



FCC CO-LOCATION RADIO TEST REPORT

FCC ID : ACJ9TGWW24B
Equipment : Radio Module
Brand Name : Panasonic
Model Name : WW24B
Applicant : Panasonic Corporation of North America
Two Riverfront Plaza, Newark, New Jersey, 07102-5490, USA
Standard : FCC 47 CFR Part 2, 27

The product was received on Mar. 16, 2026 and testing was performed from May. 15, 2026 to May. 15, 2026. 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
FG572316-01F	01	Initial issue of report	Jun. 18, 2026

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	§27.50 (h)(2)	Radiated Spurious Emission (n7)	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: Julia Chang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs	WCDMA/LTE/5G NR
Installed into the Host	Brand Name: Panasonic Model Name: FZ-34
Antenna Type for Host	PIFA Antenna

Remark: The product was installed into Personal Computer (Brand Name: Panasonic, Model Name: FZ-34 during test.

Specification of Accessory for Host		
AC Adapter	Brand Name	Panasonic
	Model Name	CF-AA5713A
Battery	Brand Name	Panasonic
	Model Name	FZ-VZSUS2LU

Remark: The above EUT's information was 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. 03CH21-HY
Test Engineer	Jack Cheng, Ray Lung
Temperature (°C)	18~26
Relative Humidity (%)	50~70

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

FCC Designation No.: TW3786



1.4 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, 27
- ♦ 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. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

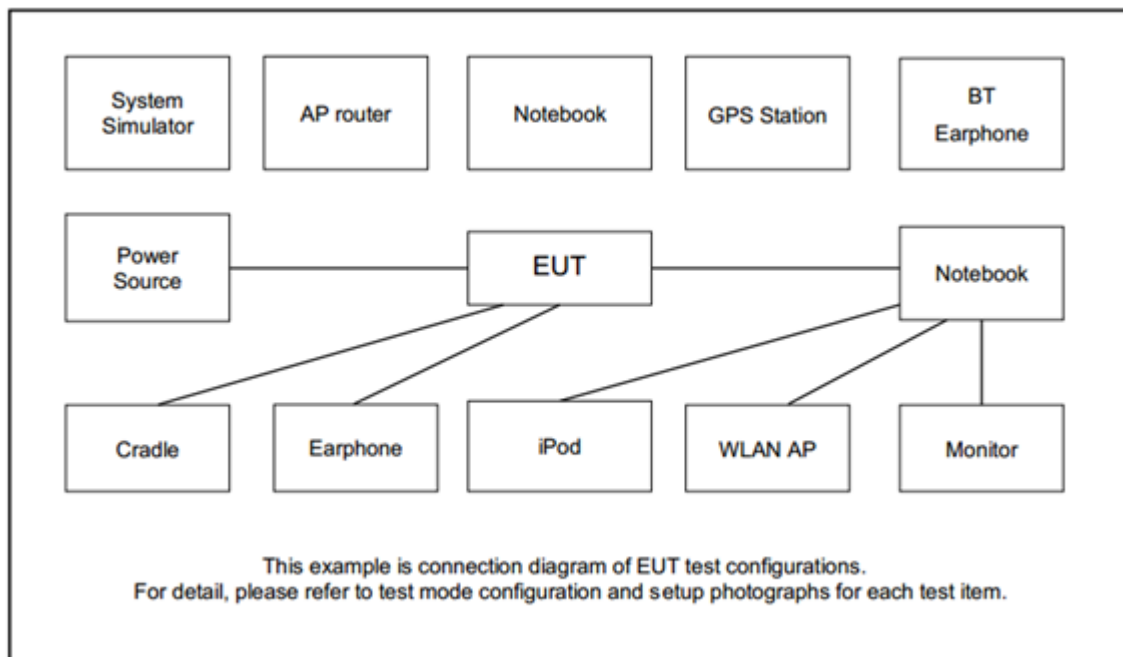
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Ant	Mode	Band	Test Mode			
			Bandwidth	Modulation	RB Size	Channel
0	1	NR N7 Link+WLAN 2.4G 802.11 HE20 ch11 Tx +RFID (RI124B)	BW 20M	BPSK	1RB0	M
0	2	NR N7 Link+WLAN 5G 802.11HE 20 CH36 TX Link+RFID (RI124B)	BW 20M	BPSK	1RB0	M

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. During the RSE preliminary test, the standalone mode and charging modes were verified. It is determined that the charging modes is the worst case for the official test.

