



FCC RADIO TEST REPORT

FCC ID : 2AJN7-TP00172AL
Equipment : Notebook Computer
Brand Name : Lenovo
Model Name : TP00172A, TP00172B
Applicant : LCFC (HeFei) Electronics Technology Co., Ltd.
No. 3188-1, Yungu Road (Hefei Export Processing Zone), Hefei Economics & Technology Development Area, Anhui, CHINA
Manufacturer : Lenovo Ireland International Limited
Viscount House, 6/7 Fitzwilliam Square East, Dublin, D02 Y447, Ireland
Standard : FCC 47 CFR Part 2, Part 90(R)

Equipment: Rolling Wireless RW101R-GL tested inside of Lenovo Notebook Computer

The product was received on Dec. 22, 2026 and testing was performed from Mar. 26, 2026 to Mar. 26, 2026. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E 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.

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory



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History of this test report

Report No.	Version	Description	Issue Date
FG5N2608-03B	01	Initial issue of report	Mar. 30, 2026
FG5N2608-03B	02	Revise section 1.1 This report is an updated version, replacing the report issued on Mar. 30, 2026.	Apr. 13, 2026

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3-2	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission (Band 14)	Pass	

Remark:

- For host device, Radiated Spurious Emission, Effective Radiated Power and Equivalent Isotropic Radiated Power are verified and comply with the limit in this test report.
- This is a variant report by changing CPU. All the test cases were performed on original report which can be referred to Sporton Report Number FG5N2608B. Based on the original report, the radiated spurious emission test case was verified.

Conformity Assessment Condition:

- 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/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- 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: Sheng Kuo

Report Producer: Vina Su



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00172A, TP00172B
FCC ID	2AJN7-TP00172AL
Sample 1	EUT with ATC Antenna
Sample 2	EUT with Speed Antenna
Integrated WLAN Module	Brand Name: MediaTek Model Name: MT7925B14L FCC ID: RAS-MT7925B14L
Integrated NFC Module	Brand Name: Foxconn Model Name: T77H747 FCC ID: MCLT77H747
EUT supports Radios application	WCDMA/HSPA/LTE/GNSS/NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 WLAN 11be EHT20/ EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer.

Equipment: Rolling Wireless RW101R-GL tested inside of Lenovo Notebook Computer

Support band and evaluated information	
Supported band	B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B30, B38, B41, B66, B71
Evaluated and Tested band	B14

TDD band Power Class		
	PC3	PC2
B38	V	-
B41	V	-

Antenna information				
Band	Main (ATC)	Main (Speed)	Main Ant. #	Sub Ant. #
B5	0.46	0.46	Main	-
B12	-1.50	-1.50	Main	-
B13	-0.73	-0.73	Main	-
B14	-0.40	-0.40	Main	-
B17	-1.50	-1.50	Main	-
B26	0.46	0.46	Main	-
B71	-2.04	-2.04	Main	-
B2	1.98	1.98	Main	-
B4	1.96	1.96	Main	-
B7	1.74	1.74	Main	-
B25	1.64	1.64	Main	-
B30	0.94	0.94	Main	-
B38	1.79	1.79	Main	-
B41	1.64	1.64	Main	-
B66	1.98	1.98	Main	-

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



1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx Frequency	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850MHz ~ 1915 MHz LTE Band 26 (Part22H): 824 MHz ~ 849 MHz LTE Band 26 (Part90S): 814 MHz ~ 824 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Rx Frequency	LTE Band 2: 1930 MHz ~ 1990 MHz LTE Band 4: 2110 MHz ~ 2155 MHz LTE Band 5: 869 MHz ~ 894 MHz LTE Band 7: 2620 MHz ~ 2690 MHz LTE Band 12: 729 MHz ~ 746MHz LTE Band 13: 746 MHz ~ 756 MHz LTE Band 14: 758 MHz ~ 786 MHz LTE Band 17: 734 MHz ~ 746 MHz LTE Band 25: 1930MHz ~ 1995 MHz LTE Band 26 (Part22H): 869 MHz ~ 894 MHz LTE Band 26 (Part90S): 859 MHz ~ 869 MHz LTE Band 30: 2350 MHz ~ 2360 MHz LTE Band 38: 2570 MHz ~ 2620MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 2110 MHz ~ 2200 MHz LTE Band 71: 617 MHz ~ 652 MHz
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 14: 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 25: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 30 : 5MHz / 10MHz LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz
Type of Modulation	QPSK / 16QAM



