



TEST REPORT

Application No: HR/2020/90016
Applicant: A Beep, LLC
Address of Applicant: 710 W Jefferson St, Joliet Illinois 60435, USA
Manufacturer: Quanzhou Tesunho Electronics Co., Ltd
Address of Manufacturer: 2#, 5F E-19# Phase 2 Xunmei, Quanzhou, Fujian, China
EUT Description: Nationwide Radio
Model No.: DTP9751
Trade Mark: 
FCC ID: 2APPUDTP9751
Standard(s) : 47 CFR Part 15, Subpart B
Date of Receipt: 2020/10/20
Date of Test: 2020/10/20 to 2020/11/10
Date of Issue: 2020/11/10

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.

Report No.: HR/2020/9001603

Page: 2 of 21

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020/11/10		Original

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Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (above 1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass

Internal Source	Upper Frequency
Below 1.705MHz	30MHz
1.705MHz to 108MHz	1GHz
108MHz to 500MHz	2GHz
500MHz to 1GHz	5GHz
Above 1GHz	5th harmonic of the highest frequency or 40GHz, whichever is lower

Checked By

Test By

David Chen

Daniel Wang

David Chen
Reviewer

Daniel Wang
Project Engineer

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Contents

1	GENERAL INFORMATION	5
1.1	DESCRIPTION OF SUPPORT UNITS	6
1.2	TEST LOCATION	6
1.3	TEST FACILITY	6
1.4	DEVIATION FROM STANDARDS	6
1.5	ABNORMALITIES FROM STANDARD CONDITIONS	6
2	EMISSION TEST RESULTS.....	7
2.1	CONDUCTED EMISSIONS AT MAINS TERMINALS (150KHz-30MHz).....	7
2.1.1	E.U.T. Operation.....	7
2.1.2	Test Setup Diagram.....	7
2.1.3	Measurement Data.....	8
2.2	RADIATED EMISSIONS (30MHz-1GHz).....	11
2.1.4	E.U.T. Operation.....	11
2.1.5	Test Setup Diagram.....	12
2.1.6	Measurement Data.....	12
2.3	RADIATED EMISSIONS (ABOVE 1GHz).....	15
2.1.7	E.U.T. Operation.....	15
2.1.8	Test Setup Diagram.....	15
2.1.9	Measurement Data.....	16
3	EQUIPMENT LIST	19
4	MEASUREMENT UNCERTAINTY.....	20
5	PHOTOGRAPHS	21
5.1	TEST SETUP	21
5.2	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	21

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1 General Information

Product Name:	Nationwide Radio		
Model No.(EUT):	DTP9751		
Trade Mark:			
Hardware Version:	A02L6000g0		
Software Version:	SZE05		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	WCDMA Band II	1850~1910	1930~1990
	WCDMA Band IV	1710~1755	2110~2155
	WCDMA Band V	824~849	869~894
	LTE Band 2	1850~1910	1930~1990
	LTE Band 4	1710~1755	2110~2155
	LTE Band 5	824~849	869~894
	LTE Band 12	699~716	729~746
	LTE Band 13	777~787	746~756
	LTE Band 14	788~798	758~768
	LTE Band 66	1710~1780	2110~2200
	LTE Band 71	663~698	617~652

Accessory:

Battery			
Battery1	Quanzhou Tesunho Electronics Co.,Ltd.	BL-3886	3.63V; 5200mAh
Adapter			
Adapter1 (US)	Quanzhou Tesunho Electronics Co.,Ltd.	ZM-01A1210	I/P:100-240VAC 50/60Hz 0.5A Max O/P:12VDC 1.0A
Charging Dock			
Charging Dock1	Quanzhou Tesunho Electronics Co.,Ltd.	CH388	Input: 12VDC 1.0A Output: 4.2V/2A
Earphone			
Earphone	\	\	\

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1.1 Description of Support Units

Remark:

The EUT is tested individually with the accessories comes with.

1.2 Test Location

All tests were performed at:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	Single floor D, building 1, Kanghong orange square science and technology park, No.137 keyuan 3rd road, fengdong new town, Xi 'an city, Shaanxi China
Post code:	710000
Telephone:	+86 (0) 29 6282 7885
Fax:	+86 (0) 29 6282 7885
E-mail:	ee.xian@sgs.com

No tests were sub-contracted.

