Partial FCC Test Report

(PART 24)

Report No.:	RF200319C26-1
FCC ID:	QYLEM7455Z
Test Model:	EM7455Z
Received Date:	Nov. 11, 2019
Test Date:	Jan. 04 ~ Jan. 10, 2020
Issued Date:	Mar. 25, 2020
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 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

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF200319C26-1	Original Release	Mar. 25, 2020

1 Certificate of Conformity

Product:	Radio module
Brand:	Getac
Test Model:	EM7455Z
Sample Status:	Identical Prototype
Applicant:	Getac Technology Corporation.
Test Date:	Jan. 04 ~ Jan. 10, 2020
Standards:	FCC Part 24, Subpart E

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 : Gina Liu , **Date:** Mar. 25, 2020

Gina Liu / Specialist

Approved by : , **Date:** Mar. 25, 2020

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 24.232	Effective Isotropic Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1046 24.232(d)	Peak to Average Ratio	N/A	Refer to Note
2.1055 24.235	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
24.238	Band Edge Measurements	N/A	Refer to Note
2.1051 24.238	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.42 dB at 3810.00 MHz.

Note:

1. This report is a Class II change partial report and change WWAN main antenna. Therefore, only test item of Radiated Spurious Emissions tests and Effective Isotropic Radiated Power were performed for this report. Other testing data please refer to TTL report no.: B15W50341-FCC-RF and B15W50341-FCC-RF_Rev1 for module (Brand: Sierra wireless Inc., Model: EM7455).
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

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
Spectrum Analyzer ROHDE & SCHWARZ	FSW26	102023	Oct. 08, 2019	Oct. 07, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-616	Nov. 12, 2019	Nov. 11, 2020
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 24, 2019	Nov. 23, 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
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
Communications Tester-Wireless Agilent	8960 Series 10	MY53201073	Jul. 01, 2019	Jun. 30, 2021
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 19, 2019	Aug. 18, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101582	Mar. 31, 2020	Mar. 30, 2021

Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HsinTien Chamber 1.

3 General Information

3.1 General Description of EUT

Product	Radio module	
Brand	Getac	
Test Model	EM7455Z	
Status of EUT	Identical Prototype	
Power Supply Rating	3.3 Vdc (Host equipment)	
Modulation Type	WCDMA	QPSK
	LTE	QPSK, 16QAM
Frequency Range	WCDMA	1852.4 ~ 1907.6 MHz
	LTE Band 2 (Channel Bandwidth: 1.4 MHz)	1850.7 ~ 1909.3 MHz
	LTE Band 2 (Channel Bandwidth: 3 MHz)	1851.5 ~ 1908.5 MHz
	LTE Band 2 (Channel Bandwidth: 5 MHz)	1852.5 ~ 1907.5 MHz
	LTE Band 2 (Channel Bandwidth: 10 MHz)	1855.0 ~ 1905.0 MHz
	LTE Band 2 (Channel Bandwidth: 15 MHz)	1857.5 ~ 1902.5 MHz
	LTE Band 2 (Channel Bandwidth: 20 MHz)	1860.0 ~ 1900.0 MHz
	LTE Band 25 (Channel Bandwidth: 1.4 MHz)	1850.7 ~ 1914.3 MHz
	LTE Band 25 (Channel Bandwidth: 3 MHz)	1851.5 ~ 1913.5 MHz
	LTE Band 25 (Channel Bandwidth: 5 MHz)	1852.5 ~ 1912.5 MHz
	LTE Band 25 (Channel Bandwidth: 10 MHz)	1855.0 ~ 1910.0 MHz
	LTE Band 25 (Channel Bandwidth: 15 MHz)	1857.5 ~ 1907.5 MHz
	LTE Band 25 (Channel Bandwidth: 20 MHz)	1860.0 ~ 1905.0 MHz
Max. EIRP Power	WCDMA	303.39 mW
	LTE Band 2 (Channel Bandwidth: 1.4 MHz)	276.89 mW
	LTE Band 2 (Channel Bandwidth: 3 MHz)	279.45 mW
	LTE Band 2 (Channel Bandwidth: 5 MHz)	282.03 mW
	LTE Band 2 (Channel Bandwidth: 10 MHz)	284.64 mW
	LTE Band 2 (Channel Bandwidth: 15 MHz)	302.90 mW
	LTE Band 2 (Channel Bandwidth: 20 MHz)	322.11 mW
	LTE Band 25 (Channel Bandwidth: 1.4 MHz)	258.40 mW
	LTE Band 25 (Channel Bandwidth: 3 MHz)	260.80 mW
	LTE Band 25 (Channel Bandwidth: 5 MHz)	263.21 mW
	LTE Band 25 (Channel Bandwidth: 10 MHz)	265.03 mW
	LTE Band 25 (Channel Bandwidth: 15 MHz)	283.99 mW
	LTE Band 25 (Channel Bandwidth: 20 MHz)	302.69 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.

Product	Brand	Model
Tablet	Getac	ZX70

2. The antenna information is listed as below.

Antenna Type	Brand	Model	Antenna Gain		
			WCDMA II	LTE B2	LTE B25
PIFA	Pulse	Main: 422144300001	1.99	1.99	1.99
	SINBON	Aux.: 340879100003 (Rx only)	5.75	5.75	5.75

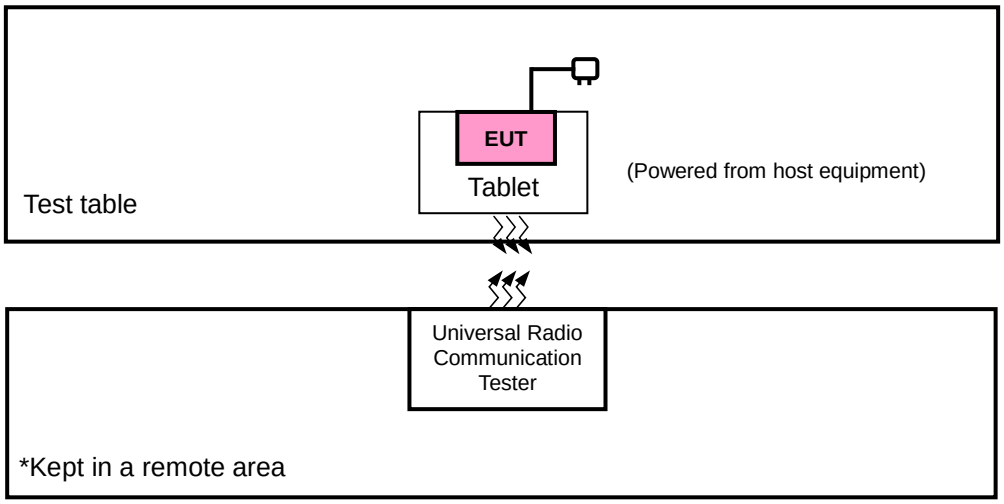
3. The End-product contains following accessory devices.

Part	Brand	Model	Specification
Adapter	FSP	FSP025-DHAN3	I/P: 100-240Vac, 1.0A, 50-60Hz O/P: 12Vdc, Max.25W
CPU	Qualcomm	SDA660	692 PIN
Storage	Samsung	KMDH6001DA-B422	64GB
WWAN Module	Getac	EM7455Z	ID: QYLEM7455Z
WiFi/BT Chip on board	Qualcomm	WCN3990	802.11 ac/ BT5.0 2x2 support ID: QYLWCN3990Z
Front Camera	Truly	COD865-B8BF-E	8 MP, Fix Focus
Rear Camera	Truly	COD898-B12BA-E	12 MP, Auto focus
GPS	Locosys	MC-1010G	--
LCD	Truly	TDO-HD0698K61701	7" HD 720 x 1280
Barcode Reader	Honeywell	N6603	--
HF RFID Module	NXP	NQ310	ID: QYLNQ310Z

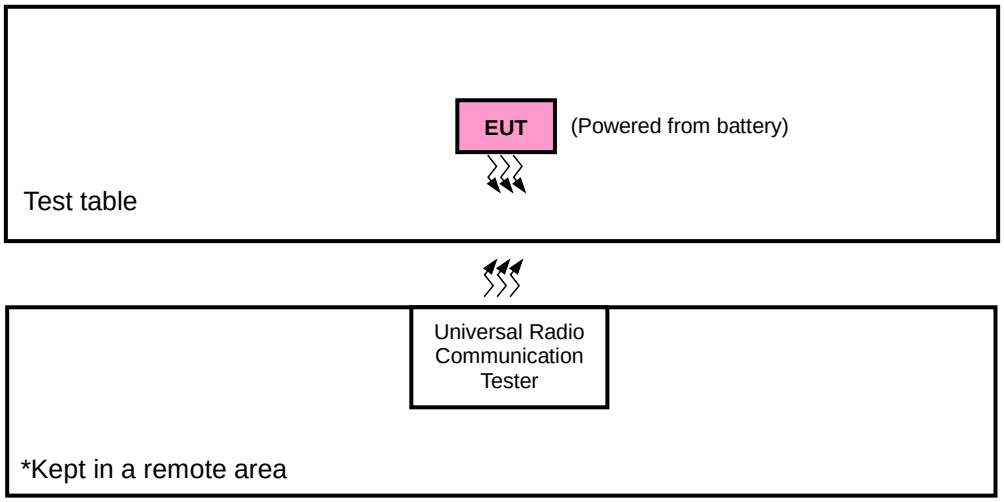
4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



<E.I.R.P. Test>



3.2.1 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.	Tablet	Getac	ZX70	N/A	N/A
2.	Universal Radio Communication Tester	Anritsu	MT8820C	6201300640	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	EIRP	Radiated Emission
WCDMA	Z-plane	Z-plane
LTE Band 2	Z-plane	Z-plane
LTE Band 25	Z-plane	Z-plane

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	9262 to 9538	9262, 9400, 9538	WCDMA
-	Radiated Emission	9262 to 9538	9262, 9400, 9538	WCDMA

LTE Band 2

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	18607 to 19193	18607, 18900, 19193	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18675 to 19125	18675, 18900, 19125	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18700 to 19100	18700, 18900, 19100	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	18607 to 19193	18607, 18900, 19193	1.4 MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5 MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18700, 18900, 19100	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 25

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	26047 to 26683	26047, 26365, 26683	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		26055 to 26675	26055, 26365, 26675	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		26090 to 26640	26090, 26365, 26640	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		26115 to 26615	26115, 26365, 26615	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		26140 to 26590	26140, 26365, 26590	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	26047 to 26683	26047, 26365, 26683	1.4 MHz	QPSK	1 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5 MHz	QPSK	1 RB / 0 RB Offset
		26140 to 26590	26140, 26365, 26590	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	26 deg. C, 58 % RH	3.3 Vdc	Charles Hsiao
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	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

3.5 General Description of Applied Standards and references

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

Test Standard:
FCC 47 CFR Part 2
FCC 47 CFR Part 24
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

Mobile / Portable station are limited to 2 watts e.i.r.p.

4.1.2 Test Procedures

EIRP / ERP Measurement:

a. All measurements were done at low, middle and high operational frequency range. RBW is 5 MHz for WCDMA and, 5 MHz、10 MHz、15 MHz、20 MHz for LTE mode, VBW ≥ 3 × RBW.

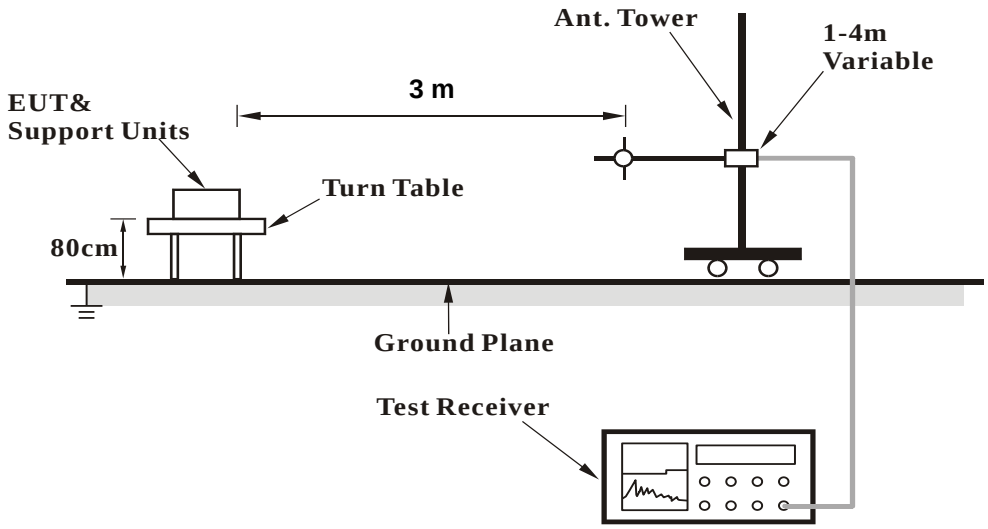
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step b. Record the power level of S.G.

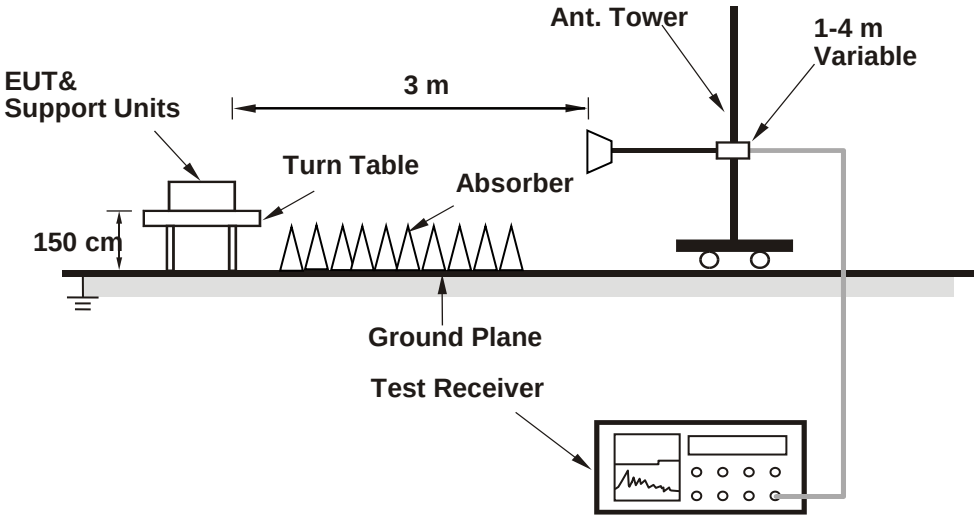
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15 dB.

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)

WCDMA							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Z	9262	1852.4	-13.41	38.19	24.78	300.61	H
	9400	1880.0	-13.94	38.70	24.76	299.23	
	9538	1907.6	-14.53	39.35	24.82	303.39	
	9262	1852.4	-15.74	38.48	22.74	187.93	V
	9400	1880.0	-15.80	38.59	22.79	190.11	
	9538	1907.6	-16.03	38.87	22.84	192.31	

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

LTE Band 2							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Z	18607	1850.7	-20.39	44.70	24.31	269.77	H
	18900	1880.0	-20.35	44.70	24.35	272.27	
	19193	1909.3	-20.15	44.57	24.42	276.89	
	18607	1850.7	-22.00	44.27	22.27	168.66	V
	18900	1880.0	-22.55	44.87	22.32	170.61	
	19193	1909.3	-22.22	44.61	22.39	173.50	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	18607	1850.7	-21.40	44.70	23.30	213.80	H
	18900	1880.0	-21.36	44.70	23.34	215.77	
	19193	1909.3	-21.15	44.57	23.42	219.94	
	18607	1850.7	-23.01	44.27	21.26	133.66	V
	18900	1880.0	-23.56	44.87	21.31	135.21	
	19193	1909.3	-23.23	44.61	21.38	137.50	

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

LTE Band 2							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	18615	1851.5	-20.35	44.70	24.35	272.27	H
	18900	1880.0	-20.31	44.70	24.39	274.79	
	19185	1908.5	-20.11	44.57	24.46	279.45	
	18615	1851.5	-21.96	44.27	22.31	170.22	V
	18900	1880.0	-22.52	44.87	22.35	171.79	
	19185	1908.5	-22.18	44.61	22.43	175.11	
Channel Bandwidth: 3 MHz / 16QAM							
Z	18615	1851.5	-21.36	44.70	23.34	215.77	H
	18900	1880.0	-21.32	44.70	23.38	217.77	
	19185	1908.5	-21.11	44.57	23.46	221.97	
	18615	1851.5	-22.96	44.27	21.31	135.21	V
	18900	1880.0	-23.53	44.87	21.34	136.14	
	19185	1908.5	-23.18	44.61	21.43	139.09	

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

LTE Band 2							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	18625	1852.5	-20.31	44.70	24.39	274.79	H
	18900	1880.0	-20.27	44.70	24.43	277.33	
	19175	1907.5	-20.07	44.57	24.50	282.03	
	18625	1852.5	-21.92	44.27	22.35	171.79	V
	18900	1880.0	-22.48	44.87	22.39	173.38	
	19175	1907.5	-22.14	44.61	22.47	176.73	
Channel Bandwidth: 5 MHz / 16QAM							
Z	18625	1852.5	-21.32	44.70	23.38	217.77	H
	18900	1880.0	-21.28	44.70	23.42	219.79	
	19175	1907.5	-21.08	44.57	23.49	223.51	
	18625	1852.5	-22.92	44.27	21.35	136.46	V
	18900	1880.0	-23.48	44.87	21.39	137.72	
	19175	1907.5	-23.14	44.61	21.47	140.38	