1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

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	Wilson Wu
Temperature (°C)	22.1 ~ 24.3
Relative Humidity (%)	54.4 ~ 61.2

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

FCC Designation No.: TW3786

1.5 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, Part 90(R)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ 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

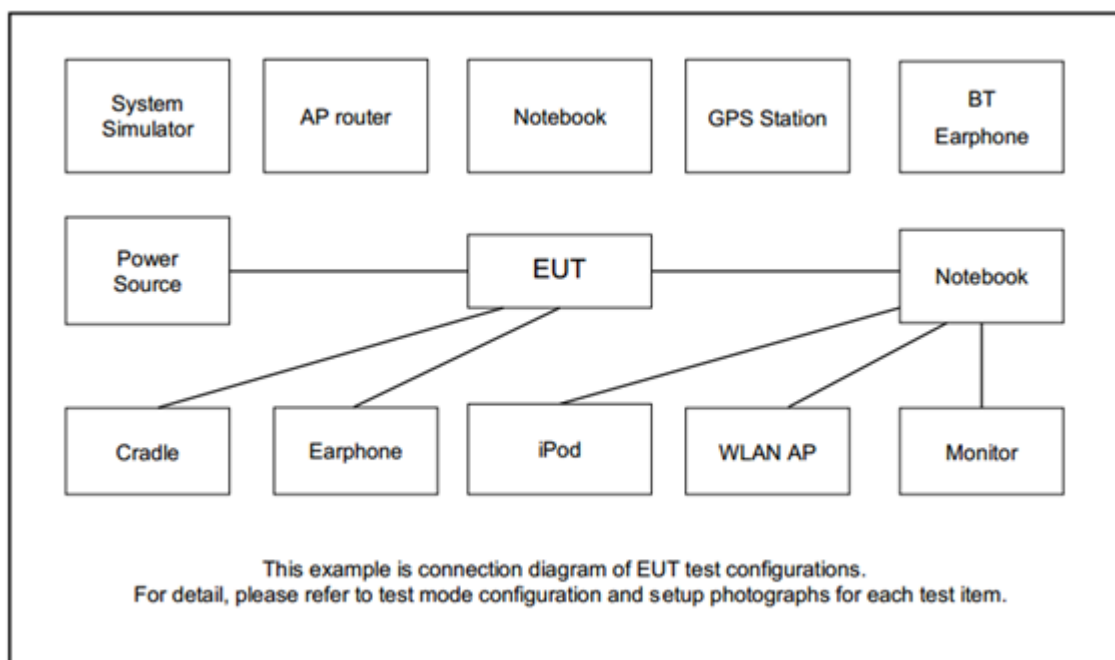
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

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 Tablet Type (three orthogonal axis (X: flat, Y: portrait, Z: landscape) and Notebook Type, 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

Test Item	Modulation Type	Bandwidth	RB Size	Channel
RSE	A	5 MHz	1RB	L, M, H
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.				

