



FCC CO-LOCATION RADIO TEST REPORT

FCC ID : ACJ9TGWW21B
Equipment : Radio Module
Brand Name : Panasonic
Model Name : WW21B
Applicant : Panasonic Corporation of North America
Two Riverfront Plaza, Newark, New Jersey, 07102-5490, USA
Standard : FCC 47 CFR Part 2, 27(M)

The product was received on Sep. 02, 2025 and testing was performed from Sep. 16, 2025 to Oct. 08, 2025. 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 partial 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

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issue Date
FG4D1251-02D	01	Initial issue of report	Dec. 01, 2025



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1053 §27.53 (m)(4)	Radiated Spurious Emission (Band 7)	Pass	-

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/manufacture 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: Keven Cheng

Report Producer: Freda Wu



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs	WCDMA/LTE
Installed into the Host	Brand Name: Panasonic Model Name: FZ-40(mk3)
Antenna Type for Host	Monopole Antenna
Antenna Gain for Host	B7: 1.97 dBi

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 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. 03CH20-HY
Test Engineer	John Chuang, David Dai and Sam Chou
Temperature (°C)	19.0~22.2
Relative Humidity (%)	64.6~70.0

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

FCC Designation No.: TW3786



1.4 Applicable 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, 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ 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. The TAF code is not including all the FCC KDB listed without accreditation.

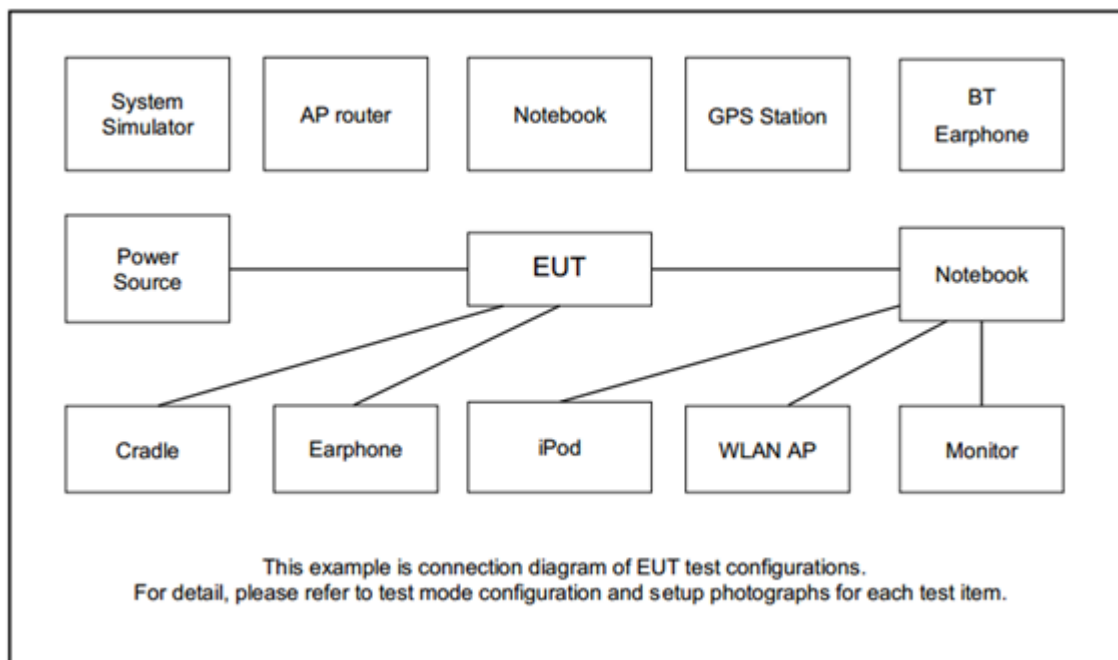
2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

Ant	Mode	Band
0	1	LTE B7 Link+WLAN 2.4G 802.11 HE20 ch11 Tx +RFID1 (RI121A)
0	2	LTE B7 Link+WLAN 5G 802.11HE 20 CH36 TX Link+RFID1 (RI123A)
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

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	Latitude5310	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	Moto	SJYN1181B	N/A	N/A	Unshielded, 1.25m

