Partial FCC Test Report

(PART 27)

Report No.:	RF191211C28-5 R1
FCC ID:	2AEDS110LTEWIFI
Test Model:	SD-WAN 110-LTE-WiFi
Received Date:	Dec. 11, 2019
Test Date:	Feb. 04 ~ Feb. 11, 2020
Issued Date:	Apr. 07, 2020
Applicant:	CITRIX SYSTEMS,INC
Address:	4988 Great America Parkway Santa Clara,CA 95054 USA
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:	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	427177 / TW0011

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Release Control Record

Issue No.	Description	Date Issued
RF191211C28-5	Original Release	Feb. 24, 2020
RF191211C28-5 R1	Revise Applicant information, FCC ID, Product name, Test Model and Brand	Apr. 07, 2020

1 Certificate of Conformity

Product:	Networking device
Brand:	CITRIX
Test Model:	SD-WAN 110-LTE-WiFi
Sample Status:	Engineering Sample
Applicant:	CITRIX SYSTEMS,INC
Test Date:	Feb. 04 ~ Feb. 11, 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:** Apr. 07, 2020

Lena Wang / Specialist

Approved by : , **Date:** Apr. 07, 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
2.1055 27.54	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
--	Peak to Average Ratio	N/A	Refer to Note
27.53(m)(4)(6)	Out-of-Band Emissions Measurements	N/A	Refer to Note
2.1051 27.53(m)(4)(6)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53(m)(4)(6)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -1.33 dB at 10720 MHz.

Note:
1. This report is a partial report, only test item of Equivalent Isotropic Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to SGS-CSTC Standards Technical Services Co., Ltd.Shenzhen Branch report no.: HR/2019/1001601 for module (Brand: Quectel, Model: EG25-G, EG25-G MINIPCIE).
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	3.0400 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 26, 2019	Aug. 25, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 15, 2019	Apr. 14, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 12, 2019	Nov. 11, 2020
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna ETS	3117	00155510	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2019	Nov. 24, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2019	Nov. 24, 2020
Preamplifier Agilent	310N	187226	Jun. 18, 2019	Jun. 17, 2020
Preamplifier Agilent	83017A	MY39501357	Jun. 18, 2019	Jun. 17, 2020
Preamplifier EMCI	EMC 184045	980116	Oct. 08, 2019	Oct. 07, 2020
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 18, 2019	Jun. 17, 2020
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 18, 2019	Jun. 17, 2020
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 09, 2019	Aug. 08, 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 HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is 7450I-1.

3 General Information

3.1 General Description of EUT

Product	Networking device	
Brand	CITRIX	
Test Model	SD-WAN 110-LTE-WiFi	
Status of EUT	Engineering Sample	
Power Supply Rating	12 Vdc (adapter)	
Modulation Type	QPSK, 16QAM	
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 38 (Channel Bandwidth: 5 MHz)	2572.5 ~ 2617.5 MHz
	LTE Band 38 (Channel Bandwidth: 10 MHz)	2575.0 ~ 2615.0 MHz
	LTE Band 38 (Channel Bandwidth: 15 MHz)	2577.5 ~ 2612.5 MHz
	LTE Band 38 (Channel Bandwidth: 20 MHz)	2580.0 ~ 2610.0 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)	396.37 mW
	LTE Band 7 (Channel Bandwidth: 10 MHz)	400.22 mW
	LTE Band 7 (Channel Bandwidth: 15 MHz)	403.46 mW
	LTE Band 7 (Channel Bandwidth: 20 MHz)	406.16 mW
	LTE Band 38 (Channel Bandwidth: 5 MHz)	347.30 mW
	LTE Band 38 (Channel Bandwidth: 10 MHz)	350.51 mW
	LTE Band 38 (Channel Bandwidth: 15 MHz)	353.75 mW
	LTE Band 38 (Channel Bandwidth: 20 MHz)	357.03 mW
	LTE Band 41 (Channel Bandwidth: 5 MHz)	349.78 mW
	LTE Band 41 (Channel Bandwidth: 10 MHz)	353.26 mW
	LTE Band 41 (Channel Bandwidth: 15 MHz)	356.29 mW
	LTE Band 41 (Channel Bandwidth: 20 MHz)	359.75 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 WWAN module (Brand: Quectel, Model: EG25-G, EG25-G MINIPCIE) was installed in EUT.
2. The antenna information is listed as below.

Antenna Type	Manufacturer	Parts Number	Antenna Connector	Antenna Gain									
				WCDMA II / LTE 2	WCDMA IV / LTE 4	WCDMA V / LTE5	LTE 7	LTE 12	LTE 13	LTE 25	LTE 26	LTE 38	LTE 41
Dipole	Ethertronics	1004112-C003	SMA(M)	4.5	4.5	1.18	4	1.18	1.18	4.5	1.18	4	4
	Taoglas	TG.30.8113	SMA(M)	3.1	2.7	1.5	2.7	2.6	2.6	3.1	1.5	2.7	2.7

* After pre-test only the worst configuration was chosen for the final test and recorded in this report.

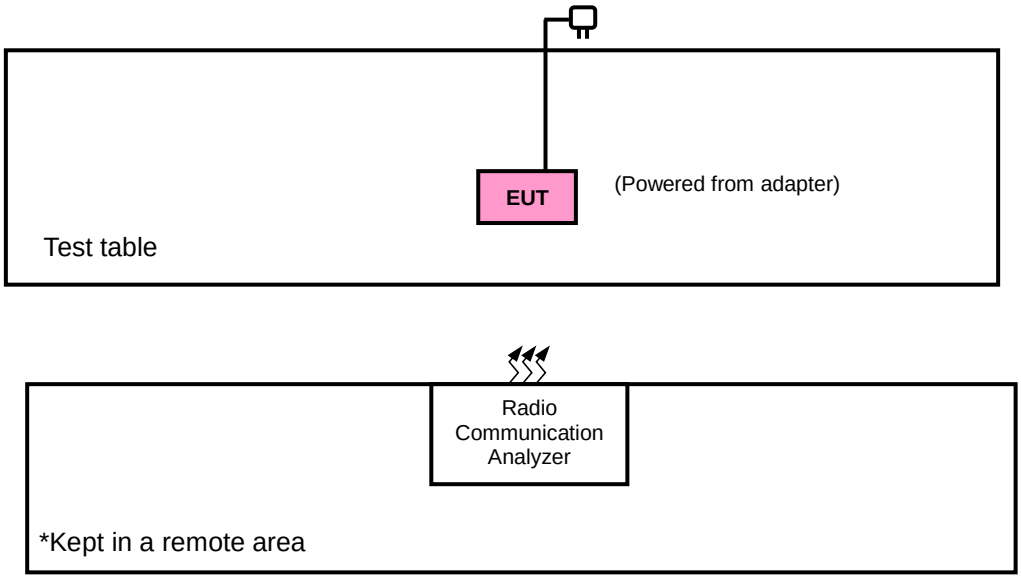
3. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	AOEM	ADS0248T-U120200	I/P: 100-240 Vac, 50-60 Hz, 0.6 A O/P: 12.0 Vdc, 2.0 A Cable: 1.46m cable w/o core

4. 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, antenna degree 90º, 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	90º	90º
LTE Band 38	90º	90º
LTE Band 41	90º	90º

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	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21110, 21350	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 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 38

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	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	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 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.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25 deg. C, 65 % RH	3.8Vdc	Karl Lee, Charles Hsiao, Harry Hsueh
Radiated Emission	25 deg. C, 65 % RH	3.8Vdc	Karl Lee, Charles Hsiao

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:

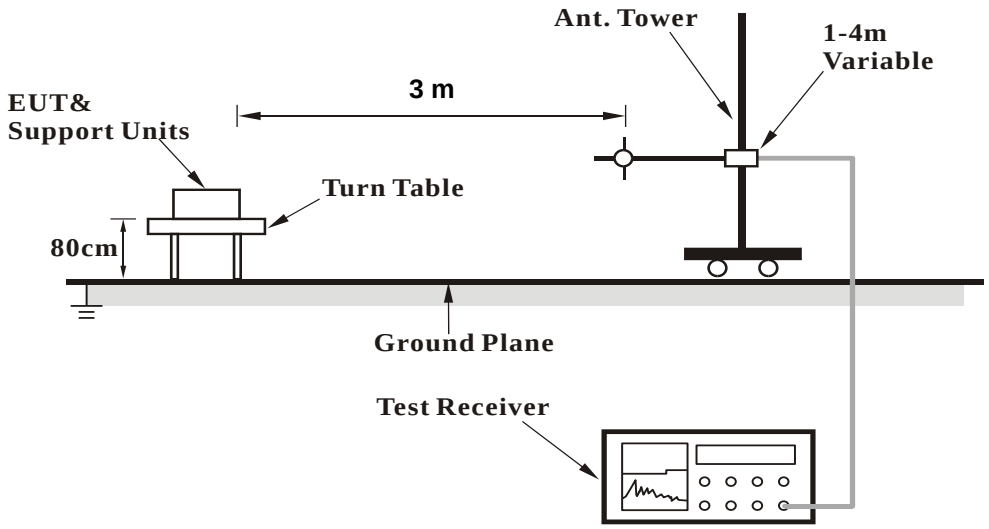
a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 20 MHz for LTE mode.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, 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:

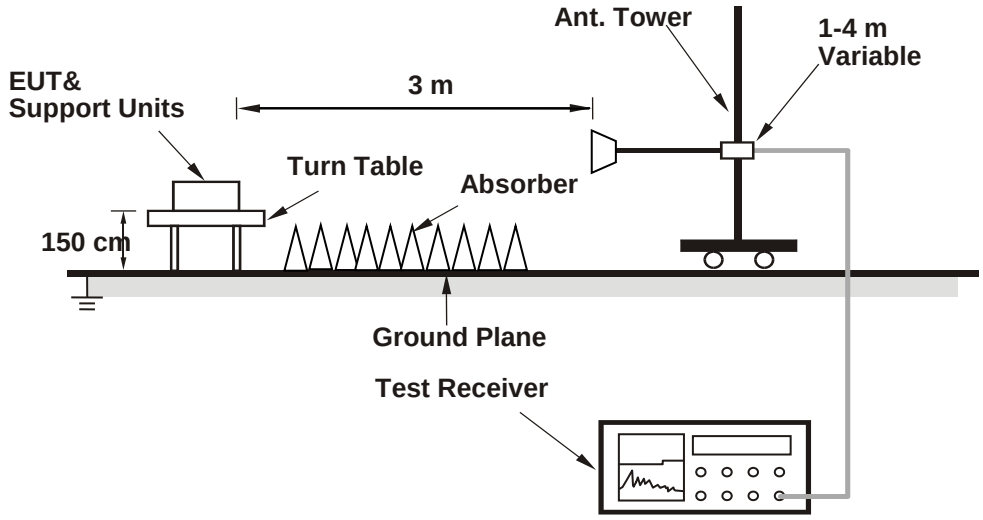
a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

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	22.88	23.05	23.02	0	15M	QPSK	1	0	23.02	23.04	23.05	0
		1	50	23.55	23.73	23.87	0			1	37	23.39	23.39	23.39	0
		1	99	22.75	22.62	22.47	0			1	74	22.72	22.63	22.66	0
		50	0	22.27	22.37	22.42	1			36	0	22.25	22.37	22.38	1
		50	25	22.39	22.34	22.38	1			36	19	22.17	22.33	22.26	1
		50	50	22.09	21.96	22.03	1			36	39	21.96	21.96	22.00	1
		100	0	22.10	22.21	22.24	1			75	0	22.18	22.22	22.26	1
	16QAM	1	0	21.73	21.87	21.85	1		16QAM	1	0	21.77	21.72	21.90	1
		1	50	22.02	22.02	21.93	1			1	37	21.81	21.87	21.95	1
		1	99	21.79	21.64	21.77	1			1	74	21.44	21.83	21.97	1
		50	0	21.30	21.33	21.27	2			36	0	21.09	21.21	21.16	2
		50	25	21.21	21.20	21.24	2			36	19	21.08	21.14	21.21	2
		50	50	21.04	21.16	21.18	2			36	39	21.10	21.18	21.14	2
		100	0	21.13	21.25	21.18	2			75	0	21.30	21.16	21.20	2
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	22.91	23.07	23.04	0	5M	QPSK	1	0	22.80	22.89	22.89	0
		1	24	23.45	23.71	23.38	0			1	12	23.05	23.05	22.99	0
		1	49	22.64	22.64	22.38	0			1	24	22.57	22.73	22.75	0
		25	0	22.24	22.34	22.42	1			12	0	22.05	22.05	22.28	1
		25	12	22.18	22.20	22.36	1			12	6	22.10	22.03	22.11	1
		25	25	21.97	21.94	22.10	1			12	13	21.89	21.93	21.97	1
		50	0	22.17	22.06	22.20	1			25	0	22.04	21.96	22.20	1
	16QAM	1	0	21.62	21.86	21.77	1		16QAM	1	0	21.62	21.71	21.60	1
		1	24	21.88	21.93	21.77	1			1	12	21.91	22.04	22.00	1
		1	49	21.76	21.82	21.87	1			1	24	21.60	21.66	21.78	1
		25	0	20.97	21.13	21.20	2			12	0	21.04	20.93	21.05	2
		25	12	21.11	21.01	21.08	2			12	6	21.09	21.01	21.10	2
		25	25	21.09	21.05	21.22	2			12	13	20.77	20.99	20.91	2
		50	0	21.20	21.10	21.06	2			25	0	21.08	21.00	21.17	2

LTE Band 38															
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		37850	38000	38150				Channel		37825	38000	38175	
		Frequency (MHz)		2580.0	2595.0	2610.0				Frequency (MHz)		2577.5	2595.0	2612.5	
20M	QPSK	1	0	23.48	23.32	23.44	0	15M	QPSK	1	0	23.54	23.41	23.36	0
		1	50	23.86	23.88	23.68	0			1	37	23.65	23.66	23.53	0
		1	99	23.03	23.12	23.14	0			1	74	23.20	23.29	23.24	0
		50	0	22.55	22.55	22.59	1			36	0	22.51	22.53	22.56	1
		50	25	22.64	22.57	22.57	1			36	19	22.56	22.57	22.51	1
		50	50	22.34	22.36	22.32	1			36	39	22.41	22.40	22.31	1
		100	0	22.47	22.40	22.41	1			75	0	22.41	22.50	22.37	1
	16QAM	1	0	22.20	21.92	22.17	1		16QAM	1	0	22.21	22.10	22.27	1
		1	50	22.41	22.17	22.19	1			1	37	22.07	21.95	21.82	1
		1	99	21.91	21.98	22.03	1			1	74	21.86	21.98	22.05	1
		50	0	21.38	21.38	21.45	2			36	0	21.42	21.47	21.32	2
		50	25	21.38	21.33	21.33	2			36	19	21.36	21.34	21.44	2
		50	50	21.30	21.42	21.26	2			36	39	21.35	21.47	21.27	2
		100	0	21.42	21.48	21.39	2			75	0	21.44	21.43	21.30	2
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		37800	38000	38200				Channel		37775	38000	38225	
		Frequency (MHz)		2575.0	2595.0	2615.0				Frequency (MHz)		2572.5	2595.0	2617.5	
10M	QPSK	1	0	23.62	23.38	23.26	0	5M	QPSK	1	0	23.39	23.35	23.32	0
		1	24	23.75	23.89	23.73	0			1	12	23.55	23.78	23.63	0
		1	49	23.25	23.25	23.17	0			1	24	23.46	23.40	23.49	0
		25	0	22.66	22.52	22.58	1			12	0	22.53	22.48	22.45	1
		25	12	22.58	22.53	22.43	1			12	6	22.51	22.54	22.36	1
		25	25	22.34	22.37	22.30	1			12	13	22.44	22.47	22.41	1
		50	0	22.44	22.45	22.39	1			25	0	22.44	22.47	22.43	1
	16QAM	1	0	22.12	22.09	21.94	1		16QAM	1	0	22.03	21.94	21.95	1
		1	24	22.08	22.19	22.22	1			1	12	22.24	22.28	22.14	1
		1	49	22.08	22.03	22.01	1			1	24	21.74	21.99	21.91	1
		25	0	21.49	21.37	21.50	2			12	0	21.40	21.43	21.37	2
		25	12	21.54	21.43	21.40	2			12	6	21.48	21.42	21.25	2
		25	25	21.42	21.55	21.37	2			12	13	21.31	21.37	21.36	2
		50	0	21.37	21.31	21.34	2			25	0	21.40	21.35	21.26	2