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

LTE Band 2							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	18650	1855.0	-20.27	44.70	24.43	277.33	H
	18900	1880.0	-20.23	44.70	24.47	279.90	
	19150	1905.0	-20.03	44.57	24.54	284.64	
	18650	1855.0	-21.88	44.27	22.39	173.38	V
	18900	1880.0	-22.43	44.87	22.44	175.39	
	19150	1905.0	-22.10	44.61	22.51	178.36	
Channel Bandwidth: 10 MHz / 16QAM							
Z	18650	1855.0	-21.28	44.70	23.42	219.79	H
	18900	1880.0	-21.23	44.70	23.47	222.33	
	19150	1905.0	-21.04	44.57	23.53	225.58	
	18650	1855.0	-22.89	44.27	21.38	137.40	V
	18900	1880.0	-23.44	44.87	21.43	139.00	
	19150	1905.0	-23.10	44.61	21.51	141.68	

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

LTE Band 2							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	18675	1857.5	-19.99	44.70	24.71	295.80	H
	18900	1880.0	-19.97	44.70	24.73	297.17	
	19125	1902.5	-19.76	44.57	24.81	302.90	
	18675	1857.5	-21.63	44.27	22.64	183.65	V
	18900	1880.0	-22.12	44.87	22.75	188.36	
	19125	1902.5	-21.76	44.61	22.85	192.89	
Channel Bandwidth: 15 MHz / 16QAM							
Z	18675	1857.5	-21.01	44.70	23.69	233.88	H
	18900	1880.0	-20.98	44.70	23.72	235.50	
	19125	1902.5	-20.71	44.57	23.86	243.39	
	18675	1857.5	-22.49	44.27	21.78	150.66	V
	18900	1880.0	-23.17	44.87	21.70	147.91	
	19125	1902.5	-22.72	44.61	21.89	154.63	

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

LTE Band 2							
Channel Bandwidth: 20 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	18700	1860.0	-19.77	44.70	24.93	311.17	H
	18900	1880.0	-19.62	44.70	25.08	322.11	
	19100	1900.0	-19.51	44.57	25.06	320.85	
	18700	1860.0	-21.45	44.27	22.82	191.43	V
	18900	1880.0	-21.86	44.87	23.01	199.99	
	19100	1900.0	-21.56	44.61	23.05	201.98	
Channel Bandwidth: 20 MHz / 16QAM							
Z	18700	1860.0	-20.80	44.70	23.90	245.47	H
	18900	1880.0	-20.72	44.70	23.98	250.03	
	19100	1900.0	-20.48	44.57	24.09	256.63	
	18700	1860.0	-22.42	44.27	21.85	153.11	V
	18900	1880.0	-22.88	44.87	21.99	158.12	
	19100	1900.0	-22.63	44.61	21.98	157.87	

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

LTE Band 25							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	26047	1850.7	-20.67	44.70	24.03	252.93	H
	26365	1882.5	-20.61	44.70	24.09	256.45	
	26683	1914.3	-20.45	44.57	24.12	258.40	
	26047	1850.7	-22.31	44.27	21.96	157.04	V
	26365	1882.5	-22.85	44.87	22.02	159.22	
	26683	1914.3	-22.53	44.61	22.08	161.55	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	26047	1850.7	-21.67	44.70	23.03	200.91	H
	26365	1882.5	-21.62	44.70	23.08	203.24	
	26683	1914.3	-21.45	44.57	23.12	205.26	
	26047	1850.7	-23.32	44.27	20.95	124.45	V
	26365	1882.5	-23.86	44.87	21.01	126.18	
	26683	1914.3	-23.54	44.61	21.07	128.03	

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

LTE Band 25							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	26055	1851.5	-20.63	44.70	24.07	255.27	H
	26365	1882.5	-20.57	44.70	24.13	258.82	
	26675	1913.5	-20.41	44.57	24.16	260.80	
	26055	1851.5	-22.27	44.27	22.00	158.49	V
	26365	1882.5	-22.81	44.87	22.06	160.69	
	26675	1913.5	-22.49	44.61	22.12	163.04	
Channel Bandwidth: 3 MHz / 16QAM							
Z	26055	1851.5	-21.64	44.70	23.06	202.30	H
	26365	1882.5	-21.58	44.70	23.12	205.12	
	26675	1913.5	-21.42	44.57	23.15	206.68	
	26055	1851.5	-23.27	44.27	21.00	125.89	V
	26365	1882.5	-23.82	44.87	21.05	127.35	
	26675	1913.5	-23.50	44.61	21.11	129.21	

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

LTE Band 25							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	26065	1852.5	-20.59	44.70	24.11	257.63	H
	26365	1882.5	-20.53	44.70	24.17	261.22	
	26665	1912.5	-20.37	44.57	24.20	263.21	
	26065	1852.5	-22.23	44.27	22.04	159.96	V
	26365	1882.5	-22.77	44.87	22.10	162.18	
	26665	1912.5	-22.45	44.61	22.16	164.55	
Channel Bandwidth: 5 MHz / 16QAM							
Z	26065	1852.5	-21.60	44.70	23.10	204.17	H
	26365	1882.5	-21.53	44.70	23.17	207.49	
	26665	1912.5	-21.37	44.57	23.20	209.07	
	26065	1852.5	-23.23	44.27	21.04	127.06	V
	26365	1882.5	-23.78	44.87	21.09	128.53	
	26665	1912.5	-23.45	44.61	21.16	130.71	

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

LTE Band 25							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	26090	1855.0	-20.55	44.70	24.15	260.02	H
	26365	1882.5	-20.50	44.70	24.20	263.03	
	26640	1910.0	-20.34	44.57	24.23	265.03	
	26090	1855.0	-22.19	44.27	22.08	161.44	V
	26365	1882.5	-22.73	44.87	22.14	163.68	
	26640	1910.0	-22.41	44.61	22.20	166.07	
Channel Bandwidth: 10 MHz / 16QAM							
Z	26090	1855.0	-21.55	44.70	23.15	206.54	H
	26365	1882.5	-21.51	44.70	23.19	208.45	
	26640	1910.0	-21.35	44.57	23.22	210.04	
	26090	1855.0	-23.20	44.27	21.07	127.94	V
	26365	1882.5	-23.73	44.87	21.14	130.02	
	26640	1910.0	-23.41	44.61	21.20	131.92	

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

LTE Band 25							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Z	26115	1857.5	-20.30	44.70	24.40	275.42	H
	26365	1882.5	-20.20	44.70	24.50	281.84	
	26615	1907.5	-20.04	44.57	24.53	283.99	
	26115	1857.5	-21.82	44.27	22.45	175.79	V
	26365	1882.5	-22.37	44.87	22.50	177.83	
	26615	1907.5	-22.09	44.61	22.52	178.77	
Channel Bandwidth: 15 MHz / 16QAM							
Z	26115	1857.5	-21.22	44.70	23.48	222.84	H
	26365	1882.5	-21.25	44.70	23.45	221.31	
	26615	1907.5	-21.03	44.57	23.54	226.10	
	26115	1857.5	-22.83	44.27	21.44	139.32	V
	26365	1882.5	-23.37	44.87	21.50	141.25	
	26615	1907.5	-23.15	44.61	21.46	140.06	

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

LTE Band 25							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Z	26140	1860.0	-20.02	44.70	24.68	293.76	H
	26365	1882.5	-19.89	44.70	24.81	302.69	
	26590	1905.0	-19.77	44.57	24.80	302.20	
	26140	1860.0	-21.61	44.27	22.66	184.50	V
	26365	1882.5	-22.31	44.87	22.56	180.30	
	26590	1905.0	-21.79	44.61	22.82	191.56	
Channel Bandwidth: 20 MHz / 16QAM							
Z	26140	1860.0	-21.05	44.70	23.65	231.74	H
	26365	1882.5	-20.90	44.70	23.80	239.88	
	26590	1905.0	-20.87	44.57	23.70	234.58	
	26140	1860.0	-22.77	44.27	21.50	141.25	V
	26365	1882.5	-23.11	44.87	21.76	149.97	
	26590	1905.0	-22.85	44.61	21.76	150.07	

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 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

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.

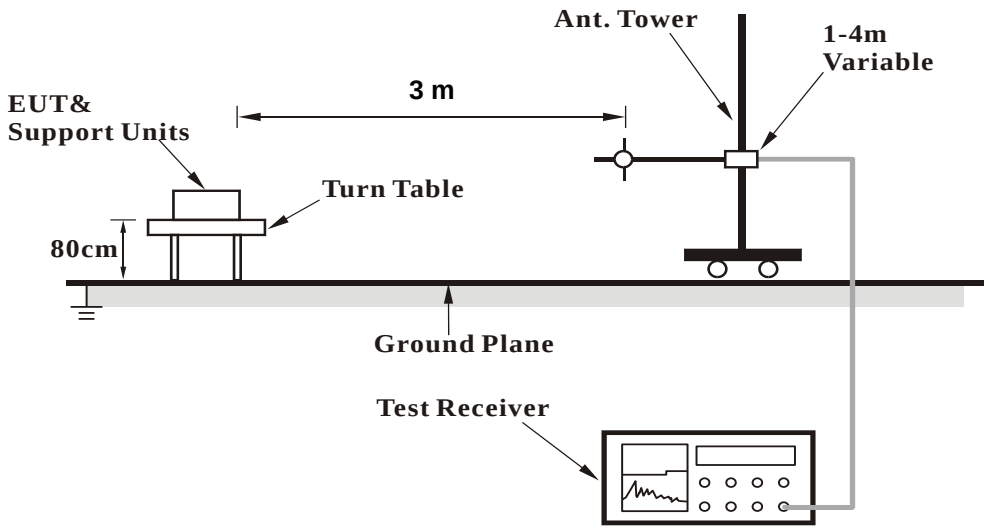
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.

4.2.3 Deviation from Test Standard

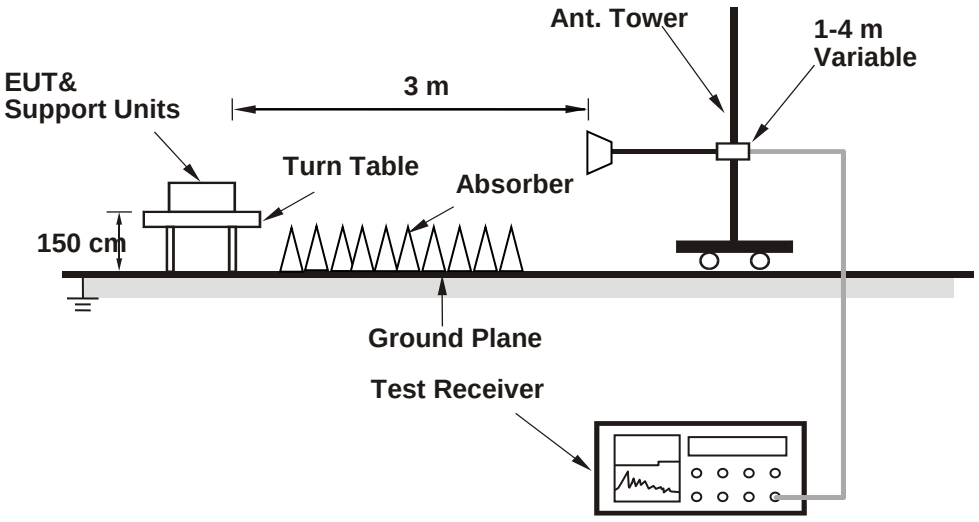
No deviation.

4.2.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



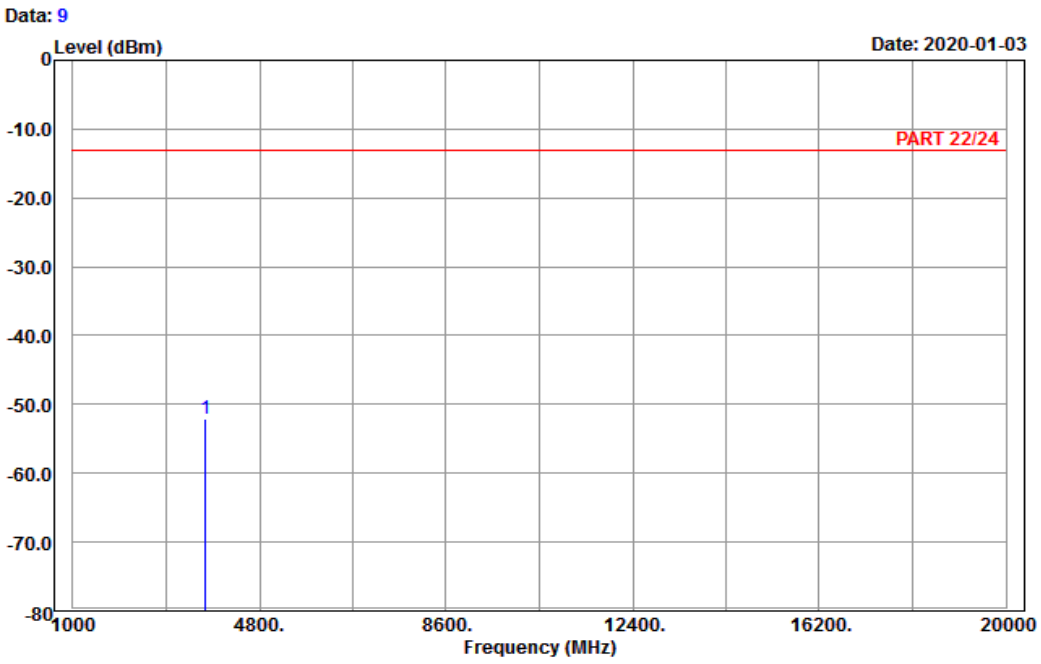
For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.5 Test Results

WCDMA:

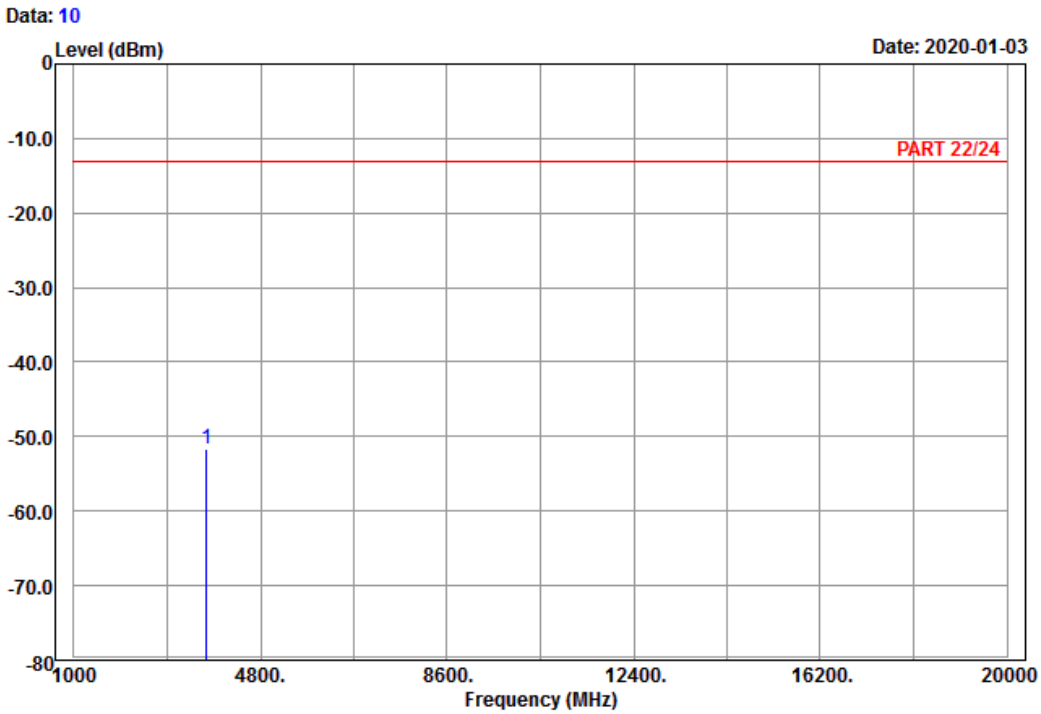
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark    : Band II_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  3704.80 -52.09 -67.97  15.88 -13.00 -39.09 Peak
```

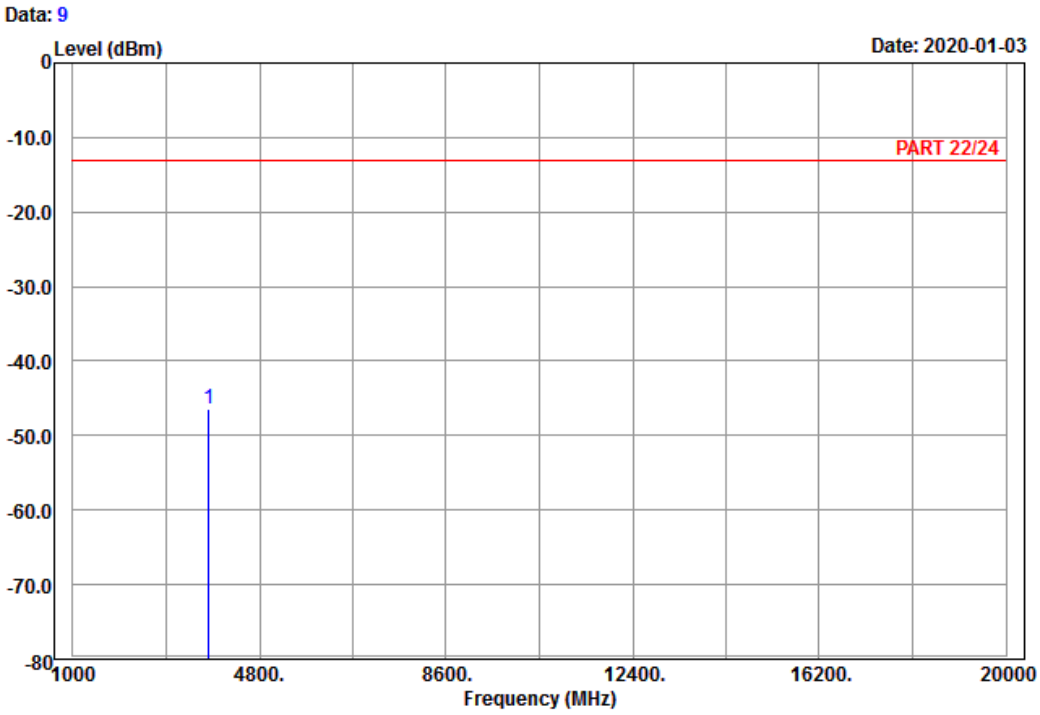


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3704.80	-51.67	-67.55	15.88	-13.00	-38.67	Peak

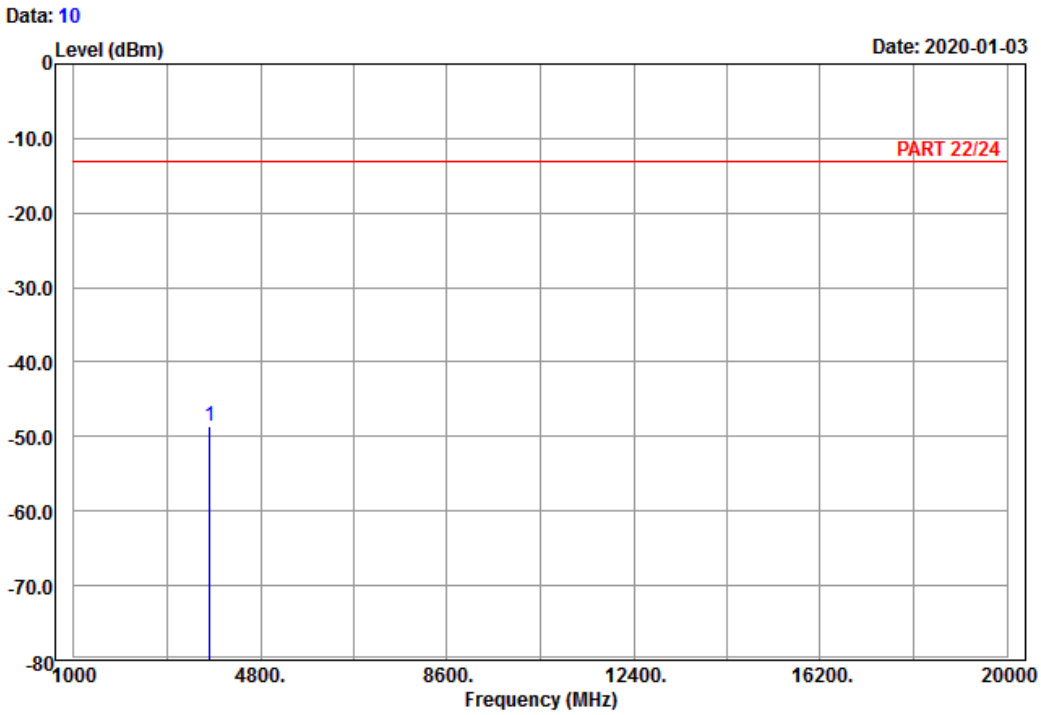
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : Band II_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	3760.00	-46.54	-62.68	16.14	-13.00	-33.54	Peak

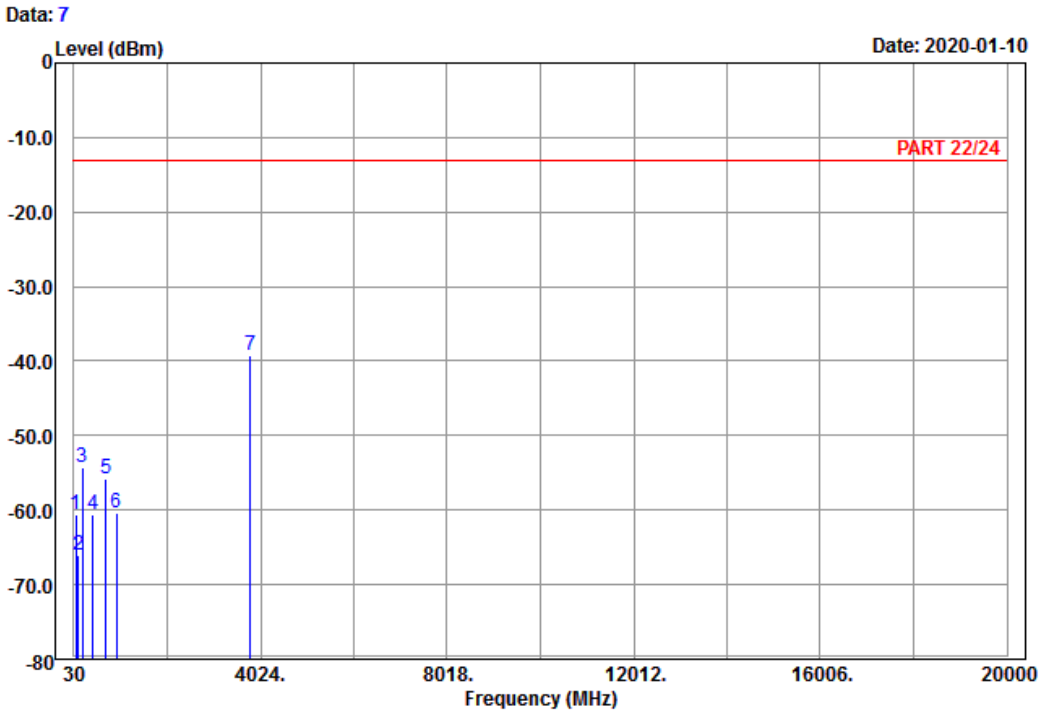


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-48.69	-64.83	16.14	-13.00	-35.69	Peak

High Channel

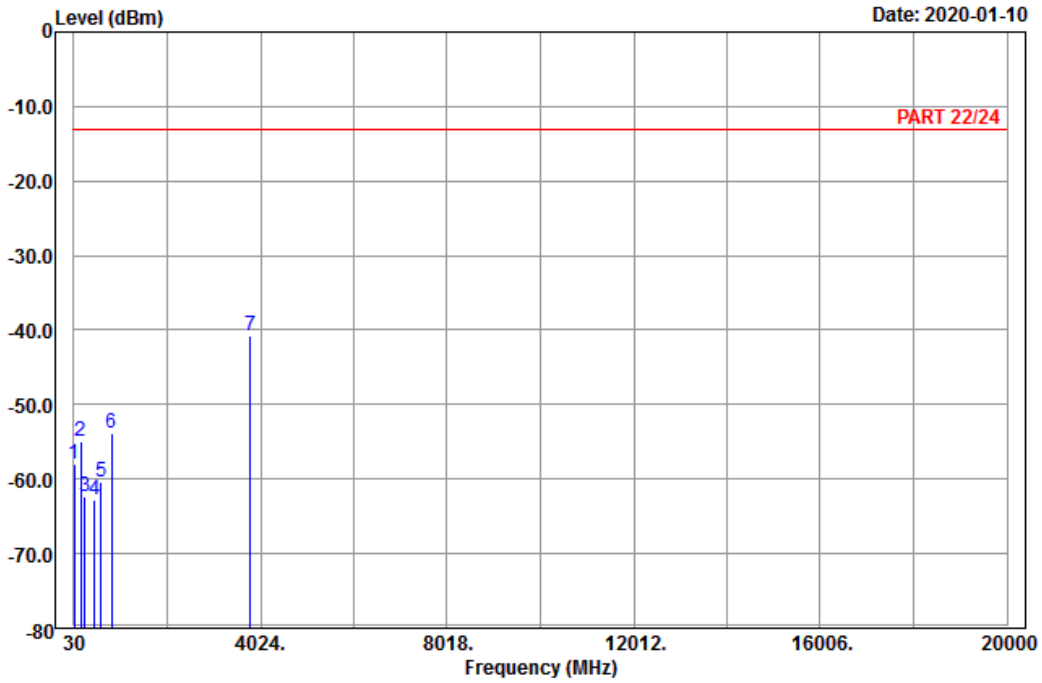
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



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

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	70.23	-60.51	-47.83	-12.68	-13.00	-47.51	Peak
2	129.63	-66.12	-58.47	-7.65	-13.00	-53.12	Peak
3	218.19	-54.38	-48.44	-5.94	-13.00	-41.38	Peak
4	446.30	-60.70	-56.94	-3.76	-13.00	-47.70	Peak
5	707.40	-55.80	-55.29	-0.51	-13.00	-42.80	Peak
6	937.70	-60.41	-64.99	4.58	-13.00	-47.41	Peak
7 pp	3815.20	-39.27	-55.68	16.41	-13.00	-26.27	Peak

Data: 8

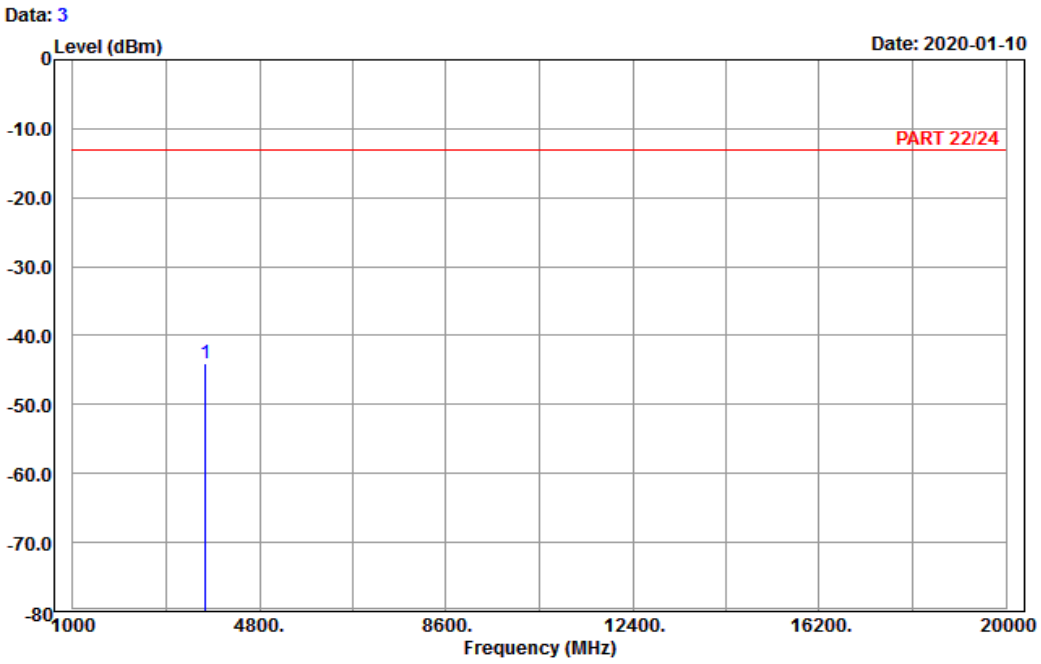


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	46.74	-57.90	-45.10	-12.80	-13.00	-44.90	Peak
2	178.77	-54.94	-49.16	-5.78	-13.00	-41.94	Peak
3	259.23	-62.28	-56.69	-5.59	-13.00	-49.28	Peak
4	468.70	-62.76	-58.39	-4.37	-13.00	-49.76	Peak
5	607.30	-60.31	-60.66	0.35	-13.00	-47.31	Peak
6	836.20	-53.92	-55.52	1.60	-13.00	-40.92	Peak
7 pp	3815.20	-40.75	-57.16	16.41	-13.00	-27.75	Peak

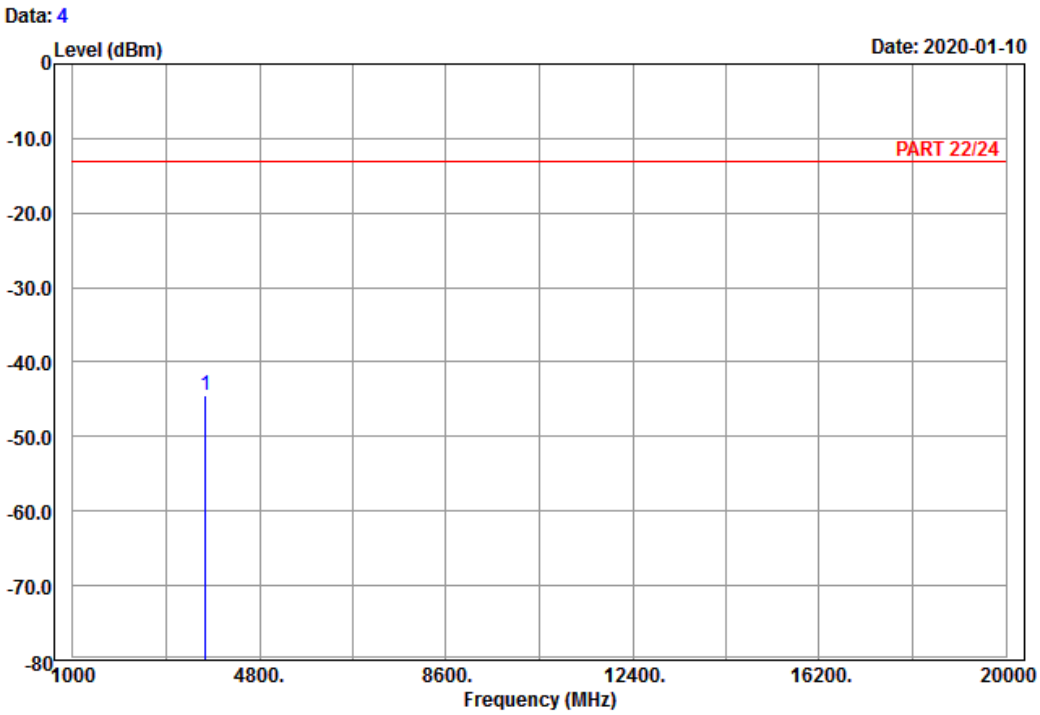
LTE Band 2
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark    : LTE_Band 2_Link_CH-L
Tested by: Karl Lee
                        Read          Limit   Over
           Freq  Level  Level Factor   Line  Limit Remark
          ------ ------ ------ ------ ------ ------ ------
            MHz    dBm    dBm     dB    dBm     dB

  1 pp  3701.40 -44.11 -59.99  15.88 -13.00 -31.11 Peak
```

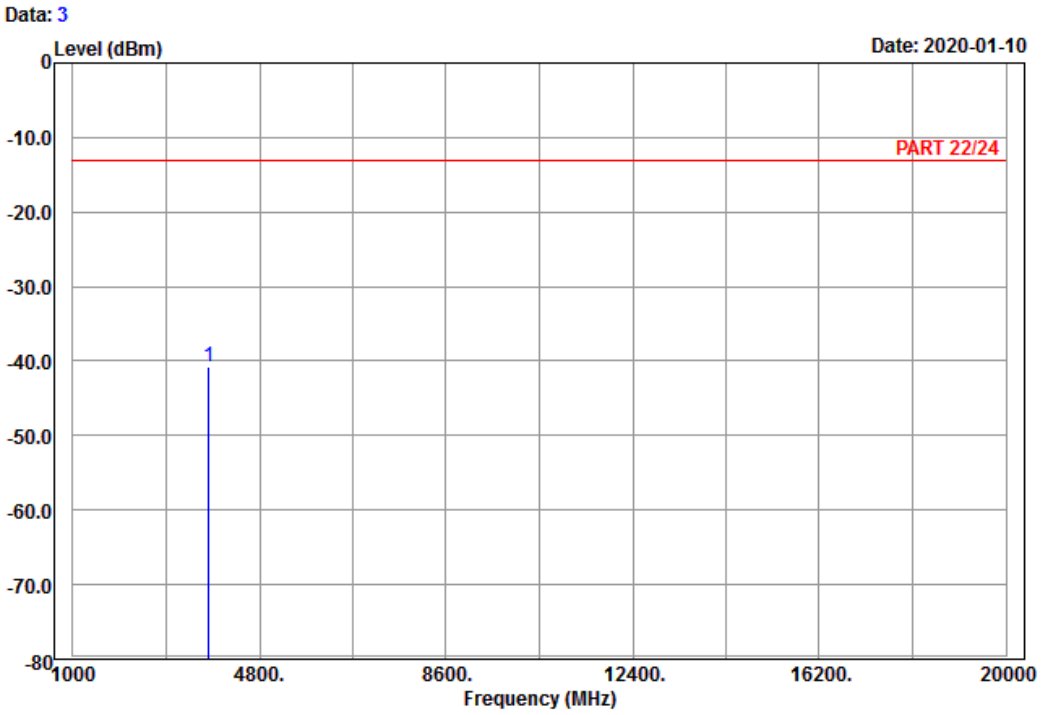


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-L
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3701.40	-44.56	-60.44	15.88	-13.00	-31.56	Peak

