

VARIANT FCC TEST REPORT

(PART 22)

Applicant:	Honeywell International Inc Honeywell Safety and Productivity Solutions
Address:	9680 Old Bailes Road, Fort Mill, SC 29707 United States

Manufacturer or Supplier:	Honeywell International Inc Honeywell Safety and Productivity Solutions
Address:	9680 Old Bailes Road, Fort Mill, SC 29707 United States
Product:	Mobile Computer
Brand Name:	Honeywell
Model Name:	CT45P-L1N-E
FCC ID:	HD5-CT45PL1NE
Date of tests:	Oct. 14, 2021 ~ Nov. 04, 2021

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

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

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: Nov. 05, 2021	Date: Nov. 05, 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P21080006RF15	Original release	Sep. 01, 2021
W7L-P21080009RF15	Based on the original report W7L-P21080006RF15 Changing the SIM to 1 Nano SIM and 1 E-SIM	Sep. 09, 2021
W7L-P21110007RF15	Based on the original report W7L-P21080009RF17 Changing components, added band CA_41C by Software.	Nov. 05, 2021

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

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

NOTE : 1.Per the change notice provide by manufactory, the difference is changing components, added band CA_41C by Software, all the change no effect any RF parameter, Therefore only verify the radiated emission worse case and show the verify test data on this report. More test details please refer from the original report.

2. N/A Please refer to original report W7L-P21080009RF15

1.1 MEASUREMENT UNCERTAINTY

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

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

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 22,21	Apr. 21,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 04,20	Jun. 03,21
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Horn Antenna	ETS-LINDGREN	3117	00168728	Apr. 02,21	Apr. 01,22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 26, 20	Aug. 25, 21
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. 25,21	Feb. 24,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 03,20	Jun. 02,21
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 04,20	Jun. 03,21
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 03,21	Jun. 02,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 22,21	Apr. 21,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V 7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 04,20	Jun. 03,21
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
Power Meter	Anritsu	ML2495A	1506002	Apr. 07,21	Apr. 06,22
Power Sensor	Anritsu	MA2411B	1339352	May. 07,21	May. 06,22
Temperature Chamber	ESPEC	SH-242	93000855	Jun. 03,20	Jun. 02,21
Temperature Chamber	ESPEC	SH-242	93000855	Jun. 02,21	Jun. 01,22
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 05,21	Mar. 04,22
Power Divider	MCLI/USA	PS2-15	24880	N/A	N/A

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

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Computer	
BRAND NAME	Honeywell	
MODEL NAME	CT45P-L1N-E	
NOMINAL VOLTAGE	3.85Vdc (Lithium-ion cell, battery)	
MODULATION TYPE	GSM/GPRS/EDGE	GMSK, 8PSK
	WCDMA	BPSK,QPSK
	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	GSM/GPRS/EDGE	824.2MHz ~ 848.8MHz
	WCDMA	826.4MHz ~ 846.6MHz
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 15MHz)	831.5MHz ~ 841.5MHz
MAX. ERP POWER	GSM	818.46mW
	EDGE	221.31mW
	WCDMA	127.94mW
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	111.43mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	110.41mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	110.92mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	111.94mW



**BUREAU
VERITAS**

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MAX. ERP POWER	LTE Band 26 (Channel Bandwidth: 1.4MHz)	254.10mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	254.10mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	256.45mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	257.04mW
	LTE Band 26 (Channel Bandwidth: 15MHz)	260.02mW
EMISSION DESIGNATOR GOGN	GSM	240KGXW
	EDGE	240KG7W
	WCDMA	4M15F9W
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	QPSK: 1M09G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 5 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M68W7D
		64QAM: 2M69W7D
	LTE Band 5 (Channel Bandwidth: 5MHz)	QPSK: 4M49G7D
		16QAM: 4M48W7D
		64QAM: 4M58W7D
	LTE Band 5 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D
		16QAM: 8M95W7D
		64QAM: 8M95W7D
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M08G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M69W7D
		64QAM: 2M69W7D
	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M47G7D
		16QAM: 4M48W7D
		64QAM: 4M49W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D
		16QAM: 8M94W7D
		64QAM: 8M94W7D
	LTE Band 26 (Channel Bandwidth: 15MHz)	QPSK: 13M4G7D
		16QAM: 13M4W7D
		64QAM: 13M5W7D
ANTENNA TYPE	PIFA Antenna with -0.56dBi gain for GSM850/ WCDMA5/LTE band 5 PIFA Antenna with 2.67dBi gain for LTE band 26	
HW VERSION	V1.0	



SW VERSION	OS.11.002-HON.11.002
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: unshielded without ferrite, 1.25 meter Earphone cable: unshielded without ferrite, 1.27 meter
EXTREME TEMPERATURE	-10-55 °C
EXTREME VOLTAGE	3.4V- 4.4V

NOTE:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- This product includes the following four SKU which hardware is exactly same, the difference is described as following, Sample 1 was full test, sample 2 verify the worst case, check worst case Radiated emission:

SAMPLE	EUT CONFIGURATION INFORMATION
1	SKU ID:CT45-L1N-37D1E0G ,Assembled Scanner Imager: 7-S0703
2	SKU ID:CT45-L1N-38D1E0G ,Assembled Scanner Imager: 8 – N6803/S0803
3	SKU ID: CT45-L1N-38D1E0T , Assembled Scanner Imager: 8 – N6803/S0803 for Turkey Only
4	SKU ID: CT45-L1N-37D1E0T , Assembled with Scanner: 7-S0703 for Turkey Only

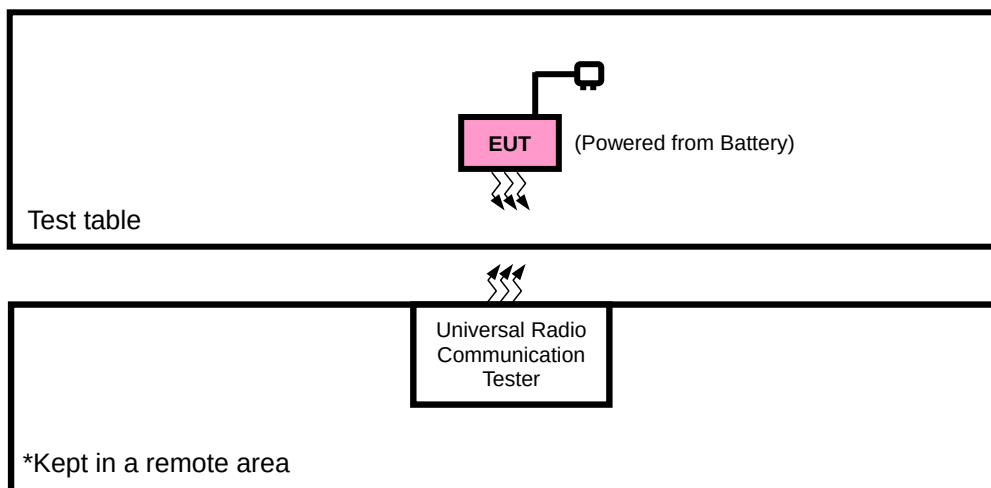
- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

List of Accessory:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
Battery	Honeywell	CT50-BTSC	Capacity : 3.85vdc 4020mAh
AC Adapter	HONOR	ADS-12B-06 05010E	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
USB Cable	Honeywell	CT40-SN	Shielded, 1.25meter
Earphone	VIVO	N/A	Shielded, 1.27meter
LCD Panel	CASIL	CTM10801920T01	5.0" FHD(1928*1080)

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION



2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	Kikusui/JP	PMX18-5A	0000001	N/A

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

2.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + DC Source with GSM or WCDMA or LTE link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
B	ERP	128 to 251	128, 189, 251	GSM,EDGE
B	FREQUENCY STABILITY	128 to 251	128, 251	GSM,EDGE
B	OCCUPIED BANDWIDTH	128 to 251	128, 189, 251	GSM,EDGE
B	BAND EDGE	128 to 251	128, 251	GSM,EDGE
B	CONDCUDETED EMISSION	128 to 251	128, 189, 251	GSM,EDGE
A	RADIATED EMISSION	128 to 251	128, 189, 251	GSM,EDGE
B	PEAK TO AVERAGE RATIO	128 to 251	128, 189, 251	GSM,EDGE

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
B	ERP	4132 to 4233	4132, 4182, 4233	WCDMA
B	FREQUENCY STABILITY	4132 to 4233	4132, 4233	WCDMA
B	OCCUPIED BANDWIDTH	4132 to 4233	4132, 4182, 4233	WCDMA
B	BAND EDGE	4132 to 4233	4132, 4182, 4233	WCDMA
B	CONDCUDETED EMISSION	4132 to 4233	4132, 4233	WCDMA
A	RADIATED EMISSION	4132 to 4233	4132, 4182, 4233	WCDMA
B	PEAK TO AVERAGE RATIO	4132 to 4233	4132, 4182, 4233	WCDMA



LTE BAND 5 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	20407 to 20643	20407, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20600	10MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM,64QAM	6 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM,64QAM	15 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
BAND EDGE	20407 to 20643	20407	1.4 MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	20407 to 20643	20643	1.4 MHz	QPSK,16QAM,64QAM	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	20415 to 20635	20415	3 MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	20415 to 20635	20635	3 MHz	QPSK,16QAM,64QAM	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	20425 to 20625	20425	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	20425 to 20625	20625	5MHz	QPSK,16QAM,64QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20450 to 20600	20450	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	20450 to 20600	20600	10MHz	QPSK,16QAM,64QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset

CONDCUDED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	20407 to 20643	20525	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20525	10MHz	QPSK	1 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset

LTE BAND 26 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	26797 to 27033	26797, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM	6 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM	15 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM	75 RB / 0 RB Offset

BAND EDGE	26797 to 27033	26797	1.4 MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	26797 to 27033	27033	1.4 MHz	QPSK	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	26805 to 27025	26805	3 MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	26805 to 27025	27025	3 MHz	QPSK	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	26815 to 27015	26815	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	26815 to 27015	27015	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
CONDCUDED EMISSION	26840 to 26990	26840	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	26840 to 26990	26990	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	26865 to 26965	26865	15MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION					75 RB / 0 RB Offset
	26865 to 26965	26965	15MHz	QPSK	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB / 0 RB Offset
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26915	3MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	26815 to 27015	26915	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26915	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26915	15MHz	QPSK	1 RB / 0 RB Offset

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

**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 3.85V By Battery	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.85V By Battery	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.85V By Battery	James Fu
BAND EDGE	23deg. C, 70%RH	DC 3.85V By Battery	James Fu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.85V By Battery	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 3.85V By Battery	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.85V By Battery	James Fu

2.5 EUT OPERATING CONDITIONS

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



Test Report No.: W7L-P21110007RF15

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

3.1.2 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,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$

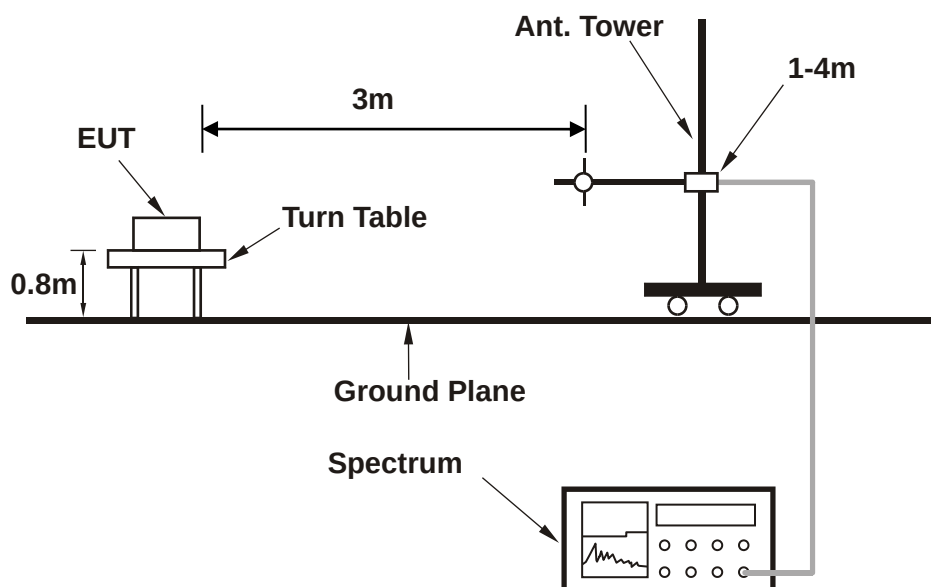
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.1.3 DEVIATION FROM TEST STANDARD

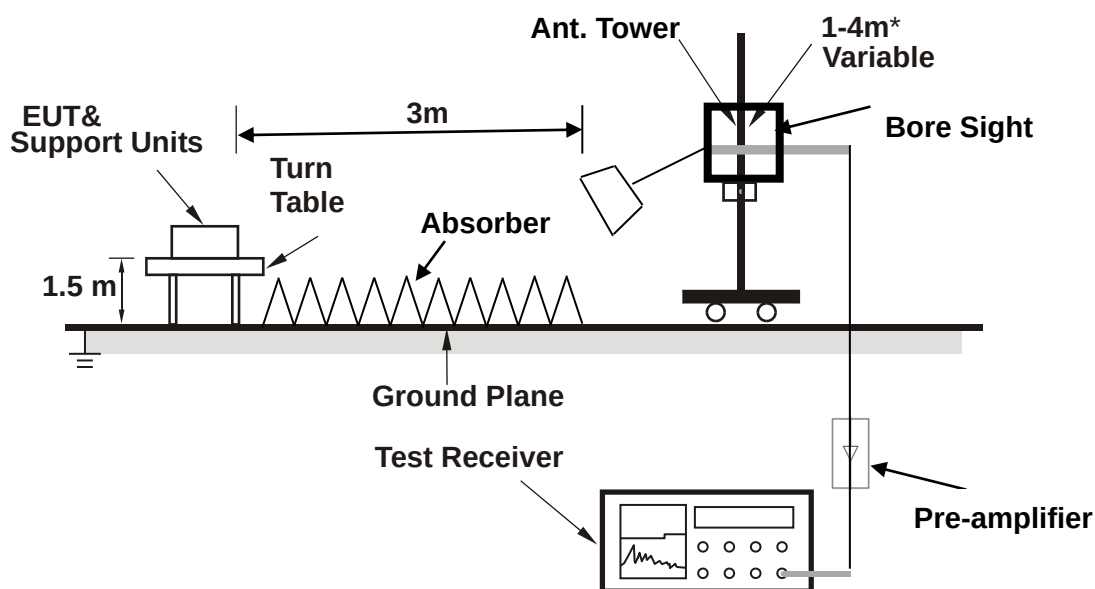
No deviation

3.1.4 TEST SETUP

< 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).

