



Test Report No.: W7L-220214W001RF07



# FCC RF TEST REPORT

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:	FE5NA0010, FE5NA0011
Brand Name:	Continental
Model Name:	FE5NA0010, FE5NA0011
FCC ID:	LHJ-FE5NA0010
Date of tests:	Mar. 15, 2022 ~ Aug. 08, 2022

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

- FCC PART 22, Subpart H     FCC PART 24, Subpart E     FCC Part 27, Subpart C, M
- FCC Part 90, Subpart R, S     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: Aug. 08, 2022	Date: Aug. 08, 2022

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-220214W001RF07	Original release	Aug. 08, 2022

# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 22/24/27 & PART 2		
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT
§2.1046 §90.635(b)	Conducted Output Power (Band14)	Compliance
§27.50(c)(10)	Equivalent Radiated Power (Band12)	Compliance
§22.913(a)(5) §24.232(c)(2) §27.50(d)(4)	Equivalent Isotropically Radiated Power (Band2) (Band4) (Band5) (Band66)	Compliance
§2.1055 §22.355 §24.235 §27.54 §90.213	Frequency Stability	Compliance
§2.1049 §90.209	Occupied Bandwidth	Compliance
§2.1051 §22.917(a) §24.238(a)(b) §27.53(g) §27.53(h) §90.691	Band Edge Measurements	Compliance
§2.1051 §22.917(a) §24.238(a)(b) §27.53(g) §27.53(h) §90.691	Conducted Spurious Emissions	Compliance

§2.1053 §22.917(a) §24.238(a)(b) §27.53(g) §27.53(h) §90.691	Radiated Spurious Emissions	Compliance
§22.913(d) §24.232(d)	Peak-to-Average Ratio	Compliance

### 1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

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



## 1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 18,22	Feb. 17,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.16,21	May.15,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.05,21	Sep.04,22
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Mar. 06,22	Mar. 05,23
Horn Antenna	ETS-LINDGRE N	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 15,22	Feb. 14,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.13,21	May.12,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.13,21	May.12,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 21,22	Feb.20,23
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn- CT0001143-121 6	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 08,21	May. 07,22
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 07,22	May. 06,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
Power Sensor	Anritsu	MA2411B	1339352	May. 08,21	May. 07,22
Power Sensor	Anritsu	MA2411B	1339352	May. 07,22	May. 06,23
Temperature Chamber	ESPEC	SH-242	93000855	May. 13,21	May. 12,22
Temperature Chamber	ESPEC	SH-242	93000855	May. 12,22	May. 11,23
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 18,22	Feb. 17,23
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.13,21	May.12,22
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.12,22	May.11,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 25,21	Aug. 24,22

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

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	FE5NA0010, FE5NA0011	
<b>BRAND NAME</b>	Continental	
<b>MODEL NAME</b>	FE5NA0010, FE5NA0011	
<b>NOMINAL VOLTAGE</b>	EUT 4.0V	
<b>MODULATION TECHNOLOGY</b>	<b>LTE</b>	QPSK, 16QAM, 64QAM
<b>SUPPORT ENDC COMBINE</b>	<b>Uplink CA Bands</b>	2A-5A
		2A-12A
		4A-12A
		2A-14A
		5A-66A
		12A-66A
		14A-66A
<b>FREQUENCY RANGE</b>	<b>LTE Band 2</b>	1850.7MHz ~ 1909.3MHz
	<b>LTE Band 4</b>	1710.7MHz ~ 1754.3MHz
	<b>LTE Band 5</b>	824.7MHz ~ 848.3MHz
	<b>LTE Band 12</b>	699.7MHz ~ 715.3MHz
	<b>LTE Band 14</b>	790.5MHz ~ 795.5MHz
	<b>LTE Band 66</b>	1710.7MHz ~ 1779.3MHz
<b>ANTENNA TYPE</b>	Monopole Antenna with 2.45 dBi gain for LTE B2 Monopole Antenna with 3.09 dBi gain for LTE B4/B66 Monopole Antenna with 0.58 dBi gain for LTE B5 Monopole Antenna with -1.88 dBi gain for LTE B12 Monopole Antenna with -1.88 dBi gain for LTE B14	
<b>HW VERSION</b>	P4.1	
<b>SW VERSION</b>	MODEMSA515M_LE2.1_01.12.13	
<b>I/O PORTS</b>	Refer to user's manual	
<b>CABLE SUPPLIED</b>	N/A	
<b>EXTREME TEMPERATURE</b>	-40-85 °C	
<b>EXTREME VOLTAGE</b>	EUT 3.8V - EUT 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 transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/4RX

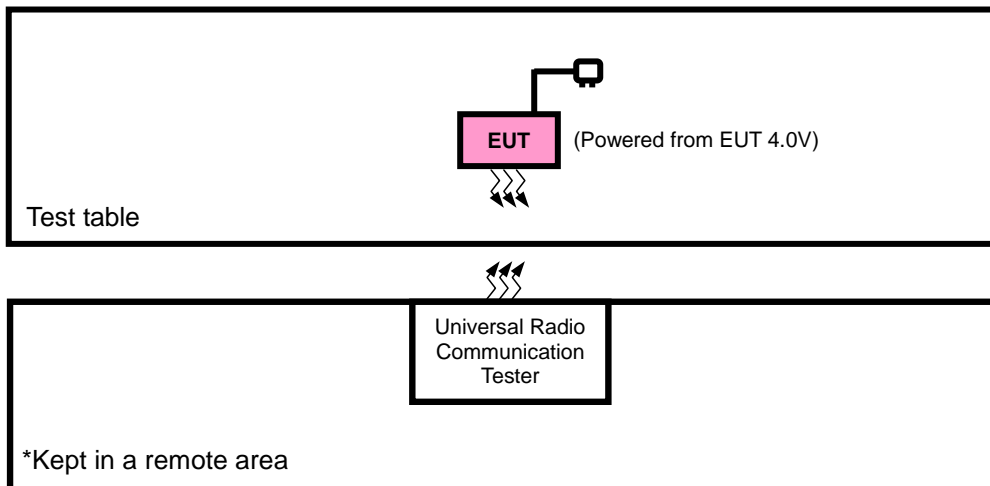
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Max ERP/EIRP is according to Max conducted power calculate for SA.
5. The N41-HPUE&N77C-HPUE induced N41&N77C.
6. According to the information provided by the manufacturer, The difference between FE5NA0010, FE5NA0011 is as follows:

TA-code	L2/L5 GNSS	Band Difference
FE5NA0010	support	/
FE5NA0011	not support	BOM change: depopulated passive components from the GNSS RF front-end



## 2.2 CONFIGURATION OF SYSTEM UNDER TEST

### FOR RADIATION EMISSION TEST



## 2.3 DESCRIPTION OF SUPPORT UNITS

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

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

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

## 2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + DC source + LTE link

### LTE BAND 2 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	RADIATED EMISSION	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset
		18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset

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

#### LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	RADIATED EMISSION	19957 to 20393	20175	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	20175	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset

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

#### LTE BAND 5 MODE

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

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



LTE BAND 12 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	RADIATED EMISSION	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23095	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 14 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	RADIATED EMISSION	23305 to 23355	23305, 23330, 23355	5MHz	QPSK	1 RB / 0 RB Offset
		23330	23330	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 66 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	RADIATED EMISSION	131979 to 132665	131979,132322,132665	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	132322	3MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	132322	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132322	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132322	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132322	20MHz	QPSK	1 RB / 0 RB Offset

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



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**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RADIATED EMISSION	23deg. C, 70%RH	EUT 4.0V	Jace Hu



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## 2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 22**

**FCC 47 CFR Part 24**

**FCC 47 CFR Part 27**

**FCC 47 CFR Part 90**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-D**

**ANSI/TIA/EIA-603-E**

**ANSI C63.26-2015**

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

### 3 TEST TYPES AND RESULTS

#### 3.1 RADIATED EMISSION MEASUREMENT

##### 3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

(1) The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$

(2) For operations in the 763–775 MHz and 793–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

##### 3.1.2 TEST PROCEDURES

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

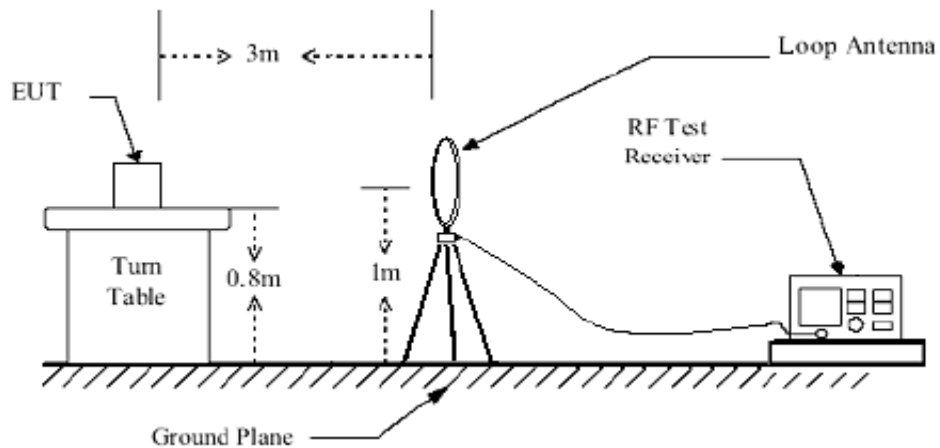
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

