



FCC REPORT

Applicant	:	Zhongshan Pulido Intelligent Technology Co., Ltd
Address of Applicant	:	No.30, Taiyu Road, Jidong Second Industrial Zone, Xiaolan Town, Zhongshan City, China
Manufacturer	:	Zhongshan Pulido Intelligent Technology Co., Ltd
Address of Manufacturer	:	No.30, Taiyu Road, Jidong Second Industrial Zone, Xiaolan Town, Zhongshan City, China
Equipment under Test	:	Smark lock
Model No.	:	DS04
FCC ID	:	2A8M4DS04
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C Section 15.247, ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Report No.	:	A2601065-C02-R02
Issue Date	:	2026/02/02
Issued By	:	Shenzhen Alpha Product Testing Co., Ltd. Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

Table of Contents

1.	Summary of Test Results	7
2.	General Test Information.....	8
2.1.	Description of EUT.....	8
2.2.	Accessories of EUT	8
2.3.	Block diagram of EUT configuration for test.....	8
2.4.	Test mode description	9
2.5.	Deviations of test standard	9
2.6.	Test environment conditions.....	9
2.7.	Test laboratory	9
2.8.	Measurement uncertainty	10
3.	Spurious Emission	11
3.1.	Test equipment	11
3.2.	Block diagram of test setup	11
3.3.	Limits.....	12
3.4.	Assistant equipment used for test	13
3.5.	Test procedure	13
3.6.	Test result	14
3.7.	Test data	15
4.	RF Conducted Spurious Emissions.....	21
4.1.	Test equipment	21
4.2.	Block diagram of test setup	21
4.3.	Limits.....	21
4.4.	Assistant equipment used for test	21
4.5.	Test procedure	21
4.6.	Test result	22
5.	Power Line Conducted Emissions.....	23
5.1.	Test equipment	23
5.2.	Block diagram of test setup	23
5.3.	Limits.....	23
5.4.	Assistant equipment used for test	23
5.5.	Test procedure	23
5.6.	Test result	24
6.	Duty Cycle.....	25
6.1.	Test equipment	25
6.2.	Block diagram of test setup	25
6.3.	Limits.....	25

6.4.	Assistant equipment used for test	25
6.5.	Test procedure	25
6.6.	Test result	26
7.	Maximum Conducted Output Power	27
7.1.	Test equipment	27
7.2.	Block diagram of test setup	27
7.3.	Limits.....	27
7.4.	Assistant equipment used for test	27
7.5.	Test procedure	27
7.6.	Test result	28
8.	Maximum Power Spectral Density Level	29
8.1.	Test equipment	29
8.2.	Block diagram of test setup	29
8.3.	Limits.....	29
8.4.	Assistant equipment used for test	29
8.5.	Test procedure	29
8.6.	Test result	30
9.	-6 dB Bandwidth and 99% Bandwidth	31
9.1.	Test equipment	31
9.2.	Block diagram of test setup	31
9.3.	Limits.....	31
9.4.	Assistant equipment used for test	31
9.5.	Test procedure	31
9.6.	Test result	32
10.	Band Edge(Conducted)	33
10.1.	Test equipment	33
10.2.	Block diagram of test setup	33
10.3.	Limits.....	33
10.4.	Assistant equipment used for test	33
10.5.	Test procedure	34
10.6.	Test result	34
11.	Band Edge(Radiated)	35
11.1.	Test equipment	35
11.2.	Block diagram of test setup	35
11.3.	Limits.....	35
11.4.	Assistant equipment used for test	36
11.5.	Test procedure	36
11.6.	Test result	36

11.7.	Test data	37
12.	Antenna Requirement.....	39
12.1.	Test equipment	39
12.2.	Block diagram of test setup	39
12.3.	Limits.....	39
12.4.	Assistant equipment used for test	39
12.5.	Test procedure.....	39
12.6.	Test result	39
13.	Test Setup Photograph.....	41
14.	Photos of the EUT	42
15.	Annex.....	43

Test Report Declare

Applicant	:	Zhongshan Pulido Intelligent Technology Co., Ltd
Address of Applicant	:	No.30, Taiyu Road, Jidong Second Industrial Zone, Xiaolan Town, Zhongshan City, China
Manufacturer	:	Zhongshan Pulido Intelligent Technology Co., Ltd
Address of Manufacturer	:	No.30, Taiyu Road, Jidong Second Industrial Zone, Xiaolan Town, Zhongshan City, China
Equipment under Test	:	Smarm lock
Model No.	:	DS04
Trademark	:	/

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247, ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024

We Declare:

The equipment described above is tested by Shenzhen Alpha Product Testing Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	A2601065-C02-R02		
Date of Receipt:	2026/01/20	Date of Test:	2026/01/20 - 2026/01/21

Prepared By:

Yannis Wen/Engineer

Approved By:

Jack Xu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
V0	Initial issue	2026/02/02	Yannis Wen

1. Summary of Test Results

No.	Test Parameter	Clause No.	Result
1	Spurious Emission	FCC Part 15: 15.209, FCC Part 15: 15.247(d), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
2	RF Conducted Spurious Emissions	FCC Part 15: 15.247(d), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
3	Power Line Conducted Emissions	FCC Part 15: 15.207, ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	N/A
4	Duty Cycle	ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
5	Maximum Conducted Output Power	FCC Part 15: 15.247(b)(3), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
6	Maximum Power Spectral Density Level	FCC PART 15:15.247(e), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
7	-6 dB Bandwidth and 99% Bandwidth	FCC PART 15:15.247(a)(2), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
8	Band Edge(Conducted)	FCC Part 15: 15.247(d), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
9	Band Edge(Radiated)	FCC Part 15: 15.247(d), ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	Pass
10	Antenna Requirement	FCC Part 15: 15.203	Pass

Note: 1.N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

2. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	Farad	Alpha-3A1
RF-CE	MTS 8310	MWRFTtest	V2.0.0.0

2. General Test Information

2.1. Description of EUT

EUT Name	: Smark lock
Model Number	: DS04
Difference of model number	: /
Power Supply	: DC 6V From Battery, DC 5V From Type-C for Emergency Mode
Hardware Version	: V1.0
Software Version	: V1.0

Radio Technology	: IEEE 802.11b/g/n
Operation frequency	: IEEE 802.11b: 2412MHz to 2462MHz IEEE 802.11g: 2412MHz to 2462MHz IEEE 802.11n HT20: 2412MHz to 2462MHz IEEE 802.11n HT40: 2422MHz to 2452MHz
Modulation	: IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Type	: FPC Antenna
Max Antenna Gain(dBi)	: 3.69dBi(Antenna information is provided by applicant.)

Channel information					
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447	/	/

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

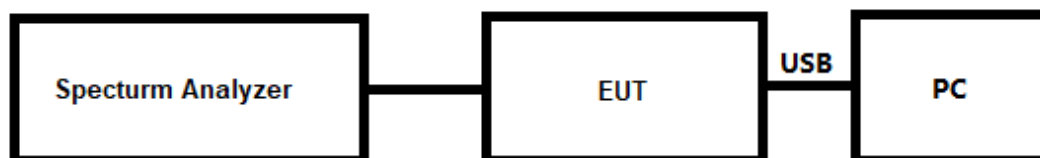
“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test

Conducted Test Setup



Radiated Test Setup



2.4. Test mode description

The test software “Beken Wi-Fi Test Tool V1.7.8.1” was used to control EUT work in Continuous TX mode, and select test channel, default power level, wireless mode:

Mode	Data rate (Mbps)	Channel	Frequency(MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11n HT20	MCS0	Low :CH1	2412
	MCS0	Middle: CH6	2437
	MCS0	High: CH11	2462
IEEE 802.11n HT40	MCS0	Low :CH3	2422
	MCS0	Middle: CH6	2437
	MCS0	High: CH9	2452

Note1: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Items	Required
Temperature range:	15-35°C
Humidity range:	25-75%
Pressure range:	86-106kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Shenzhen Alpha Product Testing Co., Ltd.