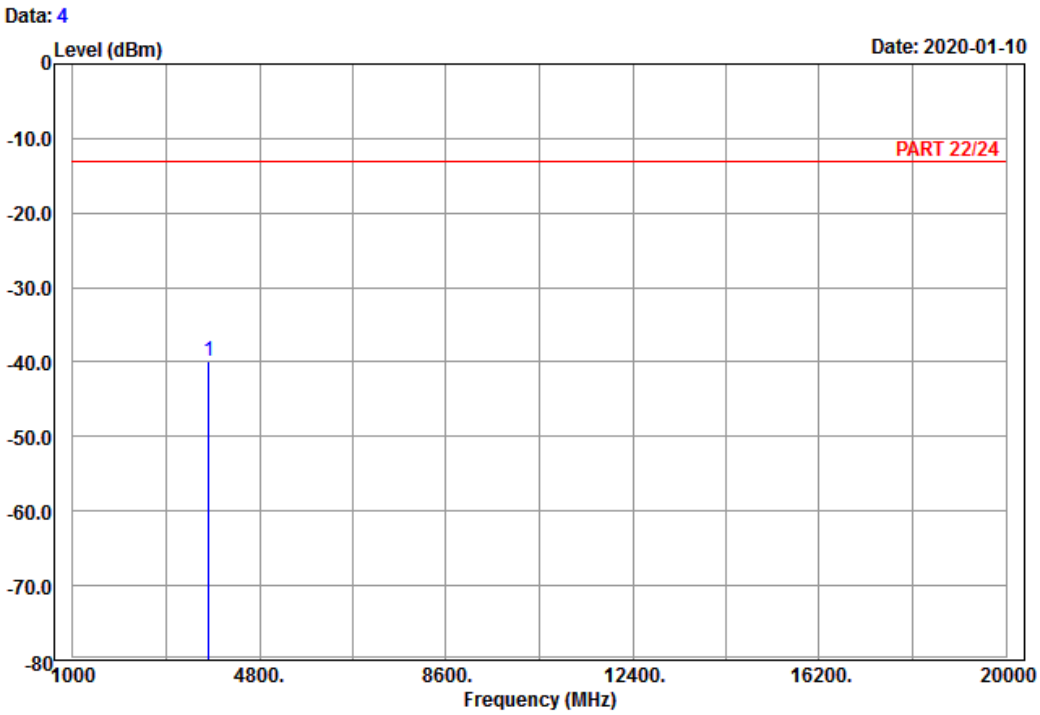
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-40.85	-56.99	16.14	-13.00	-27.85	Peak

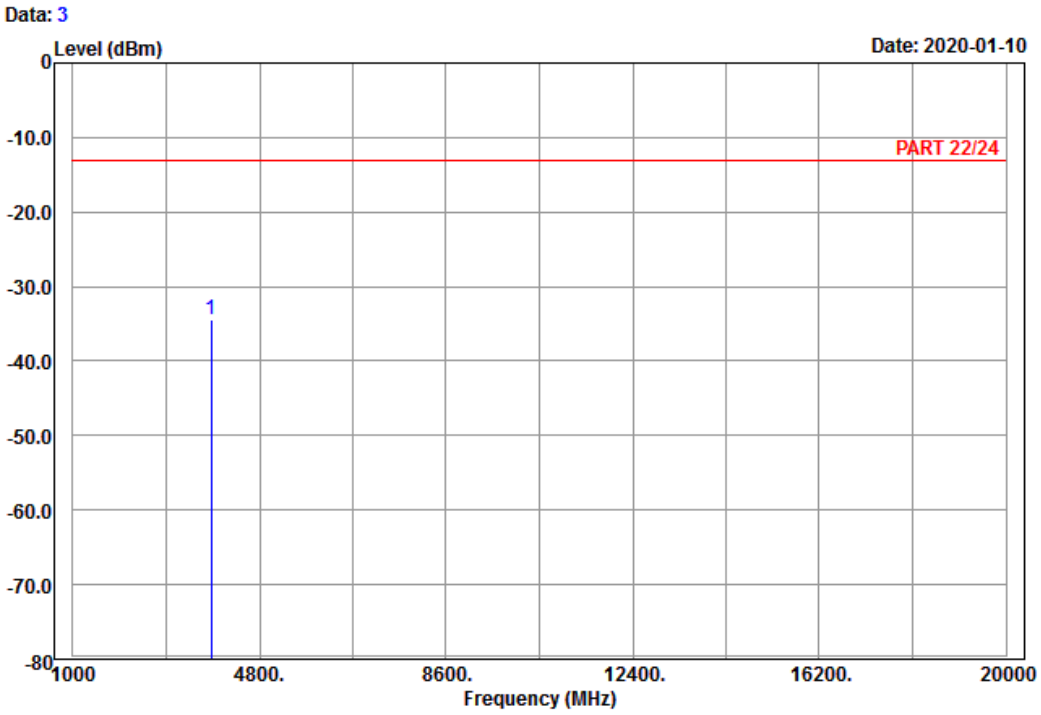


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-39.98	-56.12	16.14	-13.00	-26.98	Peak

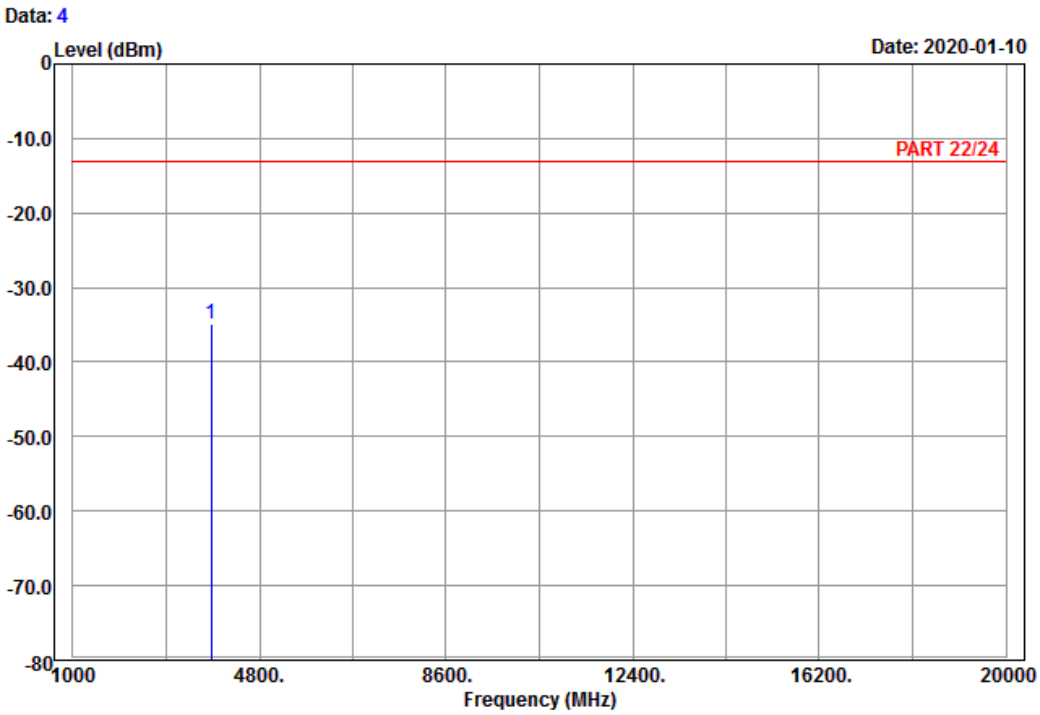
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3818.60	-34.46	-50.96	16.50	-13.00	-21.46	Peak

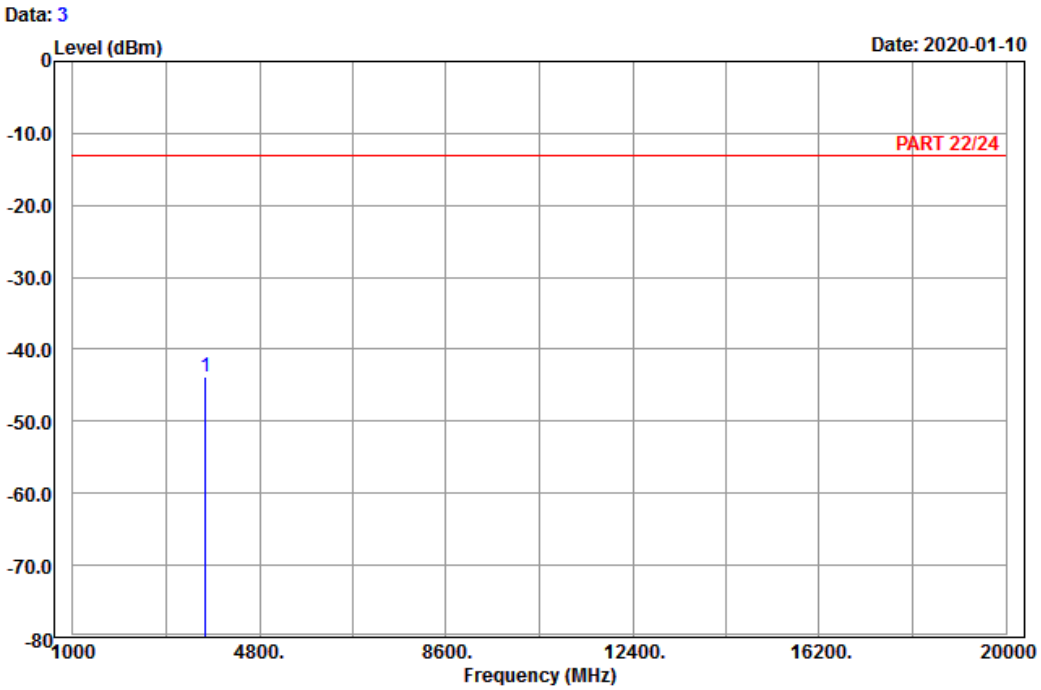


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3818.60	-34.82	-51.32	16.50	-13.00	-21.82	Peak

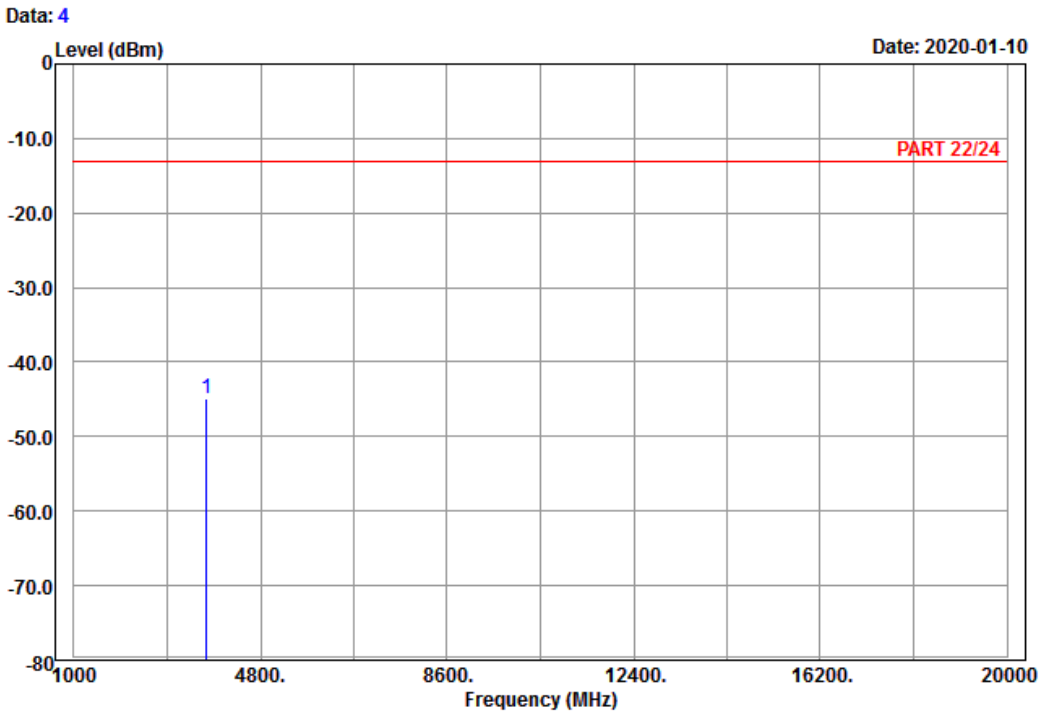
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-L
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3705.00	-43.81	-59.69	15.88	-13.00	-30.81	Peak

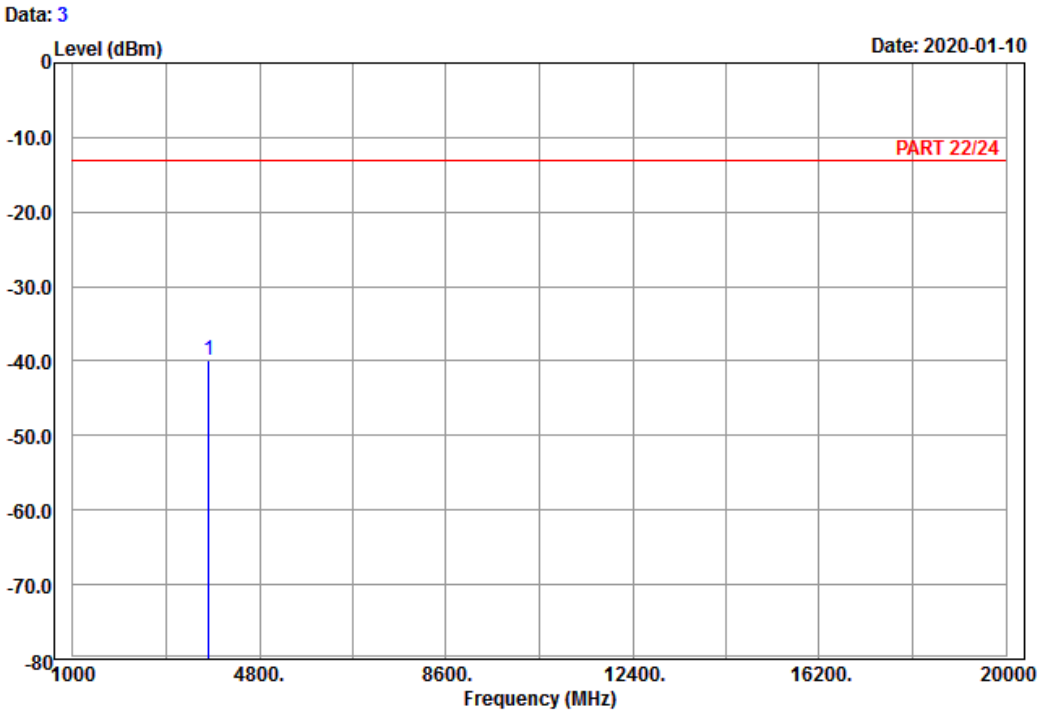


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-L
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3705.00	-44.86	-60.74	15.88	-13.00	-31.86	Peak

