

FCC TEST REPORT

(PART 27)

Applicant:	Continental Automotive Systems, Inc.
Address:	21440 W Lake Cook Rd., Deer Park, IL 60010, USA

Manufacturer or Supplier:	Continental Automotive Systems, Inc.
Address:	21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Product:	Module
Brand Name:	Continental
Model Name:	FE5NAR110, FE5NAR111
FCC ID:	LHJ-FE5NAR110
Date of tests:	May. 01, 2024 ~ Jun. 17, 2024

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

☒ **FCC Part 27** ☒ **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. 17, 2024	Date: Jun. 17, 2024

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5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB... 97



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-240430W002RF06	Original release	Jun. 17, 2024

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 AND LIMIT	RESULT
§2.1046	Conducted Output Power	Compliance
§27.50(h)(2) §27.50(d)(4)	Equivalent Isotropically Radiated Power (Band 7C) (Band 66B) (Band 66C)	Compliance
§2.1055 §27.54	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Band Edge Measurements (Band 7C) (Band 66B) (Band 66C)	Compliance
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Spurious Emissions (Band 7C) (Band 66B) (Band 66C)	Compliance
§2.1053 §27.53(h) §27.53(m)(4)(6)	Radiated Spurious Emissions (Band 7C) (Band 66B) (Band 66C)	Compliance
NA	Peak to average ratio	Compliance

NOTE:

1. 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 modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.
2. For Band Edge and Emission Mask: The all BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.
3. For Out of Band Emissions: The all combination was tested. The highest power RB combination was selected as worst case.

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 (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions & Radiated Power (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (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	$\pm 43.58\text{KHz}$
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	Mar. 28,24	Mar. 27,25
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.03,23	Sep.02,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 18,24	Feb. 17,25
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 18,24	Feb. 17,25
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Sep.04, 23	Sep.03, 24
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 14,24	Feb. 13,25
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. 17,24	Feb.16,25
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn- CT0001143-121 6	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. 14,24	Feb. 13,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,24	Feb. 13,25
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 Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,24	Feb. 13,25
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.10,23	May.09,24
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.09,24	May.08,25
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 11,23	Aug. 10,24

- NOTE:** 1. The calibration interval of the above test instruments is 12/ 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	Module	
BRAND NAME	Continental	
MODEL NAME	FE5NAR110, FE5NAR111	
NOMINAL VOLTAGE	DC4.0V	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	2505.5MHz ~ 2560MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	2507.5MHz ~ 2564.7MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	2507.8MHz ~ 2560MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	2510MHz ~ 2564.5MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	2510MHz ~ 2562.2MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	2510MHz ~ 2560MHz
	LTE Band CA_66B Channel Bandwidth: 10MHz+10MHz	1715MHz ~ 1775MHz
	LTE Band CA_66B Channel Bandwidth: 15MHz+5MHz	1717.5MHz ~ 1777MHz
	LTE Band CA_66B Channel Bandwidth: 5MHz+15MHz	1713MHz ~ 1772.5MHz
	LTE Band CA_66B Channel Bandwidth: 10MHz+5MHz	1715MHz ~ 1777.2MHz
	LTE Band CA_66B Channel Bandwidth: 5MHz+10MHz	1712.8MHz ~ 1775MHz



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FREQUENCY RANGE	LTE Band CA_66B Channel Bandwidth: 5MHz+5MHz	1712.5MHz ~ 1777.5MHz
	LTE Band CA_66C Channel Bandwidth: 20MHz+20MHz	1720MHz ~ 1770MHz
	LTE Band CA_66C Channel Bandwidth: 20MHz+15MHz	1720MHz ~ 1772.2MHz
	LTE Band CA_66C Channel Bandwidth: 15MHz+20MHz	1717.8MHz ~ 1770MHz
	LTE Band CA_66C Channel Bandwidth: 20MHz+10MHz	1720MHz ~ 1774.5MHz
	LTE Band CA_66C Channel Bandwidth: 10MHz+20MHz	1715.5MHz ~ 1770MHz
	LTE Band CA_66C Channel Bandwidth: 15MHz+15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band CA_66C Channel Bandwidth: 15MHz+10MHz	1717.5MHz ~ 1774.7MHz
	LTE Band CA_66C Channel Bandwidth: 20MHz+5MHz	1715.3MHz ~ 1772.5MHz
	LTE Band CA_66C Channel Bandwidth: 10MHz+15MHz	1720MHz ~ 1776.7MHz
	LTE Band CA_66C Channel Bandwidth: 5MHz+20MHz	1713.3MHz ~ 1770MHz
MAX. EIRP or EPR POWER	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	266.07mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	258.82mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	263.03mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	265.46mW
	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	260.02mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	262.42mW

MAX. EIRP or EPR POWER	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	257.63mW
	LTE Band CA_66B Channel Bandwidth: 10MHz+10MHz	355.63mW
	LTE Band CA_66B Channel Bandwidth: 15MHz+5MHz	349.95mW
	LTE Band CA_66B Channel Bandwidth: 5MHz+15MHz	354.81mW
	LTE Band CA_66B Channel Bandwidth: 10MHz+5MHz	353.18mW
	LTE Band CA_66B Channel Bandwidth: 5MHz+10MHz	354.81mW
	LTE Band CA_66B Channel Bandwidth: 5MHz+5MHz	351.56mW
	LTE Band CA_66C Channel Bandwidth: 20MHz+20MHz	360.58mW
	LTE Band CA_66C Channel Bandwidth: 20MHz+15MHz	351.56mW
	LTE Band CA_66C Channel Bandwidth: 15MHz+20MHz	354.00mW
	LTE Band CA_66C Channel Bandwidth: 20MHz+10MHz	351.56mW
	LTE Band CA_66C Channel Bandwidth: 10MHz+20MHz	349.95mW
	LTE Band CA_66C Channel Bandwidth: 15MHz+15MHz	357.27mW
	LTE Band CA_66C Channel Bandwidth: 15MHz+10MHz	354.81mW
	LTE Band CA_66C Channel Bandwidth: 20MHz+5MHz	354.00mW
	LTE Band CA_66C Channel Bandwidth: 10MHz+15MHz	358.92 mW



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EMISSION DESIGNATOR	LTE Band CA_66C Channel Bandwidth: 5MHz+20MHz	354.81mW
	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	QPSK: 27M8G7D 16QAM: 27M8W7D
	LTE Band CA_7C Channel Bandwidth: 15MHz +10MHz	QPSK: 23M2G7D 16QAM: 23M2W7D
	LTE Band CA_7C Channel Bandwidth: 15MHz +15MHz	QPSK: 28M4G7D 16QAM: 28M4W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +10MHz	QPSK: 27M8G7D 16QAM: 27M8W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +15MHz	QPSK: 32M7G7D 16QAM: 32M8W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +20MHz	QPSK: 37M6G7D 16QAM: 37M7W7D
	LTE Band CA_66B Channel Bandwidth: 10MHz+10MHz	QPSK: 18M9G7D 16QAM: 18M9W7D
	LTE Band CA_66B Channel Bandwidth: 15MHz+5MHz	QPSK: 18M3G7D 16QAM: 18M3W7D
	LTE Band CA_66B Channel Bandwidth: 5MHz+15MHz	QPSK: 18M3G7D 16QAM: 18M3W7D
	L LTE Band CA_66B Channel Bandwidth: 10MHz+5MHz	QPSK: 14M0G7D 16QAM: 13M9W7D
	LTE Band CA_66B Channel Bandwidth: 5MHz+10MHz	QPSK: 14M0G7D 16QAM: 13M9W7D
	LTE Band CA_66B Channel Bandwidth: 5MHz+5MHz	QPSK: 9M30G7D 16QAM: 9M30W7D
	LTE Band CA_66C Channel Bandwidth: 20MHz+20MHz	QPSK: 37M6G7D 16QAM: 37M7W7D
	LTE Band CA_66C Channel Bandwidth: 20MHz+15MHz	QPSK: 32M7G7D 16QAM: 32M7W7D
	LTE Band CA_66C Channel Bandwidth: 15MHz+20MHz	QPSK: 32M7G7D 16QAM: 32M7W7D



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	LTE Band CA_66C Channel Bandwidth: 20MHz+10MHz	QPSK: 27M8G7D
		16QAM: 27M8W7D
	LTE Band CA_66C Channel Bandwidth: 10MHz+20MHz	QPSK: 27M8G7D
		16QAM: 27M8W7D
	LTE Band CA_66C Channel Bandwidth: 15MHz+15MHz	QPSK: 28M4G7D
		16QAM: 28M4W7D
	LTE Band CA_66C Channel Bandwidth: 15MHz+10MHz	QPSK: 23M2G7D
		16QAM: 23M2W7D
	LTE Band CA_66C Channel Bandwidth: 10MHz+15MHz	QPSK: 23M2G7D
		16QAM: 23M2W7D
	LTE Band CA_66C Channel Bandwidth: 20MHz+5MHz	QPSK: 23M0G7D
		16QAM: 23M0W7D
	LTE Band CA_66C Channel Bandwidth: 5MHz+20MHz	QPSK: 23M0G7D
		16QAM: 23M0W7D
ANTENNA TYPE	Monopole Antenna with 1.24dBi gain for LTE CA 7C Monopole Antenna with 1.93dBi gain for LTE CA 66C/66B	
HW VERSION	P2.0	
SW VERSION	MODEM_GM_C3_3.0.2.24	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	
EXTREME TEMPERATURE	-40-85 °C	
EXTREME VOLTAGE	3.8V - 4.2V	

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 transmitters.

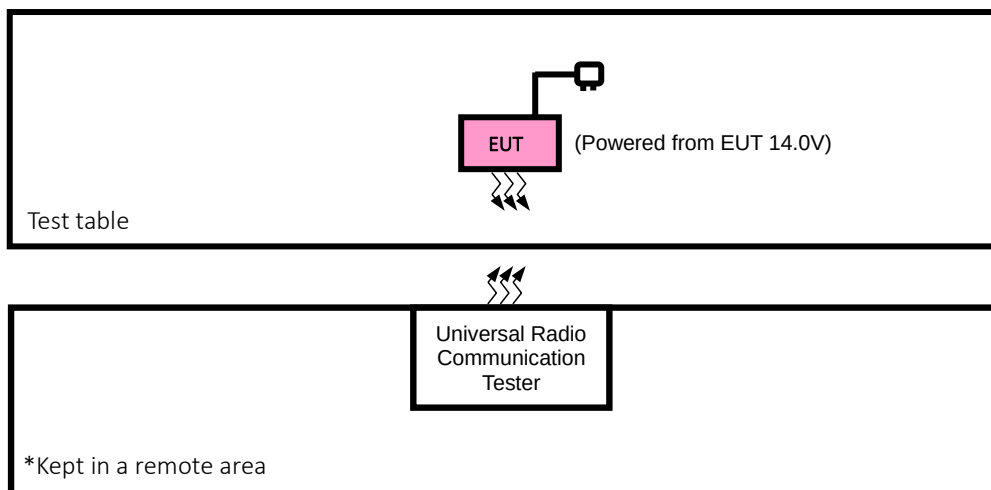
MODULATION MODE	TX FUNCTION
LTE	1TX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. 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.
5. According to the information provided by the manufacturer, The difference between FE5NAR110, FE5NAR111 is as follows:

Sample	HVIN/PMN	5G Bands NSA	5G Bands SA	SA UL MIMO	LTE Bands	UMTS	GNSS
1	FE5NAR110	n2, n5, n66, n77	n25, n41, n66, n71, n77	n41, n77	2, 4, 5, 7, 12, 13, 14, 28A, 28B, 29Rx, 30Rx, 66, 71	2, 4, 5	L1, L5
2	FE5NAR111	n2, n5, n66, n77	n25, n41, n66, n71, n77	n41, n77	2, 4, 5, 7, 12, 13, 14, 28A, 28B, 29Rx, 30Rx, 66, 71	2, 4, 5	L1

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	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 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 CA_7C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABL E PCC CHANNEL	AVAILABL E SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	20805 to 21206	20949 to 21350	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM,	1RB/ 49RB Offset	1RB/ 0RB Offset
		20825 to 21277	20945 to 21397	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20825 to 21225	20975 to 21375	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20828 to 21179	20999 to 21350	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20850 to 21251	20994 to 21395	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM,	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21201	21201 to 21372	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	20805 to 21206	20949 to 21350	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM	50RB/ 0RB Offset	100RB/ 0RB Offset
		20825 to 21277	20945 to 21397	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM	75RB/ 0RB Offset	50RB/ 0RB Offset
		20825 to 21225	20975 to 21375	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM	75RB/ 0RB Offset	75RB/ 0RB Offset
		20828 to 21179	20999 to 21350	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM	75RB/ 0RB Offset	100RB/ 0RB Offset
		20850 to 21251	20994 to 21395	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM	100RB/ 0RB Offset	50RB/ 0RB Offset
		20850 to 21201	21201 to 21372	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM	100RB/ 0RB Offset	75RB/ 0RB Offset
		20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM	100RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	20850 to 21152	21048 to 21350	Low	20MHz+20MHz	QPSK, 16QAM	1RB/ 25RB Offset	1RB/ 99RB Offset
				High	20MHz+20MHz	QPSK, 16QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
							1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDUCTED EMISSION	20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM	1RB/ 99RB 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.

LTE BAND CA_66B MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	132022 to 132523	132121 to 132622	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM, 64QAM,	1RB/ 49RB Offset	1RB/ 0RB Offset
		132047 to 132549	132140 to 132642	Low, Middle, High	15MHz+5MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		132002to 132504	132095 to 132597	Low, Middle, High	5MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		132022 to 132572	132094 to 132644	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		132022to 132572	132094 to 132644	Low, Middle, High	5MHz +10MHz	QPSK, 16QAM, 64QAM,	1RB/ 24RB Offset	1RB/ 0RB Offset
		131997 to 132599	132045 to 132647	Low, Middle, High	5MHz +5MHz	QPSK, 16QAM, 64QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	132022 to 132523	132121 to 132622	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM	1RB/ 50RB Offset	1RB/ 0RB Offset
		132047 to 132549	132140 to 132642	Low, Middle, High	15MHz+5MHz	QPSK, 16QAM	1RB/ 75RB Offset	1RB/ 25RB Offset
		132002to 132504	132095 to 132597	Low, Middle, High	5MHz+15MHz	QPSK, 16QAM	1RB/ 25RB Offset	1RB/ 75RB Offset
		132022 to 132572	132094 to 132644	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM	1RB/ 50RB Offset	1RB/ 25RB Offset
		132022to 132572	132094 to 132644	Low, Middle, High	5MHz +10MHz	QPSK, 16QAM	1RB/ 25RB Offset	1RB/ 50RB Offset
		131997 to 132599	132045 to 132647	Low, Middle, High	5MHz +5MHz	QPSK, 16QAM	1RB/ 25RB Offset	1RB/ 25RB Offset
A	BAND EDGE	132022 to 132523	132121 to 132622	Low	10MHz+10MHz	QPSK, 16QAM	1RB/ 0RB Offset	50RB/ 0RB Offset
							1RB/ 49RB Offset	50RB/ 0RB Offset
							50RB/ 0RB Offset	50RB/ 0RB Offset
				High	10MHz+10MHz		1RB/ 0RB Offset	50RB/ 0RB Offset
							1RB/ 49RB Offset	50RB/ 0RB Offset
							50RB/ 0RB Offset	50RB/ 0RB Offset
A	CONDUCTED EMISSION	132022 to 132523	132121 to 132622	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	132022 to 132523	132121 to 132622	Middle	10MHz+10MHz	QPSK,	1RB/ 49RB 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.