##### 3.1.3 DEVIATION FROM TEST STANDARD

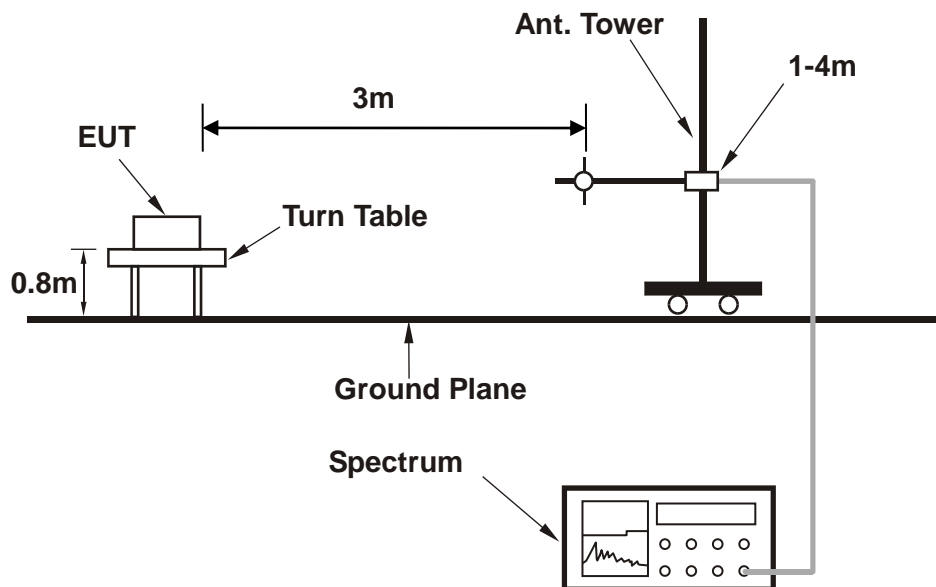
No deviation

### 3.1.4 TEST SETUP

#### < Frequency Range below 30MHz >

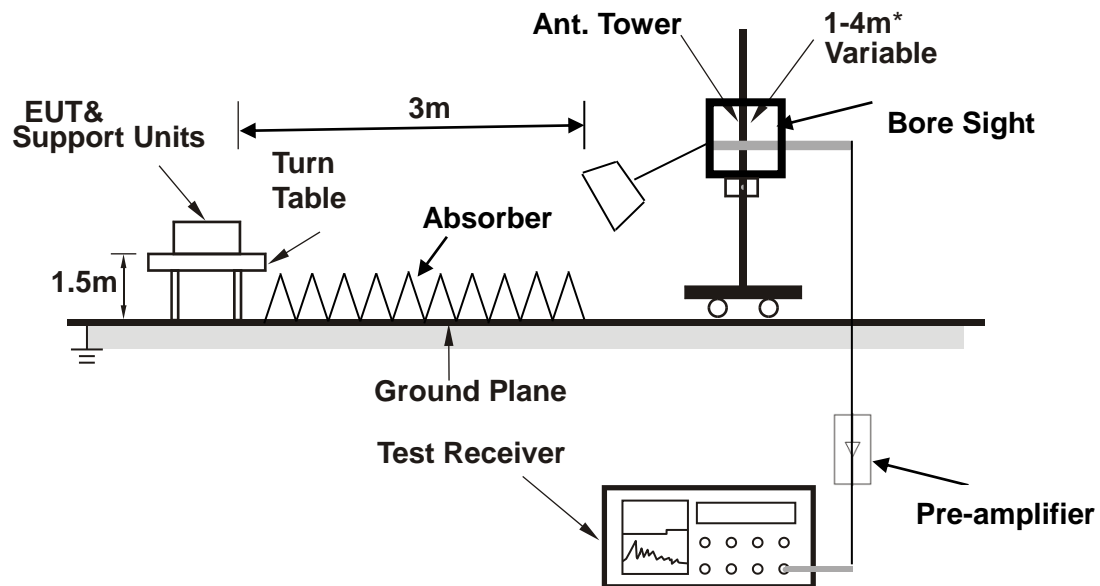


#### < Frequency Range 30MHz~1GHz >





<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).



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### 3.1.5 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.

#### LTE Inter CA BELOW 1GHz WORST-CASE DATA

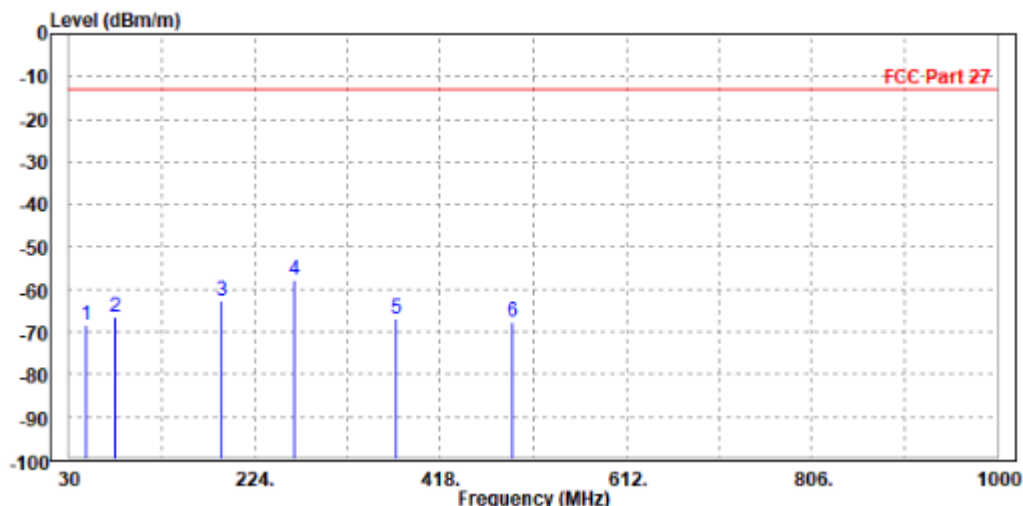
30 MHz – 1GHz data:

LTE 12A-66A

CHANNEL BANDWIDTH: (10+20) MHz / QPSK

MODE	TX channel PCC 23060	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	48.430	-68.29	-51.44	-13.00	-55.29	-16.85	Peak	Horizontal
2	78.500	-66.40	-44.89	-13.00	-53.40	-21.51	Peak	Horizontal
3	189.080	-62.87	-44.15	-13.00	-49.87	-18.72	Peak	Horizontal
4 PP	265.710	-57.69	-45.92	-13.00	-44.69	-11.77	Peak	Horizontal
5	371.440	-66.78	-56.06	-13.00	-53.78	-10.72	Peak	Horizontal
6	493.660	-67.62	-59.26	-13.00	-54.62	-8.36	Peak	Horizontal

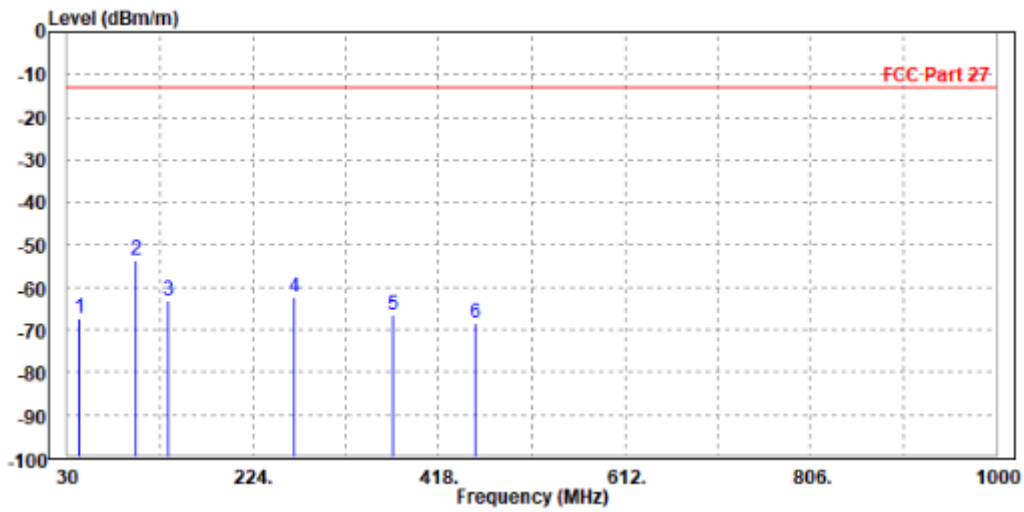




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MODE	TX channel PCC 23060	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	42.610	-67.31	-42.23	-13.00	-54.31	-25.08	Peak	Vertical
2 PP	101.780	-53.74	-46.63	-13.00	-40.74	-7.11	Peak	Vertical
3	134.760	-63.10	-49.48	-13.00	-50.10	-13.62	Peak	Vertical
4	266.680	-62.27	-49.60	-13.00	-49.27	-12.67	Peak	Vertical
5	369.500	-66.44	-56.89	-13.00	-53.44	-9.55	Peak	Vertical
6	456.800	-68.47	-59.99	-13.00	-55.47	-8.48	Peak	Vertical





