FCC RADIO TEST REPORT

FCC ID	:	**2A7DJ-2346766867652**
Equipment	:	**Smart Radio LTE with Walkie-Talkie**
Brand Name	:	**weavix**
Model Name	:	**walt**
Applicant	:	**Weavix Inc.** **10811 E Harry St. Wichita, KS 67207, USA**
Manufacturer	:	**Arima Communications (Jiangsu) Co., Ltd** **No.168, Jiaotong Notrh Road, Economic and Technological Development Zone, Wujiang District Suzhou City, Jiangsu Province, P.R.China**
Standard	:	**FCC 47 CFR Part 2, 96**

The product was received on Feb. 19, 2024 and testing was performed from Apr. 27, 2024 to May 01, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
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TEL: 886-3-327-0868
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Table of Contents

History of this test report

Report No.	Version	Description	Issue Date
FG261611-01B	01	Initial issue of report	Sep. 05, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	§2.1046	Conducted Output Power	Not Required	-
-	§96.41	Peak-to-Average Ratio	Not Required	-
-	§96.41	Power Density0	Not Required	-
-	§2.1049 §96.41	Occupied Bandwidth	Not Required	-
-	§2.1051 §96.41	Conducted Band Edge Measurement	Not Required	-
-	§2.1051 §96.41	Conducted Spurious Emission	Not Required	-
-	§2.1055	Frequency Stability for Temperature & Voltage	Not Required	-
3.4	§2.1053 §96.41	Radiated Spurious Emission	Pass	0.88 dB under the limit at 7102.00 MHz

Remark:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report which can be referred Product Equality Declaration. All the test cases were performed on original report which can be referred to Sporton Report Number FG261611F. Based on the original report, only worst case was verified.

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Avis Chuang

Report Producer: Clio Lo

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs	LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, NFC, and GNSS.
Antenna Type	WWAN: PIFA Antenna WLAN: Loop Antenna Bluetooth: Loop Antenna GPS / Glonass / BDS / Galileo: PIFA Antenna NFC: Loop Antenna
HW Version	0910MB-007
SW Version	2.A.0075

Antenna information							
Band	**Ant0**	**Ant1**	**Ant2**	**Ant5**	**Ant6**	**Main Ant. #**	**Sub Ant. #**
B48	-	-	-2.02	-	-	2	-

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

Support band and evaluated information	
Supported band	B48
Evaluated and Tested band	B48

TDD band Power Class		
	PC3	**PC2**
B48	V	-

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Site

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH12-HY
Test Engineer	Tim Lee and Wilson Wu
Temperature (℃)	20~25
Relative Humidity (%)	50~60

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW3786

1.4 Applied Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26-2015
- FCC 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report.

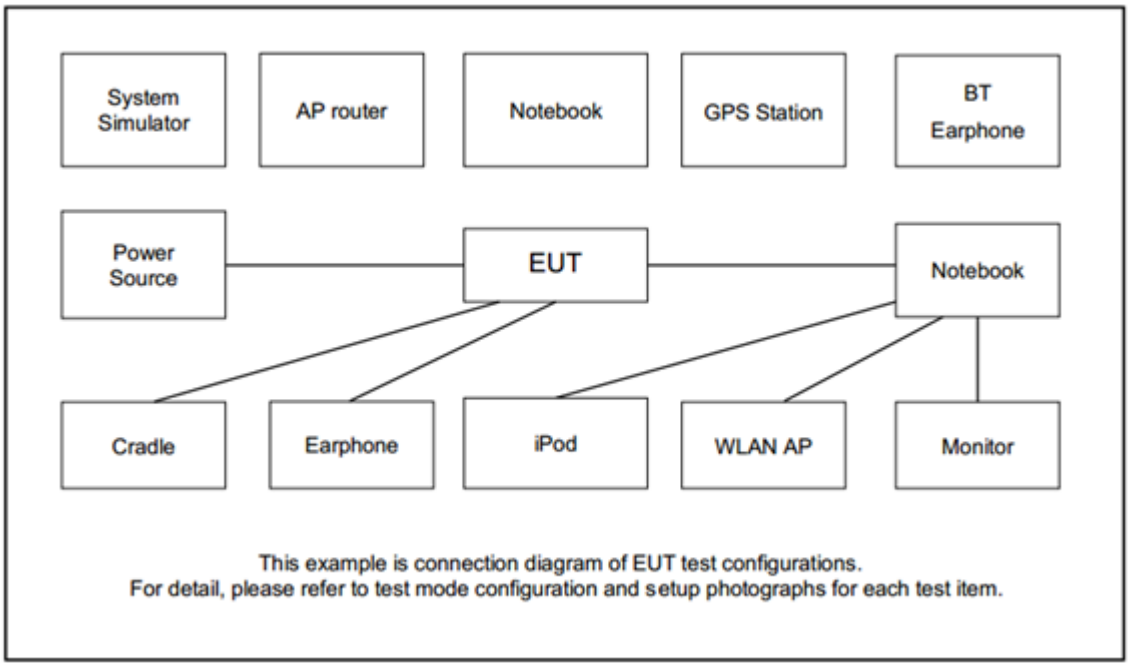
Modulation Type	Modulation
A	QPSK
B	16QAM
C	64QAM