1.3 Test Facility

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

- **A2LA (Certificate No. 4854.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.

is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

Test Site No.:	SGS Xian Site No.		FCC Designation No.
	CO01-XA	03CH01-XA	CN1271

1.4 Deviation from Standards

None

1.5 Abnormalities from Standard Conditions

None

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2 Emission Test Results

2.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	47 CFR Part 15, Subpart B
Test Method:	ANSI C63.4:2014
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

2.1.1 E.U.T. Operation

Operating Environment:

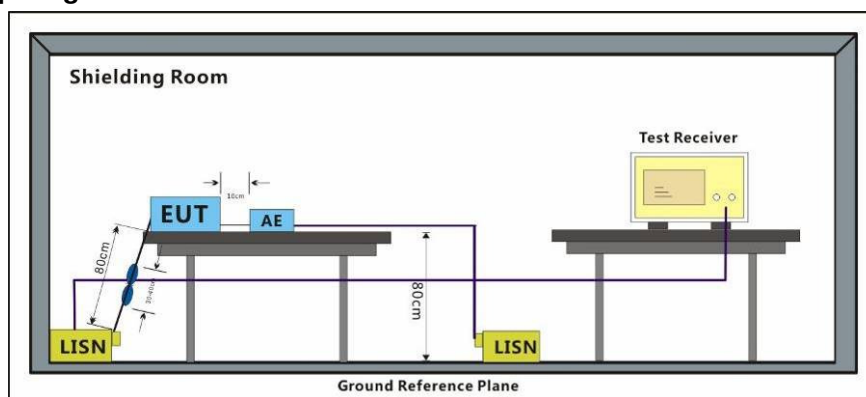
Temperature: 18.9 °C Humidity: 55.1 % RH Atmospheric Pressure: 1000 mbar

Pretest these modes to find the worst case:

- a: WCDMA Band V Idle + GPS Rx + earphone1+ battery1+ adapter1
- b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)
- c: LTE Band 12 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)
- d: LTE Band 13 Idle + GPS Rx + earphone(worst)+battery(worst) +adapter(worst)

The worst case for final test: b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)

2.1.2 Test Setup Diagram



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2.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

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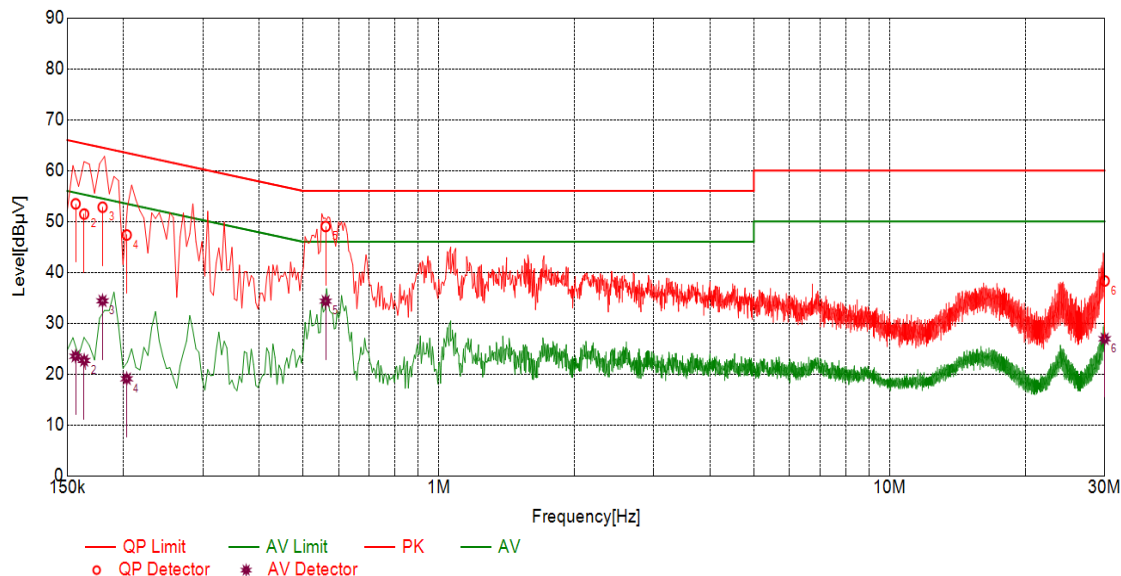
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Mode:b; Line:Live Line