**BUREAU  
VERITAS**

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**ABOVE 1GHz**

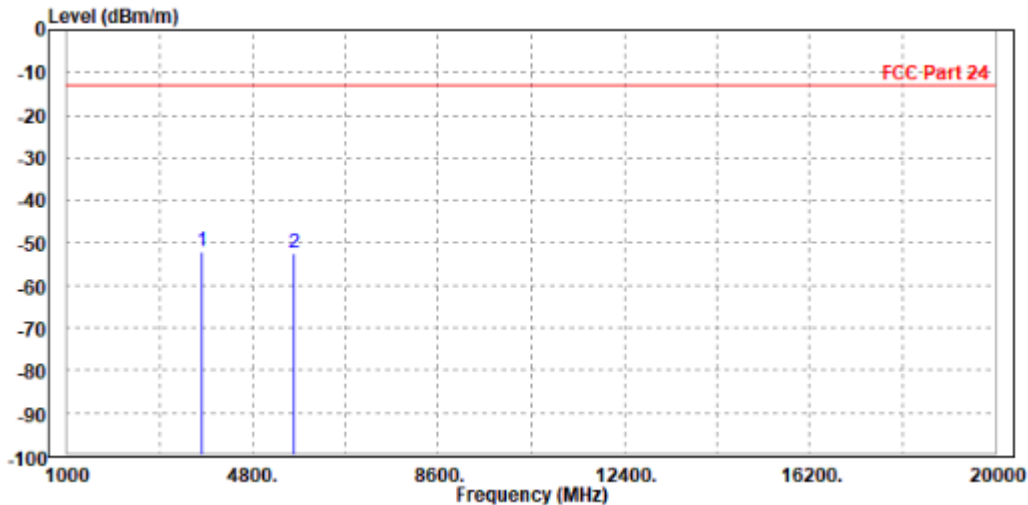
**Note:** For higher frequency, the emission is too low to be detected.

**LTE 2A-5A**

**CHANNEL BANDWIDTH: (10+10) MHz / QPSK**

<b>MODE</b>	TX channel PCC 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
	TX channel SCC 20450		
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	EUT 4.0V
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3755.000	-52.18	-60.16	-13.00	-39.18	7.98	Peak	Horizontal
2	5640.000	-52.31	-63.05	-13.00	-39.31	10.74	Peak	Horizontal

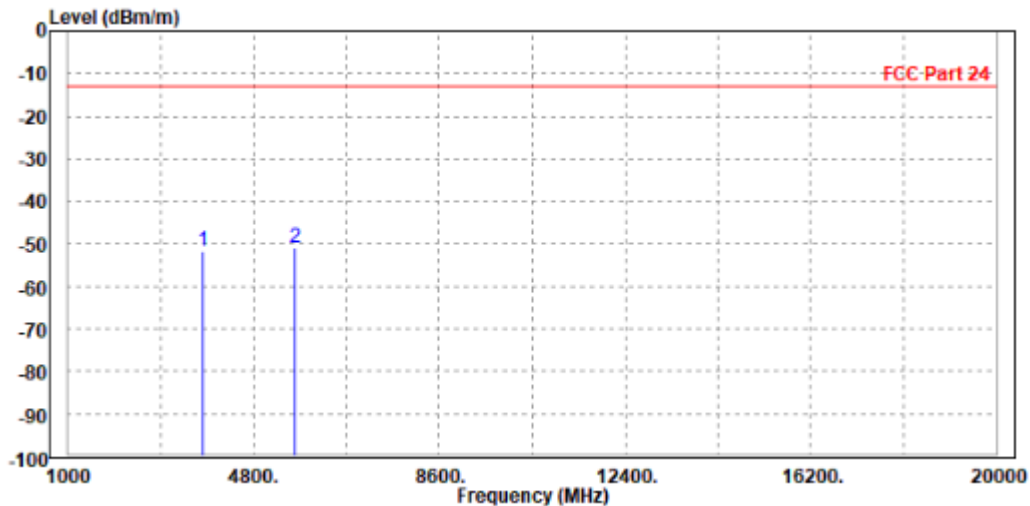




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MODE	TX channel PCC 18900	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 20450		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.87	-59.57	-13.00	-38.87	7.70	Peak	Vertical
2 PP	5636.000	-50.86	-61.98	-13.00	-37.86	11.12	Peak	Vertical