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.	Earphone	Google	G019A	N/A	N/A	N/A
2.	Base Station	Anritsu	8821C	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

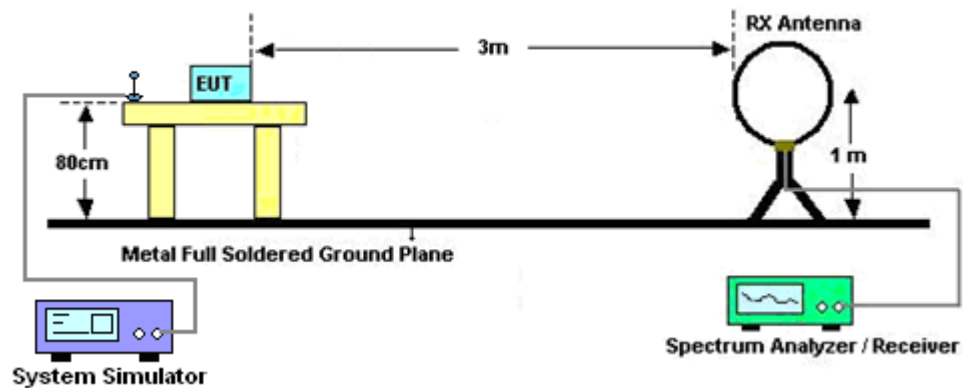
3 Radiated Test Items

3.1 Measuring Instruments

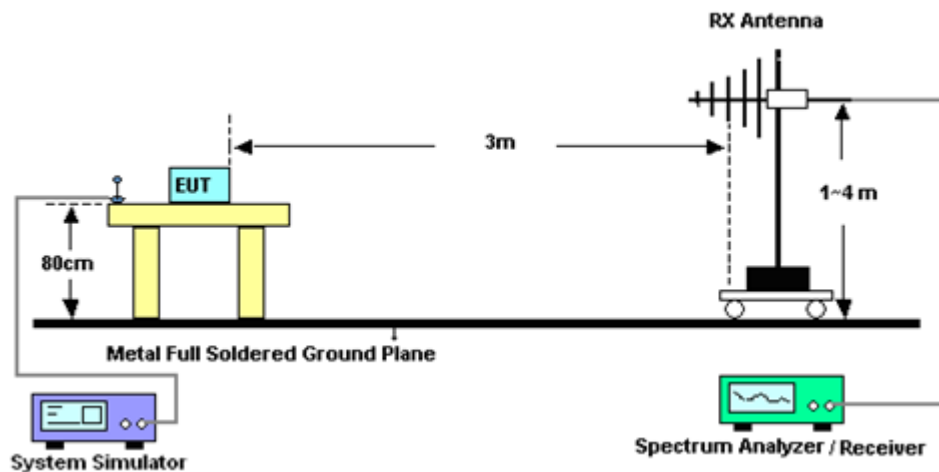
See list of measuring instruments of this test report.