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.	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

2.4 Frequency List of Low/Middle/High Channels

5G NR n7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	504000	507000	510000
	Frequency	2520	2535	2550

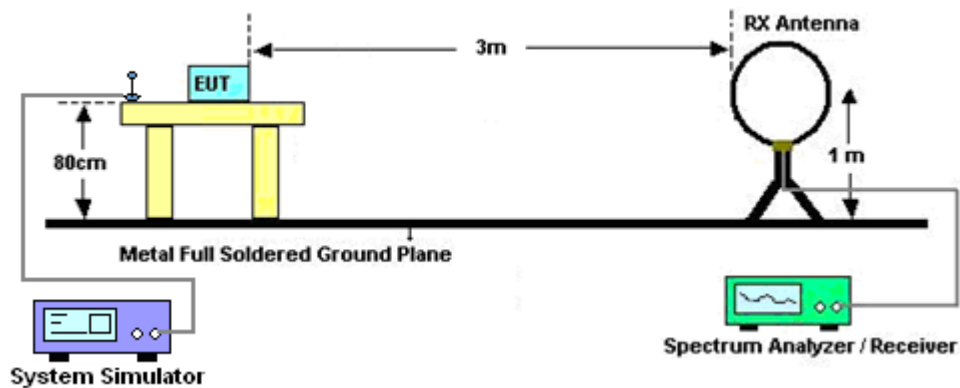
3 Radiated Test Items

3.1 Measuring Instruments

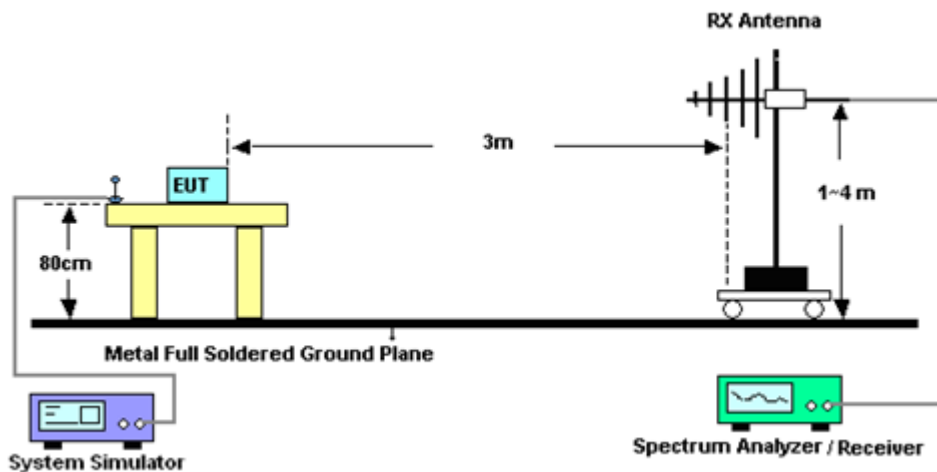
See list of measuring instruments of this test report.

