FCC REPORT

Applicant:	Sun Cupid Technology (HK) Ltd.
Address of Applicant:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.

Equipment Under Test (EUT)

Product Name:	LTE mobile phone
Model No.:	N5702L, G2, G3
Trade mark:	NUU
FCC ID:	2ADINN5702L
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.225
Date of sample receipt:	09 Oct., 2017
Date of Test:	09 Oct., to 03 Nov., 2017
Date of report issue:	06 Nov., 2017
Test Result:	PASS*

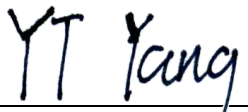
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

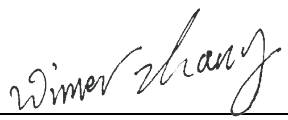
Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*06 Nov., 2017*	*Original*

Tested by:  ***Date:*** *06 Nov., 2017*

Test Engineer

Reviewed by:  ***Date:*** *06 Nov., 2017*

Project Engineer

3 Contents

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Field strength of the fundamental signal	15.225 (a)	Pass
Spurious emissions	15.225(d) & 15.209	Pass
20dB Bandwidth	15.215(c)	Pass
Frequency tolerance	15.225 (e)	Pass
Conducted Emission	15.207	Pass

Remarks:

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	Sun Cupid Technology (HK) Ltd.
Address:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.
Manufacturer	Sun Cupid Technology (HK) Ltd.
Address:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.
Factory:	SUNCUPID (ShenZhen) Electronic Ltd
Address:	Baolong Industrial City, Longgang District, Shenzhen Hi-Tech Road, Building 1, A 7, China.

5.2 General Description of E.U.T.

Product Name:	LTE mobile phone
Model No.:	N5702L,G2, G3
Operation Frequency:	13.56MHz
Channel numbers:	1
Modulation type:	ASK
Antenna Type:	Internal Antenna
Antenna gain:	1dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V-3000mAh
AC adapter with two plugs :	Model: HNEM050200UU Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2000mA
Remark:	Model No.: N5702L, G2, G3 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation

Pre-Test Mode:

CCIS has verified the construction and function in typical operation,The EUT was placed on three different polar directions;i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	56.48	56.77	56.75

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”: Y axis (see the test setup photo).

5.4 Description of Support Units

N/A

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	2.14 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	4.24 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	4.35 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	4.44 dB (k=2)
Radiated Emission (18GHz ~ 26.5GHz)	4.56 dB (k=2)

5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Registration No.: 727551**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

- **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.8 Test Instrumentslist

Radiated Emission:

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	02-25-2017	02-24-2018
2	Loop Antenna	Com-power	AL-130	CCS078	02-25-2017	02-24-2018
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	02-25-2017	02-24-2018
3	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	02-25-2017	02-24-2018
4	Amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	02-25-2017	02-24-2018
5	Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	02-25-2017	02-24-2018
6	Spectrum analyzer	Rohde & Schwarz	FSP30	CCIS0023	02-25-2017	02-24-2018

Conducted Emission:

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Date (mm-dd-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	07-22-2017	07-21-2020
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	02-25-2017	02-24-2018
3	LISN	CHASE	MN2050D	CCIS0074	02-25-2017	02-24-2018
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results andMeasurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The EUT make use of an integrated antenna, The typical gain of the antenna is 1dBi.	

6.2 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.225(a) and 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9 kHz to 1000MHz
Test site:	Measurement Distance: 3m(Semi-Anechoic Chamber)

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
9kHz-150kHz	Quasi-peak	200Hz	600Hz	Quasi-peak Value
150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
30MHz-1GHz	Quasi-peak	120kHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (uV/m @30m)	Limit (dBuV/m @3m)
13.553MHz-13.567MHz	15848	124.0
13.410MHz-13.553MHz & 13.567MHz-13.710MHz	334	90.5
13.110MHz-13.410MHz & 13.710MHz-14.010MHz	106	80.5

