

FCC TEST REPORT

(PART 27)

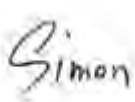
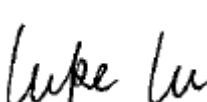
Applicant:	MUNIC
Address:	100 Avenue de Stalingrad 94800 Villejuif – France

Manufacturer or Supplier:	MUNIC
Address:	100 Avenue de Stalingrad 94800 Villejuif – France
Product:	telematics embedded system
Brand Name:	MUNIC
Model Name:	C4D-4G4USAC_V8+
FCC ID:	A6GC4D-4G4USV8-3
Date of tests:	May. 20, 2022 ~ Jun. 15, 2022

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

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

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
 Date: Jun. 15, 2022	 Date: Jun. 15, 2022

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Test Report No.: W7L-P22050013RF03

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P22050013RF03	Original release	Jun. 15, 2022

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2		
STANDARD SECTION	TEST TYPE	RESULT
§2.1046	Coducted Output Power	Compliance
§27.50(b)(10) §27.50(c)(10)	Equivalent Radiated Power (Band12) (Band71)	Compliance
§27.50(d)(4) §27.50(h)(2)	Equivalent Isotropically Radiated Power (Band4) (Band66)	Compliance
§2.1055 §27.54	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6)	Band Edge Measurements	Compliance
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6)	Conducted Spurious Emissions	Compliance
§2.1053 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6)	Radiated Spurious Emissions	Compliance
NA	Peak to average ratio	Compliance

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

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 18,22	Feb. 17,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.05,21	Sep.04,22
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Mar. 06,22	Mar. 05,23
Horn Antenna	ETS-LINDGRE N	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 15,22	Feb. 14,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 21,22	Feb.20,23
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn- CT0001143-121 6	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 07,22	May. 06,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
Power Sensor	Anritsu	MA2411B	1339352	May. 07,22	May. 06,23
Temperature Chamber	ESPEC	SH-242	93000855	May. 12,22	May. 11,23
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 18,22	Feb. 17,23
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.12,22	May.11,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 25,21	Aug. 24,22

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	telematics embedded system	
BRAND NAME	MUNIC	
MODEL NAME	C4D-4G4USAC_V8+	
NOMINAL VOLTAGE	DC13.7V	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM
FREQUENCY RANGE	LTE Band 4 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1754.3MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	LTE Band 12 Channel Bandwidth: 1.4MHz	699.7MHz ~ 715.3MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~ 1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~ 1777.5MHz
	LTE Band 66 Channel Bandwidth: 10MHz	1715MHz ~ 1775MHz
	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720MHz ~ 1770MHz
	LTE Band 71 Channel Bandwidth: 5MHz	665.5MHz ~ 695.5MHz

FREQUENCY RANGE	LTE Band 71 Channel Bandwidth: 10MHz	668MHz ~ 693MHz
	LTE Band 71 Channel Bandwidth: 15MHz	670.5MHz ~ 690.5MHz
	LTE Band 71 Channel Bandwidth: 20MHz	673MHz ~ 688MHz
EMISSION DESIGNATOR	LTE Band 4 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D 16QAM: 1M09W7D
	LTE Band 4 Channel Bandwidth: 3MHz	QPSK: 2M70G7D 16QAM: 2M70W7D
	LTE Band 4 Channel Bandwidth: 5MHz	QPSK: 4M50G7D 16QAM: 4M51W7D
	LTE Band 4 Channel Bandwidth: 10MHz	QPSK: 8M97G7D 16QAM: 8M96W7D
	LTE Band 4 Channel Bandwidth: 15MHz	QPSK: 13M4G7D 16QAM: 13M4W7D
	LTE Band 4 Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 17M9W7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D 16QAM: 1M09W7D
	LTE Band 12 Channel Bandwidth: 3MHz	QPSK: 2M70G7D 16QAM: 2M70W7D
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M51G7D 16QAM: 4M51W7D
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 8M98G7D 16QAM: 8M97W7D
	LTE Band 66 Channel Bandwidth: 1.4MHz	QPSK: 1M11G7D 16QAM: 1M10W7D
	LTE Band 66 Channel Bandwidth: 3MHz	QPSK: 2M72G7D 16QAM: 2M71W7D
	LTE Band 66 Channel Bandwidth: 5MHz	QPSK: 4M51G7D 16QAM: 4M50W7D
	LTE Band 66 Channel Bandwidth: 10MHz	QPSK: 8M97G7D 16QAM: 8M96W7D
	LTE Band 66 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 13M5W7D
	LTE Band 66 Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 17M9W7D
	LTE Band 71 Channel Bandwidth: 5MHz	QPSK: 4M50G7D 16QAM: 4M50W7D
	LTE Band 71	QPSK: 8M97G7D

EMISSION DESIGNATOR	Channel Bandwidth: 10MHz	16QAM: 8M97W7D
	LTE Band 71 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 13M5W7D
	CLTE Band 71 Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 17M9W7D
MAX. EIRP or EPR	LTE Band 4 Channel Bandwidth: 1.4MHz	711.21mW
	LTE Band 4 Channel Bandwidth: 3MHz	691.83mW
	LTE Band 4 Channel Bandwidth: 5MHz	687.07mW
	LTE Band 4 Channel Bandwidth: 10MHz	691.83mW
	LTE Band 4 Channel Bandwidth: 15MHz	688.65mW
	LTE Band 4 Channel Bandwidth: 20MHz	695.02mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	530.88mW
	LTE Band 12 Channel Bandwidth: 3MHz	530.88mW
	LTE Band 12 Channel Bandwidth: 5MHz	530.88mW
	LTE Band 12 Channel Bandwidth: 10MHz	533.33mW
	LTE Band 66 Channel Bandwidth: 1.4MHz	760.33mW
	LTE Band 66 Channel Bandwidth: 3MHz	767.36mW
	LTE Band 66 Channel Bandwidth: 5MHz	756.83mW
	LTE Band 66 Channel Bandwidth: 10MHz	756.83mW
	LTE Band 66 Channel Bandwidth: 15MHz	762.08mW
	LTE Band 66 Channel Bandwidth: 20MHz	770.90mW
	LTE Band 71 Channel Bandwidth: 5MHz	468.81mW
	LTE Band 71 Channel Bandwidth: 10MHz	469.89mW
	LTE Band 71 Channel Bandwidth: 15MHz	465.59mW
	LTE Band 71 Channel Bandwidth: 20MHz	470.98mW

ANTENNA TYPE	Fixed Internal Antenna with 5.54 dBi gain for LTE4 Fixed Internal Antenna with 5.54 dBi gain for LTE12 Fixed Internal Antenna with 5.54 dBi gain for LTE66 Fixed Internal Antenna with 5.54 dBi gain for LTE71
HW VERSION	HW.01
SW VERSION	SW.01
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A
EXTREME TEMPERATURE	-20-50 °C
EXTREME VOLTAGE	DC8V - DC18V

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

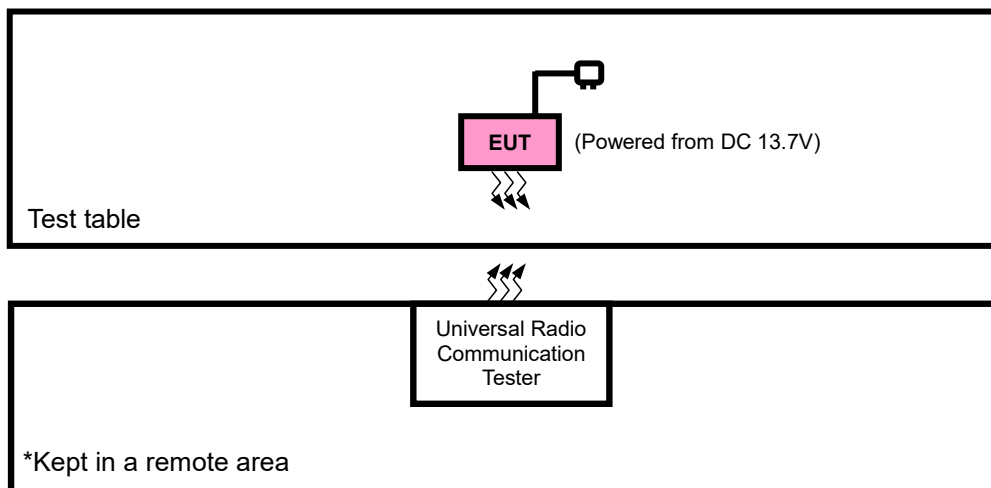
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

List of Accessory:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
Battery	Howell	352535H	Capacity : Li-ion, 270mAh

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

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

2.4 TEST ITEM AND TEST CONFIGURATION

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 on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + DC Source with LTE link

LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	BAND EDGE	19957 to 20393	19957	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
		19965 to 20385	20393	1.4MHz	QPSK, 16QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		19975 to 20375	19965	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
		20000 to 20350	20385	3MHz	QPSK, 16QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		20025 to 20325	19975	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
		20050 to 20300	20375	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20000 to 20350	20000	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
		20025 to 20325	20350	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset

A	BAND EDGE	20025 to 20325	20025	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
		20050 to 20300	20325	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
			20050	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
A	CONDUCTED EMISSION	20050 to 20300	20300	20MHz	QPSK, 16QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
		19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	20175	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 12 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	BAND EDGE	23017 to 23173	23017	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
		23025 to 23165	23173	1.4MHz	QPSK,16QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		23035 to 23155	23025	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
		23060 to 23130	23165	3MHz	QPSK,16QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		23017 to 23173	23035	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
		23025 to 23165	23155	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
A	CONDUCTED EMISSION	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23095	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 66 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	BAND EDGE	131979 to 132322	131979	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			132322	1.4MHz	QPSK,16QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		131987 to 132657	131987	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			132657	3MHz	QPSK,16QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		131987 to 132657	131987	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			132657	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		131997 to 132647	131997	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			132647	10MHz	QPSK,16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		132047 to 132597	132047	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			132597	15MHz	QPSK,16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		132072 to 132572	132072	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset

			132572	20MHz	QPSK,16QAM	1 RB / 99 RB Offset 100 RB / 0 RB Offset
A	CONDUCTED EMISSION	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	131979 to 132665	132322	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	132322	3MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	132322	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132322	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132322	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 71 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	133147 to 133447	133147, 133247, 133447	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133172 to 133422	133172, 133272, 133422	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	133147 to 133447	133147, 133247, 133447	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		133172 to 133172	133172, 133272, 133172	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	133147 to 133447	133147, 133247, 133447	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		133172 to 133172	133172, 133272, 133172	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	BAND EDGE	133147 to 133447	133147	5MHz	QPSK,16QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			133447	5MHz	QPSK,16QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		133172 to 133172	133172	10MHz	QPSK,16QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
			133172	10MHz	QPSK,16QAM	1 RB / 49 RB Offset 50 RB / 0 RB Offset
		133197 to 133397	133197	15MHz	QPSK,16QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset
			133397	15MHz	QPSK,16QAM	1 RB / 74 RB Offset 75 RB / 0 RB Offset
		133222 to 133372	133222	20MHz	QPSK,16QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
			133372	20MHz	QPSK,16QAM	1 RB / 99 RB Offset 100 RB / 0 RB Offset
		133147 to 133447	133147, 133247, 133447	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
			133147, 133247, 133447	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133172 to 133172	133172, 133272, 133172	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
			133172, 133272, 133172	10MHz	QPSK,16QAM	1 RB / 0 RB Offset



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		133172 to 133172	133172, 133272, 133172	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	133147 to 133447	133247	5MHz	QPSK	1 RB / 0 RB Offset
		133172 to 133172	133172, 133272, 133422	10MHz	QPSK	1 RB / 0 RB Offset
		133197 to 133397	133297	15MHz	QPSK	1 RB / 0 RB Offset
		133222 to 133372	133322	20MHz	QPSK	1 RB / 0 RB Offset

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



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TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 13.7V	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 13.7V	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 13.7V	James Fu
BAND EDGE	23deg. C, 70%RH	DC 13.7V	James Fu
CONDUCTED EMISSION	23deg. C, 70%RH	DC 13.7V	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 13.7V	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 13.7V	James Fu



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2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

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

According to the specific rule Part 27.50(b)(10) and 27.50(c)(10) Fixed, mobile, and Portable stations (hand-held devices) transmitting in the 698-746 MHz, 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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



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3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band 4

Band/BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393	MPR
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz	
4/ 1.4	QPSK	1	0	22.55	22.45	22.62	0
		1	2	22.81	22.64	22.86	0
		1	5	22.48	22.29	22.56	0
		3	0	22.92	22.74	22.98	0
		3	1	22.86	22.71	22.91	0
		3	3	22.86	22.65	22.89	0
		6	0	21.68	21.50	21.70	1
	16QAM	1	0	21.86	21.68	21.94	1
		1	2	21.98	21.81	22.07	1
		1	5	21.85	21.61	21.96	1
		3	0	21.71	21.59	21.79	1
		3	1	21.68	21.57	21.78	1
		3	3	21.81	21.61	21.83	1
		6	0	20.70	20.62	20.79	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385	MPR
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz	
4/ 3	QPSK	1	0	22.57	22.42	22.62	0
		1	7	22.77	22.65	22.86	0
		1	14	22.42	22.34	22.55	0
		8	0	21.90	21.81	21.98	1
		8	3	21.83	21.68	21.91	1
		8	7	21.83	21.72	21.93	1
		15	0	21.64	21.51	21.68	1
	16QAM	1	0	21.89	21.67	21.98	1
		1	7	21.92	21.85	22.04	1
		1	14	21.87	21.63	21.95	1
		8	0	20.73	20.57	20.79	2
		8	3	20.70	20.50	20.81	2
		8	7	20.84	20.64	20.76	2
		15	0	20.71	20.56	20.78	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375	MPR
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz	
4/ 5	QPSK	1	0	22.58	22.41	22.66	0
		1	12	22.80	22.65	22.83	0
		1	24	22.42	22.35	22.56	0
		12	0	21.94	21.77	21.99	1
		12	6	21.81	21.71	21.94	1
		12	13	21.84	21.68	21.93	1
		25	0	21.61	21.54	21.67	1
	16QAM	1	0	21.89	21.67	21.97	1
		1	12	21.92	21.83	22.01	1
		1	24	21.84	21.67	21.91	1
		12	0	20.68	20.59	20.82	2
		12	6	20.70	20.51	20.78	2
		12	13	20.78	20.61	20.82	2
		25	0	20.68	20.62	20.78	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350	MPR
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz	
4/ 10	QPSK	1	0	22.55	22.45	22.62	0
		1	24	22.81	22.64	22.86	0
		1	49	22.48	22.29	22.56	0
		25	0	21.92	21.74	21.98	1
		25	12	21.86	21.71	21.91	1
		25	25	21.84	21.65	21.89	1
		50	0	21.66	21.50	21.70	1
	16QAM	1	0	21.89	21.68	21.94	1
		1	24	21.94	21.81	22.07	1
		1	49	21.88	21.61	21.96	1
		25	0	20.67	20.60	20.79	2
		25	12	20.74	20.50	20.82	2
		25	25	20.77	20.62	20.79	2
		50	0	20.73	20.58	20.82	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325	MPR
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz	
4/ 15	QPSK	1	0	22.59	22.46	22.61	0
		1	37	22.82	22.69	22.84	0
		1	74	22.44	22.31	22.60	0
		36	0	21.97	21.80	21.95	1
		36	19	21.79	21.66	21.97	1
		36	39	21.90	21.69	21.92	1
		75	0	21.66	21.55	21.66	1
	16QAM	1	0	21.87	21.70	21.97	1
		1	37	21.94	21.87	22.06	1
		1	74	21.88	21.61	21.96	1
		36	0	20.67	20.60	20.79	2
		36	19	20.73	20.52	20.81	2
		36	39	20.84	20.61	20.76	2
		75	0	20.70	20.61	20.80	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300	MPR
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz	
4/ 20	QPSK	1	0	22.63	22.49	22.67	0
		1	50	22.84	22.70	22.88	0
		1	99	22.50	22.36	22.61	0
		50	0	21.98	21.82	22.00	1
		50	25	21.87	21.73	21.99	1
		50	50	21.91	21.73	21.95	1
		100	0	21.69	21.56	21.72	1
	16QAM	1	0	21.91	21.75	21.99	1
		1	50	22.00	21.89	22.09	1
		1	99	21.90	21.69	21.97	1
		50	0	20.75	20.64	20.84	2
		50	25	20.76	20.58	20.83	2
		50	50	20.85	20.66	20.84	2
		100	0	20.76	20.64	20.84	2



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LTE Band 12

Band/BW	Modulation	RB Size	RB Offset	Low CH 23017	Mid CH 23095	High CH 23173	MPR
				Frequency 699.7 MHz	Frequency 707.5 MHz	Frequency 715.3 MHz	
12/ 1.4	QPSK	1	0	23.64	23.62	23.77	0
		1	2	23.75	23.62	23.86	0
		1	5	23.59	23.47	23.70	0
		3	0	23.68	23.61	23.81	0
		3	1	23.66	23.61	23.72	0
		3	3	23.60	23.52	23.72	0
		6	0	22.74	22.69	22.84	1
	16QAM	1	0	22.47	22.43	22.62	1
		1	2	23.10	23.06	23.23	1
		1	5	22.84	22.71	22.98	1
		3	0	22.74	22.71	22.83	1
		3	1	22.66	22.73	22.79	1
		3	3	22.64	22.61	22.82	1
		6	0	21.79	21.78	21.91	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 23025	Mid CH 23095	High CH 23165	MPR
				Frequency 700.5 MHz	Frequency 707.5 MHz	Frequency 714.5 MHz	
12/ 3	QPSK	1	0	23.66	23.64	23.76	0
		1	7	23.71	23.63	23.86	0
		1	14	23.55	23.47	23.70	0
		8	0	22.67	22.64	22.81	1
		8	3	22.59	22.68	22.74	1
		8	7	22.57	22.59	22.76	1
		15	0	22.71	22.70	22.78	1
	16QAM	1	0	22.44	22.49	22.65	1
		1	7	23.07	23.09	23.21	1
		1	14	22.87	22.71	22.98	1
		8	0	21.70	21.72	21.83	2
		8	3	21.71	21.68	21.82	2
		8	7	21.66	21.59	21.78	2
		15	0	21.79	21.72	21.94	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 23035	Mid CH 23095	High CH 23155	MPR
				Frequency 701.5 MHz	Frequency 707.5 MHz	Frequency 713.5 MHz	
12/ 5	QPSK	1	0	23.67	23.59	23.77	0
		1	12	23.76	23.60	23.86	0
		1	24	23.56	23.46	23.74	0
		12	0	22.70	22.64	22.78	1
		12	6	22.59	22.69	22.75	1
		12	13	22.61	22.55	22.77	1
		25	0	22.69	22.73	22.81	1
	16QAM	1	0	22.45	22.45	22.65	1
		1	12	23.04	23.12	23.20	1
		1	24	22.87	22.71	22.97	1
		12	0	21.70	21.70	21.80	2
		12	6	21.68	21.72	21.78	2
		12	13	21.61	21.61	21.81	2
		25	0	21.79	21.73	21.91	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 23060	Mid CH 23095	High CH 23130	MPR
				Frequency 704 MHz	Frequency 707.5 MHz	Frequency 711 MHz	
12/ 10	QPSK	1	0	23.72	23.66	23.82	0
		1	24	23.78	23.68	23.88	0
		1	49	23.61	23.54	23.75	0
		25	0	22.74	22.69	22.83	1
		25	12	22.67	22.70	22.80	1
		25	25	22.65	22.60	22.78	1
		50	0	22.75	22.75	22.86	1
	16QAM	1	0	22.52	22.50	22.67	1
		1	24	23.12	23.14	23.25	1
		1	49	22.89	22.79	22.99	1
		25	0	21.78	21.76	21.88	2
		25	12	21.74	21.74	21.84	2
		25	25	21.68	21.66	21.83	2
		50	0	21.85	21.80	21.96	2

