

Partial FCC Test Report

(PART 24)

Report No.: RF180709C05B-6

FCC ID: S9E-EM7455

Test Model: EM7455

Received Date: Jul. 09, 2018

Test Date: Aug. 03, 2018 ~ Aug. 07, 2018

Issued Date: Aug. 28, 2018

Applicant: Trimble Navigation Limited

Address: 345 SW Avery Ave Corvallis, Oregon, United States, 97333

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

**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	3
1 Certificate of Conformity	4
2 Summary of Test Results.....	5
2.1 Measurement Uncertainty.....	5
2.2 Test Site and Instruments	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Configuration of System under Test.....	9
3.2.1 Description of Support Units.....	9
3.3 Test Mode Applicability and Tested Channel Detail	10
3.4 EUT Operating Conditions	11
3.5 General Description of Applied Standards.....	11
4 Test Types and Results	12
4.1 Output Power Measurement.....	12
4.1.1 Limits of Output Power Measurement	12
4.1.2 Test Procedures.....	12
4.1.3 Test Setup.....	13
4.1.4 Test Results	14
4.2 Radiated Emission Measurement.....	21
4.2.1 Limits of Radiated Emission Measurement	21
4.2.2 Test Procedure	21
4.2.3 Deviation from Test Standard	21
4.2.4 Test Setup.....	22
4.2.5 Test Results	23
5 Pictures of Test Arrangements.....	65
Appendix – Information on the Testing Laboratories	66

Release Control Record

Issue No.	Description	Date Issued
RF180709C05B-6	Original Release	Aug. 28, 2018

1 Certificate of Conformity

Product: Wireless Modules

Brand: Trimble

Test Model: EM7455

Sample Status: Engineering Sample

Applicant: Trimble Navigation Limited

Test Date: Aug. 03, 2018 ~ Aug. 07, 2018

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 :



Date:

Aug. 28, 2018

Ivonne Wu / Supervisor

Approved by :



Date:

Aug. 28, 2018

Dylan Chiou / 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 24.238(b)	Occupied Bandwidth	N/A	Refer to Note
24.238(b)	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 -33.30 dB at 3765.00 MHz.

Note: Only test item of E.I.R.P. and Radiated Spurious Emissions tests were performed for this addendum. For other test data, refer to module report No.: B15W50341-FCC-RF_Rev1.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
HORN Antenna ETS-Lindgren	3117	00143293	Dec. 13, 2017	Dec. 12, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Dec. 14, 2017	Dec. 13, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 01, 2017	Nov. 30, 2018
Fixed Attenuator Mini-Circuits	00801A1GGAM02Y	NA	May 17, 2018	May 16, 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

- 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 Modules	
Brand	Trimble	
Test Model	EM7455	
Status of EUT	Engineering Sample	
Power Supply Rating	19 Vdc (Adapter) 7.27 Vdc (Battery)	
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	313.33 mW
	LTE Band 2 (Channel Bandwidth: 1.4 MHz)	207.01 mW
	LTE Band 2 (Channel Bandwidth: 3 MHz)	207.97 mW
	LTE Band 2 (Channel Bandwidth: 5 MHz)	212.47 mW
	LTE Band 2 (Channel Bandwidth: 10 MHz)	216.27 mW
	LTE Band 2 (Channel Bandwidth: 15 MHz)	207.01 mW
	LTE Band 2 (Channel Bandwidth: 20 MHz)	251.36 mW
	LTE Band 25 (Channel Bandwidth: 1.4 MHz)	275.61 mW
	LTE Band 25 (Channel Bandwidth: 3 MHz)	278.80 mW
	LTE Band 25 (Channel Bandwidth: 5 MHz)	281.38 mW
	LTE Band 25 (Channel Bandwidth: 10 MHz)	283.99 mW
	LTE Band 25 (Channel Bandwidth: 15 MHz)	285.96 mW
	LTE Band 25 (Channel Bandwidth: 20 MHz)	288.60 mW
Antenna Type	Coupling Antenna	
Antenna Gain	WCDMA	0.06 dBi (Main) / 0.37 dBi (Aux.)
	LTE 2	0.06 dBi (Main) / 0.37 dBi (Aux.)
	LTE 25	0.88 dBi (Main) / -0.34 dBi (Aux.)
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

1. The EUT is authorized for use in specified End-product. Please refer to below for more details.

Product	Brand Name	Model Name
Handheld PC	Trimble	121600

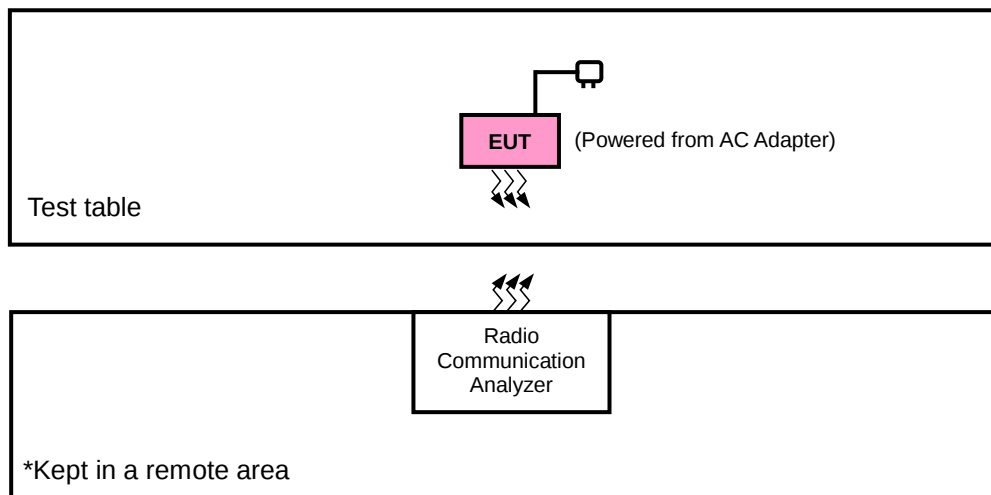
2. The end-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	DELTA Electronics, INC.	ADP-90MD H	I/P: 100-240 Vac, 50-60 Hz, 1.5 A O/P: 19 Vdc, 4.74 A 1.75m shielded cable with 1 core
Battery	Trimble	121300	7.27 Vdc, 3150 mAh, 22.9Wh
BT/WLAN Module	AzureWave	AW-CB260NF	--

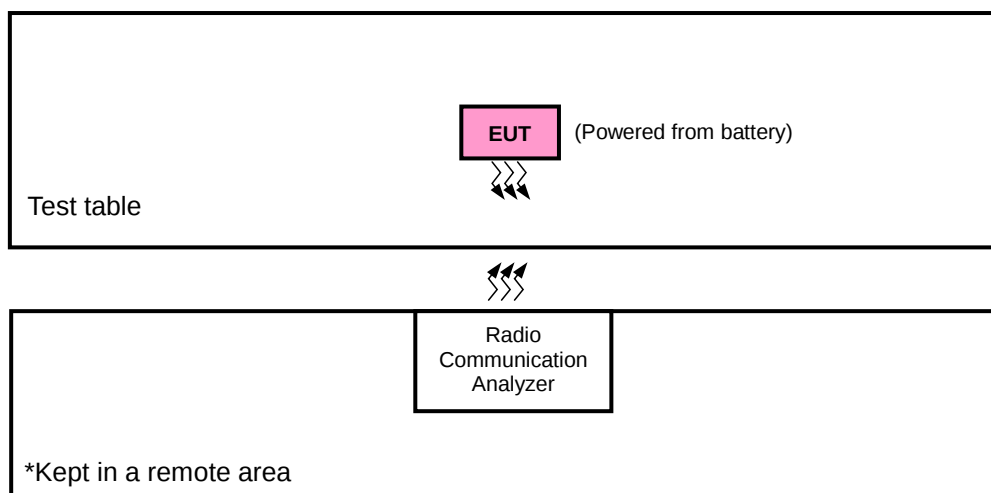
3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



<E.I.R.P. Test>



3.2.1 Description of Support Units

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

3.3 Test Mode Applicability and Tested Channel Detail

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

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

Band	EIRP	Radiated Emission
WCDMA	X-plane	Z-axis
LTE Band 2	Z-plane	Y-axis
LTE Band 25	Z-plane	Y-axis

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

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

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	26 deg. C, 58 % 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 24

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 2 watts e.i.r.p.

4.1.2 Test Procedures

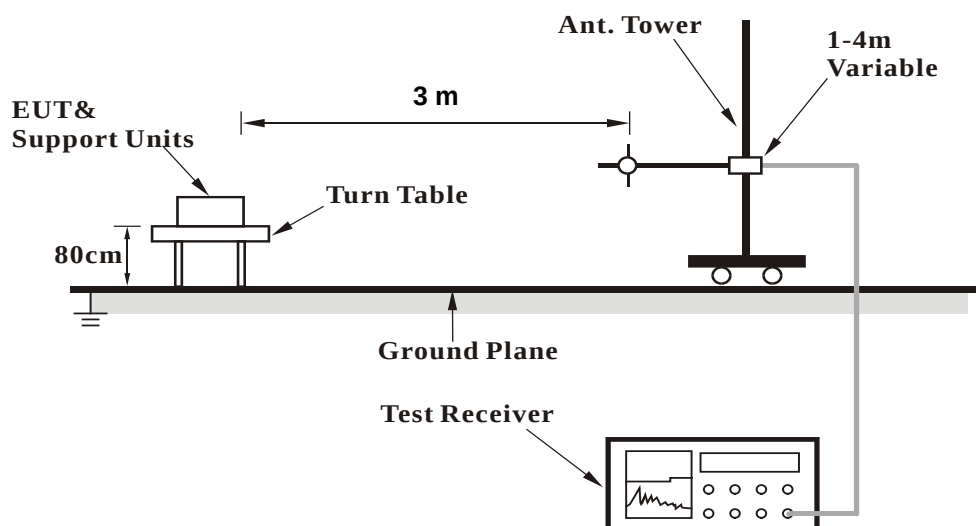
EIRP / ERP Measurement:

- a. All measurements were done at low, middle and high operational frequency range. RBW 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 form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}$.

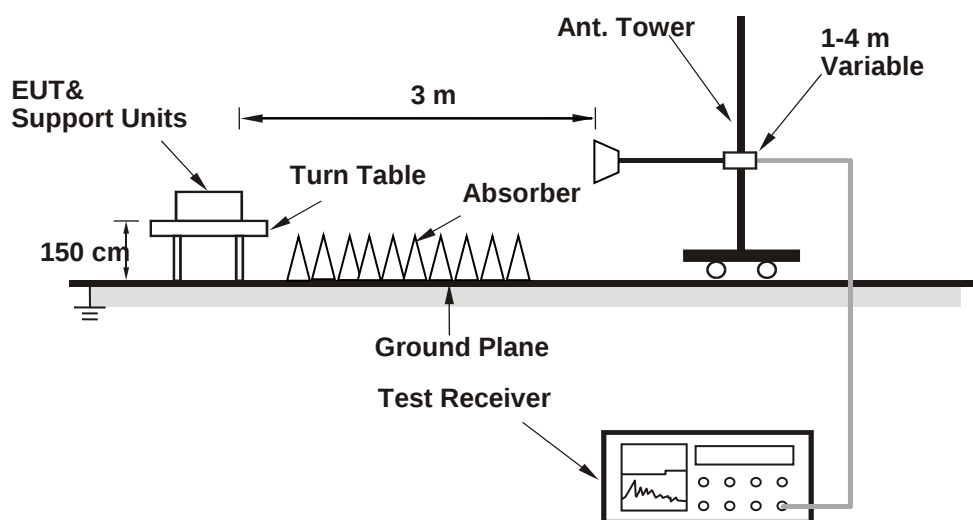
4.1.3 Test Setup

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)
X	9262	1852.4	-13.23	38.19	24.96	313.33	H
	9400	1880.0	-13.94	38.70	24.76	299.23	
	9538	1907.6	-14.85	39.35	24.50	281.84	
	9262	1852.4	-17.21	38.48	21.27	133.97	V
	9400	1880.0	-17.56	38.59	21.03	126.77	
	9538	1907.6	-17.71	38.87	21.16	130.62	

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	-21.65	44.70	23.05	201.84	H
	18900	1880.0	-21.54	44.70	23.16	207.01	
	19193	1909.3	-21.42	44.57	23.15	206.68	
	18607	1850.7	-23.01	44.27	21.26	133.66	V
	18900	1880.0	-23.33	44.87	21.55	142.72	
	19193	1909.3	-23.51	44.61	21.10	128.91	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	18607	1850.7	-22.35	44.70	22.35	171.79	H
	18900	1880.0	-22.54	44.70	22.16	164.40	
	19193	1909.3	-22.03	44.57	22.55	179.80	
	18607	1850.7	-23.45	44.27	20.83	120.92	V
	18900	1880.0	-24.53	44.87	20.34	108.14	
	19193	1909.3	-24.57	44.61	20.04	101.00	

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	-21.62	44.70	23.08	203.24	H
	18900	1880.0	-21.52	44.70	23.18	207.97	
	19185	1908.5	-21.41	44.57	23.16	207.16	
	18615	1851.5	-22.58	44.27	21.69	147.57	V
	18900	1880.0	-22.97	44.87	21.90	154.90	
	19185	1908.5	-23.26	44.61	21.35	136.55	
Channel Bandwidth: 3 MHz / 16QAM							
Z	18615	1851.5	-22.65	44.70	22.05	160.32	H
	18900	1880.0	-22.42	44.70	22.28	169.04	
	19185	1908.5	-22.10	44.57	22.47	176.73	
	18615	1851.5	-23.91	44.27	20.36	108.64	V
	18900	1880.0	-24.25	44.87	20.62	115.35	
	19185	1908.5	-24.37	44.61	20.24	105.75	

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	-21.65	44.70	23.05	201.84	H
	18900	1880.0	-21.52	44.70	23.18	207.97	
	19175	1907.5	-21.30	44.57	23.27	212.47	
	18625	1852.5	-22.85	44.27	21.42	138.68	V
	18900	1880.0	-23.22	44.87	21.65	146.22	
	19175	1907.5	-23.42	44.61	21.19	131.61	
Channel Bandwidth: 5 MHz / 16QAM							
Z	18625	1852.5	-22.41	44.70	22.29	169.43	H
	18900	1880.0	-22.62	44.70	22.08	161.44	
	19175	1907.5	-22.27	44.57	22.30	169.98	
	18625	1852.5	-23.99	44.27	20.28	106.68	V
	18900	1880.0	-24.31	44.87	20.56	113.76	
	19175	1907.5	-24.25	44.61	20.36	108.72	

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	-21.35	44.70	23.35	216.27	H
	18900	1880.0	-21.52	44.70	23.18	207.97	
	19150	1905.0	-21.48	44.57	23.10	204.08	
	18650	1855.0	-22.85	44.27	21.42	138.68	V
	18900	1880.0	-23.41	44.87	21.46	139.96	
	19150	1905.0	-23.26	44.61	21.35	136.55	
Channel Bandwidth: 10 MHz / 16QAM							
Z	18650	1855.0	-22.54	44.70	22.16	164.44	H
	18900	1880.0	-22.59	44.70	22.11	162.55	
	19150	1905.0	-22.14	44.57	22.43	175.11	
	18650	1855.0	-23.76	44.27	20.51	112.46	V
	18900	1880.0	-24.10	44.87	20.77	119.40	
	19150	1905.0	-24.23	44.61	20.39	109.33	

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	-21.62	44.70	23.08	203.24	H
	18900	1880.0	-21.54	44.70	23.16	207.01	
	19125	1902.5	-21.44	44.57	23.13	205.68	
	18675	1857.5	-22.87	44.27	21.40	138.04	V
	18900	1880.0	-23.21	44.87	21.66	146.55	
	19125	1902.5	-23.35	44.61	21.26	133.75	
Channel Bandwidth: 15 MHz / 16QAM							
Z	18675	1857.5	-22.61	44.70	22.09	161.81	H
	18900	1880.0	-22.14	44.70	22.56	180.22	
	19125	1902.5	-22.14	44.57	22.43	175.11	
	18675	1857.5	-23.82	44.27	20.45	110.92	V
	18900	1880.0	-24.22	44.87	20.65	116.14	
	19125	1902.5	-24.36	44.61	20.26	106.10	