Add.: Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

Tel.: 4008-3008-95, Website: <http://www.a-lab.cn>, Email: service@a-lab.cn

CNAS Accreditation No. L7472; A2LA Accreditation Number: 4762.01

FCC Designation Number: CN1182, Test Firm Registration Number: 203110

Innovation, Science and Economic Development Canada Site Registration Number: 12135A

CAB identifier: CN0085

2.8. Measurement uncertainty

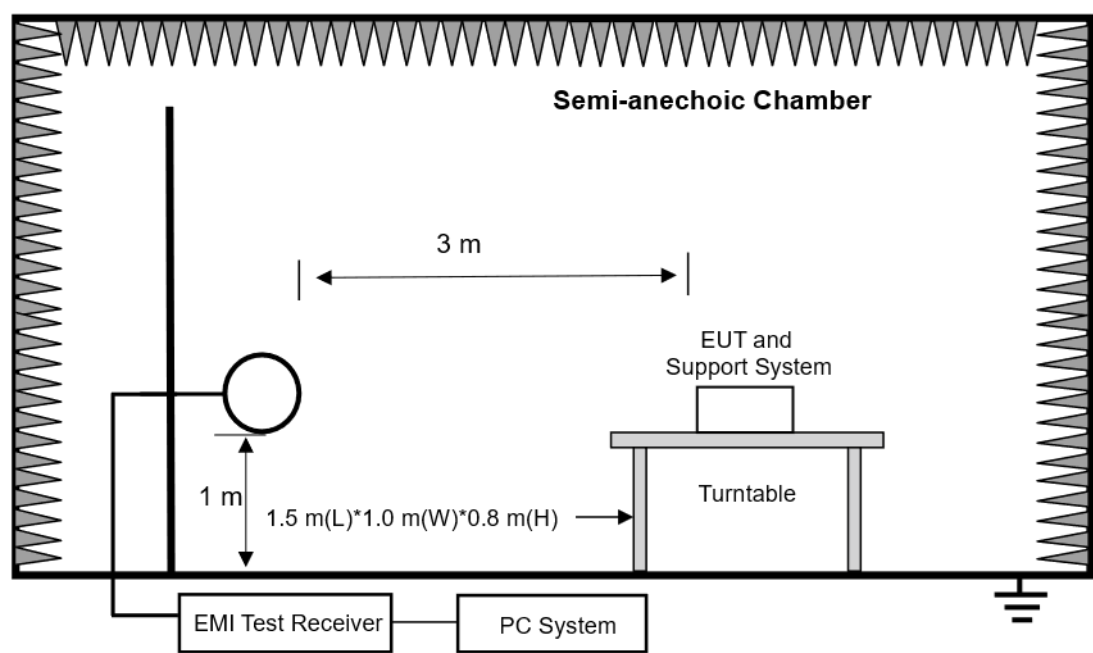
Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8} GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

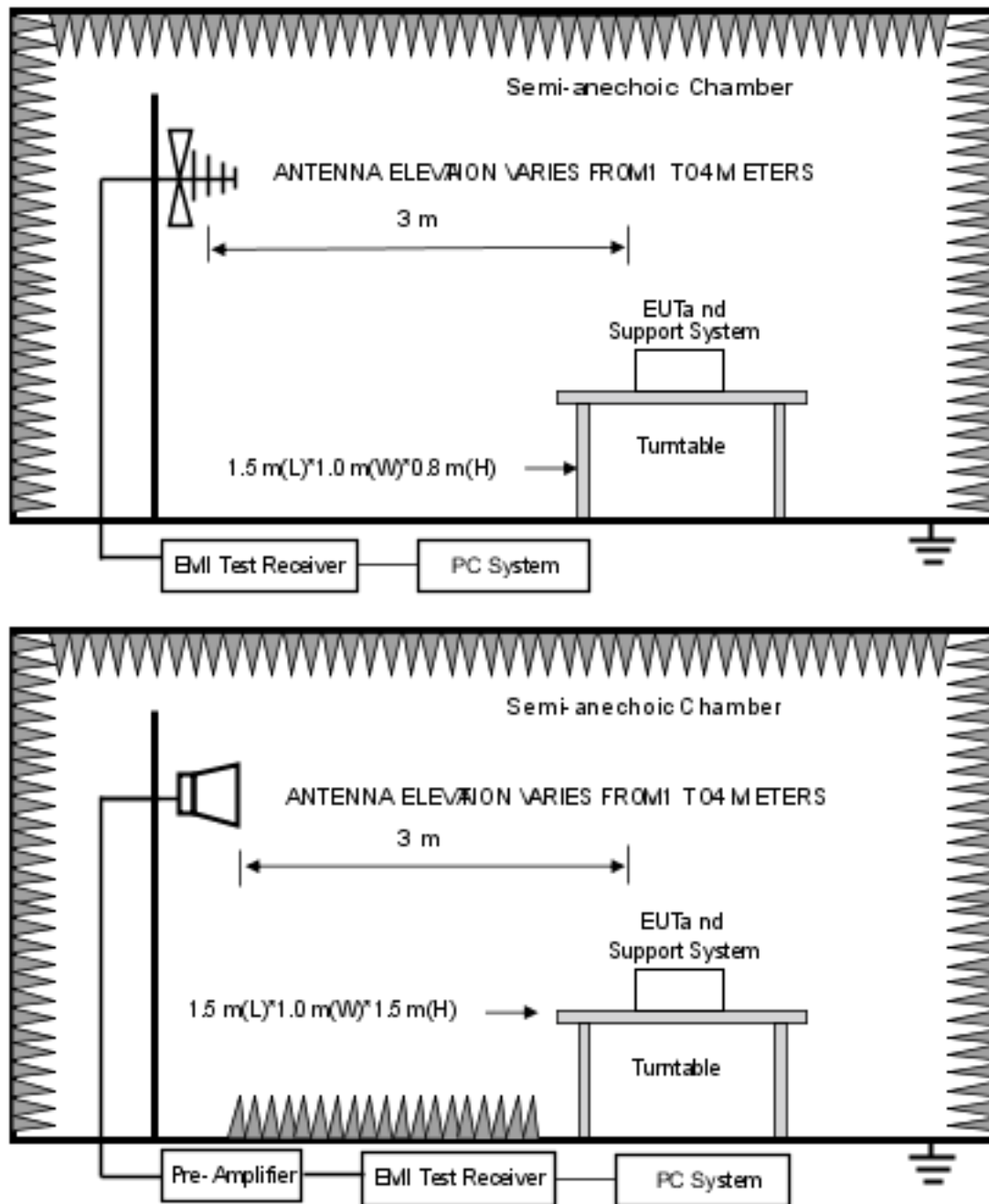
3. Spurious Emission

3.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
Spectrum analyzer	ROHDE&SCHWARZ	FSU	Aa-EE075	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9120 D	Aa-EE076	2025/08/11	2027/08/10
Test Receiver	ROHDE&SCHWARZ	ESR	Aa-EE048	2025/08/04	2026/08/03
Bilog Antenna	SCHWARZBECK	VULB 9168	Aa-EE001	2025/08/11	2027/08/10
Amplifier	SKET	LNPA_0118G-45	Aa-EE087	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9170	Aa-EE077	2025/08/11	2027/08/10
Loop Antenna	SCHWARZBECK	FMZB 1519B	Aa-EE074	2025/08/11	2027/08/10

3.2. Block diagram of test setup





3.3. Limits

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5

4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

1Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2Above 38.6

(2) FCC 15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		uV/m	dBuV/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 dBuV/m (Peak) 54.0 dBuV/m (Average)	

Note: Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

3.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

3.5. Test procedure

The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1GHz, The EUT was placed on a rotating 0.8 m high above ground for below 1GHz and 1.5m high for above 1GHz testing, The table was rotated 360 degrees to determine the position of the highest radiation

The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set of make measurement.