LTE BAND CA_66C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	132072 to 132374	132270 to 132572	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM,	1RB/ 99RB Offset	1RB/ 0RB Offset
		132072 to 132423	132243 to 132594	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		132050to 132401	132221 to 132572	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		132072 to 132473	132216 to 132617	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		132027 to 132428	132171 to 132572	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM,	1RB/ 49RB Offset	1RB/ 0RB Offset
		132047 to 132447	132197 to 132597	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		132047 to 132499	132167 to 132619	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		132025 to 132477	132145 to 132597	Low, Middle, High	10MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		132072 to 132522	132189 to 132639	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM,	1RB/ 99RB Offset	1RB/ 0RB Offset
		132005 to 132455	132122 to 132572	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	132072 to 132374	132270 to 132572	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM,	100RB/ 0RB Offset	100RB/ 0RB Offset
		132072 to 132423	132243 to 132594	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM,	100RB/ 0RB Offset	75RB/ 0RB Offset
		132050to 132401	132221 to 132572	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM,	75RB/ 0RB Offset	100RB/ 0RB Offset
		132072 to 132473	132216 to 132617	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM,	100RB/ 0RB Offset	50RB/ 0RB Offset
		132027 to 132428	132171 to 132572	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM,	50RB/ 0RB Offset	100RB/ 0RB Offset
		132047 to 132447	132197 to 132597	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM,	75RB/ 0RB Offset	75RB/ 0RB Offset

A	OCCUPIED BANDWIDTH	132047 to 132499	132167 to 132619	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM,	75RB/ 0RB Offset	50RB/ 0RB Offset
		132025 to 132477	132145 to 132597	Low, Middle, High	10MHz+15MHz	QPSK, 16QAM,	50RB/ 0RB Offset	75RB/ 0RB Offset
		132072 to 132522	132189 to 132639	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM,	100RB/ 0RB Offset	25RB/ 0RB Offset
		132005 to 132455	132122 to 132572	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM,	25RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	132072 to 132374	132270 to 132572	Low	20MHz+20MHz	QPSK, 16QAM,	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
				High	20MHz+20MHz		1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDUCTED EMISSION	132072 to 132374	132270 to 132572	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM,	1RB/ 99RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	39750 to 41292	39948 to 41490	Middle	20MHz+20MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset

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



Test Report No.: W7L-240430W002RF06

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 14.0V	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.8V/4V/4.2V	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 4.0V	James Fu
BAND EDGE	23deg. C, 70%RH	DC 4.0V	James Fu
CONDUCTED EMISSION	23deg. C, 70%RH	DC 4.0V	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 14.0V	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 4.0V	James Fu



Test Report No.: W7L-240430W002RF06

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.”

According to the specific rule Part 27.50(c)(10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

According to the specific rule Part 27.50(d)(4) 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.

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).

3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band CA_7C

CA_7C									
Combination 20MHz+20MHz (100RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20850	2510	21048	2529.8	QPSK	1	99	1	0	23.01
				16QAM	1	99	1	0	22.30
				64QAM	1	99	1	0	21.22
21001	2525.1	21199	2544.9	QPSK	1	99	1	0	22.90
				16QAM	1	99	1	0	22.10
				64QAM	1	99	1	0	21.06
21152	2540.2	21350	2560	QPSK	1	99	1	0	22.91
				16QAM	1	99	1	0	22.02
				64QAM	1	99	1	0	21.07
Combination 20MHz+15MHz (100RB+75RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20850	2510	21021	2527.1	QPSK	1	99	1	0	22.89
				16QAM	1	99	1	0	22.20
				64QAM	1	99	1	0	21.21
21026	2527.6	21197	2544.7	QPSK	1	99	1	0	22.75
				16QAM	1	99	1	0	22.00
				64QAM	1	99	1	0	21.05
21201	2545.1	21372	2562.2	QPSK	1	99	1	0	22.85
				16QAM	1	99	1	0	21.89
				64QAM	1	99	1	0	20.97

Combination 15MHz+20MHz (75RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20828	2507.8	20999	2524.9	QPSK	1	74	1	0	22.96
				16QAM	1	74	1	0	22.29
				64QAM	1	74	1	0	21.12
21003	2525.3	21174	2542.4	QPSK	1	74	1	0	22.77
				16QAM	1	74	1	0	21.95
				64QAM	1	74	1	0	21.03
21179	2542.9	21350	2560	QPSK	1	74	1	0	22.87
				16QAM	1	74	1	0	21.97
				64QAM	1	74	1	0	21.05
Combination 20MHz+10MHz (100RB+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	
20850	2510	20994	2524.4	QPSK	1	99	1	0	23.00
				16QAM	1	99	1	0	22.19
				64QAM	1	99	1	0	21.14
21051	2530.1	21195	2544.5	QPSK	1	99	1	0	22.87
				16QAM	1	99	1	0	22.04
				64QAM	1	99	1	0	20.99
21251	2550.1	21395	2564.5	QPSK	1	99	1	0	22.85
				16QAM	1	99	1	0	21.99
				64QAM	1	99	1	0	20.95

Combination 10MHz+20MHz (50RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20805	2505.5	20949	2519.9	QPSK	1	49	1	0	22.91
				16QAM	1	49	1	0	22.22
				64QAM	1	49	1	0	21.13
21006	2525.6	21150	2540	QPSK	1	49	1	0	22.85
				16QAM	1	49	1	0	22.09
				64QAM	1	49	1	0	21.05
21206	21206	21350	21220.4	QPSK	1	49	1	0	22.83
				16QAM	1	49	1	0	21.94
				64QAM	1	49	1	0	21.03
Combination 15MHz+15MHz (75RB+75RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
20825	2507.5	20975	2522.5	QPSK	1	74	1	0	22.95
				16QAM	1	74	1	0	22.23
				64QAM	1	74	1	0	21.08
21025	2527.5	21175	2542.5	QPSK	1	74	1	0	22.81
				16QAM	1	74	1	0	22.05
				64QAM	1	74	1	0	20.94
21225	2547.5	21375	2562.5	QPSK	1	74	1	0	22.87
				16QAM	1	74	1	0	21.89
				64QAM	1	74	1	0	20.94

Combination 15MHz+10MHz (75RB+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	
20825	2507.5	20945	2519.5	QPSK	1	74	1	0	22.87
				16QAM	1	74	1	0	22.19
				64QAM	1	74	1	0	21.17
21051	2530.1	21171	2542.1	QPSK	1	74	1	0	22.86
				16QAM	1	74	1	0	21.98
				64QAM	1	74	1	0	20.96
21277	2552.7	21397	2564.7	QPSK	1	74	1	0	22.82
				16QAM	1	74	1	0	21.91
				64QAM	1	74	1	0	20.96

LTE Band CA_ 66B

CA_66B									
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	
132022	1715	132121	1724.9	QPSK	1	49	1	0	23.54
				16QAM	1	49	1	0	22.92
				64QAM	1	49	1	0	21.85
132373	1750.1	132472	1760	QPSK	1	49	1	0	23.52
				16QAM	1	49	1	0	22.97
				64QAM	1	49	1	0	21.88
132523	1765.1	132622	1775	QPSK	1	49	1	0	23.58
				16QAM	1	49	1	0	22.96
				64QAM	1	49	1	0	21.78
Combination 15MHz+5MHz (75RB+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	
132047	1717.5	132140	1726.8	QPSK	1	74	1	0	23.41
				16QAM	1	74	1	0	22.89
				64QAM	1	74	1	0	21.78
132398	1752.6	132491	1761.9	QPSK	1	74	1	0	23.51
				16QAM	1	74	1	0	22.89
				64QAM	1	74	1	0	21.81
132549	1767.7	132642	1777	QPSK	1	74	1	0	23.46
				16QAM	1	74	1	0	22.88
				64QAM	1	74	1	0	21.67

Combination 5MHz+15MHz (25RB+75RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132002	1713	132095	1722.3	QPSK	1	24	1	0	23.46
				16QAM	1	24	1	0	22.81
				64QAM	1	24	1	0	21.78
132353	1748.1	132446	1757.4	QPSK	1	24	1	0	23.38
				16QAM	1	24	1	0	22.82
				64QAM	1	24	1	0	21.84
132504	1763.2	132597	1772.5	QPSK	1	24	1	0	23.57
				16QAM	1	24	1	0	22.93
				64QAM	1	24	1	0	21.74
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	
132022	1715	132094	1722.2	QPSK	1	49	1	0	23.40
				16QAM	1	49	1	0	22.78
				64QAM	1	49	1	0	21.78
132397	1752.5	132469	1759.7	QPSK	1	49	1	0	23.37
				16QAM	1	49	1	0	22.94
				64QAM	1	49	1	0	21.87
132572	1770	132644	1777.2	QPSK	1	49	1	0	23.55
				16QAM	1	49	1	0	22.90
				64QAM	1	49	1	0	21.76

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	
132000	1712.8	132072	1720	QPSK	1	24	1	0	23.50
				16QAM	1	24	1	0	22.89
				64QAM	1	24	1	0	21.80
132375	1750.3	132447	1757.5	QPSK	1	24	1	0	23.50
				16QAM	1	24	1	0	22.92
				64QAM	1	24	1	0	21.80
132550	1767.8	132622	1775	QPSK	1	24	1	0	23.57
				16QAM	1	24	1	0	22.91
				64QAM	1	24	1	0	21.74
Combination 5MHz+5MHz (25RB+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	
131997	1712.5	132045	1717.3	QPSK	1	24	1	0	23.49
				16QAM	1	24	1	0	22.85
				64QAM	1	24	1	0	21.83
132398	1777.5	132446	1782.3	QPSK	1	24	1	0	23.46
				16QAM	1	24	1	0	22.82
				64QAM	1	24	1	0	21.74
132599	1772.7	132647	1777.5	QPSK	1	24	1	0	23.53
				16QAM	1	24	1	0	22.93
				64QAM	1	24	1	0	21.63

LTE Band CA_ 66C

CA_66C

Combination 20MHz+20MHz (100RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132072	1720	132270	1739.8	QPSK	1	99	1	0	23.40
				16QAM	1	99	1	0	22.96
				64QAM	1	99	1	0	21.82
132323	1745.1	132521	1764.9	QPSK	1	99	1	0	23.53
				16QAM	1	99	1	0	22.91
				64QAM	1	99	1	0	21.86
132374	1750.2	132572	1770	QPSK	1	99	1	0	23.64
				16QAM	1	99	1	0	22.92
				64QAM	1	99	1	0	21.89

Combination 20MHz+15MHz (100RB+75RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132072	1720	132243	1737.1	QPSK	1	99	1	0	23.33
				16QAM	1	99	1	0	22.83
				64QAM	1	99	1	0	21.69
132348	1747.6	132519	1764.7	QPSK	1	99	1	0	23.52
				16QAM	1	99	1	0	22.86
				64QAM	1	99	1	0	21.76
132423	1755.1	132594	1772.2	QPSK	1	99	1	0	23.53
				16QAM	1	99	1	0	22.85
				64QAM	1	99	1	0	21.81

Combination 15MHz+20MHz (75RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132050	1717.8	132221	1734.9	QPSK	1	74	1	0	23.39
				16QAM	1	74	1	0	22.93
				64QAM	1	74	1	0	21.79
132325	1745.3	132496	1762.4	QPSK	1	74	1	0	23.43
				16QAM	1	74	1	0	22.84
				64QAM	1	74	1	0	21.72
132401	1752.9	132572	1770	QPSK	1	74	1	0	23.56
				16QAM	1	74	1	0	22.83
				64QAM	1	74	1	0	21.81

Combination 20MHz+10MHz (100RB+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	
132072	1720	132216	1734.4	QPSK	1	99	1	0	23.25
				16QAM	1	99	1	0	22.91
				64QAM	1	99	1	0	21.79
132373	1750.1	132517	1764.5	QPSK	1	99	1	0	23.49
				16QAM	1	99	1	0	22.82
				64QAM	1	99	1	0	21.75
132473	1760.1	132617	1774.5	QPSK	1	99	1	0	23.53
				16QAM	1	99	1	0	22.89
				64QAM	1	99	1	0	21.80

Combination 10MHz+20MHz (50RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132027	1715.5	132171	1729.9	QPSK	1	49	1	0	23.34
				16QAM	1	49	1	0	22.87
				64QAM	1	49	1	0	21.79
132328	1745.6	132472	1760	QPSK	1	49	1	0	23.44
				16QAM	1	49	1	0	22.79
				64QAM	1	49	1	0	21.79
132428	1755.6	132572	1770	QPSK	1	49	1	0	23.51
				16QAM	1	49	1	0	22.80
				64QAM	1	49	1	0	21.87

Combination 15MHz+15MHz (75RB+75RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132047	1717.5	132197	1732.5	QPSK	1	74	1	0	23.29
				16QAM	1	74	1	0	22.85
				64QAM	1	74	1	0	21.72
132347	1747.5	132497	1762.5	QPSK	1	74	1	0	23.51
				16QAM	1	74	1	0	22.81
				64QAM	1	74	1	0	21.71
132447	1757.5	132597	1772.5	QPSK	1	74	1	0	23.60
				16QAM	1	74	1	0	22.87
				64QAM	1	74	1	0	21.86

Combination 15MHz+10MHz (75RB+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	
132047	1717.5	132167	1729.5	QPSK	1	74	1	0	23.38
				16QAM	1	74	1	0	22.92
				64QAM	1	74	1	0	21.69
132373	1750.1	132493	1762.1	QPSK	1	74	1	0	23.45
				16QAM	1	74	1	0	22.87
				64QAM	1	74	1	0	21.73
132499	1762.7	132619	1774.7	QPSK	1	74	1	0	23.57
				16QAM	1	74	1	0	22.80
				64QAM	1	74	1	0	21.80

Combination 10MHz+15MHz (50RB+75RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132025	1715.3	132145	1727.3	QPSK	1	49	1	0	23.31
				16QAM	1	49	1	0	22.90
				64QAM	1	49	1	0	21.71
132351	1747.9	132471	1759.9	QPSK	1	49	1	0	23.49
				16QAM	1	49	1	0	22.78
				64QAM	1	49	1	0	21.83
132477	1760.5	132597	1772.5	QPSK	1	49	1	0	23.62
				16QAM	1	49	1	0	22.91
				64QAM	1	49	1	0	21.78

Combination 20MHz+5MHz (100RB+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	
132072	1720	132189	1731.7	QPSK	1	99	1	0	23.39
				16QAM	1	99	1	0	22.83
				64QAM	1	99	1	0	21.72
132397	1752.5	132514	1764.2	QPSK	1	99	1	0	23.50
				16QAM	1	99	1	0	22.87
				64QAM	1	99	1	0	21.80
132522	1765	132639	1776.7	QPSK	1	99	1	0	23.56
				16QAM	1	99	1	0	22.82
				64QAM	1	99	1	0	21.85
Combination 5MHz+20MHz (25RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
132005	1713.3	132122	1725	QPSK	1	24	1	0	23.39
				16QAM	1	24	1	0	22.93
				64QAM	1	24	1	0	21.72
132330	1745.8	132447	1757.5	QPSK	1	24	1	0	23.38
				16QAM	1	24	1	0	22.87
				64QAM	1	24	1	0	21.71
132455	1758.3	132572	1770	QPSK	1	24	1	0	23.57
				16QAM	1	24	1	0	22.88
				64QAM	1	24	1	0	21.86