LTE Band 41																
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		39750	40620	41490				Channel		39725	40620	41515	
		Frequency (MHz)		2506.0	2593.0	2680.0				Frequency (MHz)		2503.5	2593.0	2682.5	
20M	QPSK	1	0	23.33	23.39	23.48	0	15M	QPSK	1	0	23.40	23.49	23.48	0
		1	50	23.81	23.81	23.85	0			1	37	23.68	23.69	23.63	0
		1	99	23.14	23.07	23.07	0			1	74	23.22	23.23	23.37	0
		50	0	22.54	22.65	22.62	1			36	0	22.61	22.72	22.69	1
		50	25	22.66	22.62	22.64	1			36	19	22.56	22.62	22.55	1
		50	50	22.46	22.47	22.43	1			36	39	22.51	22.44	22.41	1
		100	0	22.56	22.57	22.57	1			75	0	22.54	22.57	22.57	1
	16QAM	1	0	21.96	22.20	22.13	1		16QAM	1	0	22.15	22.31	22.12	1
		1	50	22.31	22.27	22.34	1			1	37	22.08	21.93	22.05	1
		1	99	21.91	21.90	21.90	1			1	74	22.07	22.11	21.93	1
		50	0	21.46	21.49	21.51	2			36	0	21.45	21.69	21.57	2
		50	25	21.49	21.43	21.49	2			36	19	21.39	21.65	21.42	2
		50	50	21.44	21.45	21.43	2			36	39	21.47	21.63	21.42	2
		100	0	21.43	21.55	21.52	2			75	0	21.47	21.52	21.57	2
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		39700	40620	41540				Channel		39675	40620	41565	
		Frequency (MHz)		2501.0	2593.0	2685.0				Frequency (MHz)		2498.5	2593.0	2687.5	
10M	QPSK	1	0	23.61	23.48	23.57	0	5M	QPSK	1	0	23.42	23.46	23.42	0
		1	24	23.85	23.86	23.78	0			1	12	23.78	23.91	23.47	0
		1	49	23.48	23.24	23.28	0			1	24	23.60	23.57	23.27	0
		25	0	22.62	22.68	22.70	1			12	0	22.62	22.61	22.53	1
		25	12	22.72	22.62	22.60	1			12	6	22.67	22.61	22.47	1
		25	25	22.50	22.46	22.38	1			12	13	22.53	22.42	22.44	1
		50	0	22.66	22.57	22.59	1			25	0	22.58	22.53	22.52	1
	16QAM	1	0	22.16	22.24	22.17	1		16QAM	1	0	22.11	22.03	22.14	1
		1	24	22.29	22.29	22.34	1			1	12	22.16	22.22	22.38	1
		1	49	22.19	22.08	22.05	1			1	24	22.08	21.92	21.99	1
		25	0	21.58	21.54	21.55	2			12	0	21.51	21.41	21.40	2
		25	12	21.62	21.49	21.56	2			12	6	21.64	21.40	21.40	2
		25	25	21.55	21.56	21.55	2			12	13	21.49	21.32	21.34	2
		50	0	21.57	21.43	21.49	2			25	0	21.55	21.51	21.40	2

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)**
90°	20775	2502.5	-18.41	44.24	25.83	382.65	H
	21100	2535.0	-18.30	44.20	25.90	388.78	
	21425	2567.5	-18.82	44.80	25.98	396.37	
	20775	2502.5	-22.73	44.19	21.46	139.99	V
	21100	2535.0	-22.58	44.09	21.51	141.51	
	21425	2567.5	-22.90	44.50	21.60	144.51	
Channel Bandwidth: 5 MHz / 16QAM							
90°	20775	2502.5	-19.42	44.24	24.82	303.25	H
	21100	2535.0	-19.31	44.20	24.89	308.11	
	21425	2567.5	-19.82	44.80	24.98	314.85	
	20775	2502.5	-23.73	44.19	20.46	111.20	V
	21100	2535.0	-23.58	44.09	20.51	112.41	
	21425	2567.5	-23.91	44.50	20.59	114.52	

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)**
90°	20800	2505.0	-18.47	44.34	25.87	386.46	H
	21100	2535.0	-18.26	44.20	25.94	392.37	
	21400	2565.0	-18.70	44.72	26.02	400.22	
	20800	2505.0	-22.74	44.23	21.49	140.80	V
	21100	2535.0	-22.54	44.09	21.55	142.82	
	21400	2565.0	-22.77	44.41	21.64	145.75	
Channel Bandwidth: 10 MHz / 16QAM							
90°	20800	2505.0	-19.47	44.34	24.87	306.97	H
	21100	2535.0	-19.75	44.20	24.45	278.42	
	21400	2565.0	-20.11	44.72	24.61	289.27	
	20800	2505.0	-23.74	44.23	20.49	111.84	V
	21100	2535.0	-23.55	44.09	20.54	113.19	
	21400	2565.0	-23.78	44.41	20.63	115.50	

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)**
90°	20825	2507.5	-18.41	44.32	25.91	389.76	H
	21100	2535.0	-18.22	44.20	25.98	396.00	
	21375	2562.5	-18.79	44.85	26.06	403.46	
	20825	2507.5	-22.47	43.99	21.52	141.97	V
	21100	2535.0	-22.50	44.09	21.59	144.15	
	21375	2562.5	-22.83	44.51	21.68	147.23	
Channel Bandwidth: 15 MHz / 16QAM							
90°	20825	2507.5	-19.98	44.32	24.34	271.52	H
	21100	2535.0	-19.62	44.20	24.58	286.88	
	21375	2562.5	-20.45	44.85	24.40	275.30	
	20825	2507.5	-23.47	43.99	20.52	112.77	V
	21100	2535.0	-23.50	44.09	20.59	114.50	
	21375	2562.5	-23.84	44.51	20.67	116.68	

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)**
90°	20850	2510.0	-18.21	44.16	25.95	393.55	H
	21100	2535.0	-18.18	44.20	26.02	399.67	
	21350	2560.0	-18.72	44.81	26.09	406.16	
	20850	2510.0	-23.22	44.78	21.56	143.22	V
	21100	2535.0	-22.46	44.09	21.63	145.48	
	21350	2560.0	-23.00	44.72	21.72	148.59	
Channel Bandwidth: 20 MHz / 16QAM							
90°	20850	2510.0	-19.21	44.16	24.95	312.61	H
	21100	2535.0	-19.55	44.20	24.65	291.54	
	21350	2560.0	-20.10	44.81	24.71	295.60	
	20850	2510.0	-24.22	44.78	20.56	113.76	V
	21100	2535.0	-23.47	44.09	20.62	115.29	
	21350	2560.0	-24.01	44.72	20.71	117.76	

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

LTE Band 38							
Channel Bandwidth: 5 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
90°	37775	2572.5	-18.84	44.24	25.40	346.58	H
	38000	2595.0	-18.79	44.20	25.41	347.30	
	38225	2617.5	-19.49	44.80	25.31	339.70	
	37775	2572.5	-23.28	44.19	20.91	123.34	V
	38000	2595.0	-23.18	44.09	20.91	123.25	
	38225	2617.5	-23.65	44.50	20.85	121.59	
Channel Bandwidth: 5 MHz / 16QAM							
90°	37775	2572.5	-20.57	44.24	23.67	232.70	H
	38000	2595.0	-20.45	44.20	23.75	236.97	
	38225	2617.5	-20.81	44.80	23.99	250.67	
	37775	2572.5	-24.29	44.19	19.90	97.75	V
	38000	2595.0	-24.18	44.09	19.91	97.90	
	38225	2617.5	-24.65	44.50	19.85	96.58	

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

LTE Band 38							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
90°	37800	2575.0	-18.90	44.34	25.44	350.03	H
	38000	2595.0	-18.75	44.20	25.45	350.51	
	38200	2615.0	-19.37	44.72	25.35	343.00	
	37800	2575.0	-23.28	44.23	20.95	124.34	V
	38000	2595.0	-23.13	44.09	20.96	124.68	
	38200	2615.0	-23.53	44.41	20.88	122.35	
Channel Bandwidth: 10 MHz / 16QAM							
90°	37800	2575.0	-20.42	44.34	23.92	246.66	H
	38000	2595.0	-20.65	44.20	23.55	226.31	
	38200	2615.0	-20.87	44.72	23.85	242.83	
	37800	2575.0	-24.28	44.23	19.95	98.76	V
	38000	2595.0	-24.14	44.09	19.95	98.81	
	38200	2615.0	-24.54	44.41	19.87	96.96	

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

LTE Band 38							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
90º	37825	2577.5	-18.84	44.32	25.48	353.02	H
	38000	2595.0	-18.71	44.20	25.49	353.75	
	38175	2612.5	-19.46	44.85	25.39	345.78	
	37825	2577.5	-23.00	43.99	20.99	125.66	V
	38000	2595.0	-23.09	44.09	21.00	125.83	
	38175	2612.5	-23.59	44.51	20.92	123.59	
Channel Bandwidth: 15 MHz / 16QAM							
90º	37825	2577.5	-20.66	44.32	23.66	232.27	H
	38000	2595.0	-20.84	44.20	23.36	216.57	
	38175	2612.5	-20.94	44.85	23.91	245.92	
	37825	2577.5	-24.01	43.99	19.98	99.59	V
	38000	2595.0	-24.10	44.09	19.99	99.72	
	38175	2612.5	-24.59	44.51	19.92	98.17	

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

LTE Band 38							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
90º	37850	2580.0	-18.64	44.16	25.52	356.45	H
	38000	2595.0	-18.67	44.20	25.53	357.03	
	38150	2610.0	-19.38	44.81	25.43	348.90	
	37850	2580.0	-23.75	44.78	21.03	126.77	V
	38000	2595.0	-23.05	44.09	21.04	127.00	
	38150	2610.0	-23.76	44.72	20.96	124.74	
Channel Bandwidth: 20 MHz / 16QAM							
90º	37850	2580.0	-20.68	44.16	23.48	222.84	H
	38000	2595.0	-20.44	44.20	23.76	237.52	
	38150	2610.0	-20.38	44.81	24.43	277.14	
	37850	2580.0	-24.76	44.78	20.02	100.46	V
	38000	2595.0	-24.05	44.09	20.04	100.88	
	38150	2610.0	-24.77	44.72	19.95	98.86	

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)**
90°	39675	2498.5	-18.80	44.24	25.44	349.78	H
	40620	2593.0	-18.80	44.20	25.40	346.50	
	41565	2687.5	-19.49	44.80	25.31	339.70	
	39675	2498.5	-22.85	44.19	21.34	136.18	V
	40620	2593.0	-22.81	44.09	21.28	134.21	
	41565	2687.5	-23.31	44.50	21.19	131.49	
Channel Bandwidth: 5 MHz / 16QAM							
90°	39675	2498.5	-19.80	44.24	24.44	277.84	H
	40620	2593.0	-19.81	44.20	24.39	274.60	
	41565	2687.5	-20.49	44.80	24.31	269.84	
	39675	2498.5	-23.86	44.19	20.33	107.92	V
	40620	2593.0	-23.82	44.09	20.27	106.37	
	41565	2687.5	-24.31	44.50	20.19	104.45	

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)**
90°	39700	2501.0	-18.86	44.34	25.48	353.26	H
	40620	2593.0	-18.76	44.20	25.44	349.70	
	41540	2685.0	-19.38	44.72	25.34	342.22	
	39700	2501.0	-22.85	44.23	21.38	137.28	V
	40620	2593.0	-22.77	44.09	21.32	135.46	
	41540	2685.0	-23.18	44.41	21.23	132.62	
Channel Bandwidth: 10 MHz / 16QAM							
90°	39700	2501.0	-19.86	44.34	24.48	280.61	H
	40620	2593.0	-19.77	44.20	24.43	277.14	
	41540	2685.0	-20.38	44.72	24.34	271.83	
	39700	2501.0	-23.85	44.23	20.38	109.04	V
	40620	2593.0	-23.77	44.09	20.32	107.60	
	41540	2685.0	-24.19	44.41	20.22	105.10	

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)**
90°	39725	2503.5	-18.80	44.32	25.52	356.29	H
	40620	2593.0	-18.72	44.20	25.48	352.94	
	41515	2682.5	-19.48	44.85	25.37	344.19	
	39725	2503.5	-22.57	43.99	21.42	138.74	V
	40620	2593.0	-22.73	44.09	21.36	136.71	
	41515	2682.5	-23.24	44.51	21.27	133.97	
Channel Bandwidth: 15 MHz / 16QAM							
90°	39725	2503.5	-19.80	44.32	24.52	283.01	H
	40620	2593.0	-19.73	44.20	24.47	279.70	
	41515	2682.5	-20.48	44.85	24.37	273.40	
	39725	2503.5	-23.57	43.99	20.42	110.20	V
	40620	2593.0	-23.74	44.09	20.35	108.34	
	41515	2682.5	-24.24	44.51	20.27	106.41	

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)**
90°	39750	2506.0	-18.60	44.16	25.56	359.75	H
	40620	2593.0	-18.68	44.20	25.52	356.20	
	41490	2680.0	-19.40	44.81	25.41	347.30	
	39750	2506.0	-23.32	44.78	21.46	139.96	V
	40620	2593.0	-22.69	44.09	21.40	137.97	
	41490	2680.0	-23.41	44.72	21.31	135.21	
Channel Bandwidth: 20 MHz / 16QAM							
90°	39750	2506.0	-19.61	44.16	24.55	285.10	H
	40620	2593.0	-19.69	44.20	24.51	282.29	
	41490	2680.0	-20.40	44.81	24.41	275.87	
	39750	2506.0	-24.32	44.78	20.46	111.17	V
	40620	2593.0	-23.69	44.09	20.40	109.60	
	41490	2680.0	-24.42	44.72	20.30	107.15	

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.

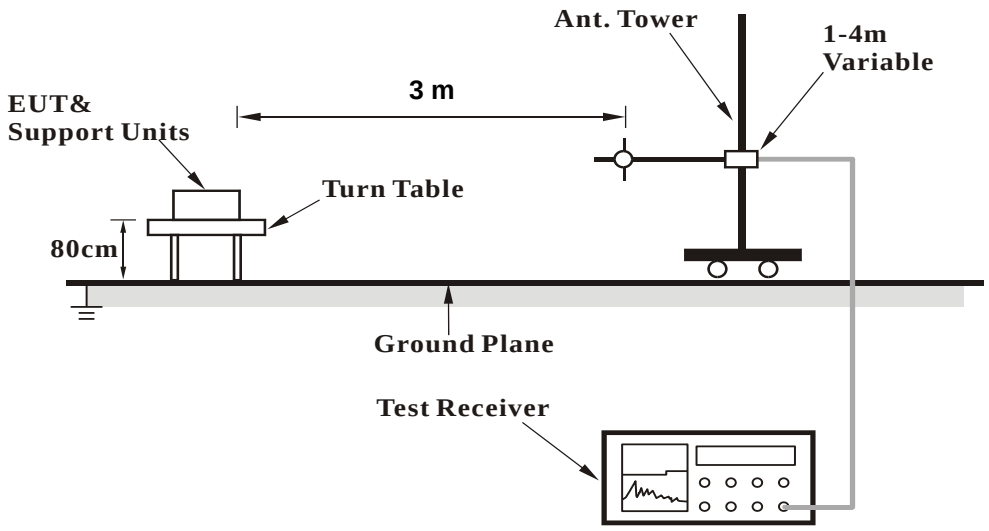
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

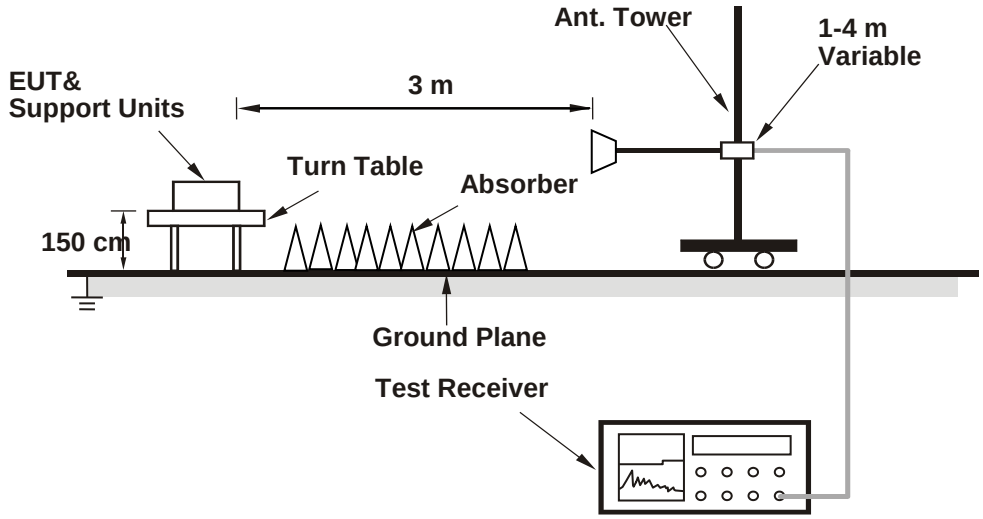
No deviation.