LTE Band 66

Band/BW	Modulation	RB Size	RB Offset	Low CH 131979	Mid CH 132322	High CH 132665	MPR
				Frequency 1710.7MHz	Frequency 1745MHz	Frequency 1779.3MHz	
66/ 1.4	QPSK	1	0	22.72	23.05	22.76	0
		1	2	23.03	23.27	23.10	0
		1	5	23.00	23.19	22.99	0
		3	0	22.95	23.11	23.05	0
		3	1	22.78	23.08	22.74	0
		3	3	22.59	22.88	22.65	0
		6	0	21.88	22.07	21.84	1
	16QAM	1	0	21.81	22.11	21.88	1
		1	2	21.90	22.09	21.92	1
		1	5	21.80	21.96	21.86	1
		3	0	21.92	22.20	21.95	1
		3	1	21.71	22.00	21.76	1
		3	3	21.71	21.90	21.72	1
		6	0	20.85	21.12	20.91	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 131987	Mid CH 132322	High CH 132657	MPR
				Frequency 1711.5MHz	Frequency 1745MHz	Frequency 1778.5MHz	
66/ 3	QPSK	1	0	22.74	23.04	22.80	0
		1	7	23.05	23.31	23.07	0
		1	14	22.94	23.19	23.02	0
		8	0	22.00	22.24	22.04	1
		8	3	21.76	22.09	21.76	1
		8	7	21.60	21.91	21.69	1
		15	0	21.83	22.11	21.83	1
	16QAM	1	0	21.84	22.10	21.92	1
		1	7	21.84	22.13	21.89	1
		1	14	21.82	21.98	21.85	1
		8	0	20.95	21.20	20.92	2
		8	3	20.73	20.98	20.77	2
		8	7	20.73	20.88	20.68	2
		15	0	20.85	21.06	20.94	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 131997	Mid CH 132322	High CH 132647	MPR
				Frequency 1712.5MHz	Frequency 1745MHz	Frequency 1777.5MHz	
66/ 5	QPSK	1	0	22.75	23.02	22.76	0
		1	12	23.04	23.25	23.10	0
		1	24	22.97	23.18	23.03	0
		12	0	21.97	22.23	22.02	1
		12	6	21.71	22.09	21.77	1
		12	13	21.60	21.91	21.70	1
		25	0	21.83	22.11	21.81	1
	16QAM	1	0	21.79	22.13	21.91	1
		1	12	21.84	22.15	21.89	1
		1	24	21.83	21.96	21.85	1
		12	0	20.88	21.19	20.92	2
		12	6	20.73	20.99	20.75	2
		12	13	20.68	20.90	20.71	2
		25	0	20.85	21.07	20.91	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 132022	Mid CH 132322	High CH 132622	MPR
				Frequency 1715MHz	Frequency 1745MHz	Frequency 1775MHz	
66/ 10	QPSK	1	0	22.72	23.05	22.76	0
		1	24	23.04	23.25	23.11	0
		1	49	22.94	23.22	22.99	0
		25	0	21.98	22.22	22.05	1
		25	12	21.77	22.03	21.77	1
		25	25	21.58	21.88	21.69	1
		50	0	21.88	22.11	21.78	1
	16QAM	1	0	21.79	22.10	21.87	1
		1	24	21.89	22.11	21.92	1
		1	49	21.83	21.97	21.82	1
		25	0	20.90	21.17	20.98	2
		25	12	20.77	20.93	20.80	2
		25	25	20.67	20.91	20.68	2
		50	0	20.89	21.06	20.95	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 132072	Mid CH 132322	High CH 132572	MPR
				Frequency 1717.5MHz	Frequency 1745MHz	Frequency 1772.5MHz	
66/ 15	QPSK	1	0	22.74	23.07	22.75	0
		1	37	22.99	23.28	23.10	0
		1	74	22.96	23.19	22.99	0
		36	0	21.94	22.23	22.05	1
		36	19	21.71	22.08	21.76	1
		36	39	21.56	21.95	21.69	1
		75	0	21.85	22.08	21.78	1
	16QAM	1	0	21.78	22.17	21.91	1
		1	37	21.87	22.12	21.90	1
		1	74	21.83	21.96	21.86	1
		36	0	20.88	21.21	20.95	2
		36	19	20.76	20.95	20.79	2
		36	39	20.73	20.88	20.68	2
		75	0	20.85	21.06	20.94	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 132072	Mid CH 132322	High CH 132572	MPR
				Frequency 1720MHz	Frequency 1745MHz	Frequency 1770MHz	
66/ 20	QPSK	1	0	22.80	23.09	22.81	0
		1	50	23.06	23.33	23.12	0
		1	99	23.02	23.26	23.04	0
		50	0	22.01	22.28	22.07	1
		50	25	21.79	22.10	21.82	1
		50	50	21.64	21.96	21.71	1
		100	0	21.89	22.13	21.86	1
	16QAM	1	0	21.86	22.18	21.93	1
		1	50	21.92	22.17	21.94	1
		1	99	21.85	22.04	21.87	1
		50	0	20.96	21.25	21.00	2
		50	25	20.79	21.01	20.81	2
		50	50	20.75	20.95	20.73	2
		100	0	20.91	21.14	20.96	2

LTE Band 71

Band/BW	Modulation	RB Size	RB Offset	Low CH 133147	Mid CH 133247	High CH 133447	MPR
				Frequency 665.5MHz	Frequency 675.5MHz	Frequency 695.5MHz	
71/ 5	QPSK	1	0	22.61	22.74	22.93	0
		1	12	23.09	23.16	23.32	0
		1	24	22.53	22.65	22.90	0
		12	0	21.64	21.74	21.88	1
		12	6	21.69	21.92	21.96	1
		12	13	21.96	22.08	22.28	1
		25	0	21.78	22.00	22.09	1
	16QAM	1	0	21.72	21.82	22.05	1
		1	12	21.98	22.22	22.31	1
		1	24	21.94	21.99	22.22	1
		12	0	20.65	20.77	20.85	2
		12	6	20.73	20.94	21.02	2
		12	13	20.69	20.80	20.98	2
		25	0	20.75	20.86	21.07	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 133172	Mid CH 133272	High CH 133172	MPR
				Frequency 668MHz	Frequency 678MHz	Frequency 693MHz	
71/ 10	QPSK	1	0	22.58	22.77	22.93	0
		1	24	23.09	23.16	23.33	0
		1	49	22.50	22.69	22.86	0
		25	0	21.65	21.73	21.91	1
		25	12	21.75	21.86	21.96	1
		25	25	21.94	22.05	22.27	1
		50	0	21.83	22.00	22.06	1
	16QAM	1	0	21.72	21.79	22.01	1
		1	24	22.03	22.18	22.34	1
		1	49	21.94	22.00	22.19	1
		25	0	20.67	20.75	20.91	2
		25	12	20.77	20.88	21.07	2
		25	25	20.68	20.81	20.95	2
		50	0	20.79	20.85	21.11	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 133197	Mid CH 133297	High CH 133397	MPR
				Frequency 670.5MHz	Frequency 680.5MHz	Frequency 690.5MHz	
71/ 15	QPSK	1	0	22.60	22.76	22.97	0
		1	37	23.10	23.22	23.29	0
		1	74	22.50	22.66	22.89	0
		36	0	21.67	21.75	21.90	1
		36	19	21.74	21.92	21.95	1
		36	39	21.96	22.08	22.27	1
		75	0	21.78	22.00	22.11	1
	16QAM	1	0	21.77	21.79	22.06	1
		1	37	21.98	22.20	22.31	1
		1	74	21.93	22.01	22.22	1
		36	0	20.72	20.78	20.85	2
		36	19	20.73	20.93	21.04	2
		36	39	20.74	20.78	20.95	2
		75	0	20.75	20.85	21.10	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 133222	Mid CH 133322	High CH 133372	MPR
				Frequency 673MHz	Frequency 683MHz	Frequency 688MHz	
71/ 20	QPSK	1	0	22.66	22.81	22.98	0
		1	50	23.11	23.24	23.34	0
		1	99	22.58	22.73	22.91	0
		50	0	21.68	21.79	21.93	1
		50	25	21.77	21.93	22.01	1
		50	50	22.00	22.13	22.29	1
		100	0	21.84	22.02	22.14	1
	16QAM	1	0	21.79	21.87	22.07	1
		1	50	22.06	22.24	22.36	1
		1	99	21.96	22.07	22.24	1
		50	0	20.73	20.83	20.93	2
		50	25	20.79	20.96	21.08	2
		50	50	20.76	20.85	21.00	2
		100	0	20.81	20.93	21.12	2

EIRP

LTE BAND 4

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	22.92	5.54	28.46	701.46	1
20175	1732.5	22.74	5.54	28.28	672.98	1
20393	1754.3	22.98	5.54	28.52	711.21	1

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	21.98	5.54	27.52	564.94	1
20175	1732.5	21.81	5.54	27.35	543.25	1
20393	1754.3	22.07	5.54	27.61	576.77	1

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	22.77	5.54	28.31	677.64	1
20175	1732.5	22.65	5.54	28.19	659.17	1
20385	1753.5	22.86	5.54	28.4	691.83	1

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	21.92	5.54	27.46	557.19	1
20175	1732.5	21.85	5.54	27.39	548.28	1
20385	1753.5	20.76	5.54	26.3	426.58	1

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	22.8	5.54	28.34	682.34	1
20175	1732.5	22.65	5.54	28.19	659.17	1
20375	1752.5	22.83	5.54	28.37	687.07	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	21.92	5.54	27.46	557.19	1
20175	1732.5	21.83	5.54	27.37	545.76	1
20375	1752.5	22.01	5.54	27.55	568.85	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	22.81	5.54	28.35	683.91	1
20175	1732.5	22.64	5.54	28.18	657.66	1
20350	1750	22.86	5.54	28.4	691.83	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	21.94	5.54	27.48	559.76	1
20175	1732.5	21.81	5.54	27.35	543.25	1
20350	1750	22.07	5.54	27.61	576.77	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	22.82	5.54	28.36	685.49	1
20175	1732.5	22.69	5.54	28.23	665.27	1
20325	1747.5	22.84	5.54	28.38	688.65	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	21.94	5.54	27.48	559.76	1
20175	1732.5	21.87	5.54	27.41	550.81	1
20325	1747.5	22.06	5.54	27.6	575.44	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	22.84	5.54	28.38	688.65	1
20175	1732.5	22.7	5.54	28.24	666.81	1
20300	1745	22.88	5.54	28.42	695.02	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	22	5.54	27.54	567.54	1
20175	1732.5	21.89	5.54	27.43	553.35	1
20300	1745	22.09	5.54	27.63	579.43	1

LTE BAND 12

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	23.75	5.54	27.14	517.61	3
23095	707.5	23.62	5.54	27.01	502.34	3
23173	715.3	23.86	5.54	27.25	530.88	3

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	23.1	5.54	26.49	445.66	3
23095	707.5	23.06	5.54	26.45	441.57	3
23173	715.3	23.23	5.54	26.62	459.2	3

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	23.71	5.54	27.1	512.86	3
23095	707.5	23.64	5.54	27.03	504.66	3
23165	714.5	23.86	5.54	27.25	530.88	3

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	23.07	5.54	26.46	442.59	3
23095	707.5	23.09	5.54	26.48	444.63	3
23165	714.5	23.21	5.54	26.6	457.09	3

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	23.76	5.54	27.15	518.8	3
23095	707.5	23.6	5.54	26.99	500.03	3
23155	713.5	23.86	5.54	27.25	530.88	3

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	23.04	5.54	26.43	439.54	3
23095	707.5	23.12	5.54	26.51	447.71	3
23155	713.5	23.2	5.54	26.59	456.04	3

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	23.78	5.54	27.17	521.19	3
23095	707.5	23.68	5.54	27.07	509.33	3
23130	711	23.88	5.54	27.27	533.33	3

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	23.12	5.54	26.51	447.71	3
23095	707.5	23.14	5.54	26.53	449.78	3
23130	711	23.25	5.54	26.64	461.32	3

REMARKS: ERP Output Power (dBm) = ERP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P22050013RF03

LTE BAND 66

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131979	1710.7	23.03	5.54	28.57	719.45	1
132322	1745	23.27	5.54	28.81	760.33	1
132665	1779.3	23.1	5.54	28.64	731.14	1

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131979	1710.7	21.92	5.54	27.46	557.19	1
132322	1745	22.2	5.54	27.74	594.29	1
132665	1779.3	21.95	5.54	27.49	561.05	1

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131987	1711.5	23.05	5.54	28.59	722.77	1
132322	1745	23.31	5.54	28.85	767.36	1
132657	1778.5	23.07	5.54	28.61	726.11	1

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131987	1711.5	21.84	5.54	27.38	547.02	1
132322	1745	22.13	5.54	27.67	584.79	1
132657	1778.5	21.92	5.54	27.46	557.19	1

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131997	1712.5	23.04	5.54	28.58	721.11	1
132322	1745	23.25	5.54	28.79	756.83	1
132647	1777.5	23.1	5.54	28.64	731.14	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131997	1712.5	21.84	5.54	27.38	547.02	1
132322	1745	22.15	5.54	27.69	587.49	1
132647	1777.5	21.91	5.54	27.45	555.9	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132022	1715	23.04	5.54	28.58	721.11	1
132322	1745	23.25	5.54	28.79	756.83	1
132622	1775	23.11	5.54	28.65	732.82	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132022	1715	21.89	5.54	27.43	553.35	1
132322	1745	22.11	5.54	27.65	582.1	1
132622	1775	21.92	5.54	27.46	557.19	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132047	1717.5	22.99	5.54	28.53	712.85	1
132322	1745	23.28	5.54	28.82	762.08	1
132597	1772.5	23.1	5.54	28.64	731.14	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132047	1717.5	21.87	5.54	27.41	550.81	1
132322	1745	22.17	5.54	27.71	590.2	1
132597	1772.5	21.91	5.54	27.45	555.9	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132072	1720	23.06	5.54	28.6	724.44	1
132322	1745	23.33	5.54	28.87	770.9	1
132572	1770	23.12	5.54	28.66	734.51	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132072	1720	21.92	5.54	27.46	557.19	1
132322	1745	22.18	5.54	27.72	591.56	1
132572	1770	21.94	5.54	27.48	559.76	1

LTE BAND 71

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	23.09	5.54	26.48	444.63	1
133247	675.5	23.16	5.54	26.55	451.86	1
133447	695.5	23.32	5.54	26.71	468.81	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	21.98	5.54	25.37	344.35	1
133247	675.5	22.22	5.54	25.61	363.92	1
133447	695.5	22.31	5.54	25.7	371.54	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	23.09	5.54	26.48	444.63	1
133272	678	23.16	5.54	26.55	451.86	1
133422	693	23.33	5.54	26.72	469.89	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	22.03	5.54	25.42	348.34	1
133272	678	22.18	5.54	25.57	360.58	1
133422	693	22.34	5.54	25.73	374.11	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	23.1	5.54	26.49	445.66	1
133297	680.5	23.22	5.54	26.61	458.14	1
133397	690.5	23.29	5.54	26.68	465.59	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	21.98	5.54	25.37	344.35	1
133297	680.5	22.2	5.54	25.59	362.24	1
133397	690.5	22.31	5.54	25.7	371.54	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	23.11	5.54	26.5	446.68	1
133322	683	23.24	5.54	26.63	460.26	1
133372	688	23.34	5.54	26.73	470.98	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	22.06	5.54	25.45	350.75	1
133322	683	22.24	5.54	25.63	365.59	1
133372	688	22.36	5.54	25.75	375.84	1

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

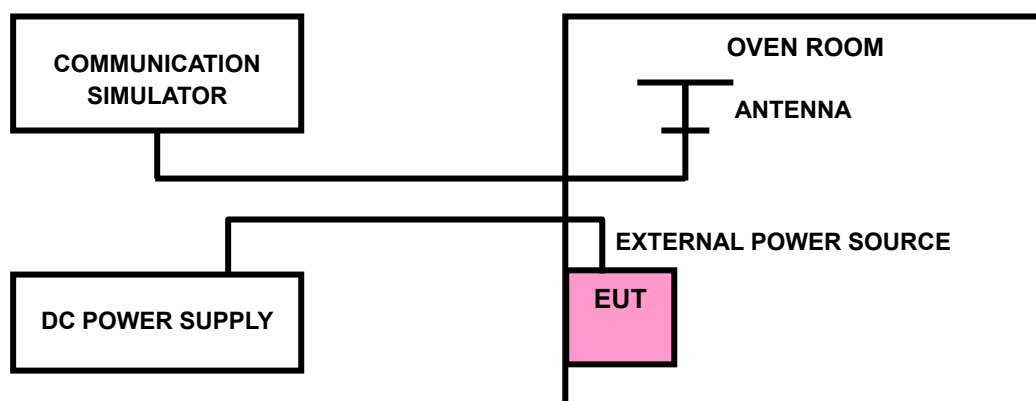
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ 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.

3.2.3 TEST SETUP





Test Report No.: W7L-P22050013RF03

3.2.4 TEST RESULTS

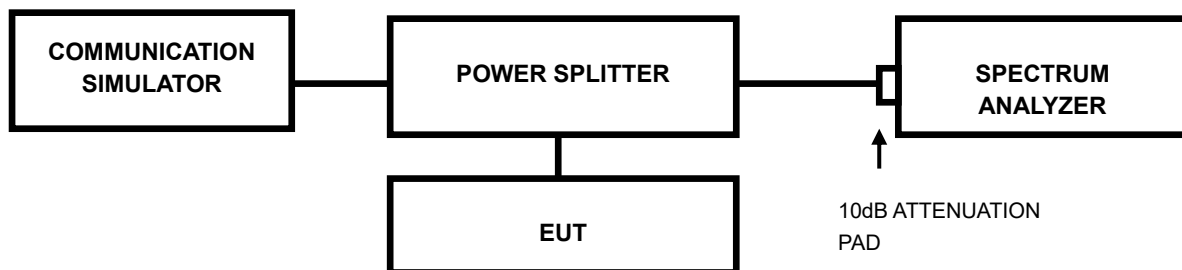
Please Refer to Appendix A Of this test report.

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 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.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



Test Report No.: W7L-P22050013RF03

3.3.4 TEST RESULTS

Please Refer to Appendix A Of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

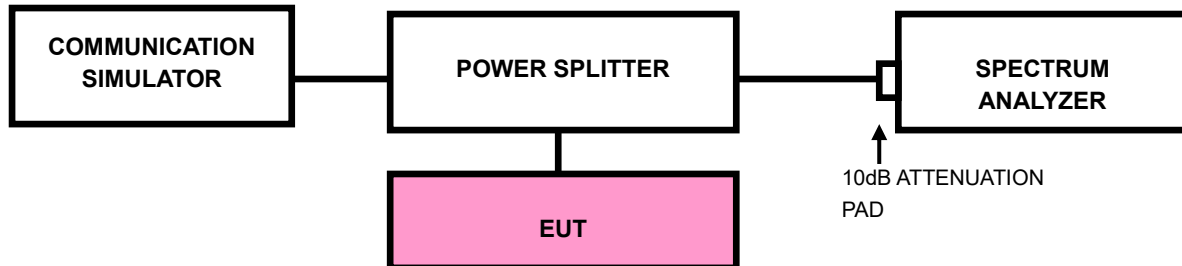
According to FCC 27.53(c) specified that For operations in the 746-758 MHz band and the 776-788 MHz band , the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emission in an 6.25kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, $P(\text{dBW})$, by at least $65 + 10 \log 10p(P)$, dB, for mobile and portable equipment.

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 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. 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.

According to FCC 27.53(h) specified that For operations in the 1710-1755 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. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 10kHz and VBW of the spectrum is 30kHz (LTE bandwidth for (1.4M/3M/5M/10M/15M/20M)1RB/0RB&1RB/MAXRB).
- The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is $\geq 1\% \cdot \text{EBW}$ kHz and VBW of the spectrum is $3 \cdot \text{RBW}$ kHz.
(LTE bandwidth 1.4M/3M/5M/10M/15M/20MHz).
- Record the max trace plot into the test report.



