Partial FCC Test Report

(PART 27)

Report No.:	RF200522C02-7
FCC ID:	S9E-EM7565
Test Model:	EM7565
Received Date:	May 22, 2020
Test Date:	Jun. 11 ~ Jun. 30, 2020
Issued Date:	Jul. 03, 2020
Applicant:	Trimble Inc.
Address:	5475 Kellenburger Rd, Dayton, OH 45424
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF200522C02-7	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. 11 ~ Jun. 30, 2020
Standards:	FCC Part 27, Subpart C, M

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 : , **Date:** Jul. 03, 2020

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(h)(2)	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 27.53(m)(6)	Occupied Bandwidth	N/A	Refer to Note 1
--	Peak to Average Ratio	N/A	Refer to Note 1
27.53(m)(4)(6)	Out-of-Band Emissions Measurements	N/A	Refer to Note 1
2.1051 27.53(m)(4)(6)	Conducted Spurious Emissions	N/A	Refer to Note 1
2.1053 27.53(m)(4)(6)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.75 dB at 35.82 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 (EIRP) channel. Other testing data please refer to the SPORTON report no.: 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
Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 24, 2019	Nov. 23, 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	MT8820C	6201300640	Aug. 19, 2019	Aug. 18, 2021
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 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is 7450F-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	QPSK, 16QAM, 64QAM	
Frequency Range	LTE Band 7 (Channel Bandwidth: 5 MHz)	2502.5 ~ 2567.5 MHz
	LTE Band 7 (Channel Bandwidth: 10 MHz)	2505 ~ 2565 MHz
	LTE Band 7 (Channel Bandwidth: 15 MHz)	2507.5 ~ 2562.5 MHz
	LTE Band 7 (Channel Bandwidth: 20 MHz)	2510 ~ 2560 MHz
	LTE Band 41 (Channel Bandwidth: 5 MHz)	2498.5 ~ 2687.5 MHz
	LTE Band 41 (Channel Bandwidth: 10 MHz)	2501.0 ~ 2685.0 MHz
	LTE Band 41 (Channel Bandwidth: 15 MHz)	2503.5 ~ 2682.5 MHz
	LTE Band 41 (Channel Bandwidth: 20 MHz)	2506.0 ~ 2680.0 MHz
Max. EIRP Power	LTE Band 7 (Channel Bandwidth: 5 MHz)	130.02 mW
	LTE Band 7 (Channel Bandwidth: 10 MHz)	138.04 mW
	LTE Band 7 (Channel Bandwidth: 15 MHz)	146.55 mW
	LTE Band 7 (Channel Bandwidth: 20 MHz)	155.24 mW
	LTE Band 7 (Channel Bandwidth: 20+20 MHz)	188.80 mW
	LTE Band 41 (Channel Bandwidth: 5 MHz)	170.22 mW
	LTE Band 41 (Channel Bandwidth: 10 MHz)	180.72 mW
	LTE Band 41 (Channel Bandwidth: 15 MHz)	192.31 mW
	LTE Band 41 (Channel Bandwidth: 20 MHz)	203.70 mW
	LTE Band 41 (Channel Bandwidth: 20+20 MHz)	233.88 mW
Antenna Type	Refer to Note as below	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

1. 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

2. 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

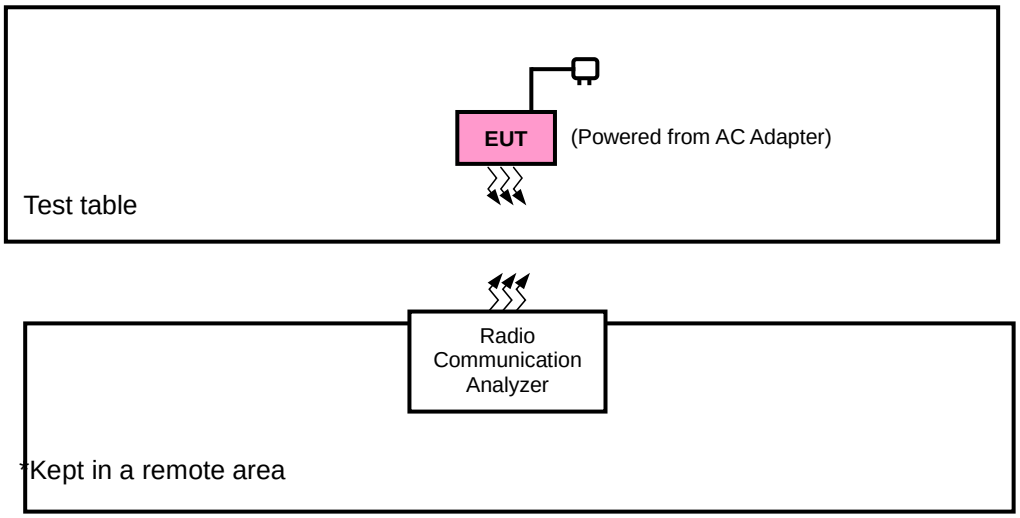
3. The antenna information is listed as below.

Antenna Type		PIFA	
Band		LTE	
		7	41
Gain	Main	-0.61	-0.44
	Aux.	0.32	1.13

4. 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.
5. 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.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	EIRP	Radiated Emission
LTE Band 7	X-plane	X-plane
LTE Band 7 CA	Z-plane	Z-plane
LTE Band 41	X-plane	Y-plane
LTE Band 41 CA	Z-plane	Z-plane

LTE Band 7

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21110, 21350	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	20850 to 21350	21350	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.

LTE Band 7 CA Mode

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	20850 to 21048	20850+21048	20+20 MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset
		21001 to 21199	21001+21199	20+20 MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset
		21152 to 21350	21152+21350	20+20 MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset
-	Radiated Emission	21100 to 211298	21100+21298	20+20 MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. Follow 3GPP after per-test all the mode and found 20+20 MHz was the bandwidths and power. Therefore only 20+20MHz was for the final test and presented in the test report
3. The configurations as below:

7C: 10MHz +20MHz、15MHz+10MHz、15MHz+15MHz、20MHz+10MHz、20MHz+15MHz、20MHz+20MHz

LTE Band 41

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	39715 to 41565	39715, 40620, 41565	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39740 to 41540	39740, 40620, 41540	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39765 to 41515	39765, 40620, 41515	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39790 to 41490	39790, 40620, 41490	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	39790 to 41490	41490	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.

LTE Band 41

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	39750 to 39948	39790 + 39948	20+20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		40620to 40818	40620 + 40818	20+20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		41292 to 41490	41292 + 41490	20+20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
-	Radiated Emission	41292 to 41490	41292 + 41490	20+20 MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset

Note:

3. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
4. 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.
5. The configurations as below:

41C: 10MHz +20MHz、15MHz+10MHz、15MHz+15MHz、20MHz+10MHz、20MHz+15MHz、20MHz+20MHz

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
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

3.1 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

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2 watts transmitter output power” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

4.1.2 Test Procedures

EIRP Measurement:

