32.03	18.52	71.12	

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

LTE Band 13							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	23205	779.5	-12.36	32.24	19.88	97.27	H
	23230	782.0	-12.16	32.17	20.01	100.23	
	23255	784.5	-12.16	32.11	19.95	98.86	
	23205	779.5	-21.45	32.43	10.98	12.53	V
	23230	782.0	-21.27	32.42	11.15	13.03	
	23255	784.5	-21.41	32.46	11.05	12.74	
Channel Bandwidth: 5 MHz / 16QAM							
Z	23205	779.5	-13.39	32.24	18.85	76.74	H
	23230	782.0	-13.19	32.17	18.98	79.07	
	23255	784.5	-13.19	32.11	18.92	77.98	
	23205	779.5	-22.48	32.43	9.95	9.89	V
	23230	782.0	-22.30	32.42	10.12	10.28	
	23255	784.5	-22.44	32.46	10.02	10.05	
Channel Bandwidth: 5 MHz / 64QAM							
Z	23205	779.5	-14.40	32.24	17.84	60.81	H
	23230	782.0	-14.20	32.17	17.97	62.66	
	23255	784.5	-14.20	32.11	17.91	61.80	
	23205	779.5	-23.49	32.43	8.94	7.83	V
	23230	782.0	-23.31	32.42	9.11	8.15	
	23255	784.5	-23.45	32.46	9.01	7.96	

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

LTE Band 13							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	23230	782.0	-11.93	32.17	20.24	105.68	H
	23230	782.0	-21.04	32.42	11.38	13.74	V
Channel Bandwidth: 10 MHz / 16QAM							
Z	23230	782.0	-12.95	32.17	19.22	83.56	H
	23230	782.0	-22.06	32.42	10.36	10.86	V
Channel Bandwidth: 10 MHz / 64QAM							
Z	23230	782.0	-13.93	32.17	18.24	66.68	H
	23230	782.0	-23.04	32.42	9.38	8.67	V

Note: ERP (dBm) = Reading (dBm) + Correction Factor (dB) – 2.15

EIRP Power (dBm)