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).

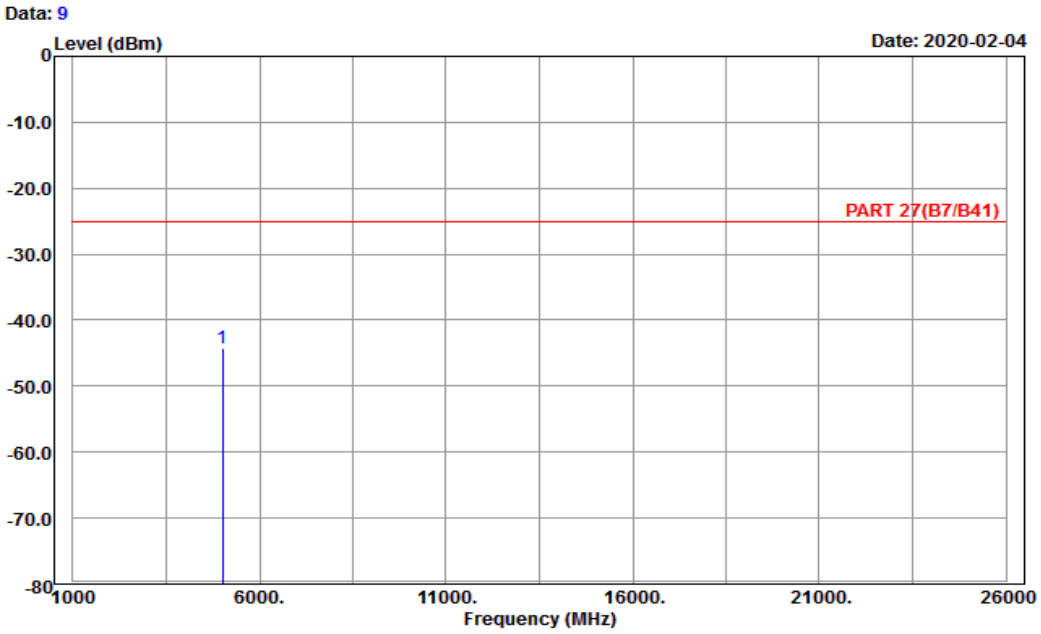
4.2.5 Test Results

LTE Band 7

Channel Bandwidth: 5 MHz / QPSK

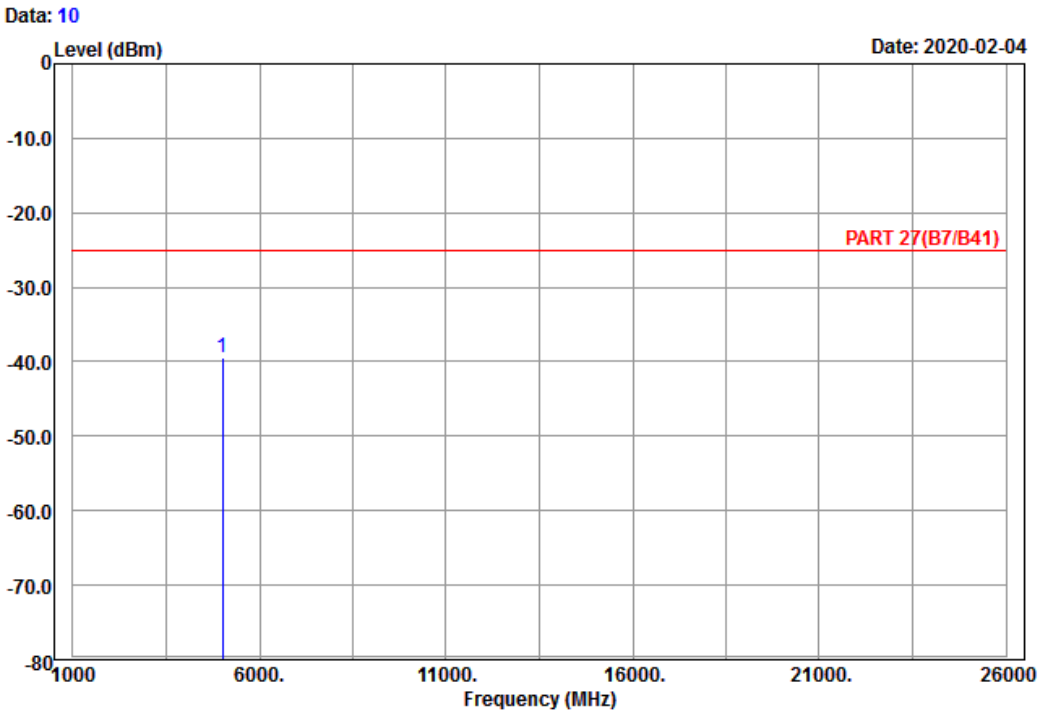
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark    : LTE_Band 7_Link_L-Ch
Tested by: Charles Hsiao
                          Read          Limit   Over
            Freq  Level  Level Factor   Line  Limit Remark
          ________ _____ _____ ______ _______ _____ ________
                 MHz   dBm   dBm     dB    dBm    dB