3.1.1 Test Setup

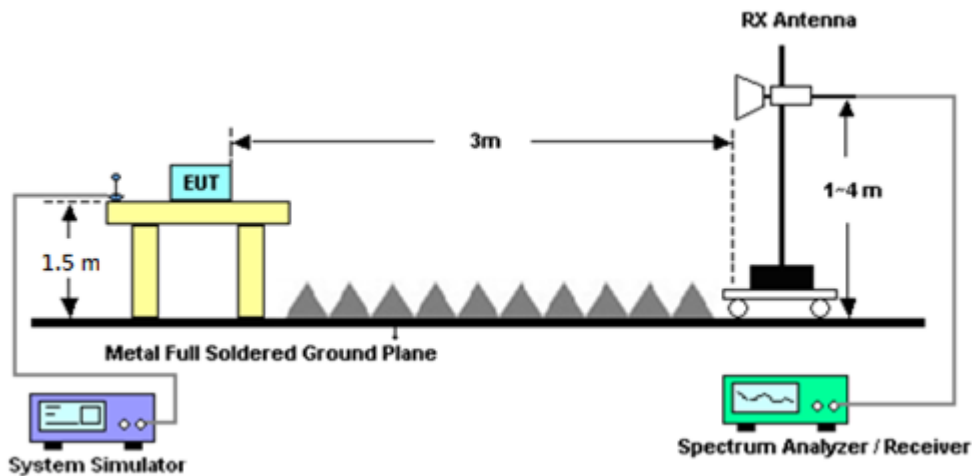
For radiated test below 30MHz



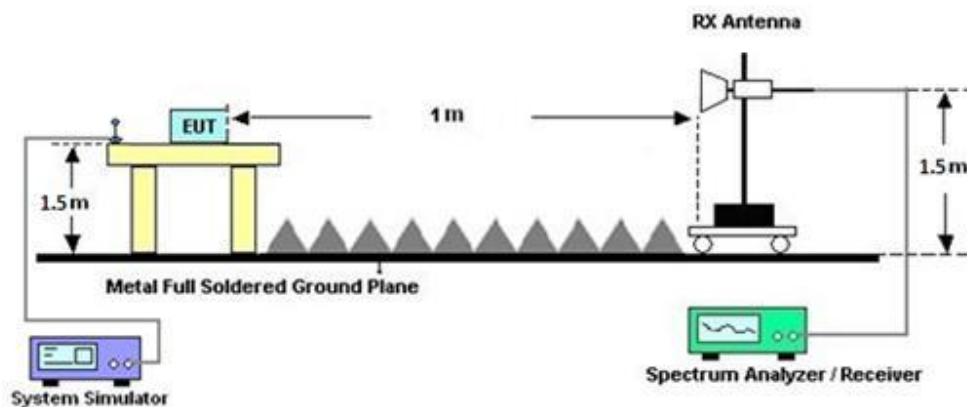
For radiated test from 30MHz to 1GHz



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 / 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 5G NR n7

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.
$$\text{Field Strength Level (dBm)} = \text{Spectrum Reading (dBm)} + \text{Antenna Factor} + \text{Cable Loss} + \text{Read Level} - \text{Preamplifier Factor}.$$
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.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

For 5G NR n7

The limit line is derived from $55 + 10\log(P)$ 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	May. 15, 2026 ~ May. 15, 2026	Dec. 10, 2026	Radiation (03CH21-HY)
Bilog Antenna	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	63303 & 001	30MHz~1GHz	Nov. 26, 2025	May. 15, 2026 ~ May. 15, 2026	Nov. 25, 2026	Radiation (03CH21-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C03A18EN	1GHz~18GHz	Aug. 07, 2025	May. 15, 2026 ~ May. 15, 2026	Aug. 06, 2026	Radiation (03CH21-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1223	18GHz~40GHz	Jul. 02, 2025	May. 15, 2026 ~ May. 15, 2026	Jul. 01, 2026	Radiation (03CH21-HY)
Amplifier	SONOMA	310N	421580	30MHz~1GHz	Jul. 13, 2025	May. 15, 2026 ~ May. 15, 2026	Jul. 12, 2026	Radiation (03CH21-HY)
Amplifier	EMEC	EM01G18GA	060876	1GHz~18GHz	Sep. 26, 2025	May. 15, 2026 ~ May. 15, 2026	Sep. 25, 2026	Radiation (03CH21-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Aug. 26, 2025	May. 15, 2026 ~ May. 15, 2026	Aug. 25, 2026	Radiation (03CH21-HY)
EXA Signal Analyzer	Keysight	N9010B	MY62170358	10Hz~44GHz	Sep. 09, 2025	May. 15, 2026 ~ May. 15, 2026	Sep. 08, 2026	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 04, 2026	May. 15, 2026 ~ May. 15, 2026	Mar. 03, 2027	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804397/2,804612/2,803954/2	30MHz~40GHz	Aug. 11, 2025	May. 15, 2026 ~ May. 15, 2026	Aug. 10, 2026	Radiation (03CH21-HY)
RF Cable	EMCI	EMC101Y-KM-KM-1000	240906	30MHz~40GHz	Oct. 21, 2025	May. 15, 2026 ~ May. 15, 2026	Oct. 20, 2026	Radiation (03CH21-HY)
Hygrometer	TECPEL	DTM-303A	TP211568	N/A	Oct. 21, 2025	May. 15, 2026 ~ May. 15, 2026	Oct. 20, 2026	Radiation (03CH21-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	May. 15, 2026 ~ May. 15, 2026	N/A	Radiation (03CH21-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	May. 15, 2026 ~ May. 15, 2026	N/A	Radiation (03CH21-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	May. 15, 2026 ~ May. 15, 2026	N/A	Radiation (03CH21-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	May. 15, 2026 ~ May. 15, 2026	N/A	Radiation (03CH21-HY)