3.1.1 Test Setup

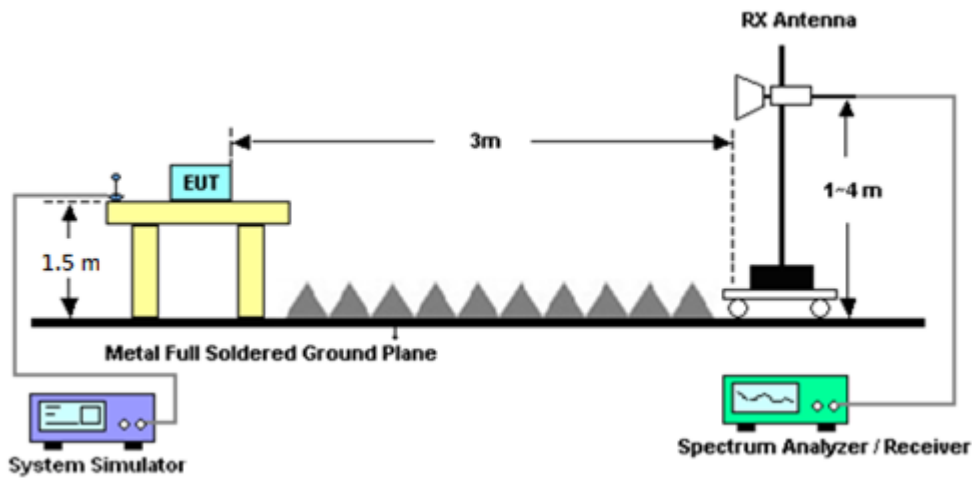
For radiated test below 30MHz



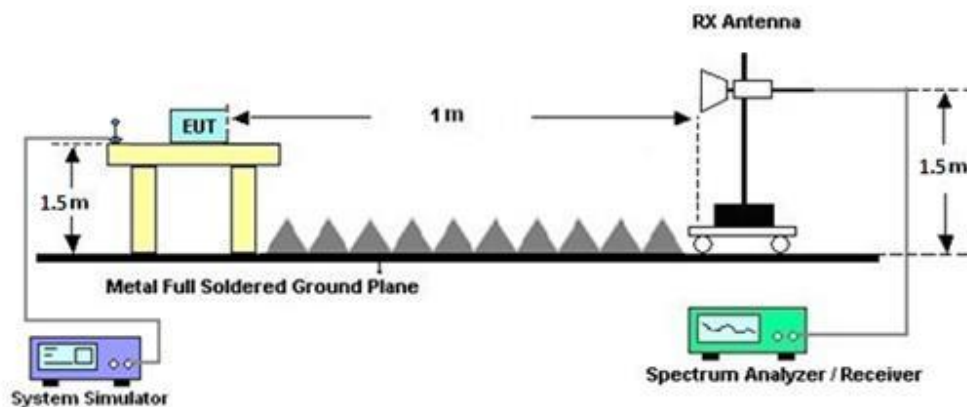
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.1.2 Test Result of Radiated Test

Please refer to Appendix B.

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.



3.2 Radiated Spurious Emission Measurement

3.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. 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 $43 + 10 \log (P)$ dB.

For LTE Band 14

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.



3.2.2 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, which was 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 one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. To convert spectrum reading E(dBuV/m) to EIRP(dBm)
$$\text{EIRP(dBm)} = \text{Level (dBuV/m)} + 20\log(d) - 104.77,$$
where d is the distance at which field strength limit is specified in the rules
7. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
8. ERP (dBm) = EIRP (dBm) - 2.15
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is derived from $43 + 10\log(P)\text{dB}$ below the transmitter power P(Watts)



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-Z2E	101108	9 kHz~30 MHz	Dec. 11, 2025	Mar. 26, 2026	Dec. 10, 2026	Radiation (03CH12-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2E	100315	9 kHz~30 MHz	Mar. 16, 2026	Mar. 26, 2026	Mar. 15, 2027	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 26, 2025	Mar. 26, 2026	Nov. 25, 2026	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 02, 2025	Mar. 26, 2026	Jul. 01, 2026	Radiation (03CH12-HY)
