

FCC REPORT

Applicant: Telecell Mobile (H.K) Ltd.

Address of Applicant: RM 801 Metro Ctr II, 21 Lam Hing Street Kln Bay Hongkong

Equipment Under Test (EUT)

Product Name: LTE smartphone

Model No.: TRIO F40LT

Trade mark: FIGO

FCC ID: 2ADX3F40LT

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 22 Nov., 2017

Date of Test: 22 Nov., to 07 Dec., 2017

Date of report issued: 08 Dec., 2017

Test Result: Pass *

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

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

2 Version

Version No.	Date	Description
00	08 Dec., 2017	Original

Tested by:

Carey Chen

Test Engineer

Date:

08 Dec., 2017

Reviewed by:

Wimer Zhang

Project Engineer

Date:

08 Dec., 2017

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION	2
3 CONTENTS	3
4 TEST SUMMARY.....	4
5 GENERAL INFORMATION.....	5
5.1 CLIENT INFORMATION	5
5.2 GENERAL DESCRIPTION OF E.U.T.	5
5.3 TEST MODE.....	5
5.4 MEASUREMENT UNCERTAINTY.....	5
5.5 DESCRIPTION OF SUPPORT UNITS	6
5.6 RELATED SUBMITTAL(s) / GRANT (s).....	6
5.7 LABORATORY FACILITY	6
5.8 LABORATORY LOCATION	6
5.9 TEST INSTRUMENTS LIST.....	7
6 TEST RESULTS AND MEASUREMENT DATA.....	8
6.1 CONDUCTED EMISSION.....	8
6.2 RADIATED EMISSION	11
7 TEST SETUP PHOTO	17
8 EUT CONSTRUCTIONAL DETAILS	18

4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part 15.107	Pass
Radiated Emission	Part 15.109	Pass

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

5 General Information

5.1 Client Information

Applicant:	Telecell Mobile (H.K) Ltd.
Address:	RM 801 Metro Ctr II, 21 Lam Hing Street Kln Bay Hongkong
Manufacturer/Factory:	Telecell Mobile (H.K) Ltd.
Address:	RM 801 Metro Ctr II, 21 Lam Hing Street Kln Bay Hongkong

5.2 General Description of E.U.T.

Product Name:	LTE smartphone
Model No.:	TRIO F40LT
Power supply:	Rechargeable Li-ion Battery DC3.7V-1300mAh
AC adapter :	Model: TRIO F40LT Input: AC100-240V, 50/60Hz, 150mA Output: DC 5.0V, 700mA

5.3 Test Mode

Operating mode	Detail description
PC mode	Keep the EUT in Downloading mode(Worst case)
Charging+Recording mode	Keep the EUT in Charging+Recording mode
Charging+Playing mode	Keep the EUT in Charging+Playing mode
FM mode	Keep the EUT in FM receiver mode
GPS mode	Keep the EUT in GPS receiver mode

The sample was placed 0.8m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

5.4 Measurement Uncertainty

Items	Expanded Uncertainty (Confidence of 95%)
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)

5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	Printer	CB495A	05257893	DoC

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

5.7 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>

5.8 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

5.9 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	3m SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	07-22-2017	07-21-2020
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	02-25-2017	02-24-2018
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	02-25-2017	02-24-2018
4	Pre-amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	02-25-2017	02-24-2018
5	Pre-amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	02-25-2017	02-24-2018
6	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	02-25-2017	02-24-2018
7	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	02-25-2017	02-24-2018
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	N/A	N/A	CCIS0018	02-25-2017	02-24-2018
10	Coaxial Cable	N/A	N/A	CCIS0020	02-25-2017	02-24-2018

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due 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	Coaxial Cable	CCIS	N/A	CCIS0086	02-25-2017	02-24-2018
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