2.4 Frequency List of Low/Middle/High Channels

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560

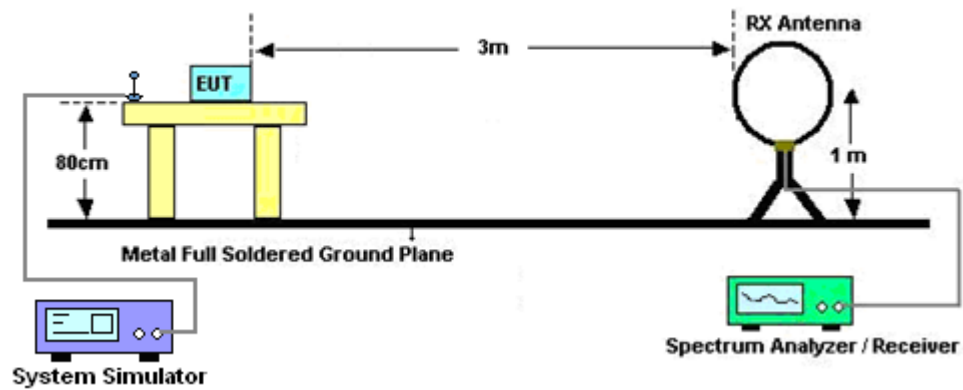
3 Radiated Test Items

3.1 Measuring Instruments

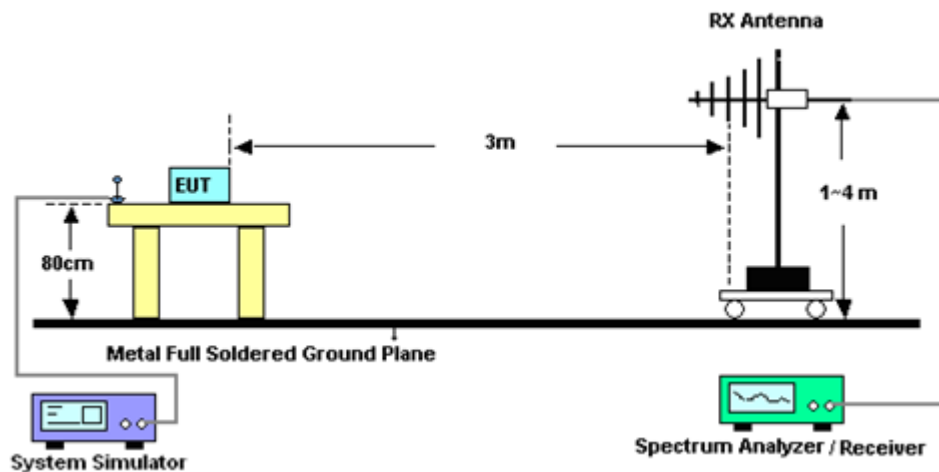
See list of measuring instruments of this test report.