WCDMA							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	1312	1712.4	-17.50	36.29	18.79	75.68	H
	1413	1732.6	-17.81	36.69	18.88	77.27	
	1513	1752.6	-18.33	36.98	18.65	73.28	
	1312	1712.4	-11.57	37.11	25.54	358.10	V
	1413	1732.6	-11.99	37.60	25.61	363.92	
	1513	1752.6	-12.13	37.65	25.52	356.45	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	19957	1710.7	-18.13	36.45	18.32	67.92	H
	20175	1732.5	-18.53	36.80	18.27	67.14	
	20393	1754.3	-18.72	36.94	18.22	66.37	
	19957	1710.7	-12.89	37.28	24.39	274.79	V
	20175	1732.5	-13.26	37.63	24.37	273.53	
	20393	1754.3	-13.43	37.64	24.21	263.63	
Channel Bandwidth: 1.4 MHz / 16QAM							
X	19957	1710.7	-19.16	36.45	17.29	53.58	H
	20175	1732.5	-19.56	36.80	17.24	52.97	
	20393	1754.3	-19.75	36.94	17.19	52.36	
	19957	1710.7	-13.92	37.28	23.36	216.77	V
	20175	1732.5	-14.29	37.63	23.34	215.77	
	20393	1754.3	-14.46	37.64	23.18	207.97	
Channel Bandwidth: 1.4 MHz / 64QAM							
X	19957	1710.7	-20.17	36.45	16.28	42.46	H
	20175	1732.5	-20.57	36.80	16.23	41.98	
	20393	1754.3	-20.76	36.94	16.18	41.50	
	19957	1710.7	-14.93	37.28	22.35	171.79	V
	20175	1732.5	-15.30	37.63	22.33	171.00	
	20393	1754.3	-15.47	37.64	22.17	164.82	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	19965	1711.5	-17.88	36.45	18.57	71.94	H
	20175	1732.5	-18.28	36.80	18.52	71.12	
	20385	1753.5	-18.47	36.94	18.47	70.31	
	19965	1711.5	-12.64	37.28	24.64	291.07	V
	20175	1732.5	-13.01	37.63	24.62	289.73	
	20385	1753.5	-13.18	37.64	24.46	279.25	
Channel Bandwidth: 3 MHz / 16QAM							
X	19965	1711.5	-18.90	36.45	17.55	56.89	H
	20175	1732.5	-19.30	36.80	17.50	56.23	
	20385	1753.5	-19.49	36.94	17.45	55.59	
	19965	1711.5	-13.66	37.28	23.62	230.14	V
	20175	1732.5	-14.03	37.63	23.60	229.09	
	20385	1753.5	-14.20	37.64	23.44	220.80	
Channel Bandwidth: 3 MHz / 64QAM							
X	19965	1711.5	-19.91	36.45	16.54	45.08	H
	20175	1732.5	-20.31	36.80	16.49	44.57	
	20385	1753.5	-20.50	36.94	16.44	44.06	
	19965	1711.5	-14.67	37.28	22.61	182.39	V
	20175	1732.5	-15.04	37.63	22.59	181.55	
	20385	1753.5	-15.21	37.64	22.43	174.98	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	19975	1712.5	-17.62	36.45	18.83	76.38	H
	20175	1732.5	-18.02	36.80	18.78	75.51	
	20375	1752.5	-18.21	36.94	18.73	74.64	
	19975	1712.5	-12.38	37.28	24.90	309.03	V
	20175	1732.5	-12.75	37.63	24.88	307.61	
	20375	1752.5	-12.92	37.64	24.72	296.48	
Channel Bandwidth: 5 MHz / 16QAM							
X	19975	1712.5	-18.66	36.45	17.79	60.12	H
	20175	1732.5	-19.06	36.80	17.74	59.43	
	20375	1752.5	-19.25	36.94	17.69	58.75	
	19975	1712.5	-13.42	37.28	23.86	243.22	V
	20175	1732.5	-13.79	37.63	23.84	242.10	
	20375	1752.5	-13.96	37.64	23.68	233.35	
Channel Bandwidth: 5 MHz / 64QAM							
X	19975	1712.5	-19.64	36.45	16.81	47.97	H
	20175	1732.5	-20.04	36.80	16.76	47.42	
	20375	1752.5	-20.23	36.94	16.71	46.88	
	19975	1712.5	-14.40	37.28	22.88	194.09	V
	20175	1732.5	-14.77	37.63	22.86	193.20	
	20375	1752.5	-14.94	37.64	22.70	186.21	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	20000	1715.0	-17.57	36.64	19.07	80.72	H
	20175	1732.5	-17.78	36.80	19.02	79.80	
	20350	1750.0	-17.83	36.80	18.97	78.89	
	20000	1715.0	-12.30	37.44	25.14	326.59	V
	20175	1732.5	-12.51	37.63	25.12	325.09	
	20350	1750.0	-12.68	37.64	24.96	313.33	
Channel Bandwidth: 10 MHz / 16QAM							
X	20000	1715.0	-18.62	36.64	18.02	63.39	H
	20175	1732.5	-18.83	36.80	17.97	62.66	
	20350	1750.0	-18.88	36.80	17.92	61.94	
	20000	1715.0	-13.35	37.44	24.09	256.45	V
	20175	1732.5	-13.56	37.63	24.07	255.27	
	20350	1750.0	-13.73	37.64	23.91	246.04	
Channel Bandwidth: 10 MHz / 64QAM							
X	20000	1715.0	-19.57	36.64	17.07	50.93	H
	20175	1732.5	-19.78	36.80	17.02	50.35	
	20350	1750.0	-19.83	36.80	16.97	49.77	
	20000	1715.0	-14.30	37.44	23.14	206.06	V
	20175	1732.5	-14.51	37.63	23.12	205.12	
	20350	1750.0	-14.68	37.64	22.96	197.70	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	20025	1717.5	-17.15	36.45	19.30	85.11	H
	20175	1732.5	-17.55	36.80	19.25	84.14	
	20325	1747.5	-17.74	36.94	19.20	83.18	
	20025	1717.5	-11.91	37.28	25.37	344.35	V
	20175	1732.5	-12.28	37.63	25.35	342.77	
	20325	1747.5	-12.45	37.64	25.19	330.37	
Channel Bandwidth: 15 MHz / 16QAM							
X	20025	1717.5	-18.17	36.45	18.28	67.30	H
	20175	1732.5	-18.57	36.80	18.23	66.53	
	20325	1747.5	-18.76	36.94	18.18	65.77	
	20025	1717.5	-12.93	37.28	24.35	272.27	V
	20175	1732.5	-13.30	37.63	24.33	271.02	
	20325	1747.5	-13.47	37.64	24.17	261.22	
Channel Bandwidth: 15 MHz / 64QAM							
X	20025	1717.5	-19.14	36.45	17.31	53.83	H
	20175	1732.5	-19.54	36.80	17.26	53.21	
	20325	1747.5	-19.73	36.94	17.21	52.60	
	20025	1717.5	-13.90	37.28	23.38	217.77	V
	20175	1732.5	-14.27	37.63	23.36	216.77	
	20325	1747.5	-14.44	37.64	23.20	208.93	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 4							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	20050	1720.0	-16.90	36.45	19.55	90.16	H
	20175	1732.5	-17.30	36.80	19.50	89.13	
	20300	1745.0	-17.49	36.94	19.45	88.10	
	20050	1720.0	-11.66	37.28	25.62	364.75	V
	20175	1732.5	-12.03	37.63	25.60	363.08	
	20300	1745.0	-12.20	37.64	25.44	349.95	
Channel Bandwidth: 20 MHz / 16QAM							
X	20050	1720.0	-17.92	36.45	18.53	71.29	H
	20175	1732.5	-18.32	36.80	18.48	70.47	
	20300	1745.0	-18.51	36.94	18.43	69.66	
	20050	1720.0	-12.68	37.28	24.60	288.40	V
	20175	1732.5	-13.05	37.63	24.58	287.08	
	20300	1745.0	-13.22	37.64	24.42	276.69	
Channel Bandwidth: 20 MHz / 64QAM							
X	20050	1720.0	-18.89	36.45	17.56	57.02	H
	20175	1732.5	-19.29	36.80	17.51	56.36	
	20300	1745.0	-19.48	36.94	17.46	55.72	
	20050	1720.0	-13.65	37.28	23.63	230.67	V
	20175	1732.5	-14.02	37.63	23.61	229.61	
	20300	1745.0	-14.19	37.64	23.45	221.31	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	131979	1710.7	-20.43	36.45	16.02	39.99	H
	132322	1745.0	-20.50	36.80	16.30	42.66	
	132665	1779.3	-20.84	36.94	16.10	40.74	
	131979	1710.7	-13.55	37.28	23.73	236.05	V
	132322	1745.0	-13.54	37.63	24.09	256.45	
	132665	1779.3	-13.77	37.64	23.87	243.78	
Channel Bandwidth: 1.4 MHz / 16QAM							
X	131979	1710.7	-21.39	36.45	15.06	32.06	H
	132322	1745.0	-21.46	36.80	15.34	34.20	
	132665	1779.3	-21.80	36.94	15.14	32.66	
	131979	1710.7	-14.51	37.28	22.77	189.23	V
	132322	1745.0	-14.50	37.63	23.13	205.59	
	132665	1779.3	-14.73	37.64	22.91	195.43	
Channel Bandwidth: 1.4 MHz / 64QAM							
X	131979	1710.7	-22.46	36.45	13.99	25.06	H
	132322	1745.0	-22.53	36.80	14.27	26.73	
	132665	1779.3	-22.87	36.94	14.07	25.53	
	131979	1710.7	-15.58	37.28	21.70	147.91	V
	132322	1745.0	-15.57	37.63	22.06	160.69	
	132665	1779.3	-15.80	37.64	21.84	152.76	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	131987	1711.5	-20.15	36.45	16.30	42.66	H
	132322	1745.0	-20.22	36.80	16.58	45.50	
	132657	1778.5	-20.56	36.94	16.38	43.45	
	131987	1711.5	-13.27	37.28	24.01	251.77	V
	132322	1745.0	-13.26	37.63	24.37	273.53	
	132657	1778.5	-13.49	37.64	24.15	260.02	
Channel Bandwidth: 3 MHz / 16QAM							
X	131987	1711.5	-21.13	36.45	15.32	34.04	H
	132322	1745.0	-21.20	36.80	15.60	36.31	
	132657	1778.5	-21.54	36.94	15.40	34.67	
	131987	1711.5	-14.25	37.28	23.03	200.91	V
	132322	1745.0	-14.24	37.63	23.39	218.27	
	132657	1778.5	-14.47	37.64	23.17	207.49	
Channel Bandwidth: 3 MHz / 64QAM							
X	131987	1711.5	-22.19	36.45	14.26	26.67	H
	132322	1745.0	-22.26	36.80	14.54	28.44	
	132657	1778.5	-22.60	36.94	14.34	27.16	
	131987	1711.5	-15.31	37.28	21.97	157.40	V
	132322	1745.0	-15.30	37.63	22.33	171.00	
	132657	1778.5	-15.53	37.64	22.11	162.55	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	131997	1712.5	-19.88	36.45	16.57	45.39	H
	132322	1745.0	-19.95	36.80	16.85	48.42	
	132647	1777.5	-20.29	36.94	16.65	46.24	
	131997	1712.5	-13.00	37.28	24.28	267.92	V
	132322	1745.0	-12.99	37.63	24.64	291.07	
	132647	1777.5	-13.22	37.64	24.42	276.69	
Channel Bandwidth: 5 MHz / 16QAM							
X	131997	1712.5	-20.89	36.45	15.56	35.97	H
	132322	1745.0	-20.96	36.80	15.84	38.37	
	132647	1777.5	-21.30	36.94	15.64	36.64	
	131997	1712.5	-14.01	37.28	23.27	212.32	V
	132322	1745.0	-14.00	37.63	23.63	230.67	
	132647	1777.5	-14.23	37.64	23.41	219.28	
Channel Bandwidth: 5 MHz / 64QAM							
X	131997	1712.5	-21.91	36.45	14.54	28.44	H
	132322	1745.0	-21.98	36.80	14.82	30.34	
	132647	1777.5	-22.32	36.94	14.62	28.97	
	131997	1712.5	-15.03	37.28	22.25	167.88	V
	132322	1745.0	-15.02	37.63	22.61	182.39	
	132647	1777.5	-15.25	37.64	22.39	173.38	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	132022	1715.0	-19.82	36.64	16.82	48.08	H
	132322	1745.0	-19.70	36.80	17.10	51.29	
	132622	1775.0	-19.90	36.80	16.90	48.98	
	132022	1715.0	-12.91	37.44	24.53	283.79	V
	132322	1745.0	-12.74	37.63	24.89	308.32	
	132622	1775.0	-12.97	37.64	24.67	293.09	
Channel Bandwidth: 10 MHz / 16QAM							
X	132022	1715.0	-20.83	36.64	15.81	38.11	H
	132322	1745.0	-20.71	36.80	16.09	40.64	
	132622	1775.0	-20.91	36.80	15.89	38.82	
	132022	1715.0	-13.92	37.44	23.52	224.91	V
	132322	1745.0	-13.75	37.63	23.88	244.34	
	132622	1775.0	-13.98	37.64	23.66	232.27	
Channel Bandwidth: 10 MHz / 64QAM							
X	132022	1715.0	-21.83	36.64	14.81	30.27	H
	132322	1745.0	-21.71	36.80	15.09	32.28	
	132622	1775.0	-21.91	36.80	14.89	30.83	
	132022	1715.0	-14.92	37.44	22.52	178.65	V
	132322	1745.0	-14.75	37.63	22.88	194.09	
	132622	1775.0	-14.98	37.64	22.66	184.50	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	132047	1717.5	-19.39	36.45	17.06	50.82	H
	132322	1745.0	-19.46	36.80	17.34	54.20	
	132597	1772.5	-19.80	36.94	17.14	51.76	
	132047	1717.5	-12.51	37.28	24.77	299.92	V
	132322	1745.0	-12.50	37.63	25.13	325.84	
	132597	1772.5	-12.73	37.64	24.91	309.74	
Channel Bandwidth: 15 MHz / 16QAM							
X	132047	1717.5	-20.38	36.45	16.07	40.46	H
	132322	1745.0	-20.45	36.80	16.35	43.15	
	132597	1772.5	-20.79	36.94	16.15	41.21	
	132047	1717.5	-13.50	37.28	23.78	238.78	V
	132322	1745.0	-13.49	37.63	24.14	259.42	
	132597	1772.5	-13.72	37.64	23.92	246.60	
Channel Bandwidth: 15 MHz / 64QAM							
X	132047	1717.5	-21.38	36.45	15.07	32.14	H
	132322	1745.0	-21.45	36.80	15.35	34.28	
	132597	1772.5	-21.79	36.94	15.15	32.73	
	132047	1717.5	-14.50	37.28	22.78	189.67	V
	132322	1745.0	-14.49	37.63	23.14	206.06	
	132597	1772.5	-14.72	37.64	22.92	195.88	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