3.1.5 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

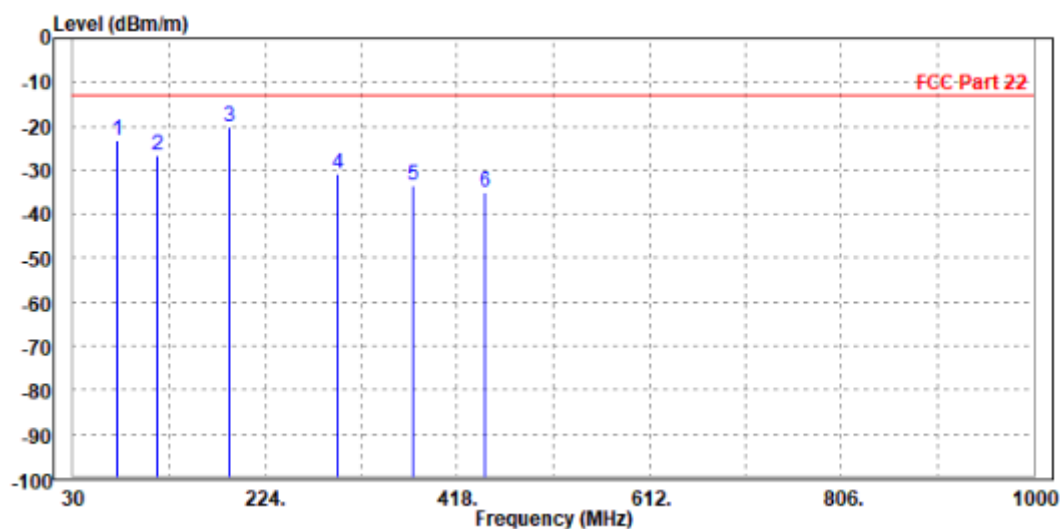
30 MHz – 1GHz data:

GSM 850

CHANNEL BANDWIDTH: 128 ~ 251

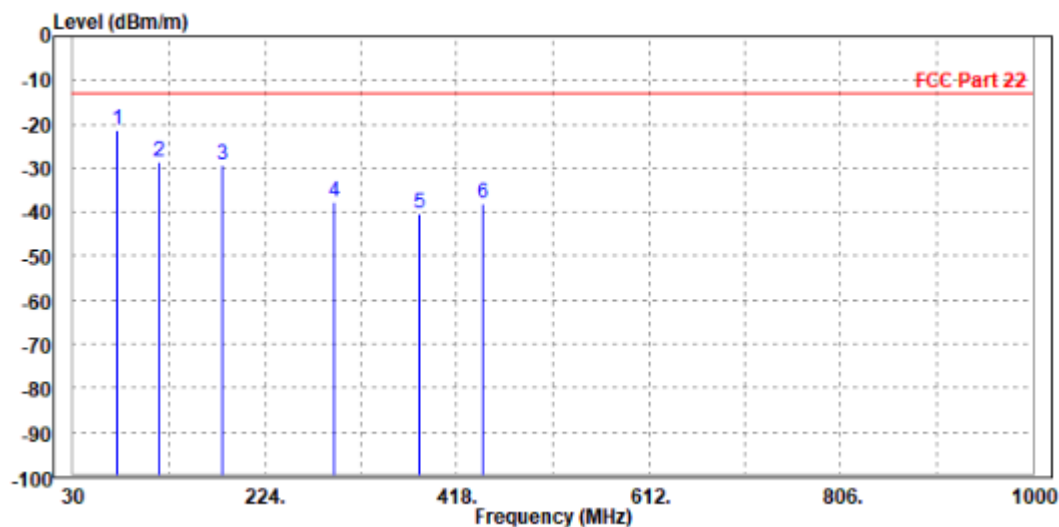
MODE	TX channel 128	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	74.620	-23.15	-30.94	-13.00	-10.15	7.79	Peak	Horizontal
2	115.360	-26.63	-34.60	-13.00	-13.63	7.97	Peak	Horizontal
3 PP	188.110	-20.06	-30.58	-13.00	-7.06	10.52	Peak	Horizontal
4	296.750	-30.83	-44.78	-13.00	-17.83	13.95	Peak	Horizontal
5	373.380	-33.56	-49.69	-13.00	-20.56	16.13	Peak	Horizontal
6	445.160	-35.17	-52.88	-13.00	-22.17	17.71	Peak	Horizontal



MODE	TX channel 128	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	74.620	-21.18	-29.26	-13.00	-8.18	8.08	Peak	Vertical
2	116.330	-28.42	-36.58	-13.00	-15.42	8.16	Peak	Vertical
3	180.350	-29.22	-39.54	-13.00	-16.22	10.32	Peak	Vertical
4	294.810	-37.65	-52.53	-13.00	-24.65	14.88	Peak	Vertical
5	380.170	-40.29	-57.05	-13.00	-27.29	16.76	Peak	Vertical
6	444.190	-37.86	-55.90	-13.00	-24.86	18.04	Peak	Vertical





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Test Report No.: W7L-P21110007RF15

ABOVE 1GHz DATA

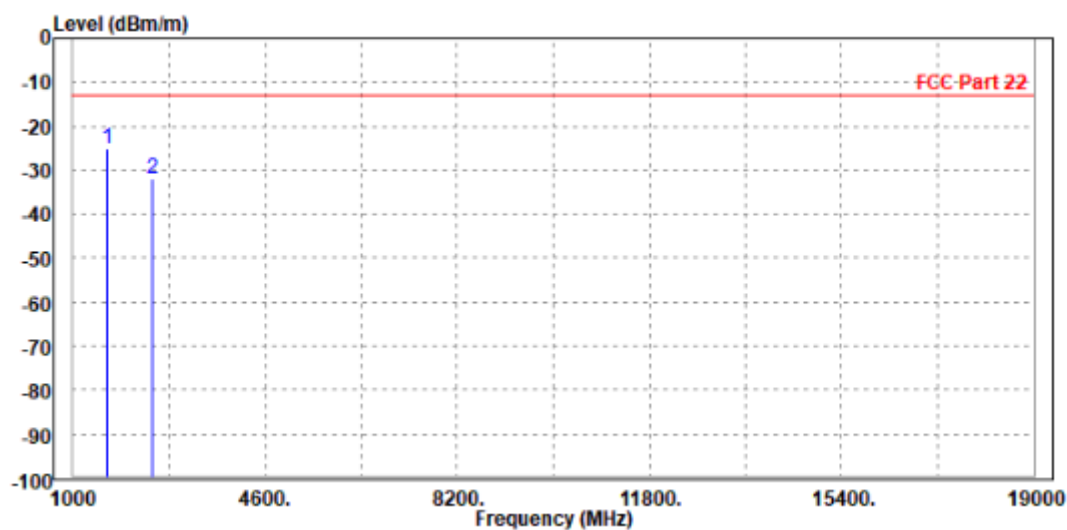
Note: For higher frequency, the emission is too low to be detected.

GSM 850

CH 128:

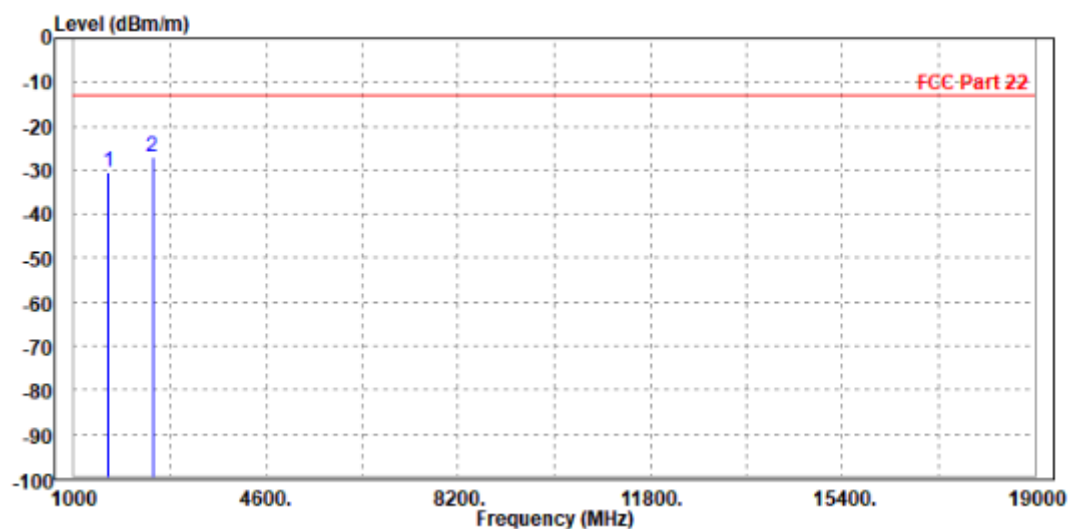
MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-25.21	-28.46	-13.00	-12.21	3.25	Peak	Horizontal
2		2476.000	-31.92	-39.95	-13.00	-18.92	8.03	Peak	Horizontal



MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

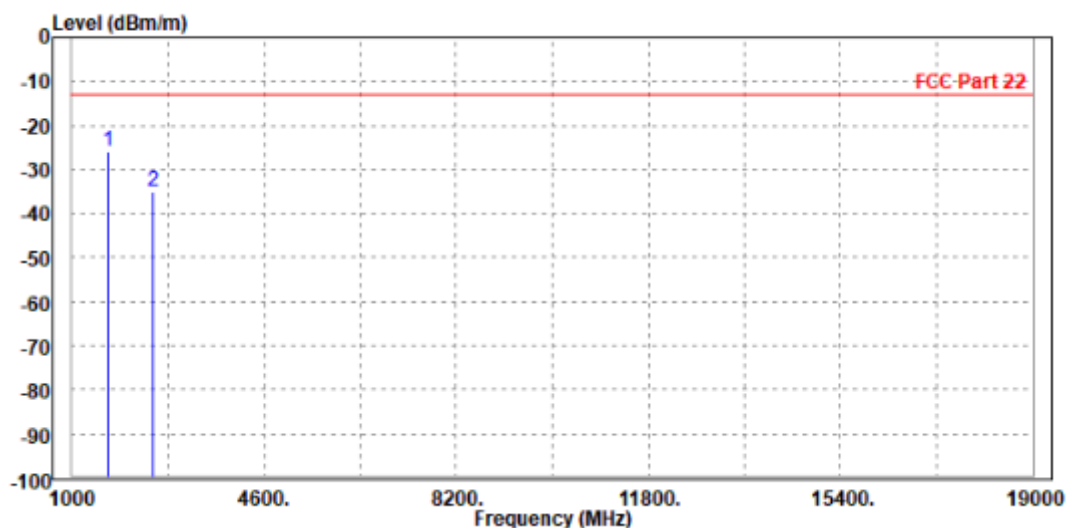
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-30.32	-33.70	-13.00	-17.32	3.38	Peak	Vertical
2 PP	2472.600	-26.97	-34.01	-13.00	-13.97	7.04	Peak	Vertical



CH 189:

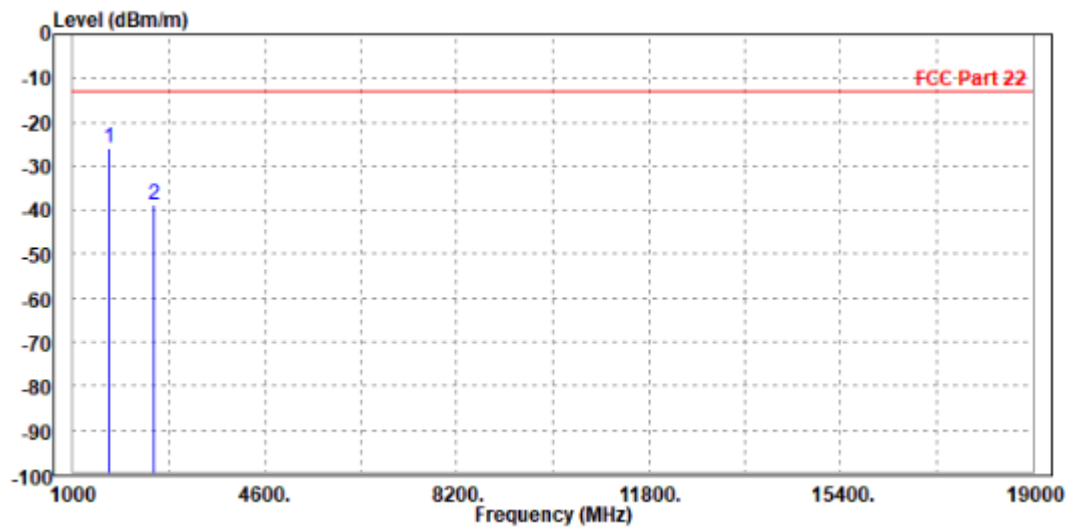
MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1672.800	-25.70	-29.25	-13.00	-12.70	3.55	Peak	Horizontal
2	2512.000	-34.79	-42.85	-13.00	-21.79	8.06	Peak	Horizontal



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

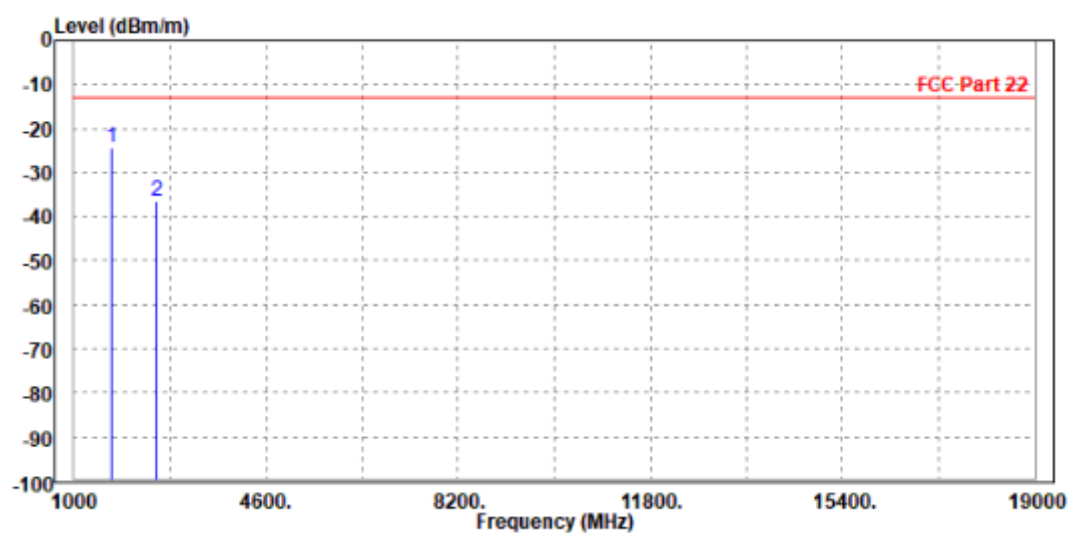
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-25.91	-29.45	-13.00	-12.91	3.54	Peak	Vertical
2		2509.200	-38.96	-46.06	-13.00	-25.96	7.10	Peak	Vertical



CH 251:

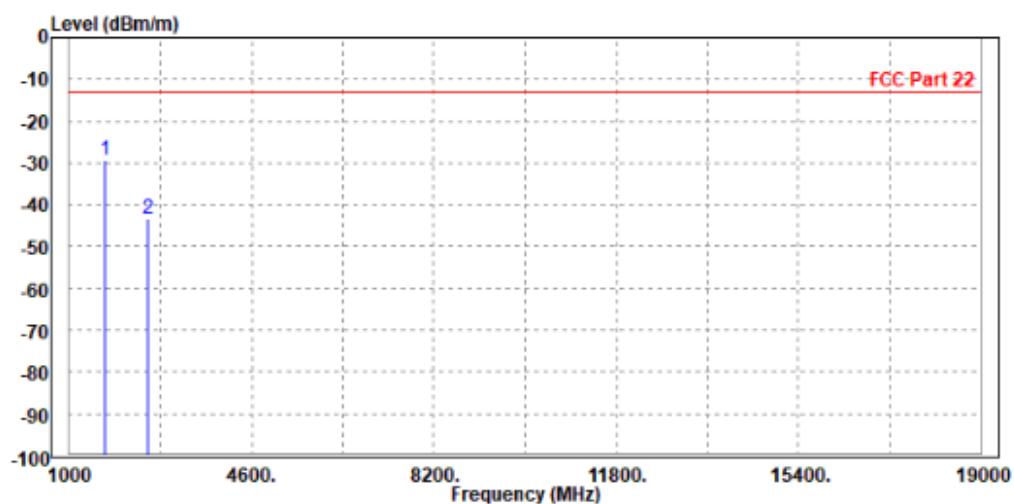
MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1697.600	-24.50	-28.36	-13.00	-11.50	3.86	Peak	Horizontal
2	2548.000	-36.31	-44.42	-13.00	-23.31	8.11	Peak	Horizontal



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1702.000	-29.29	-33.16	-13.00	-16.29	3.87	Peak	Vertical
2	2546.400	-43.53	-50.75	-13.00	-30.53	7.22	Peak	Vertical

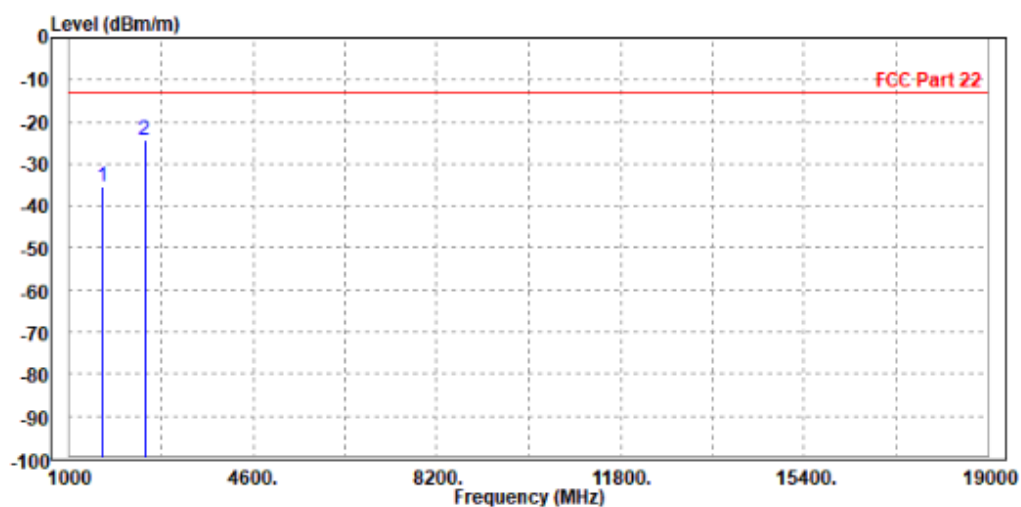


EDGE 850:

CH 128:

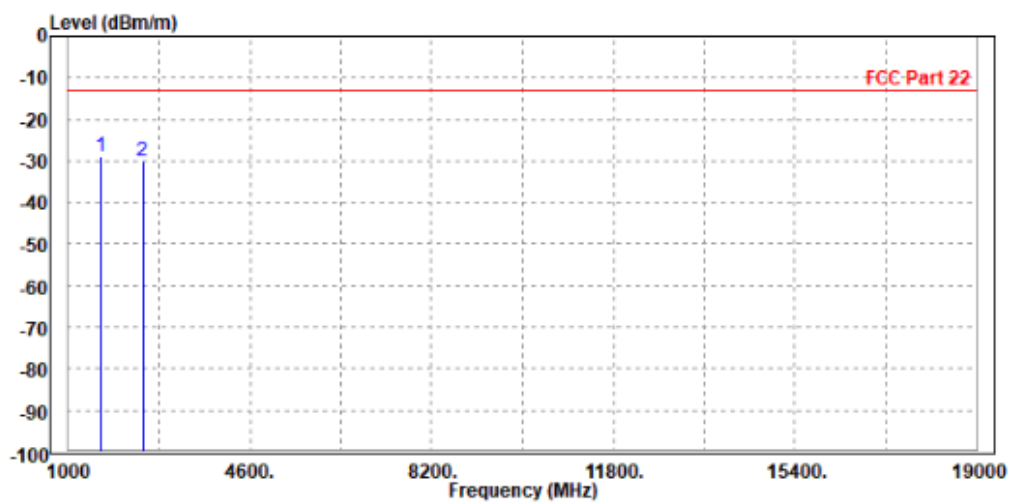
MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-35.42	-38.67	-13.00	-22.42	3.25	Peak	Horizontal
2 PP	2472.600	-24.39	-32.41	-13.00	-11.39	8.02	Peak	Horizontal



MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

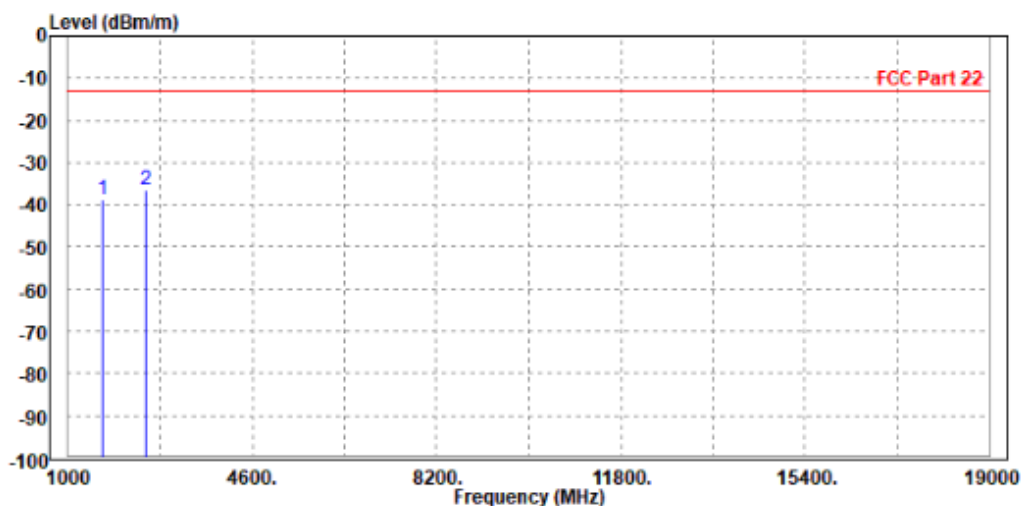
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-28.99	-32.37	-13.00	-15.99	3.38	Peak	Vertical
2		2472.600	-29.90	-36.94	-13.00	-16.90	7.04	Peak	Vertical



CH 189:

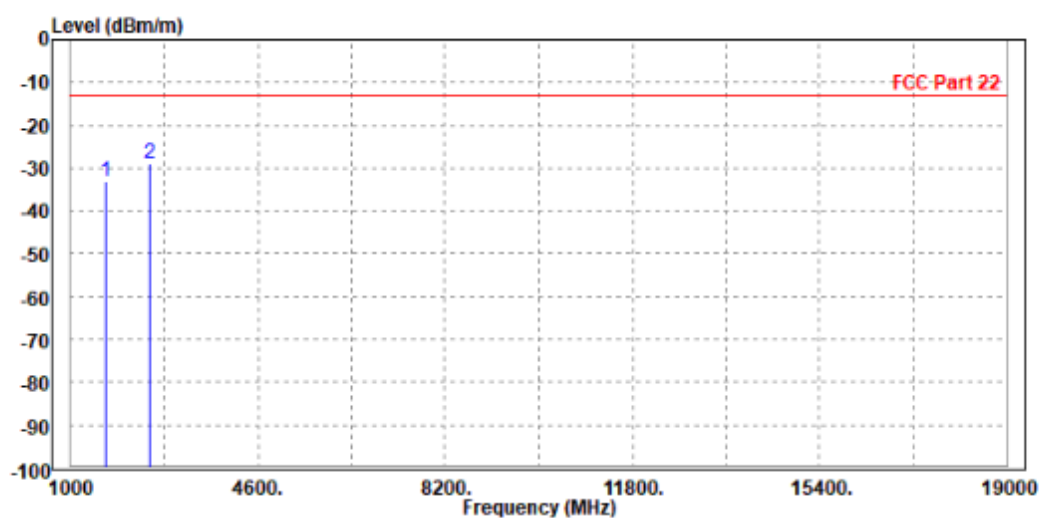
MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-38.71	-42.18	-13.00	-25.71	3.47	Peak	Horizontal
2 PP	2509.800	-36.46	-44.52	-13.00	-23.46	8.06	Peak	Horizontal