**BUREAU  
VERITAS**

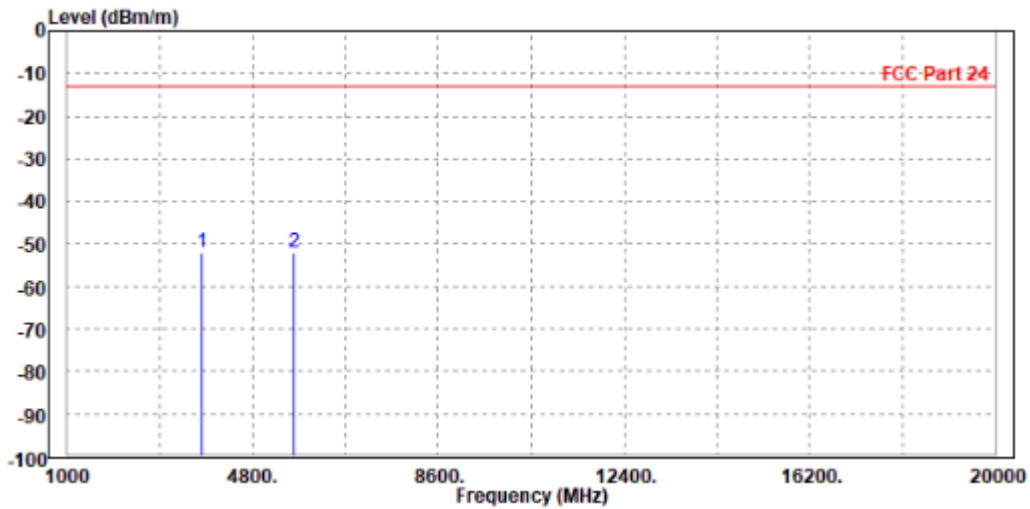
**Test Report No.: W7L-220214W001RF07**

**LTE 2A-12A**

**CHANNEL BANDWIDTH: (10+10) MHz / QPSK**

<b>MODE</b>	TX channel PCC 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
	TX channel SCC 23060		
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	EUT 4.0V
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3760.000	-51.98	-59.97	-13.00	-38.98	7.99	Peak	Horizontal
2	5636.000	-52.09	-62.82	-13.00	-39.09	10.73	Peak	Horizontal

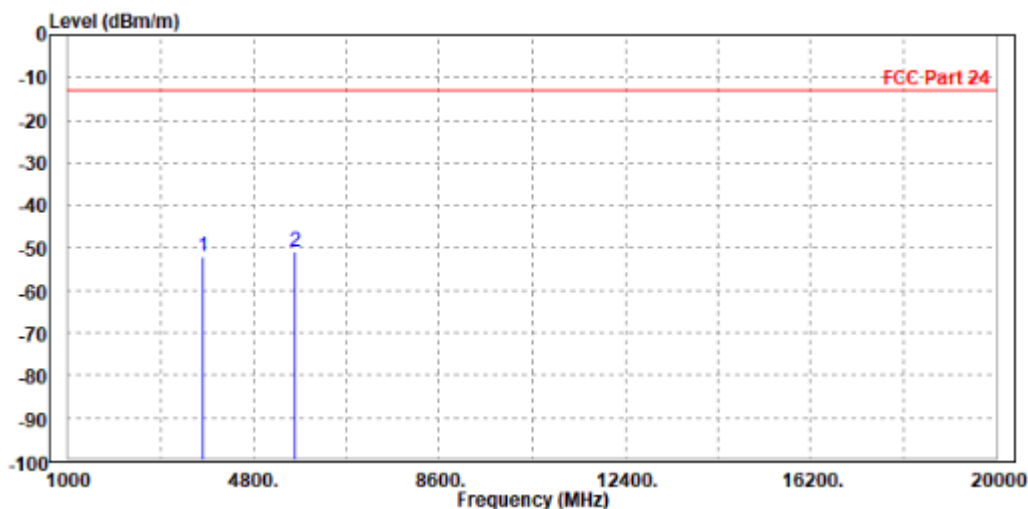




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 18900	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 23060		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
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	3755.000	-52.21	-59.90	-13.00	-39.21	7.69	Peak	Vertical
2 PP	5640.000	-50.76	-61.89	-13.00	-37.76	11.13	Peak	Vertical





**BUREAU  
VERITAS**

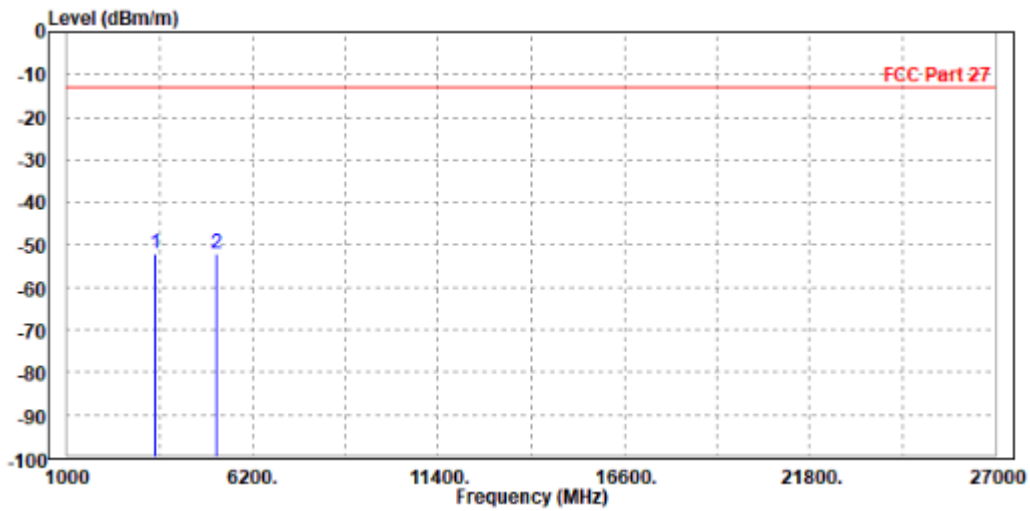
Test Report No.: W7L-220214W001RF07

LTE 4A-12A

CHANNEL BANDWIDTH: (10+10) MHz / QPSK

MODE	TX channel PCC 20175	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 23130		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3470.000	-51.90	-59.18	-13.00	-38.90	7.28	Peak	Horizontal
2	5197.500	-51.93	-61.93	-13.00	-38.93	10.00	Peak	Horizontal