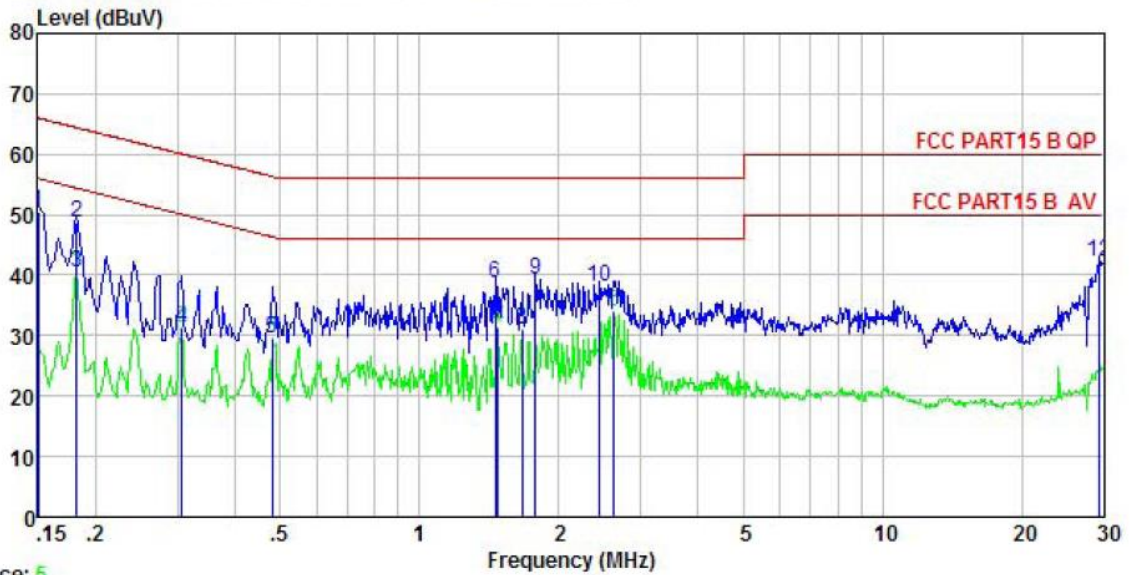
6 Test results and Measurement Data

6.1 Conducted Emission

Test Requirement:	FCC Part 15 B Section 15.107		
Test Method:	ANSI C63.4:2014		
Test Frequency Range:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dB μ V)	
		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:	<p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>		
Test procedure	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The 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 refers 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: 2014 on conducted measurement. 		
Test environment:	Temp.:	23 °C	Humid.: 56% Press.: 101kPa
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

Measurement data:

Test Polarization: Line



Trace: 5

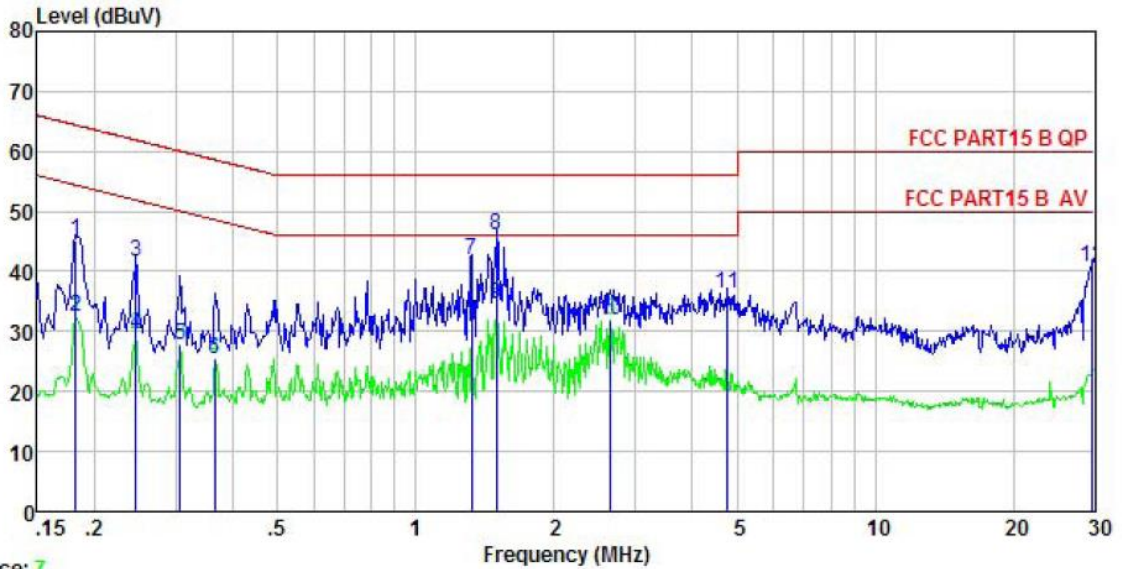
Site : CCIS Shielding Room
 Condition : FCC PART15 B QP LISN(RS) LINE
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test Mode : PC Mode
 Power Rating : AC 120/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Carey
 Remark :