Amplifier	EMCI	EMC051845SE	980729	1-18GHz	Dec. 17, 2025	Mar. 26, 2026	Dec. 16, 2026	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Sep. 09, 2025	Mar. 26, 2026	Sep. 08, 2026	Radiation (03CH12-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz~26.5GHz	Sep. 08, 2025	Mar. 26, 2026	Sep. 07, 2026	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1225	18GHz~40GHz	Jul. 02, 2025	Mar. 26, 2026	Jul. 01, 2026	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 02, 2025	Mar. 26, 2026	Dec. 01, 2026	Radiation (03CH12-HY)
Notch Filter	Wainwright	WHKX12-900-1000-15000-60SS	SN11	1GHz High Pass Filter	Mar. 11, 2026	Mar. 26, 2026	Mar. 10, 2027	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803955/2	30MHz~40GHz	Oct. 31, 2025	Mar. 26, 2026	Oct. 30, 2026	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Oct. 31, 2025	Mar. 26, 2026	Oct. 30, 2026	Radiation (03CH12-HY)
RF Cable	EMCI	EMC101Y-KM-KM-1000	240905	30MHz~40GHz	Oct. 31, 2025	Mar. 26, 2026	Oct. 30, 2026	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102/SUCOFLEX 104	EC-A5-300-5757,805935/4	9kHz~30MHz	Oct. 01, 2025	Mar. 26, 2026	Sep. 30, 2026	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210090	N/A	Aug. 26, 2025	Mar. 26, 2026	Aug. 25, 2026	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 26, 2026	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Mar. 26, 2026	N/A	Radiation (03CH12-HY)
Radio Communication Analyzer	Anritsu	MT8821C	6201432816	GSM / GPRS / WCDMA / LTE FDD/TDD with 44) / LTE-3CC DLCA,2CC ULCA	May 13, 2025	Mar. 26, 2026	May 12, 2027	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Mar. 26, 2026	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Mar. 26, 2026	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% ($U = 2Uc(y)$)	6.5 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.7 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9 dB
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Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	Wilson Wu	Relative Humidity(%):	54.4 ~ 61.2
		Temperature(°C):	22.1 ~ 24.3

