

FCC Test Report

(PART 27)

Report No.: RF180227C27-7

FCC ID: QYLEM7455K

Test Model: K120

Received Date: Mar. 02, 2018

Test Date: Apr. 05, 2018 ~ Apr. 10, 2018

Issued Date: May 15, 2018

Applicant: Getac Technology Corporation.

Address: 5F., Building A, No. 209, Sec.1, Nangang Rd., Nangang Dist., Taipei City 11568, Taiwan, R.O.C.

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)

Test Location (1): No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

Test Location (2): No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C

**FCC Registration /
Designation Number:** 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RF180227C27-7	Original Release	May 15, 2018

1 Certificate of Conformity

Product: Tablet

Brand: Getac

Test Model: K120

Sample Status: Identical Prototype

Applicant: Getac Technology Corporation.

Test Date: Apr. 05, 2018 ~ Apr. 10, 2018

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 : Evonne Liu, **Date:** May 15, 2018
Evonne Liu / Specialist

Approved by : Dylan Chiou, **Date:** May 15, 2018
Dylan Chiou / 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)	Equivalent Isotropic Radiated Power	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
2.1051 27.53(l)	Out-of-Band Emissions Measurements	N/A	Refer to Note
2.1051 27.53(m)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53(m)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -20.17 dB at 169.59 MHz.

Note: This report is a partial report, only test item of Radiated Emissions were performed for this report. Other testing data please refer to TTL report no.: B15W50341-FCC-RF_Rev1 for module (Brand: Sierra Wireless Inc., Model: EM7455).

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	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	Jul. 05, 2017	Jul. 04, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Double Ridge Guide Horn Antenna EMCO	3115	5619	Nov. 30, 2017	Nov. 29, 2018
HORN Antenna ETS	3117	00034128	Dec. 14, 2017	Dec. 13, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-153	Dec. 06, 2017	Dec. 05, 2018
Preamplifier Agilent	310N	187226	Jun. 23, 2017	Jun. 22, 2018
Preamplifier Agilent	83017A	MY39501357	Jun. 23, 2017	Jun. 22, 2018
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 23, 2017	Jun. 22, 2018
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 23, 2017	Jun. 22, 2018
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	6201010284	Dec. 28, 2017	Dec. 27, 2018

- 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 IC7450I-1.

3 General Information

3.1 General Description of EUT

Product	Tablet	
Brand	Getac	
Test Model	K120	
Status of EUT	Identical Prototype	
Power Supply Rating	11.1 Vdc (Battery) 19 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 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)	318.27 mW
	LTE Band 7 (Channel Bandwidth: 10 MHz)	321.44 mW
	LTE Band 7 (Channel Bandwidth: 15 MHz)	322.70 mW
	LTE Band 7 (Channel Bandwidth: 20 MHz)	328.10 mW
	LTE Band 41 (Channel Bandwidth: 5 MHz)	120.23 mW
	LTE Band 41 (Channel Bandwidth: 10 MHz)	138.04 mW
	LTE Band 41 (Channel Bandwidth: 15 MHz)	154.88 mW
	LTE Band 41 (Channel Bandwidth: 20 MHz)	177.83 mW
Antenna Type	PIFA Antenna	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

1. The EUT contains following accessory devices.

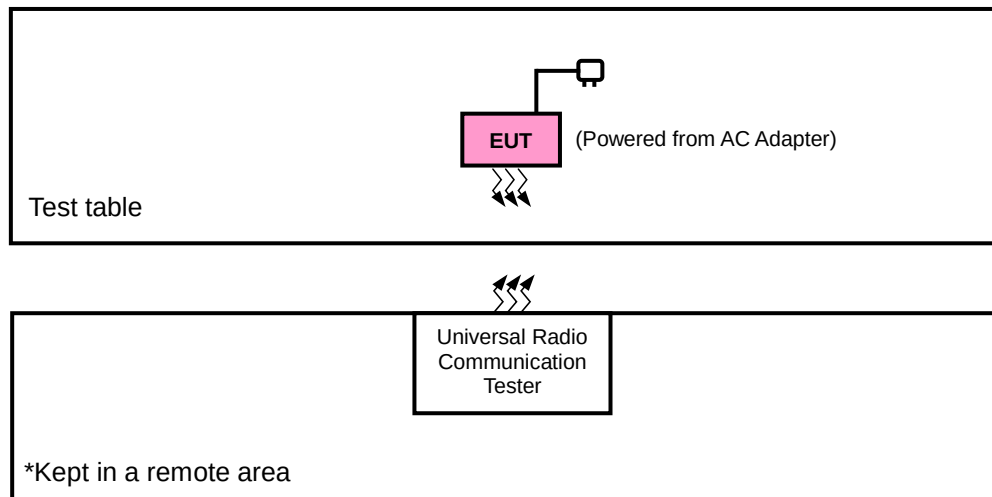
Product	Brand	Model	Description
Adapter	Chicony	A12-065N2A	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19 Vdc, 3.42 A 1.75 m shielded cable with 1 core
Battery 1	Getac	BP3S1P2100S-01	11.1 Vdc, 2100 mAh
Battery 2	Getac	BP4S1P3450P-01	14.4 Vdc, 3450 mAh
WWAN Module	Sierra	EM7455	--
WiFi & BT Module	Intel	8265NGW	--

* According to the pretest result, the Battery 1 had worse value. Therefore, Battery 1 was used for the final test.

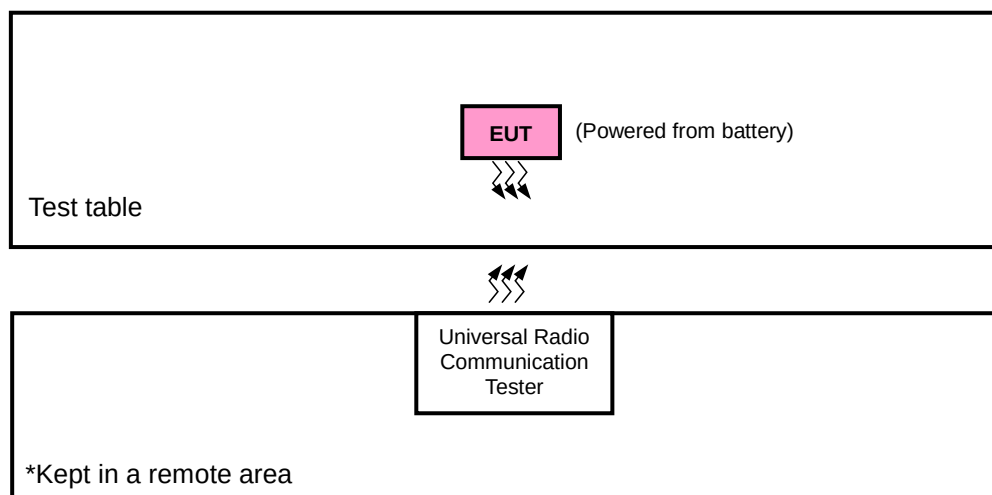
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



<E.I.R.P. Test>



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

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	Z-plane	Z-axis
LTE Band 41	Z-plane	Z-axis

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 / 12 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM	1 RB / 37 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK, 16QAM	1 RB / 50 RB Offset
-	Radiated Emission	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK	1 RB / 12 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK	1 RB / 50 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

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 / 12 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK, 16QAM	1 RB / 37 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK, 16QAM	1 RB / 50 RB Offset
-	Radiated Emission	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK	1 RB / 12 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK	1 RB / 50 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee

3.4 EUT Operating Conditions

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

3.5 General Description of Applied Standards

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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

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 "User stations are limited to 2 watts" 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

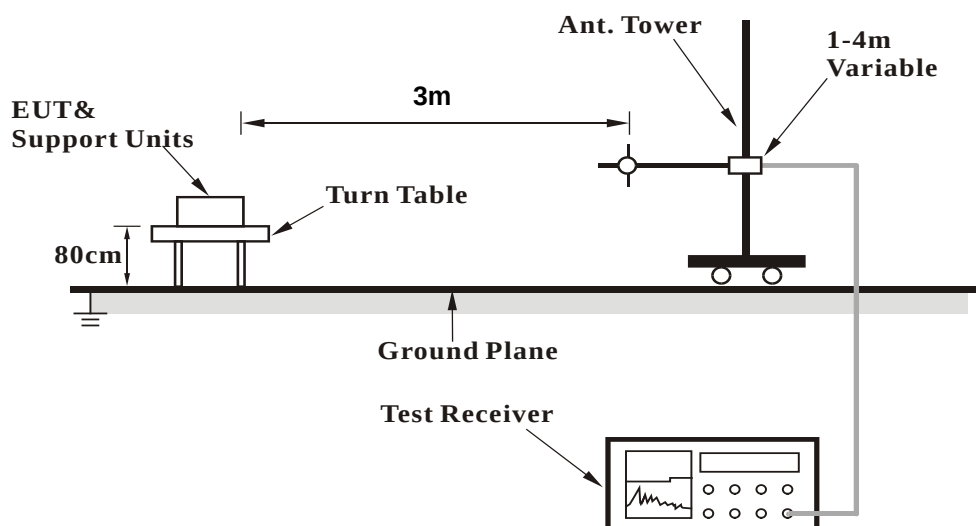
EIRP Measurement:

- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10 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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$

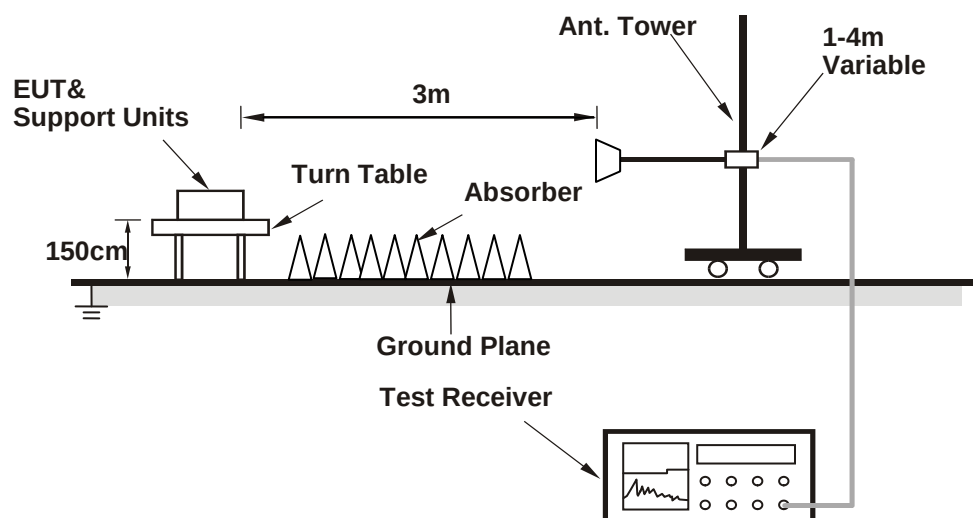
4.1.3 Test Setup

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).