	Read	LISN	Cable	Limit	Over	
Freq	Level	Factor	Loss	Level	Line	Limit Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	39.04	0.71	10.78	50.53	66.00 -15.47 QP
2	0.182	37.22	0.73	10.77	48.72	64.42 -15.70 QP
3	0.182	29.04	0.73	10.77	40.54	54.42 -13.88 Average
4	0.307	19.70	0.74	10.74	31.18	50.06 -18.88 Average
5	0.481	18.11	0.76	10.75	29.62	46.32 -16.70 Average
6	1.456	27.02	0.78	10.92	38.72	56.00 -17.28 QP
7	1.480	19.50	0.78	10.92	31.20	46.00 -14.80 Average
8	1.662	19.22	0.78	10.94	30.94	46.00 -15.06 Average
9	1.781	27.58	0.78	10.95	39.31	56.00 -16.69 QP
10	2.448	26.29	0.78	10.94	38.01	56.00 -17.99 QP
11	2.636	22.10	0.78	10.93	33.81	46.00 -12.19 Average
12	29.371	30.57	0.70	10.87	42.14	60.00 -17.86 QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

Test Polarization: Neutral



Trace: 7
 Site : CCIS Shielding Room
 Condition : FCC PART15 B QP LISN(RS) NEUTRAL
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test Mode : PC Mode
 Power Rating : AC 120/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Carey
 Remark :

	Read	LISN	Cable	Level	Limit	Over	
Freq	Level	Factor	Loss	Level	Line	Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.182	33.73	0.66	10.77	45.16	64.42	-19.26 QP
2	0.182	20.97	0.66	10.77	32.40	54.42	-22.02 Average
3	0.246	30.12	0.65	10.75	41.52	61.91	-20.39 QP
4	0.246	18.06	0.65	10.75	29.46	51.91	-22.45 Average
5	0.307	16.40	0.64	10.74	27.78	50.06	-22.28 Average
6	0.365	14.02	0.63	10.73	25.38	48.61	-23.23 Average
7	1.324	30.29	0.67	10.91	41.87	56.00	-14.13 QP
8	1.495	34.52	0.67	10.92	46.11	56.00	-9.89 QP
9	1.495	23.05	0.67	10.92	34.64	46.00	-11.36 Average
10	2.650	20.16	0.68	10.93	31.77	46.00	-14.23 Average
11	4.772	24.65	0.70	10.86	36.21	56.00	-19.79 QP
12	29.684	29.23	0.69	10.87	40.79	60.00	-19.21 QP

Notes:

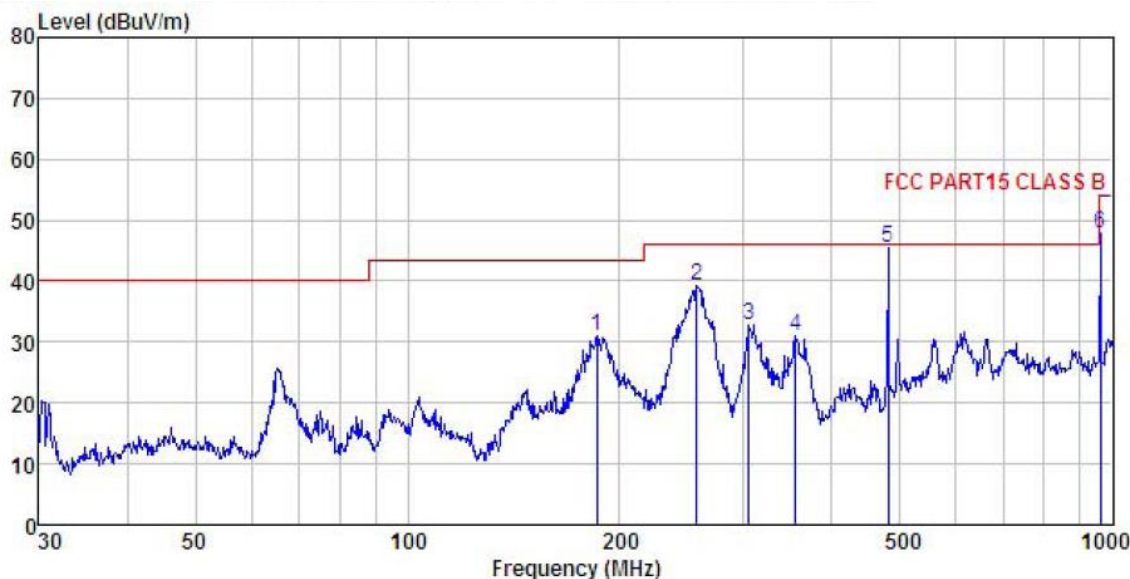
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

6.2 Radiated Emission

Test Requirement:	FCC Part 15 B Section 15.109				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	30MHz to 6000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak RMS	1MHz 1MHz	3MHz 3MHz	Peak Value Average Value
Limit:	Frequency	Limit (dBuV/m @3m)			Remark
	30MHz-88MHz	40.0			Quasi-peak Value
	88MHz-216MHz	43.5			Quasi-peak Value
	216MHz-960MHz	46.0			Quasi-peak Value
	960MHz-1GHz	54.0			Quasi-peak Value
Above 1GHz	54.0			Average Value	
	74.0			Peak Value	
Test setup:	Below 1GHz				
Test setup:	Above 1GHz				

<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. 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. 4. 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. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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. 						
<p>Test environment:</p>	<table border="1"> <tr> <td>Temp.:</td> <td>25 °C</td> <td>Humid.:</td> <td>55%</td> <td>Press.:</td> <td>1 01kPa</td> </tr> </table>	Temp.:	25 °C	Humid.:	55%	Press.:	1 01kPa
Temp.:	25 °C	Humid.:	55%	Press.:	1 01kPa		
<p>Test Instruments:</p>	<p>Refer to section 5.9 for details</p>						
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>						
<p>Test results:</p>	<p>Passed</p>						
<p>Remark:</p>	<p>All of the observed value above 6GHz were the noise floor , which were no recorded</p>						

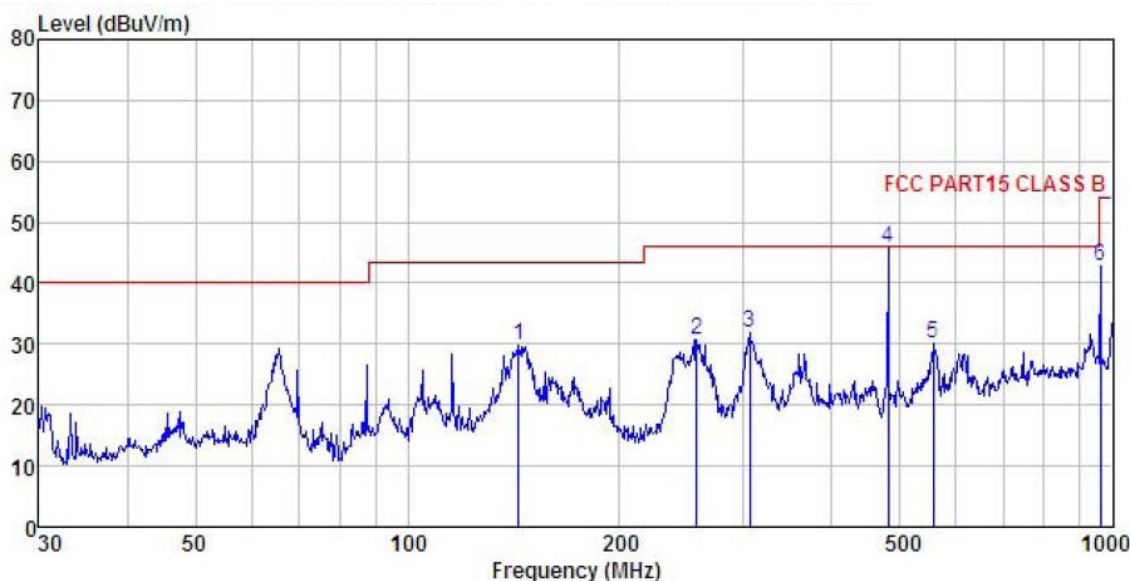
Measurement Data:
Below 1GHz
 Test Polarization: Horizontal