Test Report No.: W7L-P22050013RF03

3.4.4 TEST RESULTS

Please Refer to Appendix A Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

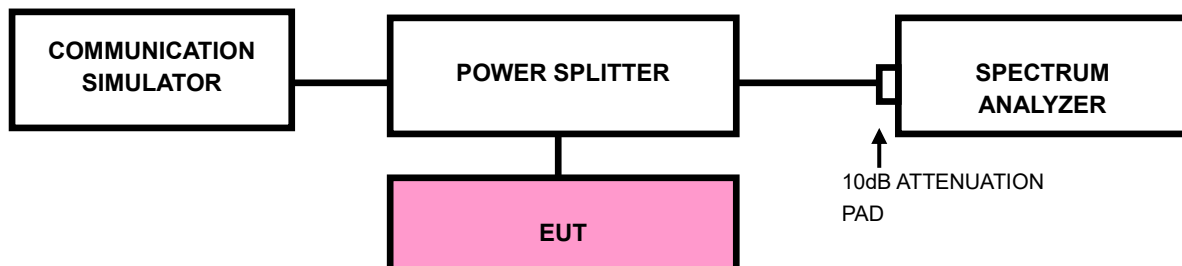
For:LTE Band7&Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

3.5.2 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 30MHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP





Test Report No.: W7L-P22050013RF03

3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix A Of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

For:LTE Band7&Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

3.6.2 TEST PROCEDURES

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G.
- $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$

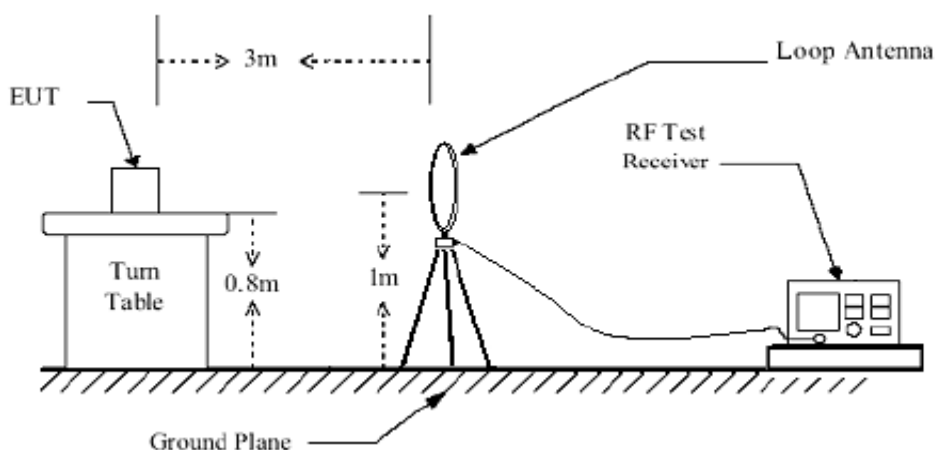
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

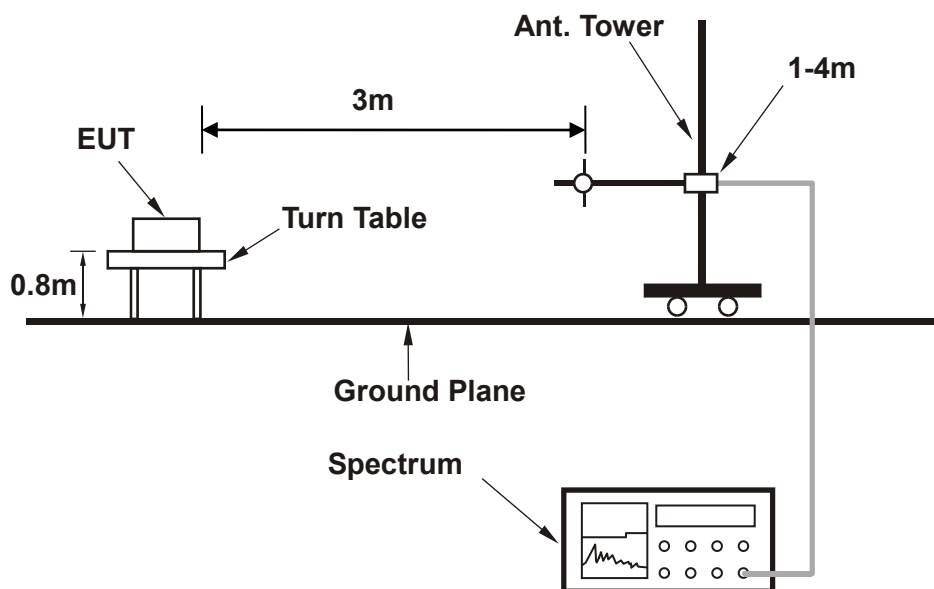
No deviation

3.6.4 TEST SETUP

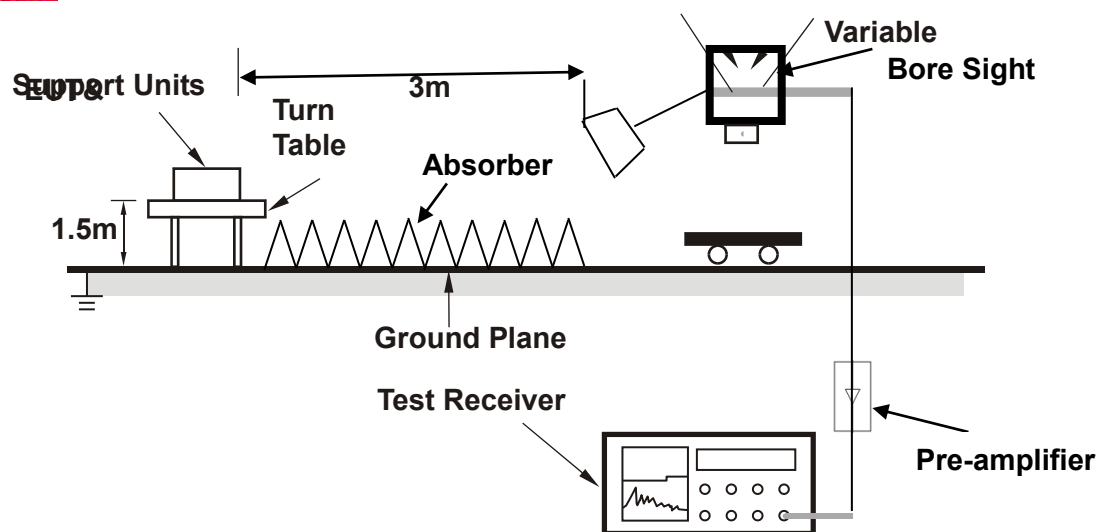
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

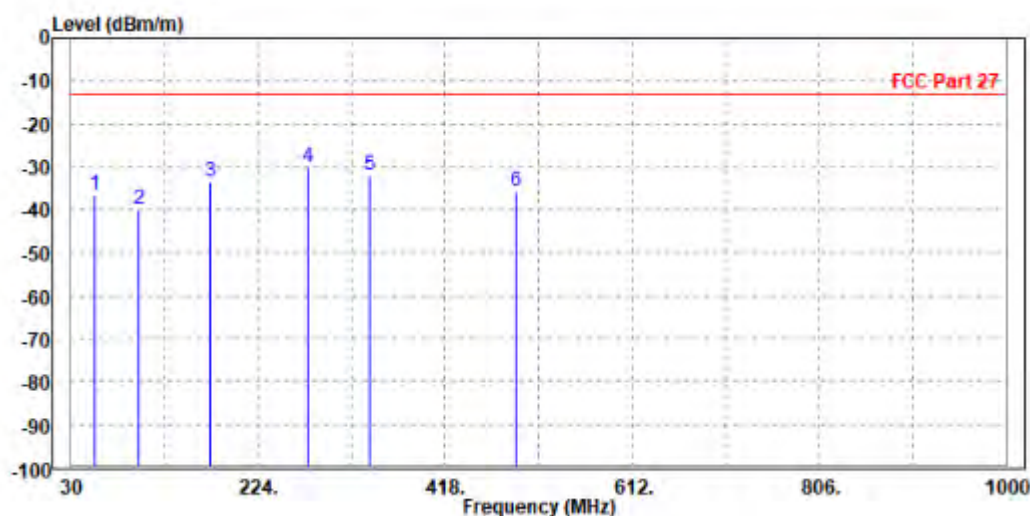
30 MHz – 1GHz data:

LTE Band 4

CHANNEL BANDWIDTH: 1.4MHz / QPSK

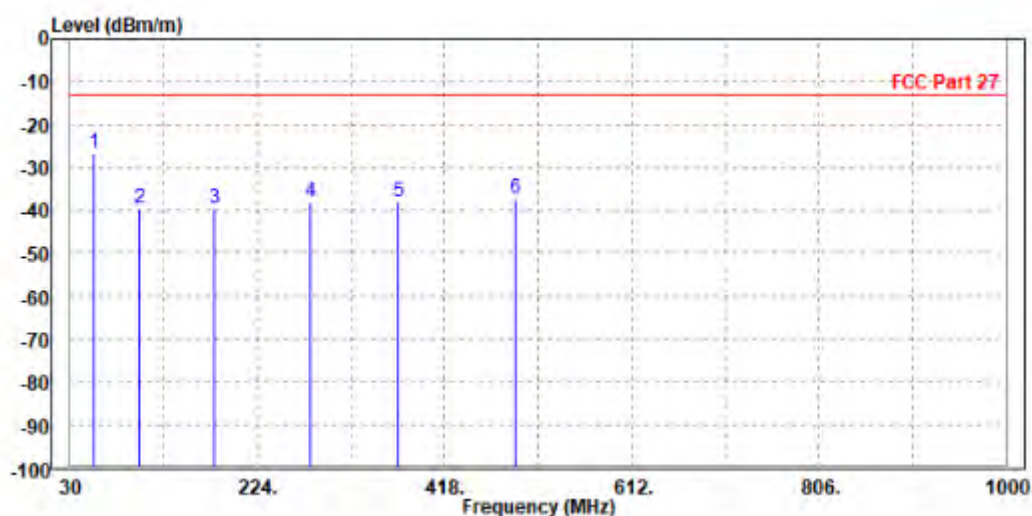
MODE	TX channel 19957	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	54.250	-36.43	-46.20	-13.00	-23.43	9.77	Peak	Horizontal
2	100.810	-39.80	-50.26	-13.00	-26.80	10.46	Peak	Horizontal
3	173.560	-33.50	-44.74	-13.00	-20.50	11.24	Peak	Horizontal
4 PP	275.410	-30.10	-43.85	-13.00	-17.10	13.75	Peak	Horizontal
5	339.430	-31.85	-46.72	-13.00	-18.85	14.87	Peak	Horizontal
6	490.750	-35.85	-53.77	-13.00	-22.85	17.92	Peak	Horizontal



MODE	TX channel 19957	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	54.250	-26.61	-35.84	-13.00	-13.61	9.23	Peak	Vertical
2		101.780	-39.36	-48.41	-13.00	-26.36	9.05	Peak	Vertical
3		179.380	-39.51	-50.70	-13.00	-26.51	11.19	Peak	Vertical
4		278.320	-37.97	-51.36	-13.00	-24.97	13.39	Peak	Vertical
5		369.500	-38.05	-53.65	-13.00	-25.05	15.60	Peak	Vertical
6		490.750	-37.40	-54.88	-13.00	-24.40	17.48	Peak	Vertical





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Test Report No.: W7L-P22050013RF03

ABOVE 1GHz

Note: For higher frequency, the emission is too low to be detected.

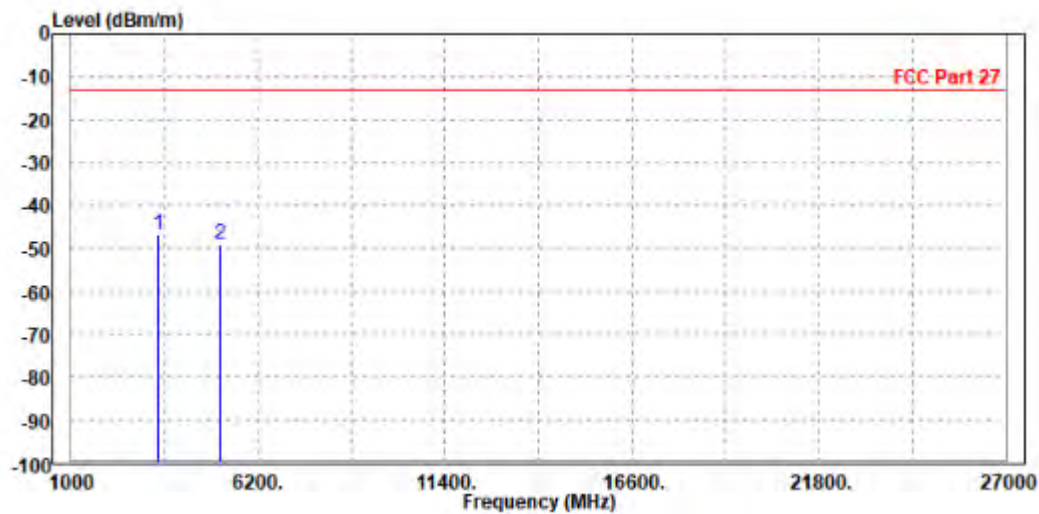
LTE Band 4

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH 19957

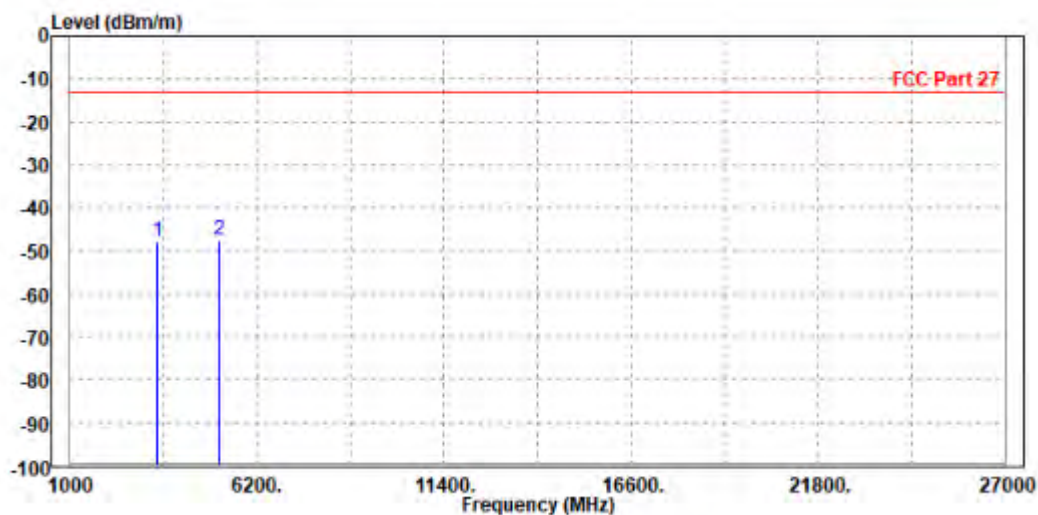
MODE	TX channel 19957	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3421.400	-46.75	-55.34	-13.00	-33.75	8.59	Peak	Horizontal
2		5134.000	-48.91	-57.84	-13.00	-35.91	8.93	Peak	Horizontal



MODE	TX channel 19957	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3418.000	-47.87	-56.98	-13.00	-34.87	9.11	Peak	Vertical
2 PP	5132.100	-47.65	-57.50	-13.00	-34.65	9.85	Peak	Vertical





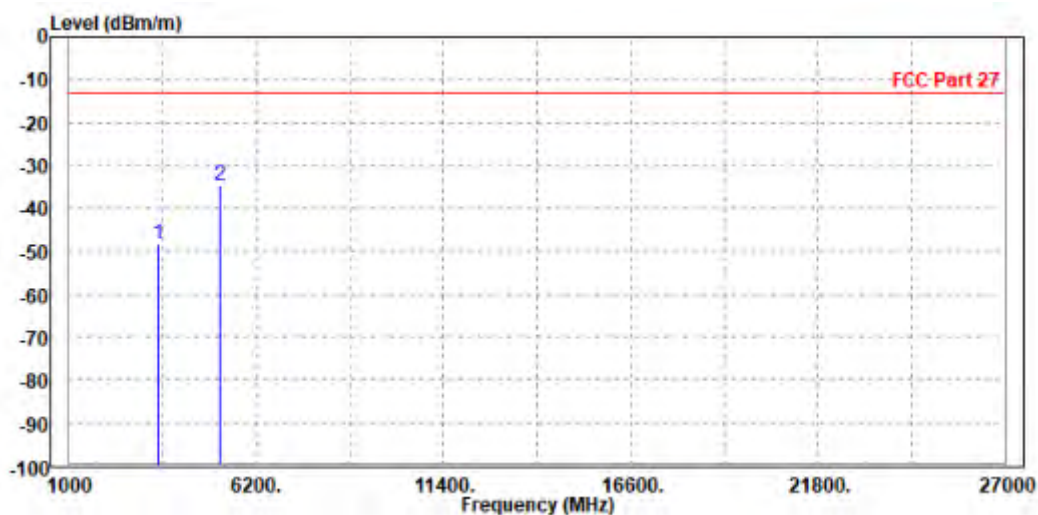
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Test Report No.: W7L-P22050013RF03

CH 20175

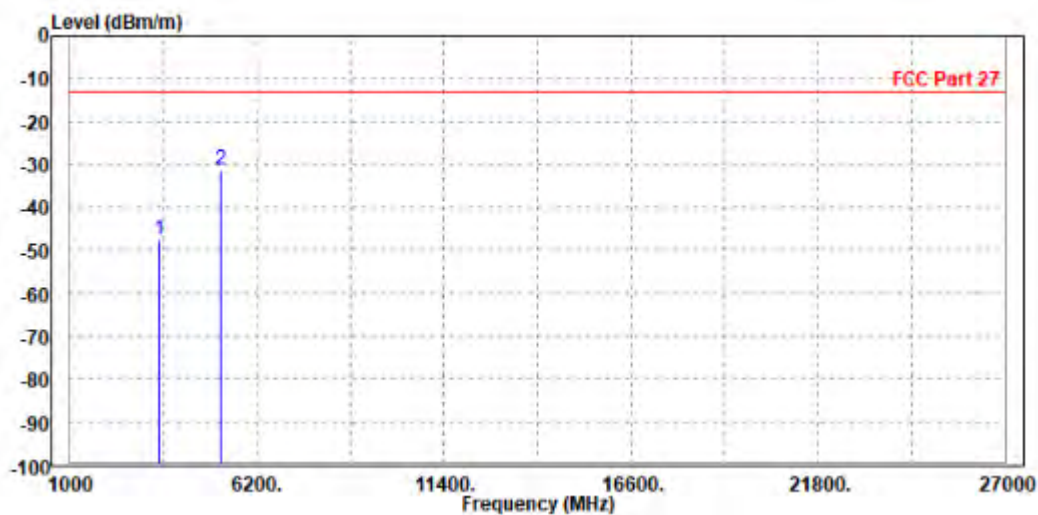
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-48.10	-56.68	-13.00	-35.10	8.58	Peak	Horizontal
2 PP	5186.000	-34.48	-43.56	-13.00	-21.48	9.08	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-47.68	-56.84	-13.00	-34.68	9.16	Peak	Vertical
2 PP	5197.500	-31.32	-41.14	-13.00	-18.32	9.82	Peak	Vertical





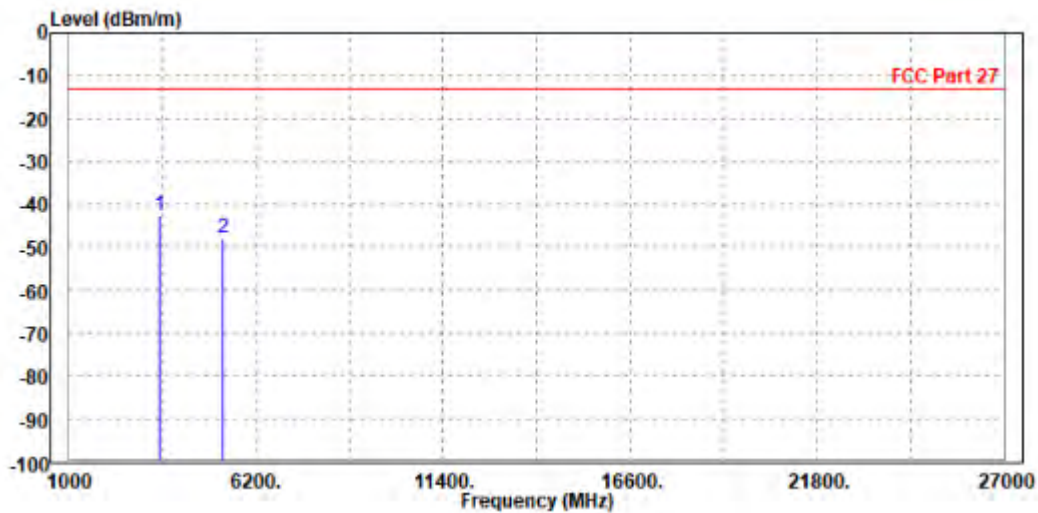
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Test Report No.: W7L-P22050013RF03

CH 20393

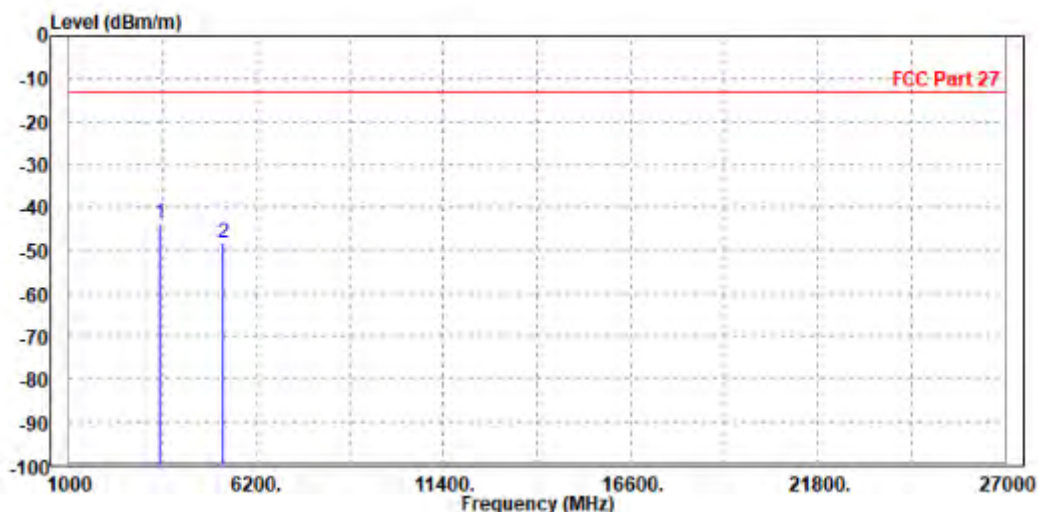
MODE	TX channel 20393	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3508.600	-42.43	-51.01	-13.00	-29.43	8.58	Peak	Horizontal
2		5264.000	-48.02	-57.34	-13.00	-35.02	9.32	Peak	Horizontal



MODE	TX channel 20393	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3496.000	-43.76	-52.95	-13.00	-30.76	9.19	Peak	Vertical
2		5262.900	-48.30	-58.10	-13.00	-35.30	9.80	Peak	Vertical





