

FCC TEST REPORT

(PART 22)

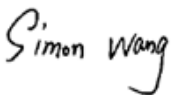
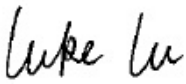
Applicant:	Juniper Systems, Inc.
Address:	1132 W 1700 N Logan, UT 84321 USA

Manufacturer or Supplier:	Juniper Systems, Inc.
Address:	1132 W 1700 N Logan, UT 84321 USA
Product:	Archer4
Brand Name:	Juniper Systems
Model Name:	AR4
FCC ID:	VSFAR4
Date of tests:	Jan. 05, 2024 ~ May. 15, 2024

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

- | | |
|---|---|
| ☒ FCC PART 22, Subpart H | ☒ FCC Part 2 |
| ☒ ANSI/TIA/EIA-603-D | ☒ ANSI C63.26-2015 |
| ☒ ANSI/TIA/EIA-603-E | |

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: May. 15, 2024	Date: May. 15, 2024

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-231218W001RF05	Original release	May. 15, 2024

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2		
STANDARD SECTION	TEST TYPE	RESULT
§2.1046	Conducted Output Power	Compliance
§22.913 (a)(5)	Effective Radiated Power	Compliance
§2.1055 §22.355	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§22.913 (d)	Peak to average ratio*	Compliance
§22.917(a)	Band Edge Measurements	Compliance
§2.1051 §22.917(a)	Conducted Spurious Emissions	Compliance
§2.1053 §22.917(a)	Radiated Spurious Emissions	Compliance

* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

NOTE:

The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and 16QAM were observed as the worst mode to LTE bands respectively and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, and 256QAM modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.

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
Maximum Peak Output Power	$\pm 2.06\text{dB}$
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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	Mar. 28,23	Mar. 27,24
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May. 10,23	May. 09,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May. 09,24	May. 08,25
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep. 02,23	Sep. 01,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 18,23	Feb. 17,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 17,24	Feb. 16,25
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 18,23	Feb. 17,24
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 17,24	Feb. 16,25
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep. 03,23	Sep. 03,24
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 14,23	Feb. 13,24
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 13,24	Feb. 12,25
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,23	May. 05,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 05,24	May. 04,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May. 10,23	May.09,24
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May. 09,24	May.08,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb. 16,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 16,24	Feb. 15,25
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn-CT0001143-1216	Nov. 14,23	Nov. 13,26
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	50HF-010-SMA	May. 06,23	May. 05,24
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010-SMA	May. 05,24	May. 04,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 13,24	Feb. 12,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 13,24	Feb. 12,25
Temperature Chamber	ESPEC	SH-242	93000855	May. 06,23	May. 05,24
Temperature Chamber	ESPEC	SH-242	93000855	May. 05,24	May. 04,25
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,23	Feb. 13,24
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 13,24	Feb. 12,25
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.10,23	May.09,24
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May. 09,24	May.08,25



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DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 11,23	Aug. 10,24
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- 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	Archer4	
BRAND NAME	Juniper Systems	
MODEL NAME	AR4	
NOMINAL VOLTAGE	12Vdc(adapter or host equipment) 3.8Vdc (Li-ion, battery)	
MODULATION TYPE	LTE	QPSK, 16QAM, 64QAM, 256QAM
FREQUENCY RANGE	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 5B Channel Bandwidth: 3MHz+5MHz	825.6MHz ~ 846.5MHz
	LTE Band 5B Channel Bandwidth: 5MHz+3MHz	826.5MHz ~ 847.4MHz
	LTE Band 5B Channel Bandwidth: 5MHz+10MHz	826.8MHz ~ 844.0MHz
	LTE Band 5B Channel Bandwidth: 10MHz+5MHz	829.0MHz ~ 846.2MHz
	LTE Band 5B Channel Bandwidth: 10MHz+10MHz	829.0MHz ~ 844.0MHz
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 15MHz)	831.5MHz ~ 841.5MHz
MAX. ERP POWER	LTE Band 5 (Channel Bandwidth: 1.4MHz)	64.71mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	62.81mW



	LTE Band 5 (Channel Bandwidth: 5MHz)	62.66mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	64.86mW
	LTE Band 5B Channel Bandwidth: 3MHz+5MHz	98.86mW
	LTE Band 5B Channel Bandwidth: 5MHz+3MHz	100.46mW
	LTE Band 5B Channel Bandwidth: 5MHz+10MHz	97.95mW
	LTE Band 5B Channel Bandwidth: 10MHz+5MHz	97.95mW
	LTE Band 5B Channel Bandwidth: 10MHz+10MHz	100.93mW
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	61.24mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	61.66mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	60.95mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	62.37mW
	LTE Band 26 (Channel Bandwidth: 15MHz)	63.1mW
EMISSION DESIGNATOR GOGN	LTE Band 5B Channel Bandwidth: 3MHz+5MHz	QPSK: 7M50G7D 16QAM: 7M50W7D
	LTE Band 5B Channel Bandwidth: 5MHz+3MHz	QPSK: 7M52G7D 16QAM: 7M50W7D
	LTE Band 5B Channel Bandwidth: 5MHz+10MHz	QPSK: 13M9G7D 16QAM: 13M9W7D
	LTE Band 5B Channel Bandwidth: 10MHz+5MHz	QPSK: 13M9G7D 16QAM: 13M9W7D
	LTE Band 5B Channel Bandwidth: 10MHz+10MHz	QPSK: 18M9G7D 16QAM: 18M8W7D
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M10G7D 16QAM: 1M10W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D 16QAM: 2M71W7D



	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M53G7D
		16QAM: 4M53W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 9M01G7D
		16QAM: 9M01W7D
	LTE Band 26 (Channel Bandwidth: 15MHz)	QPSK: 13M5G7D
		16QAM: 13M5W7D
ANTENNA TYPE	ANT0 Fixed Internal Antenna with -2.36dBi gain for LTE B5/LTE B26	
HW VERSION	DVT2	
SW VERSION	JH_U_000.00.040.00_USERDEBUG_PCAT	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable: With shielded cable, w/o ferrite core, 1.0 meter	
EXTREME TEMPERATURE	-20-60 °C	
EXTREME VOLTAGE	3.4V - 4.35V	

NOTE:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides two completed transmitters and four receivers.

MODULATION MODE	TX FUNCTION
LTE	2TX/4RX

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.
- The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and 16QAM were observed as the worst mode to LTE bands respectively and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, and 256QAM modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.

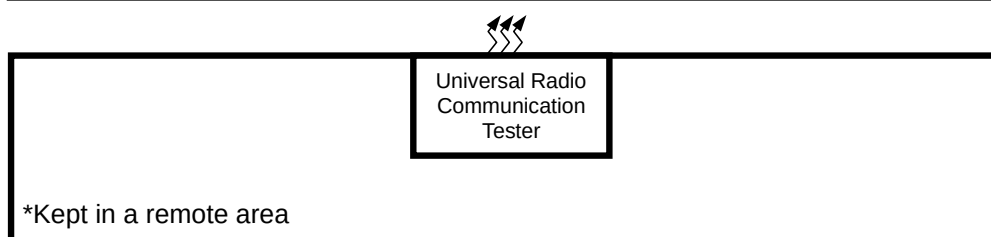
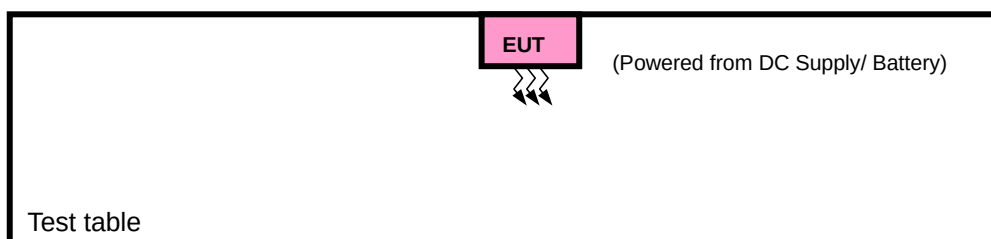
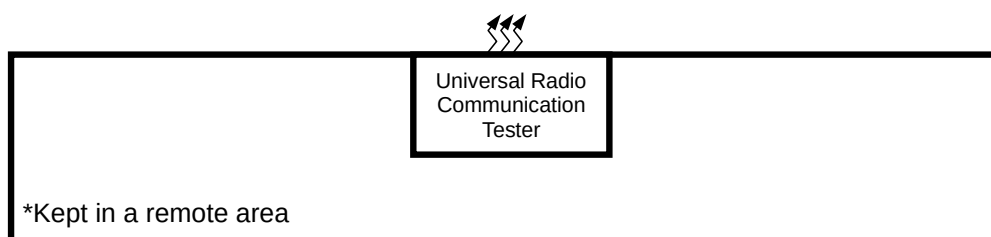
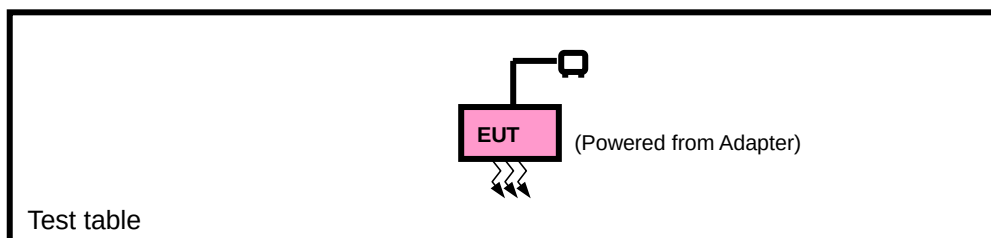
6. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter	Juniper	SHENZHEN MERRYKING ELECTRONICS CO.,LTD.	MK-PQ181EX	I/P: 100-240Vac, 0.5A, O/P: 12.0Vdc, 1.5A
Battery 1	CHOLIPOW	SHENZHEN CHOLIPOWER TECHNOLOGY	CLP983	Capacity: 3.8Vdc, 4500mAh

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		CO.,LTD		
Battery 2	CHOLIPOW	SHENZHEN CHOLIPower TECHNOLOGY CO.,LTD	CLP984	Capacity: 3.8Vdc, 8300mAh
Battery 3	GUANGWEI	SHENZHEN GUANGWEI ELECTRONIC TECHNOLOGY CO.,LTD	GW300	Capacity: 3.7Vdc, 300mAh
USB Cable	Keli	KELI TECHNOLOGY DEVELOPMENT CO.,LTD	KLC-5243	Signal Line,1.0meter
LCD Panel	KOTL	JIN LONG MACHINERY&ELE CTRONICS (Hangzhou) CO., LTD.	304-T0662A-001- A2	6.26inch TFT, 1080(H)*2280(V) resolution

2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION



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	N/A	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB cable: Unshielded, Detachable 1.0m