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	-21.52	44.70	23.18	207.97	H
	18900	1880.0	-21.44	44.70	23.26	211.84	
	19100	1900.0	-20.57	44.57	24.00	251.36	
	18700	1860.0	-22.85	44.27	21.42	138.61	V
	18900	1880.0	-23.34	44.87	21.53	142.36	
	19100	1900.0	-23.28	44.61	21.33	135.93	
Channel Bandwidth: 20 MHz / 16QAM							
Z	18700	1860.0	-22.56	44.70	22.14	163.68	H
	18900	1880.0	-21.58	44.70	23.12	205.12	
	19100	1900.0	-22.54	44.57	22.03	159.70	
	18700	1860.0	-23.81	44.27	20.46	111.17	V
	18900	1880.0	-24.55	44.87	20.32	107.65	
	19100	1900.0	-24.61	44.61	20.00	100.07	

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	-20.36	44.70	24.34	271.64	H
	26365	1882.5	-20.33	44.70	24.37	273.53	
	26683	1914.3	-20.17	44.57	24.40	275.61	
	26047	1850.7	-22.94	44.27	21.33	135.83	V
	26365	1882.5	-23.49	44.87	21.38	137.40	
	26683	1914.3	-23.19	44.61	21.42	138.77	
Channel Bandwidth: 1.4 MHz / 16QAM							
Z	26047	1850.7	-21.37	44.70	23.33	215.28	H
	26365	1882.5	-21.34	44.70	23.36	216.77	
	26683	1914.3	-21.18	44.57	23.39	218.42	
	26047	1850.7	-23.95	44.27	20.32	107.65	V
	26365	1882.5	-24.50	44.87	20.37	108.89	
	26683	1914.3	-24.21	44.61	20.40	109.72	

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	-20.32	44.70	24.38	274.16	H
	26365	1882.5	-20.30	44.70	24.40	275.42	
	26675	1913.5	-20.12	44.57	24.45	278.80	
	26055	1851.5	-22.90	44.27	21.37	137.09	V
	26365	1882.5	-23.45	44.87	21.42	138.68	
	26675	1913.5	-23.16	44.61	21.45	139.73	
Channel Bandwidth: 3 MHz / 16QAM							
Z	26055	1851.5	-21.33	44.70	23.37	217.27	H
	26365	1882.5	-21.31	44.70	23.39	218.27	
	26675	1913.5	-21.13	44.57	23.44	220.95	
	26055	1851.5	-23.92	44.27	20.35	108.39	V
	26365	1882.5	-24.45	44.87	20.42	110.15	
	26675	1913.5	-24.17	44.61	20.44	110.74	

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	-20.28	44.70	24.42	276.69	H
	26365	1882.5	-20.26	44.70	24.44	277.97	
	26665	1912.5	-20.08	44.57	24.49	281.38	
	26065	1852.5	-22.87	44.27	21.40	138.04	V
	26365	1882.5	-23.42	44.87	21.45	139.64	
	26665	1912.5	-23.12	44.61	21.49	141.03	
Channel Bandwidth: 5 MHz / 16QAM							
Z	26065	1852.5	-21.29	44.70	23.41	219.28	H
	26365	1882.5	-21.27	44.70	23.43	220.29	
	26665	1912.5	-21.08	44.57	23.49	223.51	
	26065	1852.5	-23.88	44.27	20.39	109.40	V
	26365	1882.5	-24.43	44.87	20.44	110.66	
	26665	1912.5	-24.13	44.61	20.48	111.76	

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	-20.23	44.70	24.47	279.90	H
	26365	1882.5	-20.22	44.70	24.48	280.54	
	26640	1910.0	-20.04	44.57	24.53	283.99	
	26090	1855.0	-22.83	44.27	21.44	139.32	V
	26365	1882.5	-23.38	44.87	21.49	140.93	
	26640	1910.0	-23.08	44.61	21.53	142.33	
Channel Bandwidth: 10 MHz / 16QAM							
Z	26090	1855.0	-21.24	44.70	23.46	221.82	H
	26365	1882.5	-21.23	44.70	23.47	222.33	
	26640	1910.0	-21.05	44.57	23.52	225.06	
	26090	1855.0	-23.84	44.27	20.43	110.41	V
	26365	1882.5	-24.39	44.87	20.48	111.69	
	26640	1910.0	-24.10	44.61	20.51	112.54	

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	-20.20	44.70	24.50	281.84	H
	26365	1882.5	-20.18	44.70	24.52	283.14	
	26615	1907.5	-20.01	44.57	24.56	285.96	
	26115	1857.5	-22.79	44.27	21.48	140.60	V
	26365	1882.5	-23.35	44.87	21.52	141.91	
	26615	1907.5	-23.04	44.61	21.57	143.65	
Channel Bandwidth: 15 MHz / 16QAM							
Z	26115	1857.5	-21.22	44.70	23.48	222.84	H
	26365	1882.5	-21.20	44.70	23.50	223.87	
	26615	1907.5	-21.02	44.57	23.55	226.62	
	26115	1857.5	-23.81	44.27	20.46	111.17	V
	26365	1882.5	-24.35	44.87	20.52	112.72	
	26615	1907.5	-24.04	44.61	20.57	114.10	

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	-20.16	44.70	24.54	284.45	H
	26365	1882.5	-20.14	44.70	24.56	285.76	
	26590	1905.0	-19.97	44.57	24.60	288.60	
	26140	1860.0	-22.75	44.27	21.52	141.91	V
	26365	1882.5	-23.32	44.87	21.55	142.89	
	26590	1905.0	-23.00	44.61	21.61	144.98	
Channel Bandwidth: 20 MHz / 16QAM							
Z	26140	1860.0	-21.17	44.70	23.53	225.42	H
	26365	1882.5	-21.15	44.70	23.55	226.46	
	26590	1905.0	-20.98	44.57	23.59	228.72	
	26140	1860.0	-23.75	44.27	20.52	112.72	V
	26365	1882.5	-24.33	44.87	20.54	113.24	
	26590	1905.0	-24.01	44.61	20.60	114.89	

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.

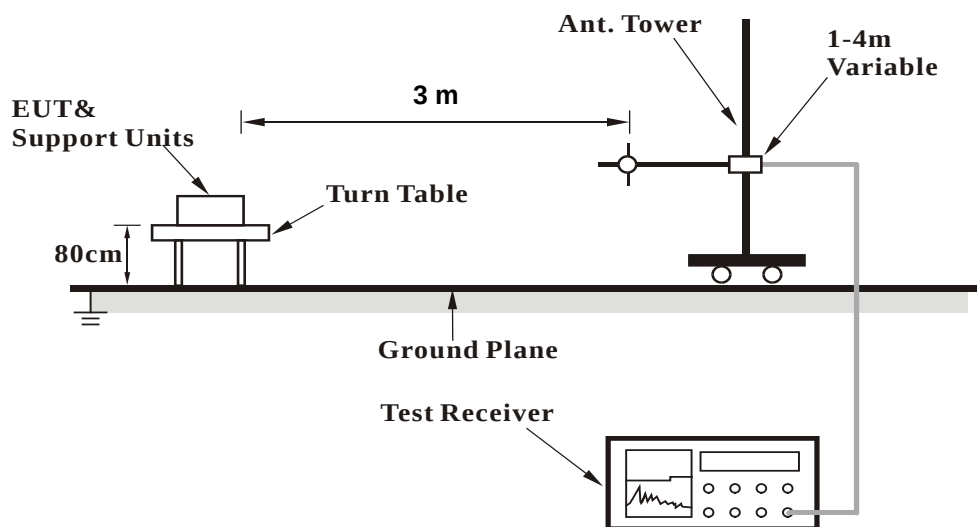
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.

4.2.3 Deviation from Test Standard

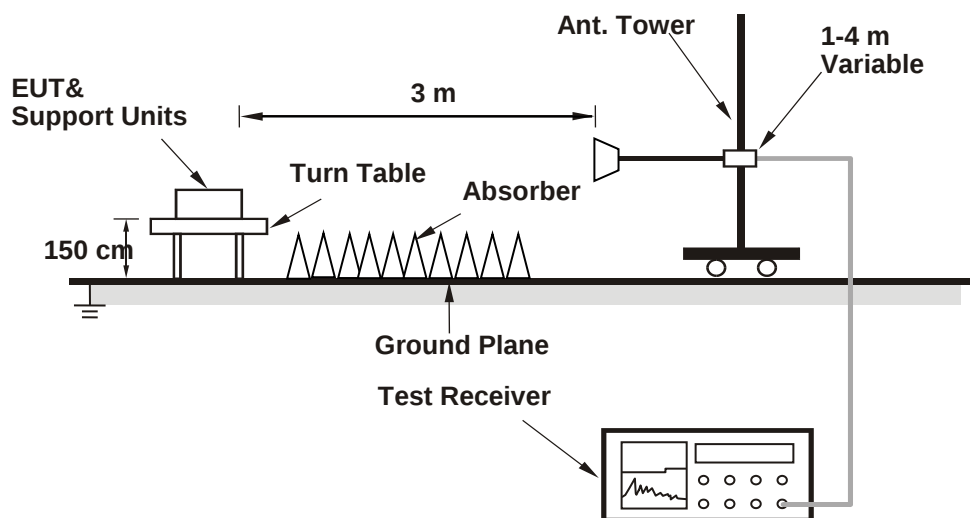
No deviation.

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

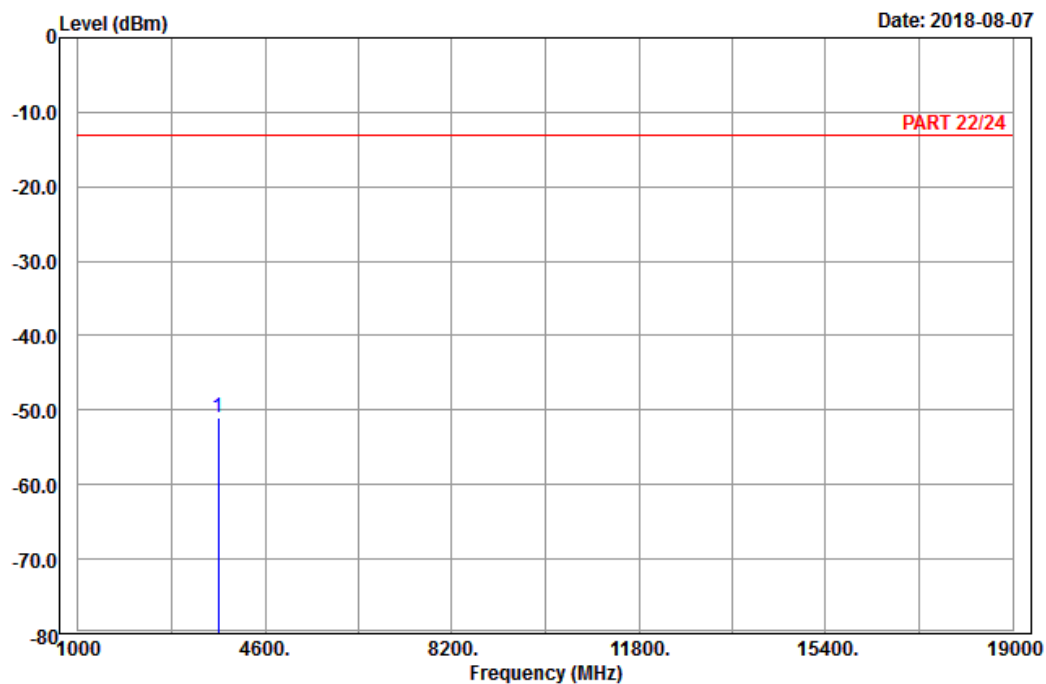


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-07



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : Band II_Link_CH9262
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3704.80	-50.94	-66.82	-13.00	-37.94	15.88	Peak

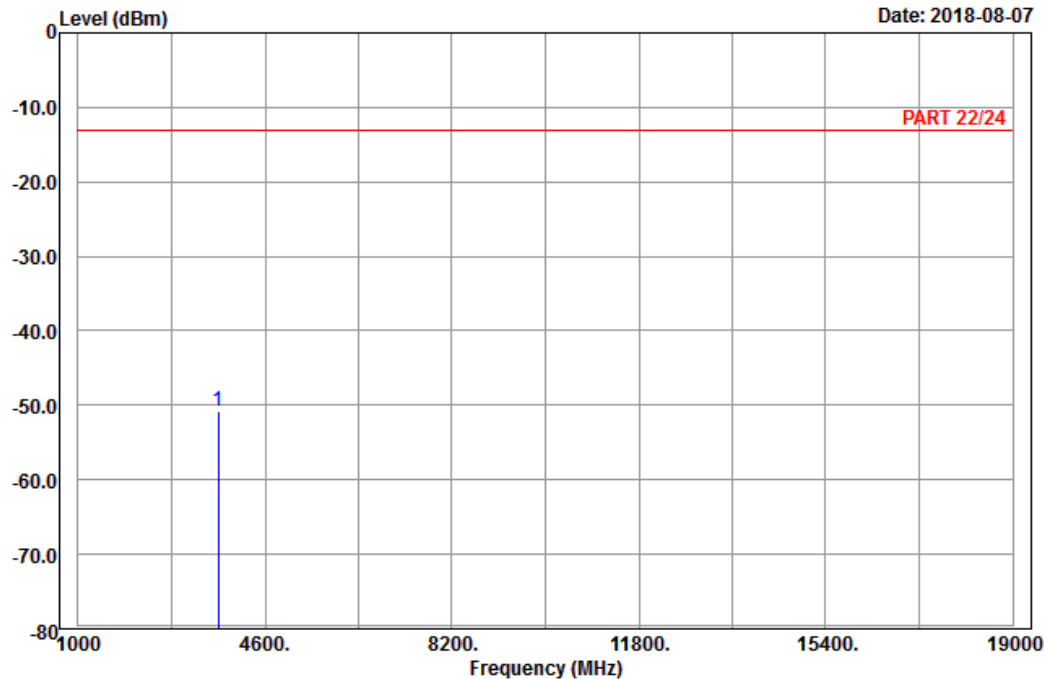


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-07



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_CH9262
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3704.80	-50.82	-66.70	-13.00	-37.82	15.88	Peak

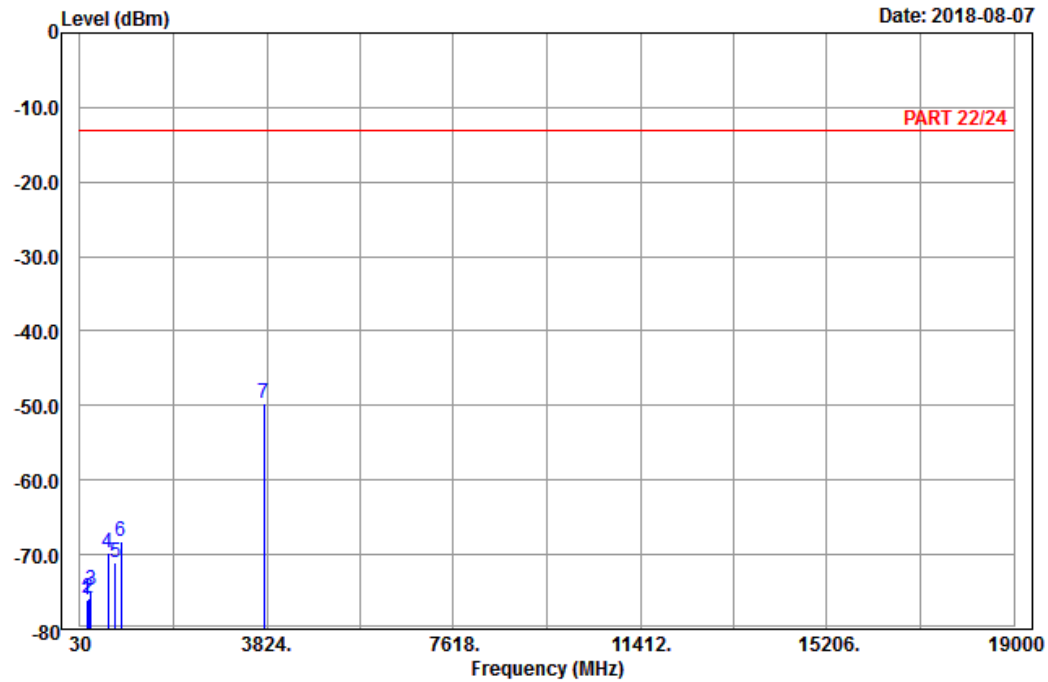
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : Band II_Link_CH9400
Tested by: Karl Lee