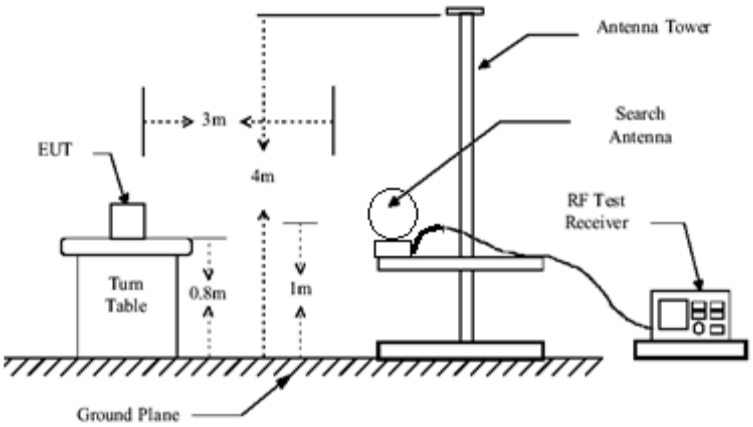
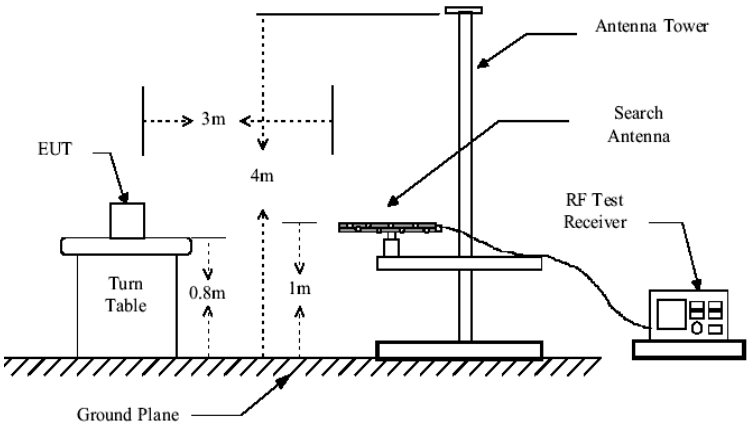
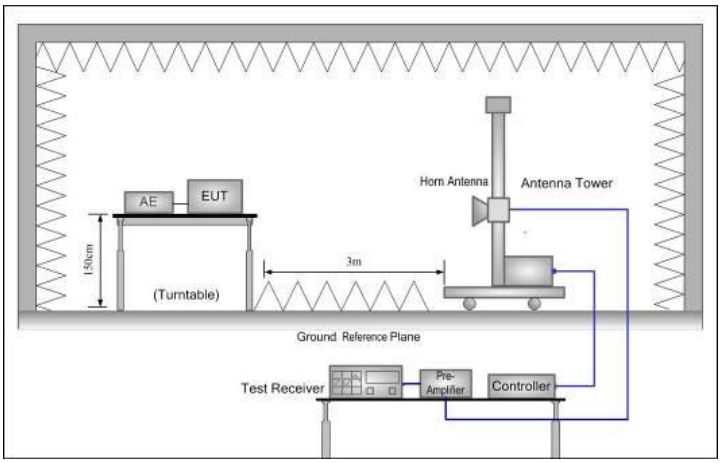
Remark: Per FCC part 15.31, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Limit:
(Spurious Emissions)

Frequency (MHz)	Limit (uV/m @3m)	Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 1GHz	500	3

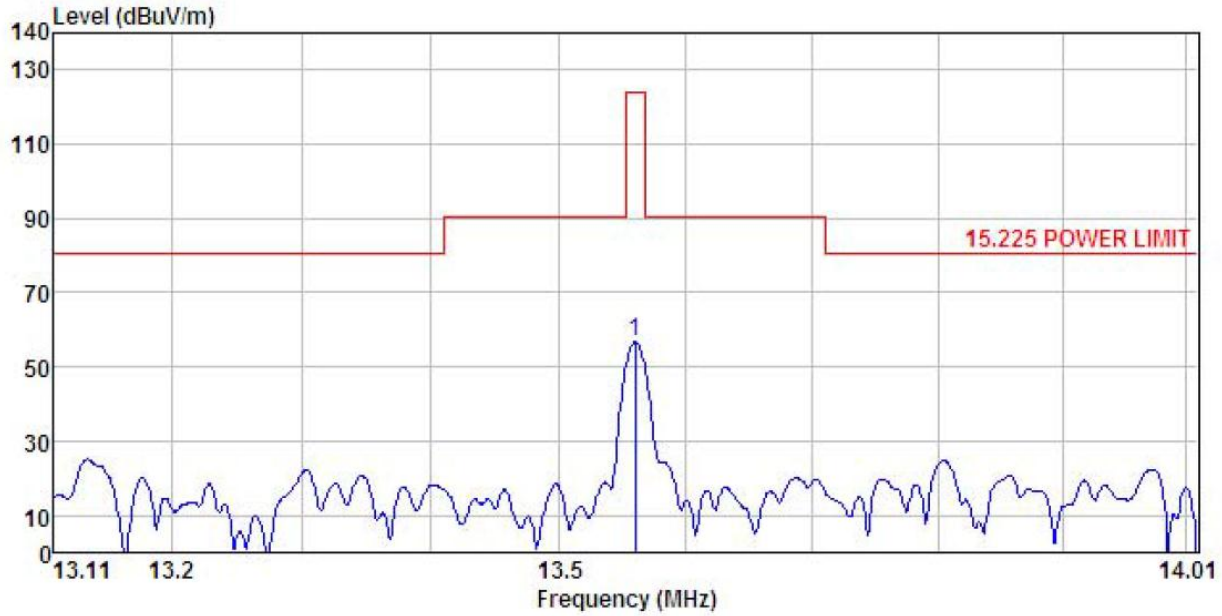
Test Procedure:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test setup:	9kHz-30MHz  30MHz-1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