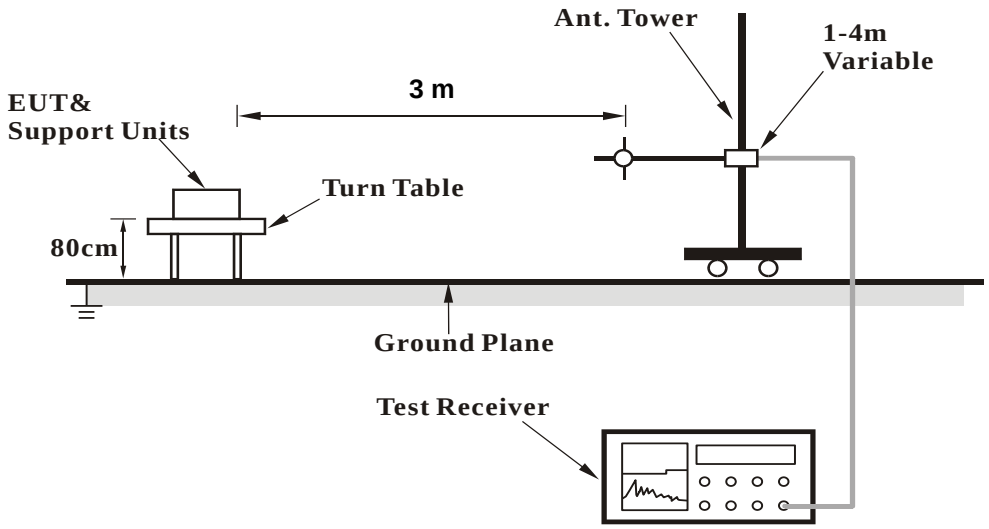
a. All measurements were done at low, middle and high operational frequency range. RBW is 5MHz、10 MHz、15MHz、20MHz、40MHz for LTE mode, and VBW ≥ 3 x RBW.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 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.
c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value“ of step b. Record the power level of S.G.
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

Conducted Power Measurement:

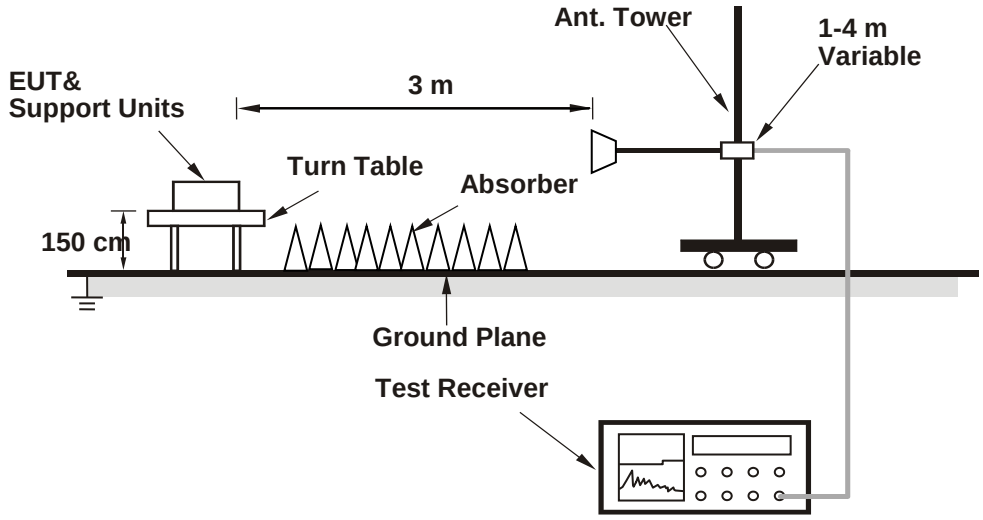
a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

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)

LTE Band 7															
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		20850	21100	21350				Channel		20825	21100	21375	
		Frequency (MHz)		2510.0	2535.0	2560.0				Frequency (MHz)		2507.5	2535.0	2562.5	
20M	QPSK	1	0	21.45	21.67	21.73	0	15M	QPSK	1	0	21.43	21.66	21.72	0
		1	50	21.34	21.56	21.62	0			1	37	21.24	21.51	21.62	0
		1	99	21.32	21.54	21.60	0			1	74	21.29	21.51	21.53	0
		50	0	20.44	20.66	20.72	1			36	0	20.42	20.61	20.69	1
		50	25	20.42	20.64	20.70	1			36	19	20.36	20.59	20.67	1
		50	50	20.36	20.58	20.64	1			36	39	20.33	20.52	20.56	1
		100	0	20.39	20.61	20.67	1			75	0	20.37	20.61	20.66	1
	16QAM	1	0	20.76	20.98	21.04	1		16QAM	1	0	20.69	20.88	21.04	1
		1	50	20.73	20.95	21.01	1			1	37	20.73	20.88	20.94	1
		1	99	20.59	20.81	20.87	1			1	74	20.56	20.72	20.83	1
		50	0	19.46	19.68	19.74	2			36	0	19.44	19.67	19.70	2
		50	25	19.33	19.55	19.61	2			36	19	19.28	19.51	19.57	2
		50	50	19.29	19.51	19.57	2			36	39	19.21	19.47	19.52	2
		100	0	19.30	19.52	19.58	2			75	0	19.30	19.50	19.52	2
	64QAM	1	0	20.63	20.85	20.91	2		64QAM	1	0	20.59	20.77	20.81	2
		1	50	20.61	20.83	20.89	2			1	37	20.60	20.79	20.81	2
		1	99	20.55	20.77	20.83	2			1	74	20.51	20.77	20.83	2
		50	0	19.43	19.65	19.71	3			36	0	19.39	19.65	19.66	3
		50	25	19.33	19.55	19.61	3			36	19	19.25	19.55	19.56	3
		50	50	19.29	19.51	19.57	3			36	39	19.28	19.43	19.48	3
		100	0	19.25	19.47	19.53	3			75	0	19.17	19.43	19.49	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		20800	21100	21400				Channel		20775	21100	21425	
		Frequency (MHz)		2505.0	2535.0	2565.0				Frequency (MHz)		2502.5	2535.0	2567.5	
10M	QPSK	1	0	21.40	21.53	21.62	0	5M	QPSK	1	0	21.33	21.55	21.53	0
		1	24	21.26	21.44	21.55	0			1	12	21.19	21.49	21.27	0
		1	49	21.27	21.37	21.58	0			1	24	21.14	21.38	21.45	0
		25	0	20.28	20.54	20.60	1			12	0	20.28	20.57	20.53	1
		25	12	20.27	20.41	20.67	1			12	6	20.26	20.44	20.49	1
		25	25	20.13	20.55	20.45	1			12	13	20.13	20.34	20.41	1
		50	0	20.21	20.52	20.47	1			25	0	20.26	20.39	20.39	1
	16QAM	1	0	20.74	20.84	20.81	1		16QAM	1	0	20.60	20.96	20.99	1
		1	24	20.51	20.88	20.91	1			1	12	20.62	20.86	20.91	1
		1	49	20.41	20.78	20.74	1			1	24	20.46	20.80	20.78	1
		25	0	19.37	19.55	19.50	2			12	0	19.38	19.63	19.62	2
		25	12	19.25	19.43	19.59	2			12	6	19.19	19.36	19.53	2
		25	25	19.19	19.45	19.46	2			12	13	19.21	19.35	19.49	2
		50	0	19.15	19.42	19.40	2			25	0	19.24	19.35	19.42	2
	64QAM	1	0	20.52	20.65	20.86	2		64QAM	1	0	20.47	20.79	20.73	2
		1	24	20.54	20.66	20.79	2			1	12	20.42	20.82	20.70	2
		1	49	20.48	20.66	20.78	2			1	24	20.40	20.72	20.71	2
		25	0	19.22	19.50	19.54	3			12	0	19.20	19.56	19.52	3
		25	12	19.11	19.46	19.41	3			12	6	19.16	19.46	19.47	3
		25	25	19.24	19.40	19.38	3			12	13	19.14	19.41	19.47	3
		50	0	19.18	19.37	19.33	3			25	0	19.10	19.37	19.31	3