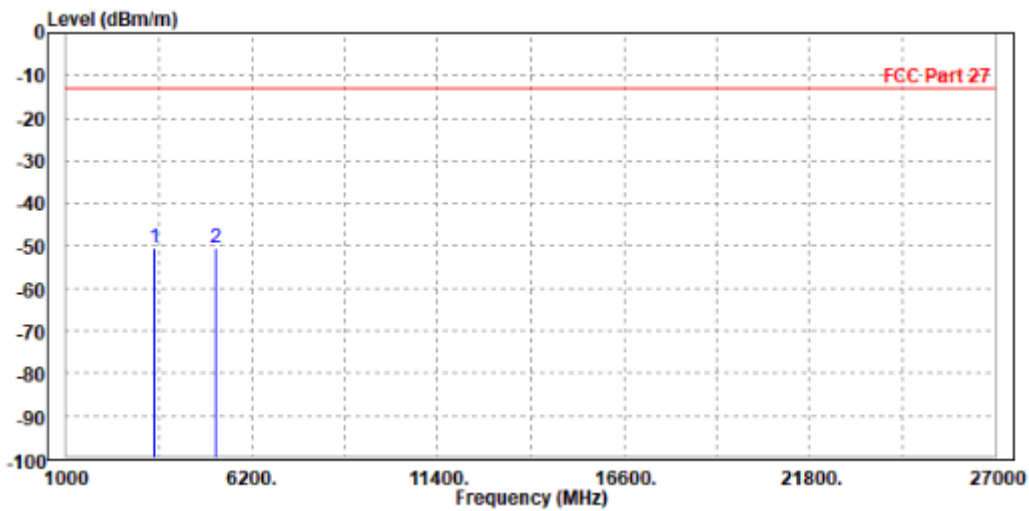




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 20175	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 23130		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-50.75	-58.02	-13.00	-37.75	7.27	Peak	Vertical
2 PP	5197.500	-50.59	-61.04	-13.00	-37.59	10.45	Peak	Vertical





**BUREAU  
VERITAS**

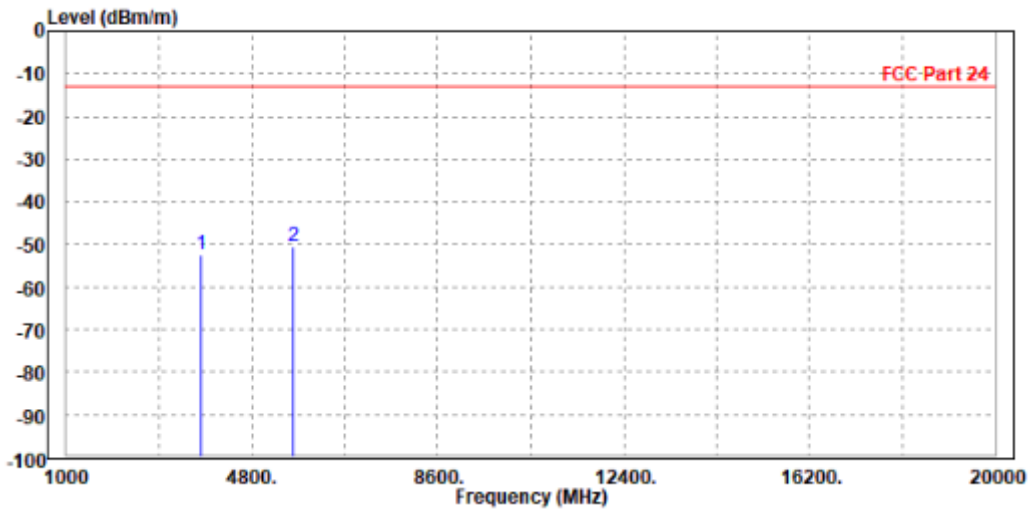
Test Report No.: W7L-220214W001RF07

LTE 2A-14A

CHANNEL BANDWIDTH: (10+10) MHz / QPSK

MODE	TX channel PCC 18900	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 23330		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.53	-60.51	-13.00	-39.53	7.98	Peak	Horizontal
2 PP	5640.000	-50.75	-61.49	-13.00	-37.75	10.74	Peak	Horizontal

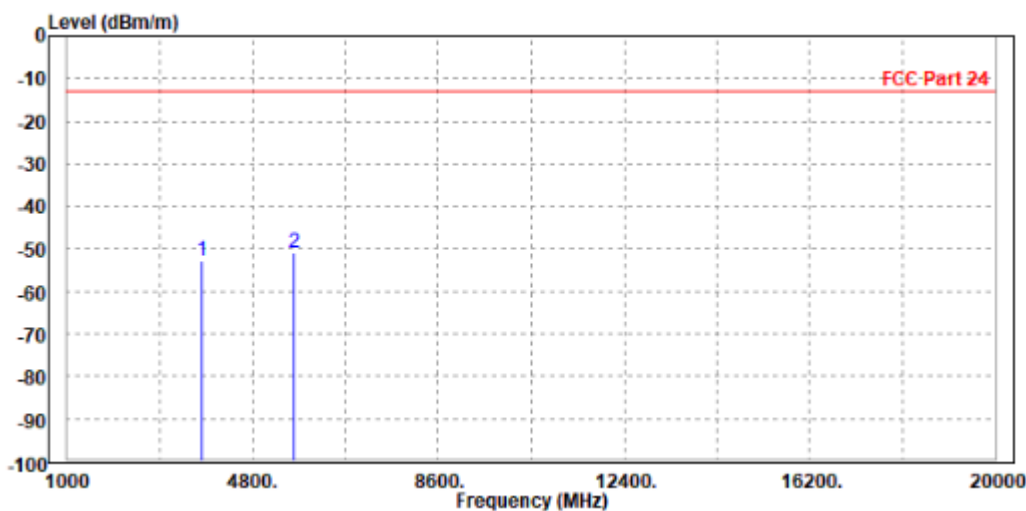




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 18900	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 23330		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-52.69	-60.39	-13.00	-39.69	7.70	Peak	Vertical
2 PP	5636.000	-50.87	-61.99	-13.00	-37.87	11.12	Peak	Vertical





