VARIANT FCC TEST REPORT

(PART 27)

Applicant:	Fibocom Wireless Inc.
Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China.

Manufacturer or Supplier:	Fibocom Wireless Inc.
Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China.
Product:	LTE module
Brand Name:	Fibocom
Model Name:	L850-GLL
FCC ID:	ZMOL850GLL
Date of tests:	Sep. 10, 2021 ~ Sep. 13, 2021

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 27, Subpart C, M** ☒ **ANSI/TIA/EIA-603-D**
☒ **FCC Part 2** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Simon Date: Jan. 24, 2022	Luke Lu Date: Jan. 24, 2022

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/and is intended 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. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; 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 you unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF170106C02-4	Original release	Feb. 21, 2017
RF190122W003-4	Based on the original report RF170106C02-4 change FCC ID	Jan. 17, 2019
W7L-220113W001RF04	Based on the original report RF190122W003-4 Update components，update LTE band 30 data	Jan. 24, 2022

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2		
STANDARD SECTION	**TEST TYPE**	**RESULT**
§2.1046	Coduncted Output Power	(See Note 2)
§27.50(b)(10) §27.50(c)(10)	Equivalent Radiated Power	(See Note 2)
§27.50(d)(4)	Equivalent Isotropically Radiated Power	(See Note 2)
§2.1055 §27.54	Frequency Stability	(See Note 2)
§2.1049	Occupied Bandwidth	(See Note 2)
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h)	Band Edge Measurements	(See Note 2)
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h)	Conducted Spurious Emissions	(See Note 2)
§2.1053 §27.53(c)(2)(4) §27.53(g) §27.53(h)	Radiated Spurious Emissions	Compliance (See Note 1)
NA	Peak to average ratio	(See Note 2)

NOTE:

1. Per the change notice provide by manufactory, the difference is updating components. All the change no effect any RF parameter. Only Radiated Spurious Emissions is verified, all other the data are reused from the original report.

2. Please refer to original report RF170106C02-4-4

1.1 MEASREMENT 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	UNCERTAINTY
Frequency Stability	±76.97Hz
Radiated emissions & Radiated Power (30MHz~1GMHz)	±4.98dB
Radiated emissions & Radiated Power (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 22,21	Apr. 21,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-051	Feb. 14.20	Feb. 13.23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Horn Antenna	ETS-LINDGREN	3117	00168692	Apr. 02,21	Apr. 01,22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 26, 21	Aug. 25, 22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 25,21	Feb. 24,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 03,21	Jun. 02,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 22,21	Apr. 21,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
Power Meter	Anritsu	ML2495A	1506002	Apr. 07,21	Apr. 06,22
Power Sensor	Anritsu	MA2411B	1339352	May. 07,21	May. 06,22

Temperature Chamber	ESPEC	SH-242	93000855	Jun. 02,21	Jun. 01,22
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 05,21	Mar. 04,22
Power Divider	MCLI/USA	PS2-15	24880	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE module	
BRAND NAME	Fibocom	
MODEL NAME	L850-GLL	
NOMINAL VOLTAGE	3.3Vdc (Form Host Equipment)	
MODULATION TECHNOLOGY	**WCDMA**	BPSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	**WCDMA IV**	1712.4MHz ~ 1752.6MHz
	LTE Band 4 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1754.3MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 17 Channel Bandwidth: 5MHz	706.5MHz ~ 713.5MHz
	LTE Band 17 Channel Bandwidth: 10MHz	709MHz ~ 711 MHz
	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~ 1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~ 1777.5MHz
	LTE Band 66 Channel Bandwidth: 10MHz	1715MHz ~ 1775MHz

	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720MHz ~ 1770MHz
EMISSION DESIGNATOR	**WCDMA**	4M08F9W
	LTE Band 4 Channel Bandwidth: 1.4MHz	1M10W7D
	LTE Band 4 Channel Bandwidth: 3MHz	2M71G7D
	LTE Band 4 Channel Bandwidth: 5MHz	4M50G7D
	LTE Band 4 Channel Bandwidth: 10MHz	9M00G7D
	LTE Band 4 Channel Bandwidth: 15MHz	13M5G7D
	LTE Band 4 Channel Bandwidth: 20MHz	18M0G7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	1M10G7D
	LTE Band 12 Channel Bandwidth: 3MHz	2M70W7D
	LTE Band 12 Channel Bandwidth: 5MHz	4M50G7D
	LTE Band 12 Channel Bandwidth: 10MHz	9M00G7D
	LTE Band 13 Channel Bandwidth: 5MHz	4M50G7D
	LTE Band 13 Channel Bandwidth: 10MHz	8M97G7D
	LTE Band 17 Channel Bandwidth: 5MHz	4M50G7D
	LTE Band 17 Channel Bandwidth: 10MHz	9M00G7D
	LTE Band 66 Channel Bandwidth: 1.4MHz	1M09W7D
	LTE Band 66 Channel Bandwidth: 3MHz	2M71W7D
	LTE Band 66 Channel Bandwidth: 5MHz	4M50W7D
	LTE Band 66 Channel Bandwidth: 10MHz	8M99W7D
	LTE Band 66 Channel Bandwidth: 15MHz	13M5W7D
	LTE Band 66 Channel Bandwidth: 20MHz	17M9W7D
	WCDMA IV	388.87mW
	LTE Band 4 Channel Bandwidth: 1.4MHz	200.91mW

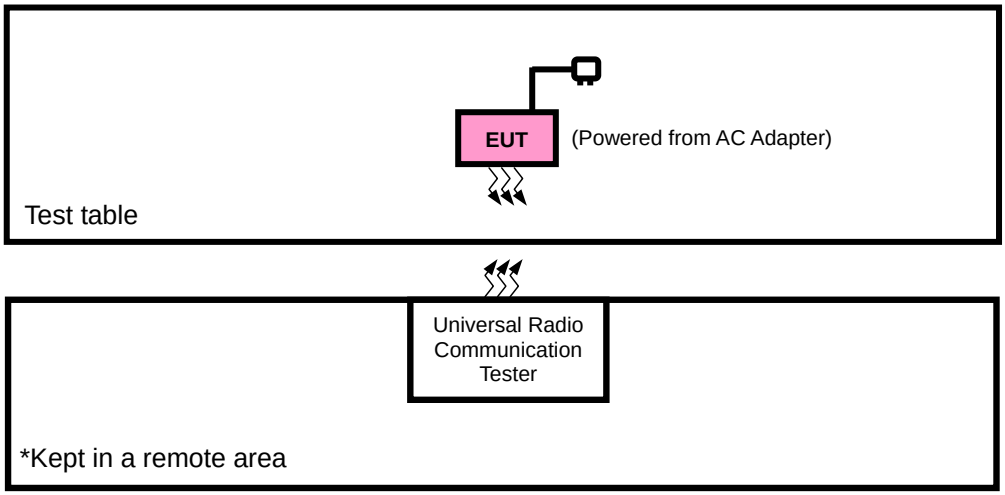
MAX. EIRP POWER	LTE Band 4 Channel Bandwidth: 3MHz	204.17mW
	LTE Band 4 Channel Bandwidth: 5MHz	209.89mW
	LTE Band 4 Channel Bandwidth: 10MHz	213.75mW
	LTE Band 4 Channel Bandwidth: 15MHz	220.80mW
	LTE Band 4 Channel Bandwidth: 20MHz	227.51mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	170.22mW
	LTE Band 12 Channel Bandwidth: 3MHz	172.98mW
	LTE Band 12 Channel Bandwidth: 5MHz	175.79mW
	LTE Band 12 Channel Bandwidth: 10MHz	178.65mW
	LTE Band 13 Channel Bandwidth: 5MHz	165.58mW
	LTE Band 13 Channel Bandwidth: 10MHz	168.27mW
	LTE Band 17 Channel Bandwidth: 5MHz	181.97mW
	LTE Band 17 Channel Bandwidth: 10MHz	183.65mW
	LTE Band 66 Channel Bandwidth: 1.4MHz	152.05 mW
	LTE Band 66 Channel Bandwidth: 3MHz	155.24 mW
	LTE Band 66 Channel Bandwidth: 5MHz	156.68 mW
	LTE Band 66 Channel Bandwidth: 10MHz	158.82 mW
	LTE Band 66 Channel Bandwidth: 15MHz	161.81 mW
	LTE Band 66 Channel Bandwidth: 20MHz	163.68 mW
ANTENNA TYPE	External Antenna	
HW VERSION	V1.0.4	
SW VERSION	18500.5001.00.05.27.12	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	
EXTREME TEMPERATURE	-10-55 ℃	
EXTREME VOLTAGE	3.4V- 4.4V	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 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	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION MEASUREMENT

3.1.1 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 equal to –13dBm.

3.1.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m 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 1m to 4m 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.P.R power - 2.15dBi.

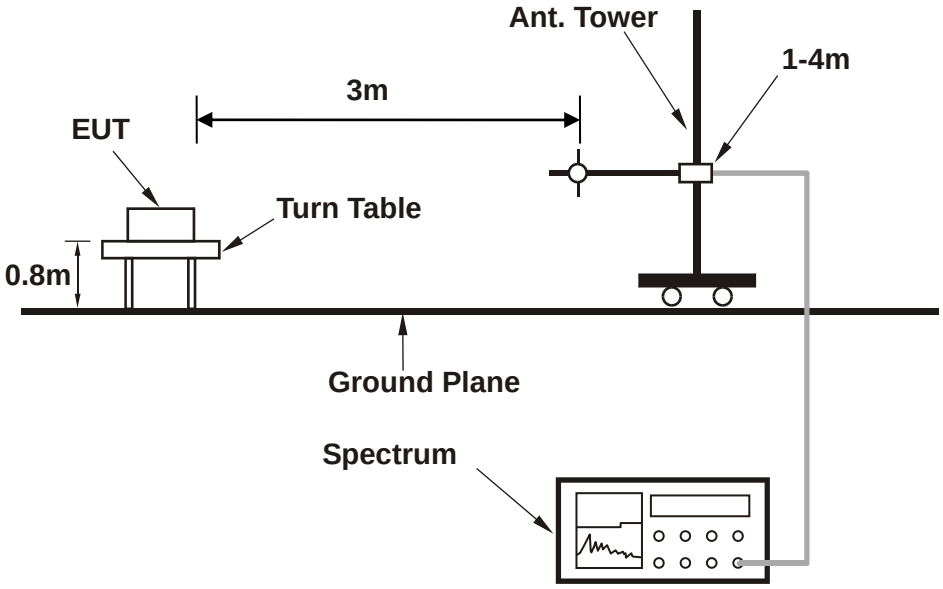
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.1.3 DEVIATION FROM TEST STANDARD