4.1.4 Test Results

EIRP Power (dBm)

LTE Band 7							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	20775	2502.5	-19.21	44.24	25.03	318.27	H
	21100	2535.0	-19.19	44.20	25.01	316.74	
	21425	2567.5	-19.82	44.80	24.98	314.85	
	20775	2502.5	-22.15	44.19	22.04	159.99	V
	21100	2535.0	-22.08	44.09	22.01	158.78	
	21425	2567.5	-22.53	44.50	21.97	157.36	
Channel Bandwidth: 5 MHz / 16QAM							
Z	20775	2502.5	-20.22	44.24	24.02	252.23	H
	21100	2535.0	-20.19	44.20	24.01	251.59	
	21425	2567.5	-20.83	44.80	23.97	249.52	
	20775	2502.5	-23.15	44.19	21.04	127.09	V
	21100	2535.0	-23.09	44.09	21.00	125.83	
	21425	2567.5	-23.54	44.50	20.96	124.71	

LTE Band 7							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	20800	2505.0	-19.27	44.34	25.07	321.44	H
	21100	2535.0	-19.15	44.20	25.05	319.67	
	21400	2565.0	-19.71	44.72	25.01	317.18	
	20800	2505.0	-22.16	44.23	22.07	160.92	V
	21100	2535.0	-22.04	44.09	22.05	160.25	
	21400	2565.0	-22.42	44.41	21.99	157.98	
Channel Bandwidth: 10 MHz / 16QAM							
Z	20800	2505.0	-20.26	44.34	24.08	255.92	H
	21100	2535.0	-20.15	44.20	24.05	253.92	
	21400	2565.0	-20.72	44.72	24.00	251.36	
	20800	2505.0	-23.15	44.23	21.08	128.12	V
	21100	2535.0	-23.06	44.09	21.03	126.71	
	21400	2565.0	-23.40	44.41	21.01	126.07	

LTE Band 7							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	20825	2507.5	-19.23	44.32	25.09	322.70	H
	21100	2535.0	-19.12	44.20	25.08	321.88	
	21375	2562.5	-19.80	44.85	25.05	319.74	
	20825	2507.5	-21.88	43.99	22.11	162.63	V
	21100	2535.0	-22.00	44.09	22.09	161.73	
	21375	2562.5	-22.47	44.51	22.04	159.96	
Channel Bandwidth: 15 MHz / 16QAM							
Z	20825	2507.5	-20.20	44.32	24.12	258.11	H
	21100	2535.0	-20.12	44.20	24.08	255.68	
	21375	2562.5	-20.80	44.85	24.05	253.98	
	20825	2507.5	-22.89	43.99	21.10	128.88	V
	21100	2535.0	-23.01	44.09	21.08	128.17	
	21375	2562.5	-23.48	44.51	21.03	126.77	

LTE Band 7							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	20850.0	2510.0	-19.00	44.16	25.16	328.10	H
	21100.0	2535.0	-19.07	44.20	25.13	325.61	
	21350.0	2560.0	-19.70	44.81	25.11	324.12	
	20850.0	2510.0	-22.61	44.78	22.17	164.82	V
	21100.0	2535.0	-21.96	44.09	22.13	163.23	
	21350.0	2560.0	-22.65	44.72	22.07	161.06	
Channel Bandwidth: 20 MHz / 16QAM							
Z	20850.0	2510.0	-20.00	44.16	24.16	260.62	H
	21100.0	2535.0	-20.08	44.20	24.12	258.05	
	21350.0	2560.0	-20.71	44.81	24.10	256.86	
	20850.0	2510.0	-23.61	44.78	21.17	130.92	V
	21100.0	2535.0	-22.95	44.09	21.14	129.96	
	21350.0	2560.0	-23.64	44.72	21.08	128.23	

LTE Band 41							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	39675	2498.5	-22.99	38.99	16.00	39.81	H
	40620	2593.0	-21.17	38.17	17.00	50.12	
	41565	2687.5	-22.35	38.55	16.20	41.69	
	39675	2498.5	-19.47	39.27	19.80	95.50	V
	40620	2593.0	-17.88	38.68	20.80	120.23	
	41565	2687.5	-18.35	38.55	20.20	104.71	
Channel Bandwidth: 5 MHz / 16QAM							
Z	39675	2498.5	-24.09	38.99	14.90	30.90	H
	40620	2593.0	-22.27	38.17	15.90	38.90	
	41565	2687.5	-23.45	38.55	15.10	32.36	
	39675	2498.5	-20.37	39.27	18.90	77.62	V
	40620	2593.0	-18.78	38.68	19.90	97.72	
	41565	2687.5	-19.25	38.55	19.30	85.11	

LTE Band 41							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	39700	2501.0	-22.48	38.98	16.50	44.67	H
	40620	2593.0	-20.67	38.17	17.50	56.23	
	41540	2685.0	-21.75	38.45	16.70	46.77	
	39700	2501.0	-18.64	39.04	20.40	109.65	V
	40620	2593.0	-17.28	38.68	21.40	138.04	
	41540	2685.0	-17.80	38.60	20.80	120.23	
Channel Bandwidth: 10 MHz / 16QAM							
Z	39700	2501.0	-23.38	38.98	15.60	36.31	H
	40620	2593.0	-21.57	38.17	16.60	45.71	
	41540	2685.0	-22.65	38.45	15.80	38.02	
	39700	2501.0	-19.74	39.04	19.30	85.11	V
	40620	2593.0	-18.38	38.68	20.30	107.15	
	41540	2685.0	-18.90	38.60	19.70	93.33	

LTE Band 41							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	39725	2503.5	-22.19	39.09	16.90	48.98	H
	40620	2593.0	-20.27	38.17	17.90	61.66	
	41515	2682.5	-21.42	38.52	17.10	51.29	
	39725	2503.5	-18.14	39.04	20.90	123.03	V
	40620	2593.0	-16.78	38.68	21.90	154.88	
	41515	2682.5	-17.36	38.66	21.30	134.90	
Channel Bandwidth: 15 MHz / 16QAM							
Z	39725	2503.5	-23.29	39.09	15.80	38.02	H
	40620	2593.0	-21.37	38.17	16.80	47.86	
	41515	2682.5	-22.52	38.52	16.00	39.81	
	39725	2503.5	-19.34	39.04	19.70	93.33	V
	40620	2593.0	-17.98	38.68	20.70	117.49	
	41515	2682.5	-18.56	38.66	20.10	102.33	

LTE Band 41							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	39750	2506.0	-21.86	39.26	17.40	54.95	H
	40620	2593.0	-19.77	38.17	18.40	69.18	
	41490	2680.0	-21.11	38.71	17.60	57.54	
	39750	2506.0	-17.83	39.33	21.50	141.25	V
	40620	2593.0	-16.18	38.68	22.50	177.83	
	41490	2680.0	-16.86	38.76	21.90	154.88	
Channel Bandwidth: 20 MHz / 16QAM							
Z	39750	2506.0	-22.76	39.26	16.50	44.67	H
	40620	2593.0	-20.67	38.17	17.50	56.23	
	41490	2680.0	-22.01	38.71	16.70	46.77	
	39750	2506.0	-18.73	39.33	20.60	114.82	V
	40620	2593.0	-17.08	38.68	21.60	144.54	
	41490	2680.0	-17.76	38.76	21.00	125.89	

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 $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25 dBm.