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

EIRP
CA 7C

CA_7C

Combination 20MHz+20MHz (100RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20850	2510	21048	2529.8	QPSK	1	99	1	0	23.01	1.24	24.25	266.07	2
				16QAM	1	99	1	0	22.30	1.24	23.54	225.94	2
				64QAM	1	99	1	0	21.22	1.24	22.46	176.20	2
21001	2525.1	21199	2544.9	QPSK	1	99	1	0	22.90	1.24	24.14	259.42	2
				16QAM	1	99	1	0	22.10	1.24	23.34	215.77	2
				64QAM	1	99	1	0	21.06	1.24	22.30	169.82	2
21152	2540.2	21350	2560	QPSK	1	99	1	0	22.91	1.24	24.15	260.02	2
				16QAM	1	99	1	0	22.02	1.24	23.26	211.84	2
				64QAM	1	99	1	0	21.07	1.24	22.31	170.22	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 20MHz+15MHz (100RB+75RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20850	2510	21021	2527.1	QPSK	1	99	1	0	22.89	1.24	24.13	258.82	2
				16QAM	1	99	1	0	22.20	1.24	23.44	220.80	2
				64QAM	1	99	1	0	21.21	1.24	22.45	175.79	2
21026	2527.6	21197	2544.7	QPSK	1	99	1	0	22.75	1.24	23.99	250.61	2
				16QAM	1	99	1	0	22.00	1.24	23.24	210.86	2
				64QAM	1	99	1	0	21.05	1.24	22.29	169.43	2
21201	2545.1	21372	2562.2	QPSK	1	99	1	0	22.85	1.24	24.09	256.45	2
				16QAM	1	99	1	0	21.89	1.24	23.13	205.59	2
				64QAM	1	99	1	0	20.97	1.24	22.21	166.34	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+20MHz (75RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20828	2507.8	20999	2524.9	QPSK	1	74	1	0	22.96	1.24	24.20	263.03	2
				16QAM	1	74	1	0	22.29	1.24	23.53	225.42	2
				64QAM	1	74	1	0	21.12	1.24	22.36	172.19	2
21003	2525.3	21174	2542.4	QPSK	1	74	1	0	22.77	1.24	24.01	251.77	2
				16QAM	1	74	1	0	21.95	1.24	23.19	208.45	2
				64QAM	1	74	1	0	21.03	1.24	22.27	168.66	2
21179	2542.9	21350	2560	QPSK	1	74	1	0	22.87	1.24	24.11	257.63	2
				16QAM	1	74	1	0	21.97	1.24	23.21	209.41	2
				64QAM	1	74	1	0	21.05	1.24	22.29	169.43	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 20MHz+10MHz (100RB+50RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20850	2510	20994	2524.4	QPSK	1	99	1	0	23.00	1.24	24.24	265.46	2
				16QAM	1	99	1	0	22.19	1.24	23.43	220.29	2
				64QAM	1	99	1	0	21.14	1.24	22.38	172.98	2
21051	2530.1	21195	2544.5	QPSK	1	99	1	0	22.87	1.24	24.11	257.63	2
				16QAM	1	99	1	0	22.04	1.24	23.28	212.81	2
				64QAM	1	99	1	0	20.99	1.24	22.23	167.11	2
21251	2550.1	21395	2564.5	QPSK	1	99	1	0	22.85	1.24	24.09	256.45	2
				16QAM	1	99	1	0	21.99	1.24	23.23	210.38	2
				64QAM	1	99	1	0	20.95	1.24	22.19	165.58	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 10MHz+20MHz (50RB+100RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20805	2505.5	20949	2519.9	QPSK	1	49	1	0	22.91	1.24	24.15	260.02	2
				16QAM	1	49	1	0	22.22	1.24	23.46	221.82	2
				64QAM	1	49	1	0	21.13	1.24	22.37	172.58	2
21006	2525.6	21150	2540	QPSK	1	49	1	0	22.85	1.24	24.09	256.45	2
				16QAM	1	49	1	0	22.09	1.24	23.33	215.28	2
				64QAM	1	49	1	0	21.05	1.24	22.29	169.43	2
21206	21206	21350	2560	QPSK	1	49	1	0	22.83	1.24	24.07	255.27	2
				16QAM	1	49	1	0	21.94	1.24	23.18	207.97	2
				64QAM	1	49	1	0	21.03	1.24	22.27	168.66	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+15MHz (75RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20825	2507.5	20975	2522.5	QPSK	1	74	1	0	22.95	1.24	24.19	262.42	2
				16QAM	1	74	1	0	22.23	1.24	23.47	222.33	2
				64QAM	1	74	1	0	21.08	1.24	22.32	170.61	2
21025	2527.5	21175	2542.5	QPSK	1	74	1	0	22.81	1.24	24.05	254.10	2
				16QAM	1	74	1	0	22.05	1.24	23.29	213.30	2
				64QAM	1	74	1	0	20.94	1.24	22.18	165.20	2
21225	2547.5	21375	2562.5	QPSK	1	74	1	0	22.87	1.24	24.11	257.63	2
				16QAM	1	74	1	0	21.89	1.24	23.13	205.59	2
				64QAM	1	74	1	0	20.94	1.24	22.18	165.20	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+10MHz (75RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
20825	2507.5	20945	2519.5	QPSK	1	74	1	0	22.87	1.24	24.11	257.63	2
				16QAM	1	74	1	0	22.19	1.24	23.43	220.29	2
				64QAM	1	74	1	0	21.17	1.24	22.41	174.18	2
21051	2530.1	21171	2542.1	QPSK	1	74	1	0	22.86	1.24	24.10	257.04	2
				16QAM	1	74	1	0	21.98	1.24	23.22	209.89	2
				64QAM	1	74	1	0	20.96	1.24	22.20	165.96	2
21277	2552.7	21397	2564.7	QPSK	1	74	1	0	22.82	1.24	24.06	254.68	2
				16QAM	1	74	1	0	21.91	1.24	23.15	206.54	2
				64QAM	1	74	1	0	20.96	1.24	22.20	165.96	2



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

CA-66B

CA_66B													
Combination 10MHz+10MHz (50RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132022	1715	132121	1724.9	QPSK	1	49	1	0	23.54	1.93	25.47	352.37	1
				16QAM	1	49	1	0	22.92	1.93	24.85	305.49	1
				64QAM	1	49	1	0	21.85	1.93	23.78	238.78	1
132373	1750.1	132472	1760	QPSK	1	49	1	0	23.52	1.93	25.45	350.75	1
				16QAM	1	49	1	0	22.97	1.93	24.90	309.03	1
				64QAM	1	49	1	0	21.88	1.93	23.81	240.44	1
132523	1765.1	132622	1775	QPSK	1	49	1	0	23.58	1.93	25.51	355.63	1
				16QAM	1	49	1	0	22.96	1.93	24.89	308.32	1
				64QAM	1	49	1	0	21.78	1.93	23.71	234.96	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+5MHz (75RB+25RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132047	1717.5	132140	1726.8	QPSK	1	74	1	0	23.41	1.93	25.34	341.98	1
				16QAM	1	74	1	0	22.89	1.93	24.82	303.39	1
				64QAM	1	74	1	0	21.78	1.93	23.71	234.96	1
132398	1752.6	132491	1761.9	QPSK	1	74	1	0	23.51	1.93	25.44	349.95	1
				16QAM	1	74	1	0	22.89	1.93	24.82	303.39	1
				64QAM	1	74	1	0	21.81	1.93	23.74	236.59	1
132549	1767.7	132642	1777	QPSK	1	74	1	0	23.46	1.93	25.39	345.94	1
				16QAM	1	74	1	0	22.88	1.93	24.81	302.69	1
				64QAM	1	74	1	0	21.67	1.93	23.60	229.09	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 5MHz+15MHz (25RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132002	1713	132095	1722.3	QPSK	1	24	1	0	23.46	1.93	25.39	345.94	1
				16QAM	1	24	1	0	22.81	1.93	24.74	297.85	1
				64QAM	1	24	1	0	21.78	1.93	23.71	234.96	1
132353	1748.1	132446	1757.4	QPSK	1	24	1	0	23.38	1.93	25.31	339.63	1
				16QAM	1	24	1	0	22.82	1.93	24.75	298.54	1
				64QAM	1	24	1	0	21.84	1.93	23.77	238.23	1
132504	1763.2	132597	1772.5	QPSK	1	24	1	0	23.57	1.93	25.50	354.81	1
				16QAM	1	24	1	0	22.93	1.93	24.86	306.20	1
				64QAM	1	24	1	0	21.74	1.93	23.67	232.81	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 10MHz+5MHz (50RB+25RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132022	1715	132094	1722.2	QPSK	1	49	1	0	23.40	1.93	25.33	341.19	1
				16QAM	1	49	1	0	22.78	1.93	24.71	295.80	1
				64QAM	1	49	1	0	21.78	1.93	23.71	234.96	1
132397	1752.5	132469	1759.7	QPSK	1	49	1	0	23.37	1.93	25.30	338.84	1
				16QAM	1	49	1	0	22.94	1.93	24.87	306.90	1
				64QAM	1	49	1	0	21.87	1.93	23.80	239.88	1
132572	1770	132644	1777.2	QPSK	1	49	1	0	23.55	1.93	25.48	353.18	1
				16QAM	1	49	1	0	22.90	1.93	24.83	304.09	1
				64QAM	1	49	1	0	21.76	1.93	23.69	233.88	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 5MHz+10MHz (25RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132000	1712.8	132072	1720	QPSK	1	24	1	0	23.50	1.93	25.43	349.14	1
				16QAM	1	24	1	0	22.89	1.93	24.82	303.39	1
				64QAM	1	24	1	0	21.80	1.93	23.73	236.05	1
132375	1750.3	132447	1757.5	QPSK	1	24	1	0	23.50	1.93	25.43	349.14	1
				16QAM	1	24	1	0	22.92	1.93	24.85	305.49	1
				64QAM	1	24	1	0	21.80	1.93	23.73	236.05	1
132550	1767.8	132622	1775	QPSK	1	24	1	0	23.57	1.93	25.50	354.81	1
				16QAM	1	24	1	0	22.91	1.93	24.84	304.79	1
				64QAM	1	24	1	0	21.74	1.93	23.67	232.81	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 5MHz+5MHz (25RB+25RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
131997	1712.5	132045	1717.3	QPSK	1	24	1	0	23.49	1.93	25.42	348.34	1
				16QAM	1	24	1	0	22.85	1.93	24.78	300.61	1
				64QAM	1	24	1	0	21.83	1.93	23.76	237.68	1
132398	1777.5	132446	1782.3	QPSK	1	24	1	0	23.46	1.93	25.39	345.94	1
				16QAM	1	24	1	0	22.82	1.93	24.75	298.54	1
				64QAM	1	24	1	0	21.74	1.93	23.67	232.81	1
132599	1772.7	132647	1777.5	QPSK	1	24	1	0	23.53	1.93	25.46	351.56	1
				16QAM	1	24	1	0	22.93	1.93	24.86	306.20	1
				64QAM	1	24	1	0	21.63	1.93	23.56	226.99	1



**BUREAU
VERITAS
CA-66C**

Test Report No.: W7L-240430W002RF06

CA_66C													
Combination 20MHz+20MHz (100RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132072	1720	132270	1739.8	QPSK	1	99	1	0	23.40	1.93	25.33	341.19	1
				16QAM	1	99	1	0	22.96	1.93	24.89	308.32	1
				64QAM	1	99	1	0	21.82	1.93	23.75	237.14	1
132323	1745.1	132521	1764.9	QPSK	1	99	1	0	23.53	1.93	25.46	351.56	1
				16QAM	1	99	1	0	22.91	1.93	24.84	304.79	1
				64QAM	1	99	1	0	21.86	1.93	23.79	239.33	1
132374	1750.2	132572	1770	QPSK	1	99	1	0	23.64	1.93	25.57	360.58	1
				16QAM	1	99	1	0	22.92	1.93	24.85	305.49	1
				64QAM	1	99	1	0	21.89	1.93	23.82	240.99	1



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VERITAS

Test Report No.: W7L-240430W002RF06

Combination 20MHz+15MHz (100RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132072	1720	132243	1737.1	QPSK	1	99	1	0	23.33	1.93	25.26	335.74	1
				16QAM	1	99	1	0	22.83	1.93	24.76	299.23	1
				64QAM	1	99	1	0	21.69	1.93	23.62	230.14	1
132348	1747.6	132519	1764.7	QPSK	1	99	1	0	23.52	1.93	25.45	350.75	1
				16QAM	1	99	1	0	22.86	1.93	24.79	301.30	1
				64QAM	1	99	1	0	21.76	1.93	23.69	233.88	1
132423	1755.1	132594	1772.2	QPSK	1	99	1	0	23.53	1.93	25.46	351.56	1
				16QAM	1	99	1	0	22.85	1.93	24.78	300.61	1
				64QAM	1	99	1	0	21.81	1.93	23.74	236.59	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+20MHz (75RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132050	1717.8	132221	1734.9	QPSK	1	74	1	0	23.39	1.93	25.32	340.41	1
				16QAM	1	74	1	0	22.93	1.93	24.86	306.20	1
				64QAM	1	74	1	0	21.79	1.93	23.72	235.50	1
132325	1745.3	132496	1762.4	QPSK	1	74	1	0	23.43	1.93	25.36	343.56	1
				16QAM	1	74	1	0	22.84	1.93	24.77	299.92	1
				64QAM	1	74	1	0	21.72	1.93	23.65	231.74	1
132401	1752.9	132572	1770	QPSK	1	74	1	0	23.56	1.93	25.49	354.00	1
				16QAM	1	74	1	0	22.83	1.93	24.76	299.23	1
				64QAM	1	74	1	0	21.81	1.93	23.74	236.59	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 20MHz+10MHz (100RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132072	1720	132216	1734.4	QPSK	1	99	1	0	23.25	1.93	25.18	329.61	1
				16QAM	1	99	1	0	22.91	1.93	24.84	304.79	1
				64QAM	1	99	1	0	21.79	1.93	23.72	235.50	1
132373	1750.1	132517	1764.5	QPSK	1	99	1	0	23.49	1.93	25.42	348.34	1
				16QAM	1	99	1	0	22.82	1.93	24.75	298.54	1
				64QAM	1	99	1	0	21.75	1.93	23.68	233.35	1
132473	1760.1	132617	1774.5	QPSK	1	99	1	0	23.53	1.93	25.46	351.56	1
				16QAM	1	99	1	0	22.89	1.93	24.82	303.39	1
				64QAM	1	99	1	0	21.80	1.93	23.73	236.05	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 10MHz+20MHz (50RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132027	1715.5	132171	1729.9	QPSK	1	49	1	0	23.34	1.93	25.27	336.51	1
				16QAM	1	49	1	0	22.87	1.93	24.80	302.00	1
				64QAM	1	49	1	0	21.79	1.93	23.72	235.50	1
132328	1745.6	132472	1760	QPSK	1	49	1	0	23.44	1.93	25.37	344.35	1
				16QAM	1	49	1	0	22.79	1.93	24.72	296.48	1
				64QAM	1	49	1	0	21.79	1.93	23.72	235.50	1
132428	1755.6	132572	1770	QPSK	1	49	1	0	23.51	1.93	25.44	349.95	1
				16QAM	1	49	1	0	22.80	1.93	24.73	297.17	1
				64QAM	1	49	1	0	21.87	1.93	23.80	239.88	1



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VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+15MHz (75RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132047	1717.5	132197	1732.5	QPSK	1	74	1	0	23.29	1.93	25.22	332.66	1
				16QAM	1	74	1	0	22.85	1.93	24.78	300.61	1
				64QAM	1	74	1	0	21.72	1.93	23.65	231.74	1
132347	1747.5	132497	1762.5	QPSK	1	74	1	0	23.51	1.93	25.44	349.95	1
				16QAM	1	74	1	0	22.81	1.93	24.74	297.85	1
				64QAM	1	74	1	0	21.71	1.93	23.64	231.21	1
132447	1757.5	132597	1772.5	QPSK	1	74	1	0	23.60	1.93	25.53	357.27	1
				16QAM	1	74	1	0	22.87	1.93	24.80	302.00	1
				64QAM	1	74	1	0	21.86	1.93	23.79	239.33	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 15MHz+10MHz (75RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132047	1717.5	132167	1729.5	QPSK	1	74	1	0	23.38	1.93	25.31	339.63	1
				16QAM	1	74	1	0	22.92	1.93	24.85	305.49	1
				64QAM	1	74	1	0	21.69	1.93	23.62	230.14	1
132373	1750.1	132493	1762.1	QPSK	1	74	1	0	23.45	1.93	25.38	345.14	1
				16QAM	1	74	1	0	22.87	1.93	24.80	302.00	1
				64QAM	1	74	1	0	21.73	1.93	23.66	232.27	1
132499	1762.7	132619	1774.7	QPSK	1	74	1	0	23.57	1.93	25.50	354.81	1
				16QAM	1	74	1	0	22.80	1.93	24.73	297.17	1
				64QAM	1	74	1	0	21.80	1.93	23.73	236.05	1