Test Graph

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]
1	0.1566	10.10	53.46	65.64	12.18	23.50	55.64	32.14
2	0.1636	10.10	51.45	65.28	13.83	22.67	55.28	32.61
3	0.1797	10.10	52.80	64.50	11.70	34.38	54.50	20.12
4	0.2033	10.10	47.34	63.47	16.13	19.08	53.47	34.39
5	0.5616	10.10	49.01	56.00	6.99	34.33	46.00	11.67
6	29.9903	10.11	38.31	60.00	21.69	26.93	50.00	23.07

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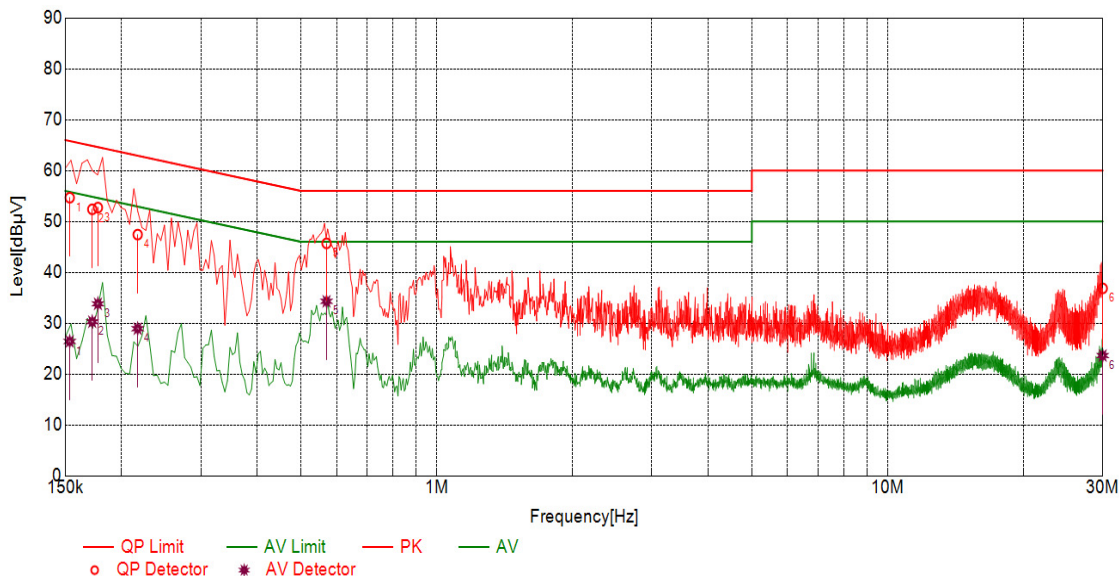
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Mode:b; Line:Neutral Line



Test Graph

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]
1	0.1535	10.10	54.67	65.81	11.14	26.41	55.81	29.40
2	0.1722	10.10	52.39	64.85	12.46	30.28	54.85	24.57
3	0.1773	10.10	52.73	64.61	11.88	33.81	54.61	20.80
4	0.2172	10.10	47.42	62.92	15.50	28.92	52.92	24.00
5	0.5698	10.10	45.70	56.00	10.30	34.30	46.00	11.70
6	29.9925	10.11	36.85	60.00	23.15	23.64	50.00	26.36

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2.2 Radiated Emissions (30MHz-1GHz)

Test Requirement:	47 CFR Part 15, Subpart B
Test Method:	ANSI C63.4:2014
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Limit:	
30MHz-88MHz	40.0(dBμV/m) quasi-peak
88MHz-216MHz	43.5(dBμV/m) quasi-peak
216MHz-960MHz	46.0(dBμV/m) quasi-peak
960MHz-1000MHz	54.0(dBμV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to1000MHz

2.1.4 E.U.T. Operation

Operating Environment:

Temperature:	25 °C	Humidity:	66.5 % RH	Atmospheric Pressure:	1010 mbar
Pretest these modes to find the worst case:	a: WCDMA Band V Idle + GPS Rx + earphone1+ battery1+ adapter1 b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst) c: LTE Band 12 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst) d: LTE Band 13 Idle + GPS Rx + earphone(worst)+battery(worst) +adapter(worst)				

The worst case for final test: b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)

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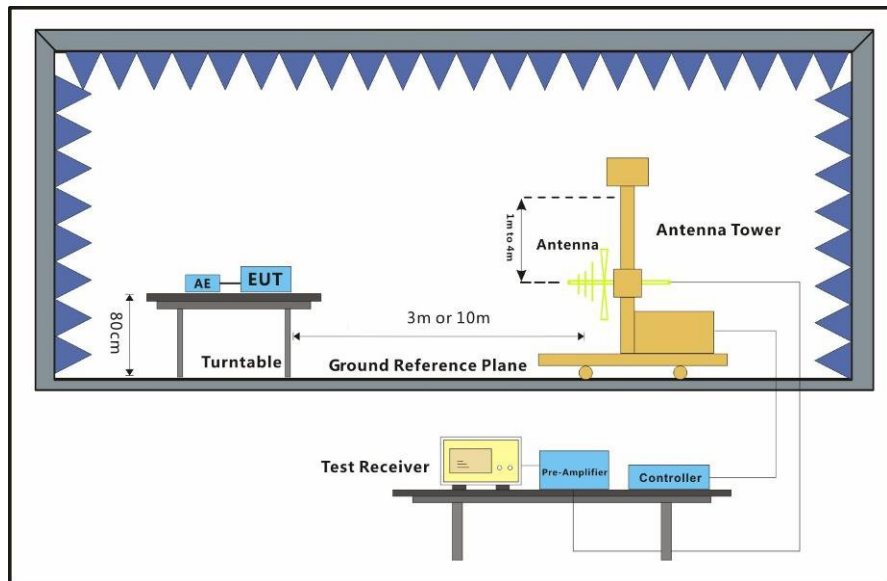
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2.1.5 Test Setup Diagram



2.1.6 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

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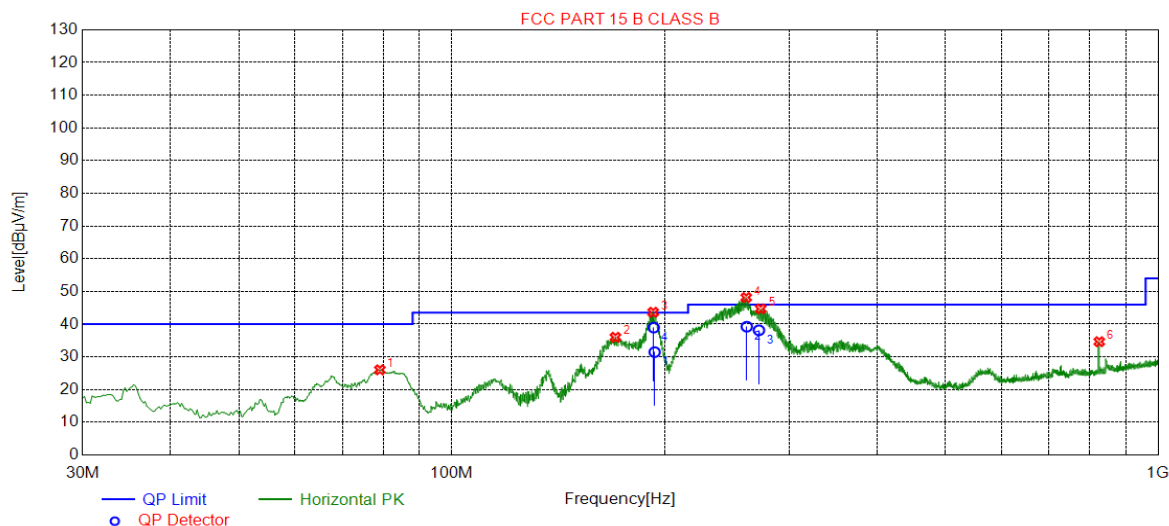
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Mode:b; Polarization:Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	79.0918	26.06	-35.99	40.00	13.94	200	310	Horizontal
2	170.484	36.00	-34.00	43.50	7.50	200	206	Horizontal
3	192.798	43.66	-31.95	43.50	-0.16	100	328	Horizontal
4	261.100	48.15	-29.35	46.00	-2.15	100	331	Horizontal
5	273.712	44.71	-29.10	46.00	1.29	100	310	Horizontal
6	825.365	34.65	-17.33	46.00	11.35	200	360	Horizontal