LTE Band 41																			
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39750	40185	40620	41055	41490				Channel		39725	40160	40620	41080	41515	
		Frequency (MHz)		2506.0	2549.5	2593.0	2636.5	2680.0				Frequency (MHz)		2503.5	2547	2593	2639	2682.5	
20M	QPSK	1	0	21.64	21.83	21.92	21.78	21.71	0	15M	QPSK	1	0	21.61	21.80	21.89	21.75	21.68	0
		1	50	21.43	21.62	21.71	21.57	21.50	0			1	37	21.40	21.59	21.68	21.54	21.47	0
		1	99	21.37	21.56	21.65	21.51	21.44	0			1	74	21.34	21.53	21.62	21.48	21.41	0
		50	0	20.53	20.72	20.81	20.67	20.60	1			36	0	20.50	20.69	20.78	20.64	20.57	1
		50	25	20.36	20.55	20.64	20.50	20.43	1			36	19	20.33	20.52	20.61	20.47	20.40	1
		50	50	20.27	20.46	20.55	20.41	20.34	1			36	39	20.24	20.43	20.52	20.38	20.31	1
		100	0	20.24	20.43	20.52	20.38	20.31	1			75	0	20.21	20.40	20.49	20.35	20.28	1
	16QAM	1	0	20.70	20.89	20.98	20.84	20.77	1		16QAM	1	0	20.67	20.86	20.95	20.81	20.74	1
		1	50	20.54	20.73	20.82	20.68	20.61	1			1	37	20.51	20.70	20.79	20.65	20.58	1
		1	99	20.43	20.62	20.71	20.57	20.50	1			1	74	20.40	20.59	20.68	20.54	20.47	1
		50	0	19.75	19.67	19.95	19.88	19.81	2			36	0	19.94	19.82	20.08	19.96	19.98	2
		50	25	19.71	19.61	19.91	19.71	19.81	2			36	19	19.73	19.76	20.02	19.89	19.83	2
		50	50	19.61	19.48	19.80	19.50	19.71	2			36	39	19.44	19.43	19.62	19.55	19.53	2
		100	0	19.41	19.58	19.67	19.66	19.67	2			75	0	20.11	19.94	20.28	20.19	20.14	2
	64QAM	1	0	19.68	19.87	19.96	19.82	19.75	2		64QAM	1	0	19.62	19.81	19.90	19.76	19.69	2
		1	50	19.52	19.71	19.80	19.66	19.59	2			1	37	19.46	19.65	19.74	19.60	19.53	2
		1	99	19.41	19.60	19.69	19.55	19.48	2			1	74	19.35	19.54	19.63	19.49	19.42	2
		50	0	18.45	18.64	18.73	18.59	18.52	3			36	0	18.39	18.58	18.67	18.53	18.46	3
		50	25	18.38	18.57	18.66	18.52	18.45	3			36	19	18.32	18.51	18.60	18.46	18.39	3
		50	50	18.25	18.44	18.53	18.39	18.32	3			36	39	18.19	18.38	18.47	18.33	18.26	3
		100	0	18.37	18.56	18.65	18.51	18.44	3			75	0	18.31	18.50	18.59	18.45	18.38	3
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39700	40173	40620	41068	41540				Channel		39675	40148	40620	41093	41565	
		Frequency (MHz)		2501.0	2548.3	2593	2637.8	2685.0				Frequency (MHz)		2498.5	2545.8	2593	2640.3	2687.5	
10M	QPSK	1	0	21.57	21.76	21.85	21.71	21.64	0	5M	QPSK	1	0	21.51	21.70	21.79	21.65	21.58	0
		1	24	21.36	21.55	21.64	21.50	21.43	0			1	12	21.30	21.49	21.58	21.44	21.37	0
		1	49	21.30	21.49	21.58	21.44	21.37	0			1	24	21.24	21.43	21.52	21.38	21.31	0
		25	0	20.46	20.65	20.74	20.60	20.53	1			12	0	20.40	20.59	20.68	20.54	20.47	1
		25	12	20.29	20.48	20.57	20.43	20.36	1			12	6	20.23	20.42	20.51	20.37	20.30	1
		25	25	20.20	20.39	20.48	20.34	20.27	1			12	13	20.14	20.33	20.42	20.28	20.21	1
		50	0	20.17	20.36	20.45	20.31	20.24	1			25	0	20.11	20.30	20.39	20.25	20.18	1
	16QAM	1	0	20.63	20.82	20.91	20.77	20.70	1		16QAM	1	0	20.57	20.76	20.85	20.71	20.64	1
		1	24	20.47	20.66	20.75	20.61	20.54	1			1	12	20.41	20.60	20.69	20.55	20.48	1
		1	49	20.36	20.55	20.64	20.50	20.43	1			1	24	20.30	20.49	20.58	20.44	20.37	1
		25	0	19.87	19.77	20.08	19.95	19.91	2			12	0	19.82	19.81	20.05	19.93	19.94	2
		25	12	19.65	19.68	19.96	19.85	19.78	2			12	6	19.70	19.66	19.86	19.85	19.84	2
		25	25	19.43	19.39	19.60	19.54	19.44	2			12	13	19.42	19.33	19.51	19.57	19.48	2
		50	0	19.99	19.93	20.20	20.06	19.98	2			25	0	20.06	19.92	20.22	20.09	20.12	2
	64QAM	1	0	19.50	19.69	19.78	19.64	19.57	2		64QAM	1	0	19.45	19.64	19.73	19.59	19.52	2
		1	24	19.34	19.53	19.62	19.48	19.41	2			1	12	19.29	19.48	19.57	19.43	19.36	2
		1	49	19.23	19.42	19.51	19.37	19.30	2			1	24	19.18	19.37	19.46	19.32	19.25	2
		25	0	18.27	18.46	18.55	18.41	18.34	3			12	0	18.85	18.81	19.07	18.97	18.91	3
		25	12	18.20	18.39	18.48	18.34	18.27	3			12	6	18.79	18.66	18.87	18.86	18.78	3
		25	25	18.10	18.29	18.38	18.24	18.17	3			12	13	18.41	18.28	18.50	18.55	18.52	3
		50	0	18.19	18.38	18.47	18.33	18.26	3			25	0	19.05	18.94	19.21	19.10	19.12	3

Uplink Carrier Aggregation Scenarios Conducted Power

Confugure	Combination	PCC							SCC							Measurement Power		
		Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Channel	UL Frequency (MHz)	Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Channel	UL Frequency (MHz)	Maximum Tune-up Power	MPR Level (dB)	Tx Power with UL-CA Active (dBm)
																		Total
Intra Band Contiguous	7C	7	20	QPSK	1	0	20850	2510	7	20	QPSK	1	99	21048	2529.8	23	0-8.5	14.71
					1	99						1	0			23	0	22.42
		7	20	QPSK	1	0	21100	2535	7	20	QPSK	1	99	21298	2554.8	23	0-8.5	14.83
					1	99						1	0			23	0	22.54
		7	20	QPSK	1	0	21152	2540.2	7	20	QPSK	1	99	21350	2560	23	0-8.5	14.60
					1	99						1	0			23	0	22.54
	41C	41	20	QPSK	1	0	39750	2506	41	20	QPSK	1	99	39948	2525.8	23	0-8.5	14.90
					1	99						1	0			23	0	22.61
		41	20	QPSK	1	0	40185	2549.5	41	20	QPSK	1	99	40383	2569.3	23	0-8.5	14.67
					1	99						1	0			23	0	22.54
		41	20	QPSK	1	0	40620	2593	41	20	QPSK	1	99	40818	2612.8	23	0-8.5	14.79
					1	99						1	0			23	0	22.49
		41	20	QPSK	1	0	41055	2636.5	41	20	QPSK	1	99	41253	2656.3	23	0-8.5	14.86
					1	99						1	0			23	0	22.66
		41	20	QPSK	1	0	41292	2660.2	41	20	QPSK	1	99	41490	2680	23	0-8.5	15.14
					1	99						1	0			23	0	22.54