LTE Band 66							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	132072	1720.0	-19.14	36.45	17.31	53.83	H
	132322	1745.0	-19.21	36.80	17.59	57.41	
	132572	1770.0	-19.55	36.94	17.39	54.83	
	132072	1720.0	-12.26	37.28	25.02	317.69	V
	132322	1745.0	-12.25	37.63	25.38	345.14	
	132572	1770.0	-12.48	37.64	25.16	328.10	
Channel Bandwidth: 20 MHz / 16QAM							
X	132072	1720.0	-20.15	36.45	16.30	42.66	H
	132322	1745.0	-20.22	36.80	16.58	45.50	
	132572	1770.0	-20.56	36.94	16.38	43.45	
	132072	1720.0	-13.27	37.28	24.01	251.77	V
	132322	1745.0	-13.26	37.63	24.37	273.53	
	132572	1770.0	-13.49	37.64	24.15	260.02	
Channel Bandwidth: 20 MHz / 64QAM							
X	132072	1720.0	-21.13	36.45	15.32	34.04	H
	132322	1745.0	-21.20	36.80	15.60	36.31	
	132572	1770.0	-21.54	36.94	15.40	34.67	
	132072	1720.0	-14.25	37.28	23.03	200.91	V
	132322	1745.0	-14.24	37.63	23.39	218.27	
	132572	1770.0	-14.47	37.64	23.17	207.49	

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

- a. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. The limit of emission is equal to -13 dBm.
- b. For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm.