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 in ERP and radiated emission was found when positioned on X-plane for GSM /EDGE /LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with LTE link
B	EUT + Battery with LTE link

LTE BAND 5 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 5 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same output power and supported bandwidths, So the test data please refer to LTE Band 26

LTE BAND 26 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM, 256QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	26865 to 26965	26865, 26915, 26965	10MHz	QPSK,16QAM	75 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset
A	BAND EDGE	26797 to 27033	26797	1.4 MHz	QPSK,16QAM	1 RB / 0 RB Offset 6 RB / 0 RB Offset
		26797 to 27033	27033	1.4 MHz	QPSK,16QAM	1 RB / 5 RB Offset



						6 RB / 0 RB Offset
		26805 to 27025	26805	3 MHz	QPSK,16QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
		26805 to 27025	27025	3 MHz	QPSK,16QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		26815 to 27015	26815	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
		26815 to 27015	27015	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		26840 to 26990	26840	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	CONDUCTED EMISSION					50 RB / 0 RB Offset
		26840 to 26990	26990	10MHz	QPSK,16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		26865 to 26965	26865	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
A	RADIATED EMISSION	26865 to 26965	26965	15MHz	QPSK,16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		26797 to 27033	26915	1.4MHz	QPSK	1 RB / 0 RB Offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
		26815 to 27015	26915	5MHz	QPSK	1 RB / 0 RB Offset
		26840 to 26990	26915	10MHz	QPSK	1 RB / 0 RB Offset
		26865 to 26965	26915	15MHz	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 CA_5B MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABL E PCC CHANNEL	AVAILABL E SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	ERP	20450 to 21501	20549 to 20600	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		20450 to 20550	20522 to 20622	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		20428 to 20528	20500 to 20600	Low, Middle, High	5MHz+10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20425 to 20595	20464 to 20634	Low, Middle, High	5MHz+3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20416 to 20586	20455 to 20625	Low, Middle, High	3MHz+5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 14RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	20450 to 21501	20549 to 20600	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM	50RB/ 0RB Offset	50RB/ 0RB Offset
		20450 to 20550	20522 to 20622	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM	25RB/ 0RB Offset	25RB/ 0RB Offset
		20428 to 20528	20500 to 20600	Low, Middle, High	5MHz+10MHz	QPSK, 16QAM	25RB/ 0RB Offset	50RB/ 0RB Offset
		20425 to 20595	20464 to 20634	Low, Middle, High	5MHz+3MHz	QPSK, 16QAM	25RB/ 0RB Offset	15RB/ 0RB Offset
		20416 to 20586	20455 to 20625	Low, Middle, High	3MHz+5MHz	QPSK, 16QAM	15RB/ 0RB Offset	25RB/ 0RB Offset
A	BAND EDGE	20450 to 21501	20549 to 20600	Low	10MHz+10MHz	QPSK, 16QAM	1RB/ 0RB Offset	1RB/ 50RB Offset
							1RB/ 49RB Offset	50RB/ 0RB Offset
							50RB/ 0RB Offset	50RB/ 0RB Offset
				High	10MHz+10MHz	QPSK, 16QAM	1RB/ 0RB Offset	1RB/ 50RB Offset
							1RB/ 49RB Offset	50RB/ 0RB Offset
							50RB/ 0RB Offset	50RB/ 0RB Offset
A	CONDUCTED EMISSION	20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	20850 to 21152	21048 to 21350	Middle	20MHz+20MHz	QPSK	1RB/ 99RB Offset	1RB/ 0RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 12.0V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.4V/3.8V/4.35V By Battery	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 12.0V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 12.0V By Adapter	James Fu
CONDUCTED EMISSION	23deg. C, 70%RH	DC 12.0V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 12.0V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 12.0V By Adapter	James Fu

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.

2.6 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 22

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

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

EIRP / ERP 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.

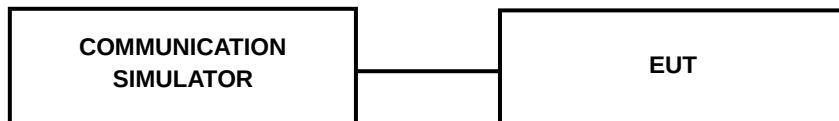
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA 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

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:





3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 5

LTE Band 5						
		RB Size	RB Offset	Low	Mid	High
BW	Modulation	Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.63	22.41	22.07
		1	24	22.50	22.16	22.08
		1	49	22.19	22.18	22.11
		25	0	21.63	21.40	21.25
		25	12	21.55	21.32	21.06
		25	25	21.36	21.10	21.04
		50	0	21.51	21.36	21.08
	16QAM	1	0	21.79	21.52	21.39
		1	24	21.62	21.38	21.14
		1	49	21.54	21.31	21.13
		25	0	20.56	20.39	20.09
		25	12	20.64	20.29	20.21
		25	25	20.33	20.13	20.10
		50	0	20.60	20.35	20.03
	64QAM	1	0	20.67	20.57	20.21
		1	24	20.76	20.41	20.15
		1	49	20.45	20.32	20.03
		25	0	19.56	19.44	19.16
		25	12	19.66	19.27	19.20
		25	25	19.37	19.23	19.05
		50	0	19.58	19.26	19.07
	256QAM	1	0	17.55	17.43	17.06
		1	24	17.72	17.27	17.01
		1	49	17.33	17.25	16.94
		25	0	17.51	17.33	17.04
		25	12	17.63	17.19	17.18
		25	25	17.28	17.08	17.04
		50	0	17.56	17.21	17.00



LTE Band 5						
BW	Modulation	Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.48	22.32	22.02
		1	12	22.47	22.07	22.02
		1	24	22.16	22.14	21.97
		12	0	21.54	21.33	21.14
		12	6	21.48	21.27	20.99
		12	13	21.21	21.06	20.95
		25	0	21.45	21.32	21.06
	16QAM	1	0	21.68	21.48	21.29
		1	12	21.48	21.31	21.11
		1	24	21.43	21.22	21.01
		12	0	20.47	20.29	20.01
		12	6	20.56	20.19	20.18
		12	13	20.20	20.03	20.01
		25	0	20.50	20.26	19.97
	64QAM	1	0	20.66	20.45	20.08
		1	12	20.68	20.27	20.08
		1	24	20.34	20.28	19.98
		12	0	19.46	19.40	19.05
		12	6	19.60	19.20	19.09
		12	13	19.34	19.10	18.91
		25	0	19.43	19.25	18.92
	256QAM	1	0	17.53	17.36	16.91
		1	12	17.62	17.14	16.92
		1	24	17.27	17.24	16.79
		12	0	17.37	17.27	16.94
		12	6	17.61	17.09	17.11
		12	13	17.19	17.03	16.93
		25	0	17.54	17.09	16.95



LTE Band 5						
BW	Modulation	Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.49	22.36	21.95
		1	7	22.39	22.01	22.07
		1	14	22.13	22.15	22.08
		8	0	21.61	21.25	21.11
		8	3	21.44	21.26	20.93
		8	7	21.22	21.09	21.02
		15	0	21.49	21.27	20.93
	16QAM	1	0	21.66	21.48	21.28
		1	7	21.58	21.33	21.08
		1	14	21.52	21.16	21.03
		8	0	20.54	20.37	20.01
		8	3	20.53	20.17	20.11
		8	7	20.23	20.09	20.05
		15	0	20.46	20.30	20.01
	64QAM	1	0	20.61	20.43	20.06
		1	7	20.62	20.34	20.13
		1	14	20.44	20.22	19.93
		8	0	19.44	19.35	19.05
		8	3	19.58	19.24	19.14
		8	7	19.29	19.22	19.00
		15	0	19.56	19.25	18.99
	256QAM	1	0	17.52	17.40	16.94
		1	7	17.59	17.23	16.90
		1	14	17.31	17.19	16.84
		8	0	17.40	17.27	16.98
		8	3	17.48	17.06	17.17
		8	7	17.14	17.00	16.98
		15	0	17.41	17.14	16.86



LTE Band 5						
BW	Modulation	Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.62	22.35	22.04
		1	2	22.41	22.03	22.00
		1	5	22.11	22.14	22.09
		3	0	22.19	22.00	21.92
		3	1	22.20	21.89	21.61
		3	3	22.03	21.69	21.64
		6	0	21.47	21.35	20.93
	16QAM	1	0	21.72	21.39	21.30
		1	2	21.56	21.30	21.11
		1	5	21.52	21.28	21.05
		3	0	21.23	20.96	20.73
		3	1	21.32	20.86	20.82
		3	3	20.89	20.71	20.71
		6	0	20.57	20.31	19.96
	64QAM	1	0	20.53	20.55	20.18
		1	2	20.75	20.36	20.13
		1	5	20.38	20.21	19.97
		3	0	20.25	20.01	19.81
		3	1	20.29	19.87	19.84
		3	3	20.05	19.80	19.62
		6	0	19.46	19.24	19.03
	256QAM	1	0	17.51	17.36	16.92
		1	2	17.71	17.16	16.88
		1	5	17.27	17.16	16.89
		3	0	17.38	17.25	17.03
		3	1	17.53	17.10	17.07
		3	3	17.14	16.99	16.98
		6	0	17.46	17.07	16.87

LTE BAND 26

LTE Band 26						
		RB Size	RB Offset	Low	Mid	High
BW	Modulation	Channel		26765	26865	26965
		Frequency (MHz)		821.5	831.5	841.5
15M	QPSK	1	0	22.77	22.51	22.37
		1	37	22.56	22.45	22.14
		1	74	22.44	22.10	21.92
		36	0	21.84	21.56	21.22
		36	19	21.80	21.55	21.24
		36	39	21.48	21.28	21.01
		75	0	21.72	21.37	21.16
	16QAM	1	0	22.00	21.73	21.38
		1	37	21.79	21.51	21.25
		1	74	21.64	21.30	21.22
		36	0	20.85	20.46	20.40
		36	19	20.72	20.55	20.18
		36	39	20.54	20.45	20.14
		75	0	20.71	20.48	20.14
	64QAM	1	0	21.11	20.76	20.54
		1	37	20.80	20.54	20.25
		1	74	20.69	20.37	20.13
		36	0	19.89	19.62	19.21
		36	19	19.80	19.48	19.33
		36	39	19.60	19.37	19.03
		75	0	19.74	19.45	19.24
	256QAM	1	0	18.03	17.71	17.45
		1	37	17.70	17.40	17.21
		1	74	17.56	17.27	17.09
		36	0	17.76	17.53	17.17
		36	19	17.75	17.44	17.21
		36	39	17.50	17.34	16.88
		75	0	17.69	17.40	17.11