Test Item	Modulation Type	Bandwidth	RB Size	Channel
RSE	A	20 MHz or less	1RB	L

Remark:

1. Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
2. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst-case emissions are reported.
3. As the change for the antenna gain in the low band is greater than originally certified, RSE in the low band is re-tested. Other test cases were performed on the original report, which can be found in Sporton report number FG261611F.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m

2.4 Frequency List of Low/Middle/High Channels

LTE Band 48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	55340	55990	56640
	Frequency	3560	3625	3690

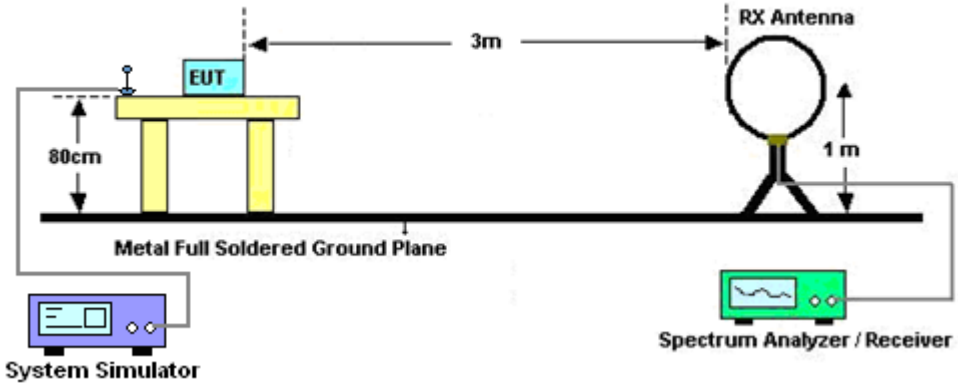
3 Radiated Test Items

3.1 Measuring Instruments

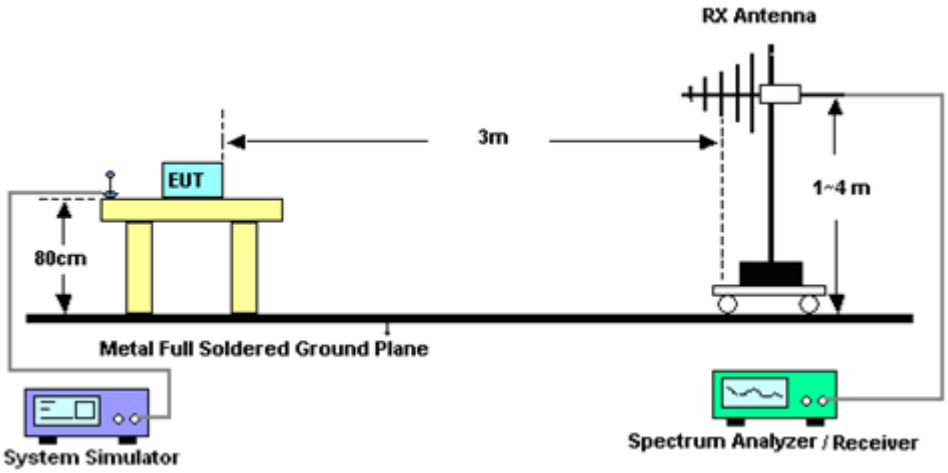
See list of measuring instruments of this test report.