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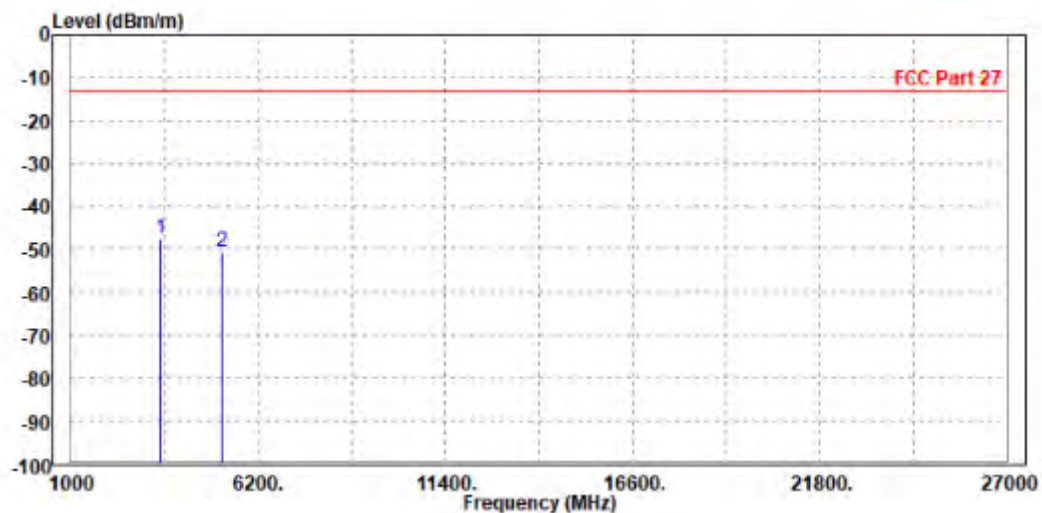
Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 3MHz / QPSK

CH 20175

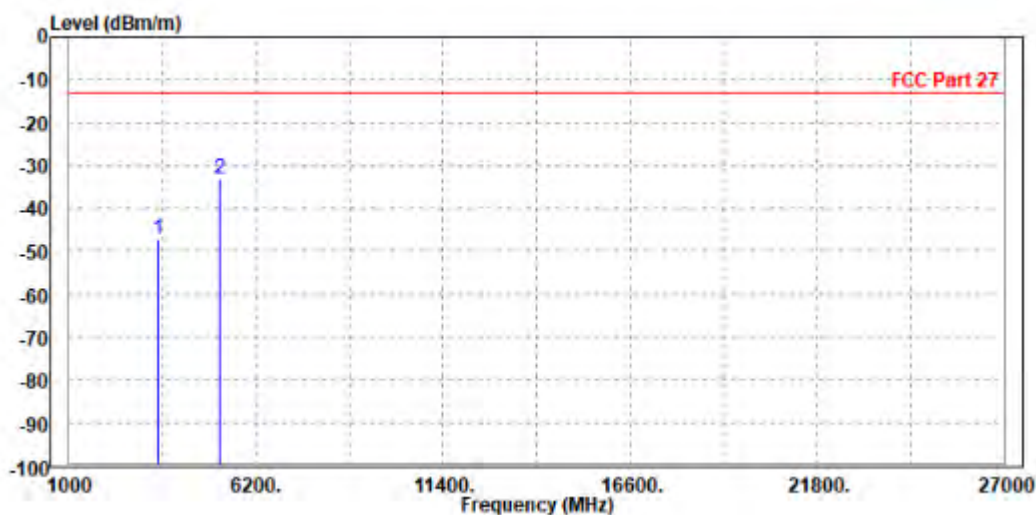
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3470.000	-47.45	-56.03	-13.00	-34.45	8.58	Peak	Horizontal
2		5197.500	-50.50	-59.62	-13.00	-37.50	9.12	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3465.000	-47.23	-56.39	-13.00	-34.23	9.16	Peak	Vertical
2 PP	5186.000	-32.97	-42.80	-13.00	-19.97	9.83	Peak	Vertical





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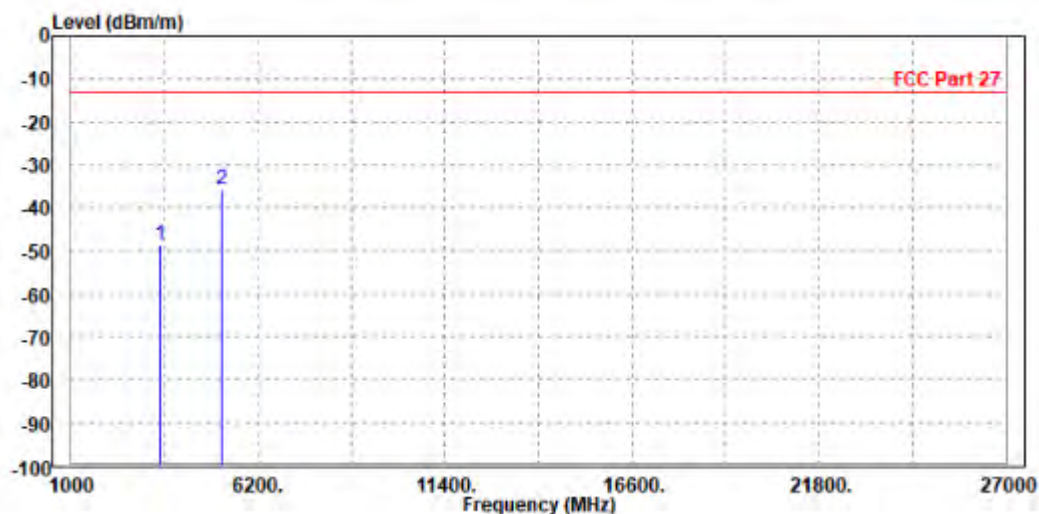
Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 20175

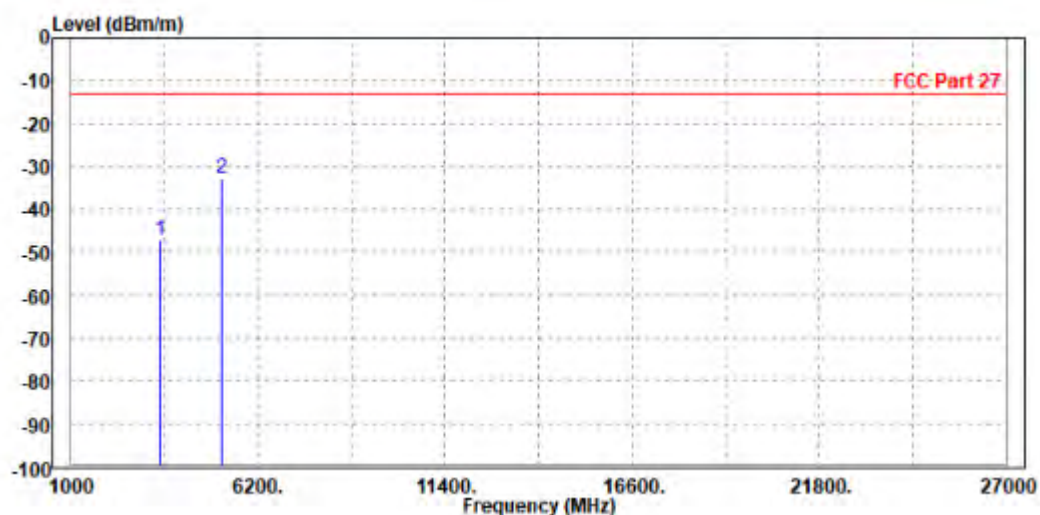
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3465.000	-48.82	-57.40	-13.00	-35.82	8.58	Peak	Horizontal
2 PP	5186.000	-35.66	-44.74	-13.00	-22.66	9.08	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-47.23	-56.39	-13.00	-34.23	9.16	Peak	Vertical
2 PP	5197.530	-32.85	-42.67	-13.00	-19.85	9.82	Peak	Vertical





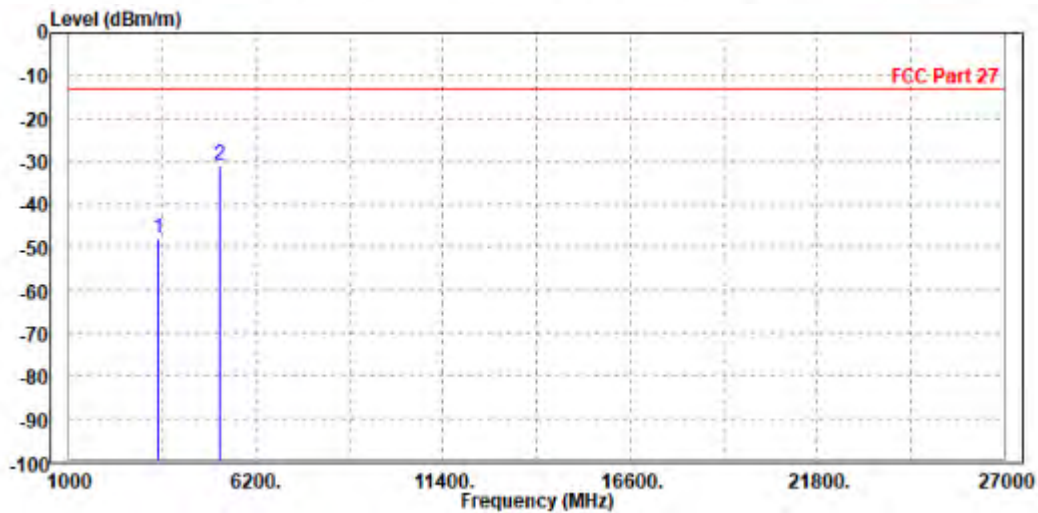
**BUREAU
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Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 10MHz / QPSK

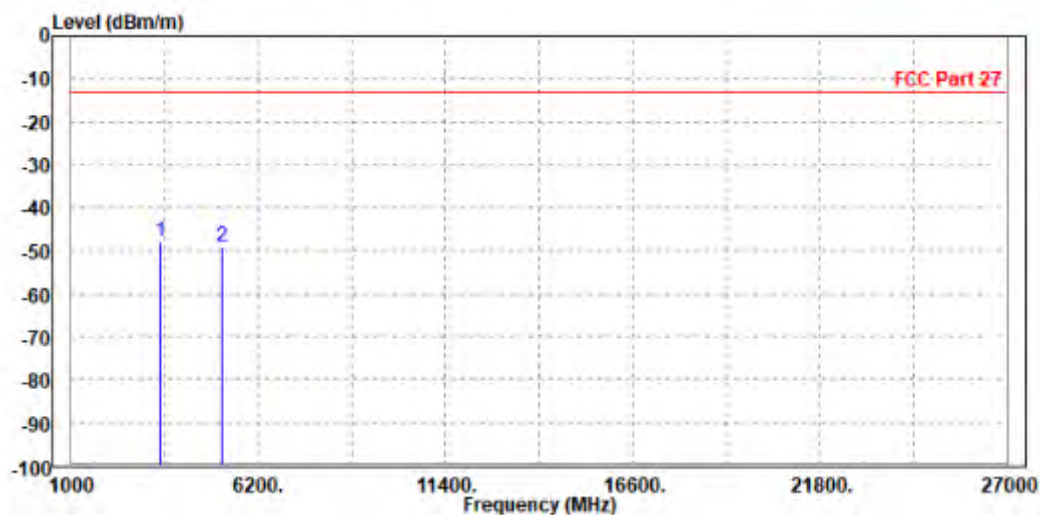
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-47.78	-56.36	-13.00	-34.78	8.58	Peak	Horizontal
2 PP	5197.500	-30.91	-40.03	-13.00	-17.91	9.12	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

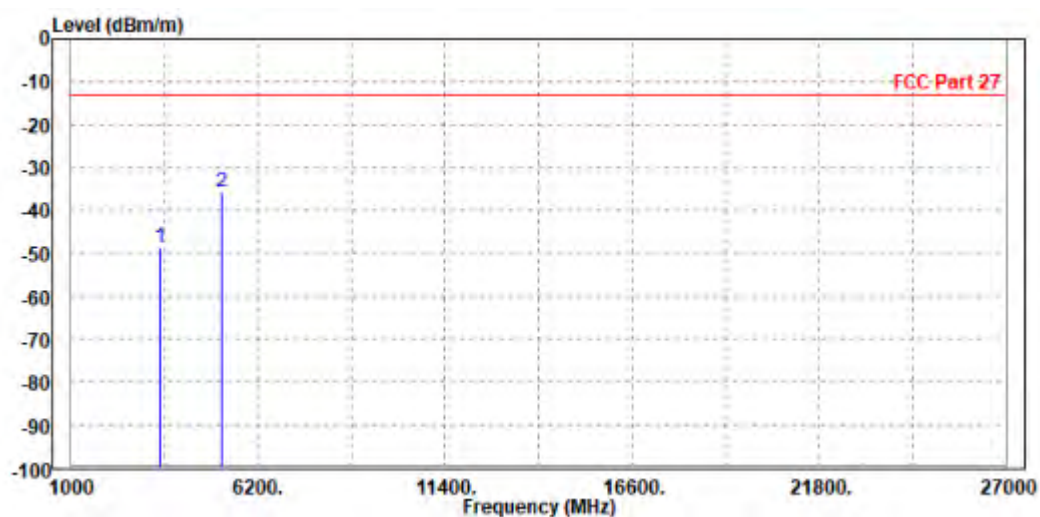
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3465.000	-47.85	-57.01	-13.00	-34.85	9.16	Peak	Vertical
2		5186.000	-48.89	-58.72	-13.00	-35.89	9.83	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

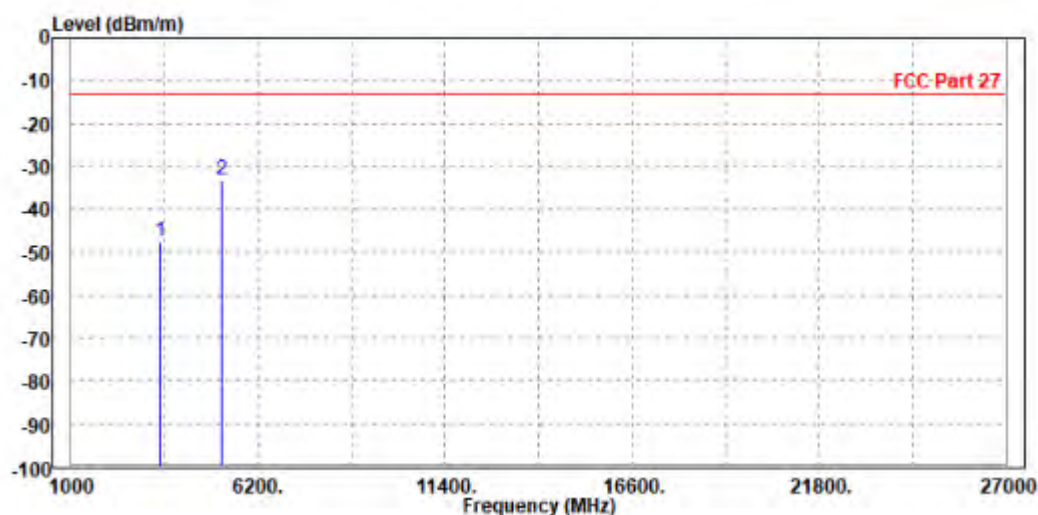
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-48.79	-57.37	-13.00	-35.79	8.58	Peak	Horizontal
2 PP	5186.000	-35.90	-44.98	-13.00	-22.90	9.08	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3465.000	-47.72	-56.88	-13.00	-34.72	9.16	Peak	Vertical
2 PP	5186.000	-32.99	-42.82	-13.00	-19.99	9.83	Peak	Vertical





**BUREAU
VERITAS**

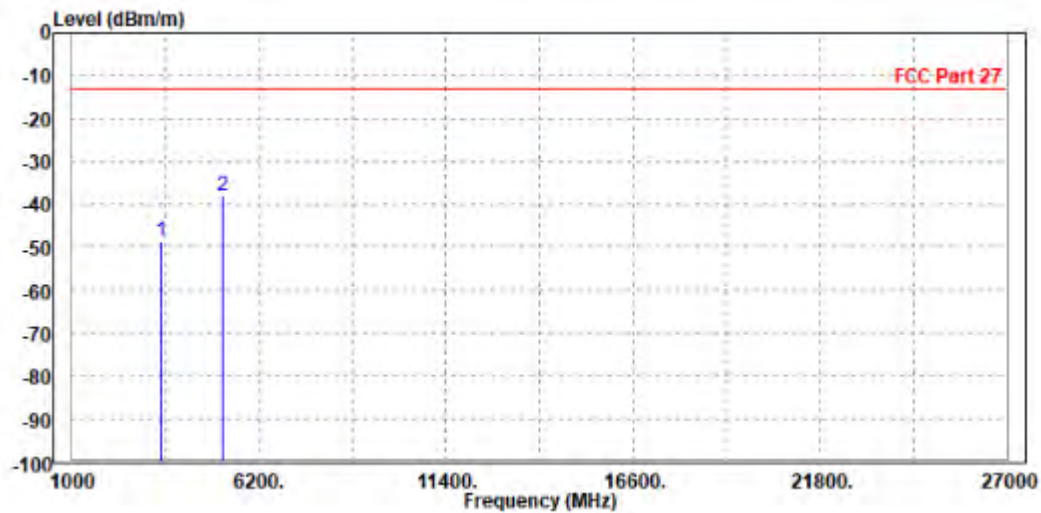
Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 20MHz / QPSK

CH 20175

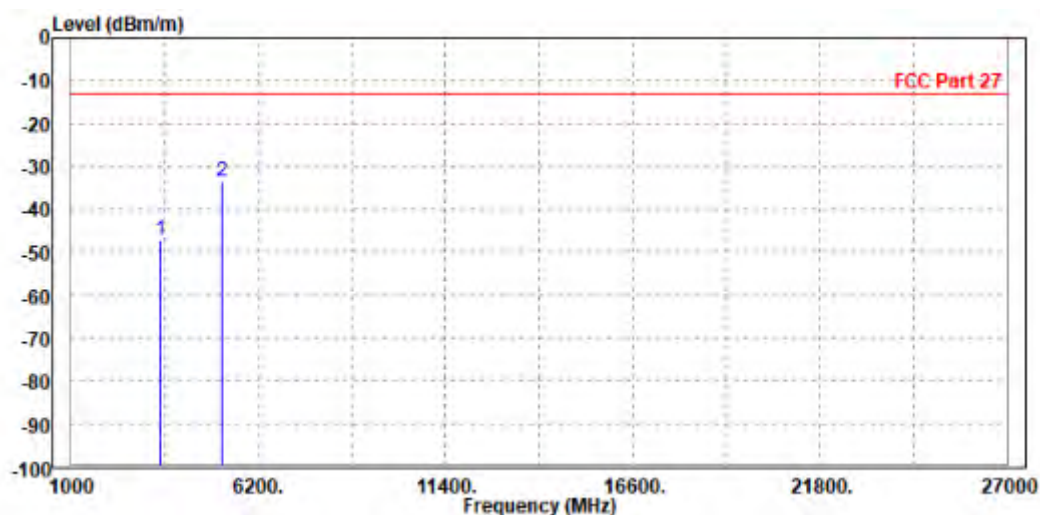
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3465.000	-48.50	-57.08	-13.00	-35.50	8.58	Peak	Horizontal
2 PP	5186.000	-37.87	-46.95	-13.00	-24.87	9.08	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-47.13	-56.29	-13.00	-34.13	9.16	Peak	Vertical
2 PP	5197.500	-33.36	-43.18	-13.00	-20.36	9.82	Peak	Vertical

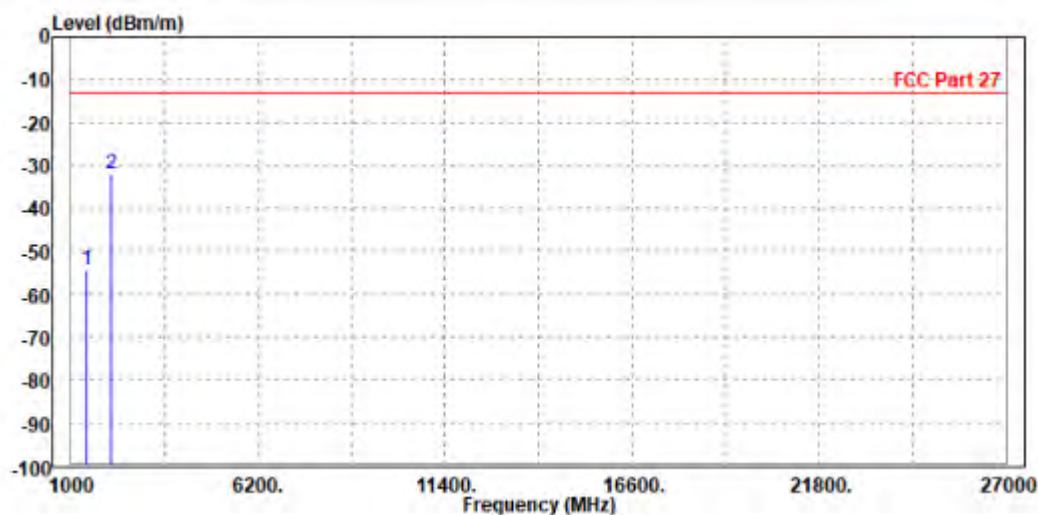


LTE BAND 12

CHANNEL BANDWIDTH: 1.4MHz / QPSK

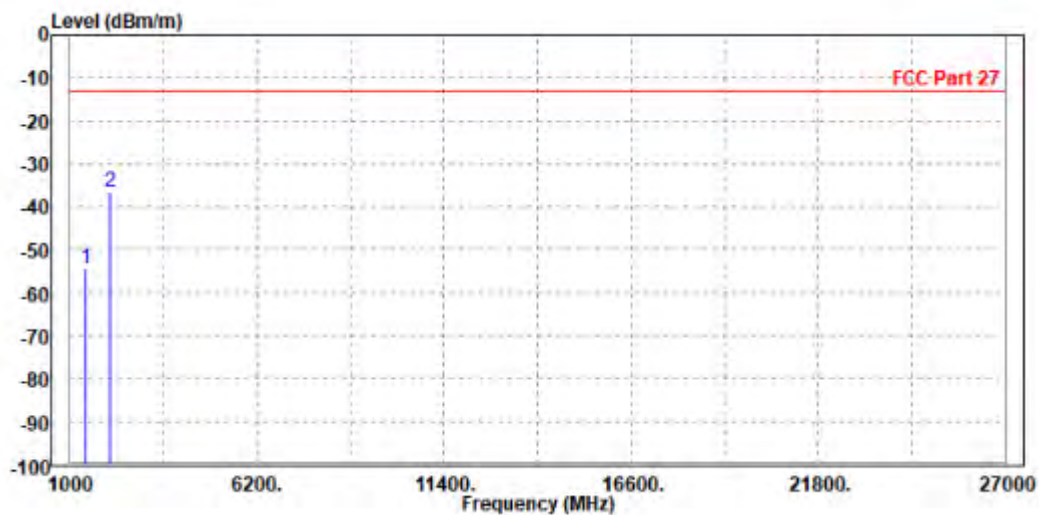
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1415.000	-54.45	-55.52	-13.00	-41.45	1.07	Peak	Horizontal
2	PP 2118.000	-31.98	-39.65	-13.00	-18.98	7.67	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-54.23	-55.92	-13.00	-41.23	1.69	Peak	Vertical
2 PP	2122.500	-36.36	-43.05	-13.00	-23.36	6.69	Peak	Vertical