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	170.67	-76.11	-69.51	-13.00	-63.11	-6.60	Peak
2	201.72	-75.87	-69.71	-13.00	-62.87	-6.16	Peak
3	250.05	-74.82	-69.31	-13.00	-61.82	-5.51	Peak
4	596.80	-69.74	-70.01	-13.00	-56.74	0.27	Peak
5	744.50	-71.02	-69.80	-13.00	-58.02	-1.22	Peak
6	856.50	-68.15	-69.79	-13.00	-55.15	1.64	Peak
7 pp	3760.00	-49.75	-65.89	-13.00	-36.75	16.14	Peak

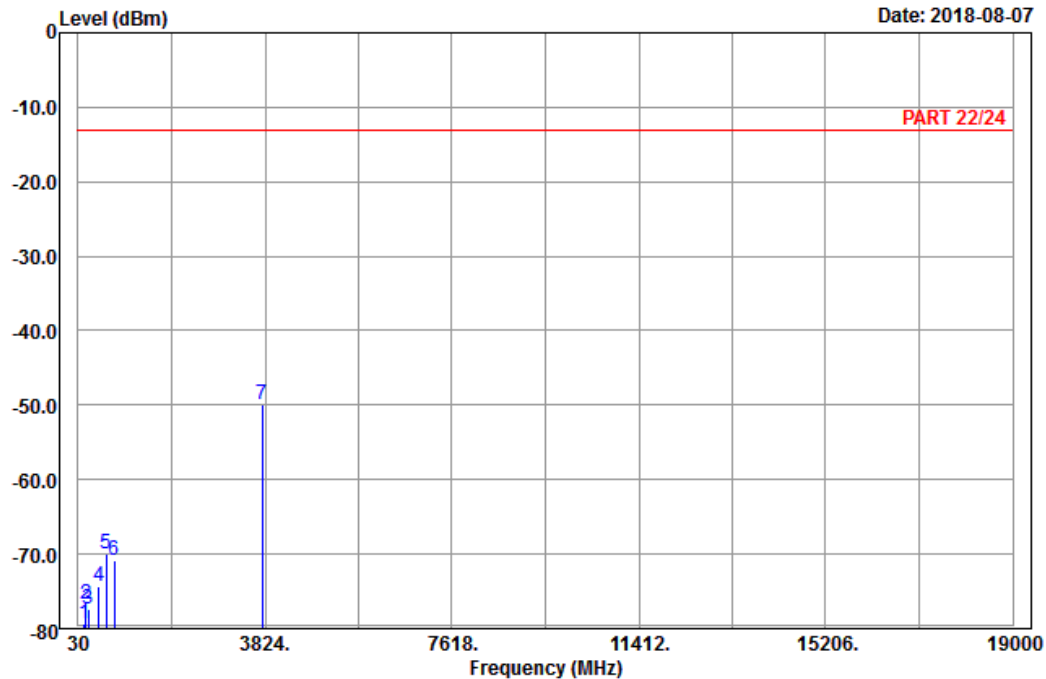


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14

Date: 2018-08-07



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_CH9400
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	153.39	-79.35	-71.49	-13.00	-66.35	-7.86	Peak
2	193.35	-76.73	-70.86	-13.00	-63.73	-5.87	Peak
3	229.53	-77.28	-71.50	-13.00	-64.28	-5.78	Peak
4	451.90	-74.31	-70.41	-13.00	-61.31	-3.90	Peak
5	596.80	-69.95	-70.22	-13.00	-56.95	0.27	Peak
6	764.10	-70.88	-70.53	-13.00	-57.88	-0.35	Peak
7 pp	3760.00	-50.01	-66.15	-13.00	-37.01	16.14	Peak

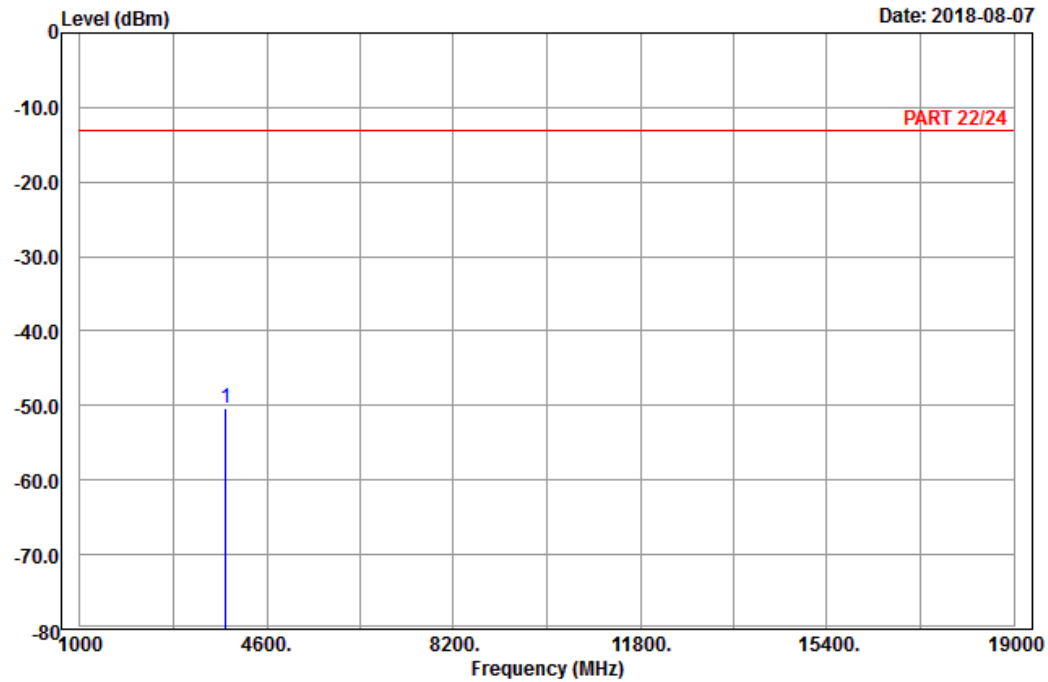
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : Band II_Link_CH9538
Tested by: Karl Lee

Freq	Level	Read	Limit	Over	Factor	Remark
		Level	Line	Limit		
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.20	-50.38	-66.79	-13.00	-37.38	16.41	Peak

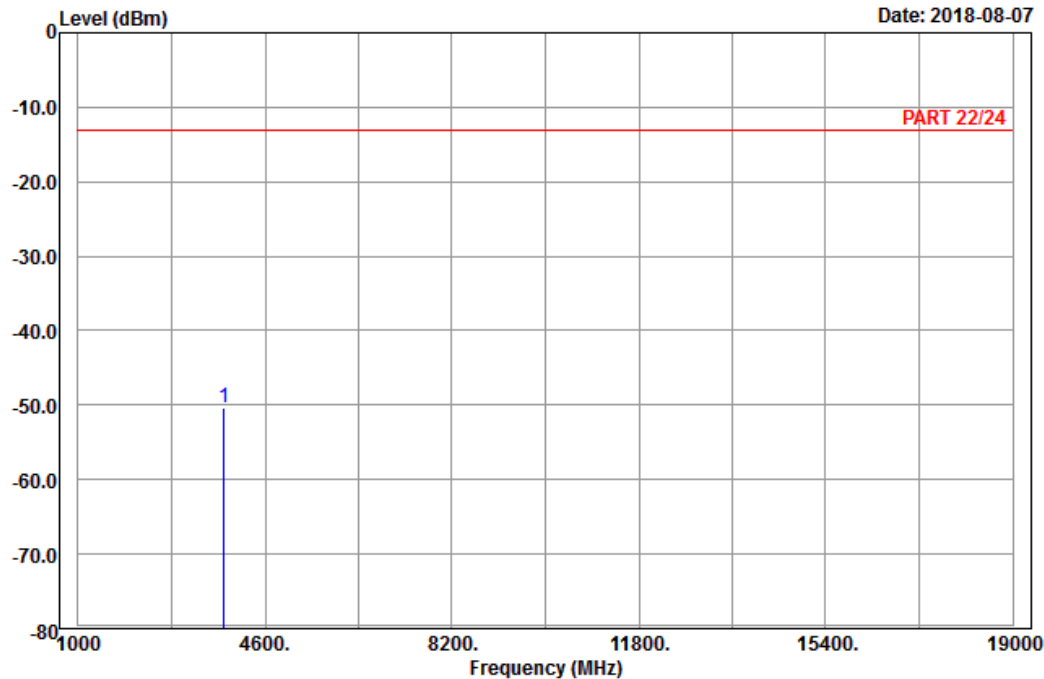


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-07



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : Band II_Link_CH9538
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.20	-50.29	-66.70	-13.00	-37.29	16.41	Peak

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

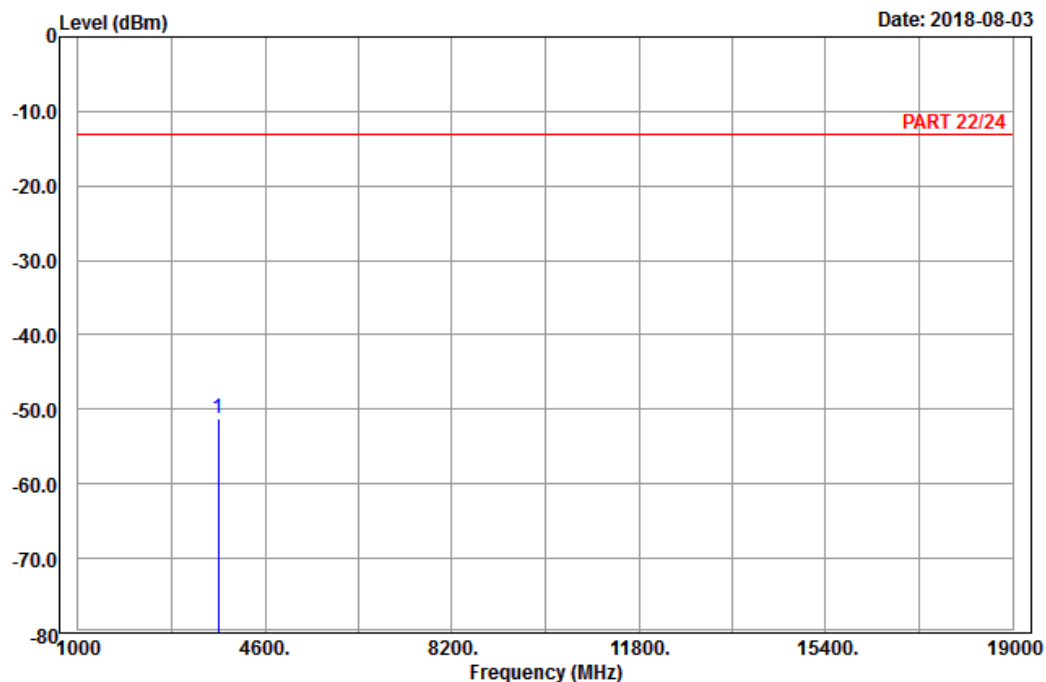


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH18607
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-51.22	-67.10	-13.00	-38.22	15.88	Peak

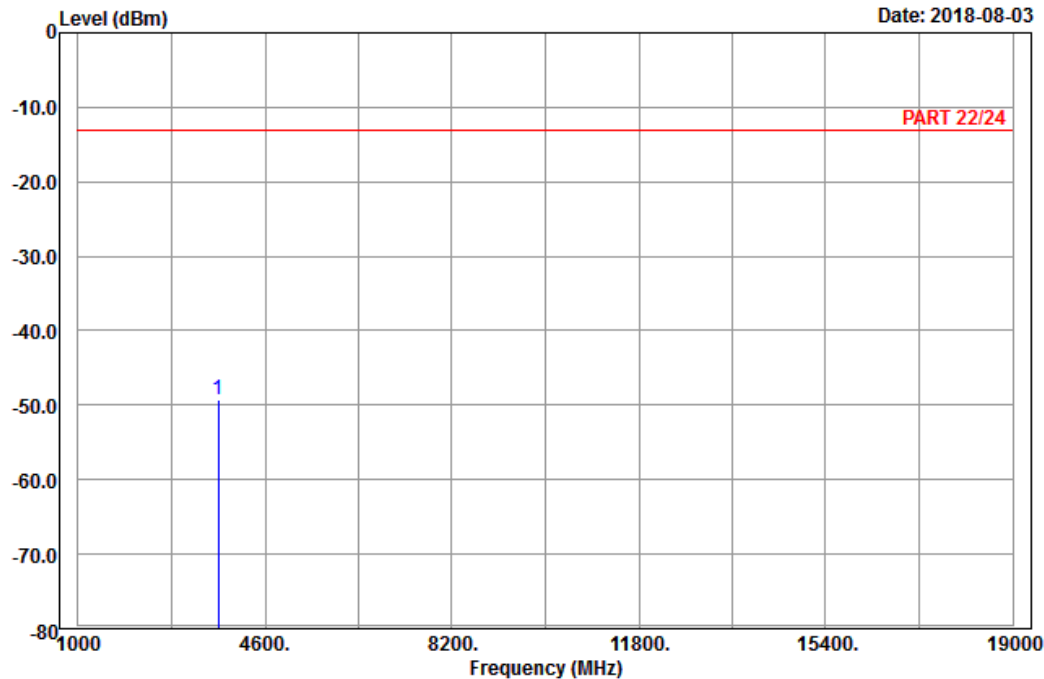


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18607
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-49.24	-65.12	-13.00	-36.24	15.88	Peak

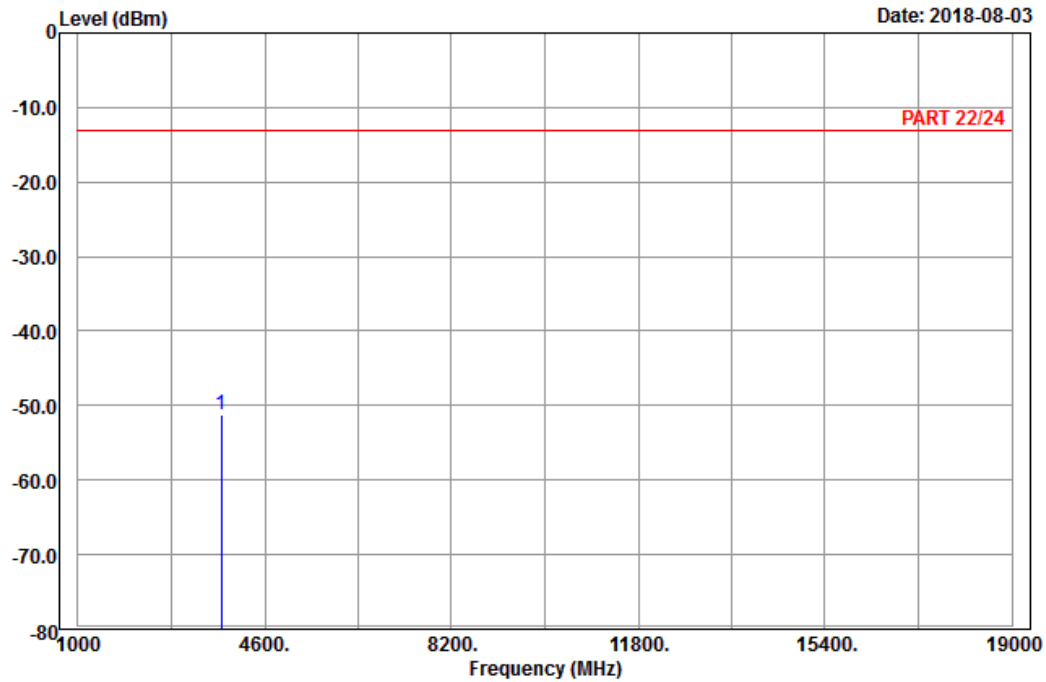
Middle Channel



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 2_Link_CH18900
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-51.31	-67.45	-13.00	-38.31	16.14	Peak