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test mode : PC mode
 Power Rating : AC120V / 60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Line	Limit	Remark			
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m			
1	185.788	47.10	10.04	2.77	28.93	30.98	43.50	-12.52	QP
2	257.422	52.63	12.30	2.83	28.53	39.23	46.00	-6.77	QP
3	304.610	44.91	13.43	2.95	28.46	32.83	46.00	-13.17	QP
4	355.427	41.66	14.72	3.10	28.58	30.90	46.00	-15.10	QP
5	480.528	55.21	15.78	3.46	28.92	45.53	46.00	-0.47	QP
6	962.162	49.72	21.55	4.27	27.65	47.89	54.00	-6.11	QP

Test Polarization: Vertical

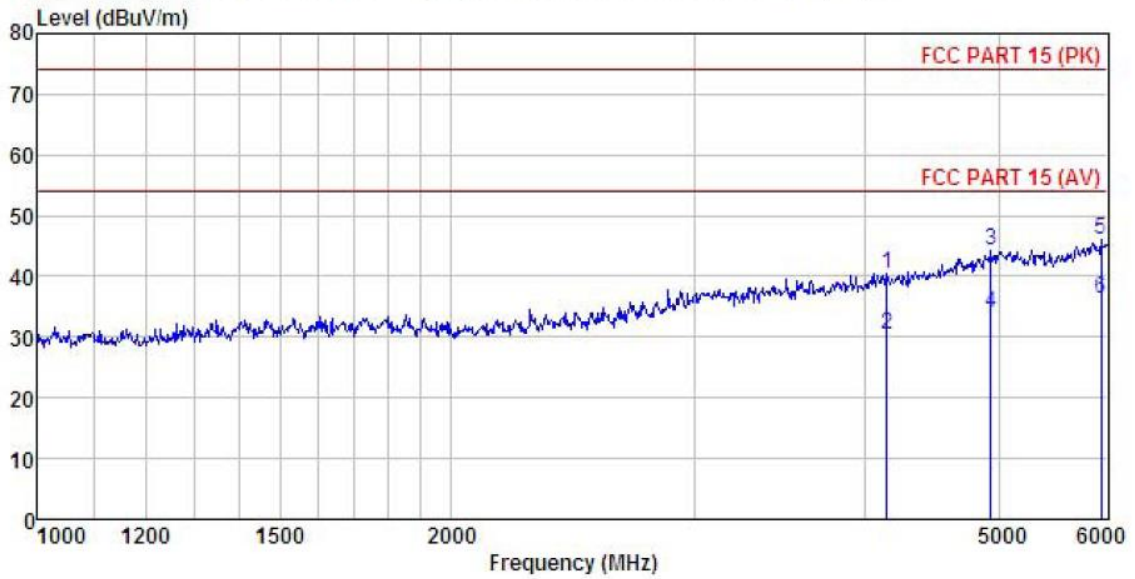


Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test mode : PC mode
 Power Rating : AC120V / 60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	143.830	48.36	8.38	2.44	29.25	29.93	43.50	-13.57	QP
2	257.422	44.23	12.30	2.83	28.53	30.83	46.00	-15.17	QP
3	305.680	43.85	13.45	2.96	28.46	31.80	46.00	-14.20	QP
4	480.528	55.31	15.78	3.46	28.92	45.63	46.00	-0.37	QP
5	556.774	37.92	17.31	3.90	29.08	30.05	46.00	-15.95	QP
6	982.162	44.67	21.55	4.27	27.65	42.84	54.00	-11.16	QP