**BUREAU
VERITAS**

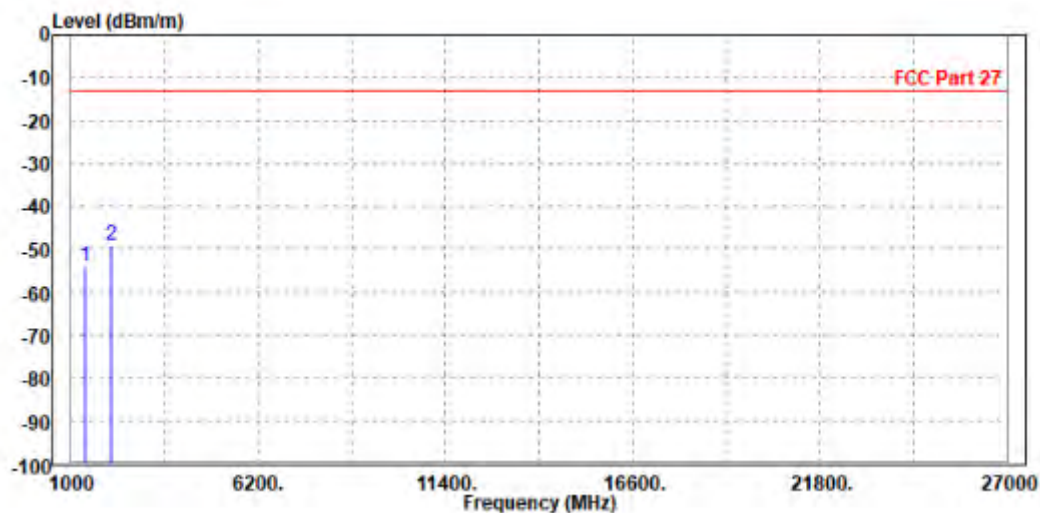
Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 3MHz / QPSK

CH23025

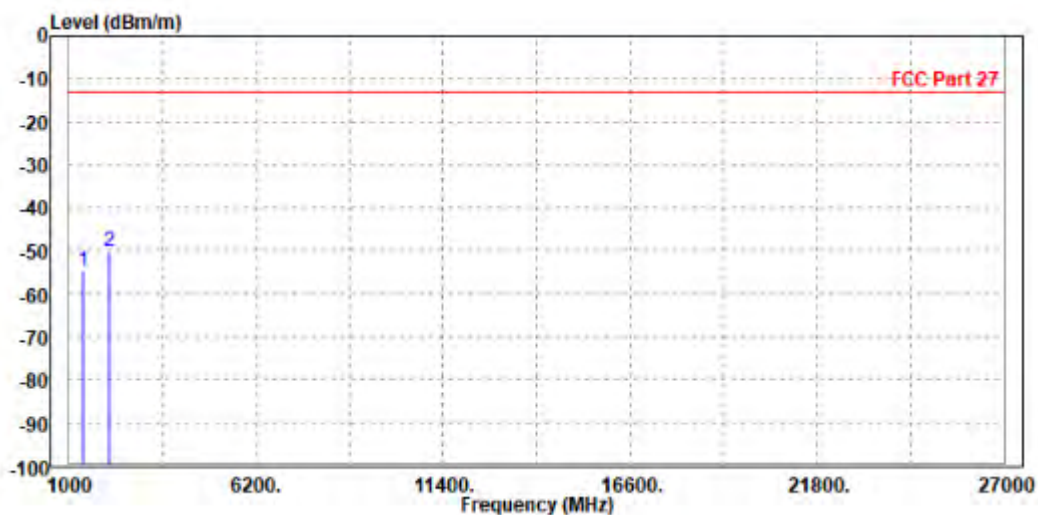
07/200210			
MODE	TX channel 23025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1390.000	-54.10	-55.07	-13.00	-41.10	0.97	Peak	Horizontal
2 PP	2101.500	-49.17	-56.82	-13.00	-36.17	7.65	Peak	Horizontal



MODE	TX channel 23025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1401.000	-54.67	-56.30	-13.00	-41.67	1.63	Peak	Vertical
2	PP 2092.000	-50.14	-56.80	-13.00	-37.14	6.66	Peak	Vertical





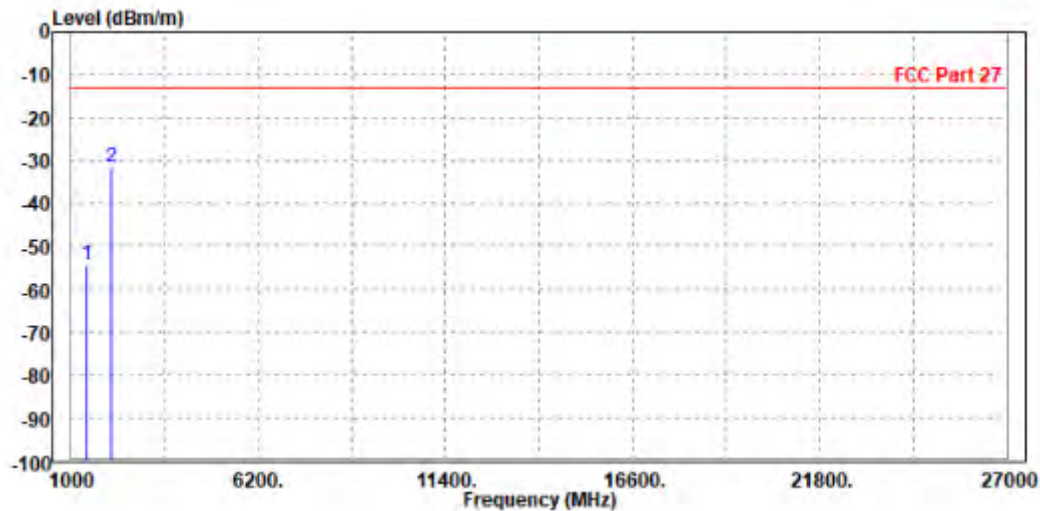
**BUREAU
VERITAS**

Test Report No.: W7L-P22050013RF03

CH23095

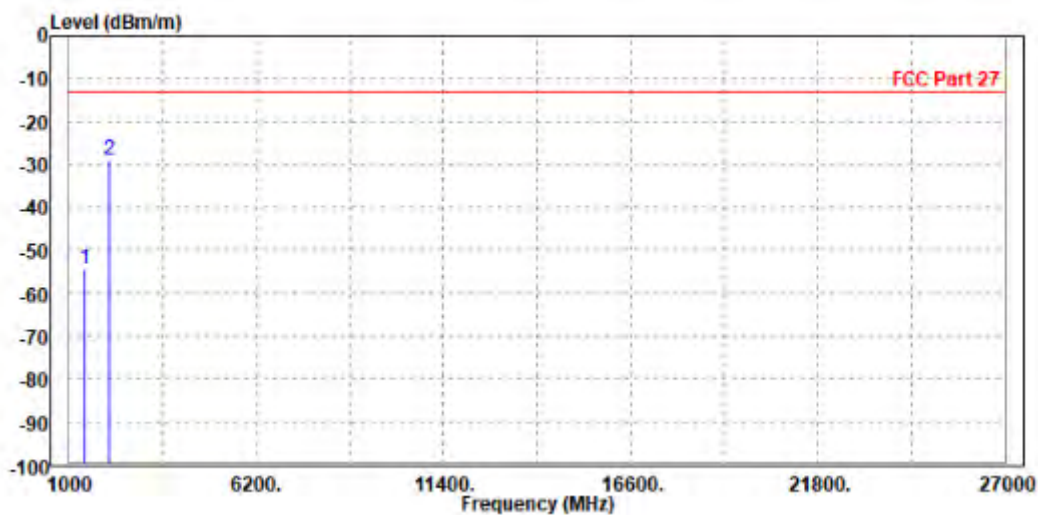
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-54.24	-55.32	-13.00	-41.24	1.08	Peak	Horizontal
2 PP	2122.500	-31.71	-39.38	-13.00	-18.71	7.67	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1415.000	-54.48	-56.17	-13.00	-41.48	1.69	Peak	Vertical
2 PP	2118.000	-29.00	-35.68	-13.00	-16.00	6.68	Peak	Vertical





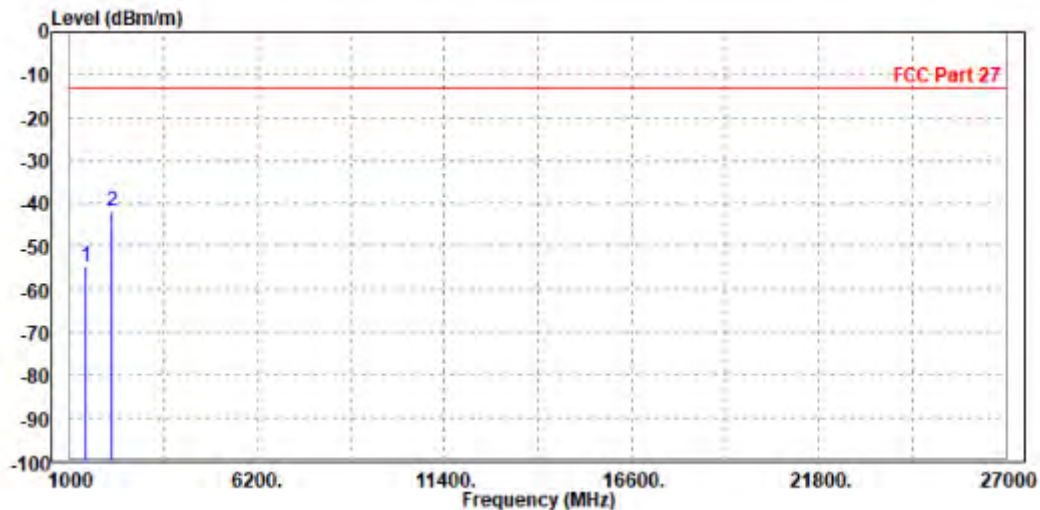
**BUREAU
VERITAS**

Test Report No.: W7L-P22050013RF03

CH23165

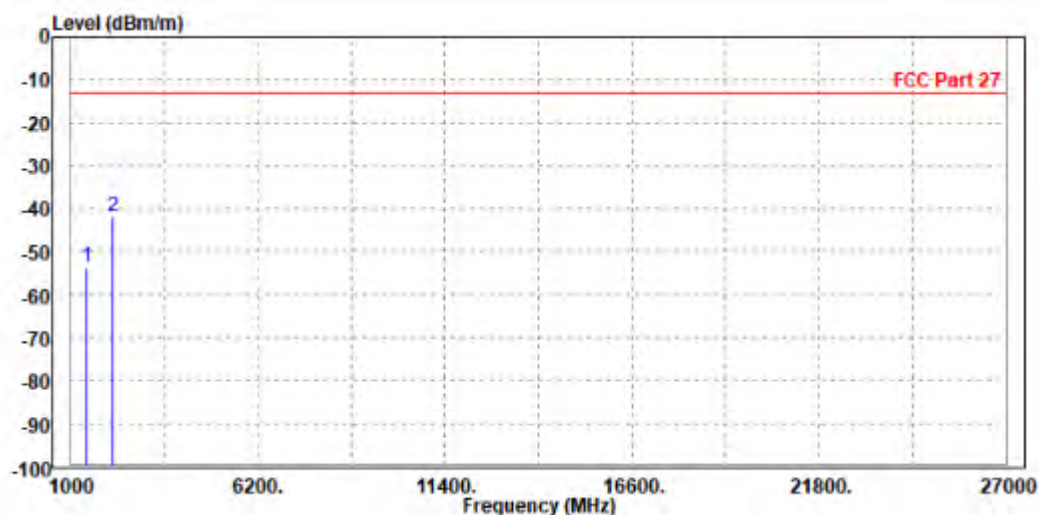
MODE	TX channel 23165	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1429.000	-54.87	-56.01	-13.00	-41.87	1.14	Peak	Horizontal
2 PP	2144.000	-42.00	-49.69	-13.00	-29.00	7.69	Peak	Horizontal



MODE	TX channel 23165	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

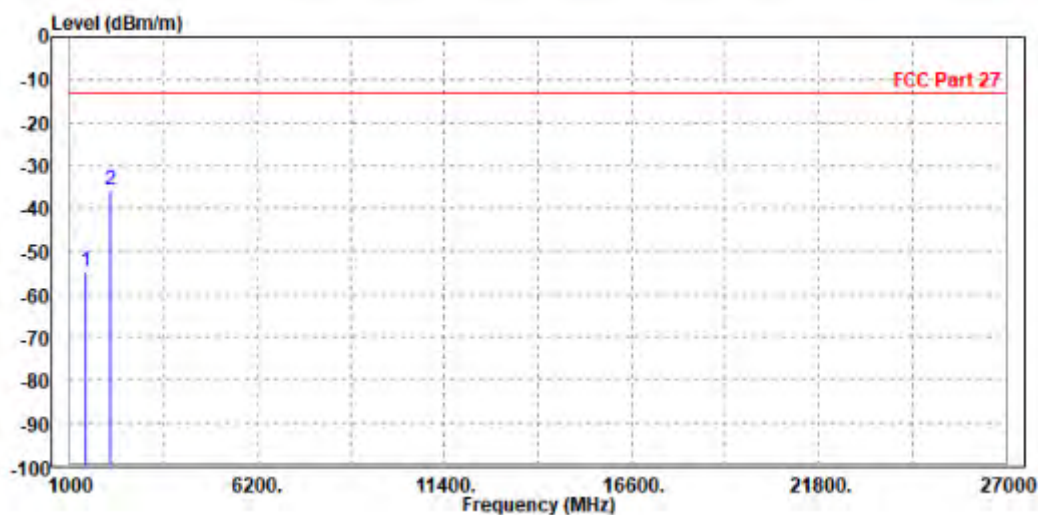
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-53.77	-55.46	-13.00	-40.77	1.69	Peak	Vertical
2 PP	2143.500	-41.64	-48.35	-13.00	-28.64	6.71	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

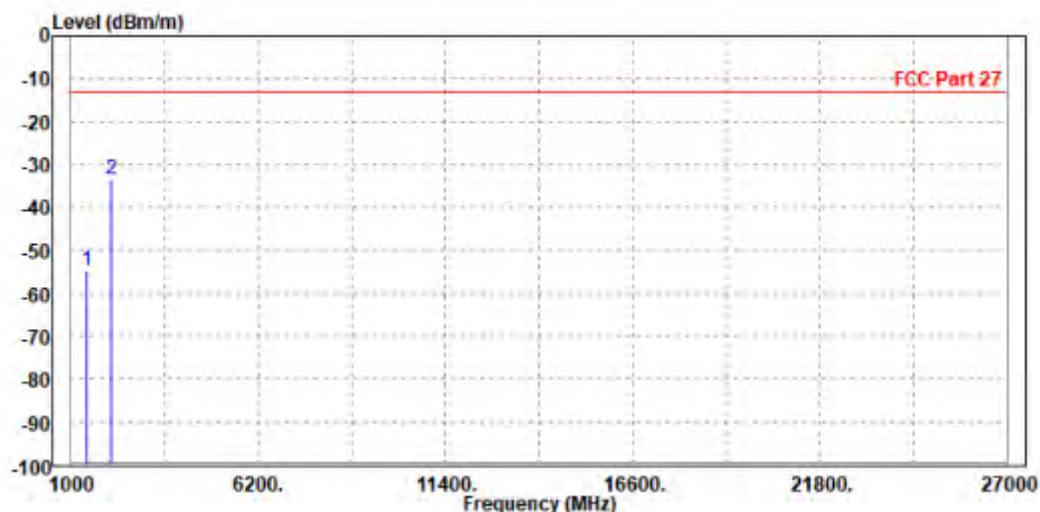
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1415.000	-54.60	-55.67	-13.00	-41.60	1.07	Peak	Horizontal
2 PP	2118.000	-35.85	-43.52	-13.00	-22.85	7.67	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-54.88	-56.57	-13.00	-41.88	1.69	Peak	Vertical
2 PP	2122.500	-33.60	-40.29	-13.00	-20.60	6.69	Peak	Vertical

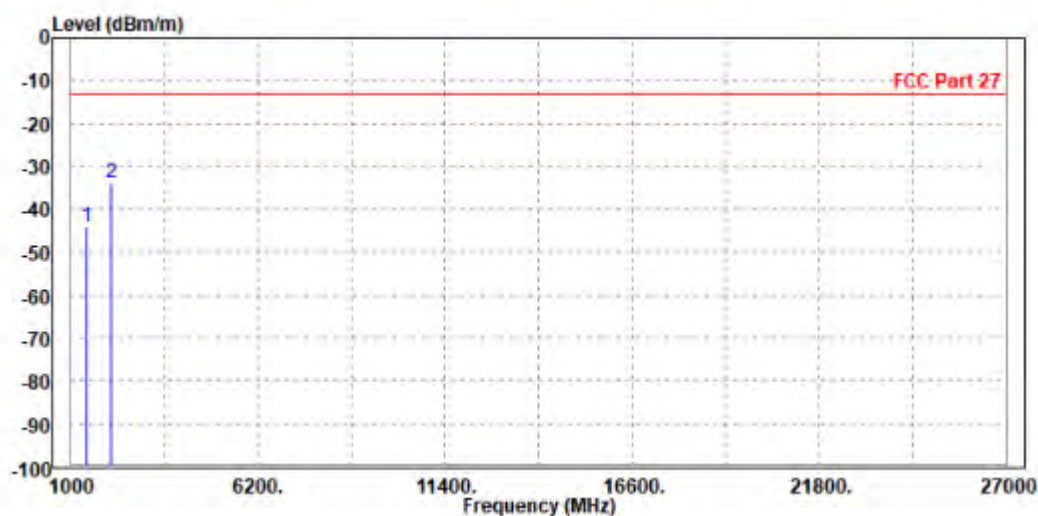


CHANNEL BANDWIDTH: 10MHz / QPSK

CH23095

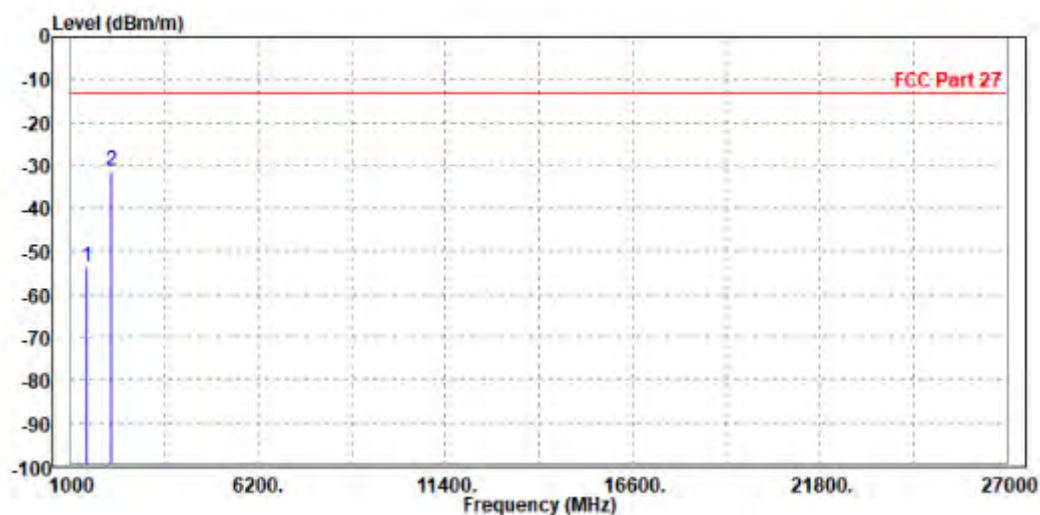
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-44.24	-45.32	-13.00	-31.24	1.08	Peak	Horizontal
2 PP	2122.500	-33.70	-41.37	-13.00	-20.70	7.67	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1415.000	-53.80	-55.49	-13.00	-40.80	1.69	Peak	Vertical
2 PP	2118.000	-31.23	-37.91	-13.00	-18.23	6.68	Peak	Vertical





