

Partial FCC Test Report

(PART 22)

Report No.: RF180907C24-7

FCC ID: QYLEM7455V

Test Model: EM7455

Received Date: Sep. 07, 2018

Test Date: Sep. 20, 2018 ~ Sep. 25, 2018

Issued Date: Oct. 02, 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 Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)

Test Location (2): B2F., 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
RF180907C24-7	Original Release	Oct. 02, 2018

1 Certificate of Conformity

Product: Wireless Module

Brand: Sierra wireless Inc.

Test Model: EM7455

Sample Status: Identical Prototype

Applicant: Getac Technology Corporation.

Test Date: Sep. 20, 2018 ~ Sep. 25, 2018

Standards: FCC Part 22, Subpart H

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 :



Date:

Oct. 02, 2018

Gina Liu / Specialist

Approved by :



Date:

Oct. 02, 2018

Dylan Chiou / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 22 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 22.913 (a)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
---	Peak to Average Ratio	N/A	Refer to Note
2.1055 22.355	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
22.917	Band Edge Measurements	N/A	Refer to Note
2.1051 22.917	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -27.84 dB at 2509.50 MHz.

Note:

This report is a Class II change Partial report. Therefore, only test item of Effective Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to TTL report no.: B15W50341-FCC-RF 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	N9038A	MY51210203	Mar. 16, 2018	Mar. 15, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Dec. 14, 2017	Dec. 13, 2018
Horn Antenna ETS-Lindgren	3117	00143293	Dec. 13, 2017	Dec. 12, 2018
Fixed Attenuator Mini-Circuits	BW-N4W5+	PAD-ATT4-01	Jan. 29, 2018	Jan. 28, 2019
MXG Vector signal generator Agilent	N5182B	MY53050430	Oct. 24, 2017	Oct. 23, 2018
Preamplifier Agilent	310N	187226	Jun. 19, 2018	Jun. 18, 2019
Preamplifier Agilent	83017A	MY39501357	Jun. 19, 2018	Jun. 18, 2019
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RF C-SMS-100-SMS- 120+RFC-SMS-1 00-SMS-400)	Jun. 19, 2018	Jun. 18, 2019
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RF C-SMS-100-SMS- 24)	Jun. 19, 2018	Jun. 18, 2019
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
Communications Tester-Wireless Agilent	8960 Series 10	MY53201073	Jun. 28, 2017	Jun. 27, 2019
Radio Communication Analyzer Anritsu	MT8820C	6201010284	Dec. 28, 2017	Dec. 27, 2018
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 05, 2018	Sep. 04, 2019
Radio Communication Analyzer	MT8821C	6261786083	Dec. 21, 2017	Dec. 20, 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	Wireless Module	
Brand	Sierra wireless Inc.	
Test Model	EM7455	
Status of EUT	Identical Prototype	
Power Supply Rating	3.3 Vdc (Host equipment)	
Modulation Type	WCDMA	QPSK
	LTE	QPSK, 16QAM
Frequency Range	WCDMA	826.4 ~ 846.6 MHz
	LTE 5 (Channel Bandwidth: 1.4 MHz)	824.7 ~ 848.3 MHz
	LTE 5 (Channel Bandwidth: 3 MHz)	825.5 ~ 847.5 MHz
	LTE 5 (Channel Bandwidth: 5 MHz)	826.5 ~ 846.5 MHz
	LTE 5 (Channel Bandwidth: 10 MHz)	829 ~ 844 MHz
	LTE 26 (Channel Bandwidth: 1.4 MHz)	824.7 ~ 848.3 MHz
	LTE 26 (Channel Bandwidth: 3 MHz)	825.5 ~ 847.5 MHz
	LTE 26 (Channel Bandwidth: 5 MHz)	826.5 ~ 846.5 MHz
	LTE 26 (Channel Bandwidth: 10 MHz)	829 ~ 844 MHz
	LTE 26 (Channel Bandwidth: 15 MHz)	831.5 ~ 841.5 MHz
Max. ERP Power	WCDMA	102.09 mW
	LTE 5 (Channel Bandwidth: 1.4 MHz)	126.71 mW
	LTE 5 (Channel Bandwidth: 3 MHz)	127.88 mW
	LTE 5 (Channel Bandwidth: 5 MHz)	129.06 mW
	LTE 5 (Channel Bandwidth: 10 MHz)	130.26 mW
	LTE 26 (Channel Bandwidth: 1.4 MHz)	127.00 mW
	LTE 26 (Channel Bandwidth: 3 MHz)	127.88 mW
	LTE 26 (Channel Bandwidth: 5 MHz)	129.06 mW
	LTE 26 (Channel Bandwidth: 10 MHz)	129.96 mW
	LTE 26 (Channel Bandwidth: 15 MHz)	131.16 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 for more details.

Product	Brand	Model
Notebook	Getac	V110

Antenna Type	Brand	Model	Antenna Gain		
			WCDMA V	LTE B5	LTE B26
Fixed Internal	Getac	Main Ant.: 422129000025 Aux. Ant.: 421129200001	Main: -0.27 Aux.: 2.02	Main: -0.27 Aux.: 2.02	Main: -0.27 Aux.: 2.02

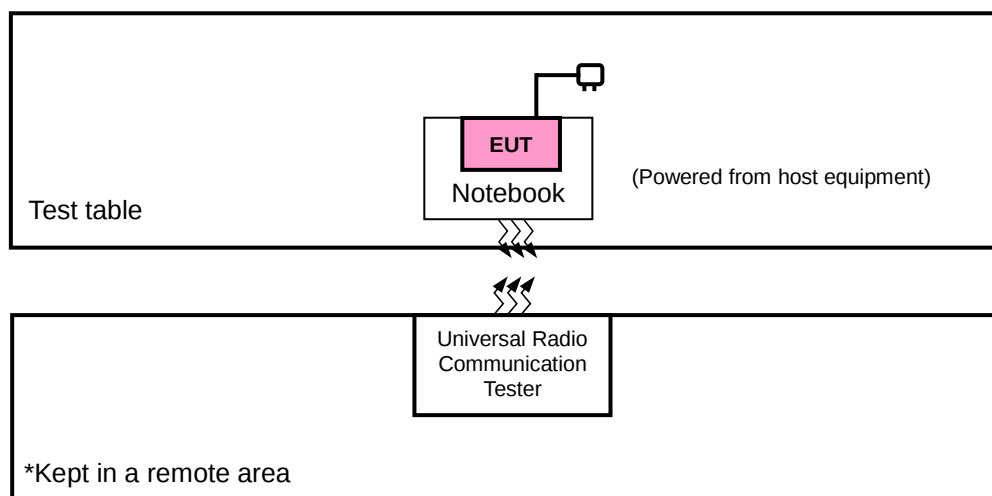
2. The End-product contains following accessory devices.

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 1.8m DC cable with 1 core attached
Li-Ion Battery	Getac	BP3S1P2100-S	11.1 Vdc, 2100 mA
BT/WLAN Module	Intel	8265NGW	-
WWAN Module	Sierra	EM7455	-
GPS	GlobalSat	MC1010	-
LCD Panel	New IPS KD	KD116N11-30NP-A9	11.6" inch
CPU	Intel	Kabylake	i7-7600U VPRO
DDR	Transcend	-	8GB *2
SSD	Lite-on	-	256GB *1

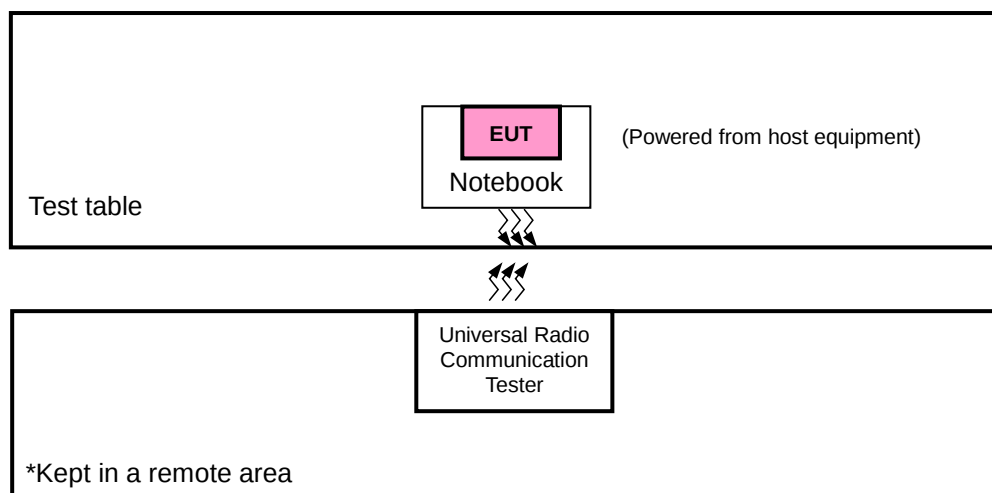
3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



<E.R.P. 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. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Notebook	Getac	V110	N/A	N/A

No.	Signal Cable Description Of The Above Support Units
1.	N/A

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1 was provided by client.

3.3 Test Mode Applicability and Tested Channel Detail

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

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

Band	ERP	Radiated Emission
WCDMA	Z-plane	Z-axis
LTE Band 5	Z-plane	Z-axis
LTE Band 26	Z-plane	Z-axis

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	4132 to 4233	4132, 4182, 4233	WCDMA
-	Radiated Emission Below 1GHz	4132 to 4233	4182	WCDMA
-	Radiated Emission Above 1GHz	4132 to 4233	4132, 4182, 4233	WCDMA

LTE Band 5

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	20407 to 20643	20407, 20525, 20643	1.4 MHz	QPSK, 16QAM	1 RB / 2 RB Offset
		20415 to 20635	20415, 20525, 20635	3 MHz	QPSK, 16QAM	1 RB / 7 RB Offset
		20425 to 20625	20425, 20525, 20625	5 MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		20450 to 20600	20450, 20525, 20600	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
-	Radiated Emission Below 1GHz	20450 to 20600	20525	10 MHz	QPSK	1 RB / 24 RB Offset
-	Radiated Emission Above 1GHz	20407 to 20643	20407, 20525, 20643	1.4 MHz	QPSK	1 RB / 2 RB Offset
		20425 to 20625	20425, 20525, 20625	5 MHz	QPSK	1 RB / 12 RB Offset
		20450 to 20600	20450, 20525, 20600	10 MHz	QPSK	1 RB / 24 RB Offset

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

LTE Band 26

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	26797 to 27033	26797, 26915, 27033	1.4 MHz	QPSK, 16QAM	1 RB / 5 RB Offset
		26805 to 27025	26805, 26915, 27025	3 MHz	QPSK, 16QAM	1 RB / 14 RB Offset
		26815 to 27015	26815, 26915, 27015	5 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		26840 to 26990	26840, 26915, 26990	10 MHz	QPSK, 16QAM	1 RB / 49 RB Offset
		26865 to 26965	26865, 26915, 26965	15 MHz	QPSK, 16QAM	1 RB / 49 RB Offset
-	Radiated Emission Below 1GHz	26865 to 26965	26915	15 MHz	QPSK	25 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	26797 to 27033	26797, 26915, 27033	1.4 MHz	QPSK	1 RB / 0 RB Offset
		26815 to 27015	26815, 26915, 27015	5 MHz	QPSK	25 RB / 0 RB Offset
		26865 to 26965	26865, 26915, 26965	15 MHz	QPSK	25 RB / 0 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
ERP	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 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

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

Mobile / Portable station are limited to 7 watts e.r.p.

4.1.2 Test Procedures

EIRP / ERP Measurement:

- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 5 MHz for WCDMA, and 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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$. E.R.P power can be calculated from E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}$.

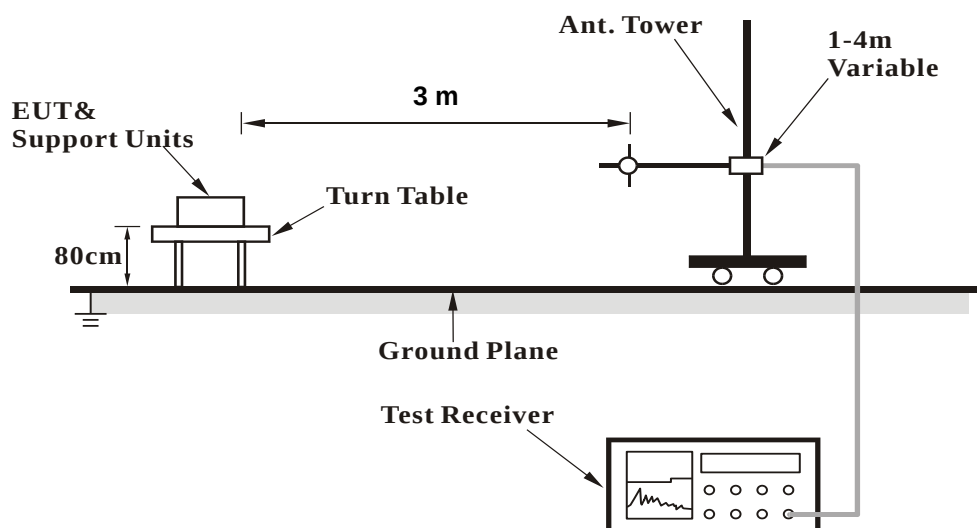
Conducted Power Measurement:

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

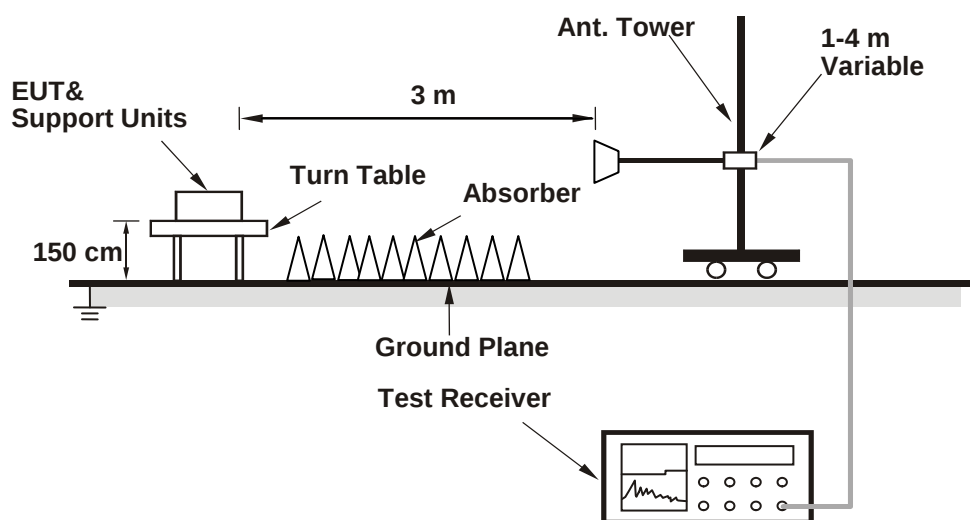
4.1.3 Test Setup

EIRP / ERP Measurement:

<Radiated Emission below or equal 1 GHz>

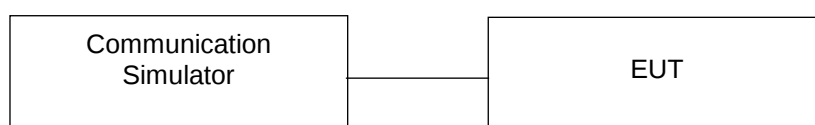


<Radiated Emission above 1 GHz>



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

Conducted Power Measurement:



4.1.4 Test Results

Conducted Output Power (dBm)

Band	WCDMA V		
Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
RMC 12.2K	20.17	20.35	20.15
HSDPA Subtest-1	19.82	19.88	19.75
HSDPA Subtest-2	19.86	19.80	19.72
HSDPA Subtest-3	19.83	19.77	19.69
HSDPA Subtest-4	19.71	19.65	19.57
DC-HSDPA Subtest-1	19.75	19.81	19.68
DC-HSDPA Subtest-2	19.79	19.73	19.65
DC-HSDPA Subtest-3	19.76	19.70	19.62
DC-HSDPA Subtest-4	19.64	19.58	19.50
HSUPA Subtest-1	19.96	19.85	19.79
HSUPA Subtest-2	19.26	19.15	19.15
HSUPA Subtest-3	18.87	18.76	18.74
HSUPA Subtest-4	19.47	19.35	19.32
HSUPA Subtest-5	19.77	19.85	19.82