The initial step in collecting conducted emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Qusia Peak Detector mode premeasured.

If Peak value comply with QP limit Below 1GHz.The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.

For the actual test configuration, please see the test setup photo.

3.6. Test result

Test Site: Chamber 1#(RSE)	Test Date: 2026/01/20--2026/01/20
Condition: 24°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: See below detailed test result

Test Condition

Continual Transmitting in maximum power.

9KHz~150KHz	RBW200Hz	VBW1KHz
150KHz~30MHz	RBW9KHz	VBW 30KHz
30MHz~1GHz	RBW120KHz	VBW 300KHz
Above1GHz	RBW1MHz	VBW 3MHz

We have scanned the 10th harmonic from 9 kHz to the EUT.

Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

Note: 1.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

2. Only show the test data of the worst Channel in this report.

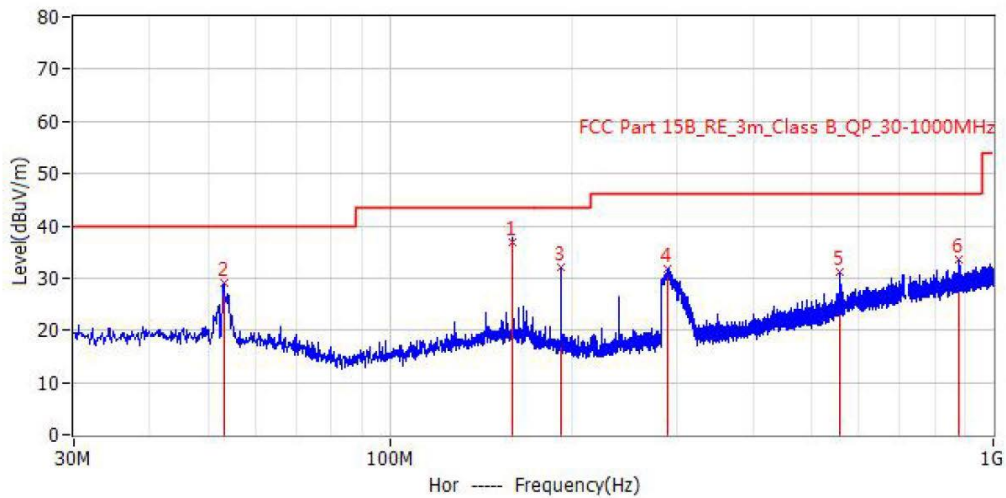
3.7. Test data



深圳阿尔法商品检验有限公司
SHENZHEN ALPHA PRODUCT TESTING CO.,LTD.

深圳阿尔法商品检验有限公司
Shenzhen Alpha Product Testing Co.,Ltd.
地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Test Lab: ALPHA test Lab chamber 1	Project: A2601065-C02
EUT: A2601065-S0002	Test Engineer: Yanni3 wen
M/N:	Temperature: 24℃
S/N:	Humidity: 56%RH
Test Mode: Mode 1	Test Voltage: DC 6V From Battery
Note:	Test Data: 2026-01-20 14:57:51



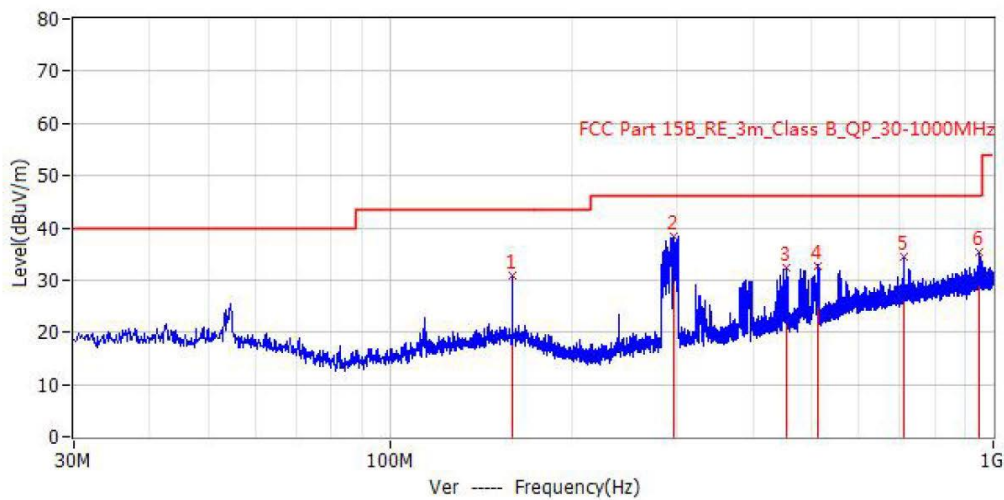
No.	Frequency	Limit dBuV/m	Level dBuV/m	Margin dB	Factor dB/m	Detector	Height cm	Height cm	Angle deg
1	159.980MHz	43.5	36.9	-6.6	21.7	QP	Hor	200.0	50.5
2*	53.159MHz	40.0	29.1	-10.9	21.6	PK	Hor	200.0	43.0
3*	192.596MHz	43.5	32.1	-11.4	18.4	PK	Hor	200.0	209.0
4*	287.899MHz	46.0	31.8	-14.2	20.8	PK	Hor	200.0	177.0
5*	556.225MHz	46.0	31.1	-14.9	26.0	PK	Hor	200.0	63.0
6*	876.568MHz	46.0	33.5	-12.5	30.7	PK	Hor	200.0	84.0



深圳阿尔法商品检验有限公司
SHENZHEN ALPHA PRODUCT TESTING CO.,LTD.

深圳阿尔法商品检验有限公司
Shenzhen Alpha Product Testing Co.,Ltd.
地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Test Lab: ALPHA test Lab chamber 1	Project: A2601065-C02
EUT: A2601065-S0002	Test Engineer: Yanni's Wen
M/N:	Temperature: 24℃
S/N:	Humidity: 56%RH
Test Mode: Mode 1	Test Voltage: DC 6V From Battery
Note:	Test Data: 2026-01-20 14:59:07



No.	Frequency	Limit dBuV/m	Level dBuV/m	Margin dB	Factor dB/m	Detector	Height cm	Height cm	Angle deg
1*	159.980MHz	43.5	31.0	-12.5	21.7	PK	Ver	100.0	131.0
2*	296.023MHz	46.0	38.3	-7.7	21.0	PK	Ver	100.0	213.0
3*	455.466MHz	46.0	32.5	-13.5	23.9	PK	Ver	100.0	181.0
4*	513.666MHz	46.0	32.8	-13.2	24.8	PK	Ver	100.0	274.0
5*	711.425MHz	46.0	34.5	-11.5	28.6	PK	Ver	100.0	119.0
6*	948.348MHz	46.0	35.4	-10.6	31.8	PK	Ver	100.0	58.0