B1.Summary of each worse mode

Mode	Band	Part	Ch	Freq (MHz)	Level (dBm)	Det	Ant Factor (dB)	AmplCbl (dB)	Filter (dB)	EIRPCF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
19	LTE B14	Part 90R	M	1581	-53.31	RMS	25.50	-29.65	0.35	-95.23	45.72	-42.15	-11.16	H	Main

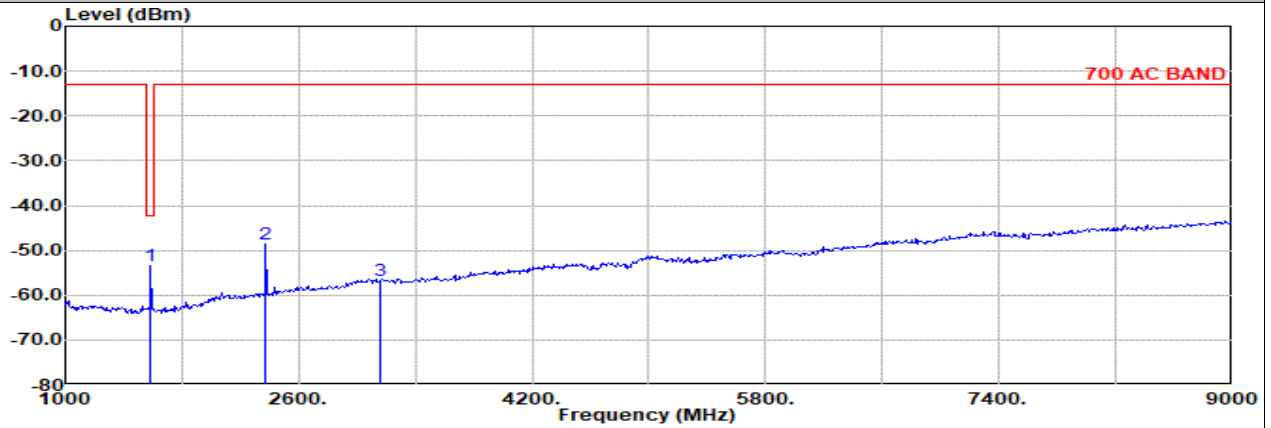


Ant. Main

Part 90R Mode 19

LTE B14 5M Ch23330 1RB0 QPSK

M

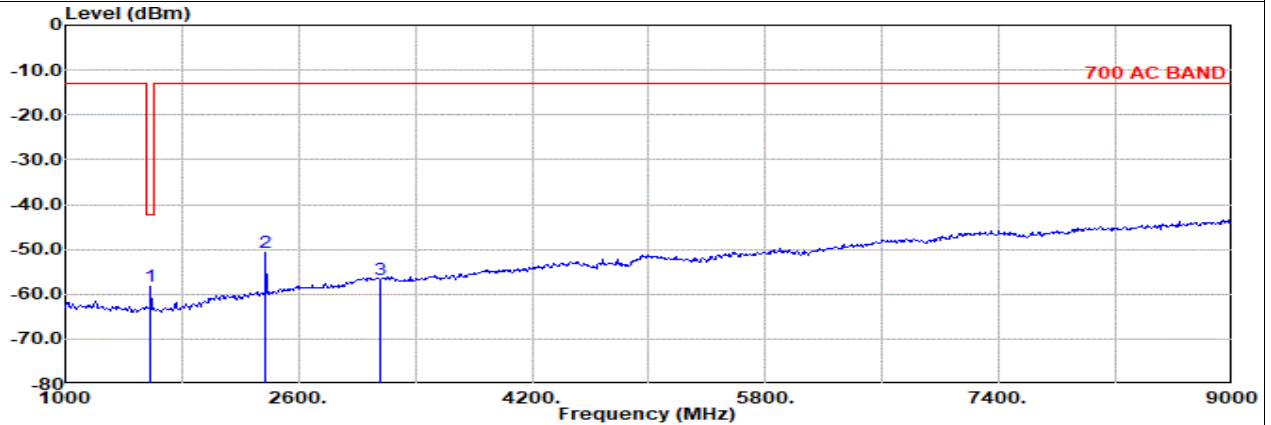


Site : 03CH12-HY

Condition: 700 AC BAND 3m 9120D-02114-250702 Horizontal

: LTE Band 14 5M Ch23330 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp	Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm			dB/m		dB	dB	dBuV	dBm	dB	
1	1581.00	-53.31	RMS	25.50	-29.65	0.35	-95.23	45.72	-42.15	-11.16	Horizontal	
2	2372.00	-48.58	RMS	27.30	-27.45	0.14	-95.23	46.66	-13.00	-35.58	Horizontal	
3	3163.00	-56.71	RMS	29.90	-26.23	0.04	-95.23	34.81	-13.00	-43.71	Horizontal	



Site : 03CH12-HY

Condition: 700 AC BAND 3m 9120D-02114-250702 Vertical

: LTE Band 14 5M Ch23330 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp	Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm			dB/m		dB	dB	dBuV	dBm	dB	
1	1581.00	-58.16	RMS	25.50	-29.65	0.35	-95.23	40.87	-42.15	-16.01	Vertical	
2	2372.00	-50.69	RMS	27.30	-27.45	0.14	-95.23	44.55	-13.00	-37.69	Vertical	
3	3163.00	-56.80	RMS	29.90	-26.23	0.04	-95.23	34.72	-13.00	-43.80	Vertical	