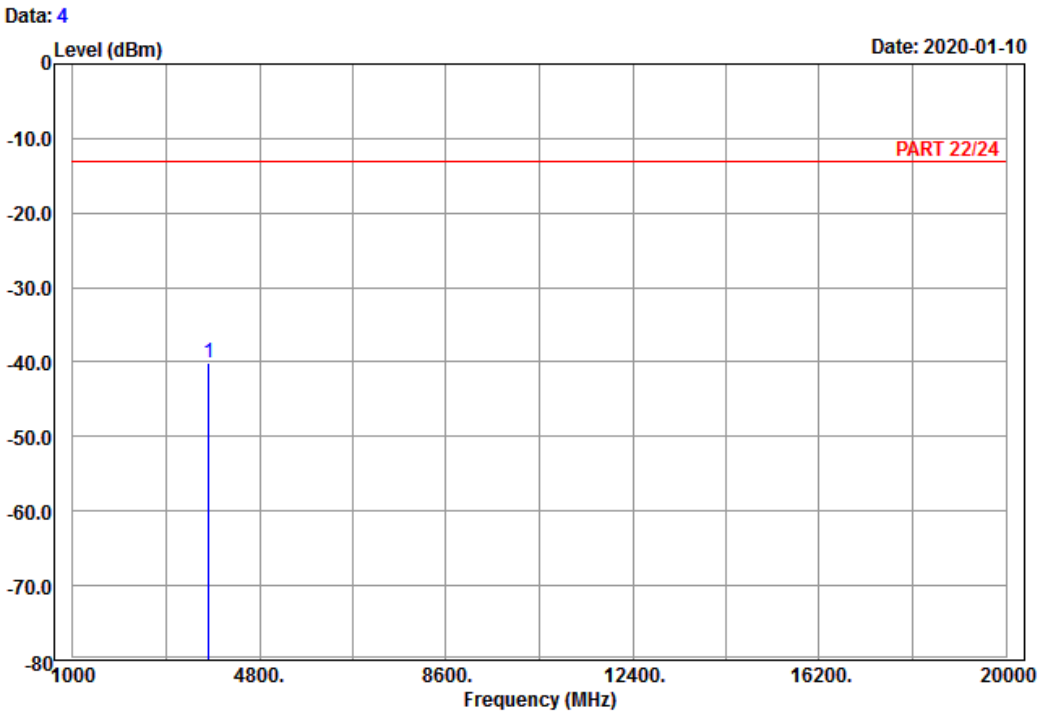
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-39.88	-56.02	16.14	-13.00	-26.88	Peak

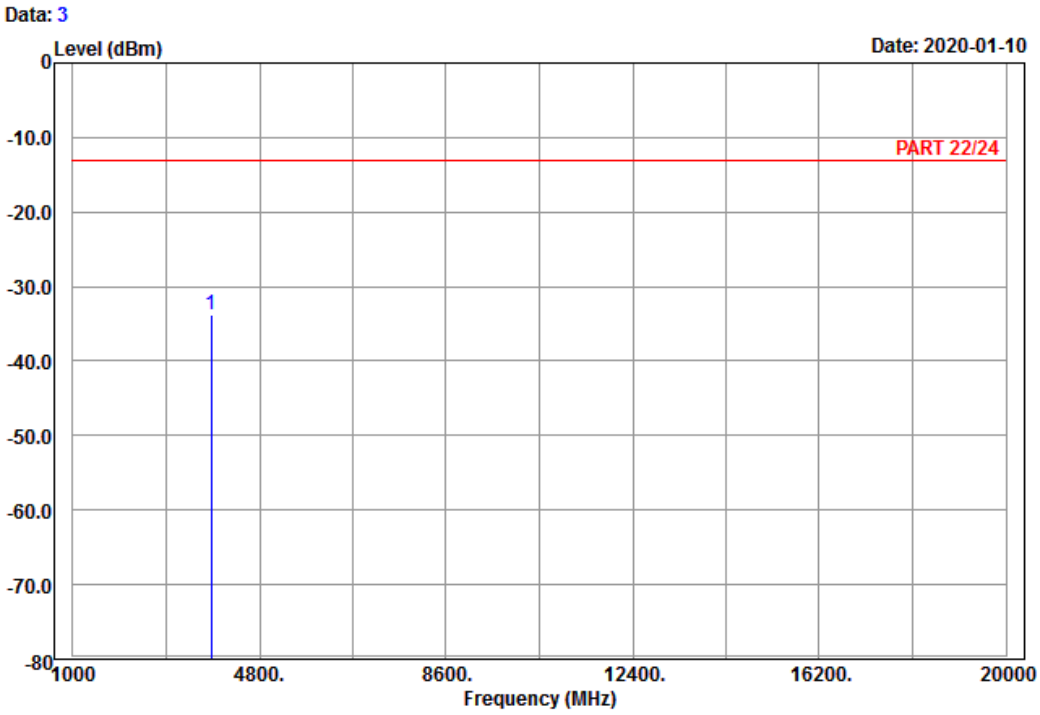


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-40.16	-56.30	16.14	-13.00	-27.16	Peak

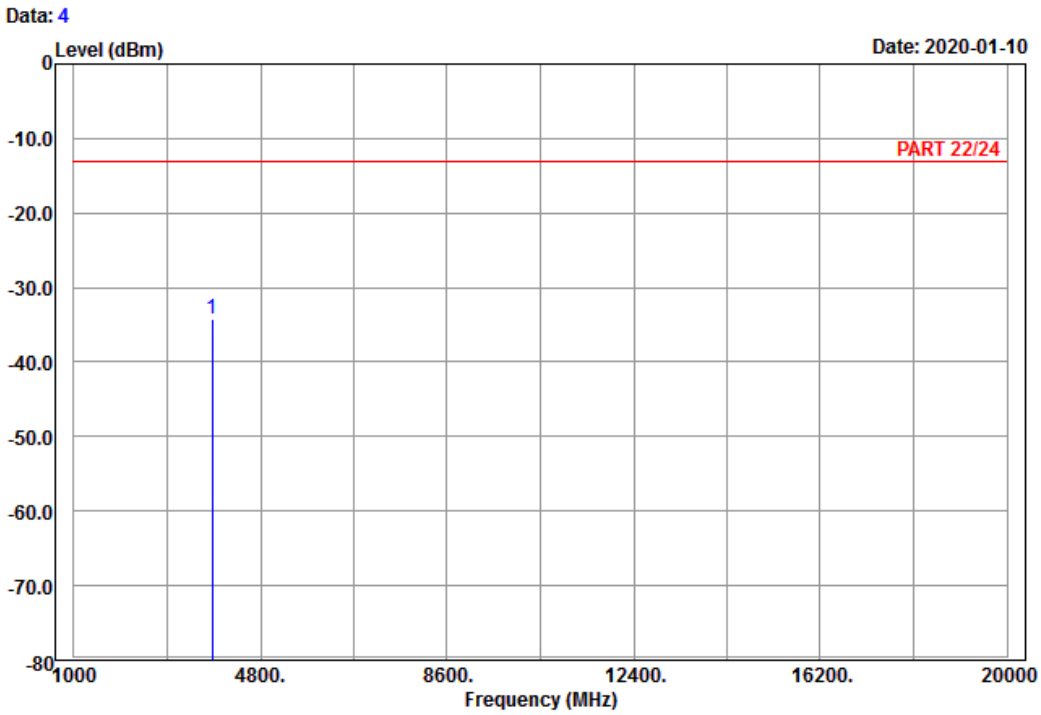
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3815.00	-33.79	-50.20	16.41	-13.00	-20.79	Peak

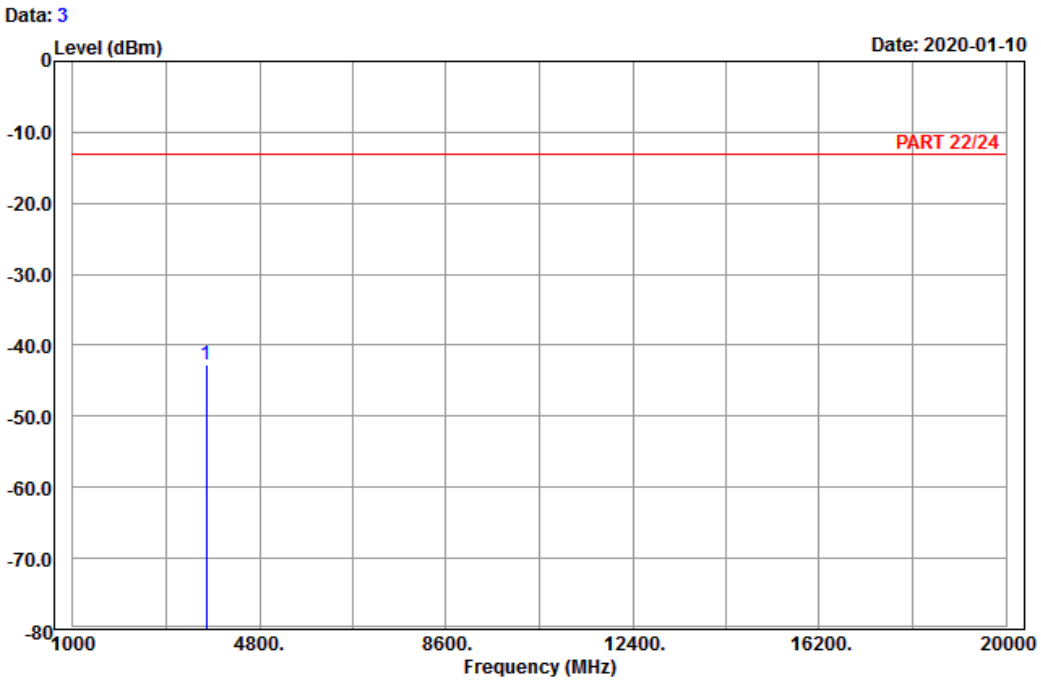


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3815.00	-34.33	-50.74	16.41	-13.00	-21.33	Peak

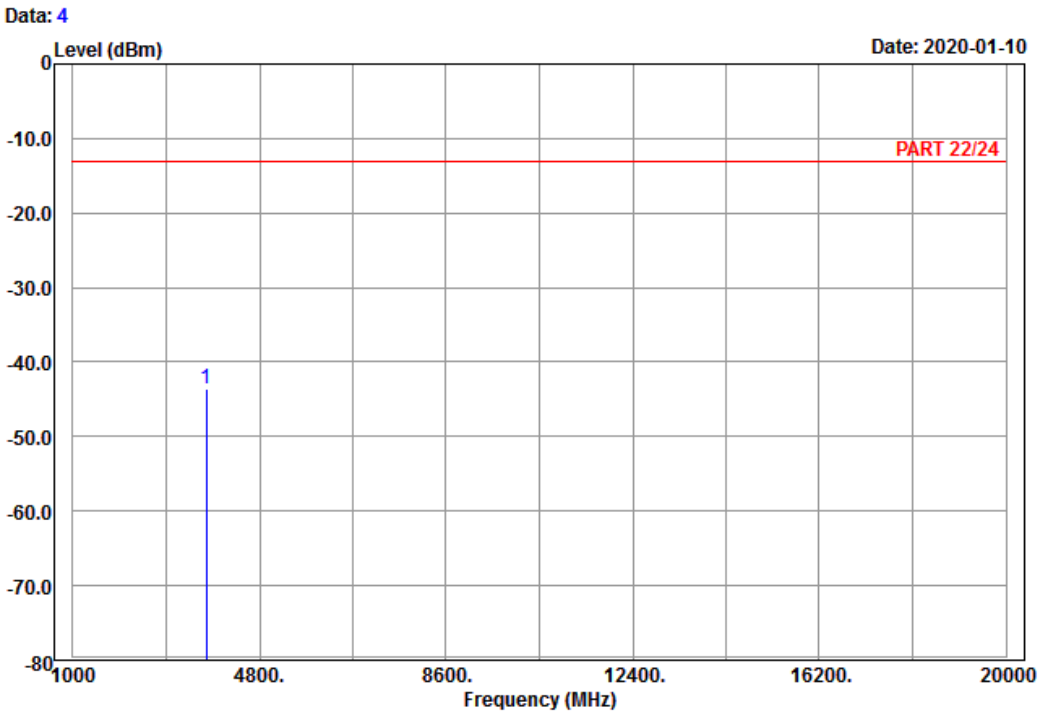
Channel Bandwidth: 20 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-L
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3720.00	-42.76	-58.73	15.97	-13.00	-29.76	Peak

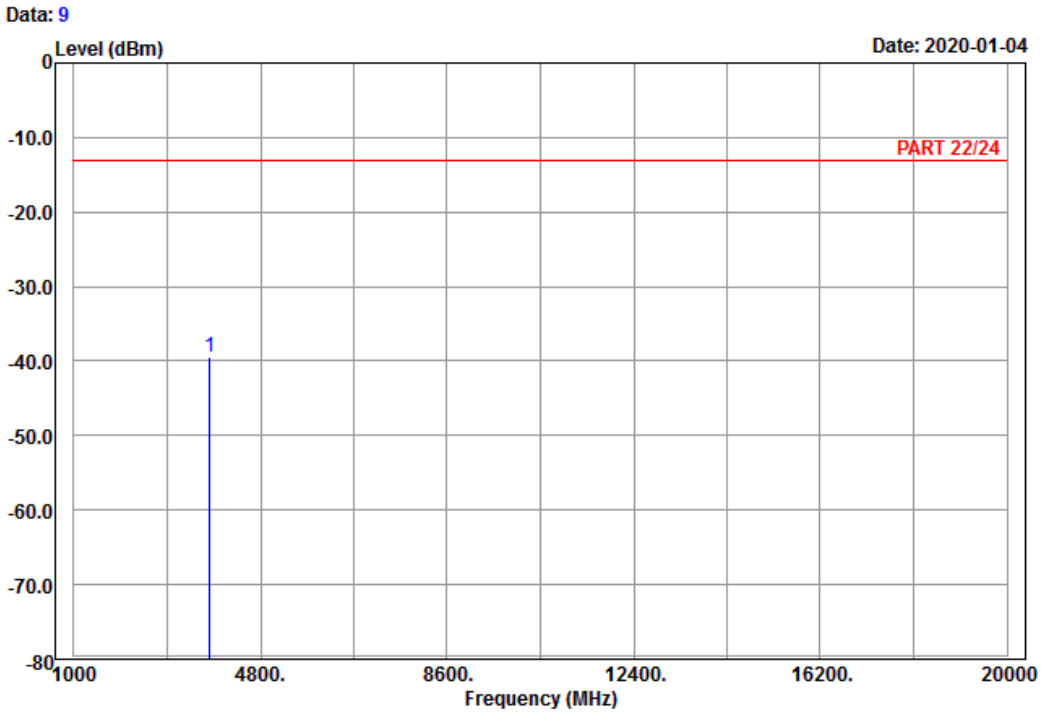


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-L
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3720.00	-43.61	-59.58	15.97	-13.00	-30.61	Peak

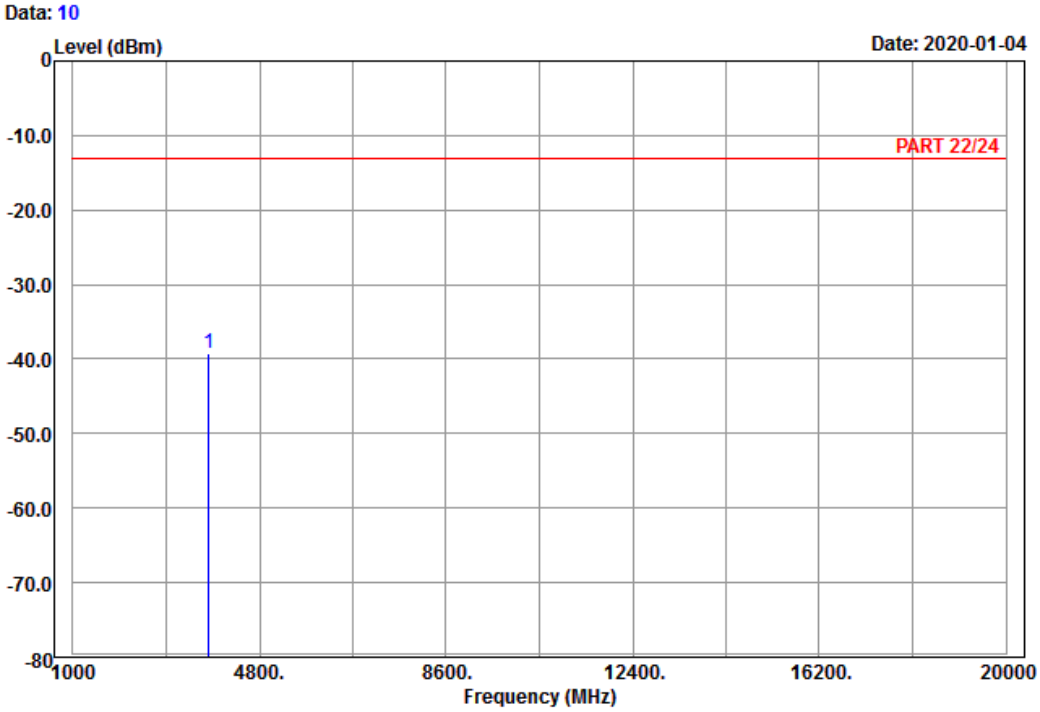
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-39.54	-55.68	16.14	-13.00	-26.54	Peak