From 1G-25GHz

Test Mode: IEEE 802.11b TX Low									
Freq (MHz)	Read Level (dBUV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark
4824	43.07	V	33.95	10.18	34.26	52.94	74	-21.06	PK
4824	37.37	V	33.95	10.18	34.26	47.24	54	-6.76	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	43.97	H	33.95	10.18	34.26	53.84	74	-20.16	PK
4824	35.79	H	33.95	10.18	34.26	45.66	54	-8.34	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11b TX Mid									
4874	44.36	V	33.93	10.2	34.29	54.20	74	-19.80	PK
4874	32.25	V	33.93	10.2	34.29	42.09	54	-11.91	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	47.69	H	33.93	10.2	34.29	57.53	74	-16.47	PK
4874	33.96	H	33.93	10.2	34.29	43.80	54	-10.20	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11b TX High									
4924	46.07	V	33.98	10.22	34.25	56.02	74	-17.98	PK
4924	36.15	V	33.98	10.22	34.25	46.10	54	-7.90	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	45.72	H	33.98	10.22	34.25	55.67	74	-18.33	PK
4924	32.92	H	33.98	10.22	34.25	42.87	54	-11.13	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

Test Mode: IEEE 802.11g TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	42.95	V	33.95	10.18	34.26	52.82	74	-21.18	PK
4824	34.33	V	33.95	10.18	34.26	44.20	54	-9.80	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	42.93	H	33.95	10.18	34.26	52.80	74	-21.20	PK
4824	33.53	H	33.95	10.18	34.26	43.40	54	-10.60	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11g TX Mid									
4874	43.26	V	33.93	10.2	34.29	53.10	74	-20.90	PK
4874	31.54	V	33.93	10.2	34.29	41.38	54	-12.62	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	44.23	H	33.93	10.2	34.29	54.07	74	-19.93	PK
4874	34.37	H	33.93	10.2	34.29	44.21	54	-9.79	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11g TX High									
4924	47.15	V	33.98	10.22	34.25	57.10	74	-16.90	PK
4924	35.65	V	33.98	10.22	34.25	45.60	54	-8.40	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	48.81	H	33.98	10.22	34.25	58.76	74	-15.24	PK
4924	34.78	H	33.98	10.22	34.25	44.73	54	-9.27	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

Test Mode: IEEE 802.11n HT20 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	45.16	V	33.95	10.18	34.26	55.03	74	-18.97	PK
4824	36.47	V	33.95	10.18	34.26	46.34	54	-7.66	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	43.52	H	33.95	10.18	34.26	53.39	74	-20.61	PK
4824	37.14	H	33.95	10.18	34.26	47.01	54	-6.99	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT20 TX Mid									
4874	44.85	V	33.93	10.2	34.29	54.69	74	-19.31	PK
4874	33.84	V	33.93	10.2	34.29	43.68	54	-10.32	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	47.27	H	33.93	10.2	34.29	57.11	74	-16.89	PK
4874	34.01	H	33.93	10.2	34.29	43.85	54	-10.15	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT20 TX High									
4924	47.70	V	33.98	10.22	34.25	57.65	74	-16.35	PK
4924	34.77	V	33.98	10.22	34.25	44.72	54	-9.28	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	48.58	H	33.98	10.22	34.25	58.53	74	-15.47	PK
4924	32.77	H	33.98	10.22	34.25	42.72	54	-11.28	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

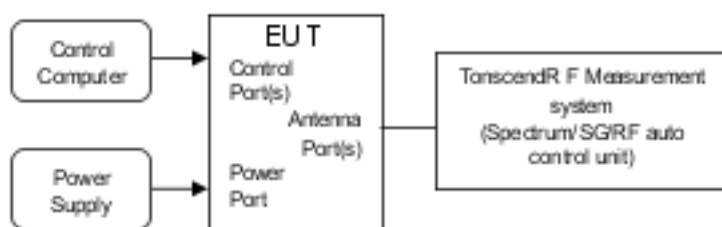
Test Mode: IEEE 802.11n HT40 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4844	45.30	V	33.95	10.18	34.26	55.17	74	-18.83	PK
4844	35.45	V	33.95	10.18	34.26	45.32	54	-8.68	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
4844	45.22	H	33.95	10.18	34.26	55.09	74	-18.91	PK
4844	33.83	H	33.95	10.18	34.26	43.70	54	-10.30	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT40 TX Mid									
4874	45.04	V	33.93	10.2	34.29	54.88	74	-19.12	PK
4874	31.76	V	33.93	10.2	34.29	41.60	54	-12.40	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	46.41	H	33.93	10.2	34.29	56.25	74	-17.75	PK
4874	33.71	H	33.93	10.2	34.29	43.55	54	-10.45	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT40 TX High									
4904	47.10	V	33.98	10.22	34.25	57.05	74	-16.95	PK
4904	35.59	V	33.98	10.22	34.25	45.54	54	-8.46	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/
4904	49.14	H	33.98	10.22	34.25	59.09	74	-14.91	PK
4904	34.98	H	33.98	10.22	34.25	44.93	54	-9.07	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

4. RF Conducted Spurious Emissions

4.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

4.2. Block diagram of test setup



4.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

4.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

4.5. Test procedure

The test receiver set RBW = 100kHz, VBW $\geq$ 3*RBW =300kHz, sweep time set auto, detail see the test plot

4.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: Please refer to Conducted RF Spurious Emission of Annex.

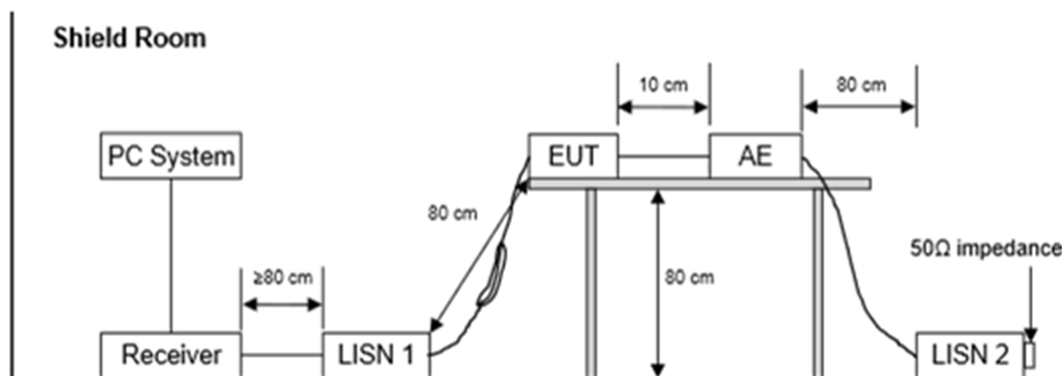
/

5. Power Line Conducted Emissions

5.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
Test Receiver	ROHDE&SCHWARZ	ESCI	Aa-EE005	2025/08/04	2026/08/03
Pulse Limiter	SCHWARZBEC K	9516F	Aa-EE004	2025/08/04	2026/08/03
L.I.S.N.	SCHWARZBEC K	NSLK8126	Aa-EE003	2025/08/04	2026/08/03

5.2. Block diagram of test setup



5.3. Limits

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3. The limit decreases in line with the logarithm of the frequency in rang of 0.15 to 0.50 MH

5.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

5.5. Test procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9 kHz.

5.6. Test result

Test Site: Shield Room CE 1#	Test Date: 2026/01/20--2026/01/20
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: /
Power supply: /	Memo: EUT power supply by battery, so the test not applicable.

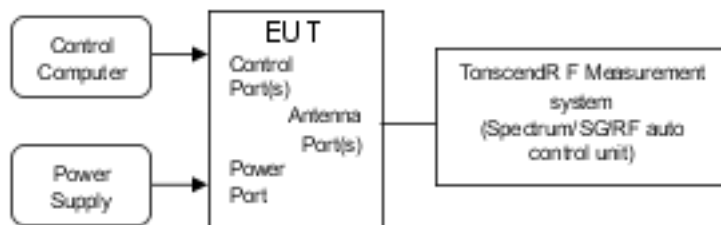
/

6. Duty Cycle

6.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

6.2. Block diagram of test setup



6.3. Limits

Please refer KDB 558074 D01 Meas Guidance v05r02.