4.2.2 Test Procedure

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

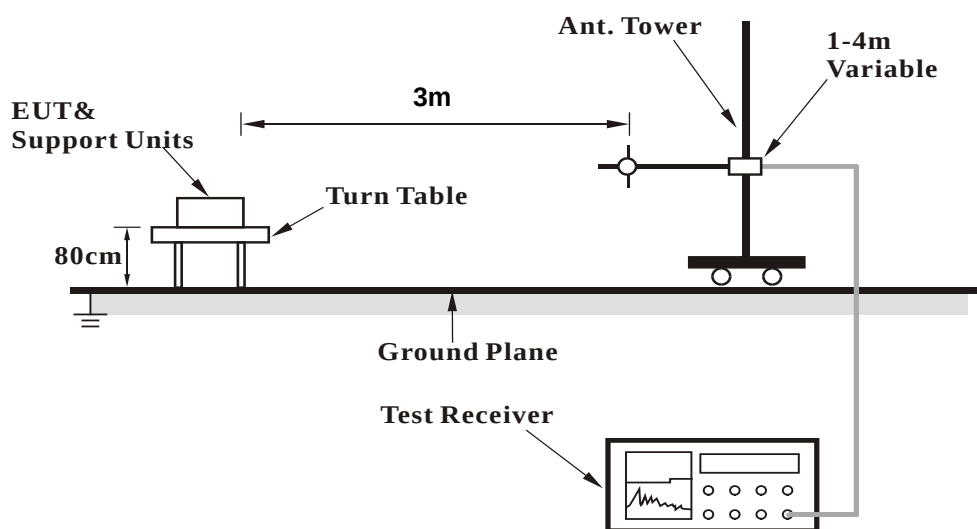
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

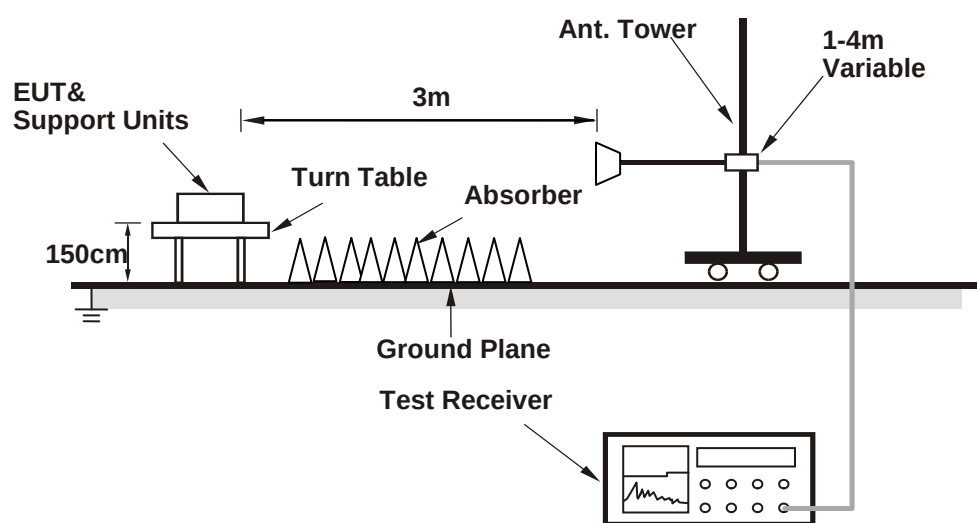
No deviation.

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

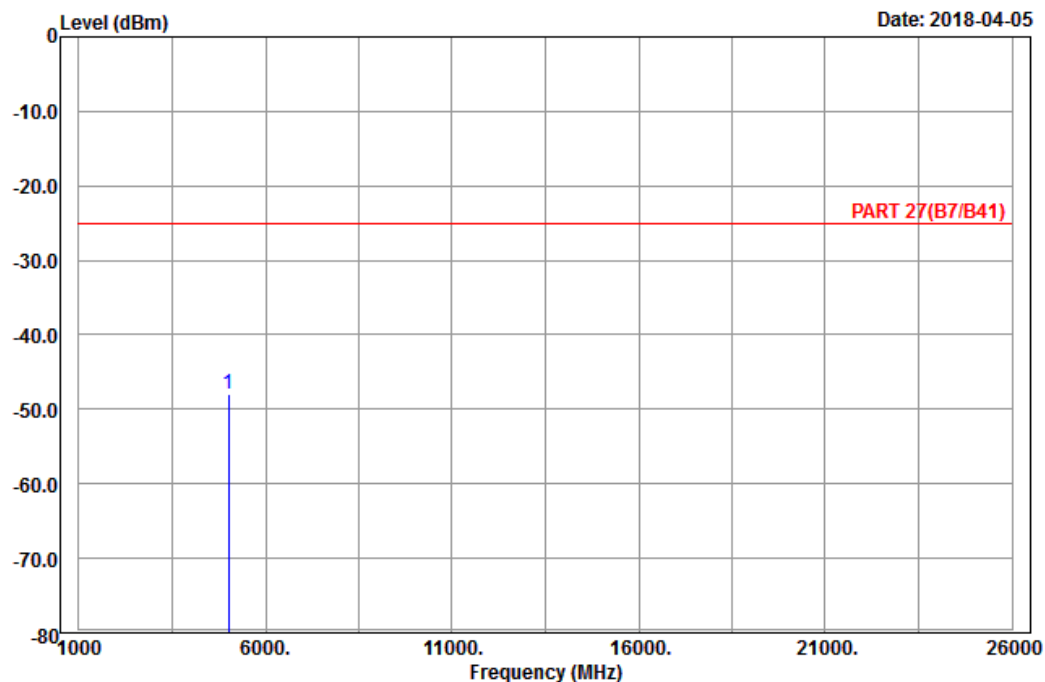


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-04-05



Site : 966 chamber 1

Condition: PART 27(B7/B41) Horizontal

Remark : LTE_Band 7_Link_CH20775

Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5005.00	-48.00	-67.58	-25.00	-23.00	19.58	Peak

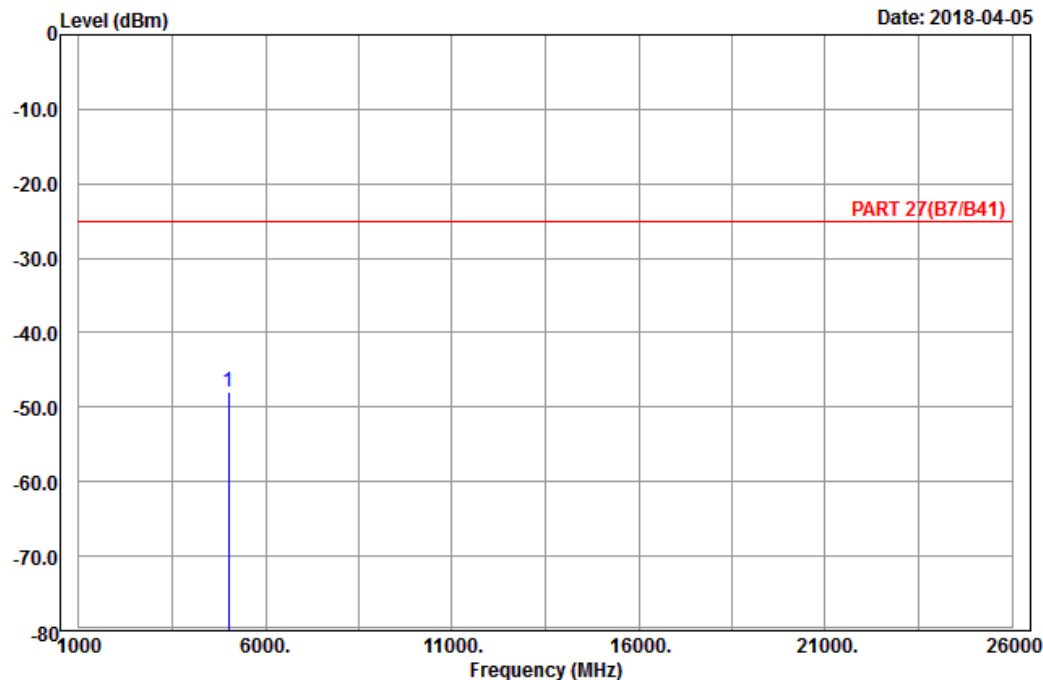


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-04-05



Site : 966 chamber 1
 Condition: PART 27(B7/B41) Vertical
 Remark : LTE_Band 7_Link_CH20775
 Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5005.00	-48.01	-67.59	-25.00	-23.01	19.58	Peak

Middle Channel

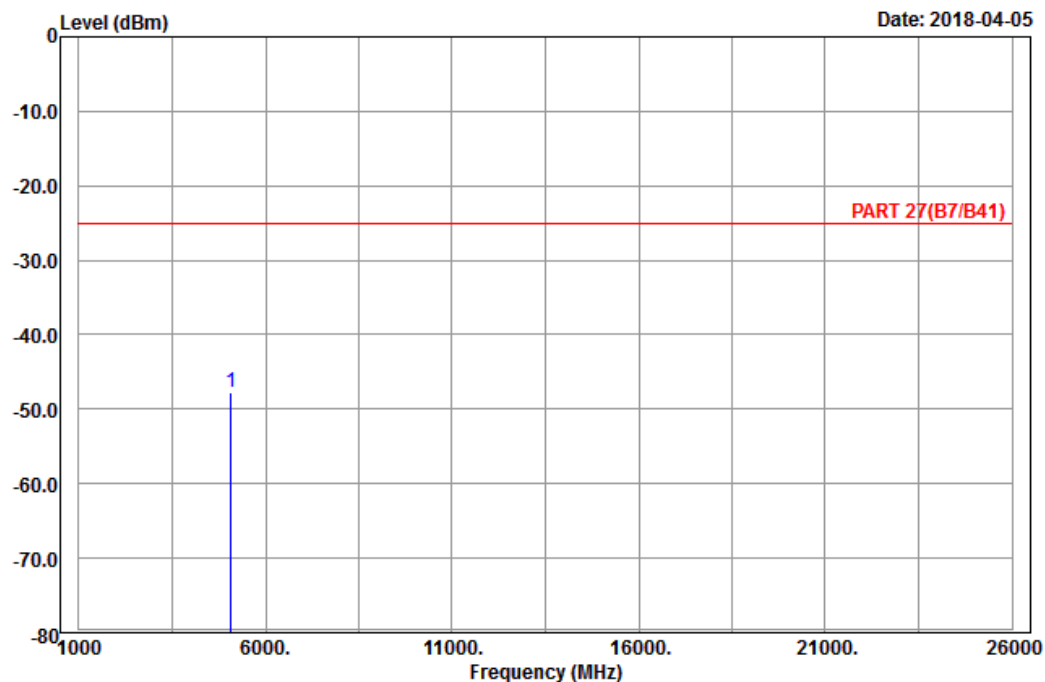


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_CH21100
Tested by: Charles Hsiao