LTE Band 26						
BW	Modulation	Channel		26740	26865	26990
		Frequency (MHz)		819	831.5	844
10M	QPSK	1	0	22.76	22.37	22.33
		1	24	22.41	22.42	22.01
		1	49	22.39	22.06	21.86
		25	0	21.71	21.44	21.21
		25	12	21.67	21.46	21.17
		25	25	21.34	21.15	20.94
		50	0	21.63	21.34	21.01
	16QAM	1	0	21.96	21.72	21.28
		1	24	21.64	21.38	21.16
		1	49	21.63	21.26	21.21
		25	0	20.78	20.41	20.31
		25	12	20.62	20.42	20.10
		25	25	20.48	20.36	20.02
		50	0	20.61	20.46	20.09
	64QAM	1	0	21.01	20.75	20.49
		1	24	20.79	20.53	20.10
		1	49	20.57	20.26	19.98
		25	0	19.88	19.57	19.15
		25	12	19.74	19.37	19.23
		25	25	19.47	19.27	19.00
		50	0	19.69	19.34	19.20
	256QAM	1	0	17.93	17.59	17.32
		1	24	17.60	17.28	17.20
		1	49	17.46	17.14	16.96
		25	0	17.66	17.45	17.03
		25	12	17.62	17.42	17.20
		25	25	17.41	17.30	16.78
		50	0	17.65	17.32	17.02



**BUREAU
VERITAS**

Test Report No.: W7L-231218W001RF05

LTE Band 26						
BW	Modulation	Channel		26715	26865	27015
		Frequency (MHz)		816.5	831.5	846.5
5M	QPSK	1	0	22.62	22.46	22.28
		1	12	22.53	22.42	22.02
		1	24	22.29	22.01	21.88
		12	0	21.78	21.52	21.08
		12	6	21.69	21.43	21.13
		12	13	21.41	21.21	20.88
		25	0	21.66	21.33	21.09
	16QAM	1	0	21.96	21.71	21.34
		1	12	21.73	21.49	21.22
		1	24	21.54	21.26	21.16
		12	0	20.77	20.38	20.29
		12	6	20.69	20.42	20.06
		12	13	20.40	20.43	20.01
		25	0	20.58	20.40	20.02
	64QAM	1	0	21.01	20.73	20.45
		1	12	20.68	20.49	20.10
		1	24	20.58	20.23	20.07
		12	0	19.86	19.48	19.13
		12	6	19.74	19.39	19.29
		12	13	19.46	19.23	18.92
		25	0	19.66	19.44	19.13
	256QAM	1	0	17.93	17.67	17.34
		1	12	17.66	17.32	17.08
		1	24	17.48	17.17	16.98
		12	0	17.66	17.46	17.10
		12	6	17.69	17.29	17.08
		12	13	17.46	17.20	16.79
		25	0	17.57	17.25	16.97



LTE Band 26						
BW	Modulation	Channel		26705	26865	27025
		Frequency (MHz)		815.5	831.5	847.5
3M	QPSK	1	0	22.62	22.41	22.30
		1	7	22.49	22.40	22.01
		1	14	22.39	21.98	21.89
		8	0	21.77	21.53	21.16
		8	3	21.69	21.45	21.17
		8	7	21.36	21.25	20.98
		15	0	21.71	21.25	21.09
	16QAM	1	0	21.94	21.65	21.31
		1	7	21.75	21.42	21.15
		1	14	21.62	21.15	21.09
		8	0	20.79	20.34	20.33
		8	3	20.64	20.47	20.07
		8	7	20.46	20.44	20.10
		15	0	20.65	20.36	20.05
	64QAM	1	0	20.98	20.61	20.46
		1	7	20.77	20.46	20.21
		1	14	20.68	20.28	20.12
		8	0	19.84	19.50	19.17
		8	3	19.70	19.45	19.23
		8	7	19.52	19.23	18.92
		15	0	19.60	19.40	19.12
	256QAM	1	0	17.92	17.62	17.37
		1	7	17.59	17.38	17.19
		1	14	17.46	17.26	16.96
		8	0	17.66	17.39	17.15
		8	3	17.66	17.30	17.12
		8	7	17.37	17.30	16.74
		15	0	17.57	17.27	17.03



LTE Band 26						
BW	Modulation	Channel		26697	26865	27033
		Frequency (MHz)		814.7	831.5	848.3
1.4M	QPSK	1	0	22.74	22.45	22.23
		1	2	22.53	22.38	22.09
		1	5	22.30	21.99	21.88
		3	0	22.49	22.16	21.83
		3	1	22.45	22.15	21.85
		3	3	22.05	21.96	21.62
		6	0	21.67	21.24	21.01
	16QAM	1	0	21.87	21.65	21.25
		1	2	21.68	21.49	21.22
		1	5	21.52	21.23	21.10
		3	0	21.41	21.04	21.06
		3	1	21.32	21.22	20.74
		3	3	21.21	21.00	20.69
		6	0	20.61	20.35	20.11
	64QAM	1	0	21.06	20.70	20.49
		1	2	20.79	20.45	20.19
		1	5	20.67	20.29	20.07
		3	0	20.53	20.31	19.76
		3	1	20.47	20.10	19.89
		3	3	20.24	20.03	19.60
		6	0	19.66	19.38	19.20
	256QAM	1	0	17.98	17.59	17.41
		1	2	17.64	17.38	17.18
		1	5	17.41	17.12	17.00
		3	0	17.61	17.45	17.13
		3	1	17.64	17.30	17.12
		3	3	17.45	17.29	16.74
		6	0	17.59	17.26	17.09



CA_5B

CA_5B									
Combination 10MHz+10MHz (50RB+50RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20450	829	20549	838.9	QPSK	1	49	1	0	22.40
				16QAM	1	49	1	0	21.61
				64QAM	1	49	1	0	20.61
				256QAM	1	49	1	0	17.54
20476	831.6	20575	841.5	QPSK	1	49	1	0	22.26
				16QAM	1	49	1	0	21.72
				64QAM	1	49	1	0	20.80
				256QAM	1	49	1	0	17.72
20501	834.1	20600	844	QPSK	1	49	1	0	22.28
				16QAM	1	49	1	0	21.57
				64QAM	1	49	1	0	20.77
				256QAM	1	49	1	0	17.70
Combination 10MHz+5MHz (50RB+25RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20450	829	20522	836.2	QPSK	1	49	1	0	22.27
				16QAM	1	49	1	0	21.55
				64QAM	1	49	1	0	20.50
				256QAM	1	49	1	0	17.44
20500	834	20572	841.2	QPSK	1	49	1	0	22.21
				16QAM	1	49	1	0	21.63
				64QAM	1	49	1	0	20.75
				256QAM	1	49	1	0	17.59
20550	839	20622	846.2	QPSK	1	49	1	0	22.19
				16QAM	1	49	1	0	21.48
				64QAM	1	49	1	0	20.69
				256QAM	1	49	1	0	17.62

CA_5B									
Combination 5MHz+10MHz (25RB+50RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20428	826.8	20500	834	QPSK	1	24	1	0	22.27
				16QAM	1	24	1	0	21.60
				64QAM	1	24	1	0	20.49
				256QAM	1	24	1	0	17.41
20478	831.8	20550	839	QPSK	1	24	1	0	22.14
				16QAM	1	24	1	0	21.64
				64QAM	1	24	1	0	20.78
				256QAM	1	24	1	0	17.70
20528	836.8	20600	844	QPSK	1	24	1	0	22.14
				16QAM	1	24	1	0	21.56
				64QAM	1	24	1	0	20.71
				256QAM	1	24	1	0	17.61
Combination 5MHz+3MHz (25RB+15RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20425	826.5	20464	830.4	QPSK	1	24	1	0	22.38
				16QAM	1	24	1	0	21.53
				64QAM	1	24	1	0	20.52
				256QAM	1	24	1	0	17.51
20510	835	20549	838.9	QPSK	1	24	1	0	22.12
				16QAM	1	24	1	0	21.68
				64QAM	1	24	1	0	20.77
				256QAM	1	24	1	0	17.61
20595	843.5	20634	847.4	QPSK	1	24	1	0	22.14
				16QAM	1	24	1	0	21.49
				64QAM	1	24	1	0	20.70
				256QAM	1	24	1	0	17.68



CA 5B									
Combination 3MHz+5MHz (15RB+25RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20416	825.6	20455	829.5	QPSK	1	14	1	0	22.31
				16QAM	1	14	1	0	21.58
				64QAM	1	14	1	0	20.54
				256QAM	1	14	1	0	17.49
20501	834.1	20540	838	QPSK	1	14	1	0	22.22
				16QAM	1	14	1	0	21.65
				64QAM	1	14	1	0	20.79
				256QAM	1	14	1	0	17.64
20586	842.6	20625	846.5	QPSK	1	14	1	0	22.27
				16QAM	1	14	1	0	21.50
				64QAM	1	14	1	0	20.68
				256QAM	1	14	1	0	17.67

ERP POWER (dBm)

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	22.62	-2.36	18.11	64.71	7
20525	836.5	22.35	-2.36	17.84	60.81	7
20643	848.3	22.09	-2.36	17.58	57.28	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	21.72	-2.36	17.21	52.6	7
20525	836.5	21.39	-2.36	16.88	48.75	7
20643	848.3	21.3	-2.36	16.79	47.75	7

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	20.75	-2.36	16.24	42.07	7
20525	836.5	20.55	-2.36	16.04	40.18	7
20643	848.3	20.18	-2.36	15.67	36.9	7

CHANNEL BANDWIDTH: 1.4MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	17.71	-2.36	13.2	20.89	7
20525	836.5	17.36	-2.36	12.85	19.28	7
20643	848.3	17.07	-2.36	12.56	18.03	7

**CHANNEL BANDWIDTH: 3MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	22.49	-2.36	17.98	62.81	7
20525	836.5	22.36	-2.36	17.85	60.95	7
20635	847.5	22.08	-2.36	17.57	57.15	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	21.66	-2.36	17.15	51.88	7
20525	836.5	21.48	-2.36	16.97	49.77	7
20635	847.5	21.28	-2.36	16.77	47.53	7

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	20.62	-2.36	16.11	40.83	7
20525	836.5	20.43	-2.36	15.92	39.08	7
20635	847.5	20.13	-2.36	15.62	36.48	7

CHANNEL BANDWIDTH: 3MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	17.59	-2.36	13.08	20.32	7
20525	836.5	17.4	-2.36	12.89	19.45	7
20635	847.5	17.17	-2.36	12.66	18.45	7

**CHANNEL BANDWIDTH: 5MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	22.48	-2.36	17.97	62.66	7
20525	836.5	22.32	-2.36	17.81	60.39	7
20625	846.5	22.02	-2.36	17.51	56.36	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	21.68	-2.36	17.17	52.12	7
20525	836.5	21.48	-2.36	16.97	49.77	7
20625	846.5	21.29	-2.36	16.78	47.64	7