The duty cycle refers to the fraction of time over which the transmitter is ON and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than $\pm 2\%$; otherwise, the duty cycle is considered to be nonconstant.

6.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

6.5. Test procedure

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on- and off-times of the transmitted signal.

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
- 3) Set detector = average.
- 4) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100.

6.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: Please refer to Duty Cycle of Annex.

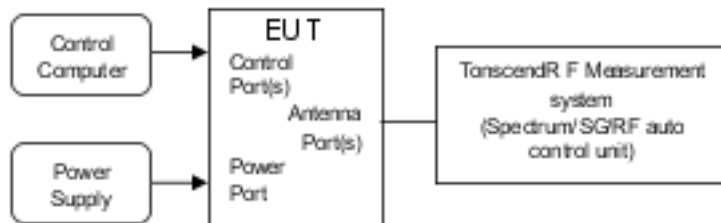
/

7. Maximum Conducted Output Power

7.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

7.2. Block diagram of test setup



7.3. Limits

Please refer section 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1 W(30dBm)

7.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

7.5. Test procedure

Uses trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:

- Measure the duty cycle D of the transmitter output signal.
- Set span to >1.5 times the OBW.
- Set RBW = 1% to 5% of the OBW, but do not exceed 1 MHz.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto.

g) Detector = Power averaging (rms).

h) Do not use sweep triggering. Allow the sweep to “free run.”

i) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 until trace is stabilized so that the average accurately represents the true average over the ON and OFF periods of the transmitter.

j) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band-power measurement function with band limits set equal to the OBW band-edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

k) Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission).

7.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: Please refer to Maximum Conducted Output Power of Annex.

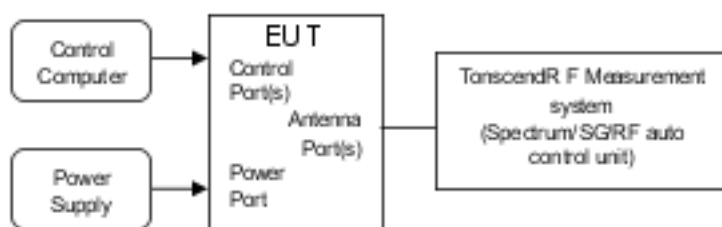
/

8. Maximum Power Spectral Density Level

8.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

8.2. Block diagram of test setup



8.3. Limits

Please refer section 15.247.

For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph(d) of this section.

8.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

8.5. Test procedure

Details see the KDB 558074 D01 15.247 Meas Guidance v05r02

Place the EUT on the table and set it in transmitting mode.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

Set the spectrum analyzer as RBW = 3kHz(Set the RBW to: $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$.), VBW = 10kHz(Set the $\text{VBW} \geq 3 \times \text{RBW}$), span=1.5×DTS bandwidth, detail see the test plot.

Record the max reading.

Repeat the above procedure until the measurements for all frequencies are completed.

8.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: Please refer to Maximum Power Spectral Density Level of Annex.

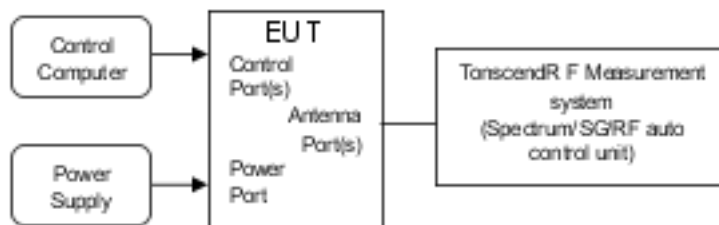
/

9. -6 dB Bandwidth and 99% Bandwidth

9.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

9.2. Block diagram of test setup



9.3. Limits

Please refer section 15.247

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

9.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

9.5. Test procedure

Details see the KDB 558074 D01 15.247 Meas Guidance v05r02

a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 100kHz, VBW $\geq$ 3*RBW =300kHz, sweep time set auto, detail see the test plot.

9.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: All modes
Power supply: DC 6V From Battery	Memo: Please refer to -6dB Bandwidth&Occupied Channel Bandwidth of Annex.

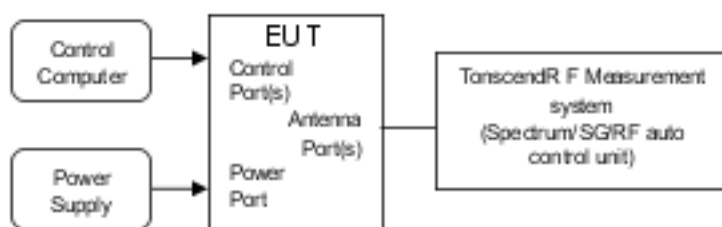
/

10. Band Edge(Conducted)

10.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

10.2. Block diagram of test setup



10.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

10.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

10.5. Test procedure

- 1) Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation.
- 2) Reference level: As required to keep the signal from exceeding the maximum instrument input mixer level for linear operation.
- 3) Attenuation: Auto (at least 10 dB preferred).
- 4) Sweep time: Coupled.
- 5) Resolution bandwidth: 100 kHz.
- 6) Video bandwidth: 300 kHz.
- 7) Detector: Peak.
- 8) Trace: Max hold.

10.6. Test result

Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: IEEE 802.11 b/g/n20/n40-L/H
Power supply: DC 6V From Battery	Memo: Please refer to Band Edge of Annex.

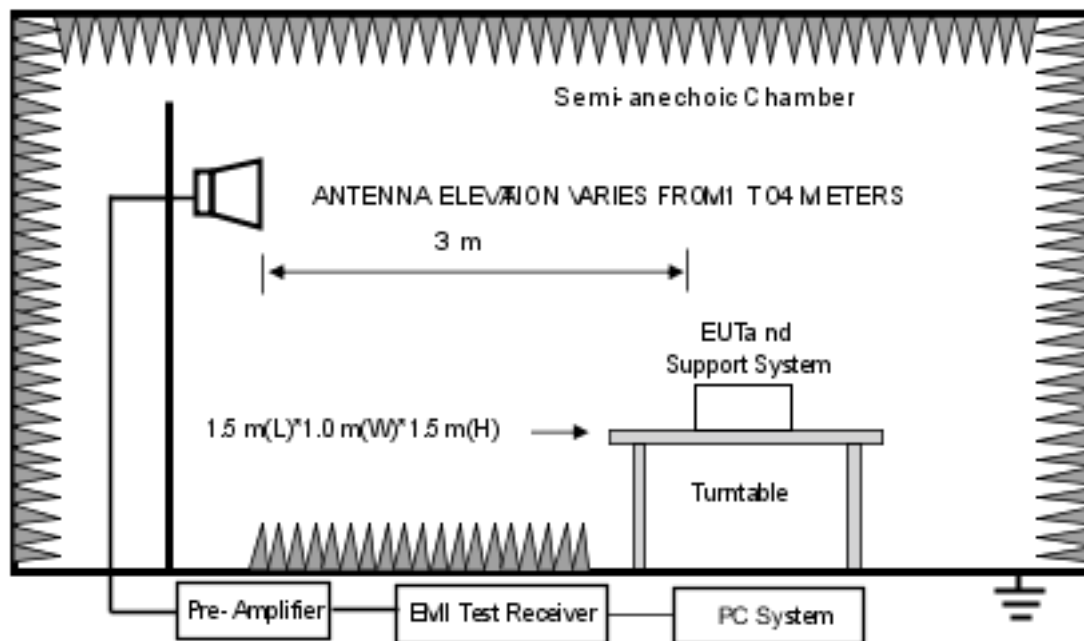
/

11. Band Edge(Radiated)

11.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
Spectrum analyzer	ROHDE&SCHWARZ	FSU	Aa-EE075	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9120 D	Aa-EE076	2025/08/11	2027/08/10
Test Receiver	ROHDE&SCHWARZ	ESR	Aa-EE048	2025/08/04	2026/08/03
Bilog Antenna	SCHWARZBECK	VULB 9168	Aa-EE001	2025/08/11	2027/08/10
Amplifier	SKET	LNPA_0118G-45	Aa-EE087	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9170	Aa-EE077	2025/08/11	2027/08/10
Loop Antenna	SCHWARZBECK	FMZB 1519B	Aa-EE074	2025/08/11	2027/08/10

11.2. Block diagram of test setup



11.3. Limits

Please refer section 15.247.

