FCC Test Report

(PART 27)

Report No.:	RF201118C03-8
FCC ID:	B32V2104G
Test Model:	V210 4G
Received Date:	Nov. 18, 2020
Test Date:	Nov. 28, 2020 ~ Jan. 05, 2021
Issued Date:	Jan. 11, 2021
Applicant:	Verifone, Inc.
Address:	1400 West Stanford Ranch Road Suite 200 Rocklin CA 95765 USA
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 (1):	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location (2):	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	427177 / TW0011

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Release Control Record

Issue No.	Description	Date Issued
RF201118C03-8	Original Release	Jan. 11, 2021

1 Certificate of Conformity

Product:	Point of Sale Terminal
Brand:	Verifone
Test Model:	V210 4G
Sample Status:	Identical Prototype
Applicant:	Verifone, Inc.
Test Date:	Nov. 28, 2020 ~ Jan. 05, 2021
Standards:	FCC Part 27, Subpart C, H, F, L

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:** Jan. 11, 2021

Gina Liu / Specialist

Approved by : _____ , **Date:** Jan. 11, 2021

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2 (WCDMA)			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(d)(4)	Equivalent Isotropic Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement.
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
27.50(d)(5)	Peak to Average Ratio	Pass	Meet the requirement of limit.
27.53(h)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(h)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -29.55 dB at 6930.40 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 4)			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(d)(4)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement.
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
27.50(d)(5)	Peak to Average Ratio	Pass	Meet the requirement of limit.
27.53(h)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(h)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.89 dB at 8725.00 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 12)			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(c)(10)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement.
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
---	Peak to Average Ratio	Pass	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -29.31 dB at 2133.00 MHz.

Applied Standard: FCC Part 27 & Part 2 (LTE 13)			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(b)(10)	Maximum Peak Output Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement.
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
---	Peak to Average Ratio	Pass	Meet the requirement of limit.
27.53(c)(2)(4)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(c)(2)&(f)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53(c)(2)&(f)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -4.69 dB at 1564.00 MHz.

Note: 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
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 24, 2020	Aug. 23, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101582	Mar. 31, 2020	Mar. 30, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
BILOG Antenna SCHWARZBECK	VULB 9168	9168-631	Nov. 09, 2020	Nov. 08, 2021
HORN Antenna ETS-Lindgren	3117	00155510	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 22, 2020	Nov. 21, 2021
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 09, 2020	Nov. 08, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 22, 2020	Nov. 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021
Preamplifier Agilent	310N	187226	Jun. 17, 2020	Jun. 16, 2021
Preamplifier Agilent	83017A	MY39501357	Jun. 17, 2020	Jun. 16, 2021
Preamplifier EMCI	EMC 184045	980116	Oct. 07, 2020	Oct. 06, 2021
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 17, 2020	Jun. 16, 2021
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 17, 2020	Jun. 17, 2021
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
Radio Communication Analyzer Anritsu	MT8821C	6201462755	Feb. 13, 2020	Feb. 12, 2021
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 19, 2019	Aug. 18, 2021
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 09, 2020	Sep. 08, 2021
DC Power Supply Topward	33010D	807748	NA	NA

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	Point of Sale Terminal	
Brand	Verifone	
Test Model	V210 4G	
Status of EUT	Identical Prototype	
Power Supply Rating	5.0 Vdc (adapter) 3.7 Vdc (battery)	
Modulation Type	WCDMA	QPSK
	LTE	QPSK, 16QAM
Frequency Range	WCDMA	1712.4 ~ 1752.6 MHz
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1754.3 MHz
	LTE Band 4 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1753.5 MHz
	LTE Band 4 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1752.5 MHz
	LTE Band 4 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1750.0 MHz
	LTE Band 4 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1747.5 MHz
	LTE Band 4 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1745.0 MHz
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	699.7 ~ 715.3 MHz
	LTE Band 12 (Channel Bandwidth: 3 MHz)	700.5 ~ 714.5 MHz
	LTE Band 12 (Channel Bandwidth: 5 MHz)	701.5 ~ 713.5 MHz
	LTE Band 12 (Channel Bandwidth: 10 MHz)	704.0 ~ 711.0 MHz
	LTE Band 13 (Channel Bandwidth: 5 MHz)	779.5 ~ 784.5 MHz
	LTE Band 13 (Channel Bandwidth: 10 MHz)	782.0 MHz
Emission Designator	WCDMA	4M15F9W
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	1M09D7W
	LTE Band 4 (Channel Bandwidth: 3 MHz)	2M70G7D
	LTE Band 4 (Channel Bandwidth: 5 MHz)	4M49G7D
	LTE Band 4 (Channel Bandwidth: 10 MHz)	8M96G7D
	LTE Band 4 (Channel Bandwidth: 15 MHz)	13M4G7D
	LTE Band 4 (Channel Bandwidth: 20 MHz)	17M9G7D
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	1M09D7W
	LTE Band 12 (Channel Bandwidth: 3 MHz)	2M70G7D
	LTE Band 12 (Channel Bandwidth: 5 MHz)	4M49D7W
	LTE Band 12 (Channel Bandwidth: 10 MHz)	8M97G7D
	LTE Band 13 (Channel Bandwidth: 5 MHz)	4M49D7W
	LTE Band 13 (Channel Bandwidth: 10 MHz)	8M95G7D
Max. ERP Power	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	133.32 mW
	LTE Band 12 (Channel Bandwidth: 3 MHz)	134.56 mW
	LTE Band 12 (Channel Bandwidth: 5 MHz)	135.80 mW
	LTE Band 12 (Channel Bandwidth: 10 MHz)	137.31 mW
	LTE Band 13 (Channel Bandwidth: 5 MHz)	175.43 mW
	LTE Band 13 (Channel Bandwidth: 10 MHz)	169.32 mW

Max. EIRP Power	WCDMA	419.28 mW
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	447.20 mW
	LTE Band 4 (Channel Bandwidth: 3 MHz)	449.26 mW
	LTE Band 4 (Channel Bandwidth: 5 MHz)	454.46 mW
	LTE Band 4 (Channel Bandwidth: 10 MHz)	457.61 mW
	LTE Band 4 (Channel Bandwidth: 15 MHz)	466.12 mW
	LTE Band 4 (Channel Bandwidth: 20 MHz)	465.05 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 contains following accessory devices.

Product	Brand	Model	Description
Adapter (EU Type)	Verifone	AM11E-050A	I/P: 100-240 Vac, 50-60 Hz, 0.5 A O/P: 5 Vdc, 2.2 A
Adapter (US Type)	Verifone	AM11A-050A	I/P: 100-240 Vac, 50-60 Hz, 0.5 A O/P: 5 Vdc, 2.2 A
Battery	Verifone	BPK183-001	3.7 Vdc, 3100 mAh (11.47 Wh)

*Adapter of US Type was chosen for final test.

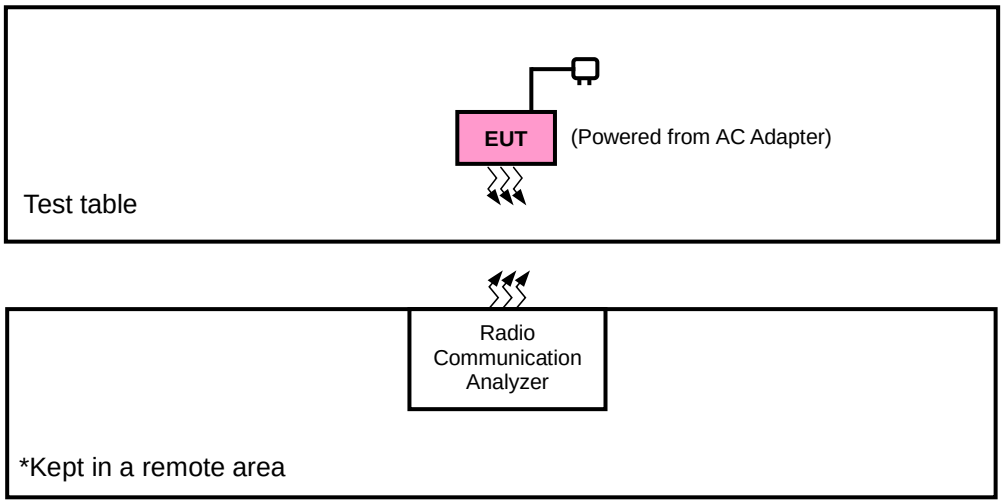
2. The antenna information is listed as below.

Ant. Type	Ant.	Antenna Peak Gain (dBi)								
		WCDMA 4 / LTE 4	GSM850 / WCDMA 5 / LTE 5	GSM1900 / WCDMA 2 / LTE 2, 25	LTE 7	LTE 12	LTE 13	LTE 26	LTE 38	LTE 41
Dipole	1	3.2	0	3.6	2.0	-0.5	0.3	0	2.3	3.1
	2	2.2	1.9	3.8	2.2	-4.5	-0.6	1.8	2.8	3.9
* The Max antenna gain was chosen for final test.										

3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
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>



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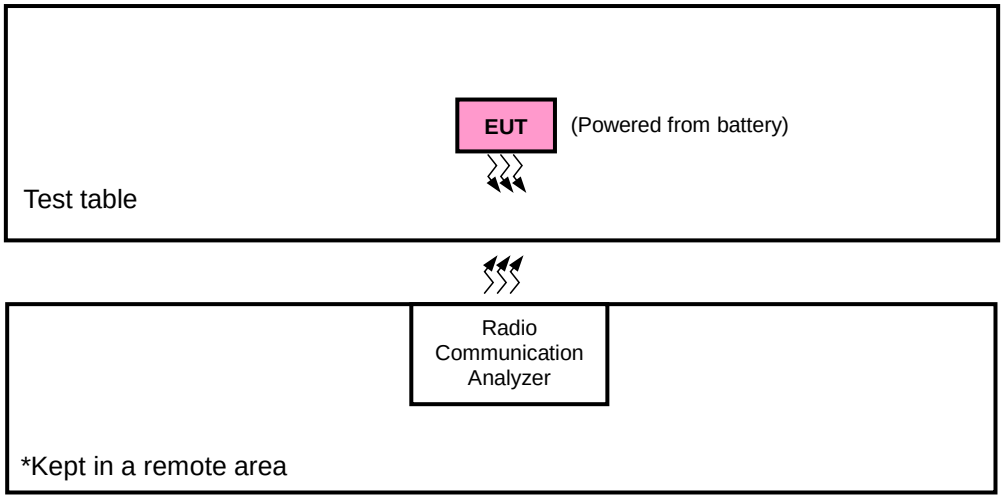


3.2.1 Description of Support Units

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	ERP / EIRP	Radiated Emission
WCDMA	Y-plane	X-plane
LTE Band 4	Y-plane	Z-plane
LTE Band 12	X-plane	Y-plane
LTE Band 13	X-plane	Y-plane

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
-	Modulation Characteristics	1312 to 1513	1413	WCDMA
-	Frequency Stability	1312 to 1513	1312, 1513	WCDMA
-	Occupied Bandwidth	1312 to 1513	1312, 1413, 1513	WCDMA
-	Band Edge	1312 to 1513	1312, 1513	WCDMA
-	Peak to Average Ratio	1312 to 1513	1312, 1413, 1513	WCDMA
-	Conducted Emission	1312 to 1513	1312, 1413, 1513	WCDMA
-	Radiated Emission	1312 to 1513	1312, 1413, 1513	WCDMA

Note: For radiated emission (below 1GHz) test items, select the worst radiated emission (above 1GHz) channel for final testing.

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM	3 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM	1 RB / 7 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM	1 RB / 37 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM	1 RB / 50 RB Offset
-	Modulation Characteristics	20050 to 20300	20175	20 MHz	QPSK	100 RB / 0 RB Offset
		19975 to 20375		5 MHz	16QAM	25 RB / 0 RB Offset
-	Frequency Stability	19957 to 20393	19957, 20393	1.4 MHz	QPSK	6 RB / 0 RB Offset
		19965 to 20385	19965, 20385	3 MHz	QPSK	15 RB / 0 RB Offset
		19975 to 20375	19975, 20375	5 MHz	QPSK	25 RB / 0 RB Offset
		20000 to 20350	20000, 20350	10 MHz	QPSK	50 RB / 0 RB Offset
		20025 to 20325	20025, 20325	15 MHz	QPSK	75 RB / 0 RB Offset
		20050 to 20300	20050, 20300	20 MHz	QPSK	100 RB / 0 RB Offset
-	Occupied Bandwidth	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM	100 RB / 0 RB Offset
-	Peak to Average Ratio	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM	3 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM	1 RB / 7 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM	1 RB / 37 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM	1 RB / 50 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	Band Edge	19957 to 20393	19957	1.4 MHz	QPSK	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			20393	1.4 MHz	QPSK	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		19965 to 20385	19965	3 MHz	QPSK	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			20385	3 MHz	QPSK	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		19975 to 20375	19975	5 MHz	QPSK	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			20375	5 MHz	QPSK	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20000 to 20350	20000	10 MHz	QPSK	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			20350	10 MHz	QPSK	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		20025 to 20325	20025	15 MHz	QPSK	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			20325	15 MHz	QPSK	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		20050 to 20300	20050	20 MHz	QPSK	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			20300	20 MHz	QPSK	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
-	Conducted Emission	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK	3 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK	1 RB / 7 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK	1 RB / 24 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK	1 RB / 24 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK	1 RB / 37 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK	1 RB / 50 RB Offset
-	Radiated Emission	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK	3 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK	1 RB / 24 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK	1 RB / 50 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.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

LTE Band 12

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK, 16QAM	1 RB / 2 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK, 16QAM	1 RB / 7 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
-	Modulation Characteristics	23060 to 23130	23095	10 MHz	QPSK	50 RB / 0 RB Offset
		23035 to 23155		5 MHz	16QAM	25 RB / 0 RB Offset
-	Frequency Stability	23017 to 23173	23017, 23173	1.4 MHz	QPSK	6 RB / 0 RB Offset
		23025 to 23165	23025, 23165	3 MHz	QPSK	15 RB / 0 RB Offset
		23035 to 23155	23035, 23155	5 MHz	QPSK	25 RB / 0 RB Offset
		23060 to 23130	23060, 23130	10 MHz	QPSK	50 RB / 0 RB Offset
-	Occupied Bandwidth	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK, 16QAM	50 RB / 0 RB Offset
-	Peak to Average Ratio	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK, 16QAM	1 RB / 2 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK, 16QAM	1 RB / 7 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
-	Band Edge	23017 to 23173	23017	1.4 MHz	QPSK	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			23173	1.4 MHz	QPSK	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		23025 to 23165	23025	3 MHz	QPSK	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			23165	3 MHz	QPSK	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		23035 to 23155	23035	5 MHz	QPSK	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			23155	5 MHz	QPSK	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		23060 to 23130	23060	10 MHz	QPSK	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			23130	10 MHz	QPSK	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
-	Conducted Emission	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK	1 RB / 2 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK	1 RB / 7 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK	1 RB / 12 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK	1 RB / 24 RB Offset
-	Radiated Emission	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK	1 RB / 2 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK	1 RB / 12 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK	1 RB / 24 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.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

LTE Band 13

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		23230	23230	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
-	Modulation Characteristics	23230	23230	10 MHz	QPSK	50 RB / 0 RB Offset
		23205 to 23255		5 MHz	16QAM	25 RB / 0 RB Offset
-	Frequency Stability	23205 to 23255	23205, 23255	5 MHz	QPSK	25 RB / 0 RB Offset
		23230	23230	10 MHz	QPSK	50 RB / 0 RB Offset
-	Occupied Bandwidth	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		23230	23230	10 MHz	QPSK, 16QAM	50 RB / 0 RB Offset
-	Peak to Average Ratio	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		23230	23230	10 MHz	QPSK, 16QAM	1 RB / 24 RB Offset
-	Band Edge	23205 to 23255	23205	5 MHz	QPSK	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			23255	5 MHz	QPSK	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		23230	23230	10 MHz	QPSK	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			23230	10 MHz	QPSK	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
-	Conducted Emission	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK	1 RB / 12 RB Offset
		23230	23230	10 MHz	QPSK	1 RB / 24 RB Offset
-	Radiated Emission	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK	1 RB / 12 RB Offset
		23230	23230	10 MHz	QPSK	1 RB / 24 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.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP / EIRP	25 deg. C, 65 % RH	3.7 Vdc	Karl Lee, Charles Hsiao
Modulation Characteristics	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Frequency Stability	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Occupied Bandwidth	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Band Edge	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Peak to Average Ratio	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Conducted Emission	25 deg. C, 65 % RH	3.7 Vdc	Gavin Wu
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee, 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 27
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

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

Portable stations (hand-held devices) operating in the 746-757 MHz, 776-788 MHz and 805-806 MHz band are limited to 3 watts ERP.

Portable stations (hand-held device) operating in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

4.1.2 Test Procedures

EIRP / ERP Measurement:

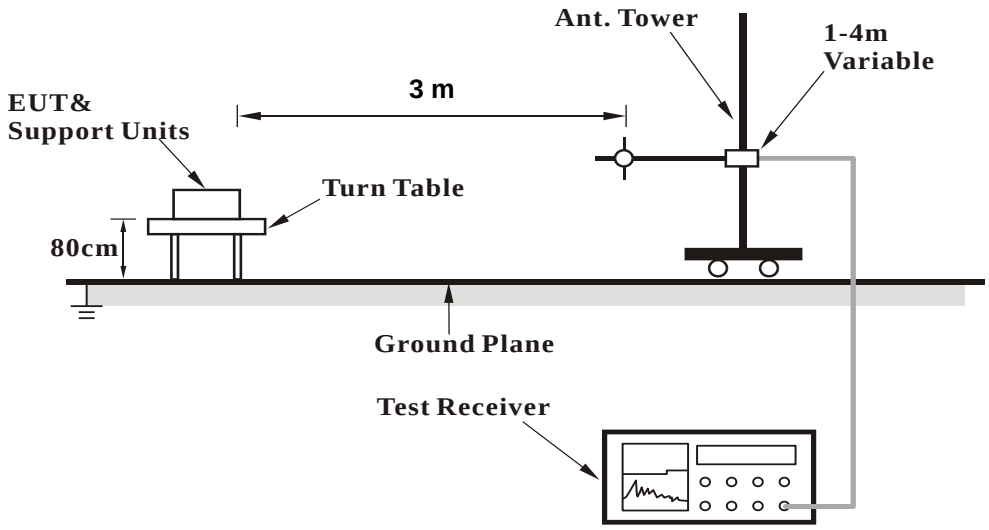
a. All measurements were done at low, middle and high operational frequency range. RBW is 5 MHz for WCDMA and 1.4 MHz、5 MHz、10 MHz、15 MHz、 20 MHz for LTE mode, and VBW ≥ 3 x RBW.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 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. 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. Correction Factor (includes EIRP and ERP unit conversion factor) = Antenna gain of substitution horn. – Tx cable loss.
d. Measurement method refers to ANSI C63.26 section 5.2.7 & 5.2.4.

Conducted Power Measurement:

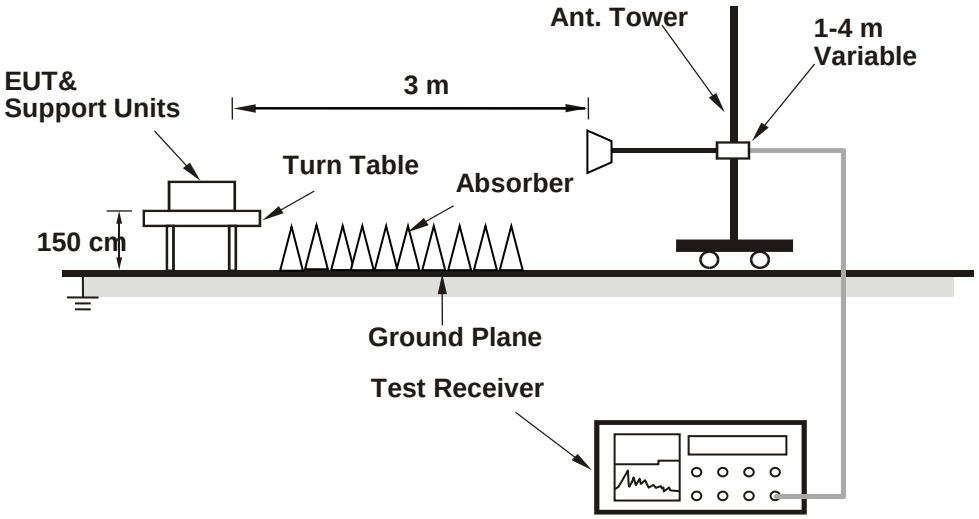
a. The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 Test Setup

EIRP / ERP Measurement:
<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

Conducted Power Measurement:

4.1.4 Test Results

* For 16QAM modulated conducted output power and ERP/ EIRP power with bandwidth higher than 10MHz for reference.

Conducted Output Power (dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	22.42	23.49	23.45
HSDPA Subtest-1	22.14	22.11	22.15
HSDPA Subtest-2	22.19	22.15	22.16
HSDPA Subtest-3	21.64	21.63	21.63
HSDPA Subtest-4	21.66	21.65	21.61
DC-HSDPA Subtest-1	22.09	22.05	22.03
DC-HSDPA Subtest-2	22.12	22.11	22.16
DC-HSDPA Subtest-3	21.62	21.62	21.65
DC-HSDPA Subtest-4	21.66	21.63	21.59
HSUPA Subtest-1	22.03	22.05	22.03
HSUPA Subtest-2	20.49	20.44	20.45
HSUPA Subtest-3	21.04	21.03	21.03
HSUPA Subtest-4	20.35	20.33	20.32
HSUPA Subtest-5	22.11	22.12	22.14

LTE Band 4

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20050	20175	20300				Channel		20025	20175	20325	
		Frequency (MHz)		1720.0	1732.5	1745.0				Frequency (MHz)		1717.5	1732.5	1747.5	
20M	QPSK	1	0	22.90	22.67	23.64	0	15M	QPSK	1	0	22.76	23.81	22.97	0
		1	50	23.65	23.90	23.87	0			1	37	22.77	23.86	23.46	0
		1	99	23.42	23.63	22.60	0			1	74	22.81	23.55	23.02	0
		50	0	22.01	22.44	22.45	1			36	0	22.66	22.68	22.59	1
		50	25	22.46	22.57	22.47	1			36	19	22.74	22.75	22.71	1
		50	50	22.36	22.28	22.40	1			36	39	22.65	22.43	22.86	1
		100	0	22.41	22.44	22.39	1			75	0	22.56	22.59	22.58	1
	16QAM	1	0	22.32	22.35	22.30	1		16QAM	1	0	22.26	22.29	22.24	1
		1	50	22.25	22.28	22.23	1			1	37	22.19	22.22	22.17	1
		1	99	22.20	22.23	22.18	1			1	74	22.14	22.17	22.12	1
		50	0							36	0				
		50	25							36	19				
		50	50							36	39				
		100	0							75	0				

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20000	20175	20350				Channel		19975	20175	20375	
		Frequency (MHz)		1715.0	1732.5	1750.0				Frequency (MHz)		1712.5	1732.5	1752.5	
10M	QPSK	1	0	22.73	22.51	22.75	0	5M	QPSK	1	0	23.27	23.75	23.41	0
		1	24	23.08	23.13	23.71	0			1	12	23.46	23.77	23.81	0
		1	49	22.15	22.85	23.67	0			1	24	23.49	23.65	23.87	0
		25	0	22.76	22.48	22.52	1			12	0	22.69	22.91	22.77	1
		25	12	22.61	22.75	22.71	1			12	6	22.56	22.84	22.92	1
		25	25	22.71	22.83	22.76	1			12	13	22.61	22.74	22.95	1
		50	0	22.53	22.52	22.47	1			25	0	22.59	22.88	22.84	1
	16QAM	1	0	22.21	22.24	22.19	1		16QAM	1	0	22.17	22.20	22.15	1
		1	24	22.14	22.17	22.12	1			1	12	22.10	22.13	22.08	1
		1	49	22.09	22.12	22.07	1			1	24	22.05	22.08	22.03	1
		25	0	21.29	21.32	21.27	2			12	0	21.25	21.28	21.23	2
		25	12	21.21	21.24	21.19	2			12	6	21.17	21.20	21.15	2
		25	25	21.15	21.18	21.13	2			12	13	21.11	21.14	21.09	2
		50	0							25	0	21.05	21.08	21.03	2

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		19965	20175	20385				Channel		19957	20175	20393	
		Frequency (MHz)		1711.5	1732.5	1753.5				Frequency (MHz)		1710.7	1732.5	1754.3	
3M	QPSK	1	0	23.72	23.85	23.75	0	1.4M	QPSK	1	0	23.63	23.69	23.54	0
		1	7	23.84	23.89	23.87	0			1	2	23.66	23.77	23.69	0
		1	14	23.62	23.87	23.81	0			1	5	23.56	23.84	23.78	0
		8	0	22.94	22.91	22.73	1			3	0	23.73	23.89	23.73	0
		8	3	22.90	22.96	22.91	1			3	1	23.75	23.85	23.82	0
		8	7	22.78	22.93	22.87	1			3	3	23.63	23.82	23.86	0
		15	0	22.83	22.92	22.77	1			6	0	22.64	22.89	22.93	1
	16QAM	1	0	22.14	22.17	22.12	1		16QAM	1	0	22.11	22.14	22.09	1
		1	7	22.07	22.10	22.05	1			1	2	22.04	22.07	22.02	1
		1	14	22.02	22.05	22.00	1			1	5	21.99	22.02	21.97	1
		8	0	21.22	21.25	21.20	2			3	0	21.89	21.92	21.89	1
		8	3	21.14	21.17	21.12	2			3	1	21.85	21.84	21.79	1
		8	7	21.08	21.11	21.06	2			3	3	21.77	21.79	21.63	1
		15	0	21.02	21.05	21.00	2			6	0	21.05	21.07	21.01	2

LTE Band 12

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23060	23095	23130				Channel		23035	23095	23155	
		Frequency (MHz)		704.0	707.5	711.0				Frequency (MHz)		701.5	707.5	713.5	
10M	QPSK	1	0	23.25	23.39	23.33	0	5M	QPSK	1	0	23.21	23.36	23.26	0
		1	24	23.79	23.86	23.81	0			1	12	23.77	23.86	23.81	0
		1	49	23.61	23.64	23.44	0			1	24	23.51	23.54	23.40	0
		25	0	22.53	22.81	22.74	1			12	0	22.48	22.72	22.70	1
		25	12	22.77	22.83	22.82	1			12	6	22.75	22.75	22.82	1
		25	25	22.71	22.67	22.52	1			12	13	22.62	22.64	22.49	1
		50	0	22.55	22.64	22.61	1			25	0	22.46	22.57	22.58	1
	16QAM	1	0	22.70	22.79	22.76	1		16QAM	1	0	22.52	22.61	22.58	1
		1	24	22.66	22.75	22.72	1			1	12	22.67	22.76	22.73	1
		1	49	22.62	22.71	22.68	1			1	24	22.63	22.72	22.69	1
		25	0	21.59	21.68	21.65	2			12	0	22.59	22.68	22.65	2
		25	12	21.63	21.72	21.69	2			12	6	21.56	21.65	21.62	2
		25	25	21.52	21.61	21.58	2			12	13	21.60	21.69	21.66	2
		50	0							25	0	21.49	21.58	21.55	2

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23025	23095	23165				Channel		23017	23095	23173	
		Frequency (MHz)		700.5	707.5	714.5				Frequency (MHz)		699.7	707.5	715.3	
3M	QPSK	1	0	23.11	23.31	23.23	0	1.4M	QPSK	1	0	23.23	23.35	23.21	0
		1	7	23.67	23.64	23.65	0			1	2	23.57	23.86	23.77	0
		1	14	23.39	23.58	23.43	0			1	5	23.55	23.58	23.24	0
		8	0	22.49	22.71	22.71	1			3	0	23.38	23.63	23.55	0
		8	3	22.60	22.77	22.65	1			3	1	23.52	23.64	23.74	0
		8	7	22.58	22.52	22.33	1			3	3	23.51	23.57	23.50	0
		15	0	22.33	22.57	22.50	1			6	0	22.39	22.50	22.53	1
	16QAM	1	0	22.47	22.56	22.53	1		16QAM	1	0	22.43	22.52	22.49	1
		1	7	22.62	22.71	22.68	1			1	2	22.58	22.67	22.64	1
		1	14	22.58	22.67	22.64	1			1	5	22.54	22.63	22.60	1
		8	0	22.54	22.63	22.60	2			3	0	22.50	22.59	22.56	1
		8	3	21.51	21.60	21.57	2			3	1	22.45	22.46	22.53	1
		8	7	21.55	21.64	21.61	2			3	3	22.47	22.35	22.47	1
		15	0	21.44	21.53	21.50	2			6	0	21.34	21.49	21.36	2

LTE Band 13

BW	MCS Index	RB Size	RB Offset		Mid		3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			23230					Channel		23205	23230	23225	
		Frequency (MHz)			782.0					Frequency (MHz)		779.5	782.0	784.5	
10M	QPSK	1	0		23.71		0	5M	QPSK	1	0	23.53	23.56	23.62	0
		1	24		23.97		0			1	12	23.89	23.81	23.89	0
		1	49		23.51		0			1	24	23.44	23.38	23.28	0
		25	0		22.65		1			12	0	22.59	22.44	22.46	1
		25	12		22.68		1			12	6	22.45	22.56	22.58	1
		25	25		22.58		1			12	13	22.46	22.46	22.51	1
		50	0		22.57		1			25	0	22.46	22.47	22.47	1
	16QAM	1	0		22.52		1		16QAM	1	0	22.40	22.41	22.36	1
		1	24		22.47		1			1	12	22.36	22.37	22.32	1
		1	49		22.43		1			1	24	22.30	22.31	22.26	1
		25	0		21.56		2			12	0	21.55	21.56	21.51	2
		25	12		21.49		2			12	6	21.46	21.47	21.42	2
		25	25		21.42		2			12	13	21.40	21.41	21.36	2
		50	0							25	0	21.32	21.33	21.28	2

ERP Power (dBm)

LTE Band 12							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**ERP (mW)**	**Polarization (H/V)**
X	23017	699.7	-9.32	30.569	21.249	133.32	H
	23095	707.5	-9.49	30.586	21.096	128.71	
	23173	715.3	-9.47	30.441	20.971	125.05	
	23017	699.7	-17.10	30.54	13.44	22.08	V
	23095	707.5	-17.38	30.66	13.28	21.28	
	23173	715.3	-17.46	30.59	13.13	20.56	
Channel Bandwidth: 1.4 MHz / 16QAM							
X	23017	699.7	-10.32	30.569	20.249	105.90	H
	23095	707.5	-10.49	30.586	20.096	102.24	
	23173	715.3	-10.48	30.441	19.961	99.11	
	23017	699.7	-18.02	30.54	12.52	17.86	V
	23095	707.5	-18.38	30.66	12.28	16.90	
	23173	715.3	-18.47	30.59	12.12	16.29	

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

LTE Band 12							
Channel Bandwidth: 3 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**ERP (mW)**	**Polarization (H/V)**
X	23025	700.5	-9.28	30.569	21.29	134.56	H
	23095	707.5	-9.45	30.586	21.14	129.90	
	23165	714.5	-9.44	30.441	21.00	125.92	
	23025	700.5	-16.98	30.54	13.56	22.70	V
	23095	707.5	-17.35	30.66	13.31	21.43	
	23165	714.5	-17.42	30.59	13.17	20.75	
Channel Bandwidth: 3 MHz / 16QAM							
X	23025	700.5	-10.29	30.569	20.279	106.64	H
	23095	707.5	-10.45	30.586	20.136	103.18	
	23165	714.5	-10.43	30.441	20.011	100.25	
	23025	700.5	-17.98	30.54	12.56	18.03	V
	23095	707.5	-18.36	30.66	12.3	16.98	
	23165	714.5	-18.41	30.59	12.18	16.52	

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

LTE Band 12							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23035	701.5	-9.24	30.569	21.33	135.80	H
	23095	707.5	-9.41	30.586	21.18	131.10	
	23155	713.5	-9.41	30.441	21.03	126.79	
	23035	701.5	-16.94	30.54	13.60	22.91	V
	23095	707.5	-17.30	30.66	13.36	21.68	
	23155	713.5	-17.39	30.59	13.20	20.89	
Channel Bandwidth: 5 MHz / 16QAM							
X	23035	701.5	-10.24	30.569	20.329	107.87	H
	23095	707.5	-10.41	30.586	20.176	104.14	
	23155	713.5	-10.42	30.441	20.021	100.48	
	23035	701.5	-17.93	30.54	12.61	18.24	V
	23095	707.5	-18.30	30.66	12.36	17.22	
	23155	713.5	-18.39	30.59	12.2	16.60	

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

LTE Band 12							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	23060	704.0	-9.20	30.58	21.38	137.31	H
	23095	707.5	-9.37	30.589	21.22	132.40	
	23130	711.0	-9.51	30.578	21.07	127.88	
	23060	704.0	-16.95	30.6	13.65	23.17	V
	23095	707.5	-17.26	30.66	13.40	21.88	
	23130	711.0	-17.45	30.69	13.24	21.09	
Channel Bandwidth: 10 MHz / 16QAM							
X	23060	704.0	-10.20	30.577	20.377	109.07	H
	23095	707.5	-10.37	30.589	20.219	105.17	
	23130	711.0	-10.51	30.578	20.068	101.58	
	23060	704.0	-17.95	30.6	12.65	18.41	V
	23095	707.5	-18.26	30.66	12.4	17.38	
	23130	711.0	-18.45	30.69	12.24	16.75	

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

LTE Band 13							
Channel Bandwidth: 5 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**ERP (mW)**	**Polarization (H/V)**
X	23205	779.5	-8.18	30.621	22.441	175.43	H
	23230	782.0	-8.34	30.591	22.251	167.92	
	23255	784.5	-8.66	30.704	22.044	160.10	
	23205	779.5	-17.99	30.35	12.36	17.22	V
	23230	782.0	-18.25	30.37	12.12	16.29	
	23255	784.5	-18.54	30.47	11.93	15.60	
Channel Bandwidth: 5 MHz / 16QAM							
X	23205	779.5	-9.18	30.621	21.44	139.35	H
	23230	782.0	-9.35	30.591	21.24	133.08	
	23255	784.5	-9.66	30.704	21.04	127.17	
	23205	779.5	-18.99	30.35	11.36	13.68	V
	23230	782.0	-19.24	30.37	11.13	12.97	
	23255	784.5	-19.54	30.47	10.93	12.39	

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

LTE Band 13							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**ERP (mW)**	**Polarization (H/V)**
X	23230	782.0	-8.30	30.587	22.29	169.32	H
	23230	782.0	-18.25	30.37	12.12	16.29	V
Channel Bandwidth: 10 MHz / 16QAM							
X	23230	782.0	-9.30	30.587	21.29	134.49	H
	23230	782.0	-19.26	30.37	11.11	12.91	V

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

EIRP Power (dBm)

WCDMA							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Y	1312	1712.4	-16.26	42.49	26.23	419.28	H
	1413	1732.6	-16.30	42.33	26.03	400.59	
	1513	1752.6	-16.25	42.10	25.85	384.59	
	1312	1712.4	-22.16	42.99	20.83	121.06	V
	1413	1732.6	-22.04	42.74	20.70	117.49	
	1513	1752.6	-21.59	42.21	20.62	115.35	

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

LTE Band 4							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Y	19957	1710.7	-15.98	42.49	26.51	447.20	H
	20175	1732.5	-16.01	42.33	26.32	428.25	
	20393	1754.3	-15.96	42.10	26.14	411.15	
	19957	1710.7	-20.94	42.99	22.05	160.32	V
	20175	1732.5	-20.75	42.74	21.99	158.12	
	20393	1754.3	-20.39	42.21	21.82	152.05	
Channel Bandwidth: 1.4 MHz / 16QAM							
Y	19957	1710.7	-16.98	42.49	25.51	355.22	H
	20175	1732.5	-17.01	42.33	25.32	340.17	
	20393	1754.3	-16.96	42.10	25.14	326.59	
	19957	1710.7	-21.94	42.99	21.05	127.35	V
	20175	1732.5	-21.75	42.74	20.99	125.60	
	20393	1754.3	-21.40	42.21	20.81	120.50	

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

LTE Band 4							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Y	19965	1711.5	-15.96	42.49	26.53	449.26	H
	20175	1732.5	-15.96	42.33	26.37	433.21	
	20385	1753.5	-15.91	42.10	26.19	415.91	
	19965	1711.5	-20.90	42.99	22.09	161.81	V
	20175	1732.5	-20.72	42.74	22.02	159.22	
	20385	1753.5	-20.35	42.21	21.86	153.46	
Channel Bandwidth: 3 MHz / 16QAM							
Y	19965	1711.5	-16.97	42.49	25.52	356.04	H
	20175	1732.5	-16.97	42.33	25.36	343.32	
	20385	1753.5	-16.91	42.10	25.19	330.37	
	19965	1711.5	-21.91	42.99	21.08	128.23	V
	20175	1732.5	-21.72	42.74	21.02	126.47	
	20385	1753.5	-21.36	42.21	20.85	121.62	

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

LTE Band 4							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Y	19975	1712.5	-15.91	42.49	26.58	454.46	H
	20175	1732.5	-15.92	42.33	26.41	437.22	
	20375	1752.5	-15.87	42.10	26.23	419.76	
	19975	1712.5	-20.87	42.99	22.12	162.93	V
	20175	1732.5	-20.68	42.74	22.06	160.69	
	20375	1752.5	-20.31	42.21	21.90	154.88	
Channel Bandwidth: 5 MHz / 16QAM							
Y	19975	1712.5	-16.91	42.49	25.58	360.99	H
	20175	1732.5	-16.92	42.33	25.41	347.30	
	20375	1752.5	-16.88	42.10	25.22	332.66	
	19975	1712.5	-21.87	42.99	21.12	129.42	V
	20175	1732.5	-21.68	42.74	21.06	127.64	
	20375	1752.5	-21.31	42.21	20.90	123.03	

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

LTE Band 4							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Y	20000	1715.0	-15.88	42.49	26.61	457.61	H
	20175	1732.5	-15.87	42.33	26.46	442.28	
	20350	1750.0	-15.83	42.10	26.27	423.64	
	20000	1715.0	-20.84	42.99	22.15	164.06	V
	20175	1732.5	-20.64	42.74	22.10	162.18	
	20350	1750.0	-20.26	42.21	21.95	156.68	
Channel Bandwidth: 10 MHz / 16QAM							
Y	20000	1715.0	-16.88	42.49	25.61	363.50	H
	20175	1732.5	-16.87	42.33	25.46	351.32	
	20350	1750.0	-16.84	42.10	25.26	335.74	
	20000	1715.0	-21.85	42.99	21.14	130.02	V
	20175	1732.5	-21.64	42.74	21.10	128.82	
	20350	1750.0	-21.27	42.21	20.94	124.17	

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

LTE Band 4							
Channel Bandwidth: 15 MHz / QPSK							
Plane	Channel	Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
Y	20025	1717.5	-15.80	42.49	26.69	466.12	H
	20175	1732.5	-15.83	42.33	26.50	446.38	
	20325	1747.5	-15.79	42.10	26.31	427.56	
	20025	1717.5	-20.80	42.99	22.19	165.58	V
	20175	1732.5	-20.61	42.74	22.13	163.31	
	20325	1747.5	-20.23	42.21	21.98	157.76	
Channel Bandwidth: 15 MHz / 16QAM							
Y	20025	1717.5	-16.80	42.49	25.69	370.25	H
	20175	1732.5	-16.84	42.33	25.49	353.75	
	20325	1747.5	-16.79	42.10	25.31	339.63	
	20025	1717.5	-21.80	42.99	21.19	131.52	V
	20175	1732.5	-21.62	42.74	21.12	129.42	
	20325	1747.5	-21.23	42.21	20.98	125.31	

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

LTE Band 4							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**Reading (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
Y	20050	1720.0	-15.81	42.49	26.68	465.05	H
	20175	1732.5	-15.79	42.33	26.54	450.51	
	20300	1745.0	-15.74	42.10	26.36	432.51	
	20050	1720.0	-20.76	42.99	22.23	167.11	V
	20175	1732.5	-20.56	42.74	22.18	165.20	
	20300	1745.0	-20.19	42.21	22.02	159.22	
Channel Bandwidth: 20 MHz / 16QAM							
Y	20050	1720.0	-16.81	42.49	25.68	369.40	H
	20175	1732.5	-16.80	42.33	25.53	357.03	
	20300	1745.0	-16.75	42.10	25.35	342.77	
	20050	1720.0	-21.76	42.99	21.23	132.74	V
	20175	1732.5	-21.56	42.74	21.18	131.22	
	20300	1745.0	-21.20	42.21	21.01	126.18	

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

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

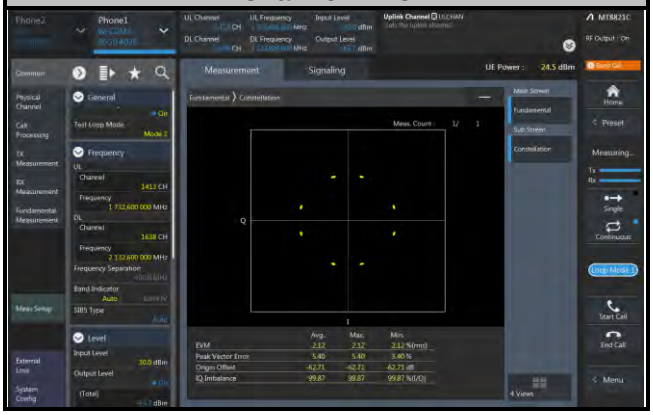
N/A

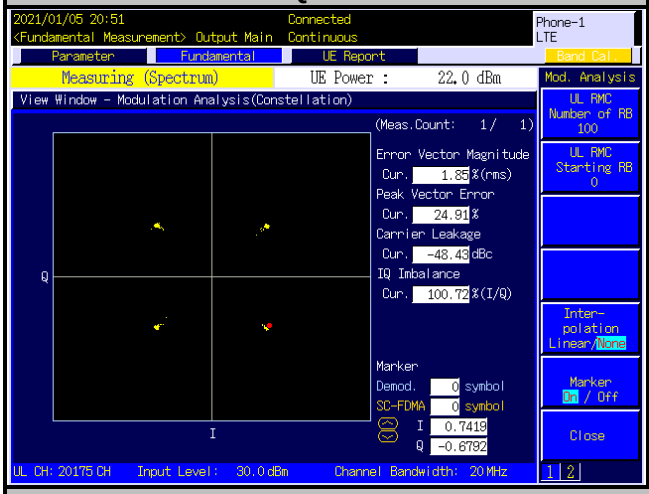
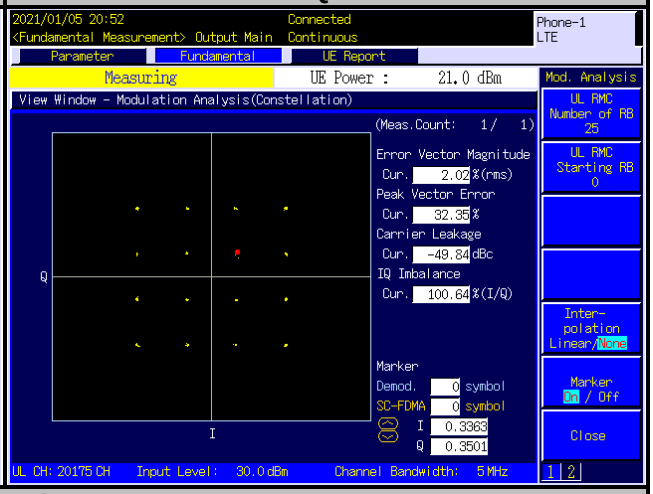
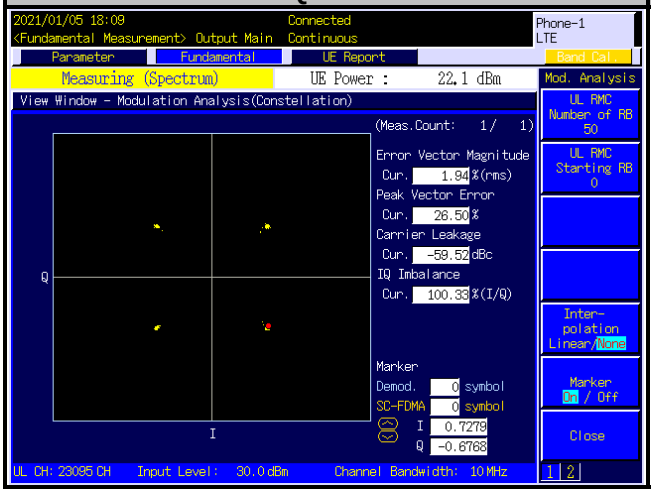
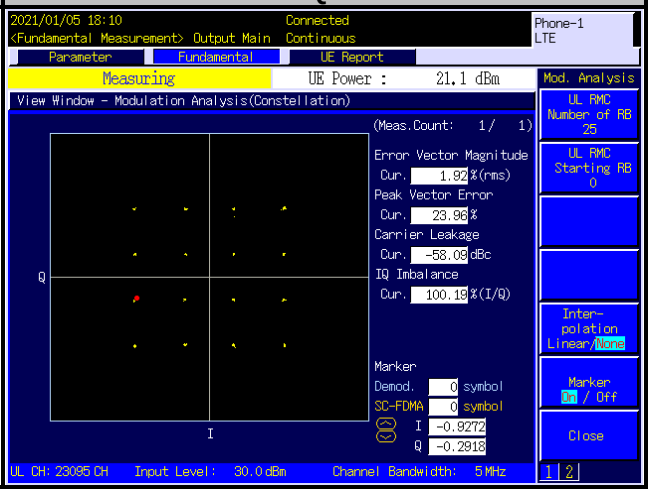
4.2.2 Test Setup

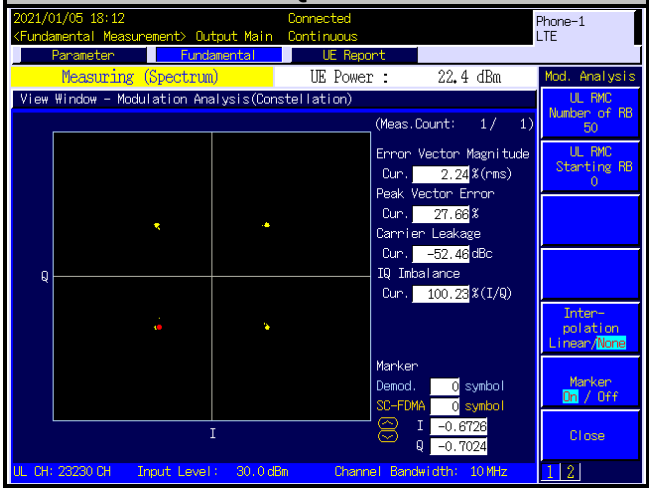
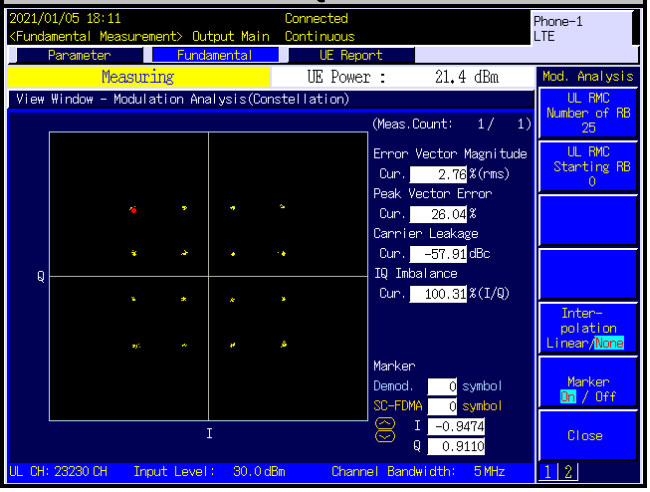
4.2.3 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector. The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

4.2.4 Test Results

Spectrum Plot of Measurement
WCDMA
Channel 1413


Spectrum Plot of Measurement	
LTE Band 4	
Channel 20175	
QPSK	16QAM
	
LTE Band 12	
Channel 23095	
QPSK	16QAM
	

Spectrum Plot of Measurement	
LTE Band 13	
Channel 23230	
QPSK	16QAM
	

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

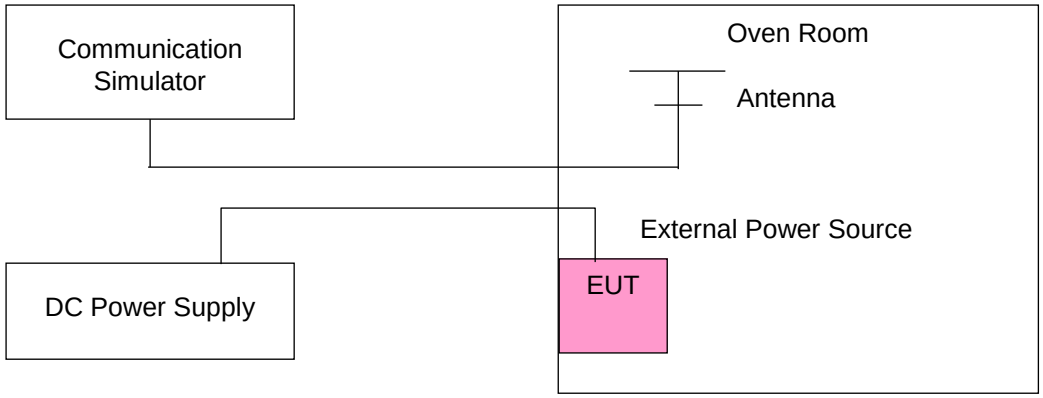
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.3.2 Test Procedure

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

Note: The frequency error was recorded frequency error from the communication simulator.