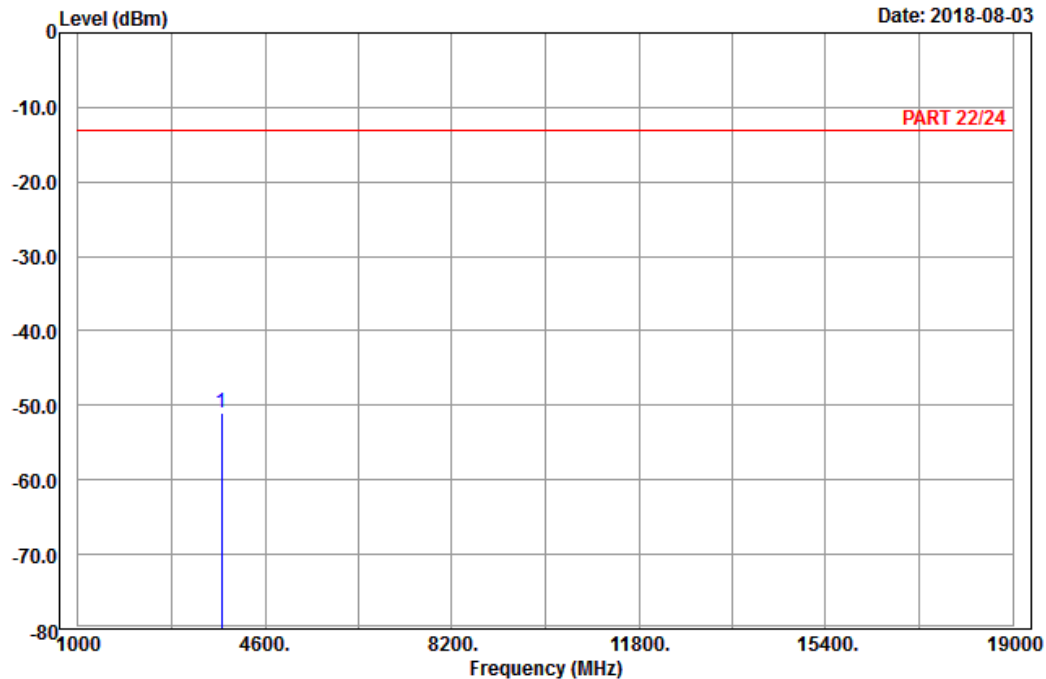


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18900
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-51.03	-67.17	-13.00	-38.03	16.14	Peak

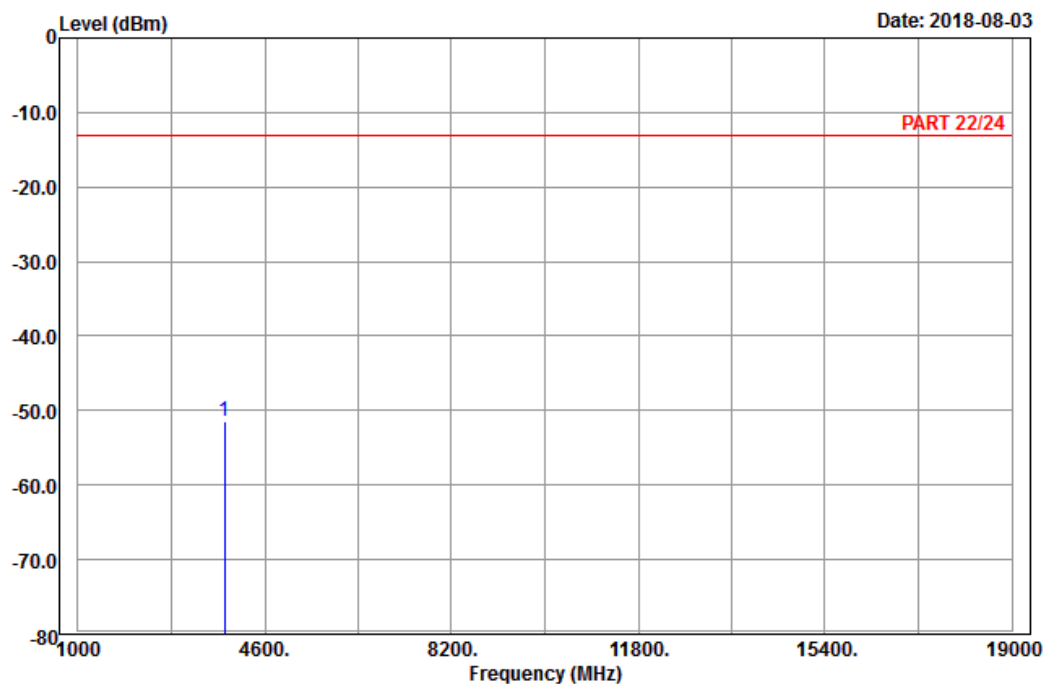
High Channel



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 2_Link_CH19193
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3818.60	-51.44	-67.94	-13.00	-38.44	16.50	Peak

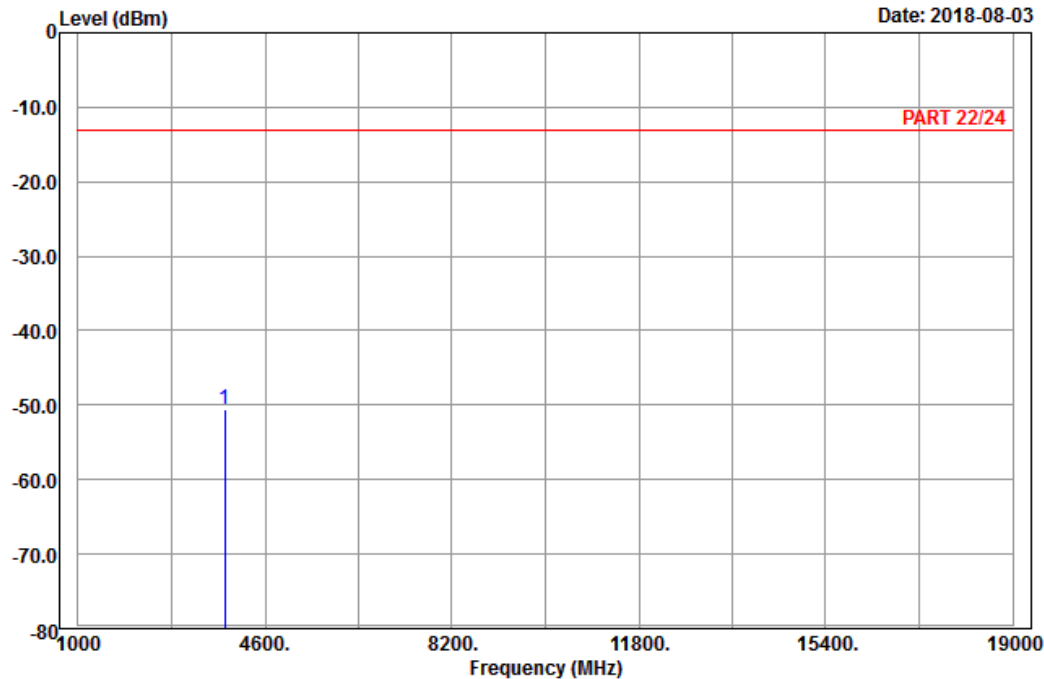


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH19193
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3818.60	-50.46	-66.96	-13.00	-37.46	16.50	Peak

Channel Bandwidth: 5 MHz / QPSK
Low Channel

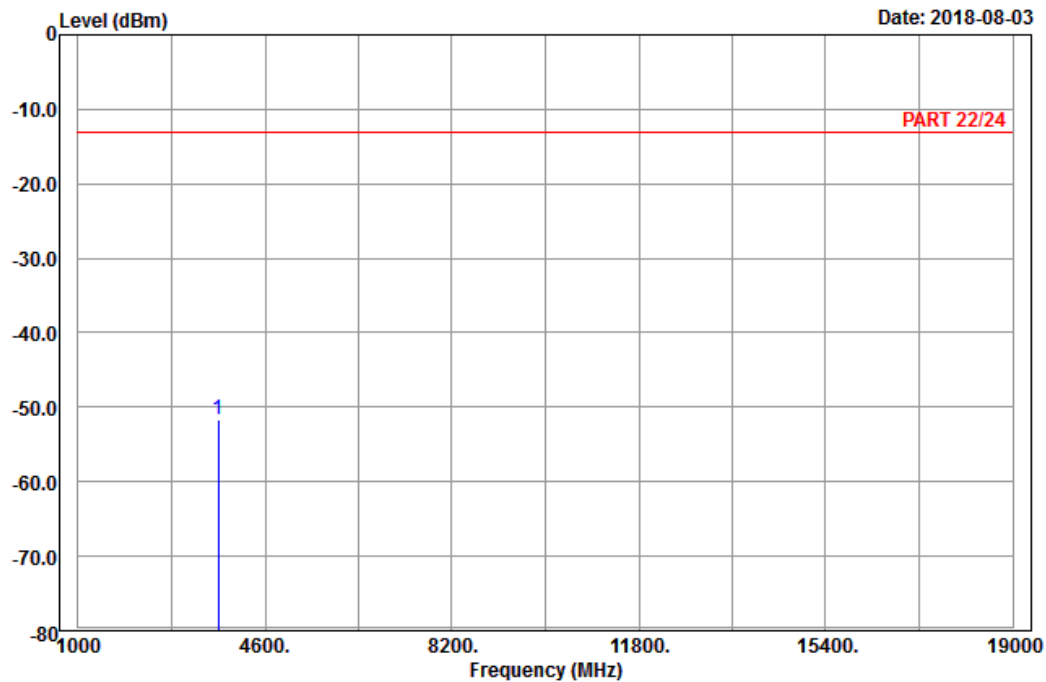


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH18625
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-51.59	-67.47	-13.00	-38.59	15.88	Peak

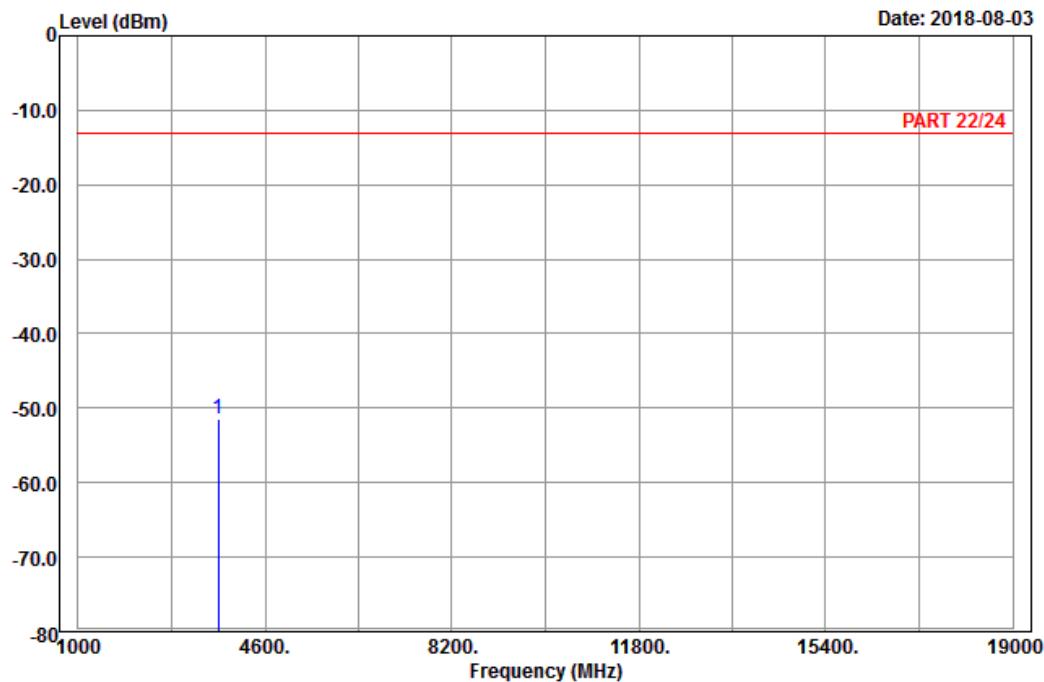


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18625
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-51.35	-67.23	-13.00	-38.35	15.88	Peak

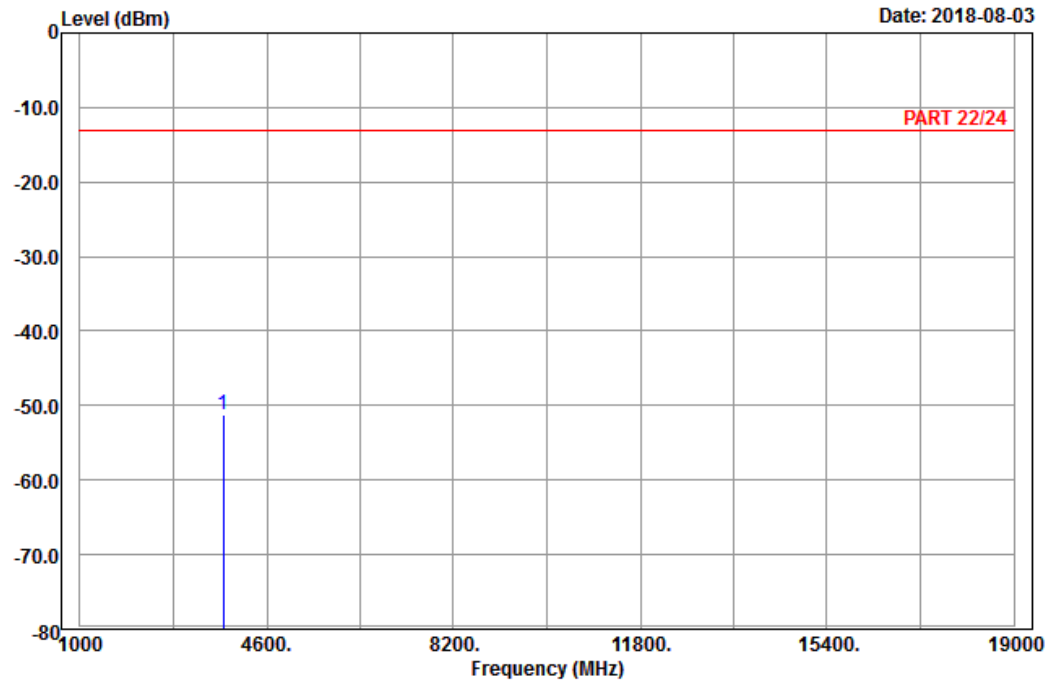
Middle Channel



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 2_Link_CH18900
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-51.13	-67.27	-13.00	-38.13	16.14	Peak

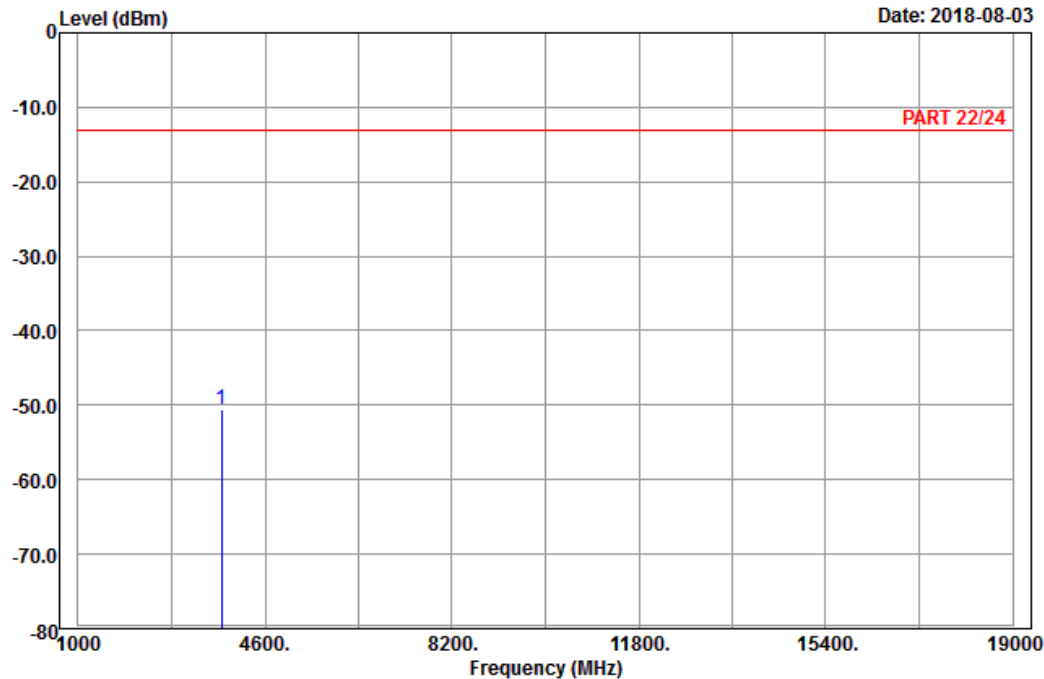


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18900
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-50.63	-66.77	-13.00	-37.63	16.14	Peak