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

11.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

11.5. Test procedure

Details see the KDB 558074 D01 15.247 Meas Guidance v05r02

Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

Check the spurious emissions out of band.

RBW 1MHz, VBW 3MHz, peak detector for peak value, RBW 1MHz, VBW 3MHz, RMS detector for AV value.

All restriction band and non- restriction band have been tested, only worse case is reported.

11.6. Test result

Test Site: Chamber 1#(RSE)	Test Date: 2026/01/21--2026/01/21
Condition: 24.1°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

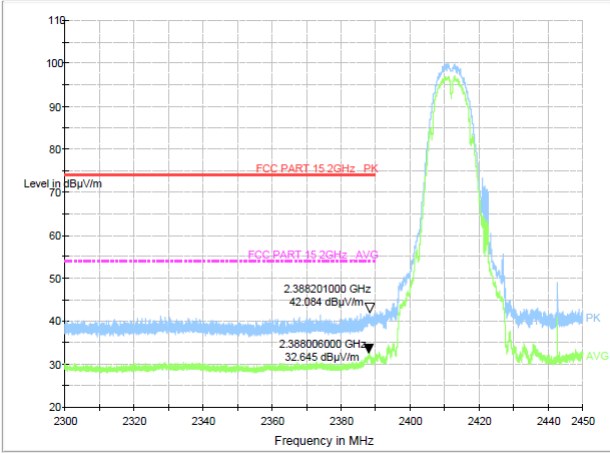
EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: IEEE 802.11 g-L/H
Power supply: DC 6V From Battery	Memo: /