3.2 Test Setup

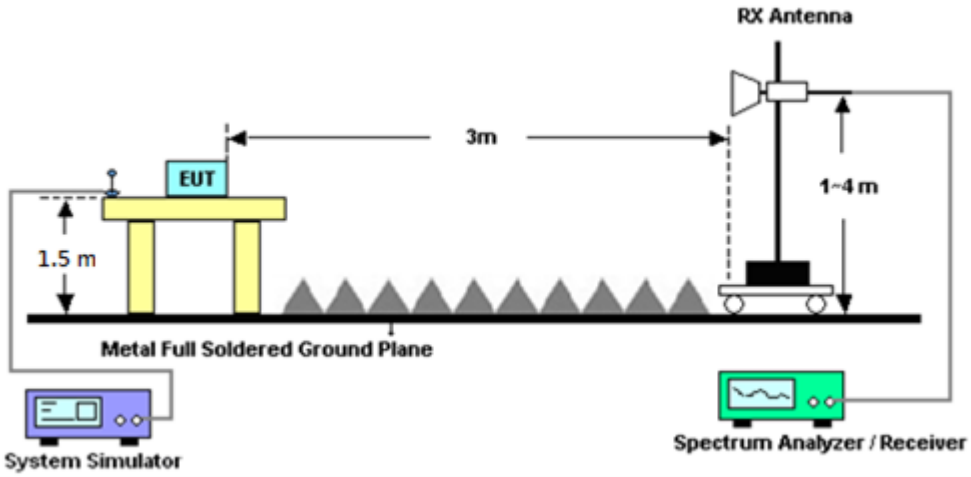
For radiated test below 30MHz



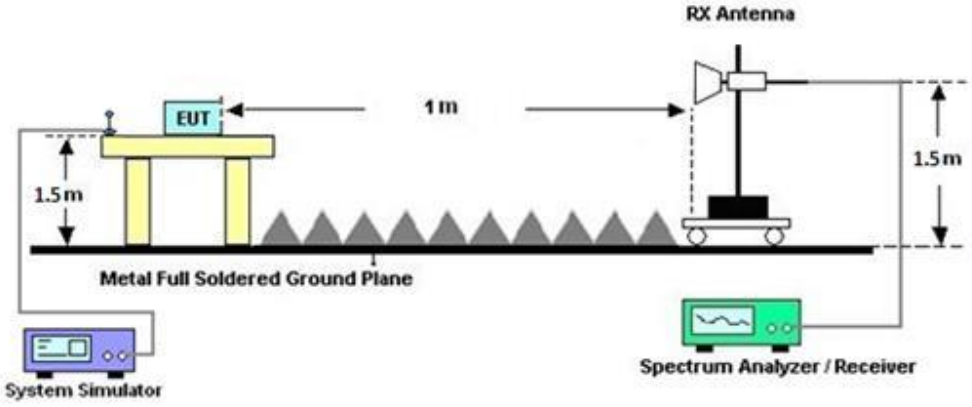
For radiated test from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



For radiated emissions above 18GHz



3.3 Test Result of Radiated Test

Please refer to Appendix A.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4 Radiated Spurious Emission