**BUREAU  
VERITAS**

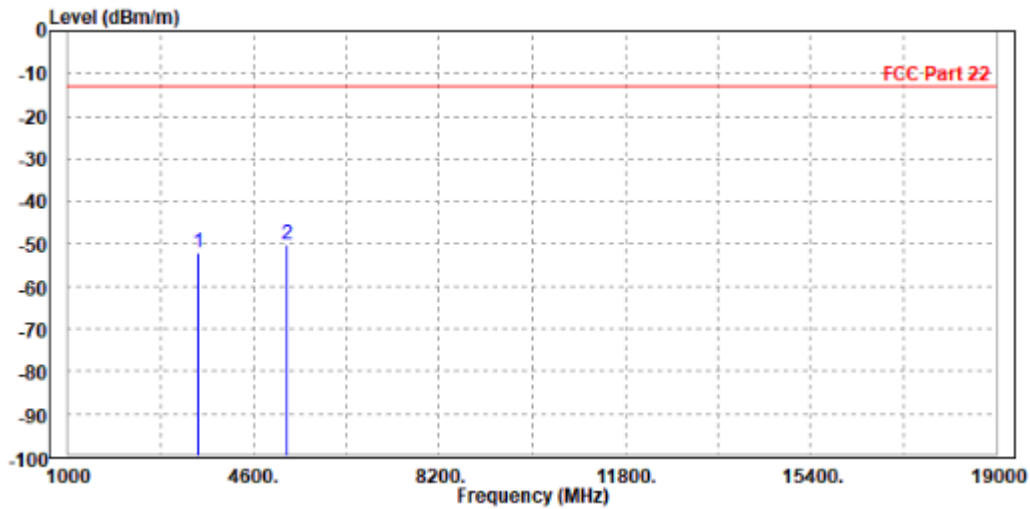
Test Report No.: W7L-220214W001RF07

LTE 5A-66A

CHANNEL BANDWIDTH: (10+20) MHz / QPSK

MODE	TX channel PCC 20525	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3510.000	-51.95	-59.30	-13.00	-38.95	7.35	Peak	Horizontal
2 PP	5256.000	-50.16	-60.25	-13.00	-37.16	10.09	Peak	Horizontal

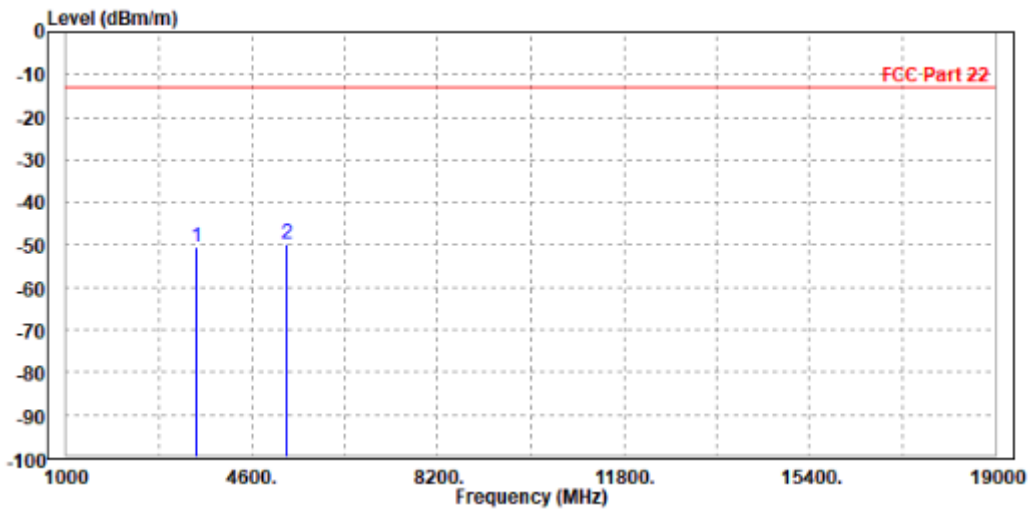




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 20525	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit	Over	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3508.000	-50.45	-57.78	-13.00	-37.45	7.33	Peak	Vertical
2 PP	5265.000	-49.65	-60.16	-13.00	-36.65	10.51	Peak	Vertical





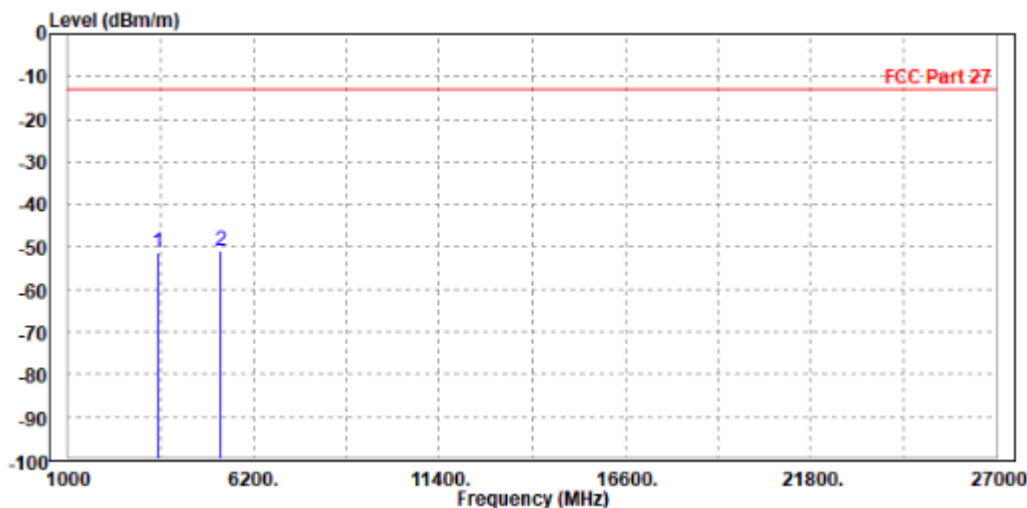
Test Report No.: W7L-220214W001RF07

LTE 12A-66A

CHANNEL BANDWIDTH: (10+20) MHz / QPSK

MODE	TX channel PCC 23060	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3510.000	-51.27	-58.62	-13.00	-38.27	7.35	Peak	Horizontal
2 PP	5264.000	-50.87	-60.97	-13.00	-37.87	10.10	Peak	Horizontal