LTE Band 5															
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		20450	20525	20600				Channel		20425	20525	20625	
		Frequency (MHz)		829.0	836.5	844.0				Frequency (MHz)		826.5	836.5	846.5	
10M	QPSK	1	0	21.38	21.22	21.20	0	5M	QPSK	1	0	21.33	21.14	21.20	0
		1	24	21.47	21.31	21.29	0			1	12	21.41	21.21	21.24	0
		1	49	21.35	21.19	21.17	0			1	24	21.33	21.16	21.17	0
		25	0	21.25	21.09	21.07	0			12	0	21.22	21.01	21.04	0
		25	12	21.34	21.18	21.16	0			12	6	21.26	21.08	21.08	0
		25	25	21.37	21.21	21.19	0			12	13	21.25	21.17	21.14	0
		50	0	21.32	21.17	21.15	0			25	0	21.27	21.16	21.15	0
	16QAM	1	0	21.37	21.22	21.11	0		16QAM	1	0	21.33	21.11	21.07	0
		1	24	21.45	21.30	21.22	0			1	12	21.43	21.23	21.24	0
		1	49	21.25	21.15	21.10	0			1	24	21.27	21.14	21.01	0
		25	0	21.21	21.06	20.99	0			12	0	21.12	20.95	20.98	0
		25	12	21.29	21.16	21.15	0			12	6	21.24	21.11	21.11	0
		25	25	21.29	21.12	21.13	0			12	13	21.31	21.05	21.18	0
		50	0	21.30	21.17	21.14	0			25	0	21.26	21.02	21.07	0
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		20415	20525	20635				Channel		20407	20525	20643	
		Frequency (MHz)		825.5	836.5	847.5				Frequency (MHz)		824.7	836.5	848.3	
3M	QPSK	1	0	21.35	21.20	21.18	0	1.4M	QPSK	1	0	21.37	21.22	21.20	0
		1	7	21.46	21.26	21.21	0			1	2	21.42	21.31	21.19	0
		1	14	21.27	21.12	21.14	0			1	5	21.30	21.13	21.07	0
		8	0	21.21	21.02	21.07	0			3	0	21.19	21.04	21.02	0
		8	3	21.29	21.09	21.11	0			3	1	21.33	21.15	21.10	0
		8	7	21.32	21.17	21.16	0			3	3	21.33	21.11	21.09	0
		15	0	21.27	21.10	21.14	0			6	0	21.29	21.13	21.10	0
	16QAM	1	0	21.34	21.03	20.95	0		16QAM	1	0	21.25	21.11	21.04	0
		1	7	21.26	21.16	21.07	0			1	2	21.29	21.12	21.17	0
		1	14	21.25	21.03	20.98	0			1	5	21.12	21.02	21.02	0
		8	0	21.17	20.93	20.84	0			3	0	21.03	20.93	20.94	0
		8	3	21.19	20.93	21.04	0			3	1	21.07	21.14	21.12	0
		8	7	21.25	21.07	20.91	0			3	3	21.23	21.07	20.99	0
		15	0	21.14	20.92	21.09	0			6	0	21.16	21.05	21.03	0

LTE Band 26															
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		26865	26915	26965				Channel		26840	26915	26990	
		Frequency (MHz)		831.5	836.5	841.5				Frequency (MHz)		829.0	836.5	844.0	
15M	QPSK	1	0	21.65	21.53	21.36	0	10M	QPSK	1	0	21.64	21.53	21.32	0
		1	37	21.29	21.17	21.00	0			1	24	21.22	21.17	20.96	0
		1	74	21.36	21.24	21.07	0			1	49	21.28	21.15	21.02	0
		36	0	21.55	21.43	21.26	1			25	0	21.48	21.42	21.17	1
		36	19	21.52	21.40	21.23	1			25	12	21.49	21.34	21.20	1
		36	39	21.47	21.35	21.18	1			25	25	21.37	21.32	21.13	1
		75	0	21.53	21.41	21.24	1			50	0	21.49	21.40	21.16	1
	16QAM	1	0	21.62	21.44	21.26	1		16QAM	1	0	21.48	21.51	21.30	1
		1	37	21.25	21.15	20.94	1			1	24	21.27	21.09	20.91	1
		1	74	21.29	21.24	20.98	1			1	49	21.18	21.14	20.94	1
		36	0	21.53	21.34	21.23	2			25	0	21.45	21.30	21.14	2
		36	19	21.49	21.39	21.20	2			25	12	21.34	21.32	21.15	2
		36	39	21.42	21.33	21.11	2			25	25	21.34	21.27	21.13	2
		75	0	21.47	21.31	21.16	2			50	0	21.40	21.36	21.09	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		26815	26915	27015				Channel		26805	26915	27025	
		Frequency (MHz)		826.5	836.5	846.5				Frequency (MHz)		825.5	836.5	847.5	
5M	QPSK	1	0	21.61	21.46	21.26	0	3M	QPSK	1	0	21.59	21.51	21.36	0
		1	12	21.20	21.12	20.93	0			1	7	21.29	21.12	20.93	0
		1	24	21.29	21.17	21.01	0			1	14	21.33	21.23	21.06	0
		12	0	21.46	21.35	21.21	1			8	0	21.45	21.40	21.19	1
		12	6	21.48	21.37	21.22	1			8	3	21.43	21.40	21.17	1
		12	13	21.42	21.26	21.16	1			8	7	21.37	21.28	21.13	1
		25	0	21.43	21.36	21.23	1			15	0	21.43	21.32	21.23	1
	16QAM	1	0	21.55	21.51	21.29	1		16QAM	1	0	21.62	21.36	21.26	1
		1	12	21.23	21.10	20.81	1			1	7	21.12	21.04	20.83	1
		1	24	21.25	21.15	21.00	1			1	14	21.26	21.08	20.93	1
		12	0	21.37	21.32	21.14	2			8	0	21.42	21.32	21.22	2
		12	6	21.34	21.29	21.20	2			8	3	21.45	21.39	21.14	2
		12	13	21.41	21.21	21.07	2			8	7	21.39	21.19	21.04	2
		25	0	21.48	21.36	21.15	2			15	0	21.37	21.33	21.21	2
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)								
		Channel		26697	26865	27033									
		Frequency (MHz)		814.7	831.5	848.3									
1.4M	QPSK	1	0	21.64	21.47	21.32	0								
		1	2	21.27	21.09	20.96	0								
		1	5	21.34	21.18	21.07	0								
		3	0	21.49	21.39	21.26	0								
		3	1	21.51	21.39	21.14	0								
		3	3	21.46	21.35	21.08	0								
		6	0	21.48	21.33	21.16	1								
	16QAM	1	0	21.51	21.42	21.31	1								
		1	2	21.13	21.11	20.85	1								
		1	5	21.24	21.16	20.94	1								
		3	0	21.46	21.34	21.17	1								
		3	1	21.34	21.29	21.16	1								
		3	3	21.36	21.24	21.15	1								
		6	0	21.52	21.29	21.11	2								

ERP Power (dBm)

WCDMA							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	4132	826.4	-9.01	31.208	20.05	101.11	H
	4182	836.4	-9.06	31.3	20.09	102.09	
	4233	846.6	-9.04	31.222	20.03	100.74	
	4132	826.4	-13.31	31.504	16.04	40.22	V
	4182	836.4	-12.86	31.117	16.11	40.80	
	4233	846.6	-13.75	31.922	16.02	40.01	

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

LTE Band 5							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	20407	824.7	-8.03	31.208	21.03	126.71	H
	20525	836.5	-8.17	31.3	20.98	125.31	
	20643	848.3	-8.14	31.222	20.93	123.94	
	20407	824.7	-12.33	31.504	17.02	50.40	V
	20525	836.5	-12.00	31.117	16.97	49.74	
	20643	848.3	-12.87	31.922	16.90	49.00	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	20407	824.7	-8.04	31.208	21.02	126.42	H
	20525	836.5	-9.18	31.3	19.97	99.31	
	20643	848.3	-9.14	31.222	19.93	98.45	
	20407	824.7	-13.34	31.504	16.01	39.94	V
	20525	836.5	-13.01	31.117	15.96	39.42	
	20643	848.3	-13.88	31.922	15.89	38.83	

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

LTE Band 5							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	20415	825.5	-7.99	31.208	21.07	127.88	H
	20525	836.5	-8.14	31.3	21.01	126.18	
	20635	847.5	-8.10	31.222	20.97	125.08	
	20415	825.5	-12.29	31.504	17.06	50.86	V
	20525	836.5	-11.97	31.117	17.00	50.08	
	20635	847.5	-12.83	31.922	16.94	49.45	
Channel Bandwidth: 3 MHz / 16QAM							
Z	20415	825.5	-8.99	31.208	20.07	101.58	H
	20525	836.5	-9.15	31.3	20.00	100.00	
	20635	847.5	-9.11	31.222	19.96	99.13	
	20415	825.5	-13.30	31.504	16.05	40.31	V
	20525	836.5	-12.98	31.117	15.99	39.69	
	20635	847.5	-13.84	31.922	15.93	39.19	

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

LTE Band 5							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	20425	826.5	-7.95	31.208	21.11	129.06	H
	20525	836.5	-8.10	31.3	21.05	127.35	
	20625	846.5	-8.07	31.222	21.00	125.95	
	20425	826.5	-12.25	31.504	17.10	51.33	V
	20525	836.5	-11.94	31.117	17.03	50.43	
	20625	846.5	-12.79	31.922	16.98	49.91	
Channel Bandwidth: 5 MHz / 16QAM							
Z	20425	826.5	-8.96	31.208	20.10	102.28	H
	20525	836.5	-9.11	31.3	20.04	100.93	
	20625	846.5	-9.07	31.222	20.00	100.05	
	20425	826.5	-13.26	31.504	16.09	40.68	V
	20525	836.5	-12.94	31.117	16.03	40.06	
	20625	846.5	-13.80	31.922	15.97	39.55	

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

LTE Band 5							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	20450	829.0	-7.91	31.208	21.15	130.26	H
	20525	836.5	-8.06	31.3	21.09	128.53	
	20600	844.0	-8.04	31.222	21.03	126.82	
	20450	829.0	-12.21	31.504	17.14	51.81	V
	20525	836.5	-11.90	31.117	17.07	50.90	
	20600	844.0	-12.75	31.922	17.02	50.37	
Channel Bandwidth: 10 MHz / 16QAM							
Z	20425	826.5	-8.92	31.208	20.14	103.23	H
	20525	836.5	-9.07	31.3	20.08	101.86	
	20625	846.5	-9.05	31.222	20.02	100.51	
	20425	826.5	-13.22	31.504	16.13	41.06	V
	20525	836.5	-12.90	31.117	16.07	40.43	
	20625	846.5	-13.76	31.922	16.01	39.92	

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

LTE Band 26							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	26797	824.7	-8.02	31.208	21.04	127.00	H
	26915	836.5	-8.21	31.3	20.94	124.17	
	27033	848.3	-8.22	31.222	20.85	121.67	
	26797	824.7	-12.36	31.504	16.99	50.05	V
	26915	836.5	-12.04	31.117	16.93	49.28	
	27033	848.3	-12.89	31.922	16.88	48.78	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	26797	824.7	-9.03	31.208	20.03	100.65	H
	26915	836.5	-9.22	31.3	19.93	98.40	
	27033	848.3	-9.23	31.222	19.84	96.43	
	26797	824.7	-13.37	31.504	15.98	39.66	V
	26915	836.5	-13.05	31.117	15.92	39.06	
	27033	848.3	-13.90	31.922	15.87	38.65	

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

LTE Band 26							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	26805	825.5	-7.99	31.208	21.07	127.88	H
	26915	836.5	-8.17	31.3	20.98	125.31	
	27025	847.5	-8.18	31.222	20.89	122.80	
	26805	825.5	-12.32	31.504	17.03	50.51	V
	26915	836.5	-12.01	31.117	16.96	49.62	
	27025	847.5	-12.85	31.922	16.92	49.23	
Channel Bandwidth: 3 MHz / 16QAM							
Z	26805	825.5	-9.00	31.208	20.06	101.34	H
	26915	836.5	-9.18	31.3	19.97	99.31	
	27025	847.5	-9.18	31.222	19.89	97.54	
	26805	825.5	-13.33	31.504	16.02	40.03	V
	26915	836.5	-13.01	31.117	15.96	39.42	
	27025	847.5	-13.86	31.922	15.91	39.01	

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

LTE Band 26							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	26815	826.5	-7.95	31.208	21.11	129.06	H
	26915	836.5	-8.14	31.3	21.01	126.18	
	27015	846.5	-8.14	31.222	20.93	123.94	
	26815	826.5	-12.28	31.504	17.07	50.98	V
	26919	836.5	-11.97	31.117	17.00	50.08	
	27015	846.5	-12.82	31.922	16.95	49.57	
Channel Bandwidth: 5 MHz / 16QAM							
Z	26815	826.5	-8.96	31.208	20.10	102.28	H
	26915	836.5	-9.14	31.3	20.01	100.23	
	27015	846.5	-9.15	31.222	19.92	98.22	
	26815	826.5	-13.29	31.504	16.06	40.40	V
	26919	836.5	-12.98	31.117	15.99	39.69	
	27015	846.5	-13.83	31.922	15.94	39.28	

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

LTE Band 26							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	26840	829.0	-7.92	31.208	21.14	129.96	H
	26915	836.5	-8.10	31.3	21.05	127.35	
	26990	844.0	-8.10	31.222	20.97	125.08	
	26840	829.0	-12.24	31.504	17.11	51.45	V
	26919	836.5	-11.93	31.117	17.04	50.55	
	26990	844.0	-12.79	31.922	16.98	49.91	
Channel Bandwidth: 10 MHz / 16QAM							
Z	26840	829.0	-8.93	31.208	20.13	102.99	H
	26915	836.5	-9.11	31.3	20.04	100.93	
	26990	844.0	-9.11	31.222	19.96	99.13	
	26840	829.0	-13.25	31.504	16.10	40.78	V
	26919	836.5	-12.94	31.117	16.03	40.06	
	26990	844.0	-13.80	31.922	15.97	39.55	

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

LTE Band 26							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
Z	26865	831.5	-7.88	31.208	21.18	131.16	H
	26915	836.5	-8.06	31.3	21.09	128.53	
	26965	841.5	-8.06	31.222	21.01	126.24	
	26865	831.5	-12.20	31.504	17.15	51.93	V
	26915	836.5	-11.90	31.117	17.07	50.90	
	26965	841.5	-12.75	31.922	17.02	50.37	
Channel Bandwidth: 15 MHz / 16QAM							
Z	26865	831.5	-8.89	31.208	20.17	103.94	H
	26915	836.5	-9.07	31.3	20.08	101.86	
	26965	841.5	-9.06	31.222	20.01	100.28	
	26865	831.5	-13.21	31.504	16.14	41.15	V
	26915	836.5	-12.91	31.117	16.06	40.34	
	26965	841.5	-13.75	31.922	16.02	40.01	

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

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit is equal to -13 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, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}.$

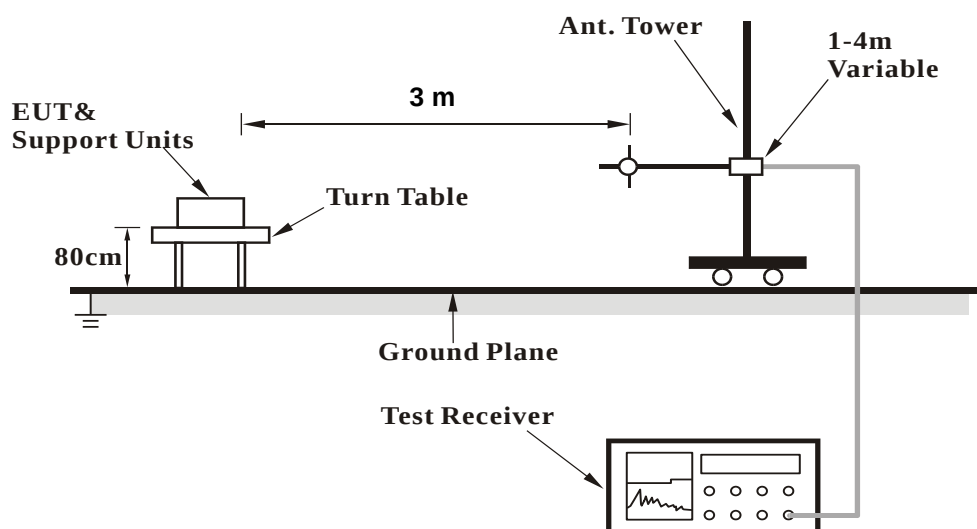
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.

4.2.3 Deviation from Test Standard

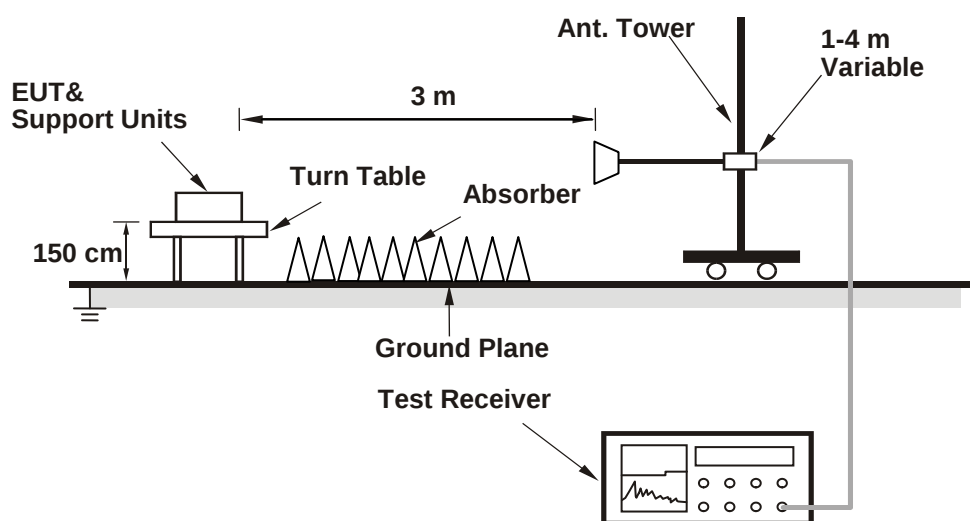
No deviation.