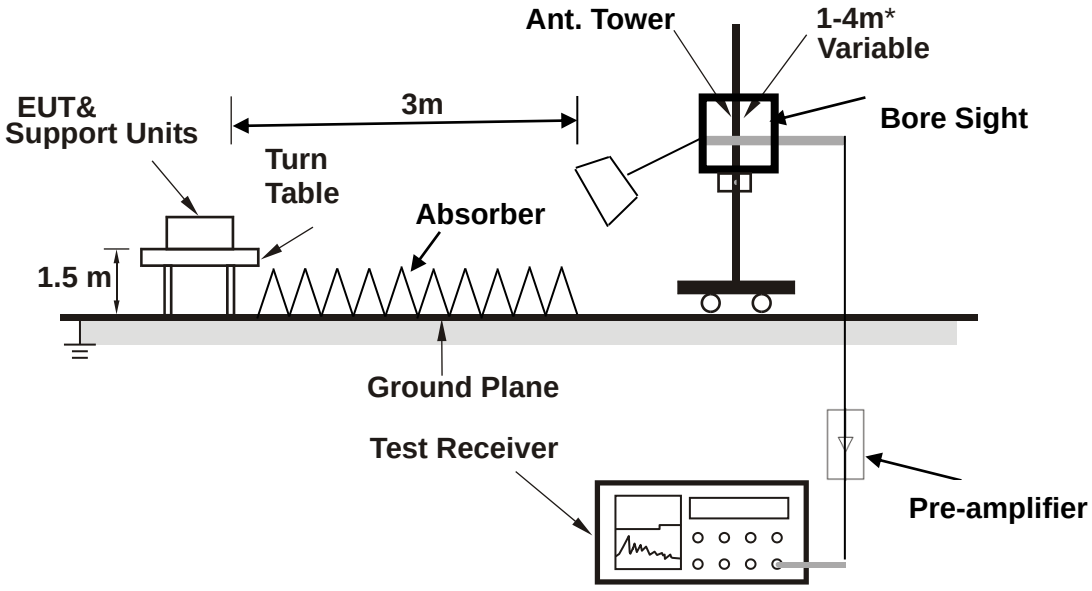
No deviation

3.1.4 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

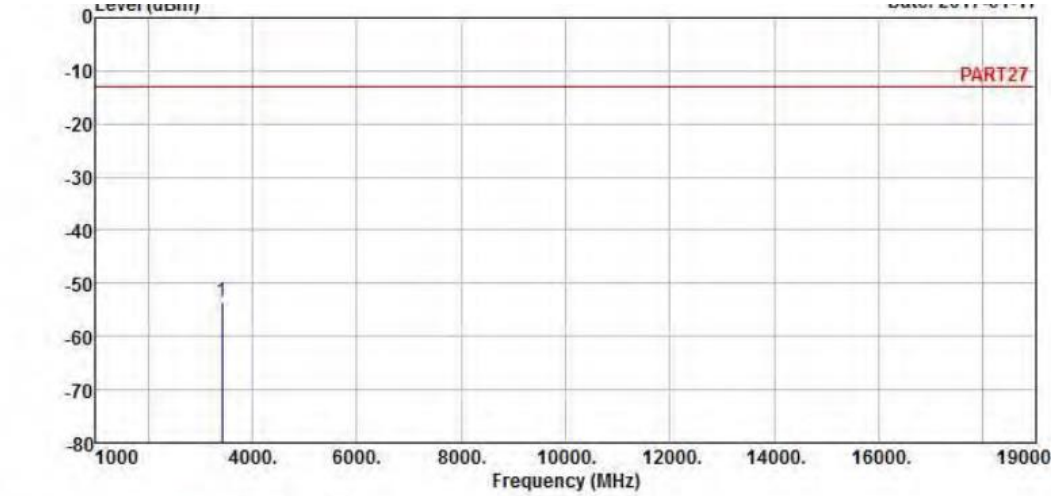
Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.1.5 TEST RESULTS

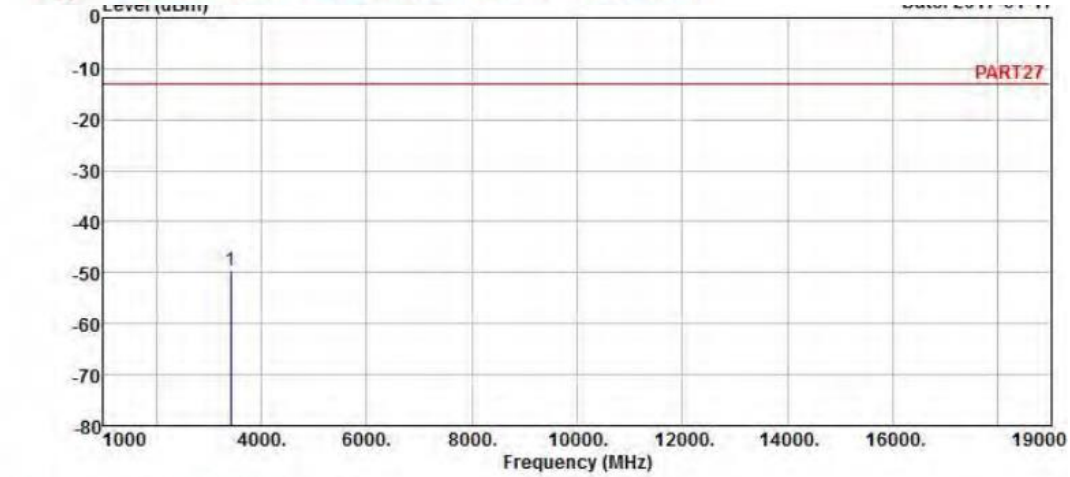
WCDMA

Low Channel



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : WCDMA Band 4 L-CH Link
Tested by: Gavin Wu

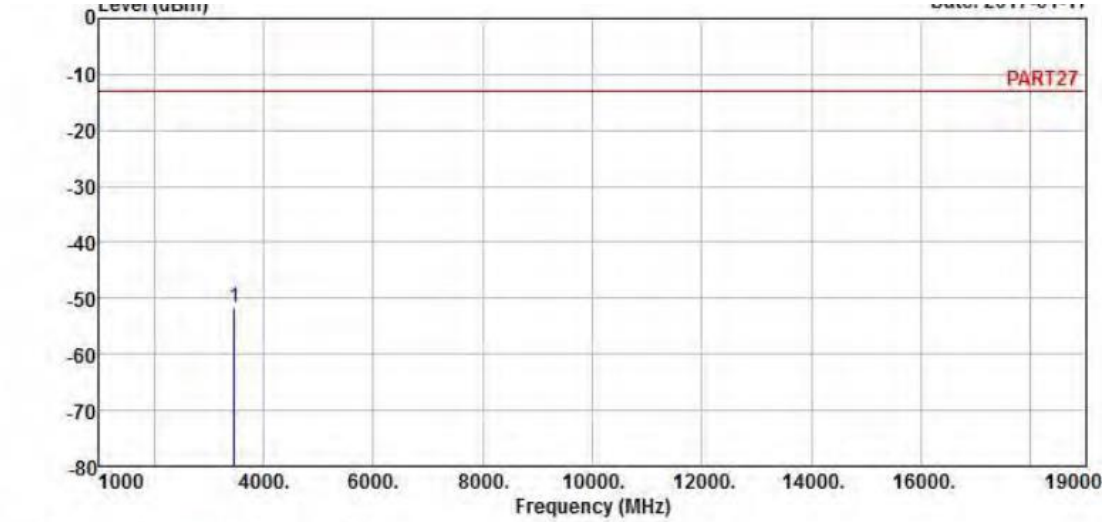
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3424.80	-53.57	-44.48	-13.00	-40.57	-9.09	Peak



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : WCDMA Band 4 L-CH Link
Tested by: Gavin Wu

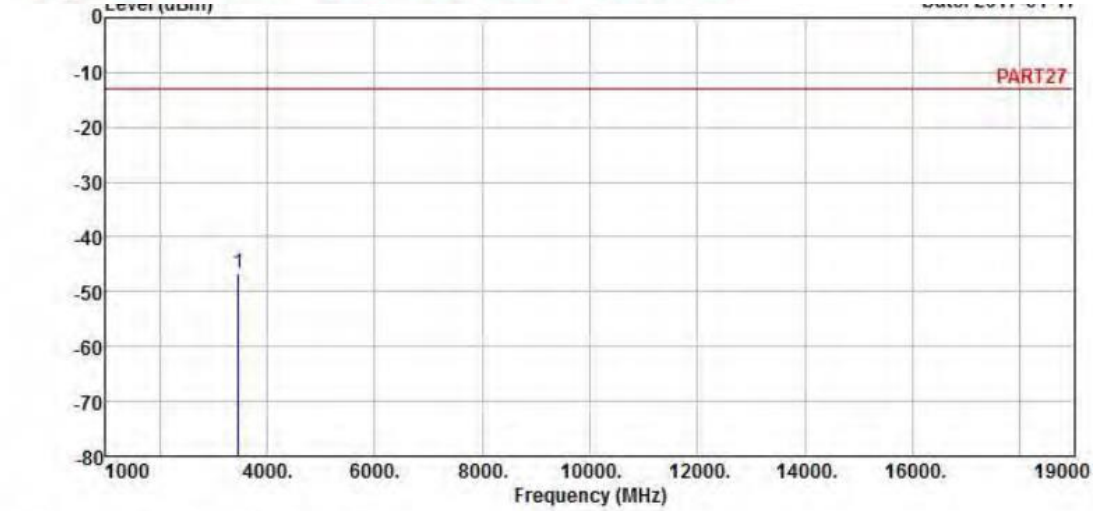
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3424.80	-49.72	-40.63	-13.00	-36.72	-9.09	Peak

Middle Channel



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : WCDMA Band 4 M-CH Link
Tested by: Gavin Wu