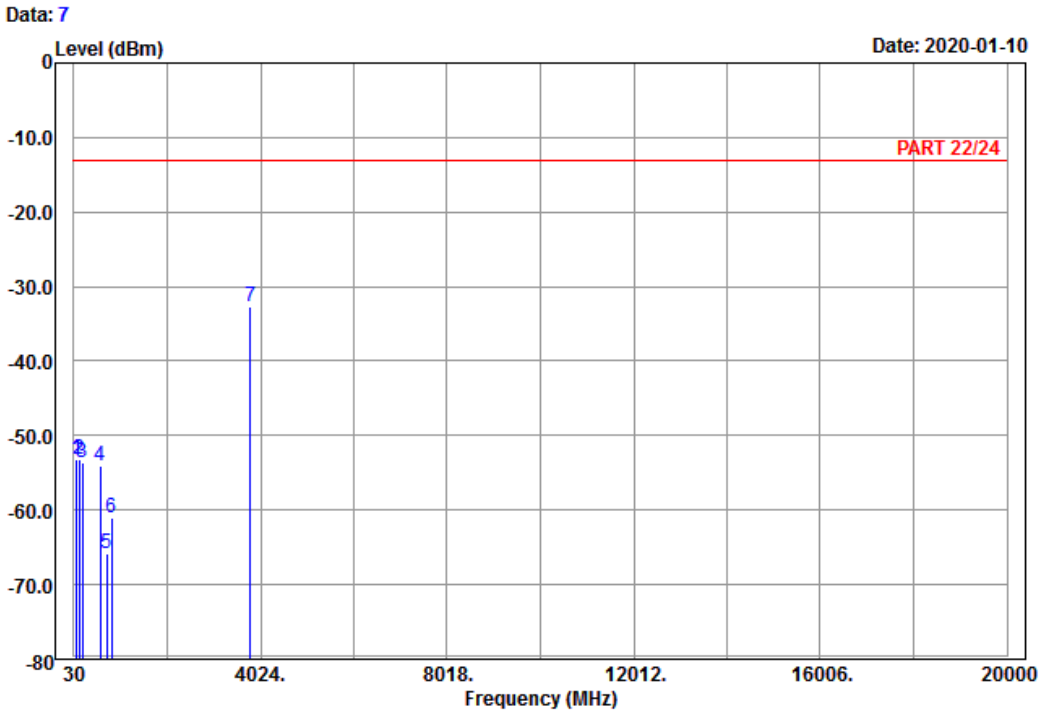


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-M
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3760.00	-39.19	-55.33	16.14	-13.00	-26.19	Peak

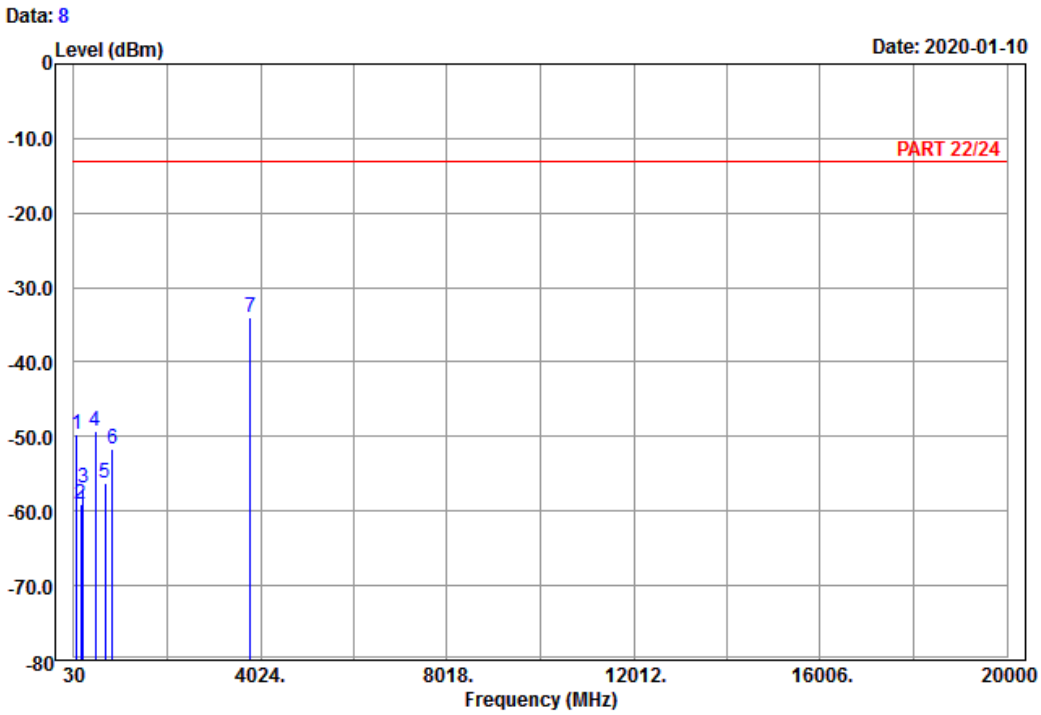
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	85.89	-53.15	-42.04	-11.11	-13.00	-40.15	Peak
2	146.64	-53.20	-45.34	-7.86	-13.00	-40.20	Peak
3	210.09	-53.66	-47.62	-6.04	-13.00	-40.66	Peak
4	591.90	-54.17	-54.24	0.07	-13.00	-41.17	Peak
5	734.00	-65.73	-64.71	-1.02	-13.00	-52.73	Peak
6	834.10	-61.08	-62.70	1.62	-13.00	-48.08	Peak
7 pp	3800.00	-32.76	-49.17	16.41	-13.00	-19.76	Peak

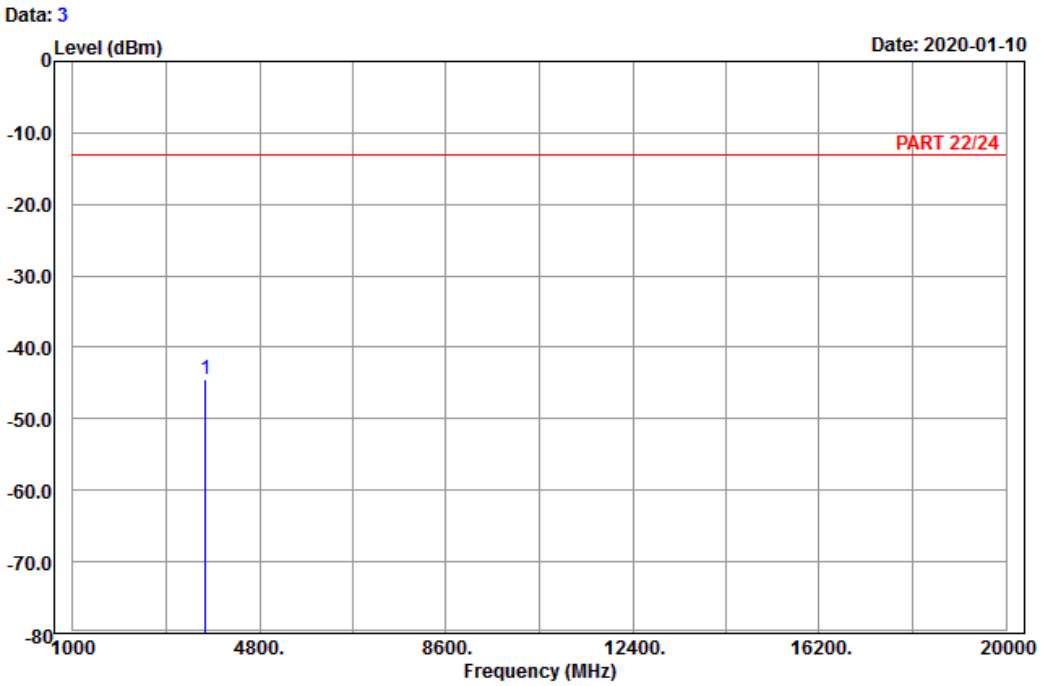


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH-H
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	95.61	-49.68	-39.34	-10.34	-13.00	-36.68	Peak
2	182.55	-59.01	-53.40	-5.61	-13.00	-46.01	Peak
3	234.12	-56.81	-51.08	-5.73	-13.00	-43.81	Peak
4	482.70	-49.36	-44.57	-4.79	-13.00	-36.36	Peak
5	696.20	-56.16	-55.80	-0.36	-13.00	-43.16	Peak
6	848.80	-51.64	-53.10	1.46	-13.00	-38.64	Peak
7 pp	3800.00	-34.03	-50.44	16.41	-13.00	-21.03	Peak

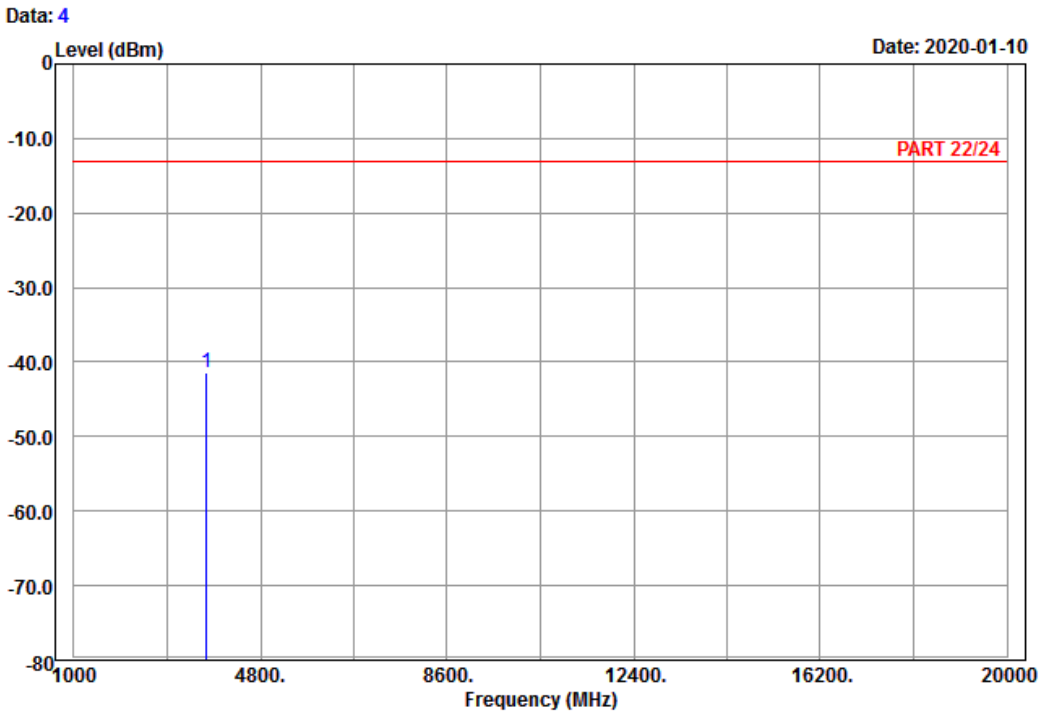
LTE Band 25
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3701.40	-44.42	-60.30	15.88	-13.00	-31.42	Peak

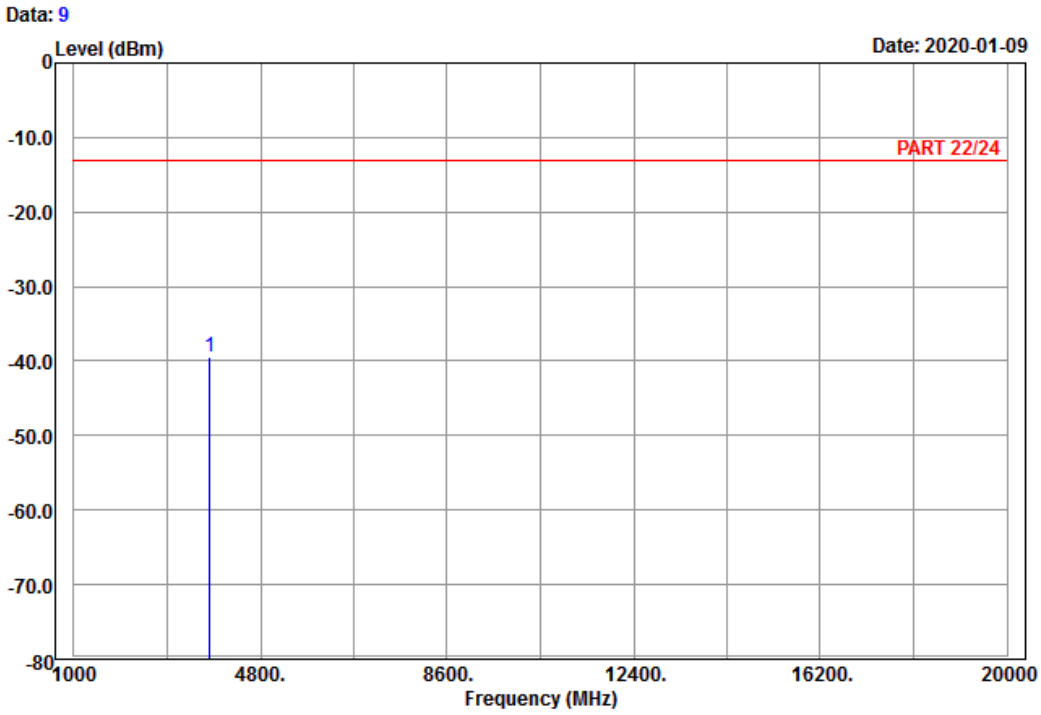


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3701.40	-41.50	-57.38	15.88	-13.00	-28.50	Peak

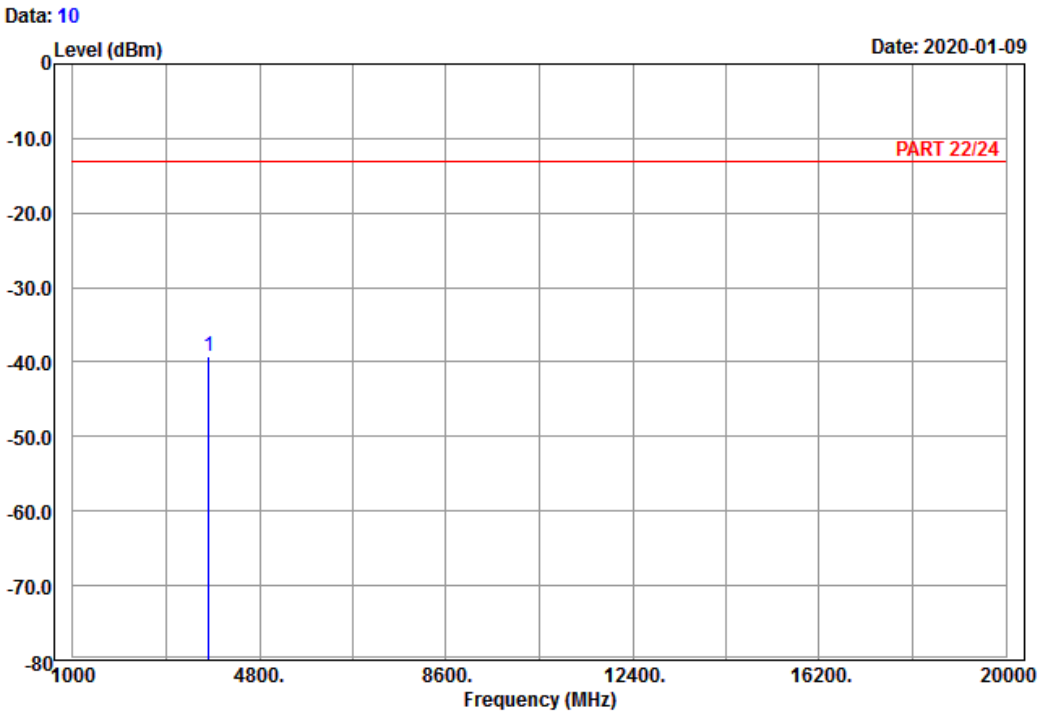
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3765.00	-39.46	-55.69	16.23	-13.00	-26.46	Peak

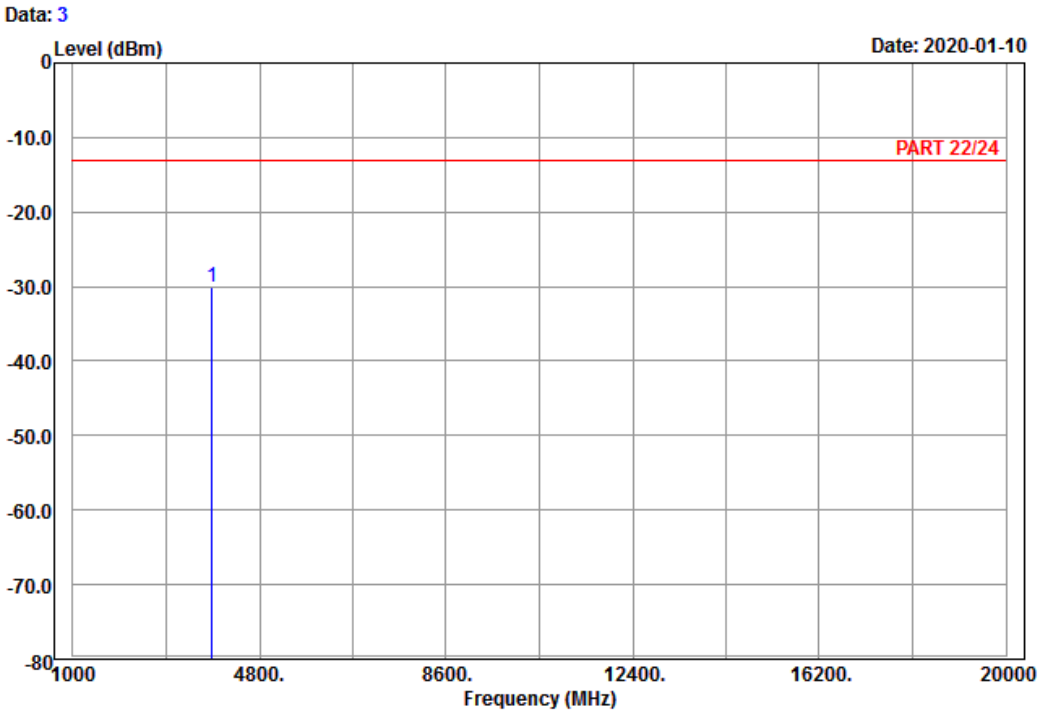


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3765.00	-39.22	-55.45	16.23	-13.00	-26.22	Peak