BUREAU
VERITAS

Test Report No.: W7L-240430W002RF06

Combination 10MHz+15MHz (50RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132025	1715.3	132145	1727.3	QPSK	1	49	1	0	23.31	1.93	25.24	334.20	1
				16QAM	1	49	1	0	22.90	1.93	24.83	304.09	1
				64QAM	1	49	1	0	21.71	1.93	23.64	231.21	1
132351	1747.9	132471	1759.9	QPSK	1	49	1	0	23.49	1.93	25.42	348.34	1
				16QAM	1	49	1	0	22.78	1.93	24.71	295.80	1
				64QAM	1	49	1	0	21.83	1.93	23.76	237.68	1
132477	1760.5	132597	1772.5	QPSK	1	49	1	0	23.62	1.93	25.55	358.92	1
				16QAM	1	49	1	0	22.91	1.93	24.84	304.79	1
				64QAM	1	49	1	0	21.78	1.93	23.71	234.96	1



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VERITAS

Test Report No.: W7L-240430W002RF06

Combination 20MHz+5MHz (100RB+25RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132072	1720	132189	1731.7	QPSK	1	99	1	0	23.39	1.93	25.32	340.41	1
				16QAM	1	99	1	0	22.83	1.93	24.76	299.23	1
				64QAM	1	99	1	0	21.72	1.93	23.65	231.74	1
132397	1752.5	132514	1764.2	QPSK	1	99	1	0	23.50	1.93	25.43	349.14	1
				16QAM	1	99	1	0	22.87	1.93	24.80	302.00	1
				64QAM	1	99	1	0	21.80	1.93	23.73	236.05	1
132522	1765	132639	1776.7	QPSK	1	99	1	0	23.56	1.93	25.49	354.00	1
				16QAM	1	99	1	0	22.82	1.93	24.75	298.54	1
				64QAM	1	99	1	0	21.85	1.93	23.78	238.78	1



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VERITAS

Test Report No.: W7L-240430W002RF06

Combination 5MHz+20MHz (25RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP(dBm)	EIRP(mW)	Limit (W)
					RB Size	RB offset	RB Size	RB offset					
132005	1713.3	132122	1725	QPSK	1	24	1	0	23.39	1.93	25.32	340.41	1
				16QAM	1	24	1	0	22.93	1.93	24.86	306.20	1
				64QAM	1	24	1	0	21.72	1.93	23.65	231.74	1
132330	1745.8	132447	1757.5	QPSK	1	24	1	0	23.38	1.93	25.31	339.63	1
				16QAM	1	24	1	0	22.87	1.93	24.80	302.00	1
				64QAM	1	24	1	0	21.71	1.93	23.64	231.21	1
132455	1758.3	132572	1770	QPSK	1	24	1	0	23.57	1.93	25.50	354.81	1
				16QAM	1	24	1	0	22.88	1.93	24.81	302.69	1
				64QAM	1	24	1	0	21.86	1.93	23.79	239.33	1

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

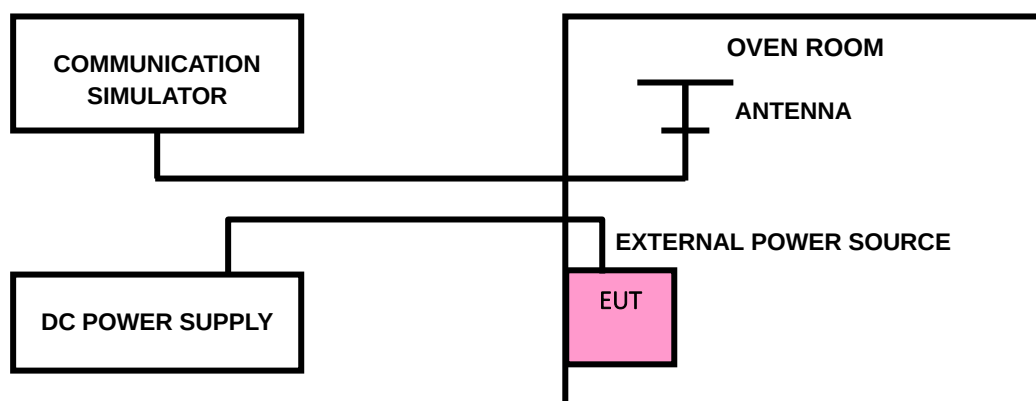
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

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



3.2.4 TEST RESULTS

LTE BAND CA_7C

LTE BAND CA_7C channel and Frequency List					
BW(MHz)	Channel/Frequency(MHz)		Lowest	Middle	Highest
10+20	PCC	channel	20805	21006	21206
		Frequency	2505.5	2525.6	2545.6
	SCC	channel	20949	21150	21350
		Frequency	2519.9	2540	2560
15+10	PCC	channel	20825	21051	21277
		Frequency	2507.5	2530.1	2552.7
	SCC	channel	20945	21171	21397
		Frequency	2519.5	2542.1	2564.7
15+15	PCC	channel	20825	21025	21225
		Frequency	2507.5	2527.5	2547.5
	SCC	channel	20975	21175	21375
		Frequency	2522.5	2542.5	2562.5
15+20	PCC	channel	20828	21003	21179
		Frequency	2507.8	2525.3	2542.9
	SCC	channel	20999	21174	21350
		Frequency	2524.9	2542.4	2560
20+10	PCC	channel	20850	21051	21251
		Frequency	2510	2530.1	2550.1
	SCC	channel	20994	21195	21395
		Frequency	2524.4	2544.5	2564.5
20+15	PCC	channel	20850	21026	21201
		Frequency	2510	2527.6	2545.1
	SCC	channel	21021	21197	21372
		Frequency	2527.1	2544.7	2562.2
20+20	PCC	channel	20850	21001	21152
		Frequency	2510	2525.1	2540.2
	SCC	channel	21048	21199	21350
		Frequency	2529.8	2544.9	2560



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LTE BAND CA_66B

LTE BAND CA_66B channel and Frequency List					
BW(MHz)	Channel/Frequency(MHz)		Lowest	Middle	Highest
10+10	PCC	channel	132022	132373	132523
		Frequency	1715	1750.1	1765.1
	SCC	channel	132121	132472	132622
		Frequency	1724.9	1760	1775
15+5	PCC	channel	132002	132353	132504
		Frequency	1713	1748.1	1763.2
	SCC	channel	132095	132446	132597
		Frequency	1722.3	1757.4	1772.5
10+5	PCC	channel	132022	132397	132572
		Frequency	1715	1752.5	1770
	SCC	channel	132094	132469	132644
		Frequency	1722.2	1759.7	1777.2
5+10	PCC	channel	132000	132375	132550
		Frequency	1712.8	1750.3	1767.8
	SCC	channel	132072	132447	132622
		Frequency	1720	1757.5	1775
5+5	PCC	channel	131997	132398	132599
		Frequency	1712.5	1777.5	1772.7
	SCC	channel	132045	132446	132647
		Frequency	1717.3	1782.3	1777.5

LTE BAND CA_66C

LTE BAND CA_66B channel and Frequency List					
BW(MHz)	Channel/Frequency(MHz)		Lowest	Middle	Highest
20+20	PCC	channel	132072	132323	132374
		Frequency	1720	1745.1	1750.2
	SCC	channel	132270	132521	132572
		Frequency	1739.8	1764.9	1770
20+15	PCC	channel	132072	132348	132423
		Frequency	1720	1747.6	1755.1
	SCC	channel	132243	132519	132594
		Frequency	1737.1	1764.7	1772.2
15+20	PCC	channel	132050	132325	132401
		Frequency	1717.8	1745.3	1752.9
	SCC	channel	132221	132496	132572
		Frequency	1734.9	1762.4	1770
20+10	PCC	channel	132072	132373	132473
		Frequency	1720	1750.1	1760.1
	SCC	channel	132216	132517	132617
		Frequency	1734.4	1764.5	1774.5
10+20	PCC	channel	132027	132328	132428
		Frequency	1715.5	1745.6	1755.6
	SCC	channel	132171	132472	132572
		Frequency	1729.9	1760	1770
15+15	PCC	channel	132047	132347	132447
		Frequency	1717.5	1747.5	1757.5
	SCC	channel	132197	132497	132597
		Frequency	1732.5	1762.5	1772.5
15+10	PCC	channel	132047	132373	132499
		Frequency	1717.5	1750.1	1762.7
	SCC	channel	132167	132493	132619
		Frequency	1729.5	1762.1	1774.7
10+15	PCC	channel	132025	132351	132477
		Frequency	1715.3	1747.9	1760.5
	SCC	channel	132145	132471	132597



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		Frequency	1727.3	1759.9	1772.5
20+5	PCC	channel	132072	132397	132522
		Frequency	1720	1752.5	1765
	SCC	channel	132189	132514	132639
		Frequency	1731.7	1764.2	1776.7
5+20	PCC	channel	132005	132330	132455
		Frequency	1713.3	1745.8	1758.3
	SCC	channel	132122	132447	132572
		Frequency	1725	1757.5	1770

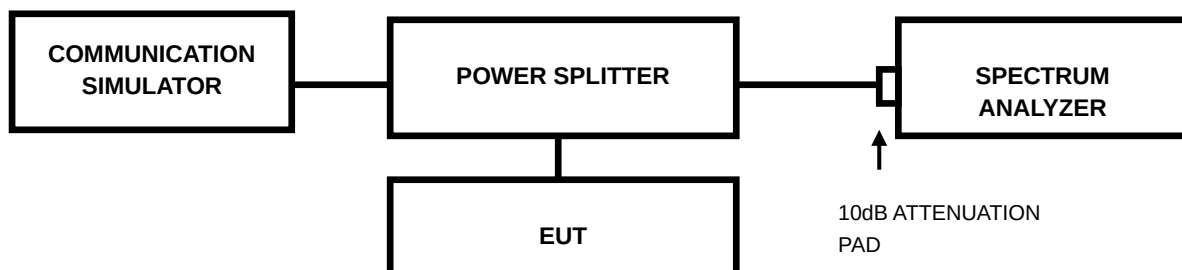
Note: VL = Low voltage(3.8V); VN/NV = Normal voltage(4V); VH = High voltage(4.2V);
NT = Normal temperature (25°C)

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.



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3.3.4 TEST RESULTS

Please Refer to Appendix F Of this test report.

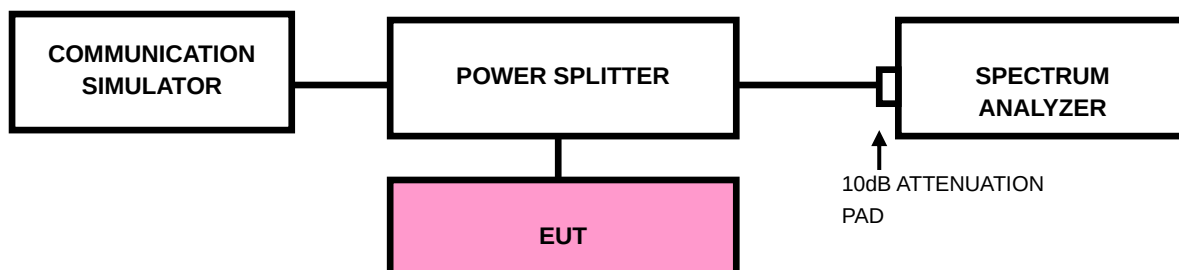
3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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 than $43 + 10 \log (P)$ 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

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

3.4.4 TEST RESULTS

Please Refer to Appendix F 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 .

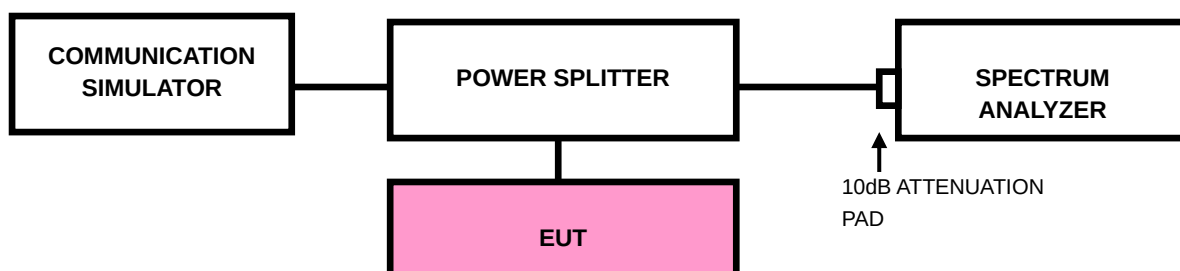
For: LTE Band7C/Band41C

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 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





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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 F 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 Band7C

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,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$.

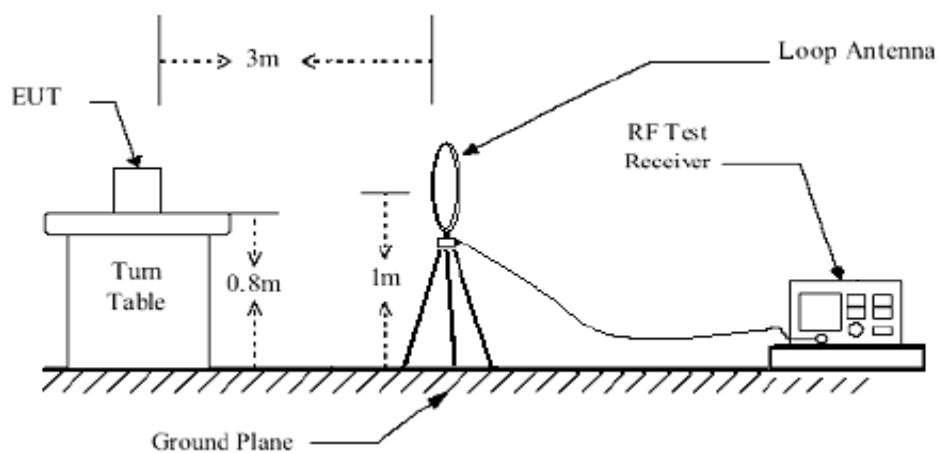
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