4.3.3 Test Setup



4.3.4 Test Results

Frequency Error vs. Voltage

Voltage (Volts)	WCDMA			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1712.400002	0.001285	1752.600004	0.002225
3.14	1712.400004	0.002102	1752.600002	0.001369
4.25	1712.400004	0.002161	1752.600001	0.000799

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	WCDMA			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1712.400001	0.000818	1752.600004	0.002282
-10	1712.400002	0.000934	1752.600002	0.000856
0	1712.400003	0.001577	1752.600002	0.001255
10	1712.400001	0.000701	1752.600003	0.001598
20	1712.399999	-0.000642	1752.599997	-0.001769
30	1712.399997	-0.001694	1752.599996	-0.002282
40	1712.399997	-0.001577	1752.599996	-0.002282
50	1712.399996	-0.002278	1752.599997	-0.001598

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1710.700002	0.000935	1754.299996	-0.002052
3.14	1710.700002	0.001052	1754.299997	-0.001938
4.25	1710.700002	0.001052	1754.299998	-0.001083

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1710.700003	0.001929	1754.300001	0.000798
-10	1710.700002	0.001111	1754.300001	0.000627
0	1710.700003	0.001871	1754.300003	0.001653
10	1710.699998	-0.001286	1754.300004	0.002109
20	1710.699996	-0.002338	1754.300001	0.000684
30	1710.699998	-0.001403	1754.300001	0.000798
40	1710.699999	-0.000877	1754.299997	-0.001539
50	1710.699998	-0.001169	1754.299997	-0.001881

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1711.500002	0.001402	1753.499998	-0.001312
3.14	1711.500001	0.000760	1753.499997	-0.001483
4.25	1711.500001	0.000643	1753.499999	-0.000798

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1711.500003	0.001636	1753.500004	0.002053
-10	1711.500003	0.001870	1753.500003	0.001426
0	1711.500003	0.001987	1753.500002	0.001141
10	1711.499998	-0.001227	1753.500003	0.001711
20	1711.499998	-0.001110	1753.500002	0.001198
30	1711.499996	-0.002162	1753.500002	0.001027
40	1711.499998	-0.001461	1753.499996	-0.002281
50	1711.499998	-0.001461	1753.499998	-0.000912

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1712.500001	0.000759	1752.499996	-0.002282
3.14	1712.500004	0.002219	1752.499997	-0.001655
4.25	1712.500001	0.000584	1752.499997	-0.001655

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1712.500002	0.001285	1752.500002	0.001255
-10	1712.500002	0.001051	1752.500002	0.000913
0	1712.500003	0.001518	1752.500003	0.001940
10	1712.499998	-0.000993	1752.500003	0.001712
20	1712.499997	-0.001577	1752.500004	0.001997
30	1712.499999	-0.000876	1752.500002	0.001027
40	1712.499998	-0.001285	1752.499998	-0.001027
50	1712.499998	-0.001109	1752.499997	-0.001655

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1715.000004	0.002157	1749.999998	-0.001029
3.14	1715.000003	0.001924	1749.999998	-0.001143
4.25	1715.000001	0.000816	1749.999998	-0.001314

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1715.000004	0.002332	1750.000003	0.001429
-10	1715.000001	0.000700	1750.000004	0.002057
0	1715.000003	0.001749	1750.000003	0.001486
10	1714.999997	-0.001808	1750.000003	0.001714
20	1714.999996	-0.002332	1750.000001	0.000571
30	1714.999998	-0.001341	1750.000004	0.002286
40	1714.999999	-0.000758	1749.999996	-0.002114
50	1714.999996	-0.002332	1749.999996	-0.002229

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1717.500003	0.001921	1747.499996	-0.002289
3.14	1717.500003	0.001747	1747.499997	-0.002003
4.25	1717.500003	0.001689	1747.499996	-0.002117

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1717.500002	0.001223	1747.500004	0.002232
-10	1717.500004	0.002096	1747.500004	0.002232
0	1717.500004	0.002213	1747.500004	0.002060
10	1717.499999	-0.000640	1747.500002	0.001316
20	1717.499999	-0.000582	1747.500002	0.001144
30	1717.499997	-0.001747	1747.500001	0.000687
40	1717.499997	-0.001863	1747.499999	-0.000801
50	1717.499997	-0.001921	1747.499998	-0.001202

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	1720.000002	0.001221	1744.999999	-0.000745
3.14	1720.000004	0.002035	1744.999997	-0.001891
4.25	1720.000001	0.000814	1744.999998	-0.001318

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 4			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	1720.000003	0.001919	1745.000001	0.000688
-10	1720.000003	0.001860	1745.000004	0.002235
0	1720.000002	0.001395	1745.000002	0.000860
10	1719.999998	-0.001337	1745.000003	0.001490
20	1719.999999	-0.000814	1745.000002	0.001375
30	1719.999999	-0.000872	1745.000002	0.001032
40	1719.999998	-0.001453	1744.999999	-0.000573
50	1719.999998	-0.001279	1744.999998	-0.001433

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	699.700002	0.003287	715.300001	0.001538
3.14	699.700001	0.002001	715.300003	0.003495
4.25	699.700003	0.004859	715.300004	0.004893

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 12			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	699.700004	0.005717	715.300002	0.002097
-10	699.700004	0.005288	715.300003	0.003914
0	699.700002	0.002573	715.300004	0.005173
10	699.700002	0.003001	715.300002	0.002936
20	699.699997	-0.003859	715.299997	-0.004474
30	699.699999	-0.001572	715.299997	-0.004334
40	699.699997	-0.003859	715.299996	-0.005033
50	699.699997	-0.005002	715.299998	-0.002796

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	700.500004	0.005710	714.500003	0.004199
3.14	700.500002	0.002570	714.500003	0.003919
4.25	700.500004	0.005282	714.500001	0.001679

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 12			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	700.500002	0.003141	714.500004	0.005318
-10	700.500003	0.003997	714.500003	0.004059
0	700.500003	0.004568	714.500001	0.001679
10	700.500002	0.002427	714.500002	0.003079
20	700.499997	-0.004711	714.499997	-0.004339
30	700.499999	-0.001999	714.499996	-0.005598
40	700.499998	-0.002855	714.499998	-0.002659
50	700.499996	-0.005710	714.499998	-0.002519

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	701.500003	0.004847	713.500003	0.004485
3.14	701.500002	0.003136	713.500001	0.001682
4.25	701.500003	0.003849	713.500002	0.002523

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 12			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	701.500002	0.003421	713.500004	0.005326
-10	701.500001	0.001426	713.500003	0.004625
0	701.500001	0.001426	713.500002	0.002803
10	701.500004	0.005560	713.500003	0.003924
20	701.499998	-0.003564	713.499996	-0.005606
30	701.499998	-0.002281	713.499996	-0.005326
40	701.499998	-0.002281	713.499998	-0.002383
50	701.499999	-0.001568	713.499996	-0.005466

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	704.000003	0.003835	711.000003	0.004079
3.14	704.000002	0.002983	711.000003	0.004360
4.25	704.000003	0.003977	711.000002	0.002672

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 12			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	704.000004	0.005256	711.000002	0.003094
-10	704.000001	0.001563	711.000003	0.003516
0	704.000002	0.002983	711.000004	0.005063
10	704.000003	0.004403	711.000001	0.001547
20	703.999998	-0.002273	710.999998	-0.002813
30	703.999996	-0.005256	710.999998	-0.003235
40	703.999997	-0.003835	710.999998	-0.002813
50	703.999998	-0.002557	710.999999	-0.001969

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 13			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.7	779.500004	0.004875	784.500002	0.002040
3.14	779.500004	0.004618	784.500002	0.001912
4.25	779.500003	0.004105	784.500004	0.004971

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 13			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-20	779.500003	0.004105	784.500002	0.002549
-10	779.500002	0.002181	784.500003	0.003697
0	779.500003	0.003592	784.500002	0.002804
10	779.500003	0.003592	784.500001	0.001275
20	779.499998	-0.002566	784.499998	-0.002804
30	779.499998	-0.002822	784.499996	-0.004716
40	779.499997	-0.003335	784.499997	-0.004079
50	779.499997	-0.003335	784.499996	-0.004971

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 13	
	Channel Bandwidth: 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
3.7	782.000003	0.003325
3.14	782.000003	0.003708
4.25	782.000002	0.002174

Note: The applicant defined the normal working voltage of the battery is from 3.14 Vdc to 4.25 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 13	
	Channel Bandwidth: 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
-20	782.000002	0.002813
-10	782.000003	0.003964
0	782.000004	0.004731
10	782.000001	0.001535
20	781.999998	-0.002174
30	781.999996	-0.004987
40	781.999999	-0.001918
50	781.999996	-0.004859

Note: When the EUT temperature is below -20°C, it will shut down and will not work.

4.4 Occupied Bandwidth Measurement

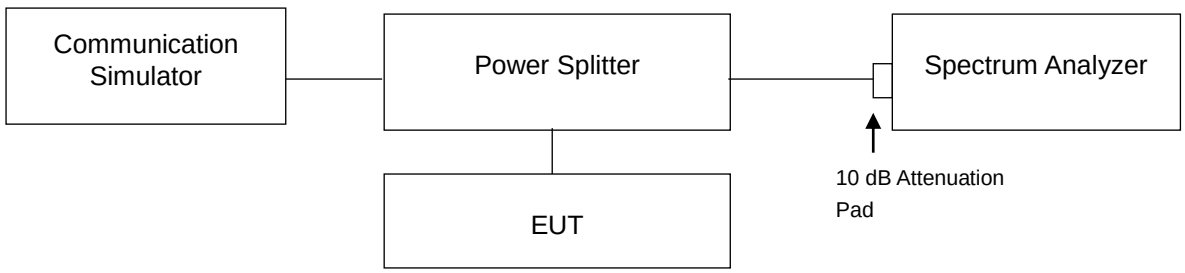
4.4.1 Limits of Occupied Bandwidth Measurement

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.2 Test Procedure

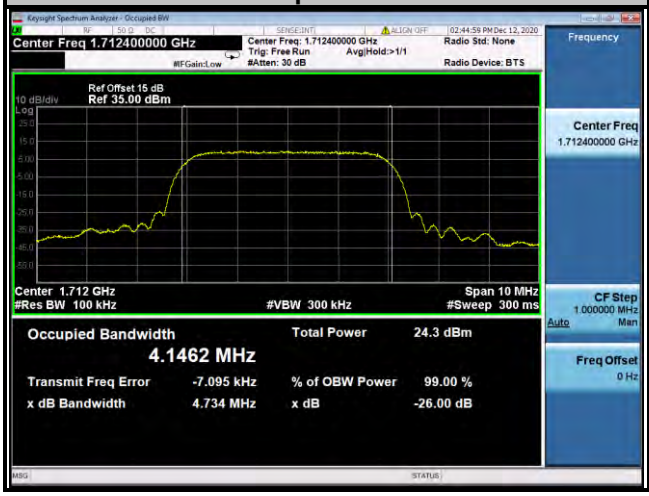
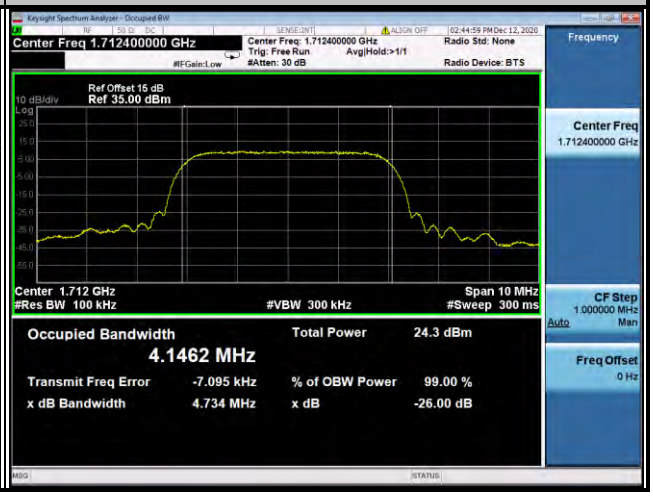
a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.
c. Measurement method refer to section 5.4.4 of ANSI C63.26.
d. For the 26dBc bandwidth measurement method, please refer to section 5.4.3 of ANSI C63.26.

4.4.3 Test Setup

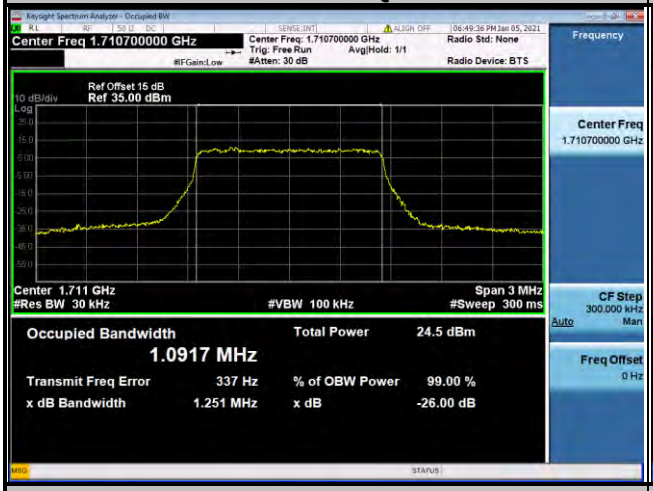
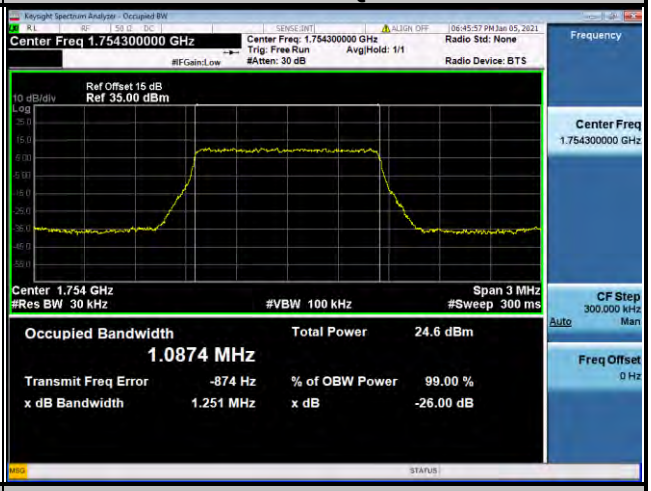
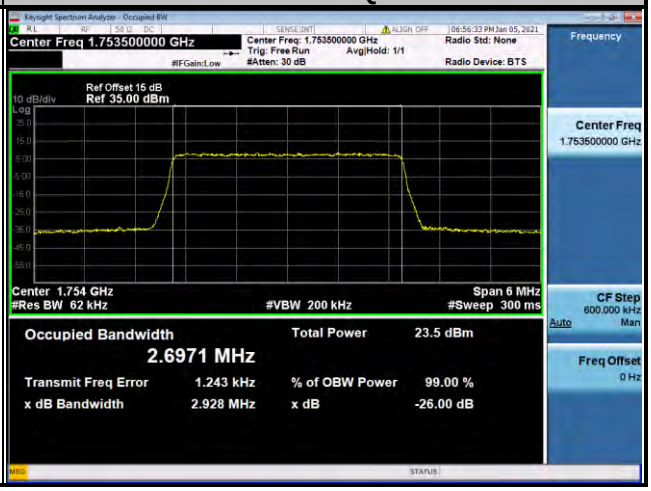


4.4.4 Test Result

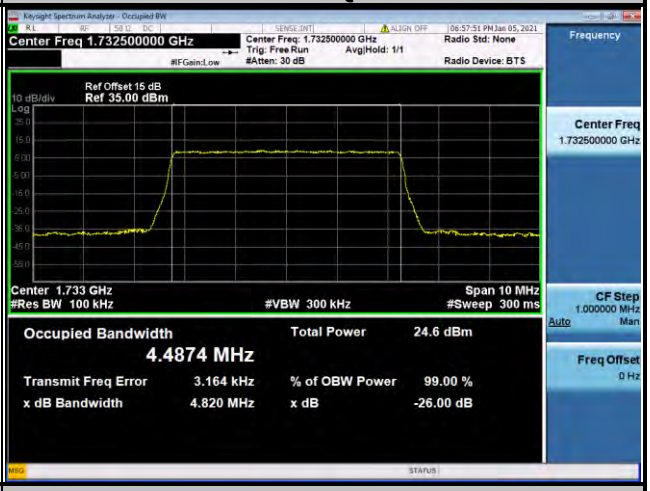
WCDMA			
Channel	**Frequency (MHz)**	**99 % Occupied Bandwidth (MHz)**	**26 dB Bandwidth (MHz)**
1312	1712.4	4.15	4.73
1413	1732.6	4.14	4.74
1513	1752.6	4.14	4.72

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	**26 dB Bandwidth**
	

LTE Band 4					
Channel Bandwidth: 1.4 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19957	1710.7	1.09	1.09	1.24	1.25
20175	1732.5	1.09	1.09	1.25	1.25
20393	1754.3	1.09	1.09	1.25	1.24
Channel Bandwidth: 3 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19965	1711.5	2.70	2.70	2.92	2.92
20175	1732.5	2.70	2.70	2.92	2.92
20385	1753.5	2.70	2.70	2.91	2.93

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	26 dB Bandwidth
1.4 MHz / 16QAM	1.4 MHz / QPSK
	
3 MHz / QPSK	3 MHz / 16QAM
	

LTE Band 4					
Channel Bandwidth: 5 MHz					
Channel	**Frequency (MHz)**	**99 % Occupied Bandwidth (MHz)**		**26 dB Bandwidth (MHz)**	
		QPSK	**16QAM**	**QPSK**	**16QAM**
19975	1712.5	4.49	4.49	4.81	4.82
20175	1732.5	4.49	4.49	4.82	4.81
20375	1752.5	4.49	4.49	4.81	4.82
Channel Bandwidth: 10 MHz					
Channel	**Frequency (MHz)**	**99 % Occupied Bandwidth (MHz)**		**26 dB Bandwidth (MHz)**	
		QPSK	**16QAM**	**QPSK**	**16QAM**
20000	1715.0	8.96	4.57	9.52	5.04
20175	1732.5	8.95	4.56	9.49	5.01
20350	1750.0	8.95	4.56	9.52	5.03

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	**26 dB Bandwidth**
5 MHz / QPSK	**5 MHz / QPSK**
	
10 MHz / QPSK	**10 MHz / QPSK**
	

LTE Band 4					
Channel Bandwidth: 15 MHz					
Channel	**Frequency (MHz)**	**99 % Occupied Bandwidth (MHz)**		**26 dB Bandwidth (MHz)**	
		QPSK	**16QAM**	**QPSK**	**16QAM**
20025	1717.5	13.44	4.67	14.24	5.23
20175	1732.5	13.41	4.66	14.21	5.24
20325	1747.5	13.44	4.67	14.24	5.25
Channel Bandwidth: 20 MHz					
Channel	**Frequency (MHz)**	**99 % Occupied Bandwidth (MHz)**		**26 dB Bandwidth (MHz)**	
		QPSK	**16QAM**	**QPSK**	**16QAM**
20050	1720.0	17.91	4.81	19.03	5.53
20175	1732.5	17.86	4.81	19.00	5.49
20300	1745.0	17.91	4.80	19.03	5.53

Spectrum Plot of Worst Value

99 % Occupied Bandwidth

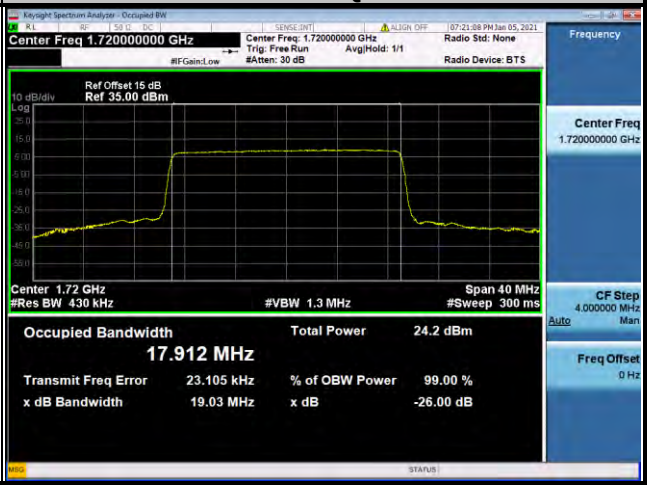
15 MHz / QPSK

26 dB Bandwidth

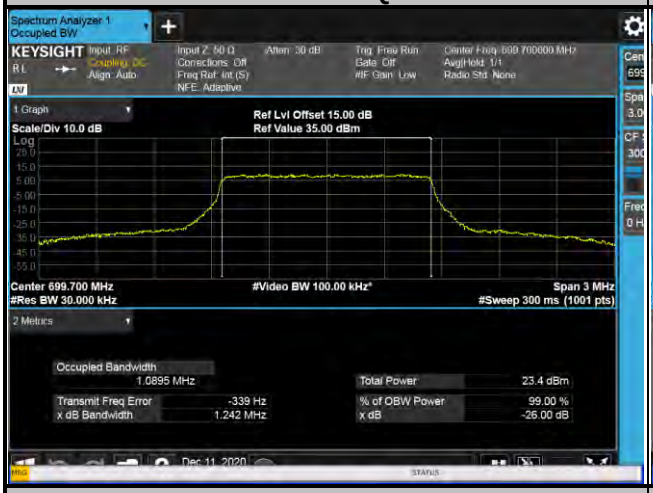
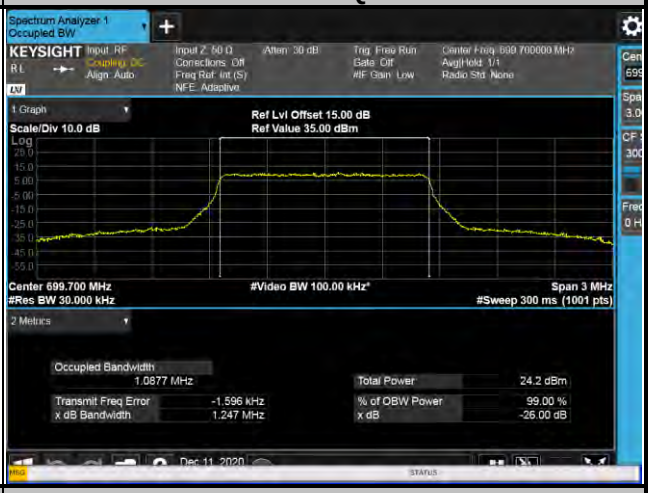
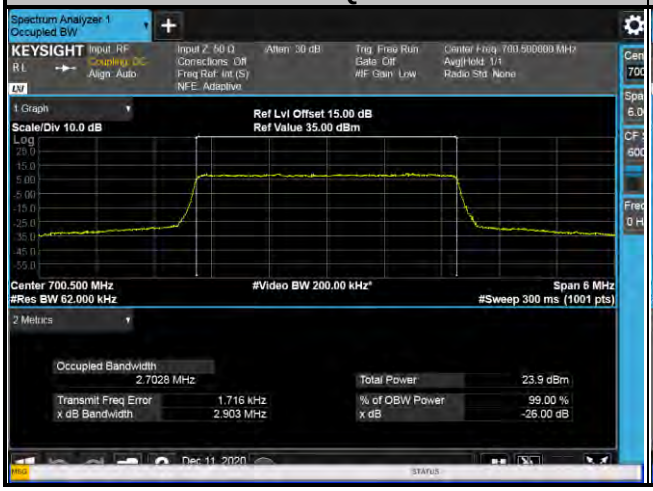
15 MHz / QPSK

20 MHz / QPSK

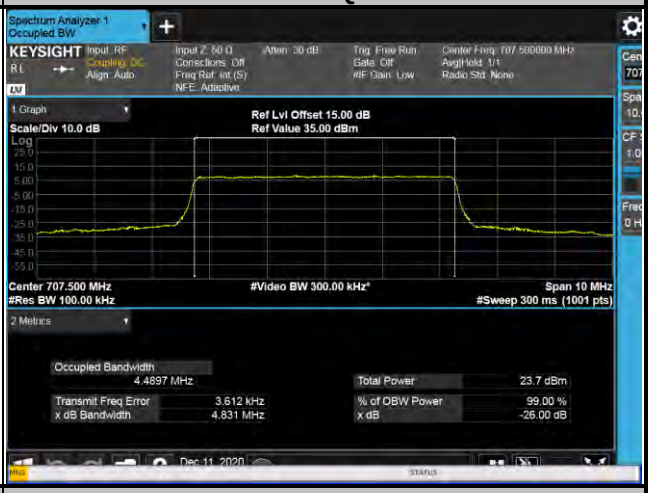
20 MHz / QPSK



LTE Band 12					
Channel Bandwidth: 1.4 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23017	699.7	1.09	1.09	1.25	1.24
23095	707.5	1.09	1.09	1.24	1.24
23173	715.3	1.09	1.09	1.25	1.23
Channel Bandwidth: 3 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23025	700.5	2.70	2.70	2.90	2.92
23095	707.5	2.70	2.70	2.91	2.93
23165	714.5	2.70	2.69	2.91	2.91

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	26 dB Bandwidth
1.4 MHz / 16QAM	1.4 MHz / QPSK
	
3 MHz / QPSK	3 MHz / 16QAM
	

LTE Band 12					
Channel Bandwidth: 5 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23035	701.5	4.49	4.49	4.81	4.82
23095	707.5	4.49	4.49	4.83	4.82
23155	713.5	4.48	4.48	4.80	4.79
Channel Bandwidth: 10 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23060	704.0	8.96	4.57	9.51	5.03
23095	707.5	8.97	4.57	9.53	5.03
23130	711.0	8.95	4.57	9.49	5.03

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	26 dB Bandwidth
5 MHz / 16QAM	5 MHz / QPSK
	
10 MHz / QPSK	10 MHz / QPSK
	

LTE Band 13					
Channel Bandwidth: 5 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23205	779.5	4.49	4.49	4.82	4.82
23230	782.0	4.49	4.49	4.82	4.82
23255	784.5	4.49	4.49	4.83	4.84
Channel Bandwidth: 10 MHz					
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23230	782.0	8.95	4.57	9.51	5.04

Spectrum Plot of Worst Value	
99 % Occupied Bandwidth	26 dB Bandwidth
5 MHz / 16QAM	5 MHz / 16QAM
	
10 MHz / QPSK	10 MHz / QPSK
	

4.5 Band Edge Measurement

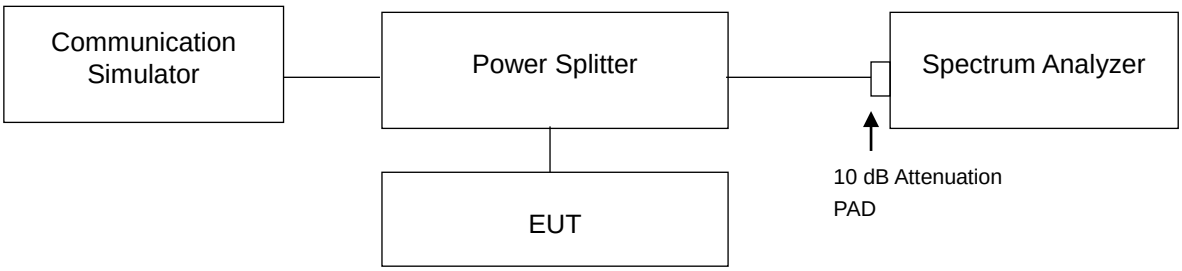
4.5.1 Limits of Band Edge Measurement

For operations in the 698-787 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.
However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.
On all frequencies between 763-775 MHz and 793-805 MHz, by a factor no less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

For operations in the 1710–1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB.

4.5.2 Test Setup

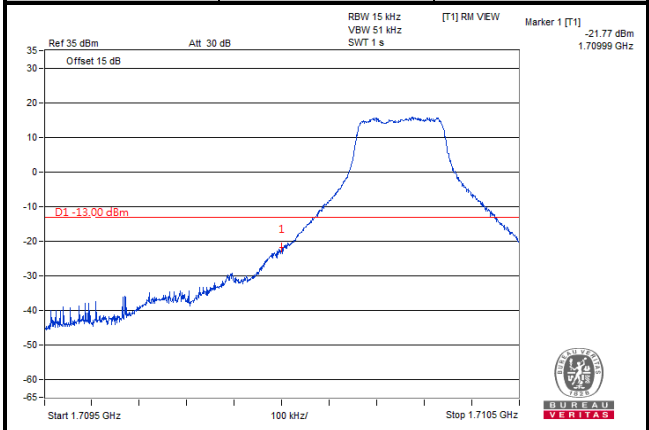
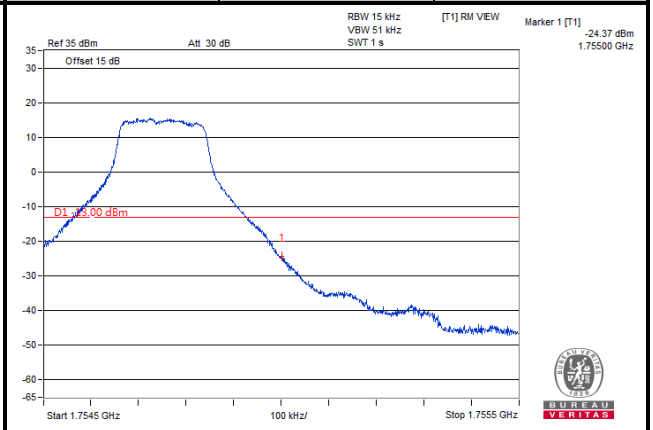
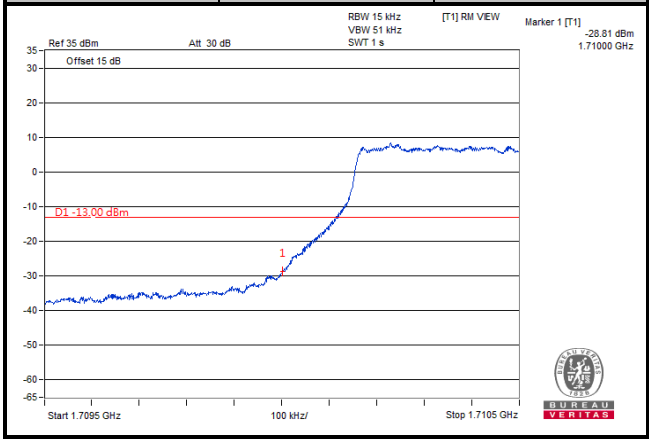
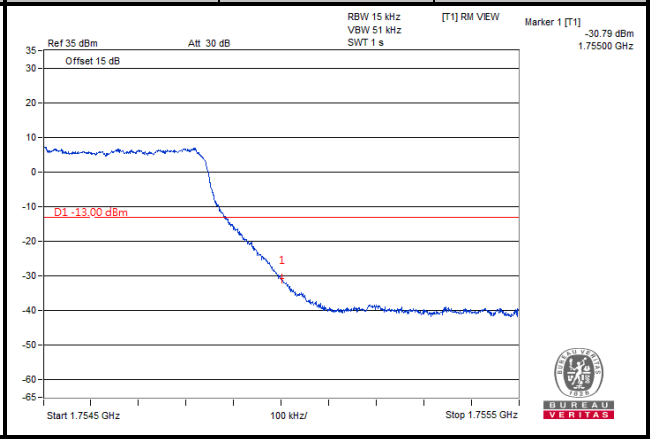


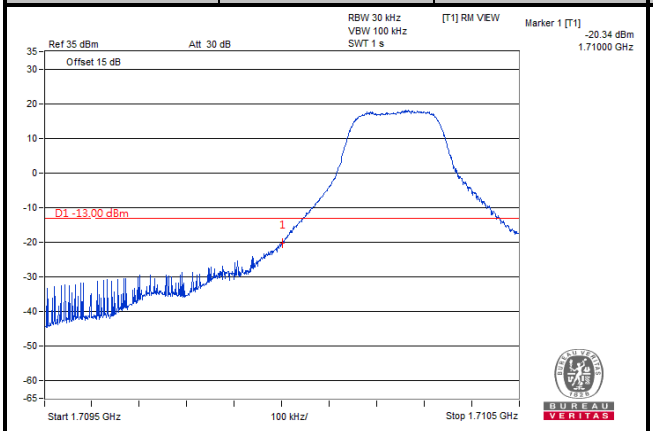
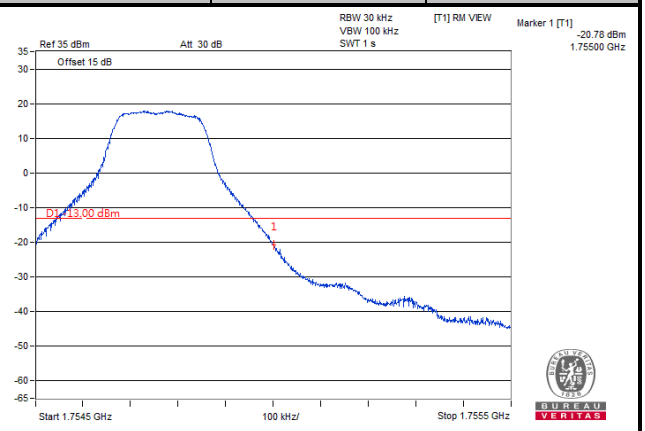
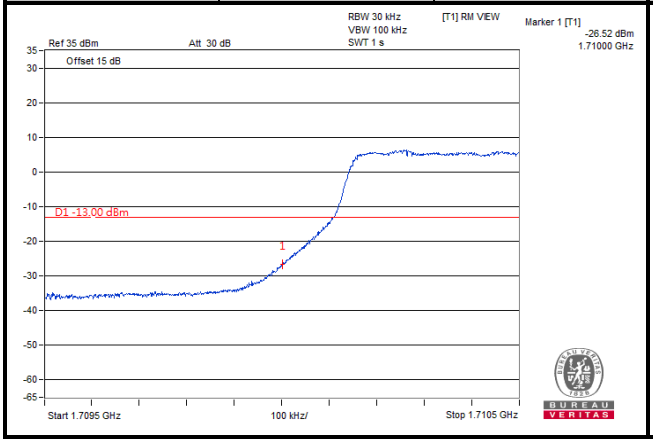
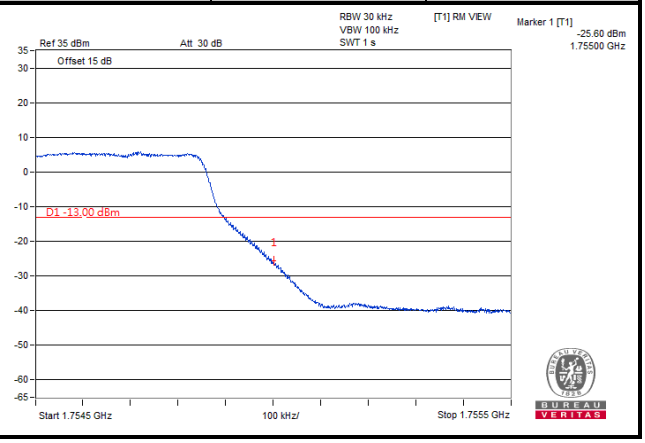
4.5.3 Test Procedures

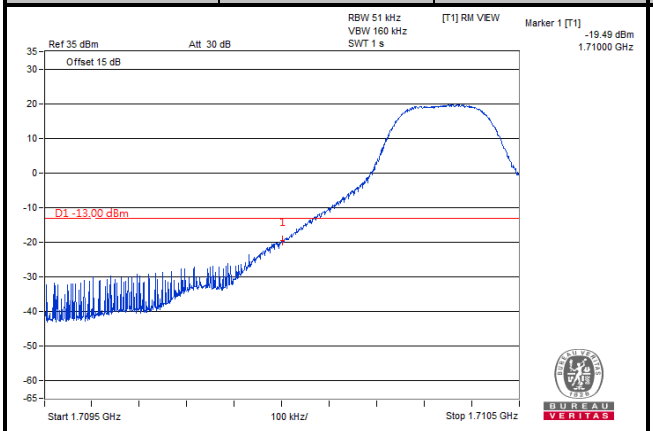
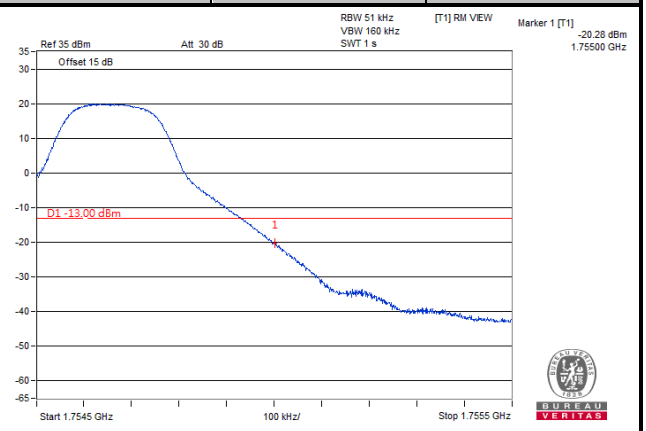
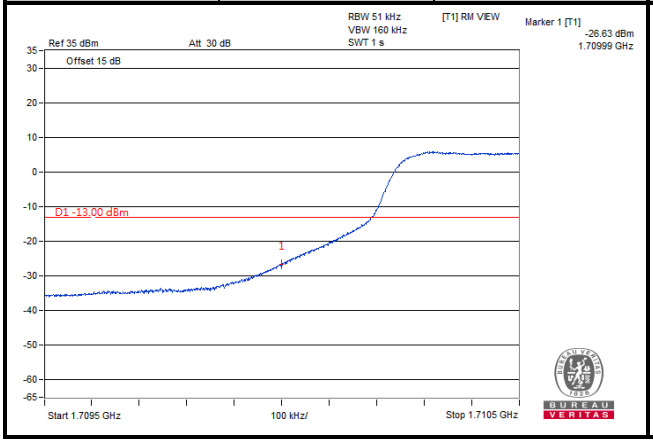
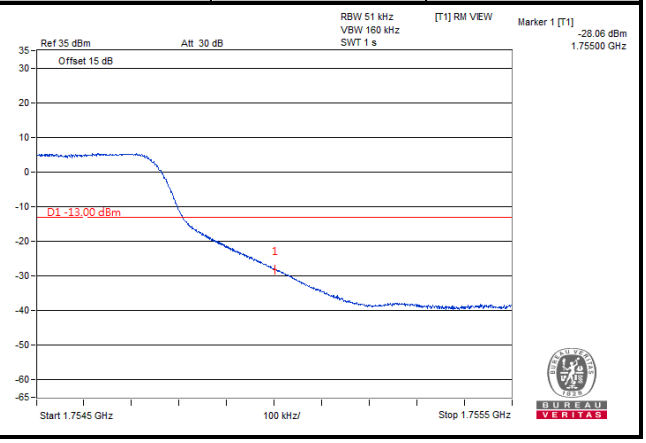
a. All measurements were done at low and high operational frequency range.
b. The center frequency of spectrum is the band edge frequency and span is 5 MHz. RB of the spectrum is 51 kHz and VB of the spectrum is 160 kHz (WCDMA).
c. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 15 kHz or 30 kHz and VB of the spectrum is 51 kHz or 100 kHz (LTE Bandwidth 1.4 MHz).
d. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 30 kHz and VB of the spectrum is 100 kHz (LTE Bandwidth 3 MHz).
e. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 51 kHz and VB of the spectrum is 160 kHz (LTE Bandwidth 5 MHz).
f. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 100 kHz and VB of the spectrum is 300 kHz (LTE Bandwidth 10 MHz).
g. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 150 kHz and VB of the spectrum is 470 kHz (LTE Bandwidth 15 MHz).
h. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 200 kHz and VB of the spectrum is 1 MHz (LTE Bandwidth 20 MHz).
i. Record the max. trace plot into the test report.