EIRP Power (dBm)

LTE Band 7							
Channel Bandwidth: 5 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20775	2502.5	-24.90	38.52	13.62	23.01	H
	21100	2535.0	-24.62	38.36	13.74	23.66	
	21425	2567.5	-24.74	38.58	13.84	24.21	
	20775	2502.5	-17.90	38.92	21.02	126.47	V
	21100	2535.0	-18.16	39.26	21.10	128.82	
	21425	2567.5	-18.08	39.22	21.14	130.02	
Channel Bandwidth: 5 MHz / 16QAM							
X	20775	2502.5	-25.92	38.52	12.60	18.20	H
	21100	2535.0	-25.64	38.36	12.72	18.71	
	21425	2567.5	-25.76	38.58	12.82	19.14	
	20775	2502.5	-18.92	38.92	20.00	100.00	V
	21100	2535.0	-19.18	39.26	20.08	101.86	
	21425	2567.5	-19.10	39.22	20.12	102.80	
Channel Bandwidth: 5 MHz / 64QAM							
X	20775	2502.5	-26.89	38.52	11.63	14.55	H
	21100	2535.0	-26.61	38.36	11.75	14.96	
	21425	2567.5	-26.73	38.58	11.85	15.31	
	20775	2502.5	-19.89	38.92	19.03	79.98	V
	21100	2535.0	-20.15	39.26	19.11	81.47	
	21425	2567.5	-20.07	39.22	19.15	82.22	

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

LTE Band 7							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20800	2505.0	-24.77	38.65	13.88	24.43	H
	21100	2535.0	-24.36	38.36	14.00	25.12	
	21400	2565.0	-24.39	38.49	14.10	25.70	
	20800	2505.0	-17.56	38.84	21.28	134.28	V
	21100	2535.0	-17.90	39.26	21.36	136.77	
	21400	2565.0	-17.70	39.10	21.40	138.04	
Channel Bandwidth: 10 MHz / 16QAM							
X	20800	2505.0	-25.78	38.65	12.87	19.36	H
	21100	2535.0	-25.37	38.36	12.99	19.91	
	21400	2565.0	-25.40	38.49	13.09	20.37	
	20800	2505.0	-18.57	38.84	20.27	106.41	V
	21100	2535.0	-18.91	39.26	20.35	108.39	
	21400	2565.0	-18.71	39.10	20.39	109.40	
Channel Bandwidth: 10 MHz / 64QAM							
X	20800	2505.0	-26.76	38.65	11.89	15.45	H
	21100	2535.0	-26.35	38.36	12.01	15.89	
	21400	2565.0	-26.38	38.49	12.11	16.26	
	20800	2505.0	-19.55	38.84	19.29	84.92	V
	21100	2535.0	-19.89	39.26	19.37	86.50	
	21400	2565.0	-19.69	39.10	19.41	87.30	

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

LTE Band 7							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20825	2507.5	-24.38	38.52	14.14	25.94	H
	21100	2535.0	-24.10	38.36	14.26	26.67	
	21375	2562.5	-24.22	38.58	14.36	27.29	
	20825	2507.5	-17.38	38.92	21.54	142.56	V
	21100	2535.0	-17.64	39.26	21.62	145.21	
	21375	2562.5	-17.56	39.22	21.66	146.55	
Channel Bandwidth: 15 MHz / 16QAM							
X	20825	2507.5	-25.39	38.52	13.13	20.56	H
	21100	2535.0	-25.11	38.36	13.25	21.13	
	21375	2562.5	-25.23	38.58	13.35	21.63	
	20825	2507.5	-18.39	38.92	20.53	112.98	V
	21100	2535.0	-18.65	39.26	20.61	115.08	
	21375	2562.5	-18.57	39.22	20.65	116.14	
Channel Bandwidth: 15 MHz / 64QAM							
X	20825	2507.5	-26.37	38.52	12.15	16.41	H
	21100	2535.0	-26.09	38.36	12.27	16.87	
	21375	2562.5	-26.21	38.58	12.37	17.26	
	20825	2507.5	-19.37	38.92	19.55	90.16	V
	21100	2535.0	-19.63	39.26	19.63	91.83	
	21375	2562.5	-19.55	39.22	19.67	92.68	

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

LTE Band 7							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	20850	2510.0	-24.13	38.52	14.39	27.48	H
	21100	2535.0	-23.85	38.36	14.51	28.25	
	21350	2560.0	-23.97	38.58	14.61	28.91	
	20850	2510.0	-17.13	38.92	21.79	151.01	V
	21100	2535.0	-17.39	39.26	21.87	153.82	
	21350	2560.0	-17.31	39.22	21.91	155.24	
Channel Bandwidth: 20 MHz / 16QAM							
X	20850	2510.0	-25.16	38.52	13.36	21.68	H
	21100	2535.0	-24.88	38.36	13.48	22.28	
	21350	2560.0	-25.00	38.58	13.58	22.80	
	20850	2510.0	-18.16	38.92	20.76	119.12	V
	21100	2535.0	-18.42	39.26	20.84	121.34	
	21350	2560.0	-18.34	39.22	20.88	122.46	
Channel Bandwidth: 20 MHz / 64QAM							
X	20850	2510.0	-26.13	38.52	12.39	17.34	H
	21100	2535.0	-25.85	38.36	12.51	17.82	
	21350	2560.0	-25.97	38.58	12.61	18.24	
	20850	2510.0	-19.13	38.92	19.79	95.28	V
	21100	2535.0	-19.39	39.26	19.87	97.05	
	21350	2560.0	-19.31	39.22	19.91	97.95	

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

CA Mode

LTE Band 7							
Channel Bandwidth: 20+20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	20850+21048	2519.9	-25.69	43.66	18.11	64.71	H
	21001+21199	2544.9	-25.62	43.66	18.23	66.53	
	21152+21350	2550.1	-25.98	43.66	18.20	66.07	
	20850+21048	2519.9	-21.85	44.30	22.65	184.08	V
	21001+21199	2544.9	-21.85	44.30	22.76	188.80	
	21152+21350	2550.1	-21.85	44.30	22.73	187.50	

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

LTE Band 41							
Channel Bandwidth: 5 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39675	2498.5	-22.75	38.99	16.24	42.07	H
	40620	2593.0	-21.81	38.17	16.36	43.25	
	41565	2687.5	-22.14	38.55	16.41	43.75	
	39675	2498.5	-17.27	39.27	22.00	158.49	V
	40620	2593.0	-16.41	38.68	22.27	168.66	
	41565	2687.5	-16.24	38.55	22.31	170.22	
Channel Bandwidth: 5 MHz / 16QAM							
X	39675	2498.5	-26.39	38.99	12.60	18.20	H
	40620	2593.0	-25.45	38.17	12.72	18.71	
	41565	2687.5	-25.78	38.55	12.77	18.92	
	39675	2498.5	-20.91	39.27	18.36	68.55	V
	40620	2593.0	-20.05	38.68	18.63	72.95	
	41565	2687.5	-19.88	38.55	18.67	73.62	
Channel Bandwidth: 5 MHz / 64QAM							
X	39675	2498.5	-24.72	38.99	14.27	26.73	H
	40620	2593.0	-23.78	38.17	14.39	27.48	
	41565	2687.5	-24.11	38.55	14.44	27.80	
	39675	2498.5	-19.24	39.27	20.03	100.69	V
	40620	2593.0	-18.38	38.68	20.30	107.15	
	41565	2687.5	-18.21	38.55	20.34	108.14	