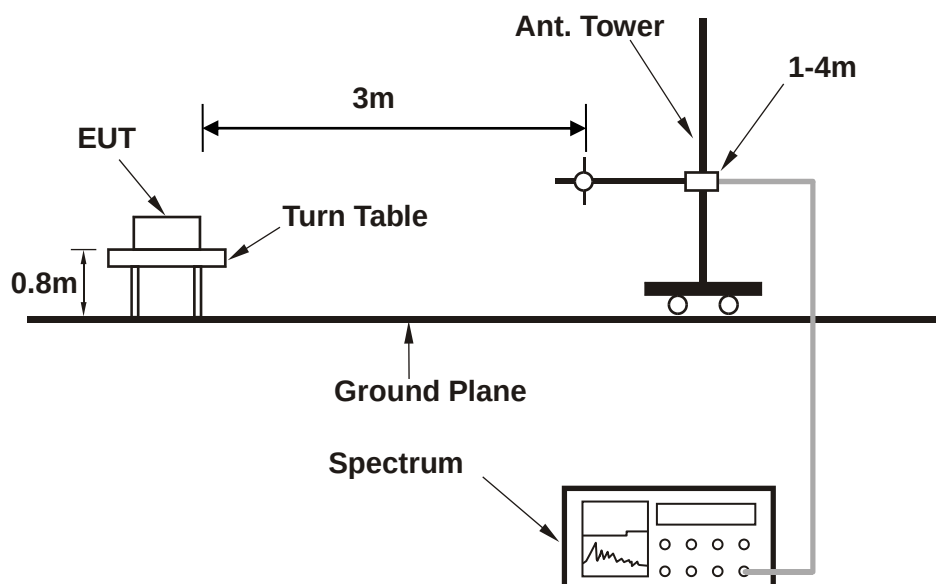
No deviation

3.6.4 TEST SETUP

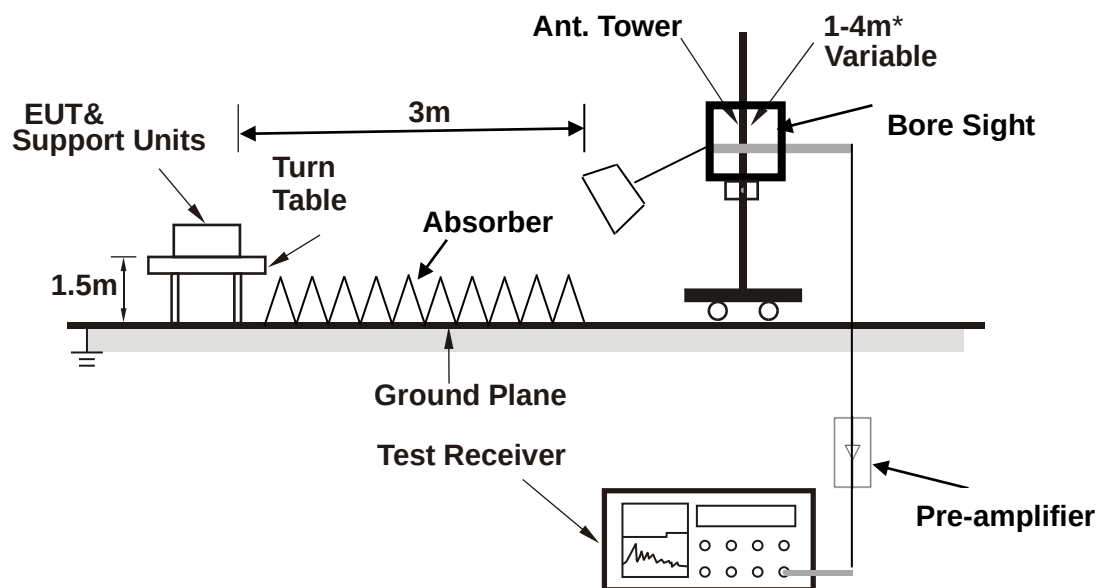
< Frequency Range below 30MHz >



< 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

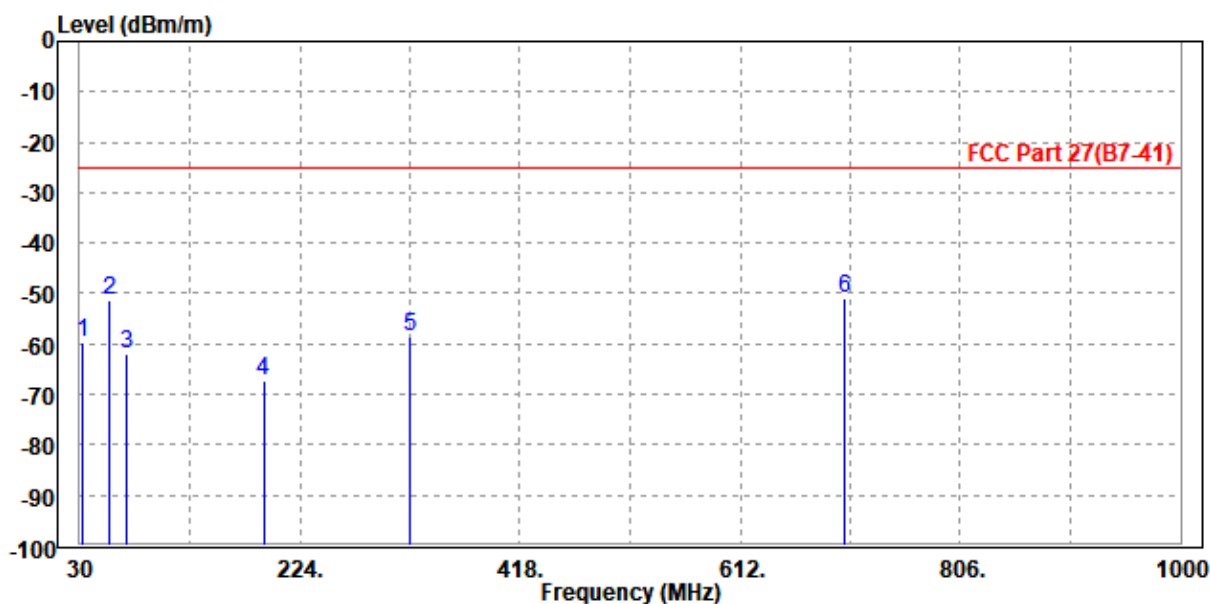
30 MHz – 1GHz data:

LTE Band CA_7C

CHANNEL BANDWIDTH: (20+20) MHz / QPSK

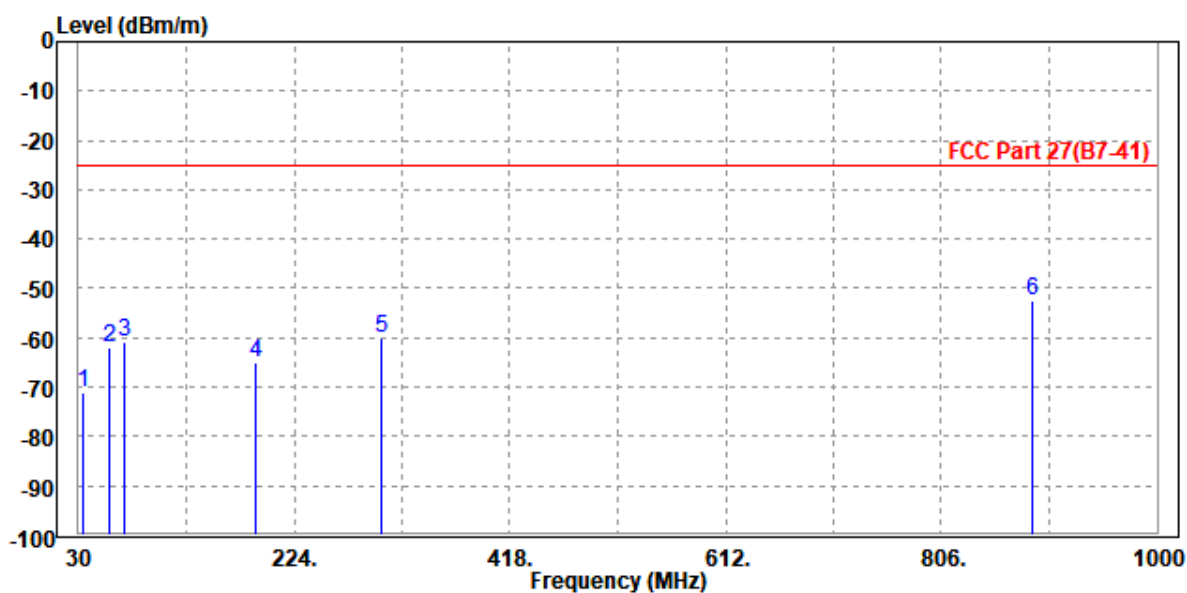
MODE	TX channel PCC 21001	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21199		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	32.910	-59.88	-56.31	-25.00	-34.88	-3.57	Peak	Horizontal
2	56.190	-51.24	-39.26	-25.00	-26.24	-11.98	Peak	Horizontal
3	71.710	-62.09	-49.79	-25.00	-37.09	-12.30	Peak	Horizontal
4	191.990	-67.43	-51.67	-25.00	-42.43	-15.76	Peak	Horizontal
5	321.000	-58.70	-50.29	-25.00	-33.70	-8.41	Peak	Horizontal
6 PP	704.150	-51.03	-55.12	-25.00	-26.03	4.09	Peak	Horizontal



MODE	TX channel PCC 21001	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21199		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	33.880	-70.96	-49.85	-25.00	-45.96	-21.11	Peak	Vertical
2	57.160	-61.88	-42.98	-25.00	-36.88	-18.90	Peak	Vertical
3	71.710	-60.90	-40.60	-25.00	-35.90	-20.30	Peak	Vertical
4	190.050	-65.07	-58.54	-25.00	-40.07	-6.53	Peak	Vertical
5	302.570	-59.97	-56.54	-25.00	-34.97	-3.43	Peak	Vertical
6 PP	888.450	-52.45	-63.76	-25.00	-27.45	11.31	Peak	Vertical





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ABOVE 1GHz

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

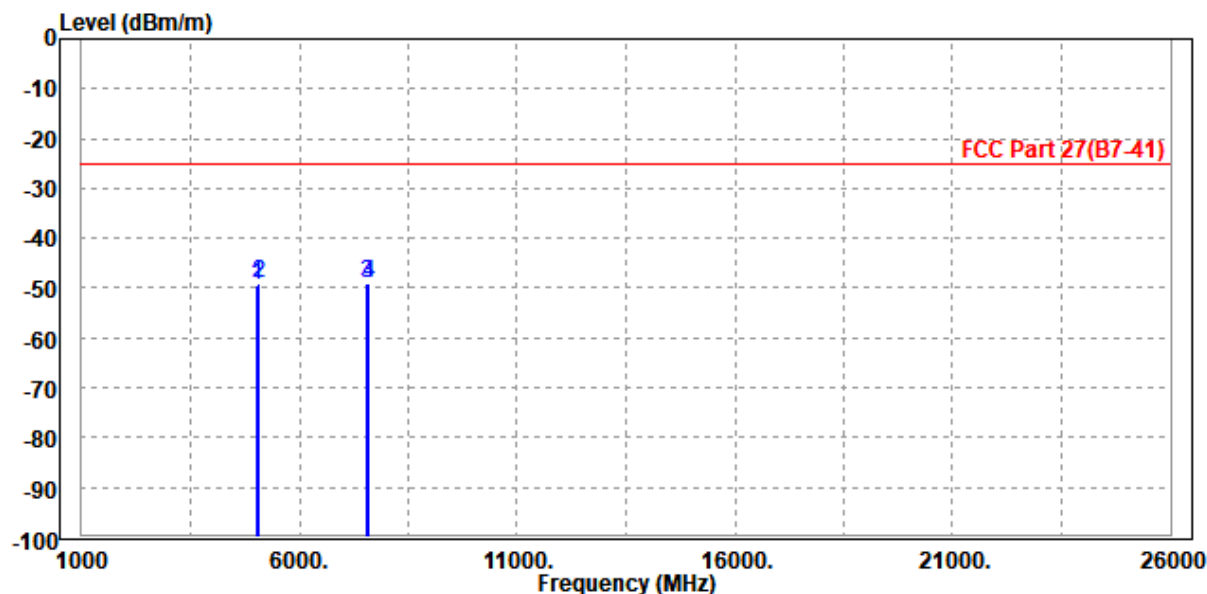
LTE Band CA _7C

CHANNEL BANDWIDTH: (20+20) MHz / QPSK

CH 20850/21048

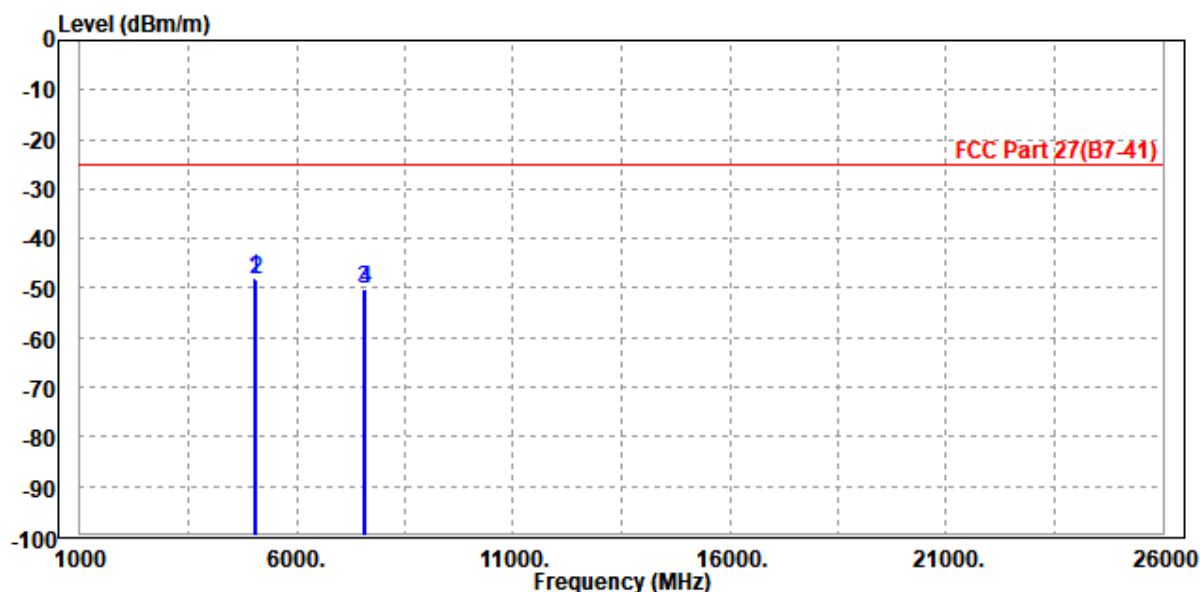
MODE	TX channel PCC 20850	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21048		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5020.000	-49.33	-60.42	-25.00	-24.33	11.09	Peak	Horizontal
2	5060.000	-49.18	-60.33	-25.00	-24.18	11.15	Peak	Horizontal
3	7530.000	-49.21	-63.60	-25.00	-24.21	14.39	Peak	Horizontal
4 PP	7600.000	-49.08	-63.59	-25.00	-24.08	14.51	Peak	Horizontal



MODE	TX channel PCC 20850	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21048		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

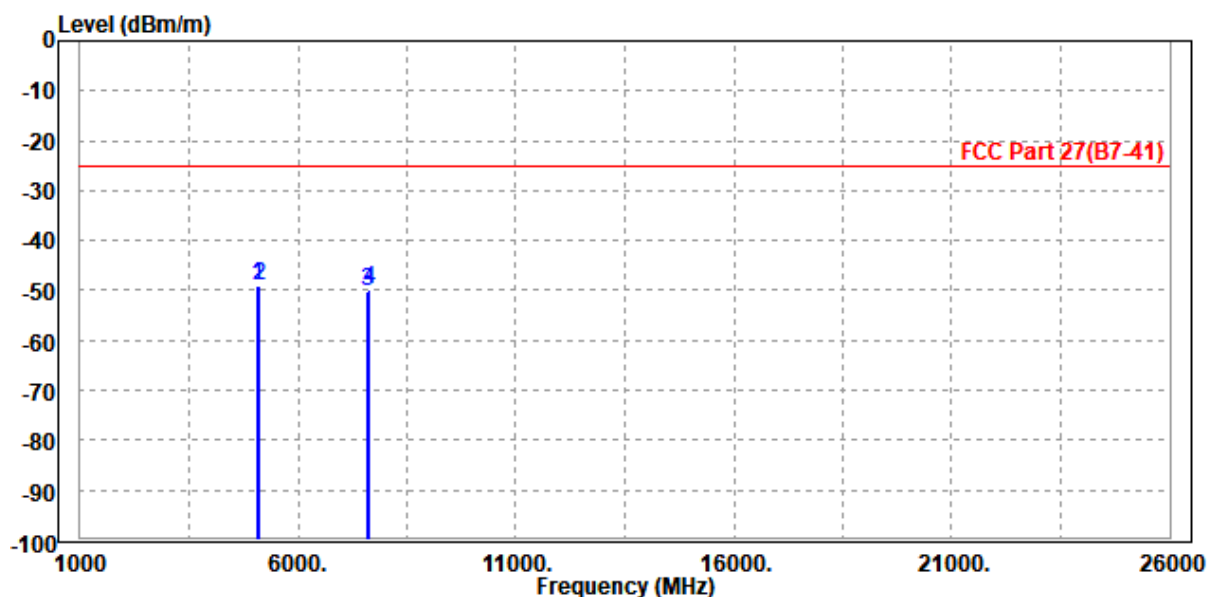
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 5025.000	-47.85	-59.27	-25.00	-22.85	11.42	Peak	Vertical
2	5060.000	-48.18	-59.67	-25.00	-23.18	11.49	Peak	Vertical
3	7530.000	-50.09	-63.24	-25.00	-25.09	13.15	Peak	Vertical
4	7590.000	-50.37	-63.78	-25.00	-25.37	13.41	Peak	Vertical