3.1.1 Test Setup

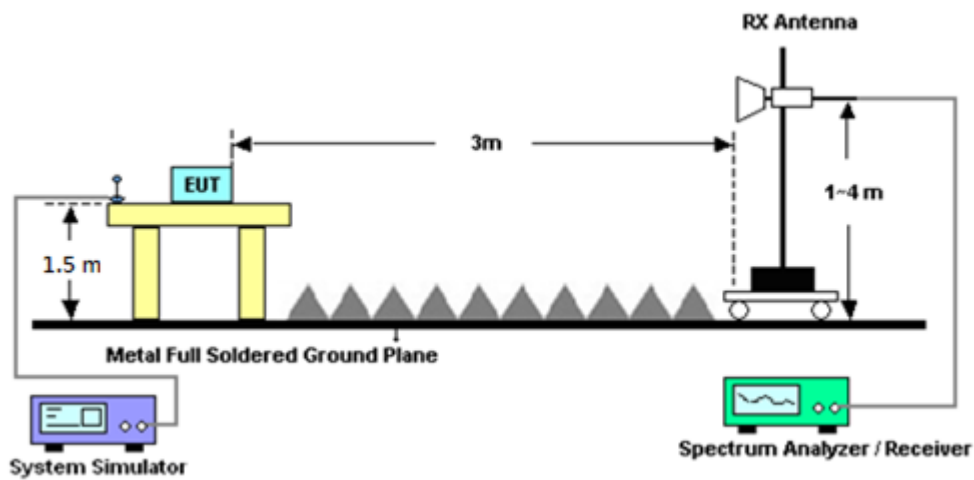
For radiated test below 30MHz



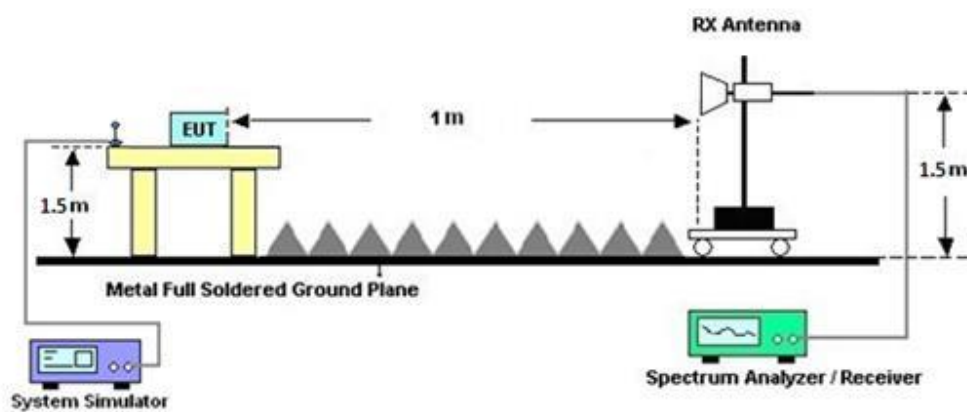
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.1.2 Test Result of Radiated Test

Please refer to Appendix 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.



3.2 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 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 $43 + 10 \log (P)$ dB.

For LTE Band 7

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 $55 + 10 \log (P)$ dB.

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.
$$\text{Field Strength Level (dBm)} = \text{Spectrum Reading (dBm)} + \text{Antenna Factor} + \text{Cable Loss} + \text{Read Level} - \text{Preamp Factor}.$$
8.
$$\text{ERP (dBm)} = \text{EIRP (dBm)} - 2.15$$
9. 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
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	N/A	Oct. 16, 2024	Sep. 16, 2025~ Oct. 08, 2025	Oct. 15, 2025	Radiation (03CH20-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2E	101108	9 kHz~30 MHz	Nov. 18, 2024	Sep. 16, 2025~ Oct. 08, 2025	Nov. 17, 2025	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Aug. 26, 2025	Sep. 16, 2025~ Oct. 08, 2025	Aug. 25, 2026	Radiation (03CH20-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Sep. 16, 2025~ Oct. 08, 2025	N/A	Radiation (03CH20-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Sep. 16, 2025~ Oct. 08, 2025	N/A	Radiation (03CH20-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Sep. 16, 2025~ Oct. 08, 2025	N/A	Radiation (03CH20-HY)
Signal Analyzer	Keysight	N9010B	MY60240520	N/A	Dec. 09, 2024	Sep. 16, 2025~ Oct. 08, 2025	Dec. 08, 2025	Radiation (03CH20-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	55606 & 08	30MHz~1GHz	Nov. 27, 2024	Sep. 16, 2025~ Oct. 08, 2025	Nov. 26, 2025	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	02360	1GHz-18GHz	Nov. 01, 2024	Sep. 16, 2025~ Oct. 08, 2025	Oct. 31, 2025	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	00994	18GHz-40GHz	Jan. 09, 2025	Sep. 16, 2025~ Oct. 08, 2025	Jan. 08, 2026	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Dec. 31, 2024	Sep. 16, 2025~ Oct. 08, 2025	Dec. 30, 2025	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45S E	980792	N/A	Nov. 12, 2024	Sep. 16, 2025~ Oct. 08, 2025	Nov. 11, 2025	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,80 4015/2,8040 27/2	N/A	Jan. 16, 2025	Sep. 16, 2025~ Oct. 08, 2025	Jan. 15, 2026	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303A	TP211382	N/A	Mar. 31, 2025	Sep. 16, 2025~ Oct. 08, 2025	Mar. 30, 2026	Radiation (03CH20-HY)
Software	Audix	N/A	RK-002156	N/A	N/A	Sep. 16, 2025~ Oct. 08, 2025	N/A	Radiation (03CH20-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.70 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 6 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.40 dB
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Uncertainty of Radiated Emission Measurement (6 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.60 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.70 dB
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Appendix A. Radiated Spurious Emission Test Data