6.2.1 Field Strength Of The Fundamental Signal



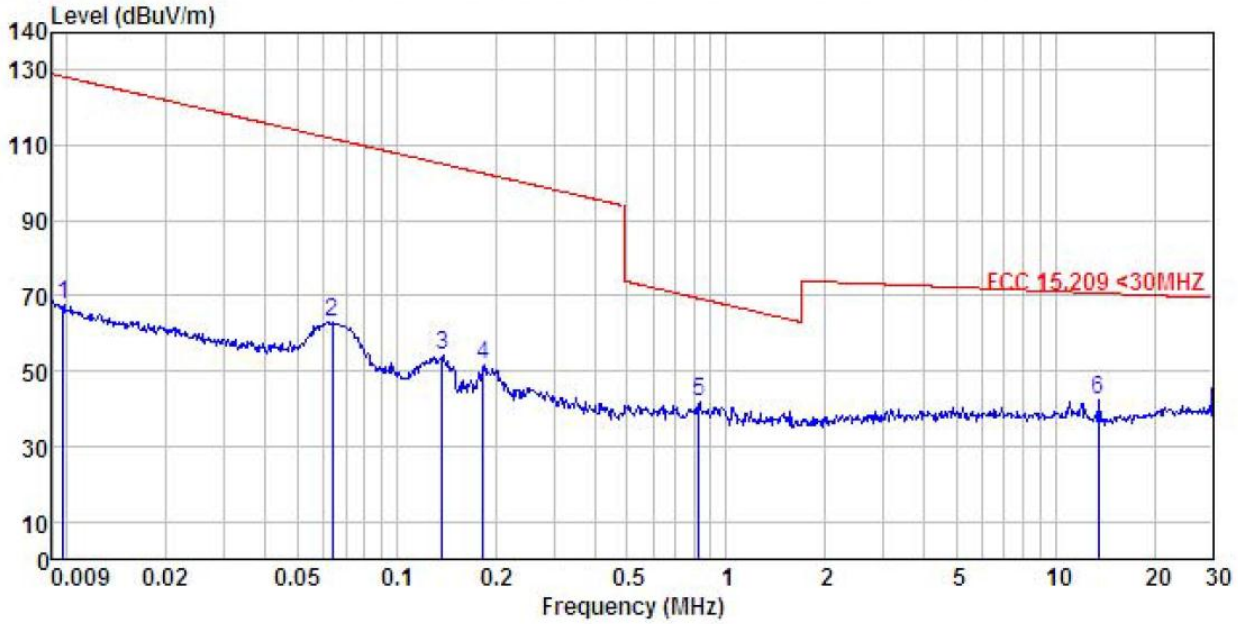
Site : 3m chamber
Condition : 15.225 POWER LIMIT 3m LOOP-FMZB 1519B HORIZONTAL
EUT : LTE mobile phone
Model : N5702L
Test mode : Power Mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5'C Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	13.560	36.71	19.42	0.64	0.00	56.77	124.00	-67.23	

6.2.2 Spurious Emissions

9kHz-30MHz:

Horizontal:

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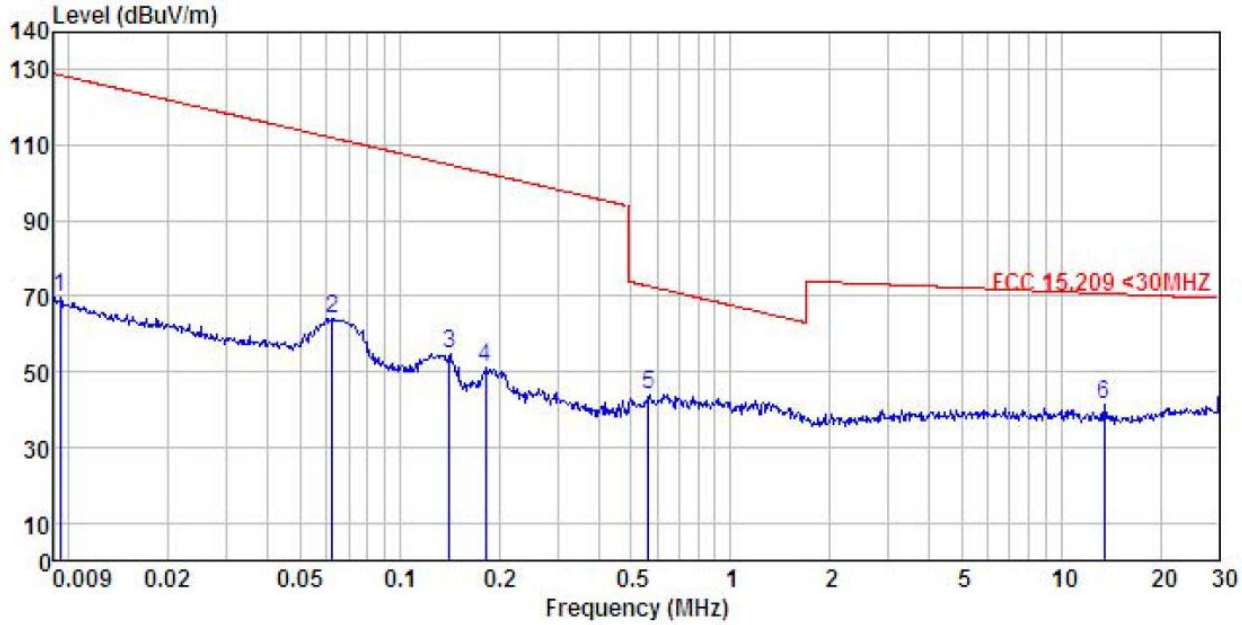
Site          : 3m chamber
Condition     : FCC 15.209 <30MHZ 3m LOOP-FMZB 1519B HORIZONTAL
EUT           : LTE mobile phone
Model         : N5702L
Test mode     : NFC Mode
Power Rating  : AC 120V/60Hz
Environment   : Temp:25.5'C  Huni:55%  101KPa
Test Engineer: YT
REMARK        :
```

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.010	47.01	20.90	0.02	0.00	67.93	128.33	-60.40	QP
2	0.064	42.24	20.84	0.19	0.00	63.27	111.85	-48.58	QP
3	0.138	33.87	19.91	0.25	0.00	54.03	105.10	-51.07	QP
4	0.183	31.01	20.38	0.31	0.00	51.70	102.60	-50.90	QP
5	0.830	20.73	20.45	0.59	0.00	41.77	69.35	-27.58	QP
6	13.551	22.14	19.42	0.64	0.00	42.20	70.75	-28.55	QP

Vertical:

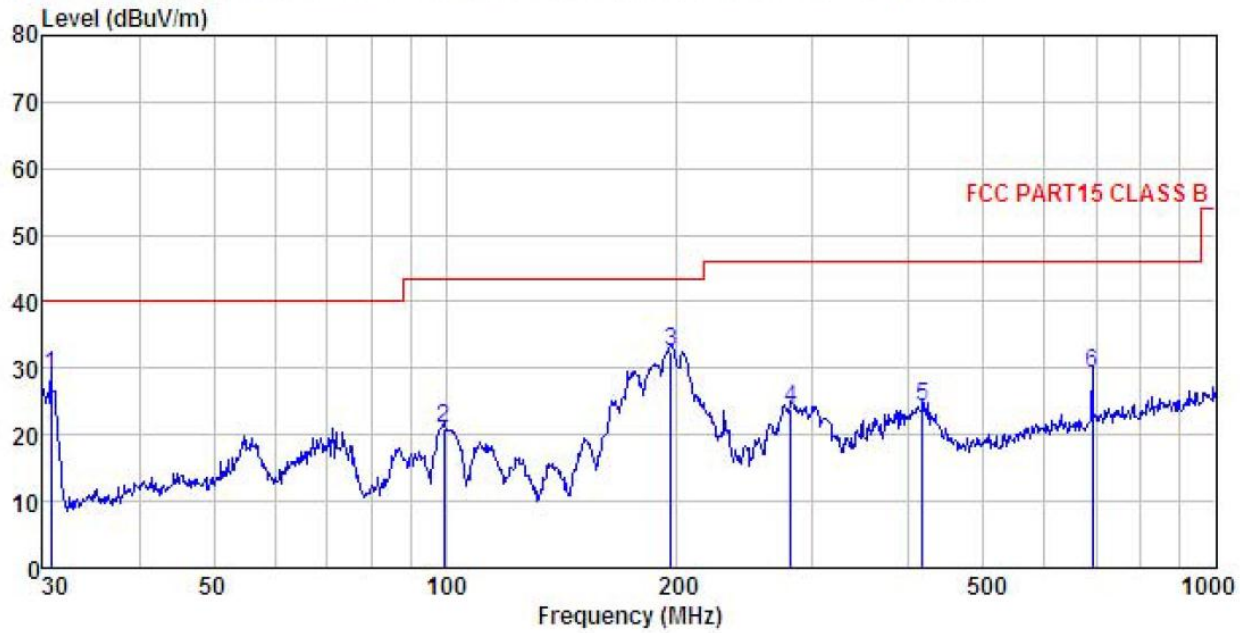


Site : 3m chamber
Condition : FCC 15.209 <30MHZ 3m LOOP-FMZB 1519B VERTICAL
EUT : LTE mobile phone
Model : N5702L
Test mode : NFC Mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5'C Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.009	48.86	20.90	0.02	0.00	69.78	128.61	-58.83	QP
2	0.063	43.16	20.90	0.19	0.00	64.25	112.03	-47.78	QP
3	0.141	34.46	20.09	0.26	0.00	54.81	104.88	-50.07	QP
4	0.182	30.29	20.38	0.31	0.00	50.98	102.70	-51.72	QP
5	0.567	23.26	20.34	0.50	0.00	44.10	72.71	-28.61	QP