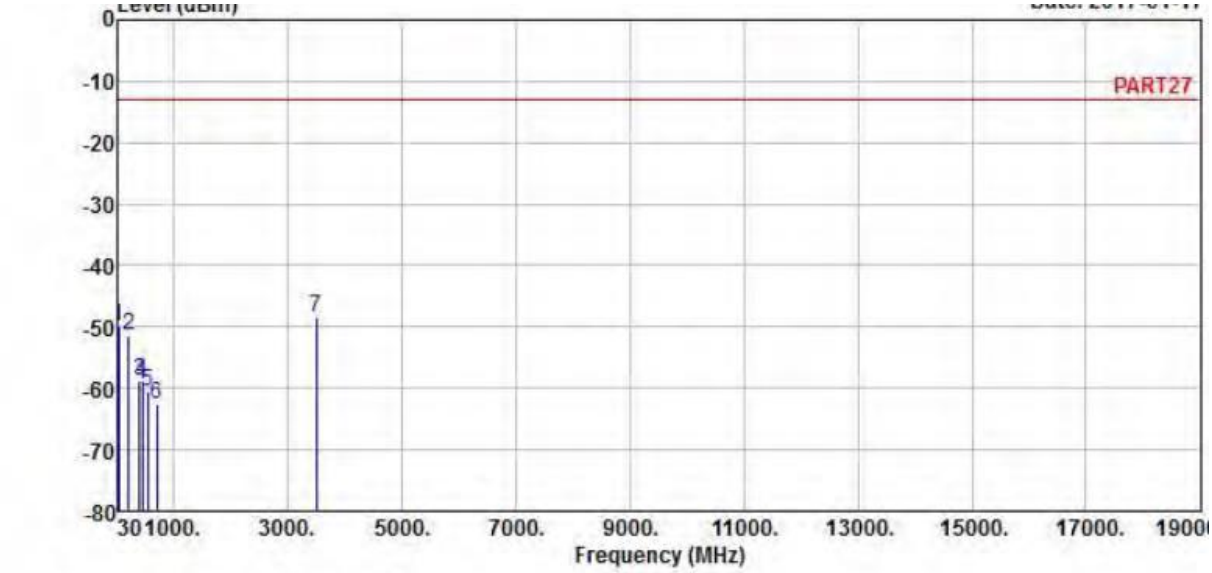
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.20	-51.75	-42.84	-13.00	-38.75	-8.91	Peak



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : WCDMA Band 4 M-CH Link
Tested by: Gavin Wu

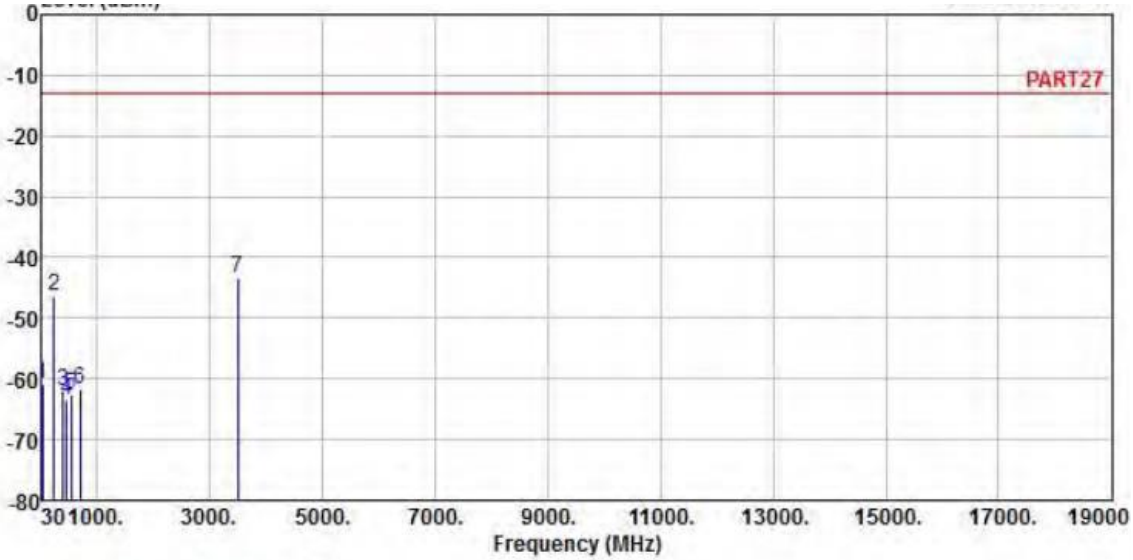
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.20	-46.71	-37.80	-13.00	-33.71	-8.91	Peak

High Channel



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : WCDMA Band 4 H-CH Link
Tested by: Gavin Wu

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-49.90	-50.02	-13.00	-36.90	0.12	Peak
2	208.48	-51.28	-43.61	-13.00	-38.28	-7.67	Peak
3	398.60	-58.60	-52.65	-13.00	-45.60	-5.95	Peak
4	454.86	-58.64	-53.18	-13.00	-45.64	-5.46	Peak
5	547.98	-60.45	-57.53	-13.00	-47.45	-2.92	Peak
6	700.27	-62.50	-62.40	-13.00	-49.50	-0.10	Peak
7 pp	3505.20	-48.27	-40.16	-13.00	-35.27	-8.11	Peak



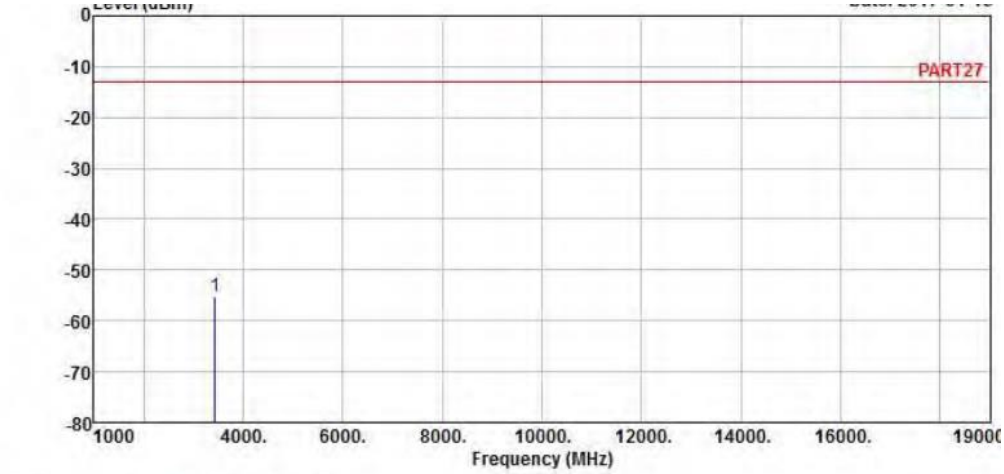
Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : WCDMA Band 4 H-CH Link
Tested by: Gavin Wu

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	41.64	-60.71	-60.30	-13.00	-47.71	-0.41	Peak
2	234.67	-46.35	-39.73	-13.00	-33.35	-6.62	Peak
3	393.75	-61.94	-55.96	-13.00	-48.94	-5.98	Peak
4	456.80	-63.51	-58.09	-13.00	-50.51	-5.42	Peak
5	547.98	-62.69	-59.77	-13.00	-49.69	-2.92	Peak
6	704.15	-61.66	-61.64	-13.00	-48.66	-0.02	Peak
7 pp	3505.20	-43.49	-35.38	-13.00	-30.49	-8.11	Peak

LTE Band 4

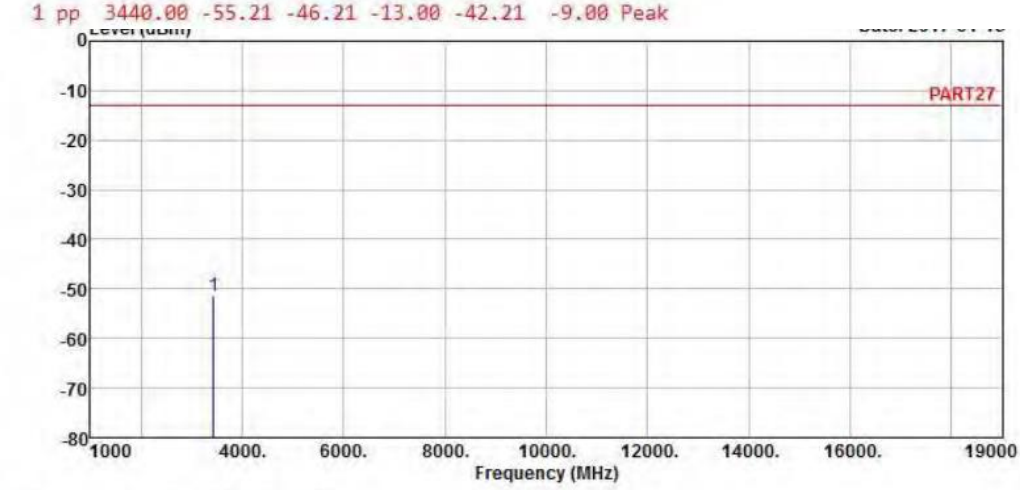
CHANNEL BANDWIDTH: 20MHz / QPSK

Low Channel



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 4 QPSK_20M_L-CH Link
Tested by: Getaz Yang

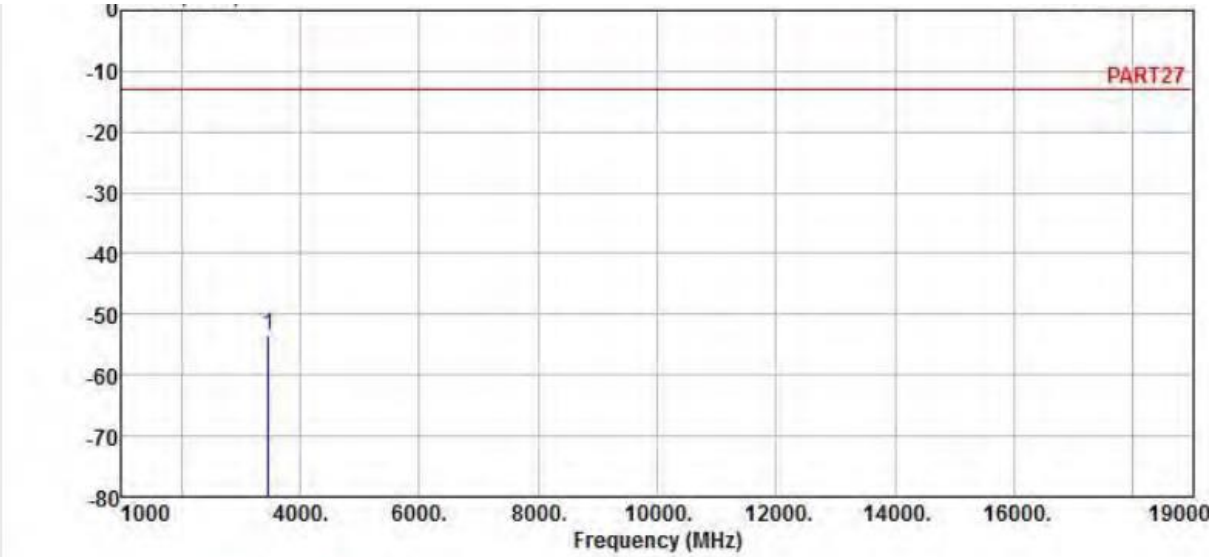
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-55.21	-46.21	-13.00	-42.21	-9.00	Peak