4.2.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- c. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}$.

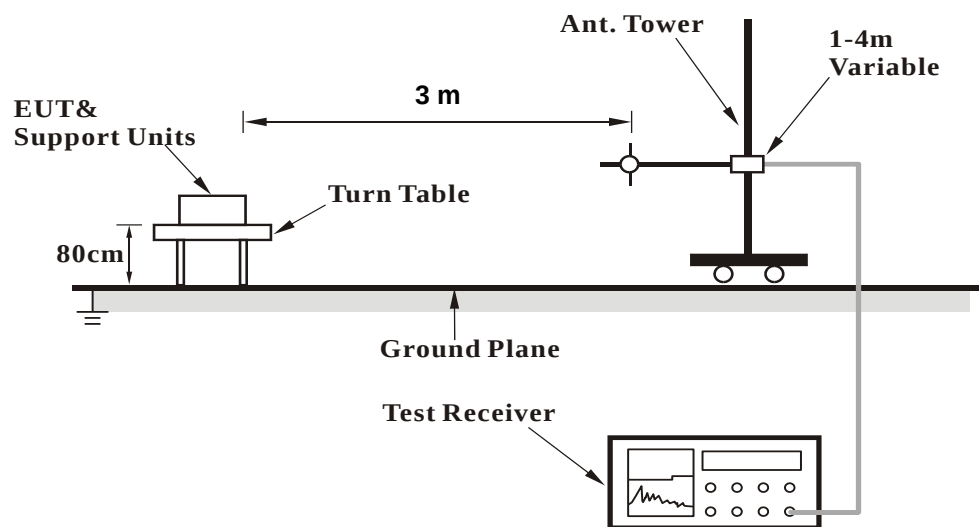
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

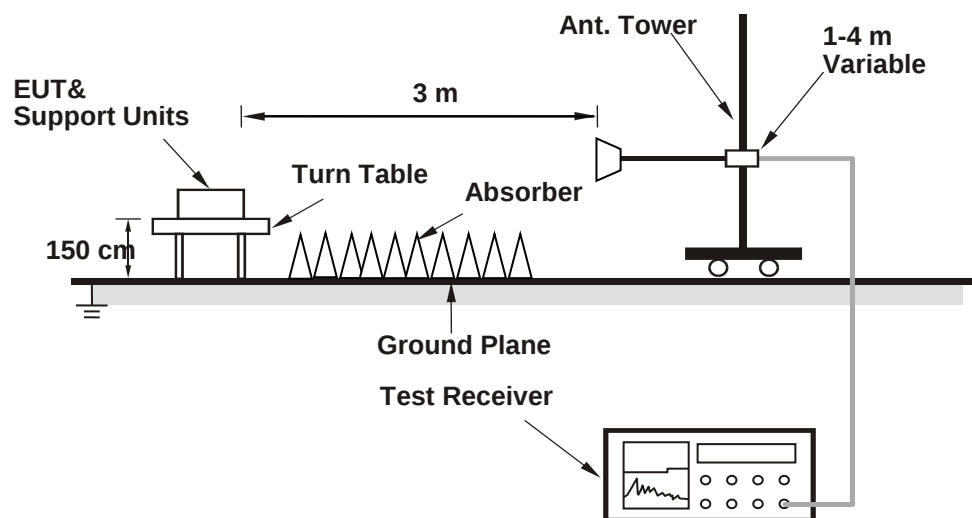
No deviation.

4.2.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.2.5 Test Results

WCDMA:

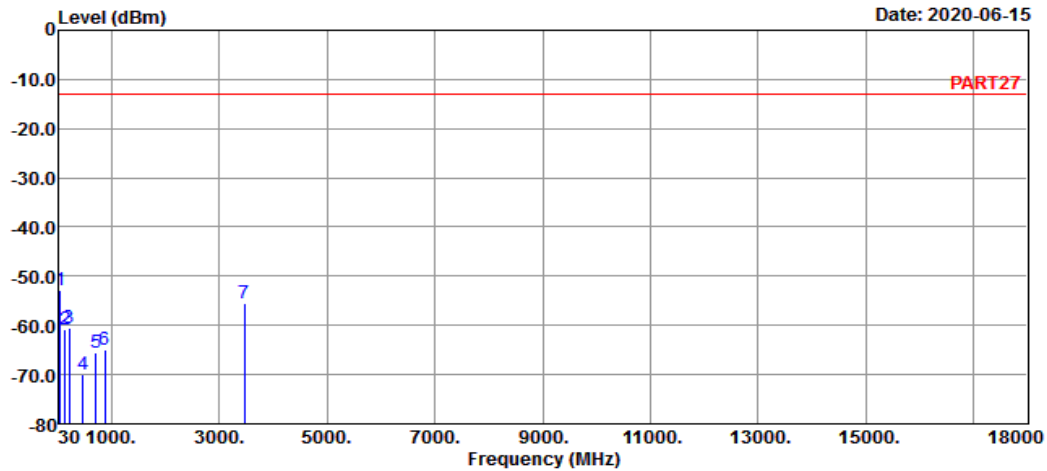
Middle Channel



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Data: 5



Site : 966 Chamber 5

Condition: PART27 HORIZONTAL

Remak : WCDMA Band 4 Link_M-CH

Tested by: tim-chen

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	dB	dB
1 pp	44.55	-52.86	-50.87	-13.00	-1.99	-39.86 Peak
2	142.52	-60.87	-52.51	-13.00	-8.36	-47.87 Peak
3	218.18	-60.39	-53.11	-13.00	-7.28	-47.39 Peak
4	470.38	-70.00	-64.83	-13.00	-5.17	-57.00 Peak
5	708.03	-65.63	-65.68	-13.00	0.05	-52.63 Peak
6	880.69	-64.89	-65.35	-13.00	0.46	-51.89 Peak
7	3465.20	-55.52	-47.64	-13.00	-7.88	-42.52 Peak