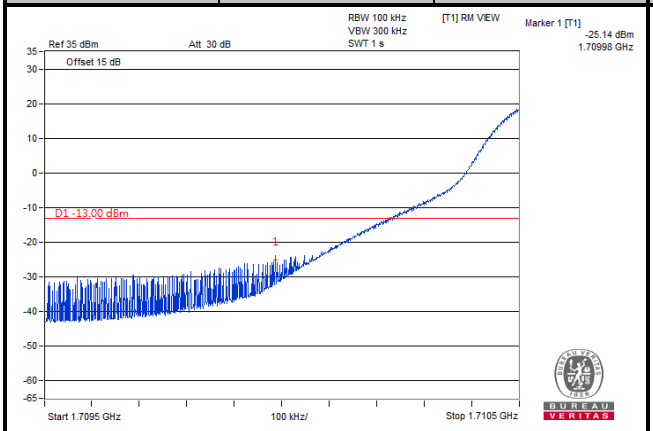
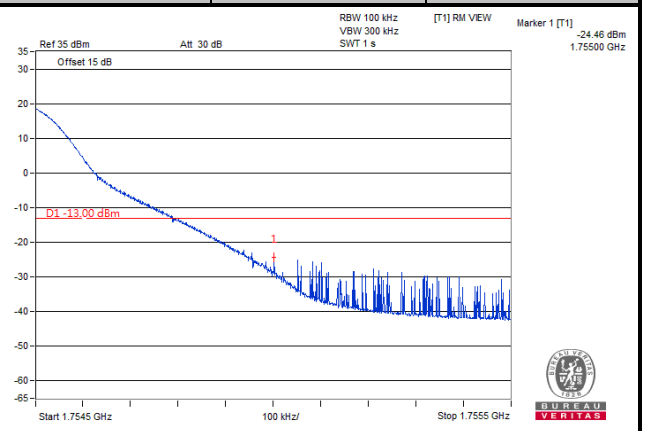
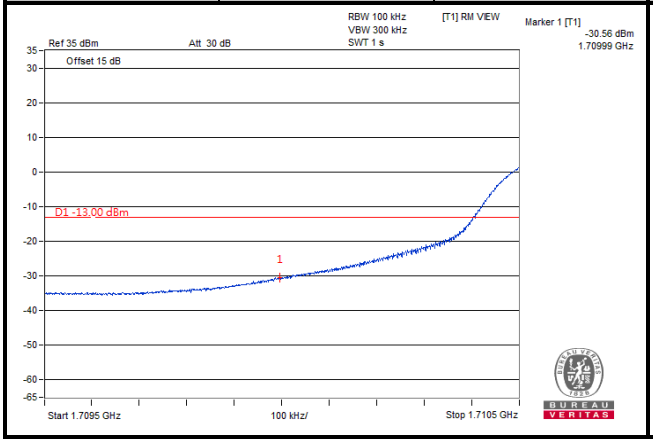
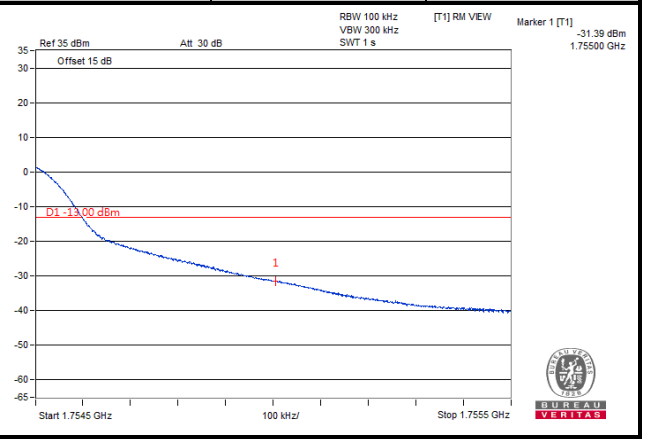
4.5.4 Test Results

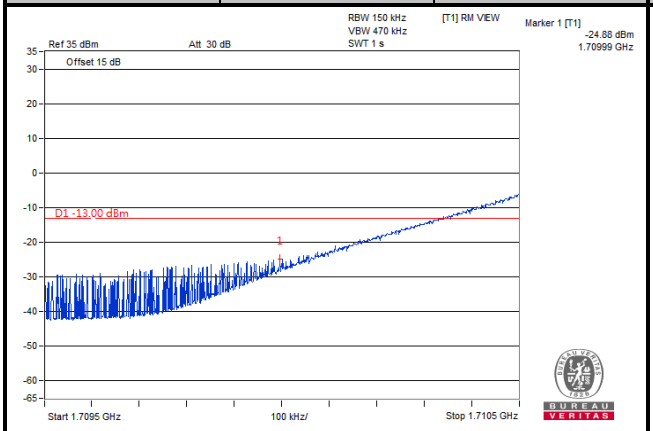
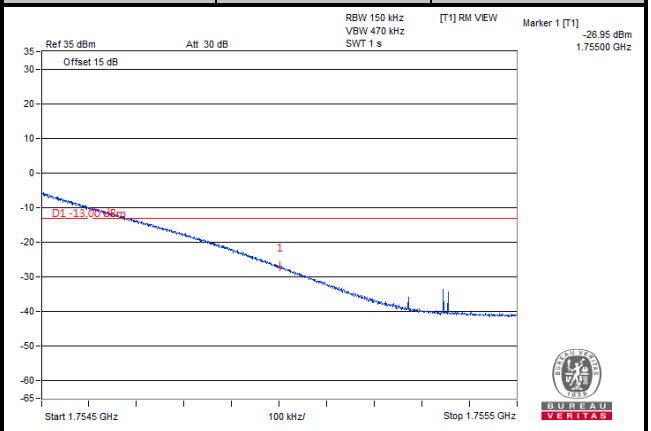
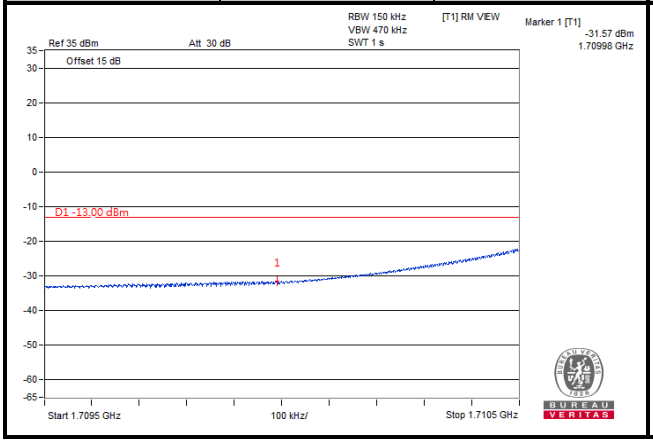
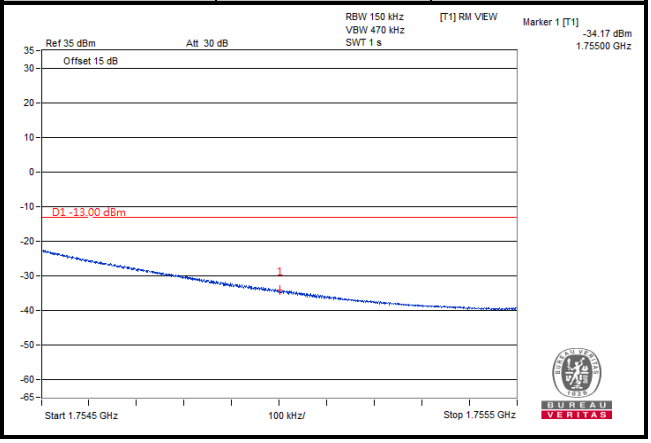
WCDMA			
Channel	1312	Channel	1513
			

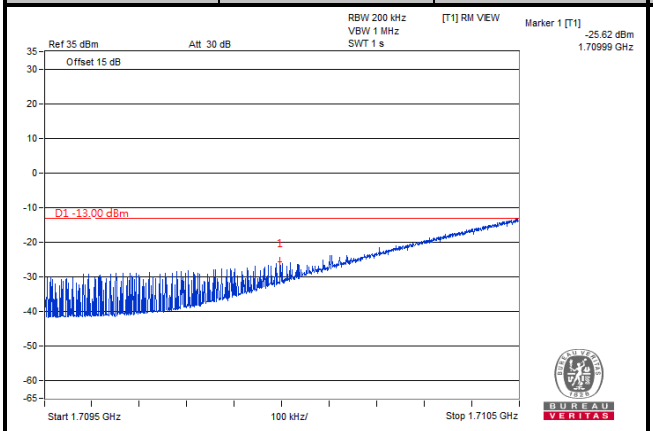
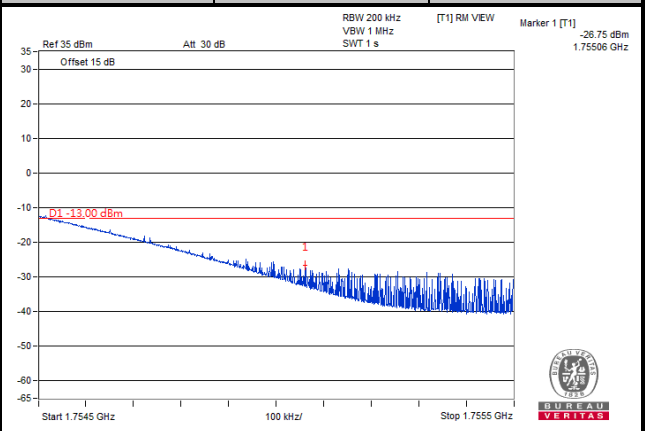
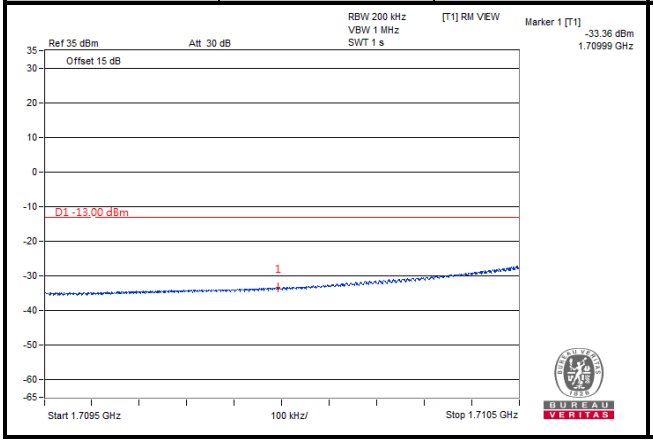
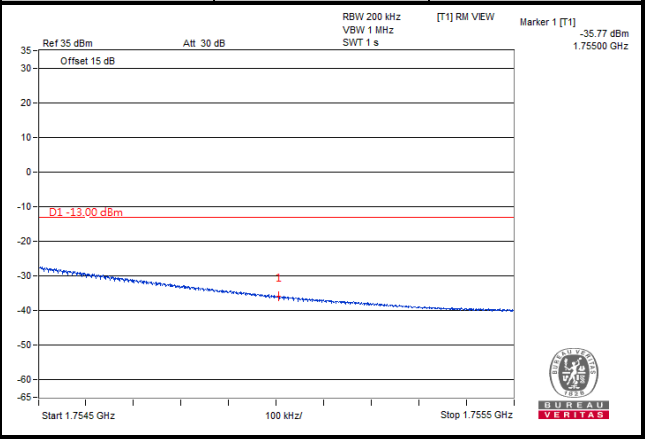
LTE Band 4					
Channel Bandwidth: 1.4 MHz					
Channel	19957	1 RB	Channel	20393	1 RB
					
Channel	19957	6 RB	Channel	20393	6 RB
					

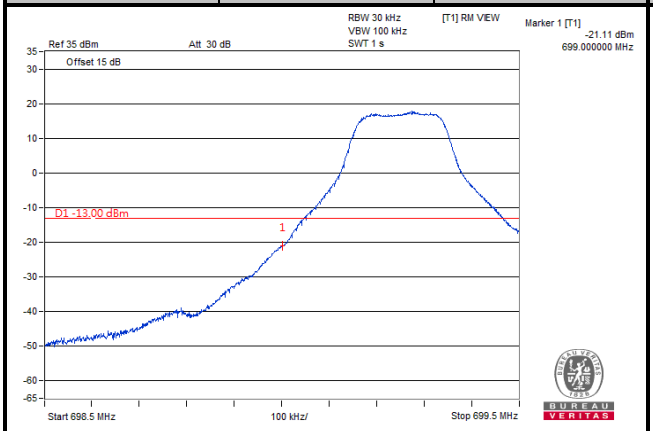
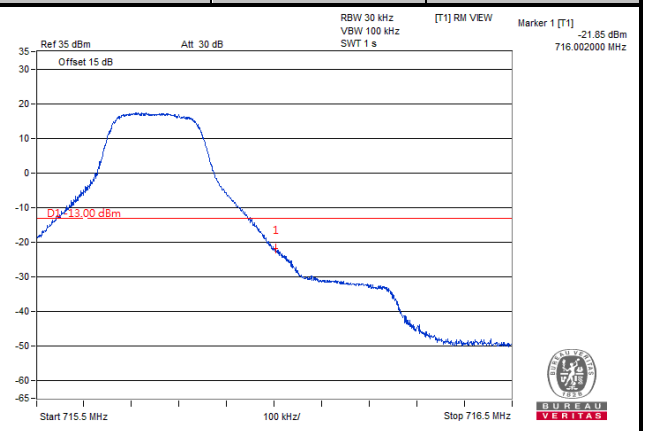
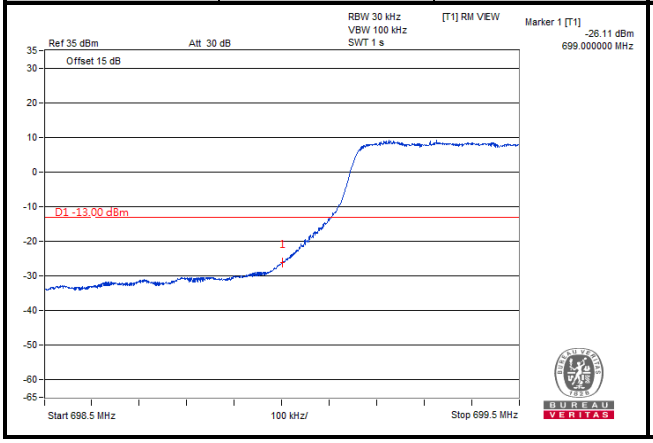
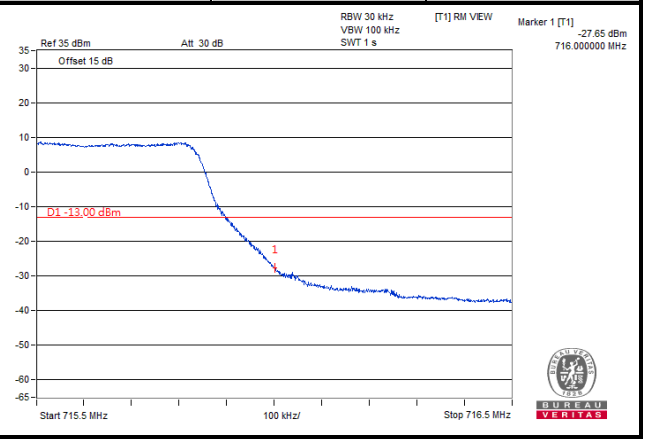
LTE Band 4					
Channel Bandwidth: 3 MHz					
Channel	19965	1 RB	Channel	20385	1 RB
					
Channel	19965	15 RB	Channel	20385	15 RB
					

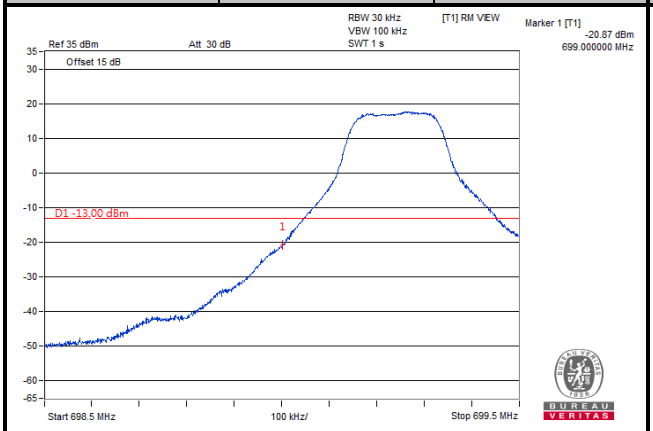
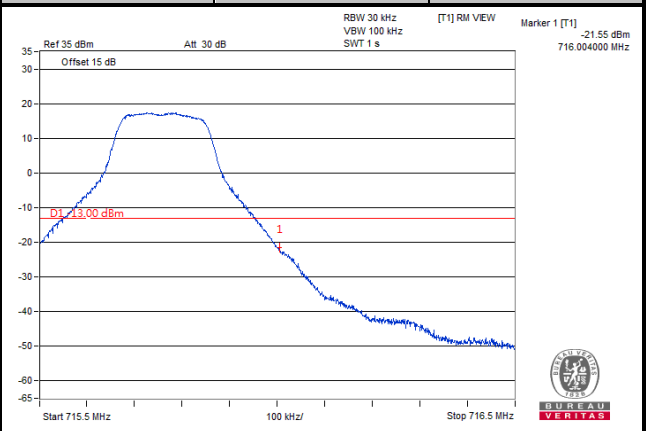
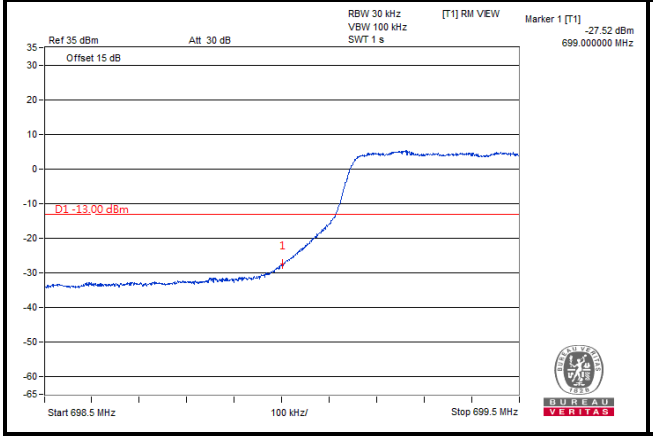
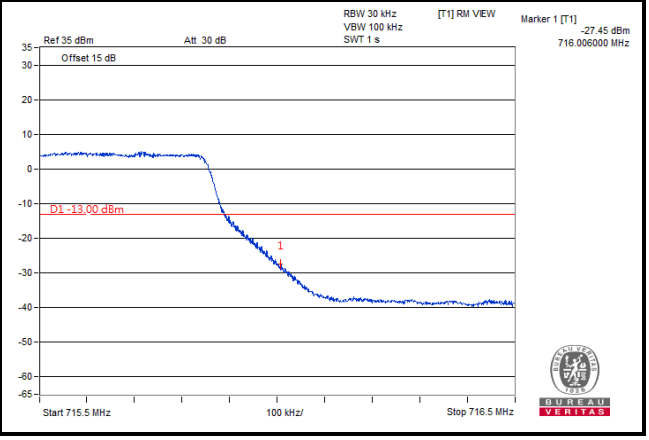
LTE Band 4					
Channel Bandwidth: 5 MHz					
Channel	19975	1 RB	Channel	20375	1 RB
					
Channel	19975	25 RB	Channel	20375	25 RB
					

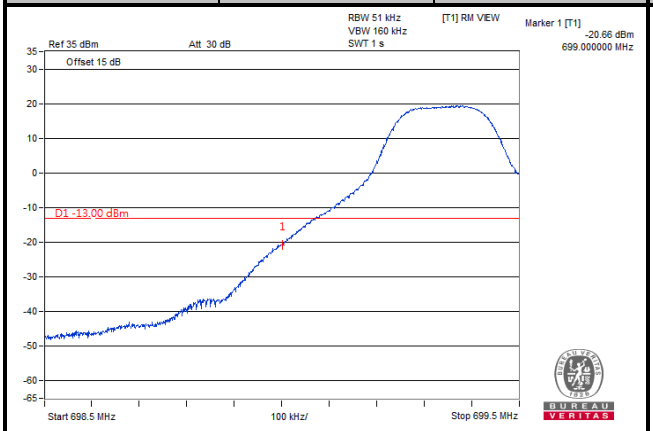
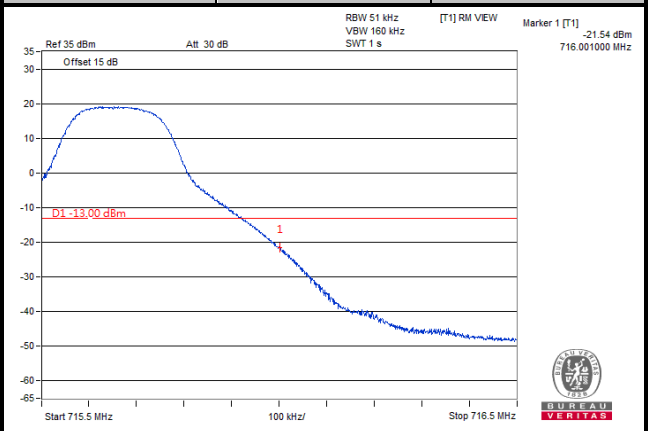
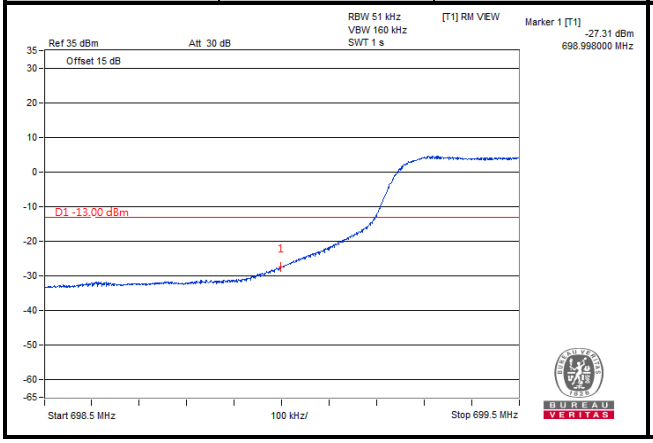
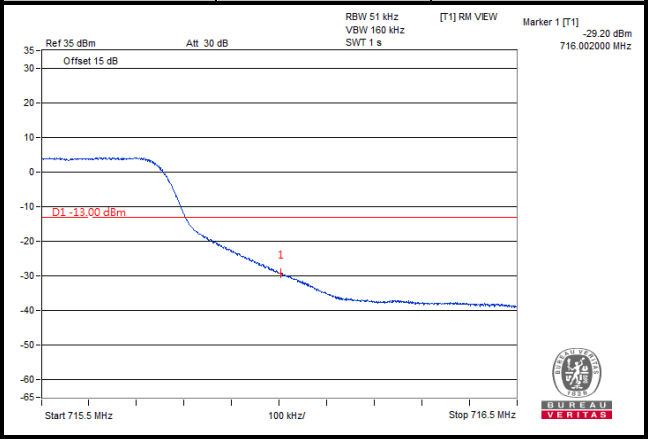
LTE Band 4					
Channel Bandwidth: 10 MHz					
Channel	20000	1 RB	Channel	20350	1 RB
					
Channel	20000	50 RB	Channel	20350	50 RB
					

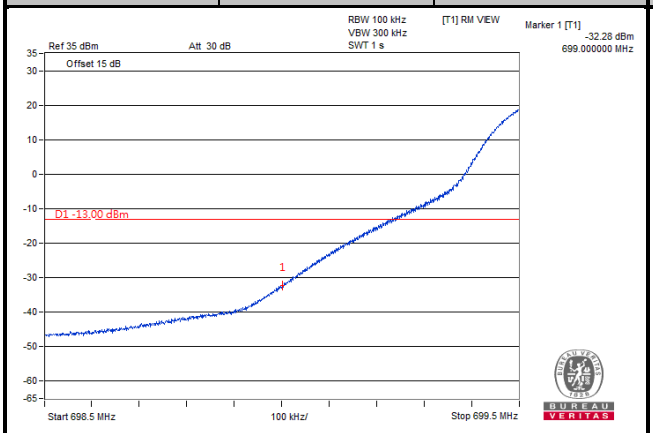
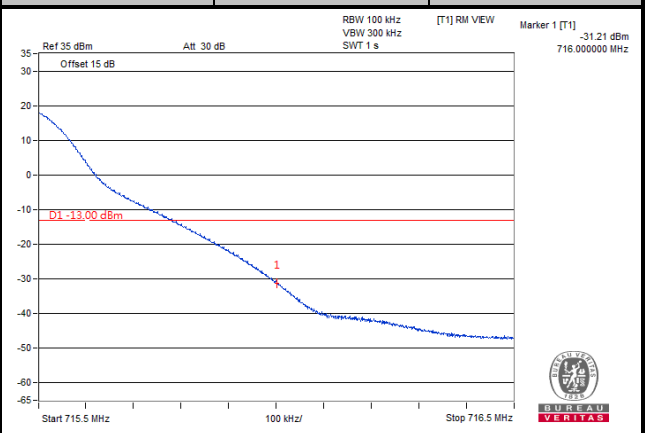
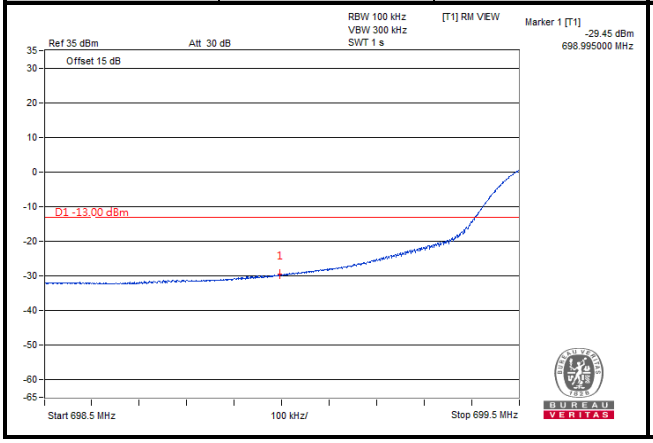
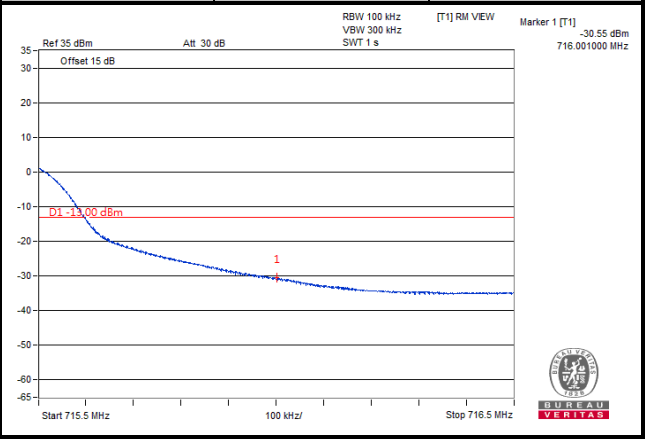
LTE Band 4					
Channel Bandwidth: 15 MHz					
Channel	20025	1 RB	Channel	20325	1 RB
					
Channel	20025	75 RB	Channel	20325	75 RB
					

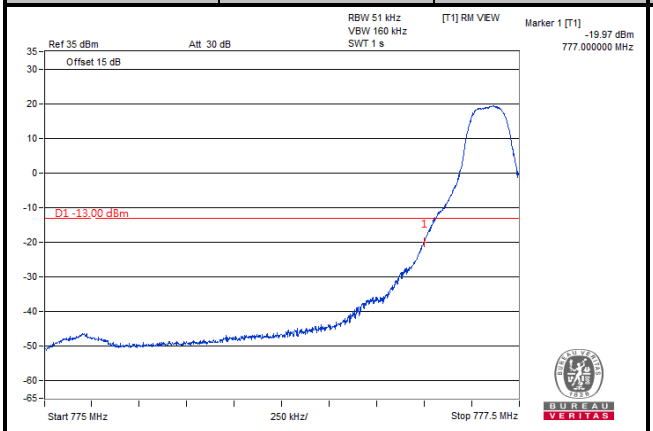
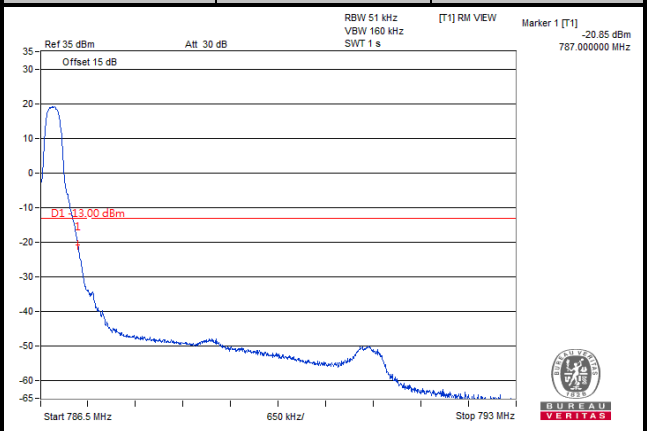
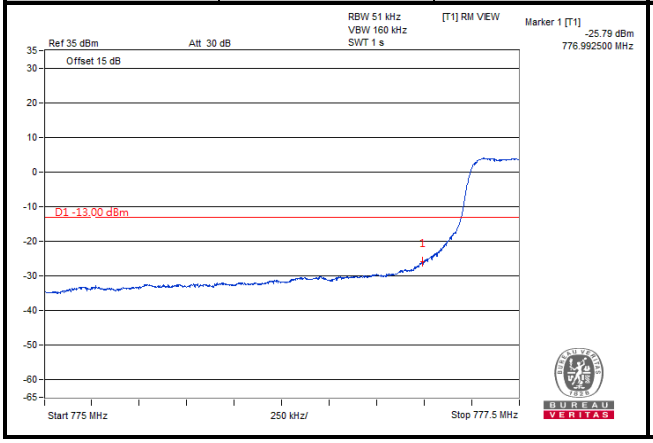
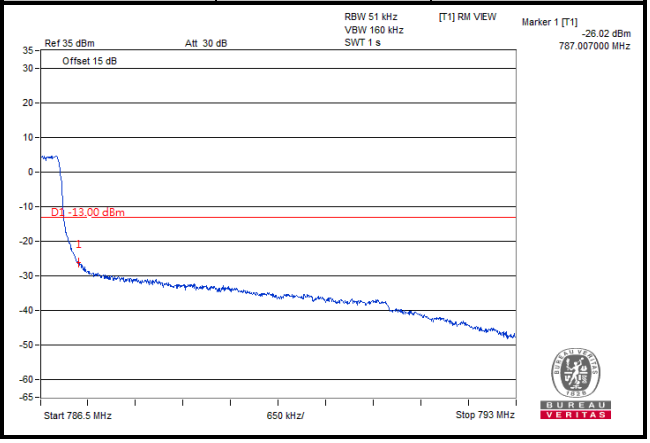
LTE Band 4					
Channel Bandwidth: 20 MHz					
Channel	20050	1 RB	Channel	20300	1 RB
					
Channel	20050	100 RB	Channel	20300	100 RB
					

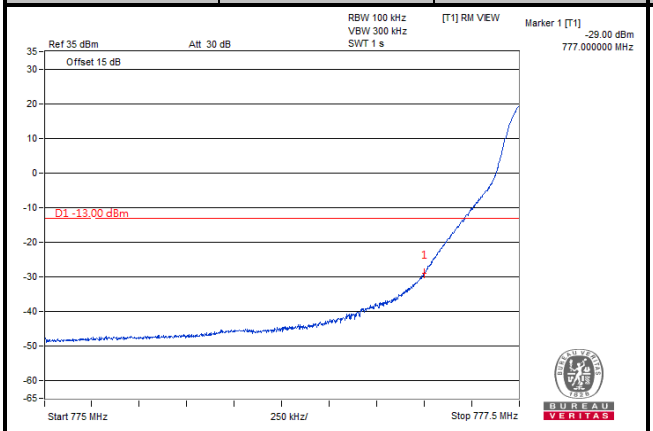
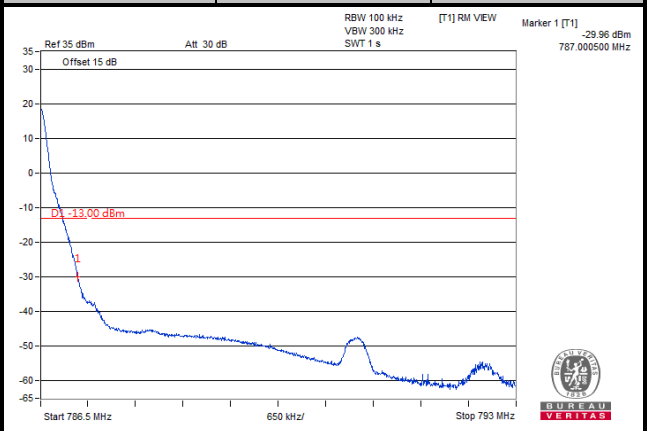
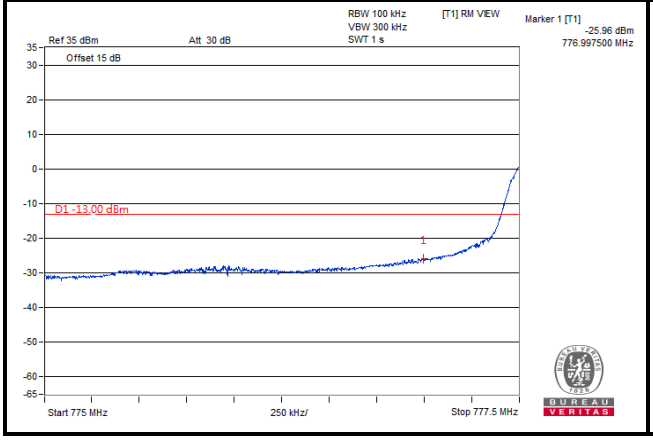
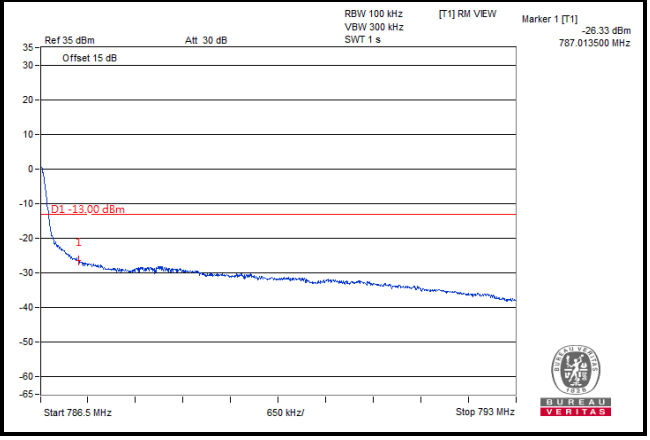
LTE Band 12					
Channel Bandwidth: 1.4 MHz					
Channel	23017	1 RB	Channel	23173	1 RB
					
Channel	23017	6 RB	Channel	23173	6 RB
					

LTE Band 12					
Channel Bandwidth: 3 MHz					
Channel	23025	1 RB	Channel	23165	1 RB
					
Channel	23025	15 RB	Channel	23165	15 RB
					

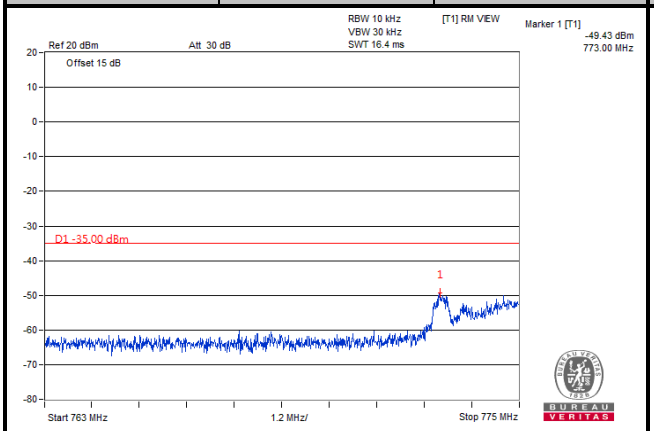
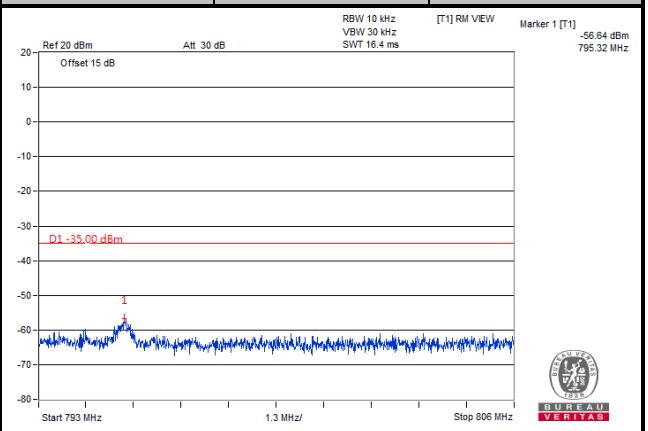
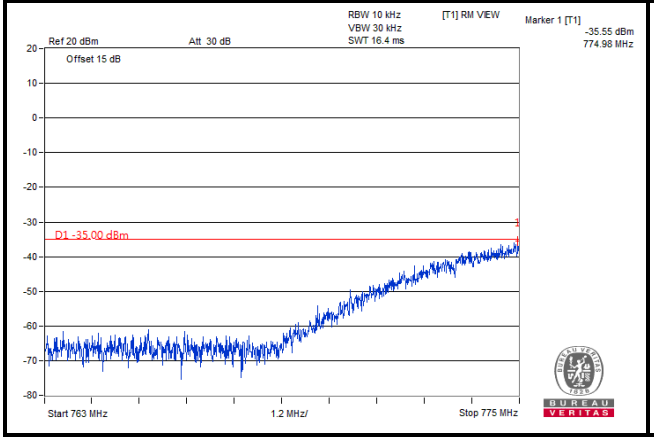
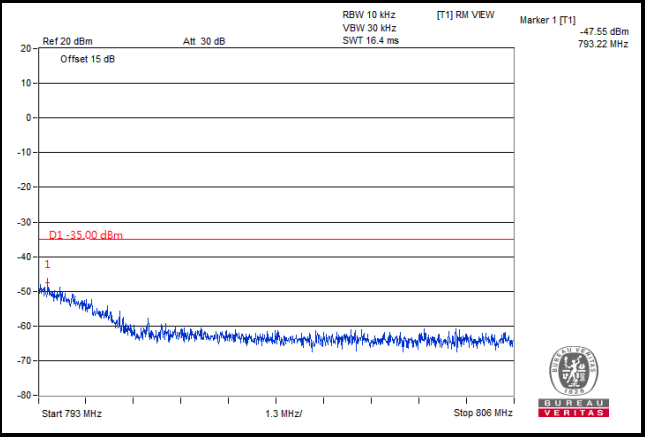
LTE Band 12					
Channel Bandwidth: 5 MHz					
Channel	23035	1 RB	Channel	23155	1 RB
					
Channel	23035	25 RB	Channel	23155	25 RB
					

LTE Band 12					
Channel Bandwidth: 10 MHz					
Channel	23060	1 RB	Channel	23130	1 RB
					
Channel	23060	50 RB	Channel	23130	50 RB
					

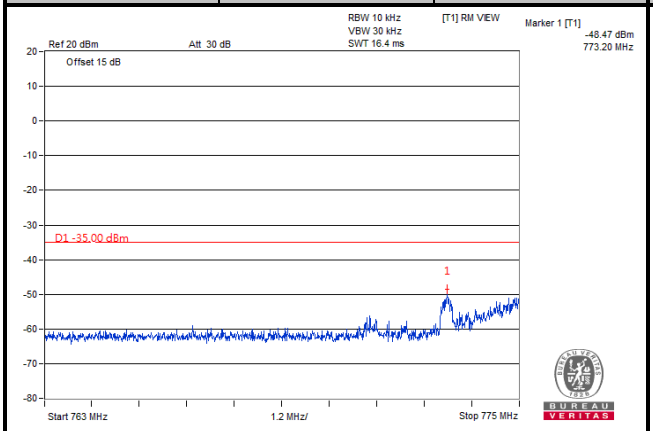
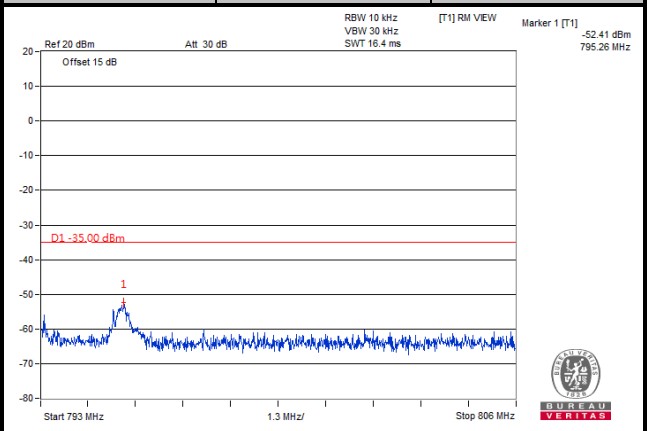
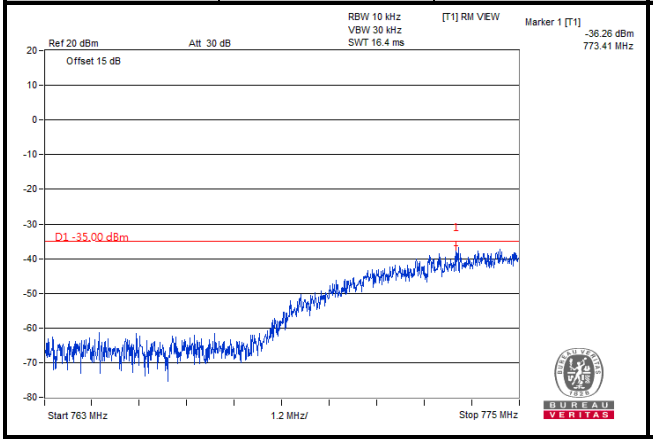
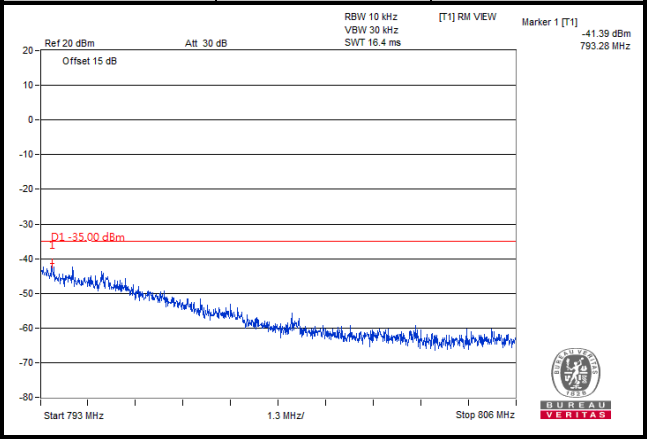
LTE Band 13					
Channel Bandwidth: 5 MHz					
Channel	23205	1 RB	Channel	23255	1 RB
					
Channel	23205	25 RB	Channel	23255	25 RB
					

LTE Band 13					
Channel Bandwidth: 10 MHz					
Channel	23230	1 RB	Channel	23230	1 RB
					
Channel	23230	50 RB	Channel	23230	50 RB
					

Emission Mask

LTE Band 13					
Channel Bandwidth: 5 MHz					
Channel	23205	1 RB	Channel	23255	1 RB
					
Channel	23205	25 RB	Channel	23255	25 RB
					

For the 763 - 775 MHz and 793 - 805 MHz band, the FCC limit is 65+10log(P[watt]) in a 6.25 kHz bandwidth. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance, and the correction factor is compensated at the spectrum. By using a 10 kHz bandwidth on the spectrum analyzer.

LTE Band 13					
Channel Bandwidth: 10 MHz					
Channel	23230	1 RB	Channel	23230	1 RB
					
Channel	23230	50 RB	Channel	23230	50 RB
					

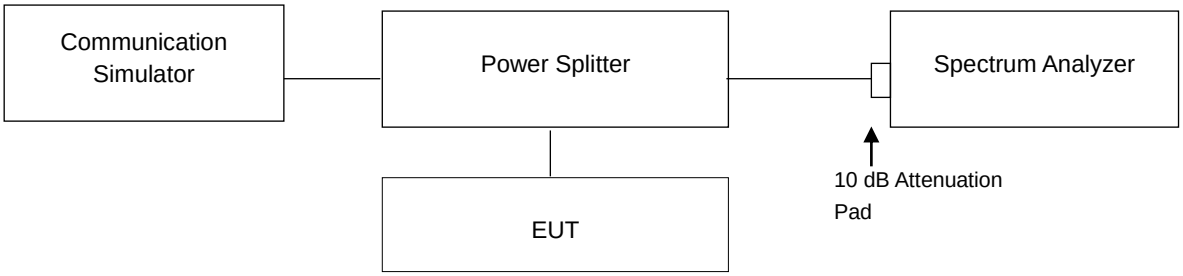
For the 763 - 775 MHz and 793 - 805 MHz band, the FCC limit is 65+10log(P[watt]) in a 6.25 kHz bandwidth. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance, and the correction factor is compensated at the spectrum. By using a 10 kHz bandwidth on the spectrum analyzer.

4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

4.6.2 Test Setup



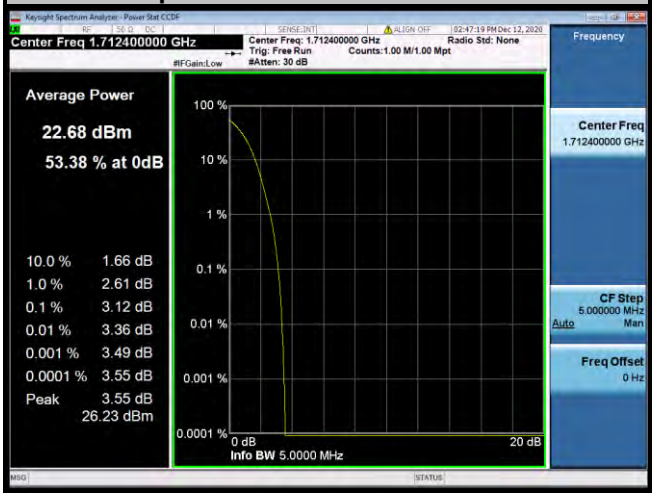
4.6.3 Test Procedures

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1 %.