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 4 QPSK_20M_L-CH Link
Tested by: Getaz Yang

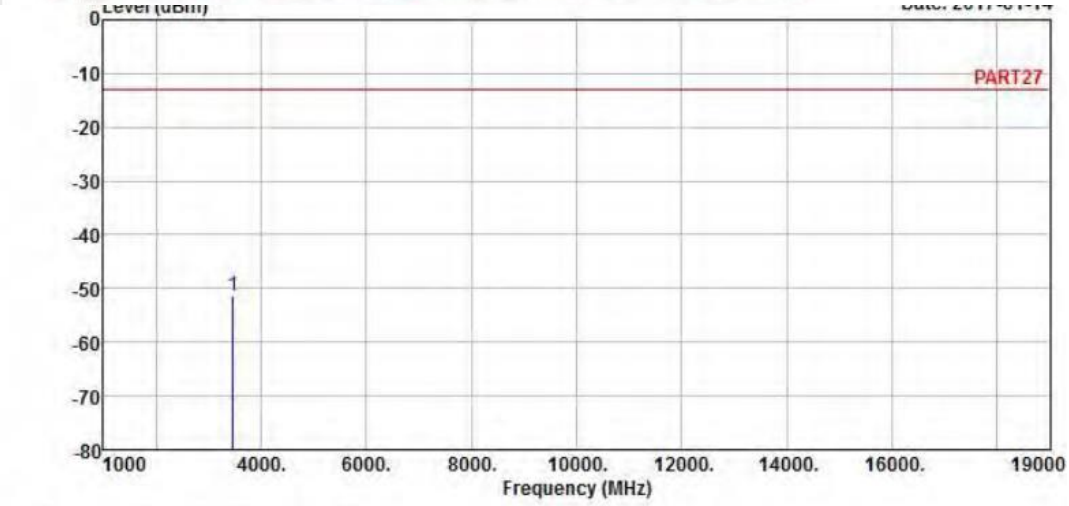
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-51.48	-42.48	-13.00	-38.48	-9.00	Peak

Middle Channel



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 4 QPSK_20M_M-CH Link
Tested by: Getaz Yang

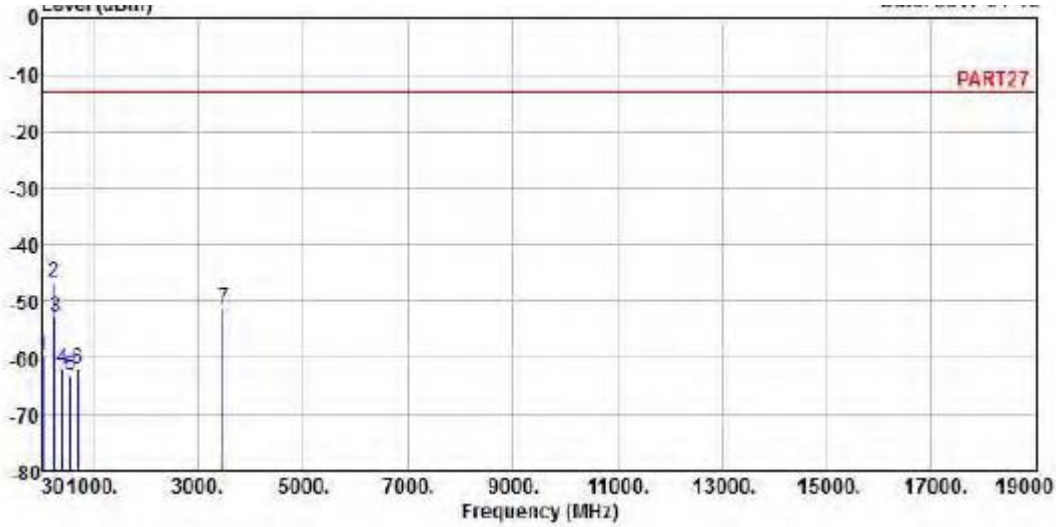
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.00	-53.31	-44.40	-13.00	-40.31	-8.91	Peak



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 4 QPSK_20M_M-CH Link
Tested by: Getaz Yang

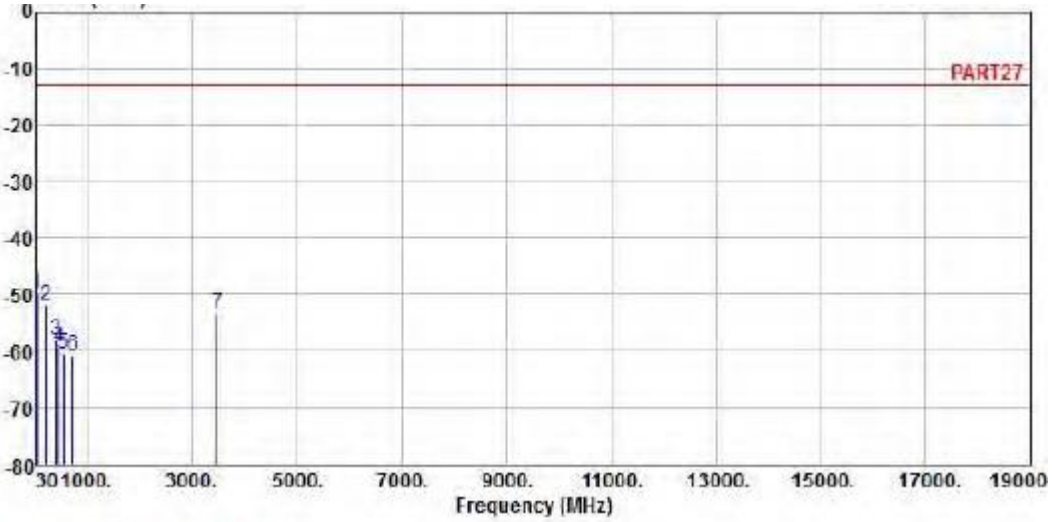
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.00	-51.35	-42.44	-13.00	-38.35	-8.91	Peak

High Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 4 QPSK_20M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-59.60	-59.72	-13.00	-46.60	0.12	Peak
2 pp	235.64	-46.71	-40.13	-13.00	-33.71	-6.58	Peak
3	267.65	-52.77	-46.42	-13.00	-39.77	-6.35	Peak
4	398.60	-61.98	-56.03	-13.00	-48.98	-5.95	Peak
5	552.83	-63.25	-60.52	-13.00	-50.25	-2.73	Peak
6	704.15	-61.95	-61.93	-13.00	-48.95	-0.02	Peak
7	3490.00	-51.34	-42.83	-13.00	-38.34	-8.51	Peak



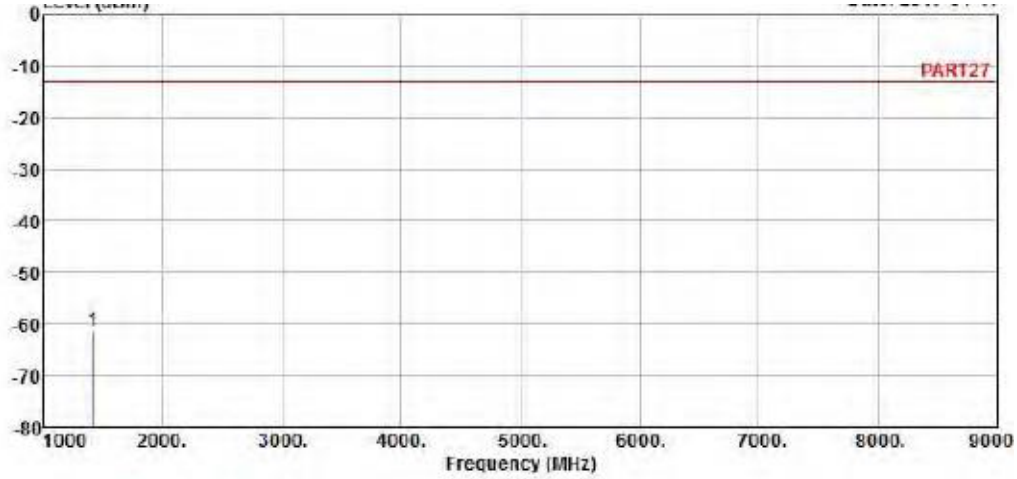
Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 4 QPSK_20M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	40.67	-49.92	-50.04	-13.00	-36.92	0.12	Peak
2	206.54	-52.08	-44.33	-13.00	-39.08	-7.75	Peak
3	399.57	-58.27	-52.32	-13.00	-45.27	-5.95	Peak
4	460.68	-59.20	-53.85	-13.00	-46.20	-5.35	Peak
5	549.92	-60.50	-57.65	-13.00	-47.50	-2.85	Peak
6	710.94	-60.68	-60.79	-13.00	-47.68	0.11	Peak
7	3490.00	-53.47	-44.96	-13.00	-40.47	-8.51	Peak

LTE Band 12

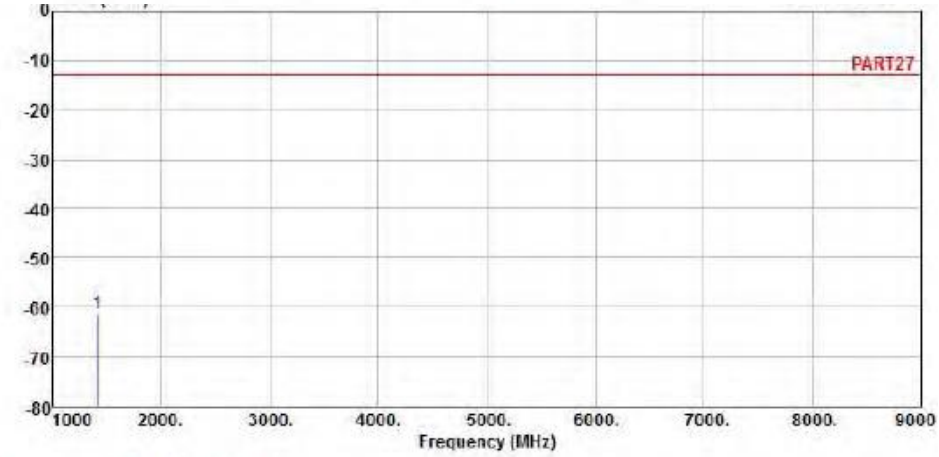
CHANNEL BANDWIDTH: 10MHz / QPSK

Low Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 12 QPSK_10M_L-CH Link
Tested by: Getaz Yang