5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.40 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 6 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.80 dB
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Uncertainty of Radiated Emission Measurement (6 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.80 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.30 dB
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Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	Jack Cheng, Ray Lung	Temperature :	21.1 ~ 25.7°C
		Relative Humidity :	55.8 ~ 63.2%

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
1	NR SA n7	Part 27M	M	10069	-55.23	RMS	37.10	-21.58	1.66	-95.23	22.82	-25.00	-30.23	V	0
2	NR SA n7	Part 27M	M	10069	-54.94	RMS	37.10	-21.58	1.66	-95.23	23.11	-25.00	-29.94	H	0

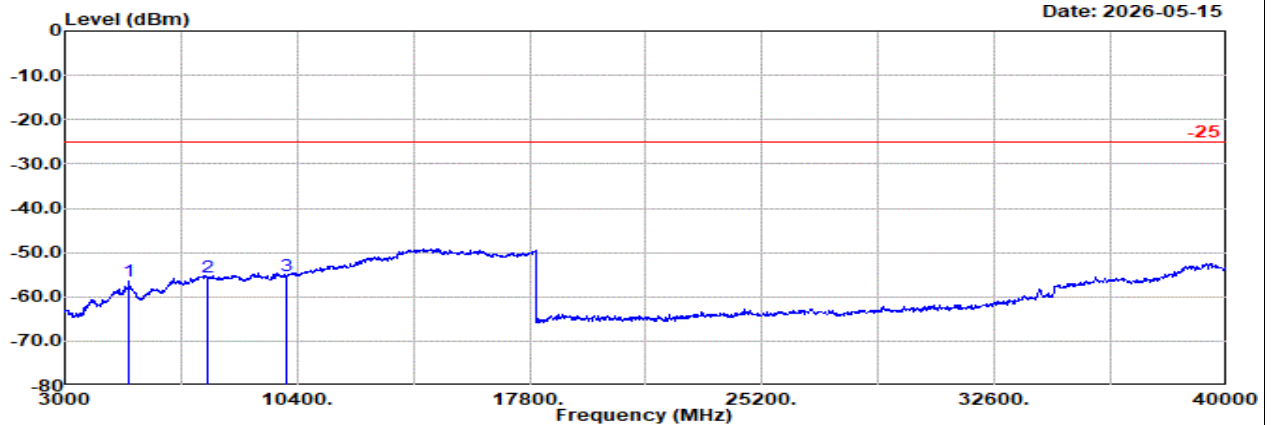


Ant. 0

Part 27M Mode 1

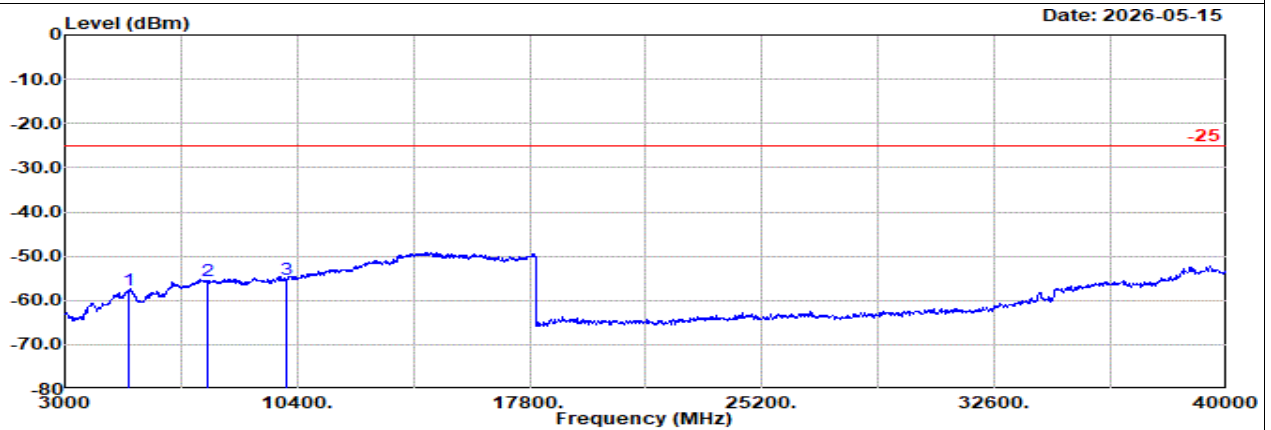
NR SA n7 40M Ch507000 1RB1 BPSK