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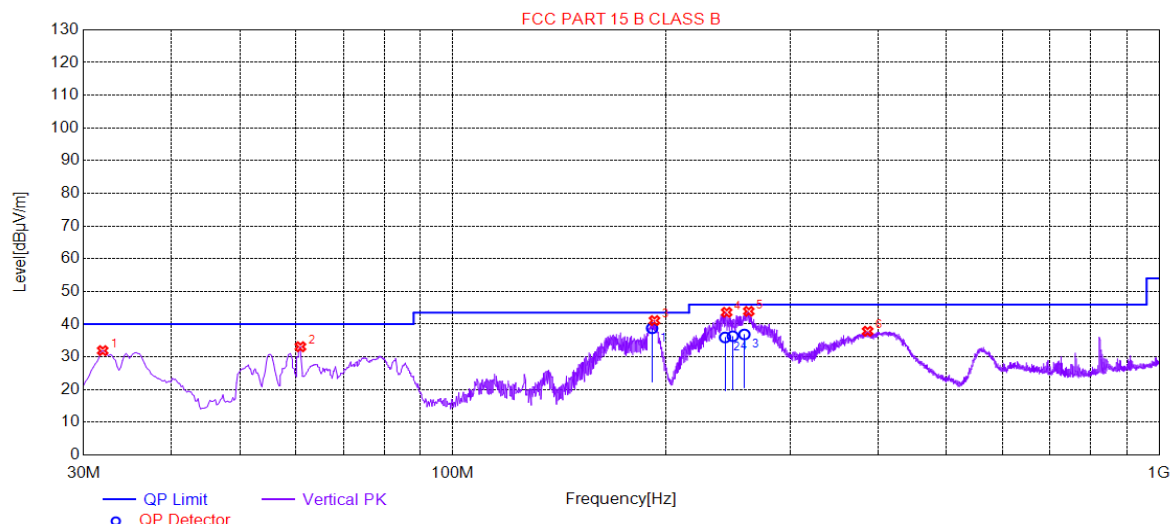
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Mode:b; Polarization:Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	31.9404	31.92	-30.03	40.00	8.08	100	0	Vertical
2	60.8522	33.11	-32.08	40.00	6.89	200	14	Vertical
3	192.992	41.10	-31.93	43.50	2.40	100	276	Vertical
4	244.218	43.63	-29.90	46.00	2.37	100	317	Vertical
5	262.458	43.93	-29.32	46.00	2.07	200	335	Vertical
6	386.643	37.84	-25.87	46.00	8.16	100	29	Vertical

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2.3 Radiated Emissions (above 1GHz)

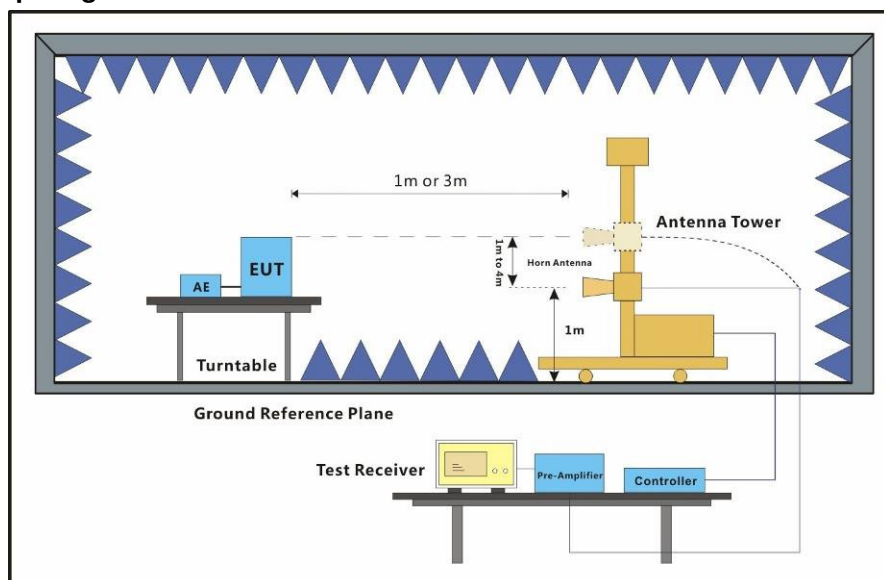
Test Requirement: 47 CFR Part 15, Subpart B
Test Method: ANSI C63.4:2014
Frequency Range: Above 1GHz
Measurement Distance: 3m
Limit:
Above 1GHz 74(dBμV/m) peak, 54(dBμV/m) average
Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000M to 18000MHz