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5070.00	-47.78	-67.17	-25.00	-22.78	19.39	Peak

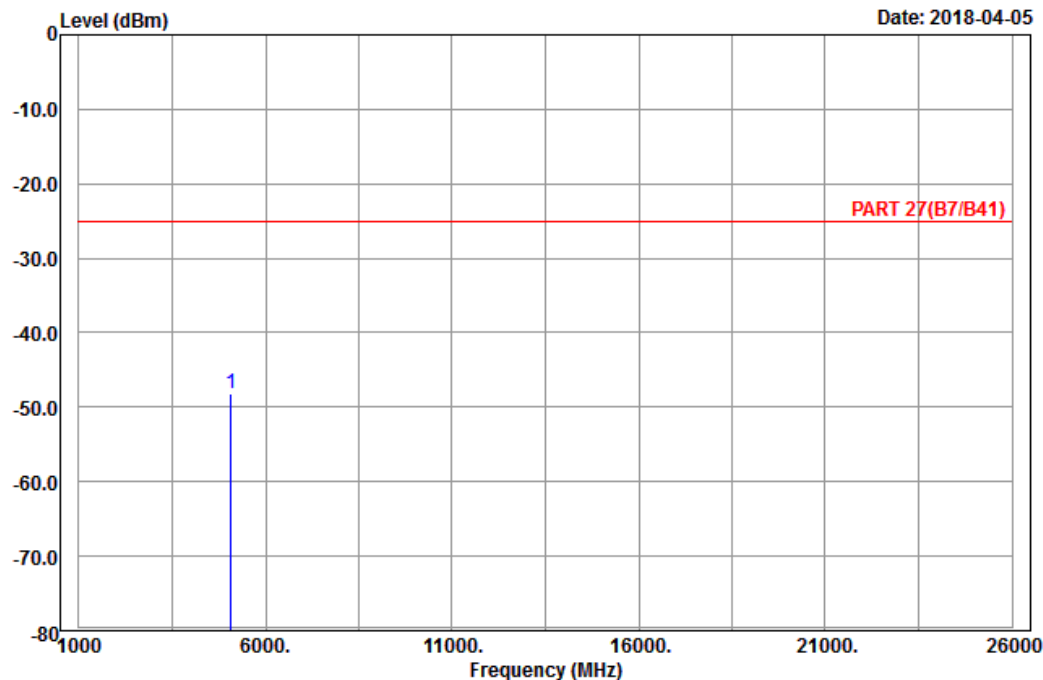


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_CH21100
Tested by: Charles Hsiao

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5070.00	-48.10	-67.49	-25.00	-23.10	19.39	Peak

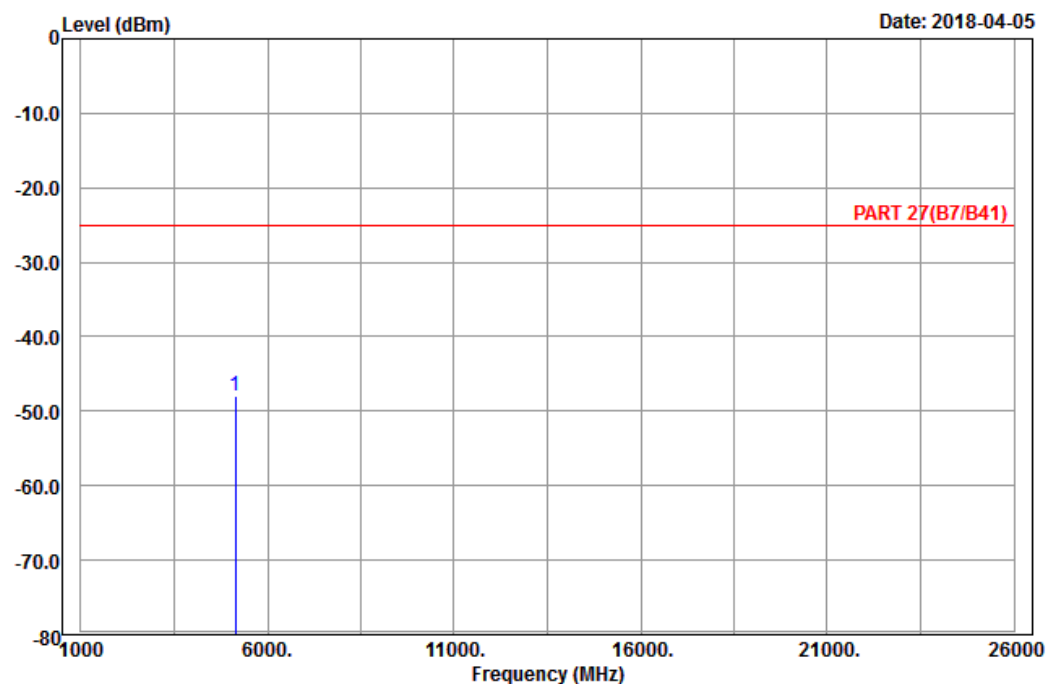
High Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_CH21425
Tested by: Charles Hsiao

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5135.00	-47.90	-67.71	-25.00	-22.90	19.81	Peak

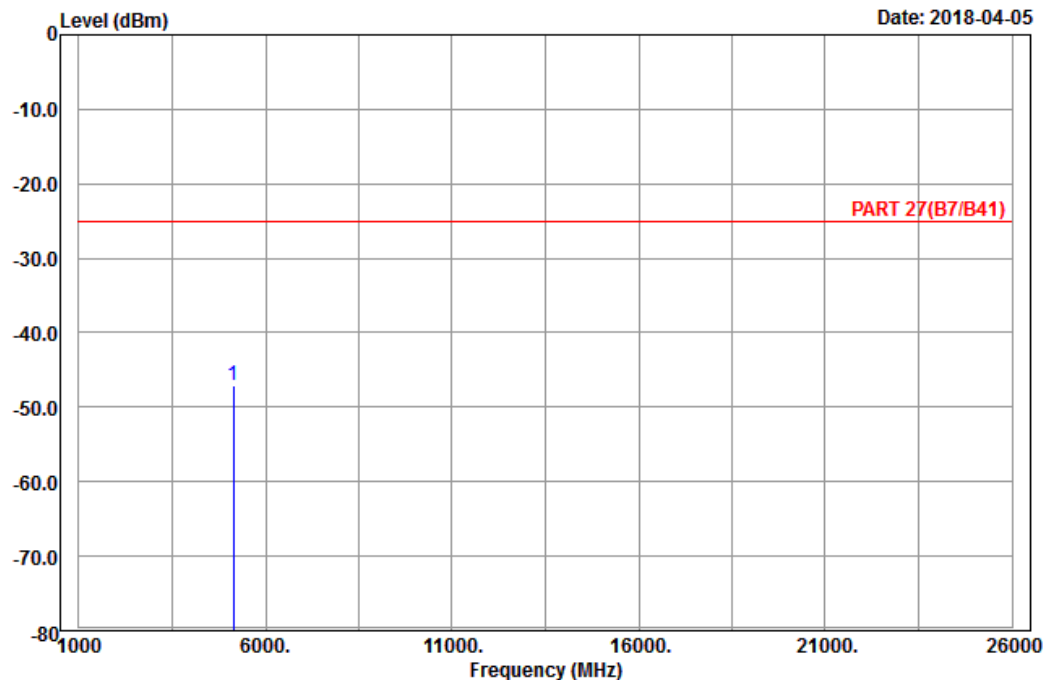


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_CH21425
Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5135.00	-47.18	-66.99	-25.00	-22.18	19.81	Peak

Channel Bandwidth: 20 MHz / QPSK
Low Channel

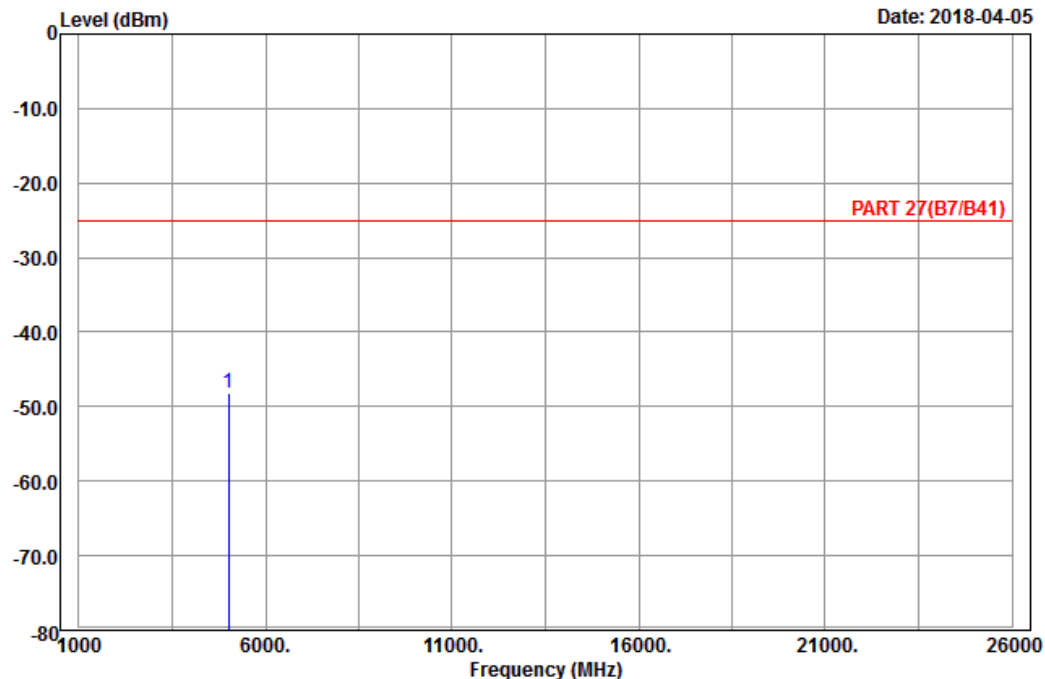


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_CH20850
Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5020.00	-48.21	-67.29	-25.00	-23.21	19.08	Peak