M



Site : 03CH21-HY
Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Horizontal
: SA n7 40M Ch507000 1RB1 BPSK

	Freq Level		Detector	Ant Factor	Amp\Cb Filter 1		EIRPCF	Reading	Limit		Margin	Pol
	MHz	dBm			dB/m	dB			dBuV	dBm	dB	
1	5035.00	-56.43	RMS	32.73	-21.60	2.22	-95.23	25.45	-25.00	-31.43	Horizontal	
2	7552.00	-55.42	RMS	36.60	-21.19	1.58	-95.23	22.82	-25.00	-30.42	Horizontal	
3	10069.00	-55.25	RMS	37.10	-21.58	1.66	-95.23	22.80	-25.00	-30.25	Horizontal	



Site : 03CH21-HY
Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Vertical
: SA n7 40M Ch507000 1RB1 BPSK

	Freq Level		Detector	Ant Factor	Amp\Cb Filter 1		EIRPCF	Reading	Limit		Margin	Pol
	MHz	dBm			dB/m	dB			dBuV	dBm	dB	
1	5035.00	-57.81	RMS	32.73	-21.60	2.22	-95.23	24.07	-25.00	-32.81	Vertical	
2	7552.00	-55.53	RMS	36.60	-21.19	1.58	-95.23	22.71	-25.00	-30.53	Vertical	
3	10069.00	-55.23	RMS	37.10	-21.58	1.66	-95.23	22.82	-25.00	-30.23	Vertical	