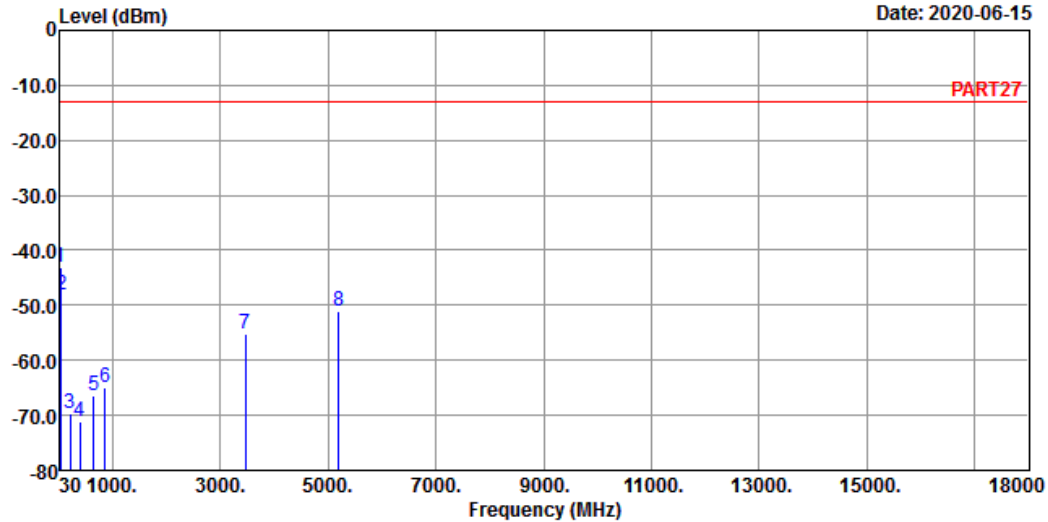


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Data: 6

Date: 2020-06-15



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : WCDMA Band 4 Link_M-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	34.85	-43.04	-40.97	-13.00	-2.07	-30.04	Peak
2	44.55	-48.21	-46.22	-13.00	-1.99	-35.21	Peak
3	220.12	-69.78	-62.58	-13.00	-7.20	-56.78	Peak
4	395.69	-71.21	-65.24	-13.00	-5.97	-58.21	Peak
5	653.71	-66.33	-65.51	-13.00	-0.82	-53.33	Peak
6	868.08	-64.85	-65.24	-13.00	0.39	-51.85	Peak
7	3465.20	-55.35	-47.47	-13.00	-7.88	-42.35	Peak
8	5197.80	-50.98	-48.91	-13.00	-2.07	-37.98	Peak

LTE Band 4
Channel Bandwidth: 20 MHz / QPSK
Middle Channel

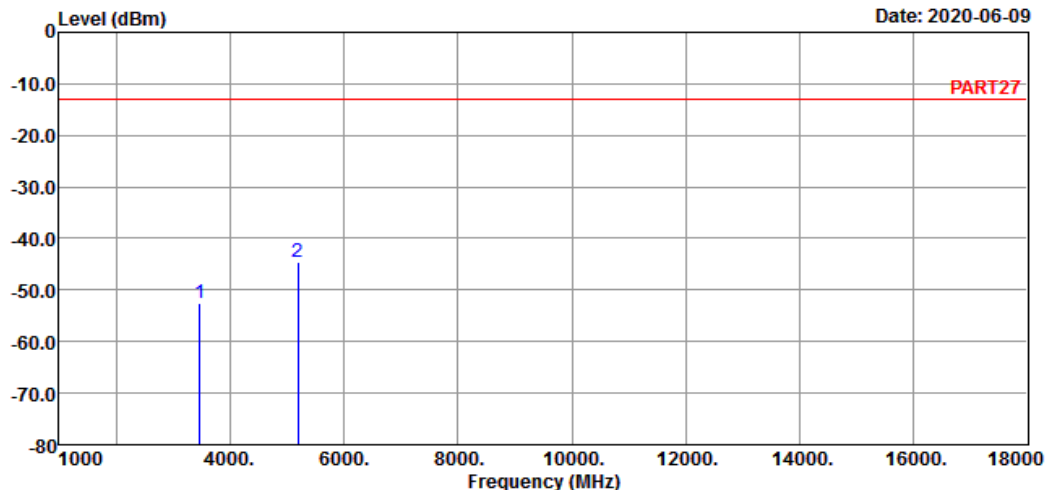


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Data: 3

Date: 2020-06-09



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 4 QPSK_20M Link_M-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	3465.00	-52.45	-44.57	-13.00	-7.88	-39.45	Peak
2 pp	5197.50	-44.59	-42.52	-13.00	-2.07	-31.59	Peak