  1 pp  5005.00 -44.17 -63.75  19.58 -25.00 -19.17 Peak
```

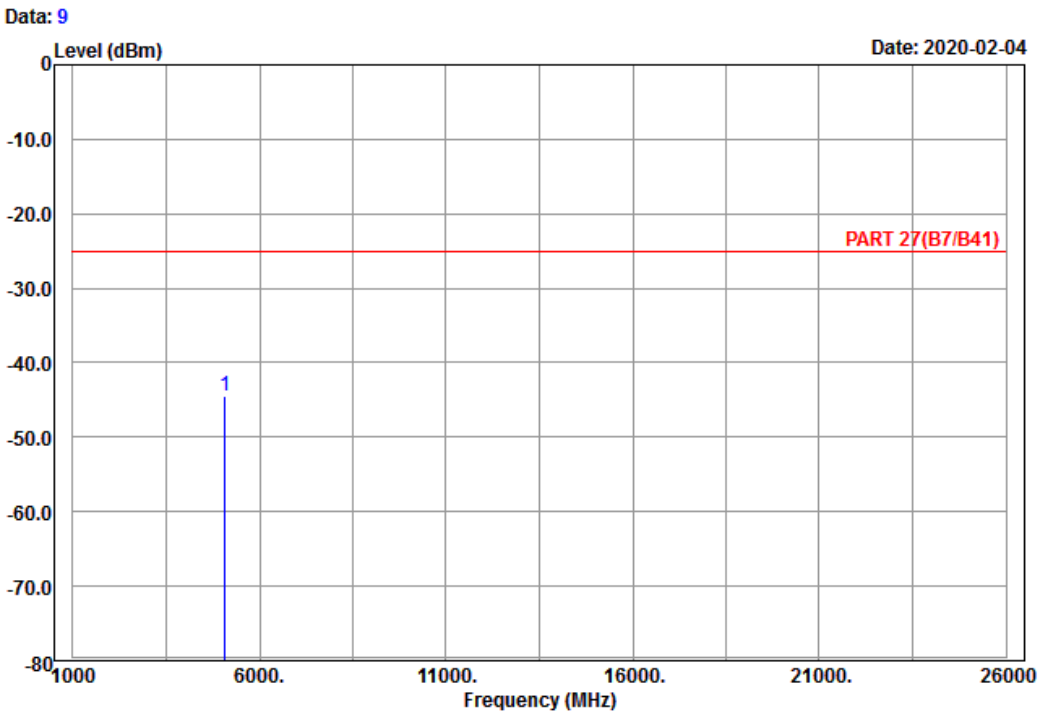


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5005.00	-39.54	-59.12	19.58	-25.00	-14.54	Peak

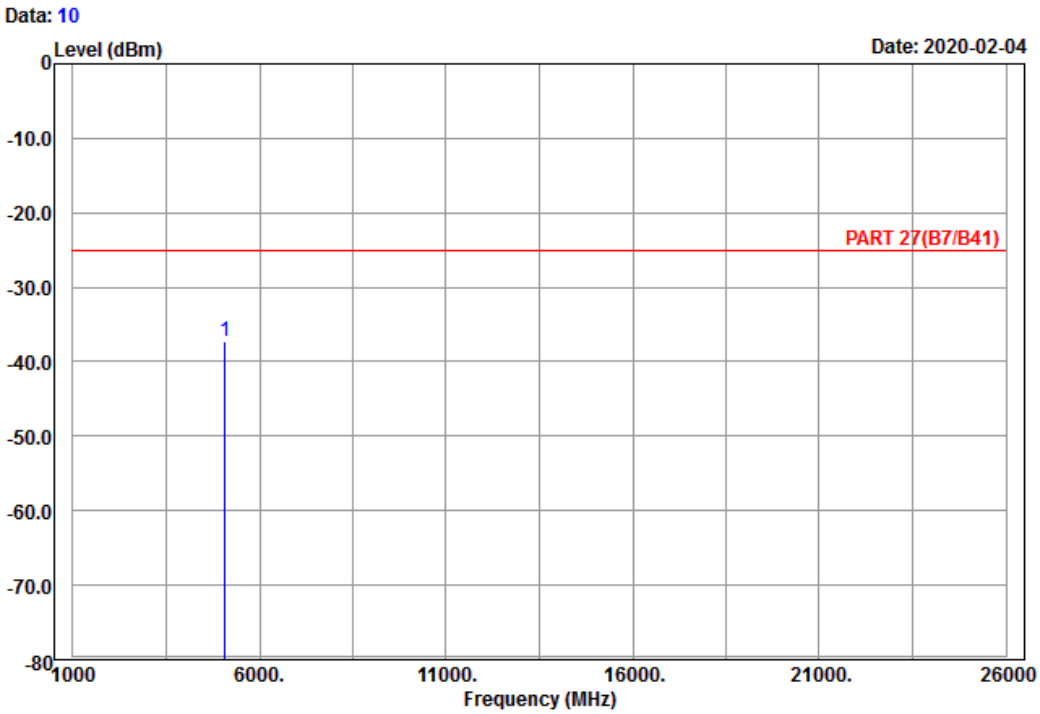
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7 _Link_M-Ch
Tested by: Harry Hsueh

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5070.00	-44.42	-63.81	19.39	-25.00	-19.42	Peak

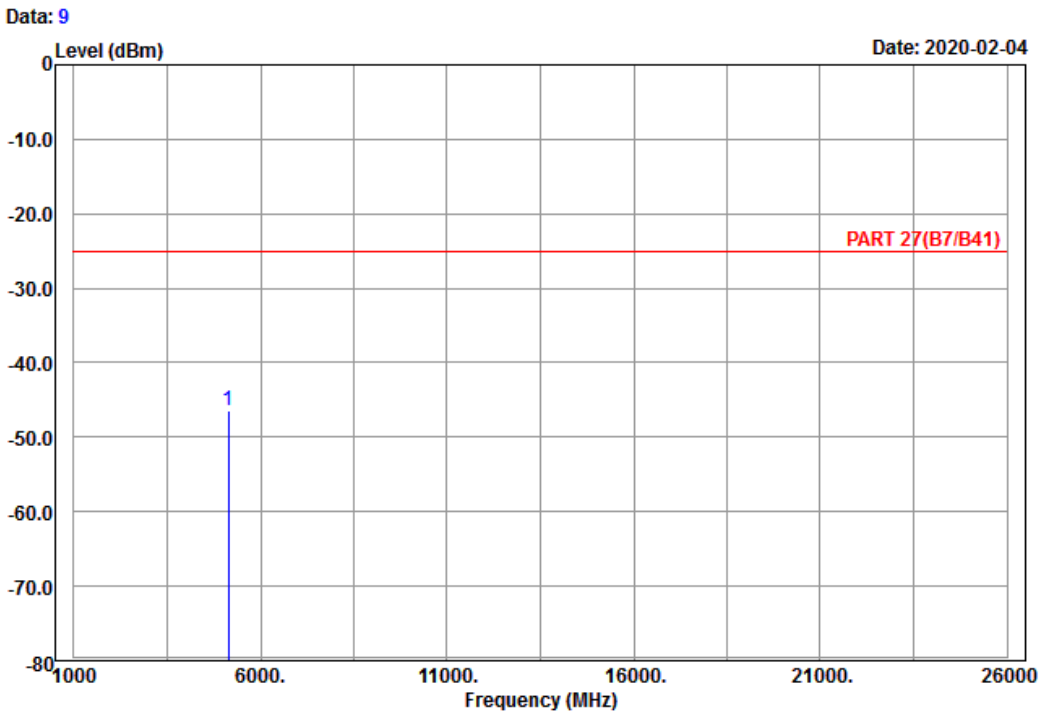


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7 _Link_M-Ch
Tested by: Harry Hsueh

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5070.00	-37.25	-56.64	19.39	-25.00	-12.25	Peak

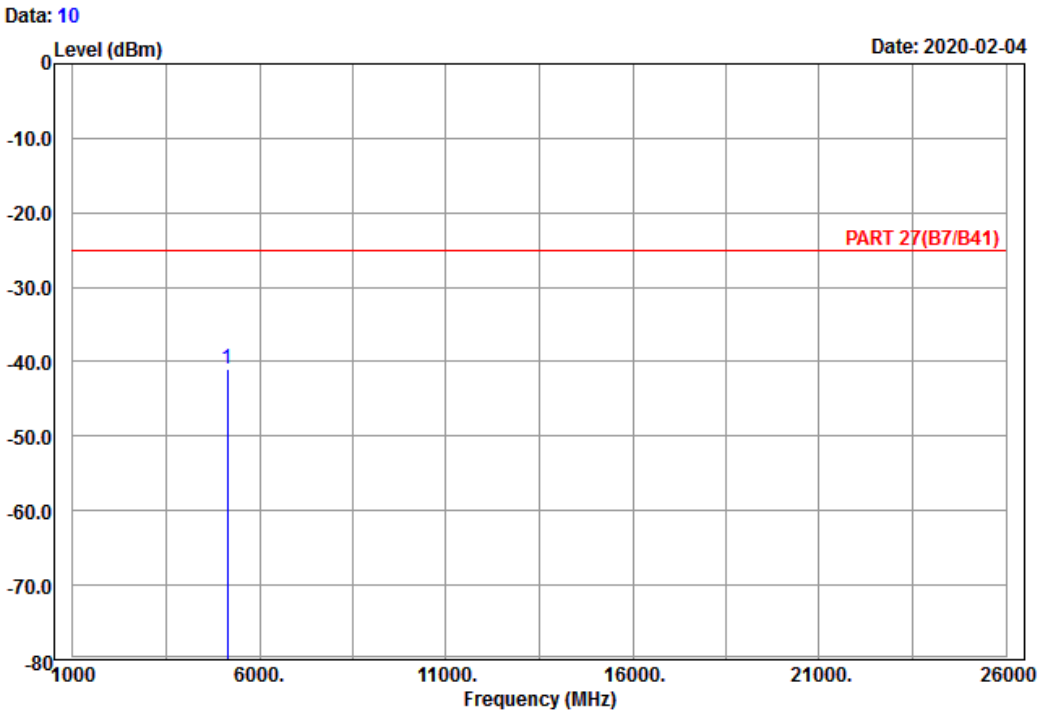
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5135.00	-46.49	-66.30	19.81	-25.00	-21.49	Peak

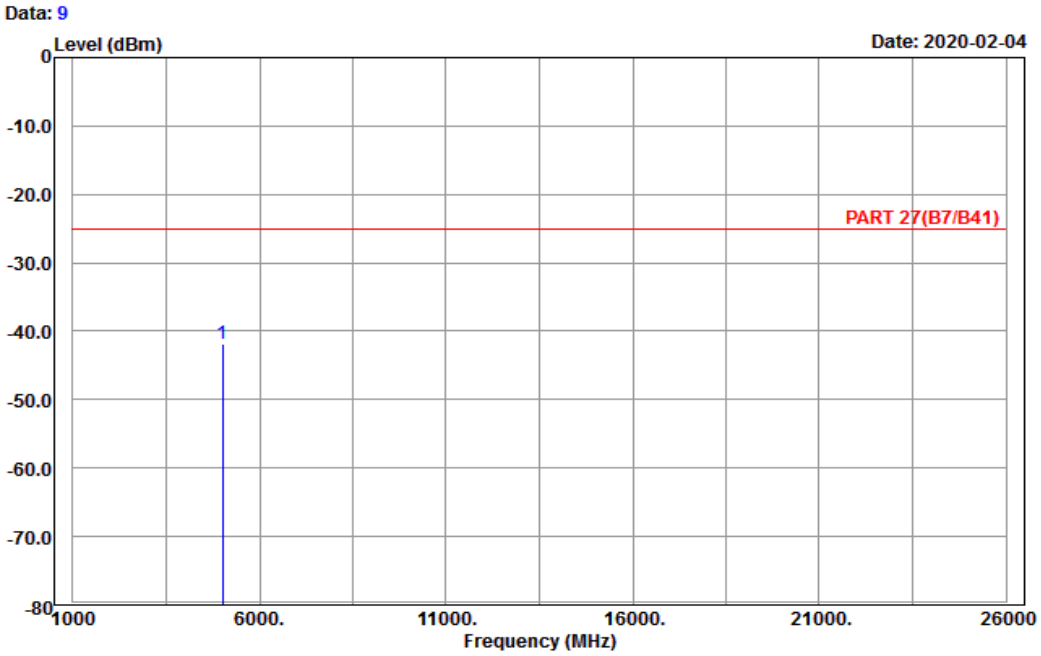


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5135.00	-41.06	-60.87	19.81	-25.00	-16.06	Peak

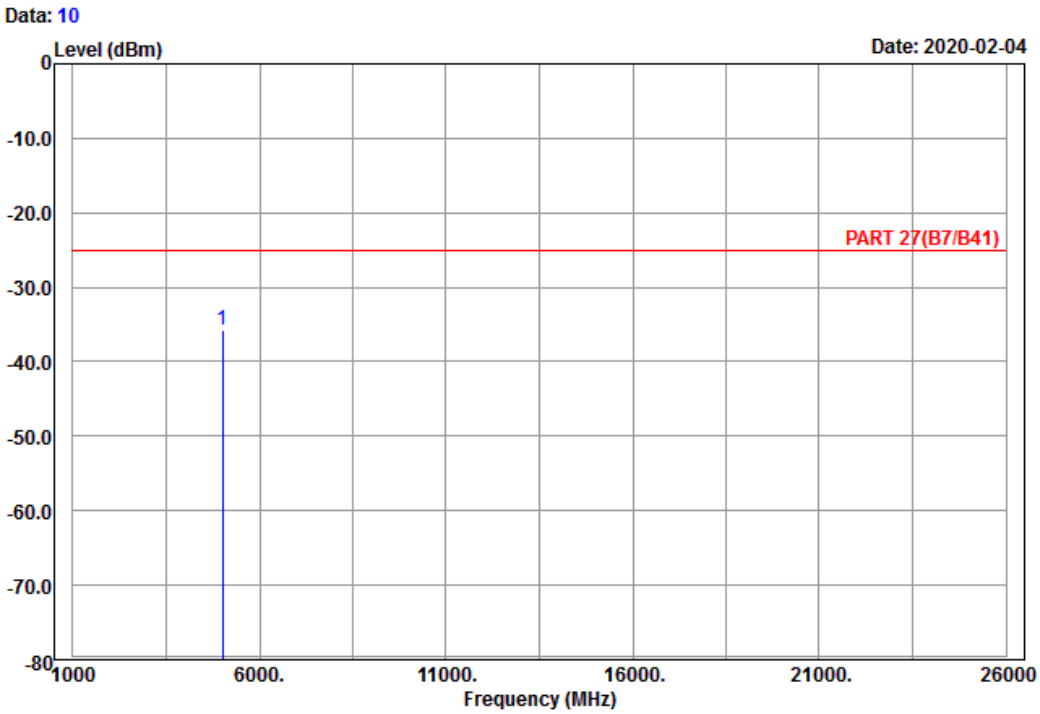
Channel Bandwidth: 20 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5020.00	-41.95	-61.03	19.08	-25.00	-16.95	Peak

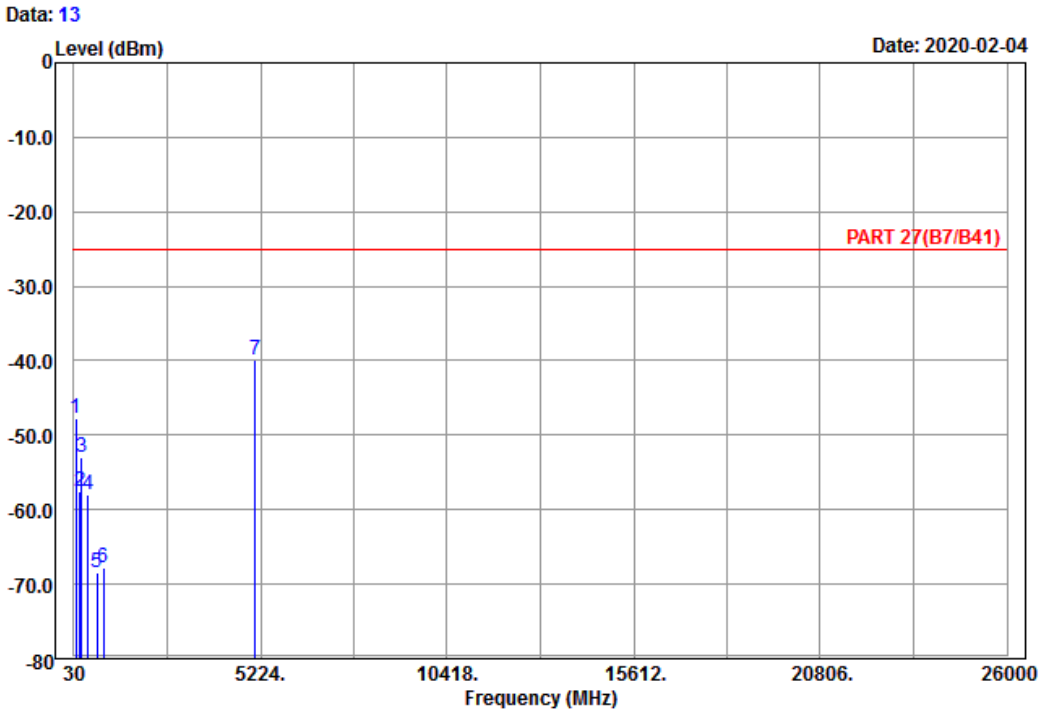


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5020.00	-35.71	-54.79	19.08	-25.00	-10.71	Peak

Middle Channel

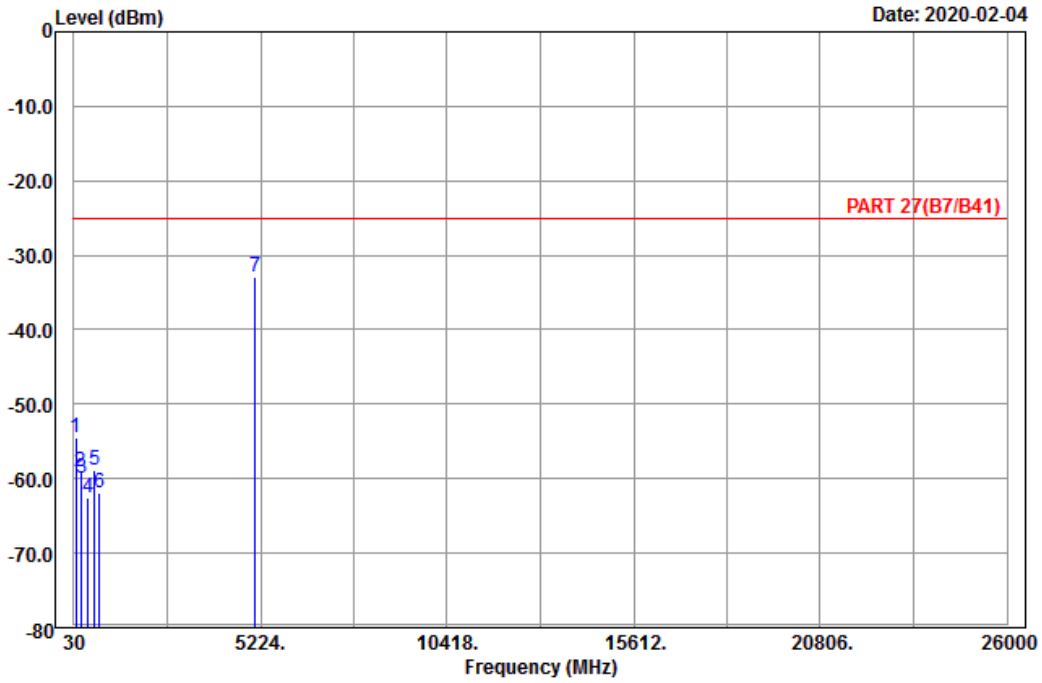
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7 _Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	90.75	-47.70	-37.08	-10.62	-25.00	-22.70	Peak
2	209.28	-57.65	-51.60	-6.05	-25.00	-32.65	Peak
3	238.71	-52.89	-47.23	-5.66	-25.00	-27.89	Peak
4	425.30	-58.03	-54.72	-3.31	-25.00	-33.03	Peak
5	667.50	-68.35	-68.13	-0.22	-25.00	-43.35	Peak
6	862.80	-67.76	-69.60	1.84	-25.00	-42.76	Peak
7 pp	5070.00	-39.87	-59.26	19.39	-25.00	-14.87	Peak

Data: 14

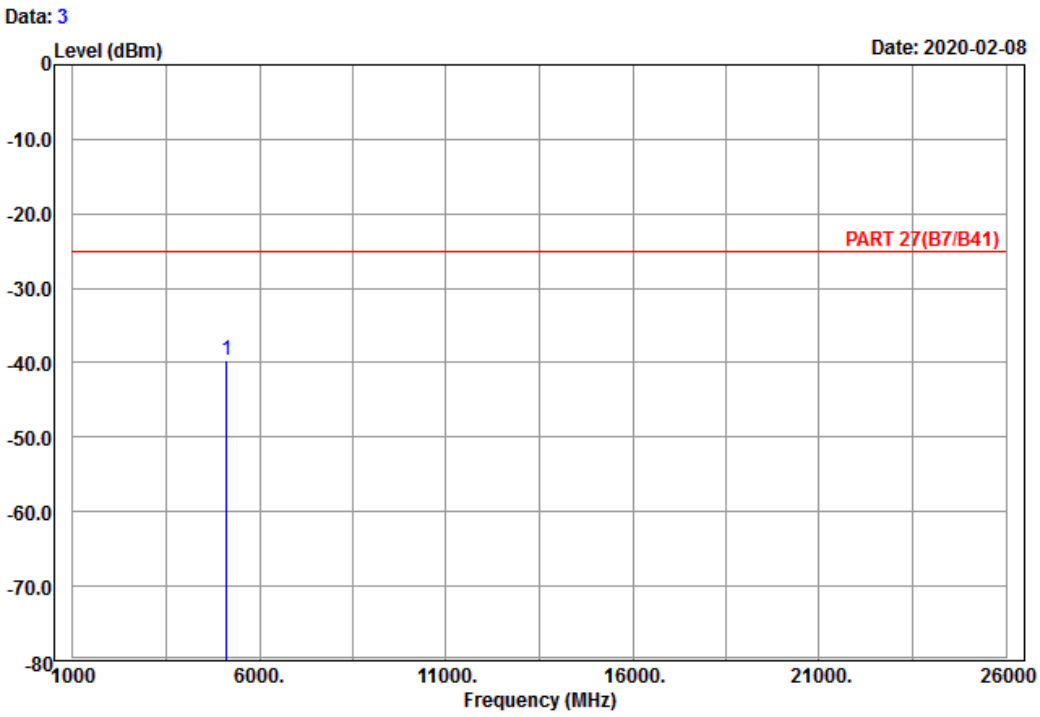


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7 _Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	90.21	-54.45	-43.78	-10.67	-25.00	-29.45	Peak
2	217.38	-59.14	-53.19	-5.95	-25.00	-34.14	Peak
3	242.22	-60.04	-54.43	-5.61	-25.00	-35.04	Peak
4	425.30	-62.53	-59.22	-3.31	-25.00	-37.53	Peak
5	607.30	-58.86	-59.21	0.35	-25.00	-33.86	Peak
6	736.80	-61.95	-60.88	-1.07	-25.00	-36.95	Peak
7 pp	5070.00	-33.00	-52.39	19.39	-25.00	-8.00	Peak

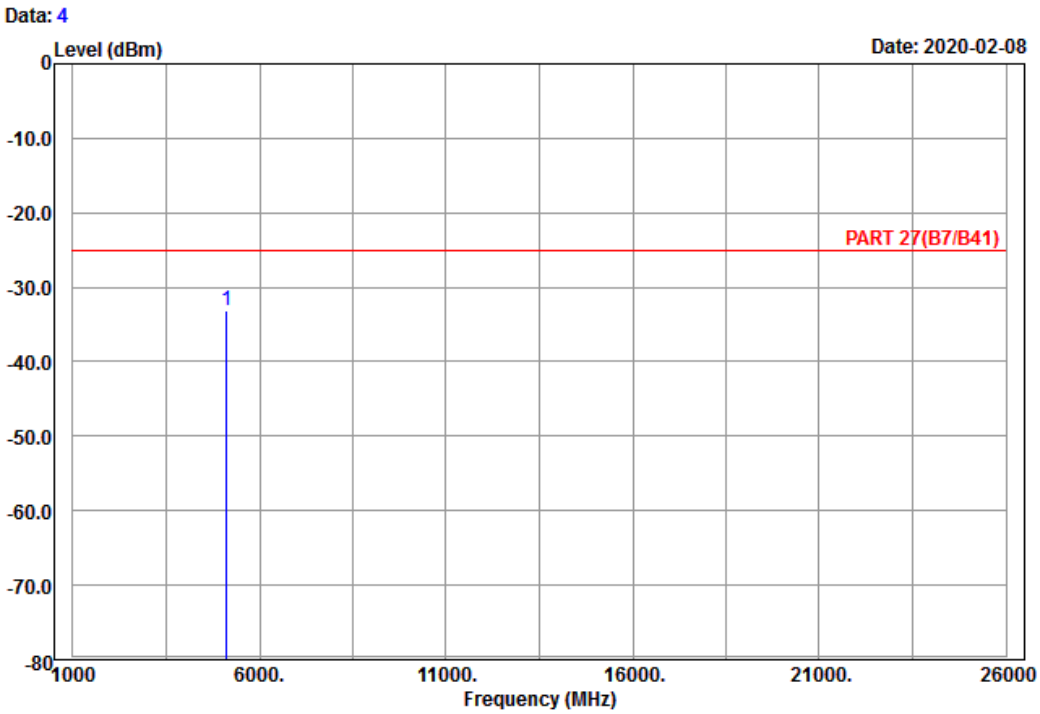
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band _Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5120.00	-39.76	-59.47	19.71	-25.00	-14.76	Peak

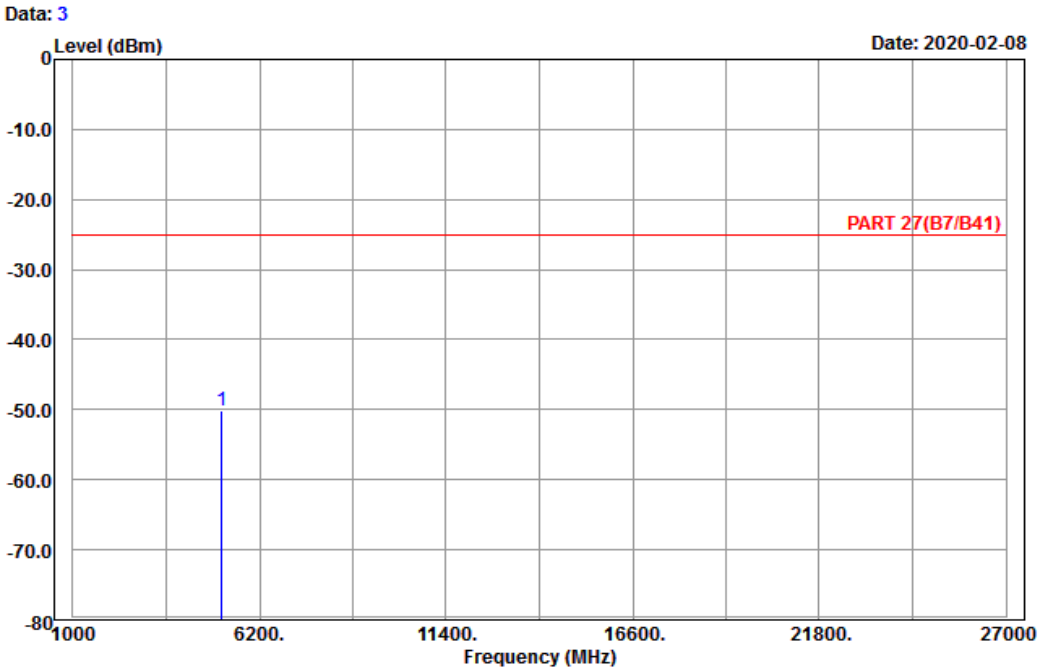


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band _Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5120.00	-33.16	-52.87	19.71	-25.00	-8.16	Peak

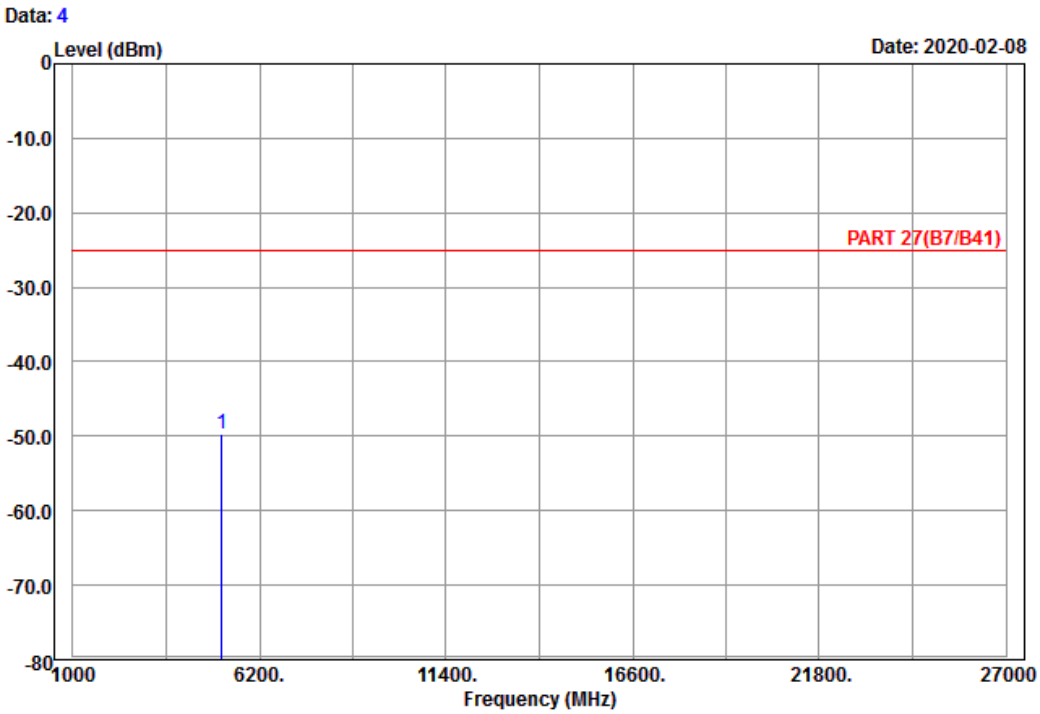
LTE Band 38
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark    : LTE_Band 38_Link_L-Ch
Tested by: Karl Lee
                        Read          Limit   Over
           Freq  Level  Level Factor   Line  Limit Remark
          _____ _____ _____ _____ _____ _____ _____
            MHz   dBm   dBm    dB    dBm    dB

  1 pp  5145.00 -50.03 -69.84  19.81 -25.00 -25.03 Peak
```