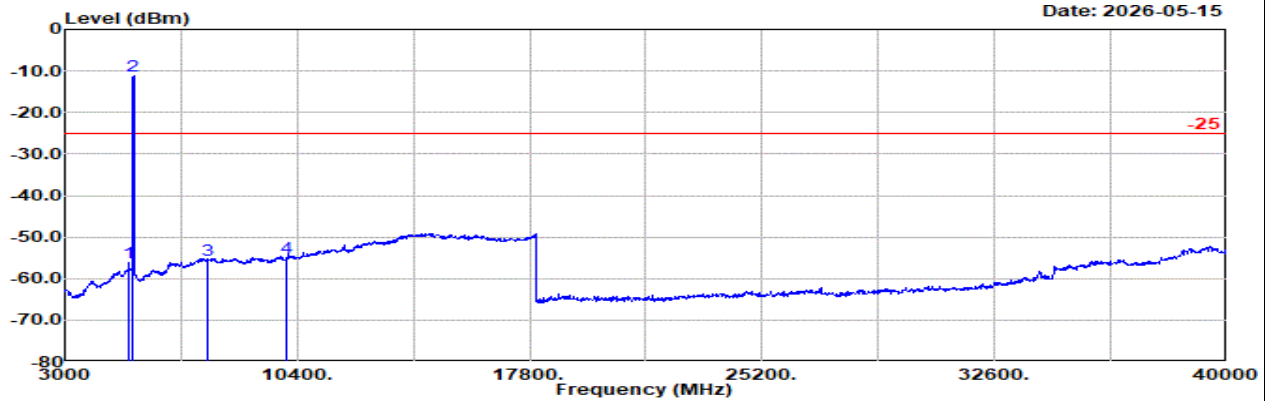


Ant. 0

Part 27M Mode 2

NR SA n7 40M Ch507000 1RB1 BPSK

M



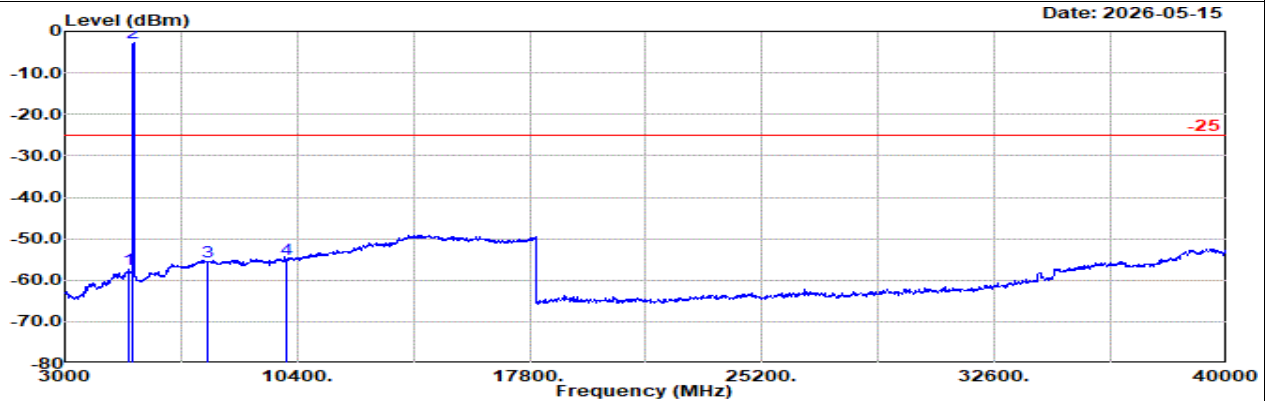
Site : 03CH21-HY

Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Horizontal

: SA n7 40M Ch507000 1RB1 BPSK

: #2 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5035.00	-56.28	RMS	32.73	-21.60	2.22	-95.23	25.60	-25.00	-31.28	Horizontal
2	5180.00	-11.30	RMS	32.50	-21.70	2.03	-95.23	71.10	-----	-----	Horizontal
3	7552.00	-55.40	RMS	36.60	-21.19	1.58	-95.23	22.84	-25.00	-30.40	Horizontal
4	10069.00	-54.94	RMS	37.10	-21.58	1.66	-95.23	23.11	-25.00	-29.94	Horizontal



Site : 03CH21-HY

Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Vertical

: SA n7 40M Ch507000 1RB1 BPSK

: #2 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5035.00	-57.33	RMS	32.73	-21.60	2.22	-95.23	24.55	-25.00	-32.33	Vertical
2	5180.00	-2.84	RMS	32.50	-21.70	2.03	-95.23	79.56	-----	-----	Vertical
3	7552.00	-55.48	RMS	36.60	-21.19	1.58	-95.23	22.76	-25.00	-30.48	Vertical
4	10069.00	-55.04	RMS	37.10	-21.58	1.66	-95.23	23.01	-25.00	-30.04	Vertical