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-33.18	-36.72	-13.00	-20.18	3.54	Peak	Vertical
2 PP	2509.200	-28.75	-35.85	-13.00	-15.75	7.10	Peak	Vertical





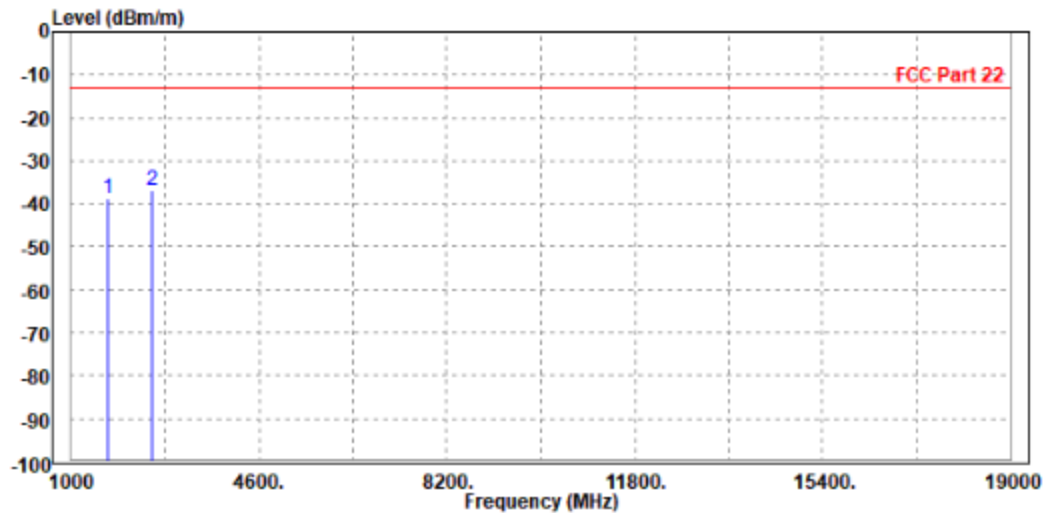
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Test Report No.: W7L-P21110007RF15

CH 251:

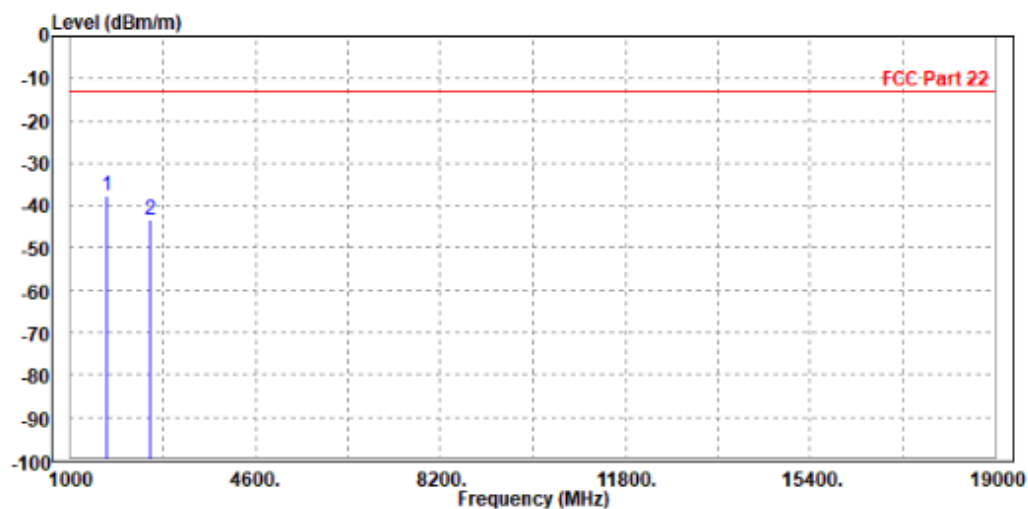
MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1702.000	-38.80	-42.71	-13.00	-25.80	3.91	Peak	Horizontal
2	PP 2546.400	-36.82	-44.93	-13.00	-23.82	8.11	Peak	Horizontal



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1702.000	-37.72	-41.59	-13.00	-24.72	3.87	Peak	Vertical
2	2546.400	-43.52	-50.74	-13.00	-30.52	7.22	Peak	Vertical

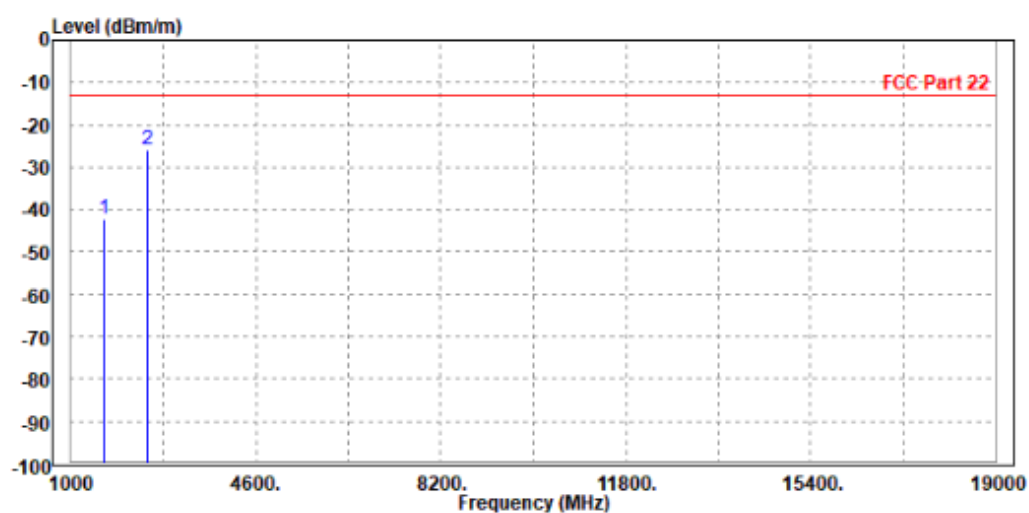


WCDMA Band V:

CH 4132:

MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-42.05	-45.30	-13.00	-29.05	3.25	Peak	Horizontal
2 PP	2479.200	-25.86	-33.89	-13.00	-12.86	8.03	Peak	Horizontal



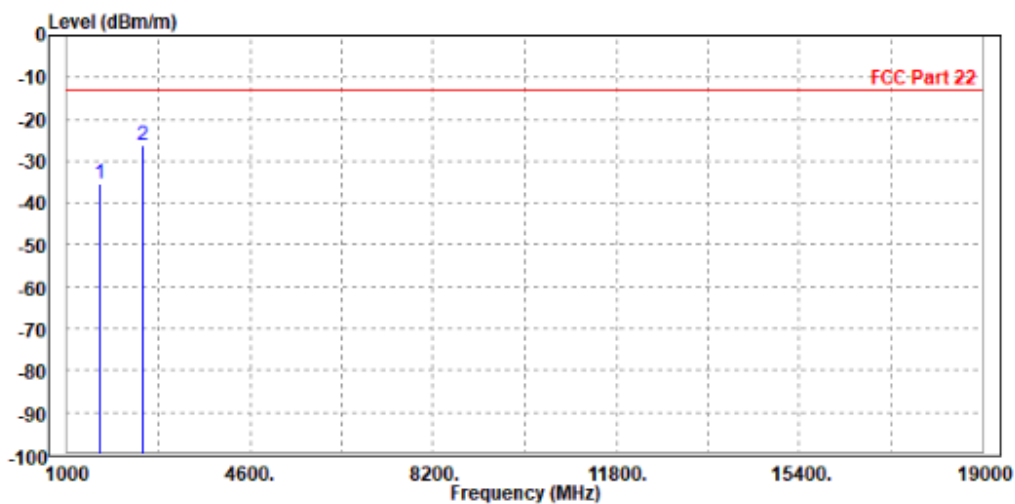


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VERITAS**

Test Report No.: W7L-P21110007RF15

MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

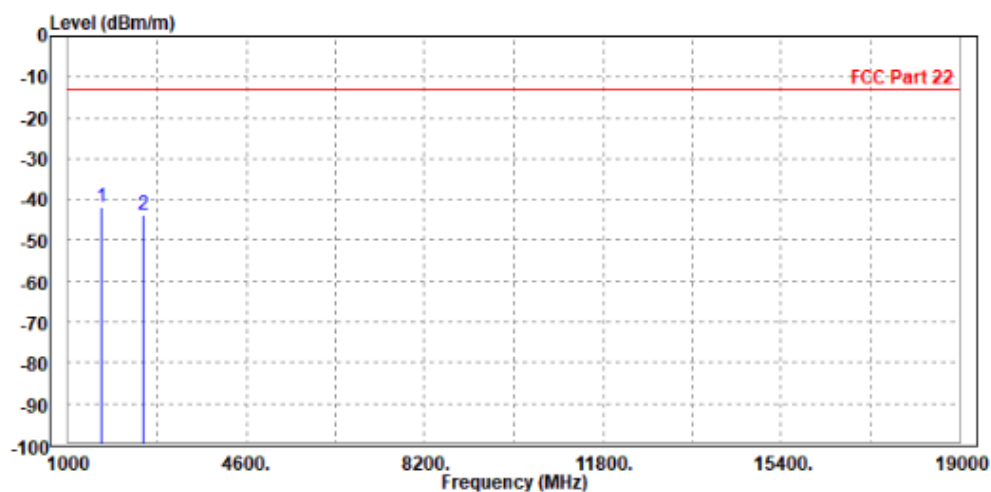
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-35.31	-38.69	-13.00	-22.31	3.38	Peak	Vertical
2 PP	2479.200	-26.22	-33.27	-13.00	-13.22	7.05	Peak	Vertical



CH 4182:

MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-41.88	-45.35	-13.00	-28.88	3.47	Peak	Horizontal
2	2509.200	-43.67	-51.73	-13.00	-30.67	8.06	Peak	Horizontal



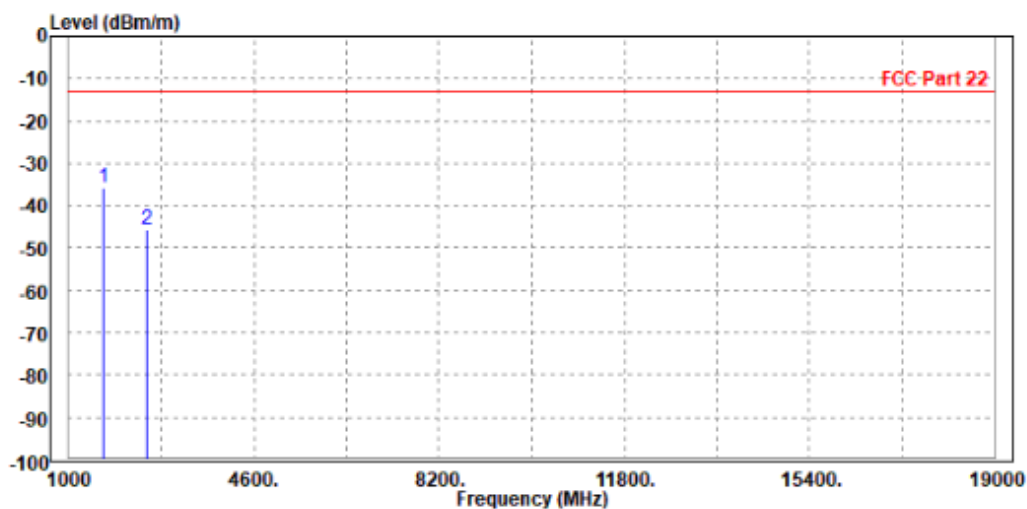


BUREAU
VERITAS

Test Report No.: W7L-P21110007RF15

MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

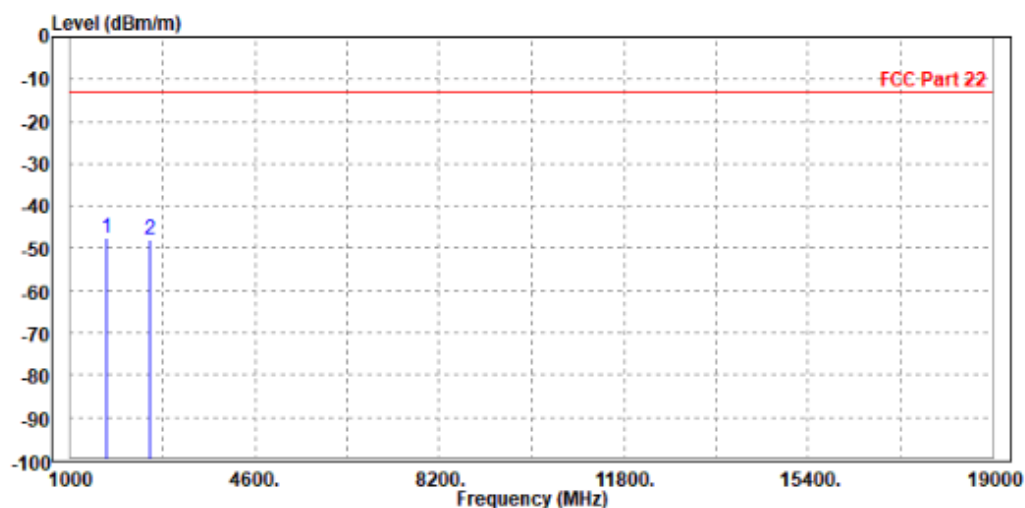
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-35.73	-39.27	-13.00	-22.73	3.54	Peak	Vertical
2	2509.200	-45.80	-52.90	-13.00	-32.80	7.10	Peak	Vertical