Test Report No.: W7L-P22050013RF03

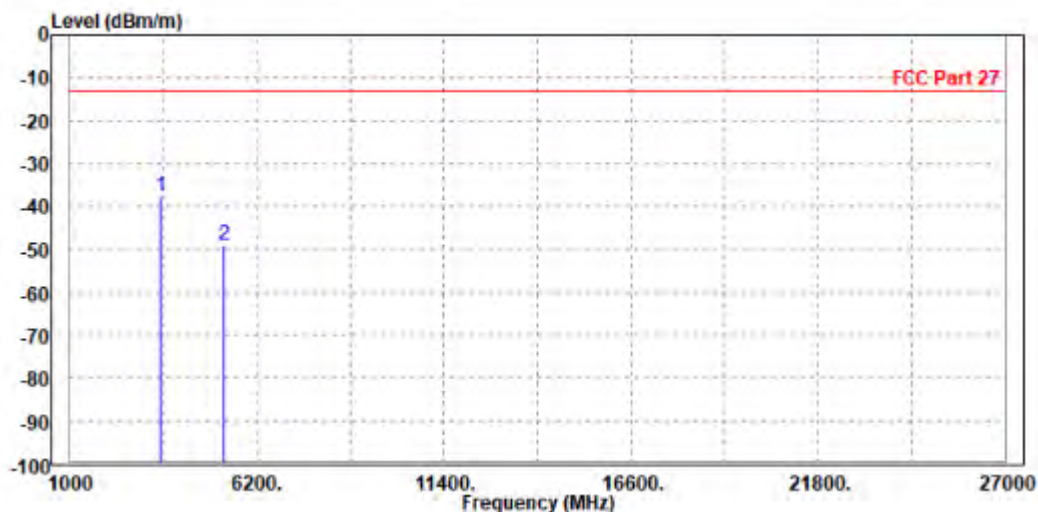
LTE B66

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH132322

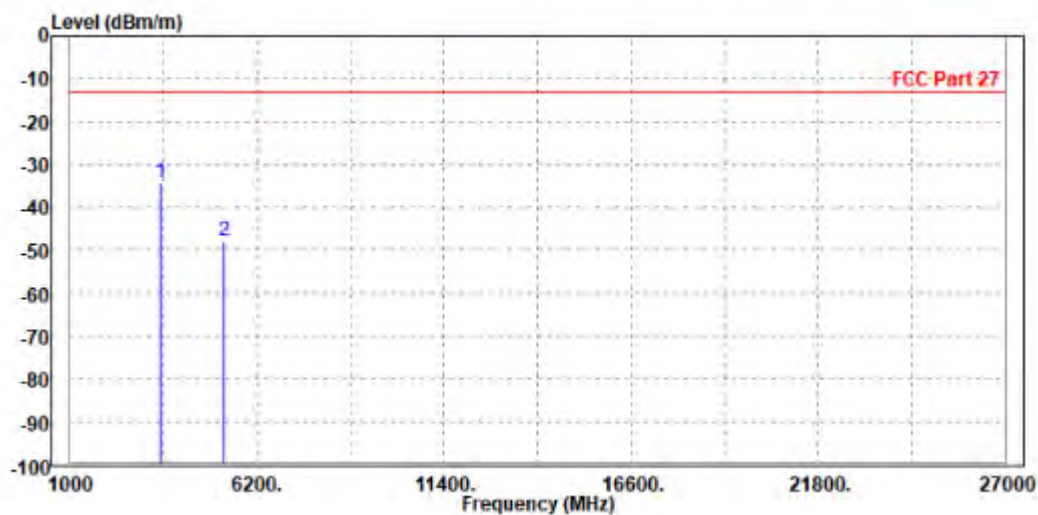
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-37.66	-46.26	-13.00	-24.66	8.60	Peak	Horizontal
2		5265.000	-49.00	-58.32	-13.00	-36.00	9.32	Peak	Horizontal



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-34.23	-43.43	-13.00	-21.23	9.20	Peak	Vertical
2		5265.000	-48.04	-57.84	-13.00	-35.04	9.80	Peak	Vertical



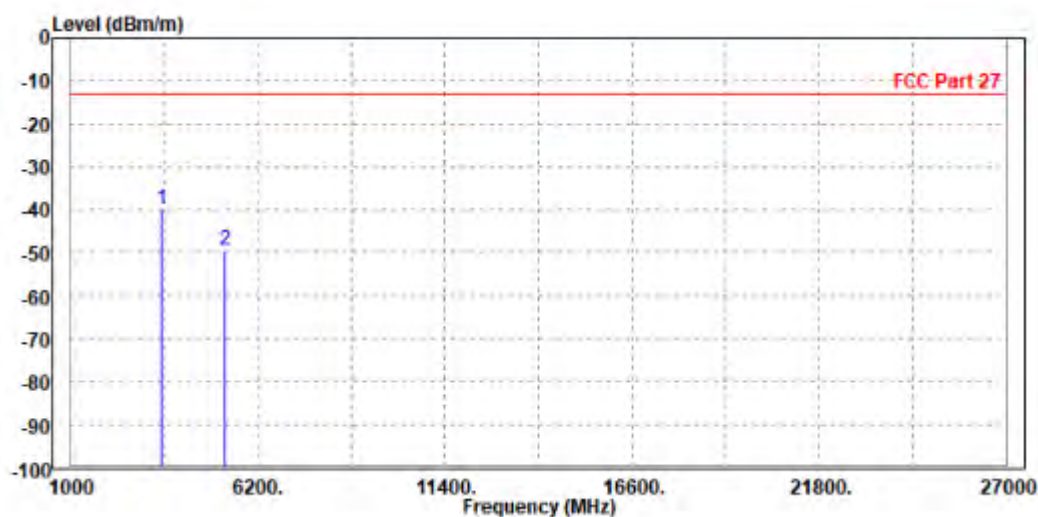


Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 3MHz / QPSK

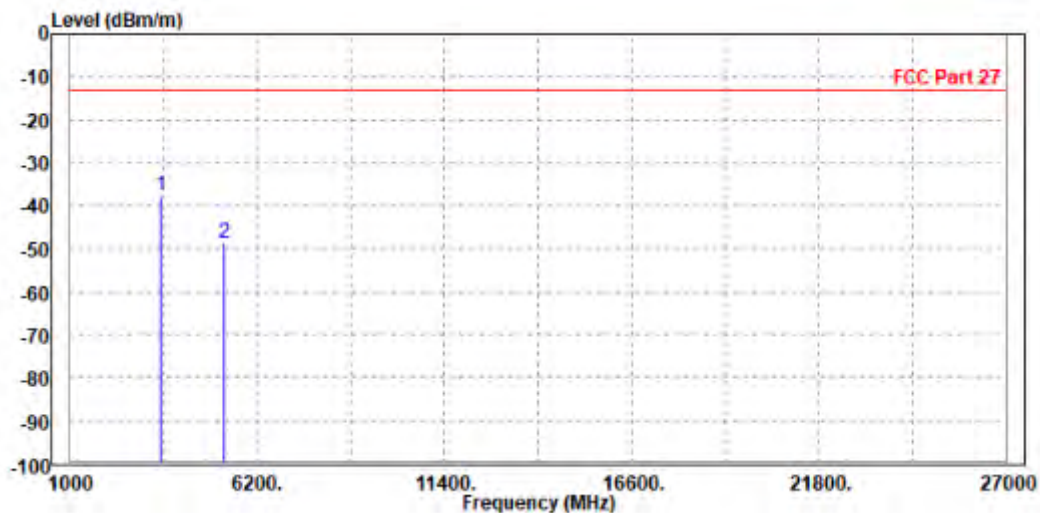
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-40.04	-48.64	-13.00	-27.04	8.60	Peak	Horizontal
2		5265.000	-49.26	-58.58	-13.00	-36.26	9.32	Peak	Horizontal



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-37.74	-46.94	-13.00	-24.74	9.20	Peak	Vertical
2		5265.000	-48.64	-58.44	-13.00	-35.64	9.80	Peak	Vertical

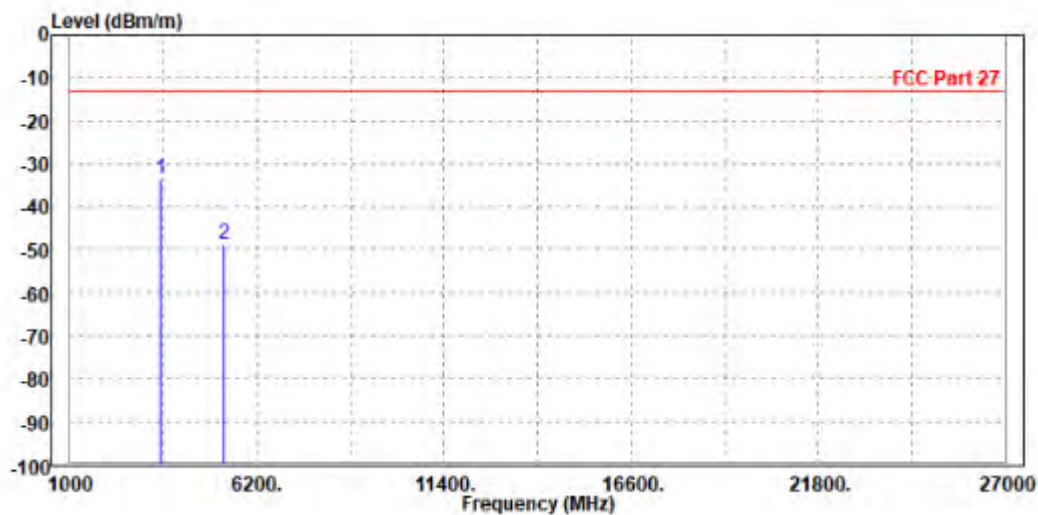


CHANNEL BANDWIDTH: 5MHz / QPSK

CH132322

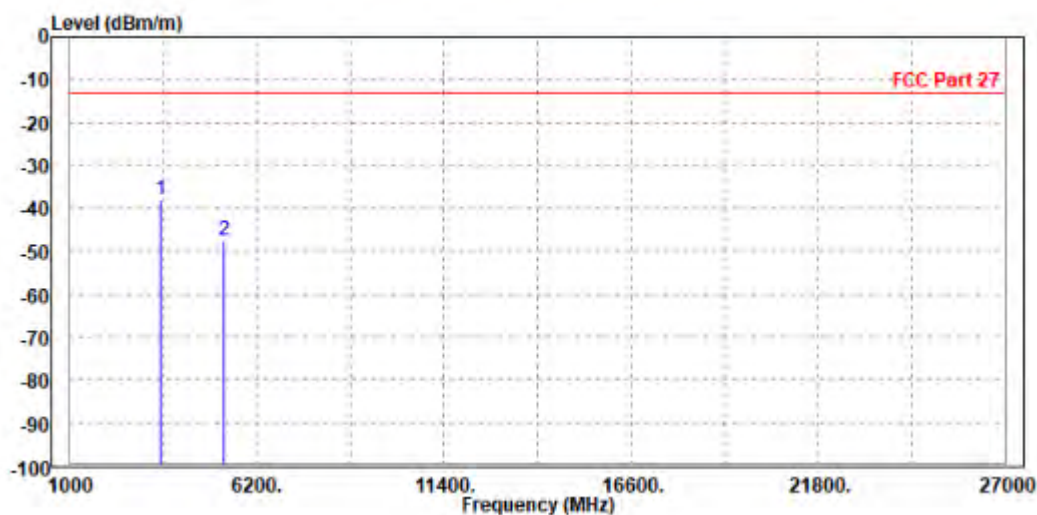
SPECIFICATIONS			
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-33.63	-42.23	-13.00	-20.63	8.60	Peak	Horizontal
2		5265.000	-48.70	-58.02	-13.00	-35.70	9.32	Peak	Horizontal



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3522.000	-37.97	-47.17	-13.00	-24.97	9.20	Peak	Vertical
2	5265.000	-47.68	-57.48	-13.00	-34.68	9.80	Peak	Vertical

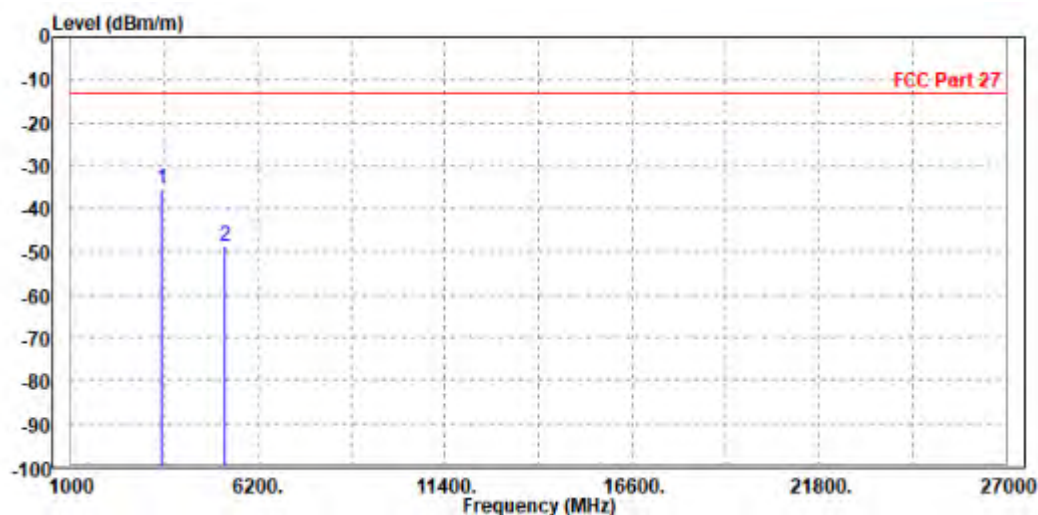


CHANNEL BANDWIDTH: 10MHz / QPSK

CH132322

MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-35.52	-44.12	-13.00	-22.52	8.60	Peak	Horizontal
2		5265.000	-48.65	-57.97	-13.00	-35.65	9.32	Peak	Horizontal

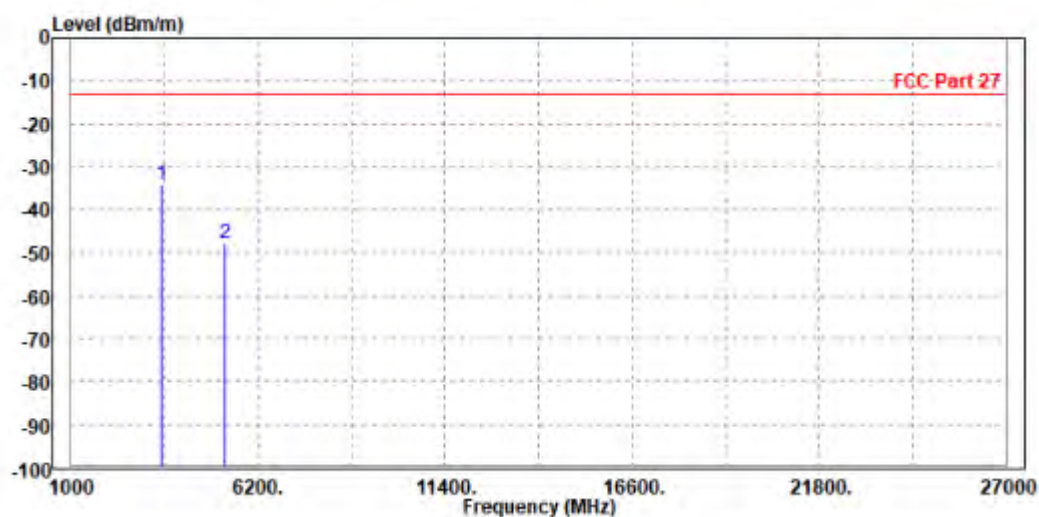




Test Report No.: W7L-P22050013RF03

MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

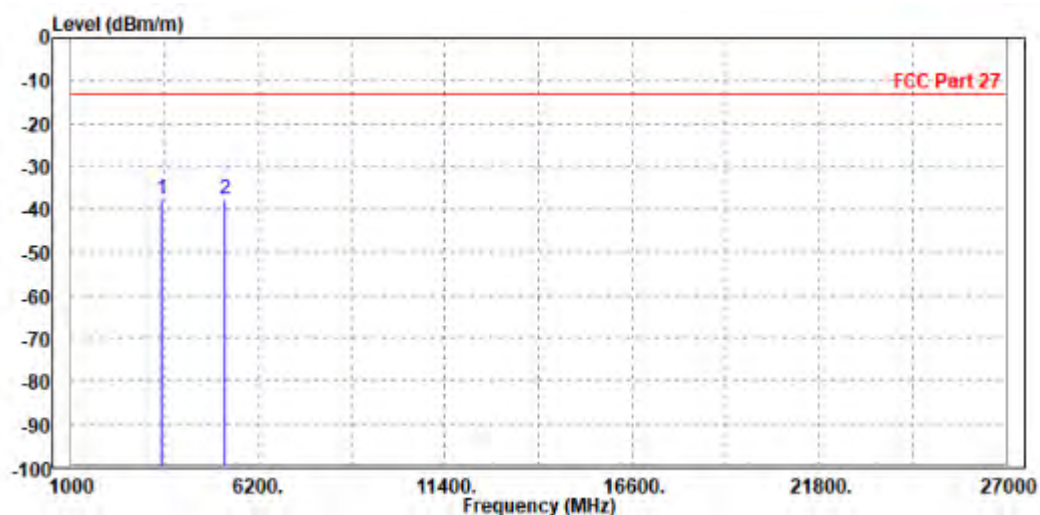
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-34.35	-43.55	-13.00	-21.35	9.20	Peak	Vertical
2		5265.000	-47.88	-57.68	-13.00	-34.88	9.80	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

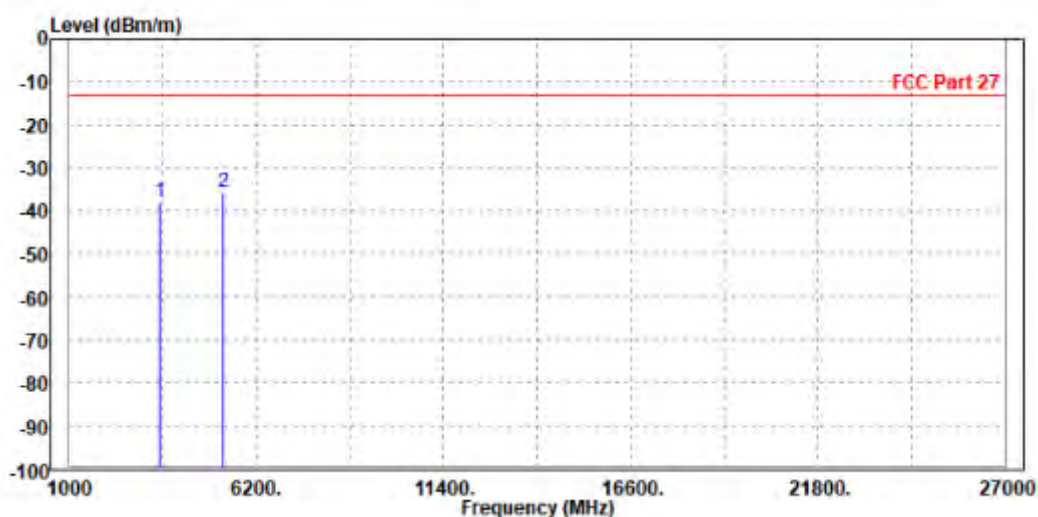
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3522.000	-37.61	-46.21	-13.00	-24.61	8.60	Peak	Horizontal
2 PP	5265.000	-37.55	-46.87	-13.00	-24.55	9.32	Peak	Horizontal



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3522.000	-38.02	-47.22	-13.00	-25.02	9.20	Peak	Vertical
2 PP	5265.000	-35.82	-45.62	-13.00	-22.82	9.80	Peak	Vertical