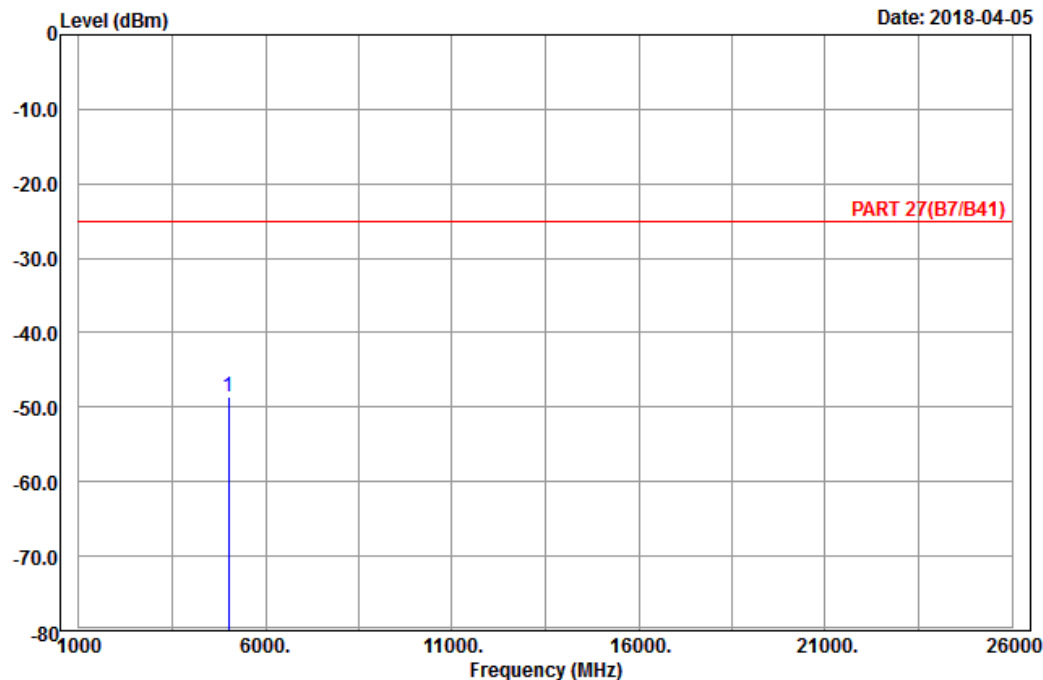


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_CH20850
Tested by: Charles Hsiao

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5020.00	-48.54	-67.62	-25.00	-23.54	19.08	Peak

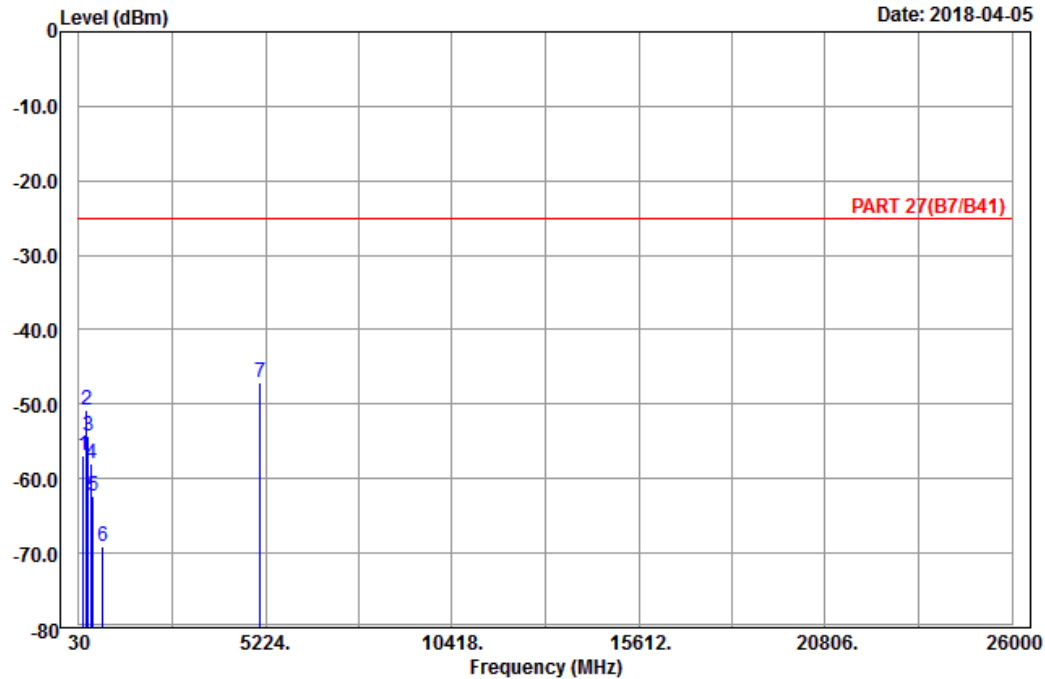
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13



Site : 966 chamber 1
Condition: PART 27(B7/B41) Horizontal
Remark : LTE_Band 7_Link_CH21100
Tested by: Charles Hsiao

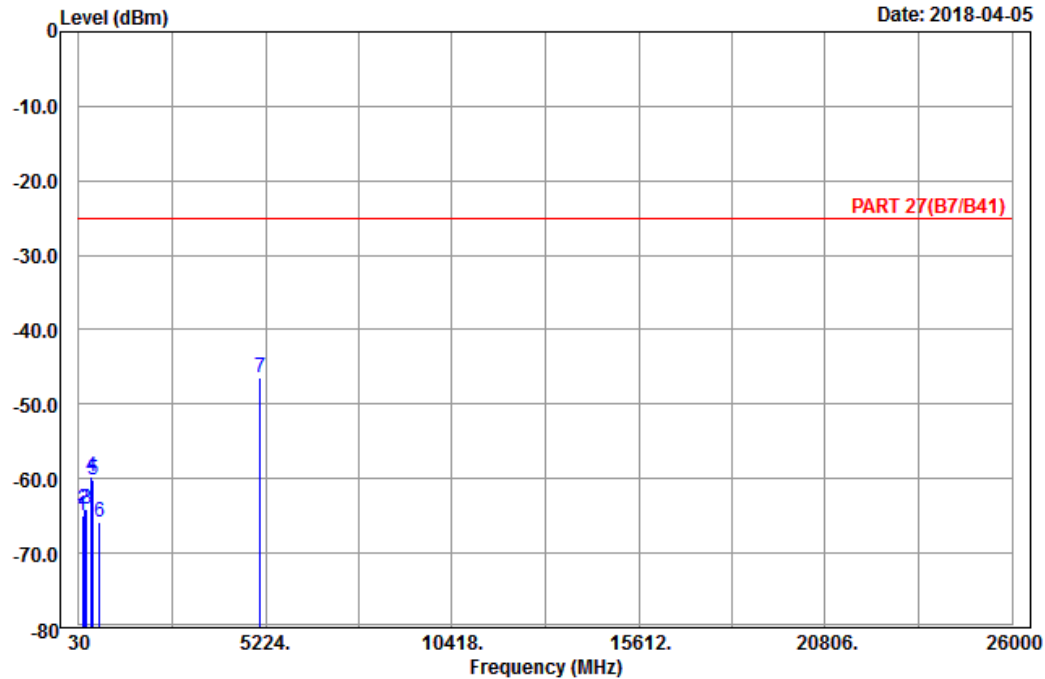
		Read	Limit	Over			
Freq	Level	Level	Line	Limit	Factor	Remark	
MHz	dBm	dBm	dBm	dB	dB		
1	159.87	-56.85	-49.18	-25.00	-31.85	-7.67	Peak
2	240.60	-50.73	-45.09	-25.00	-25.73	-5.64	Peak
3	285.15	-54.22	-48.39	-25.00	-29.22	-5.83	Peak
4	387.50	-58.01	-54.65	-25.00	-33.01	-3.36	Peak
5	419.70	-62.41	-59.22	-25.00	-37.41	-3.19	Peak
6	696.90	-69.15	-68.79	-25.00	-44.15	-0.36	Peak
7 pp	5070.00	-47.10	-66.49	-25.00	-22.10	19.39	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_CH21100
Tested by: Charles Hsiao

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	127.74	-64.85	-57.08	-25.00	-39.85	-7.77	Peak
2	171.75	-64.15	-57.65	-25.00	-39.15	-6.50	Peak
3	237.09	-64.15	-58.46	-25.00	-39.15	-5.69	Peak
4	387.50	-59.67	-56.31	-25.00	-34.67	-3.36	Peak
5	419.70	-60.15	-56.96	-25.00	-35.15	-3.19	Peak
6	605.20	-65.81	-66.18	-25.00	-40.81	0.37	Peak
7 pp	5070.00	-46.52	-65.91	-25.00	-21.52	19.39	Peak