4.6.4 Test Results

WCDMA		
Channel	Frequency (MHz)	Peak to Average Ratio (dB)
1312	1712.4	3.12
1413	1732.6	3.07
1513	1752.6	3.10

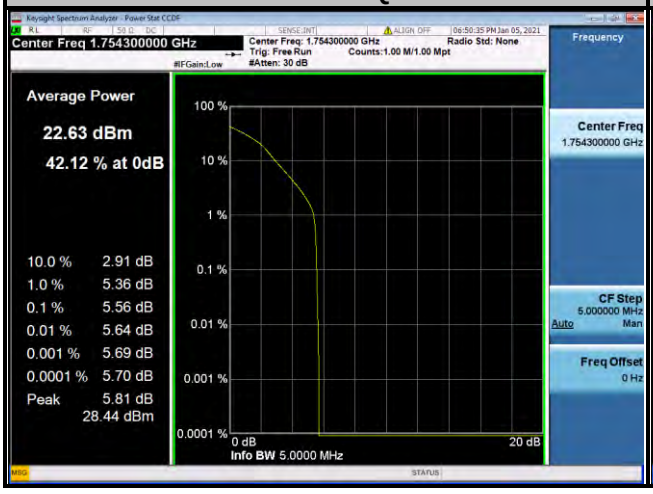
Spectrum Plot of Worst Value



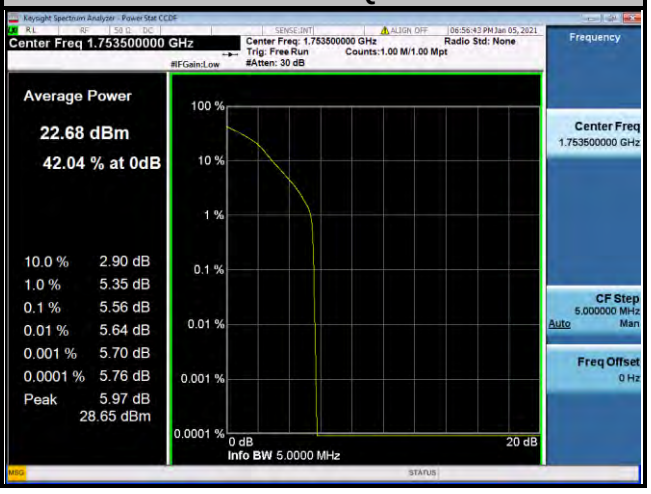
LTE Band 4							
Channel Bandwidth: 1.4 MHz				Channel Bandwidth: 3 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19957	1710.7	4.38	5.22	19965	1711.5	4.67	5.24
20175	1732.5	4.81	5.49	20175	1732.5	4.73	5.47
20393	1754.3	4.79	5.56	20385	1753.5	4.78	5.56

Spectrum Plot of Worst Value

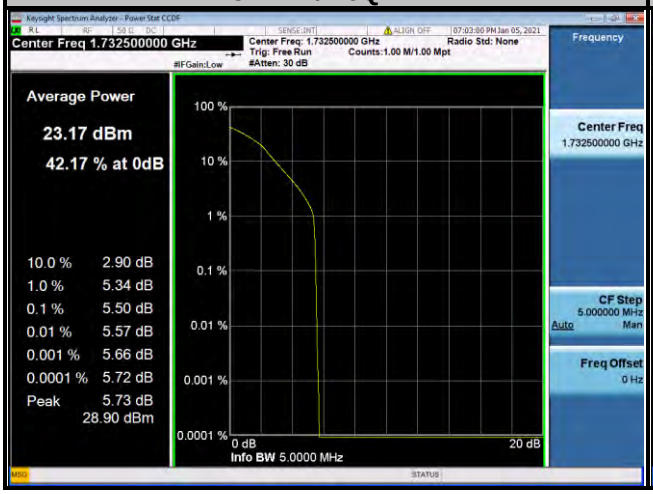
1.4 MHz / 16QAM



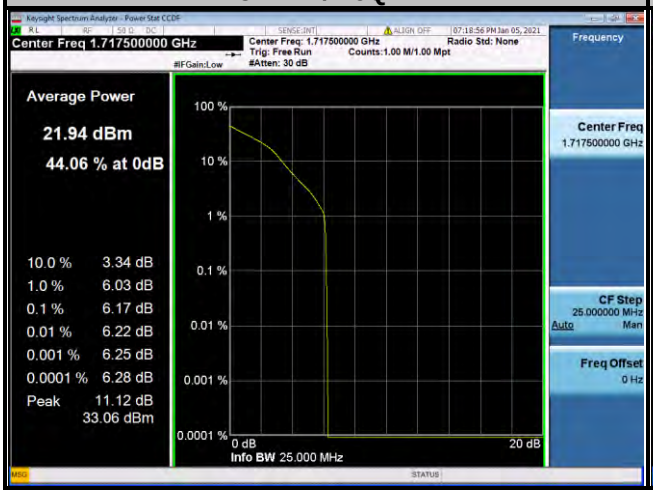
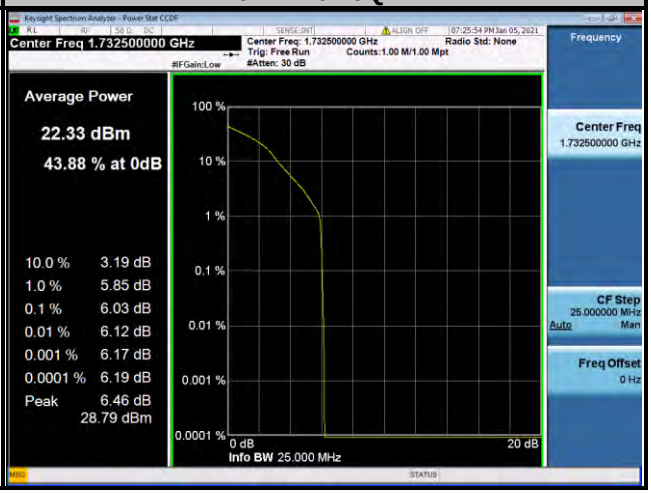
3 MHz / 16QAM



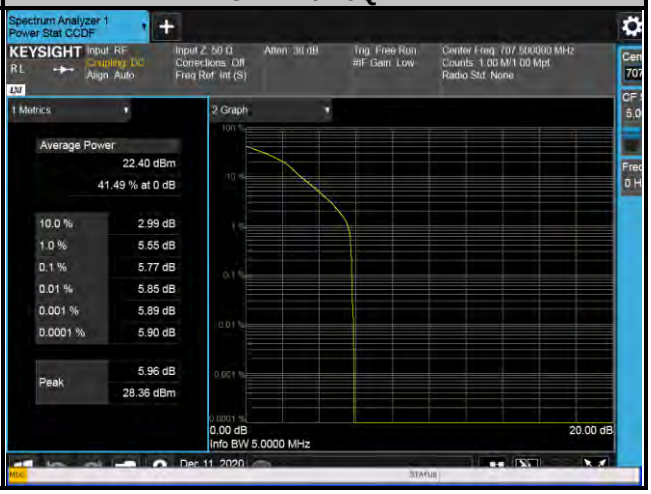
LTE Band 4							
Channel Bandwidth: 5 MHz				Channel Bandwidth: 10 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19975	1712.5	4.95	5.28	20000	1715.0	5.49	6.21
20175	1732.5	4.66	5.50	20175	1732.5	4.99	5.45
20375	1752.5	4.72	5.48	20350	1750.0	5.16	5.50

Spectrum Plot of Worst Value	
5 MHz / 16QAM	10 MHz / 16QAM
	

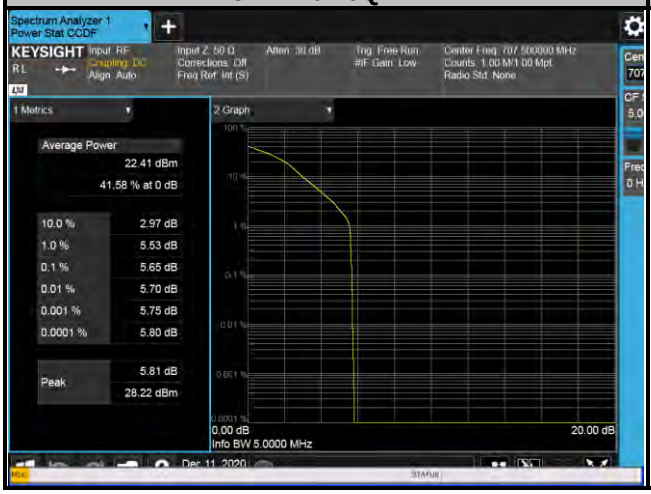
LTE Band 4							
Channel Bandwidth: 15 MHz				Channel Bandwidth: 20 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	5.28	6.17	20050	1720.0	5.53	5.90
20175	1732.5	5.13	5.53	20175	1732.5	5.49	6.03
20325	1747.5	5.01	5.44	20300	1745.0	4.75	5.37

Spectrum Plot of Worst Value	
15 MHz / 16QAM	20 MHz / 16QAM
	

LTE Band 12							
Channel Bandwidth: 1.4 MHz				Channel Bandwidth: 3 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
23017	699.7	4.81	5.75	23025	700.5	4.79	5.64
23095	707.5	4.97	5.77	23095	707.5	4.94	5.77
23173	715.3	4.46	5.29	23165	714.5	4.55	5.46

Spectrum Plot of Worst Value	
1.4 MHz / 16QAM	3 MHz / 16QAM
	

LTE Band 12							
Channel Bandwidth: 5 MHz				Channel Bandwidth: 10 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
23035	701.5	4.69	5.56	23060	704.0	4.91	5.63
23095	707.5	4.86	5.65	23095	707.5	5.01	5.63
23155	713.5	4.82	5.65	23130	711.0	5.22	5.70

Spectrum Plot of Worst Value	
5 MHz / 16QAM	10 MHz / 16QAM
	

LTE Band 13							
Channel Bandwidth: 5 MHz				Channel Bandwidth: 10 MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
23205	779.5	3.46	4.54	23230	782.0	3.26	4.42
23230	782.0	3.36	4.81				
23255	784.5	3.71	4.60				

Spectrum Plot of Worst Value	
5 MHz / 16QAM	10 MHz / 16QAM
	

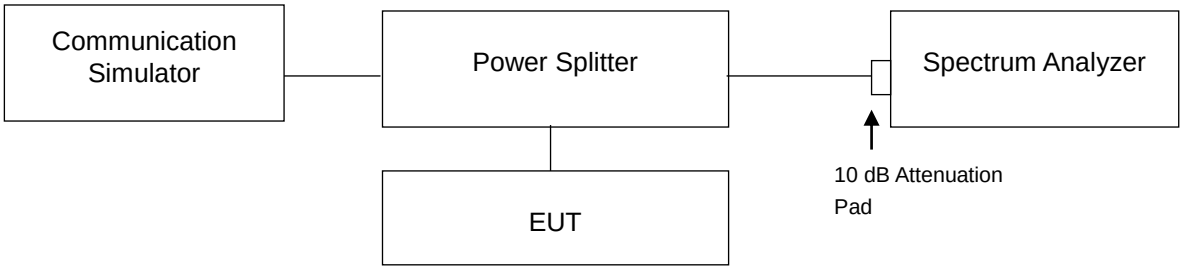
4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log (P) dB. The limit of emission is equal to -13 dBm.

For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm.

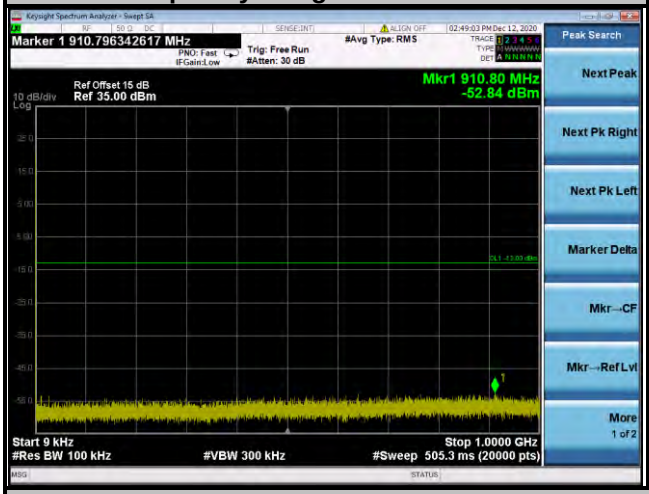
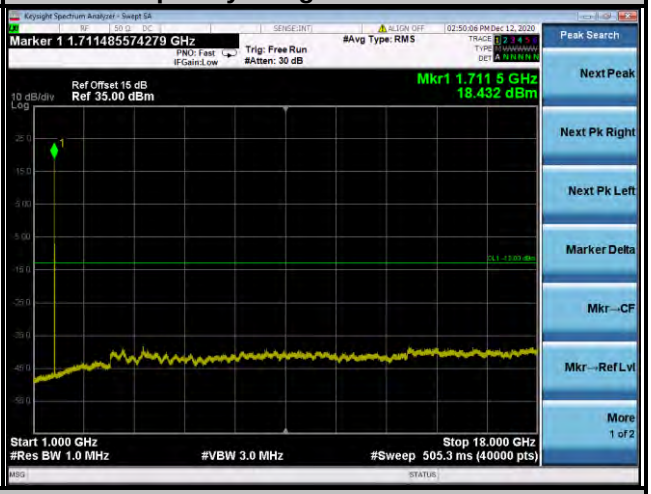
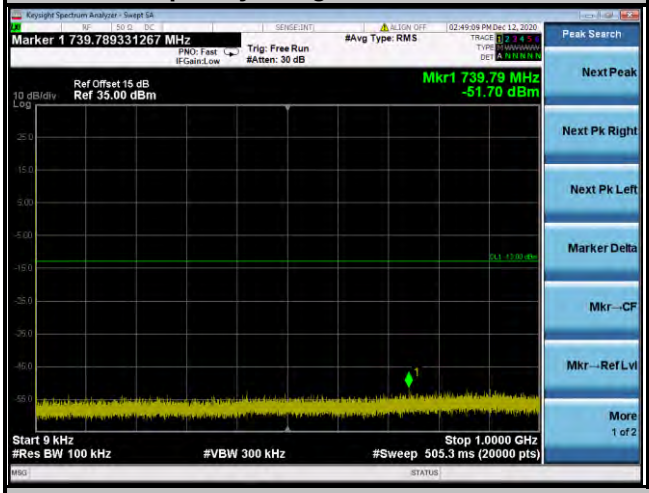
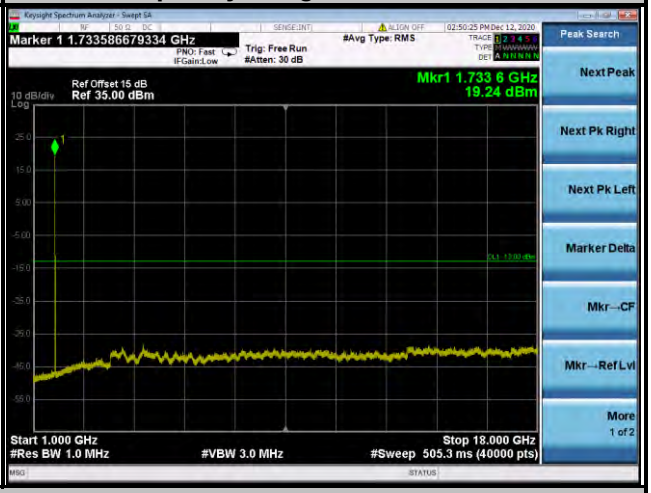
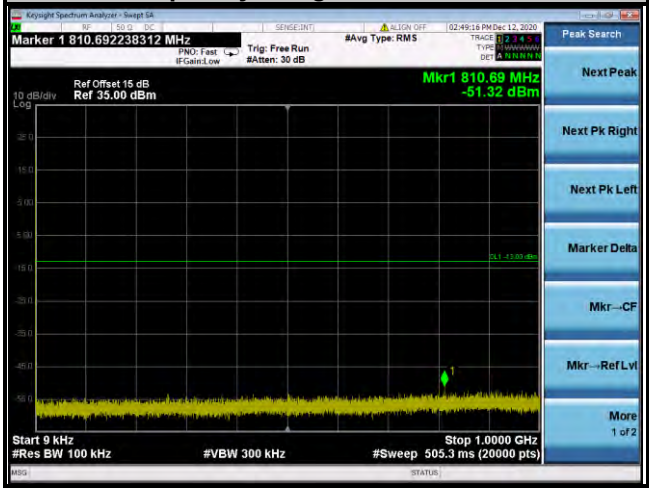
4.7.2 Test Setup



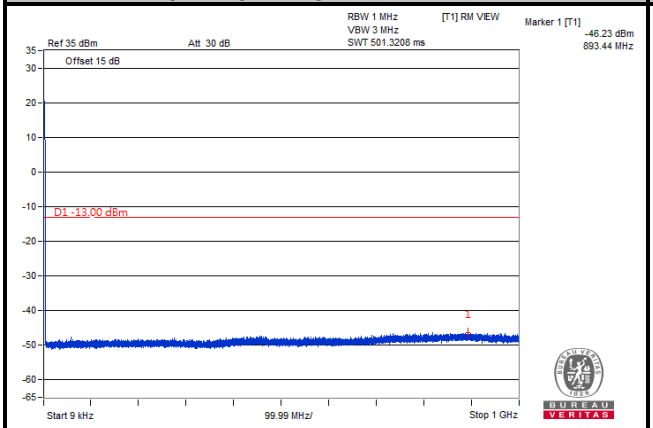
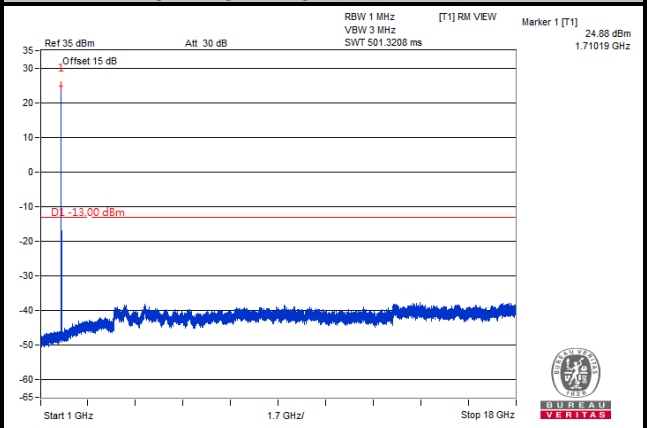
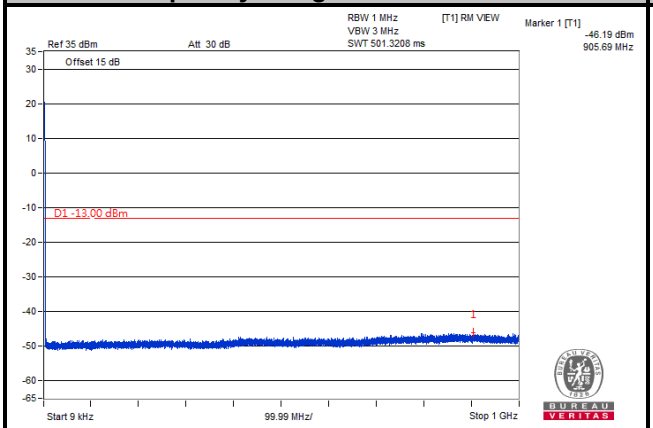
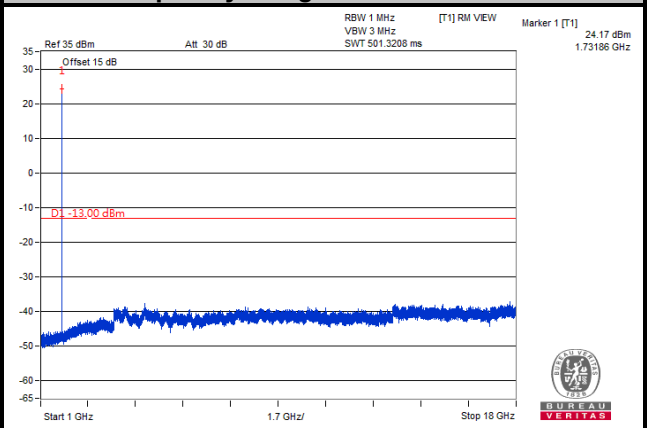
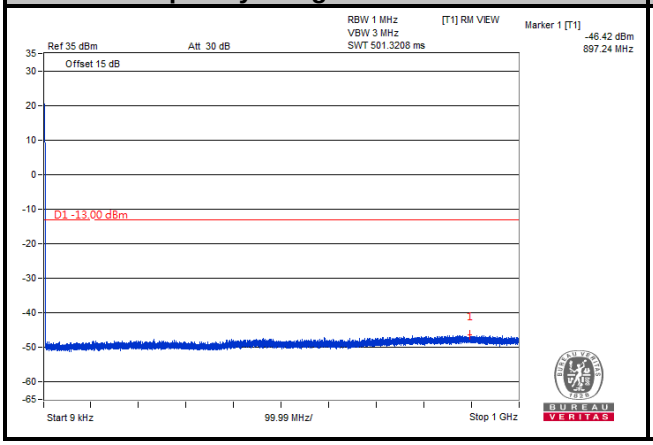
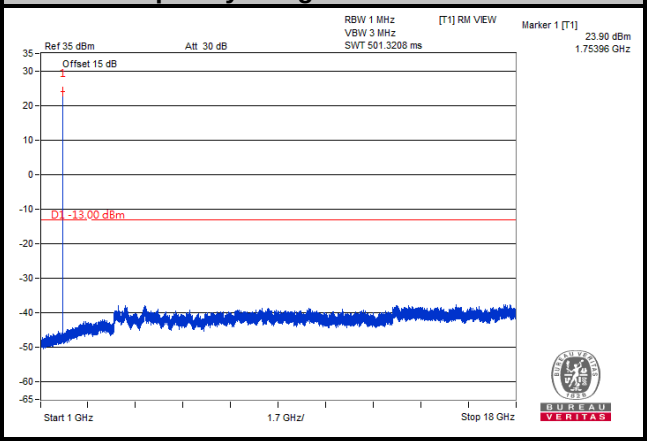
4.7.3 Test Procedure

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
b. Measuring frequency range is from 9 kHz to 1 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz is used for LTE Band 12 and Band 13 conducted emission measurement.
c. Measuring frequency range is from 9 kHz to 1 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 1 MHz and VBW = 3 MHz is used for WCDMA and LTE Band 4 conducted emission measurement.
d. Measuring frequency range is from 1 GHz to 8 GHz / 18 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 1 MHz and VBW = 3 MHz is used for conducted emission measurement.

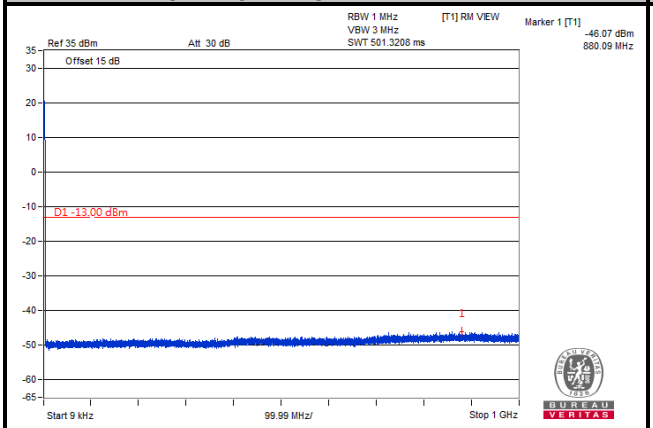
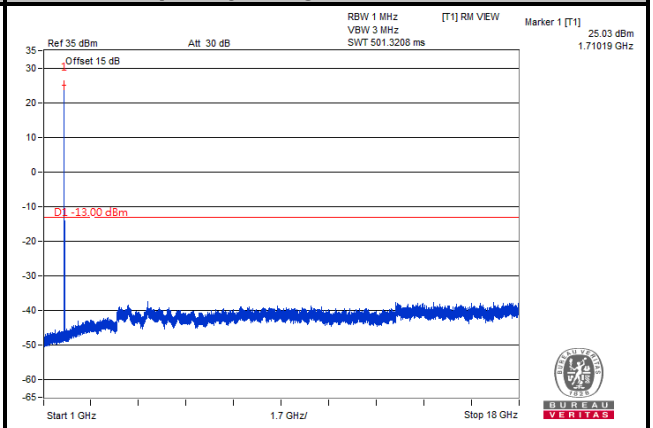
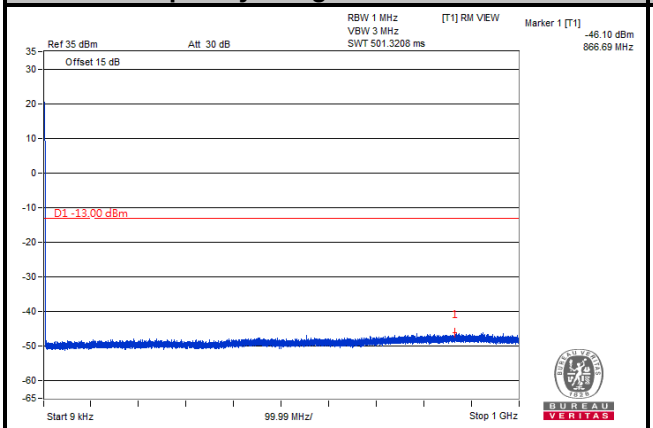
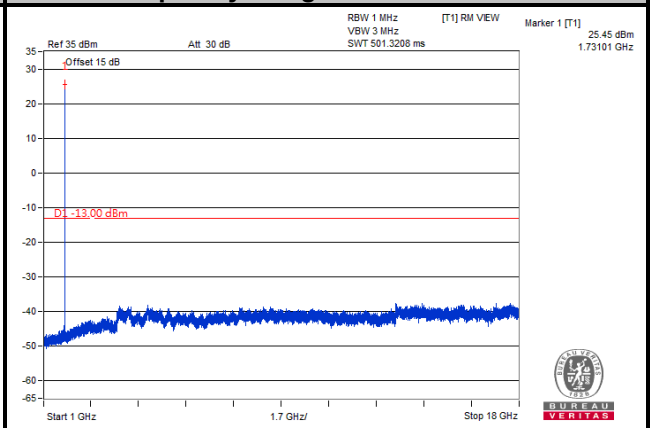
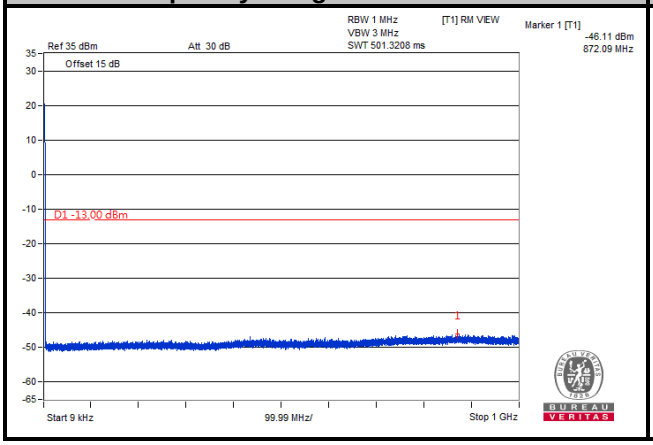
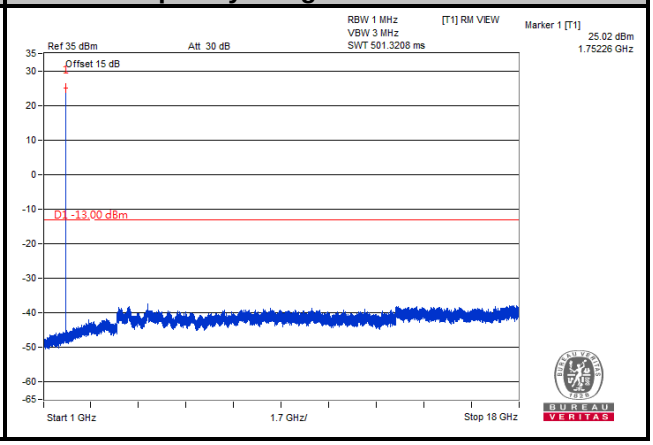
4.7.4 Test Results

WCDMA	
Channel 1312	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 1413	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 1513	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

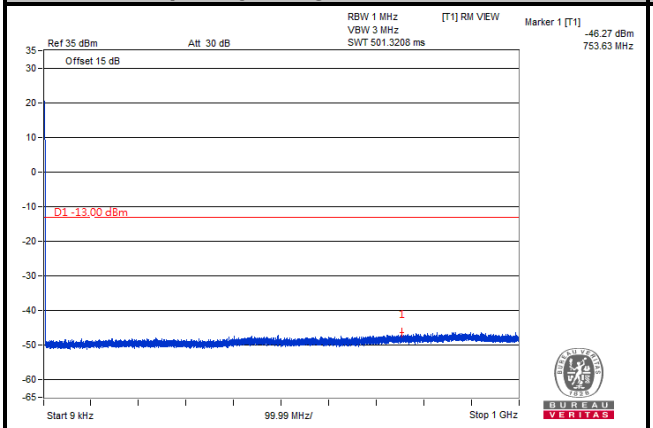
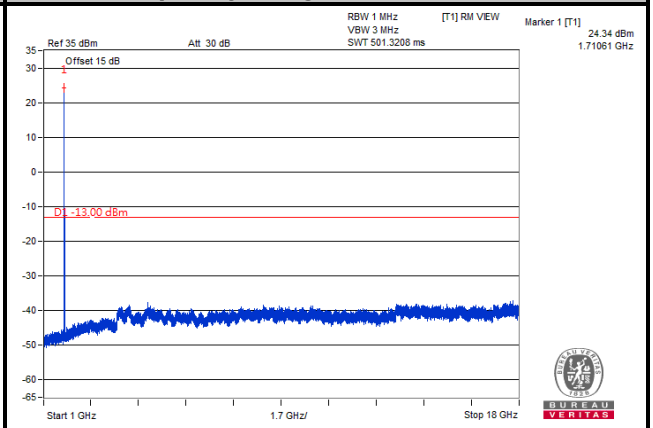
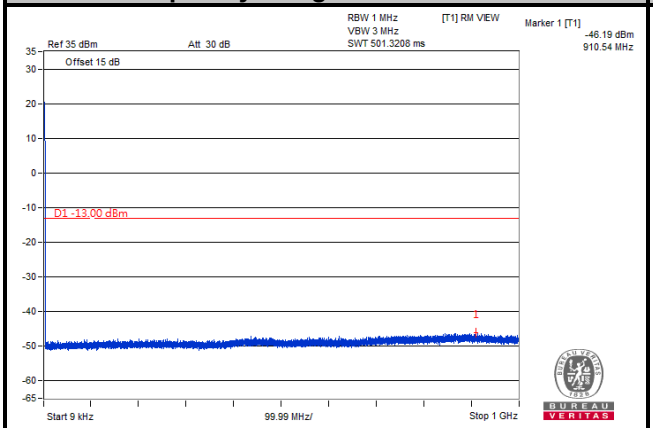
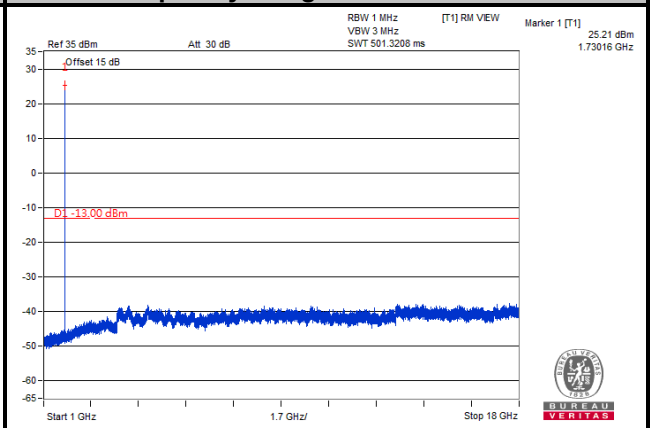
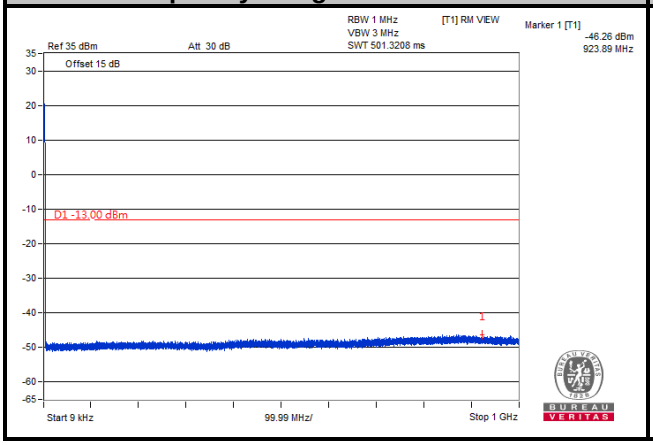
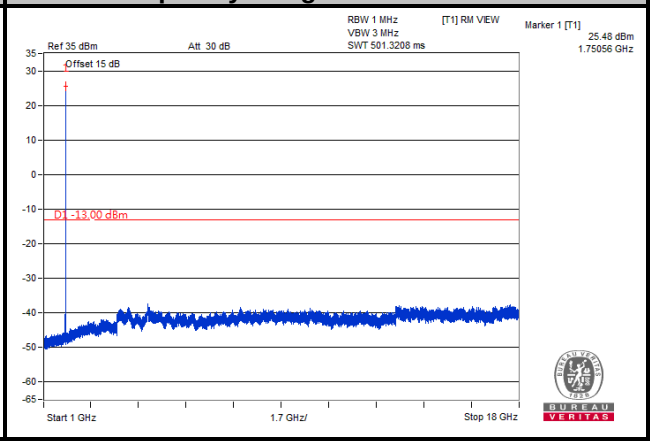
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 1.4 MHz	
Channel 19957	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20393	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

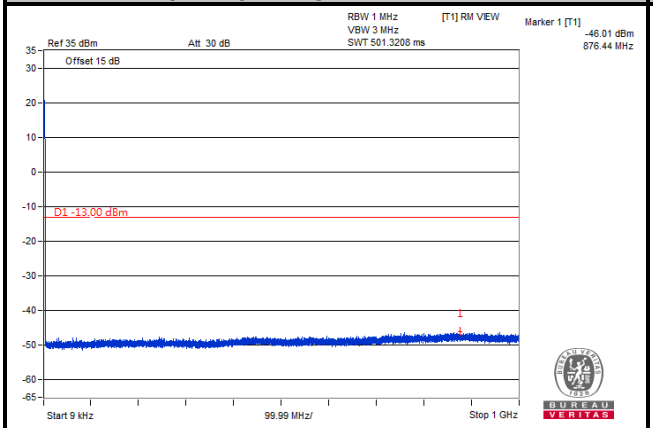
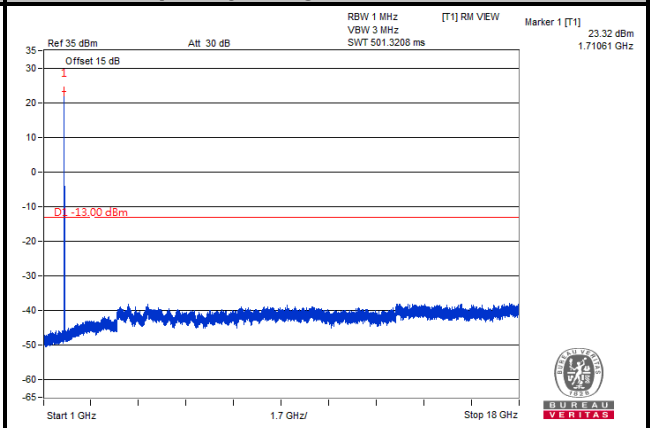
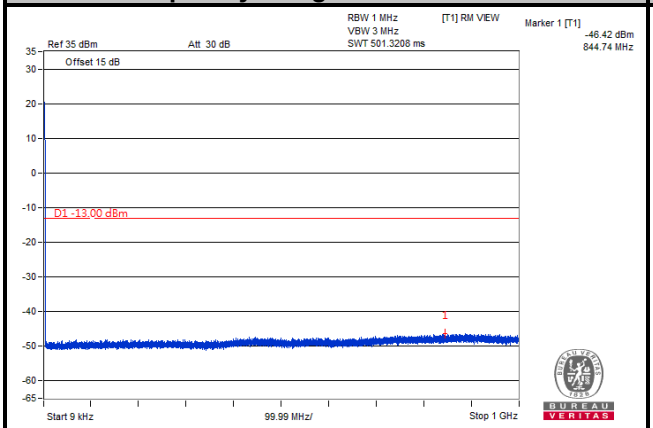
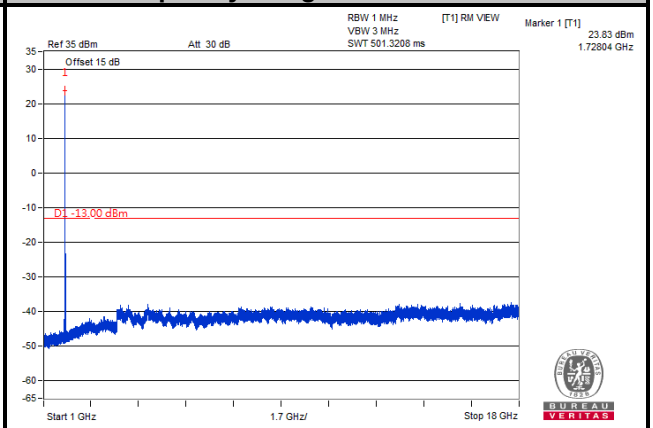
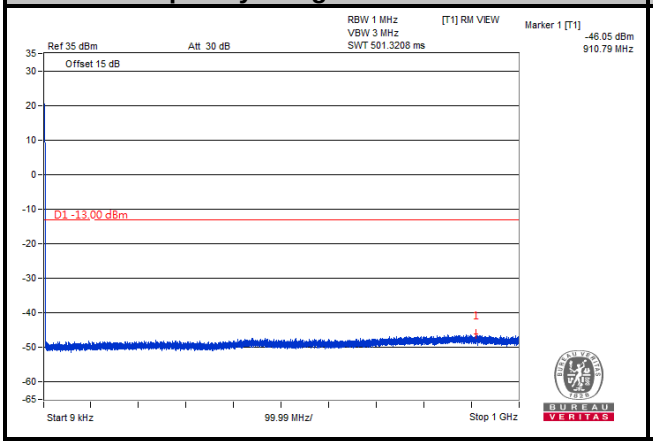
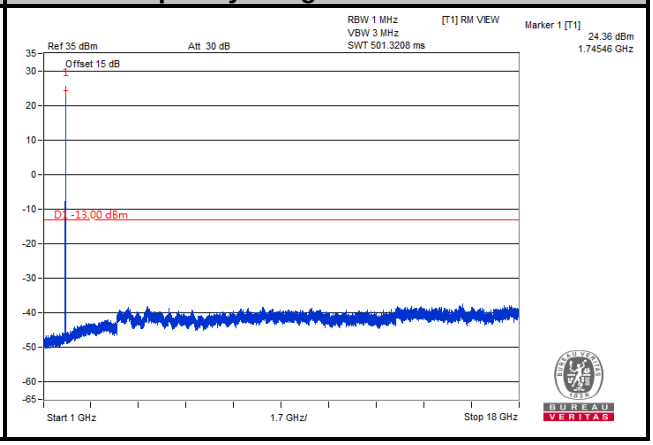
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 3 MHz	
Channel 19965	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20385	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

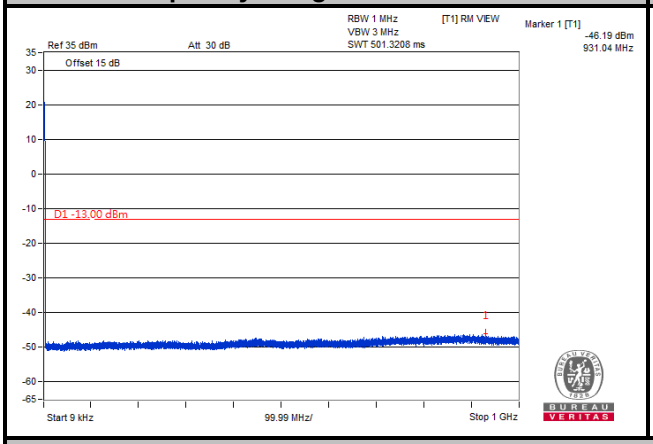
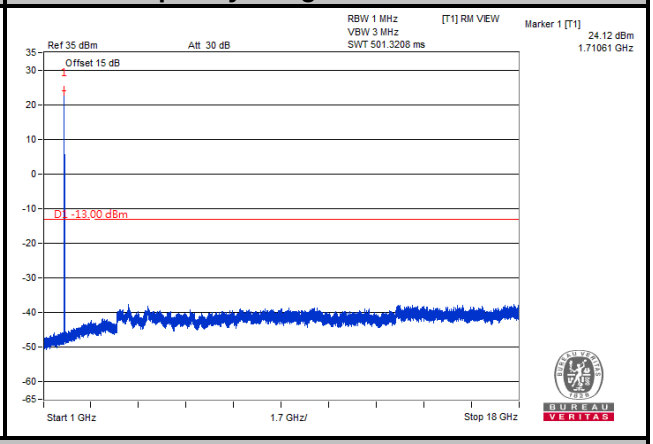
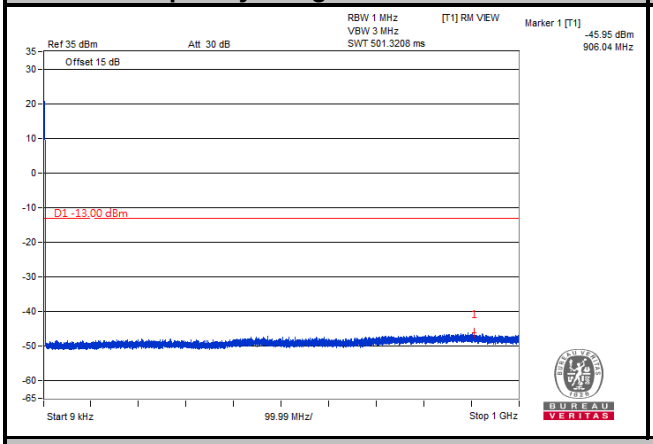
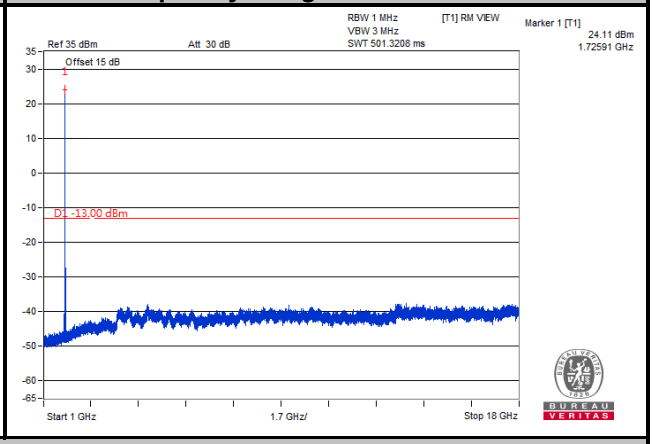
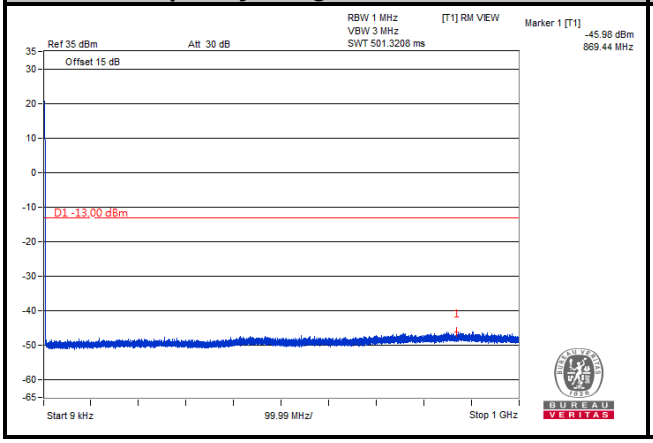
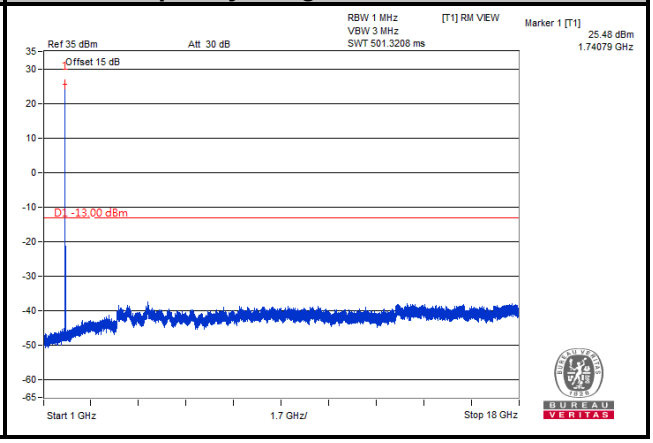
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 5 MHz	
Channel 19975	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20375	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