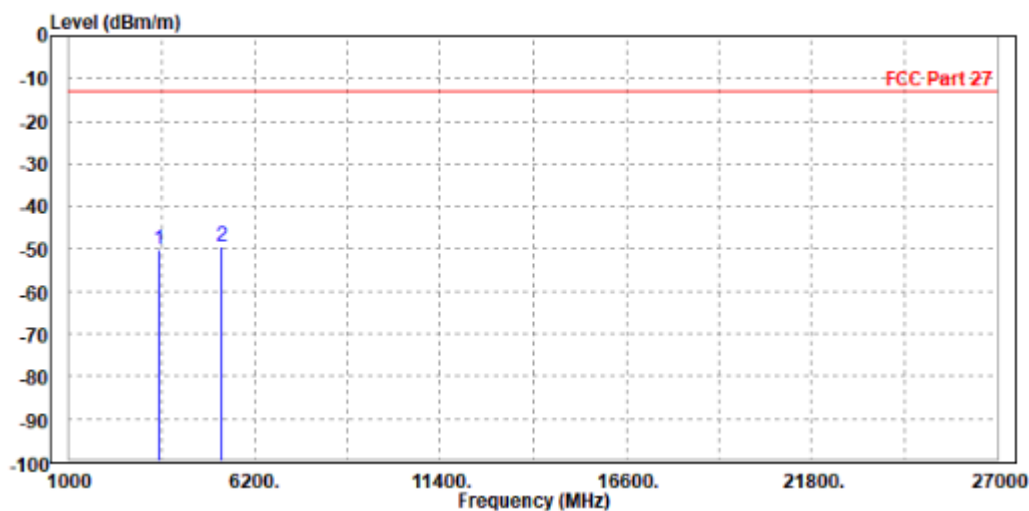




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 23060	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3522.000	-50.33	-57.68	-13.00	-37.33	7.35	Peak	Vertical
2	PP 5265.000	-49.55	-60.06	-13.00	-36.55	10.51	Peak	Vertical





BUREAU VERITAS

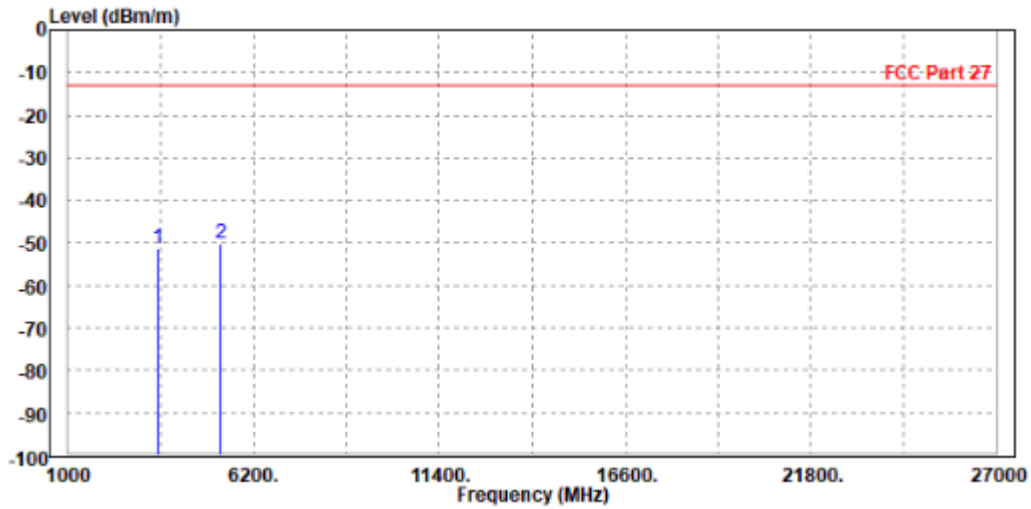
Test Report No.: W7L-220214W001RF07

LTE 14A-66A

CHANNEL BANDWIDTH: (10+20) MHz / QPSK

MODE	TX channel PCC 23330	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3522.000	-51.42	-58.80	-13.00	-38.42	7.38	Peak	Horizontal
2 PP	5265.000	-50.08	-60.19	-13.00	-37.08	10.11	Peak	Horizontal



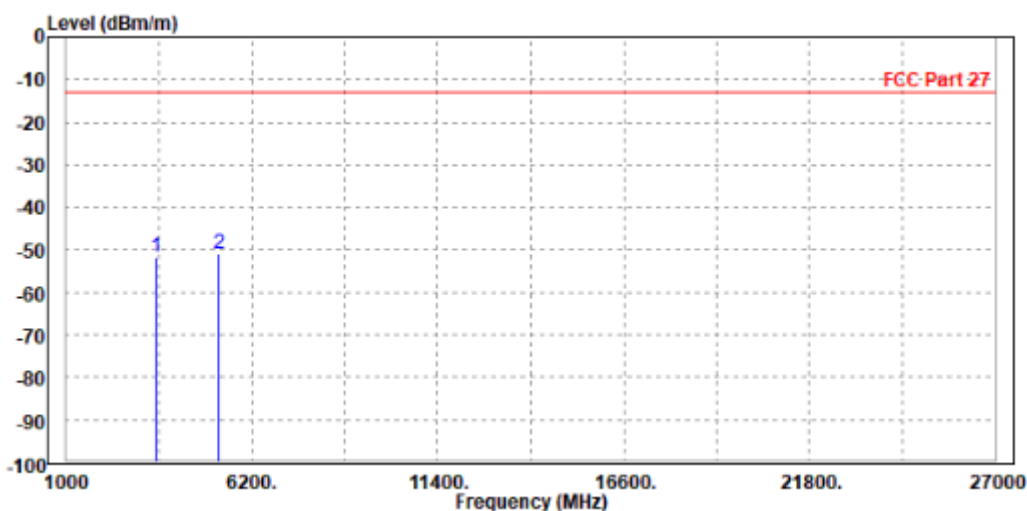




Test Report No.: W7L-220214W001RF07

MODE	TX channel PCC 23330	FREQUENCY RANGE	Above 1000MHz
	TX channel SCC 132422		
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	EUT 4.0V
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3522.000	-51.77	-59.12	-13.00	-38.77	7.35	Peak	Vertical
2 PP	5265.000	-50.80	-61.31	-13.00	-37.80	10.51	Peak	Vertical





Test Report No.: W7L-220214W001RF07

## 4 INFORMATION ON THE TESTING LABORATORIES

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

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

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Fax: +86-755-88696577

**Email:** [customerservice.sw@bureauveritas.com](mailto:customerservice.sw@bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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



Test Report No.: W7L-220214W001RF07

## 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.

---END---