CH 4233:

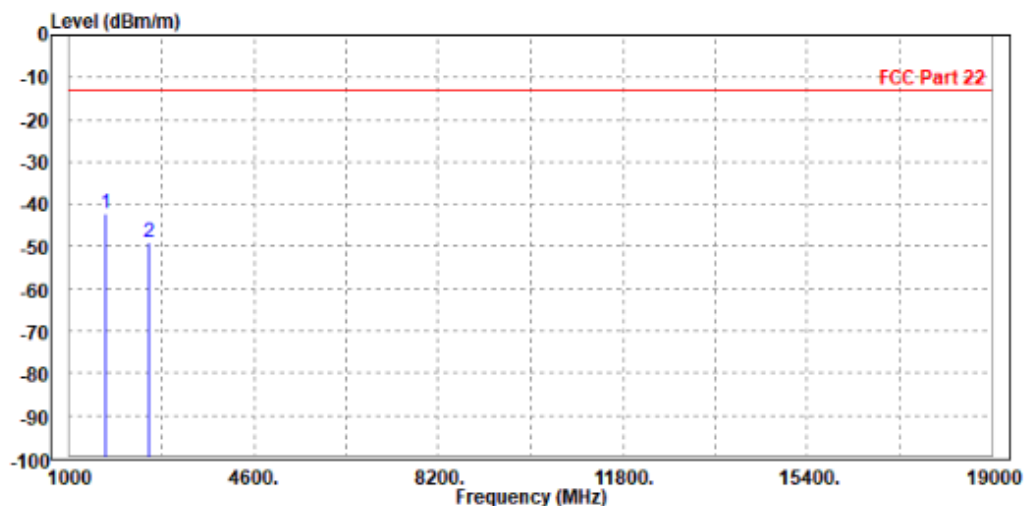
MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1702.000	-47.66	-51.57	-13.00	-34.66	3.91	Peak	Horizontal
2	2539.800	-47.97	-56.07	-13.00	-34.97	8.10	Peak	Horizontal



MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-42.06	-45.93	-13.00	-29.06	3.87	Peak	Vertical
2	2539.800	-48.91	-56.11	-13.00	-35.91	7.20	Peak	Vertical





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Test Report No.: W7L-P21110007RF15

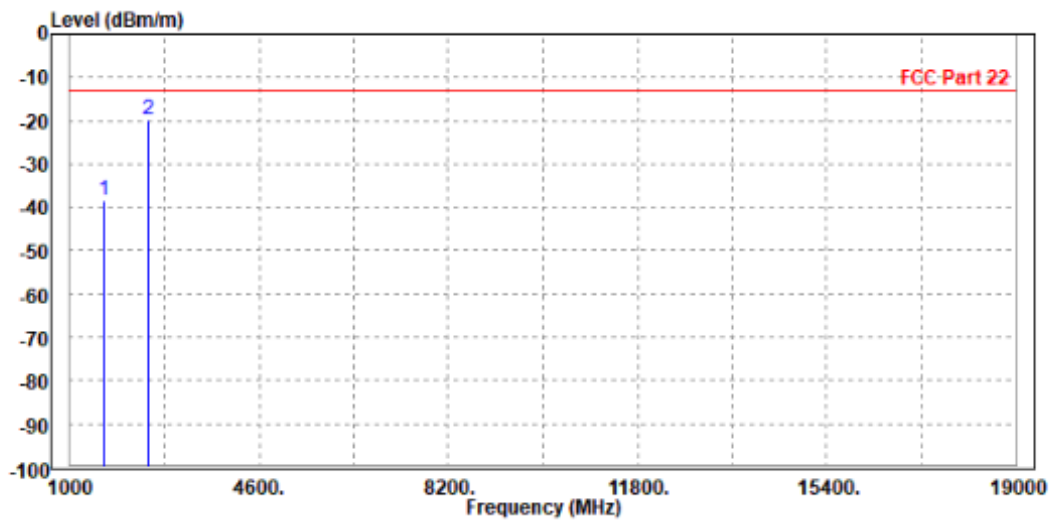
LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH 20407

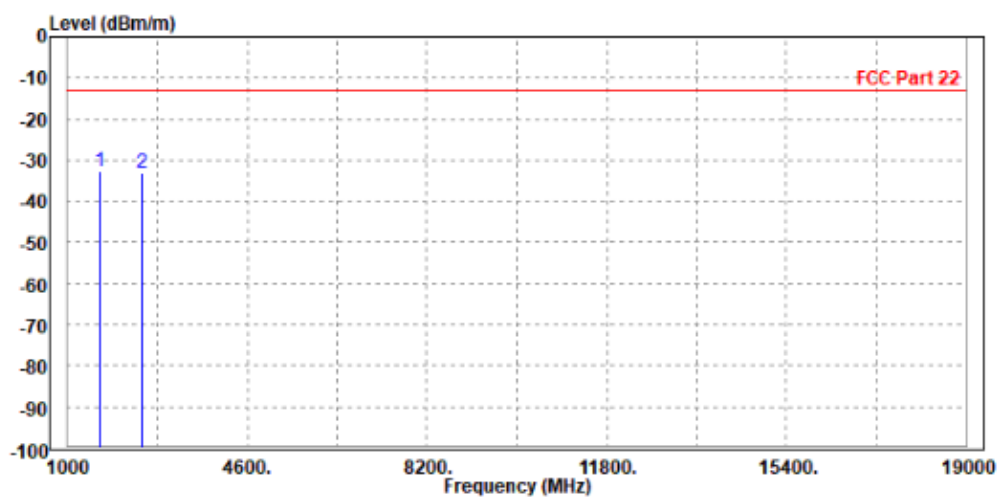
MODE	TX channel 20407	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-38.25	-41.50	-13.00	-25.25	3.25	Peak	Horizontal
2 PP	2474.100	-19.83	-27.85	-13.00	-6.83	8.02	Peak	Horizontal



MODE	TX channel 20407	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

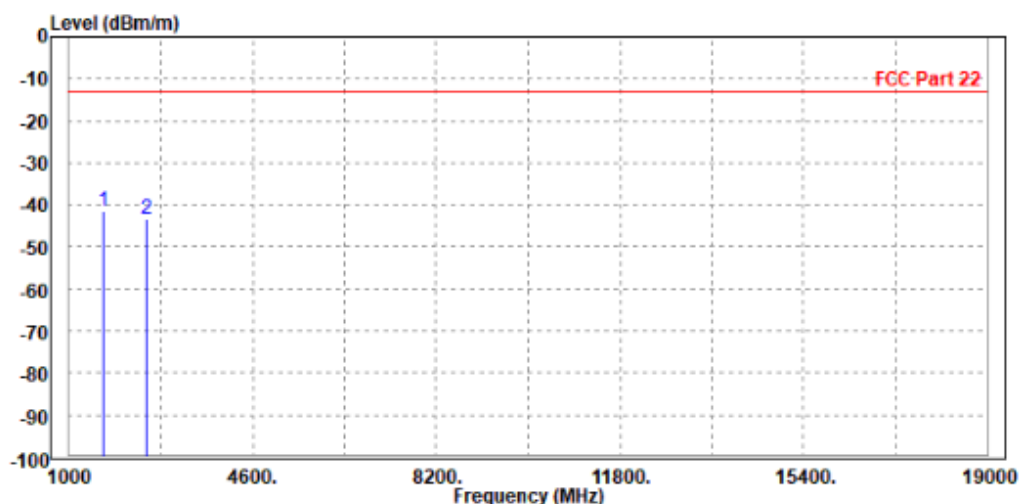
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1648.000	-32.72	-36.10	-13.00	-19.72	3.38	Peak	Vertical
2	2474.100	-32.98	-40.02	-13.00	-19.98	7.04	Peak	Vertical



CH 20525

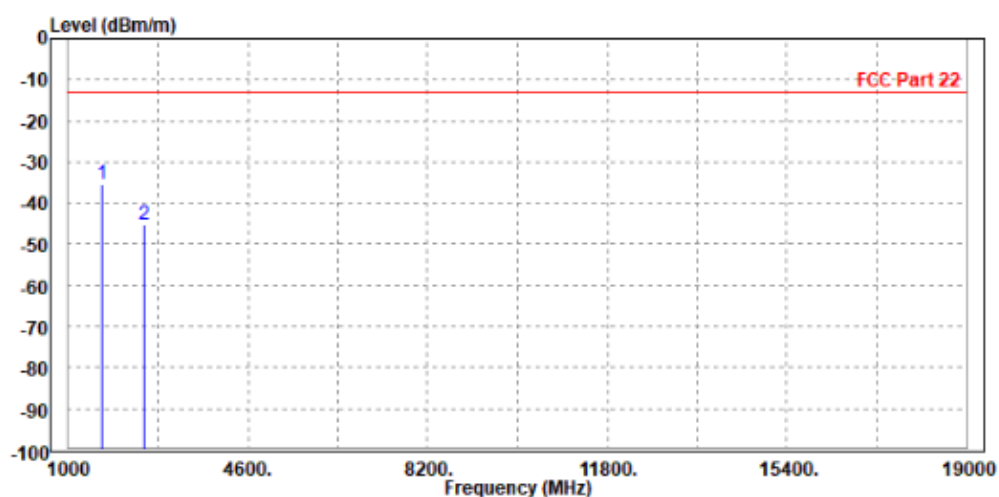
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-41.29	-44.76	-13.00	-28.29	3.47	Peak	Horizontal
2		2509.500	-43.28	-51.34	-13.00	-30.28	8.06	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

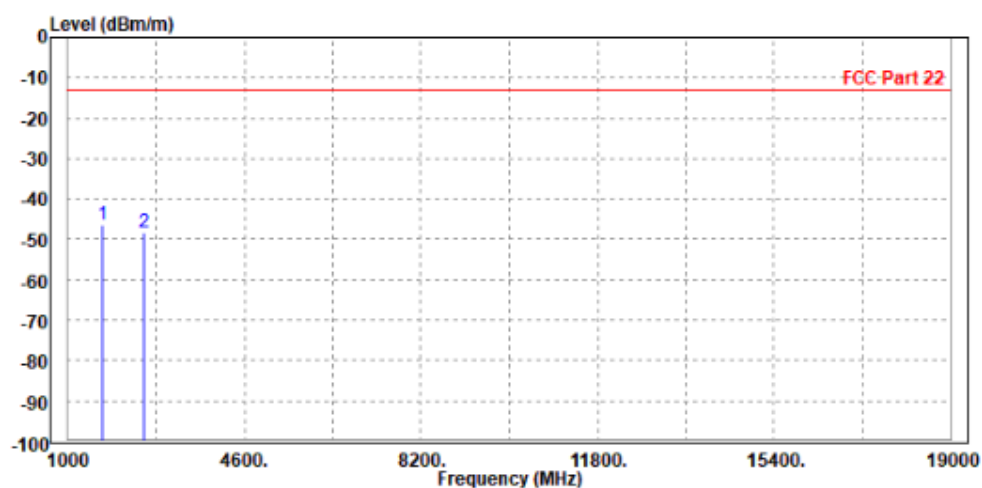
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1666.000	-35.50	-39.04	-13.00	-22.50	3.54	Peak	Vertical
2	2509.500	-45.12	-52.22	-13.00	-32.12	7.10	Peak	Vertical



CH 20643

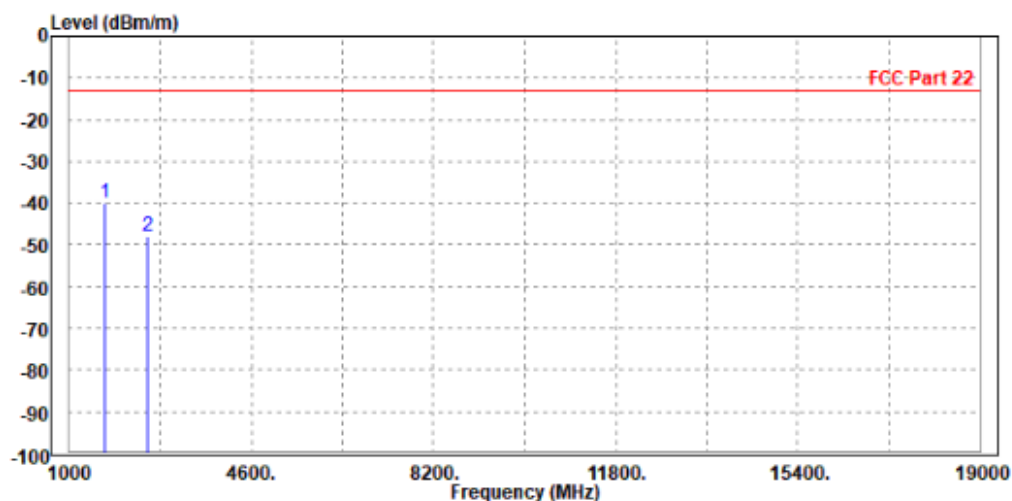
MODE	TX channel 20643	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-46.51	-50.42	-13.00	-33.51	3.91	Peak	Horizontal
2	2544.900	-48.26	-56.37	-13.00	-35.26	8.11	Peak	Horizontal