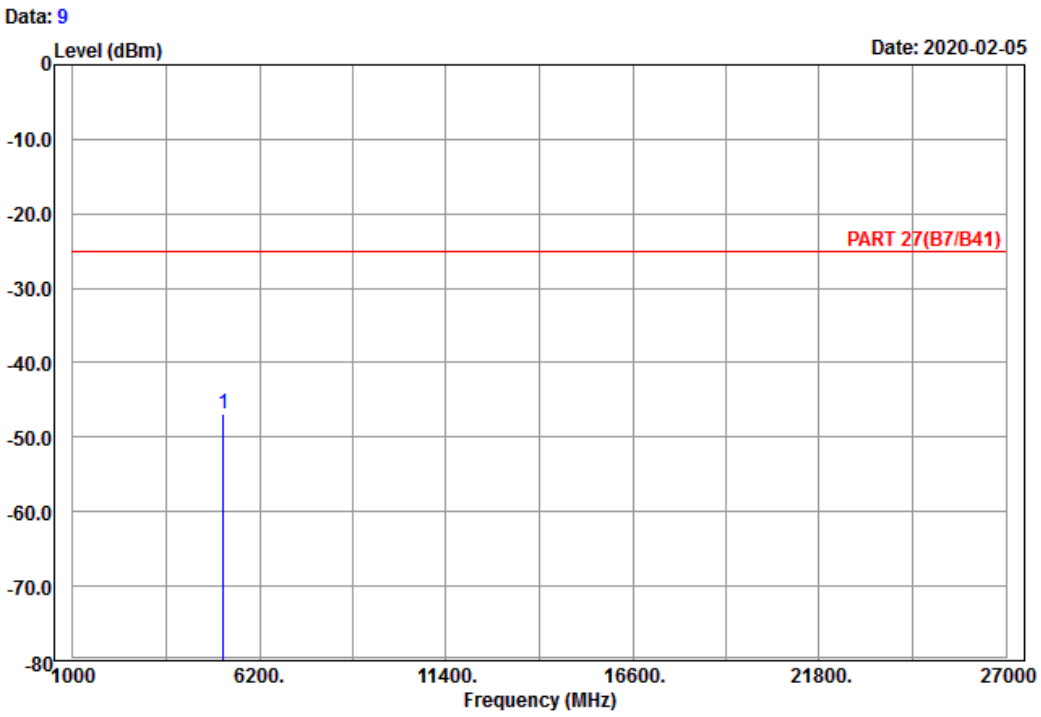


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5145.00	-49.60	-69.41	19.81	-25.00	-24.60	Peak

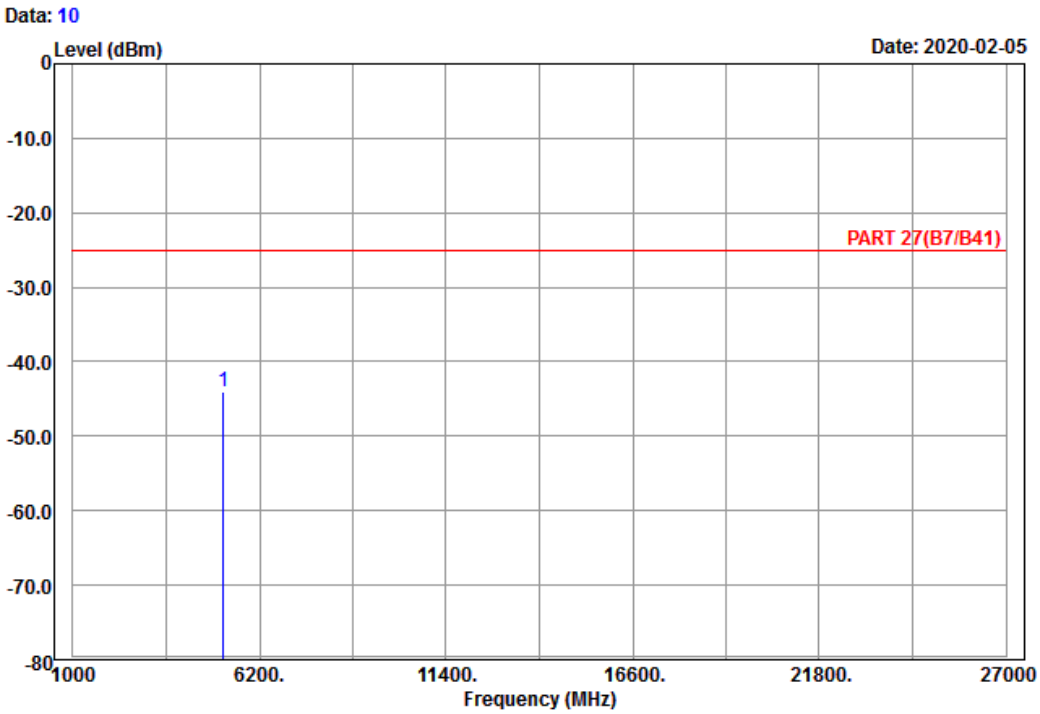
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 38_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5190.00	-46.94	-67.06	20.12	-25.00	-21.94	Peak

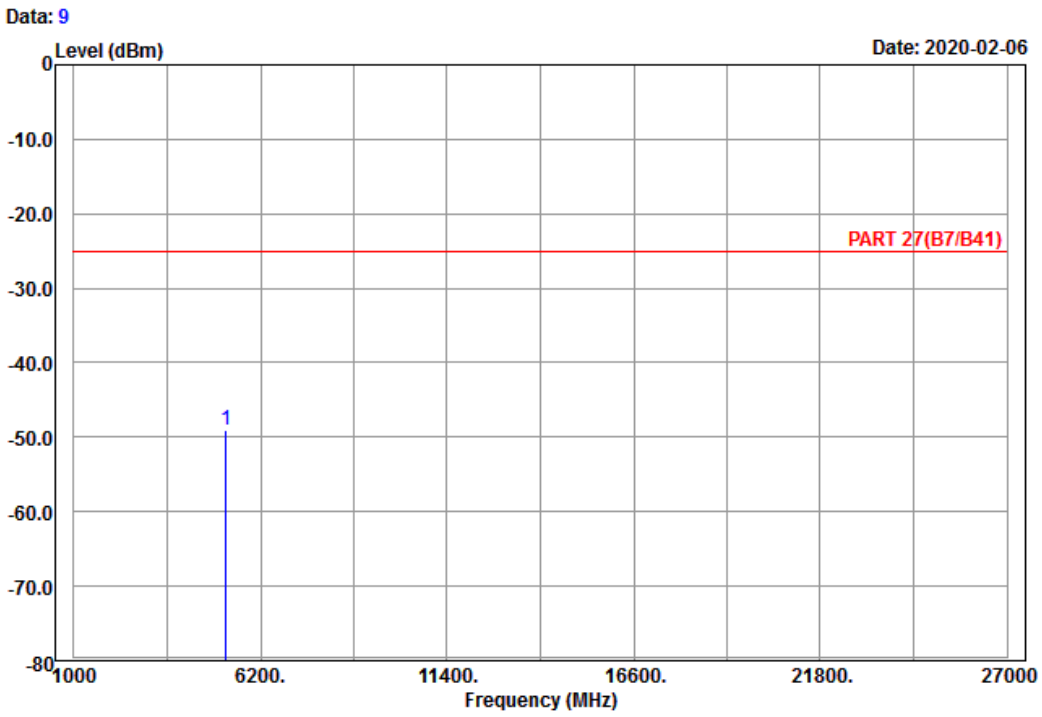


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5190.00	-44.10	-64.22	20.12	-25.00	-19.10	Peak

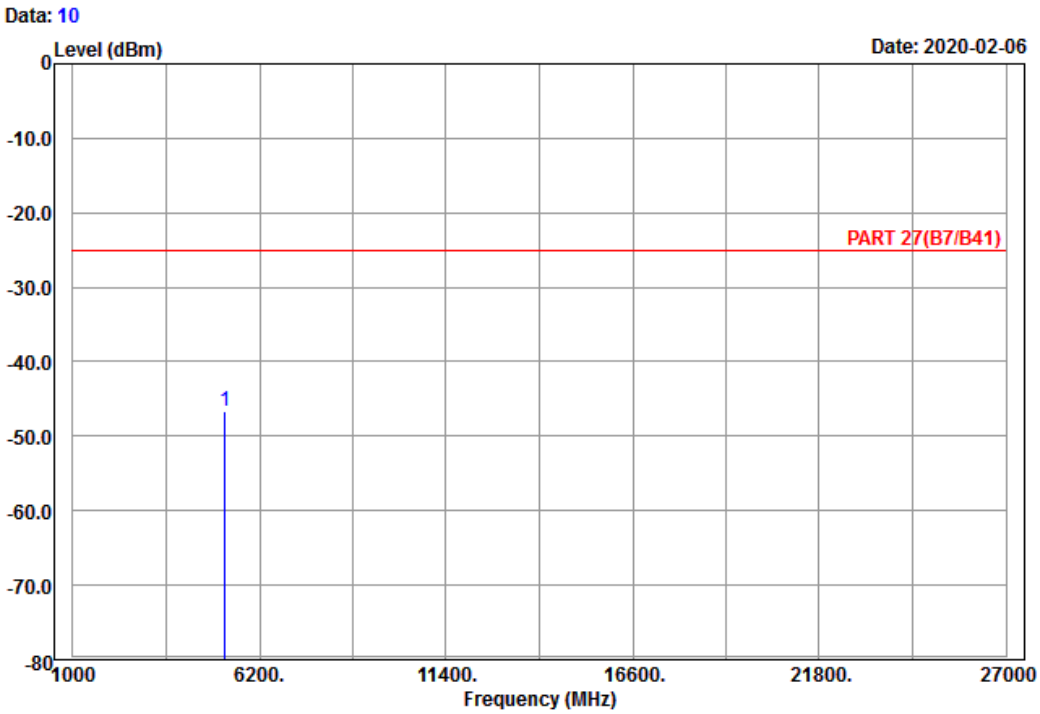
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 38_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5235.00	-49.03	-69.19	20.16	-25.00	-24.03	Peak