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	20.68	-2.36	16.17	41.4	7
20525	836.5	20.45	-2.36	15.94	39.26	7
20625	846.5	20.08	-2.36	15.57	36.06	7

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	17.62	-2.36	13.11	20.46	7
20525	836.5	17.36	-2.36	12.85	19.28	7
20625	846.5	17.11	-2.36	12.6	18.2	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	22.63	-2.36	18.12	64.86	7
20525	836.5	22.41	-2.36	17.9	61.66	7
20600	844	22.11	-2.36	17.6	57.54	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	21.79	-2.36	17.28	53.46	7
20525	836.5	21.52	-2.36	17.01	50.23	7
20600	844	21.39	-2.36	16.88	48.75	7

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	20.76	-2.36	16.25	42.17	7
20525	836.5	20.57	-2.36	16.06	40.36	7
20600	844	20.21	-2.36	15.7	37.15	7

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	17.72	-2.36	13.21	20.94	7
20525	836.5	17.43	-2.36	12.92	19.59	7
20600	844	17.18	-2.36	12.67	18.49	7

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



LTE CA_5B

CA_5B											
Combination 10MHz+10MHz (50RB+50RB)											
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (W)
Channel	Channel		RB Size	RB offset	RB Size	RB offset					
20450	20549	QPSK	1	49	1	0	22.40	-2.36	20.04	100.93	7
		16QAM	1	49	1	0	21.61	-2.36	19.25	84.14	7
		64QAM	1	49	1	0	20.61	-2.36	18.25	66.83	7
		256QAM	1	49	1	0	17.54	-2.36	15.18	32.96	7
20476	20575	QPSK	1	49	1	0	22.26	-2.36	19.90	97.72	7
		16QAM	1	49	1	0	21.72	-2.36	19.36	86.30	7
		64QAM	1	49	1	0	20.80	-2.36	18.44	69.82	7
		256QAM	1	49	1	0	17.72	-2.36	15.36	34.36	7
20501	20600	QPSK	1	49	1	0	22.28	-2.36	19.92	98.17	7
		16QAM	1	49	1	0	21.57	-2.36	19.21	83.37	7
		64QAM	1	49	1	0	20.77	-2.36	18.41	69.34	7
		256QAM	1	49	1	0	17.70	-2.36	15.34	34.20	7

CA_5B											
Combination 10MHz+5MHz (50RB+25RB)											
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (W)
Channel	Channel		RB Size	RB offset	RB Size	RB offset					
20450	20522	QPSK	1	49	1	0	22.27	-2.36	19.91	97.95	7
		16QAM	1	49	1	0	21.55	-2.36	19.19	82.99	7
		64QAM	1	49	1	0	20.50	-2.36	18.14	65.16	7
		256QAM	1	49	1	0	17.44	-2.36	15.08	32.21	7
20500	20572	QPSK	1	49	1	0	22.21	-2.36	19.85	96.61	7
		16QAM	1	49	1	0	21.63	-2.36	19.27	84.53	7
		64QAM	1	49	1	0	20.75	-2.36	18.39	69.02	7
		256QAM	1	49	1	0	17.59	-2.36	15.23	33.34	7
20550	20622	QPSK	1	49	1	0	22.19	-2.36	19.83	96.16	7
		16QAM	1	49	1	0	21.48	-2.36	19.12	81.66	7
		64QAM	1	49	1	0	20.69	-2.36	18.33	68.08	7
		256QAM	1	49	1	0	17.62	-2.36	15.26	33.57	7

CA_5B											
Combination 5MHz+10MHz (25RB+50RB)											
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (W)
Channel	Channel		RB Size	RB offset	RB Size	RB offset					
20428	20500	QPSK	1	24	1	0	22.27	-2.36	19.91	97.95	7
		16QAM	1	24	1	0	21.60	-2.36	19.24	83.95	7
		64QAM	1	24	1	0	20.49	-2.36	18.13	65.01	7
		256QAM	1	24	1	0	17.41	-2.36	15.05	31.99	7
20478	20550	QPSK	1	24	1	0	22.14	-2.36	19.78	95.06	7
		16QAM	1	24	1	0	21.64	-2.36	19.28	84.72	7
		64QAM	1	24	1	0	20.78	-2.36	18.42	69.50	7
		256QAM	1	24	1	0	17.70	-2.36	15.34	34.20	7
20528	20600	QPSK	1	24	1	0	22.14	-2.36	19.78	95.06	7
		16QAM	1	24	1	0	21.56	-2.36	19.20	83.18	7
		64QAM	1	24	1	0	20.71	-2.36	18.35	68.39	7
		256QAM	1	24	1	0	17.61	-2.36	15.25	33.50	7

CA_5B											
Combination 5MHz+3MHz (25RB+15RB)											
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (W)
Channel	Channel		RB Size	RB offset	RB Size	RB offset					
20425	20464	QPSK	1	24	1	0	22.38	-2.36	20.02	100.46	7
		16QAM	1	24	1	0	21.53	-2.36	19.17	82.60	7
		64QAM	1	24	1	0	20.52	-2.36	18.16	65.46	7
		256QAM	1	24	1	0	17.51	-2.36	15.15	32.73	7
20510	20549	QPSK	1	24	1	0	22.12	-2.36	19.76	94.62	7
		16QAM	1	24	1	0	21.68	-2.36	19.32	85.51	7
		64QAM	1	24	1	0	20.77	-2.36	18.41	69.34	7
		256QAM	1	24	1	0	17.61	-2.36	15.25	33.50	7
20595	20634	QPSK	1	24	1	0	22.14	-2.36	19.78	95.06	7
		16QAM	1	24	1	0	21.49	-2.36	19.13	81.85	7
		64QAM	1	24	1	0	20.70	-2.36	18.34	68.23	7
		256QAM	1	24	1	0	17.68	-2.36	15.32	34.04	7

CA_5B											
Combination 3MHz+5MHz (15RB+25RB)											
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (W)
Channel	Channel		RB Size	RB offset	RB Size	RB offset					
20850	21021	QPSK	1	14	1	0	22.31	-2.36	19.95	98.86	7
		16QAM	1	14	1	0	21.58	-2.36	19.22	83.56	7
		64QAM	1	14	1	0	20.54	-2.36	18.18	65.77	7
		256QAM	1	14	1	0	17.49	-2.36	15.13	32.58	7
21026	21197	QPSK	1	14	1	0	22.22	-2.36	19.86	96.83	7
		16QAM	1	14	1	0	21.65	-2.36	19.29	84.92	7
		64QAM	1	14	1	0	20.79	-2.36	18.43	69.66	7
		256QAM	1	14	1	0	17.64	-2.36	15.28	33.73	7
21201	21372	QPSK	1	14	1	0	22.27	-2.36	19.91	97.95	7
		16QAM	1	14	1	0	21.50	-2.36	19.14	82.04	7
		64QAM	1	14	1	0	20.68	-2.36	18.32	67.92	7
		256QAM	1	14	1	0	17.67	-2.36	15.31	33.96	7

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	22.38	-2.36	17.87	61.24	7
26915	836.5	22.28	-2.36	17.77	59.84	7
27033	848.3	22.23	-2.36	17.72	59.16	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	21.72	-2.36	17.21	52.6	7
26915	836.5	21.44	-2.36	16.93	49.32	7
27033	848.3	21.25	-2.36	16.74	47.21	7

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	20.66	-2.36	16.15	41.21	7
26915	836.5	20.52	-2.36	16.01	39.9	7
27033	848.3	20.49	-2.36	15.98	39.63	7

CHANNEL BANDWIDTH: 1.4MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	17.59	-2.36	13.08	20.32	7
26915	836.5	17.54	-2.36	13.03	20.09	7
27033	848.3	17.41	-2.36	12.9	19.5	7

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	22.41	-2.36	17.9	61.66	7
26915	836.5	22.3	-2.36	17.79	60.12	7
27025	847.5	22.3	-2.36	17.79	60.12	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	21.61	-2.36	17.1	51.29	7
26915	836.5	21.41	-2.36	16.9	48.98	7
27025	847.5	21.31	-2.36	16.8	47.86	7

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	20.75	-2.36	16.24	42.07	7
26915	836.5	20.55	-2.36	16.04	40.18	7
27025	847.5	20.46	-2.36	15.95	39.36	7

CHANNEL BANDWIDTH: 3MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	17.57	-2.36	13.06	20.23	7
26915	836.5	17.53	-2.36	13.02	20.04	7
27025	847.5	17.37	-2.36	12.86	19.32	7

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	22.36	-2.36	17.85	60.95	7
26915	836.5	22.33	-2.36	17.82	60.53	7
27015	846.5	22.28	-2.36	17.77	59.84	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	21.63	-2.36	17.12	51.52	7
26915	836.5	21.36	-2.36	16.85	48.42	7
27015	846.5	21.34	-2.36	16.83	48.19	7

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	20.72	-2.36	16.21	41.78	7
26915	836.5	20.5	-2.36	15.99	39.72	7
27015	846.5	20.45	-2.36	15.94	39.26	7

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	17.61	-2.36	13.1	20.42	7
26915	836.5	17.5	-2.36	12.99	19.91	7
27015	846.5	17.34	-2.36	12.83	19.19	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	22.46	-2.36	17.95	62.37	7
26915	836.5	22.34	-2.36	17.83	60.67	7
26990	844	22.33	-2.36	17.82	60.53	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	21.64	-2.36	17.13	51.64	7
26915	836.5	21.47	-2.36	16.96	49.66	7
26990	844	21.28	-2.36	16.77	47.53	7

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	20.73	-2.36	16.22	41.88	7
26915	836.5	20.58	-2.36	16.07	40.46	7
26990	844	20.49	-2.36	15.98	39.63	7

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	17.57	-2.36	13.06	20.23	7
26915	836.5	17.49	-2.36	12.98	19.86	7
26990	844	17.32	-2.36	12.81	19.1	7

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	22.51	-2.36	18	63.1	7
26915	836.5	22.4	-2.36	17.89	61.52	7
26965	841.5	22.37	-2.36	17.86	61.09	7

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	21.73	-2.36	17.22	52.72	7
26915	836.5	21.5	-2.36	16.99	50	7
26965	841.5	21.38	-2.36	16.87	48.64	7

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	20.76	-2.36	16.25	42.17	7
26915	836.5	20.61	-2.36	16.1	40.74	7
26965	841.5	20.54	-2.36	16.03	40.09	7

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	17.71	-2.36	13.2	20.89	7
26915	836.5	17.59	-2.36	13.08	20.32	7
26965	841.5	17.45	-2.36	12.94	19.68	7

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

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

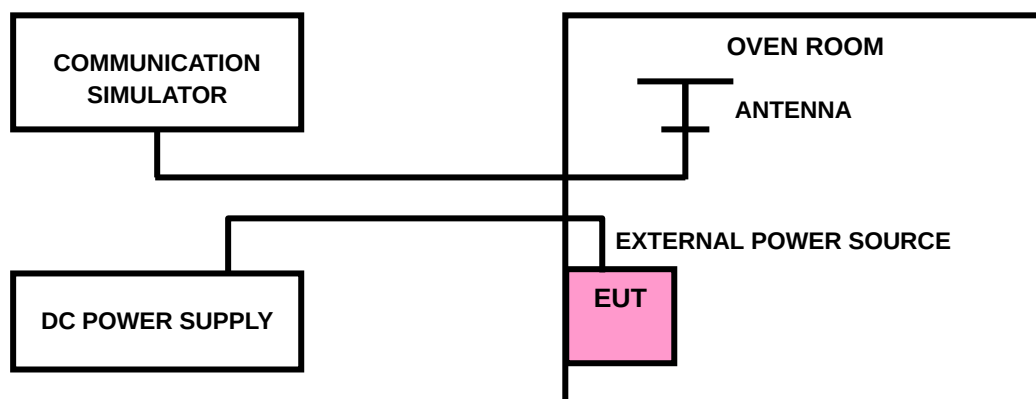
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

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-231218W001RF05

3.2.4 TEST RESULTS

Please Refer to Appendix E Of this test report.