A1. 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
1	LTE B7	Part27M	M	10104	-53.96	RMS	38.50	-27.03	0.40	-95.23	25.44	-25.00	-28.96	H	0
2	LTE B7	Part27M	M	10104	-53.84	RMS	38.50	-27.03	0.40	-95.23	25.56	-25.00	-28.84	H	0



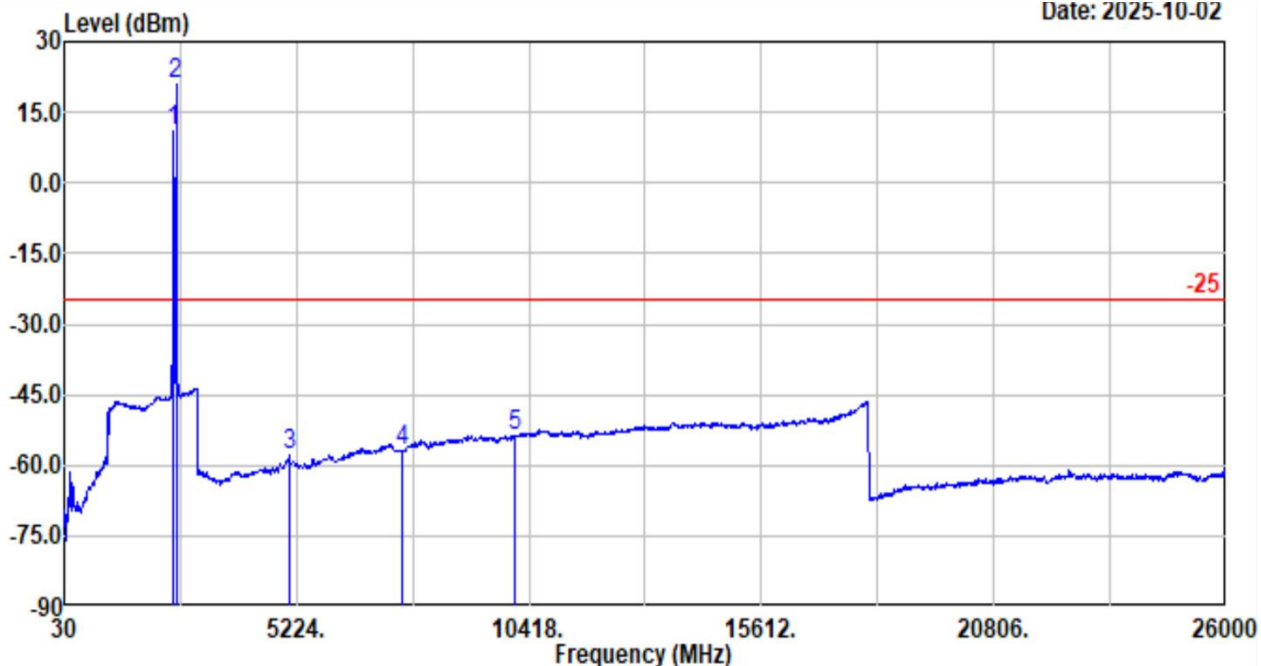
Ant. 0

Part27M Mode 1

LTE B7 Link+WLAN 2.4G 802.11 HE20 ch11 Tx +RFID1 (RI121A)