2.1.7 E.U.T. Operation

Operating Environment:
Temperature: 21.7 °C Humidity: 56.4 % RH Atmospheric Pressure: 1010 mbar
Pretest these modes to find the worst case:
a: WCDMA Band V Idle + GPS Rx + earphone1+ battery1+ adapter1
b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)
c: LTE Band 12 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)
d: LTE Band 13 Idle + GPS Rx + earphone(worst)+battery(worst) +adapter(worst)

The worst case for final test: b: LTE Band 5 Idle + GPS Rx + earphone(worst) + battery(worst) + adapter(worst)

2.1.8 Test Setup Diagram



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2.1.9 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

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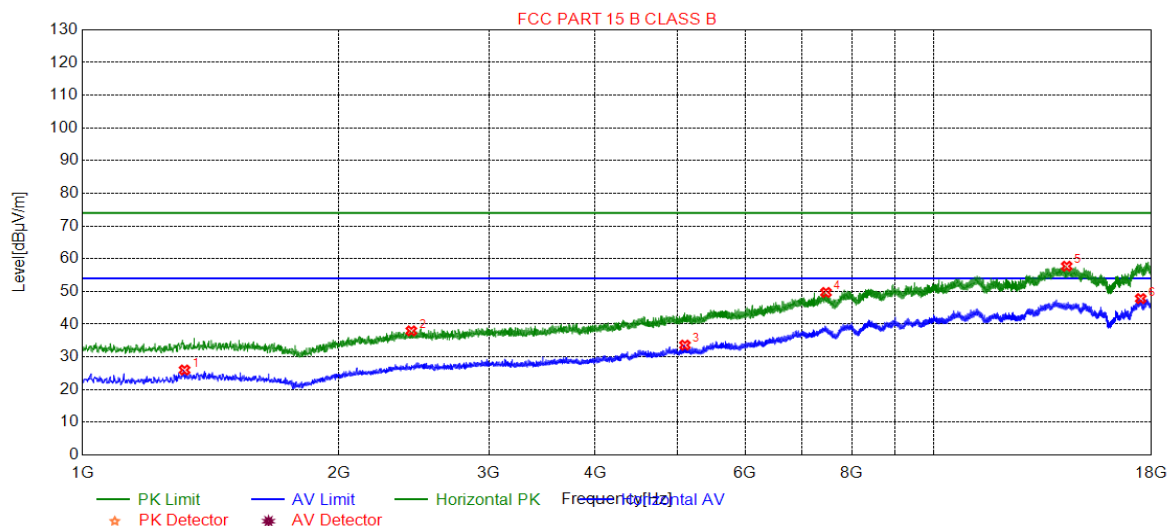
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Mode:b; Polarization:Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1317.91	26.00	-30.68	54.00	28.00	100	3	Horizontal
2	2433.17	37.96	-26.28	74.00	36.04	100	78	Horizontal
3	5098.05	33.60	-17.25	54.00	20.40	100	193	Horizontal
4	7464.57	49.70	-9.82	74.00	24.30	200	281	Horizontal
5	14312.5	57.72	1.86	74.00	16.28	200	16	Horizontal
6	17480.6	47.82	1.39	54.00	6.18	200	91	Horizontal