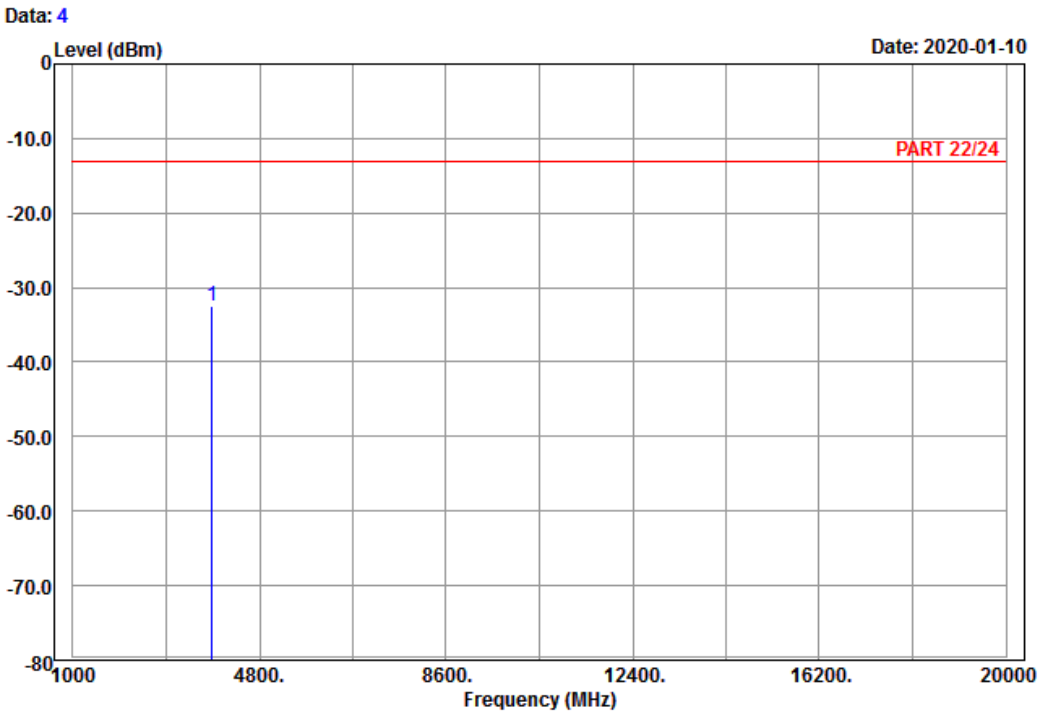
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3828.60	-30.19	-46.69	16.50	-13.00	-17.19	Peak

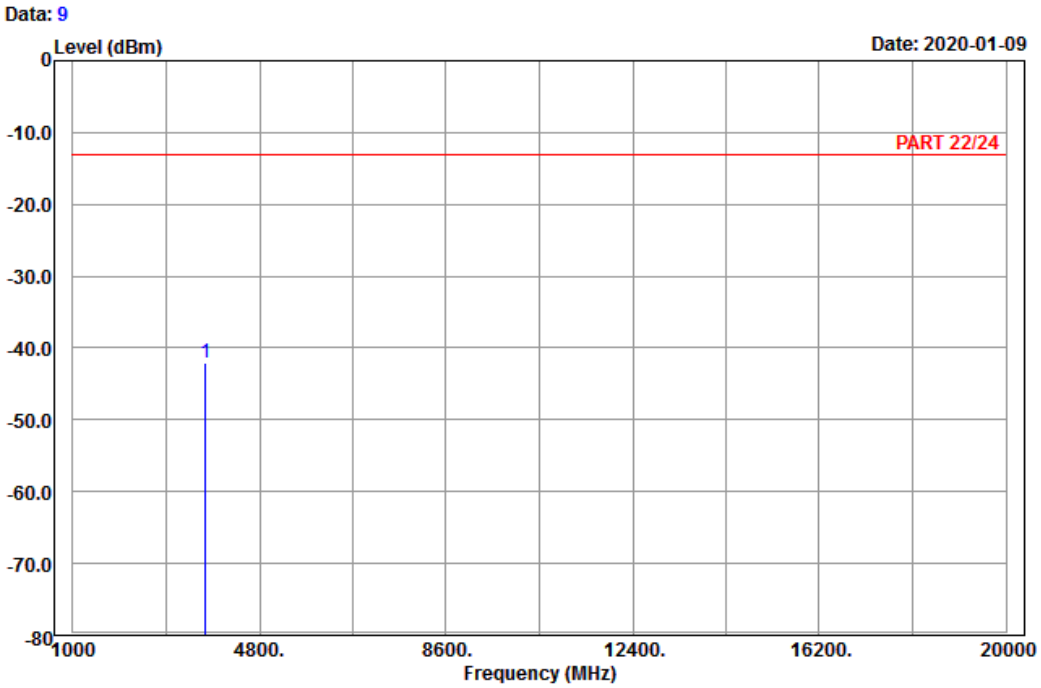


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3828.60	-32.45	-48.95	16.50	-13.00	-19.45	Peak

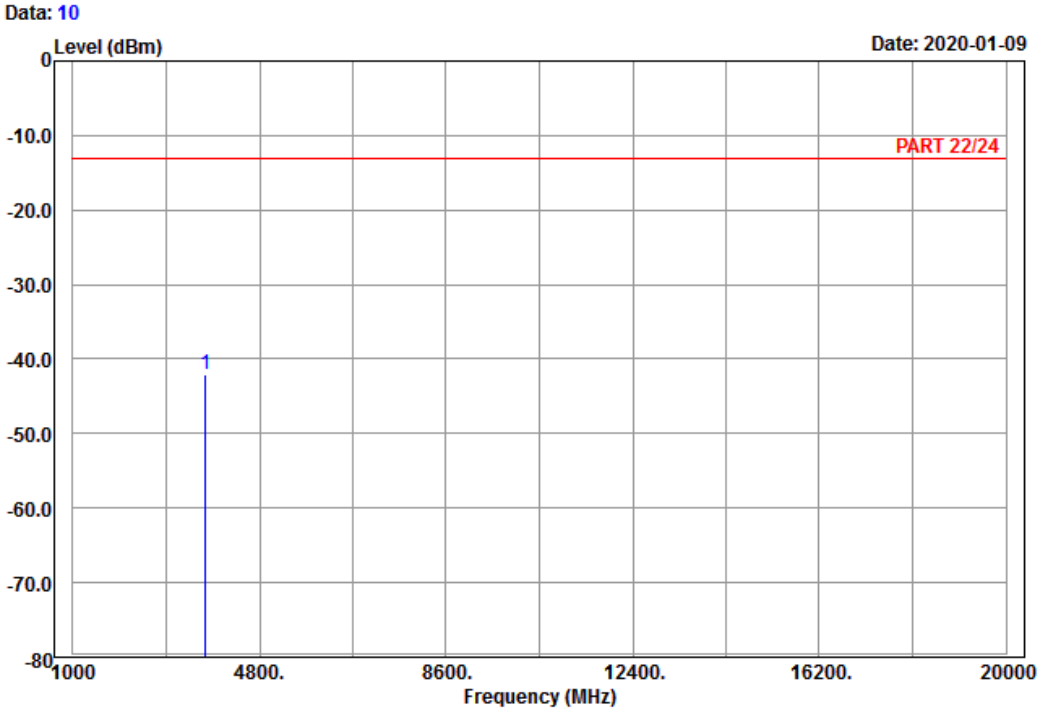
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3705.00	-42.13	-58.01	15.88	-13.00	-29.13	Peak

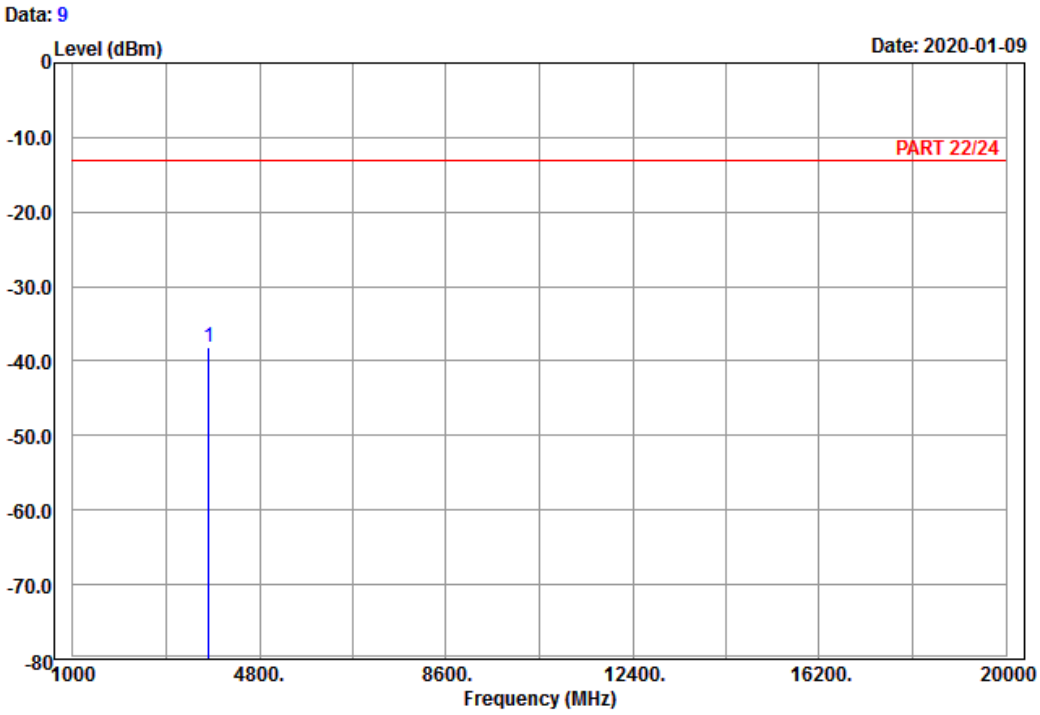


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3705.00	-41.99	-57.87	15.88	-13.00	-28.99	Peak

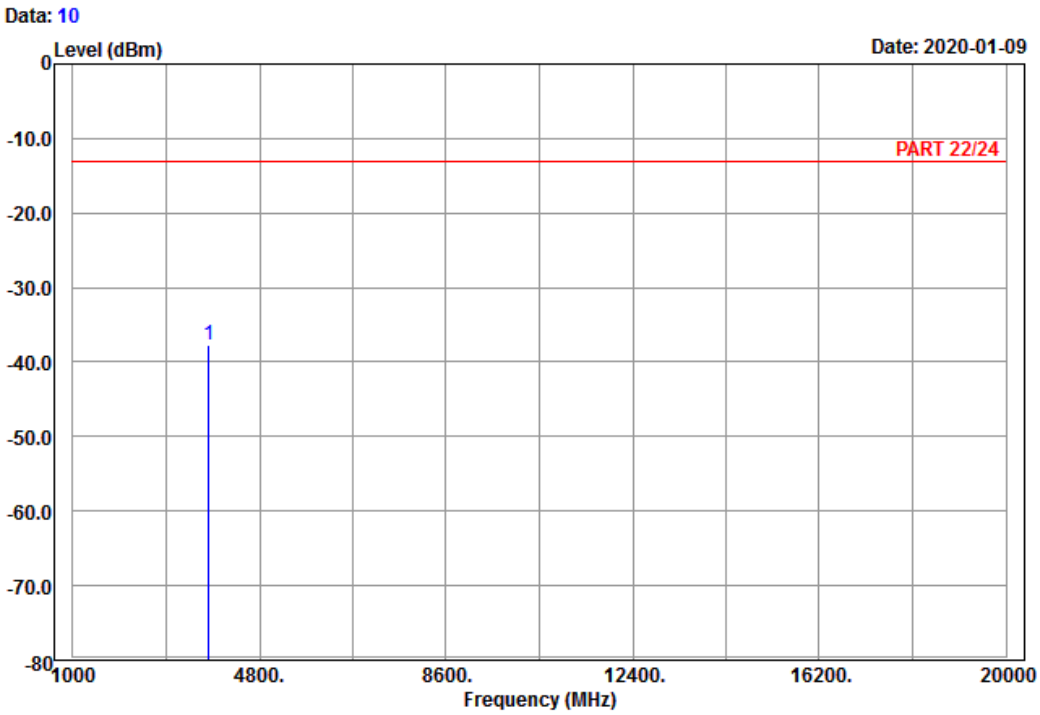
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3765.00	-38.24	-54.47	16.23	-13.00	-25.24	Peak

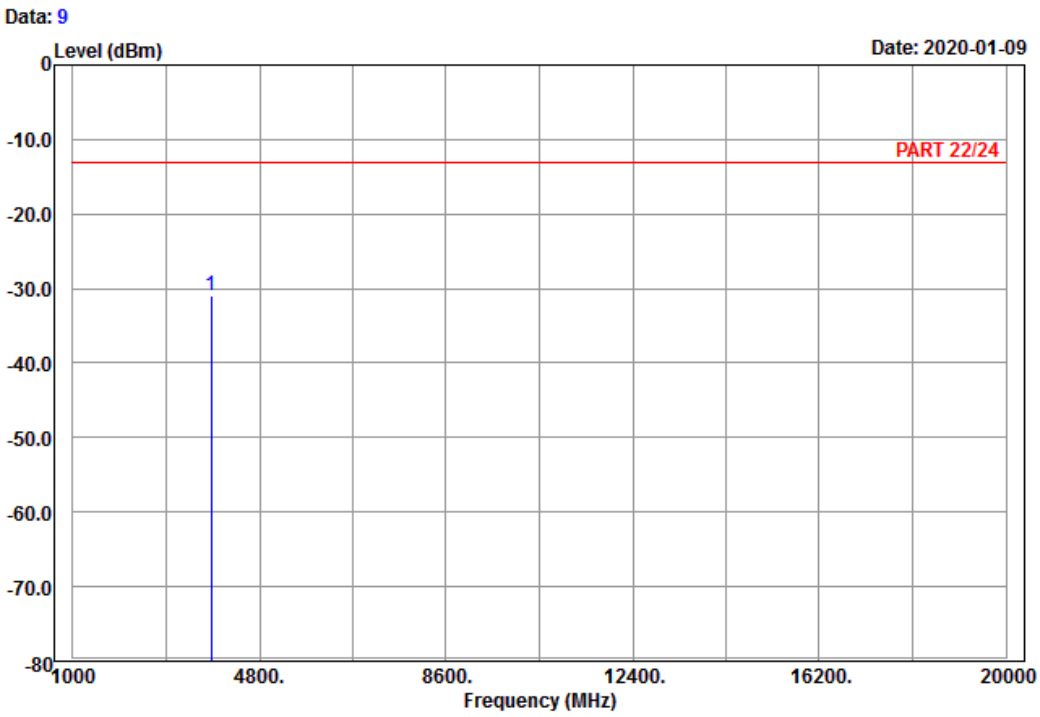


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3765.00	-37.66	-53.89	16.23	-13.00	-24.66	Peak

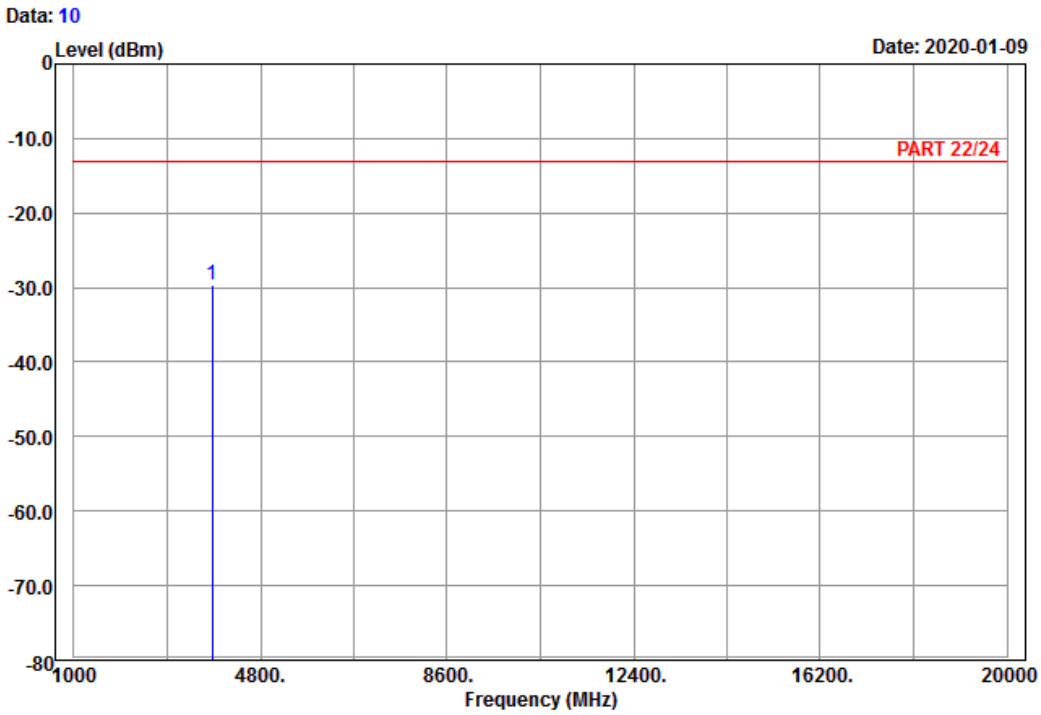
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3825.00	-30.94	-47.44	16.50	-13.00	-17.94	Peak