4.2.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.2.5 Test Results

WCDMA:

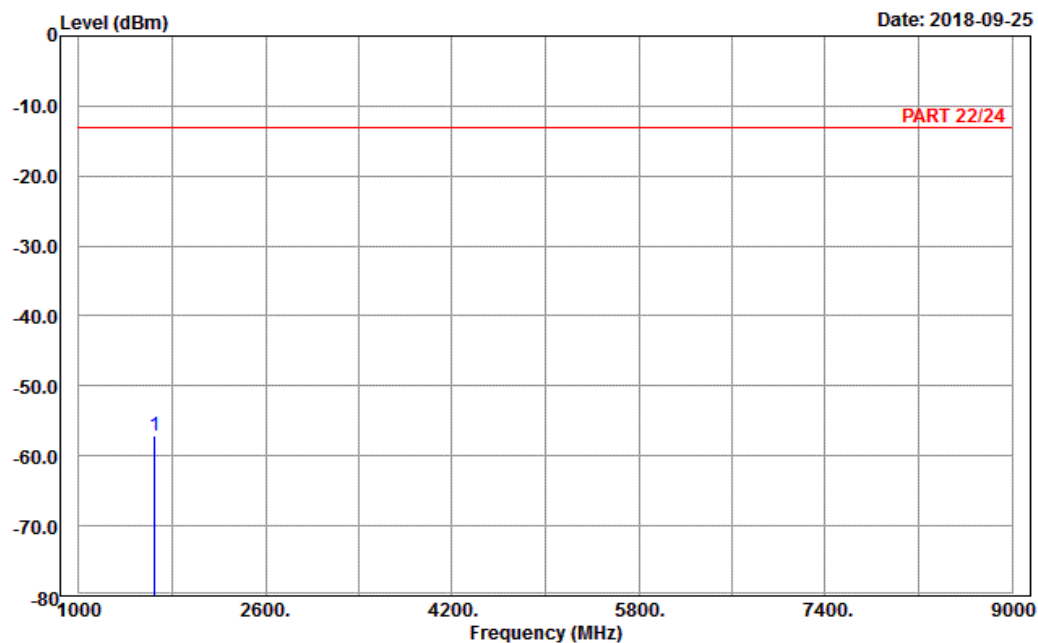
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 1



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : Band V_Link_CH4132
 Tested by: Karl Lee

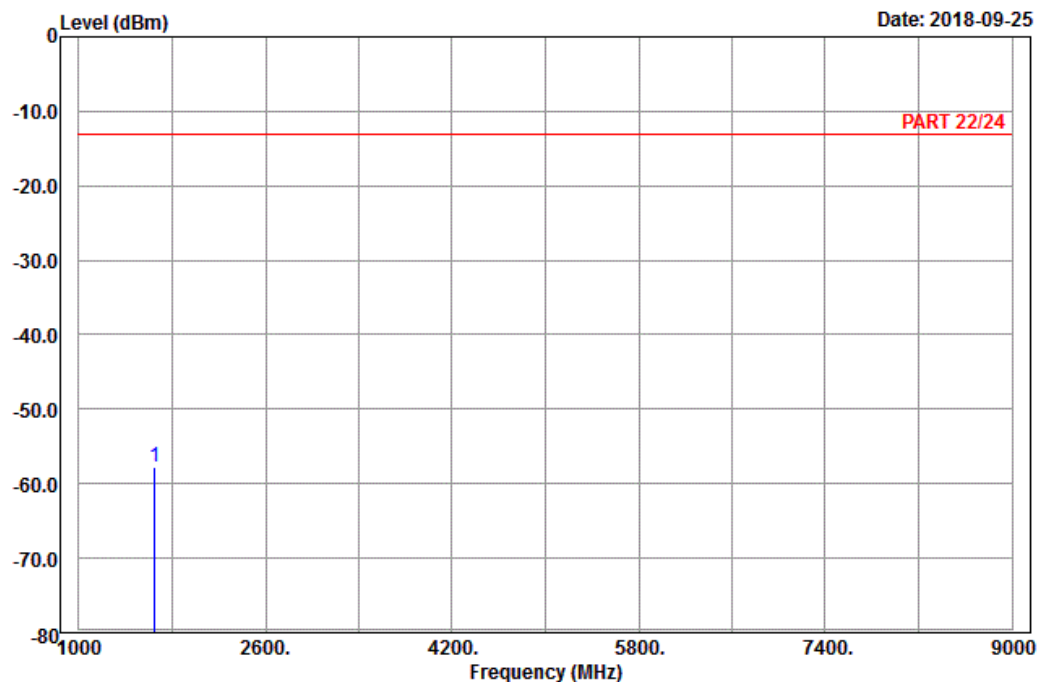
Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1652.80	-57.07	-64.80	-13.00	-44.07	7.73	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 2



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : Band V_Link_CH4132
 Tested by: Karl Lee

			Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark	
MHz	dBm	dBm	dBm	dB	dB		
1 pp 1652.80	-57.72	-65.45	-13.00	-44.72	7.73	Peak	

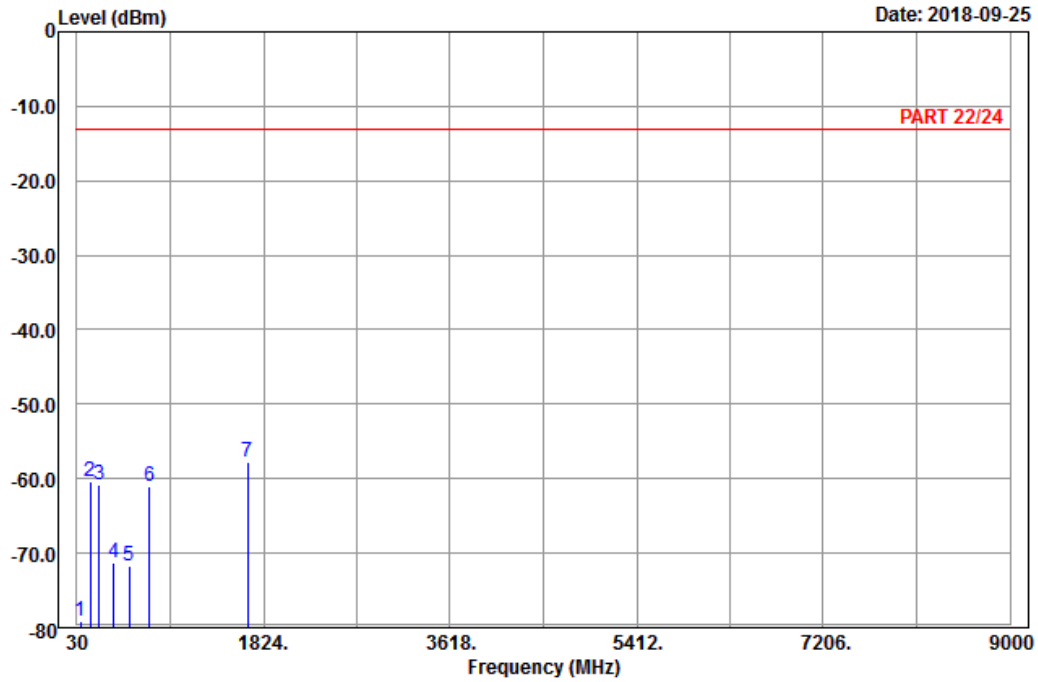
Middle Channel



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A D T

Data: 7



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : Band V_Link_CH4182
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	64.02	-79.13	-65.62	-13.00	-66.13	-13.51	Peak
2	159.06	-60.46	-52.76	-13.00	-47.46	-7.70	Peak
3	241.14	-60.85	-55.23	-13.00	-47.85	-5.62	Peak
4	385.40	-71.36	-67.84	-13.00	-58.36	-3.52	Peak
5	531.70	-71.70	-68.69	-13.00	-58.70	-3.01	Peak
6	729.80	-61.06	-60.13	-13.00	-48.06	-0.93	Peak
7 pp	1672.80	-57.75	-65.66	-13.00	-44.75	7.91	Peak

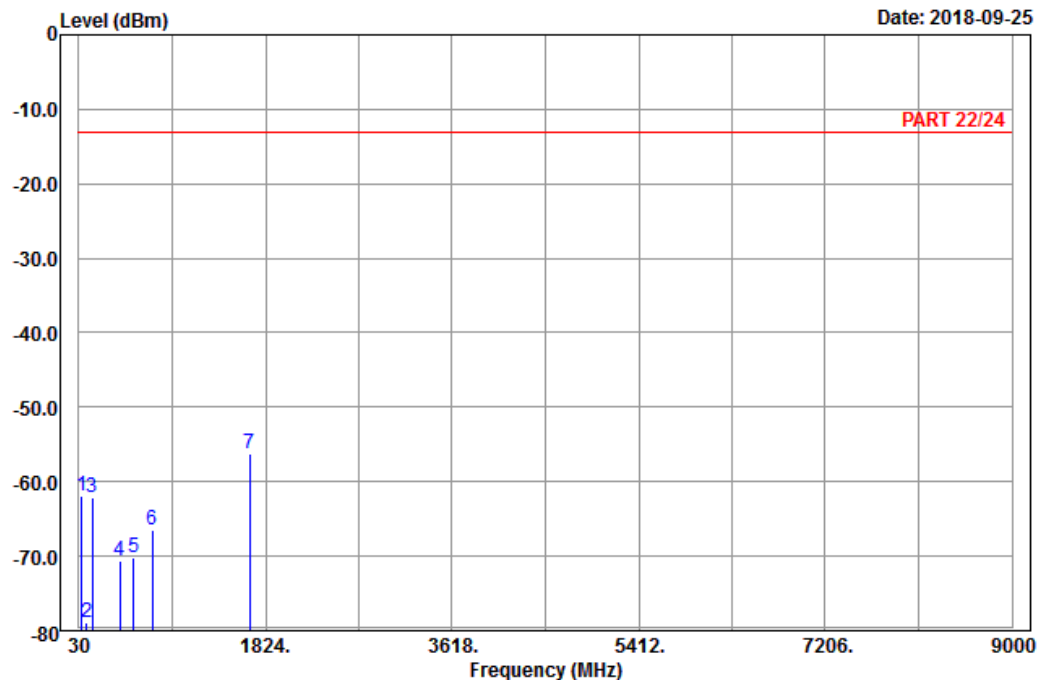


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A D T

Data: 8

Date: 2018-09-25



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band V_Link_CH4182
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	53.76	-61.88	-47.82	-13.00	-48.88	-14.06	Peak
2	106.95	-78.83	-69.53	-13.00	-65.83	-9.30	Peak
3	160.14	-62.19	-54.52	-13.00	-49.19	-7.67	Peak
4	424.60	-70.69	-67.40	-13.00	-57.69	-3.29	Peak
5	556.20	-70.21	-68.79	-13.00	-57.21	-1.42	Peak
6	732.60	-66.51	-65.53	-13.00	-53.51	-0.98	Peak
7 pp	1672.80	-56.34	-64.25	-13.00	-43.34	7.91	Peak

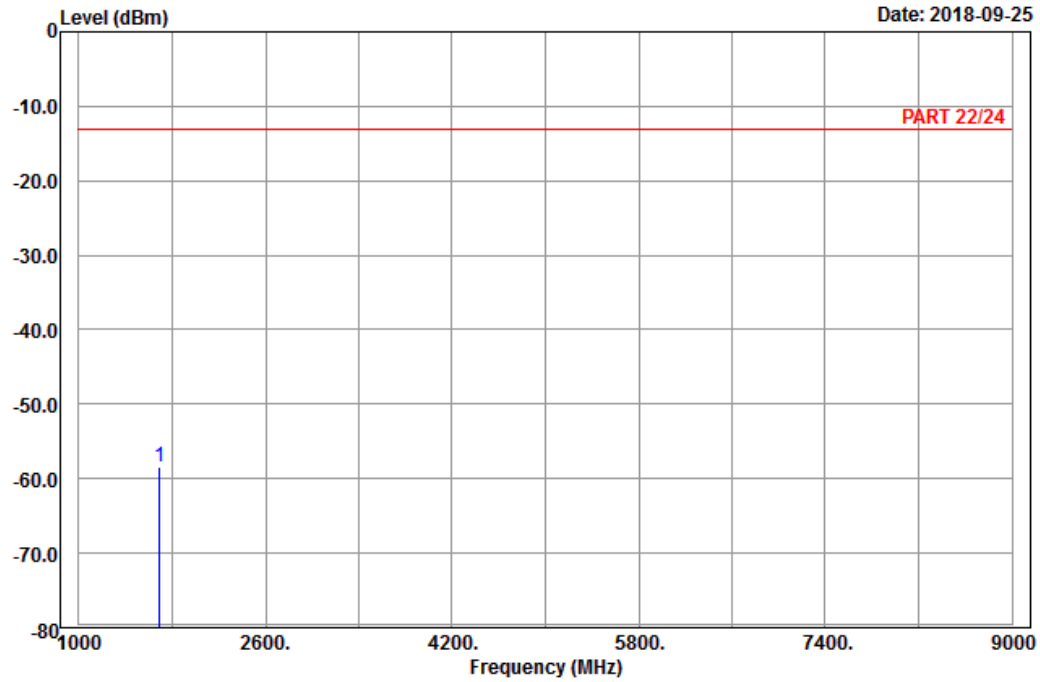
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 1



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : Band V_Link_CH4233
 Tested by: Karl Lee

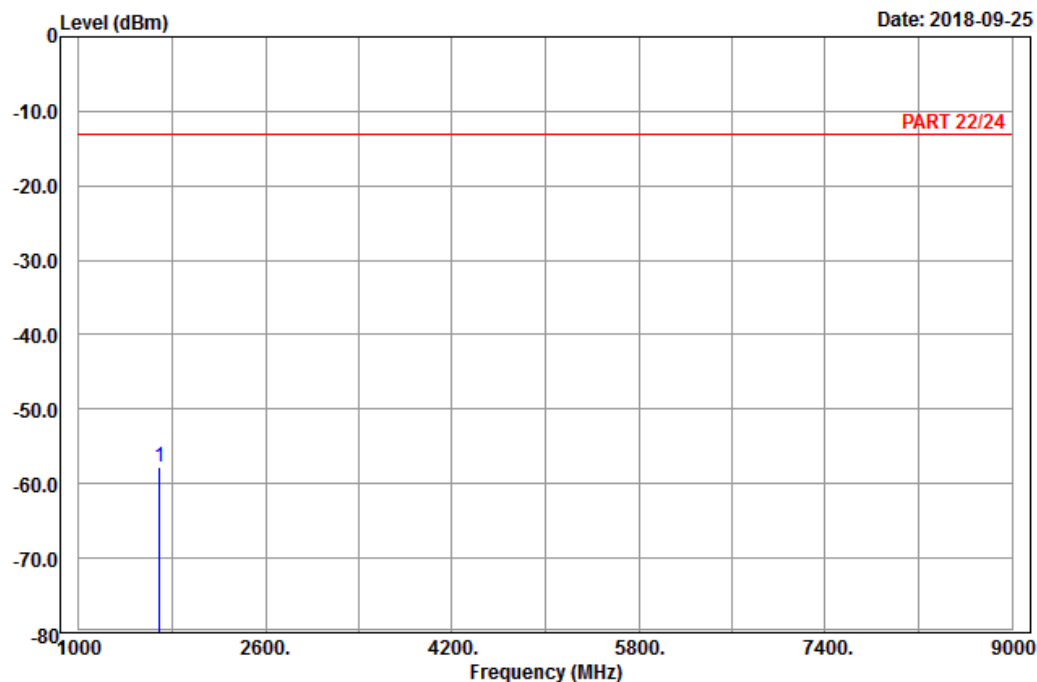
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1693.20	-58.32	-66.46	-13.00	-45.32	8.14	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 2



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : Band V_Link_CH4233
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1693.20	-57.82	-65.96	-13.00	-44.82	8.14	Peak

LTE Band 5
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel

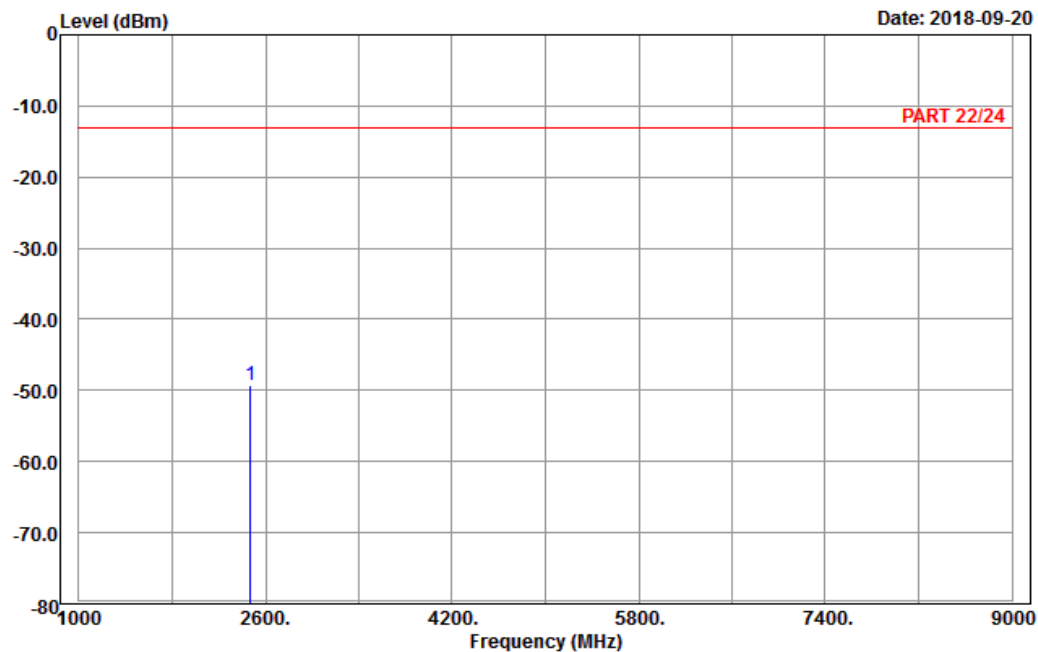


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20407
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2474.10	-49.23	-60.26	-13.00	-36.23	11.03	Peak