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

LTE Band 41							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39700	2501.0	-22.48	38.98	16.50	44.67	H
	40620	2593.0	-21.55	38.17	16.62	45.92	
	41540	2685.0	-21.78	38.45	16.67	46.45	
	39700	2501.0	-16.78	39.04	22.26	168.27	V
	40620	2593.0	-16.15	38.68	22.53	179.06	
	41540	2685.0	-16.03	38.60	22.57	180.72	
Channel Bandwidth: 10 MHz / 16QAM							
X	39700	2501.0	-26.12	38.98	12.86	19.32	H
	40620	2593.0	-25.19	38.17	12.98	19.86	
	41540	2685.0	-25.42	38.45	13.03	20.09	
	39700	2501.0	-20.42	39.04	18.62	72.78	V
	40620	2593.0	-19.79	38.68	18.89	77.45	
	41540	2685.0	-19.67	38.60	18.93	78.16	
Channel Bandwidth: 10 MHz / 64QAM							
X	39700	2501.0	-24.44	38.98	14.54	28.44	H
	40620	2593.0	-23.51	38.17	14.66	29.24	
	41540	2685.0	-23.74	38.45	14.71	29.58	
	39700	2501.0	-18.74	39.04	20.30	107.15	V
	40620	2593.0	-18.11	38.68	20.57	114.02	
	41540	2685.0	-17.99	38.60	20.61	115.08	

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

LTE Band 41							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39725	2503.5	-22.32	39.09	16.77	47.53	H
	40620	2593.0	-21.28	38.17	16.89	48.87	
	41515	2682.5	-21.58	38.52	16.94	49.43	
	39725	2503.5	-16.51	39.04	22.53	179.06	V
	40620	2593.0	-15.88	38.68	22.80	190.55	
	41515	2682.5	-15.82	38.66	22.84	192.31	
Channel Bandwidth: 15 MHz / 16QAM							
X	39725	2503.5	-26.00	39.09	13.09	20.37	H
	40620	2593.0	-24.96	38.17	13.21	20.94	
	41515	2682.5	-25.26	38.52	13.26	21.18	
	39725	2503.5	-20.19	39.04	18.85	76.74	V
	40620	2593.0	-19.56	38.68	19.12	81.66	
	41515	2682.5	-19.50	38.66	19.16	82.41	
Channel Bandwidth: 15 MHz / 64QAM							
X	39725	2503.5	-24.32	39.09	14.77	29.99	H
	40620	2593.0	-23.28	38.17	14.89	30.83	
	41515	2682.5	-23.58	38.52	14.94	31.19	
	39725	2503.5	-18.51	39.04	20.53	112.98	V
	40620	2593.0	-17.88	38.68	20.80	120.23	
	41515	2682.5	-17.82	38.66	20.84	121.34	

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

LTE Band 41							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	39750	2506.0	-22.24	39.26	17.02	50.35	H
	40620	2593.0	-21.03	38.17	17.14	51.76	
	41490	2680.0	-21.52	38.71	17.19	52.36	
	39750	2506.0	-16.55	39.33	22.78	189.67	V
	40620	2593.0	-15.63	38.68	23.05	201.84	
	41490	2680.0	-15.67	38.76	23.09	203.70	
Channel Bandwidth: 20 MHz / 16QAM							
X	39750	2506.0	-25.93	39.26	13.33	21.53	H
	40620	2593.0	-24.72	38.17	13.45	22.13	
	41490	2680.0	-25.21	38.71	13.50	22.39	
	39750	2506.0	-20.24	39.33	19.09	81.10	V
	40620	2593.0	-19.32	38.68	19.36	86.30	
	41490	2680.0	-19.36	38.76	19.40	87.10	
Channel Bandwidth: 20 MHz / 64QAM							
X	39750	2506.0	-24.25	39.26	15.01	31.70	H
	40620	2593.0	-23.04	38.17	15.13	32.58	
	41490	2680.0	-23.53	38.71	15.18	32.96	
	39750	2506.0	-18.56	39.33	20.77	119.40	V
	40620	2593.0	-17.64	38.68	21.04	127.06	
	41490	2680.0	-17.68	38.76	21.08	128.23	

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

CA Mode

LTE Band 41							
Channel Bandwidth: 20+20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	39750 + 39948	2515.9	-17.52	38.71	18.58	72.11	H
	40620 + 40818	2602.9	-17.48	38.71	18.46	70.15	
	41292 + 41490	2670.1	-17.32	38.71	18.51	70.96	
	39750 + 39948	2515.9	-21.63	38.76	23.69	233.88	V
	40620 + 40818	2602.9	-21.03	38.76	23.52	224.91	
	41292 + 41490	2670.1	-20.59	38.76	23.61	229.61	

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

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 + 10 log (P) dB. The limit of emission is equal to -25 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 = Output power level of S.G – TX cable loss + 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 power = E.I.R.P power - 2.15 dB.

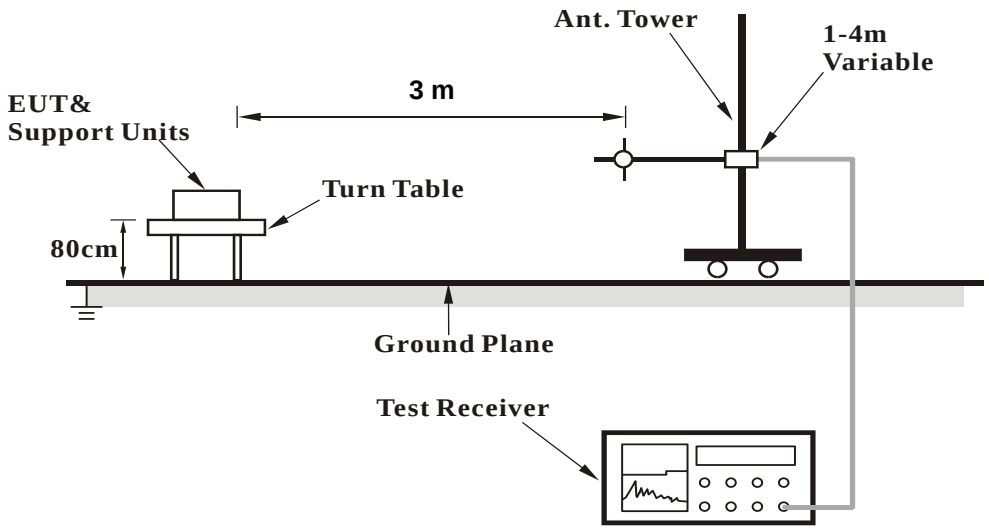
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