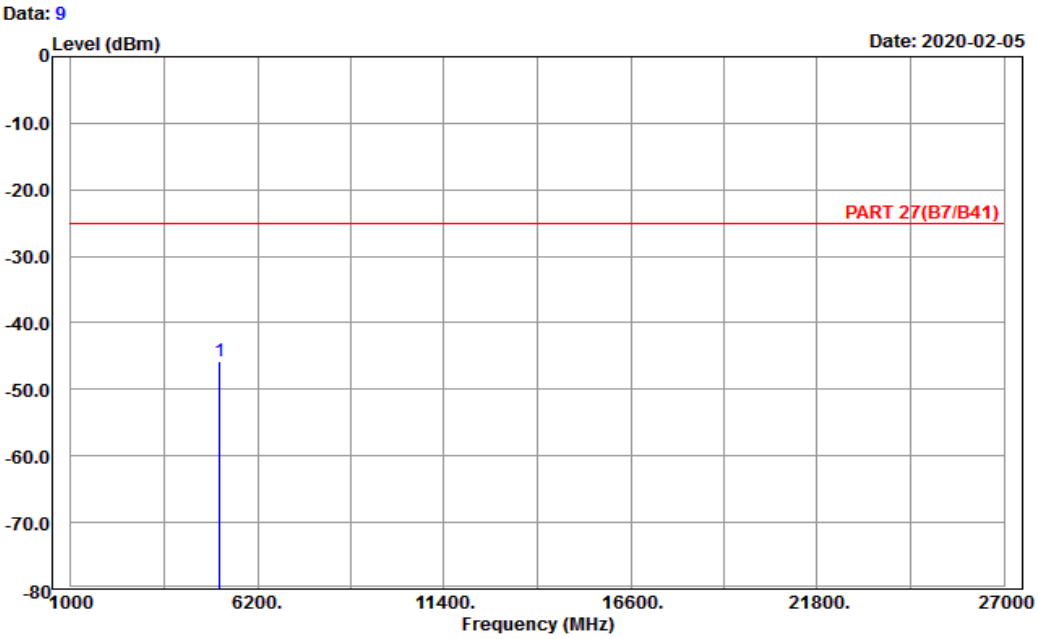
Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5235.00	-46.60	-66.76	20.16	-25.00	-21.60	Peak

Channel Bandwidth: 20 MHz / QPSK

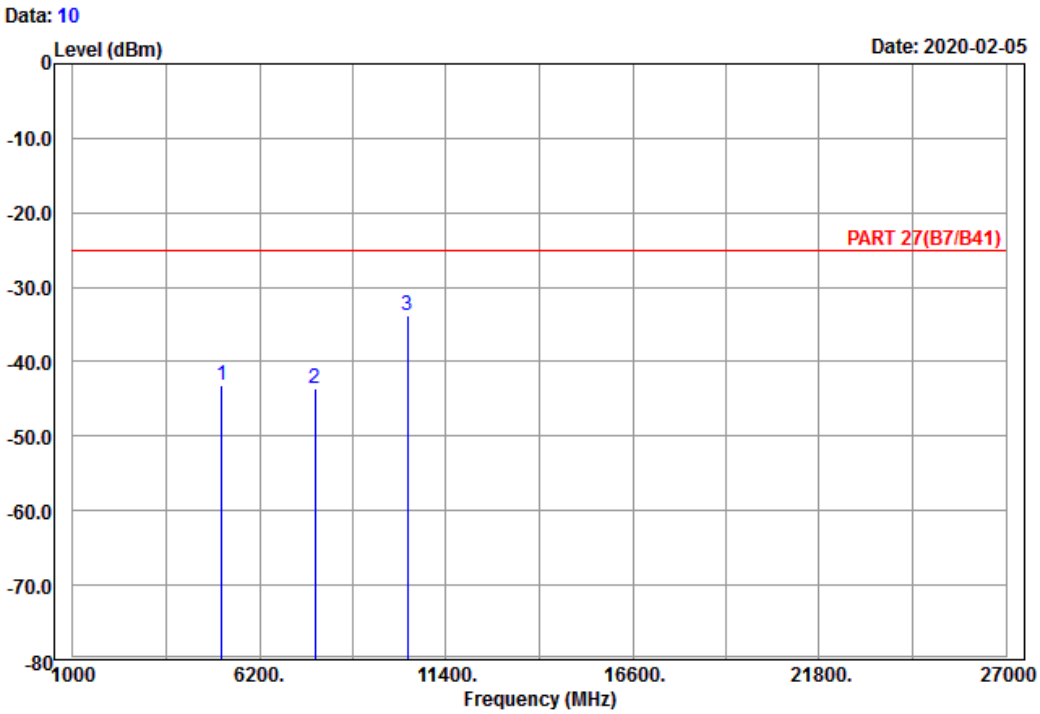
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark    : LTE_Band 38_Link_L-Ch
Tested by: Karl Lee
                        Read          Limit   Over
           Freq  Level  Level Factor   Line  Limit Remark
          _____ _____ _____ _____ _____ _____ _____
            MHz   dBm   dBm    dB    dBm    dB