Note: VL = Low voltage(3.4V); VN/NV = Normal voltage(3.8V); VH = High voltage(4.35V);
NT = Normal temperature (25°C)

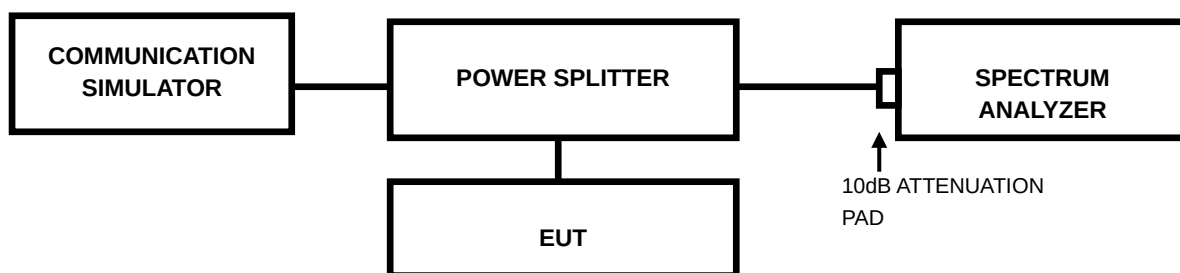
3.3 OCCUPIED BANDWIDTH MEASUREMENT

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-231218W001RF05

3.3.4 TEST RESULTS

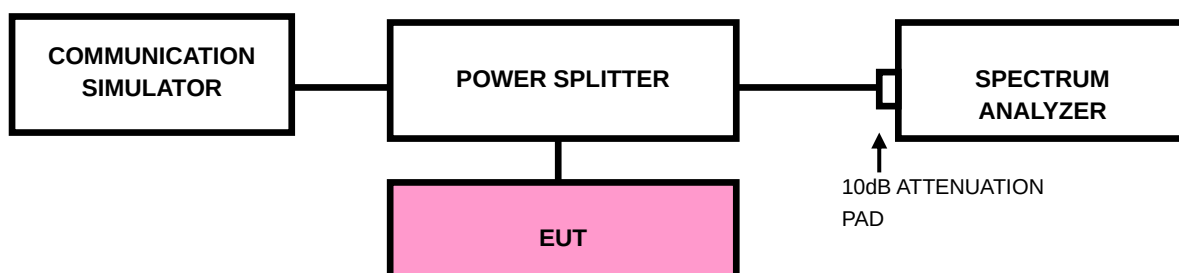
Please Refer to Appendix E Of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) .Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



Test Report No.: W7L-231218W001RF05

3.4.4 TEST RESULTS

Please Refer to Appendix E Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

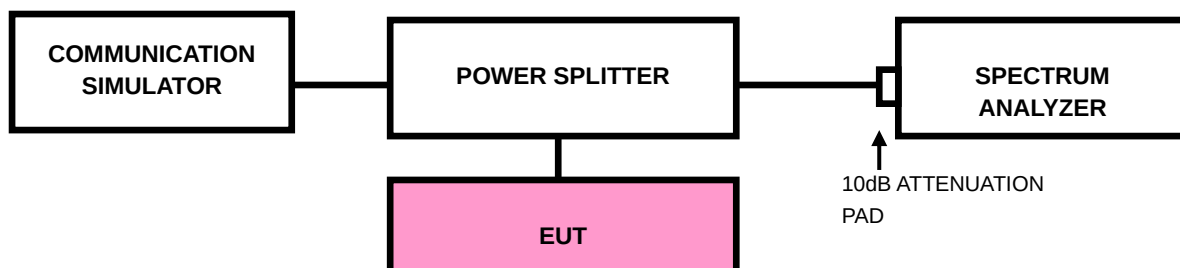
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 .

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 9kHz 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-231218W001RF05

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 E 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 .

3.6.2 TEST PROCEDURES

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

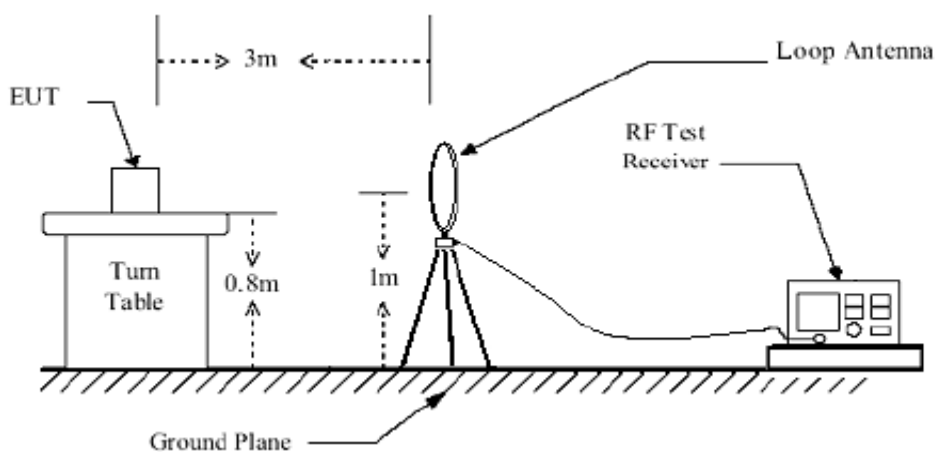
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

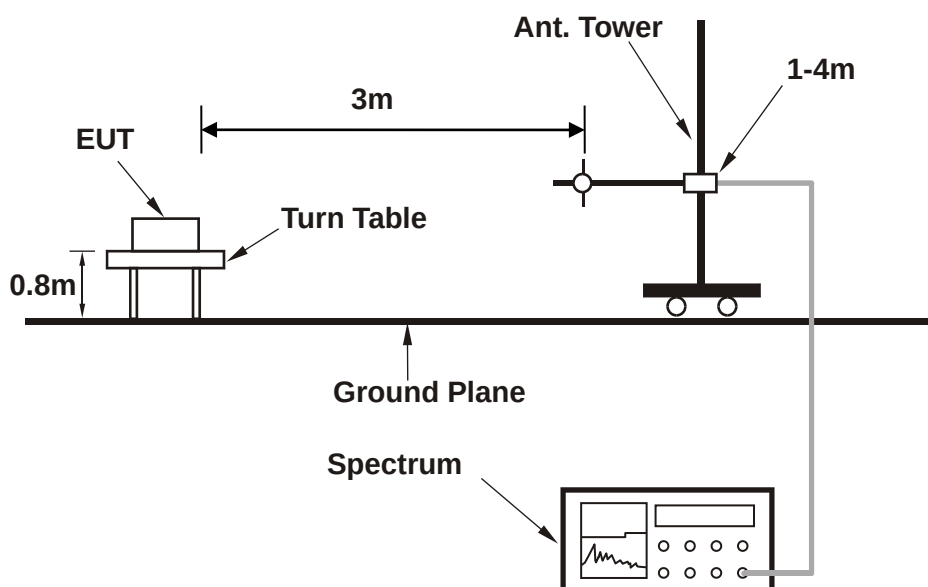
No deviation

3.6.4 TEST SETUP

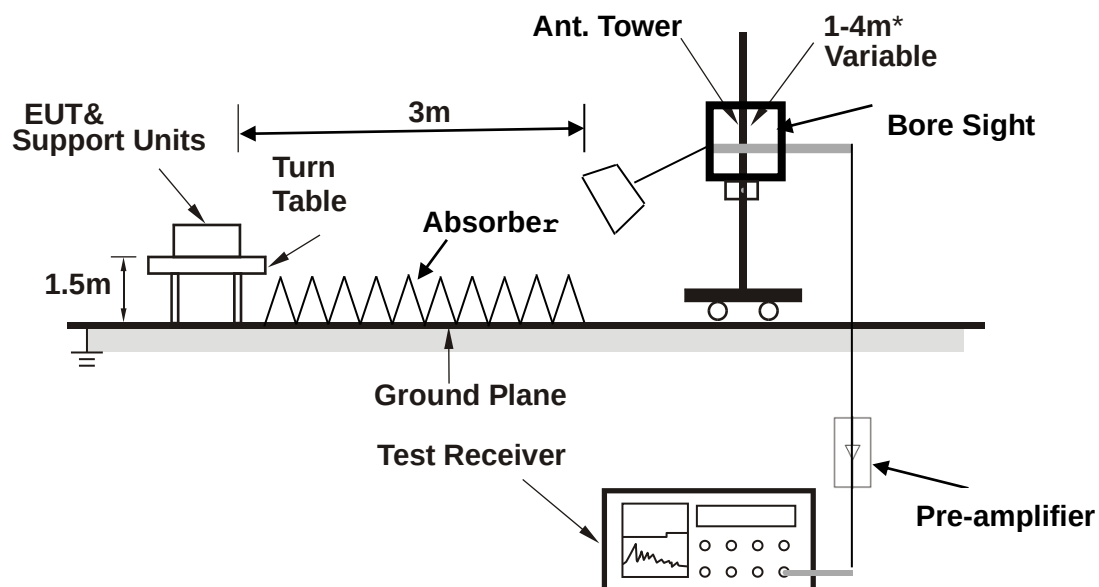
< Frequency Range below 30MHz >



< 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:

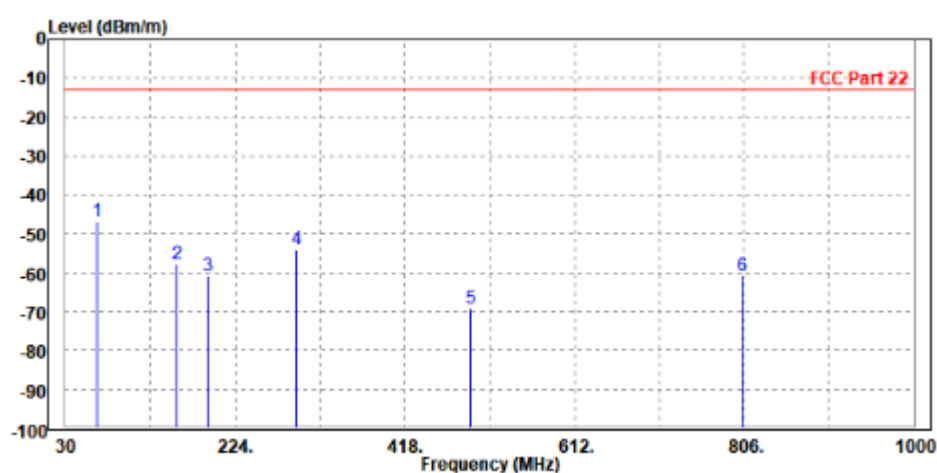
LTE Band 26:

CHANNEL BANDWIDTH: 3MHz / QPSK

CH 27025

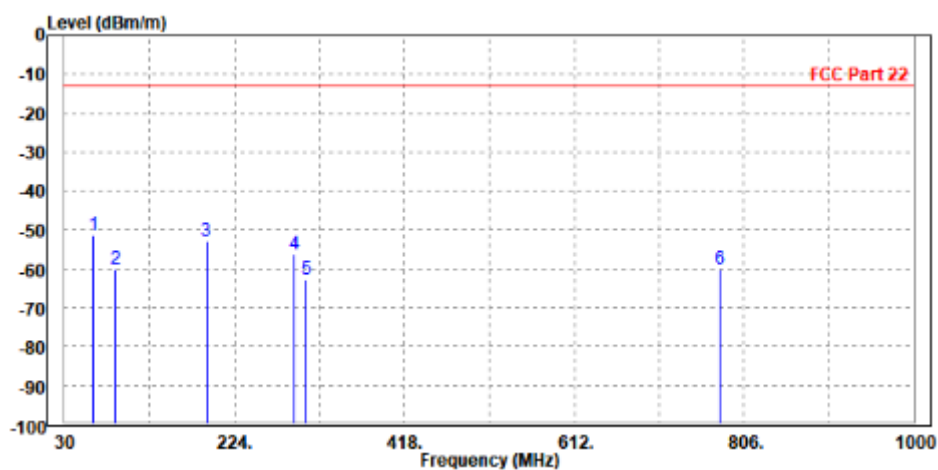
MODE	TX channel 27025	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	65.890	-46.81	-34.50	-13.00	-33.81	-12.31	Peak	Horizontal
2	157.070	-57.82	-42.81	-13.00	-44.82	-15.01	Peak	Horizontal
3	192.960	-61.00	-45.29	-13.00	-48.00	-15.71	Peak	Horizontal
4	293.840	-54.06	-44.97	-13.00	-41.06	-9.09	Peak	Horizontal
5	493.660	-69.17	-64.06	-13.00	-56.17	-5.11	Peak	Horizontal
6	804.060	-60.84	-65.88	-13.00	-47.84	5.04	Peak	Horizontal



MODE	TX channel 27025	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	62.980	-51.43	-32.49	-13.00	-38.43	-18.94	Peak	Vertical
2		88.200	-60.17	-42.50	-13.00	-47.17	-17.67	Peak	Vertical
3		191.990	-52.75	-45.70	-13.00	-39.75	-7.05	Peak	Vertical
4		292.870	-56.30	-52.84	-13.00	-43.30	-3.46	Peak	Vertical
5		306.450	-62.81	-59.35	-13.00	-49.81	-3.46	Peak	Vertical
6		777.870	-60.13	-64.05	-13.00	-47.13	3.92	Peak	Vertical





ABOVE 1GHz DATA

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

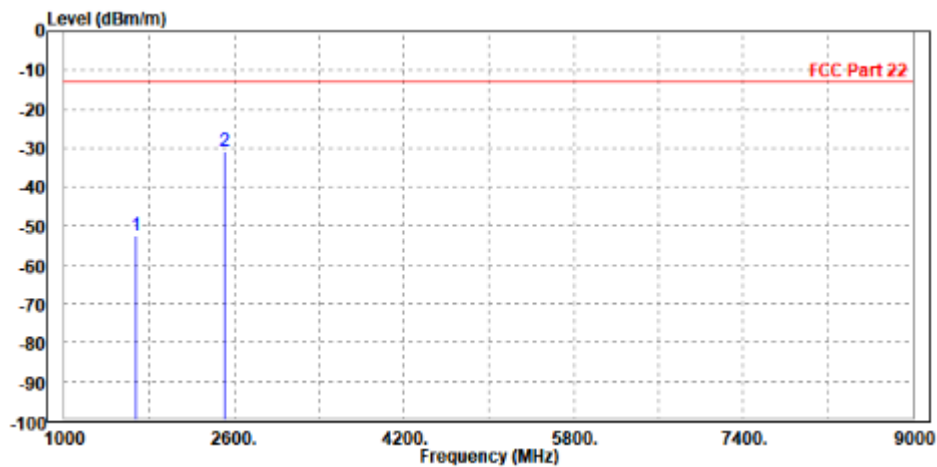
LTE Band 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH26915

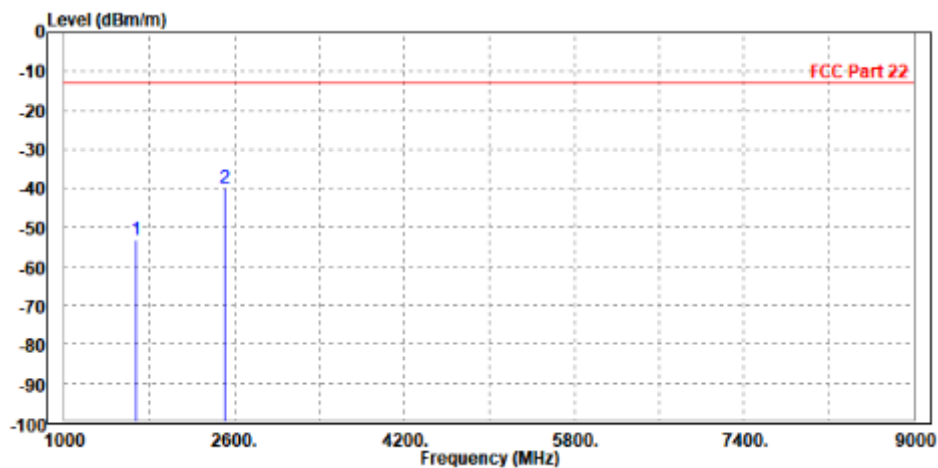
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1672.000	-52.43	-56.16	-13.00	-39.43	3.73	Peak	Horizontal
2 PP	2509.500	-30.74	-36.88	-13.00	-17.74	6.14	Peak	Horizontal



MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	1673.000	-53.33	-56.76	-13.00	-40.33	3.43	Peak	Vertical
2 PP	2512.000	-40.08	-45.93	-13.00	-27.08	5.85	Peak	Vertical

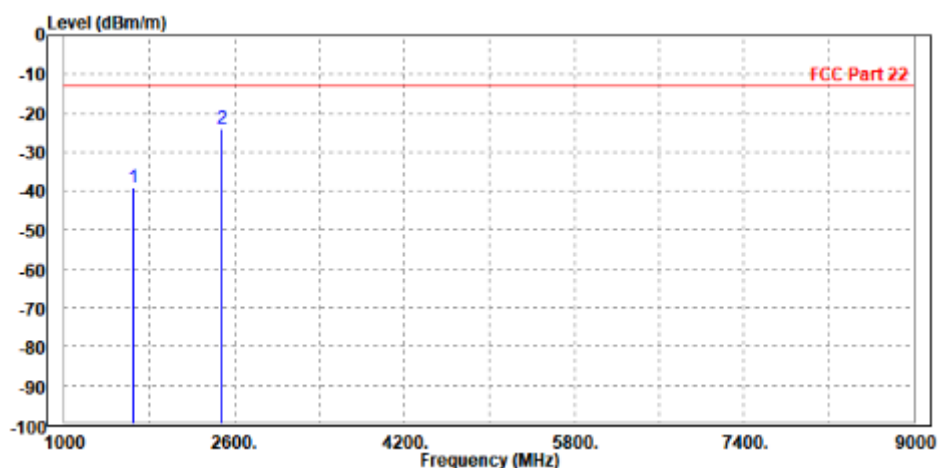


CHANNEL BANDWIDTH: 3MHz / QPSK

CH 26805

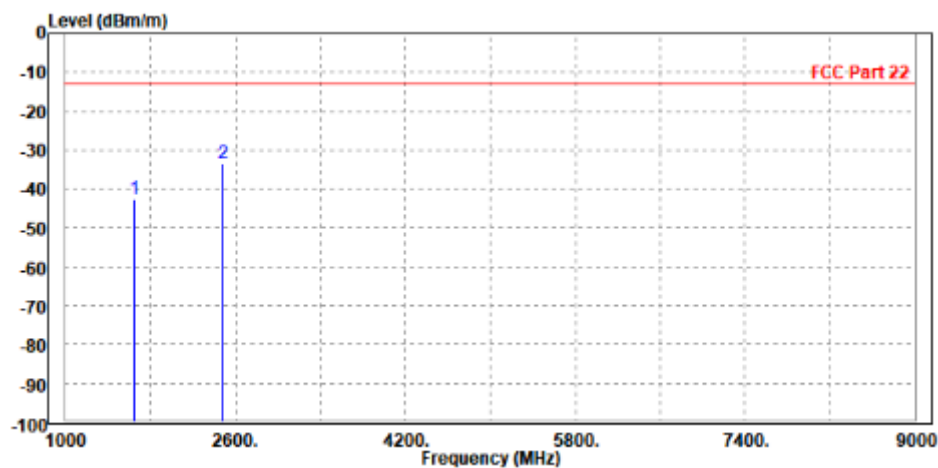
MODE	TX channel 26805	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-39.08	-42.74	-13.00	-26.08	3.66	Peak	Horizontal
2 PP	2476.500	-24.07	-30.11	-13.00	-11.07	6.04	Peak	Horizontal



MODE	TX channel 26805	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	1651.000	-42.55	-45.94	-13.00	-29.55	3.39	Peak	Vertical
2 PP	2480.000	-33.36	-39.07	-13.00	-20.36	5.71	Peak	Vertical