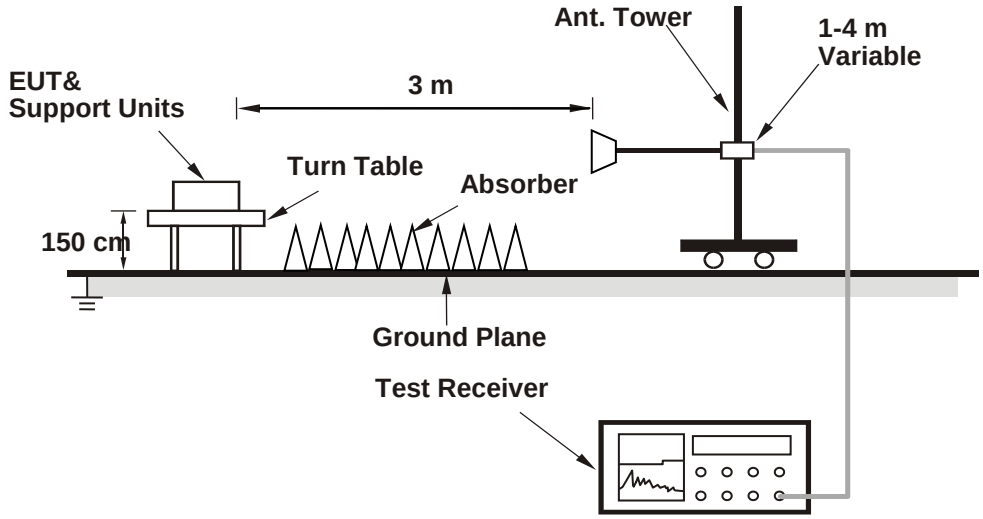
No deviation.

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).

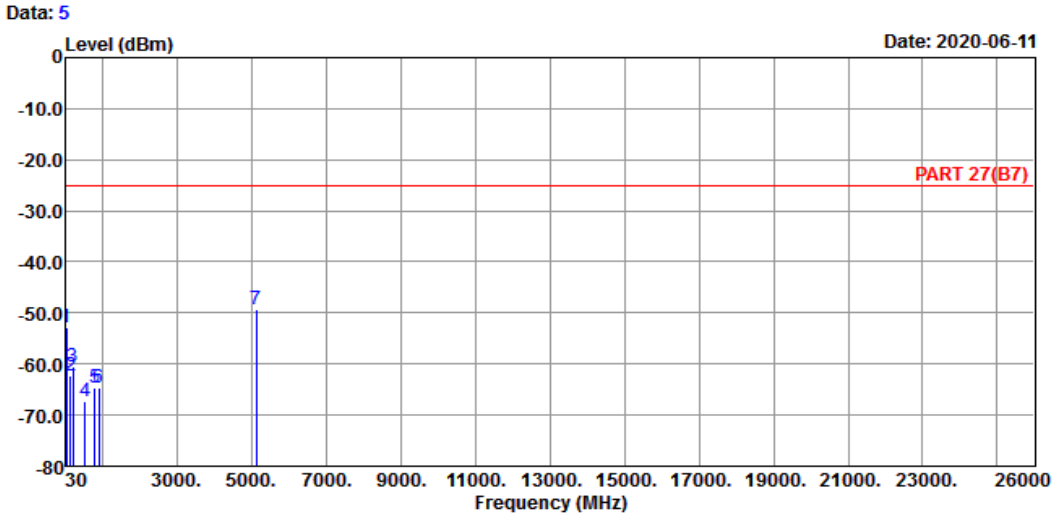
4.2.5 Test Results

LTE Band 7

Channel Bandwidth: 20 MHz / QPSK

High Channel

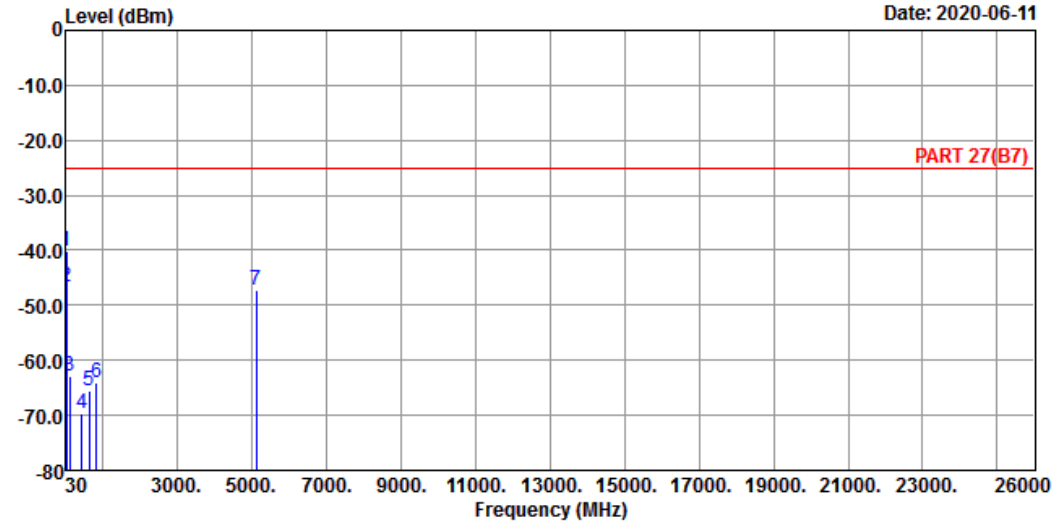
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition: PART 27(B7) HORIZONTAL
Remak : LTE Band 7 QPSK_20M Link_H-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	44.55	-52.86	-50.87	-13.00	-1.99	-39.86	Peak
2	146.40	-62.18	-54.21	-13.00	-7.97	-49.18	Peak
3	218.18	-60.39	-53.11	-13.00	-7.28	-47.39	Peak
4	546.04	-67.22	-64.23	-13.00	-2.99	-54.22	Peak
5	793.39	-64.78	-65.53	-13.00	0.75	-51.78	Peak
6	898.15	-64.58	-65.14	-13.00	0.56	-51.58	Peak
7 pp	5120.00	-49.44	-47.78	-25.00	-1.66	-24.44	Peak

Data: 6

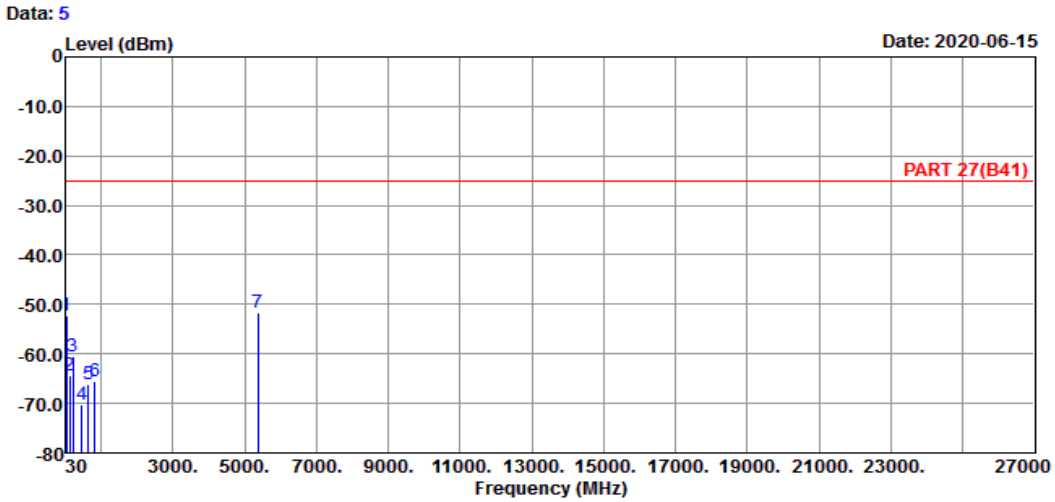


Site : 966 Chamber 5
Condition: PART 27(B7) VERTICAL
Remak : LTE Band 7 QPSK_20M Link_H-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	36.79	-40.26	-39.27	-13.00	-0.99	-27.26	Peak
2	45.52	-46.71	-44.21	-13.00	-2.50	-33.71	Peak
3	125.06	-62.99	-53.72	-13.00	-9.27	-49.99	Peak
4	455.83	-69.69	-64.25	-13.00	-5.44	-56.69	Peak
5	637.22	-65.50	-64.65	-13.00	-0.85	-52.50	Peak
6	833.16	-64.02	-64.46	-13.00	0.44	-51.02	Peak
7 pp	5120.00	-47.18	-45.52	-25.00	-1.66	-22.18	Peak