6	13.551	21.19	19.42	0.64	0.00	41.25	70.75	-29.50	QP

30MHz-1000MHz

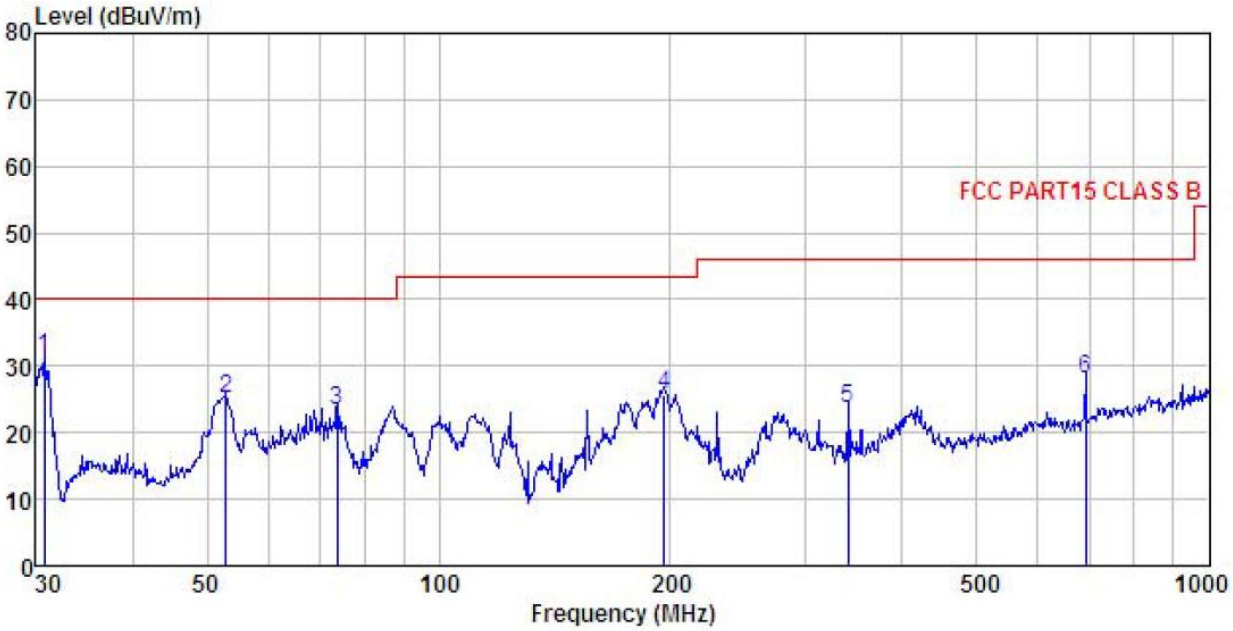
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL
EUT : LTE mobile phone
Model : N5702L
Test mode : NFC Mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5℃ Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	30.745	47.03	11.20	0.78	29.98	29.03	40.00	-10.97	QP
2	99.528	36.54	11.93	1.95	29.53	20.89	43.50	-22.61	QP
3	196.510	47.44	11.12	2.84	28.85	32.55	43.50	-10.95	QP
4	281.008	36.84	12.78	2.89	28.48	24.03	46.00	-21.97	QP
5	416.179	34.75	15.29	3.12	28.81	24.35	46.00	-21.65	QP
6	691.987	34.90	18.78	4.13	28.69	29.12	46.00	-16.88	QP

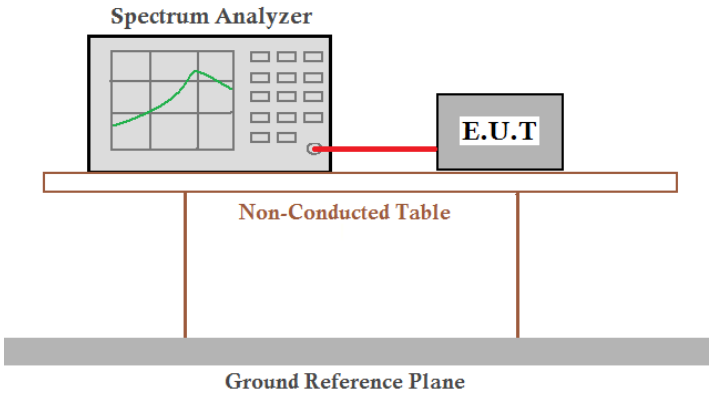
Vertical:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL
EUT : LTE mobile phone
Model : N5702L
Test mode : NFC Mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5'C Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	30.745	49.20	11.20	0.78	29.98	31.20	40.00	-8.80	QP
2	52.945	39.80	13.76	1.32	29.81	25.07	40.00	-14.93	QP
3	73.876	42.00	9.52	1.61	29.69	23.44	40.00	-16.56	QP
4	196.510	40.61	11.12	2.84	28.85	25.72	43.50	-17.78	QP
5	339.589	34.71	14.30	3.07	28.54	23.54	46.00	-22.46	QP
6	691.987	33.93	18.78	4.13	28.69	28.15	46.00	-17.85	QP

6.3 20dB Bandwidth

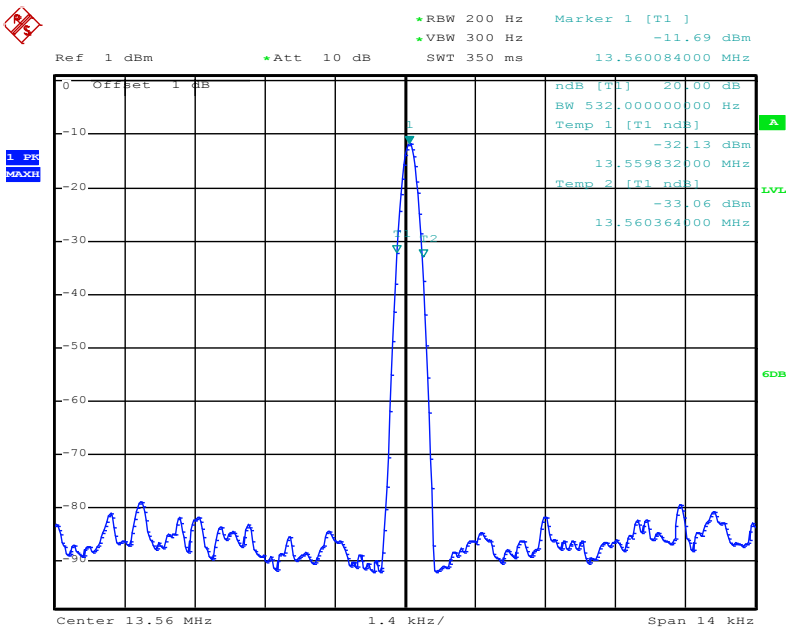