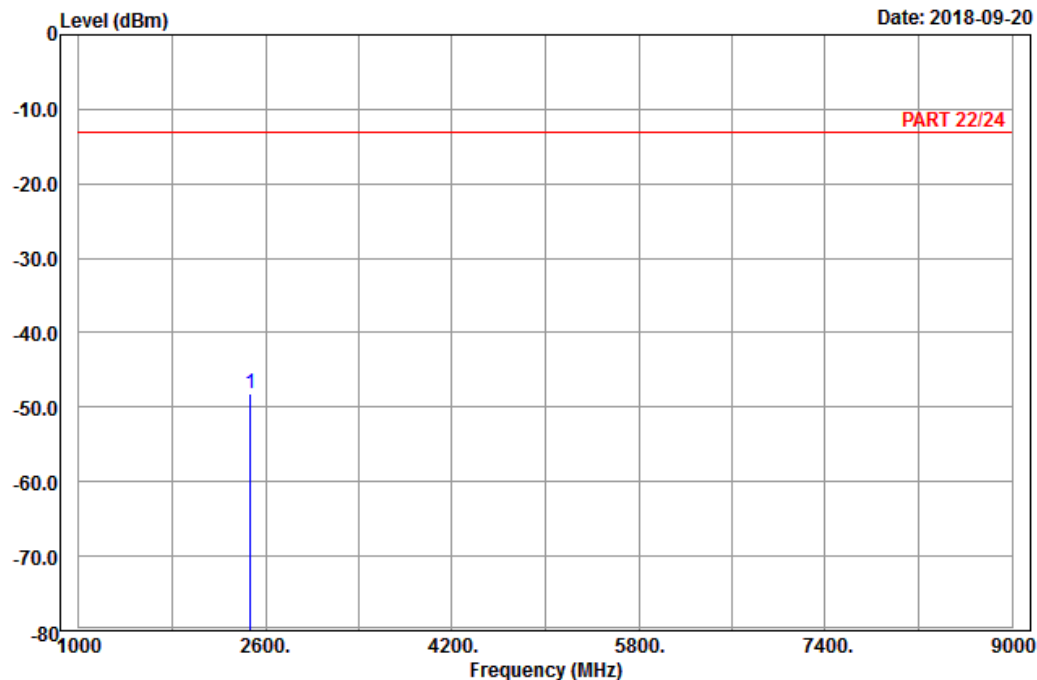


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20407
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2474.10	-48.08	-59.11	-13.00	-35.08	11.03	Peak

Middle Channel

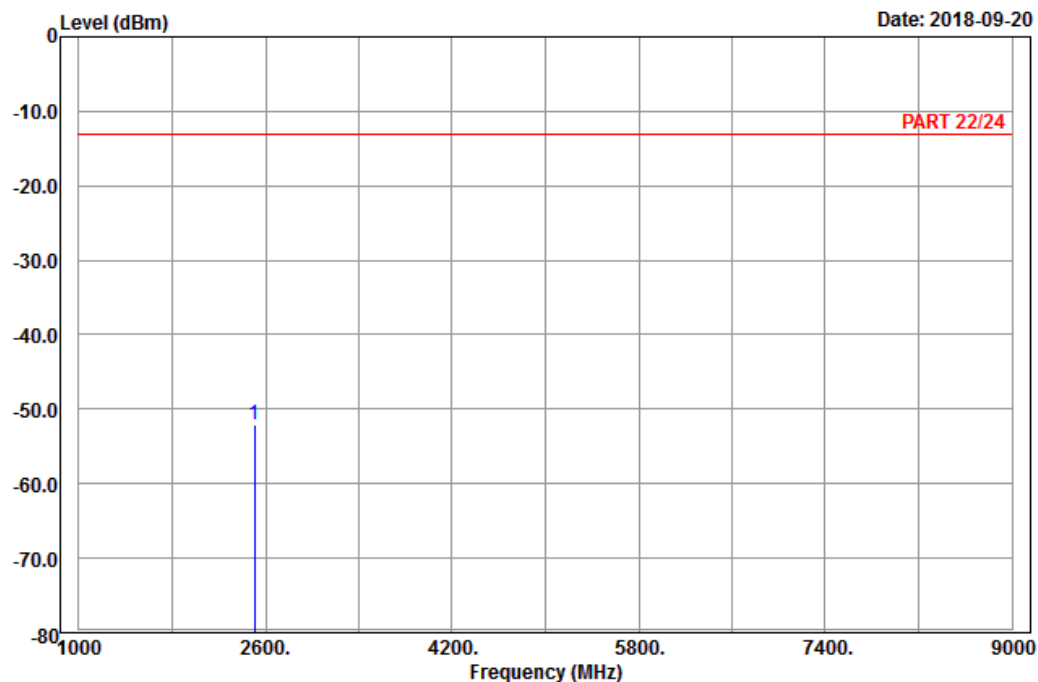


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20525
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2509.50	-52.10	-63.38	-13.00	-39.10	11.28	Peak

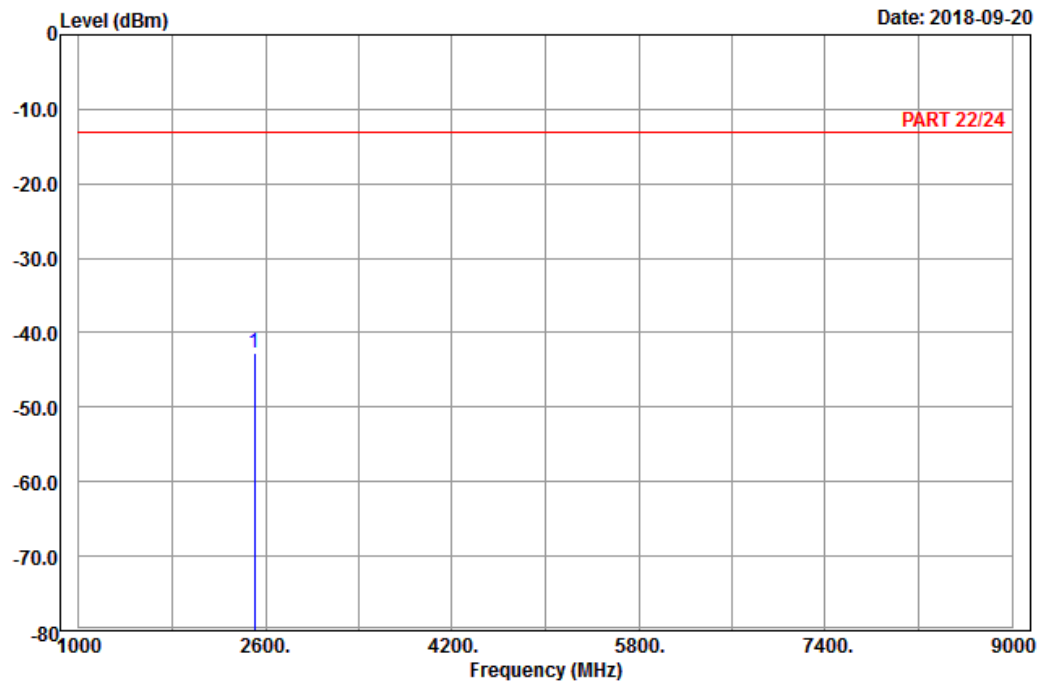


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20525
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2509.50	-42.83	-54.11	-13.00	-29.83	11.28	Peak

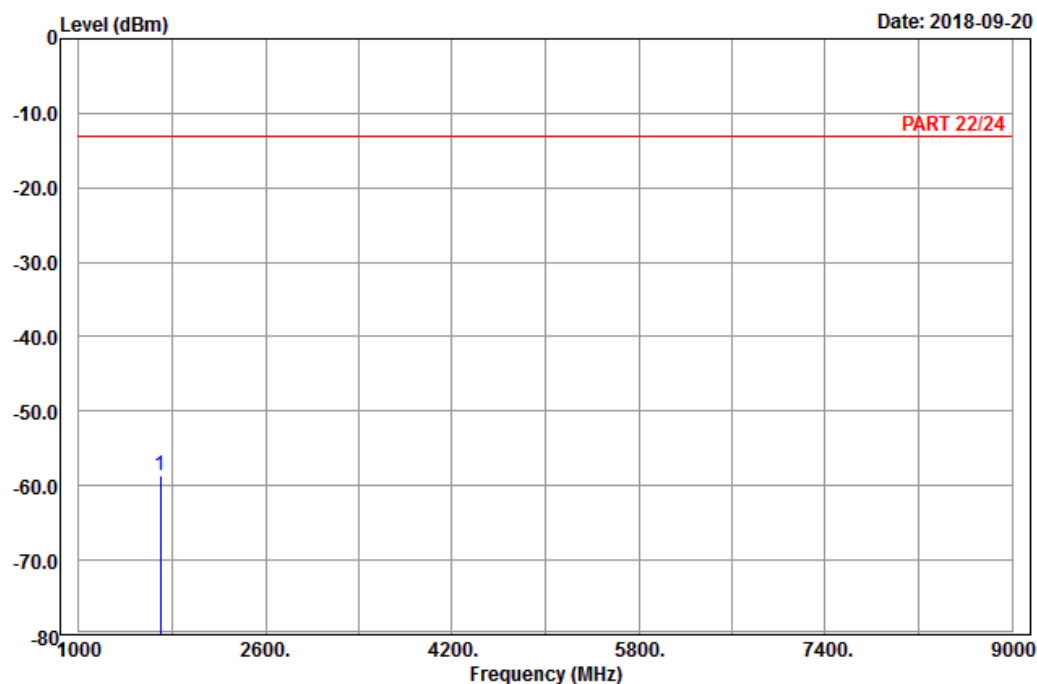
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20643
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1696.60	-58.72	-66.86	-13.00	-45.72	8.14	Peak

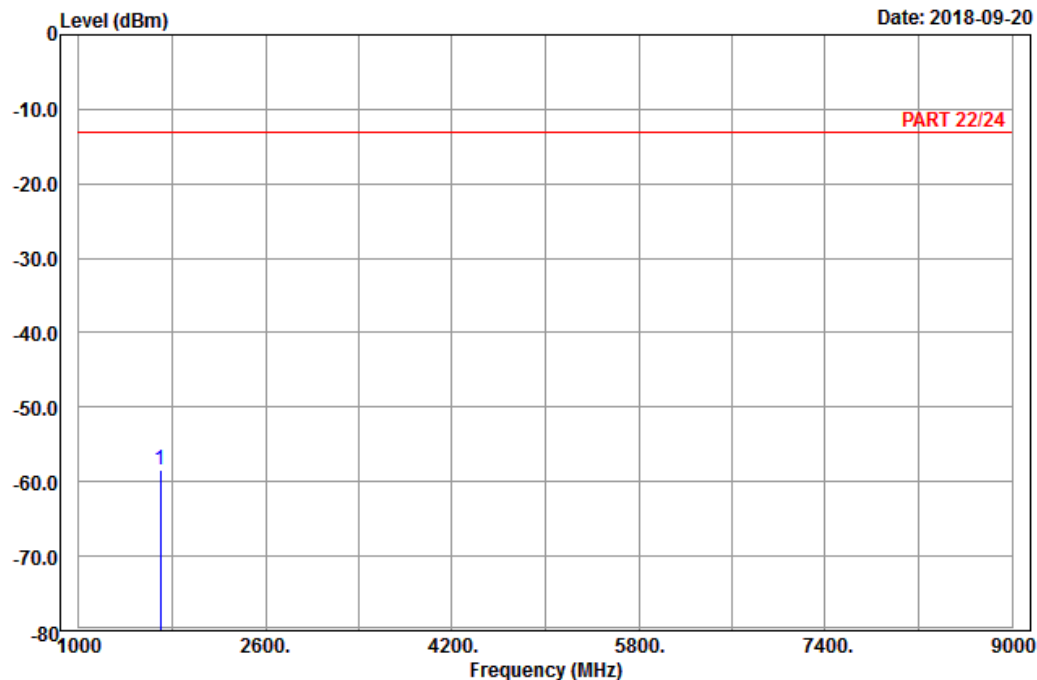


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20643
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1696.60	-58.45	-66.59	-13.00	-45.45	8.14	Peak

Channel Bandwidth: 5 MHz / QPSK
Low Channel

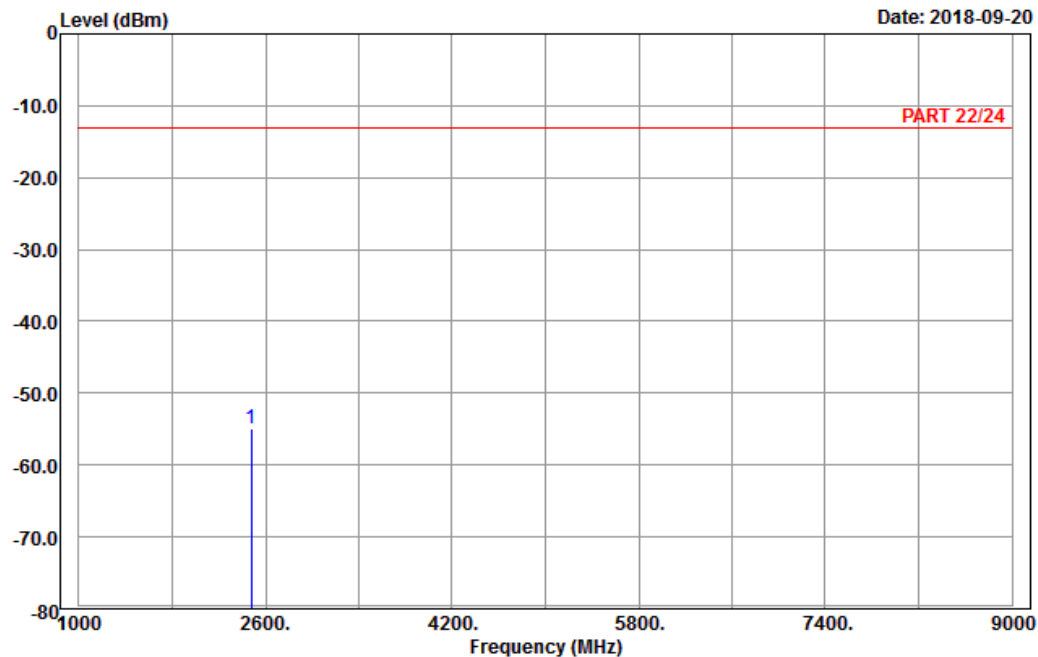


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20425
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2479.50	-54.92	-65.95	-13.00	-41.92	11.03	Peak

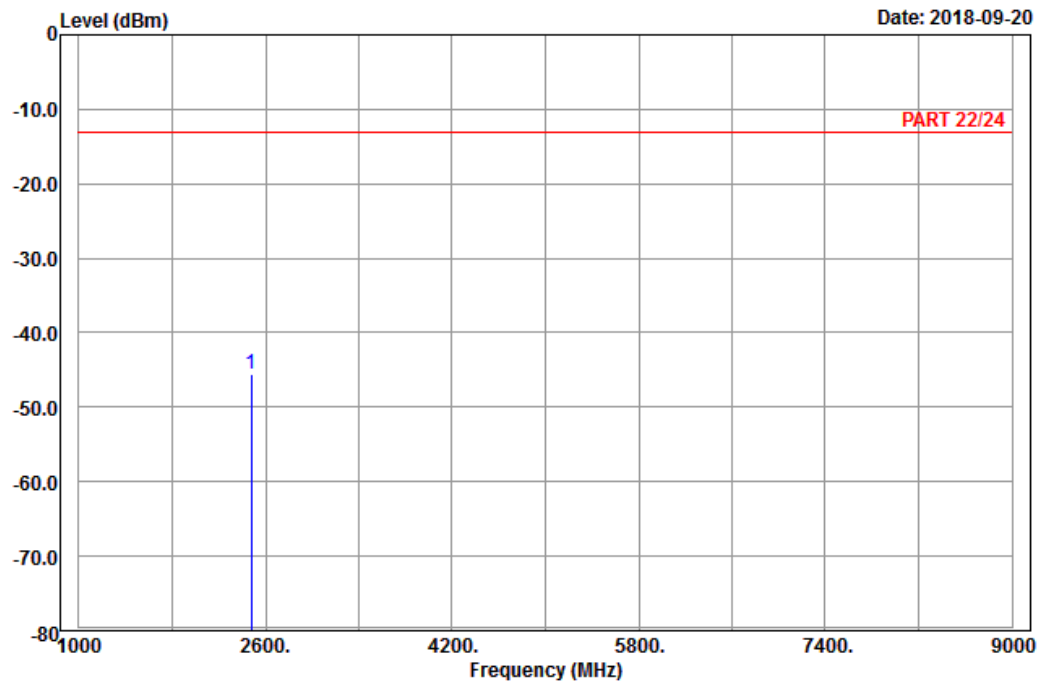


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20425
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2479.50	-45.53	-56.56	-13.00	-32.53	11.03	Peak