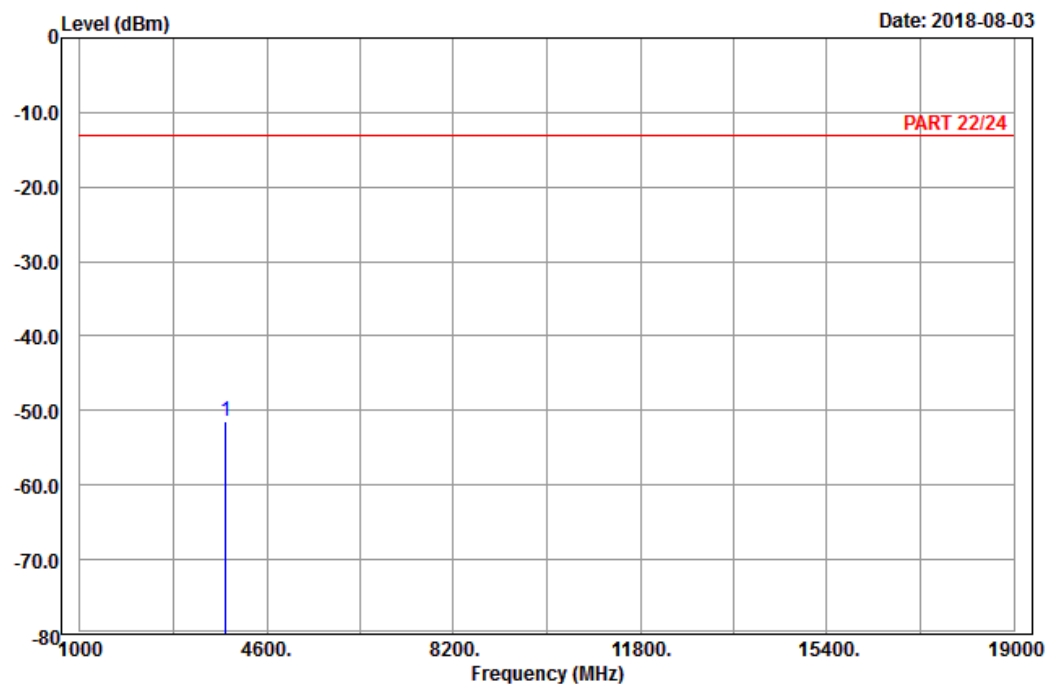
High Channel



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 2_Link_CH19175
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.00	-51.47	-67.88	-13.00	-38.47	16.41	Peak

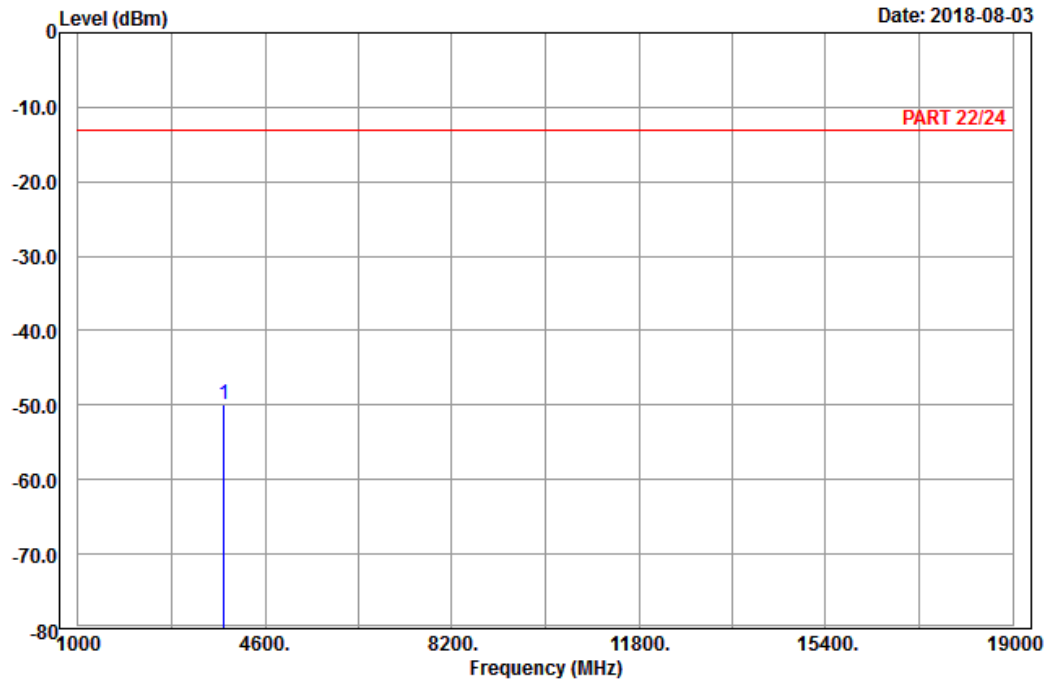


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH19175
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.00	-49.91	-66.32	-13.00	-36.91	16.41	Peak

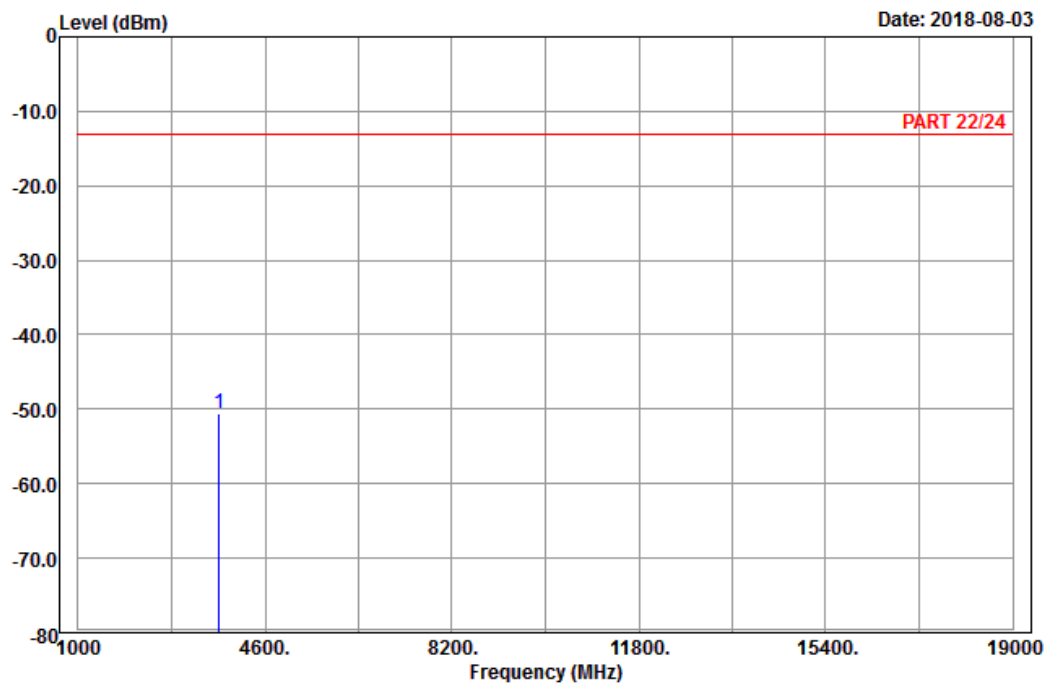
Channel Bandwidth: 20 MHz / QPSK
Low Channel



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 2_Link_CH18700
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-50.57	-66.54	-13.00	-37.57	15.97	Peak

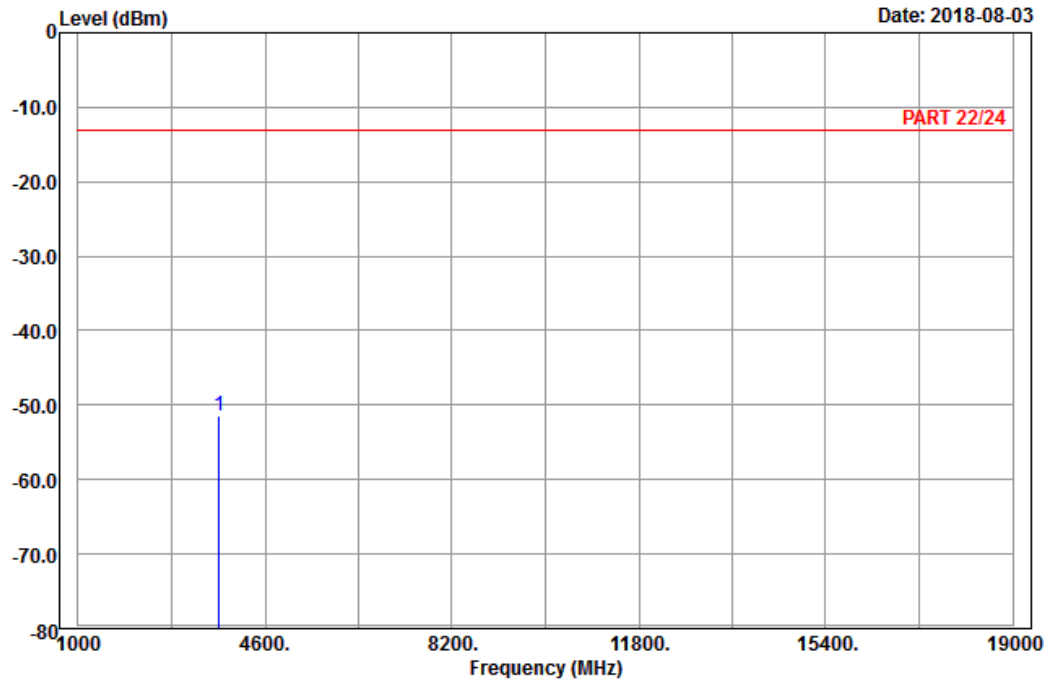


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18700
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-51.48	-67.45	-13.00	-38.48	15.97	Peak

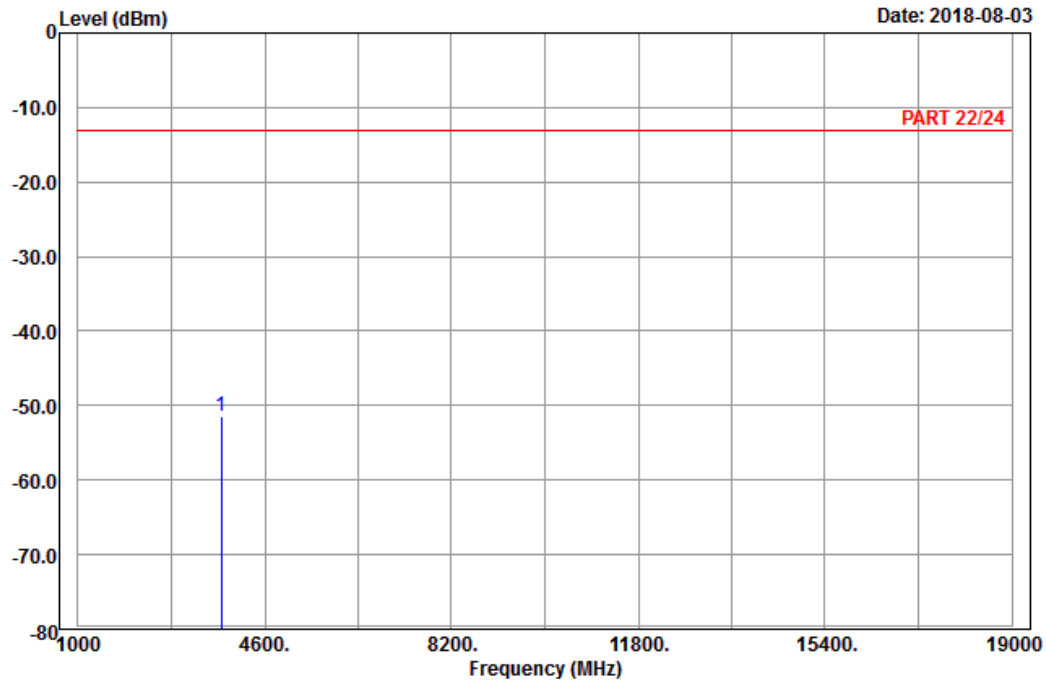
Middle Channel



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 2_Link_CH18900
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-51.52	-67.66	-13.00	-38.52	16.14	Peak

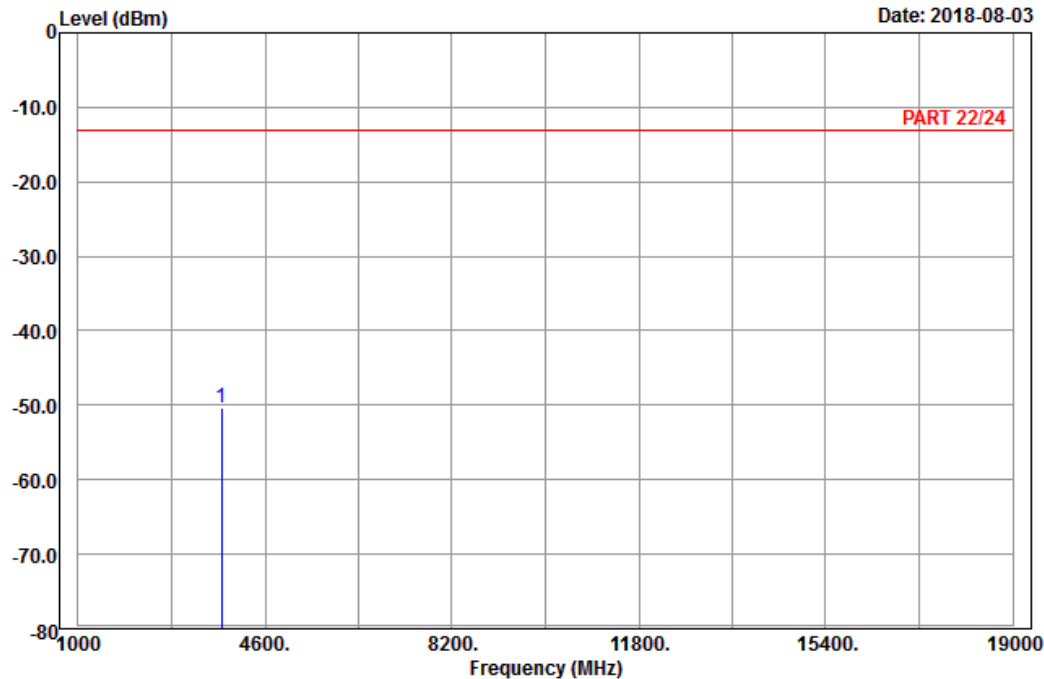


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH18900
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-50.37	-66.51	-13.00	-37.37	16.14	Peak

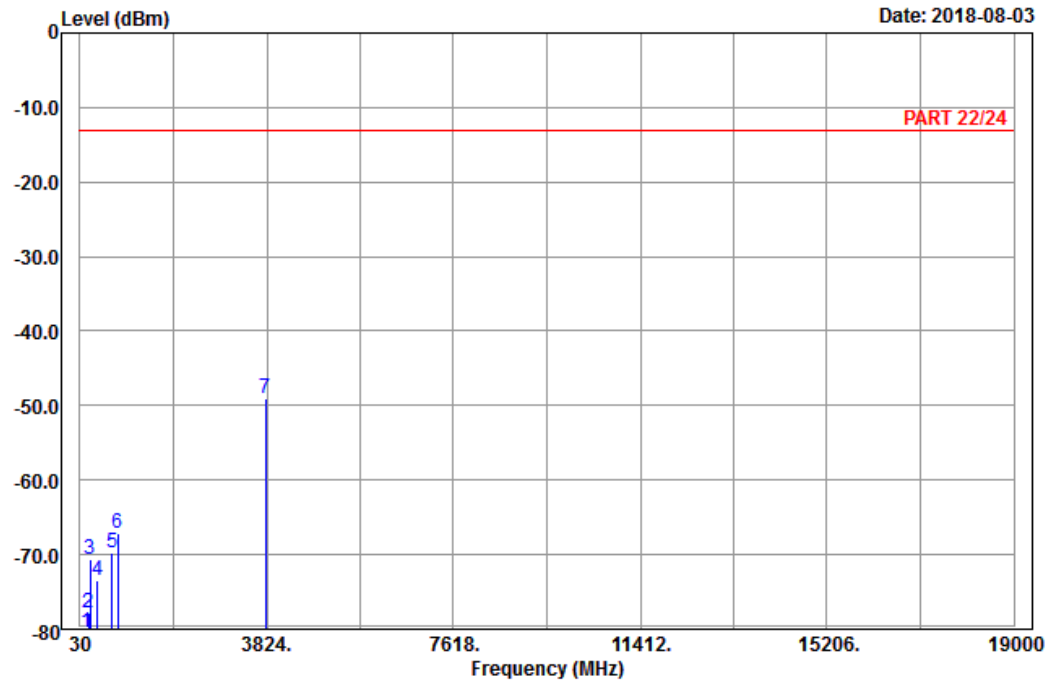
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 2_Link_CH19100
Tested by: Karl Lee