Test Requirement:	FCC Part15 C Section 15.215 (c)
Test Method:	ANSI C63.4:2014
Receiver setup:	RBW=200Hz, VBW=300Hz, detector: Peak
Limit:	The fundamental emission be kept within atleast the central 80% of the permitted band
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

20dB bandwidth (kHz)	Limit (kHz)	Results
0.532	11.2	Passed

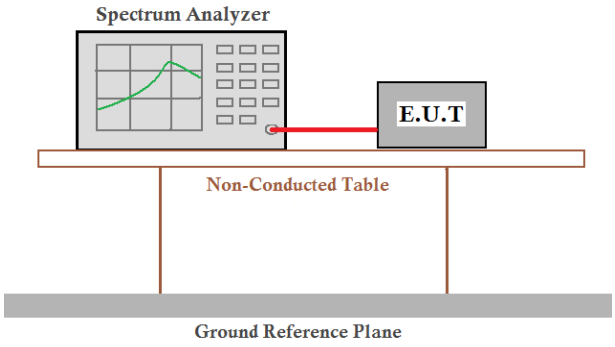
Note: For 13.56MHz, permitted Band is 14 kHz, so the Limit is 11.2 kHz.

Test plot as follows:



Date: 2.NOV.2017 04:10:18

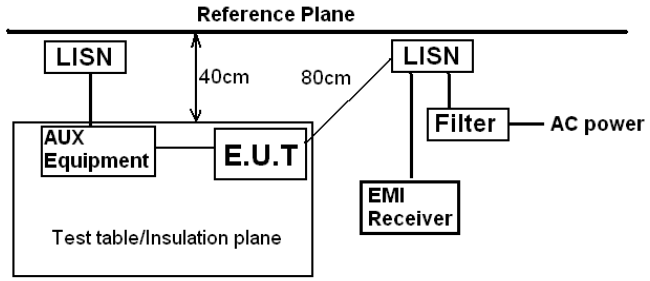
6.4 Frequency Tolerance

Test Requirement:	FCC Part15 C Section 15.225 (e)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=200Hz, VBW=300Hz, span=14kHz, detector: Peak
Limit:	±0.01% of the operating frequency
Test mode:	Transmitting mode
Test Procedure:	**Frequency stability V.S. Temperature measurement** 1. The equipment under test was powered by a fresh battery. 2. RF output was connected to spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached **Frequency stability V.S. Voltage measurement** 1. Set chamber temperature to 20℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

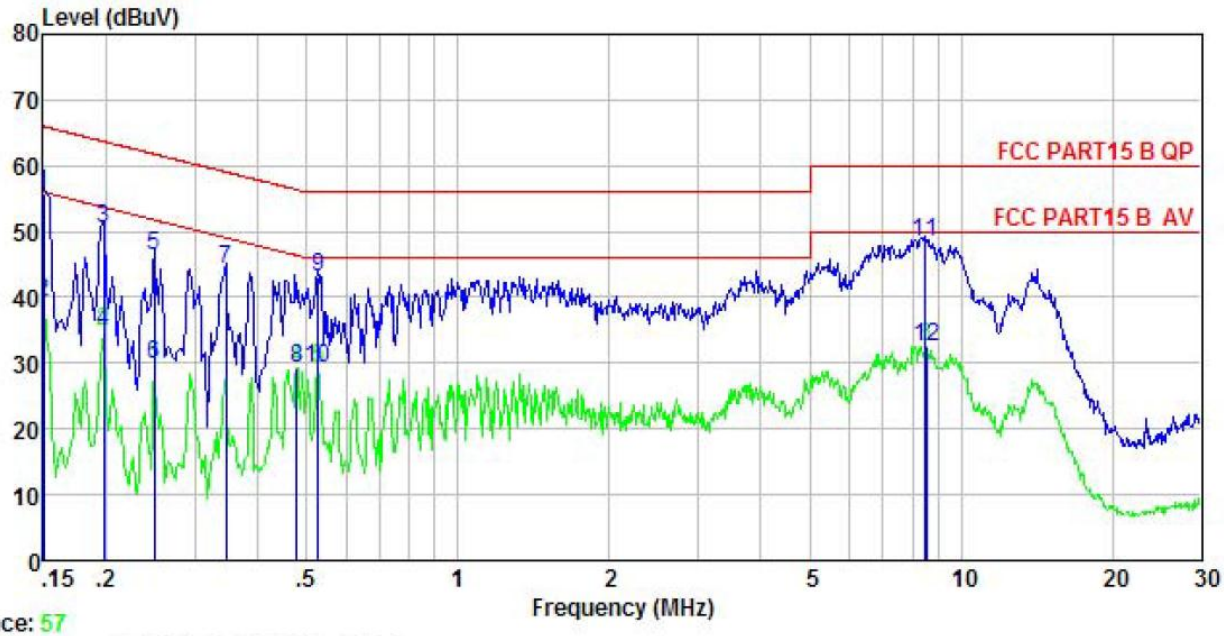
Temperature (℃)	Voltage (Vdc)	Frequency Tolerance (MHz)	Frequency Error (%)	Limit (%)
-20	3.80	13.56008	0.001	±0.01
+50	3.80	13.56015	0.001	±0.01