3.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015.
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least -40dBm / MHz
The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. To convert spectrum reading E(dBuV/m) to EIRP(dBm)
   EIRP(dBm) = Level (dBuV/m) + 20log(d) -104.77,
   where d is the distance at which filed strength limit is specified in the rules
8. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
9. ERP (dBm) = EIRP (dBm) - 2.15
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 23, 2024	Apr. 27, 2024~ May 01, 2024	Feb. 22, 2025	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	37059 & 01	30MHz~1GHz	Nov. 03, 2023	Apr. 27, 2024~ May 01, 2024	Nov. 02, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 31, 2023	Apr. 27, 2024~ May 01, 2024	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00993	18GHz-40GHz	Nov. 24, 2023	Apr. 27, 2024~ May 01, 2024	Nov. 23, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161075	10MHz~1GHz	Mar. 20, 2024	Apr. 27, 2024~ May 01, 2024	Mar. 19, 2025	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Apr. 27, 2024~ May 01, 2024	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18 G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 20, 2023	Apr. 27, 2024~ May 01, 2024	Dec. 19, 2024	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2023	Apr. 27, 2024~ May 01, 2024	Dec. 06, 2024	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2024	Apr. 27, 2024~ May 01, 2024	Jan. 09, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-900 -1000-15000- 60SS	SN11	1GHz High Pass Filter	Nov. 02, 2023	Apr. 27, 2024~ May 01, 2024	Nov. 01, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-270 0-3000-18000 -60SS	SN2	3GHz High Pass Filter	Mar. 13, 2024	Apr. 27, 2024~ May 01, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000 -40ST	SN2	6.75GHz High Pass Filter	Mar. 13, 2024	Apr. 27, 2024~ May 01, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2024	Apr. 27, 2024~ May 01, 2024	Mar. 05, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 18, 2023	Apr. 27, 2024~ May 01, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 18, 2023	Apr. 27, 2024~ May 01, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 18, 2023	Apr. 27, 2024~ May 01, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210117	N/A	Oct. 19, 2023	Apr. 27, 2024~ May 01, 2024	Oct. 18, 2024	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Apr. 27, 2024~ May 01, 2024	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Apr. 27, 2024~ May 01, 2024	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Apr. 27, 2024~ May 01, 2024	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Apr. 27, 2024~ May 01, 2024	N/A	Radiation (03CH12-HY)

5 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.07 dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.63 dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.14 dB**

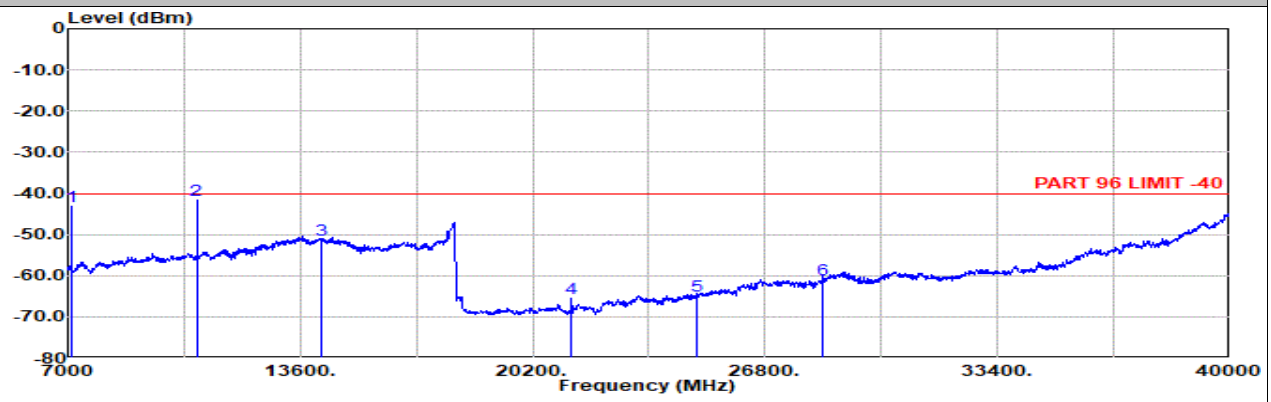
Appendix A. Test Results of Radiated Test

A1. Summary of each worse mode

Mode	Part	Band	Ch	Freq (MHz)	Level (dBm)	Det	Ant Factor (dB)	Amp\Cbl (dB)	Filter (dB)	EIRPCF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
1	Part 96	LTE B48	L	7102	-40.88	RMS	36.52	-51.91	0.90	-95.23	68.84	-40.00	-0.88	V	Main