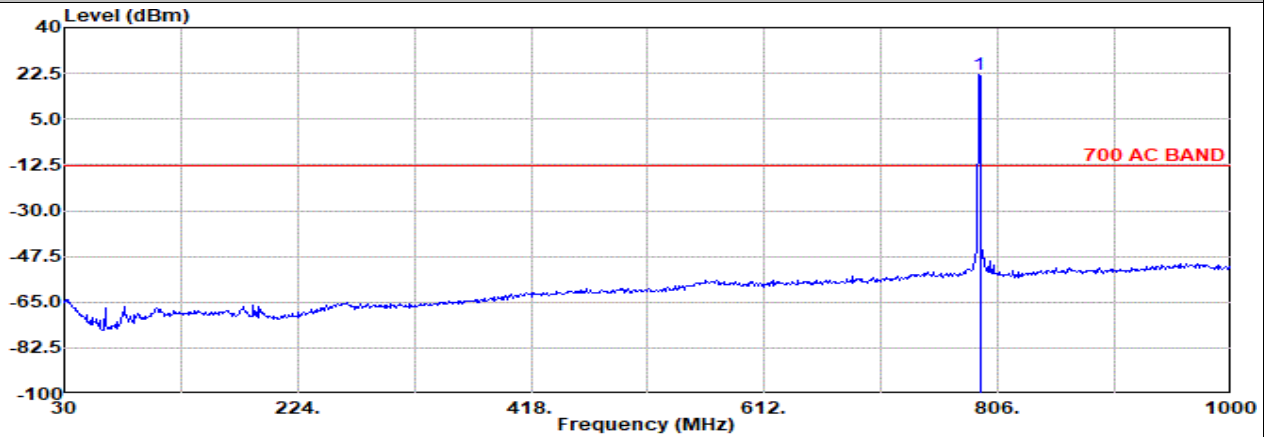


Ant. Main

Part 90R Mode 19

LTE B14 5M Ch23330 1RB0 QPSK

M



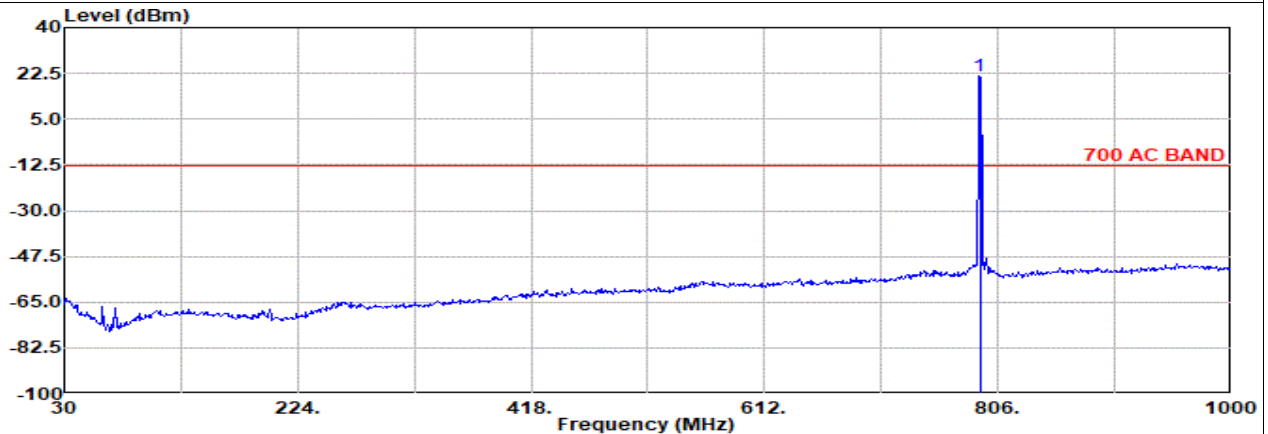
Site : 03CH12-HY

Condition: 700 AC BAND 3m Bilog_37059 & 01_251126 Horizontal

: LTE Band 14 5M Ch23330 1RB0 QPSK

: #1 is fundamental signal which can be ignored.

	Freq Level		Detector	Ant Amp\Cb Filter		Factor	EIRPCF		Readin Limit	Margin	Pol
	MHz	dBm		dB/m	dB		dB	dB	dBuV	dBm	
1	790.84	21.88	RMS	28.25	3.81	0.00	-95.23	85.05	-13.00	34.88	Horizontal



Site : 03CH12-HY

Condition: 700 AC BAND 3m Bilog_37059 & 01_251126 Vertical

: LTE Band 14 5M Ch23330 1RB0 QPSK

: #1 is fundamental signal which can be ignored.

	Freq Level		Detector	Ant Amp\Cb Filter		Factor	EIRPCF		Readin Limit	Margin	Pol
	MHz	dBm		dB/m	dB		dB	dB	dBuV	dBm	
1	790.84	21.26	RMS	28.25	3.81	0.00	-95.23	84.43	-13.00	34.26	Vertical