+20	3.50	13.56011	0.001	±0.01
+20	4.20	13.56013	0.001	±0.01

6.5 Conducted Emission

Test Requirement:	FCC Part15 B Section 15.207					
Test Method:	ANSI C63.4:2014					
TestFrequencyRange:	150kHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9kHz, VBW=30kHz					
Limit:	Frequency range (MHz)	Limit (dBµV)				
		Quasi-peak	Average			
	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	0.5-30	60	50			
	* Decreases with the logarithm of the frequency.					
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*					
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.).It provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.					
Test environment:	Temp.:	23°C	Humid.:	56%	Press.:	101kPa
Measurement Record:	Uncertainty: 3.28dB					
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

Measurement Data:

Line:

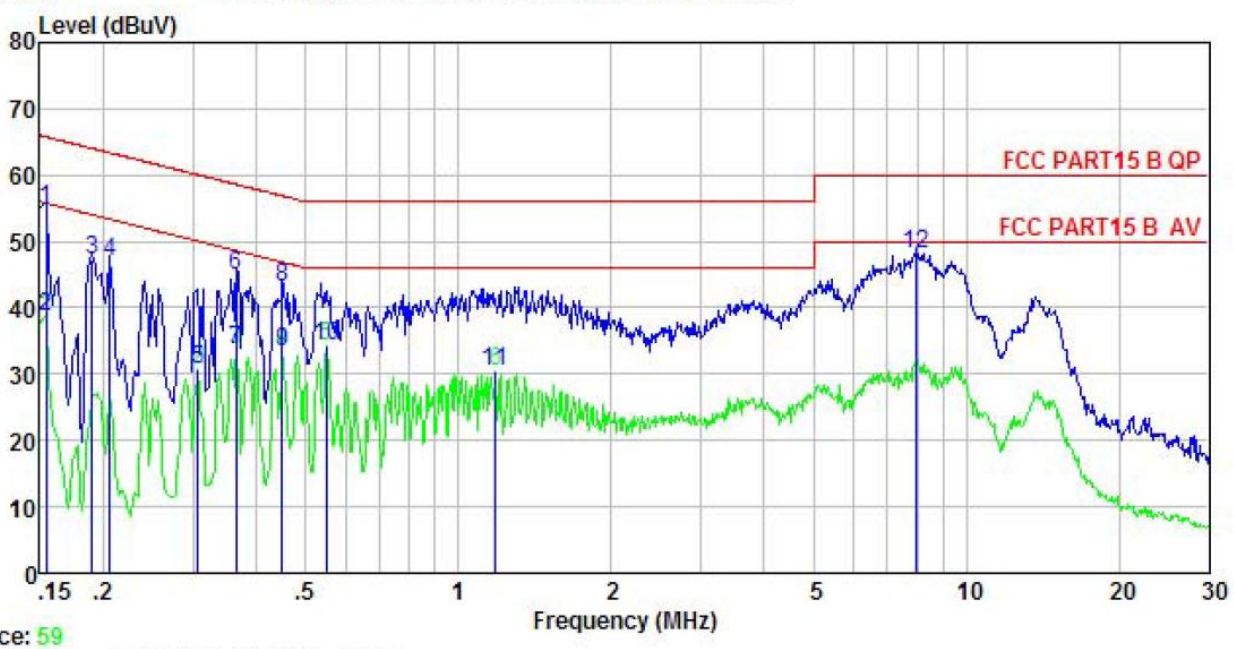


Trace: 57

Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN LINE
EUT : LTE mobile phone
Model : N5702L
Test Mode : NFC mode
Power Rating : AC120V/60Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: YT
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	45.47	-0.56	10.78	55.69	66.00	-10.31	QP
2	0.150	29.03	-0.56	10.78	39.25	56.00	-16.75	Average
3	0.198	40.35	-0.52	10.76	50.59	63.71	-13.12	QP