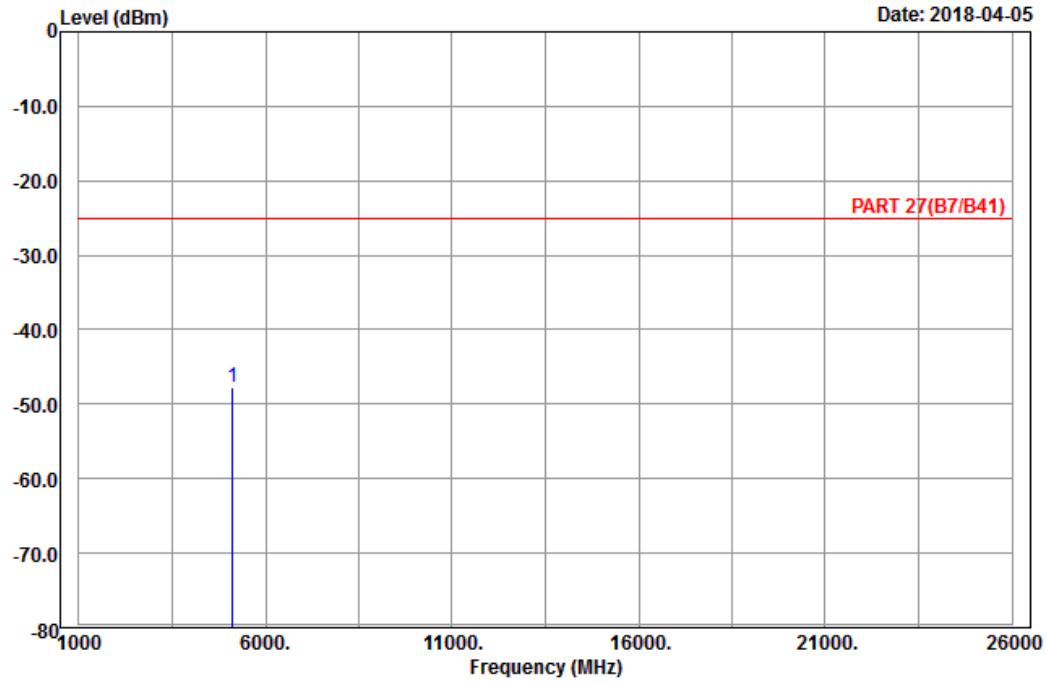
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1

Condition: PART 27(B7/B41) Horizontal

Remark : LTE_Band 7_Link_CH21350

Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5120.00	-47.74	-67.45	-25.00	-22.74	19.71	Peak

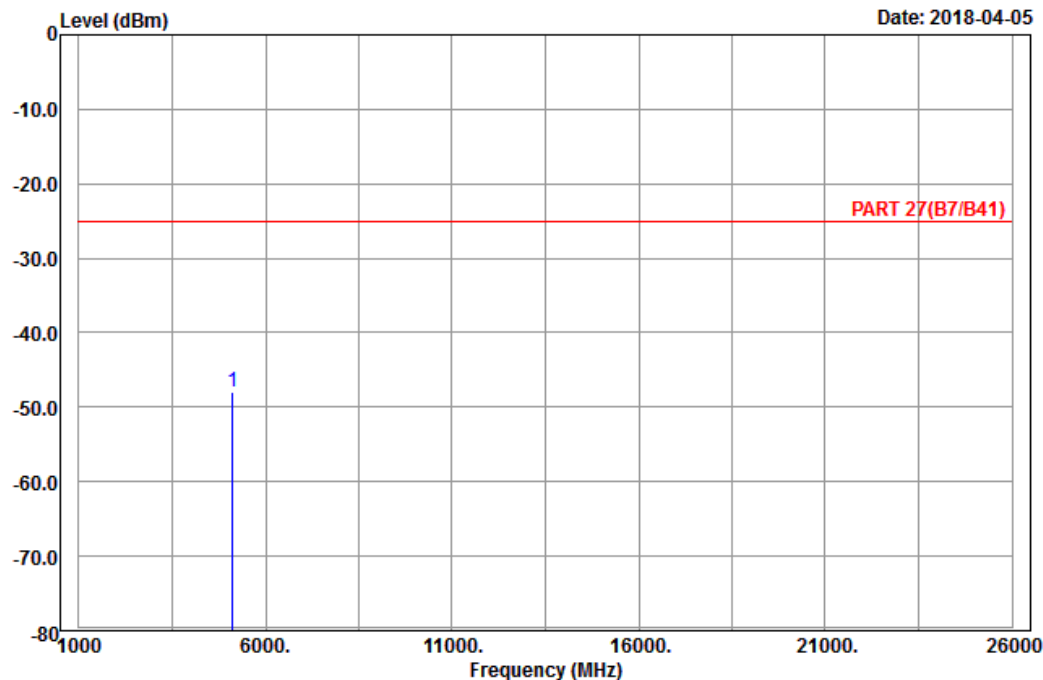


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-04-05



Site : 966 chamber 1
Condition: PART 27(B7/B41) Vertical
Remark : LTE_Band 7_Link_CH21350
Tested by: Charles Hsiao

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5120.00	-47.95	-67.66	-25.00	-22.95	19.71	Peak

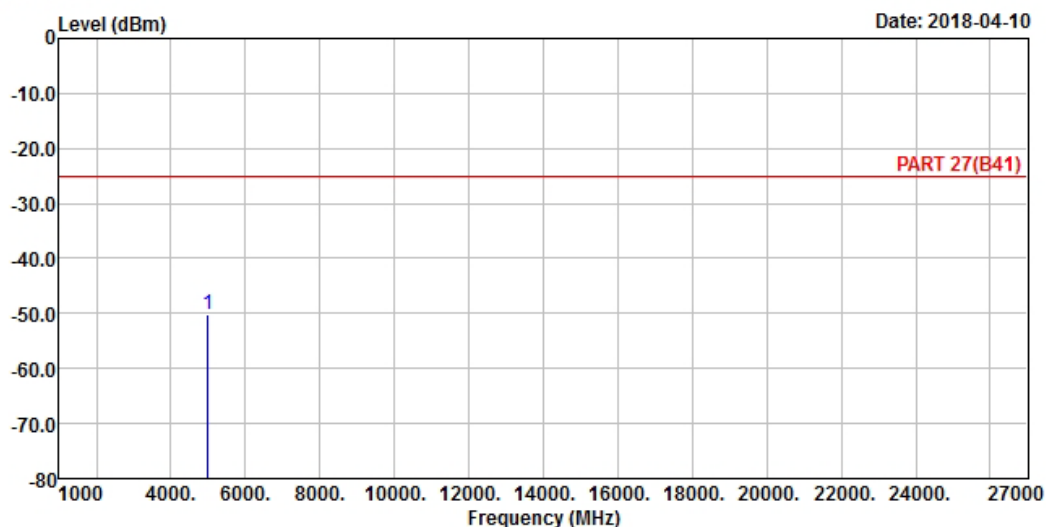
LTE Band 41
Channel Bandwidth: 5 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_5M_L-CH Link
Tested by: Jisyong Wang

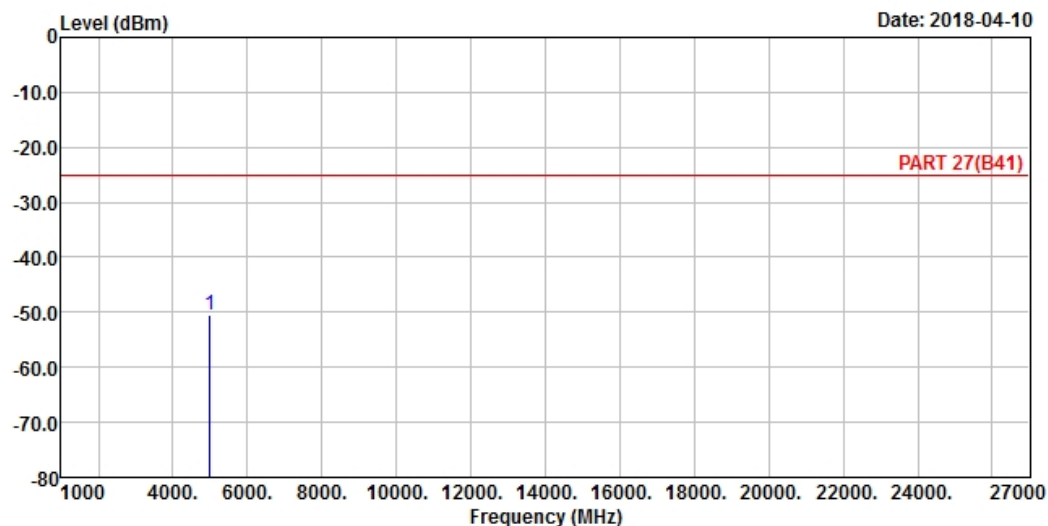
Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 4997.00	-50.14	-47.53	-25.00	-25.14	-2.61	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_5M_L-CH Link

Tested by: Jisyong Wang

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 4997.00	-50.47	-47.86	-25.00	-25.47	-2.61	Peak

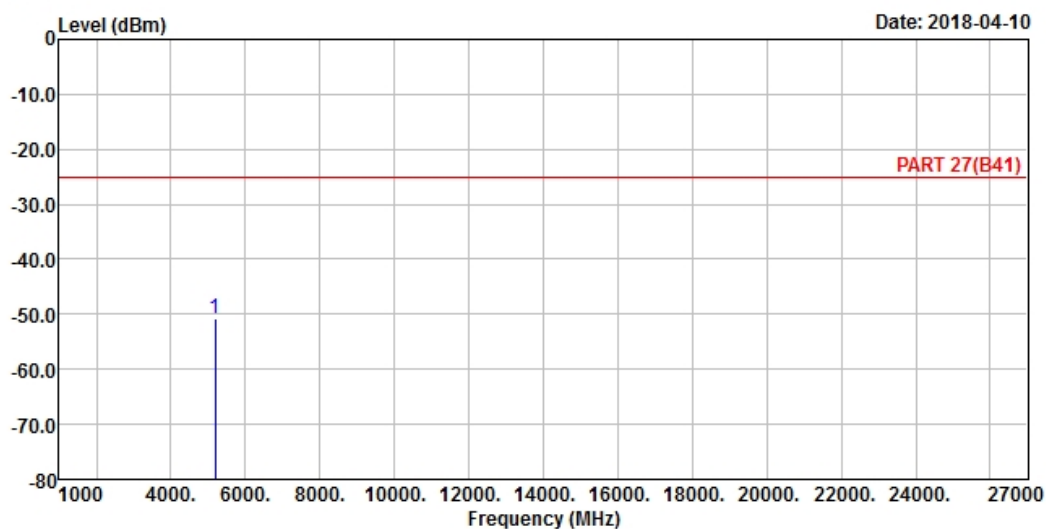
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART 27(B41) HORIZONTAL
 Remak : LTE Band 41 QPSK_5M_M-CH Link
 Tested by: Jisyong Wang