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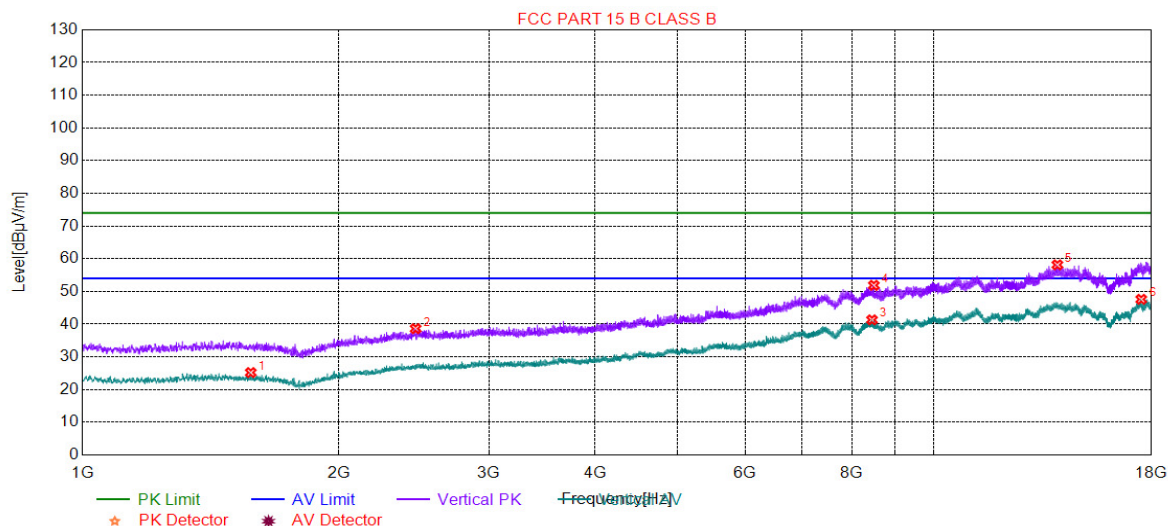
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Mode:b; Polarization:Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1576.32	25.21	-30.35	54.00	28.79	100	154	Vertical
2	2461.22	38.63	-26.10	74.00	35.37	100	3	Vertical
3	8453.17	41.32	-7.68	54.00	12.68	200	205	Vertical
4	8495.67	51.88	-7.60	74.00	22.12	200	358	Vertical
5	13953.7	58.15	2.21	74.00	15.85	100	268	Vertical
6	17504.4	47.61	1.61	54.00	6.39	200	205	Vertical

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3 Equipment List

Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Semi-Anechoic Chamber	Brilliant-emc	966	XAW03-35-01	NCR	NCR
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2020/4/2	2021/4/2
Radio communication analyzer	ROHDE&SCHWARZ	CMW 500	XAW01-03-02	2020/4/2	2021/4/2
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2020/9/7	2021/9/6
Receiving antenna	Rosenberger	VULB 9163	XAW01-09-01	2019/10/13	2021/10/12
Receiving antenna	Rosenberger	BBHA 9120D	XAW01-09-02	2019/10/13	2021/10/12
Receiving antenna	Rosenberger	BBHA 9170	XAW01-09-03	2019/10/13	2021/10/12
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP00903040	XAW01-41-01	2019/11/18	2020/11/18
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2019/11/18	2020/11/18
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2019/12/3	2020/12/3
Amplifier	Brilliant-emc	YX28980930	XAW01-41-06	2019/11/18	2020/11/18
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-19-02	2020/9/15	2021/9/14

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4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conduction Emission	$\pm 3.4\text{dB}$ (150kHz to 30MHz)
2	Radiated Emission	$\pm 4.8\text{dB}$ (30MHz-1GHz)
		$\pm 5.2\text{dB}$ (1GHz-6GHz)
		$\pm 5.5\text{dB}$ (6GHz-18GHz)
		$\pm 5.02\text{dB}$ (18GHz-40GHz)

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5 Photographs

5.1 Test Setup

Refer to Appendix A - Photographs of Set-Up for HR/2020/90016.

5.2 EUT Constructional Details (EUT Photos)

Refer to Photographs of EUT Constructional Details

- End of the Report -

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