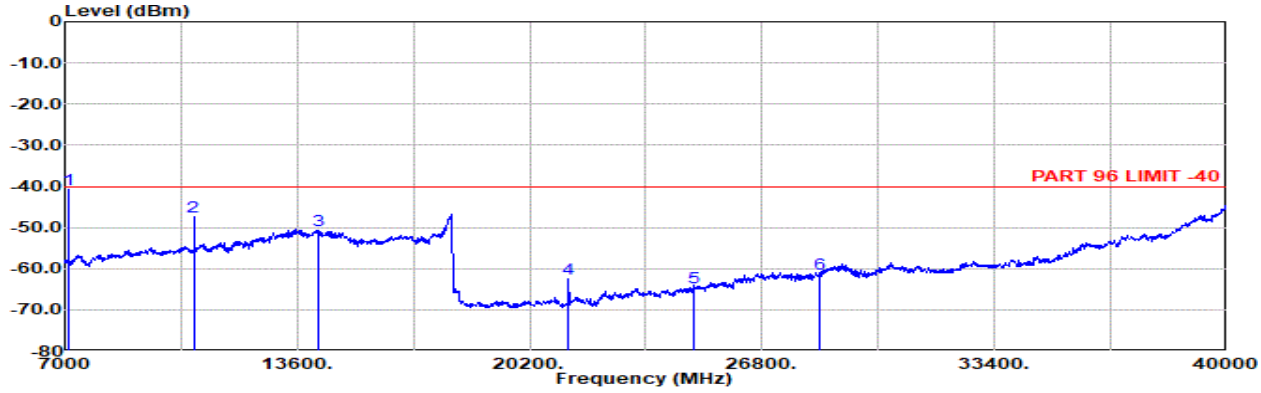
Main Antenna

Part 96 Mode 1
LTE B48 20M Ch55340 1RB0 QPSK
L



Site : 03CH12-HY
Condition: PART 96 LIMIT -40 1m SHF_00993_231124 Horizontal
: LTE Band 48 20M Ch55340 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	7102.00	-43.07	RMS	36.52	-51.91	0.90	-95.23	0.00	-40.00	-3.07	Horizontal
2	10653.00	-41.72	RMS	39.30	-50.06	0.26	-95.23	64.01	-40.00	-1.72	Horizontal
3	14204.00	-51.42	RMS	41.09	-45.89	0.45	-95.23	48.16	-40.00	-11.42	Horizontal
4	21306.00	-65.62	RMS	37.85	-29.96	-9.54	-95.23	31.26	-40.00	-25.62	Horizontal
5	24857.00	-64.80	RMS	39.29	-26.91	-9.54	-95.23	27.59	-40.00	-24.80	Horizontal
6	28408.00	-60.97	RMS	40.37	-25.55	-9.54	-95.23	28.98	-40.00	-20.97	Horizontal