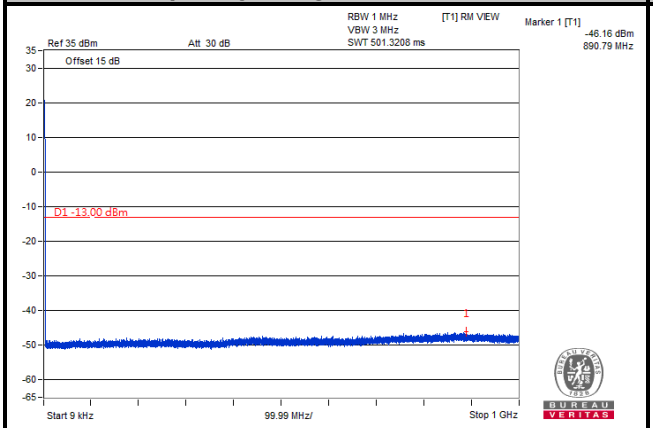
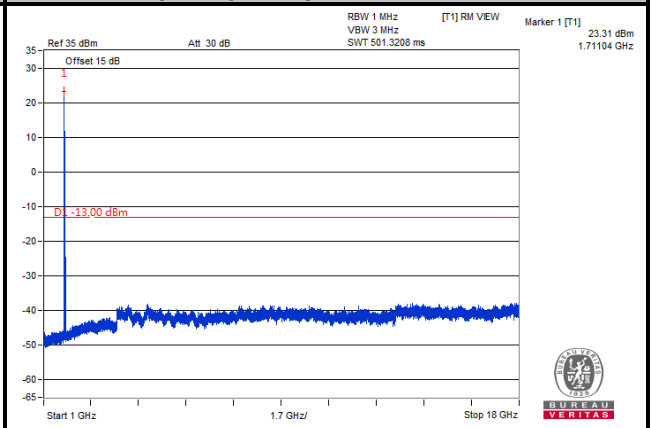
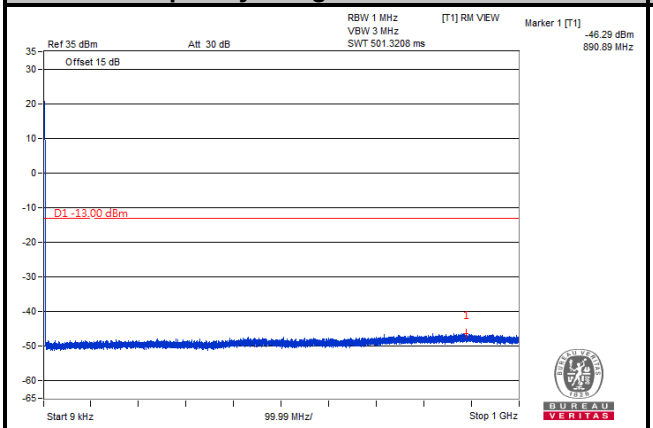
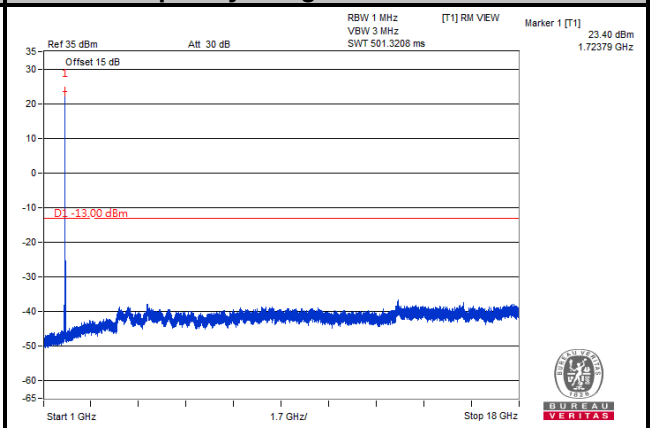
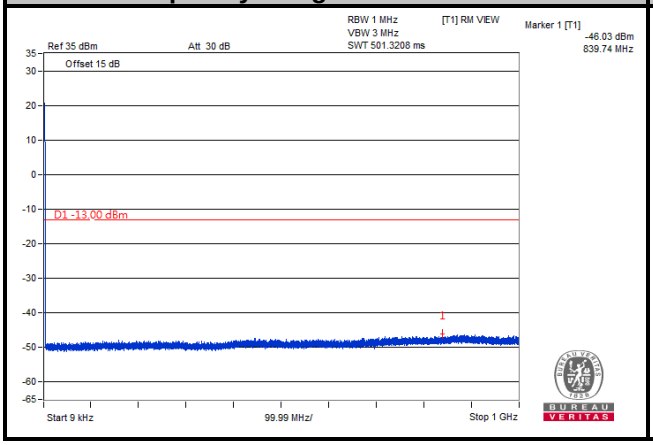
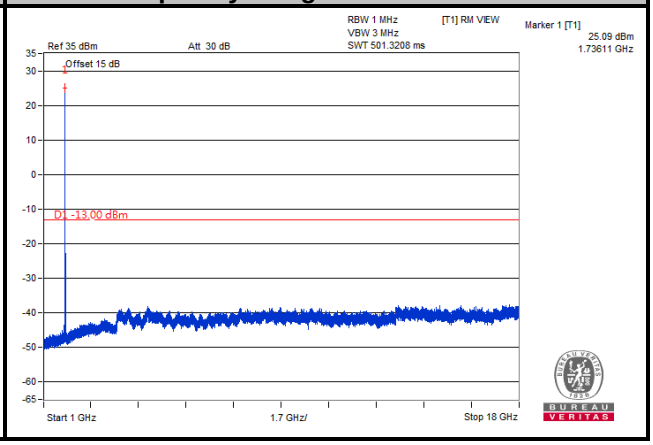
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 10 MHz	
Channel 20000	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20350	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

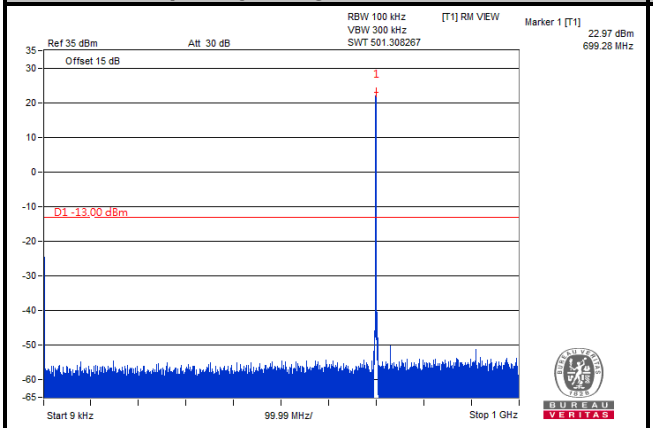
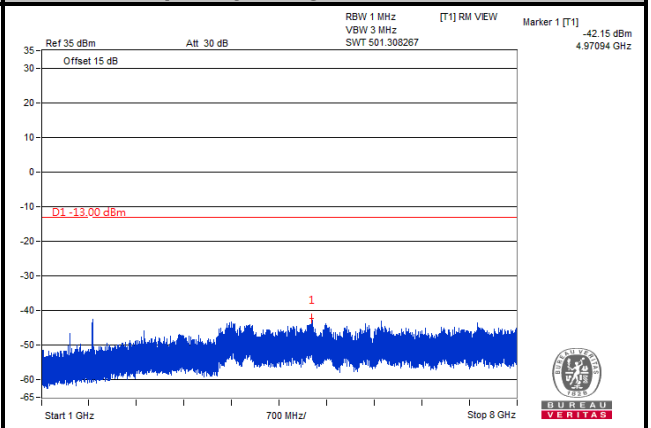
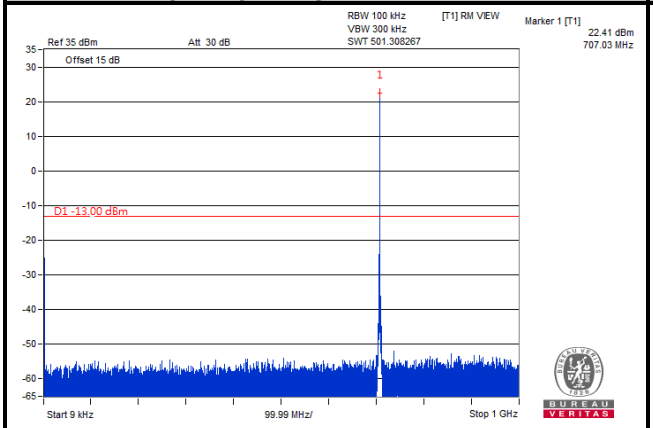
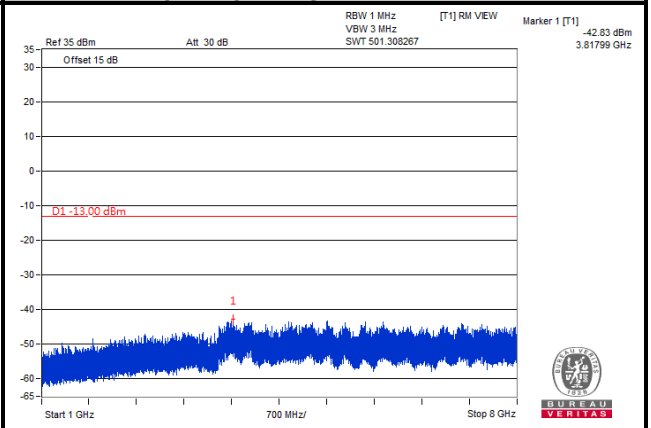
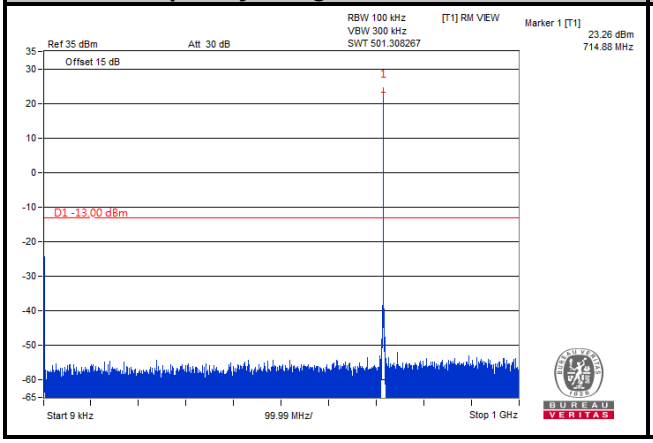
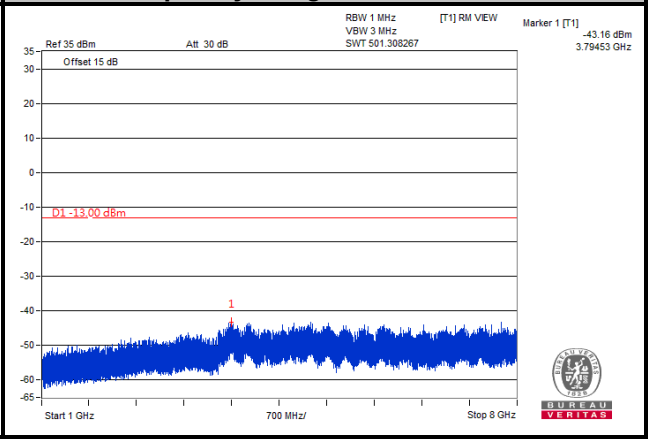
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 15 MHz	
Channel 20025	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20325	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

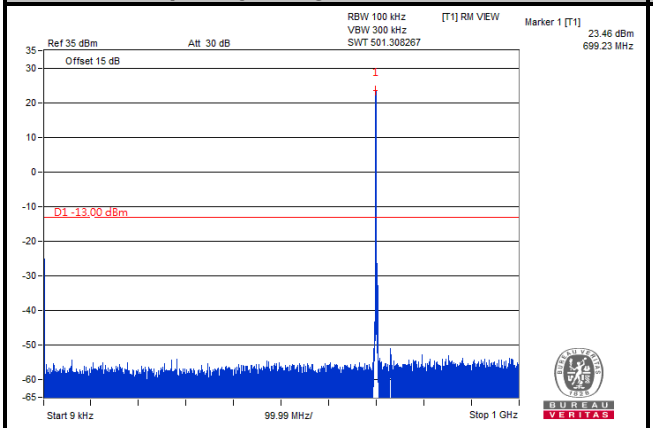
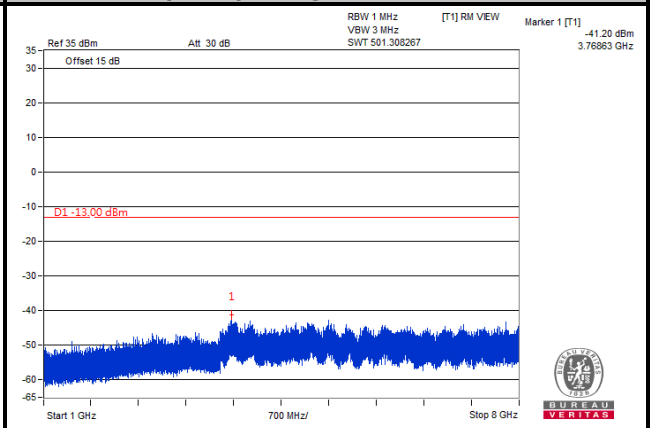
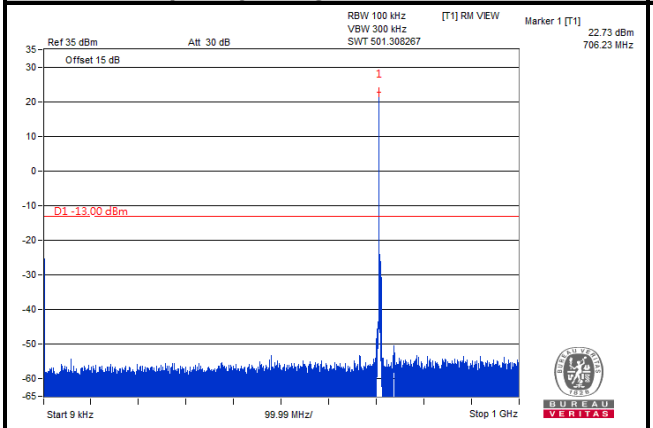
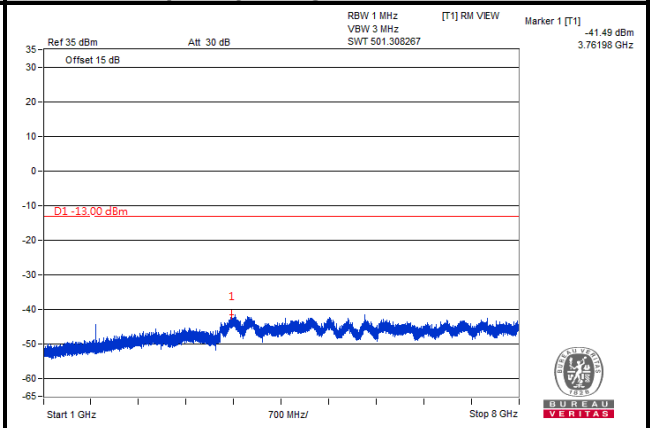
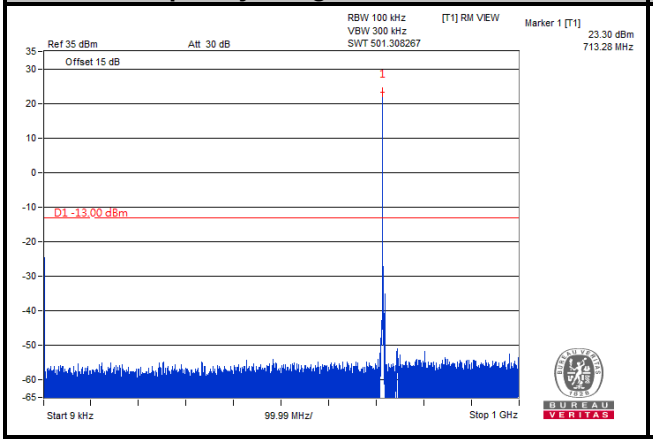
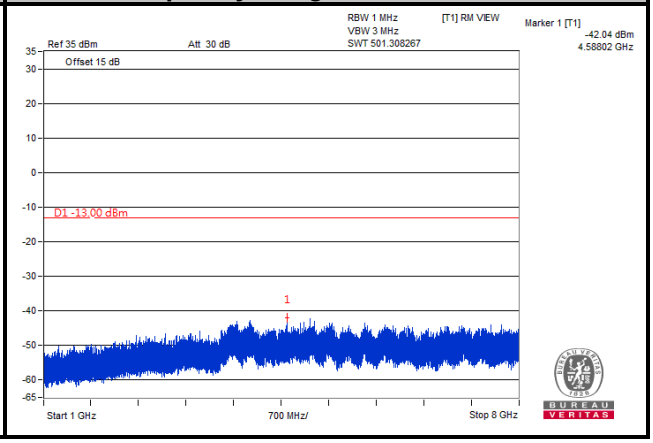
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 4	
Channel Bandwidth: 20 MHz	
Channel 20050	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20175	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	
Channel 20300	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 18 GHz
	

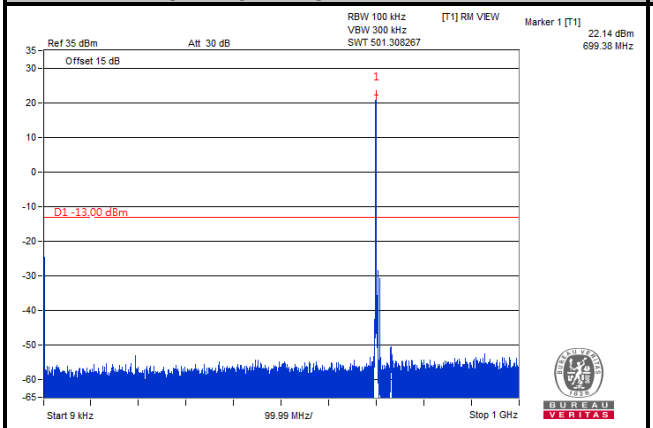
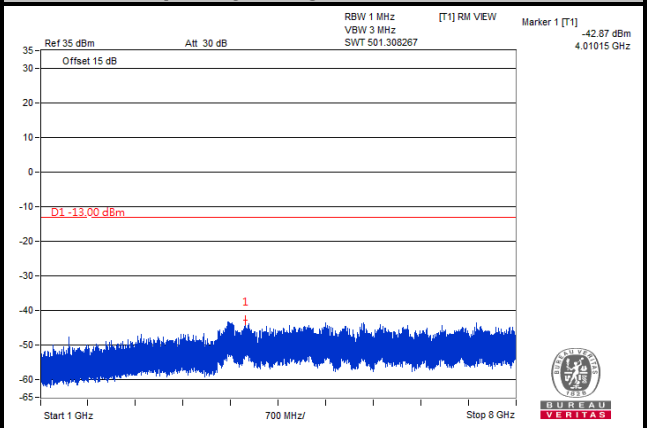
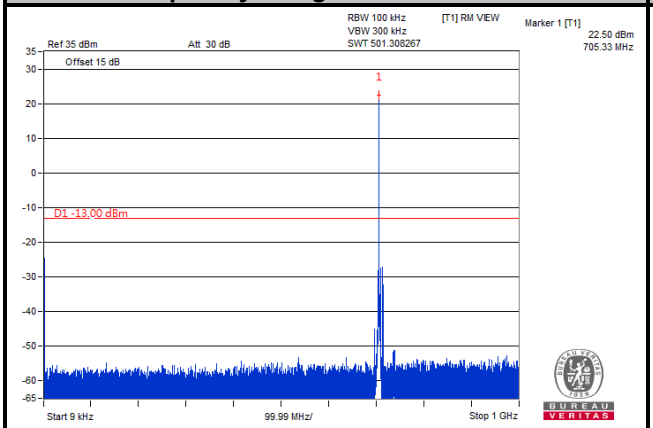
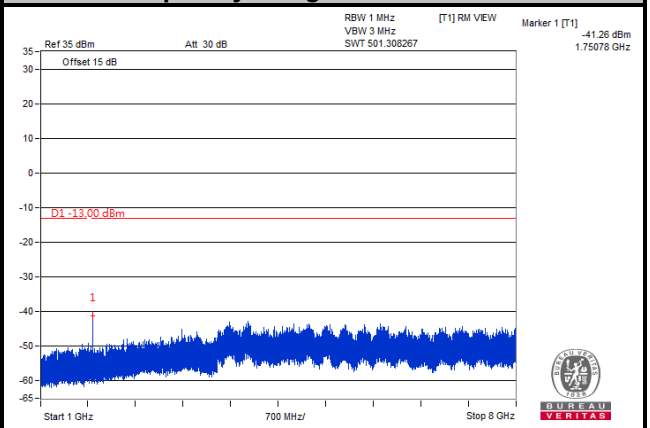
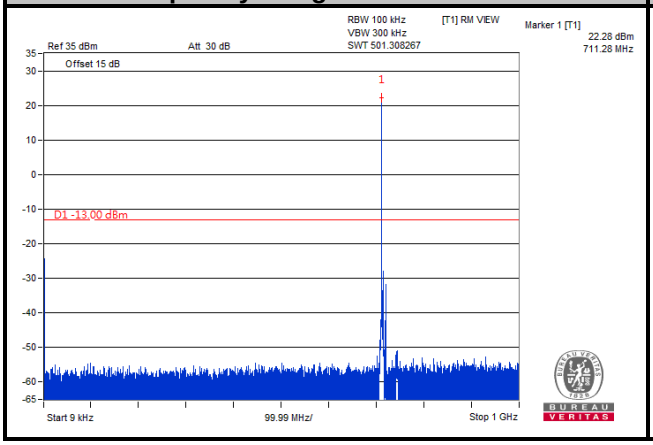
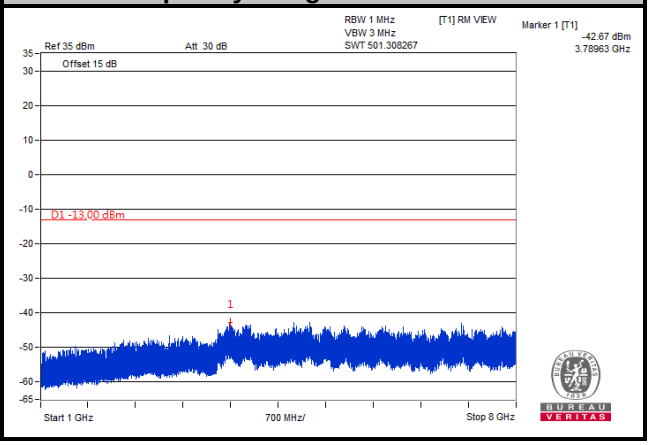
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 12	
Channel Bandwidth: 1.4 MHz	
Channel 23017	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23095	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23173	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	

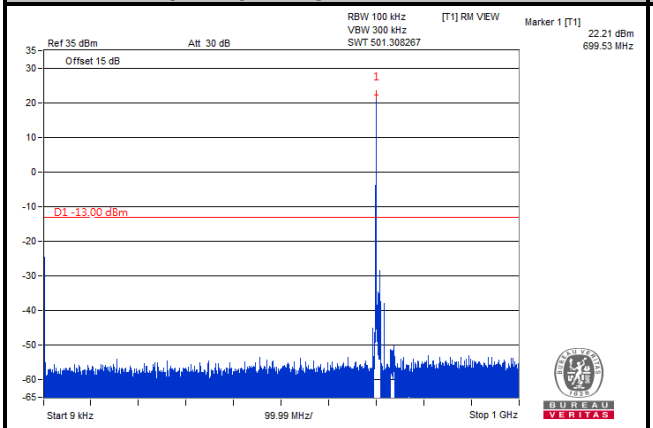
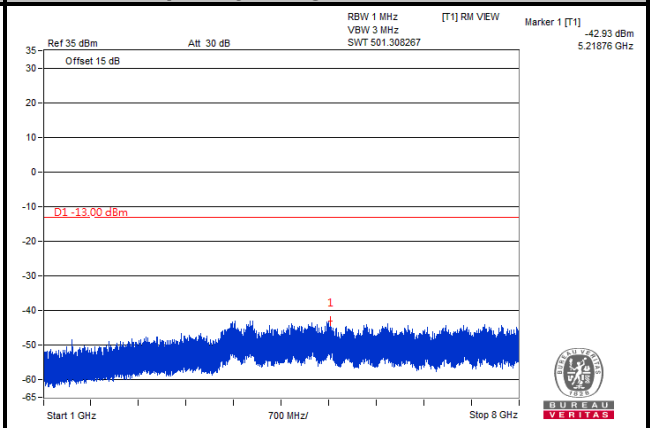
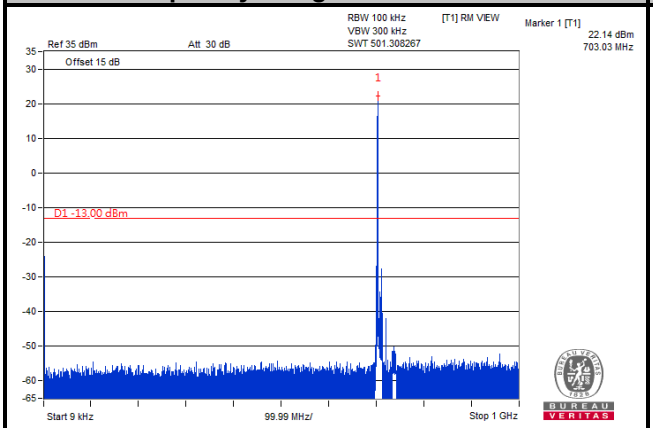
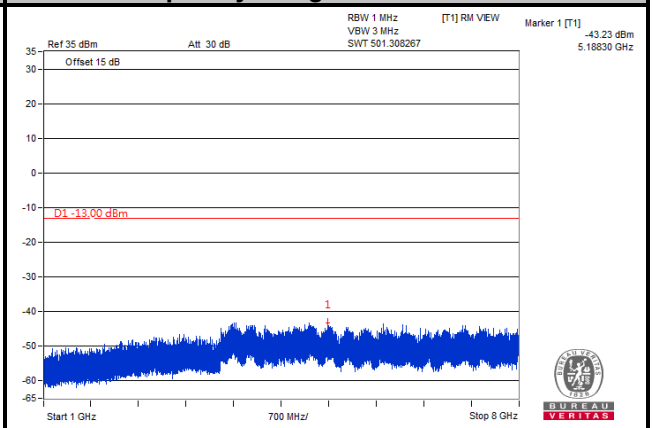
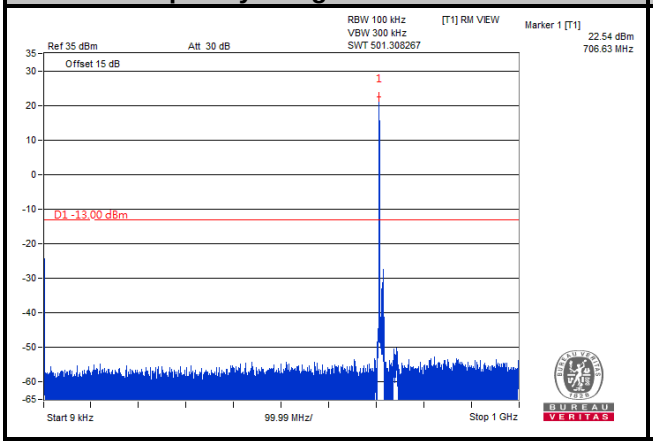
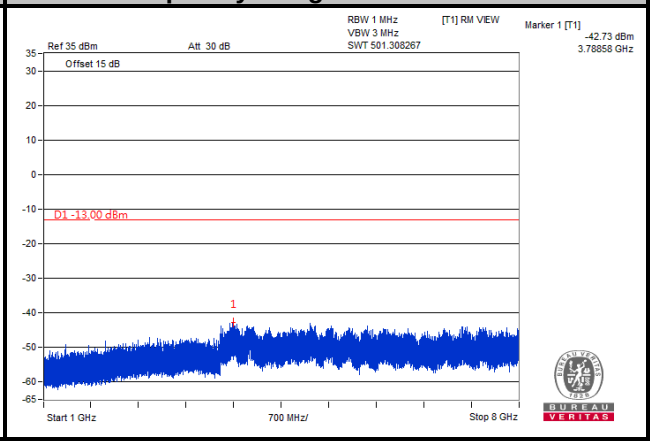
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 12	
Channel Bandwidth: 3 MHz	
Channel 23025	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23095	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23165	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	

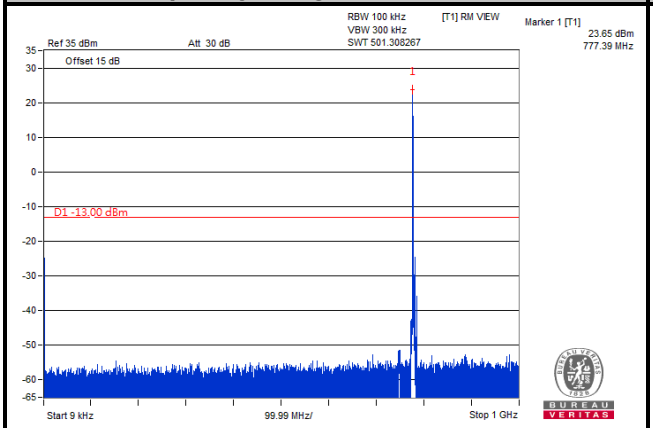
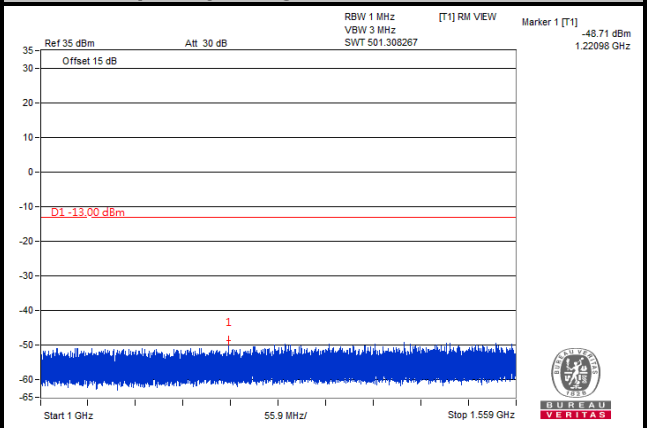
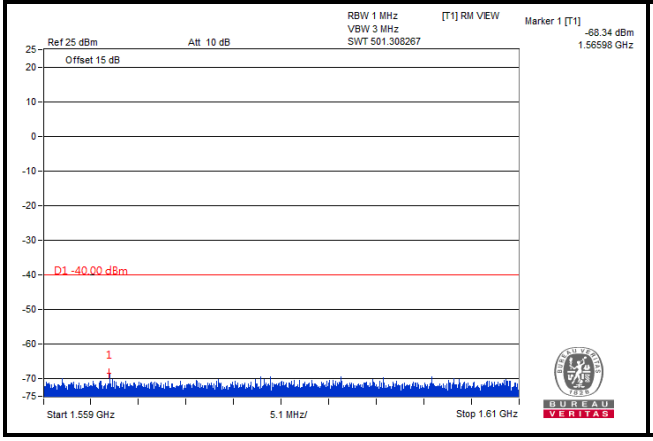
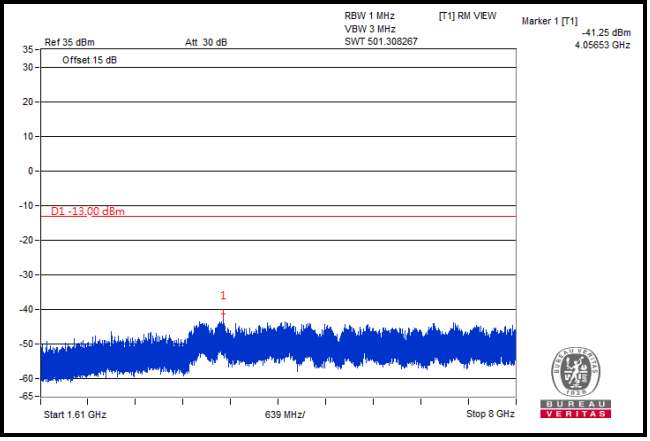
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 12	
Channel Bandwidth: 5 MHz	
Channel 23035	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23095	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23155	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	

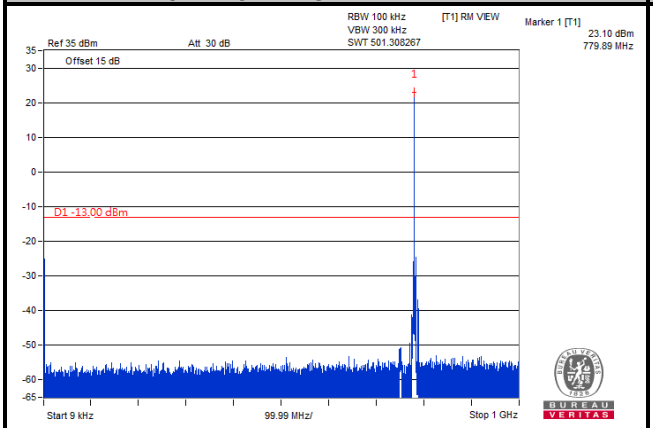
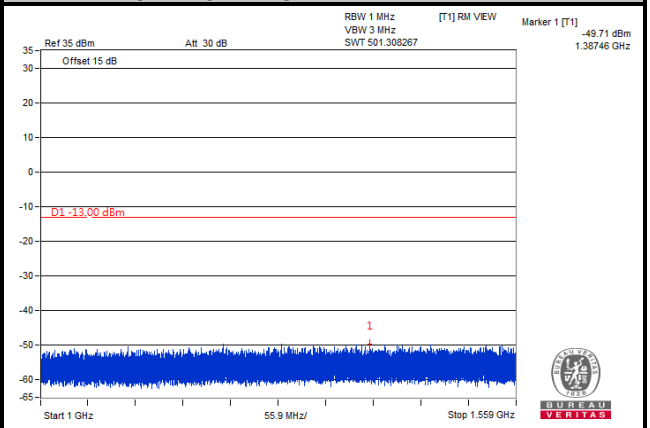
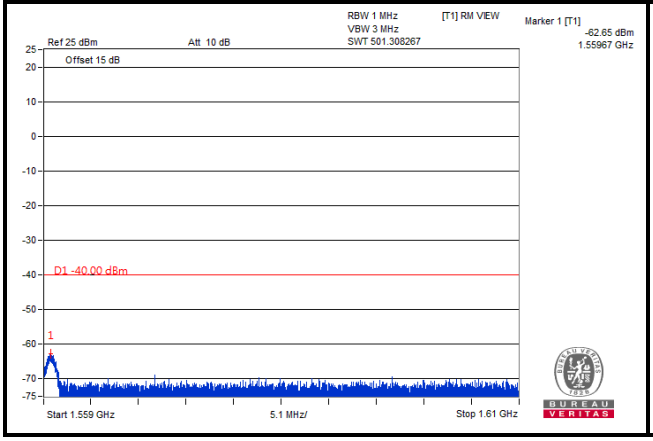
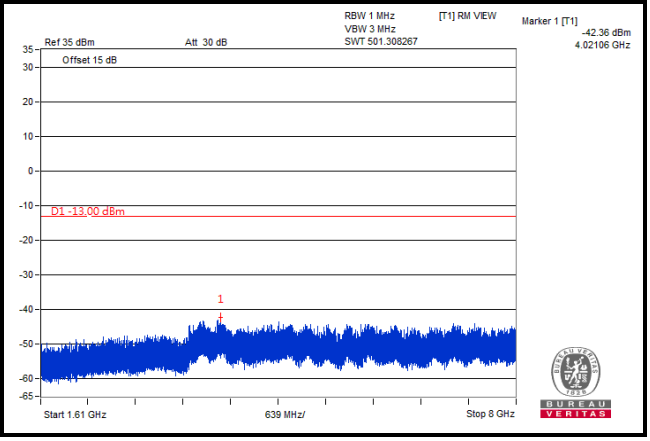
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 12	
Channel Bandwidth: 10 MHz	
Channel 23060	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23095	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	
Channel 23130	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 8 GHz
	

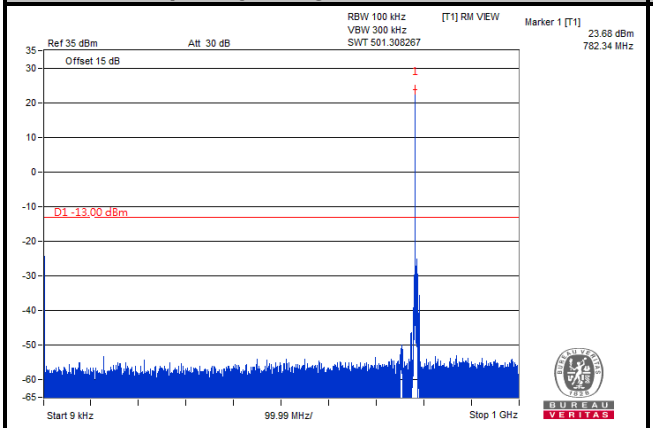
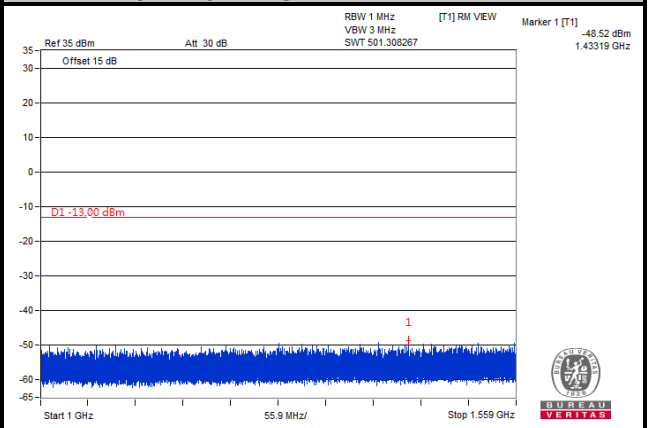
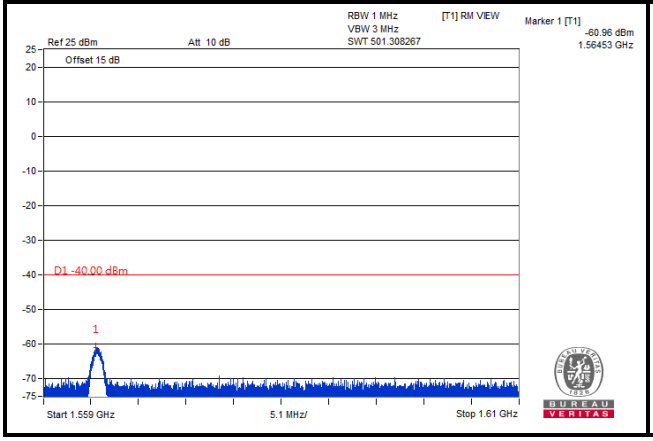
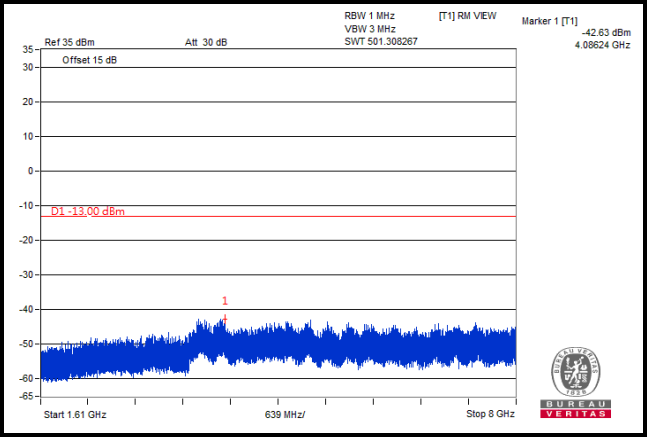
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 13	
Channel Bandwidth: 5 MHz	
Channel 23205	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 1.559 GHz
	
Frequency Range: 1.559 GHz ~ 1.61 GHz	Frequency Range: 1.61 GHz ~ 8 GHz
	

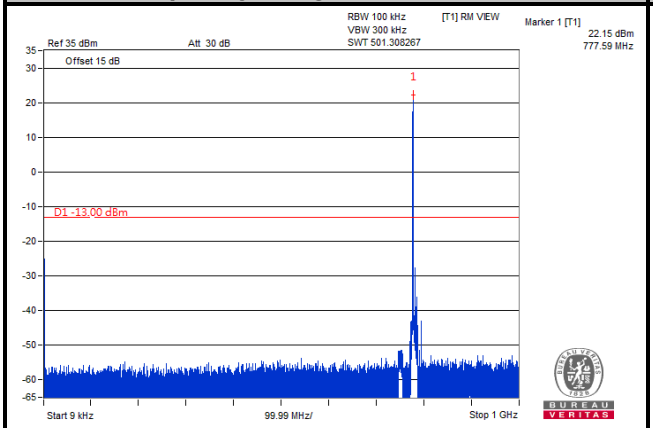
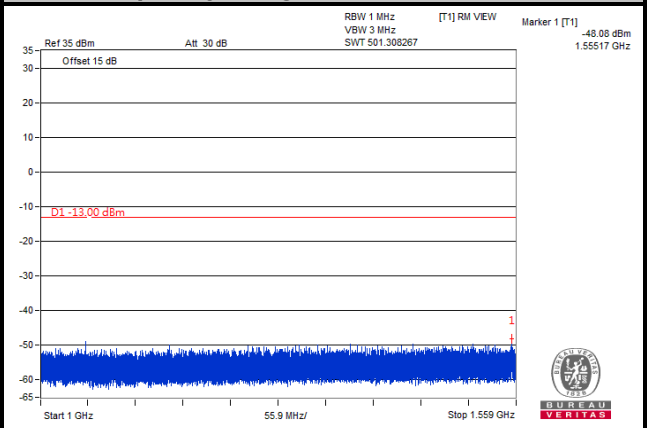
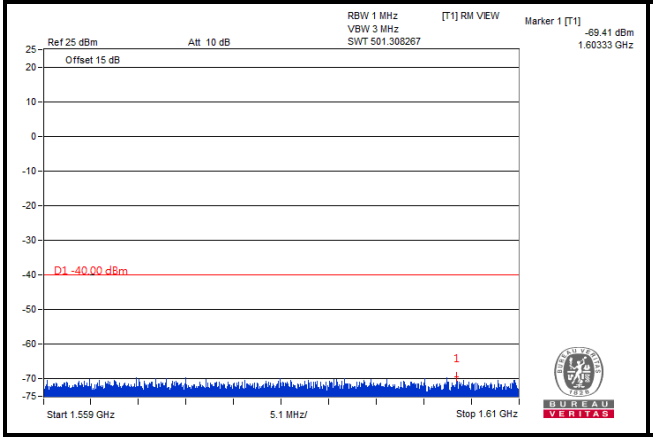
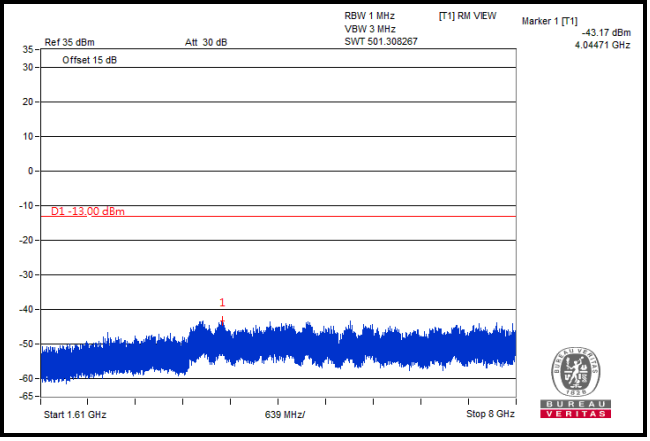
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 13	
Channel Bandwidth: 5 MHz	
Channel 23230	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 1.559 GHz
	
Frequency Range: 1.559 GHz ~ 1.61 GHz	Frequency Range: 1.61 GHz ~ 8 GHz
	

Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 13	
Channel Bandwidth: 5 MHz	
Channel 23255	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 1.559 GHz
	
Frequency Range: 1.559 GHz ~ 1.61 GHz	Frequency Range: 1.61 GHz ~ 8 GHz
	

Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 13	
Channel Bandwidth: 10 MHz	
Channel 23230	
Frequency Range: 9 kHz ~ 1 GHz	Frequency Range: 1 GHz ~ 1.559 GHz
	
Frequency Range: 1.559 GHz ~ 1.61 GHz	Frequency Range: 1.61 GHz ~ 8 GHz
	

Note: The signal over the limit in 9 kHz is from spectrum analyzer.

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

a. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log (P) dB. The limit of emission is equal to -13 dBm.
b. For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm.

4.8.2 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. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
c. 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. Correction Factor (includes EIRP and ERP unit conversion factor) = Antenna gain of substitution horn. – Tx cable loss. Measurement method refers to ANSI C63.26 section 5.5.3.2.

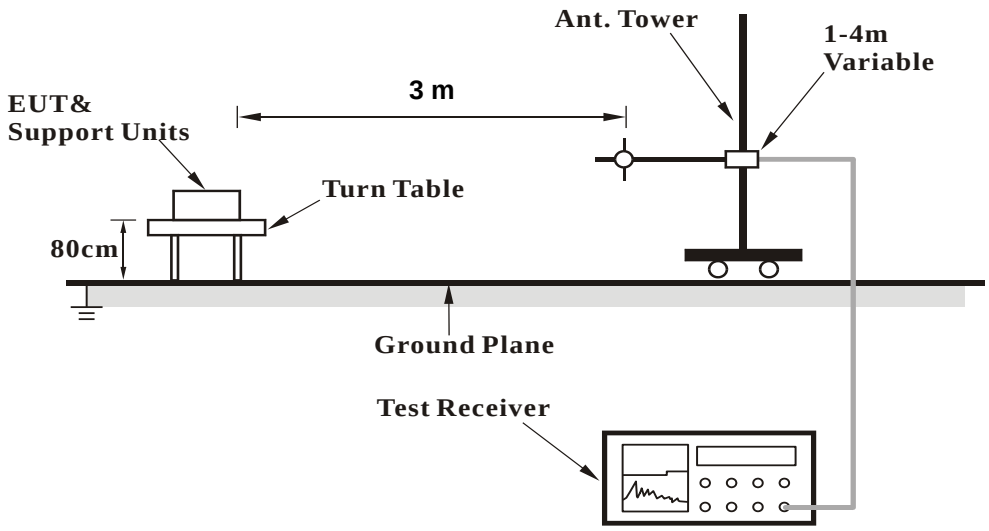
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.8.3 Deviation from Test Standard

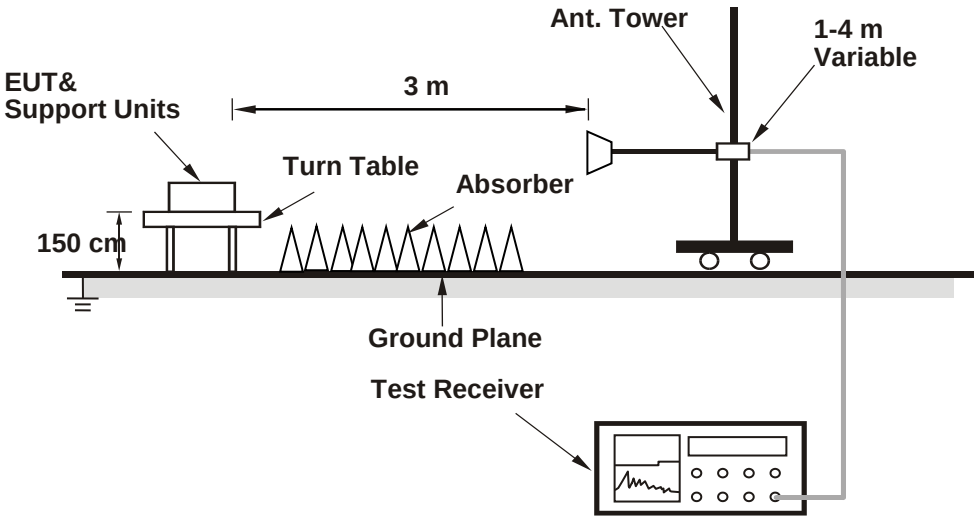
No deviation.

4.8.4 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).