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	154.20	-80.49	-72.65	-13.00	-67.49	-7.84	Peak
2	199.29	-77.93	-71.75	-13.00	-64.93	-6.18	Peak
3	236.82	-70.68	-64.99	-13.00	-57.68	-5.69	Peak
4	381.20	-73.37	-69.65	-13.00	-60.37	-3.72	Peak
5	683.60	-69.68	-69.38	-13.00	-56.68	-0.30	Peak
6	803.30	-67.15	-69.13	-13.00	-54.15	1.98	Peak
7 pp	3800.00	-49.09	-65.50	-13.00	-36.09	16.41	Peak

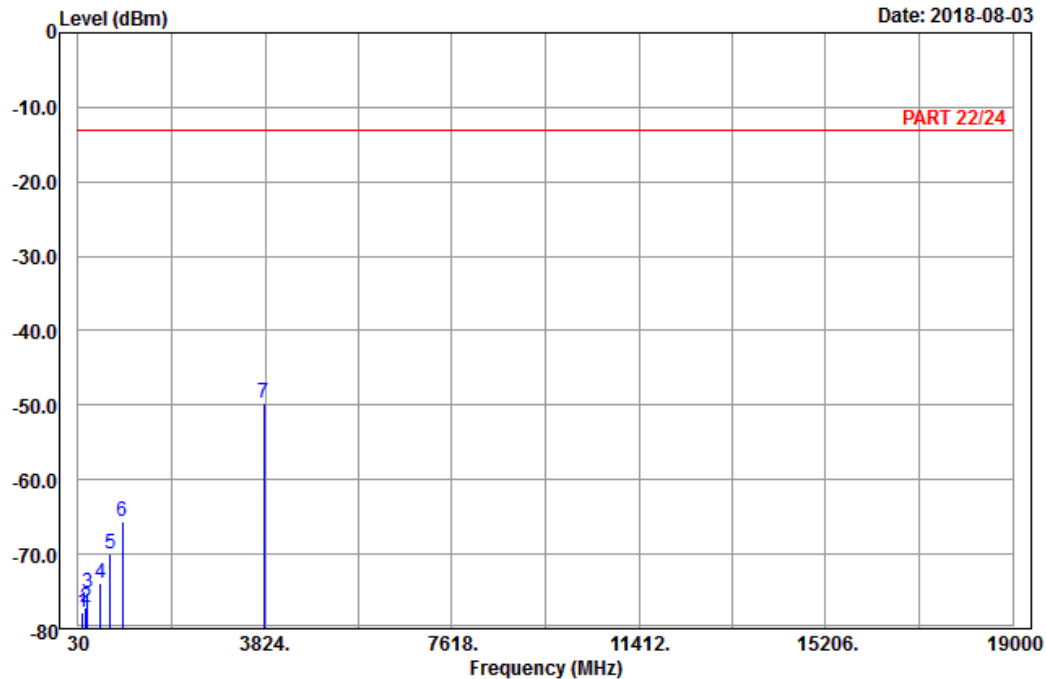


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 2_Link_CH19100
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	122.34	-77.93	-69.80	-13.00	-64.93	-8.13	Peak
2	186.06	-77.23	-71.56	-13.00	-64.23	-5.67	Peak
3	219.81	-75.15	-69.24	-13.00	-62.15	-5.91	Peak
4	491.10	-73.94	-68.93	-13.00	-60.94	-5.01	Peak
5	685.00	-69.87	-69.57	-13.00	-56.87	-0.30	Peak
6	931.40	-65.60	-69.88	-13.00	-52.60	4.28	Peak
7 pp	3800.00	-49.77	-66.18	-13.00	-36.77	16.41	Peak

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

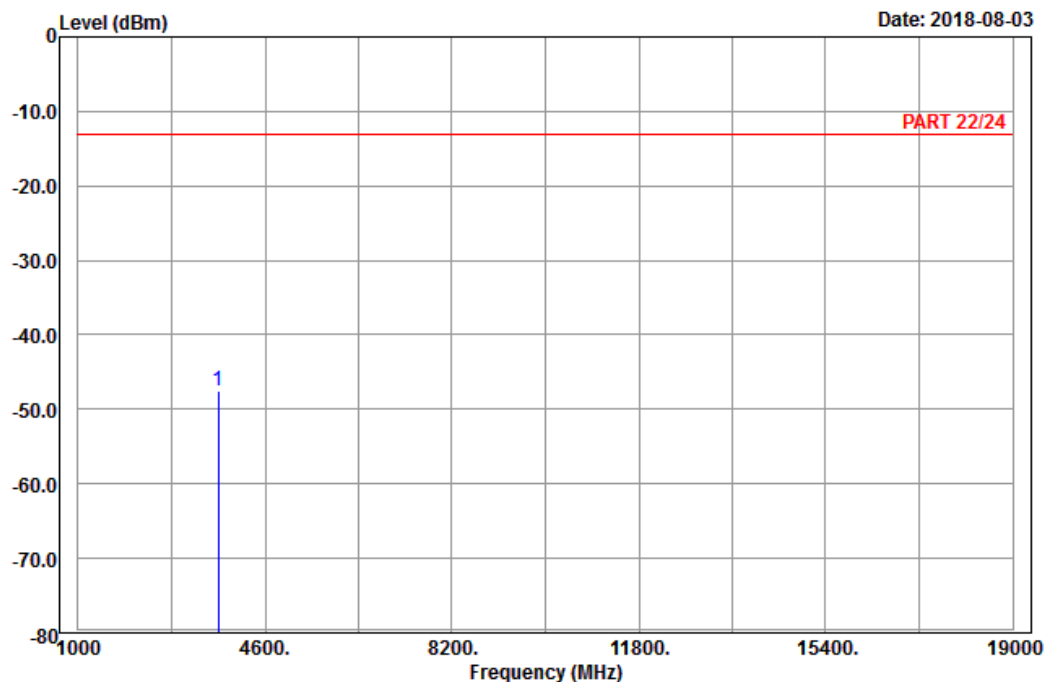


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_Link_CH26047
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-47.62	-63.50	-13.00	-34.62	15.88	Peak

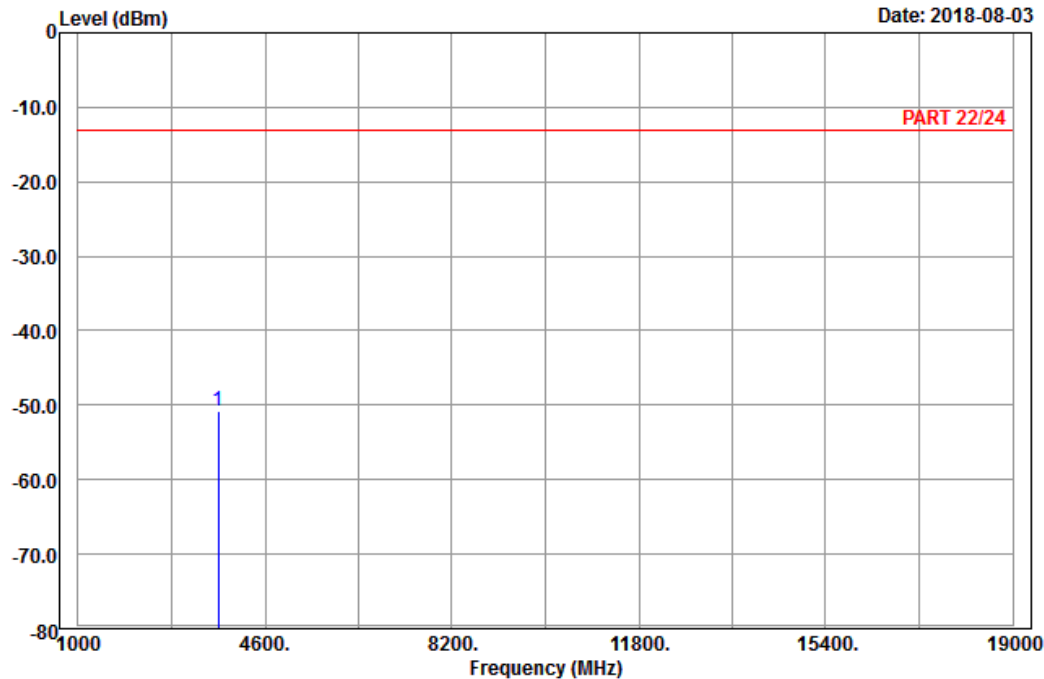


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26047
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-50.71	-66.59	-13.00	-37.71	15.88	Peak

Middle Channel

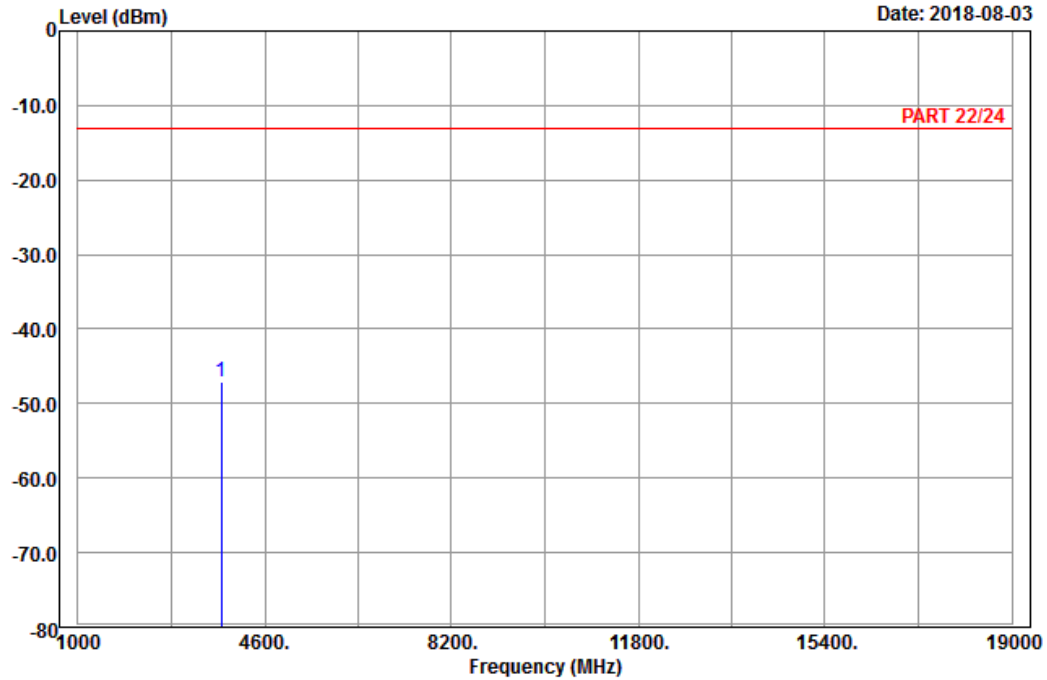


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 25_Link_CH26365
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-47.12	-63.35	-13.00	-34.12	16.23	Peak

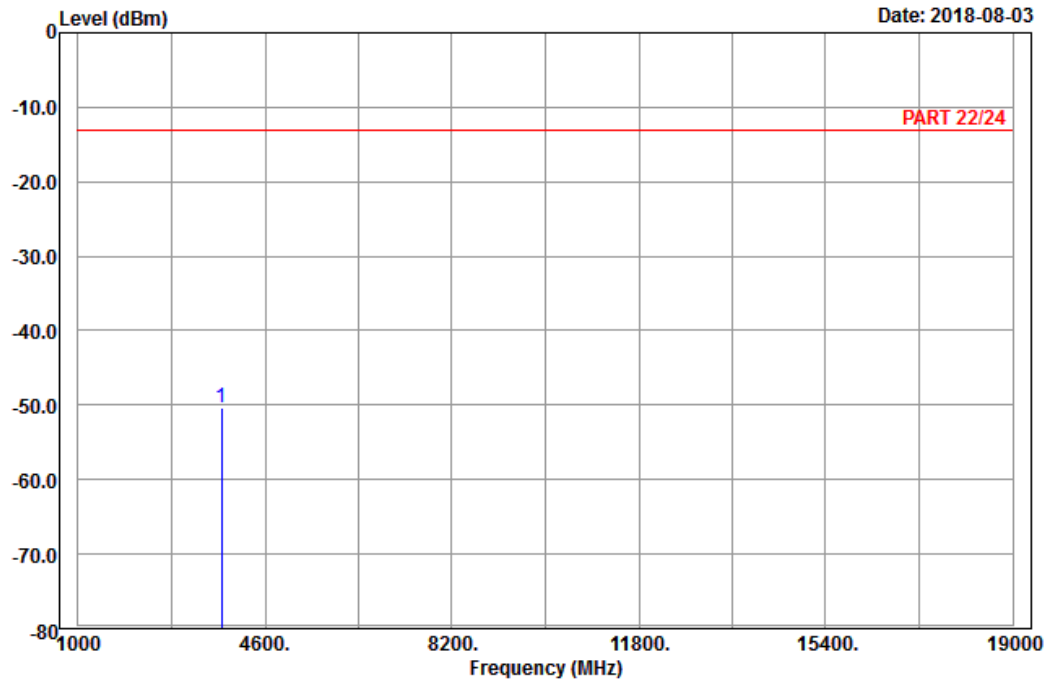


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26365
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-50.33	-66.56	-13.00	-37.33	16.23	Peak

High Channel

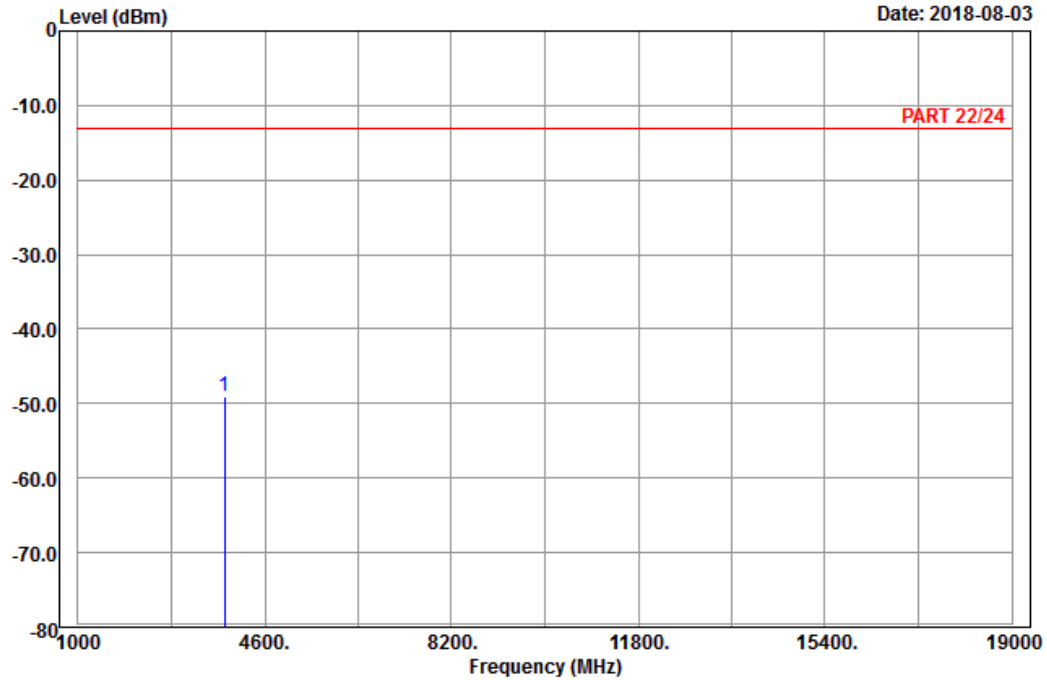


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 25_Link_CH26683
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3828.60	-49.10	-65.60	-13.00	-36.10	16.50	Peak