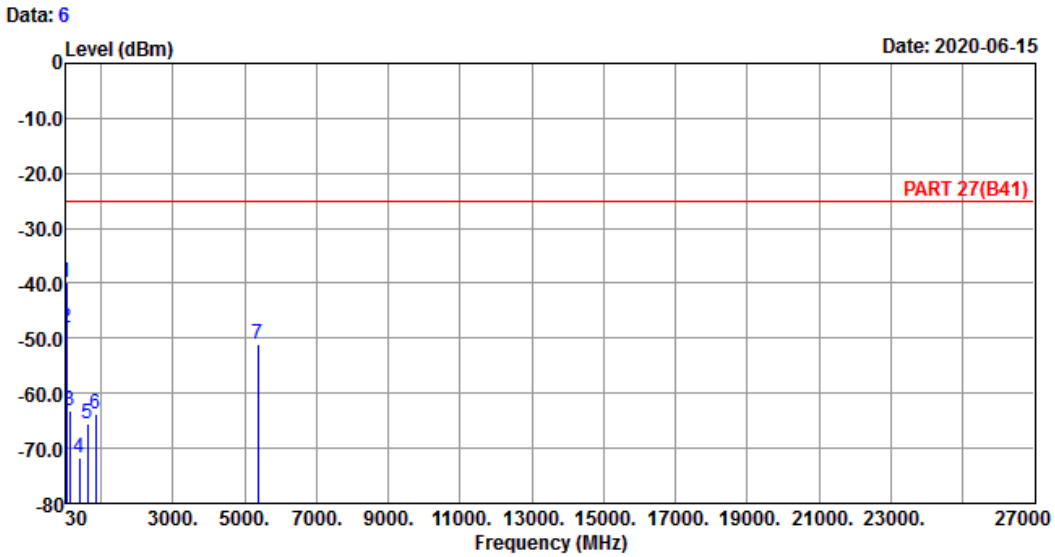
LTE Band 41
Channel Bandwidth: 20 MHz / QPSK
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_20M 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	130.88	-64.33	-55.64	-25.00	-8.69	-39.33	Peak
3	221.09	-60.50	-53.34	-25.00	-7.16	-35.50	Peak
4	463.59	-70.31	-65.01	-25.00	-5.30	-45.31	Peak
5	639.16	-66.15	-65.29	-25.00	-0.86	-41.15	Peak
6	829.28	-65.68	-66.15	-25.00	0.47	-40.68	Peak
7 pp	5360.00	-51.78	-49.27	-25.00	-2.51	-26.78	Peak



Site : 966 Chamber 5
Condition: PART 27(B41) VERTICAL
Remak : LTE Band 41 QPSK_20M Link_H-CH
Tested by: tim-chen

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
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	120.21	-63.28	-53.43	-25.00	-9.85	-38.28	Peak
4	402.48	-71.80	-65.87	-25.00	-5.93	-46.80	Peak
5	615.88	-65.42	-64.63	-25.00	-0.79	-40.42	Peak
6	861.29	-63.62	-63.98	-25.00	0.36	-38.62	Peak
7	5360.00	-51.07	-48.56	-25.00	-2.51	-26.07	Peak

CA Mode

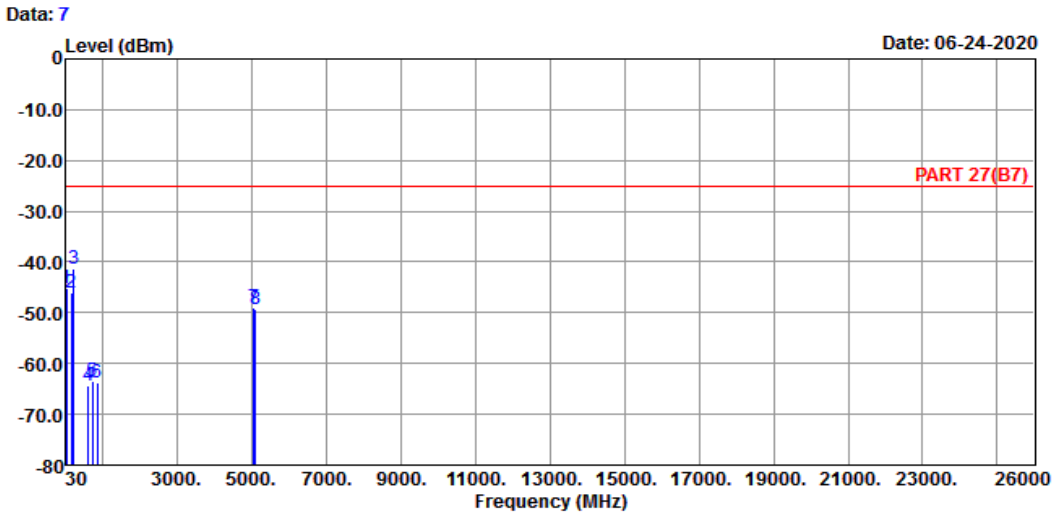
LTE Band 7 + LTE Band 7

Channel Bandwidth: 20 MHz + 20 MHz / QPSK

Channel: CH21100+CH21298

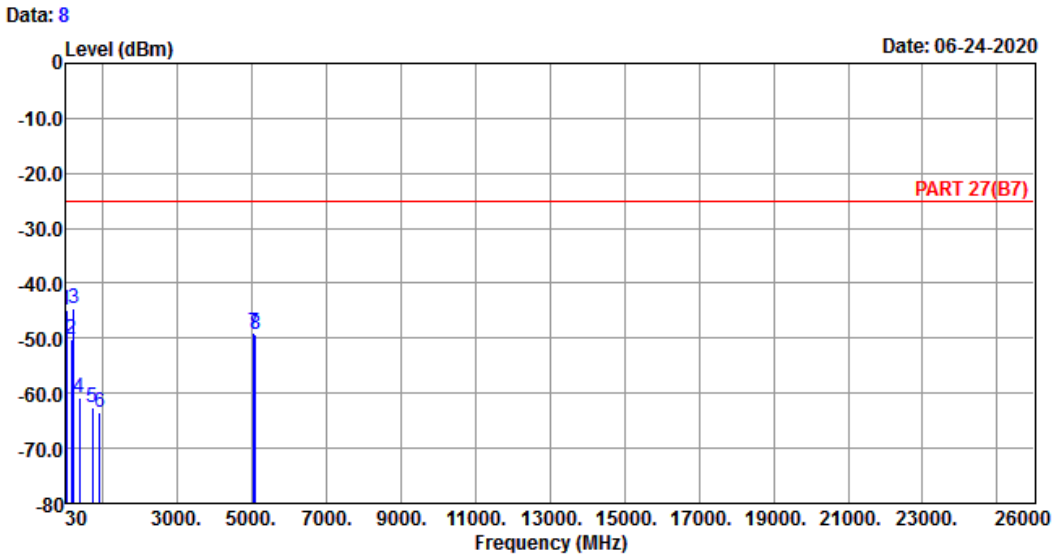
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T