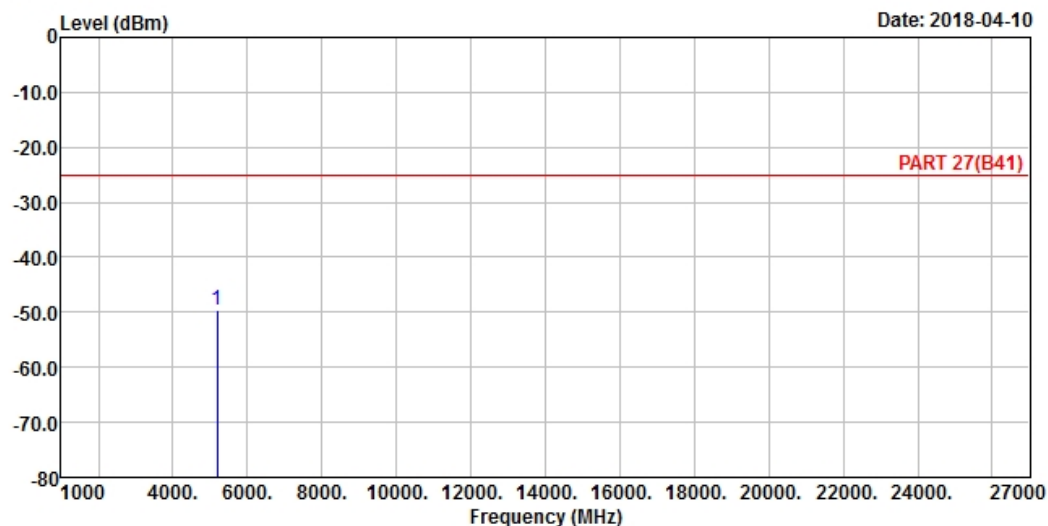
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5186.00	-50.80	-48.81	-25.00	-25.80	-1.99	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_5M_M-CH Link

Tested by: Jisyong Wang

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5186.00	-49.70	-47.71	-25.00	-24.70	-1.99	Peak

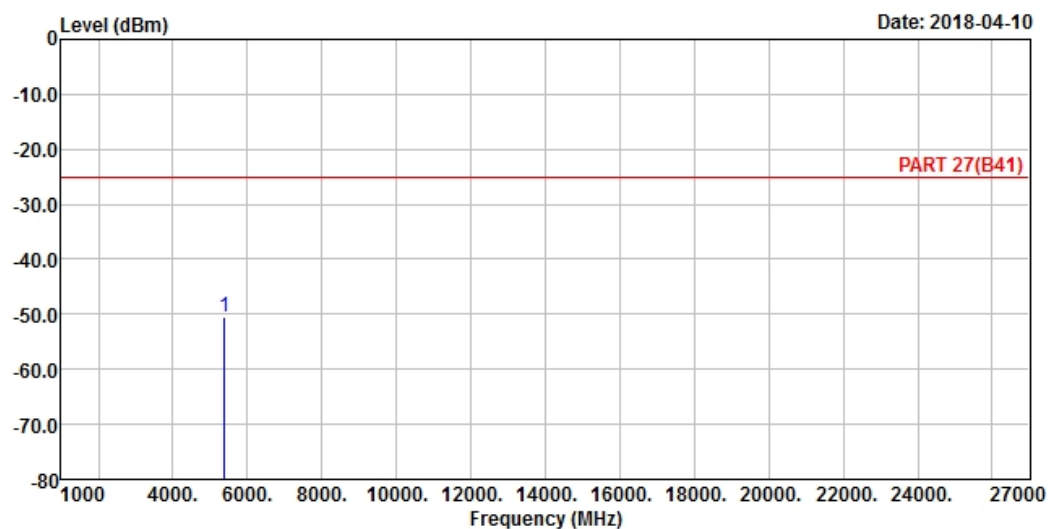
High Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_5M_H-CH Link
Tested by: Jisyong Wang

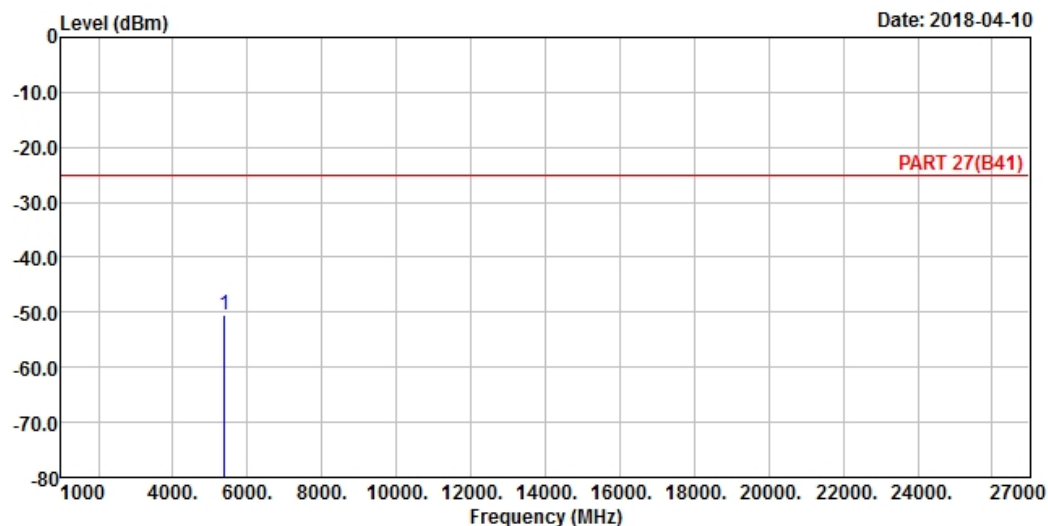
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5375.00	-50.55	-48.15	-25.00	-25.55	-2.40	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_5M_H-CH Link

Tested by: Jisyong Wang

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5375.00	-50.50	-48.10	-25.00	-25.50	-2.40	Peak

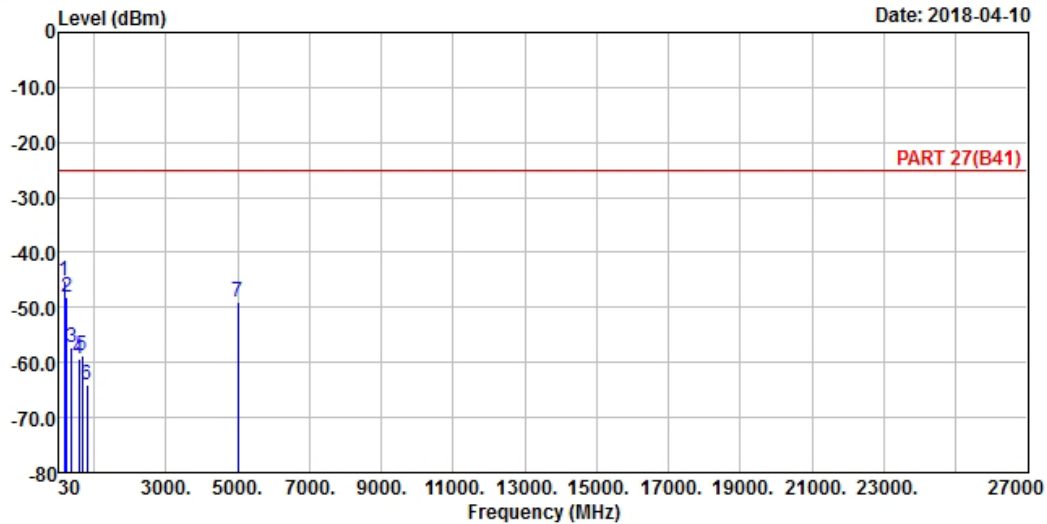
Channel Bandwidth: 20 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 7



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_20M_L-CH Link
Tested by: Jisyong Wang

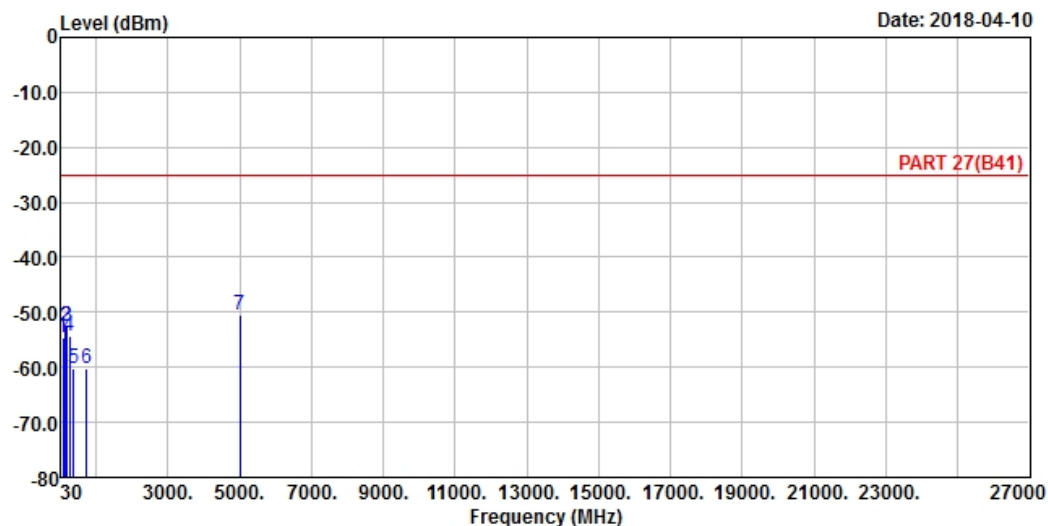
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	169.59	-45.17	-39.64	-25.00	-20.17	-5.53	Peak
2	249.24	-48.01	-41.98	-25.00	-23.01	-6.03	Peak
3	382.60	-57.29	-51.25	-25.00	-32.29	-6.04	Peak
4	583.50	-59.43	-57.99	-25.00	-34.43	-1.44	Peak
5	677.30	-58.70	-58.24	-25.00	-33.70	-0.46	Peak
6	812.40	-63.91	-64.53	-25.00	-38.91	0.62	Peak
7	5012.00	-48.91	-46.45	-25.00	-23.91	-2.46	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 8