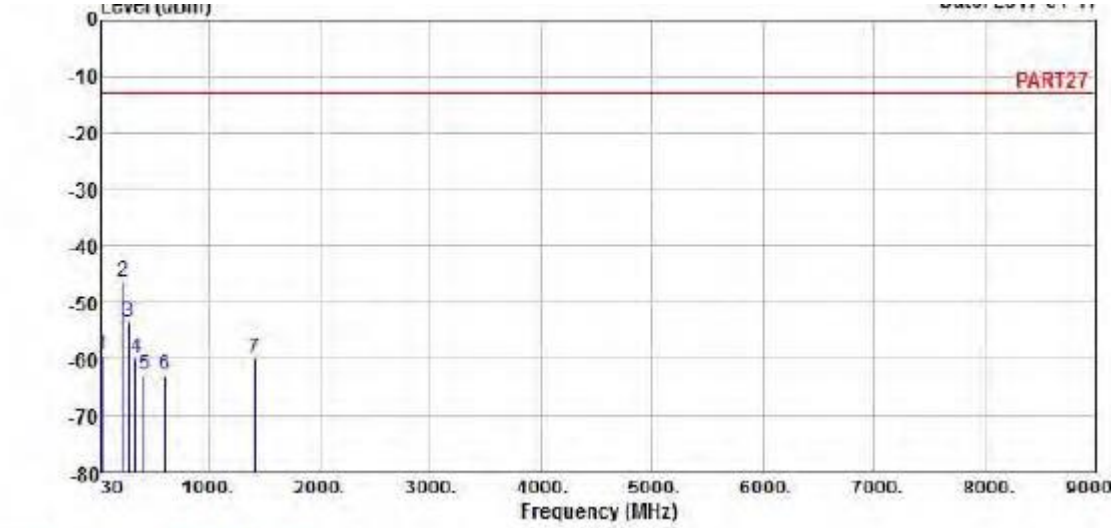
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1408.00	-61.54	-47.20	-13.00	-48.54	-14.34	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 12 QPSK_10M_L-CH Link
Tested by: Getaz Yang

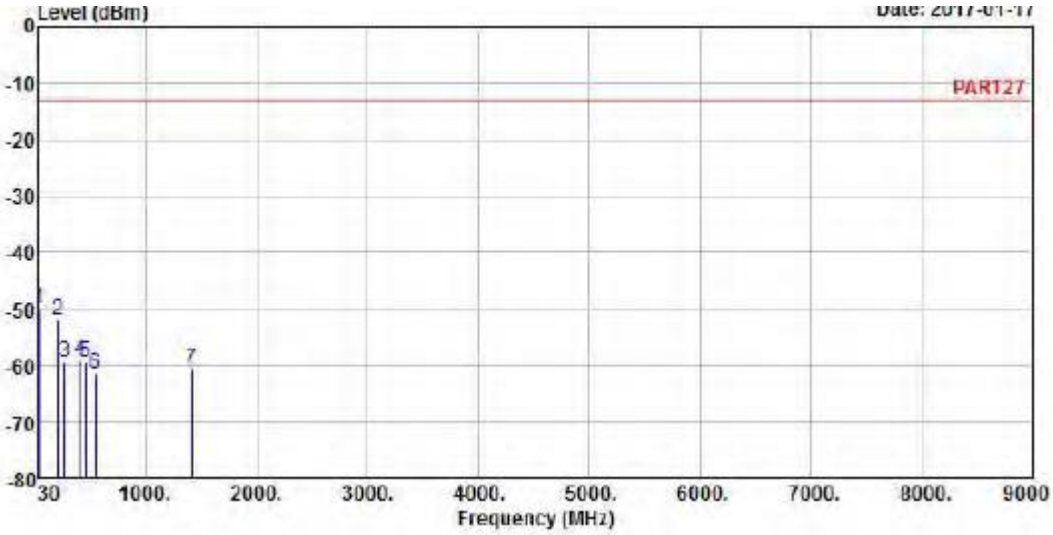
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1408.00	-61.42	-47.08	-13.00	-48.42	-14.34	Peak

Middle Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 12 QPSK_10M_M-CH Link
Tested by: Getaz Yang

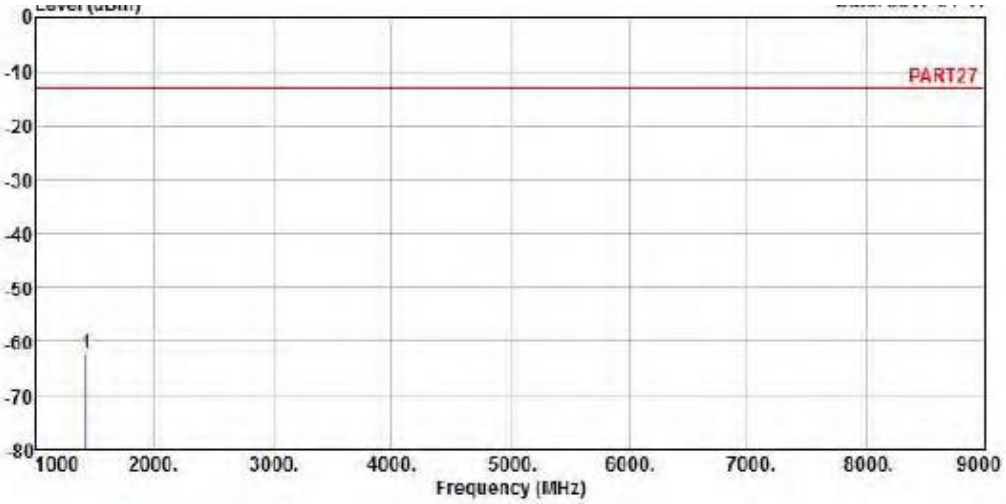
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	41.64	-59.37	-58.96	-13.00	-46.37	-0.41	Peak
2 pp	222.06	-46.31	-39.19	-13.00	-33.31	-7.12	Peak
3	274.44	-53.37	-46.88	-13.00	-40.37	-6.49	Peak
4	338.46	-59.94	-53.52	-13.00	-46.94	-6.42	Peak
5	417.03	-62.76	-56.95	-13.00	-49.76	-5.81	Peak
6	603.27	-62.83	-62.07	-13.00	-49.83	-0.76	Peak
7	1415.00	-60.07	-45.73	-13.00	-47.07	-14.34	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 12 QPSK_10M_M-CH Link
Tested by: Getaz Yang

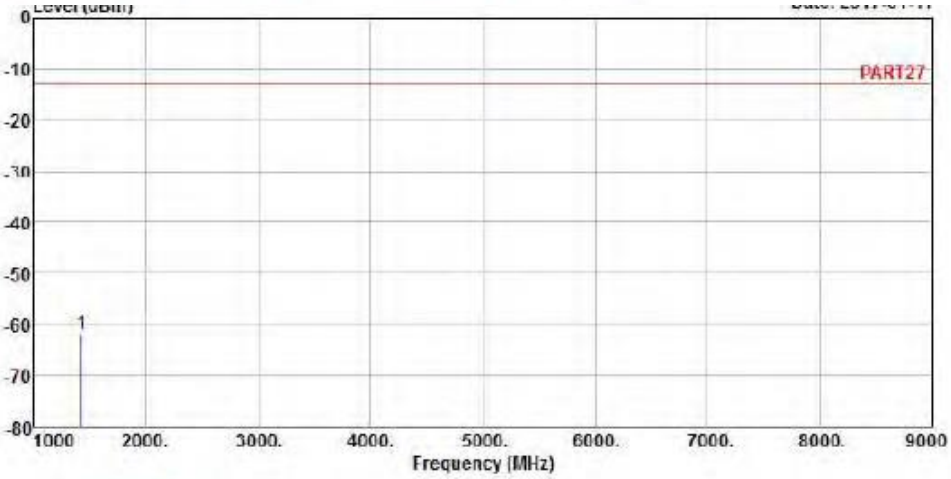
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	41.64	-49.99	-49.58	-13.00	-36.99	-0.41	Peak
2	206.54	-51.90	-44.15	-13.00	-38.90	-7.75	Peak
3	265.71	-59.20	-52.89	-13.00	-46.20	-6.31	Peak
4	398.60	-59.10	-53.15	-13.00	-46.10	-5.95	Peak
5	454.86	-59.21	-53.75	-13.00	-46.21	-5.46	Peak
6	543.13	-61.33	-58.24	-13.00	-48.33	-3.09	Peak
7	1415.00	-60.48	-46.14	-13.00	-47.48	-14.34	Peak

High Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 12 QPSK_10M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1422.00	-62.26	-47.92	-13.00	-49.26	-14.34	Peak



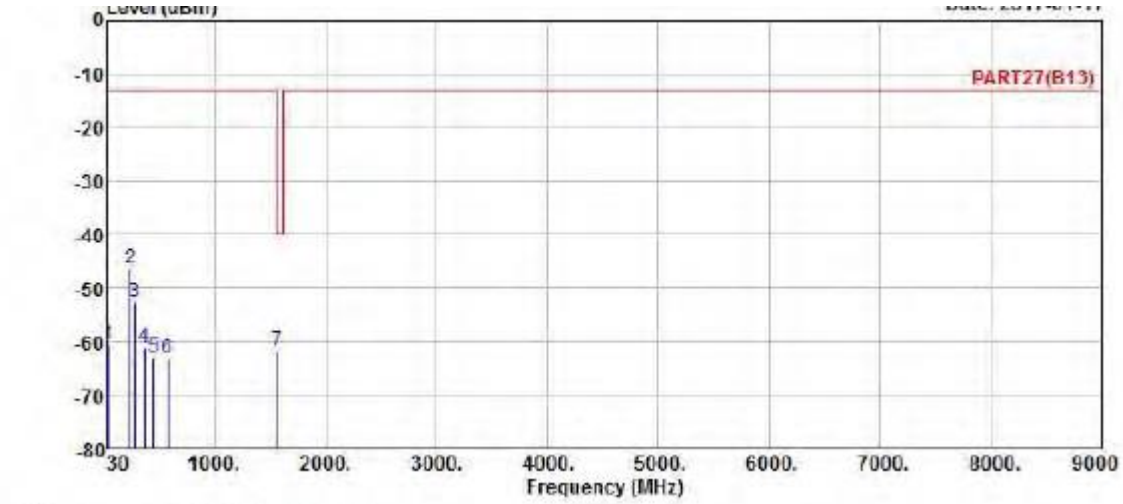
Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 12 QPSK_10M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1422.00	-61.95	-47.61	-13.00	-48.95	-14.34	Peak