/

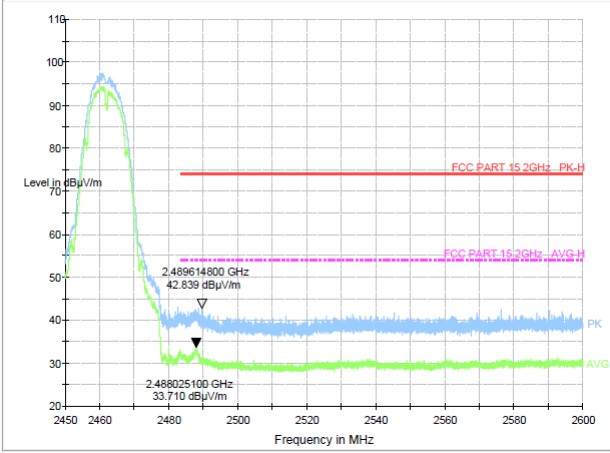
11.7. Test data

Radiated Method

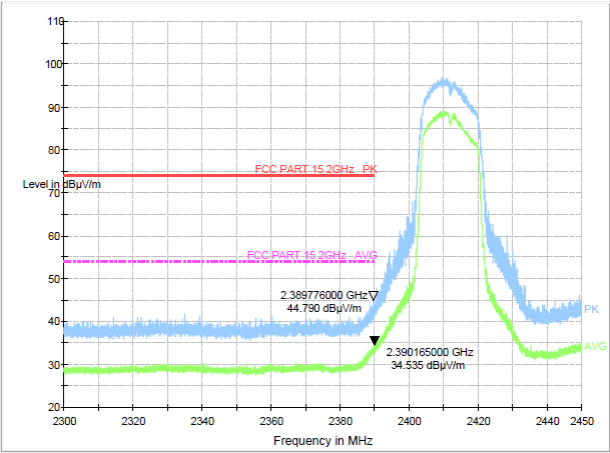
Test Mode: IEEE 802.11b-Low



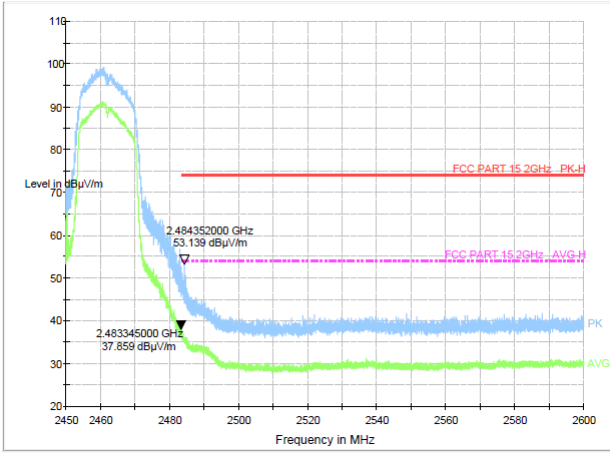
Test Mode: IEEE 802.11b-High



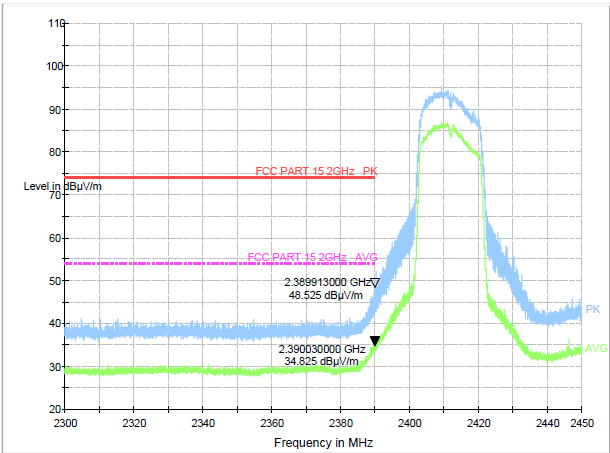
Test Mode: IEEE 802.11g-Low



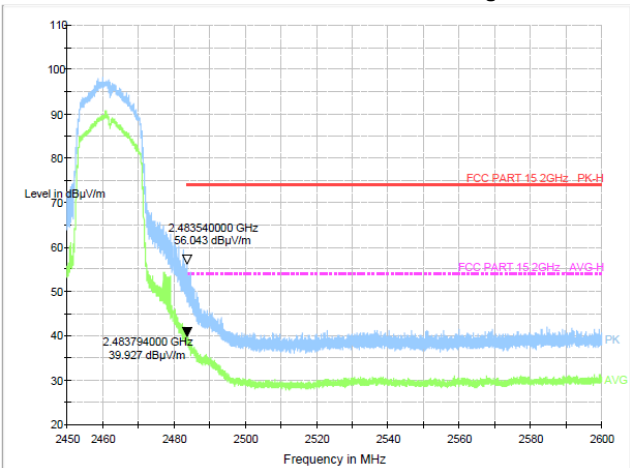
Test Mode: IEEE 802.11g-High



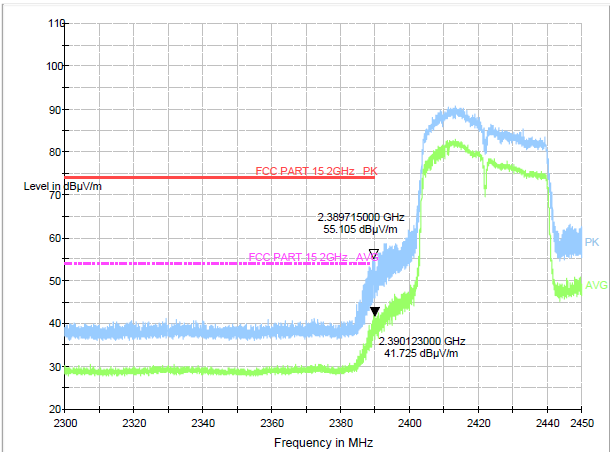
Test Mode: IEEE 802.11n20-Low



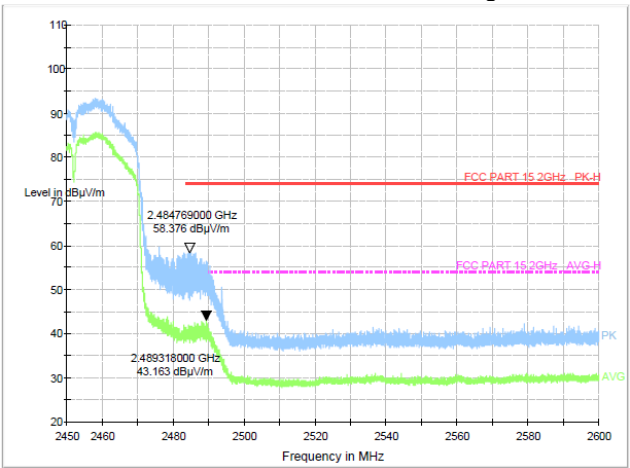
Test Mode: IEEE 802.11n20-High



Test Mode: IEEE 802.11n40-Low



Test Mode: IEEE 802.11n40-High

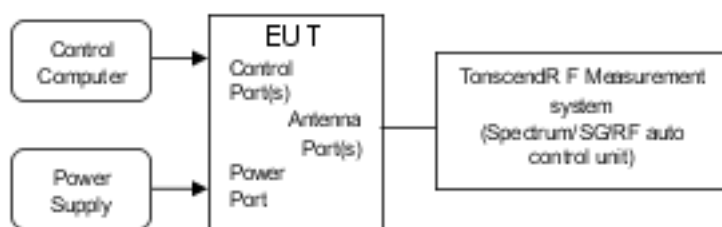


12. Antenna Requirement

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2025/08/04	2026/08/03
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2025/08/04	2026/08/03
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE071	2025/08/04	2026/08/03
Power Sensor	DARE	RPR3006W	Aa-EE070	2025/08/04	2026/08/03
Power meter	Agilent	E4419B	Aa-EE045	2025/08/04	2026/08/03

12.2. Block diagram of test setup



12.3. Limits

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

12.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

12.5. Test procedure

The antenna is FPC antenna and no consideration of replacement. Please see EUT photo for details.

12.6. Test result

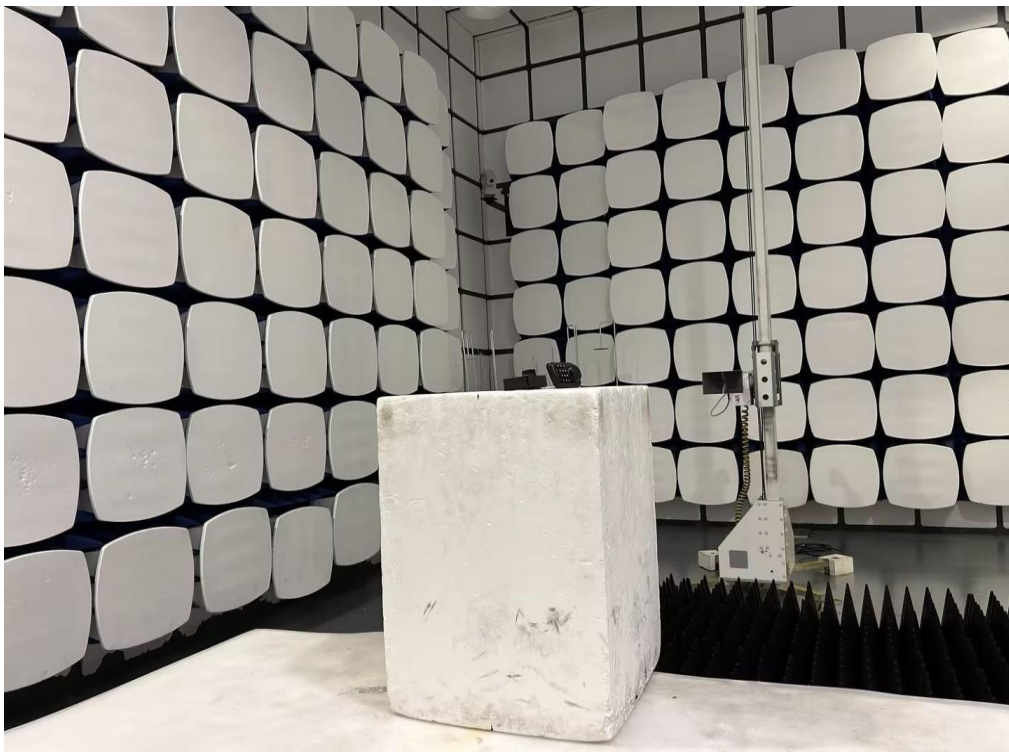
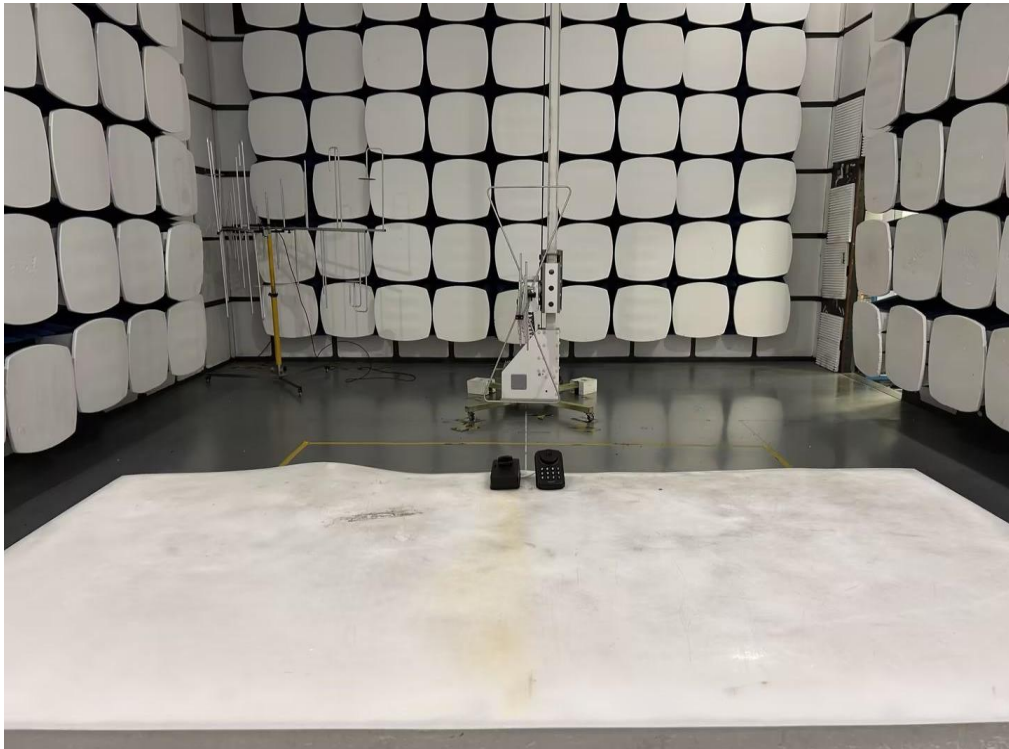
Test Site: RF Laboratory	Test Date: 2026/01/20--2026/01/20
Condition: 24.2°C,56%RH,101kPa	Test Engineer: Yannis Wen

Memo: /

EUT Name: Smark lock	EUT Model: DS04
Sample No.: A2601065-S0002	Test Mode: /
Power supply: /	Memo: The EUT antenna is FPC Antenna. It complies with the standard requirement.