MODE	TX channel 20643	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

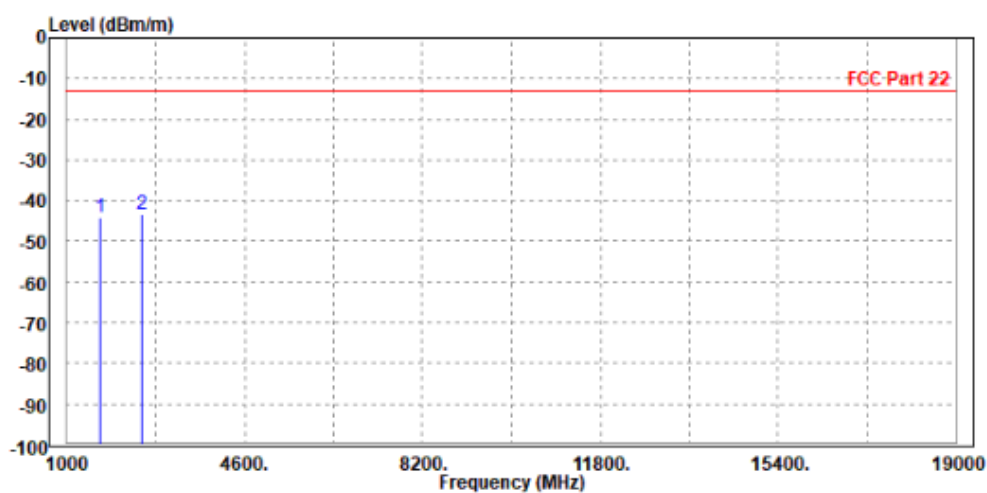
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-39.90	-43.77	-13.00	-26.90	3.87	Peak	Vertical
2	2544.900	-48.09	-55.30	-13.00	-35.09	7.21	Peak	Vertical



CHANNEL BANDWIDTH: 3MHz / QPSK

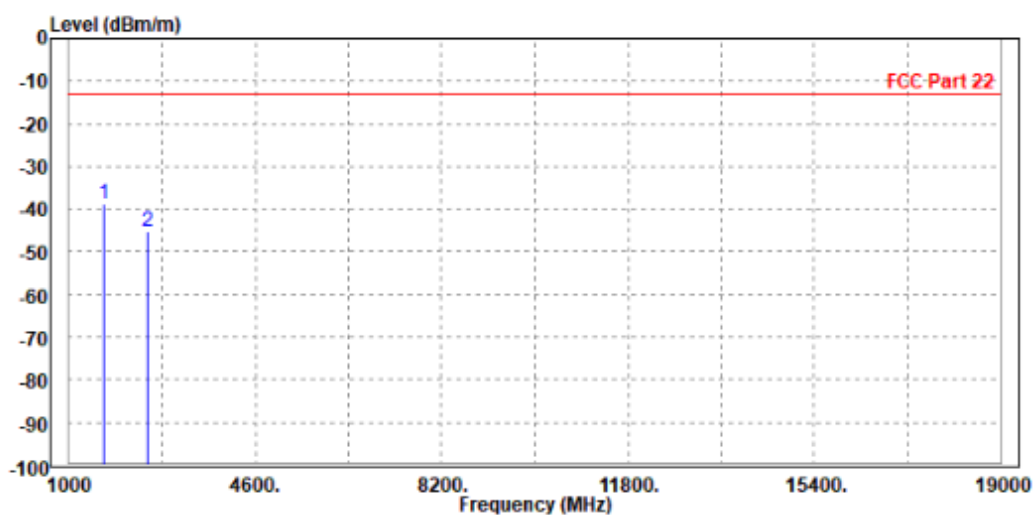
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-44.09	-47.56	-13.00	-31.09	3.47	Peak	Horizontal
2 PP	2509.500	-43.26	-51.32	-13.00	-30.26	8.06	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

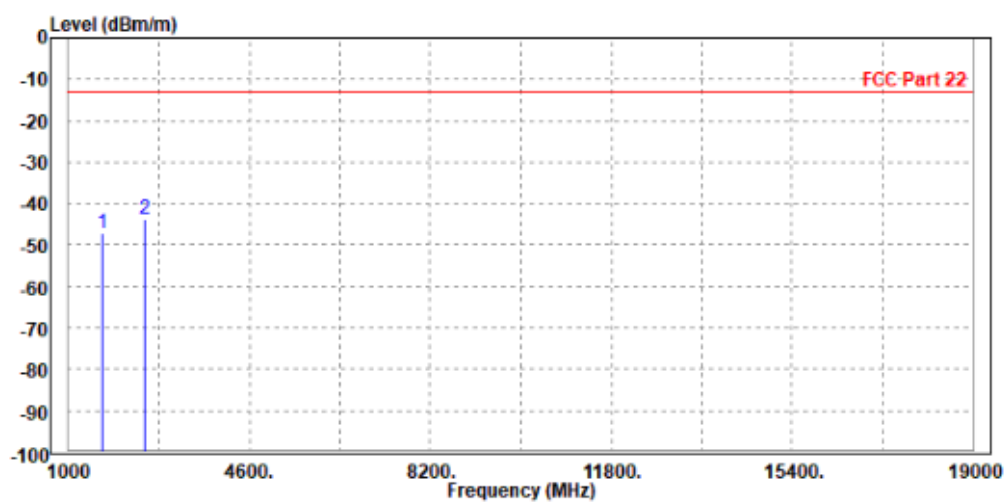
	Freq	Level	Read Level	Limit	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-38.77	-42.31	-13.00	-25.77	3.54	Peak	Vertical
2	2509.500	-45.09	-52.19	-13.00	-32.09	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

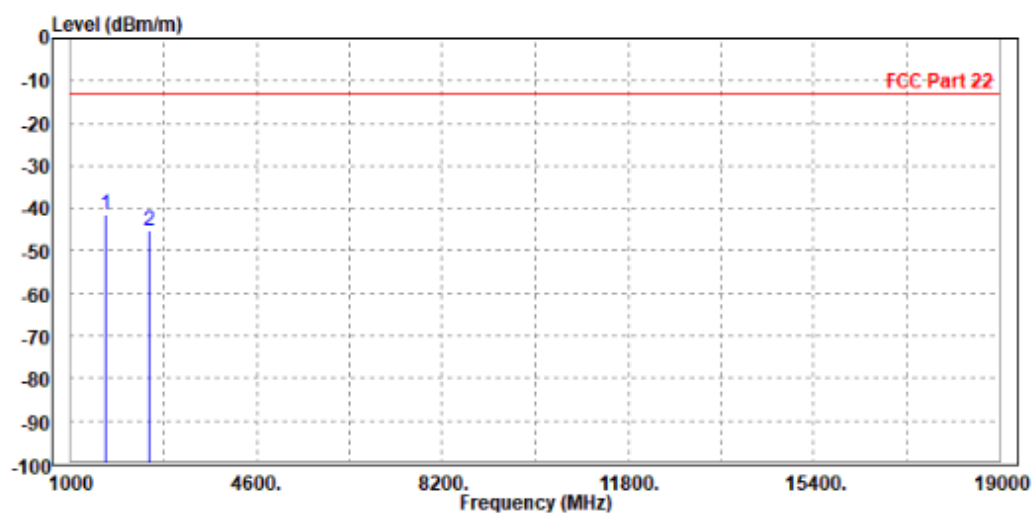
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-47.11	-50.58	-13.00	-34.11	3.47	Peak	Horizontal
2 PP	2509.500	-43.59	-51.65	-13.00	-30.59	8.06	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-41.45	-44.99	-13.00	-28.45	3.54	Peak	Vertical
2		2509.500	-45.37	-52.47	-13.00	-32.37	7.10	Peak	Vertical





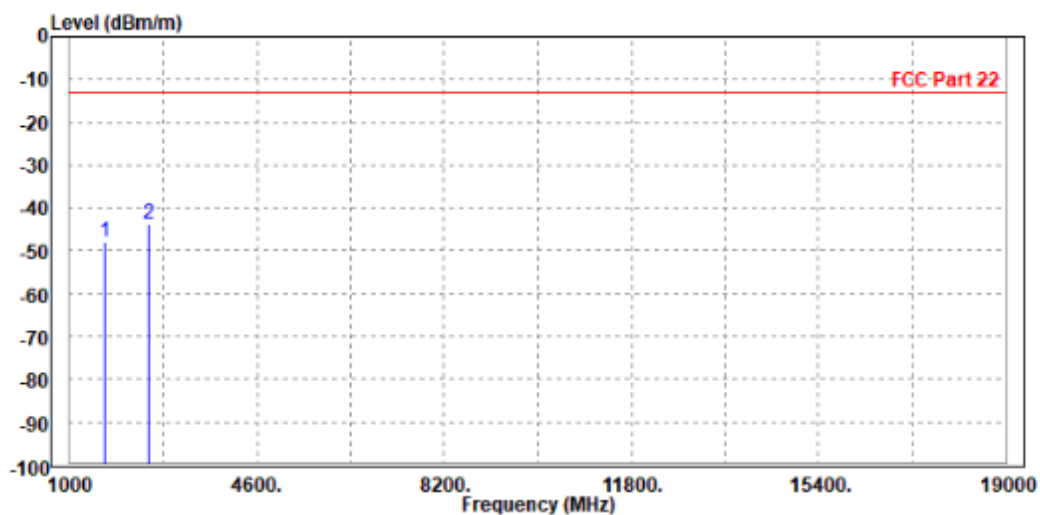
BUREAU
VERITAS

Test Report No.: W7L-P21110007RF15

CHANNEL BANDWIDTH: 10MHz / QPSK

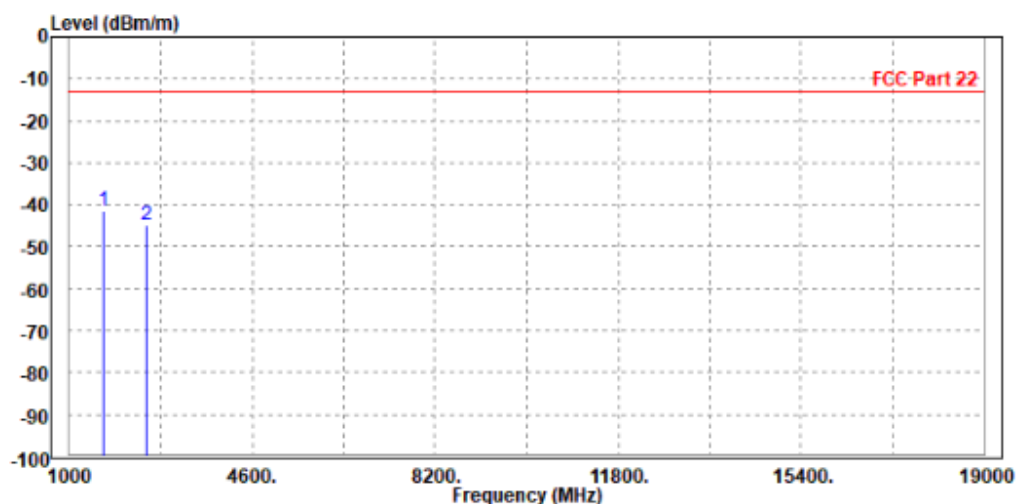
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-47.96	-51.43	-13.00	-34.96	3.47	Peak	Horizontal
2 PP	2509.500	-43.67	-51.73	-13.00	-30.67	8.06	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-41.46	-45.00	-13.00	-28.46	3.54	Peak	Vertical
2		2509.500	-45.03	-52.13	-13.00	-32.03	7.10	Peak	Vertical