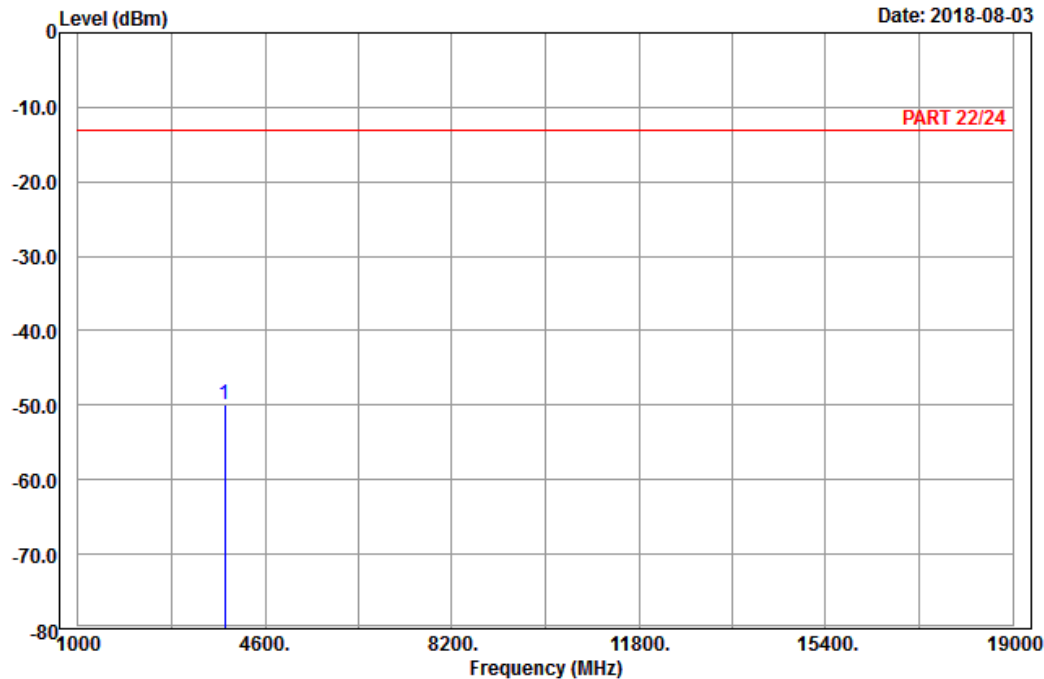


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26683
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3828.60	-49.84	-66.34	-13.00	-36.84	16.50	Peak

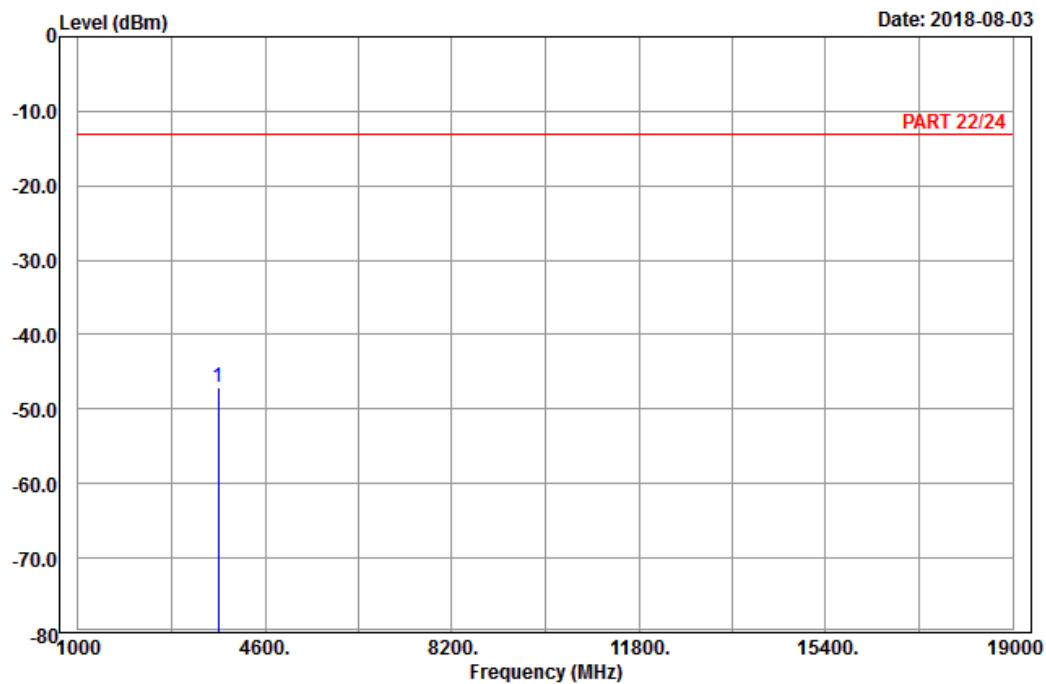
Channel Bandwidth: 5 MHz / QPSK
Low Channel



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 25_Link_CH26065
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-46.99	-62.87	-13.00	-33.99	15.88	Peak

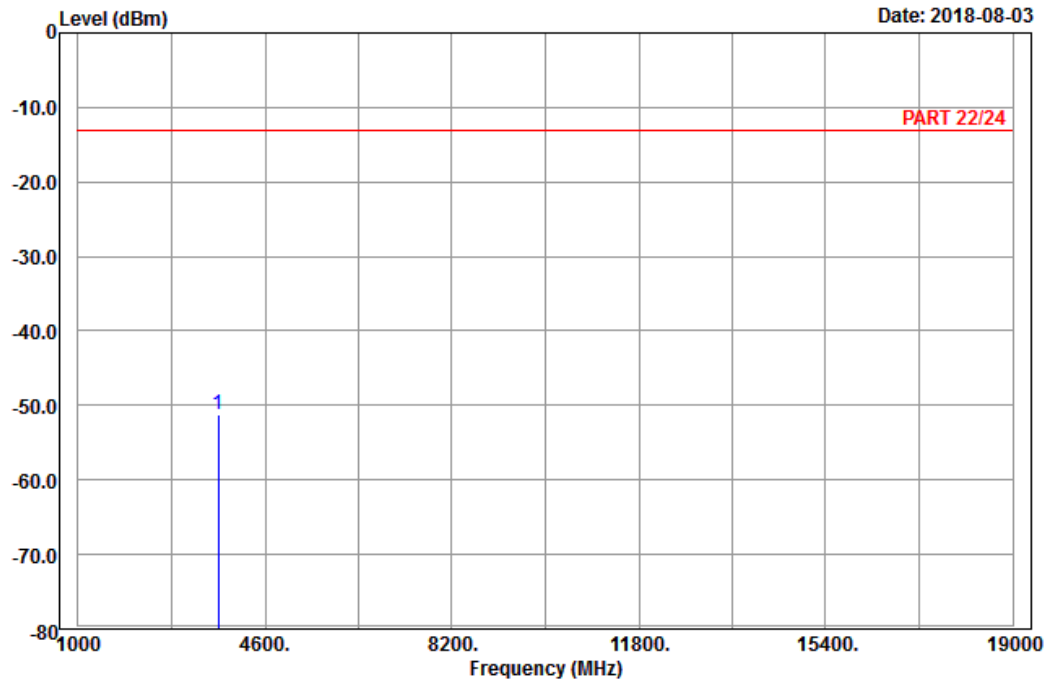


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26065
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-51.20	-67.08	-13.00	-38.20	15.88	Peak

Middle Channel

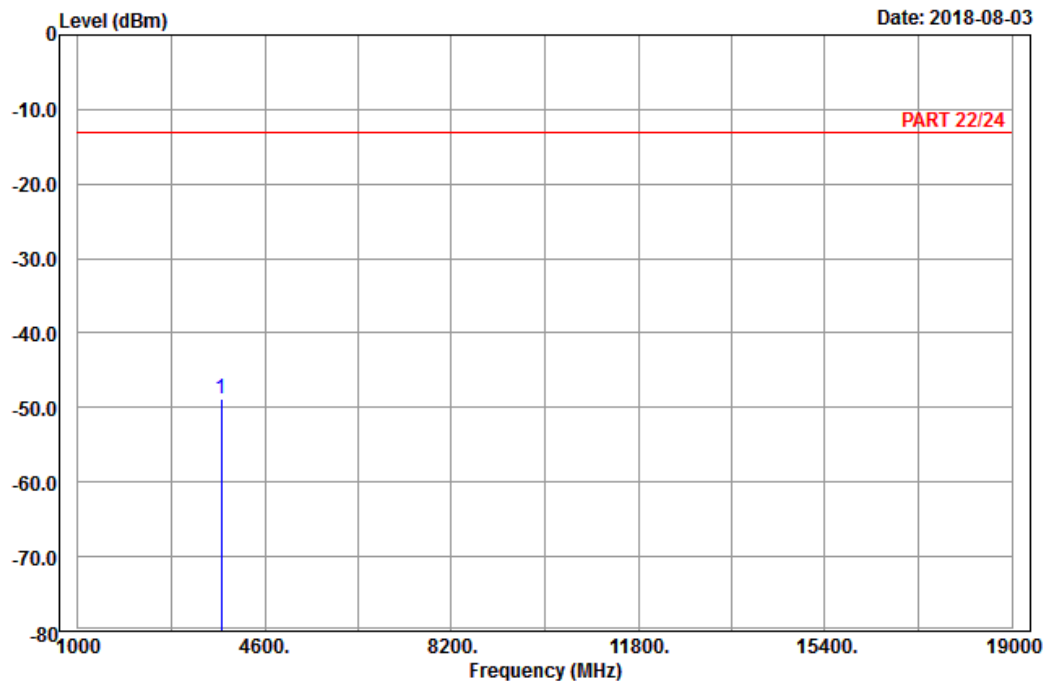


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_Link_CH26365
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-48.84	-65.07	-13.00	-35.84	16.23	Peak

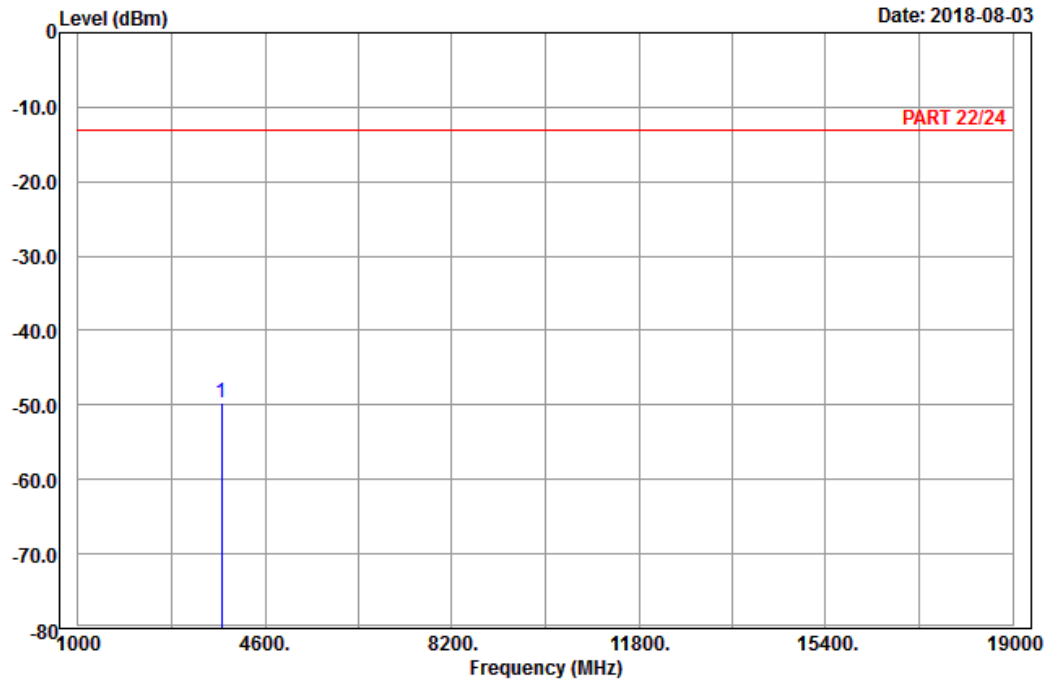


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26365
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-49.66	-65.89	-13.00	-36.66	16.23	Peak

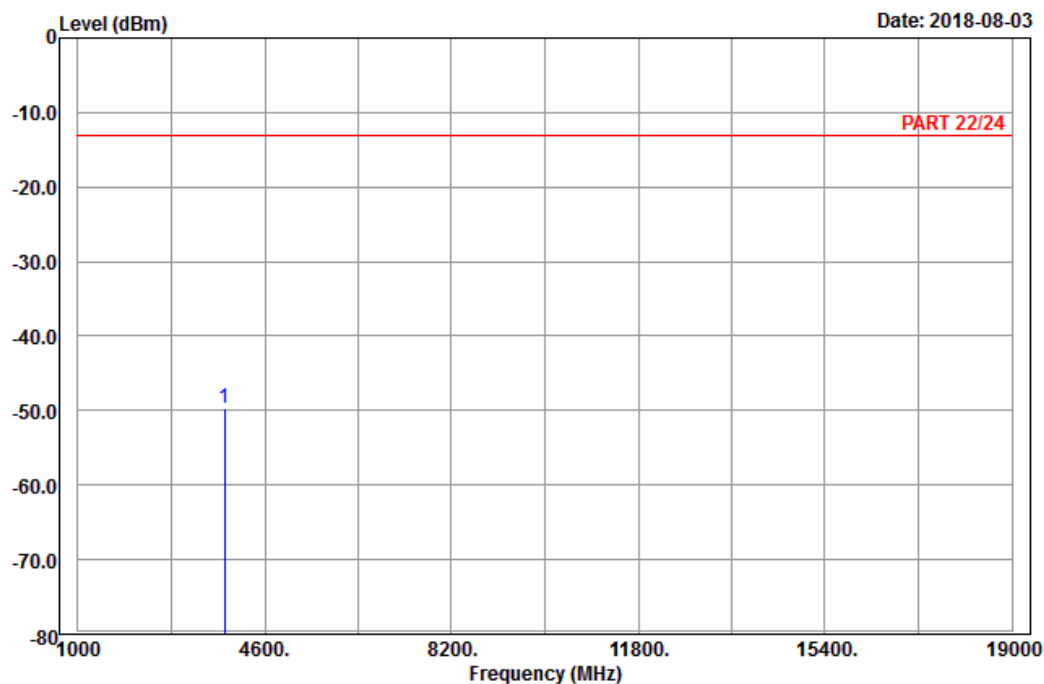
High Channel



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 25_Link_CH26665
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3825.00	-49.76	-66.26	-13.00	-36.76	16.50	Peak

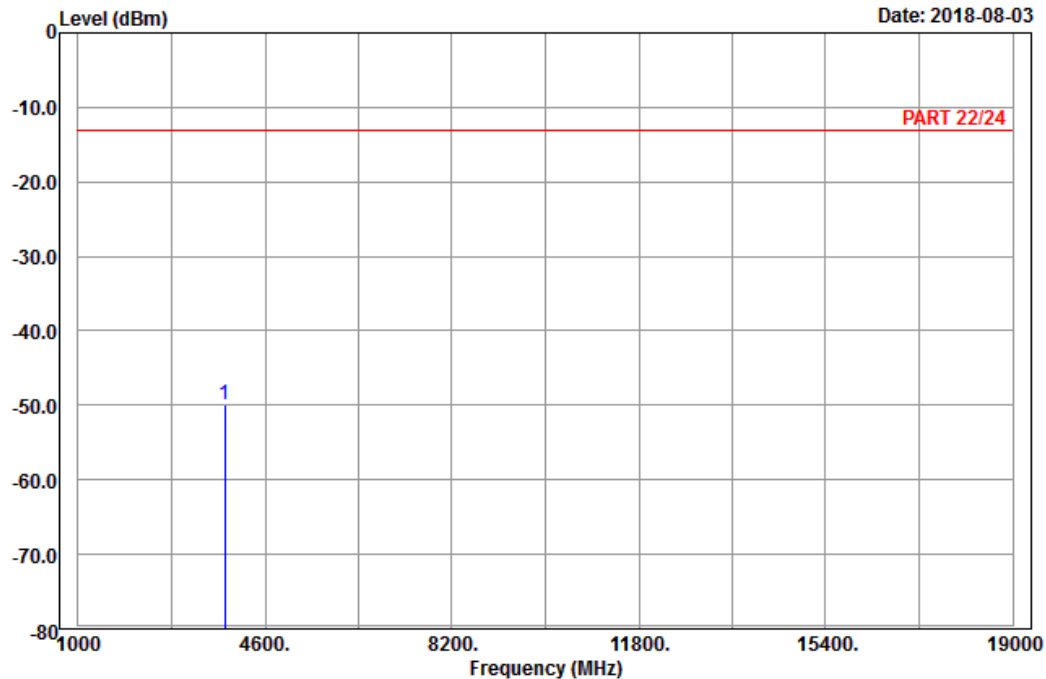


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26665
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3825.00	-49.99	-66.49	-13.00	-36.99	16.50	Peak