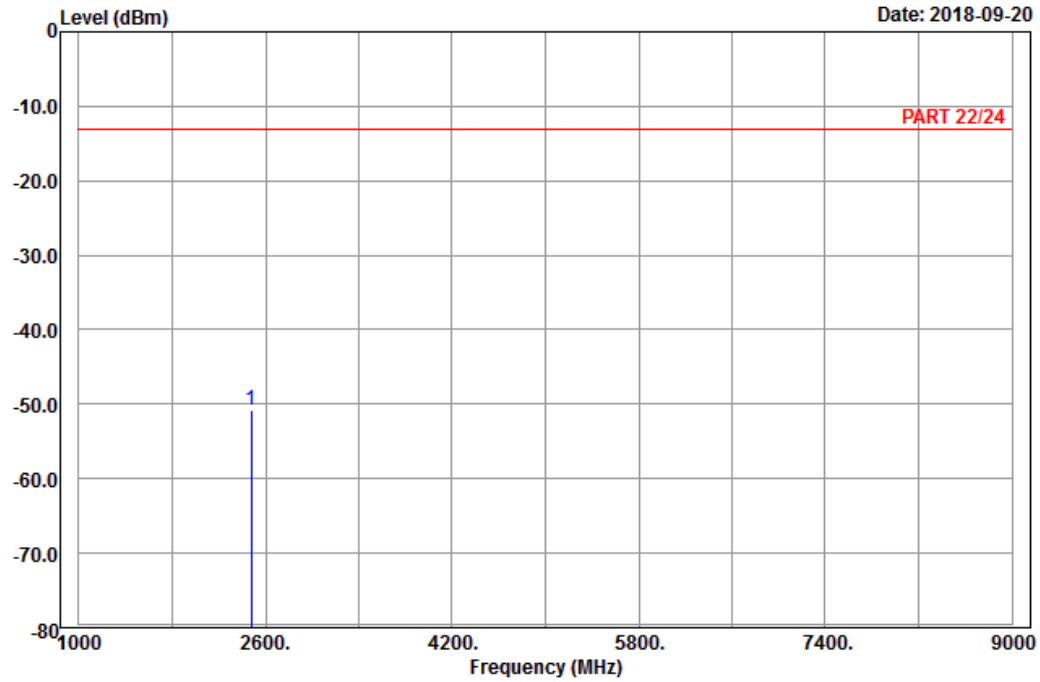
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 5_Link_CH20425
 Tested by: Karl Lee

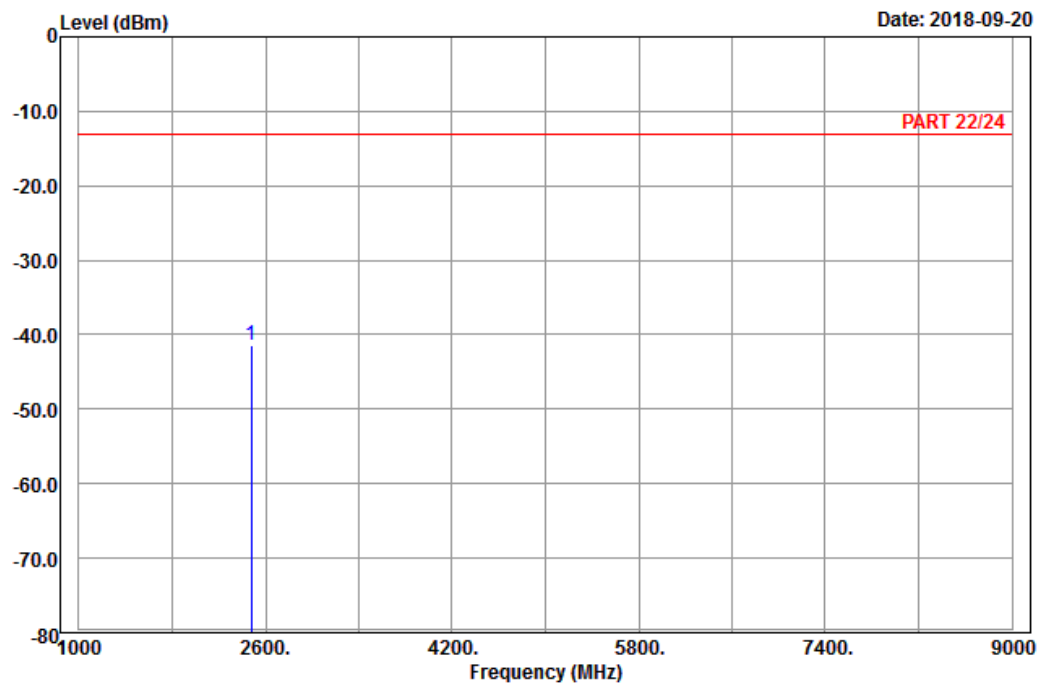
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2479.50	-50.72	-61.75	-13.00	-37.72	11.03	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 5_Link_CH20425
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2479.50	-41.32	-52.35	-13.00	-28.32	11.03	Peak

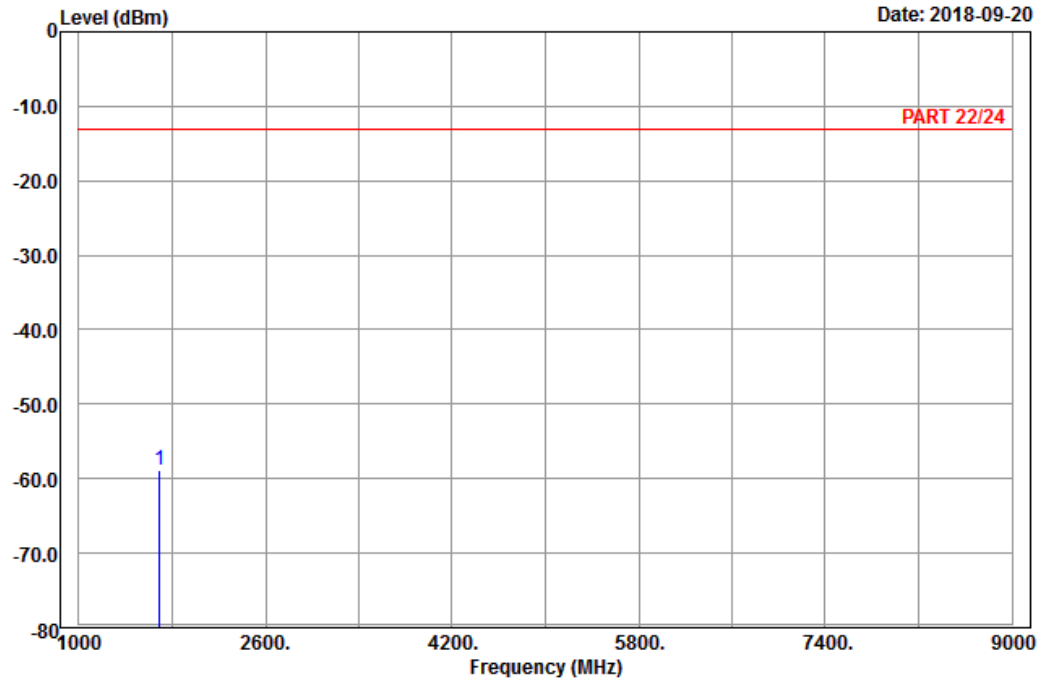
High Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20625
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1693.00	-58.90	-66.92	-13.00	-45.90	8.02	Peak

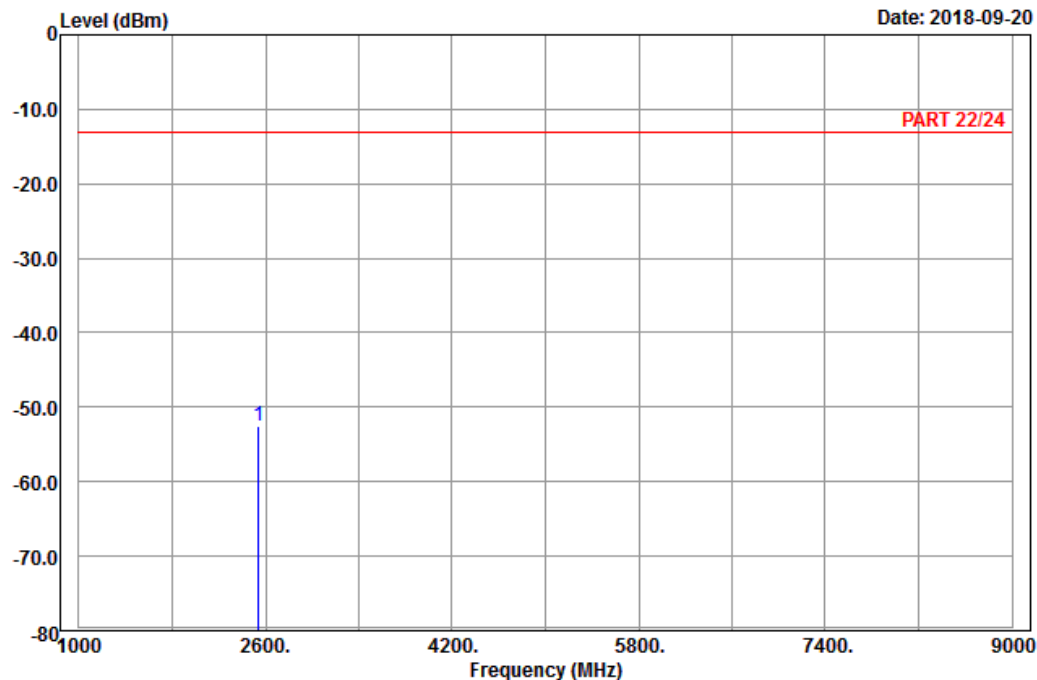


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20625
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 2539.50	-52.62	-64.09	-13.00	-39.62	11.47	Peak

Channel Bandwidth: 10 MHz / QPSK
Low Channel

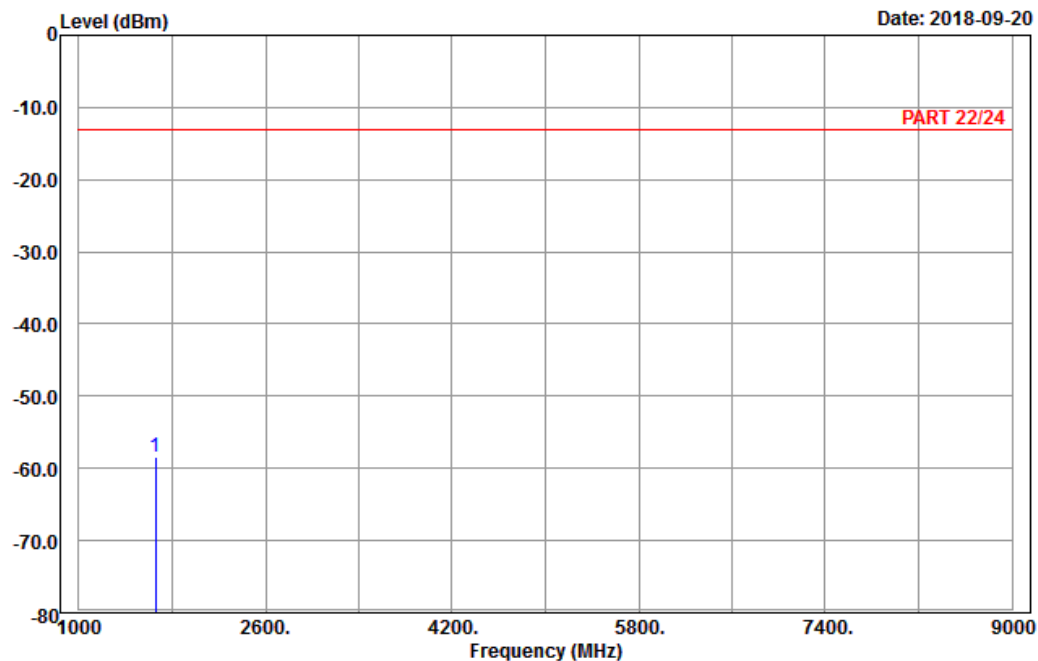


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20450
Tested by: Karl Lee

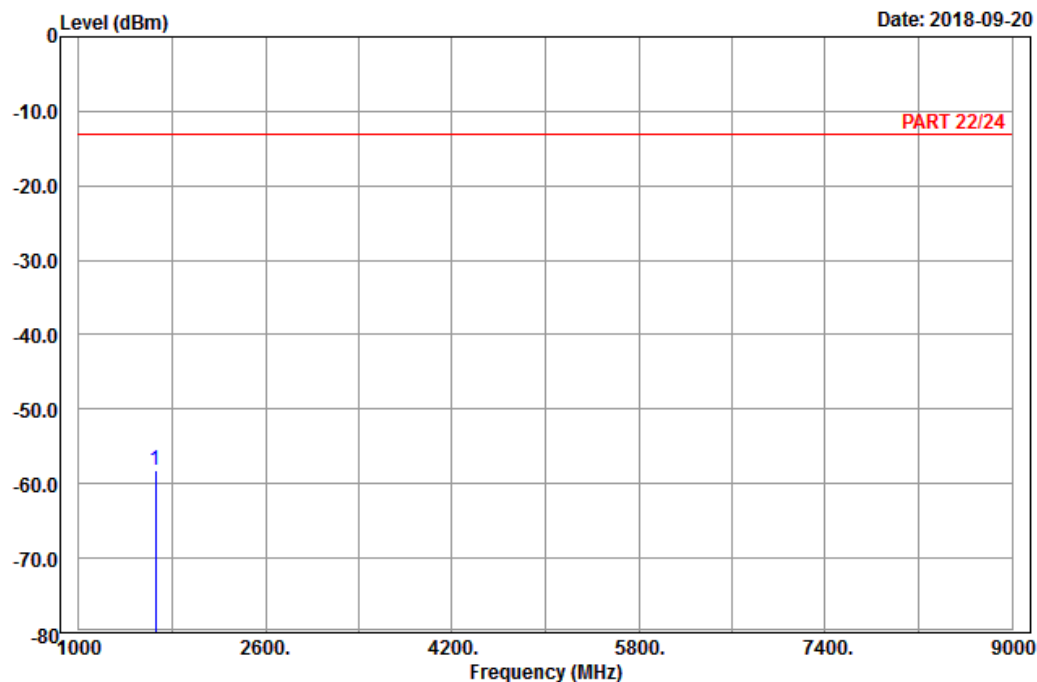
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1658.00	-58.32	-66.23	-13.00	-45.32	7.91	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 5_Link_CH20450
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1658.00	-58.24	-66.15	-13.00	-45.24	7.91	Peak

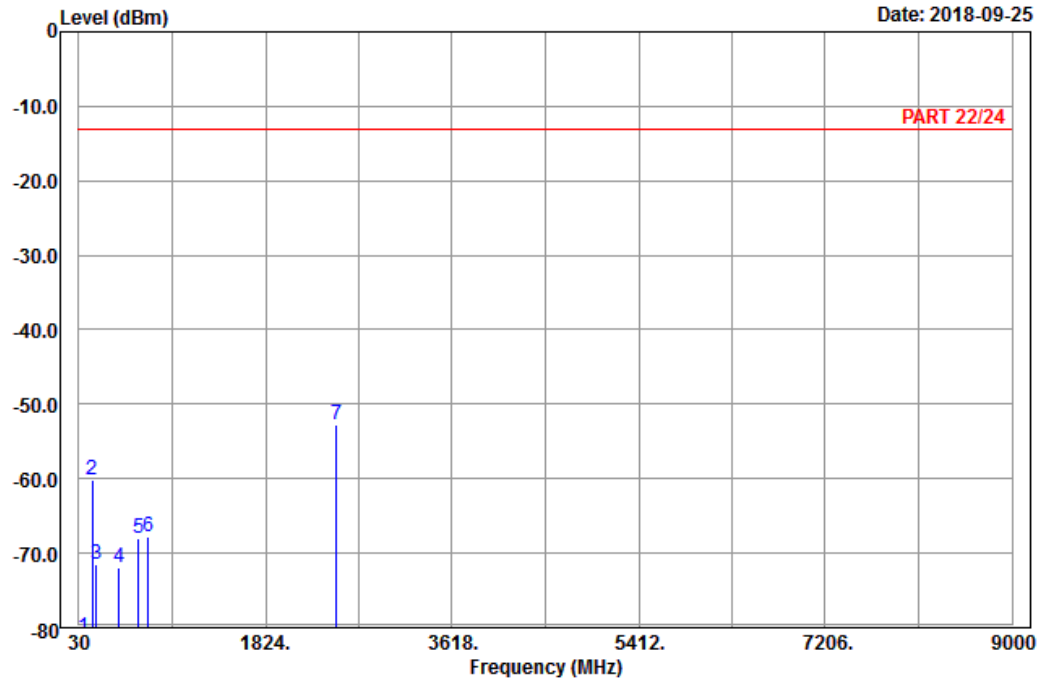
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20525
Tested by: Karl Lee