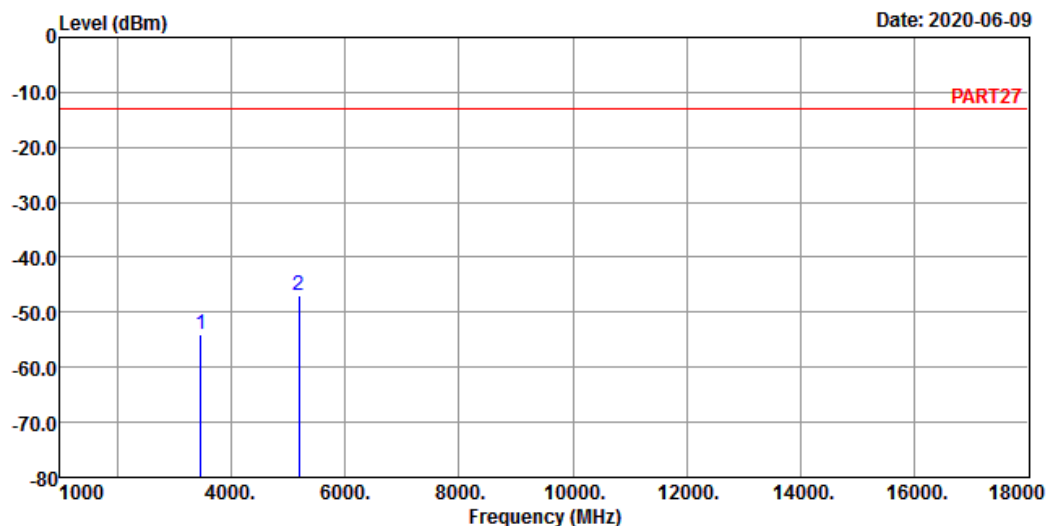


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Data: 4

Date: 2020-06-09



Site : 966 Chamber 5

Condition: PART27 VERTICAL

Remak : LTE Band 4 QPSK_20M Link_M-CH

Tested by: tim-chen

	Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	3465.00	-53.96	-46.08	-13.00	-7.88	-40.96	Peak
2 pp	5197.50	-47.08	-45.01	-13.00	-2.07	-34.08	Peak

LTE Band 12
Channel Bandwidth: 10 MHz / QPSK
High Channel

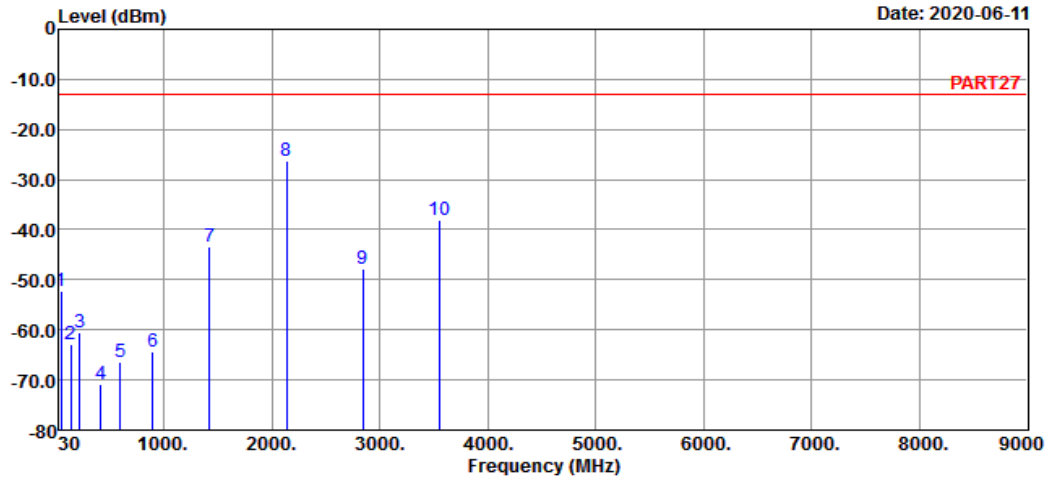


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Data: 5

Date: 2020-06-11



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 12 QPSK_10M Link_H-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	43.58	-52.21	-50.74	-25.00	-1.47	-27.21	Peak
2	140.58	-62.87	-54.31	-25.00	-8.56	-37.87	Peak
3	221.09	-60.50	-53.34	-25.00	-7.16	-35.50	Peak
4	418.00	-70.93	-65.13	-25.00	-5.80	-45.93	Peak
5	594.54	-66.46	-65.47	-25.00	-0.99	-41.46	Peak
6	893.30	-64.31	-64.84	-25.00	0.53	-39.31	Peak
7	1422.00	-43.47	-31.28	-13.00	-12.19	-30.47	Peak
8 pp	2133.00	-26.38	-16.71	-13.00	-9.67	-13.38	Peak
9	2844.00	-47.75	-39.29	-13.00	-8.46	-34.75	Peak
10	3555.00	-38.07	-30.92	-13.00	-7.15	-25.07	Peak