4.8.5 Test Results

WCDMA:

Low Channel

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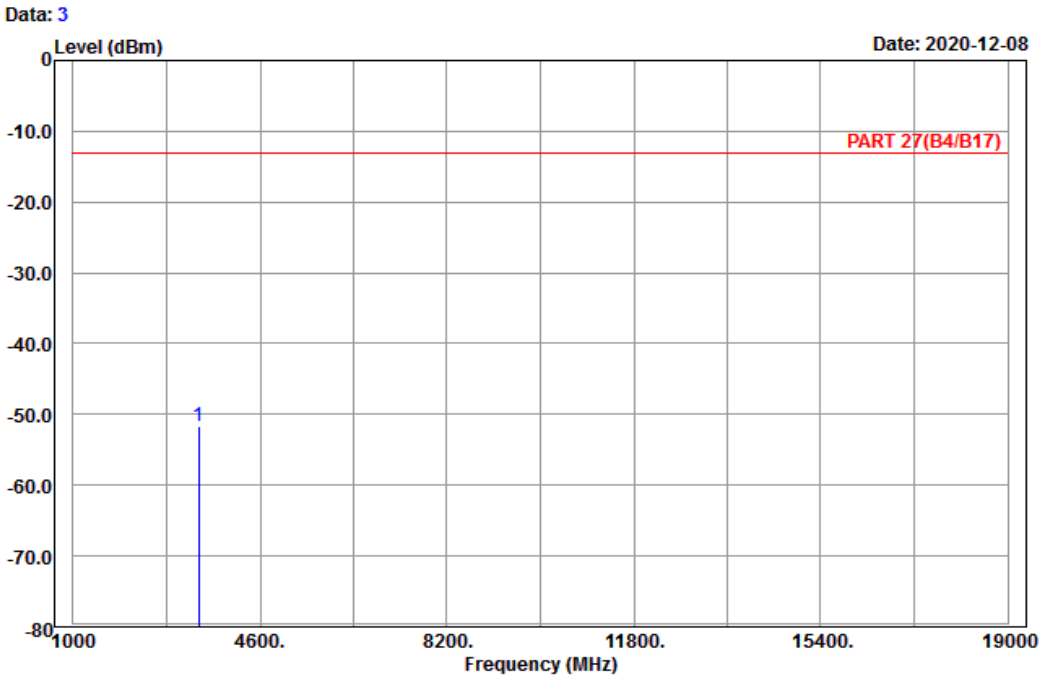
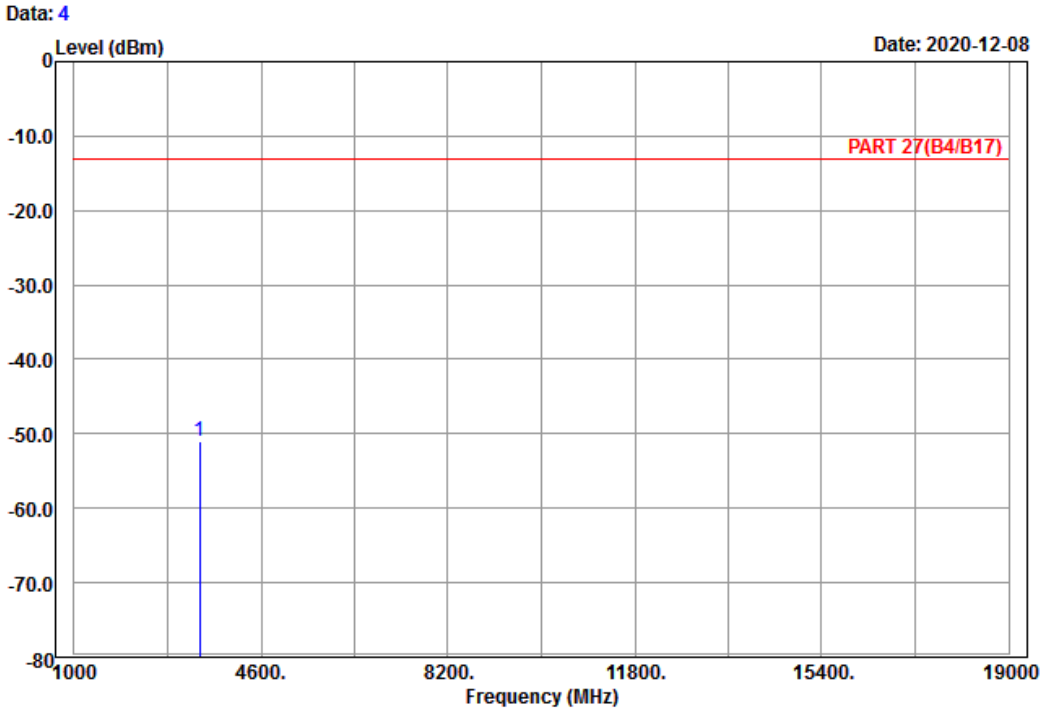



```
Site      : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark    : Band IV_Link_L-Ch
Tested by: Charles Hsiao
                        Read          Limit   Over
           Freq  Level  Level Factor   Line  Limit Remark
          ------ ------ ------ ------ ------ ------ ----------
                 MHz    dBm    dBm    dB     dBm    dB

1 pp  3424.80 -51.60 -65.97  14.37 -13.00 -38.60 Peak
```

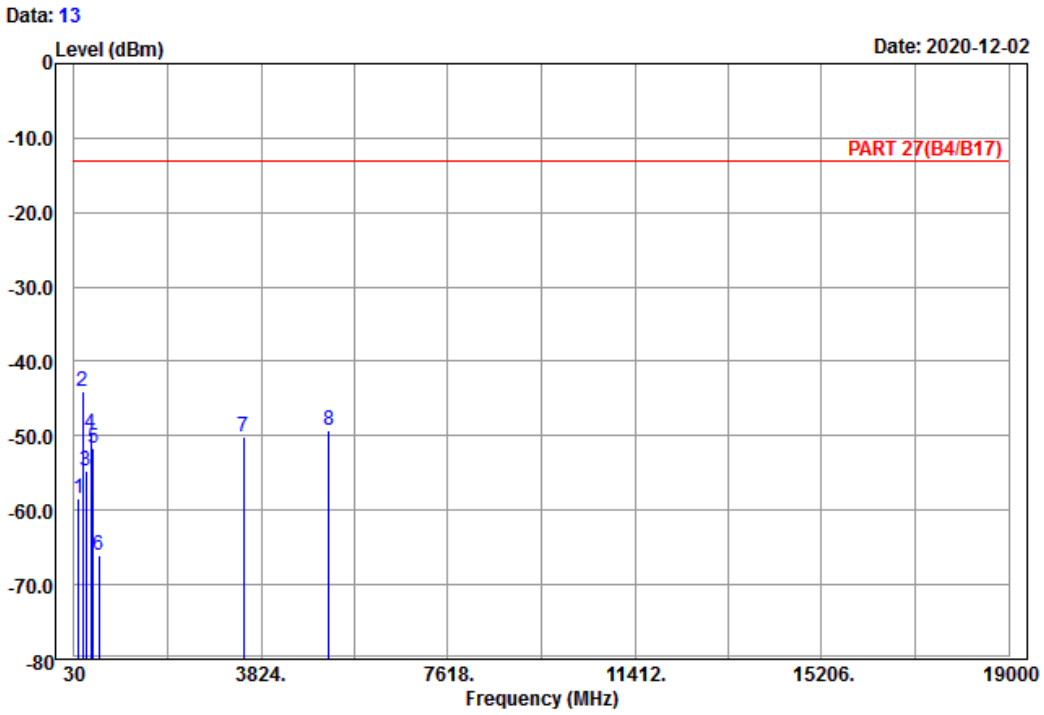


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : Band IV_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	3424.80	-50.93	-65.30	14.37	-13.00	-37.93	Peak

Middle Channel

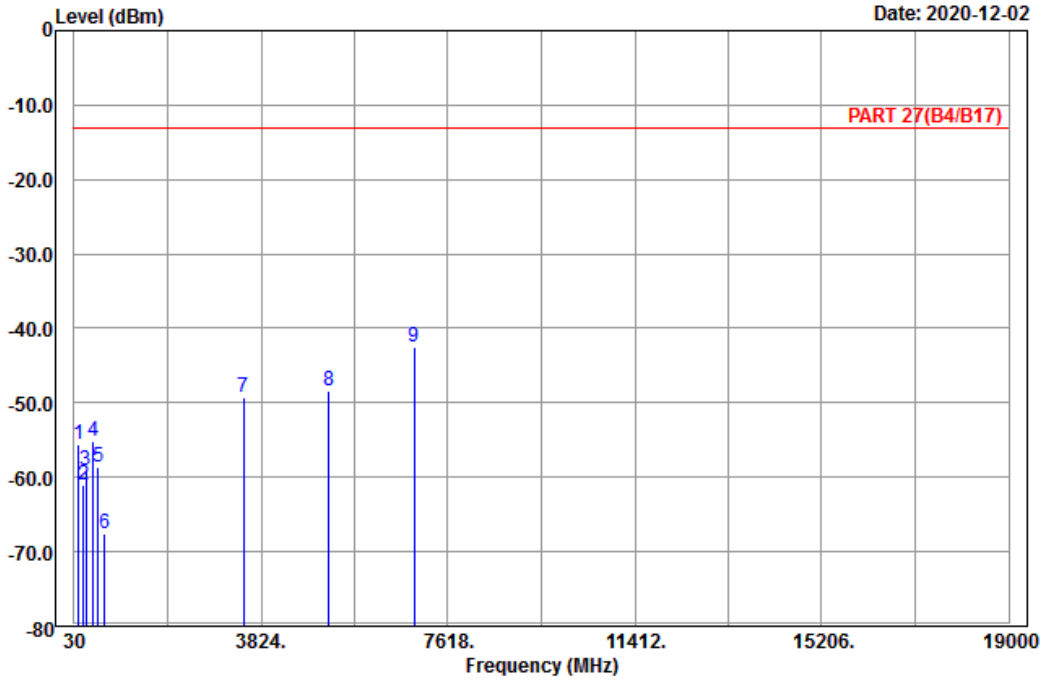
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : Band IV_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	117.21	-58.50	-50.06	-8.44	-13.00	-45.50	Peak
2 pp	202.26	-44.04	-37.90	-6.14	-13.00	-31.04	Peak
3	268.95	-54.71	-49.03	-5.68	-13.00	-41.71	Peak
4	374.90	-49.79	-45.76	-4.03	-13.00	-36.79	Peak
5	415.50	-51.60	-48.52	-3.08	-13.00	-38.60	Peak
6	538.00	-65.97	-63.46	-2.51	-13.00	-52.97	Peak
7	3465.20	-50.06	-64.40	14.34	-13.00	-37.06	Peak
8	5197.80	-49.37	-69.49	20.12	-13.00	-36.37	Peak

Data: 14

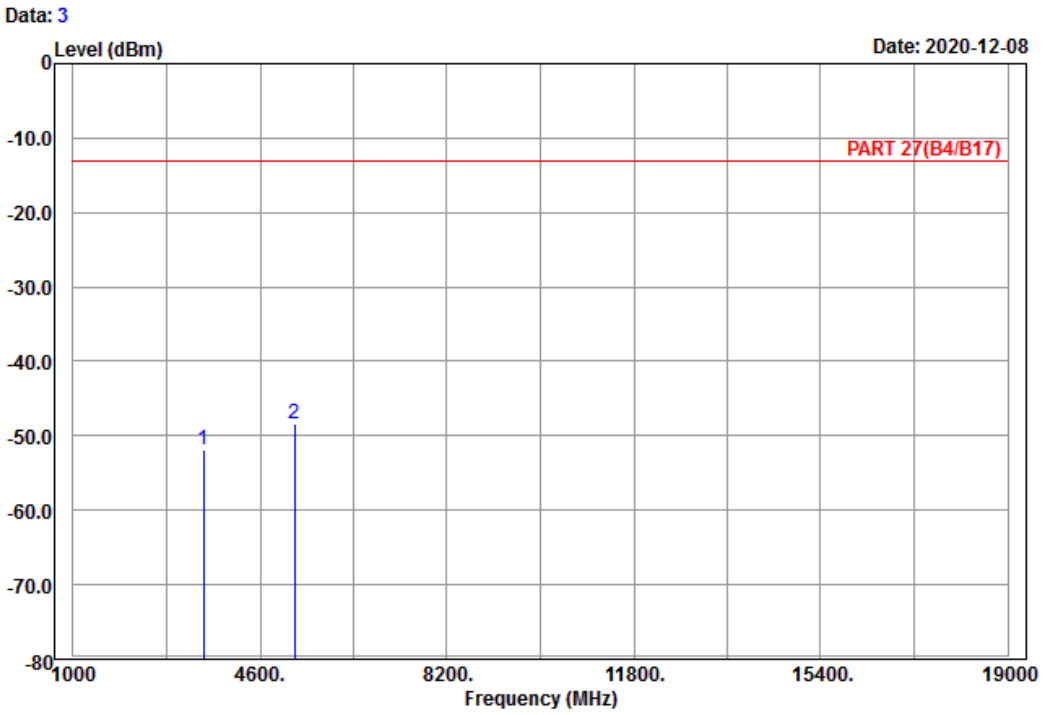


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : Band IV_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	118.83	-55.59	-47.27	-8.32	-13.00	-42.59	Peak
2	220.89	-61.06	-55.16	-5.90	-13.00	-48.06	Peak
3	268.95	-59.15	-53.47	-5.68	-13.00	-46.15	Peak
4	419.70	-55.09	-51.90	-3.19	-13.00	-42.09	Peak
5	513.50	-58.65	-54.29	-4.36	-13.00	-45.65	Peak
6	651.40	-67.68	-67.54	-0.14	-13.00	-54.68	Peak
7	3465.20	-49.37	-63.71	14.34	-13.00	-36.37	Peak
8	5197.80	-48.30	-68.42	20.12	-13.00	-35.30	Peak
9 pp	6930.40	-42.55	-65.42	22.87	-13.00	-29.55	Peak

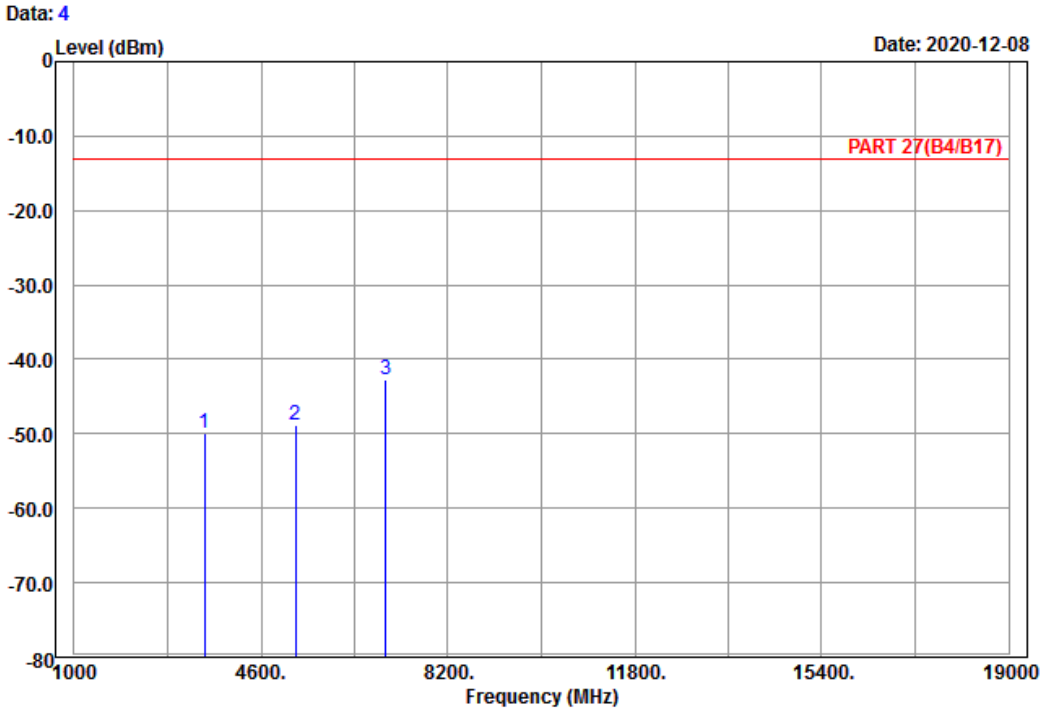
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : Band IV_Link_H-Ch
Tested by: Charles Hsiao

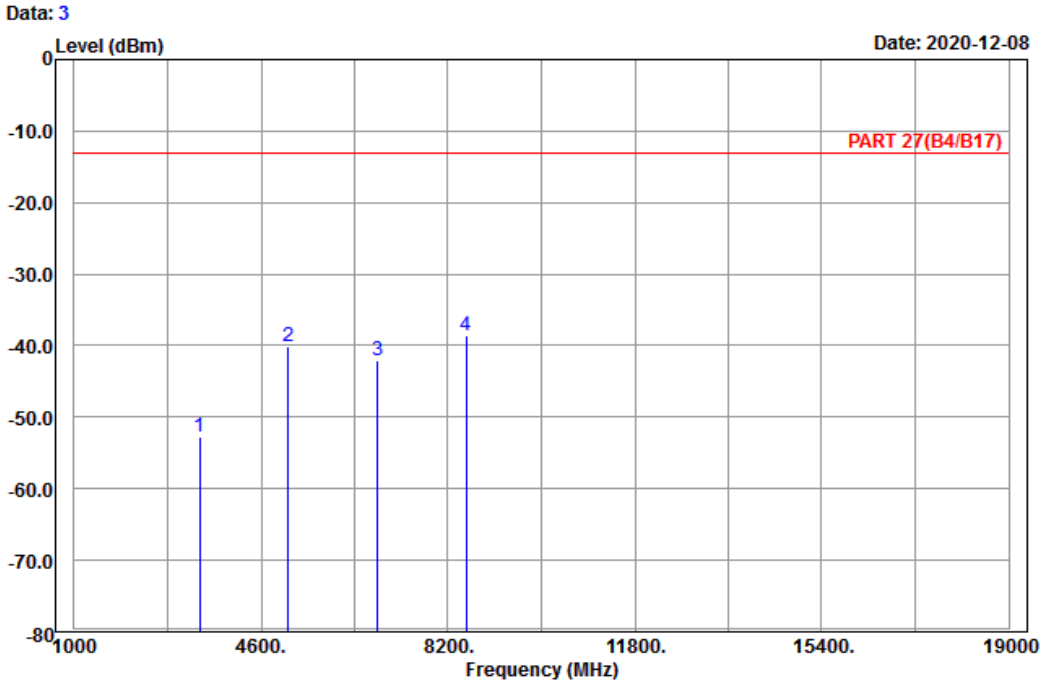
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3505.20	-51.97	-66.25	14.28	-13.00	-38.97	Peak
2 pp	5257.80	-48.41	-68.61	20.20	-13.00	-35.41	Peak



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : Band IV_Link_H-Ch
Tested by: Charles Hsiao

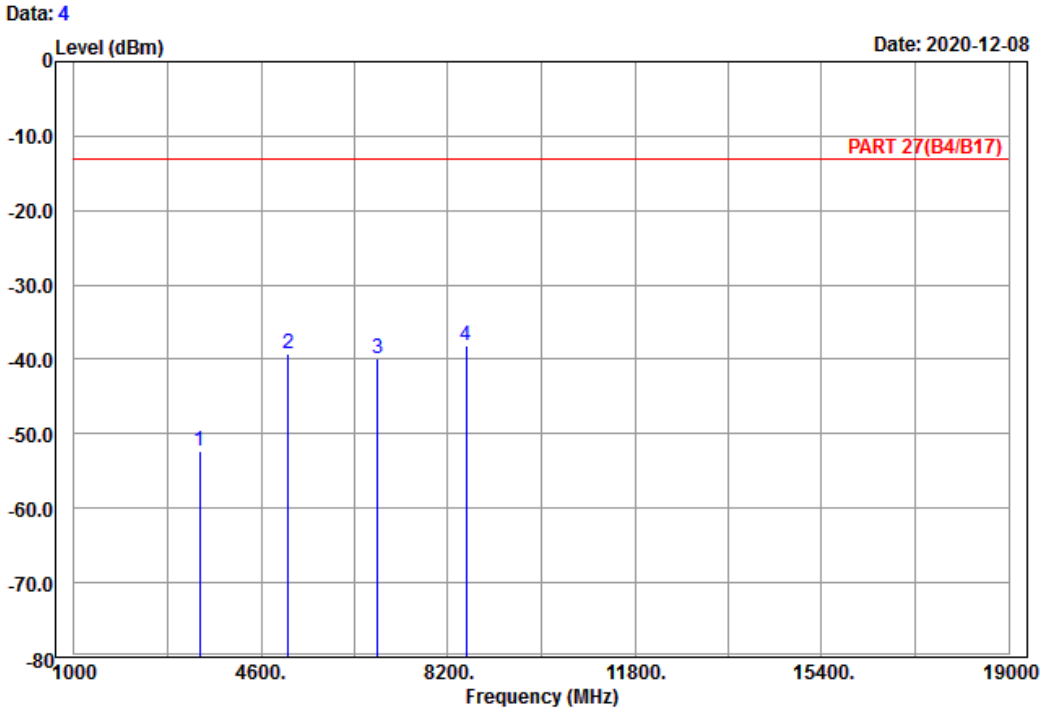
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3505.20	-49.85	-64.13	14.28	-13.00	-36.85	Peak
2	5257.80	-48.81	-69.01	20.20	-13.00	-35.81	Peak
3 pp	7010.40	-42.70	-65.31	22.61	-13.00	-29.70	Peak

LTE Band 4
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3421.40	-52.82	-67.19	14.37	-13.00	-39.82	Peak
2	5132.10	-40.11	-59.92	19.81	-13.00	-27.11	Peak
3	6842.80	-42.16	-64.88	22.72	-13.00	-29.16	Peak
4 pp	8553.50	-38.69	-62.73	24.04	-13.00	-25.69	Peak

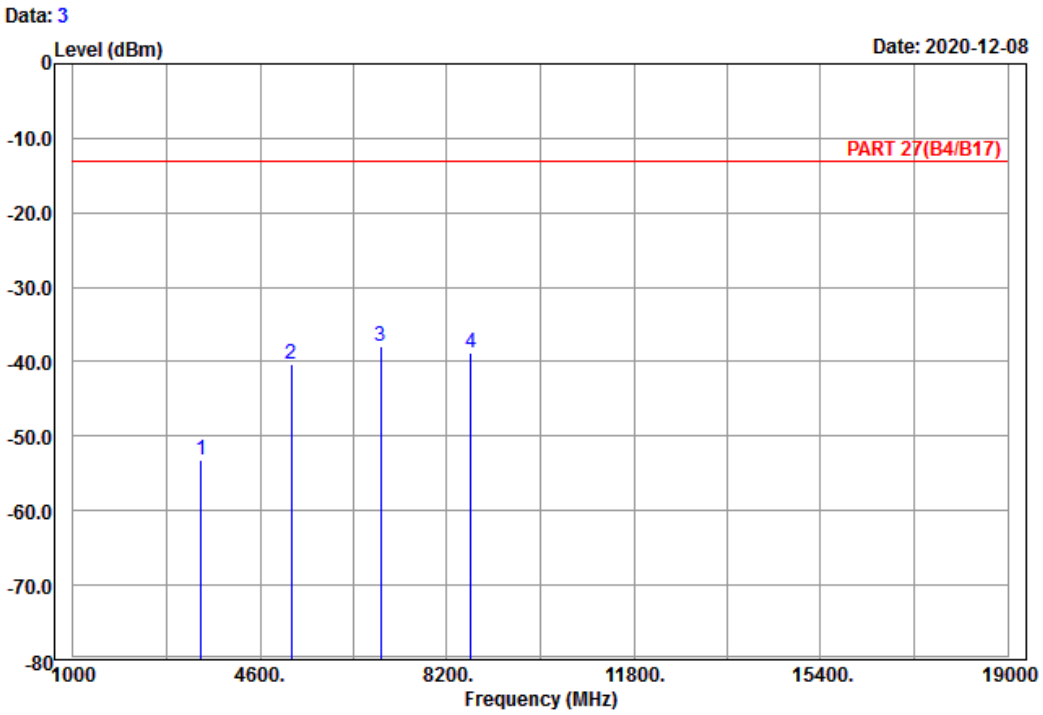


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3421.40	-52.29	-66.66	14.37	-13.00	-39.29	Peak
2	5132.10	-39.15	-58.96	19.81	-13.00	-26.15	Peak
3	6842.80	-39.95	-62.67	22.72	-13.00	-26.95	Peak
4 pp	8553.50	-38.13	-62.17	24.04	-13.00	-25.13	Peak

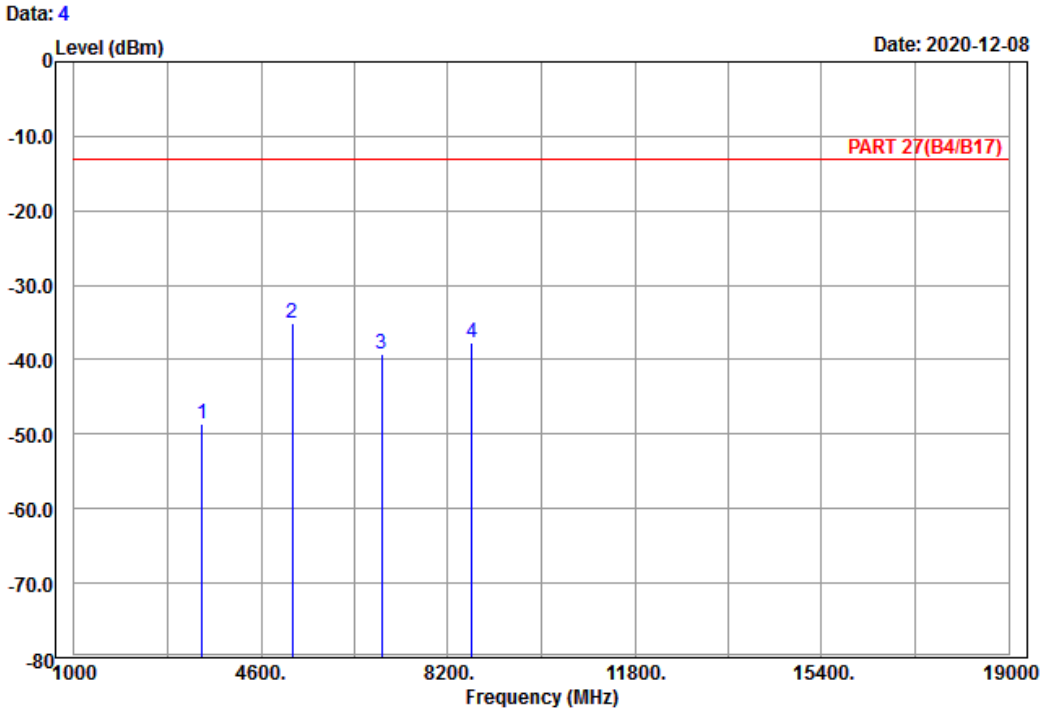
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-53.20	-67.54	14.34	-13.00	-40.20	Peak
2	5197.50	-40.28	-60.40	20.12	-13.00	-27.28	Peak
3 pp	6930.00	-37.96	-60.83	22.87	-13.00	-24.96	Peak
4	8662.50	-38.81	-63.02	24.21	-13.00	-25.81	Peak

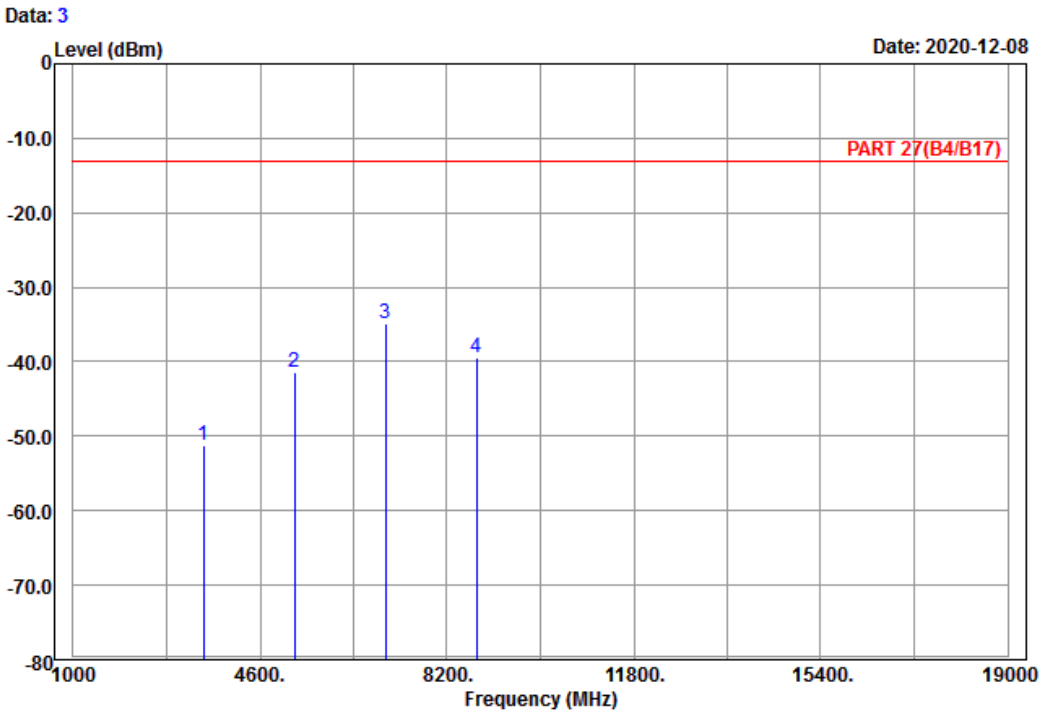


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-48.69	-63.03	14.34	-13.00	-35.69	Peak
2 pp	5197.50	-35.19	-55.31	20.12	-13.00	-22.19	Peak
3	6930.00	-39.22	-62.09	22.87	-13.00	-26.22	Peak
4	8662.50	-37.67	-61.88	24.21	-13.00	-24.67	Peak

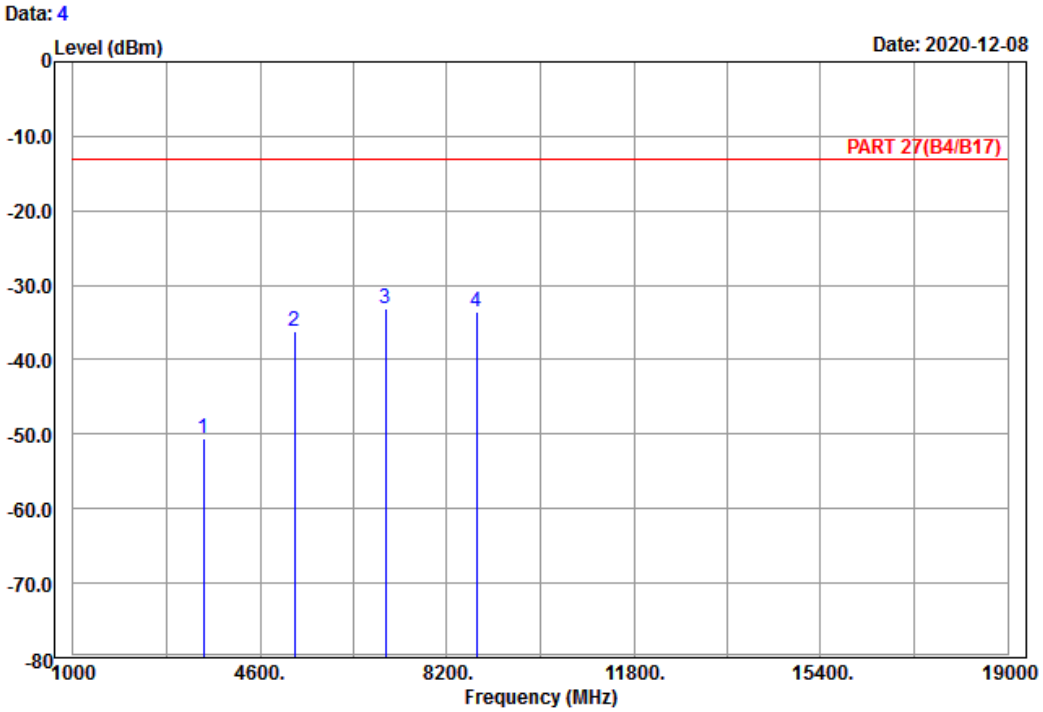
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3508.60	-51.14	-65.42	14.28	-13.00	-38.14	Peak
2	5262.90	-41.34	-61.54	20.20	-13.00	-28.34	Peak
3 pp	7017.20	-34.88	-57.49	22.61	-13.00	-21.88	Peak
4	8771.50	-39.45	-64.01	24.56	-13.00	-26.45	Peak

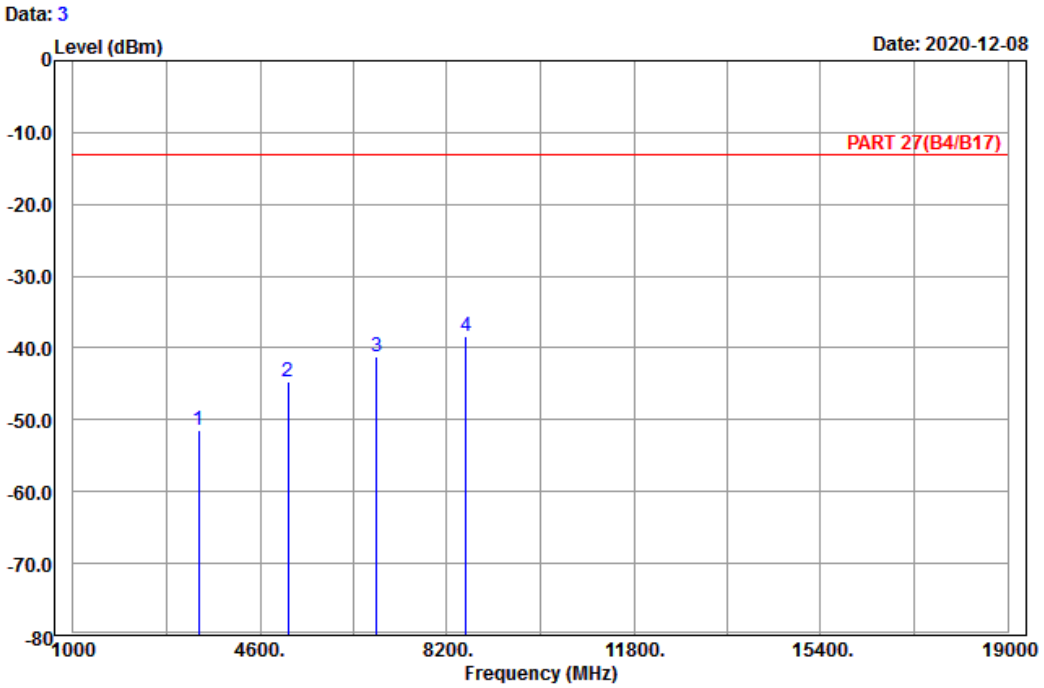


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3508.60	-50.62	-64.90	14.28	-13.00	-37.62	Peak
2	5262.90	-36.14	-56.34	20.20	-13.00	-23.14	Peak
3 pp	7017.20	-33.17	-55.78	22.61	-13.00	-20.17	Peak
4	8771.50	-33.62	-58.18	24.56	-13.00	-20.62	Peak

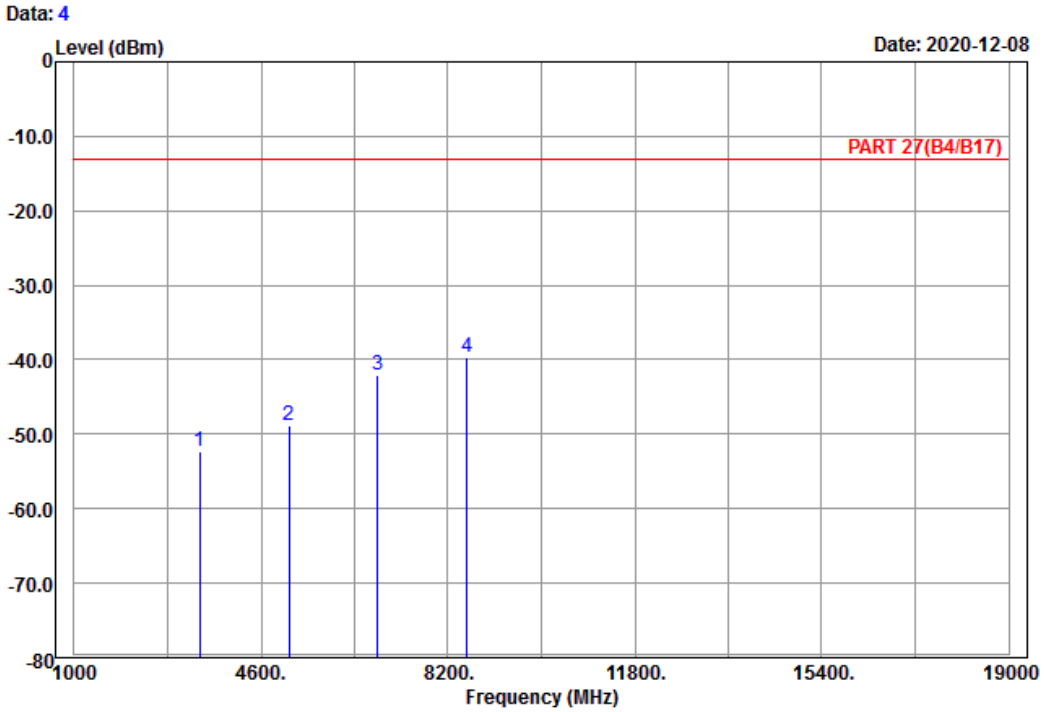
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3425.00	-51.52	-65.89	14.37	-13.00	-38.52	Peak
2	5137.50	-44.70	-64.51	19.81	-13.00	-31.70	Peak
3	6850.00	-41.22	-63.94	22.72	-13.00	-28.22	Peak
4 pp	8562.50	-38.30	-62.34	24.04	-13.00	-25.30	Peak

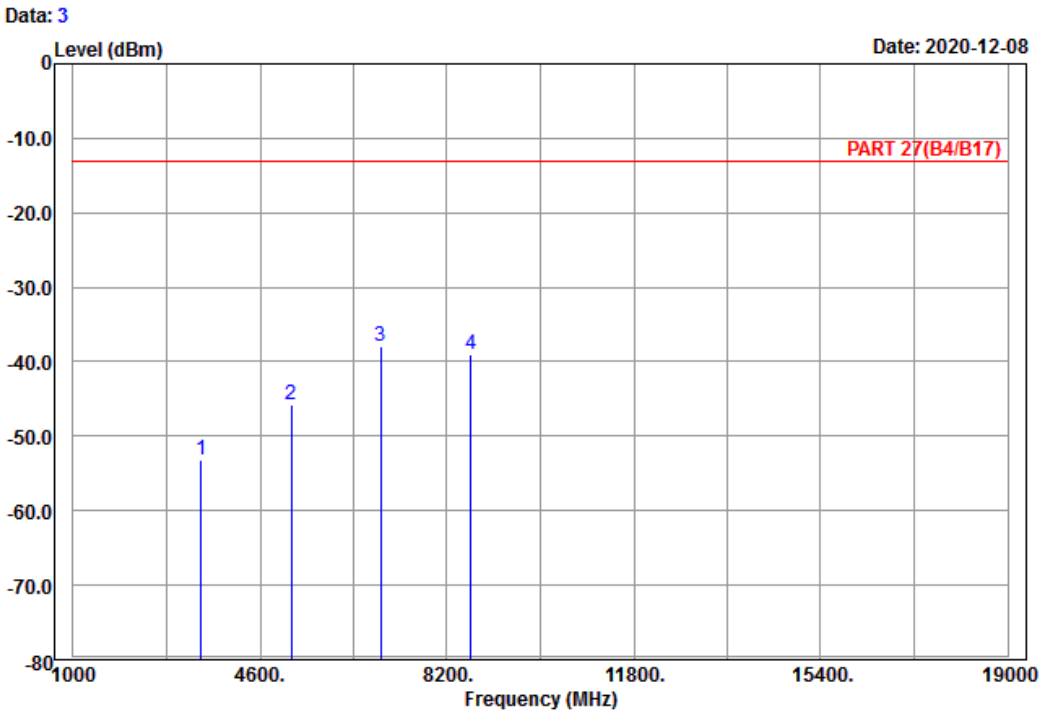


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3425.00	-52.23	-66.60	14.37	-13.00	-39.23	Peak
2	5137.50	-48.87	-68.68	19.81	-13.00	-35.87	Peak
3	6850.00	-42.07	-64.79	22.72	-13.00	-29.07	Peak
4 pp	8562.50	-39.69	-63.73	24.04	-13.00	-26.69	Peak

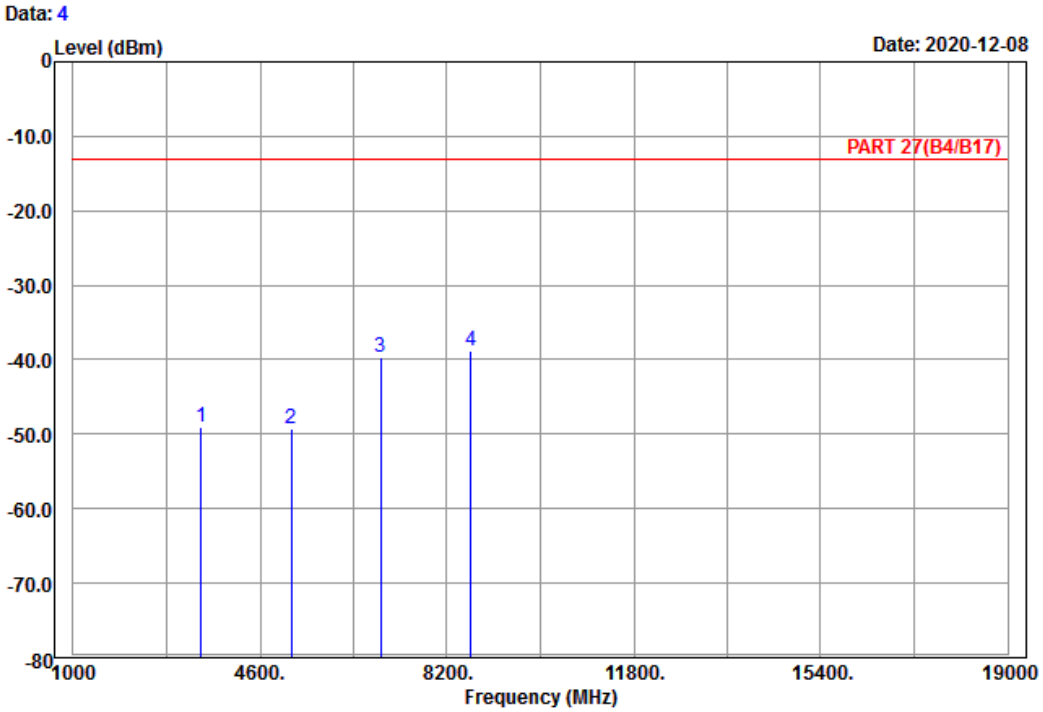
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-53.21	-67.55	14.34	-13.00	-40.21	Peak
2	5197.50	-45.83	-65.95	20.12	-13.00	-32.83	Peak
3 pp	6930.00	-37.92	-60.79	22.87	-13.00	-24.92	Peak
4	8662.50	-39.09	-63.30	24.21	-13.00	-26.09	Peak

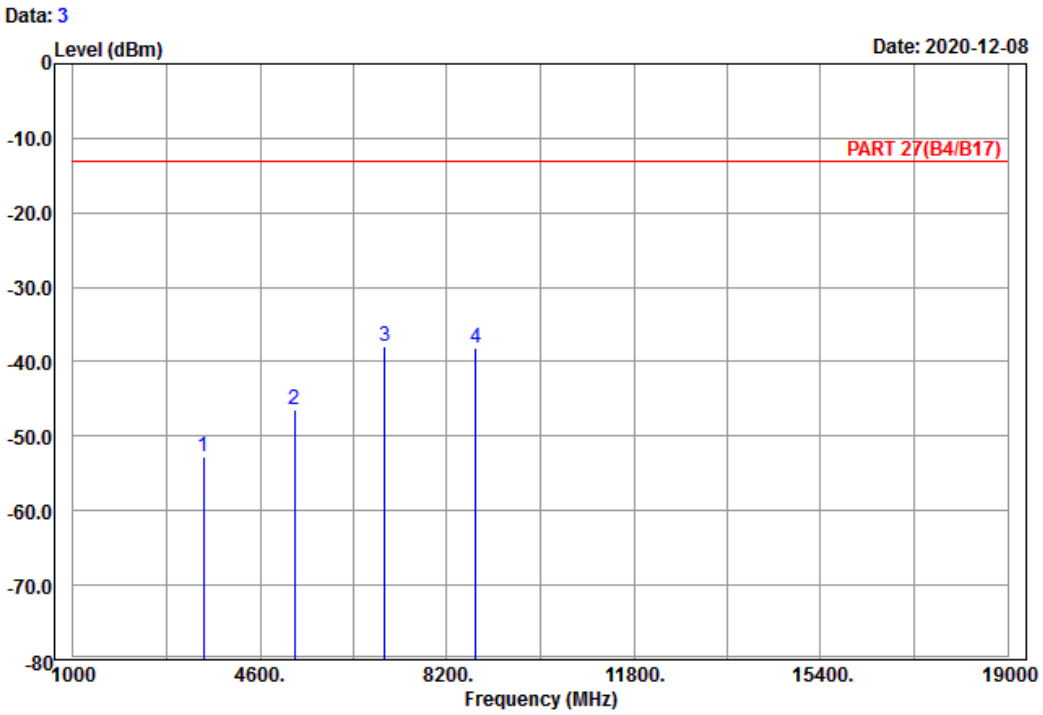


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-49.12	-63.46	14.34	-13.00	-36.12	Peak
2	5197.50	-49.25	-69.37	20.12	-13.00	-36.25	Peak
3	6930.00	-39.75	-62.62	22.87	-13.00	-26.75	Peak
4 pp	8662.50	-38.70	-62.91	24.21	-13.00	-25.70	Peak