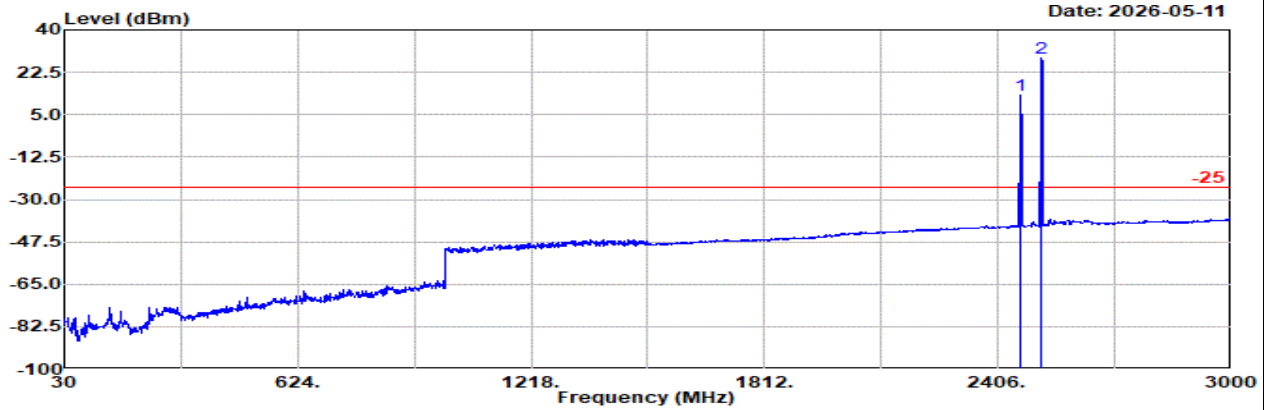


Ant. 0

Part 27M Mode 1

NR SA n7 40M Ch158600 1RB1 QPSK

M



Site : 03CH21-HY

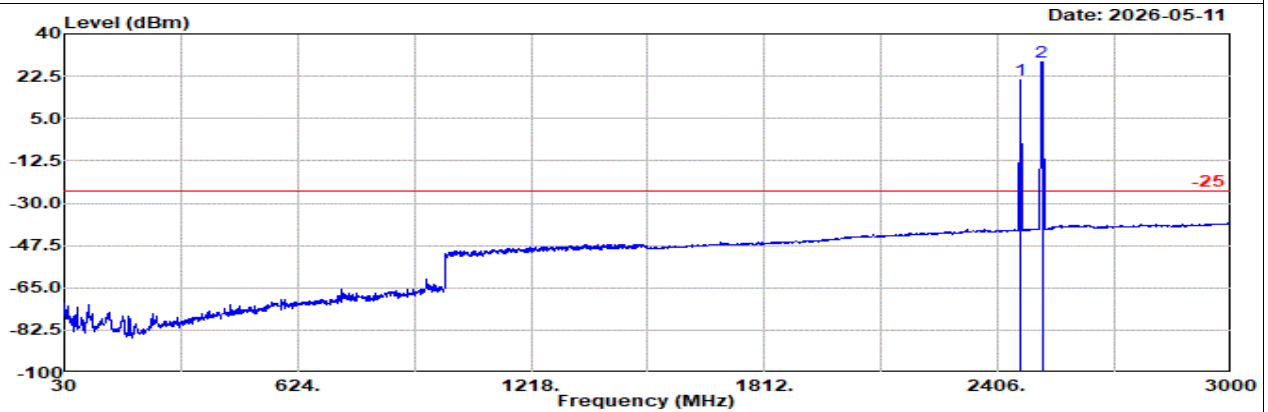
Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Horizontal

: SA n7 40M Ch507000 1RB1 BPSK

: #1 is fundamental signal which can be ignored.

: #2 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	2462.00	12.84	RMS	26.68	8.64	0.61	-95.23	72.14	-25.00	37.84	Horizontal
2	2517.38	28.18	RMS	26.87	8.75	0.62	-95.23	87.17	-25.00	53.18	Horizontal



Site : 03CH21-HY

Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Vertical

: SA n7 40M Ch507000 1RB1 BPSK

: #1 is fundamental signal which can be ignored.