  1 pp  5160.00 -45.69 -65.61  19.92 -25.00 -20.69 Peak
```

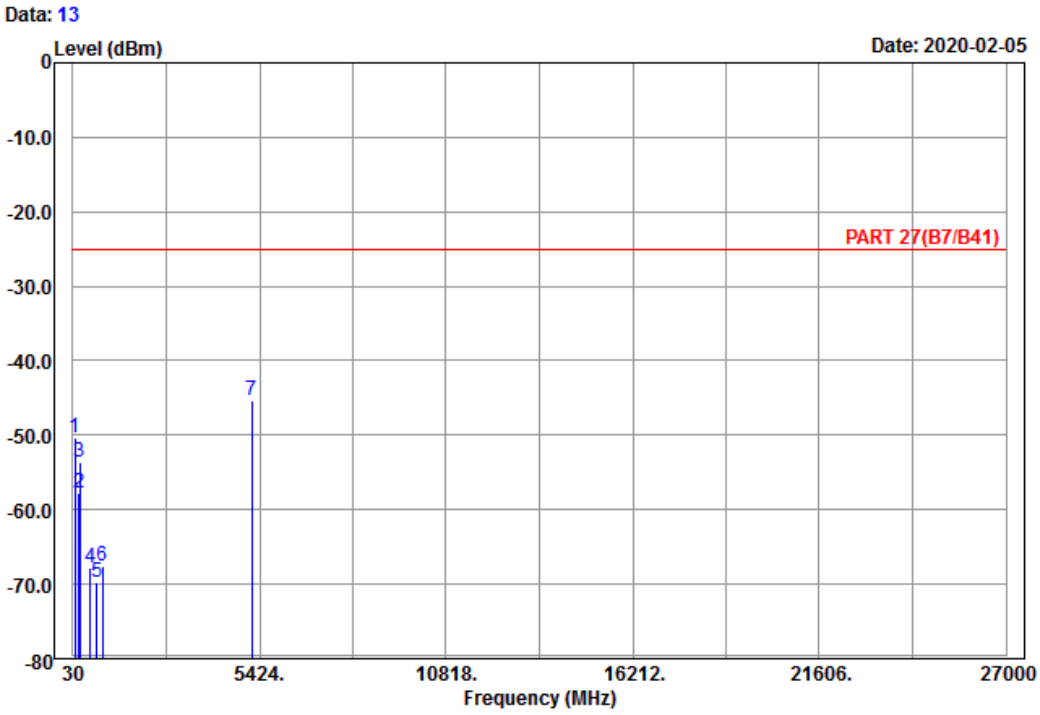


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5160.00	-43.20	-63.12	19.92	-25.00	-18.20	Peak
2	7740.00	-43.50	-66.73	23.23	-25.00	-18.50	Peak
3 pp	10320.00	-33.79	-60.46	26.67	-25.00	-8.79	Peak

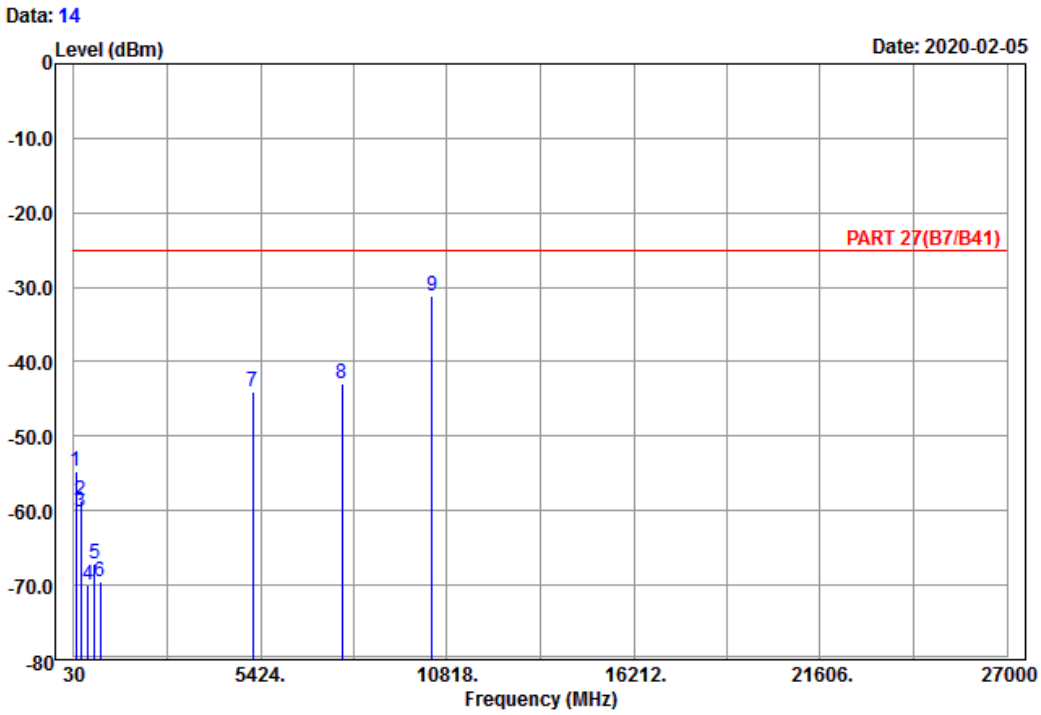
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 38_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	82.92	-50.38	-38.94	-11.44	-25.00	-25.38	Peak
2	209.82	-57.79	-51.74	-6.05	-25.00	-32.79	Peak
3	237.63	-53.55	-47.87	-5.68	-25.00	-28.55	Peak
4	541.50	-67.90	-65.60	-2.30	-25.00	-42.90	Peak
5	711.60	-69.78	-69.18	-0.60	-25.00	-44.78	Peak
6	892.90	-67.60	-70.29	2.69	-25.00	-42.60	Peak
7 pp	5190.00	-45.25	-65.37	20.12	-25.00	-20.25	Peak

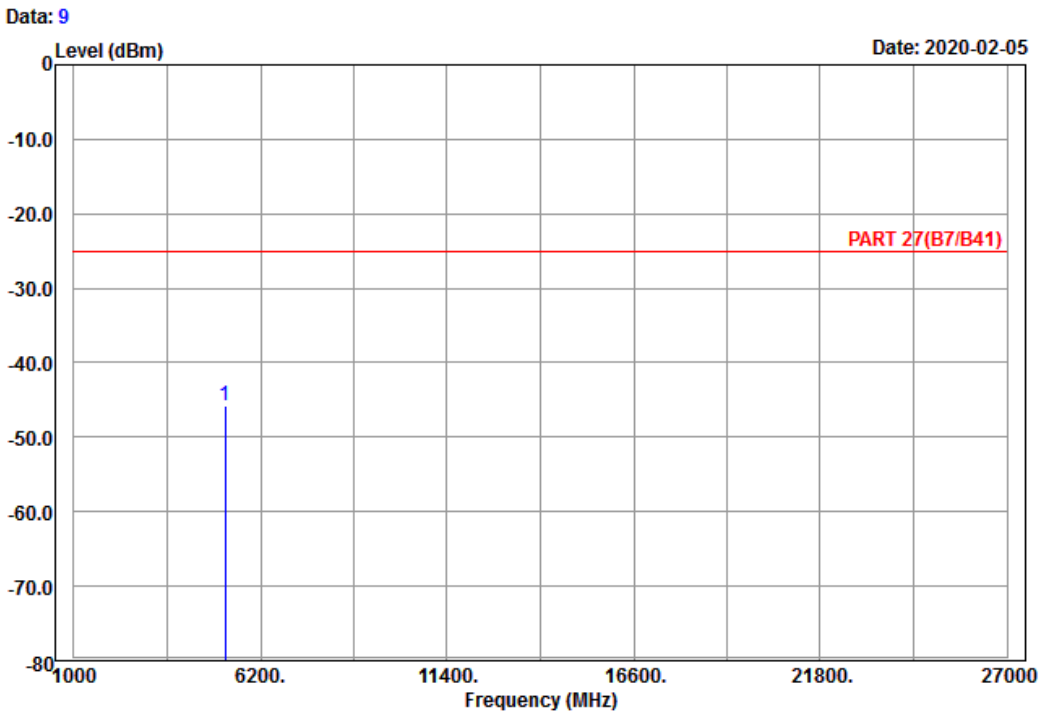


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	90.75	-54.71	-44.09	-10.62	-25.00	-29.71	Peak
2	225.21	-58.59	-52.74	-5.85	-25.00	-33.59	Peak
3	239.25	-60.22	-54.57	-5.65	-25.00	-35.22	Peak
4	442.80	-69.89	-66.19	-3.70	-25.00	-44.89	Peak
5	634.60	-67.10	-67.14	0.04	-25.00	-42.10	Peak
6	786.50	-69.49	-70.61	1.12	-25.00	-44.49	Peak
7	5190.00	-43.93	-64.05	20.12	-25.00	-18.93	Peak
8	7785.00	-43.01	-66.34	23.33	-25.00	-18.01	Peak
9 pp	10380.00	-31.17	-57.91	26.74	-25.00	-6.17	Peak

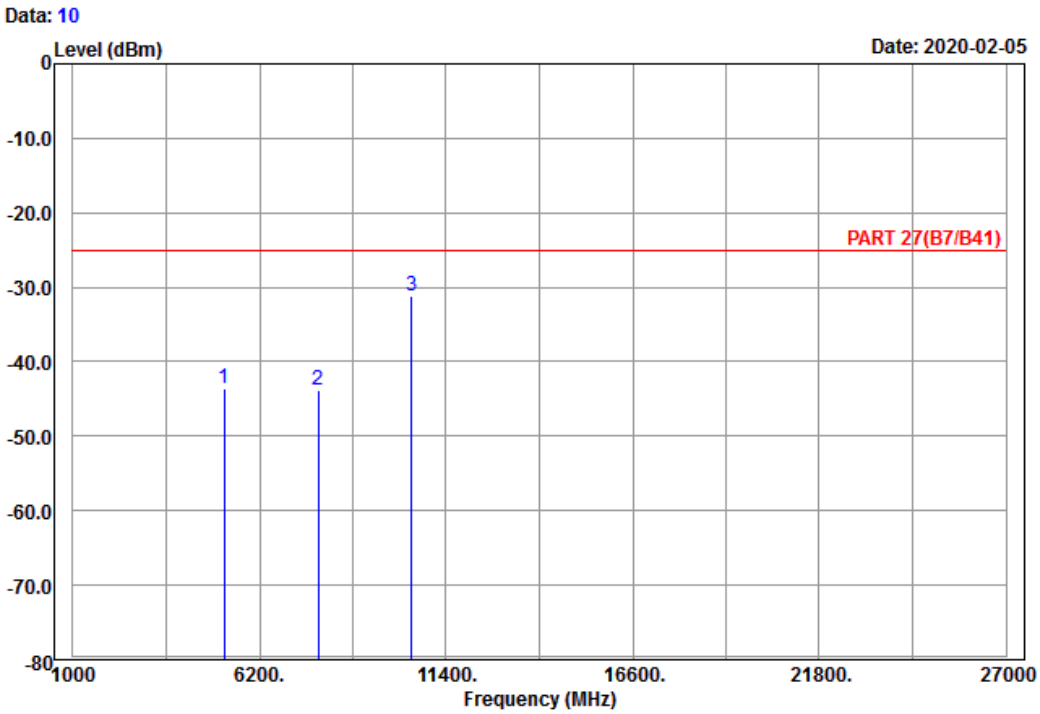
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 38_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5220.00	-45.75	-65.89	20.14	-25.00	-20.75	Peak

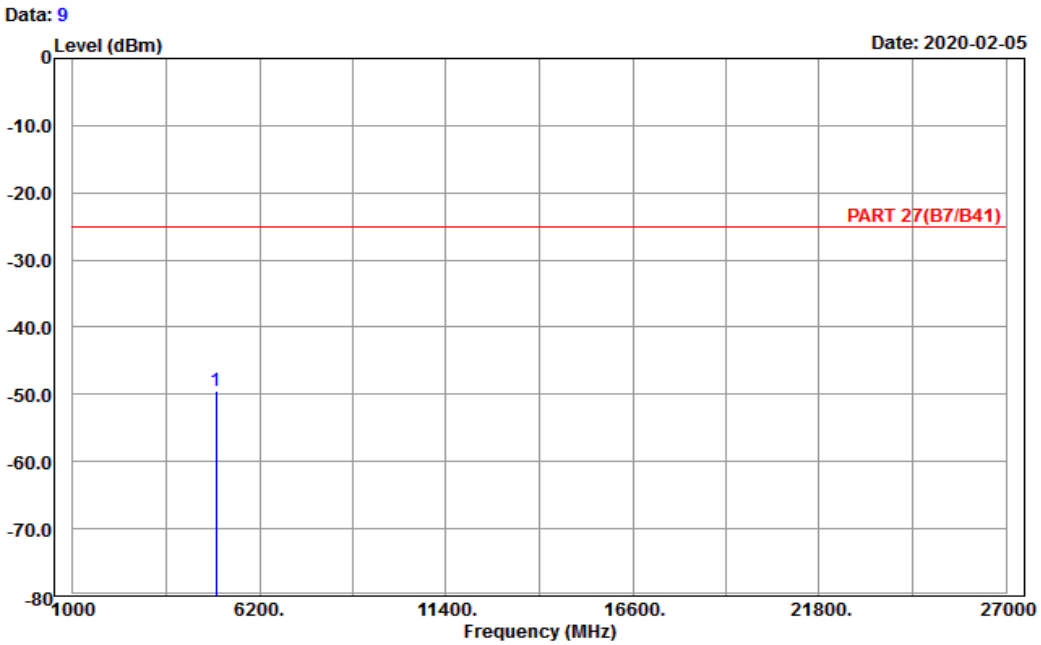


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 38_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5220.00	-43.68	-63.82	20.14	-25.00	-18.68	Peak
2	7830.00	-43.90	-67.30	23.40	-25.00	-18.90	Peak
3 pp	10440.00	-31.20	-57.91	26.71	-25.00	-6.20	Peak

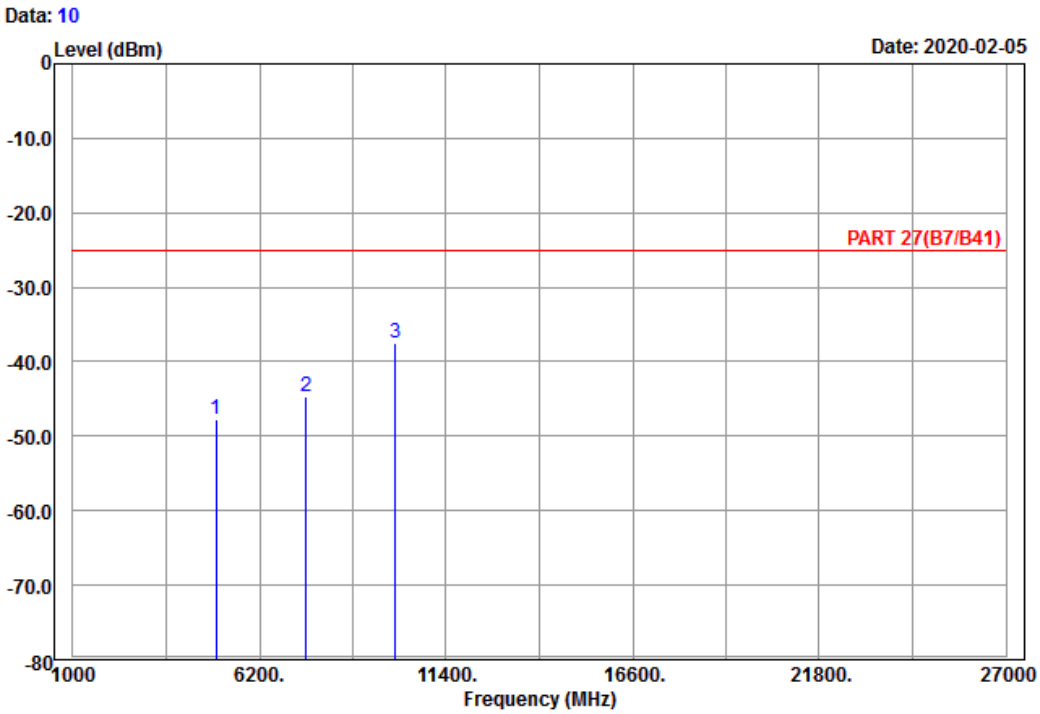
LTE Band 41
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	4997.00	-49.48	-69.06	19.58	-25.00	-24.48	Peak

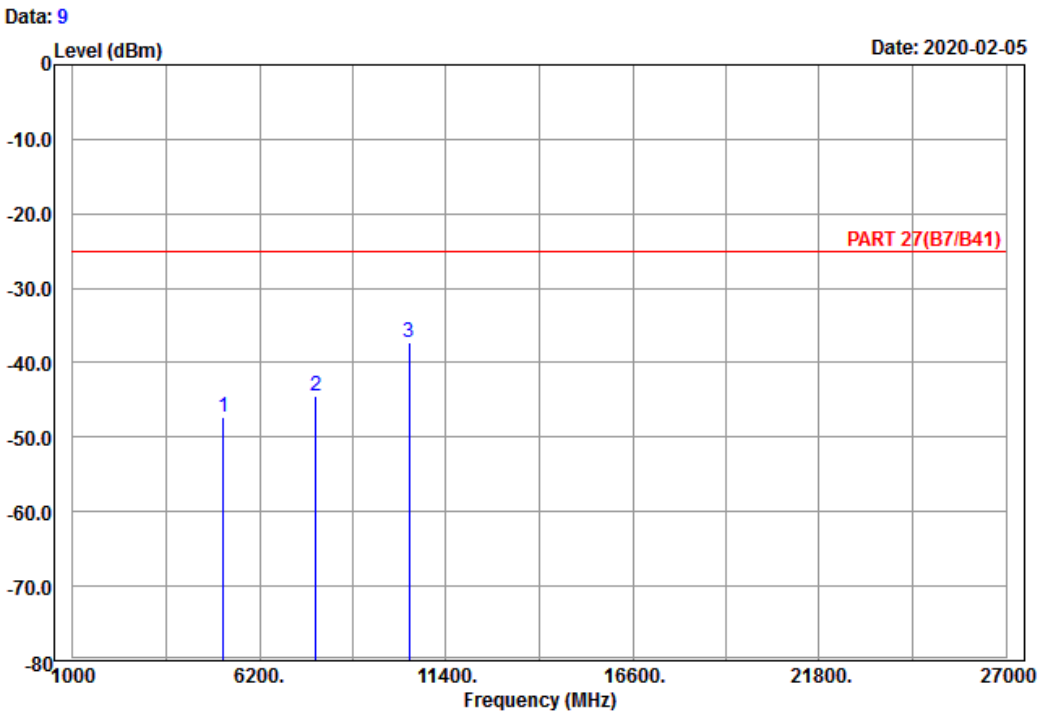


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	4997.00	-47.70	-67.28	19.58	-25.00	-22.70	Peak
2	7495.50	-44.67	-66.87	22.20	-25.00	-19.67	Peak
3 pp	9994.00	-37.46	-63.68	26.22	-25.00	-12.46	Peak

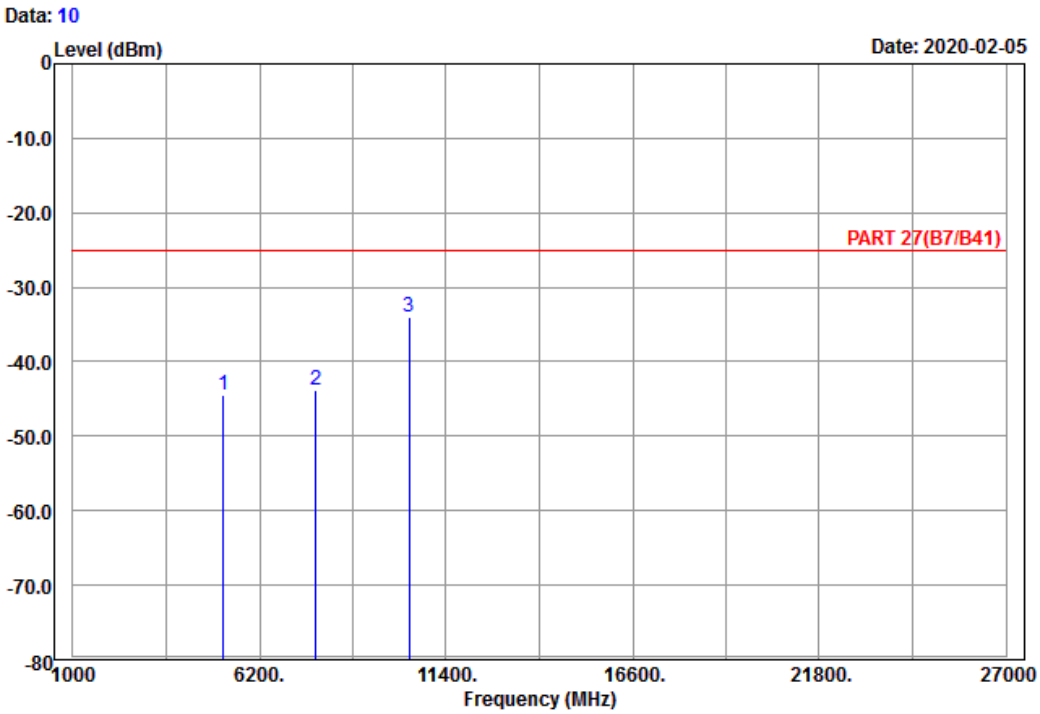
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5186.00	-47.37	-67.49	20.12	-25.00	-22.37	Peak
2	7779.00	-44.45	-67.78	23.33	-25.00	-19.45	Peak
3 pp	10370.00	-37.35	-64.09	26.74	-25.00	-12.35	Peak

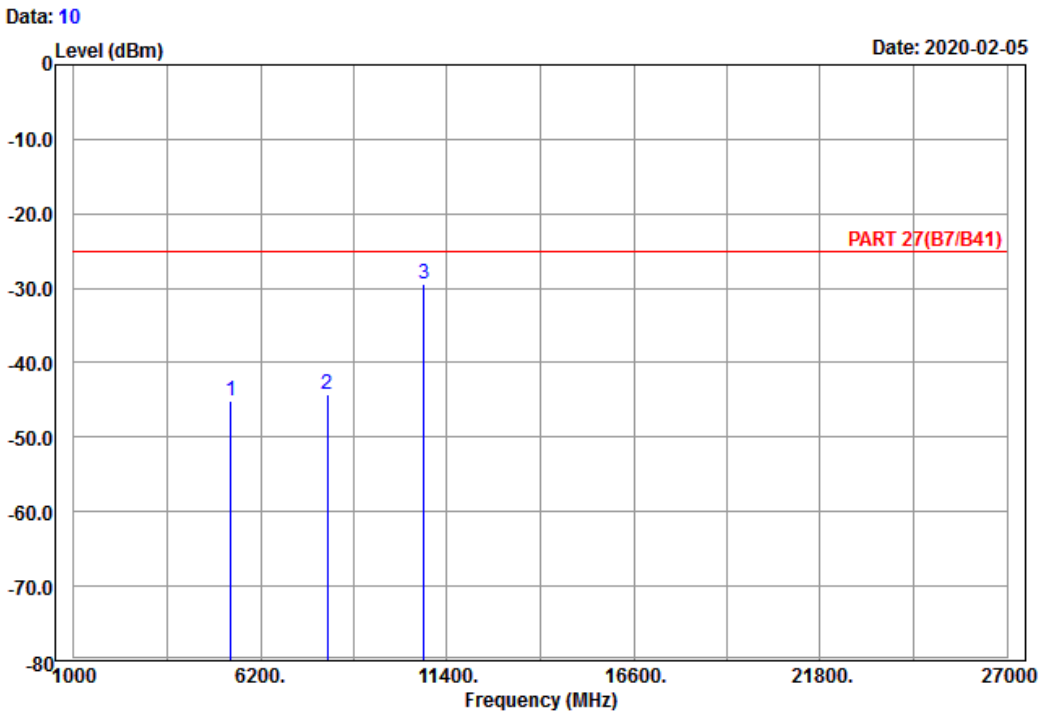


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5186.00	-44.43	-64.55	20.12	-25.00	-19.43	Peak
2	7779.00	-43.86	-67.19	23.33	-25.00	-18.86	Peak
3 pp	10370.00	-34.02	-60.76	26.74	-25.00	-9.02	Peak

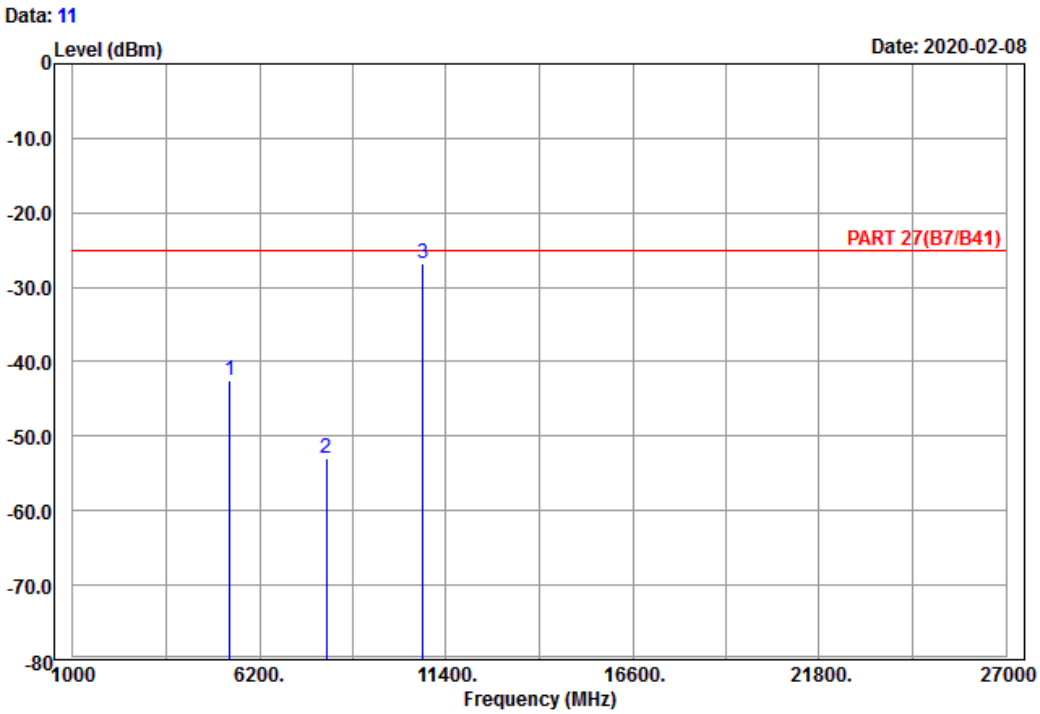