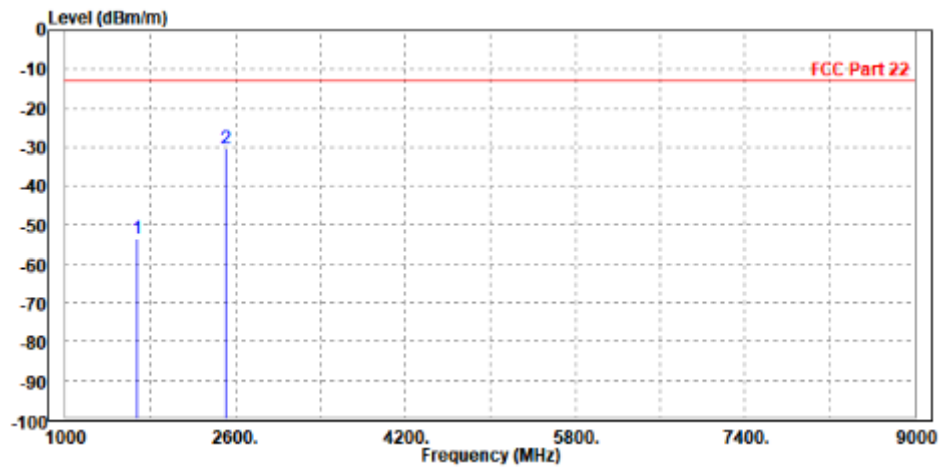
BUREAU
VERITAS

Test Report No.: W7L-231218W001RF05

CH 26915

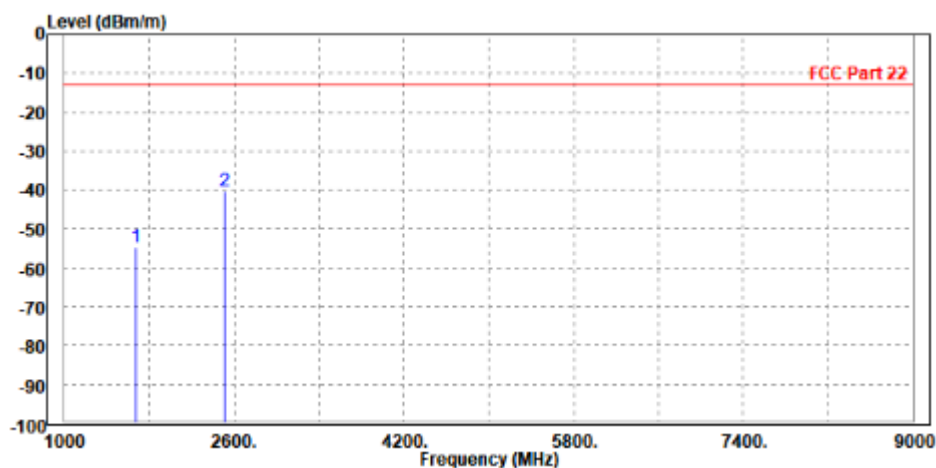
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1673.000	-53.75	-57.49	-13.00	-40.75	3.74	Peak	Horizontal
2 PP	2512.000	-30.61	-36.76	-13.00	-17.61	6.15	Peak	Horizontal



MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

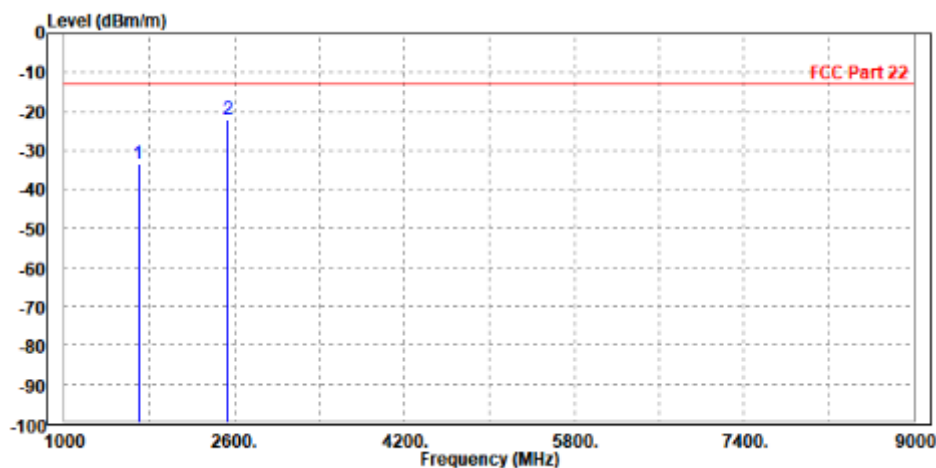
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1672.000	-54.84	-58.27	-13.00	-41.84	3.43	Peak	Vertical
2 PP	2509.500	-40.12	-45.96	-13.00	-27.12	5.84	Peak	Vertical



CH 27025

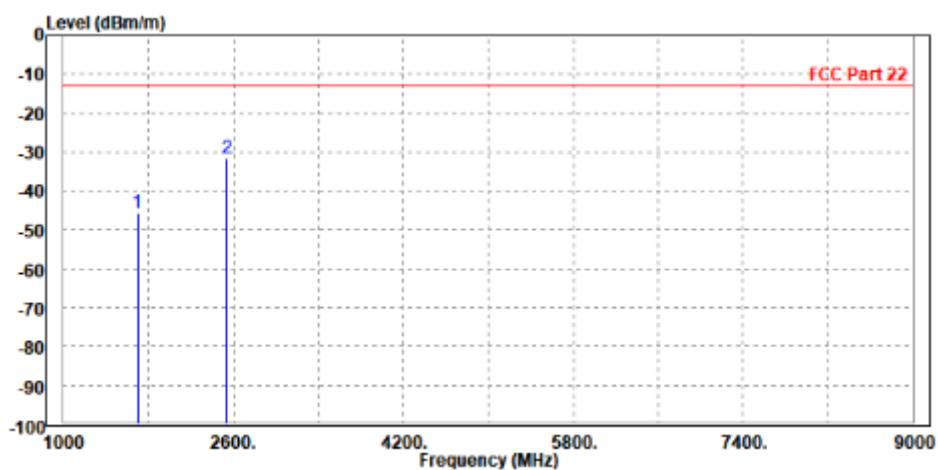
MODE	TX channel 27025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1696.000	-33.53	-37.34	-13.00	-20.53	3.81	Peak	Horizontal
2 PP	2544.000	-21.89	-28.18	-13.00	-8.89	6.29	Peak	Horizontal



MODE	TX channel 27025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

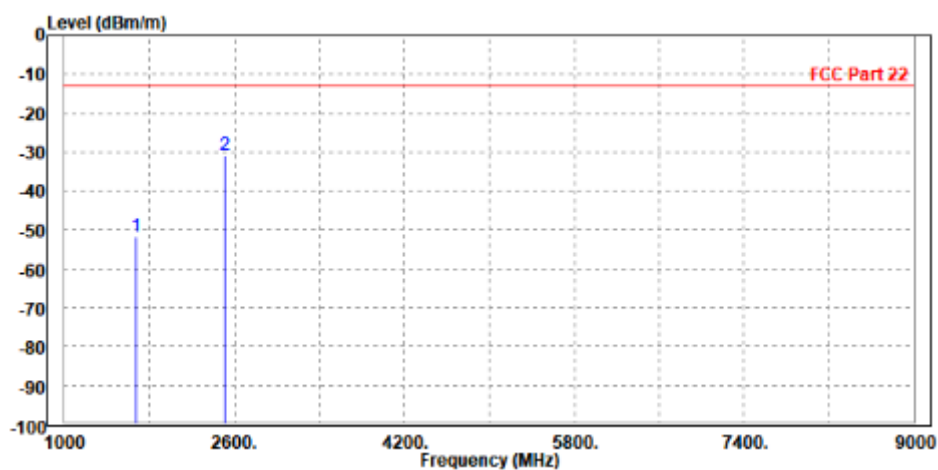
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1696.000	-45.70	-49.17	-13.00	-32.70	3.47	Peak	Vertical
2 PP	2544.000	-31.62	-37.67	-13.00	-18.62	6.05	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

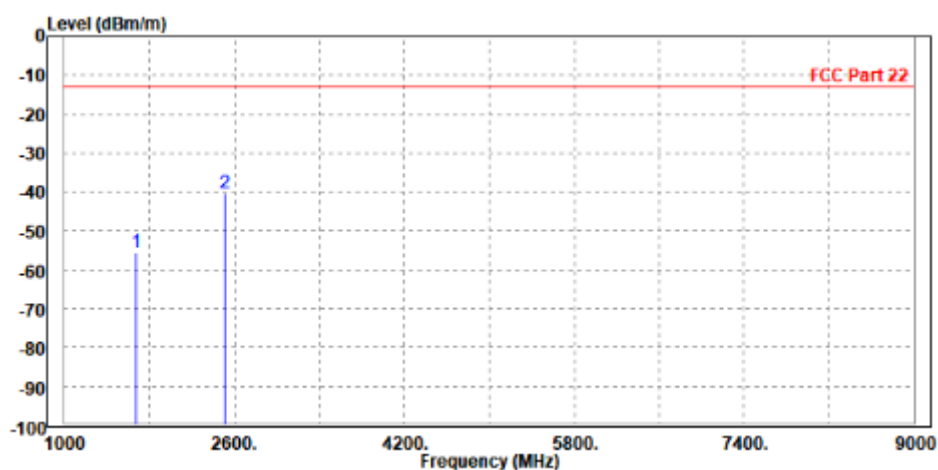
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1672.000	-51.87	-55.60	-13.00	-38.87	3.73	Peak	Horizontal
2 PP	2509.500	-30.84	-36.98	-13.00	-17.84	6.14	Peak	Horizontal



MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

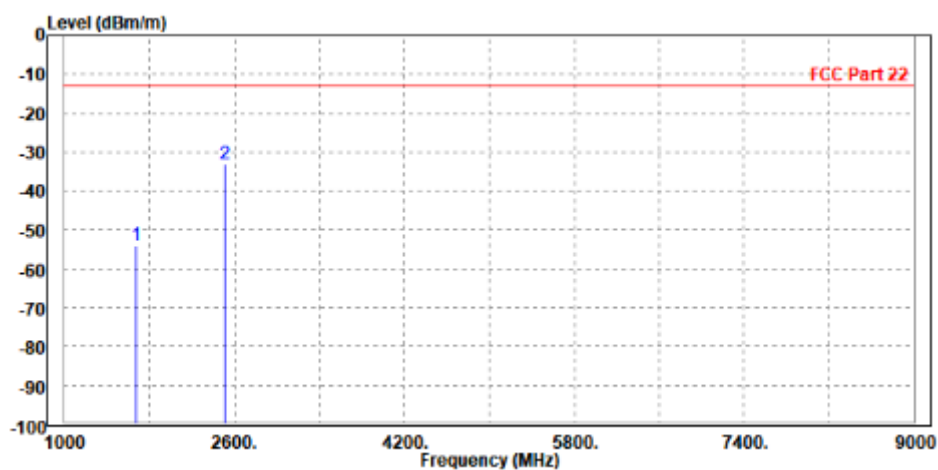
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1673.000	-55.45	-58.88	-13.00	-42.45	3.43	Peak	Vertical
2 PP	2512.000	-40.41	-46.26	-13.00	-27.41	5.85	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