M

Date: 2025-10-02



Site : 03CH20-HY

Condition: -25 1m BBHA9170_1223_250702 Horizontal

: LTE B7 20M Ch21100 1RB0 QPSK

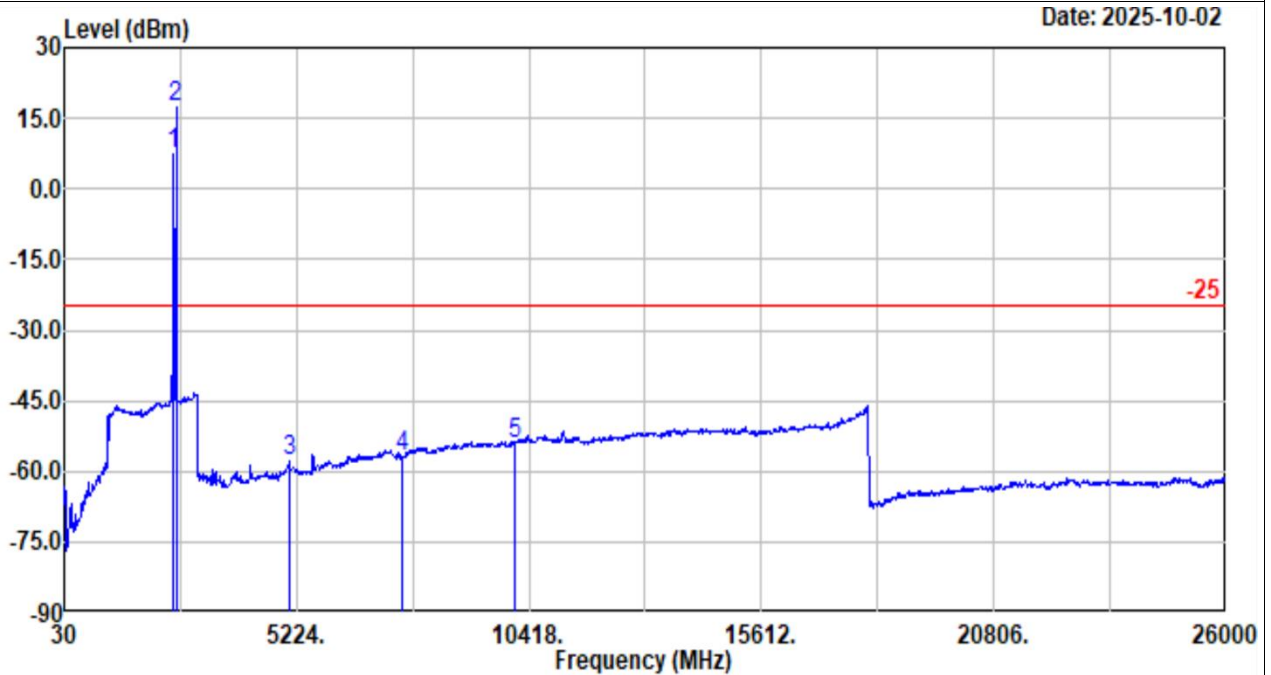
: NFC 13.56

: WLAN 2.4G 802.11 HE20 ch11 Setting 18.5

: #1 is fundamental signal can be ignored

: #2 is fundamental signal can be ignored

	Freq	Level	Detector	Ant Amp\Cb Filter		Readin		Limit		Margin	Pol
				Factor	1	EIRPCF	g	g			
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	2462.00	10.82	RMS	27.64	-27.53	19.68	-95.23	86.26	-25.00	35.82	Horizontal
2	2528.00	21.15	RMS	28.10	-27.41	19.67	-95.23	96.02	-25.00	46.15	Horizontal
3	5052.00	-57.91	RMS	33.30	-25.02	0.60	-95.23	28.44	-25.00	-32.91	Horizontal
4	7578.00	-57.17	RMS	36.19	-23.06	0.38	-95.23	24.55	-25.00	-32.17	Horizontal
5	10104.00	-53.96	RMS	38.50	-23.07	0.40	-95.23	25.44	-25.00	-28.96	Horizontal



Site : 03CH20-HY

Condition: -25 1m BBHA9170_1223_250702 Vertical

: LTE B7 20M Ch21100 1RB0 QPSK

: NFC 13.56

: WLAN 2.4G 802.11 HE20 ch11 Setting 18.5

: #1 is fundamental signal can be ignored

: #2 is fundamental signal can be ignored

	Freq Level		Detector	Ant Amp\Cb Filter				Readin Limit		Margin Pol
	MHz	dBm		Factor	1	EIRPCF	g	dBuV	dBm	
1	2462.00	7.58	RMS	27.64	-27.53	19.68	-95.23	83.02	-25.00	32.58 Vertical
2	2528.00	17.17	RMS	28.10	-27.41	19.67	-95.23	92.04	-25.00	42.17 Vertical
3	5052.00	-58.05	RMS	33.30	-25.02	0.60	-95.23	28.30	-25.00	-33.05 Vertical
4	7578.00	-56.79	RMS	36.19	-23.06	0.38	-95.23	24.93	-25.00	-31.79 Vertical
5	10104.00	-54.13	RMS	38.50	-23.07	0.40	-95.23	25.27	-25.00	-29.13 Vertical