Above 1GHz

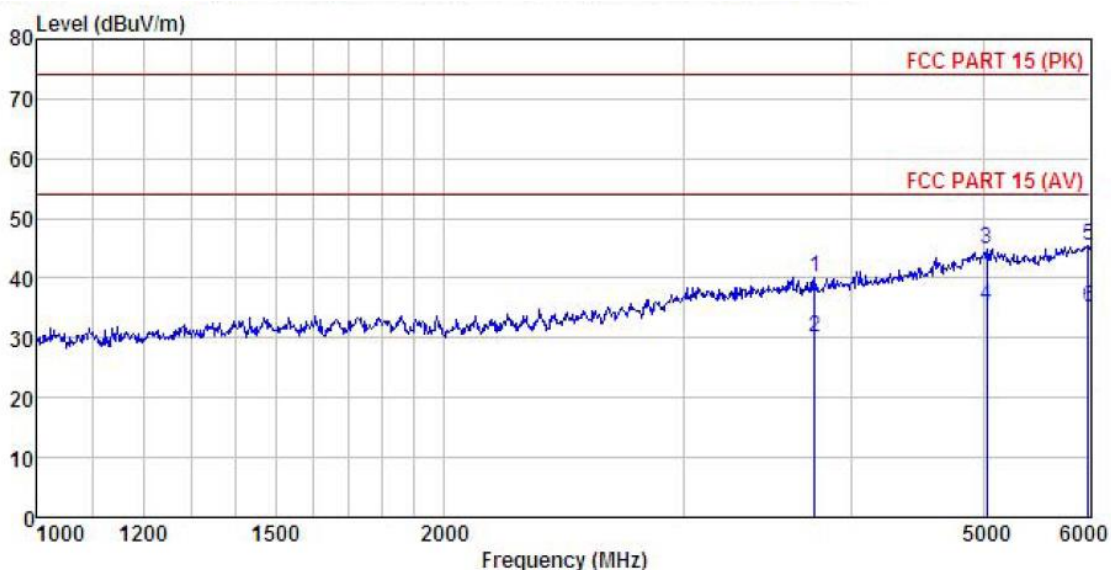
Test Polarization: Horizontal



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test mode : PC mode
 Power Rating : AC120V / 60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	ReadAntenna	Cable	Preamp	Limit	Over			
Freq	Level	Factor	Loss	Line	Limit	Remark		
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4148.127	47.36	28.67	6.32	41.81	40.54	74.00	-33.46 Peak
2	4148.127	37.27	28.67	6.32	41.81	30.45	54.00	-23.55 Average
3	4935.518	47.76	31.54	6.89	41.86	44.33	74.00	-29.67 Peak
4	4935.518	37.43	31.54	6.89	41.86	34.00	54.00	-20.00 Average
5	5935.842	48.65	31.61	7.92	42.04	46.14	74.00	-27.86 Peak
6	5935.842	38.80	31.61	7.92	42.04	36.29	54.00	-17.71 Average

Test Polarization: Vertical



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE smartphone
 Model : TRIO F40LT
 Test mode : PC mode
 Power Rating : AC120V / 60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	ReadAntenna	Cable	Preamp	Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3752.111	47.87	27.97	6.03	41.72	40.15	74.00	-33.85 Peak
2	3752.111	37.94	27.97	6.03	41.72	30.22	54.00	-23.78 Average
3	5033.759	48.16	31.71	6.96	41.89	44.94	74.00	-29.06 Peak
4	5033.759	38.63	31.71	6.96	41.89	35.41	54.00	-18.59 Average
5	5978.538	47.93	31.75	7.93	42.05	45.56	74.00	-28.44 Peak
6	5978.538	37.55	31.75	7.93	42.05	35.18	54.00	-18.82 Average