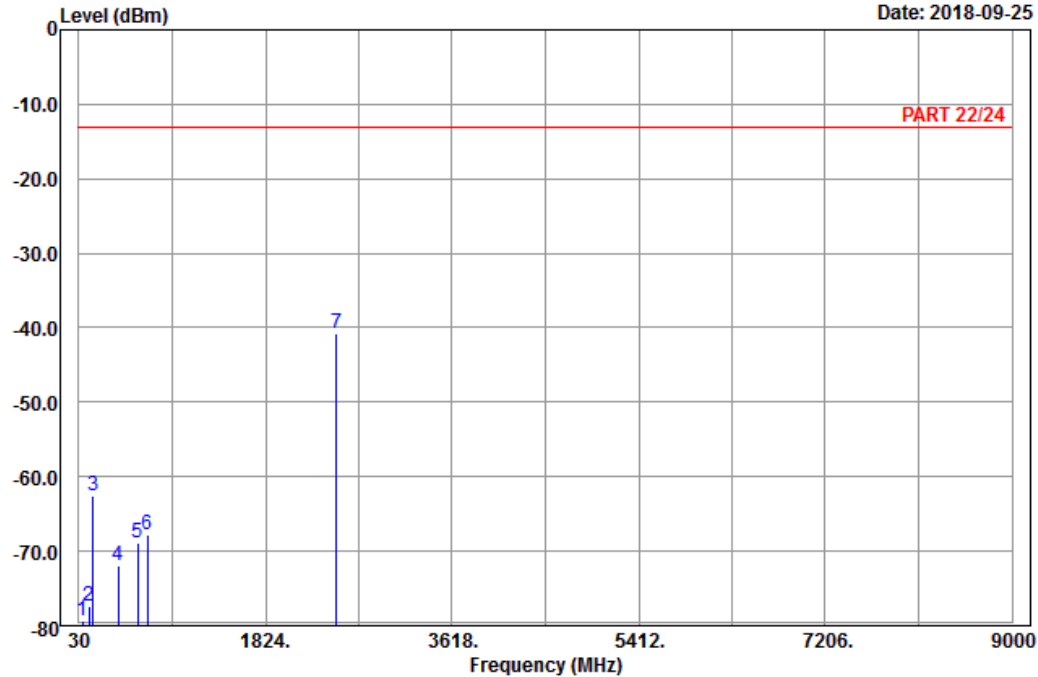
			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	77.25	-81.33	-69.31	-13.00	-68.33	-12.02	Peak
2	159.60	-60.09	-52.42	-13.00	-47.09	-7.67	Peak
3	196.86	-71.40	-65.35	-13.00	-58.40	-6.05	Peak
4	414.10	-71.86	-68.80	-13.00	-58.86	-3.06	Peak
5	602.40	-68.09	-68.49	-13.00	-55.09	0.40	Peak
6	694.80	-67.83	-67.48	-13.00	-54.83	-0.35	Peak
7 pp	2509.50	-52.73	-64.01	-13.00	-39.73	11.28	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20525
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	67.80	-79.42	-66.46	-13.00	-66.42	-12.96	Peak
2	128.28	-77.35	-69.58	-13.00	-64.35	-7.77	Peak
3	163.38	-62.62	-55.34	-13.00	-49.62	-7.28	Peak
4	409.90	-71.92	-68.95	-13.00	-58.92	-2.97	Peak
5	594.70	-68.78	-68.97	-13.00	-55.78	0.19	Peak
6	689.20	-67.82	-67.49	-13.00	-54.82	-0.33	Peak
7 pp	2509.50	-40.84	-52.12	-13.00	-27.84	11.28	Peak

High Channel

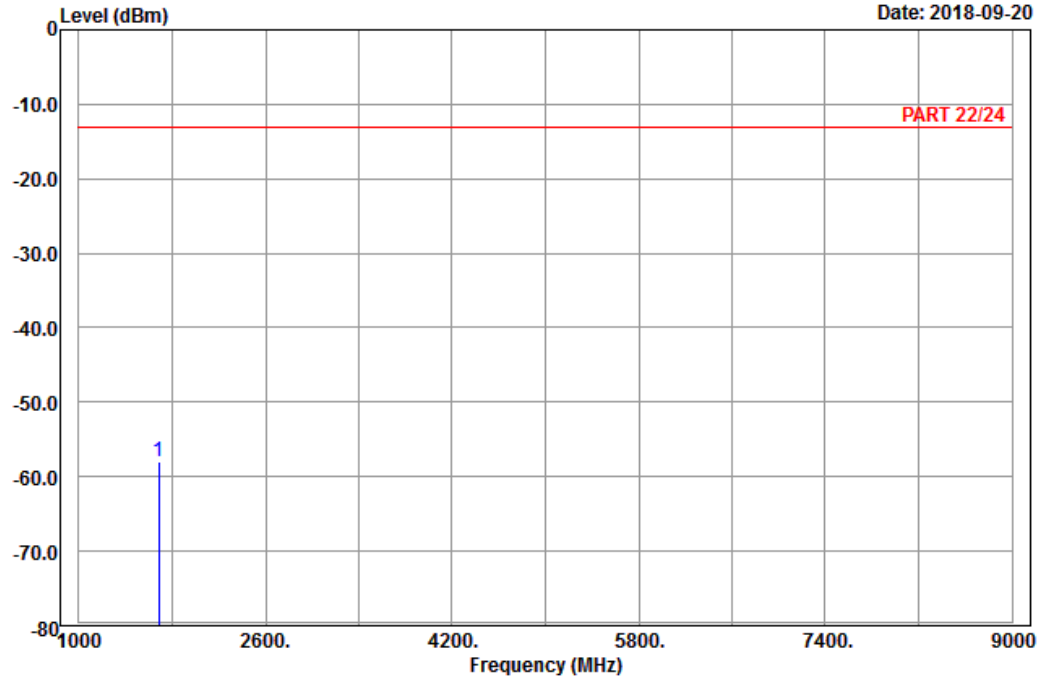


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 5

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 5_Link_CH20600
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1688.00	-58.07	-66.09	-13.00	-45.07	8.02	Peak

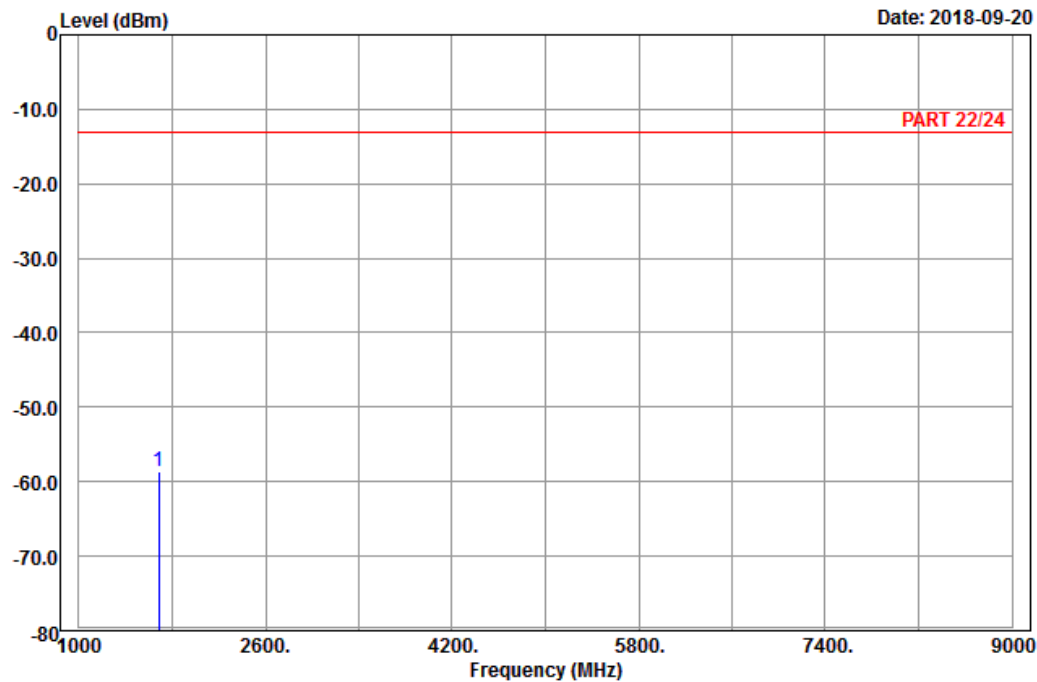


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-09-20



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 5_Link_CH20600
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1688.00	-58.72	-66.74	-13.00	-45.72	8.02	Peak

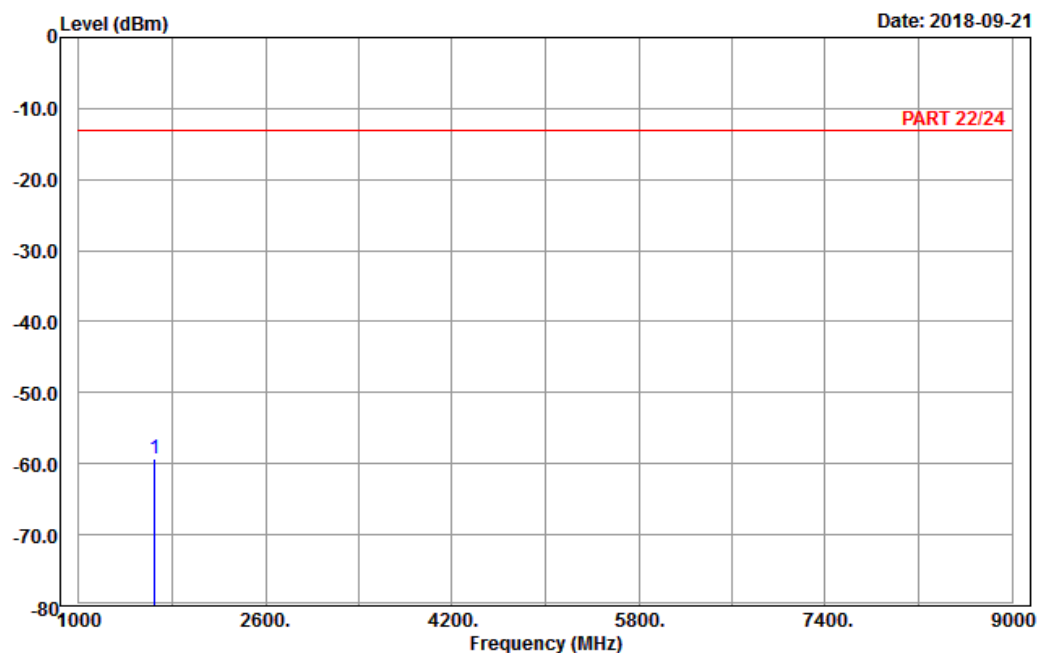
LTE Band 26
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 26_Link_CH26797
Tested by: Karl Lee

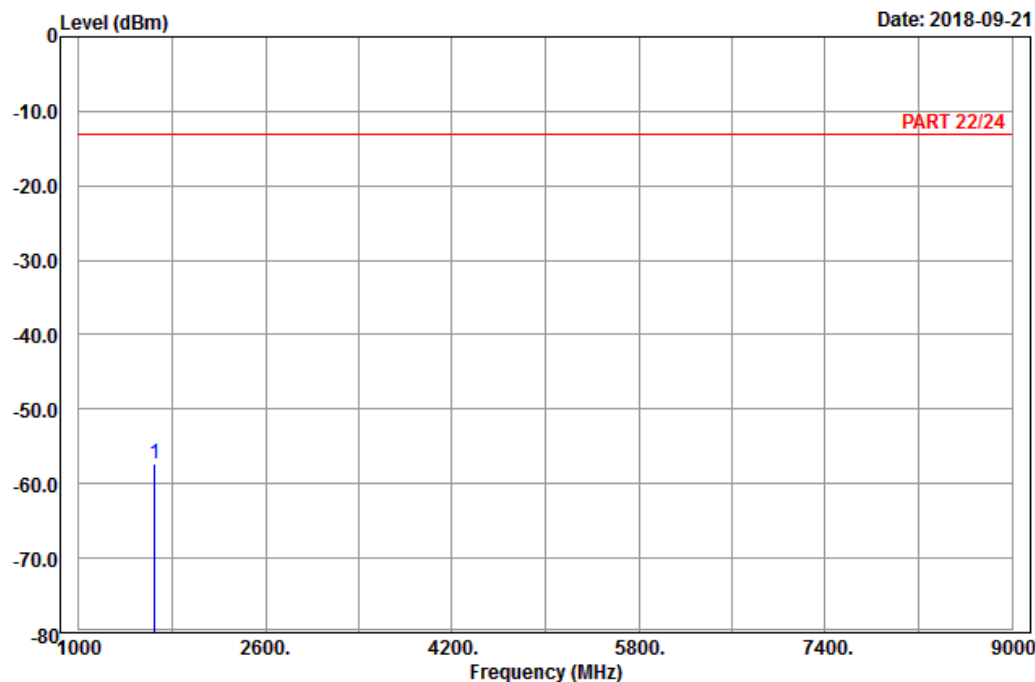
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1649.40	-59.22	-66.95	-13.00	-46.22	7.73	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26797
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1649.40	-57.37	-65.10	-13.00	-44.37	7.73	Peak

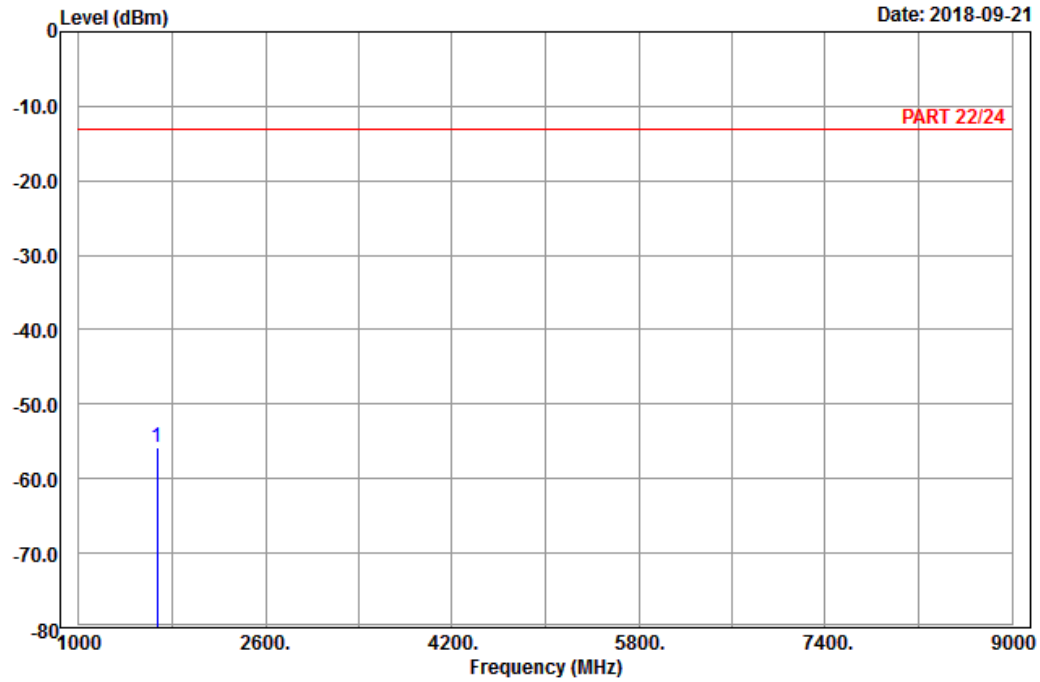
Middle Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 26_Link_CH26915
Tested by: Karl Lee

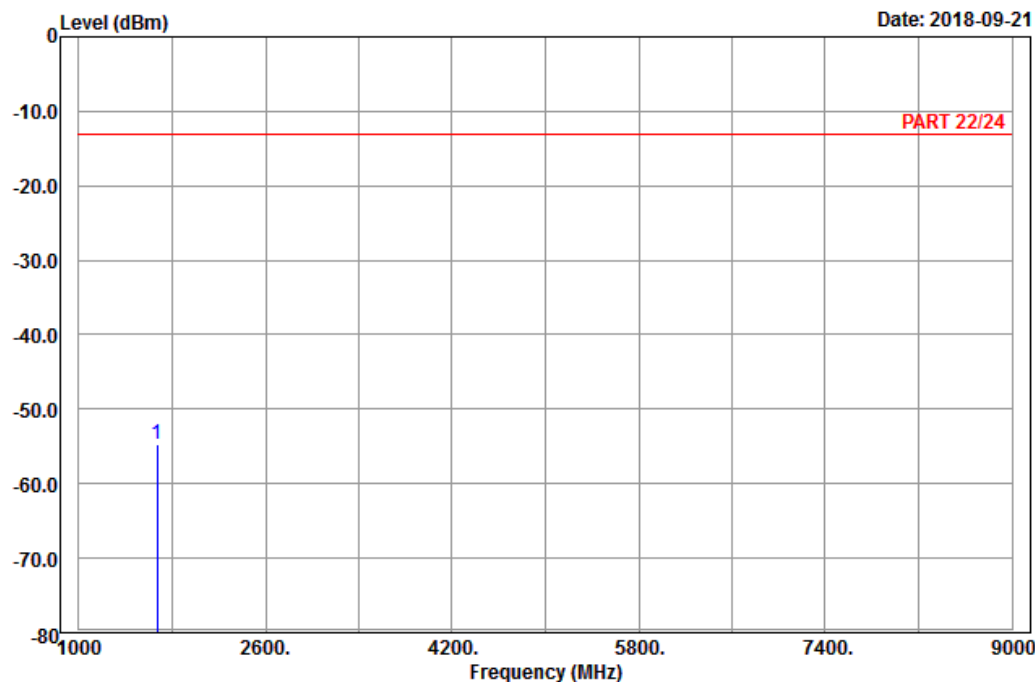
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1673.00	-55.86	-63.77	-13.00	-42.86	7.91	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26915
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1673.00	-54.77	-62.68	-13.00	-41.77	7.91	Peak