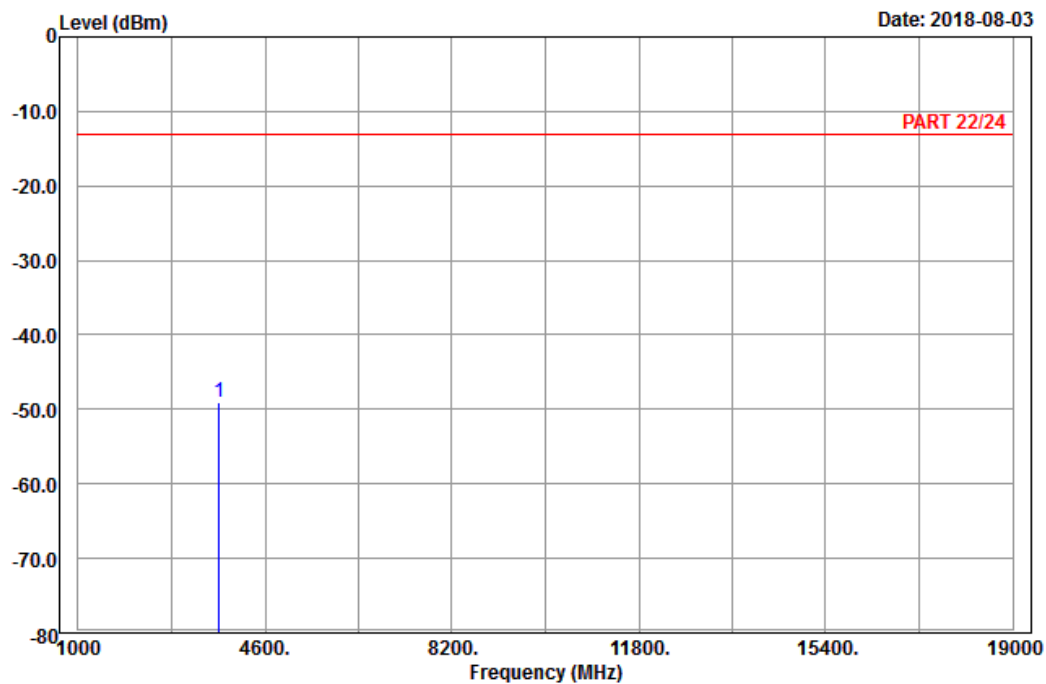
Channel Bandwidth: 20 MHz / QPSK
Low Channel



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 25_Link_CH26140
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-49.00	-64.97	-13.00	-36.00	15.97	Peak

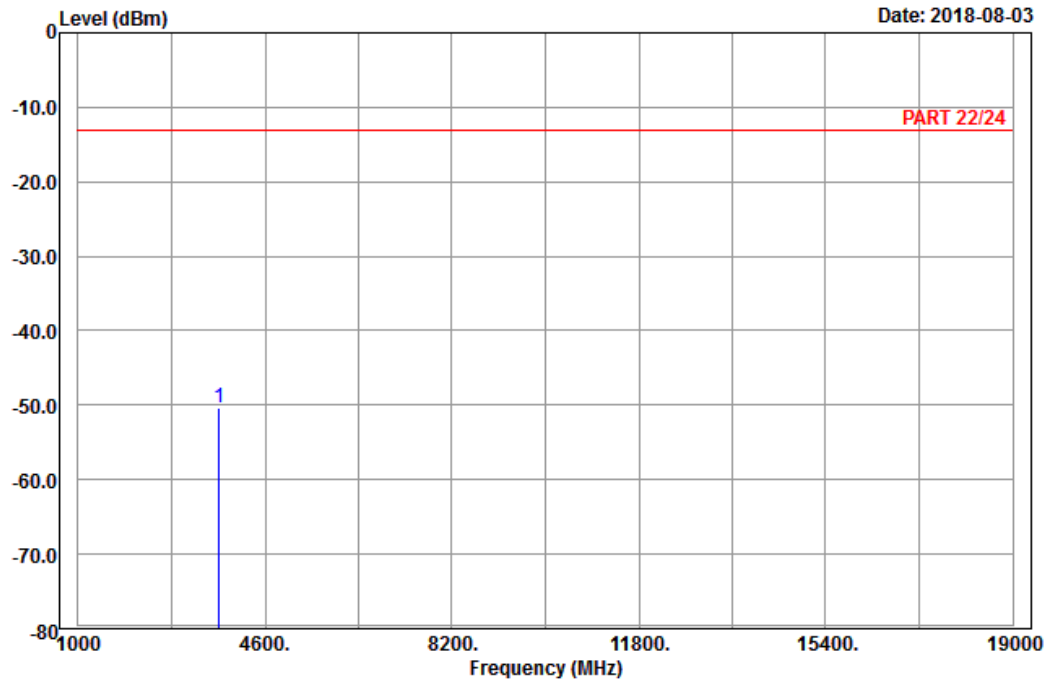


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26140
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-50.36	-66.33	-13.00	-37.36	15.97	Peak

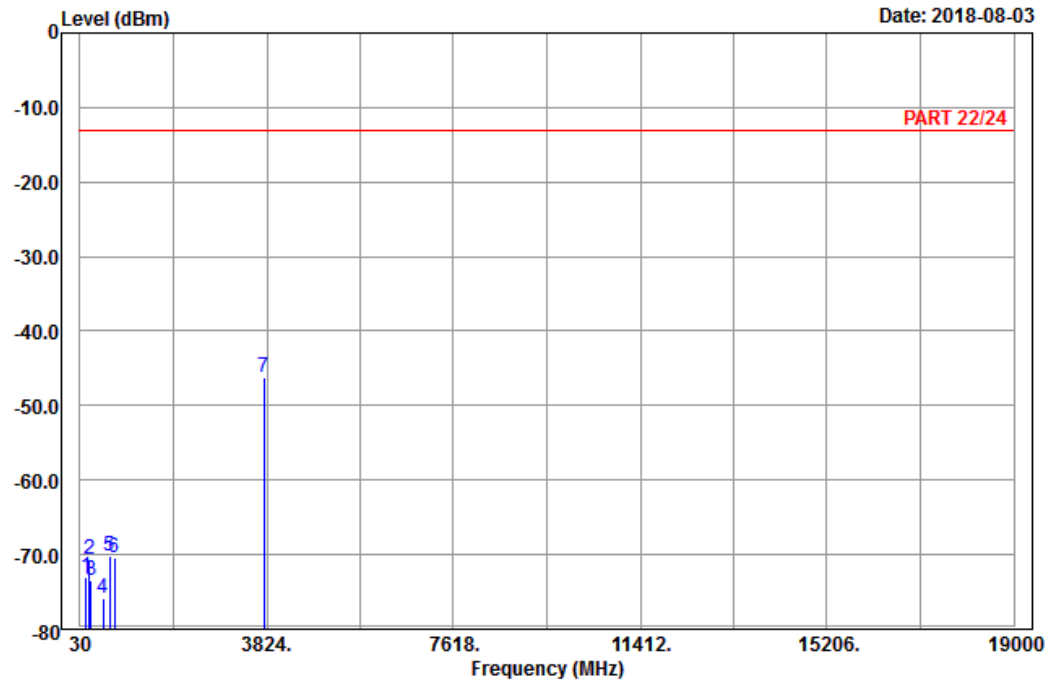
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13



Site : 966 chamber 1
Condition: PART 22/24 Horizontal
Remark : LTE_Band 25_Link_CH26365
Tested by: Karl Lee

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	161.76	-73.07	-65.60	-13.00	-60.07	-7.47	Peak
2	219.54	-70.52	-64.60	-13.00	-57.52	-5.92	Peak
3	249.51	-73.36	-67.84	-13.00	-60.36	-5.52	Peak
4	500.90	-75.92	-70.64	-13.00	-62.92	-5.28	Peak
5	624.80	-70.23	-70.38	-13.00	-57.23	0.15	Peak
6	729.10	-70.50	-69.57	-13.00	-57.50	-0.93	Peak
7 pp	3765.00	-46.30	-62.53	-13.00	-33.30	16.23	Peak

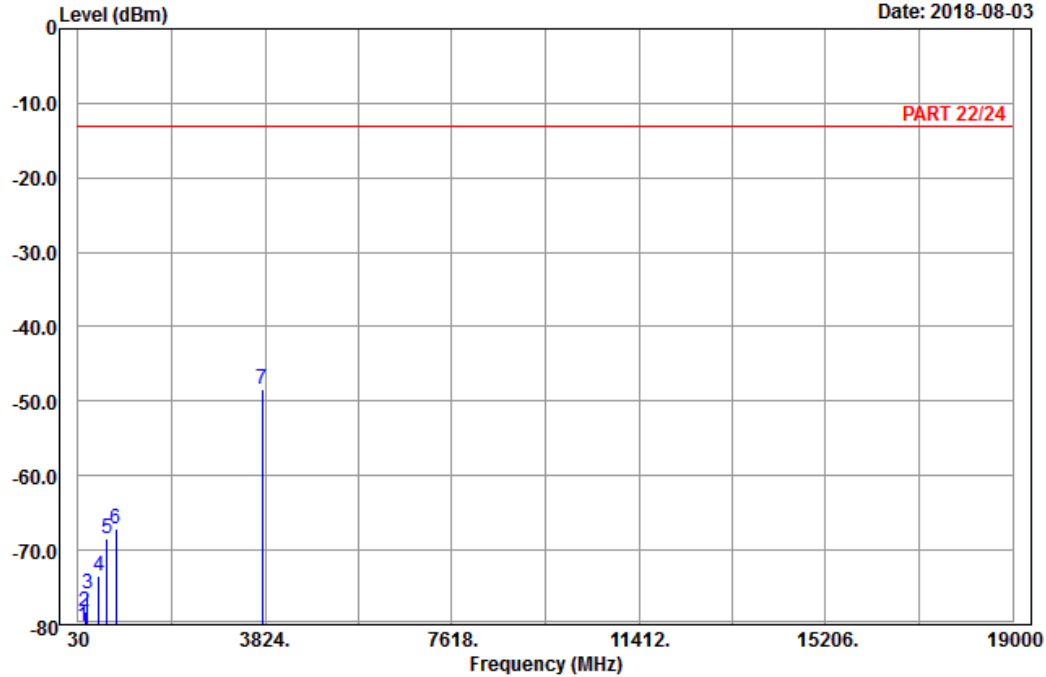


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26365
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	115.86	-80.31	-71.80	-13.00	-67.31	-8.51	Peak
2	177.96	-78.34	-72.56	-13.00	-65.34	-5.78	Peak
3	222.51	-75.94	-70.06	-13.00	-62.94	-5.88	Peak
4	443.50	-73.51	-69.81	-13.00	-60.51	-3.70	Peak
5	615.70	-68.43	-68.68	-13.00	-55.43	0.25	Peak
6	798.40	-67.18	-69.06	-13.00	-54.18	1.88	Peak
7 pp	3765.00	-48.34	-64.57	-13.00	-35.34	16.23	Peak

High Channel

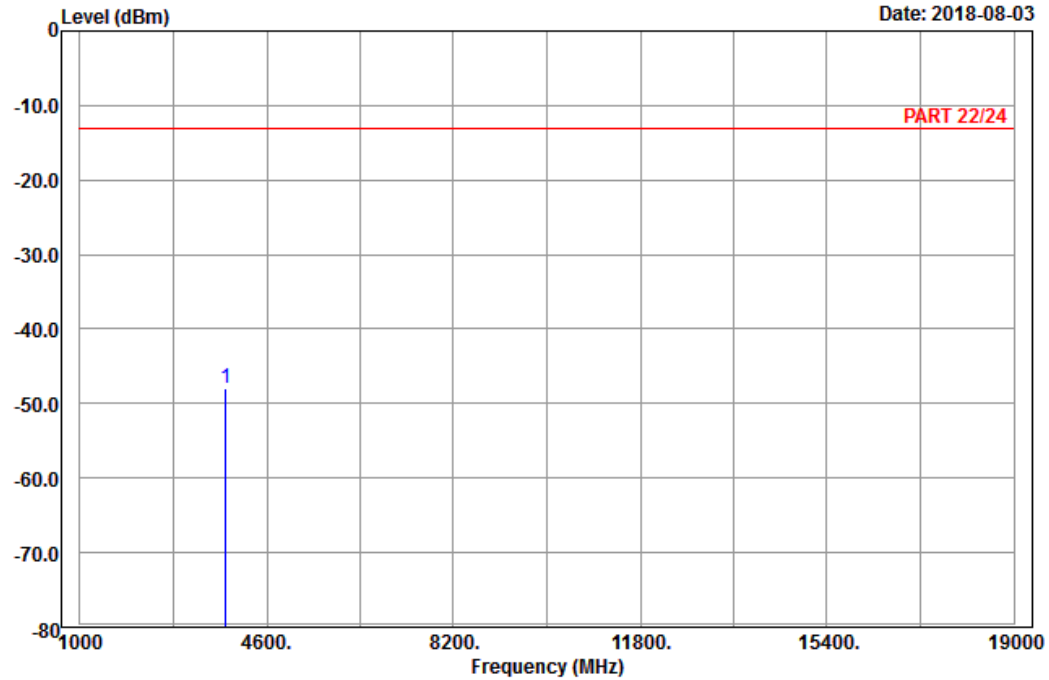


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-08-03



Site : 966 chamber 1
 Condition: PART 22/24 Horizontal
 Remark : LTE_Band 25_Link_CH26590
 Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3810.00	-47.89	-64.30	-13.00	-34.89	16.41	Peak

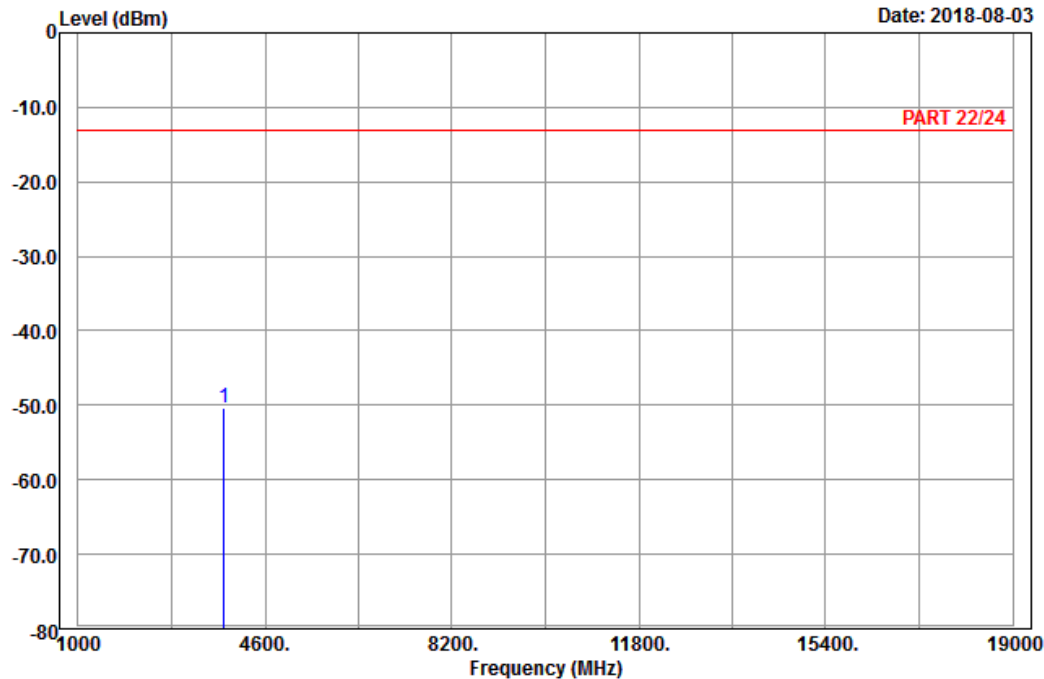


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-08-03



Site : 966 chamber 1
Condition: PART 22/24 Vertical
Remark : LTE_Band 25_Link_CH26590
Tested by: Karl Lee

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3810.00	-50.30	-66.71	-13.00	-37.30	16.41	Peak

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

--- END ---