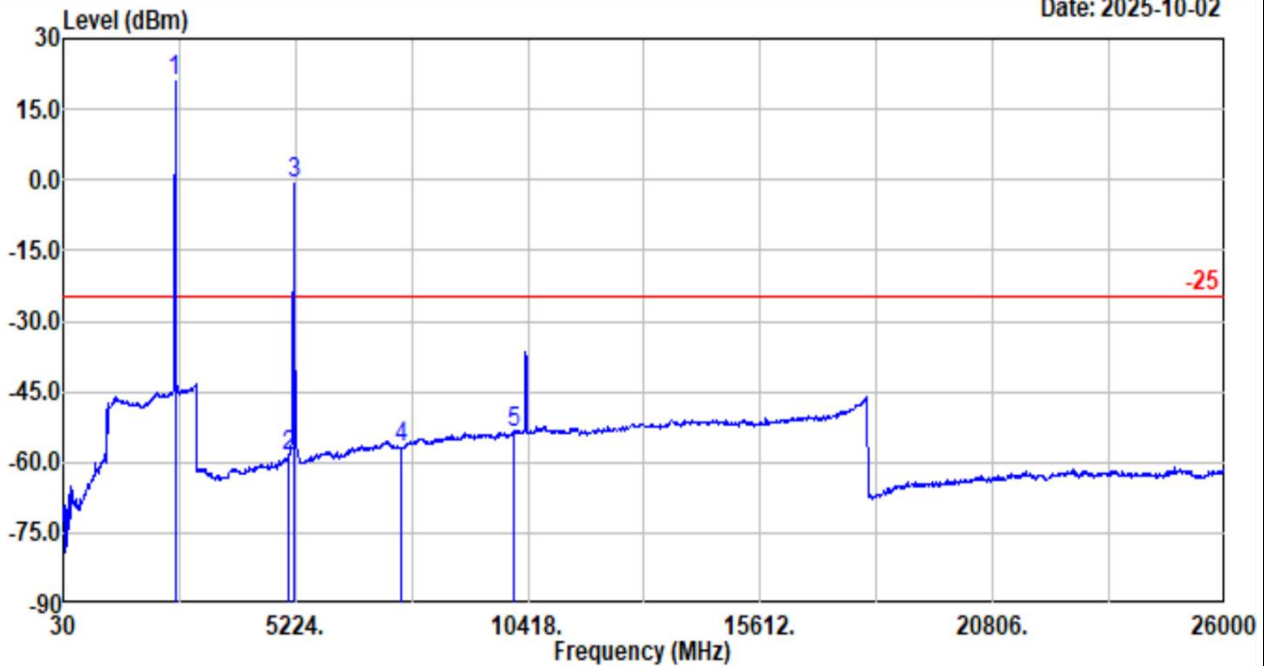
Ant. 0

Part27M Mode 2

LTE B7 Link+WLAN 5G 802.11HE 20 CH36 TX Link+RFID1 (RI123A)