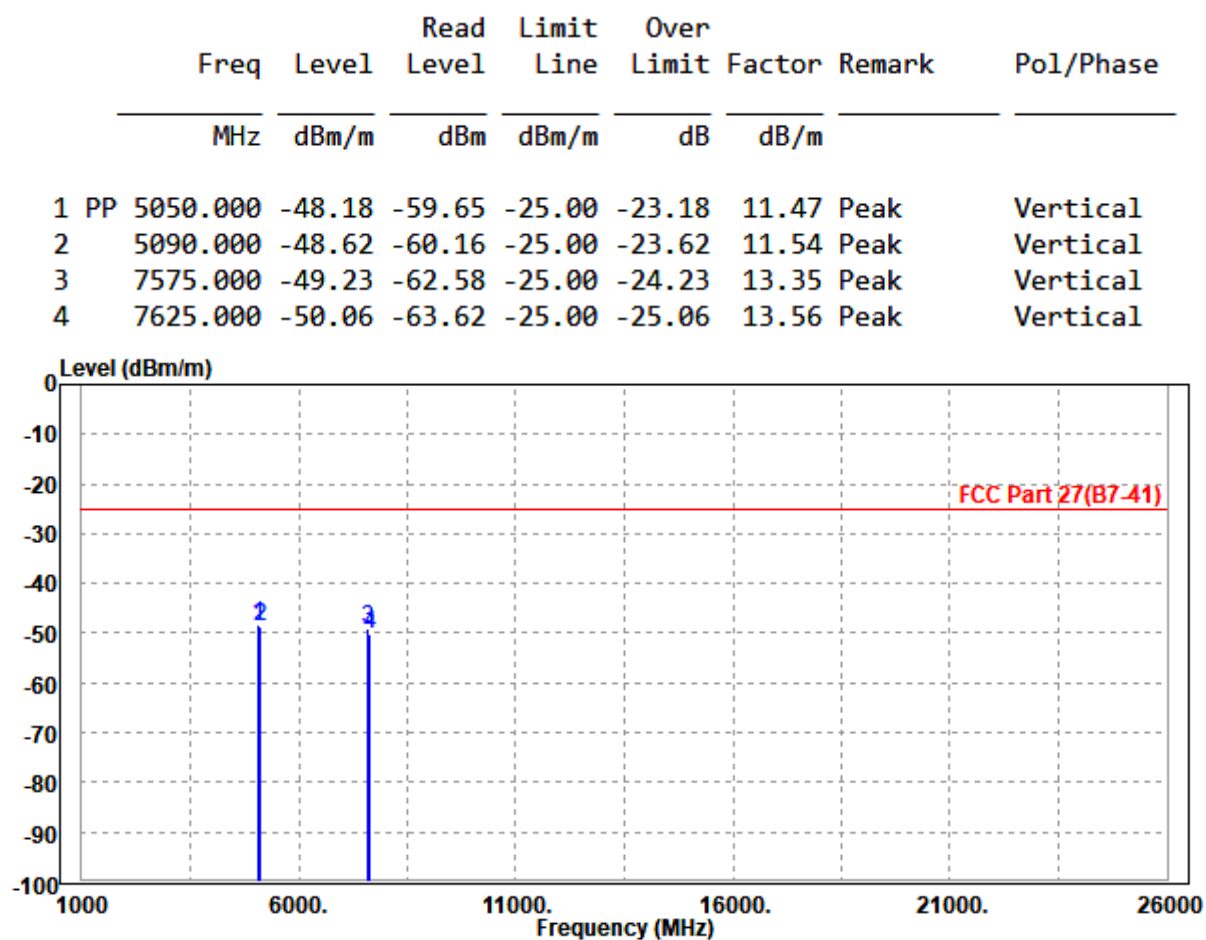
CH 21001/21199

MODE	TX channel PCC 21001	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21199		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	5050.000	-49.13	-60.26	-25.00	-24.13	11.13	Peak	Horizontal
2 PP	5090.000	-48.89	-60.08	-25.00	-23.89	11.19	Peak	Horizontal
3	7575.000	-50.30	-64.77	-25.00	-25.30	14.47	Peak	Horizontal
4	7635.000	-49.68	-64.25	-25.00	-24.68	14.57	Peak	Horizontal



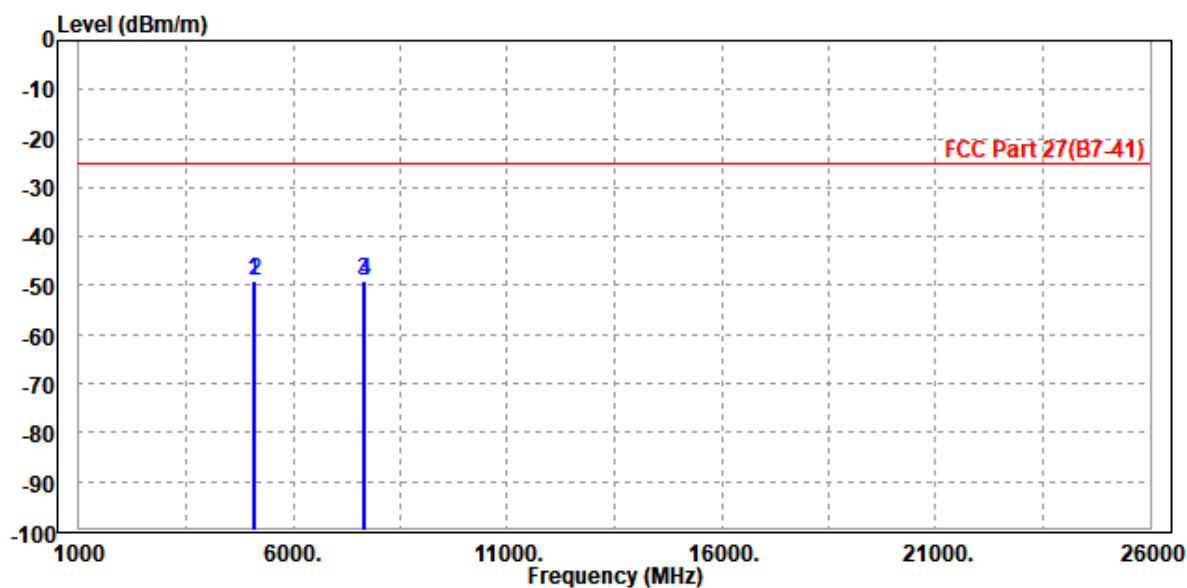
MODE	TX channel PCC 21001	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21199		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



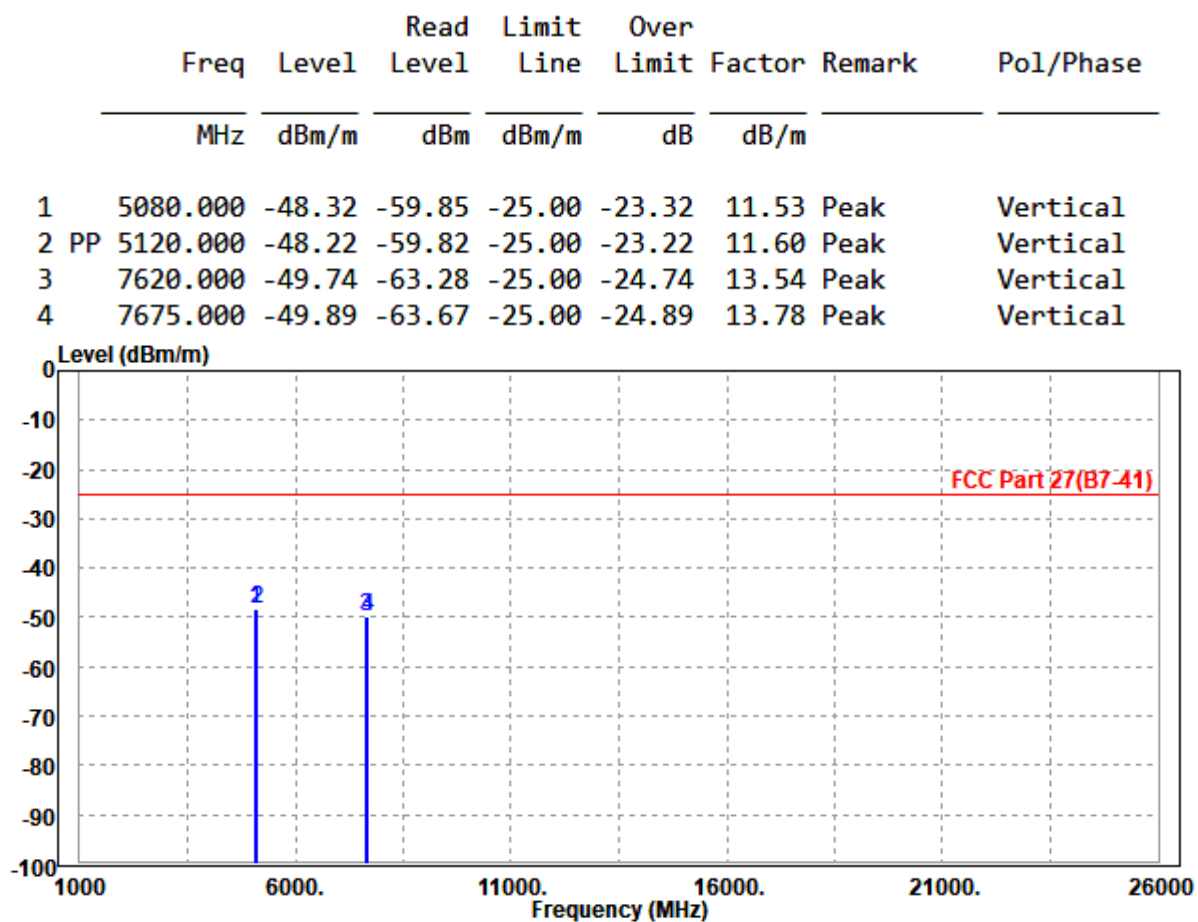
CH 21152/21350

MODE	TX channel PCC 21152	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21350		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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 5075.000	-48.87	-60.04	-25.00	-23.87	11.17	Peak	Horizontal
2	5120.000	-48.95	-60.19	-25.00	-23.95	11.24	Peak	Horizontal
3	7620.000	-49.09	-63.64	-25.00	-24.09	14.55	Peak	Horizontal
4	7680.000	-48.95	-63.60	-25.00	-23.95	14.65	Peak	Horizontal



MODE	TX channel PCC 21152	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 21350		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			





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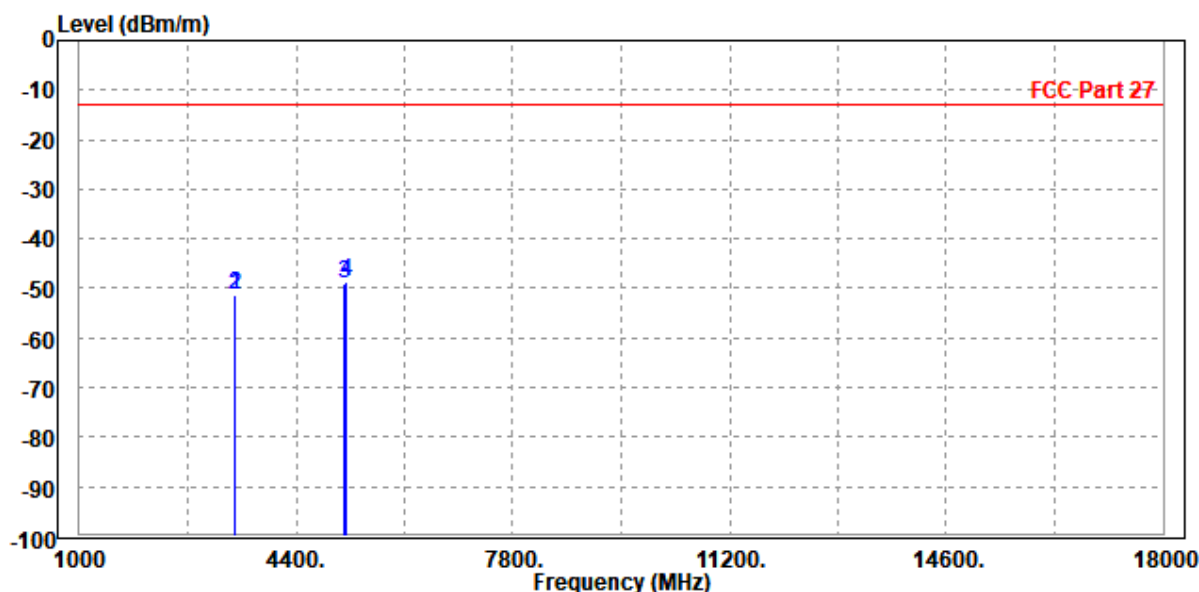
LTE Band CA_66B

CHANNEL BANDWIDTH: (10+10) MHz / QPSK

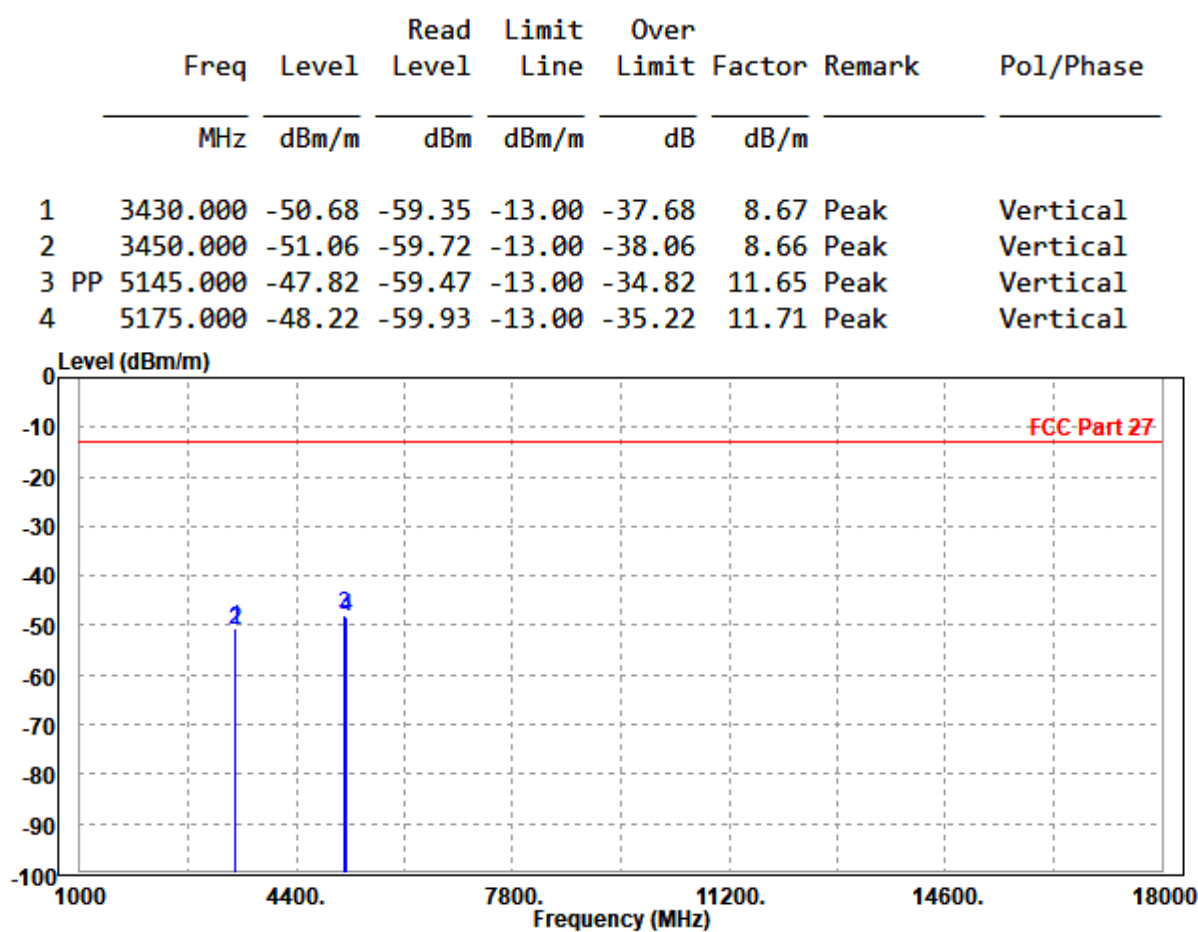
CH 132022/132121

MODE	TX channel PCC 132022	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132121		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	3430.000	-51.28	-59.80	-13.00	-38.28	8.52	Peak	Horizontal
2	3450.000	-51.22	-59.75	-13.00	-38.22	8.53	Peak	Horizontal
3	5145.000	-48.95	-60.22	-13.00	-35.95	11.27	Peak	Horizontal
4 PP	5182.000	-48.80	-60.13	-13.00	-35.80	11.33	Peak	Horizontal