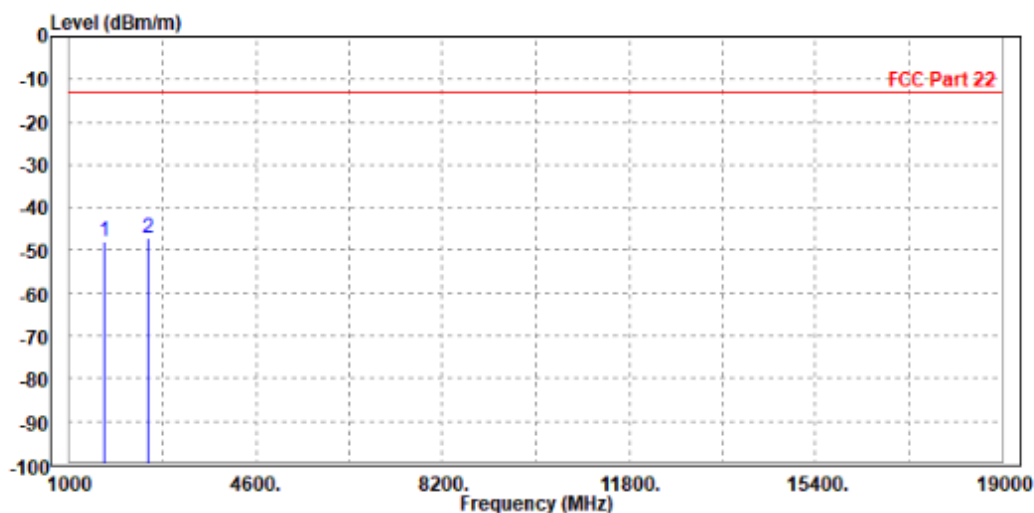


LTE Band 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

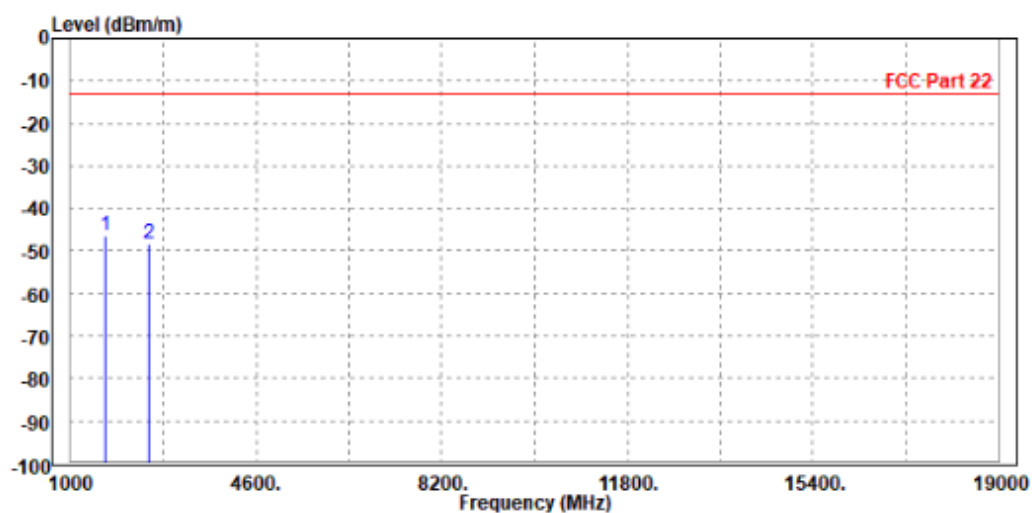
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-47.90	-51.37	-13.00	-34.90	3.47	Peak	Horizontal
2 PP	2509.200	-47.23	-55.29	-13.00	-34.23	8.06	Peak	Horizontal



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

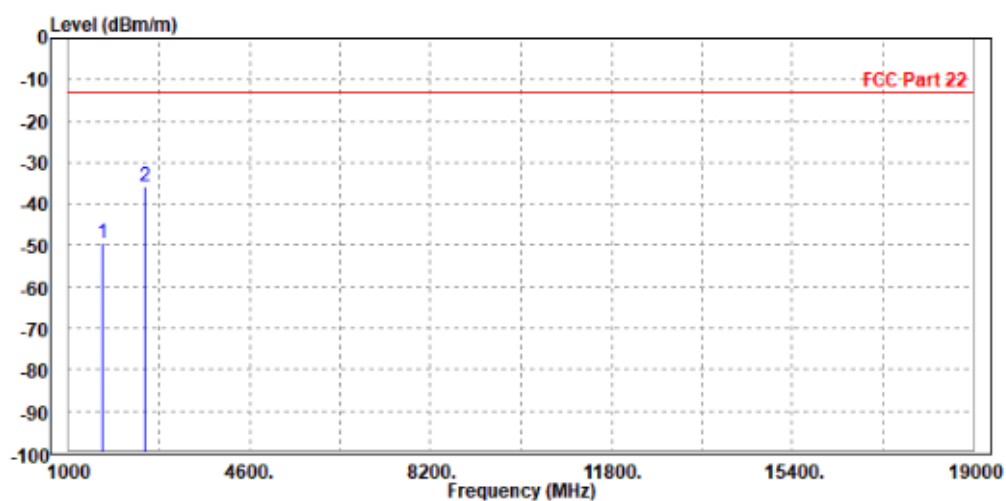
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1666.000	-46.40	-49.94	-13.00	-33.40	3.54	Peak	Vertical
2	2509.200	-48.25	-55.35	-13.00	-35.25	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 3MHz / QPSK

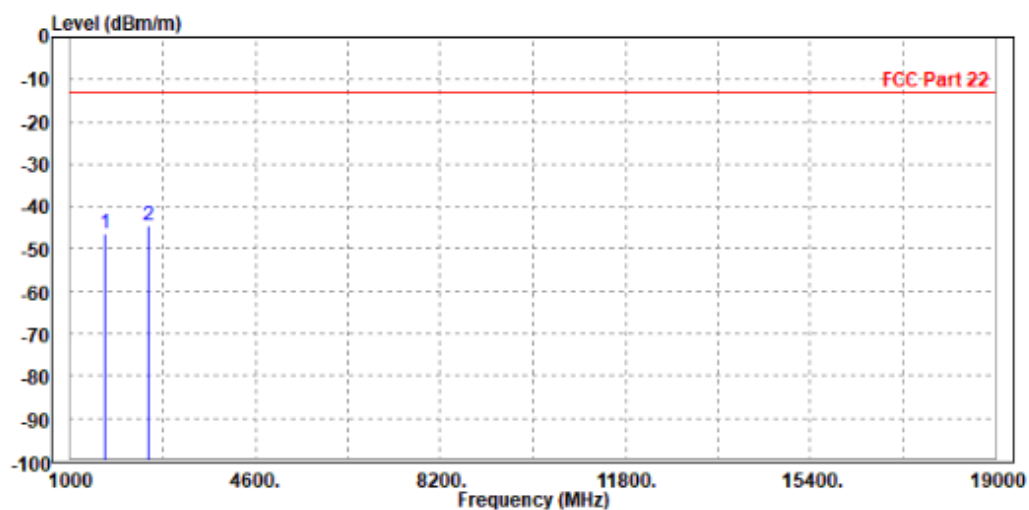
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-49.46	-52.93	-13.00	-36.46	3.47	Peak	Horizontal
2 PP	2509.200	-35.60	-43.66	-13.00	-22.60	8.06	Peak	Horizontal



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

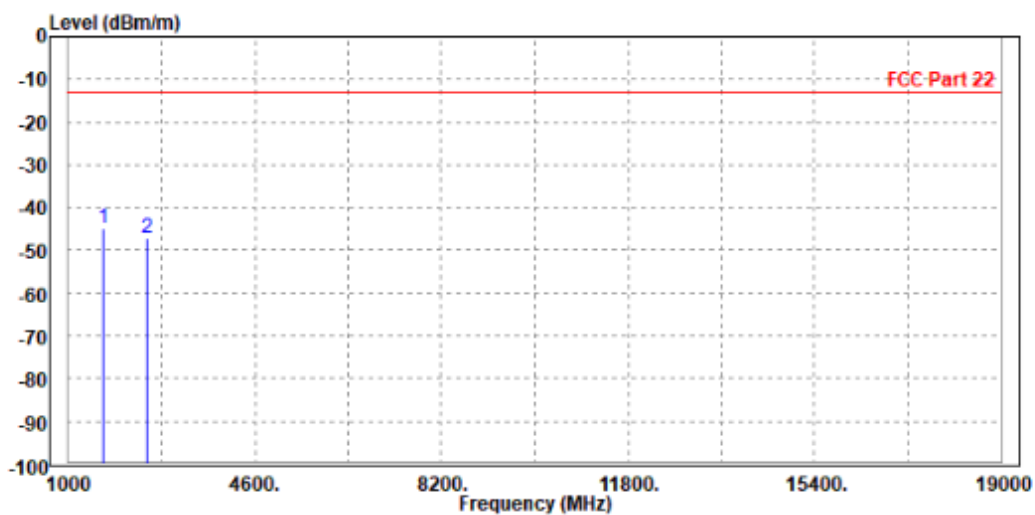
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-46.23	-49.77	-13.00	-33.23	3.54	Peak	Vertical
2 PP	2509.200	-44.44	-51.54	-13.00	-31.44	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

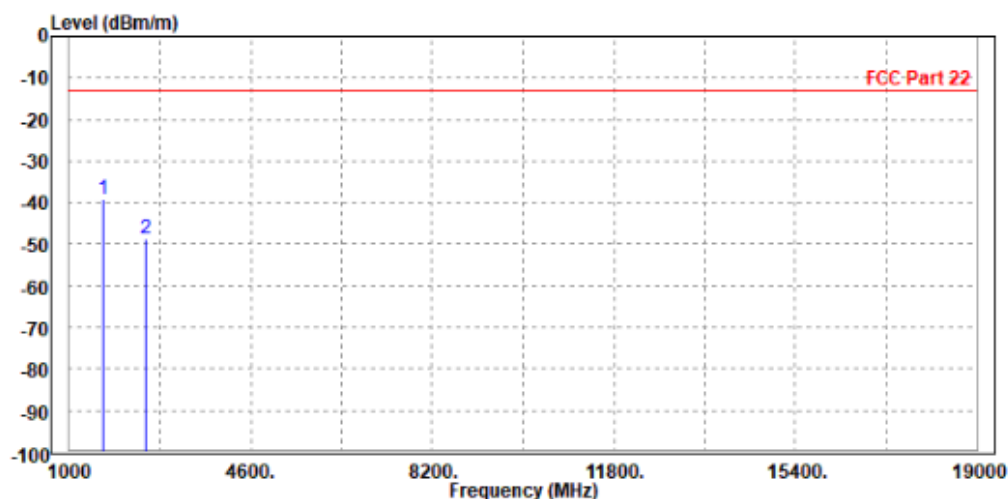
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-44.98	-48.45	-13.00	-31.98	3.47	Peak	Horizontal
2		2509.200	-47.25	-55.31	-13.00	-34.25	8.06	Peak	Horizontal



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

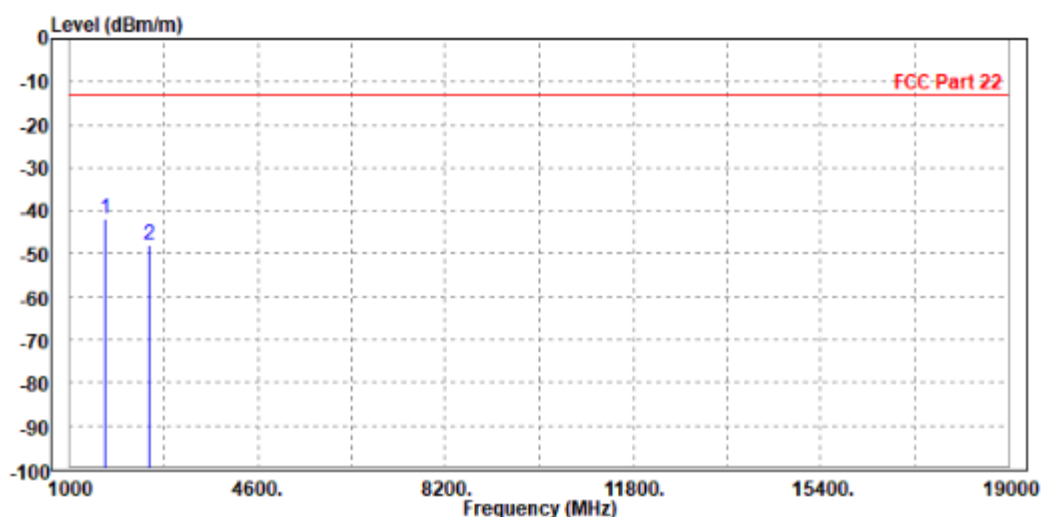
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-39.24	-42.78	-13.00	-26.24	3.54	Peak	Vertical
2	2509.200	-48.50	-55.60	-13.00	-35.50	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