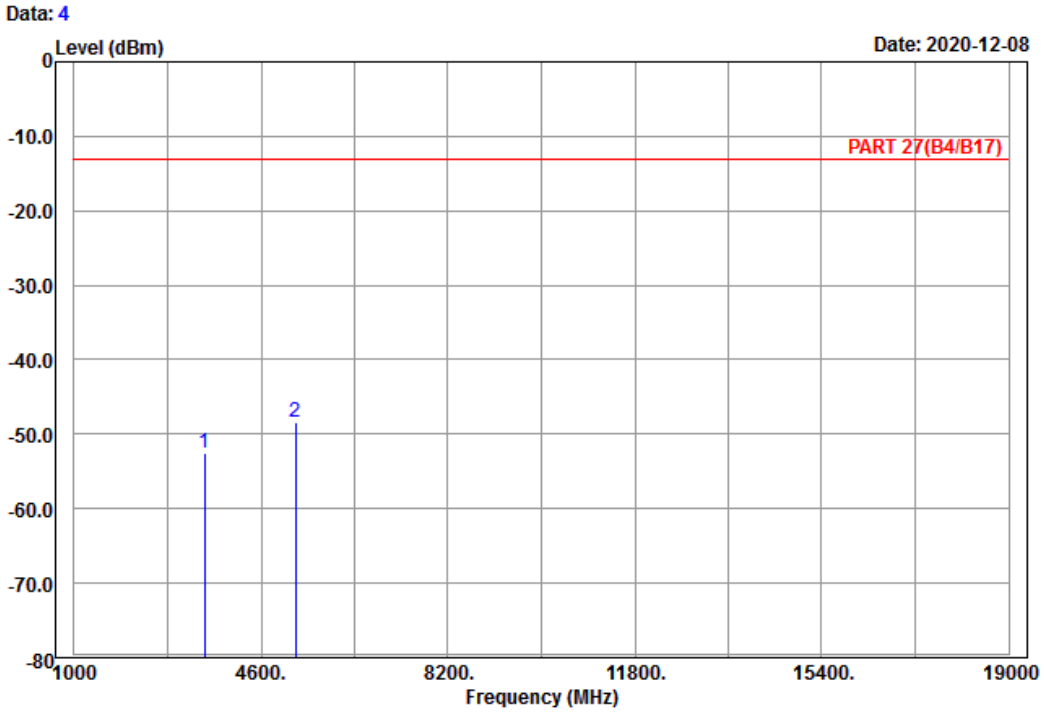
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3505.00	-52.85	-67.13	14.28	-13.00	-39.85	Peak
2	5257.50	-46.35	-66.55	20.20	-13.00	-33.35	Peak
3 pp	7010.00	-37.84	-60.45	22.61	-13.00	-24.84	Peak
4	8762.50	-38.24	-62.74	24.50	-13.00	-25.24	Peak

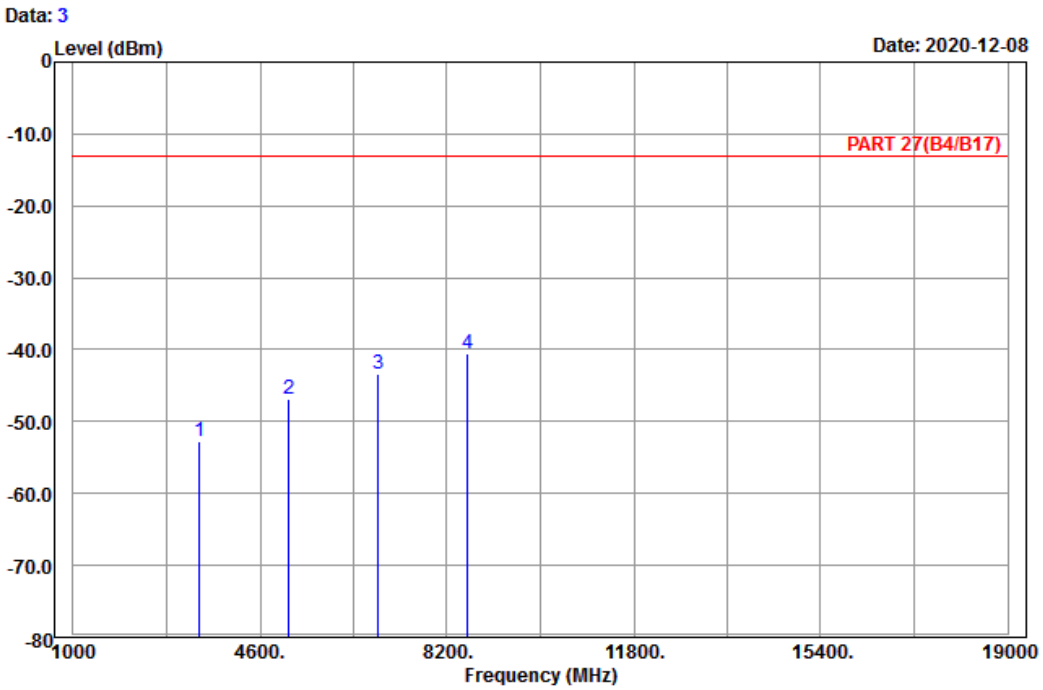


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3505.00	-52.63	-66.91	14.28	-13.00	-39.63	Peak
2 pp	5257.50	-48.45	-68.65	20.20	-13.00	-35.45	Peak

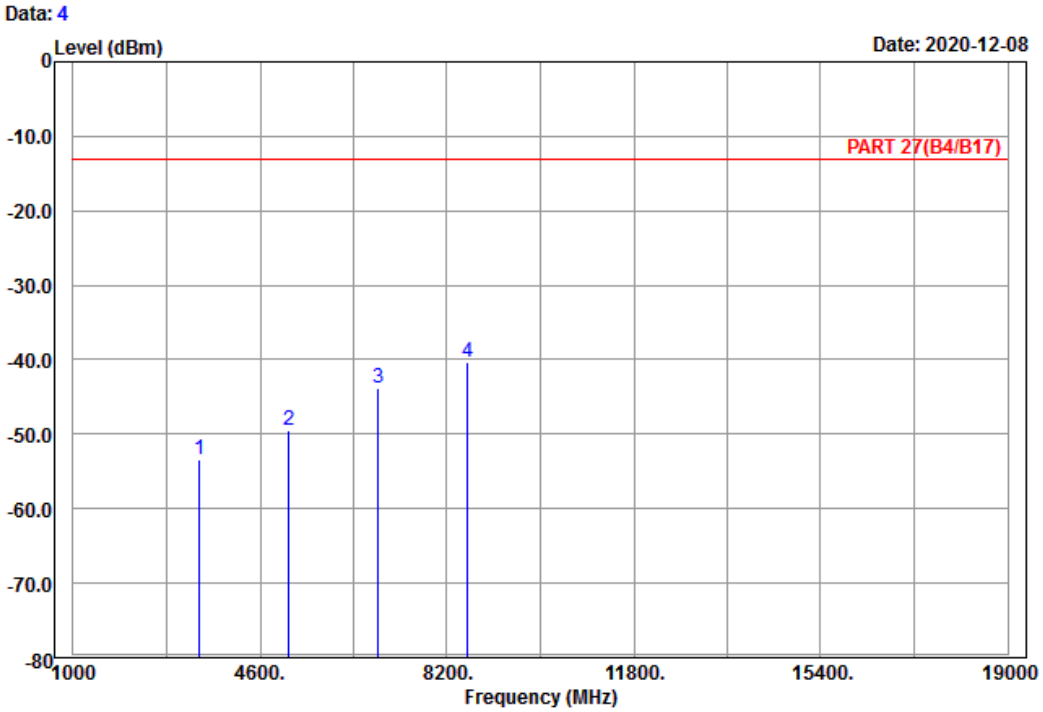
Channel Bandwidth: 20 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3440.00	-52.80	-67.15	14.35	-13.00	-39.80	Peak
2	5160.00	-46.89	-66.81	19.92	-13.00	-33.89	Peak
3	6880.00	-43.44	-66.24	22.80	-13.00	-30.44	Peak
4 pp	8600.00	-40.63	-64.73	24.10	-13.00	-27.63	Peak

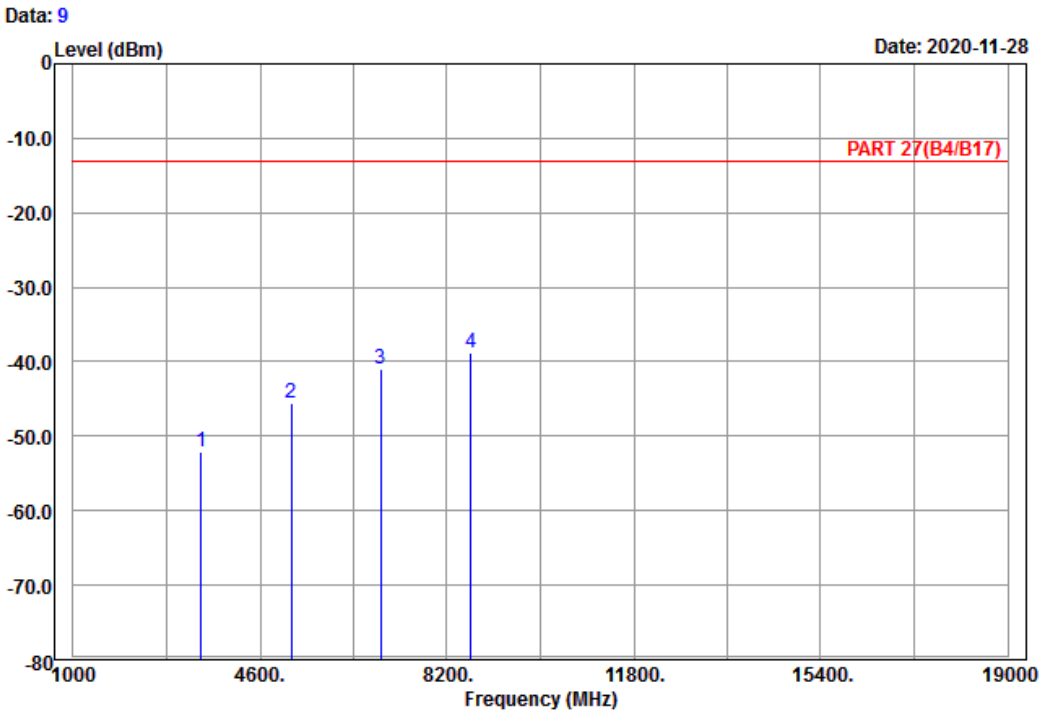


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_L-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3440.00	-53.31	-67.66	14.35	-13.00	-40.31	Peak
2	5160.00	-49.38	-69.30	19.92	-13.00	-36.38	Peak
3	6880.00	-43.74	-66.54	22.80	-13.00	-30.74	Peak
4 pp	8600.00	-40.35	-64.45	24.10	-13.00	-27.35	Peak

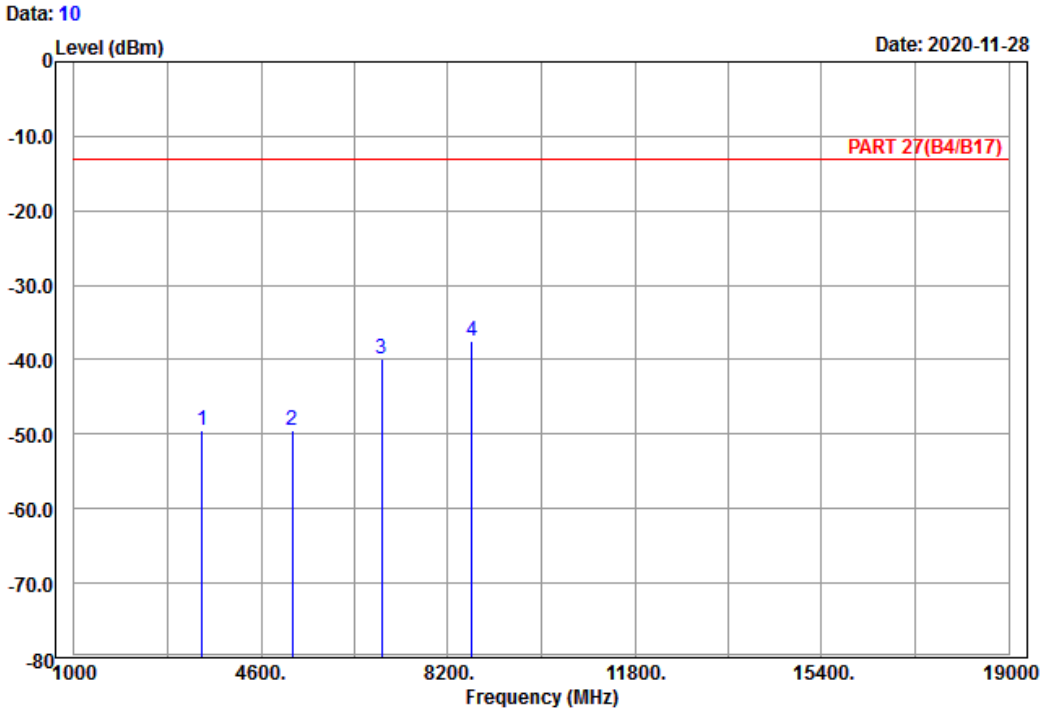
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-52.09	-66.43	14.34	-13.00	-39.09	Peak
2	5197.50	-45.50	-65.62	20.12	-13.00	-32.50	Peak
3	6930.00	-41.09	-63.96	22.87	-13.00	-28.09	Peak
4 pp	8662.50	-38.89	-63.10	24.21	-13.00	-25.89	Peak

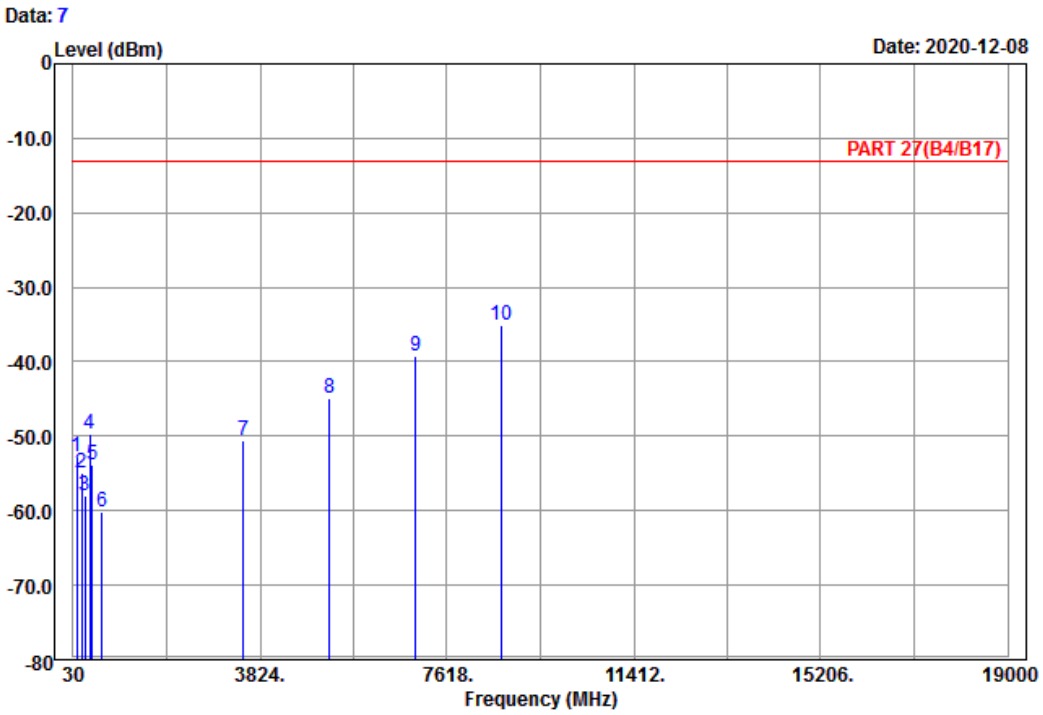


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_M-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	3465.00	-49.44	-63.78	14.34	-13.00	-36.44	Peak
2	5197.50	-49.51	-69.63	20.12	-13.00	-36.51	Peak
3	6930.00	-39.90	-62.77	22.87	-13.00	-26.90	Peak
4 pp	8662.50	-37.57	-61.78	24.21	-13.00	-24.57	Peak

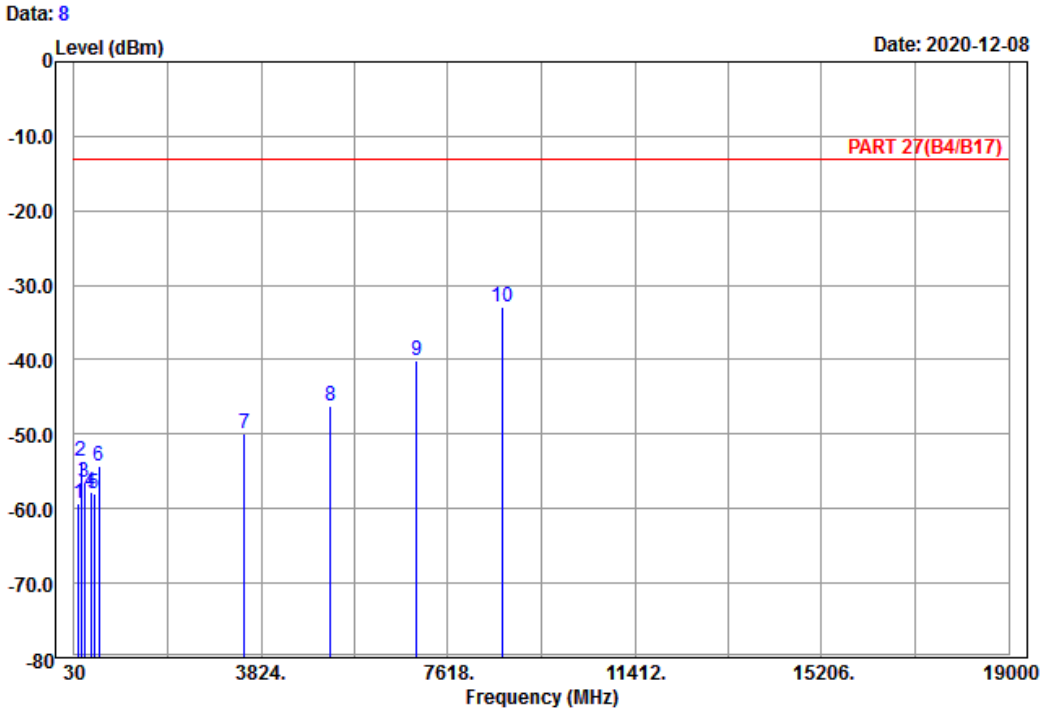
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	102.09	-52.84	-42.95	-9.89	-13.00	-39.84	Peak
2	194.97	-54.99	-49.03	-5.96	-13.00	-41.99	Peak
3	263.01	-57.95	-52.33	-5.62	-13.00	-44.95	Peak
4	374.90	-49.62	-45.59	-4.03	-13.00	-36.62	Peak
5	419.70	-53.80	-50.61	-3.19	-13.00	-40.80	Peak
6	615.70	-60.10	-60.35	0.25	-13.00	-47.10	Peak
7	3490.00	-50.54	-64.85	14.31	-13.00	-37.54	Peak
8	5235.00	-44.98	-65.14	20.16	-13.00	-31.98	Peak
9	6980.00	-39.22	-61.91	22.69	-13.00	-26.22	Peak
10 pp	8725.00	-35.08	-59.47	24.39	-13.00	-22.08	Peak

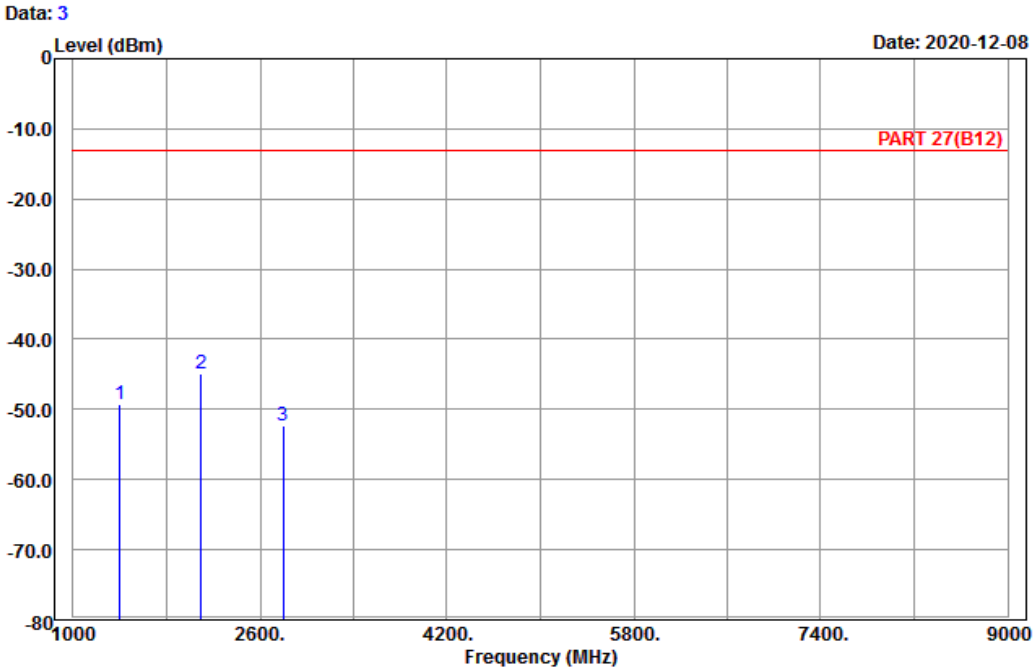


Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_H-Ch
Tested by: Charles Hsiao

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	125.04	-59.28	-51.33	-7.95	-13.00	-46.28	Peak
2	176.61	-53.57	-47.58	-5.99	-13.00	-40.57	Peak
3	229.53	-56.52	-50.74	-5.78	-13.00	-43.52	Peak
4	374.90	-57.74	-53.71	-4.03	-13.00	-44.74	Peak
5	426.00	-57.99	-54.68	-3.31	-13.00	-44.99	Peak
6	533.10	-54.19	-51.32	-2.87	-13.00	-41.19	Peak
7	3490.00	-49.84	-64.15	14.31	-13.00	-36.84	Peak
8	5235.00	-46.31	-66.47	20.16	-13.00	-33.31	Peak
9	6980.00	-40.03	-62.72	22.69	-13.00	-27.03	Peak
10 pp	8725.00	-32.89	-57.28	24.39	-13.00	-19.89	Peak

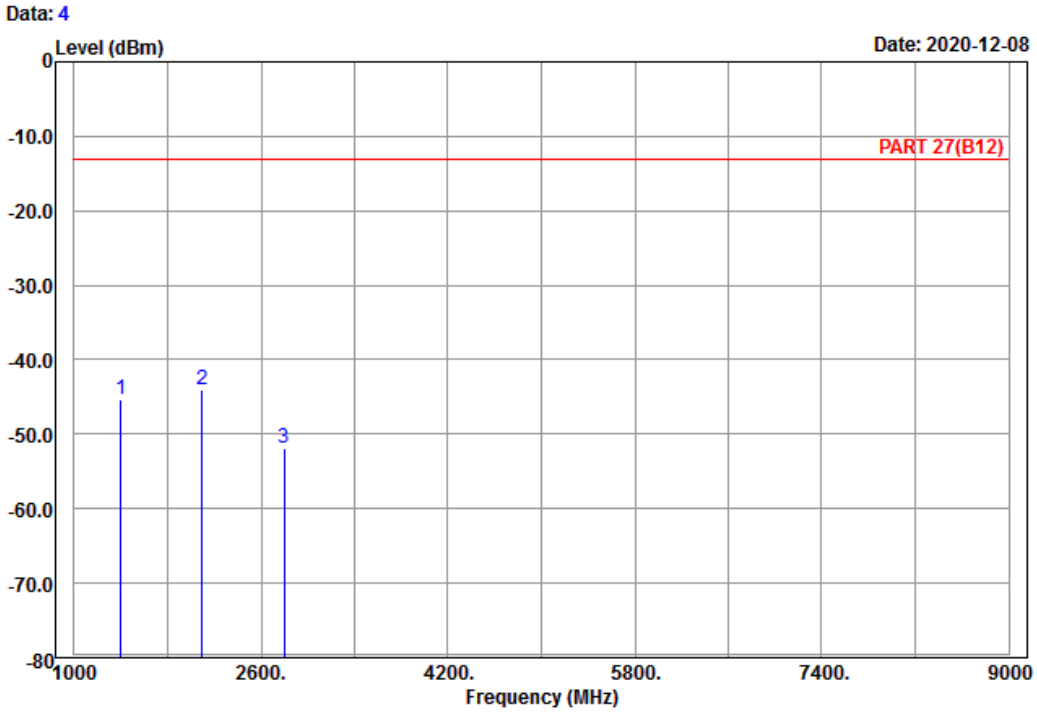
LTE Band 12
Channel Bandwidth: 1.4 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1399.40	-49.16	-55.26	6.10	-13.00	-36.16	Peak
2 pp	2099.10	-44.87	-55.80	10.93	-13.00	-31.87	Peak
3	2798.80	-52.37	-65.15	12.78	-13.00	-39.37	Peak

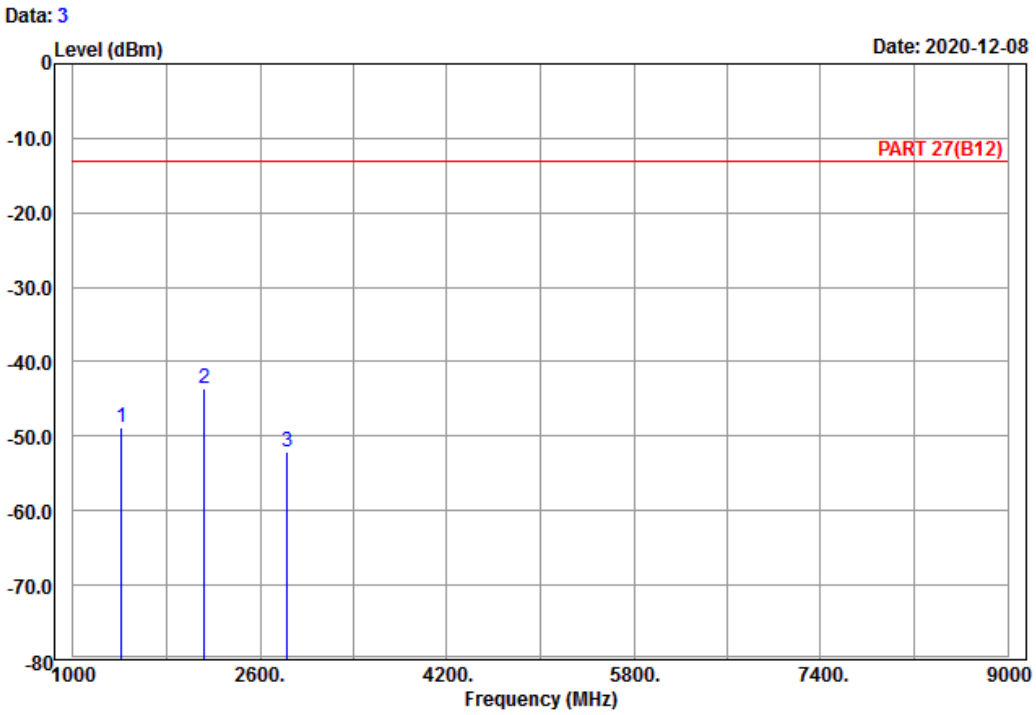


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1399.40	-45.26	-51.36	6.10	-13.00	-32.26	Peak
2 pp	2099.10	-43.94	-54.87	10.93	-13.00	-30.94	Peak
3	2798.80	-51.92	-64.70	12.78	-13.00	-38.92	Peak

Middle Channel

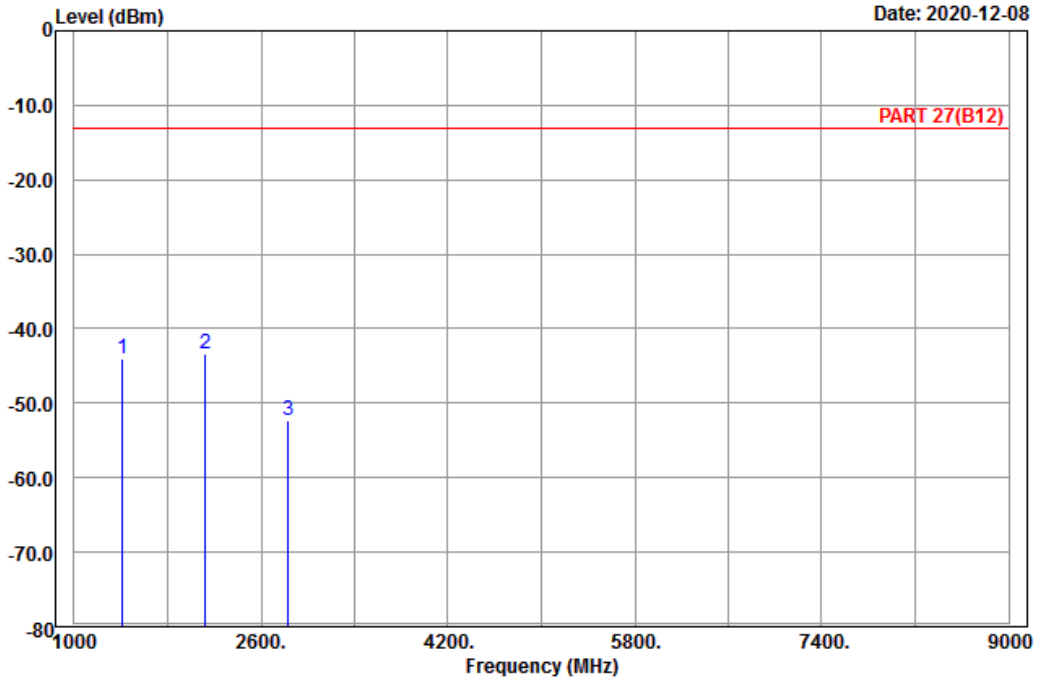
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1415.00	-48.75	-55.11	6.36	-13.00	-35.75	Peak
2 pp	2122.50	-43.70	-54.81	11.11	-13.00	-30.70	Peak
3	2830.00	-52.15	-65.12	12.97	-13.00	-39.15	Peak

Data: 4

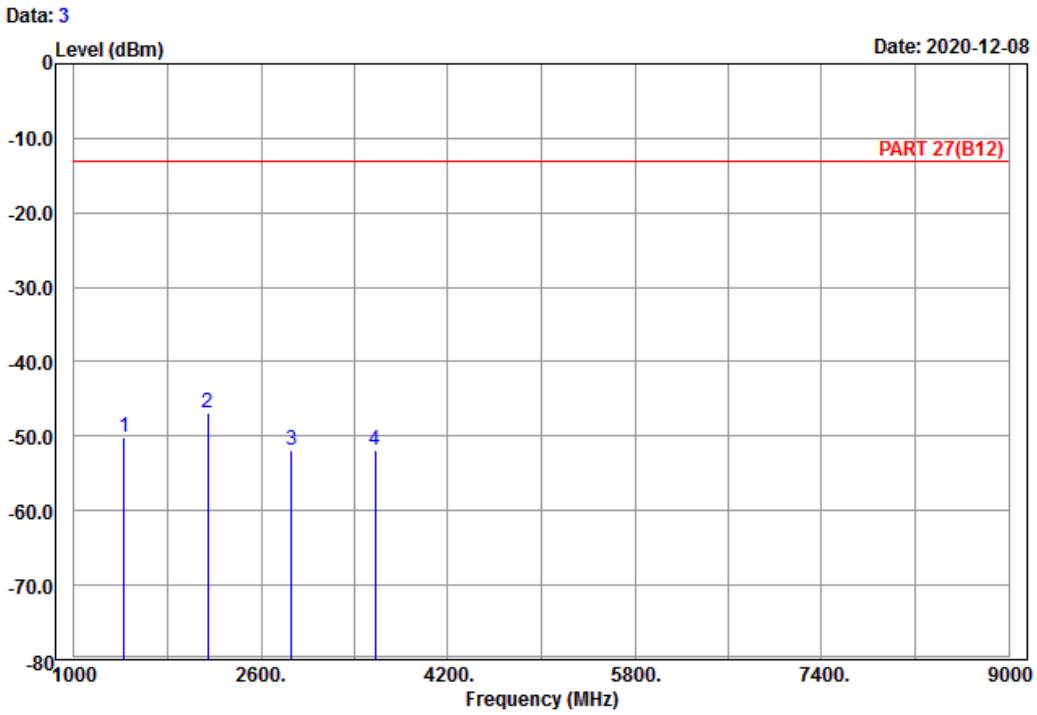


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1415.00	-44.05	-50.41	6.36	-13.00	-31.05	Peak
2 pp	2122.50	-43.29	-54.40	11.11	-13.00	-30.29	Peak
3	2830.00	-52.31	-65.28	12.97	-13.00	-39.31	Peak

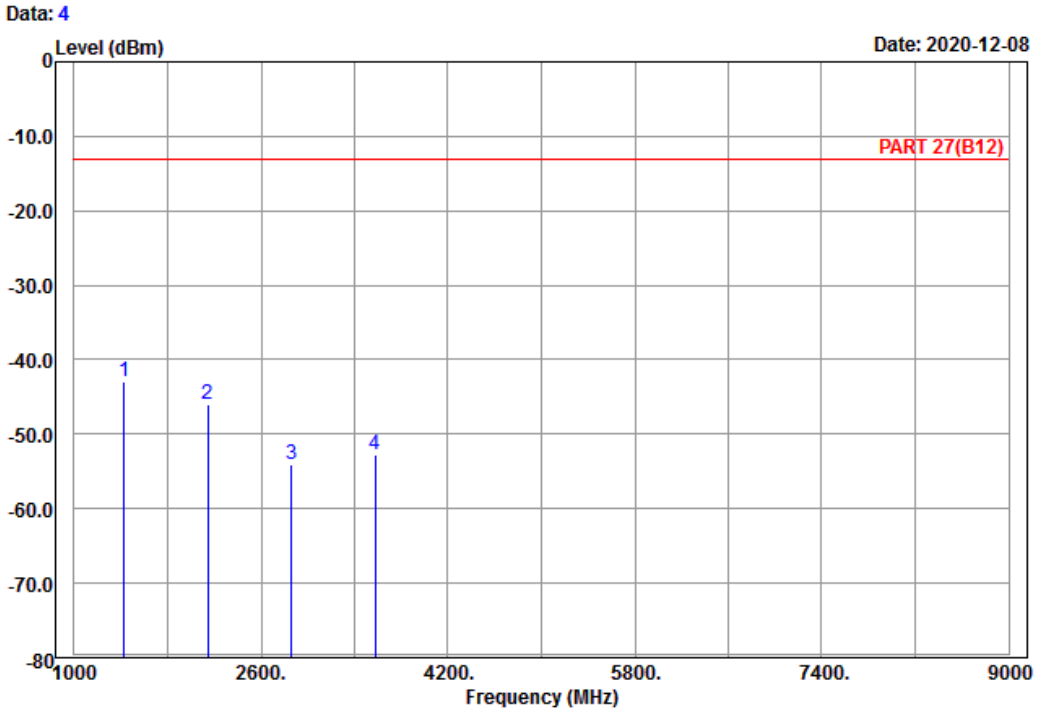
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1430.60	-50.11	-56.35	6.24	-13.00	-37.11	Peak
2 pp	2145.90	-46.78	-58.03	11.25	-13.00	-33.78	Peak
3	2861.20	-51.86	-64.88	13.02	-13.00	-38.86	Peak
4	3576.50	-51.94	-67.22	15.28	-13.00	-38.94	Peak

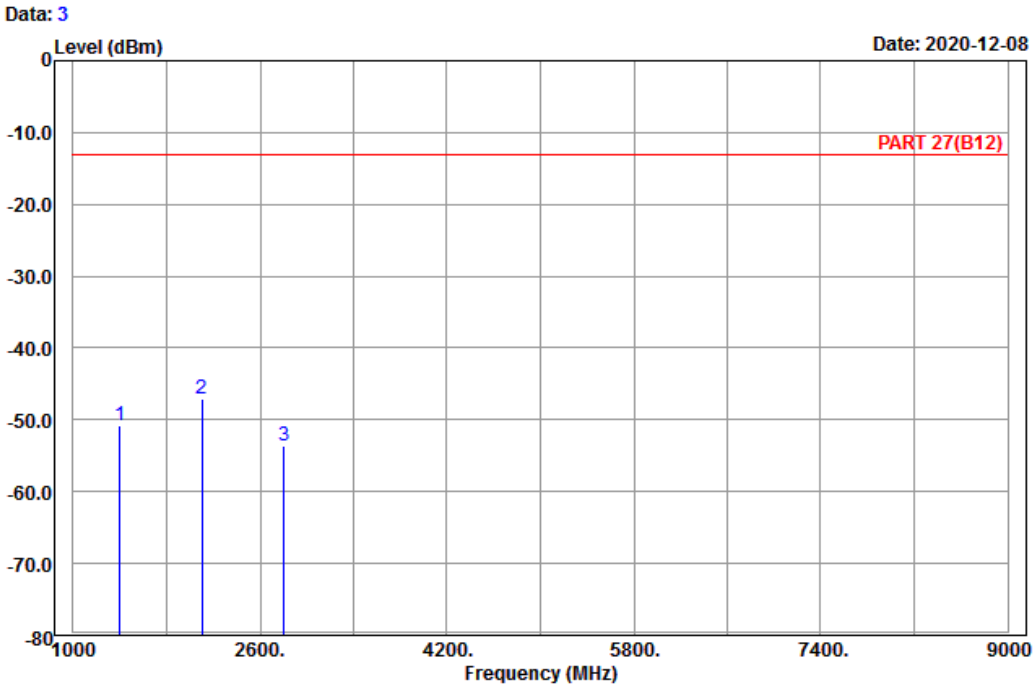


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1430.60	-42.98	-49.22	6.24	-13.00	-29.98	Peak
2	2145.90	-46.07	-57.32	11.25	-13.00	-33.07	Peak
3	2861.20	-54.05	-67.07	13.02	-13.00	-41.05	Peak
4	3576.50	-52.80	-68.08	15.28	-13.00	-39.80	Peak

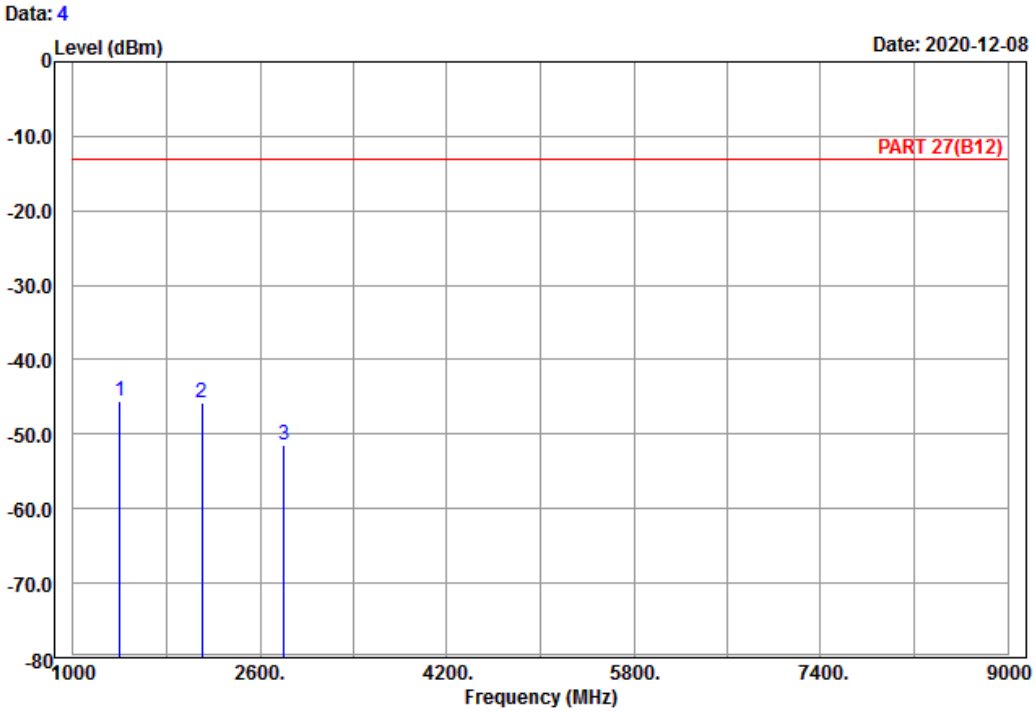
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1403.00	-50.86	-56.96	6.10	-13.00	-37.86	Peak
2 pp	2104.50	-47.18	-58.11	10.93	-13.00	-34.18	Peak
3	2806.00	-53.59	-66.37	12.78	-13.00	-40.59	Peak

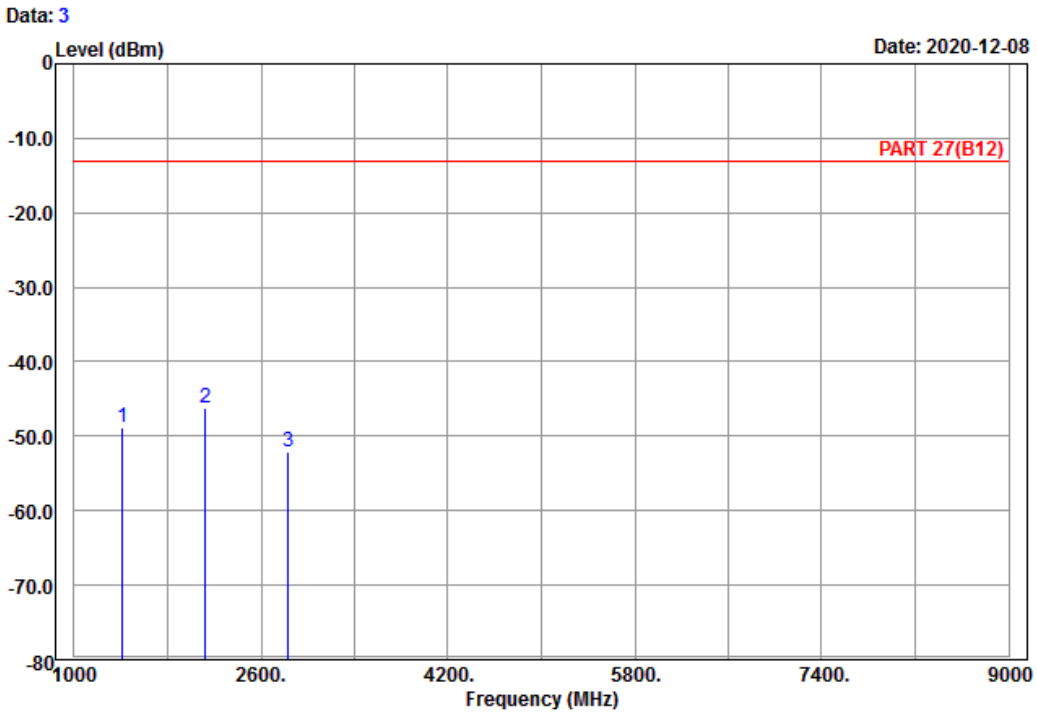


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1403.00	-45.57	-51.67	6.10	-13.00	-32.57	Peak
2	2104.50	-45.80	-56.73	10.93	-13.00	-32.80	Peak
3	2806.00	-51.54	-64.32	12.78	-13.00	-38.54	Peak

Middle Channel

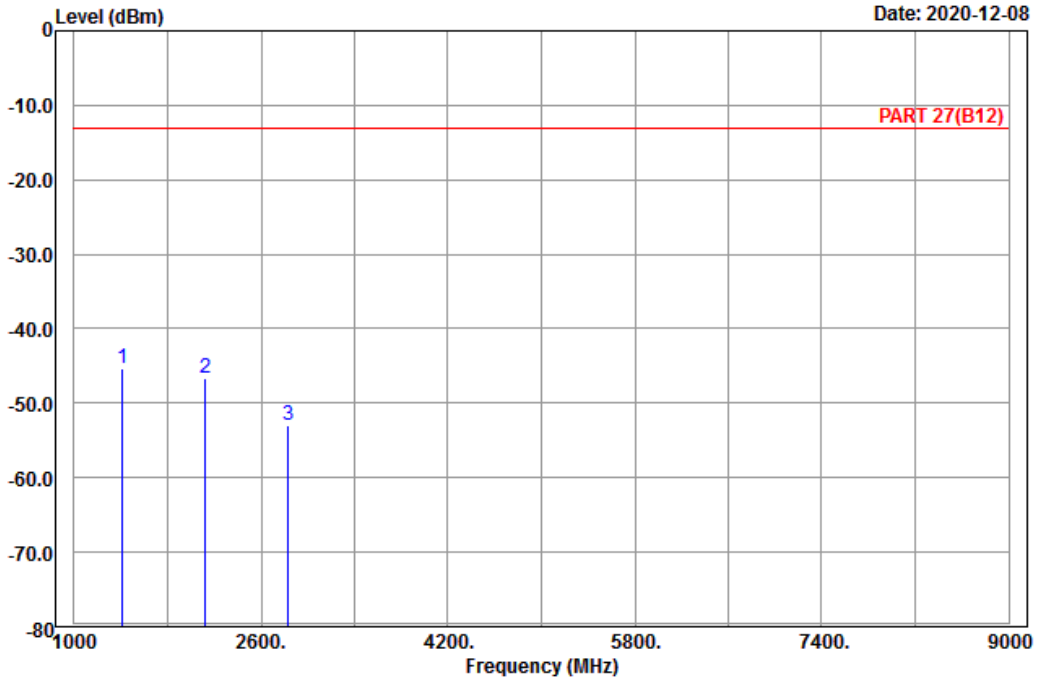
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1415.00	-48.74	-55.10	6.36	-13.00	-35.74	Peak
2 pp	2122.50	-46.25	-57.36	11.11	-13.00	-33.25	Peak
3	2830.00	-52.12	-65.09	12.97	-13.00	-39.12	Peak