: #2 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	2462.00	20.96	RMS	26.68	8.64	0.61	-95.23	80.26	-25.00	45.96	Vertical
2	2518.00	28.48	RMS	26.88	8.75	0.62	-95.23	87.46	-25.00	53.48	Vertical

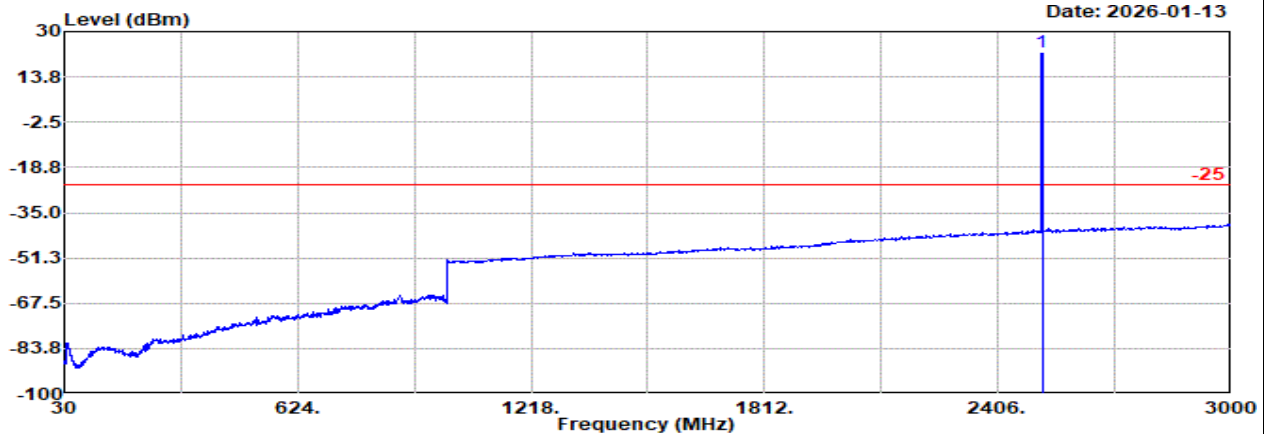


Ant. 0

Part 27M Mode 2

NR SA n7 40M Ch158600 1RB1 QPSK

M



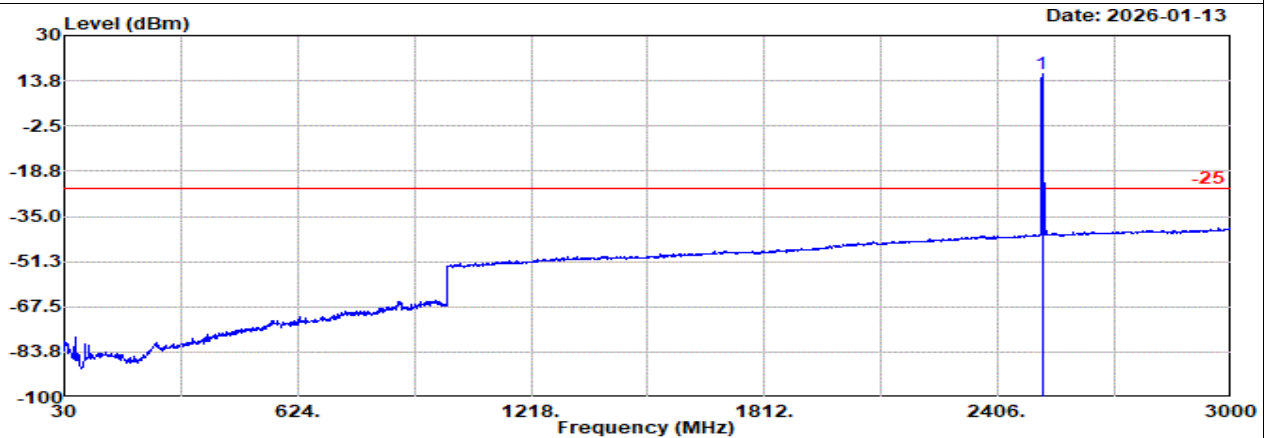
Site : 03CH21-HY

Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Horizontal

: SA n7 40M Ch507000 1RB1 BPSK

: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	2518.00	22.51	RMS	26.88	8.75	0.62	-95.23	81.49	-25.00	47.51	Horizontal



Site : 03CH21-HY

Condition: -25 3m DRH18-E_LE2C03A18EN_250807 Vertical

: SA n7 40M Ch507000 1RB1 BPSK

: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	2518.00	16.46	RMS	26.88	8.75	0.62	-95.23	75.44	-25.00	41.46	Vertical