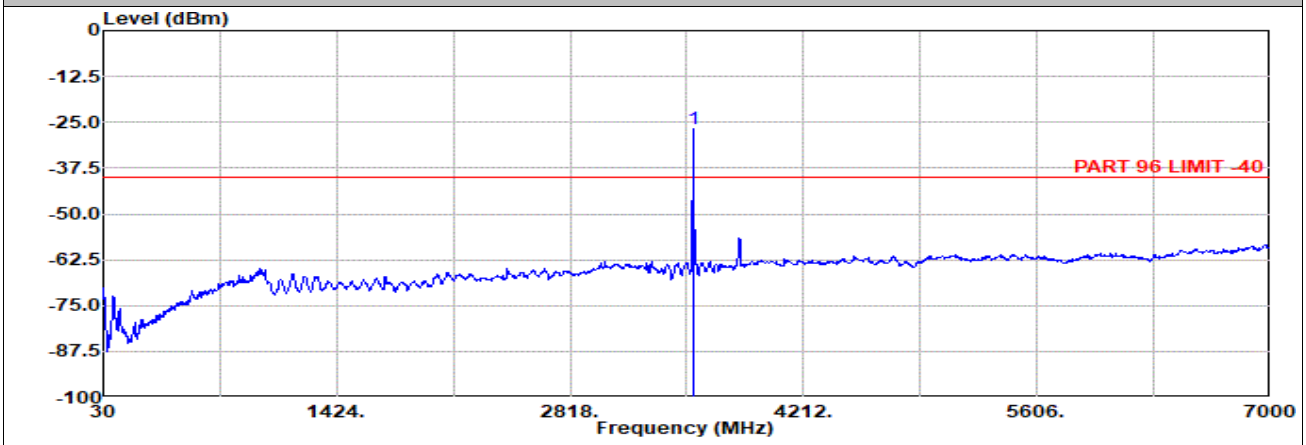


Site : 03CH12-HY
Condition: PART 96 LIMIT -40 1m SHF_00993_231124 Vertical
: LTE Band 48 20M Ch55340 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	7102.00	-40.88	RMS	36.52	-51.91	0.90	-95.23	68.84	-40.00	-0.88	Vertical
2	10653.00	-47.33	RMS	39.30	-50.06	0.26	-95.23	58.40	-40.00	-7.33	Vertical
3	14204.00	-50.81	RMS	41.09	-45.89	0.45	-95.23	48.77	-40.00	-10.81	Vertical
4	21306.00	-62.57	RMS	37.85	-29.96	-9.54	-95.23	34.31	-40.00	-22.57	Vertical
5	24857.00	-64.54	RMS	39.29	-26.91	-9.54	-95.23	27.85	-40.00	-24.54	Vertical
6	28408.00	-61.24	RMS	40.37	-25.55	-9.54	-95.23	28.71	-40.00	-21.24	Vertical

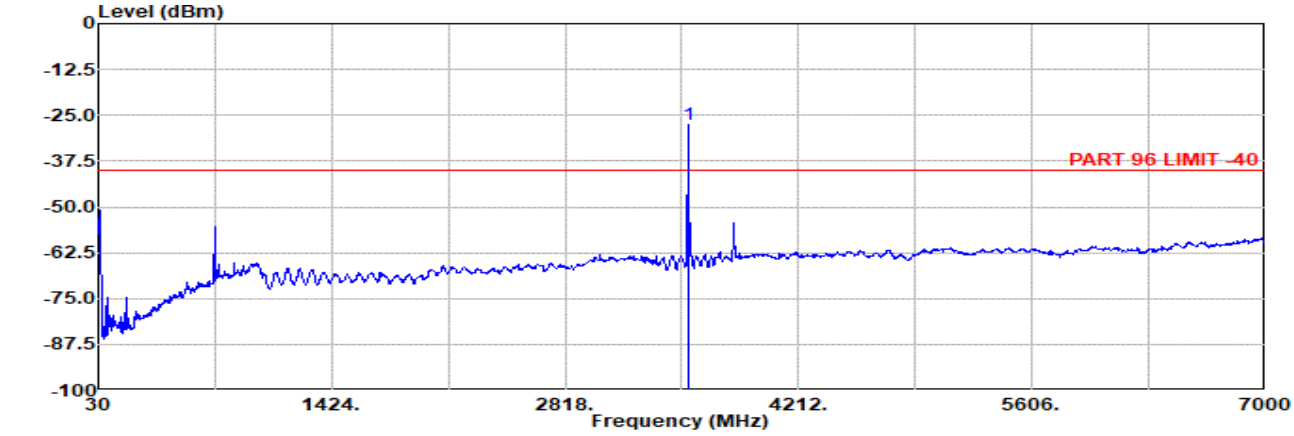
Main Antenna

Part 96 Mode 1
LTE B48 20M Ch55340 1RB0 QPSK
L



Site : 03CH12-HY
Condition: PART 96 LIMIT -40 3m 9120D-02114-230731 Horizontal
: LTE Band 48 20M Ch55340 1RB0 QPSK
: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3551.09	-26.82	RMS	29.60	-57.17	0.54	-95.23	95.44	-40.00	13.18	Horizontal



Site : 03CH12-HY
Condition: PART 96 LIMIT -40 3m 9120D-02114-230731 Vertical
: LTE Band 48 20M Ch55340 1RB0 QPSK
: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3551.09	-27.46	RMS	29.60	-57.17	0.54	-95.23	94.80	-40.00	12.54	Vertical

Remark: The over limit signal #1 is fundamental signal which can be ignored.