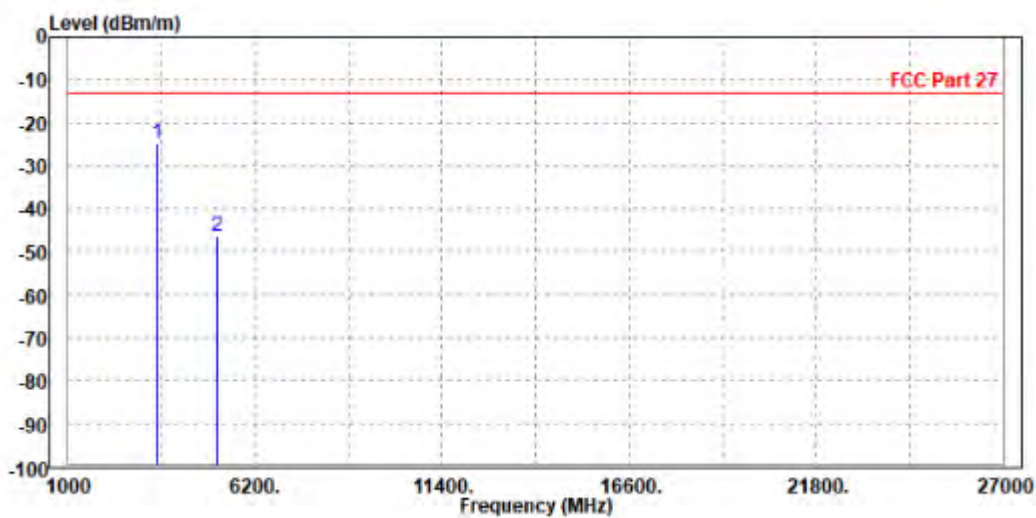


CHANNEL BANDWIDTH: 20MHz / QPSK

CH132072

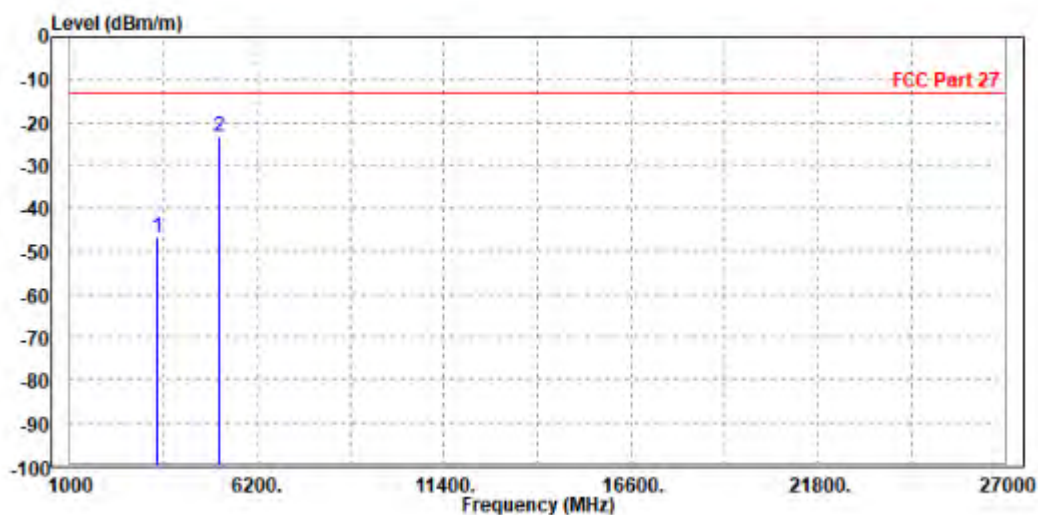
MODE	TX channel 132072	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3444.000	-24.70	-33.28	-13.00	-11.70	8.58	Peak	Horizontal
2	5160.000	-46.28	-55.28	-13.00	-33.28	9.00	Peak	Horizontal



MODE	TX channel 132072	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

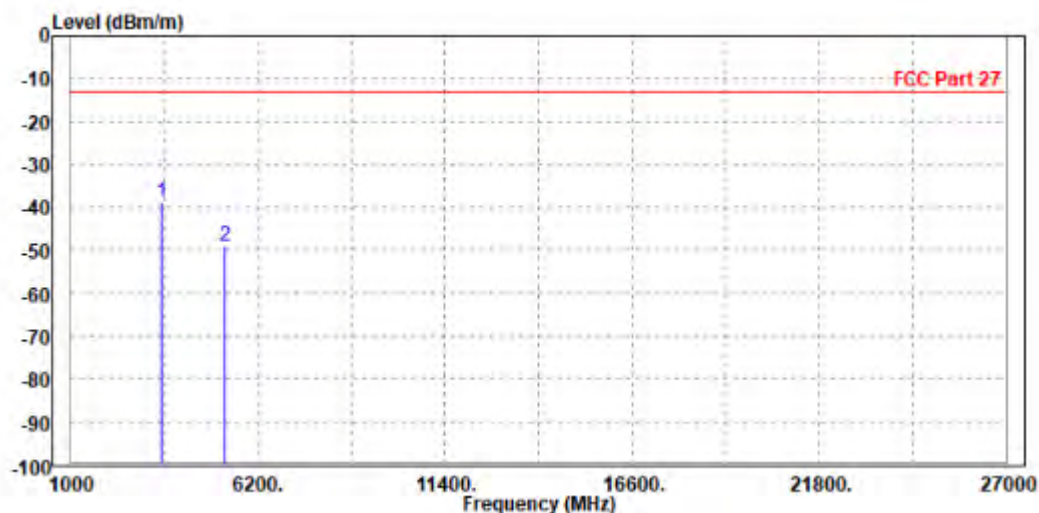
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3430.000	-46.67	-55.79	-13.00	-33.67	9.12	Peak	Vertical
2 PP	5160.000	-23.07	-32.91	-13.00	-10.07	9.84	Peak	Vertical



CH132322

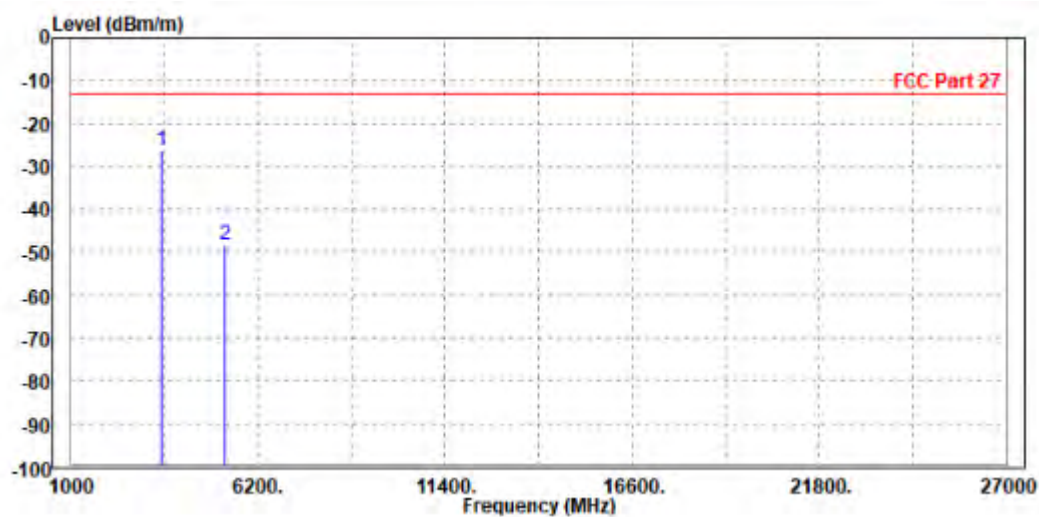
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3522.000	-38.67	-47.27	-13.00	-25.67	8.60	Peak	Horizontal
2	5265.000	-48.90	-58.22	-13.00	-35.90	9.32	Peak	Horizontal



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

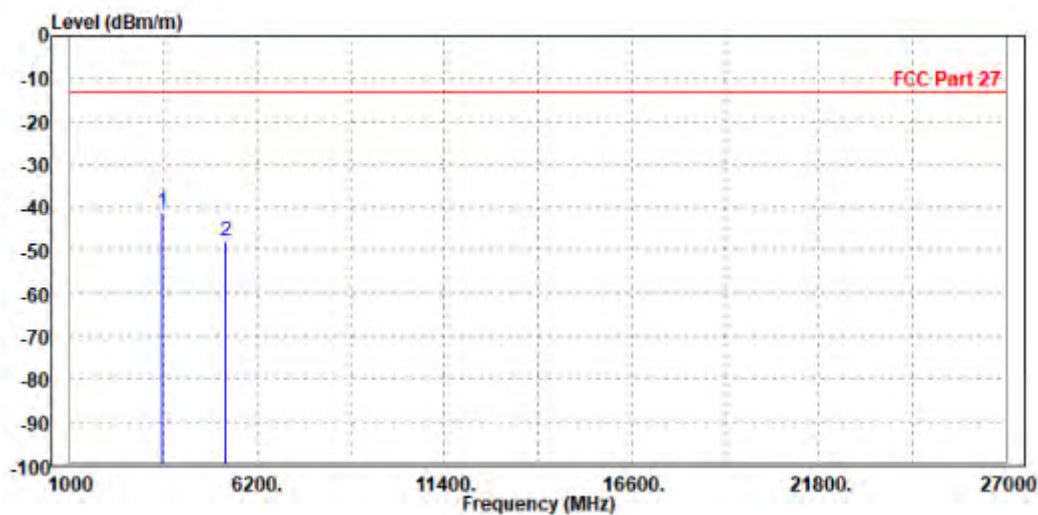
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3522.000	-26.26	-35.46	-13.00	-13.26	9.20	Peak	Vertical
2		5265.000	-48.43	-58.23	-13.00	-35.43	9.80	Peak	Vertical



CH132572

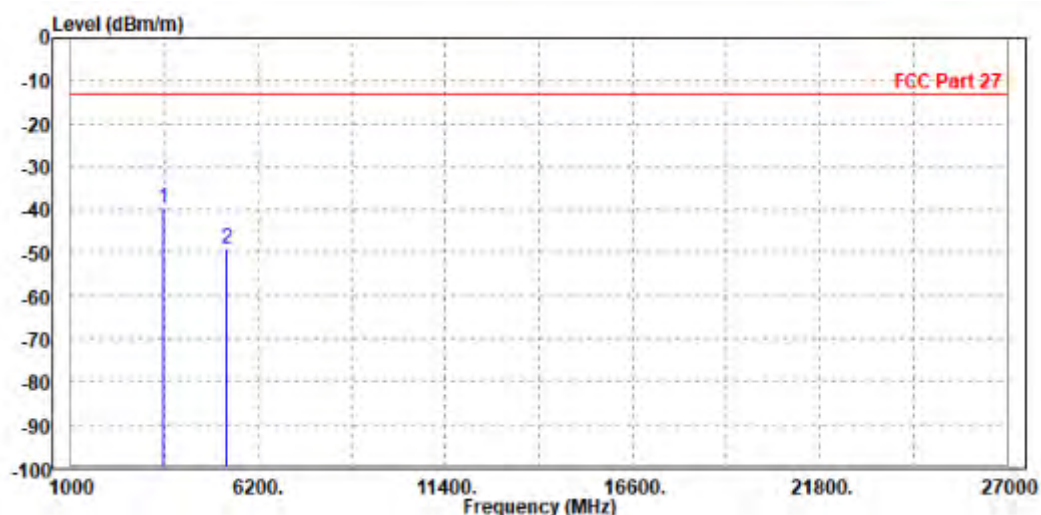
MODE	TX channel 132572	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3548.000	-41.11	-49.73	-13.00	-28.11	8.62	Peak	Horizontal
2	5310.000	-47.93	-57.38	-13.00	-34.93	9.45	Peak	Horizontal



MODE	TX channel 132572	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3548.000	-39.51	-48.72	-13.00	-26.51	9.21	Peak	Vertical
2		5310.000	-48.98	-58.76	-13.00	-35.98	9.78	Peak	Vertical

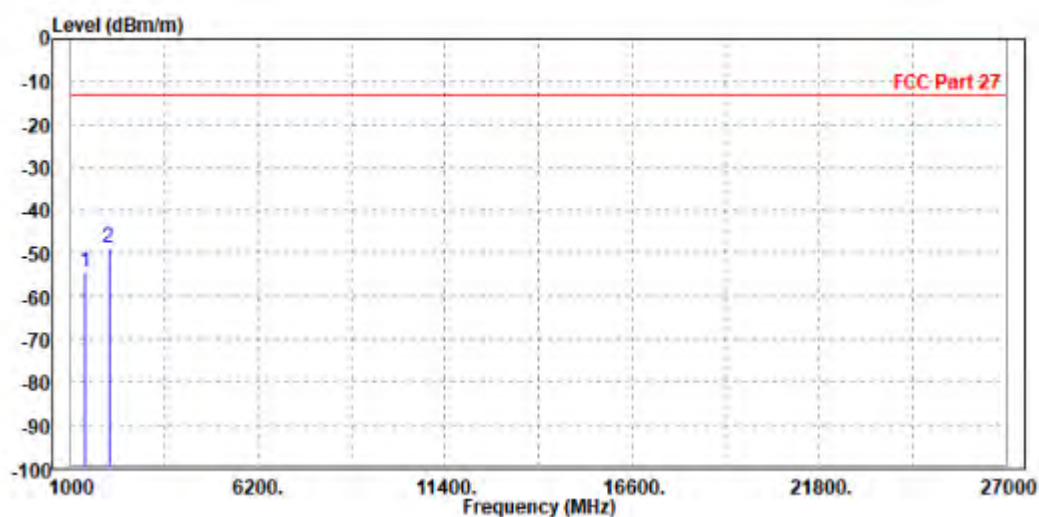


LTE B71

CHANNEL BANDWIDTH: 5MHz / QPSK

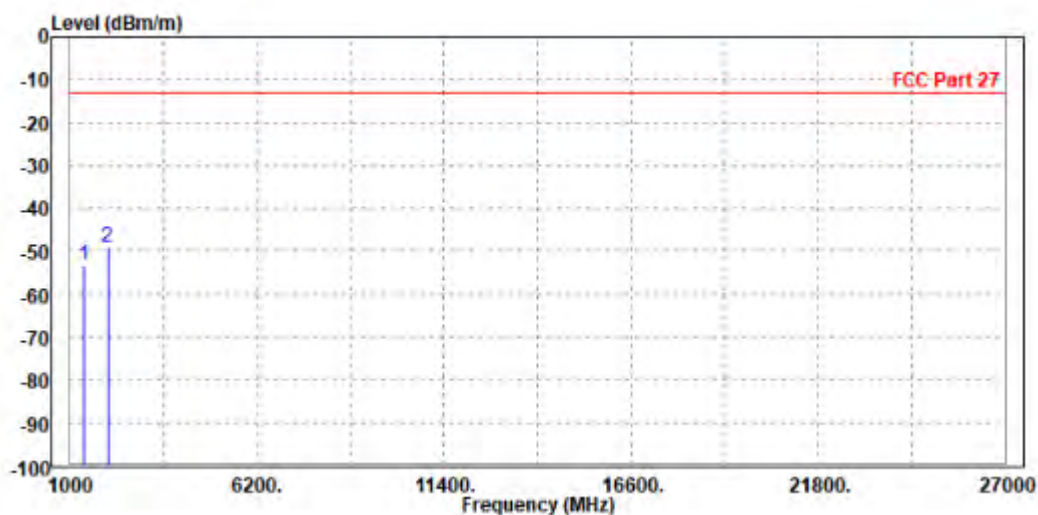
MODE	TX channel 133247	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-54.52	-55.37	-13.00	-41.52	0.85	Peak	Horizontal
2 PP	2041.500	-48.54	-56.13	-13.00	-35.54	7.59	Peak	Horizontal



MODE	TX channel 133247	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.23	-54.70	-13.00	-40.23	1.47	Peak	Vertical
2 PP	2041.500	-49.05	-55.66	-13.00	-36.05	6.61	Peak	Vertical





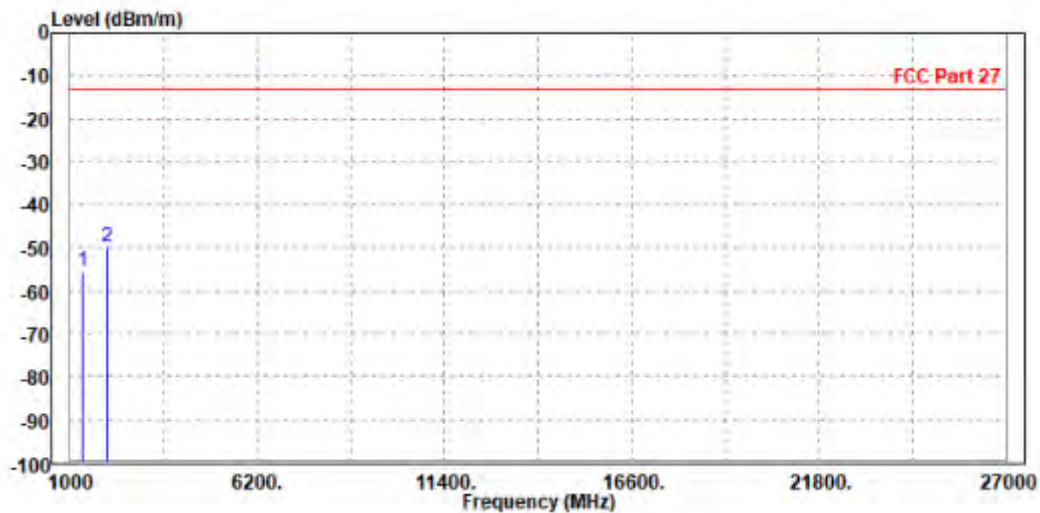
**BUREAU
VERITAS**

Test Report No.: W7L-P22050013RF03

**CHANNEL BANDWIDTH: 10MHz / QPSK
CH133172**

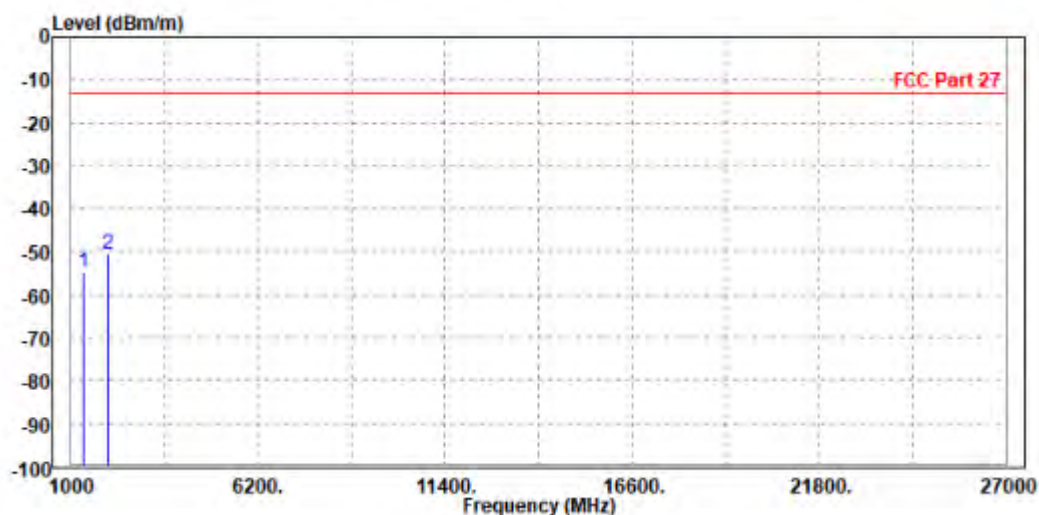
MODE	TX channel 133172	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1338.000	-55.54	-56.28	-13.00	-42.54	0.74	Peak	Horizontal
2 PP	2004.000	-49.89	-57.44	-13.00	-36.89	7.55	Peak	Horizontal



MODE	TX channel 133172	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1338.000	-54.86	-56.22	-13.00	-41.86	1.36	Peak	Vertical
2 PP	2004.000	-50.72	-57.29	-13.00	-37.72	6.57	Peak	Vertical





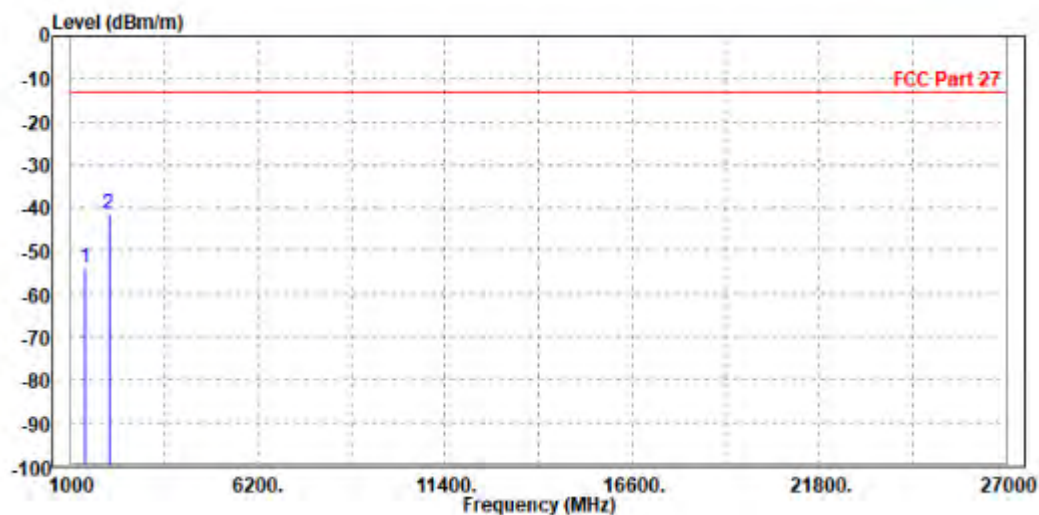
BUREAU
VERITAS

Test Report No.: W7L-P22050013RF03

CH133272

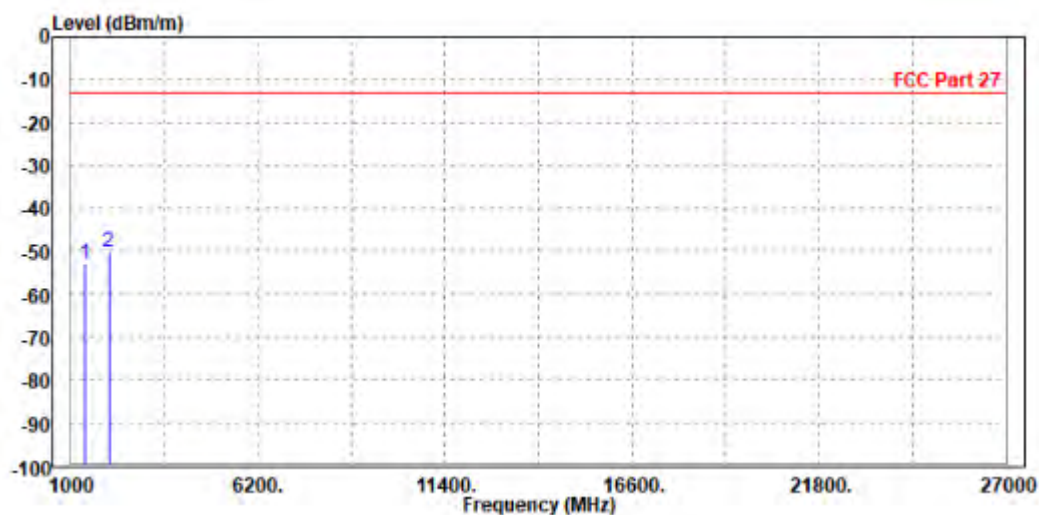
PASSIVE			
MODE	TX channel 133272	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.99	-54.84	-13.00	-40.99	0.85	Peak	Horizontal
2 PP	2041.500	-41.55	-49.14	-13.00	-28.55	7.59	Peak	Horizontal