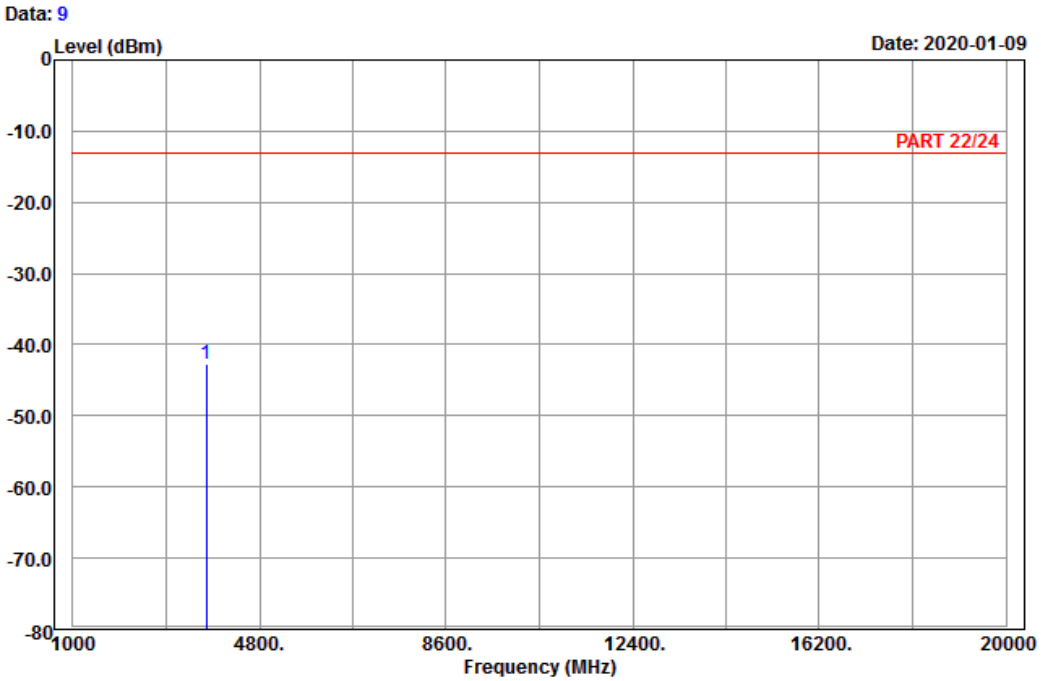


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3825.00	-29.56	-46.06	16.50	-13.00	-16.56	Peak

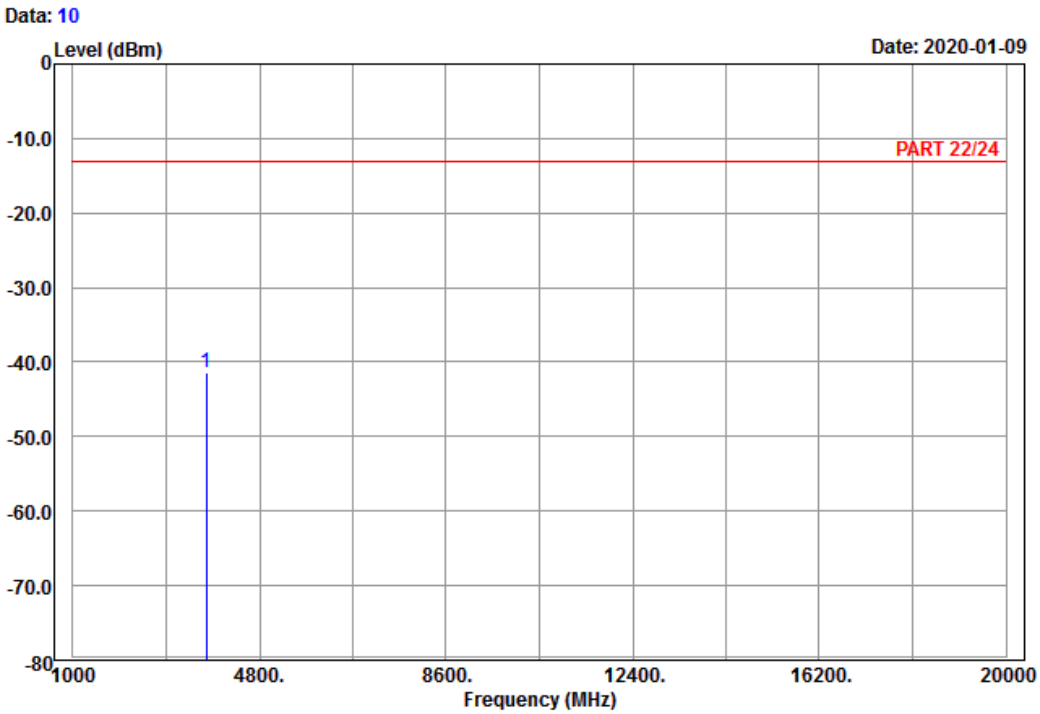
Channel Bandwidth: 20 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3720.00	-42.80	-58.77	15.97	-13.00	-29.80	Peak

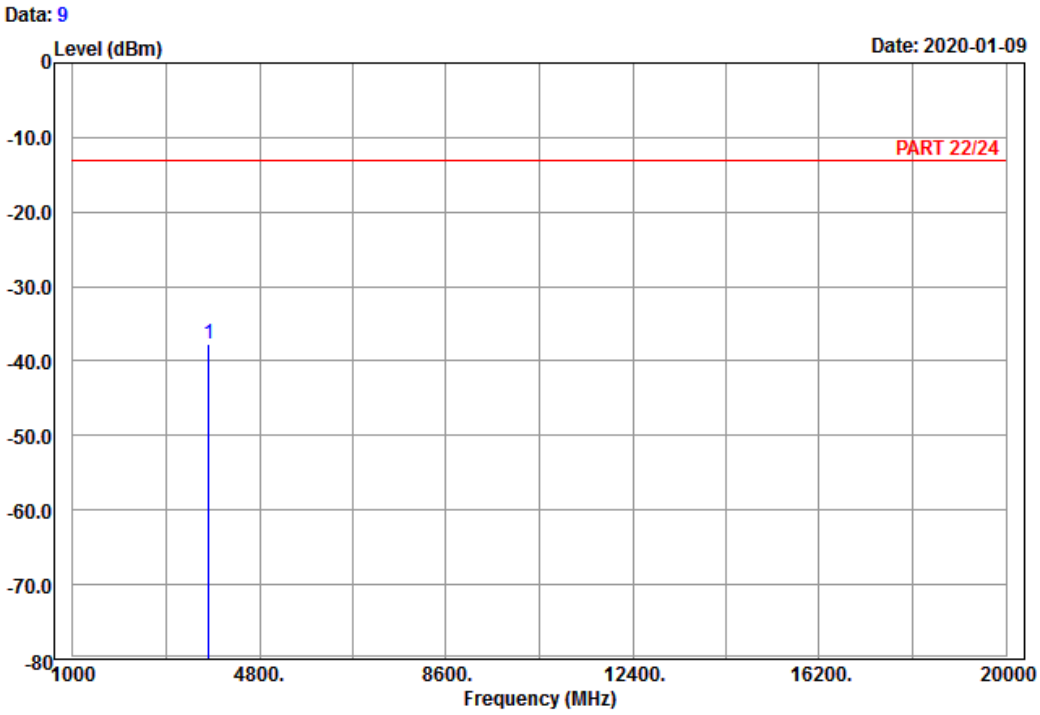


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3720.00	-41.36	-57.33	15.97	-13.00	-28.36	Peak

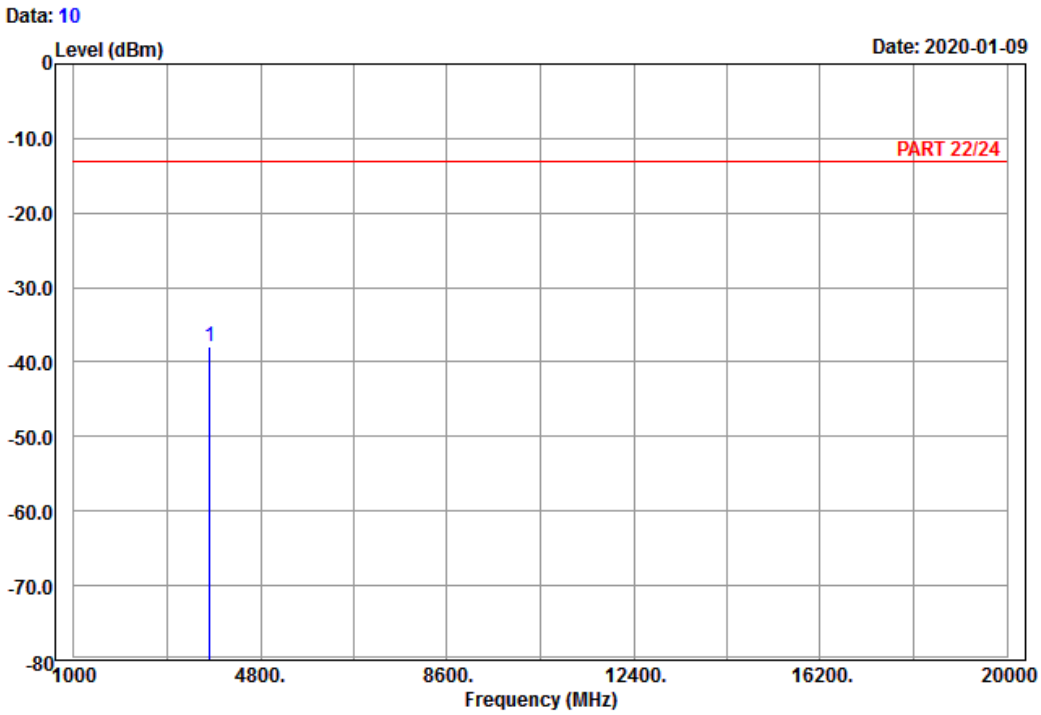
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_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	3765.00	-37.70	-53.93	16.23	-13.00	-24.70	Peak

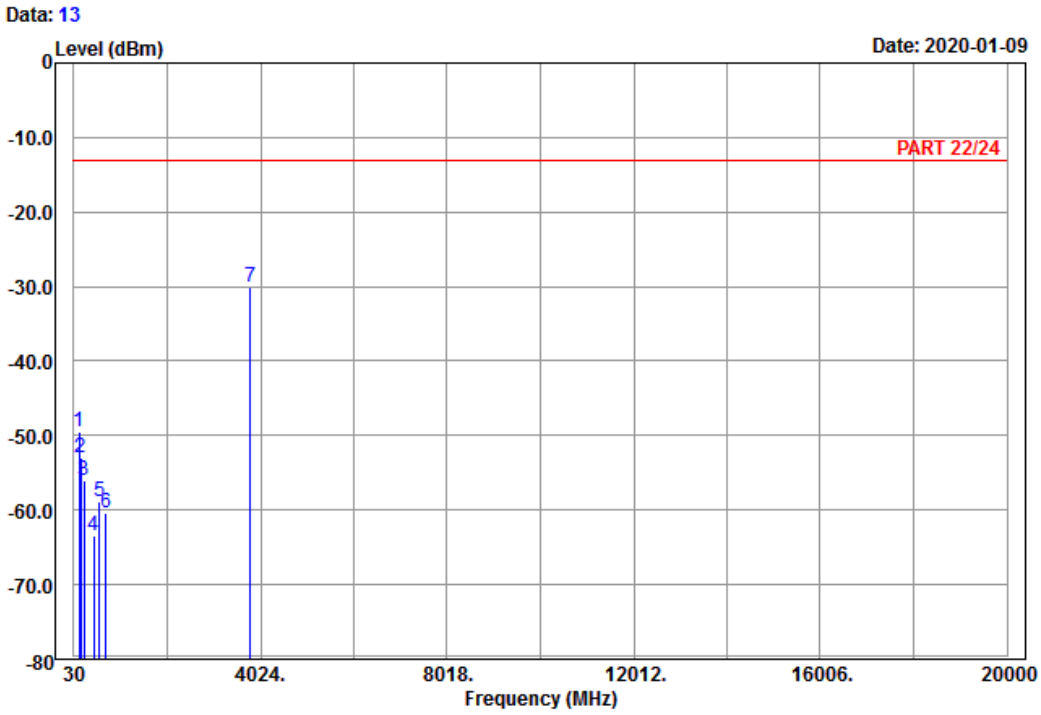


Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3765.00	-37.96	-54.19	16.23	-13.00	-24.96	Peak

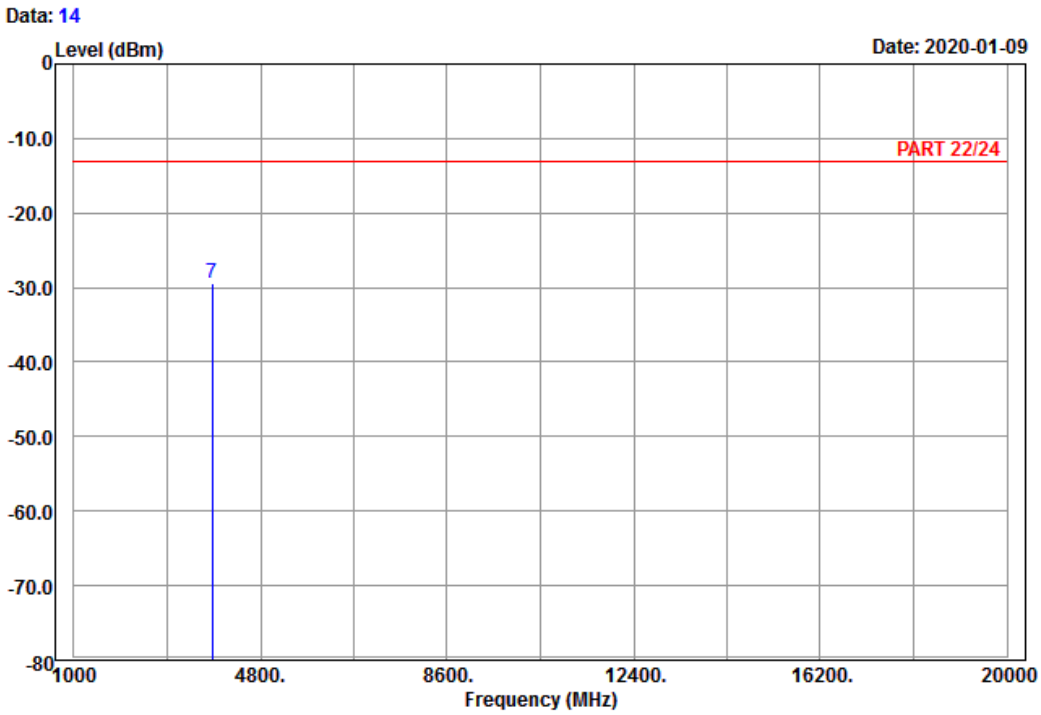
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	136.65	-49.48	-41.80	-7.68	-13.00	-36.48	Peak
2	183.36	-53.07	-47.45	-5.62	-13.00	-40.07	Peak
3	247.62	-56.02	-50.47	-5.55	-13.00	-43.02	Peak
4	463.80	-63.42	-59.19	-4.23	-13.00	-50.42	Peak
5	573.70	-58.83	-58.17	-0.66	-13.00	-45.83	Peak
6	719.30	-60.35	-59.61	-0.74	-13.00	-47.35	Peak
7 pp	3810.00	-30.02	-46.43	16.41	-13.00	-17.02	Peak



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	52.68	-49.08	-35.02	-14.06	-13.00	-36.08	Peak
2	129.90	-51.77	-44.12	-7.65	-13.00	-38.77	Peak
3	169.86	-51.62	-44.91	-6.71	-13.00	-38.62	Peak
4	346.90	-59.54	-54.13	-5.41	-13.00	-46.54	Peak
5	647.20	-64.59	-64.49	-0.10	-13.00	-51.59	Peak
6	874.70	-67.58	-69.75	2.17	-13.00	-54.58	Peak
7 pp	3810.00	-29.42	-45.83	16.41	-13.00	-16.42	Peak

5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

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

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

Lin Kou 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 Lab
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 ---