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5375.00	-45.21	-65.53	20.32	-25.00	-20.21	Peak
2	8062.50	-44.27	-68.04	23.77	-25.00	-19.27	Peak
3 pp	10750.00	-29.51	-56.67	27.16	-25.00	-4.51	Peak

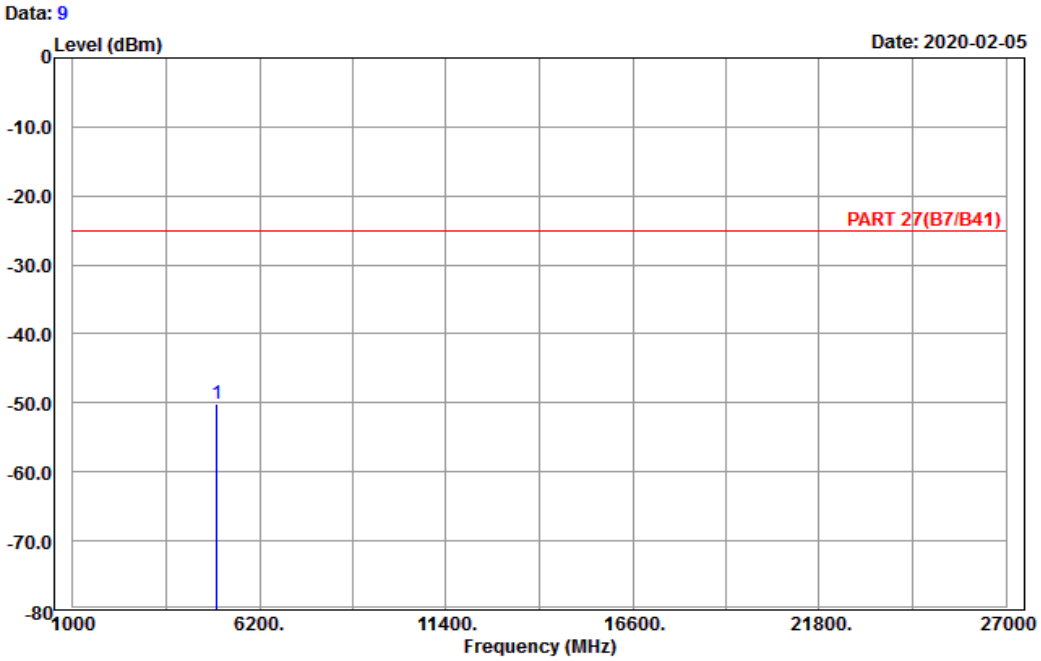


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	pk 5375.00	-42.43	-62.75	20.32	-25.00	-17.43	Peak
2	8062.50	-52.95	-76.72	23.77	-25.00	-27.95	Peak
3	pp 10750.00	-26.91	-54.07	27.16	-25.00	-1.91	Average

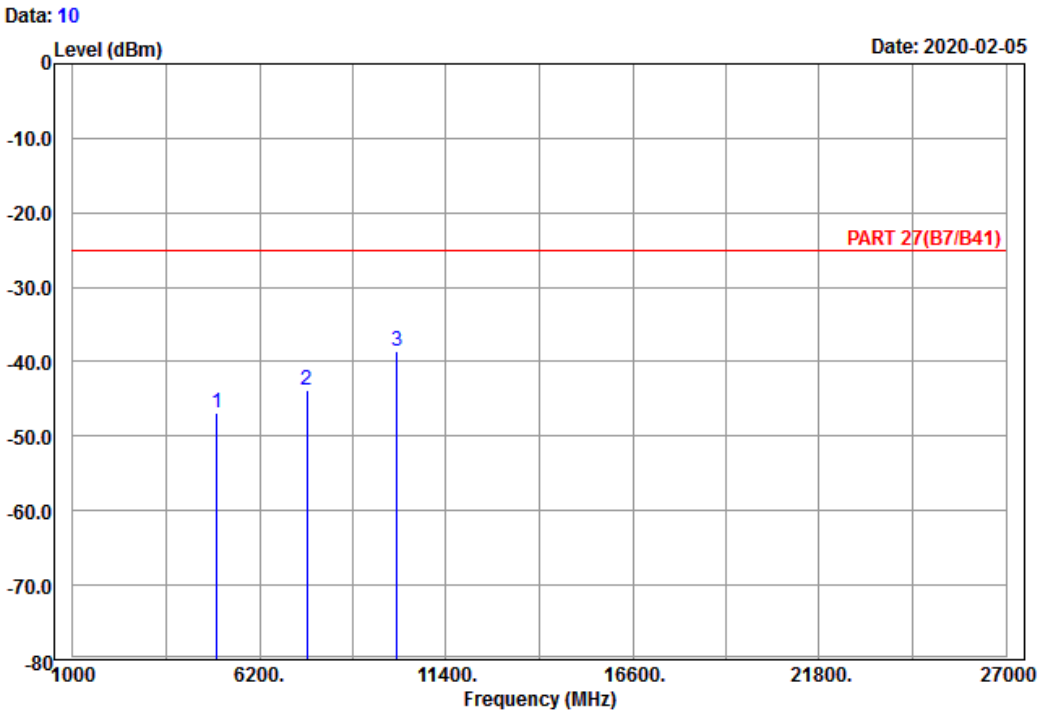
Channel Bandwidth: 20 MHz / QPSK

Low Channel



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	5012.00	-50.17	-69.25	19.08	-25.00	-25.17	Peak

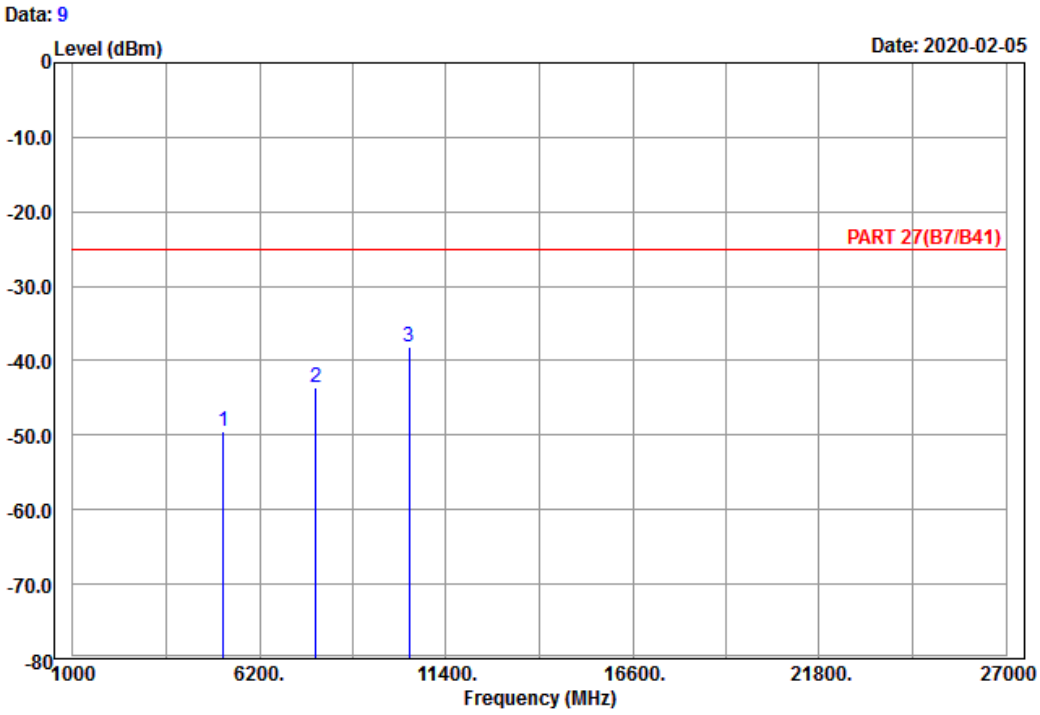


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5012.00	-46.89	-65.97	19.08	-25.00	-21.89	Peak
2	7518.00	-43.75	-66.43	22.68	-25.00	-18.75	Peak
3 pp	10024.00	-38.58	-64.83	26.25	-25.00	-13.58	Peak

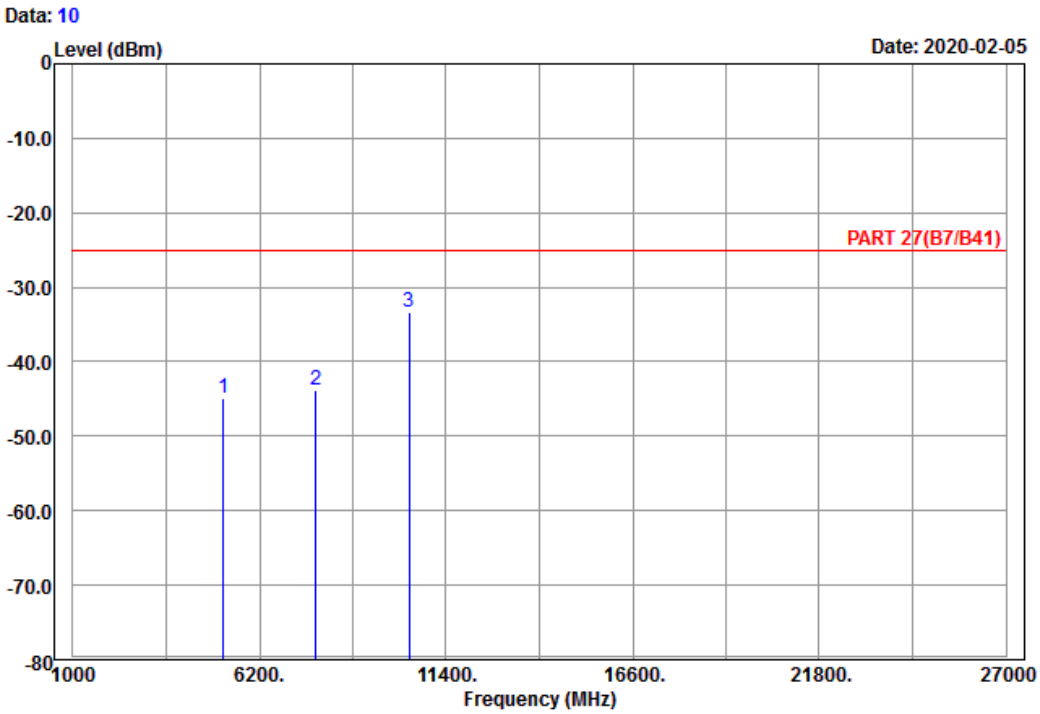
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5186.00	-49.57	-69.69	20.12	-25.00	-24.57	Peak
2	7779.00	-43.61	-66.94	23.33	-25.00	-18.61	Peak
3 pp	10372.00	-38.17	-64.91	26.74	-25.00	-13.17	Peak

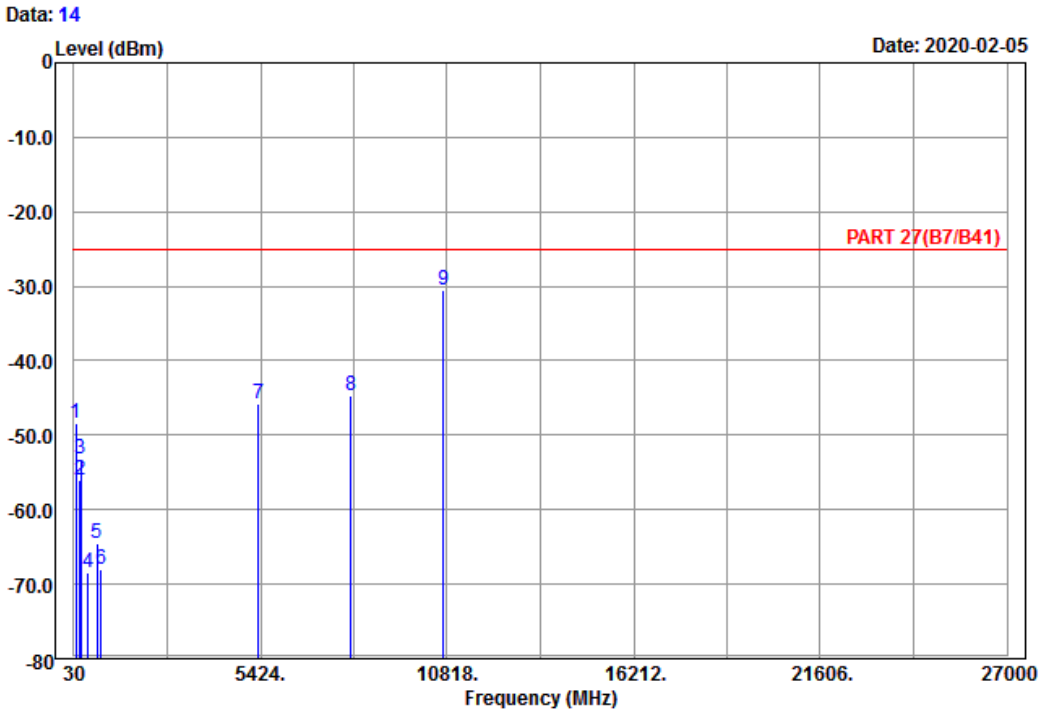


Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	5186.00	-44.93	-65.05	20.12	-25.00	-19.93	Peak
2	7779.00	-43.82	-67.15	23.33	-25.00	-18.82	Peak
3 pp	10372.00	-33.26	-60.00	26.74	-25.00	-8.26	Peak

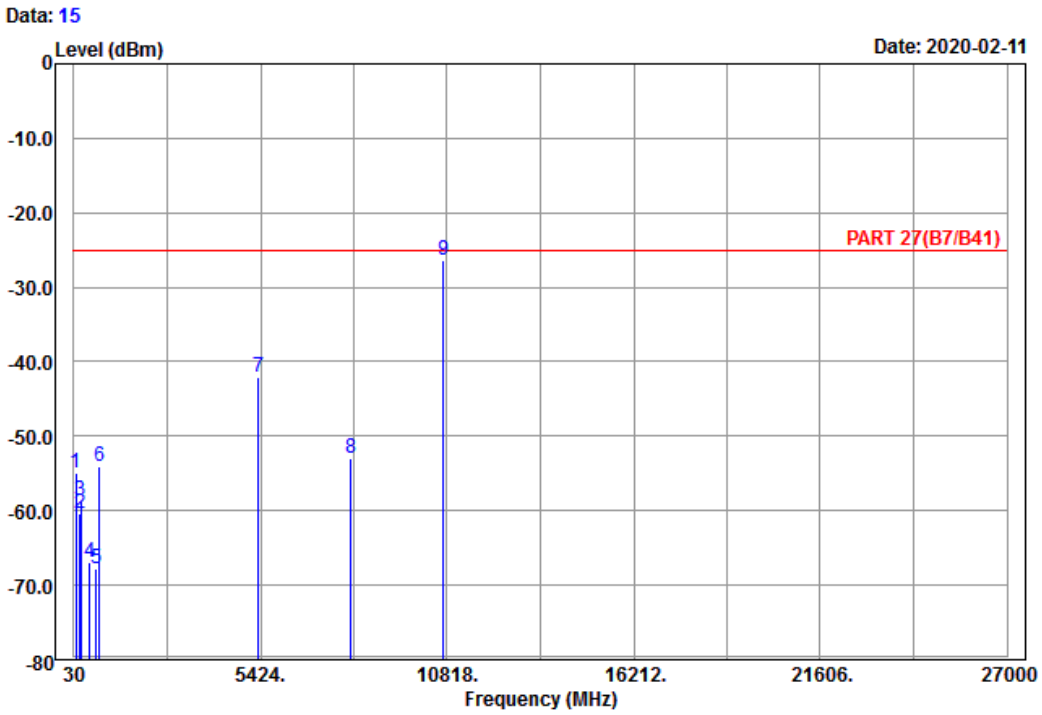
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 41_Link_H-Ch
Tested by: Karl Lee

		Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
		MHz	dBm	dBm	dB	dBm	dB	
1		93.18	-48.45	-37.94	-10.51	-25.00	-23.45	Peak
2		212.52	-56.01	-50.00	-6.01	-25.00	-31.01	Peak
3		236.82	-53.30	-47.61	-5.69	-25.00	-28.30	Peak
4		445.60	-68.42	-64.68	-3.74	-25.00	-43.42	Peak
5		687.80	-64.50	-64.18	-0.32	-25.00	-39.50	Peak
6		813.80	-68.04	-69.90	1.86	-25.00	-43.04	Peak
7		5360.00	-45.81	-66.11	20.30	-25.00	-20.81	Peak
8		8040.00	-44.74	-68.49	23.75	-25.00	-19.74	Peak
9	pp	10720.00	-30.49	-57.57	27.08	-25.00	-5.49	Peak



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 41_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	89.94	-54.88	-44.21	-10.67	-25.00	-29.88	Peak
2	212.79	-60.35	-54.34	-6.01	-25.00	-35.35	Peak
3	228.18	-58.73	-52.92	-5.81	-25.00	-33.73	Peak
4	477.80	-66.90	-62.25	-4.65	-25.00	-41.90	Peak
5	678.00	-67.74	-67.47	-0.27	-25.00	-42.74	Peak
6	766.20	-54.00	-53.78	-0.22	-25.00	-29.00	Peak
7 pk	5360.00	-42.01	-62.31	20.30	-25.00	-17.01	Peak
8	8040.00	-53.05	-76.80	23.75	-25.00	-28.05	Peak
9 pp	10720.00	-26.33	-53.41	27.08	-25.00	-1.33	Average

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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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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