MODE	TX channel 133272	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.03	-54.50	-13.00	-40.03	1.47	Peak	Vertical
2 PP	2041.500	-50.12	-56.73	-13.00	-37.12	6.61	Peak	Vertical





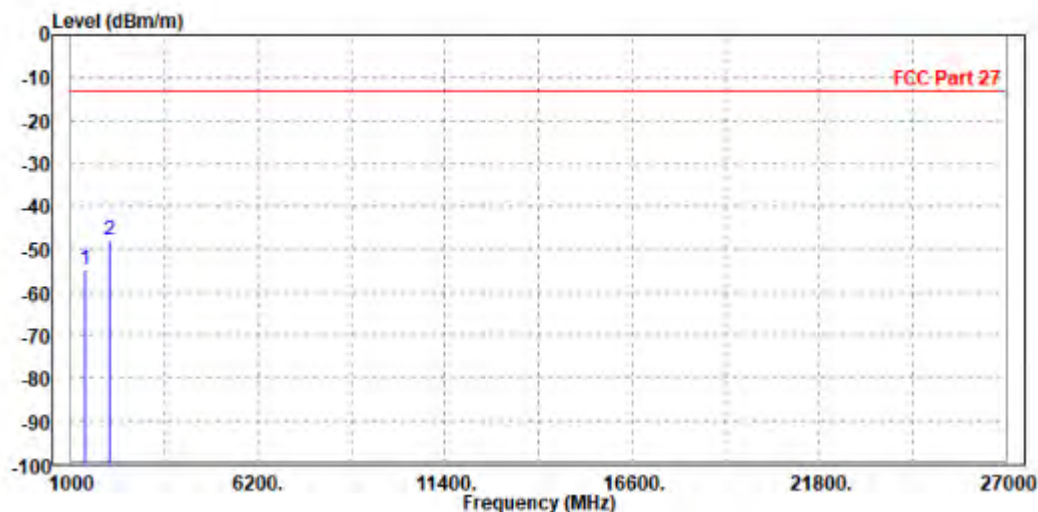
**BUREAU
VERITAS**

Test Report No.: W7L-P22050013RF03

CH133422

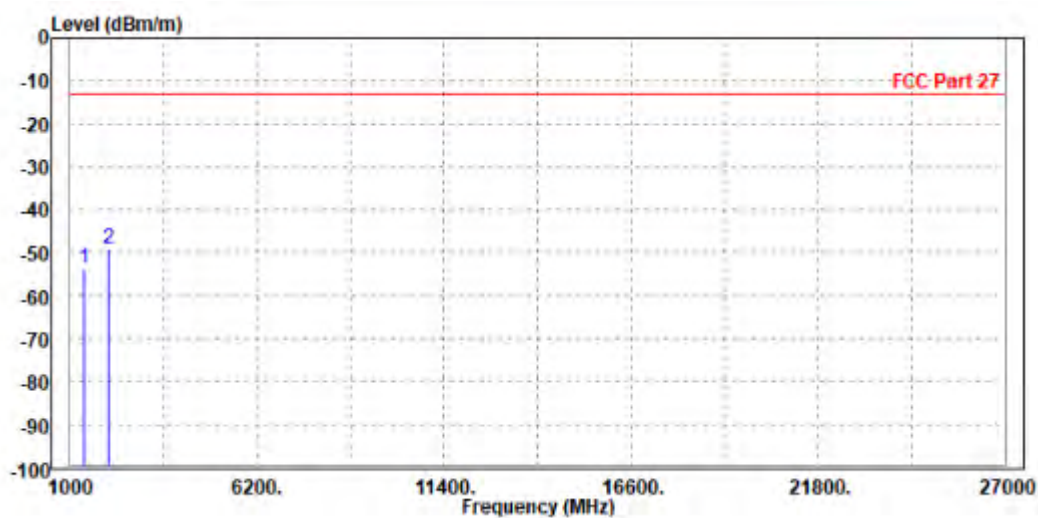
DATA SHEET			
MODE	TX channel 133422	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1390.000	-54.82	-55.79	-13.00	-41.82	0.97	Peak	Horizontal
2	PP 2079.000	-48.10	-55.73	-13.00	-35.10	7.63	Peak	Horizontal



MODE	TX channel 133422	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1390.000	-53.55	-55.13	-13.00	-40.55	1.58	Peak	Vertical
2 PP	2079.000	-49.09	-55.73	-13.00	-36.09	6.64	Peak	Vertical





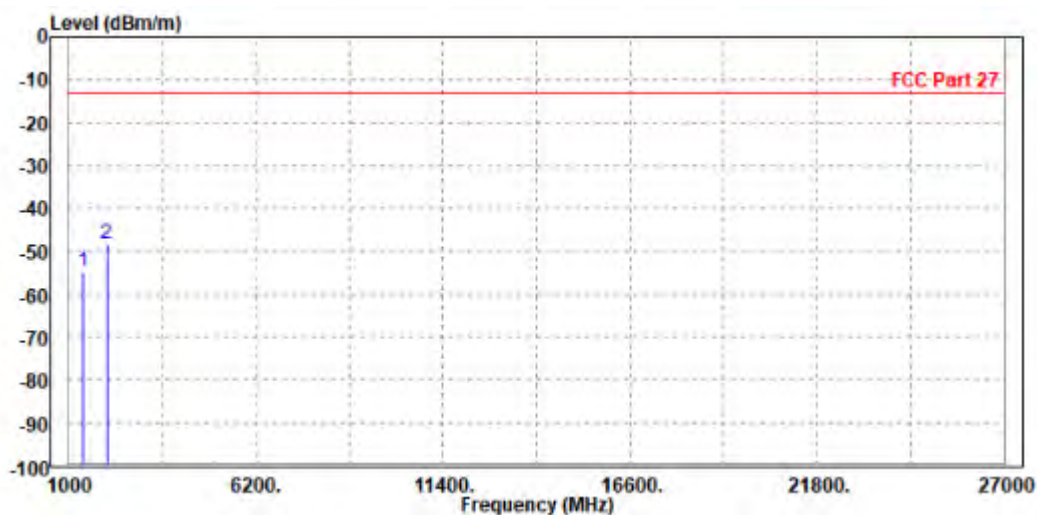
BUREAU
VERITAS

Test Report No.: W7L-P22050013RF03

CHANNEL BANDWIDTH: 15MHz / QPSK

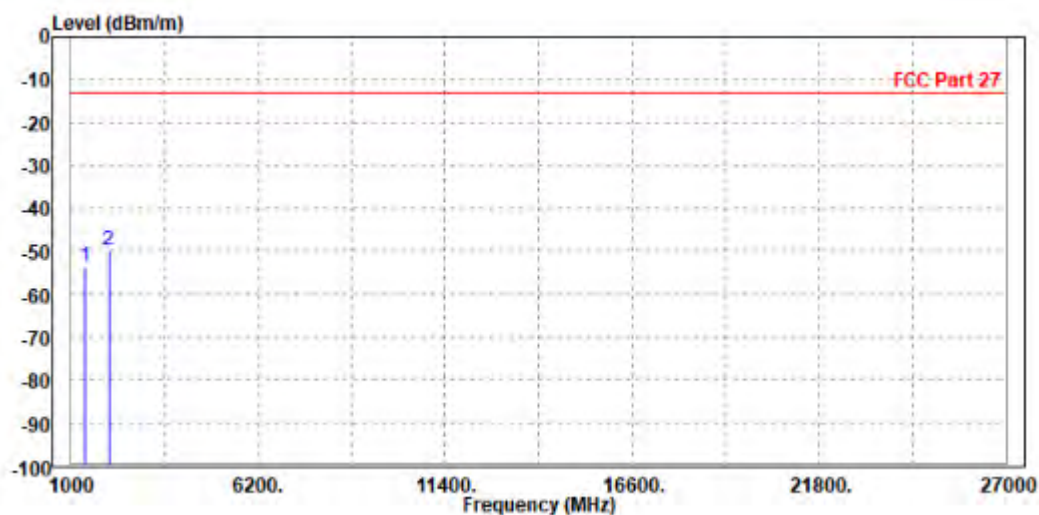
MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-54.60	-55.45	-13.00	-41.60	0.85	Peak	Horizontal
2 PP	2041.500	-48.29	-55.88	-13.00	-35.29	7.59	Peak	Horizontal



MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.47	-54.94	-13.00	-40.47	1.47	Peak	Vertical
2 PP	2041.500	-49.65	-56.26	-13.00	-36.65	6.61	Peak	Vertical

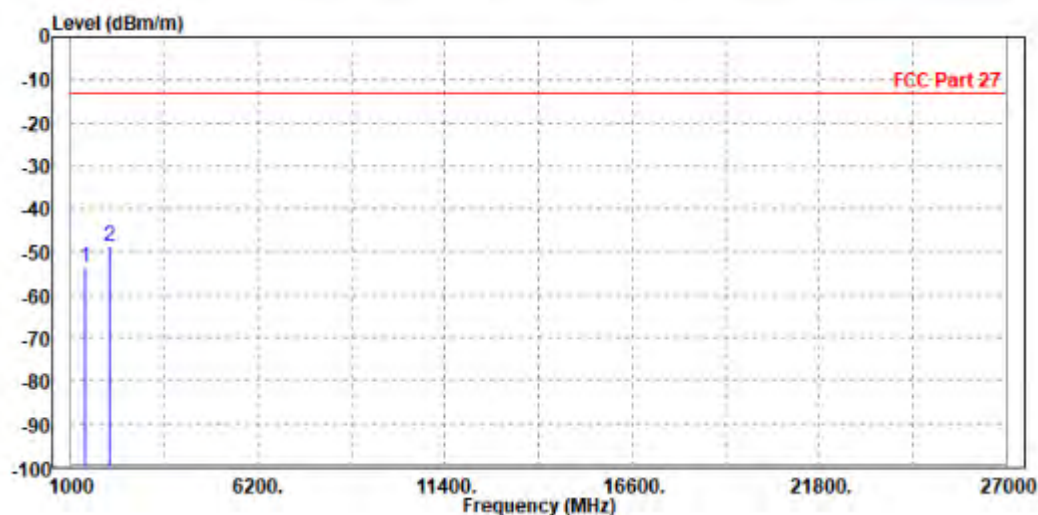


CHANNEL BANDWIDTH: 20MHz / QPSK

CH133322

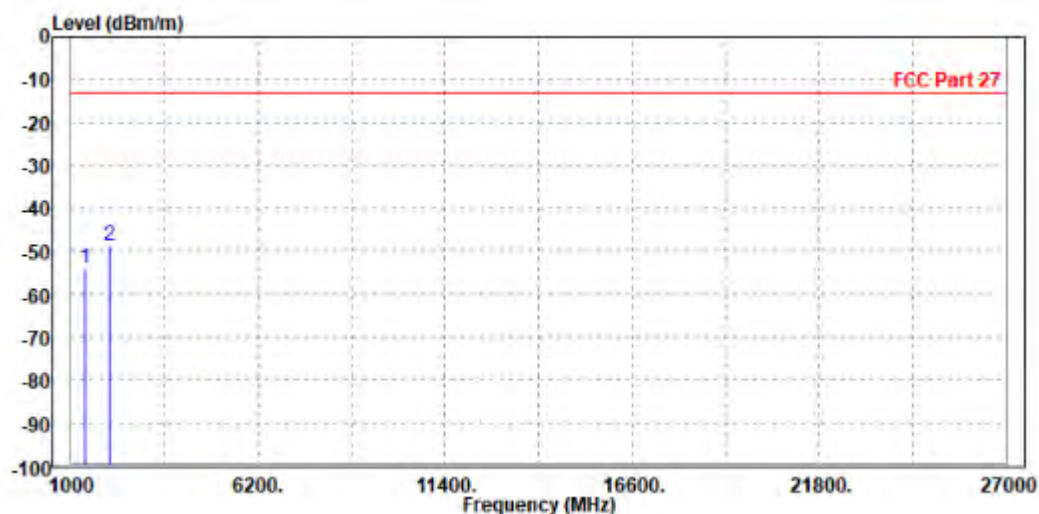
MODE	TX channel 133322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.50	-54.35	-13.00	-40.50	0.85	Peak	Horizontal
2 PP	2049.000	-48.62	-56.22	-13.00	-35.62	7.60	Peak	Horizontal



MODE	TX channel 133322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC13.7V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1364.000	-53.85	-55.32	-13.00	-40.85	1.47	Peak	Vertical
2 PP	2049.000	-48.61	-55.22	-13.00	-35.61	6.61	Peak	Vertical

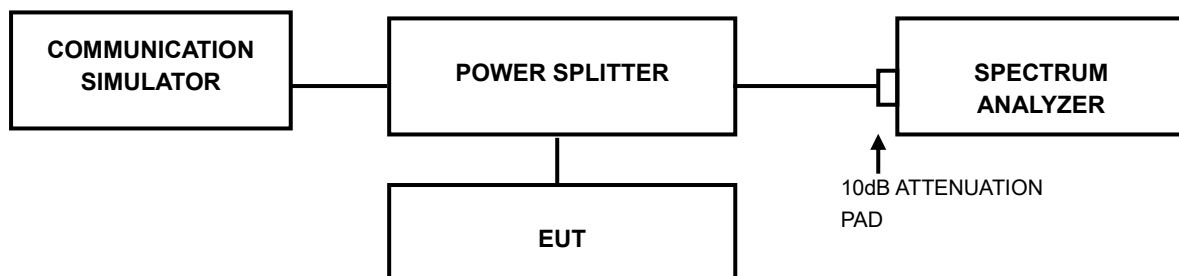


3.7 PEAK TO AVERAGE RATIO

3.7.1 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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth $\geq$ 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%.



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3.7.4 TEST RESULTS

Please Refer to Appendix A Of this test report.



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4 INFORMATION ON THE TESTING LABORATORIES

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

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

Shenzhen EMC/RF Lab:

Tel: +86-755-88696566

Fax: +86-755-88696577

Email: customerservice.sw@bureauveritas.com

Web Site: www.adt.com.tw

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



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

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

NOTE: Please Refer to Appendix A Of this test report.

6 Appendix A

LTE BAND4

PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band4	1.4MHz	QPSK	19957	1RB#0	4.01	13	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	4.78	13	PASS
Band4	1.4MHz	QPSK	20175	1RB#0	4.27	13	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	4.92	13	PASS
Band4	1.4MHz	QPSK	20393	1RB#0	4.30	13	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	4.94	13	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	5.00	13	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	5.66	13	PASS
Band4	1.4MHz	16QAM	20175	1RB#0	5.26	13	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	5.75	13	PASS
Band4	1.4MHz	16QAM	20393	1RB#0	5.16	13	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	5.81	13	PASS
Band4	3MHz	QPSK	19965	1RB#0	3.96	13	PASS
Band4	3MHz	QPSK	19965	15RB#0	4.87	13	PASS
Band4	3MHz	QPSK	20175	1RB#0	4.22	13	PASS
Band4	3MHz	QPSK	20175	15RB#0	5.00	13	PASS
Band4	3MHz	QPSK	20385	1RB#0	4.36	13	PASS
Band4	3MHz	QPSK	20385	15RB#0	4.99	13	PASS
Band4	3MHz	16QAM	19965	1RB#0	4.88	13	PASS
Band4	3MHz	16QAM	19965	15RB#0	5.66	13	PASS
Band4	3MHz	16QAM	20175	1RB#0	5.27	13	PASS
Band4	3MHz	16QAM	20175	15RB#0	5.82	13	PASS
Band4	3MHz	16QAM	20385	1RB#0	5.20	13	PASS
Band4	3MHz	16QAM	20385	15RB#0	5.88	13	PASS
Band4	5MHz	QPSK	19975	1RB#0	4.11	13	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.93	13	PASS
Band4	5MHz	QPSK	20175	1RB#0	4.24	13	PASS
Band4	5MHz	QPSK	20175	25RB#0	5.00	13	PASS
Band4	5MHz	QPSK	20375	1RB#0	4.31	13	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.98	13	PASS
Band4	5MHz	16QAM	19975	1RB#0	4.97	13	PASS
Band4	5MHz	16QAM	19975	25RB#0	5.71	13	PASS
Band4	5MHz	16QAM	20175	1RB#0	5.30	13	PASS
Band4	5MHz	16QAM	20175	25RB#0	5.78	13	PASS
Band4	5MHz	16QAM	20375	1RB#0	5.09	13	PASS
Band4	5MHz	16QAM	20375	25RB#0	5.79	13	PASS
Band4	10MHz	QPSK	20000	1RB#0	4.00	13	PASS
Band4	10MHz	QPSK	20000	50RB#0	4.92	13	PASS
Band4	10MHz	QPSK	20175	1RB#0	4.10	13	PASS



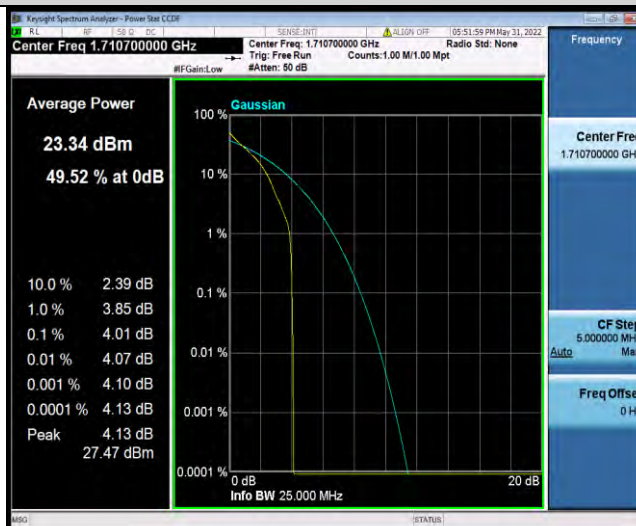
BUREAU
VERITAS

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Band4	10MHz	QPSK	20175	50RB#0	4.96	13	PASS
Band4	10MHz	QPSK	20350	1RB#0	4.25	13	PASS
Band4	10MHz	QPSK	20350	50RB#0	5.00	13	PASS
Band4	10MHz	16QAM	20000	1RB#0	4.78	13	PASS
Band4	10MHz	16QAM	20000	50RB#0	5.73	13	PASS
Band4	10MHz	16QAM	20175	1RB#0	4.91	13	PASS
Band4	10MHz	16QAM	20175	50RB#0	5.76	13	PASS
Band4	10MHz	16QAM	20350	1RB#0	5.17	13	PASS
Band4	10MHz	16QAM	20350	50RB#0	5.81	13	PASS
Band4	15MHz	QPSK	20025	1RB#0	4.36	13	PASS
Band4	15MHz	QPSK	20025	75RB#0	4.70	13	PASS
Band4	15MHz	QPSK	20175	1RB#0	3.75	13	PASS
Band4	15MHz	QPSK	20175	75RB#0	5.14	13	PASS
Band4	15MHz	QPSK	20325	1RB#0	4.59	13	PASS
Band4	15MHz	QPSK	20325	75RB#0	5.28	13	PASS
Band4	15MHz	16QAM	20025	1RB#0	5.19	13	PASS
Band4	15MHz	16QAM	20025	75RB#0	5.47	13	PASS
Band4	15MHz	16QAM	20175	1RB#0	4.63	13	PASS
Band4	15MHz	16QAM	20175	75RB#0	5.86	13	PASS
Band4	15MHz	16QAM	20325	1RB#0	5.46	13	PASS
Band4	15MHz	16QAM	20325	75RB#0	5.97	13	PASS
Band4	20MHz	QPSK	20050	1RB#0	4.08	13	PASS
Band4	20MHz	QPSK	20050	100RB#0	4.91	13	PASS
Band4	20MHz	QPSK	20175	1RB#0	4.03	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.00	13	PASS
Band4	20MHz	QPSK	20300	1RB#0	4.20	13	PASS
Band4	20MHz	QPSK	20300	100RB#0	5.05	13	PASS
Band4	20MHz	16QAM	20050	1RB#0	4.92	13	PASS
Band4	20MHz	16QAM	20050	100RB#0	5.72	13	PASS
Band4	20MHz	16QAM	20175	1RB#0	5.11	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	5.78	13	PASS
Band4	20MHz	16QAM	20300	1RB#0	4.98	13	PASS
Band4	20MHz	16QAM	20300	100RB#0	5.79	13	PASS

Test Graphs

Band4-1.4MHz-QPSK-19957-1RB#0



Band4-1.4MHz-QPSK-19957-6RB#0



Band4-1.4MHz-QPSK-20175-1RB#0