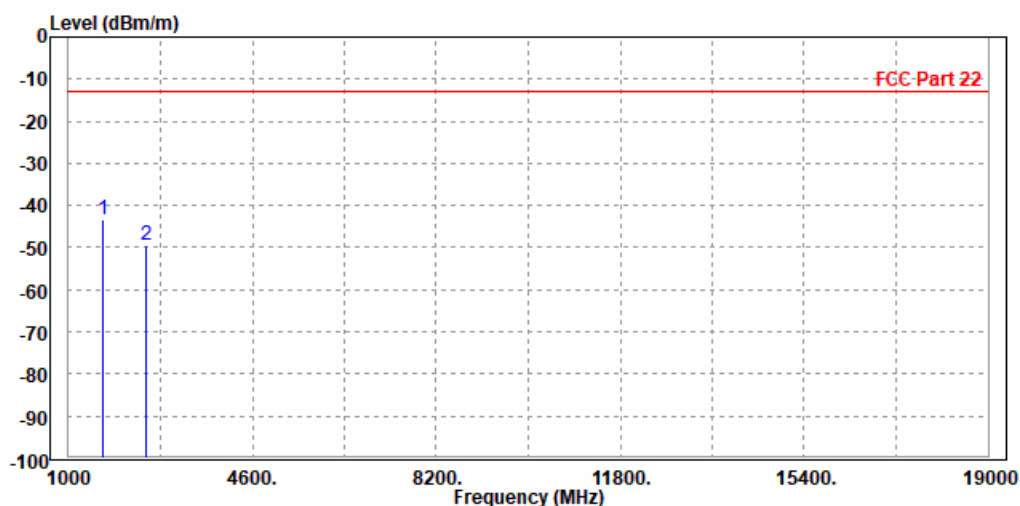
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-41.96	-45.50	-13.00	-28.96	3.54	Peak	Horizontal
2		2509.200	-47.86	-54.96	-13.00	-34.86	7.10	Peak	Horizontal



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

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-43.20	-46.74	-13.00	-30.20	3.54	Peak	Vertical
2	2509.200	-49.39	-56.49	-13.00	-36.39	7.10	Peak	Vertical

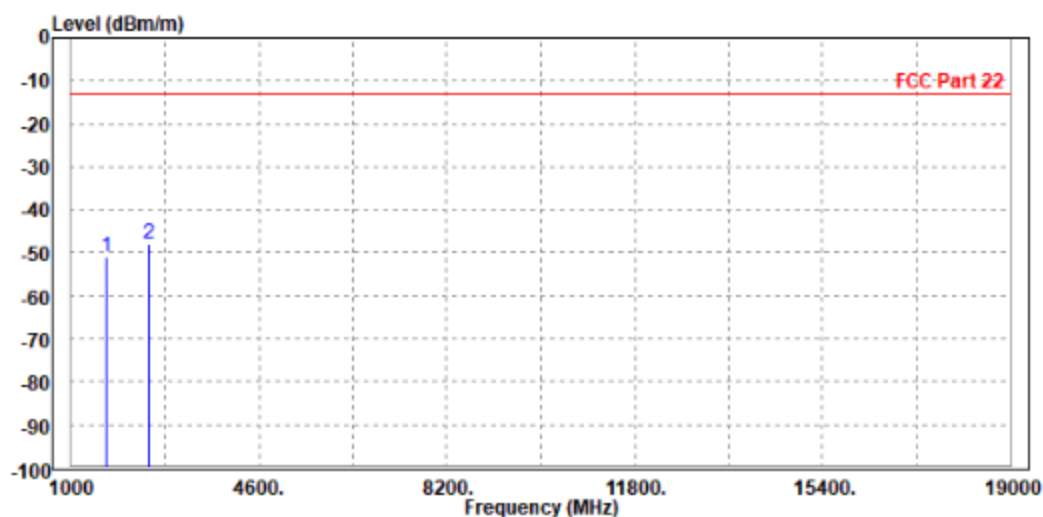


CHANNEL BANDWIDTH: 15MHz / QPSK

CH26839

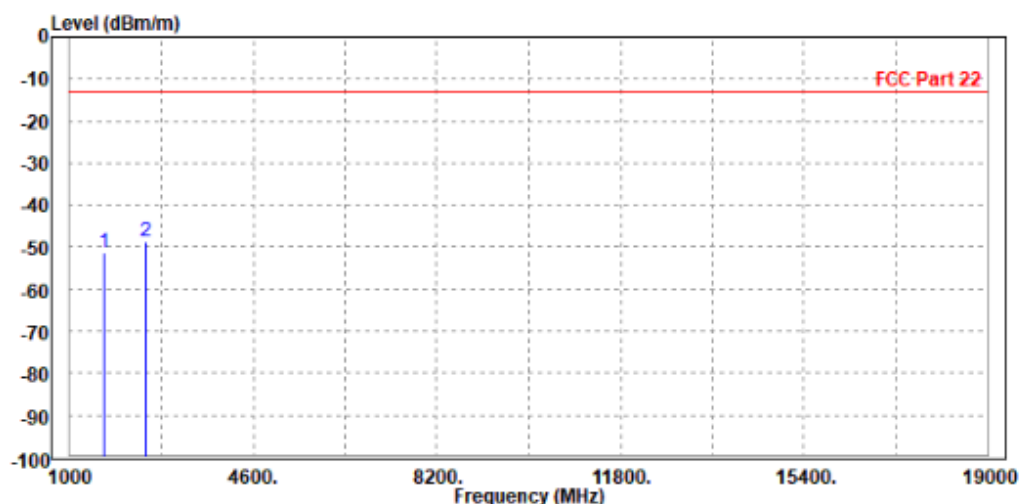
MODE	TX channel 26839	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz r
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-50.86	-54.33	-13.00	-37.86	3.47	Peak	Horizontal
2 PP	2486.700	-47.79	-55.83	-13.00	-34.79	8.04	Peak	Horizontal



MODE	TX channel 26839	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

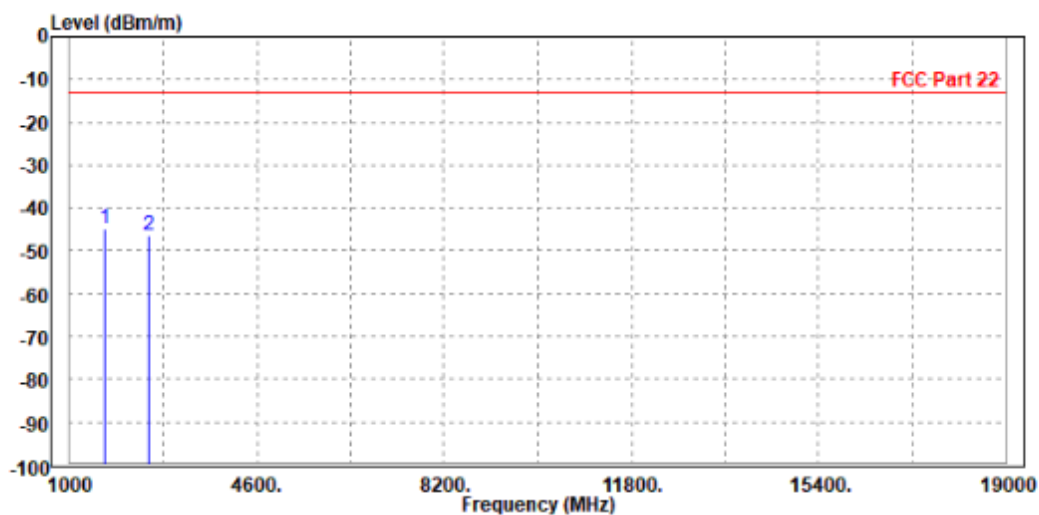
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-51.46	-55.00	-13.00	-38.46	3.54	Peak	Vertical
2 PP	2486.700	-48.63	-55.68	-13.00	-35.63	7.05	Peak	Vertical



CH26915

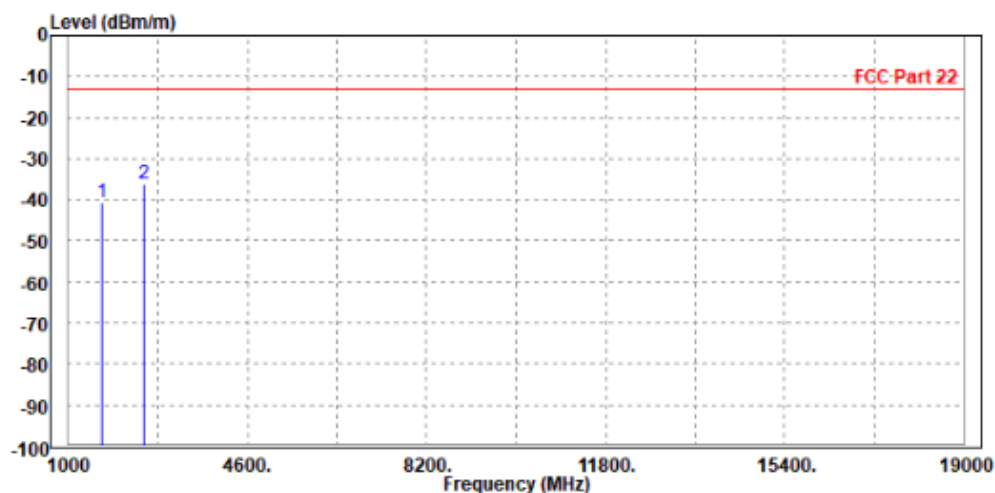
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1666.000	-44.76	-48.23	-13.00	-31.76	3.47	Peak	Horizontal
2	2509.200	-46.34	-54.40	-13.00	-33.34	8.06	Peak	Horizontal



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

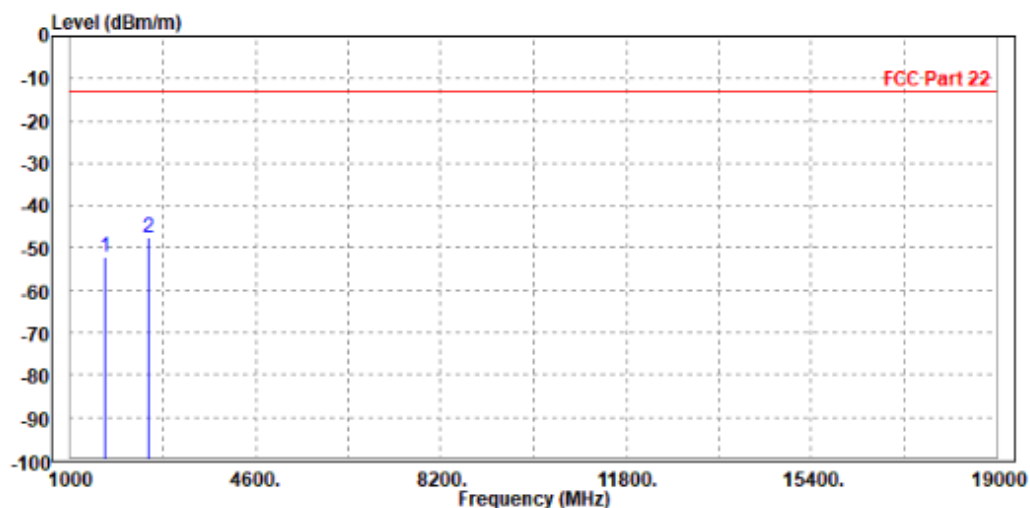
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-40.63	-44.17	-13.00	-27.63	3.54	Peak	Vertical
2 PP	2509.200	-36.19	-43.29	-13.00	-23.19	7.10	Peak	Vertical



CH26989

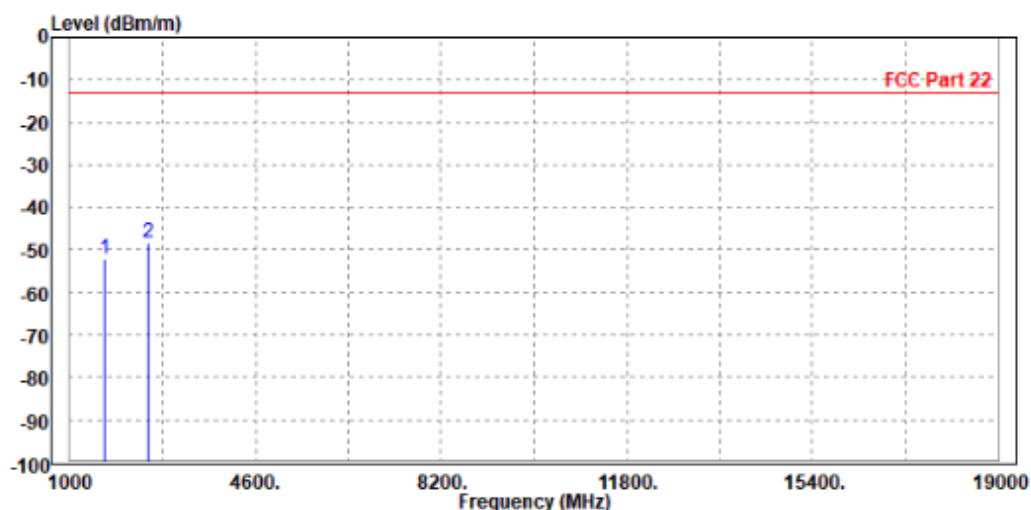
MODE	TX channel 26989	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1684.000	-51.92	-55.61	-13.00	-38.92	3.69	Peak	Horizontal
2 PP	2531.700	-47.55	-55.64	-13.00	-34.55	8.09	Peak	Horizontal



MODE	TX channel 26989	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1684.000	-51.91	-55.62	-13.00	-38.91	3.71	Peak	Vertical
2 PP	2531.700	-48.42	-55.59	-13.00	-35.42	7.17	Peak	Vertical





Test Report No.: W7L-P21110007RF15

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: W7L-P21110007RF15

5 INFORMATION ON THE TESTING LABORATORIES

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

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

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.

6 APPENDIX A – 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---