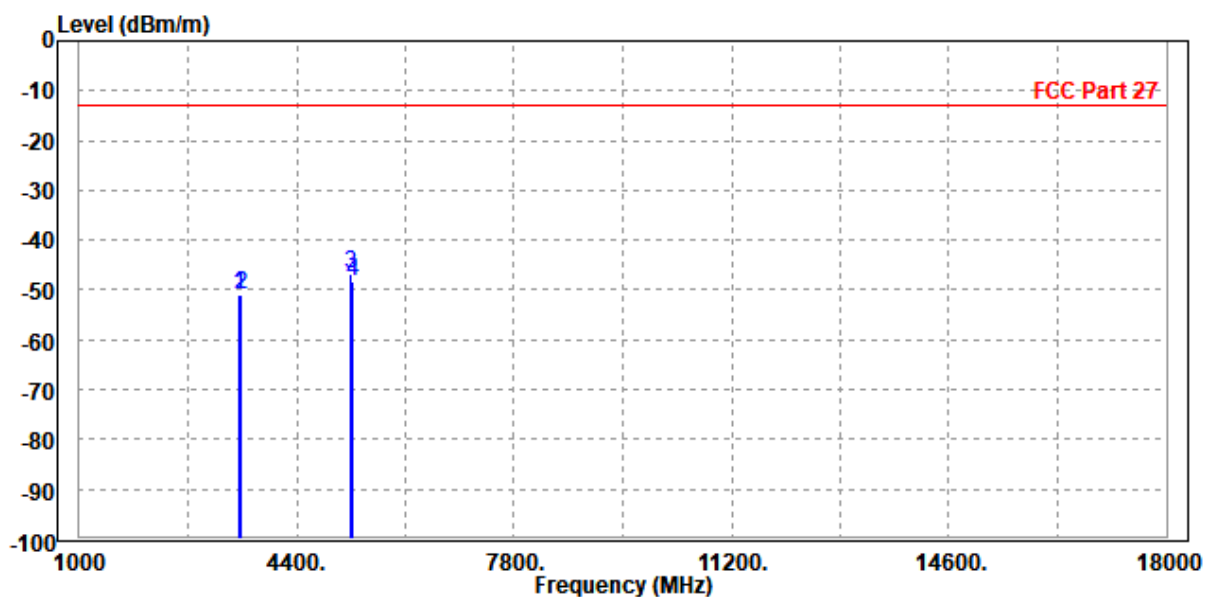
MODE	TX channel PCC 132022	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132121		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



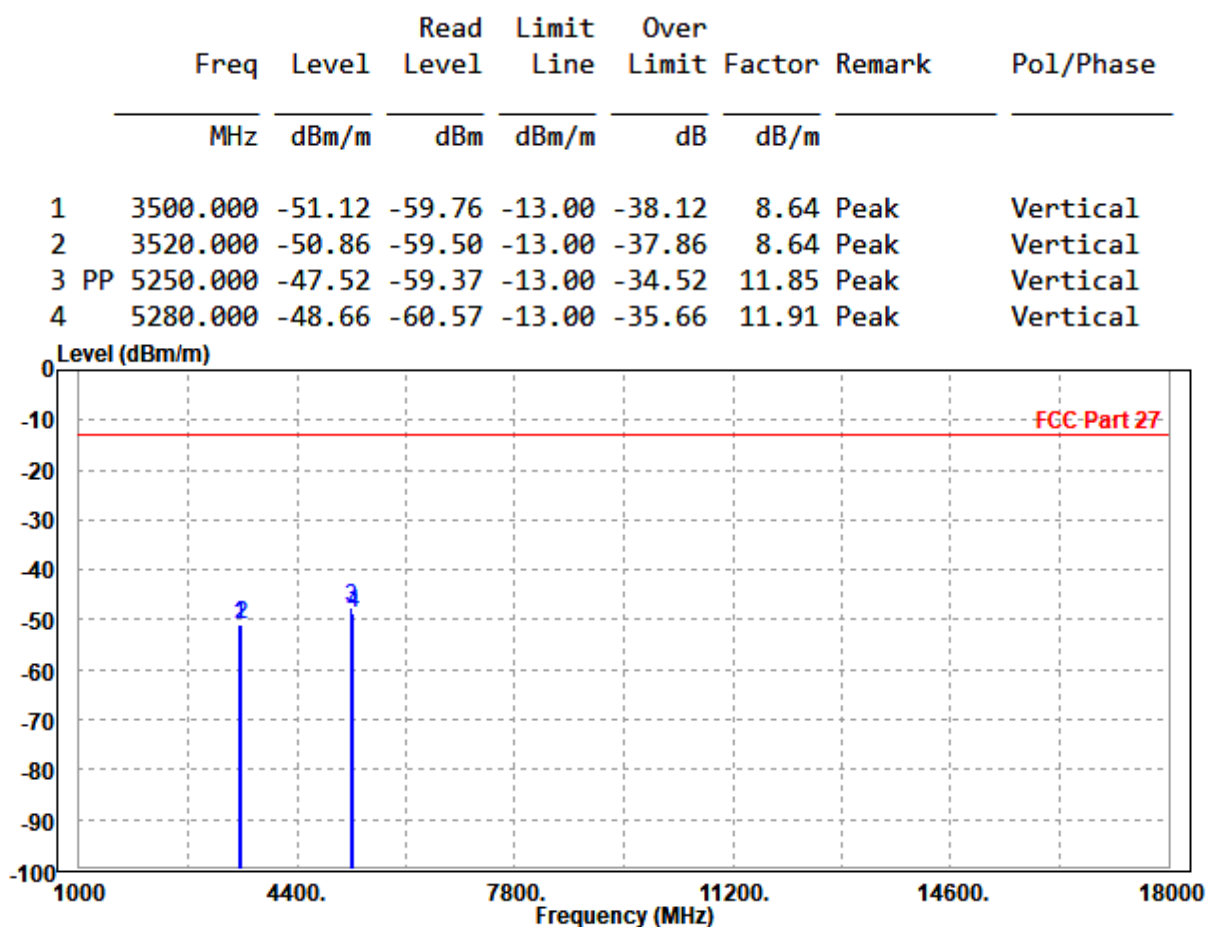
CH 132373/132472

MODE	TX channel PCC 132373	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132472		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	3499.000	-50.85	-59.41	-13.00	-37.85	8.56	Peak	Horizontal
2	3516.000	-51.09	-59.64	-13.00	-38.09	8.55	Peak	Horizontal
3 PP	5250.000	-46.84	-58.27	-13.00	-33.84	11.43	Peak	Horizontal
4	5280.000	-48.31	-59.78	-13.00	-35.31	11.47	Peak	Horizontal



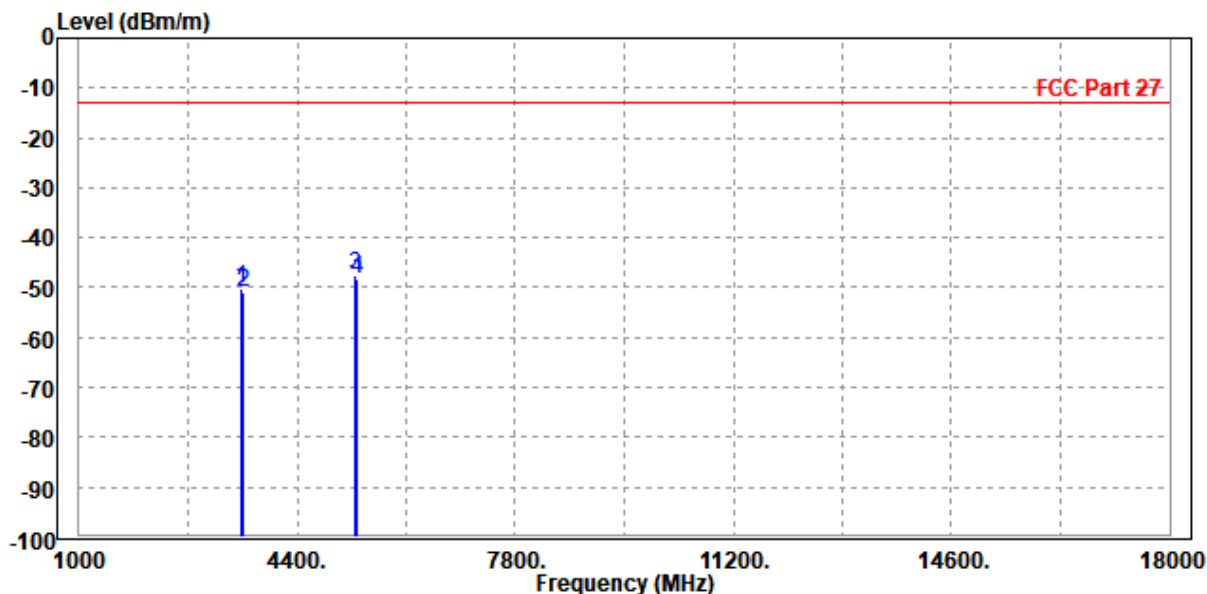
MODE	TX channel PCC 132373	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132472		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



CH 132523/132622

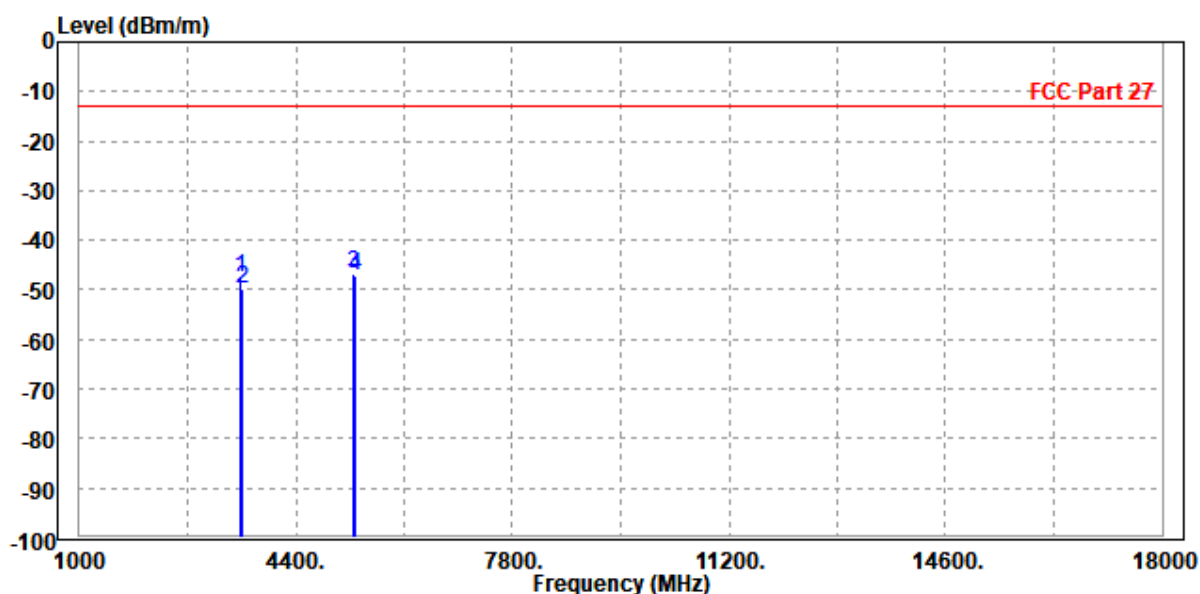
MODE	TX channel PCC 132523	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132622		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3533.000	-50.35	-58.88	-13.00	-37.35	8.53	Peak	Horizontal
2	3550.000	-51.12	-59.64	-13.00	-38.12	8.52	Peak	Horizontal
3	PP 5295.000	-47.51	-59.01	-13.00	-34.51	11.50	Peak	Horizontal
4	5325.000	-48.15	-59.69	-13.00	-35.15	11.54	Peak	Horizontal



MODE	TX channel PCC 132523	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132622		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	3533.000	-47.64	-56.28	-13.00	-34.64	8.64	Peak	Vertical
2	3550.000	-49.72	-58.36	-13.00	-36.72	8.64	Peak	Vertical
3	PP 5295.000	-46.83	-58.77	-13.00	-33.83	11.94	Peak	Vertical
4	5325.000	-47.15	-59.15	-13.00	-34.15	12.00	Peak	Vertical