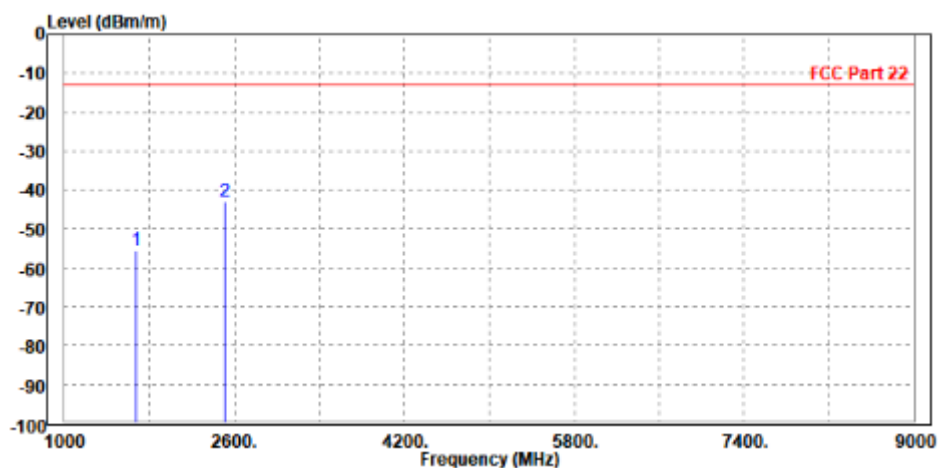
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1672.000	-54.05	-57.78	-13.00	-41.05	3.73	Peak	Horizontal
2 PP	2509.500	-33.27	-39.41	-13.00	-20.27	6.14	Peak	Horizontal



MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	1673.000	-55.59	-59.02	-13.00	-42.59	3.43	Peak	Vertical
2 PP	2512.000	-42.91	-48.76	-13.00	-29.91	5.85	Peak	Vertical

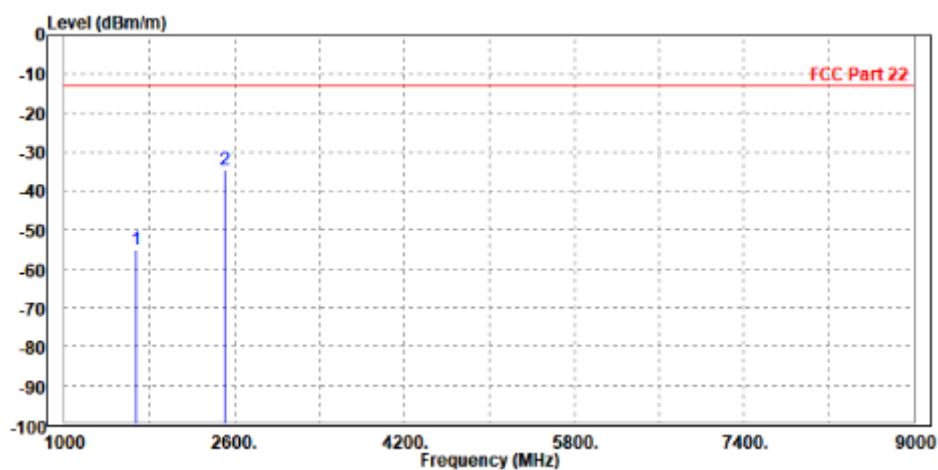


CHANNEL BANDWIDTH: 15MHz / QPSK

CH26915

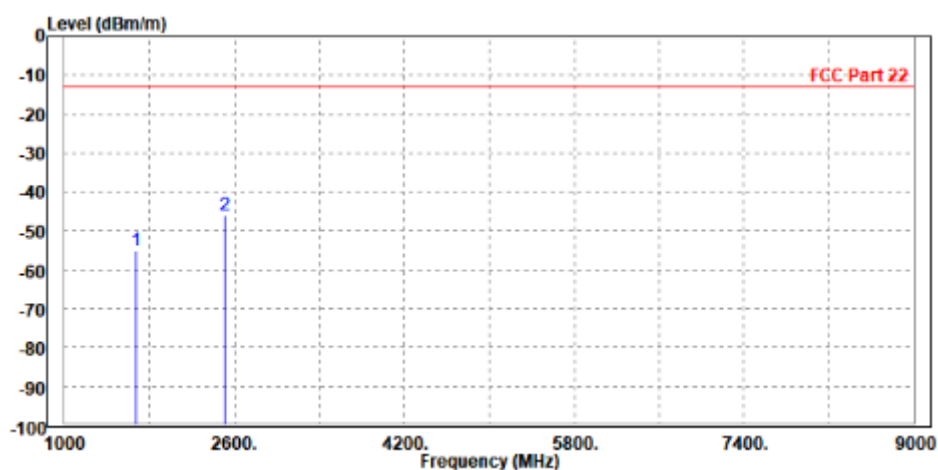
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1673.000	-55.03	-58.77	-13.00	-42.03	3.74	Peak	Horizontal
2 PP	2512.000	-34.76	-40.91	-13.00	-21.76	6.15	Peak	Horizontal



MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	1672.000	-55.29	-58.72	-13.00	-42.29	3.43	Peak	Vertical
2 PP	2509.500	-45.91	-51.75	-13.00	-32.91	5.84	Peak	Vertical





**BUREAU
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Test Report No.: W7L-231218W001RF05

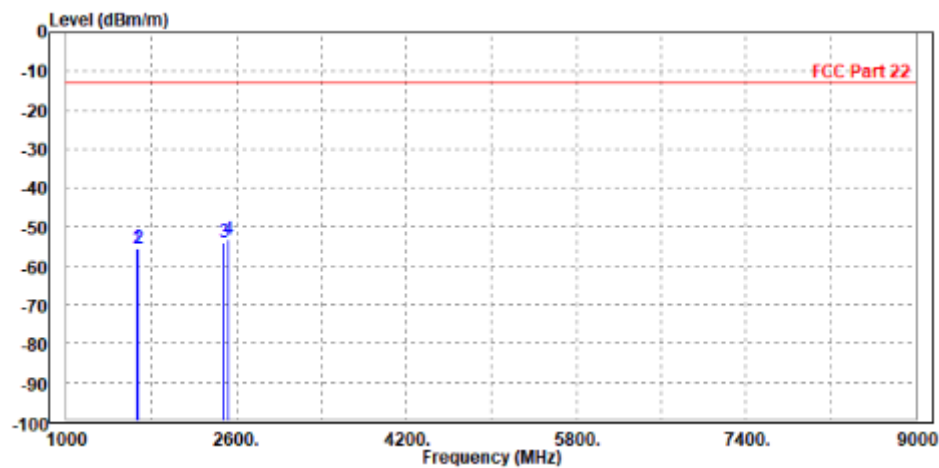
CA_5B:

CHANNEL BANDWIDTH: 10MHz+10MHz / QPSK

CH20476

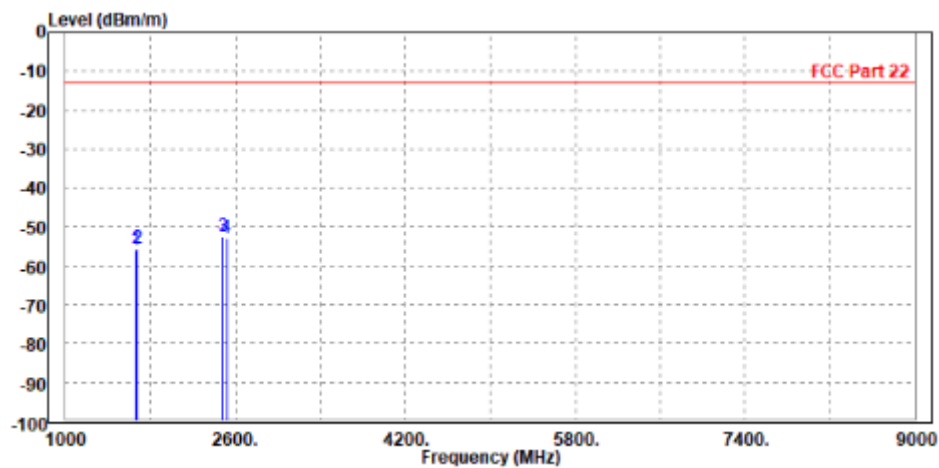
MODE	TX channel 20476	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1658.000	-55.50	-59.19	-13.00	-42.50	3.69	Peak	Horizontal
2	1677.800	-55.67	-59.42	-13.00	-42.67	3.75	Peak	Horizontal
3	2488.000	-54.08	-60.15	-13.00	-41.08	6.07	Peak	Horizontal
4 PP	2520.000	-53.10	-59.29	-13.00	-40.10	6.19	Peak	Horizontal



MODE	TX channel 20476	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
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	1656.000	-55.77	-59.17	-13.00	-42.77	3.40	Peak	Vertical
2	1680.000	-55.58	-59.02	-13.00	-42.58	3.44	Peak	Vertical
3 PP	2487.000	-52.52	-58.25	-13.00	-39.52	5.73	Peak	Vertical
4	2516.700	-52.71	-58.59	-13.00	-39.71	5.88	Peak	Vertical

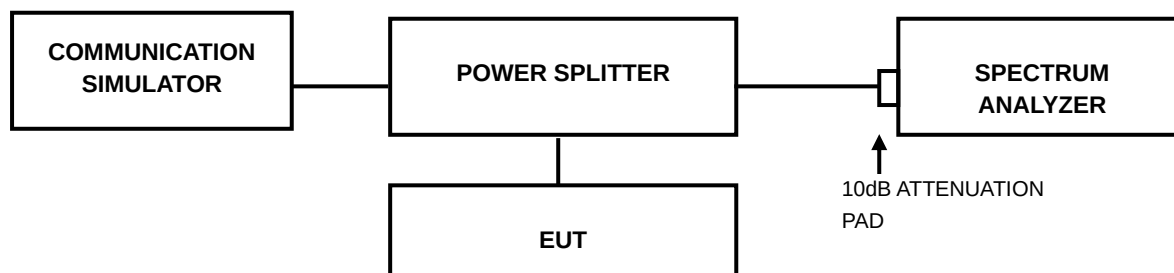


3.7 PEAK TO AVERAGE RATIO

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 E Of this test report.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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5 INFORMATION ON THE TESTING LABORATORIES

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

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

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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.

6 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.

---END---