4	0.198	24.73	-0.52	10.76	34.97	53.71	-18.74	Average
5	0.249	36.04	-0.51	10.75	46.28	61.78	-15.50	QP
6	0.249	19.47	-0.51	10.75	29.71	51.78	-22.07	Average
7	0.346	33.93	-0.50	10.73	44.16	59.05	-14.89	QP
8	0.479	18.97	-0.49	10.75	29.23	46.36	-17.13	Average
9	0.527	32.80	-0.49	10.76	43.07	56.00	-12.93	QP
10	0.527	18.82	-0.49	10.76	29.09	46.00	-16.91	Average
11	8.501	37.48	0.07	10.88	48.43	60.00	-11.57	QP
12	8.546	21.58	0.07	10.88	32.53	50.00	-17.47	Average

Neutral:



Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN NEUTRAL
EUT : LTE mobile phone
Model : N5702L
Test Mode : NFC mode
Power Rating : AC120V/60Hz
Environment : Temp: 23 ℃ Huni:56% Atmos:101KPa
Test Engineer: YT
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	44.44	-0.38	10.78	54.84	65.78	-10.94	QP
2	0.154	28.34	-0.38	10.78	38.74	55.78	-17.04	Average
3	0.190	36.82	-0.35	10.76	47.23	64.02	-16.79	QP
4	0.206	36.45	-0.34	10.76	46.87	63.36	-16.49	QP
5	0.307	20.21	-0.32	10.74	30.63	50.06	-19.43	Average
6	0.365	34.35	-0.32	10.73	44.76	58.61	-13.85	QP
7	0.365	23.27	-0.32	10.73	33.68	48.61	-14.93	Average
8	0.449	32.74	-0.31	10.74	43.17	56.89	-13.72	QP
9	0.449	22.96	-0.31	10.74	33.39	46.89	-13.50	Average
10	0.549	23.73	-0.30	10.76	34.19	46.00	-11.81	Average
11	1.184	19.75	-0.28	10.89	30.36	46.00	-15.64	Average
12	7.977	37.05	0.22	10.85	48.12	60.00	-11.88	QP