Data: 4

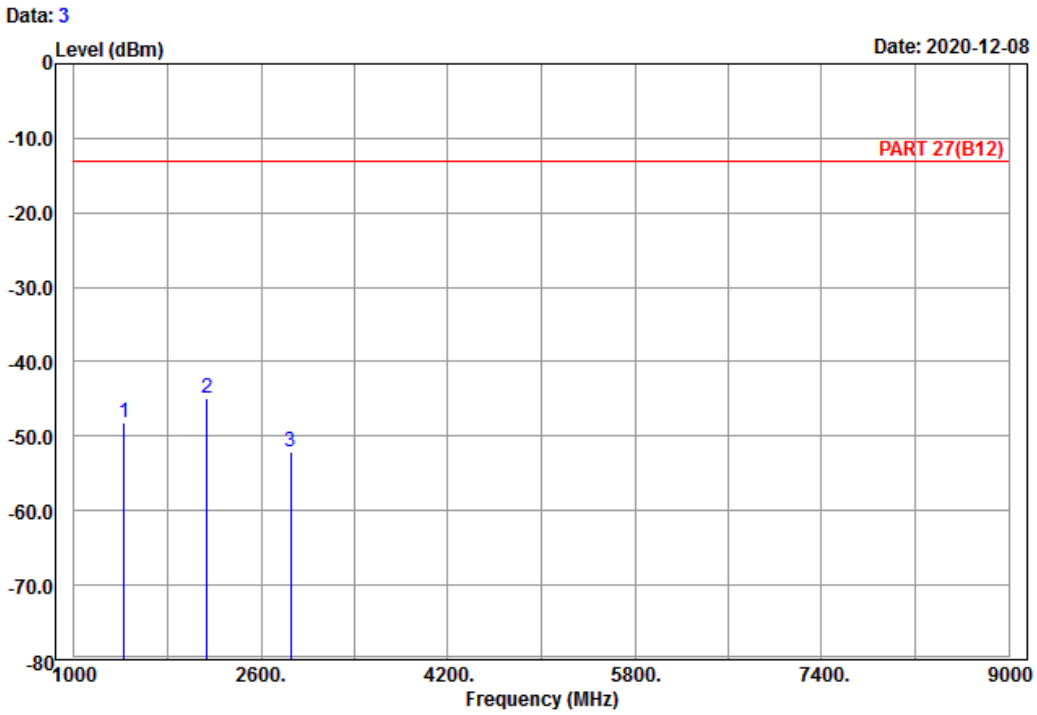


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1415.00	-45.27	-51.63	6.36	-13.00	-32.27	Peak
2	2122.50	-46.67	-57.78	11.11	-13.00	-33.67	Peak
3	2830.00	-53.07	-66.04	12.97	-13.00	-40.07	Peak

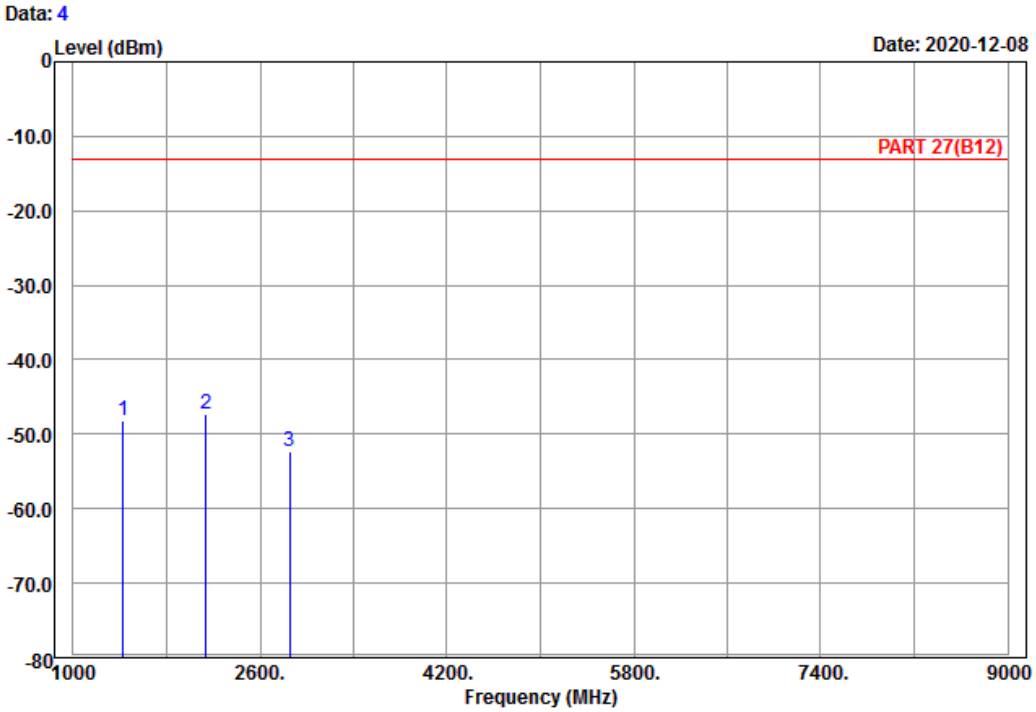
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1427.00	-48.26	-54.50	6.24	-13.00	-35.26	Peak
2 pp	2140.50	-44.95	-56.23	11.28	-13.00	-31.95	Peak
3	2854.00	-52.04	-65.06	13.02	-13.00	-39.04	Peak

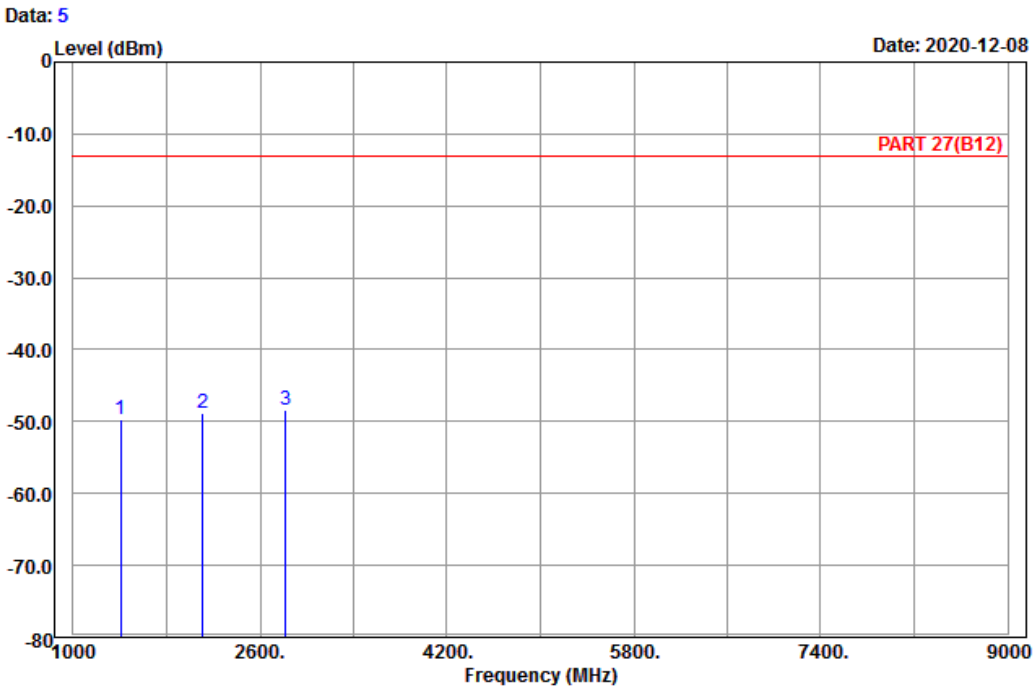


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1427.00	-48.12	-54.36	6.24	-13.00	-35.12	Peak
2 pp	2140.50	-47.35	-58.63	11.28	-13.00	-34.35	Peak
3	2854.00	-52.31	-65.33	13.02	-13.00	-39.31	Peak

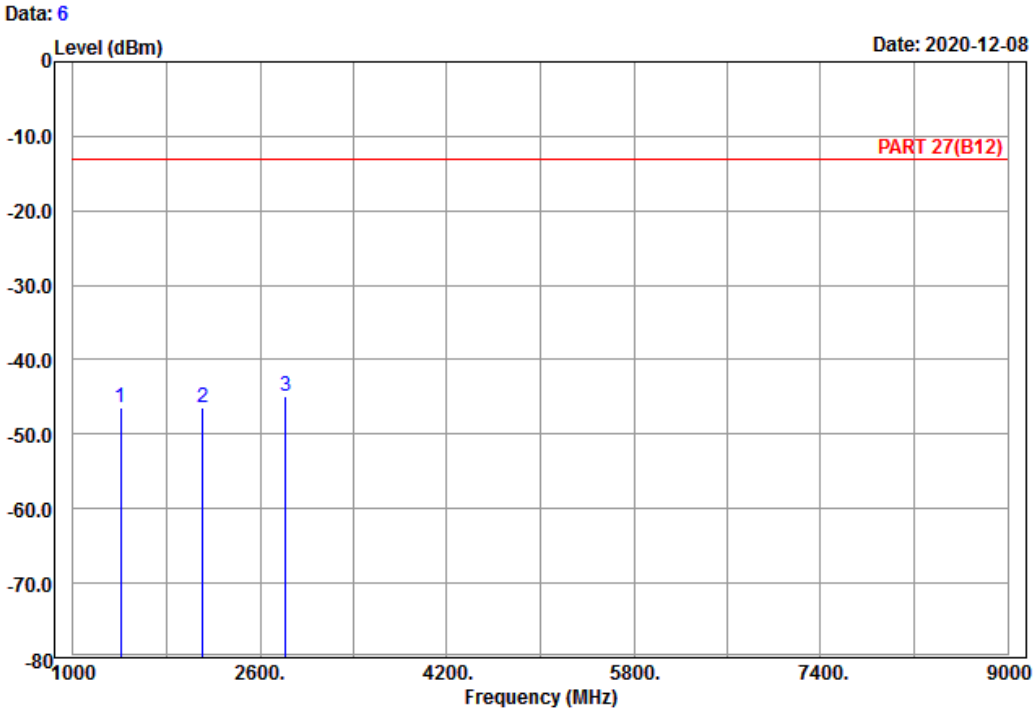
Channel Bandwidth: 10 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1408.00	-49.68	-56.04	6.36	-13.00	-36.68	Peak
2	2112.00	-48.93	-60.04	11.11	-13.00	-35.93	Peak
3 pp	2816.00	-48.37	-61.24	12.87	-13.00	-35.37	Peak

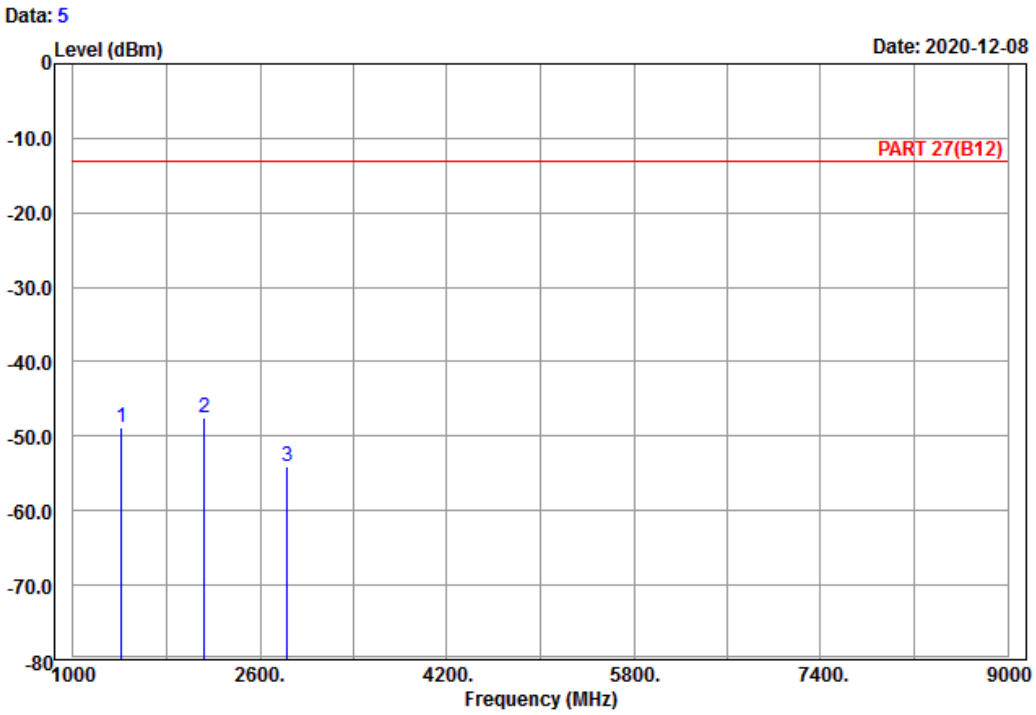


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1408.00	-46.36	-52.72	6.36	-13.00	-33.36	Peak
2	2112.00	-46.40	-57.51	11.11	-13.00	-33.40	Peak
3 pp	2816.00	-44.95	-57.82	12.87	-13.00	-31.95	Peak

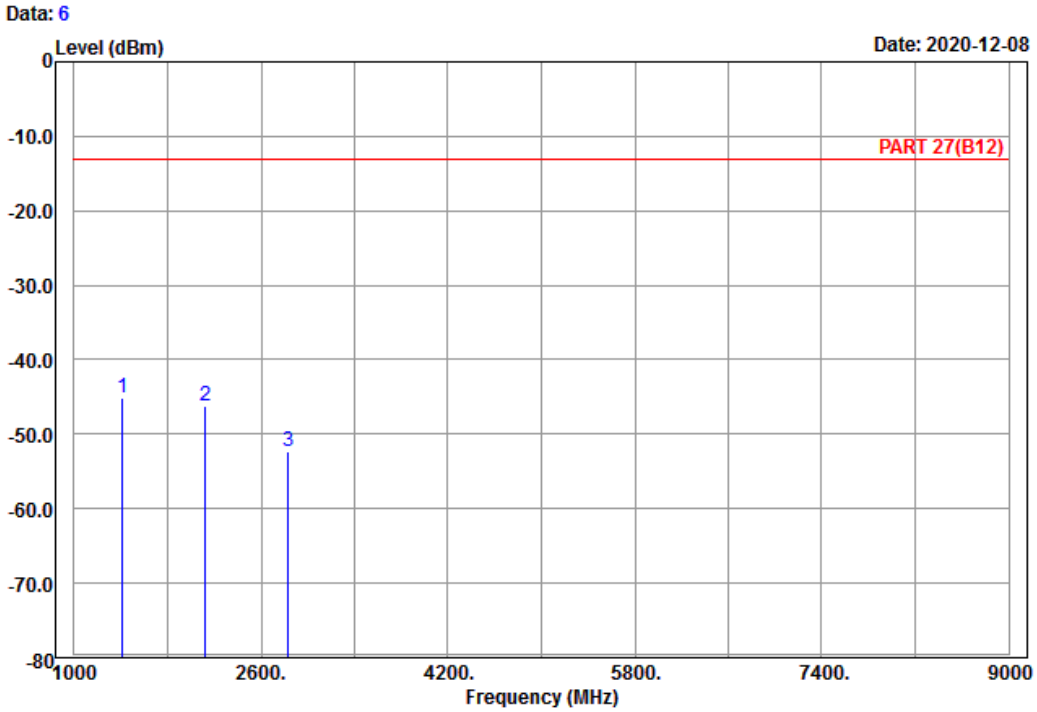
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	1415.00	-48.90	-55.26	6.36	-13.00	-35.90	Peak
2 pp	2122.50	-47.61	-58.72	11.11	-13.00	-34.61	Peak
3	2830.00	-54.15	-67.12	12.97	-13.00	-41.15	Peak

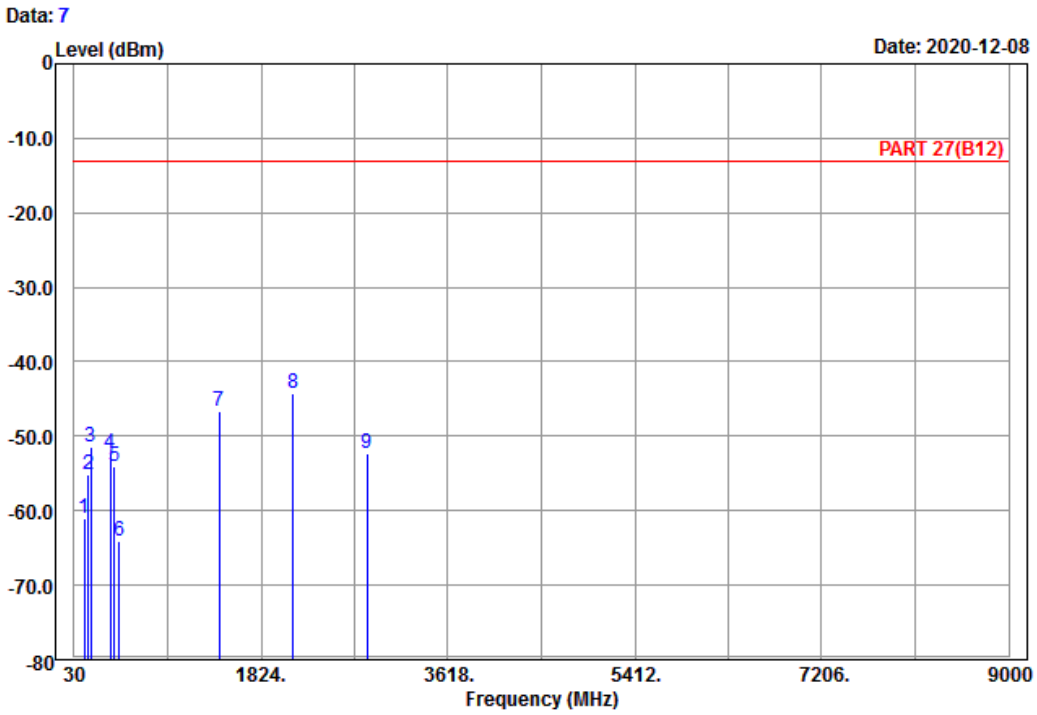


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_M-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1415.00	-45.16	-51.52	6.36	-13.00	-32.16	Peak
2	2122.50	-46.32	-57.43	11.11	-13.00	-33.32	Peak
3	2830.00	-52.32	-65.29	12.97	-13.00	-39.32	Peak

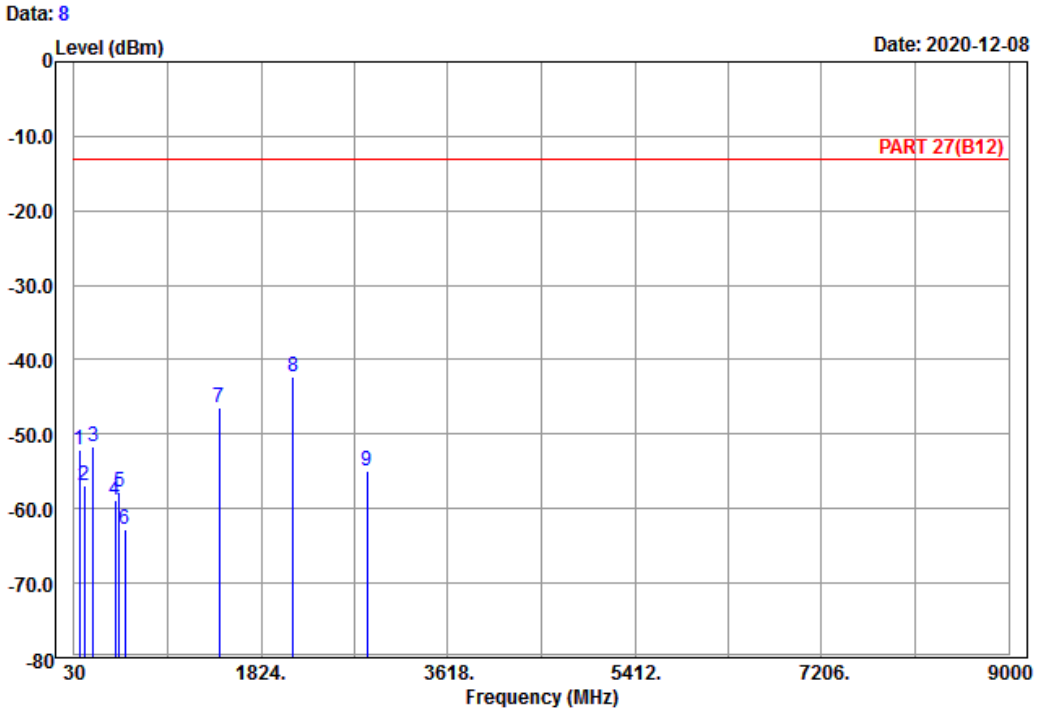
High Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B12) Horizontal
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1	124.77	-60.94	-52.99	-7.95	-13.00	-47.94	Peak
2	163.92	-55.25	-47.97	-7.28	-13.00	-42.25	Peak
3	188.76	-51.53	-45.81	-5.72	-13.00	-38.53	Peak
4	374.20	-52.33	-48.25	-4.08	-13.00	-39.33	Peak
5	413.40	-54.08	-51.04	-3.04	-13.00	-41.08	Peak
6	464.50	-63.98	-59.72	-4.26	-13.00	-50.98	Peak
7	1422.00	-46.60	-52.96	6.36	-13.00	-33.60	Peak
8 pp	2133.00	-44.29	-55.57	11.28	-13.00	-31.29	Peak
9	2844.00	-52.24	-65.21	12.97	-13.00	-39.24	Peak

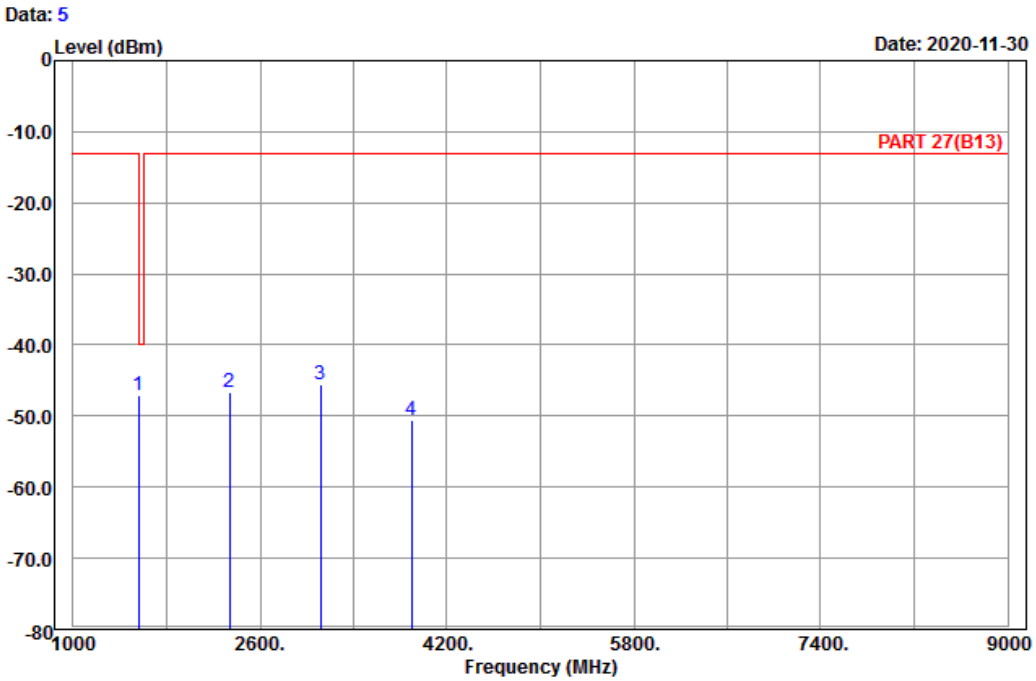


Site : 966 chamber 1
Condition: PART 27(B12) Vertical
Remark : LTE_Band 12_Link_H-Ch
Tested by: Karl Lee

		Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
		MHz	dBm	dBm	dB	dBm	dB	
1		77.79	-52.09	-40.07	-12.02	-13.00	-39.09	Peak
2		127.74	-56.85	-49.08	-7.77	-13.00	-43.85	Peak
3		214.68	-51.63	-45.64	-5.99	-13.00	-38.63	Peak
4		425.30	-58.95	-55.64	-3.31	-13.00	-45.95	Peak
5		459.60	-57.85	-53.73	-4.12	-13.00	-44.85	Peak
6		517.70	-62.84	-58.84	-4.00	-13.00	-49.84	Peak
7		1422.00	-46.40	-52.76	6.36	-13.00	-33.40	Peak
8	pp	2133.00	-42.31	-53.59	11.28	-13.00	-29.31	Peak
9		2844.00	-54.92	-67.89	12.97	-13.00	-41.92	Peak

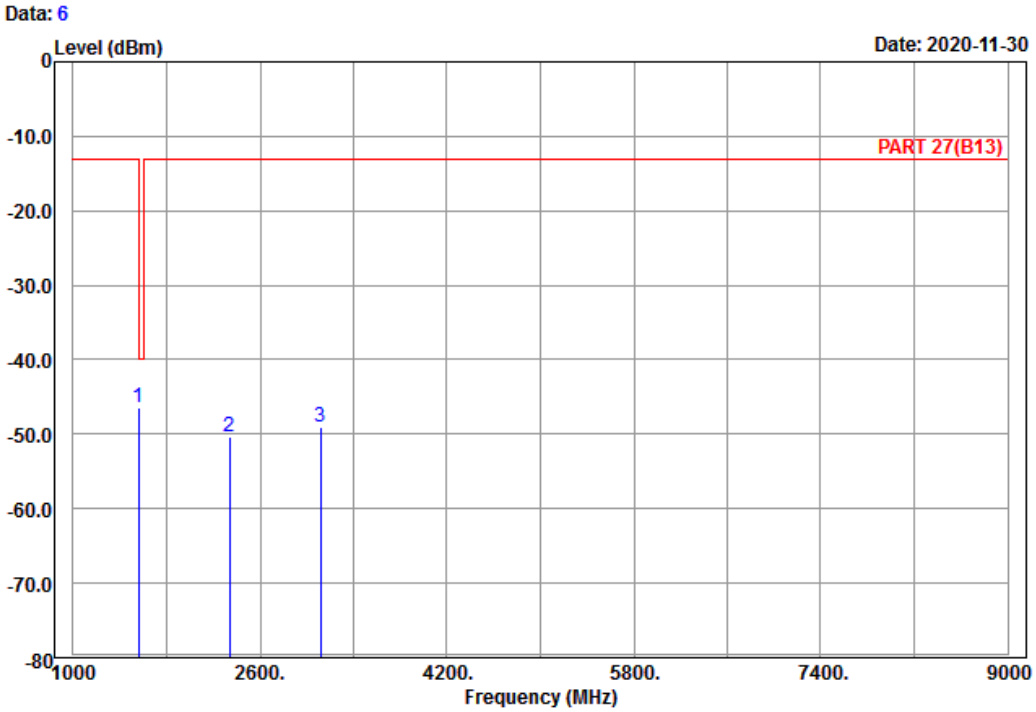
LTE Band 13
Channel Bandwidth: 5 MHz / QPSK
Low Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




```
Site      : 966 chamber 1
Condition: PART 27(B13) Horizontal
Remark    : LTE_Band 13_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	1559.00	-47.02	-53.88	6.86	-40.00	-7.02	Peak
2	2338.50	-46.55	-57.51	10.96	-13.00	-33.55	Peak
3	3118.00	-45.63	-59.15	13.52	-13.00	-32.63	Peak
4	3897.50	-50.67	-67.52	16.85	-13.00	-37.67	Peak

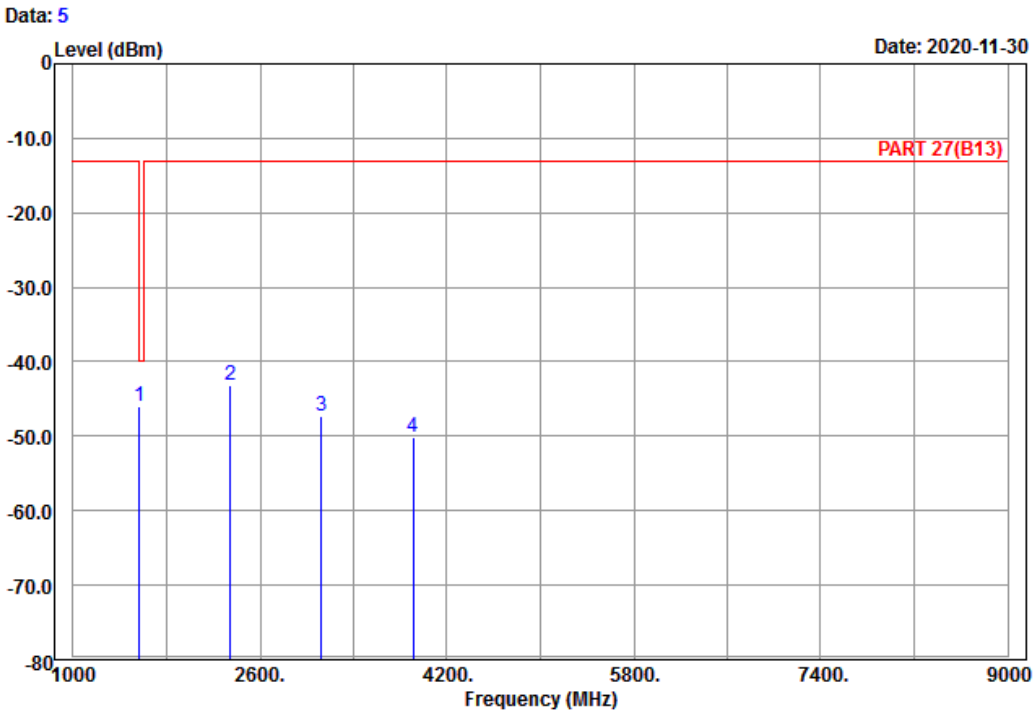


Site : 966 chamber 1
Condition: PART 27(B13) Vertical
Remark : LTE_Band 13_Link_L-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1559.00	-46.35	-53.21	6.86	-40.00	-6.35	Peak
2	2338.50	-50.29	-61.25	10.96	-13.00	-37.29	Peak
3	3118.00	-48.94	-62.46	13.52	-13.00	-35.94	Peak

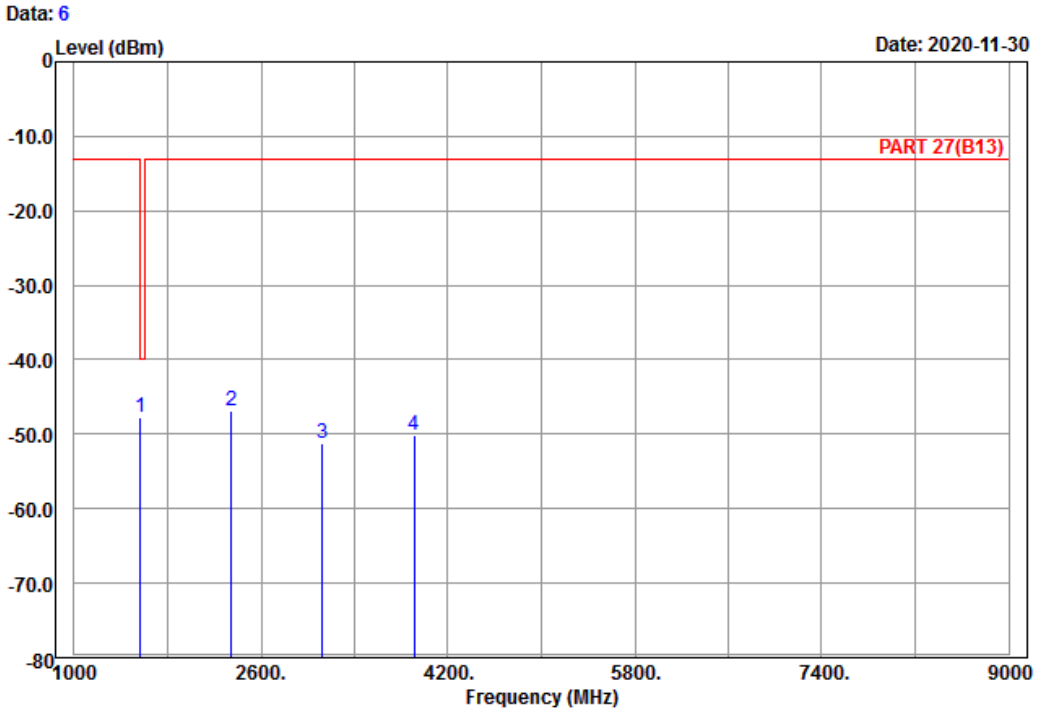
Middle Channel

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 chamber 1
Condition: PART 27(B13) Horizontal
Remark : LTE_Band 13_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	1564.00	-45.90	-52.76	6.86	-40.00	-5.90	Peak
2	2346.00	-43.25	-54.19	10.94	-13.00	-30.25	Peak
3	3128.00	-47.30	-60.82	13.52	-13.00	-34.30	Peak
4	3910.00	-50.13	-67.07	16.94	-13.00	-37.13	Peak



Site : 966 chamber 1
Condition: PART 27(B13) Vertical
Remark : LTE_Band 13_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	1564.00	-47.69	-54.55	6.86	-40.00	-7.69	Peak
2		2346.00	-46.78	-57.72	10.94	-13.00	-33.78	Peak
3		3128.00	-51.12	-64.64	13.52	-13.00	-38.12	Peak
4		3910.00	-50.22	-67.16	16.94	-13.00	-37.22	Peak

High Channel

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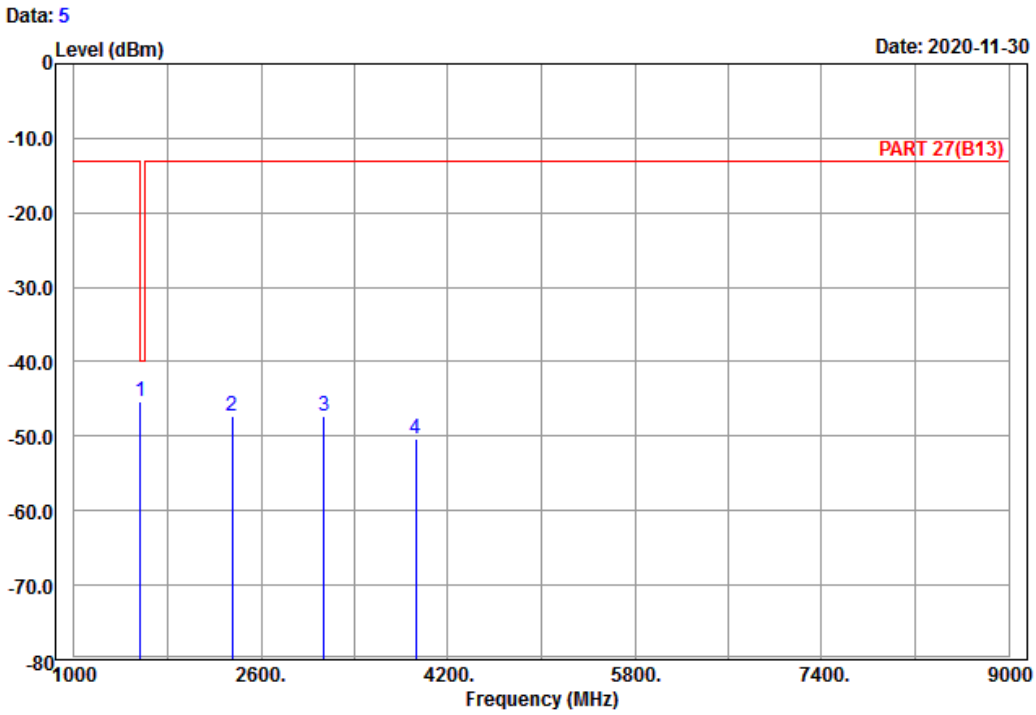
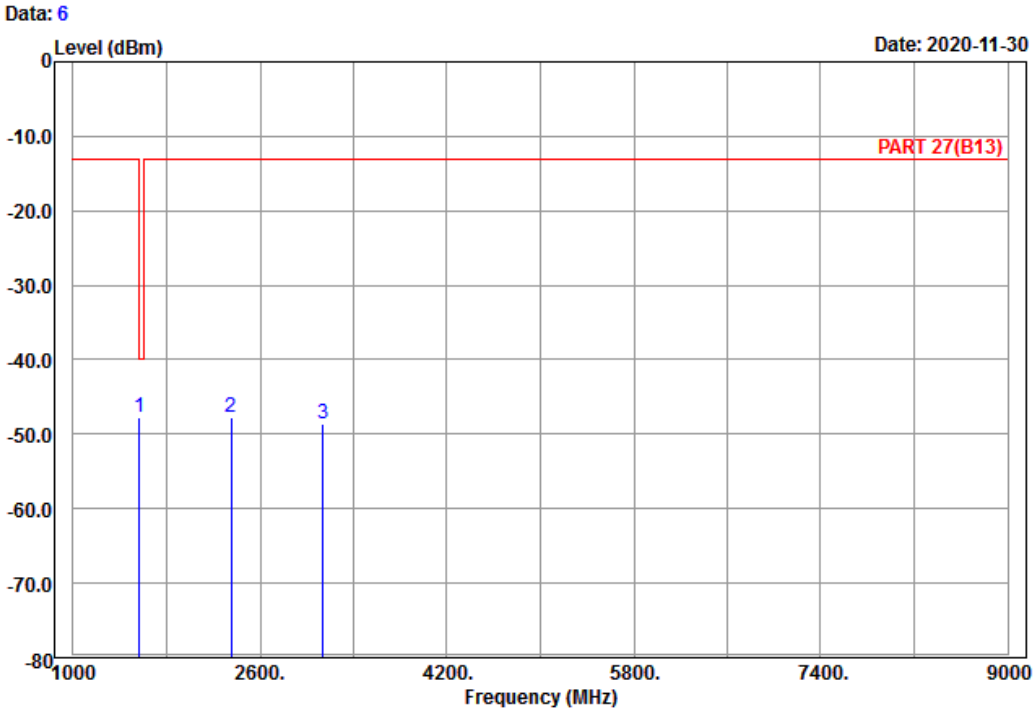


Site : 966 chamber 1
Condition: PART 27(B13) Horizontal
Remark : LTE_Band 13_Link_H-Ch
Tested by: Karl Lee

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBm	dBm	dB	dBm	dB	
1 pp	1569.00	-45.42	-52.46	7.04	-40.00	-5.42	Peak
2	2353.50	-47.38	-58.32	10.94	-13.00	-34.38	Peak
3	3138.00	-47.41	-61.01	13.60	-13.00	-34.41	Peak
4	3922.50	-50.40	-67.34	16.94	-13.00	-37.40	Peak



Site : 966 chamber 1
Condition: PART 27(B13) Vertical
Remark : LTE_Band 13_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	1569.00	-47.76	-54.80	7.04	-40.00	-7.76	Peak
2		2353.50	-47.82	-58.76	10.94	-13.00	-34.82	Peak
3		3138.00	-48.66	-62.26	13.60	-13.00	-35.66	Peak

Channel Bandwidth: 10 MHz / QPSK
Middle Channel

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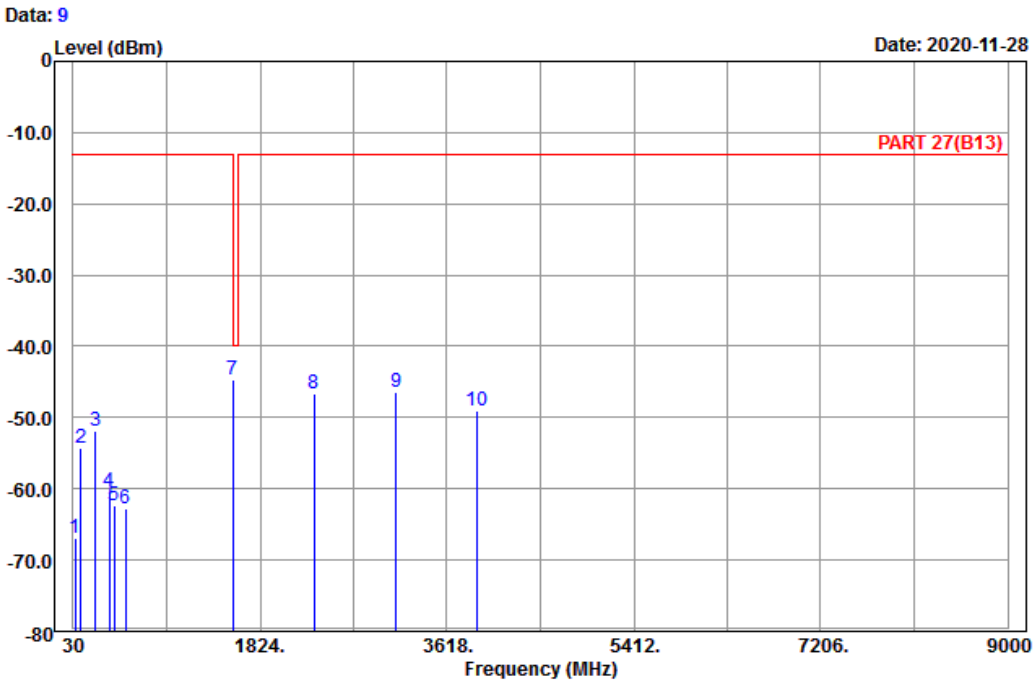
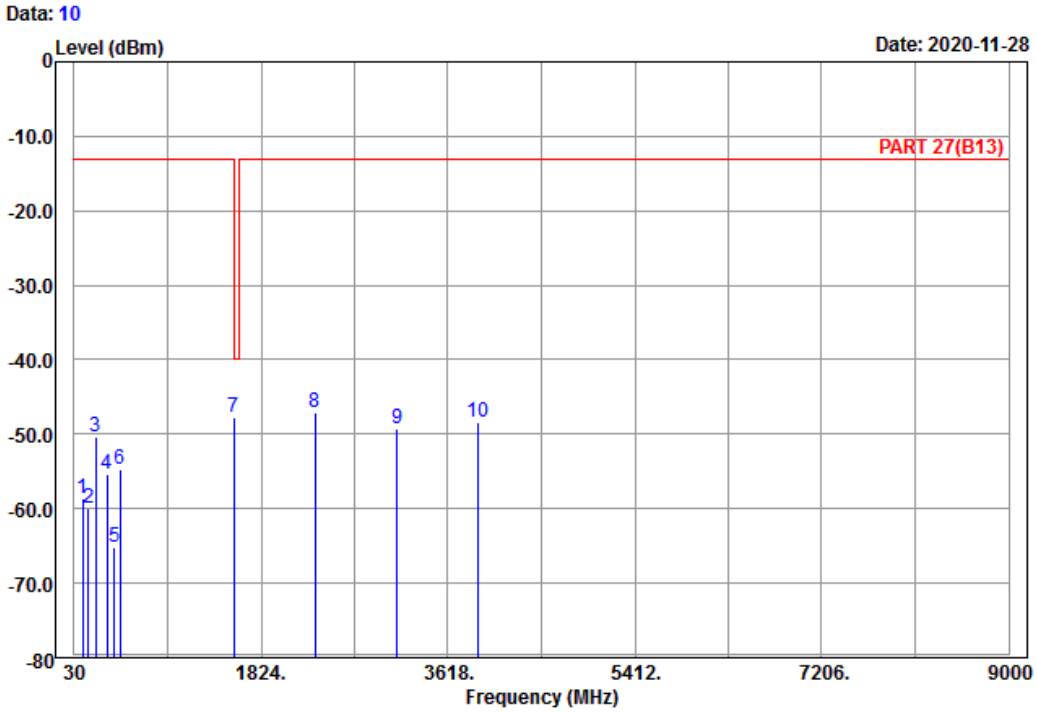


Site : 966 chamber 1
Condition: PART 27(B13) Horizontal
Remark : LTE_Band 13_Link_M-Ch
Tested by: Karl Lee

		Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
		MHz	dBm	dBm	dB	dBm	dB	
1		48.63	-66.91	-53.48	-13.43	-13.00	-53.91	Peak
2		106.41	-54.38	-45.08	-9.30	-13.00	-41.38	Peak
3		241.68	-51.81	-46.19	-5.62	-13.00	-38.81	Peak
4		377.70	-60.32	-56.39	-3.93	-13.00	-47.32	Peak
5		422.50	-62.40	-59.15	-3.25	-13.00	-49.40	Peak
6		536.60	-62.71	-60.05	-2.66	-13.00	-49.71	Peak
7	pp	1564.00	-44.69	-51.55	6.86	-40.00	-4.69	Peak
8		2344.00	-46.56	-57.50	10.94	-13.00	-33.56	Peak
9		3127.00	-46.34	-59.86	13.52	-13.00	-33.34	Peak
10		3910.00	-49.02	-65.96	16.94	-13.00	-36.02	Peak



Site : 966 chamber 1
Condition: PART 27(B13) Vertical
Remark : LTE_Band 13_Link_M-Ch
Tested by: Karl Lee

		Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark
		MHz	dBm	dBm	dB	dBm	dB	
1		109.65	-58.62	-49.67	-8.95	-13.00	-45.62	Peak
2		166.62	-60.01	-53.02	-6.99	-13.00	-47.01	Peak
3		236.28	-50.37	-44.68	-5.69	-13.00	-37.37	Peak
4		349.70	-55.37	-49.99	-5.38	-13.00	-42.37	Peak
5		419.70	-65.25	-62.06	-3.19	-13.00	-52.25	Peak
6		470.80	-54.61	-50.18	-4.43	-13.00	-41.61	Peak
7	pp	1564.00	-47.68	-54.54	6.86	-40.00	-7.68	Peak
8		2344.00	-47.16	-58.10	10.94	-13.00	-34.16	Peak
9		3130.00	-49.19	-62.71	13.52	-13.00	-36.19	Peak
10		3910.00	-48.36	-65.30	16.94	-13.00	-35.36	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:

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Web Site: www.bureauveritas-adt.com

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

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