Site : 966 Chamber 5
Condition: PART 27(B7) HORIZONTAL
Remark : LTE Band 7 QPSK_40M_CH21100+CH21298
Tested by: Jisyong Wang

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	44.55	-45.08	-43.09	-25.00	-1.99	-20.08	Peak
2	162.89	-46.02	-40.97	-25.00	-5.05	-21.02	Peak
3 pp	225.94	-41.39	-34.42	-25.00	-6.97	-16.39	Peak
4	622.67	-64.42	-63.61	-25.00	-0.81	-39.42	Peak
5	733.25	-63.56	-64.11	-25.00	0.55	-38.56	Peak
6	865.17	-63.89	-64.27	-25.00	0.38	-38.89	Peak
7	5070.00	-49.12	-47.25	-25.00	-1.87	-24.12	Peak
8	5109.60	-49.21	-47.63	-25.00	-1.58	-24.21	Peak

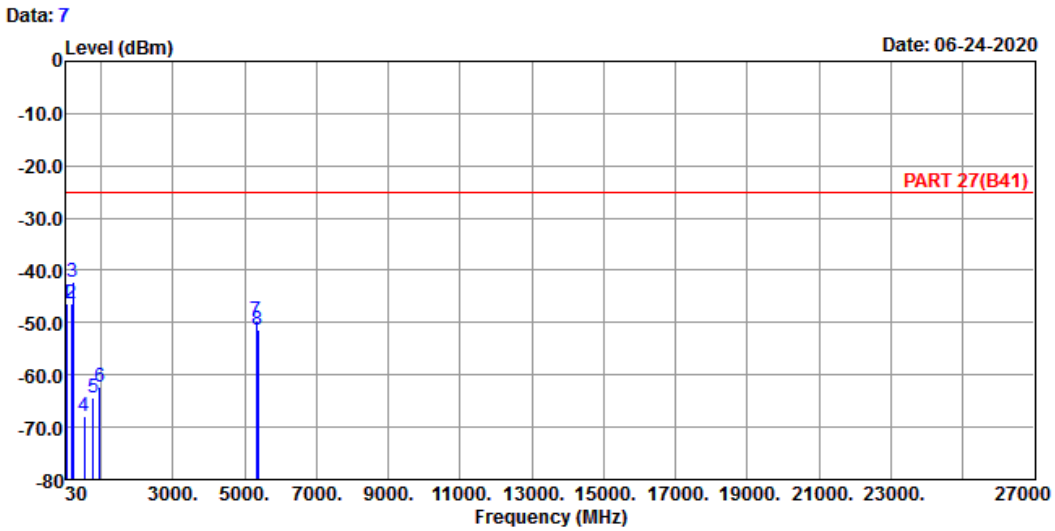


Site : 966 Chamber 5
Condition: PART 27(B7) VERTICAL
Remark : LTE Band 7 QPSK_40M_CH21100+CH21298
Tested by: Jisyong Wang

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	43.58	-45.01	-43.54	-25.00	-1.47	-20.01	Peak
2	174.53	-50.14	-43.76	-25.00	-6.38	-25.14	Peak
3 pp	229.82	-44.43	-37.62	-25.00	-6.81	-19.43	Peak
4	389.87	-60.69	-54.69	-25.00	-6.00	-35.69	Peak
5	737.13	-62.50	-63.13	-25.00	0.63	-37.50	Peak
6	932.10	-63.59	-64.96	-25.00	1.37	-38.59	Peak
7	5070.00	-49.01	-47.14	-25.00	-1.87	-24.01	Peak
8	5109.60	-49.16	-47.58	-25.00	-1.58	-24.16	Peak

LTE Band 41 + LTE Band 41
Channel Bandwidth: 20 MHz + 20 MHz / QPSK
Channel: CH41292+CH41490

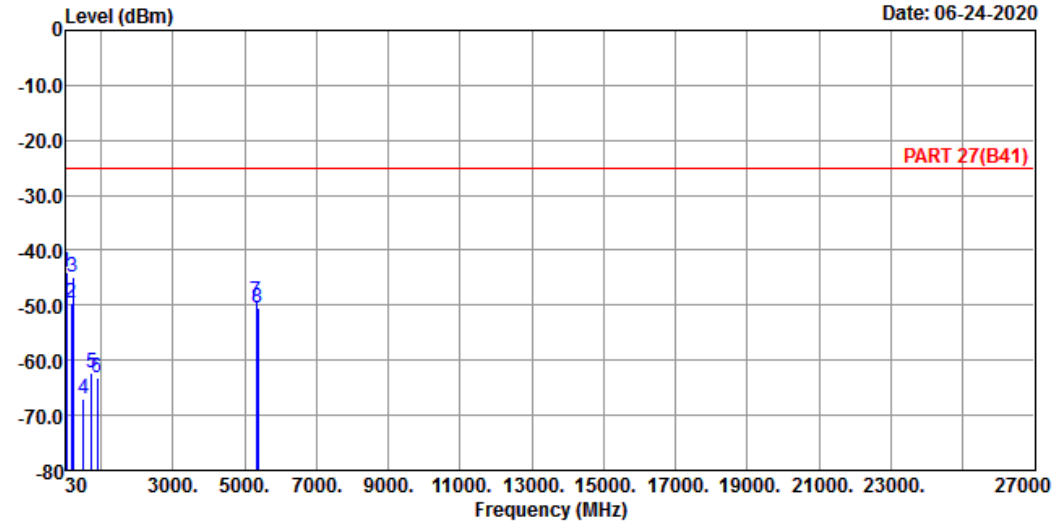
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_40M_CH41292+CH41490
Tested by: Jisyong Wang

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	45.52	-46.43	-43.93	-25.00	-2.50	-21.43	Peak
2	161.92	-46.27	-41.29	-25.00	-4.98	-21.27	Peak
3 pp	227.88	-42.18	-35.29	-25.00	-6.89	-17.18	Peak
4	539.25	-67.80	-64.57	-25.00	-3.23	-42.80	Peak
5	790.48	-64.27	-65.03	-25.00	0.76	-39.27	Peak
6	968.96	-62.16	-64.64	-25.00	2.48	-37.16	Peak
7	5320.40	-49.58	-47.39	-25.00	-2.19	-24.58	Peak
8	5360.00	-51.23	-49.23	-25.00	-2.00	-26.23	Peak

Data: 8



Site : 966 Chamber 5
Condition: PART 27(B41) VERTICAL
Remak : LTE Band 41 QPSK_40M_CH41292+CH41490
Tested by: Jisyong Wang

	Freq	Level	Read Level	Limit Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	43.58	-43.84	-42.37	-25.00	-1.47	-18.84	Peak
2	171.62	-49.61	-43.74	-25.00	-5.87	-24.61	Peak
3	227.88	-44.91	-38.02	-25.00	-6.89	-19.91	Peak
4	504.33	-66.94	-62.47	-25.00	-4.47	-41.94	Peak
5	738.10	-62.31	-62.96	-25.00	0.65	-37.31	Peak
6	888.45	-63.20	-63.71	-25.00	0.51	-38.20	Peak
7	5320.40	-49.29	-47.10	-25.00	-2.19	-24.29	Peak
8	5360.00	-50.60	-48.60	-25.00	-2.00	-25.60	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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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
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Tel: 886-3-3183232
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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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