LTE Band 13

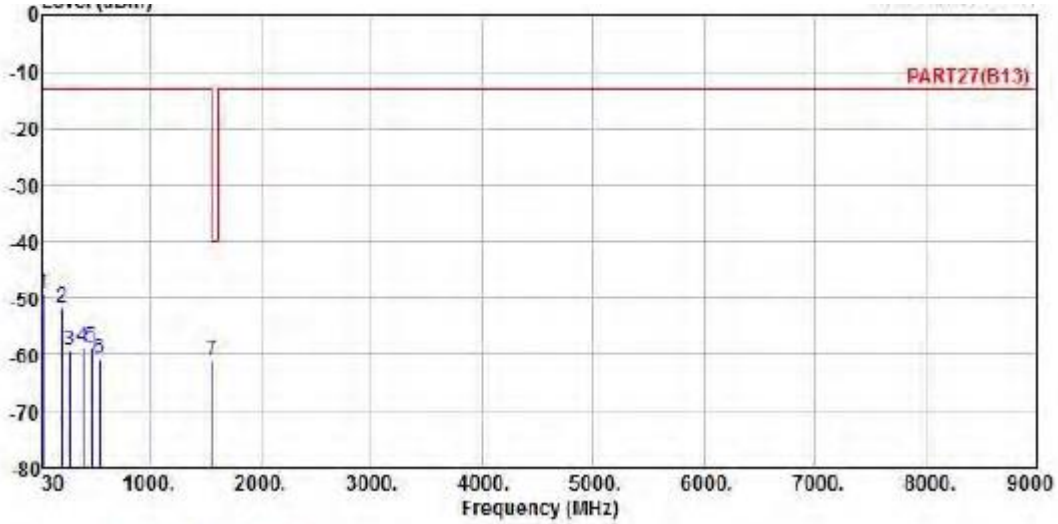
CHANNEL BANDWIDTH: 10MHz / QPSK

Middle Channel_1RB



Site : 966 Chamber 5
Condition: PART27(B13) HORIZONTAL
Remak : LTE Band 13 QPSK_10M_M-CH Link
Tested by: Getaz Yang

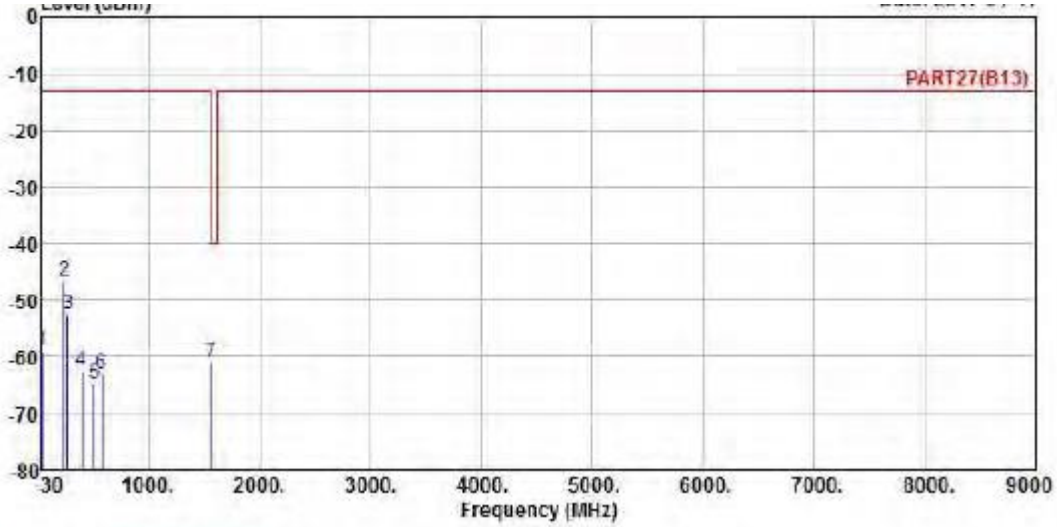
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-60.60	-60.72	-13.00	-47.60	0.12	Peak
2	233.70	-46.38	-39.72	-13.00	-33.38	-6.66	Peak
3	273.47	-52.57	-46.10	-13.00	-39.57	-6.47	Peak
4	366.59	-61.21	-55.07	-13.00	-48.21	-6.14	Peak
5	446.13	-62.89	-57.31	-13.00	-49.89	-5.58	Peak
6	571.26	-63.08	-61.12	-13.00	-50.08	-1.96	Peak
7 pp	1564.00	-61.68	-46.66	-40.00	-21.68	-15.02	Peak



Site : 966 Chamber 5
Condition: PART27(B13) VERTICAL
Remak : LTE Band 13 QPSK_10M_M-CH Link
Tested by: Getaz Yang

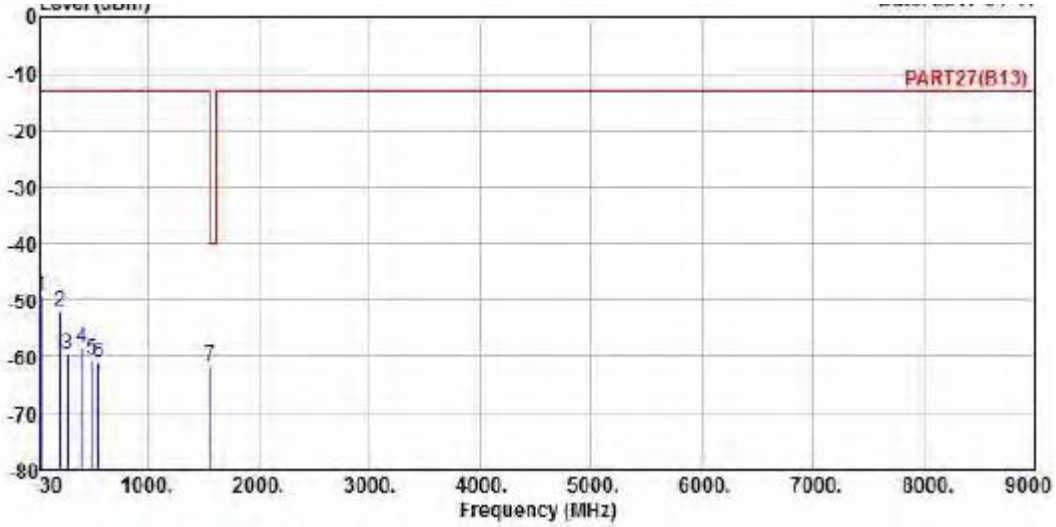
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	41.64	-49.42	-49.01	-13.00	-36.42	-0.41	Peak
2	285.57	-51.70	-43.91	-13.00	-38.70	-7.79	Peak
3	274.44	-59.36	-52.87	-13.00	-46.36	-6.49	Peak
4	396.66	-58.60	-52.63	-13.00	-45.60	-5.97	Peak
5	467.47	-58.83	-53.61	-13.00	-45.83	-5.22	Peak
6	547.01	-60.79	-57.84	-13.00	-47.79	-2.95	Peak
7 pp	1564.00	-61.05	-46.03	-40.00	-21.05	-15.02	Peak

Middle Channel_50RB



Site : 966 Chamber 5
Condition: PART27(B13) HORIZONTAL
Remak : LTE Band 13 QPSK_10M_M-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	41.64	-59.04	-58.63	-13.00	-46.04	-0.41	Peak
2	232.73	-46.51	-39.81	-13.00	-33.51	-6.70	Peak
3	267.65	-52.46	-46.11	-13.00	-39.46	-6.35	Peak
4	389.87	-62.58	-56.58	-13.00	-49.58	-6.00	Peak
5	503.36	-65.04	-60.53	-13.00	-52.04	-4.51	Peak
6	572.23	-63.32	-61.40	-13.00	-50.32	-1.92	Peak
7 pp	1564.00	-61.13	-46.11	-40.00	-21.13	-15.02	Peak



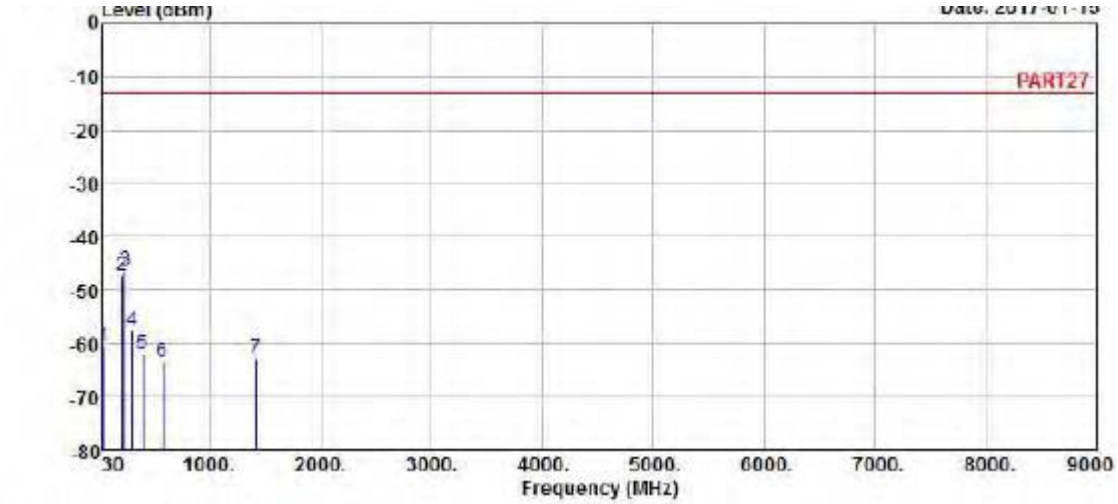
Site : 966 Chamber 5
Condition: PART27(B13) VERTICAL
Remak : LTE Band 13 QPSK_10M_M-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-49.39	-49.51	-13.00	-36.39	0.12	Peak
2	208.48	-51.86	-44.19	-13.00	-38.86	-7.67	Peak
3	273.47	-59.77	-53.30	-13.00	-46.77	-6.47	Peak
4	402.48	-58.54	-52.61	-13.00	-45.54	-5.93	Peak
5	494.63	-60.49	-55.77	-13.00	-47.49	-4.72	Peak
6	548.95	-61.06	-58.18	-13.00	-48.06	-2.88	Peak
7 pp	1564.00	-61.80	-46.78	-40.00	-21.80	-15.02	Peak