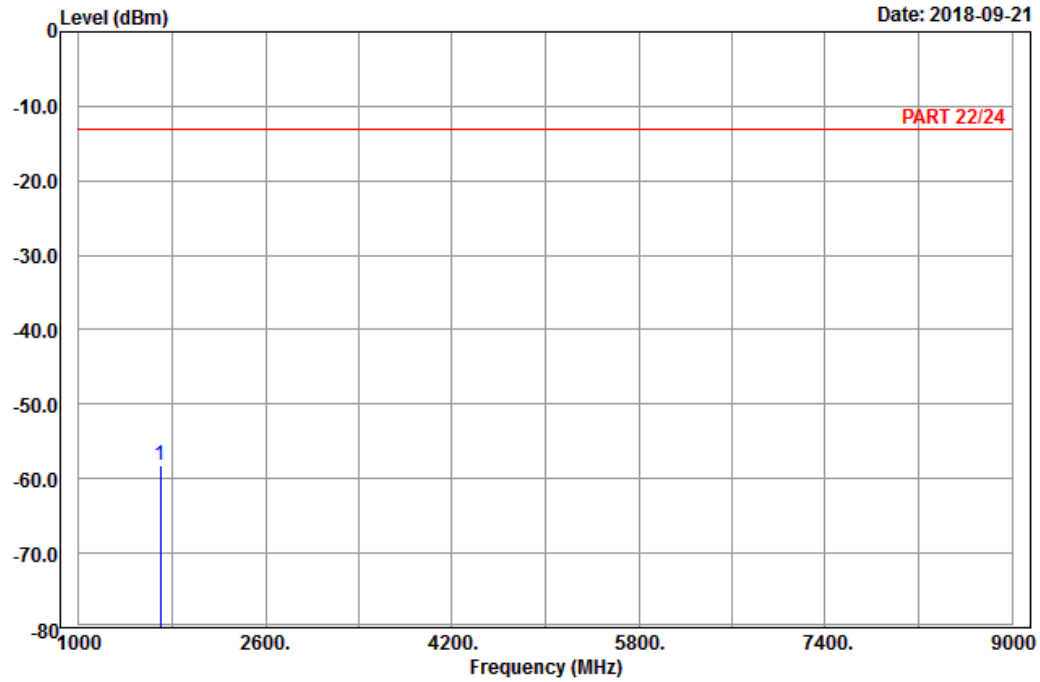
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 26_Link_CH27033
 Tested by: Karl Lee

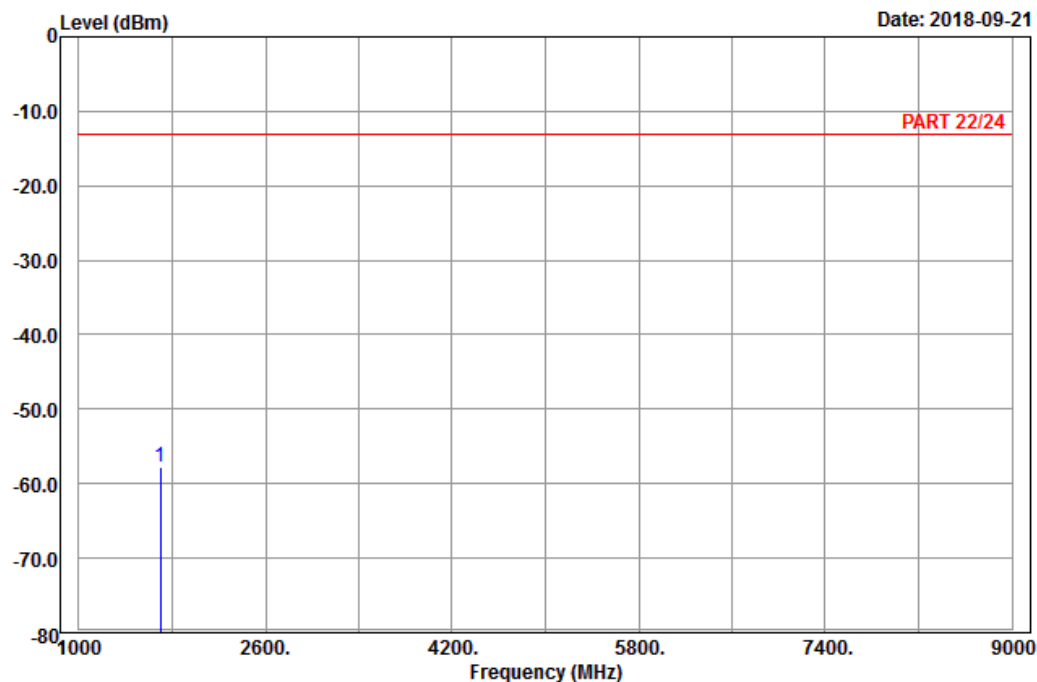
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1696.60	-58.22	-66.36	-13.00	-45.22	8.14	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH27033
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1696.60	-57.71	-65.85	-13.00	-44.71	8.14	Peak

Channel Bandwidth: 5 MHz / QPSK
Low Channel

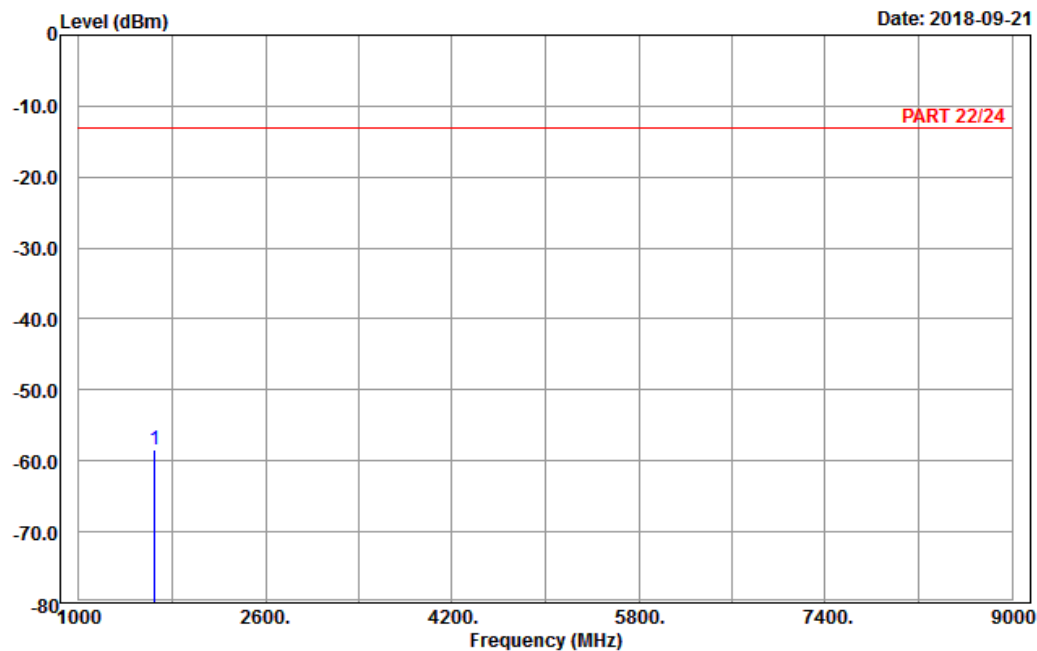


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-21



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 26_Link_CH26815
Tested by: Karl Lee

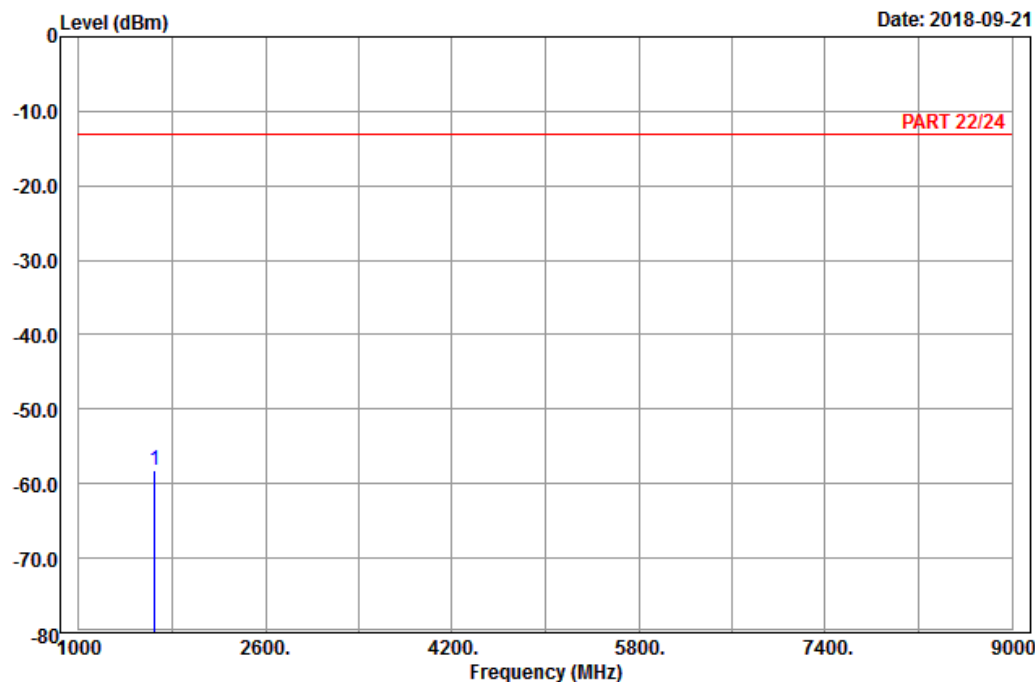
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1653.00	-58.37	-66.10	-13.00	-45.37	7.73	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26815
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1653.00	-58.17	-65.90	-13.00	-45.17	7.73	Peak

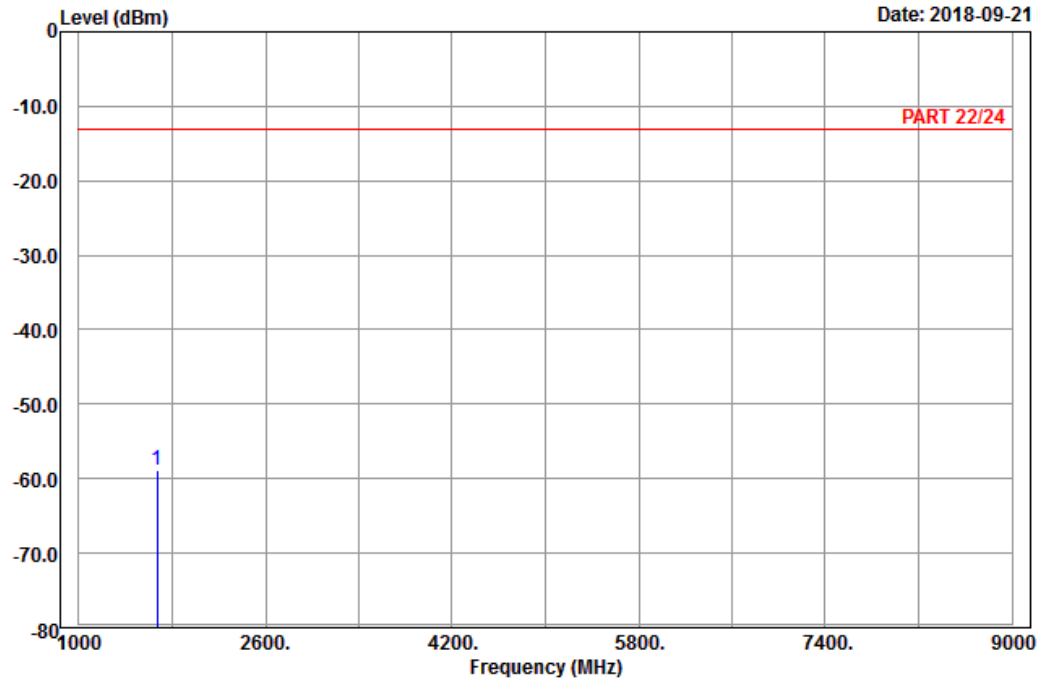
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 26_Link_CH26915
 Tested by: Karl Lee

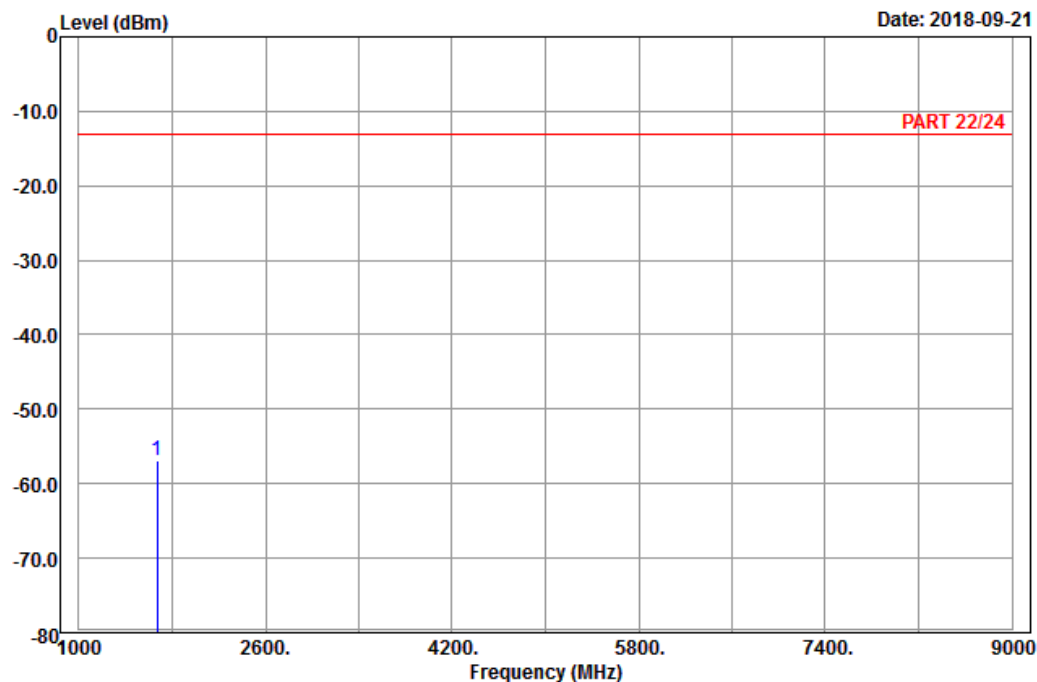
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1673.00	-58.88	-66.79	-13.00	-45.88	7.91	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26915
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1673.00	-56.88	-64.79	-13.00	-43.88	7.91	Peak

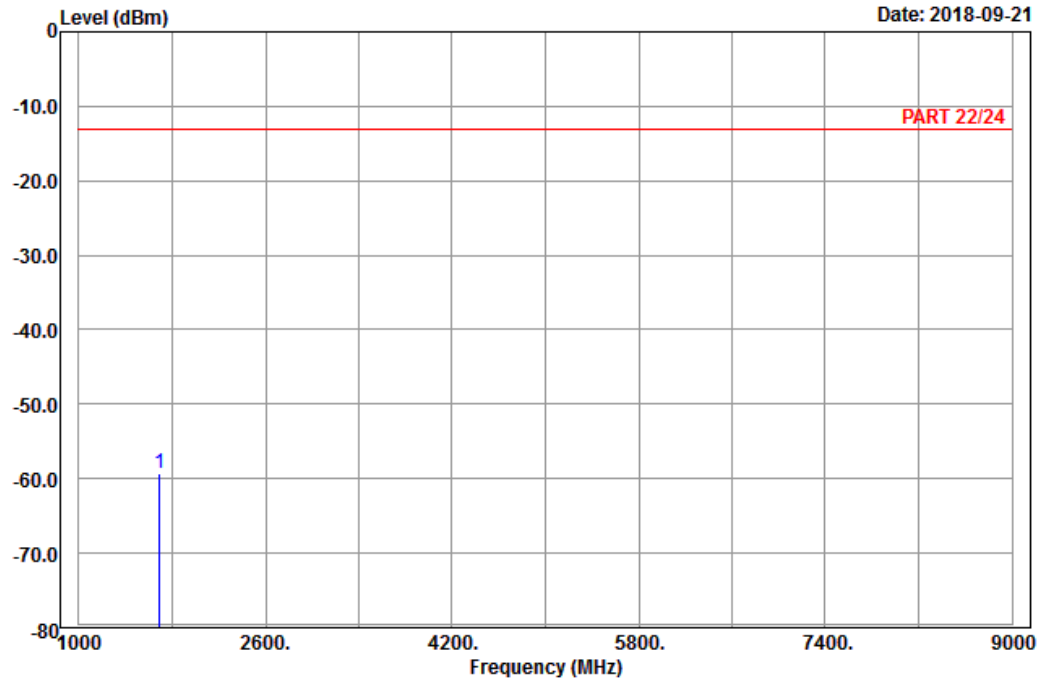
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 26_Link_CH27015
 Tested by: Karl Lee