M

Date: 2025-10-02



Site : 03CH20-HY

Condition: -25 1m BBHA9170_1223_250702 Horizontal

: LTE B7 20M Ch21100 1RB0 QPSK

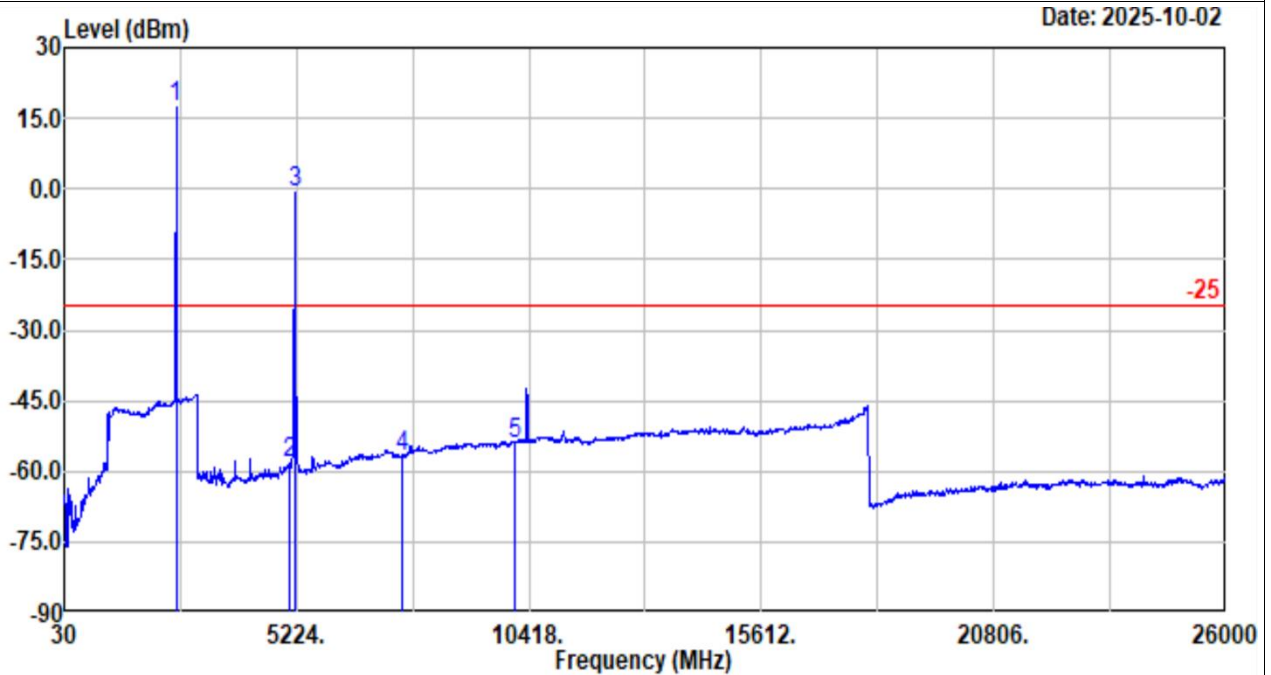
: NFC 13.56

: WLAN 5G 802.11 HE20 ch36 Setting 18

: #1 is fundamental signal can be ignored

: #3 is fundamental signal can be ignored

	Freq	Level	Detector	Ant Amp\Cb Filter		Readin Limit		Margin Pol		
				Factor	1	EIRPCF	g			
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB
1	2528.00	21.02	RMS	28.10	-27.41	19.67	-95.23	95.89	-25.00	46.02 Horizontal
2	5052.00	-58.97	RMS	33.30	-25.02	0.60	-95.23	27.38	-25.00	-33.97 Horizontal
3	5190.00	-0.81	RMS	32.90	-24.90	0.53	-95.23	85.89	-25.00	24.19 Horizontal
4	7578.00	-57.00	RMS	36.19	-23.06	0.38	-95.23	24.72	-25.00	-32.00 Horizontal
5	10104.00	-53.84	RMS	38.50	-23.07	0.40	-95.23	25.56	-25.00	-28.84 Horizontal



Site : 03CH20-HY
Condition: -25 1m BBHA9170_1223_250702 Vertical
: LTE B7 20M Ch21100 1RB0 QPSK
: NFC 13.56
: WLAN 5G 802.11 HE20 ch36 Setting 18
: #1 is fundamental signal can be ignored
: #3 is fundamental signal can be ignored

	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin	Pol
				Factor	1		g			
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB
1	2528.00	17.51	RMS	28.10	-27.41	19.67	-95.23	92.38	-25.00	42.51 Vertical
2	5052.00	-58.10	RMS	33.30	-25.02	0.60	-95.23	28.25	-25.00	-33.10 Vertical
3	5190.00	-0.96	RMS	32.90	-24.90	0.53	-95.23	85.74	-25.00	24.04 Vertical
4	7578.00	-56.92	RMS	36.19	-23.06	0.38	-95.23	24.80	-25.00	-31.92 Vertical
5	10104.00	-54.21	RMS	38.50	-23.07	0.40	-95.23	25.19	-25.00	-29.21 Vertical