LTE Band 17

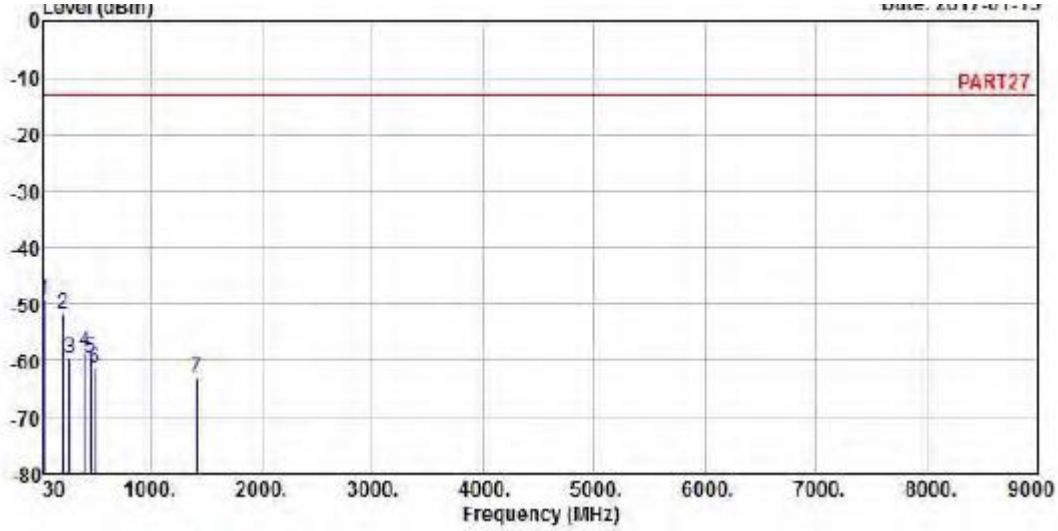
CHANNEL BANDWIDTH: 10MHz / QPSK

Low Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 17 QPSK_10M_L-CH Link
Tested by: Getaz Yang

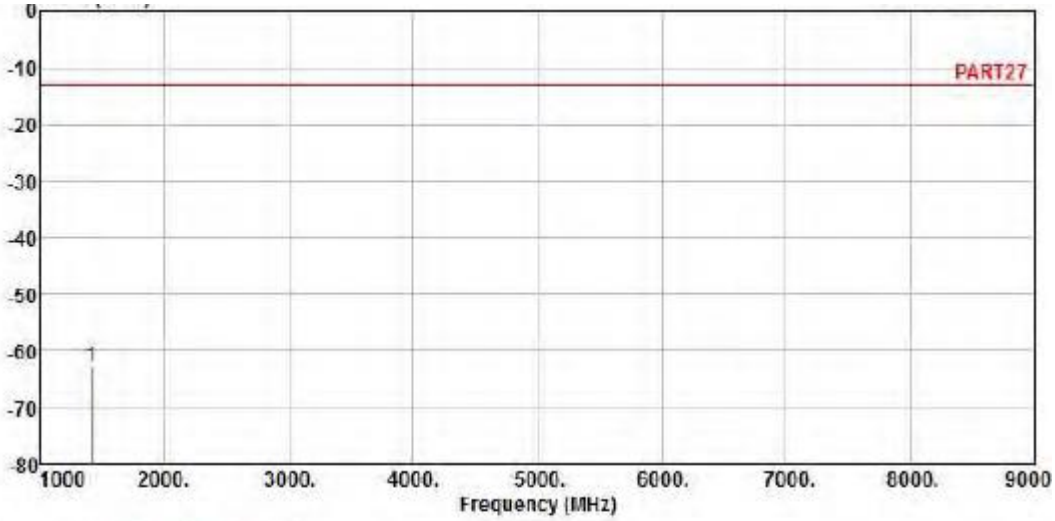
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	41.64	-60.44	-60.03	-13.00	-47.44	-0.41	Peak
2	205.57	-47.18	-39.39	-13.00	-34.18	-7.79	Peak
3 pp	236.61	-46.22	-39.68	-13.00	-33.22	-6.54	Peak
4	297.72	-57.69	-50.72	-13.00	-44.69	-6.97	Peak
5	390.84	-61.85	-55.85	-13.00	-48.85	-6.00	Peak
6	577.08	-63.50	-61.78	-13.00	-50.50	-1.72	Peak
7	1418.00	-62.75	-48.41	-13.00	-49.75	-14.34	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 17 QPSK_10M_L-CH Link
Tested by: Getaz Yang

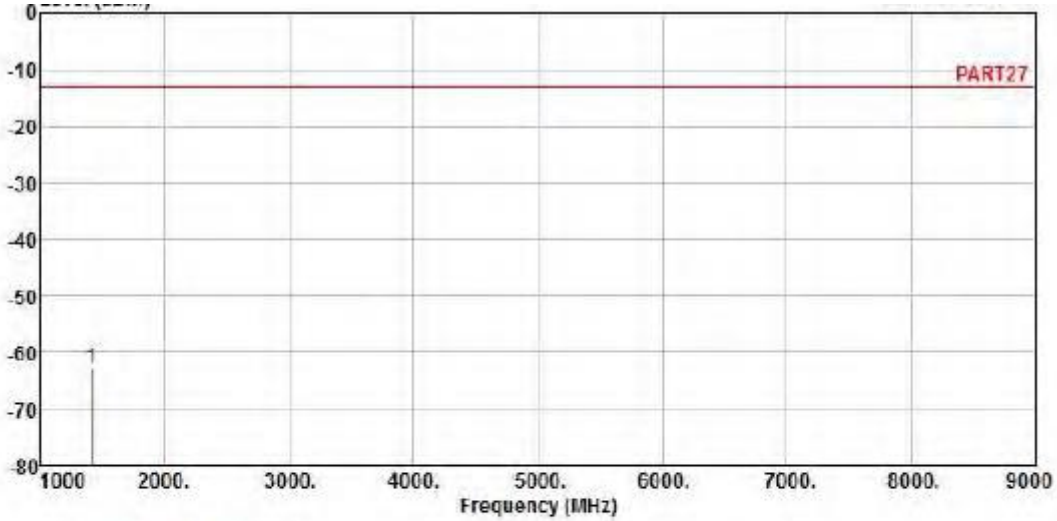
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	40.67	-49.19	-49.31	-13.00	-36.19	0.12	Peak
2	206.54	-51.59	-43.84	-13.00	-38.59	-7.75	Peak
3	264.74	-59.62	-53.33	-13.00	-46.62	-6.29	Peak
4	399.57	-58.36	-52.41	-13.00	-45.36	-5.95	Peak
5	453.89	-59.56	-54.08	-13.00	-46.56	-5.48	Peak
6	501.42	-61.36	-56.78	-13.00	-48.36	-4.58	Peak
7	1418.00	-63.22	-48.88	-13.00	-50.22	-14.34	Peak

Middle Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 17 QPSK_10M_M-CH Link
Tested by: Getaz Yang

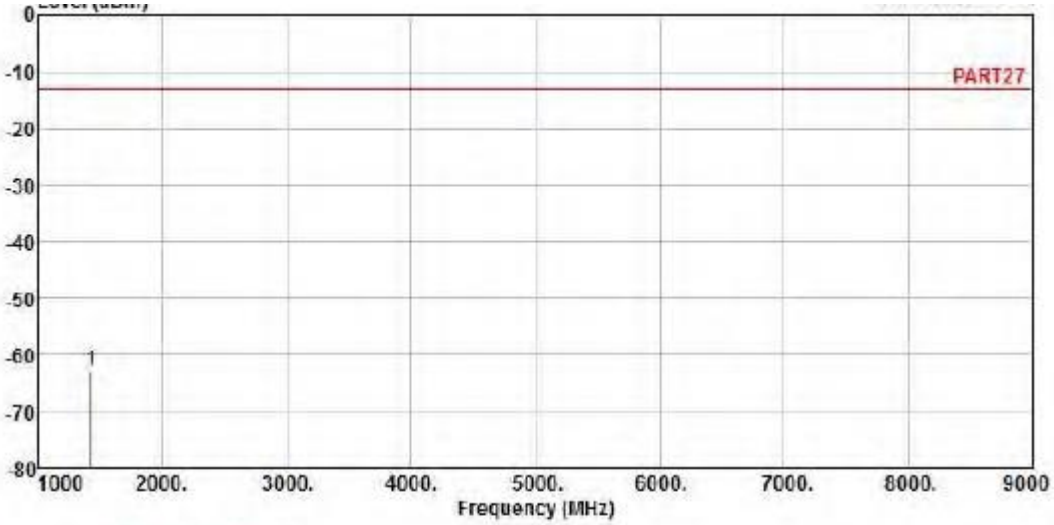
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1420.00	-62.84	-48.50	-13.00	-49.84	-14.34	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 17 QPSK_10M_M-CH Link
Tested by: Getaz Yang

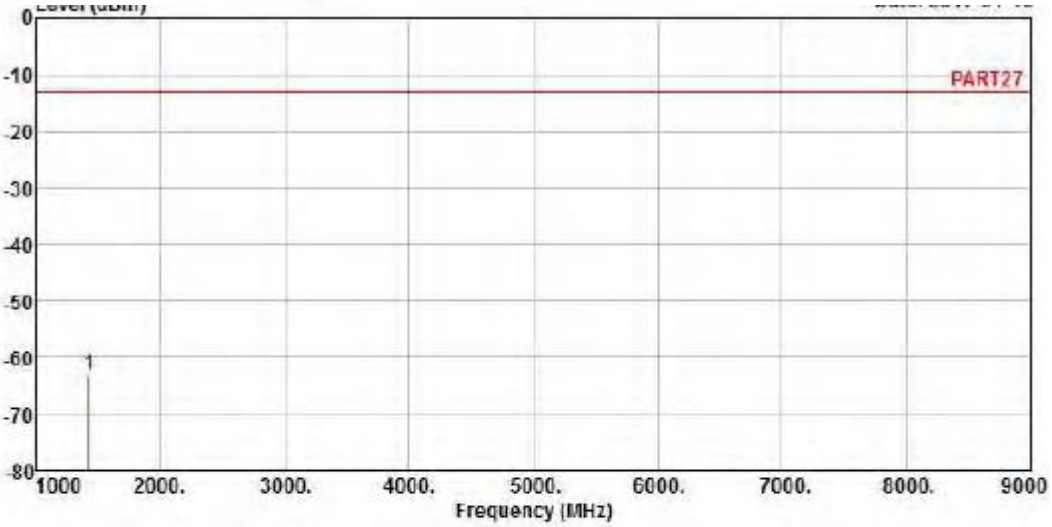
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1420.00	-62.89	-48.55	-13.00	-49.89	-14.34	Peak

High Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 17 QPSK_10M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1422.00	-62.78	-48.44	-13.00	-49.78	-14.34	Peak