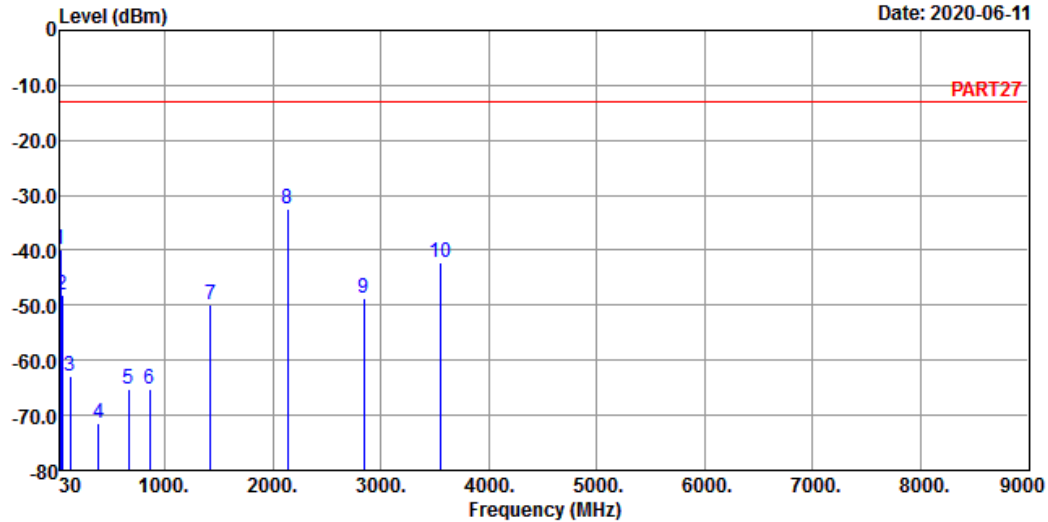


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Data: 6

Date: 2020-06-11



Site : 966 Chamber 5

Condition: PART27 VERTICAL

Remak : LTE Band 12 QPSK_10M Link_H-CH

Tested by: tim-chen

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	dB	Limit Remark
1 pp	35.82	-39.75	-38.22	-25.00	-1.53	-14.75 Peak
2	44.55	-48.04	-46.05	-25.00	-1.99	-23.04 Peak
3	123.12	-62.96	-53.46	-25.00	-9.50	-37.96 Peak
4	386.96	-71.56	-65.54	-25.00	-6.02	-46.56 Peak
5	665.35	-65.31	-64.67	-25.00	-0.64	-40.31 Peak
6	858.38	-65.26	-65.60	-25.00	0.34	-40.26 Peak
7	1422.00	-49.75	-37.56	-13.00	-12.19	-36.75 Peak
8	2133.00	-32.55	-22.88	-13.00	-9.67	-19.55 Peak
9	2844.00	-48.74	-40.28	-13.00	-8.46	-35.74 Peak
10	3555.00	-42.23	-35.08	-13.00	-7.15	-29.23 Peak

LTE Band 13
Channel Bandwidth: 10 MHz / QPSK
Middle Channel

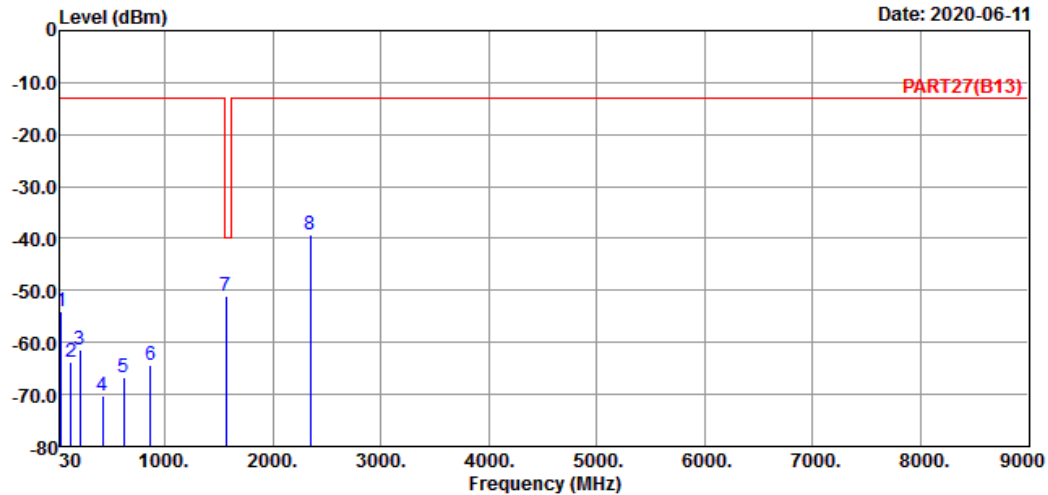


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Data: 5

Date: 2020-06-11



Site : 966 Chamber 5
Condition: PART27(B13) HORIZONTAL
Remak : LTE Band 13 QPSK_10M Link_M-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	42.61	-54.00	-53.06	-25.00	-0.94	-29.00	Peak
2	131.85	-63.91	-55.23	-25.00	-8.68	-38.91	Peak
3	215.27	-61.52	-54.12	-25.00	-7.40	-36.52	Peak
4	425.76	-70.26	-64.52	-25.00	-5.74	-45.26	Peak
5	616.85	-66.71	-65.91	-25.00	-0.80	-41.71	Peak
6	868.08	-64.40	-64.79	-25.00	0.39	-39.40	Peak
7 pp	1564.00	-51.15	-37.81	-40.00	-13.34	-11.15	Peak
8	2346.00	-39.24	-29.80	-13.00	-9.44	-26.24	Peak

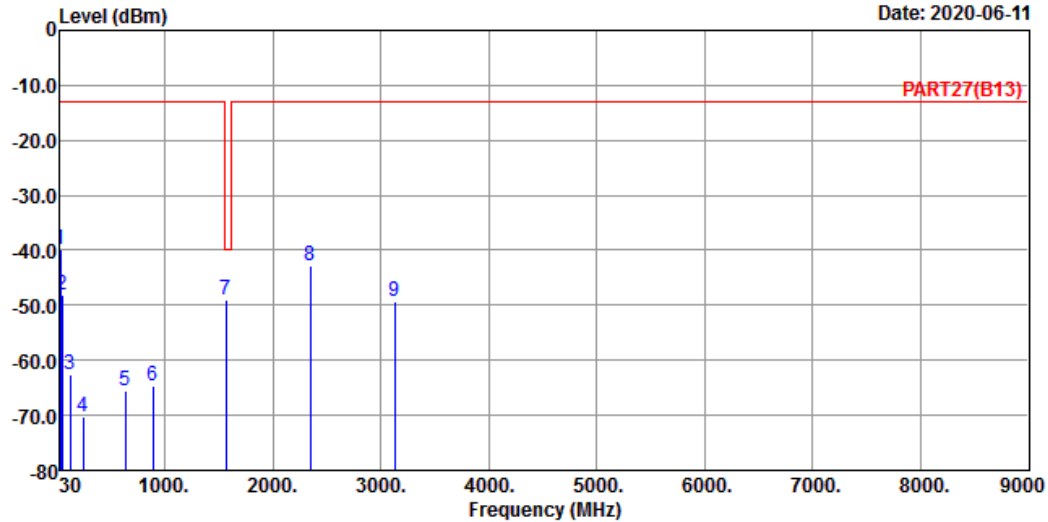


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

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Data: 6

Date: 2020-06-11



Site : 966 Chamber 5

Condition: PART27(B13) VERTICAL

Remak : LTE Band 13 QPSK_10M Link_M-CH

Tested by: tim-chen

	Freq	Level	Read Level	Limit	Over		
	MHz	dBm	dBm	dBm	Factor	Limit	Remark
1	35.82	-39.75	-38.22	-25.00	-1.53	-14.75	Peak
2	44.55	-48.04	-46.05	-25.00	-1.99	-23.04	Peak
3	122.15	-62.73	-53.11	-25.00	-9.62	-37.73	Peak
4	245.34	-70.21	-64.02	-25.00	-6.19	-45.21	Peak
5	637.22	-65.67	-64.82	-25.00	-0.85	-40.67	Peak
6	889.42	-64.78	-65.29	-25.00	0.51	-39.78	Peak
7 pp	1564.00	-48.98	-35.64	-40.00	-13.34	-8.98	Peak
8	2346.00	-42.76	-33.32	-13.00	-9.44	-29.76	Peak
9	3128.00	-49.33	-40.98	-13.00	-8.35	-36.33	Peak