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_20M_L-CH Link

Tested by: Jisyong Wang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	77.79	-54.64	-44.44	-25.00	-29.64	-10.20	Peak
2	160.68	-52.48	-47.57	-25.00	-27.48	-4.91	Peak
3	193.89	-52.55	-45.09	-25.00	-27.55	-7.46	Peak
4	266.52	-54.27	-47.94	-25.00	-29.27	-6.33	Peak
5	386.80	-60.18	-54.16	-25.00	-35.18	-6.02	Peak
6	746.60	-60.13	-60.95	-25.00	-35.13	0.82	Peak
7 pp	5012.00	-50.44	-47.98	-25.00	-25.44	-2.46	Peak

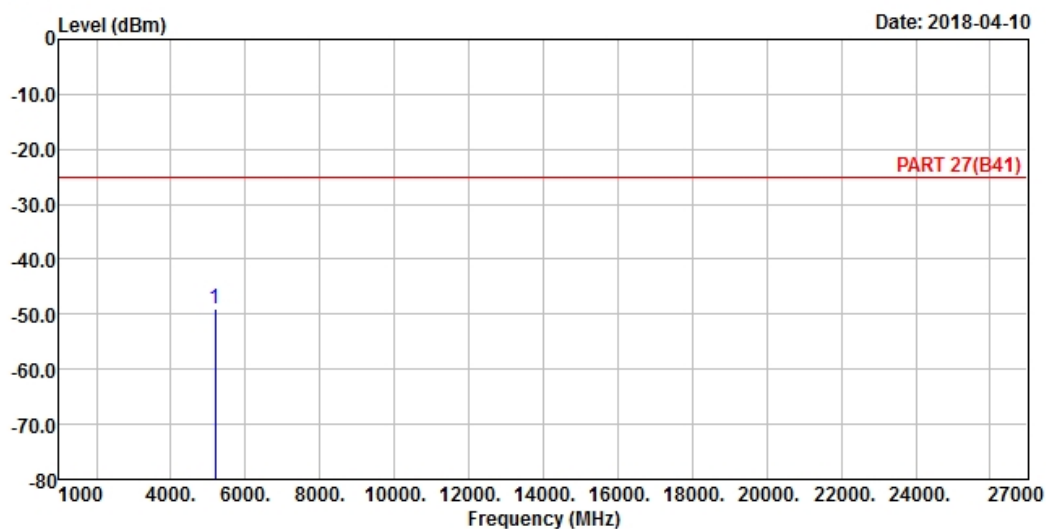
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART 27(B41) HORIZONTAL
 Remak : LTE Band 41 QPSK_20M_M-CH Link
 Tested by: Jisyong Wang

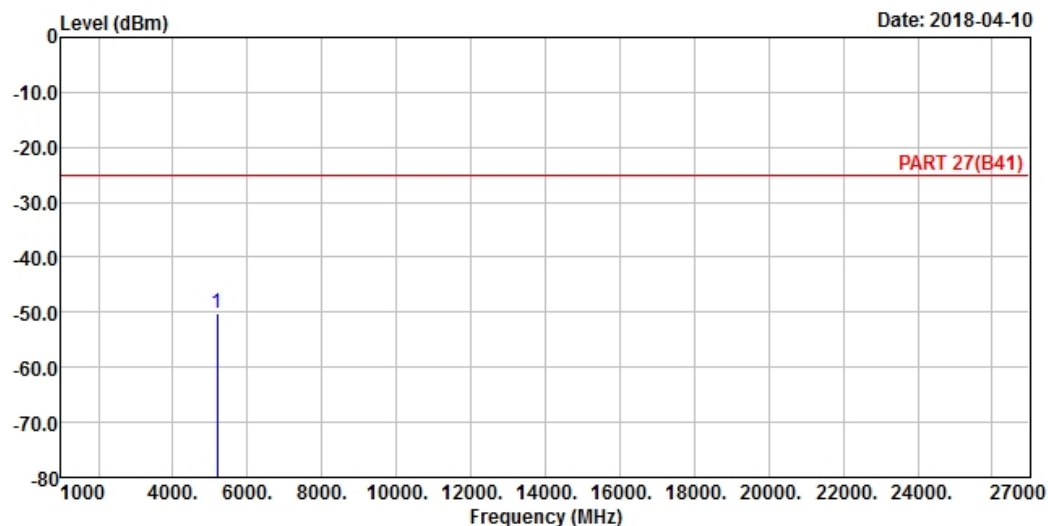
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5186.00	-48.98	-46.99	-25.00	-23.98	-1.99	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_20M_M-CH Link

Tested by: Jisyong Wang

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5186.00	-50.13	-48.14	-25.00	-25.13	-1.99	Peak

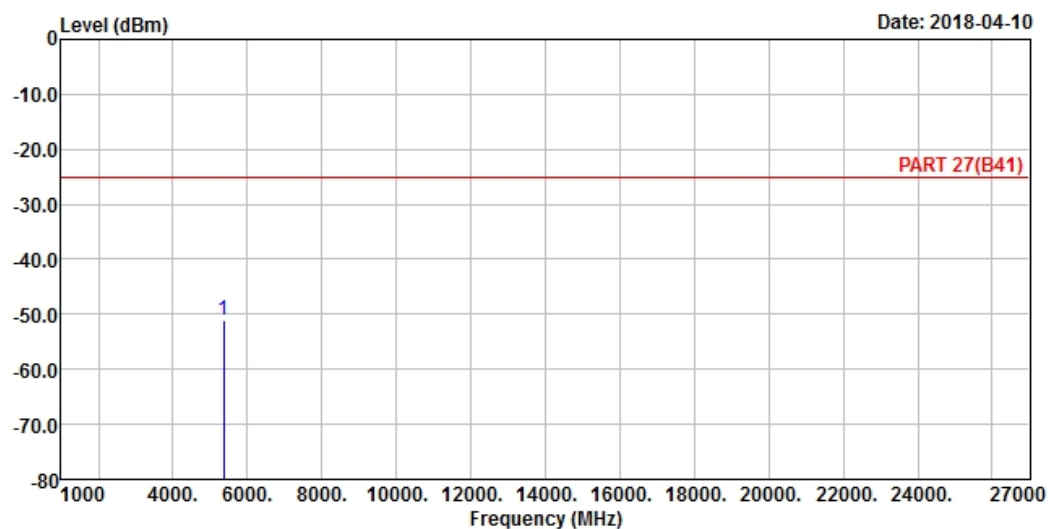
High Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_20M_H-CH Link
Tested by: Jisyong Wang

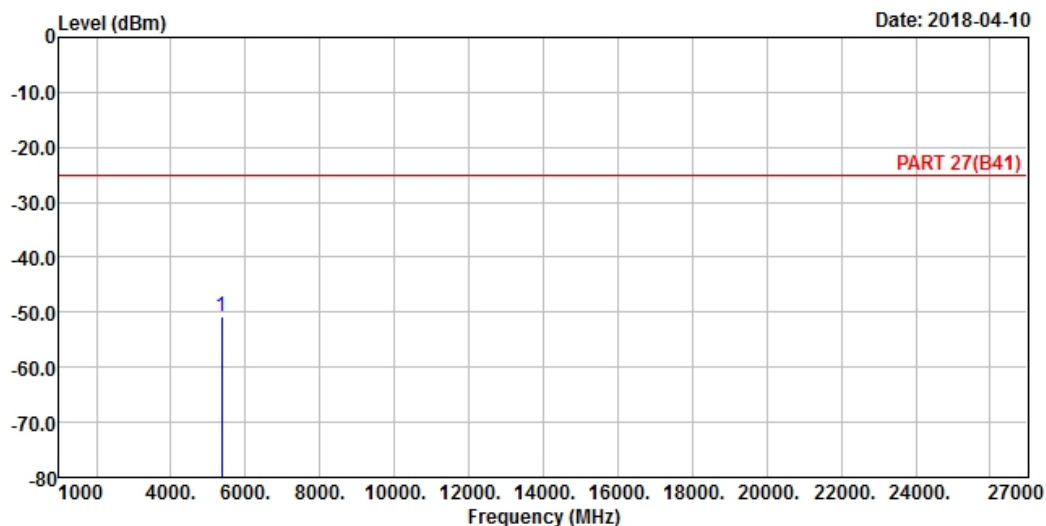
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5360.00	-50.96	-48.45	-25.00	-25.96	-2.51	Peak



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
Condition: PART 27(B41) VERTICAL
Remak : LTE Band 41 QPSK_20M_H-CH Link
Tested by: Jisyong Wang

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 5360.00	-50.64	-48.13	-25.00	-25.64	-2.51	Peak

5 Pictures of Test Arrangements

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

Appendix – Information on 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:

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

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.

--- END ---