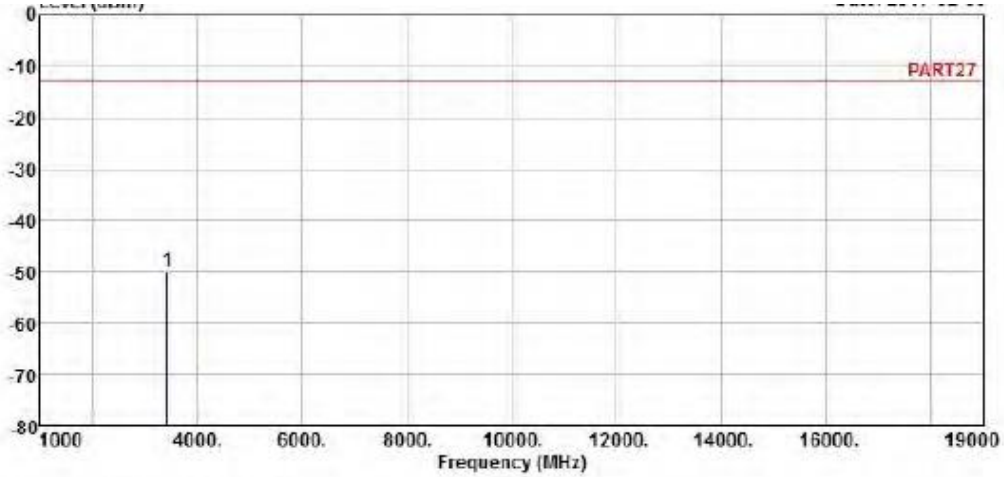
Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 17 QPSK_10M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1422.00	-63.05	-48.71	-13.00	-50.05	-14.34	Peak

LTE Band 66

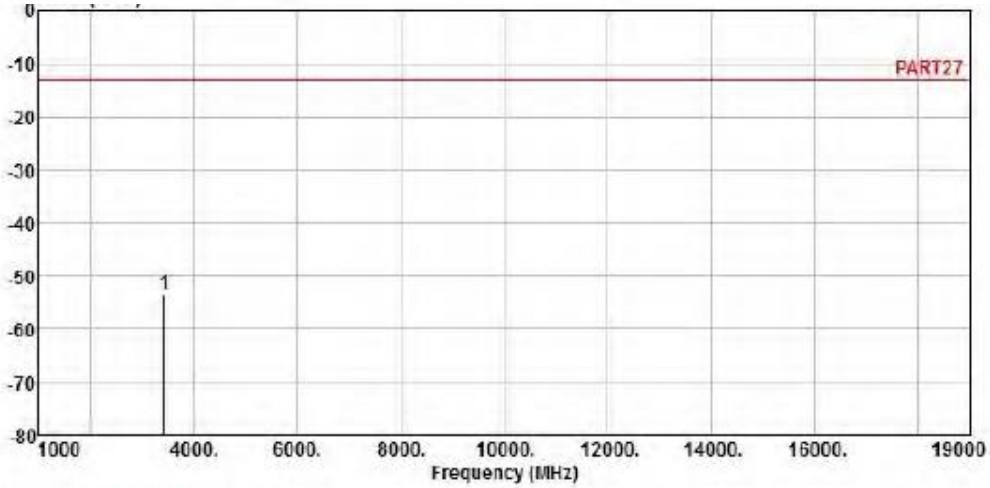
CHANNEL BANDWIDTH: 20MHz / QPSK

Low Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 66 QPSK_20M_L-CH Link
Tested by: Getaz Yang

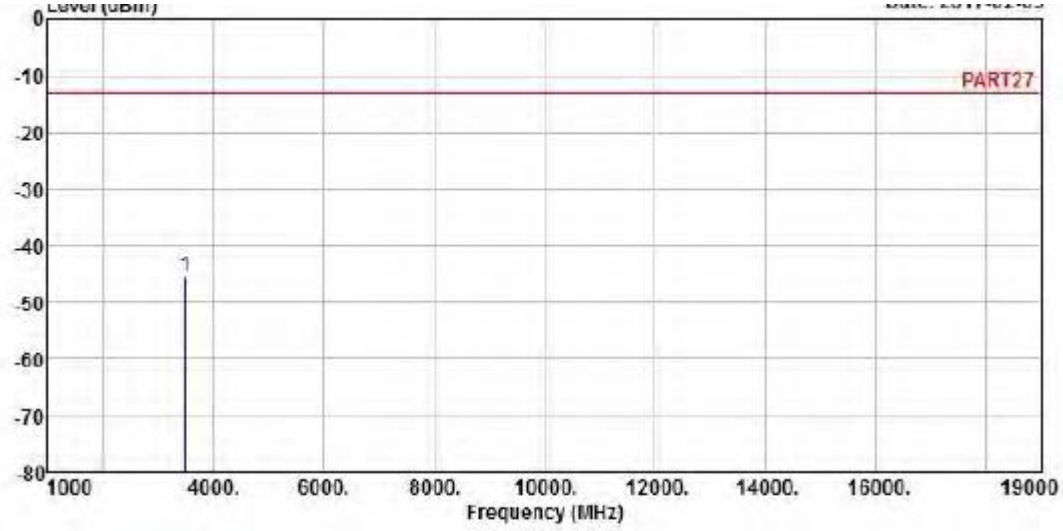
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-49.99	-40.99	-13.00	-36.99	-9.00	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 66 QPSK_20M_L-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-53.36	-44.36	-13.00	-40.36	-9.00	Peak

Middle Channel



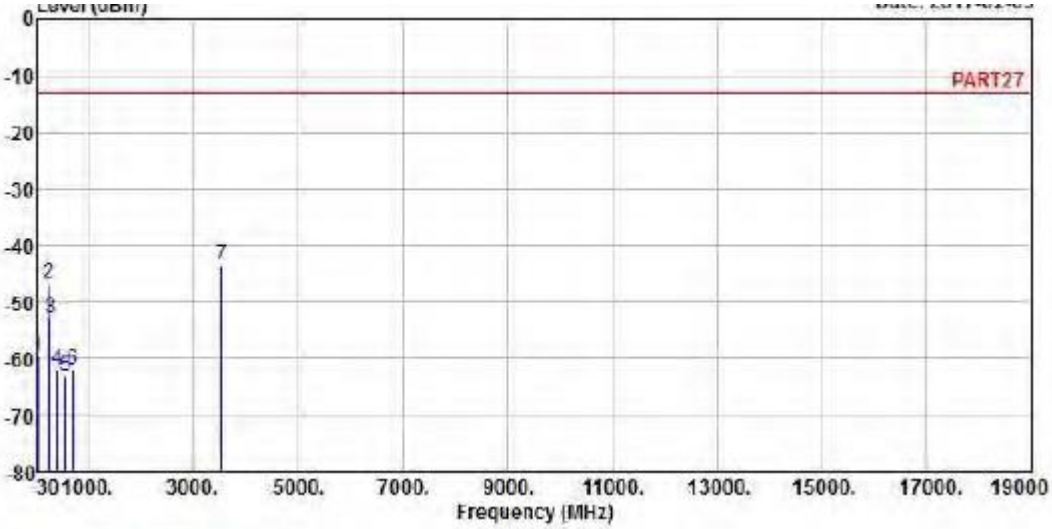
Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 66 QPSK_20M_M-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	pp 3490.00	-45.34	-36.83	-13.00	-32.34	-8.51	Peak

Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 66 QPSK_20M_M-CH Link
Tested by: Getaz Yang

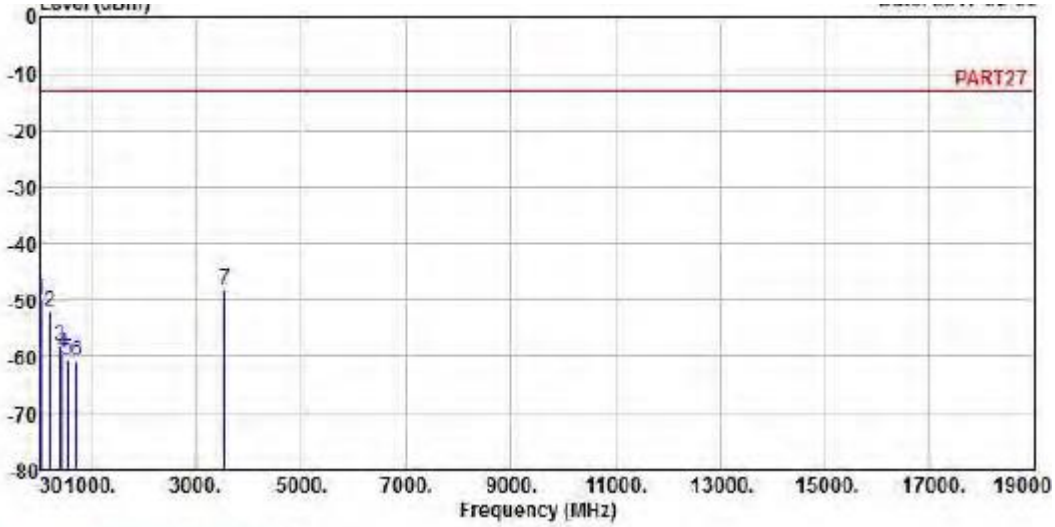
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	pp 3490.00	-49.33	-40.82	-13.00	-36.33	-8.51	Peak

High Channel



Site : 966 Chamber 5
Condition: PART27 HORIZONTAL
Remak : LTE Band 66 QPSK_20M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-59.60	-59.72	-13.00	-46.60	0.12	Peak
2	235.64	-46.71	-40.13	-13.00	-33.71	-6.58	Peak
3	267.65	-52.77	-46.42	-13.00	-39.77	-6.35	Peak
4	398.60	-61.98	-56.03	-13.00	-48.98	-5.95	Peak
5	552.83	-63.25	-60.52	-13.00	-50.25	-2.73	Peak
6	704.15	-61.95	-61.93	-13.00	-48.95	-0.02	Peak
7 pp	3540.00	-43.42	-35.07	-13.00	-30.42	-8.35	Peak



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remak : LTE Band 66 QPSK_20M_H-CH Link
Tested by: Getaz Yang

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	40.67	-49.92	-50.04	-13.00	-36.92	0.12	Peak
2	206.54	-52.08	-44.33	-13.00	-39.08	-7.75	Peak
3	399.57	-58.27	-52.32	-13.00	-45.27	-5.95	Peak
4	460.68	-59.20	-53.85	-13.00	-46.20	-5.35	Peak
5	549.92	-60.50	-57.65	-13.00	-47.50	-2.85	Peak
6	710.94	-60.68	-60.79	-13.00	-47.68	0.11	Peak
7 pp	3540.00	-48.22	-39.87	-13.00	-35.22	-8.35	Peak

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

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

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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