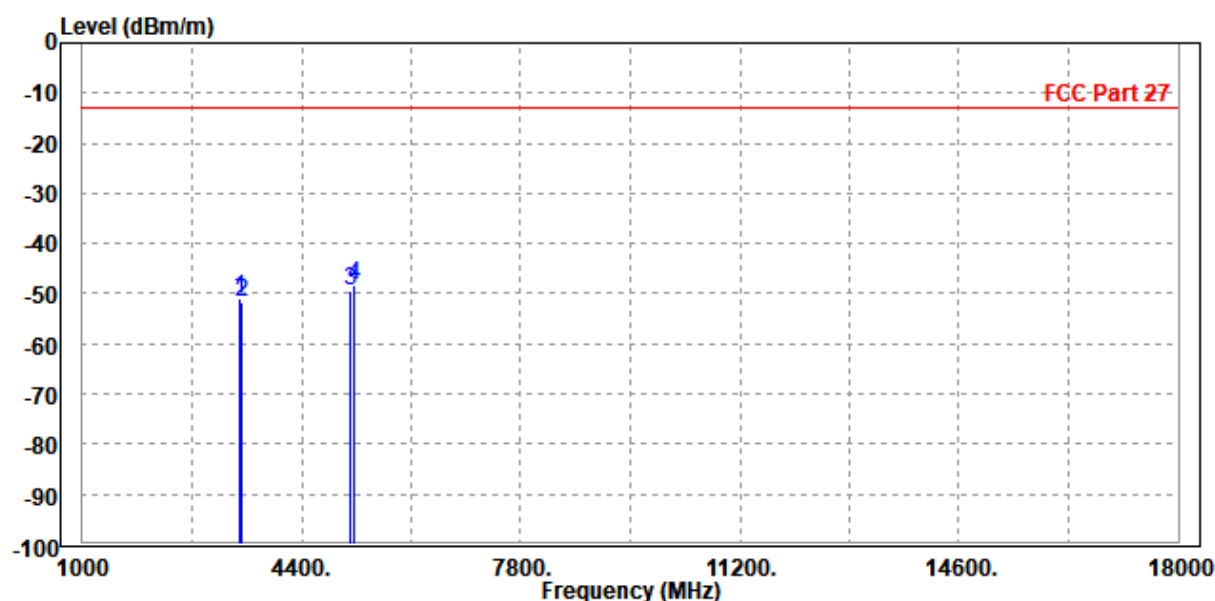
LTE Band CA _66C

CHANNEL BANDWIDTH: (20+20) MHz / QPSK

CH 132072/132270

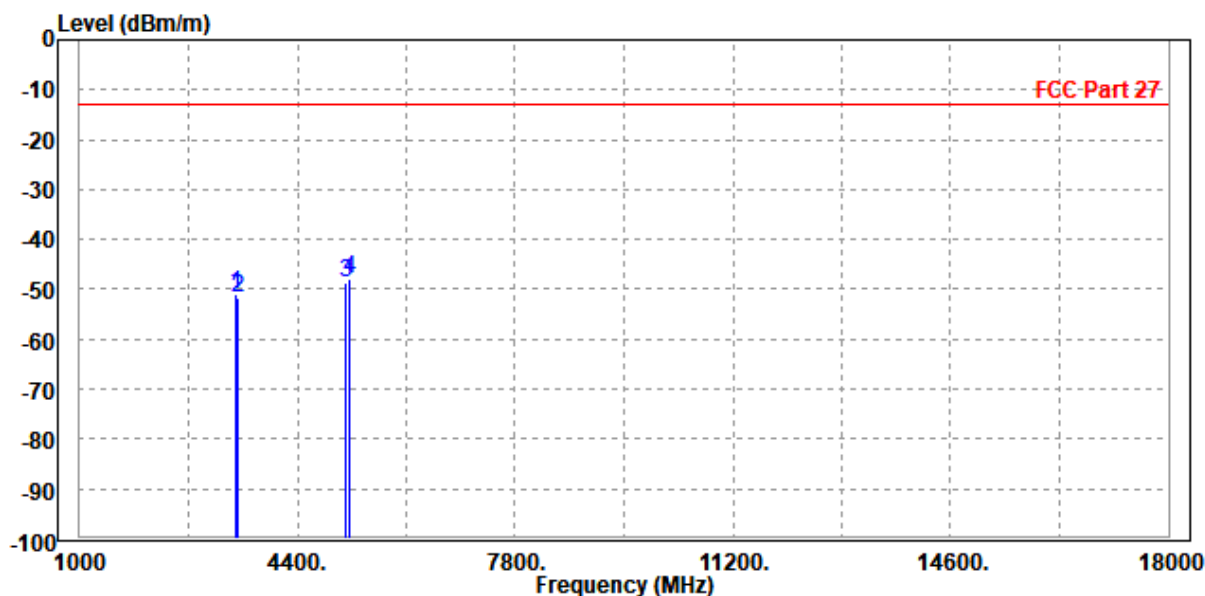
MODE	TX channel PCC 132072	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132270		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3448.000	-50.82	-59.35	-13.00	-37.82	8.53	Peak	Horizontal
2	3480.000	-51.88	-60.43	-13.00	-38.88	8.55	Peak	Horizontal
3	5160.000	-49.49	-60.79	-13.00	-36.49	11.30	Peak	Horizontal
4 PP	5220.000	-48.15	-59.54	-13.00	-35.15	11.39	Peak	Horizontal



MODE	TX channel PCC 132072	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132270		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

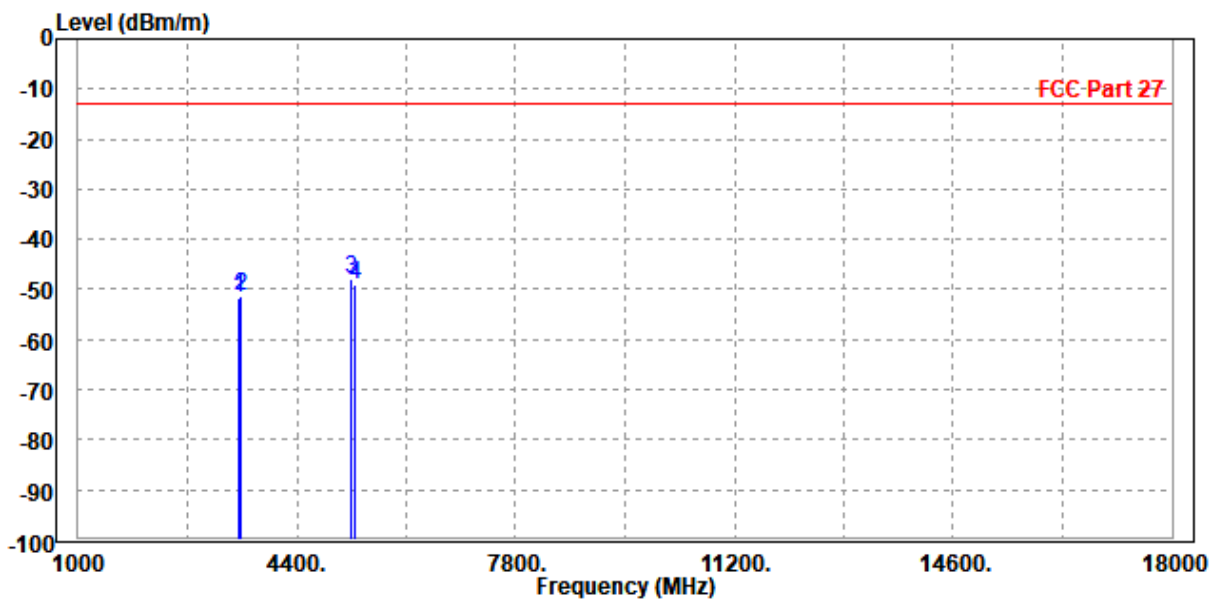
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3440.000	-50.79	-59.45	-13.00	-37.79	8.66	Peak	Vertical
2	3480.000	-51.68	-60.33	-13.00	-38.68	8.65	Peak	Vertical
3	5160.000	-48.73	-60.41	-13.00	-35.73	11.68	Peak	Vertical
4 PP	5216.000	-47.95	-59.74	-13.00	-34.95	11.79	Peak	Vertical



CH 132323/132521

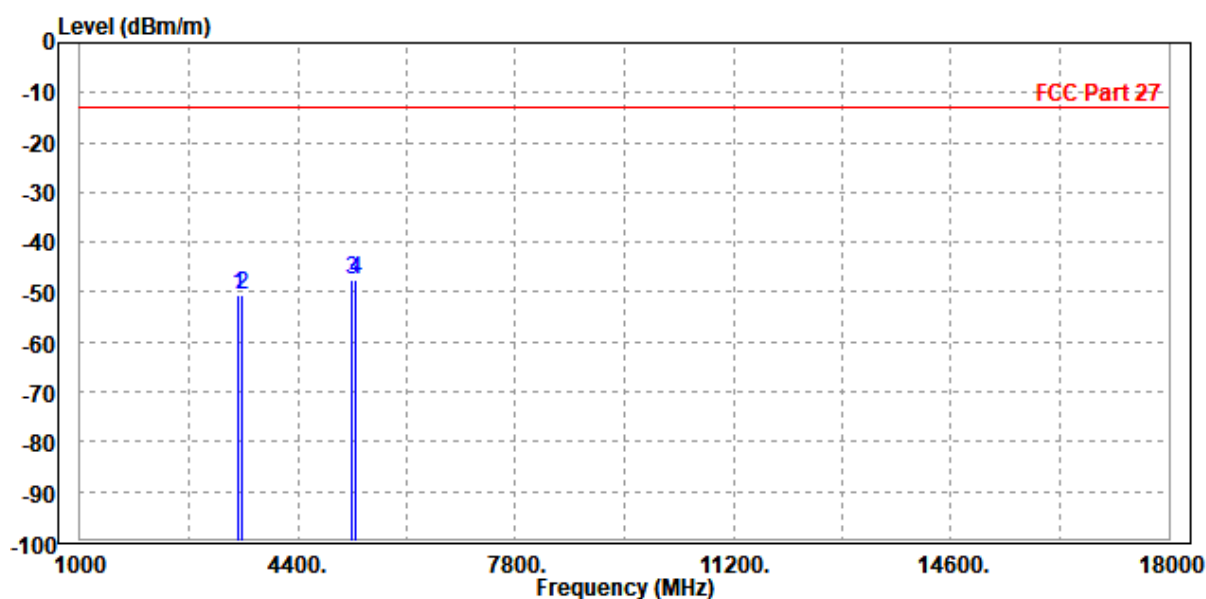
MODE	TX channel PCC 132323	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132521		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3490.000	-51.88	-60.43	-13.00	-38.88	8.55	Peak	Horizontal
2	3530.000	-51.52	-60.06	-13.00	-38.52	8.54	Peak	Horizontal
3 PP	5235.000	-47.96	-59.37	-13.00	-34.96	11.41	Peak	Horizontal
4	5301.000	-48.90	-60.41	-13.00	-35.90	11.51	Peak	Horizontal



MODE	TX channel PCC 132323	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132521		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

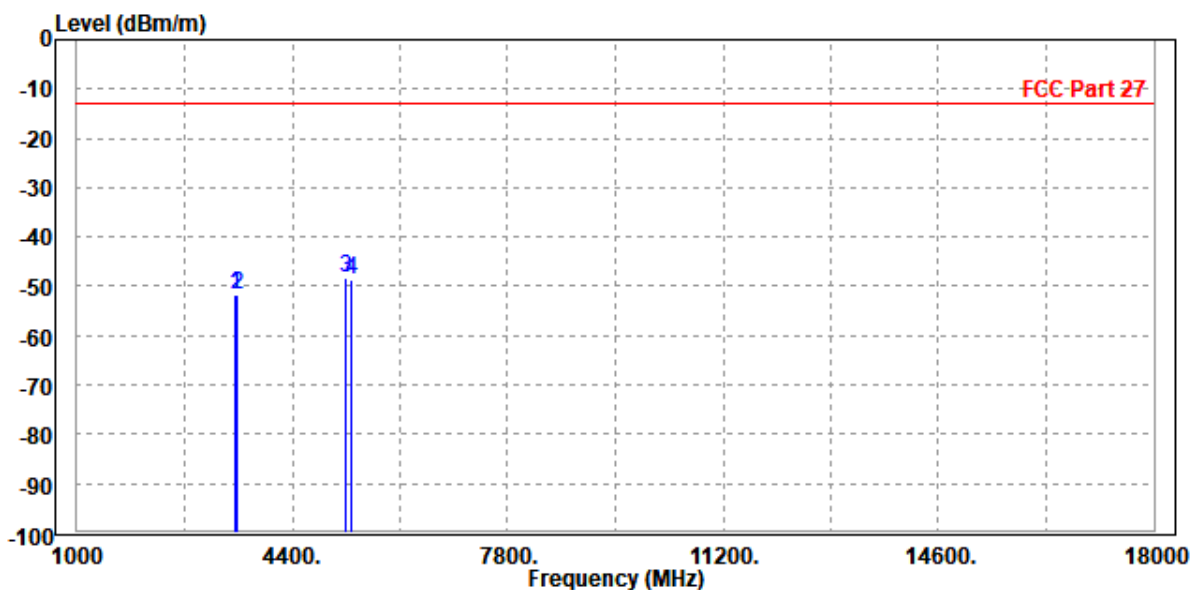
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3482.000	-50.63	-59.28	-13.00	-37.63	8.65	Peak	Vertical
2	3530.000	-50.52	-59.16	-13.00	-37.52	8.64	Peak	Vertical
3 PP	5235.000	-47.55	-59.38	-13.00	-34.55	11.83	Peak	Vertical
4	5295.000	-47.60	-59.54	-13.00	-34.60	11.94	Peak	Vertical



CH 132374/132572

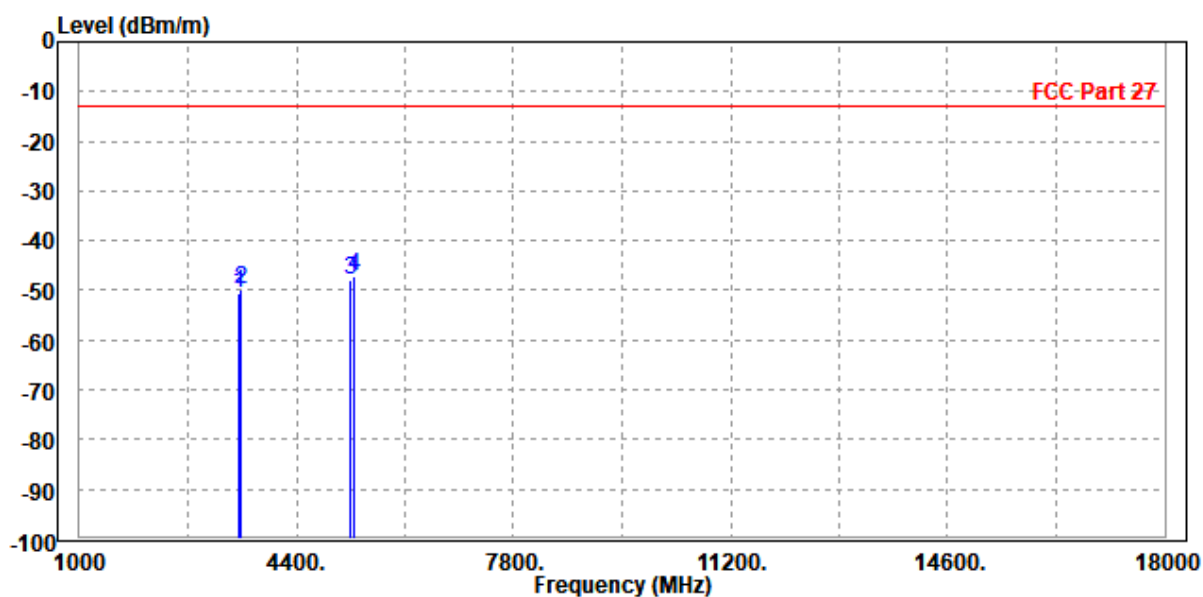
MODE	TX channel PCC 132374	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132572		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3500.000	-51.65	-60.21	-13.00	-38.65	8.56	Peak	Horizontal
2	3540.000	-51.88	-60.41	-13.00	-38.88	8.53	Peak	Horizontal
3 PP	5250.000	-48.28	-59.71	-13.00	-35.28	11.43	Peak	Horizontal
4	5318.000	-48.69	-60.22	-13.00	-35.69	11.53	Peak	Horizontal



MODE	TX channel PCC 132374	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132572		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 14V
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	3499.000	-50.42	-59.06	-13.00	-37.42	8.64	Peak	Vertical
2	3540.000	-50.00	-58.64	-13.00	-37.00	8.64	Peak	Vertical
3	5250.000	-47.82	-59.67	-13.00	-34.82	11.85	Peak	Vertical
4 PP	5310.000	-47.21	-59.18	-13.00	-34.21	11.97	Peak	Vertical

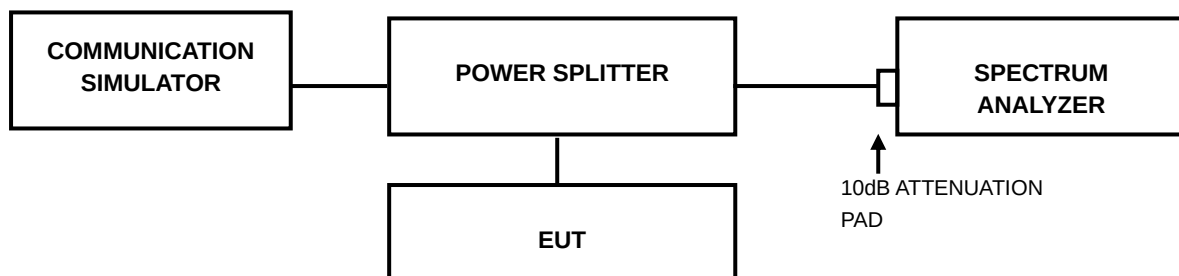


3.7 PEAK TO AVERAGE RATIO

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%.



Test Report No.: W7L-240430W002RF06

3.7.4 TEST RESULTS

Please Refer to Appendix F 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@cn.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.

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