LTE Band 66:
Channel Bandwidth: 20 MHz / QPSK
Middle Channel

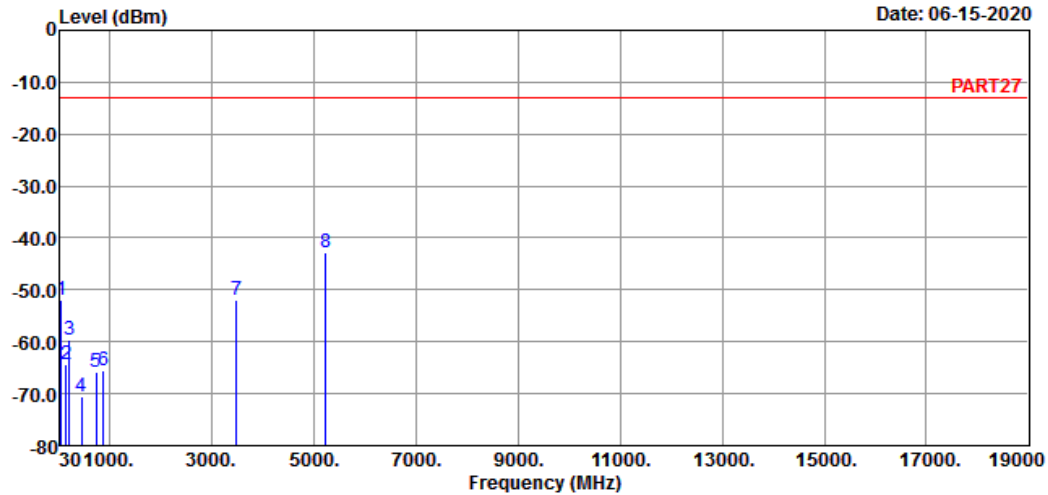


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-15-2020



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 66 QPSK_20M Link_M-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	43.58	-51.95	-50.48	-25.00	-1.47	-26.95	Peak
2	153.19	-64.38	-57.62	-25.00	-6.76	-39.38	Peak
3	216.24	-59.73	-52.37	-25.00	-7.36	-34.73	Peak
4	444.19	-70.63	-65.03	-25.00	-5.60	-45.63	Peak
5	735.19	-65.84	-66.43	-25.00	0.59	-40.84	Peak
6	882.63	-65.51	-65.98	-25.00	0.47	-40.51	Peak
7	3490.00	-51.86	-44.21	-13.00	-7.65	-38.86	Peak
8	5235.00	-42.85	-40.44	-13.00	-2.41	-29.85	Peak

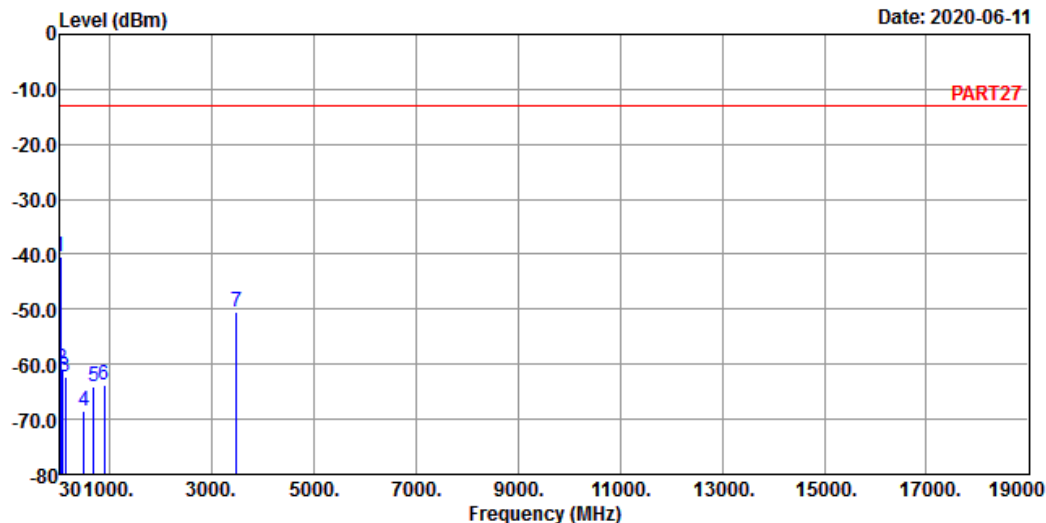


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

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Data: 6

Date: 2020-06-11



Site : 966 Chamber 5

Condition: PART27 VERTICAL

Remak : LTE Band 66 QPSK_20M Link_M-CH

Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	36.79	-40.54	-39.55	-25.00	-0.99	-15.54	Peak
2	70.74	-60.79	-52.17	-25.00	-8.62	-35.79	Peak
3	126.03	-62.39	-53.24	-25.00	-9.15	-37.39	Peak
4	498.51	-68.36	-63.71	-25.00	-4.65	-43.36	Peak
5	693.48	-64.19	-63.99	-25.00	-0.20	-39.19	Peak
6	893.30	-63.63	-64.16	-25.00	0.53	-38.63	Peak
7	3490.00	-50.50	-42.85	-13.00	-7.65	-37.50	Peak

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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