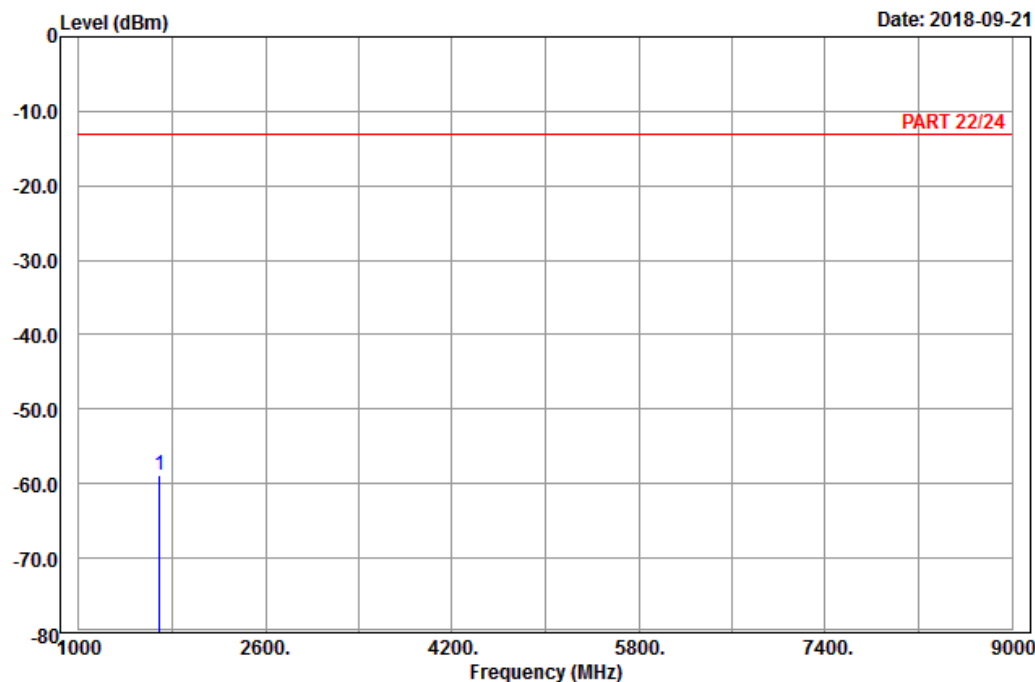
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1693.00	-59.36	-67.38	-13.00	-46.36	8.02	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH27015
 Tested by: Karl Lee

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	pp 1693.00	-58.77	-66.79	-13.00	-45.77	8.02	Peak

Channel Bandwidth: 15 MHz / QPSK
Low Channel

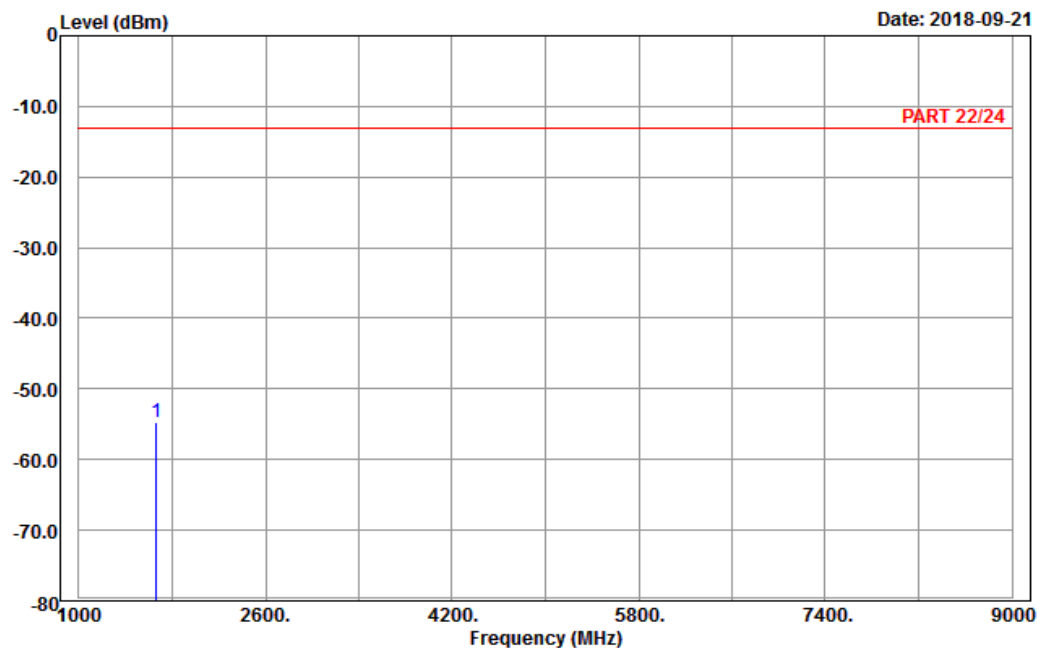


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-09-21



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 26_Link_CH26865
Tested by: Karl Lee

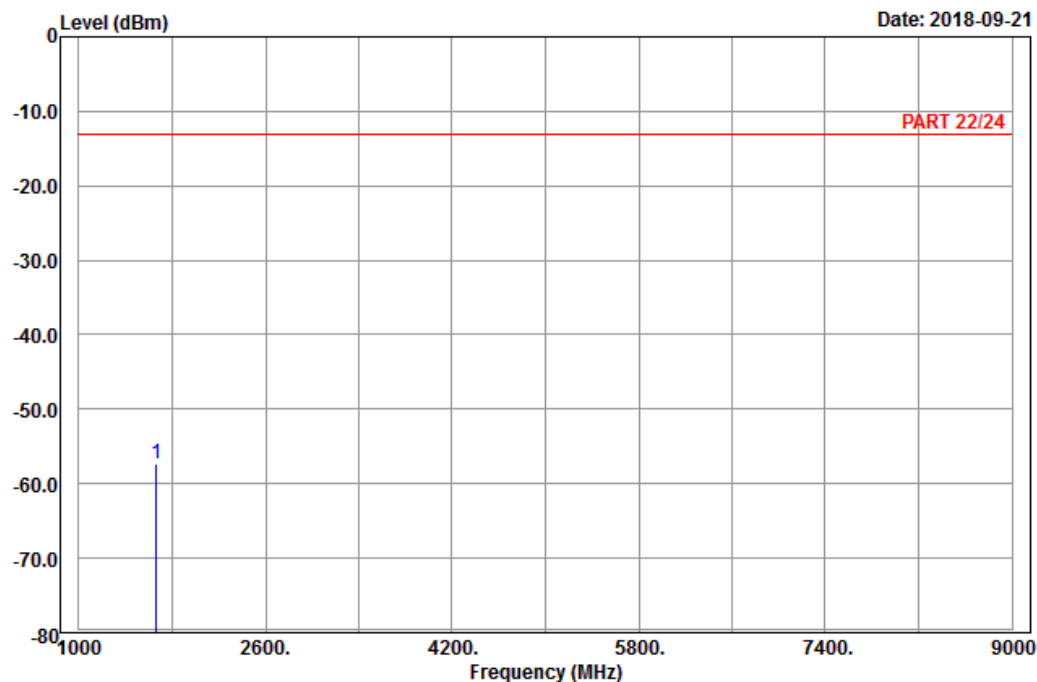
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1663.00	-54.66	-62.57	-13.00	-41.66	7.91	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26865
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1663.00	-57.28	-65.19	-13.00	-44.28	7.91	Peak

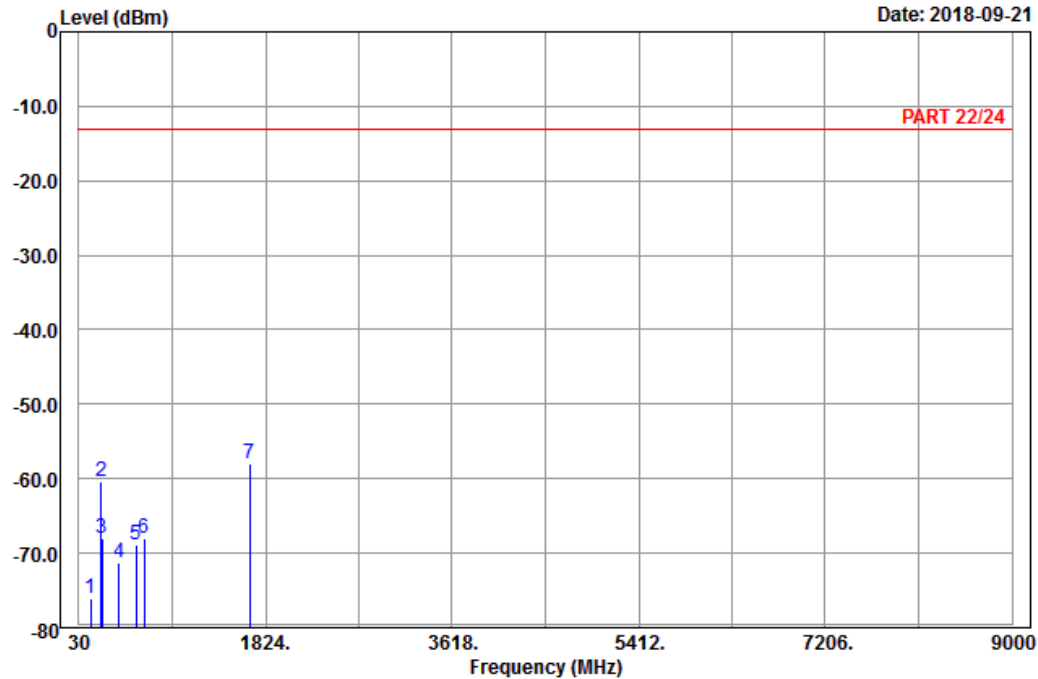
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 26_Link_CH26915
 Tested by: Karl Lee

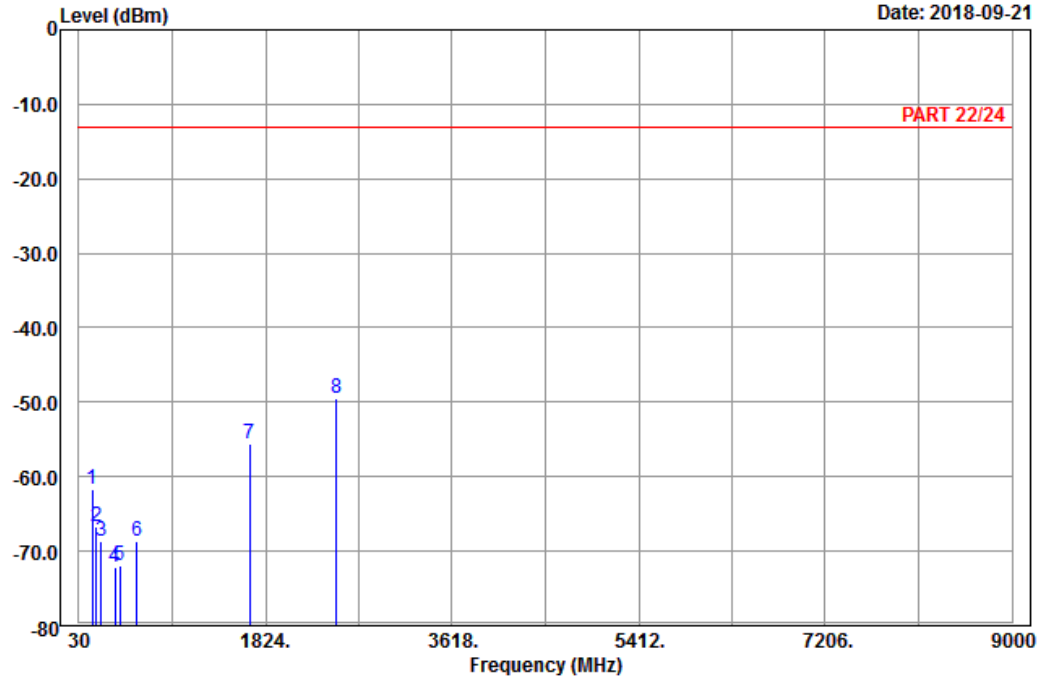
			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	143.67	-76.00	-68.21	-13.00	-63.00	-7.79	Peak
2	241.68	-60.31	-54.69	-13.00	-47.31	-5.62	Peak
3	253.56	-67.94	-62.41	-13.00	-54.94	-5.53	Peak
4	416.90	-71.35	-68.23	-13.00	-58.35	-3.12	Peak
5	576.50	-68.99	-68.41	-13.00	-55.99	-0.58	Peak
6	659.80	-68.00	-67.82	-13.00	-55.00	-0.18	Peak
7 pp	1673.00	-57.98	-65.89	-13.00	-44.98	7.91	Peak



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A D T

Data: 10



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 26_Link_CH26915
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	160.41	-61.80	-54.13	-13.00	-48.80	-7.67	Peak
2	196.86	-66.67	-60.62	-13.00	-53.67	-6.05	Peak
3	241.68	-68.71	-63.09	-13.00	-55.71	-5.62	Peak
4	373.50	-72.14	-68.00	-13.00	-59.14	-4.14	Peak
5	423.90	-71.83	-68.56	-13.00	-58.83	-3.27	Peak
6	584.90	-68.64	-68.42	-13.00	-55.64	-0.22	Peak
7	1673.00	-55.55	-63.46	-13.00	-42.55	7.91	Peak
8 pp	2509.50	-49.56	-60.84	-13.00	-36.56	11.28	Peak

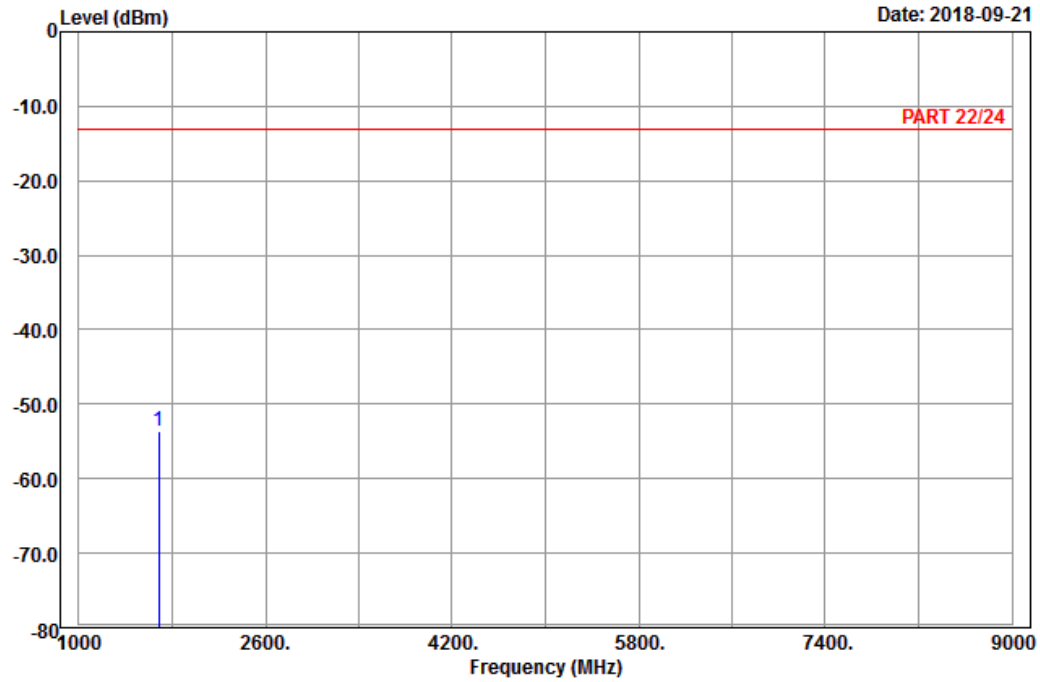
High Channel



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A D T

Data: 5



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 26_Link_CH26965
Tested by: Karl Lee

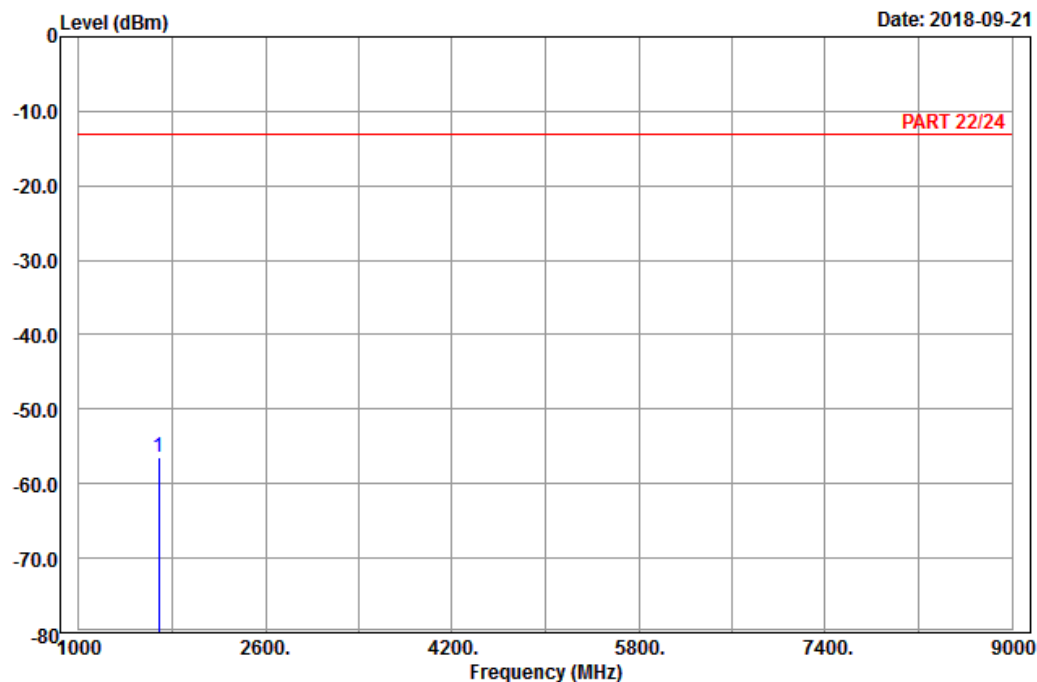
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1683.00	-53.55	-61.57	-13.00	-40.55	8.02	Peak



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A D T

Data: 6



Site : 966 chamber 1
 Condition: PART 22/24 Vertical
 Remark : LTE_Band 26_Link_CH26965
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 1683.00	-56.36	-64.38	-13.00	-43.36	8.02	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:

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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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