/

13. Test Setup Photograph



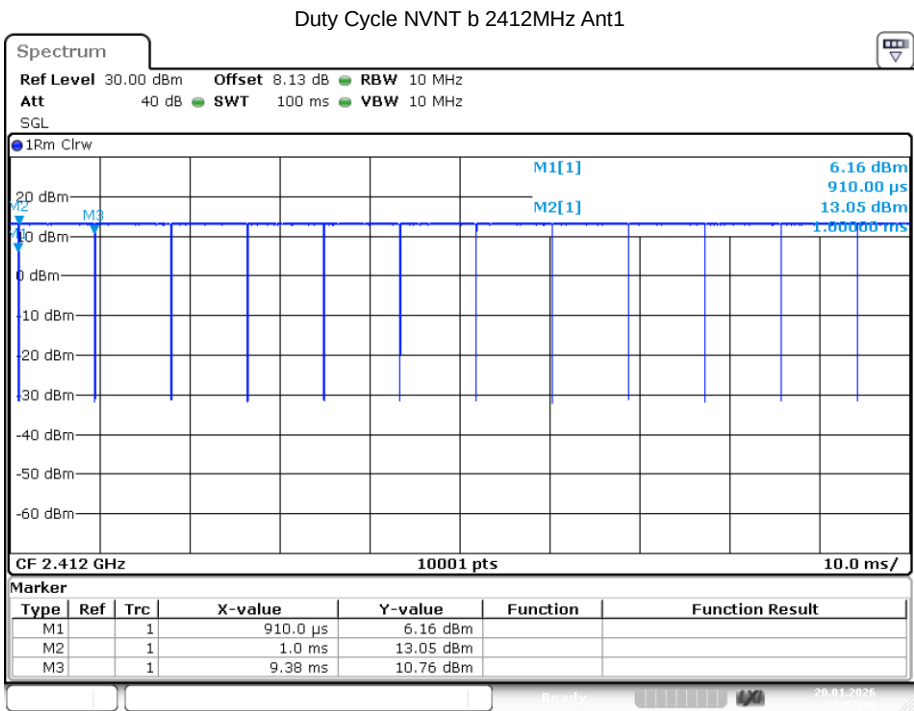
14. Photos of the EUT

Please refer to the report A2601065-C02-R01.

15. Annex

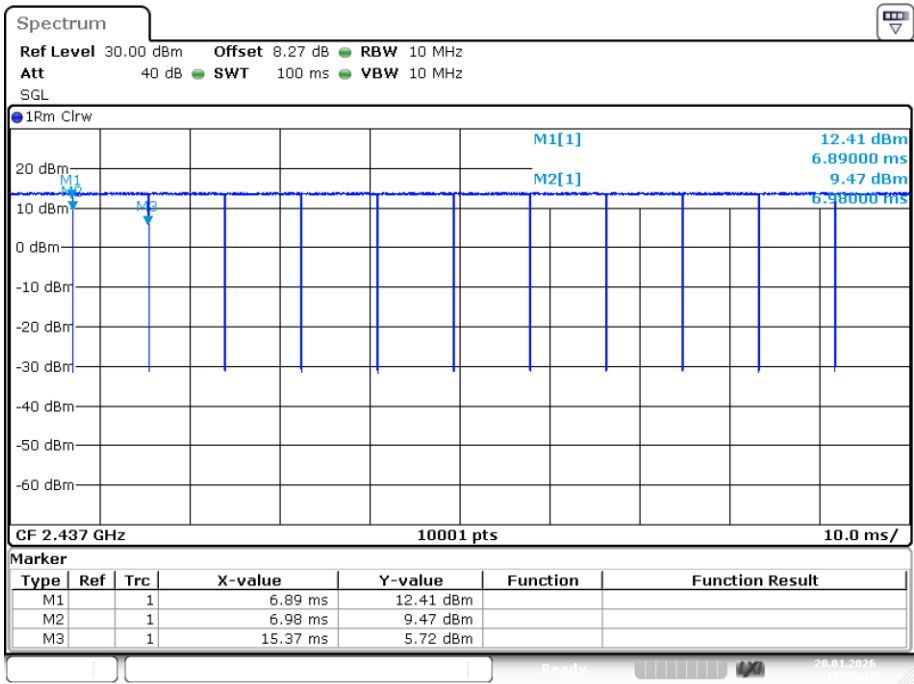
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	b	2412	Ant1	98.94	0.05
NVNT	b	2437	Ant1	98.94	0.05
NVNT	b	2462	Ant1	98.94	0.05
NVNT	g	2412	Ant1	98.58	0.06
NVNT	g	2437	Ant1	98.58	0.06
NVNT	g	2462	Ant1	98.58	0.06
NVNT	n20	2412	Ant1	100	0
NVNT	n20	2437	Ant1	100	0
NVNT	n20	2462	Ant1	100	0
NVNT	n40	2422	Ant1	100	0
NVNT	n40	2437	Ant1	100	0
NVNT	n40	2452	Ant1	100	0

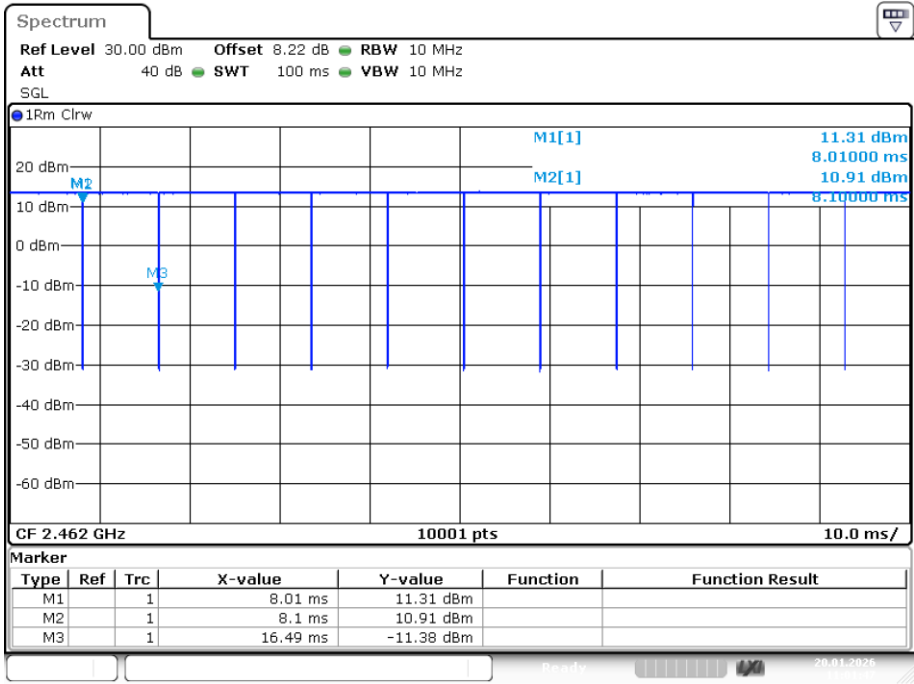


Date: 20.JAN.2026 10:57:40

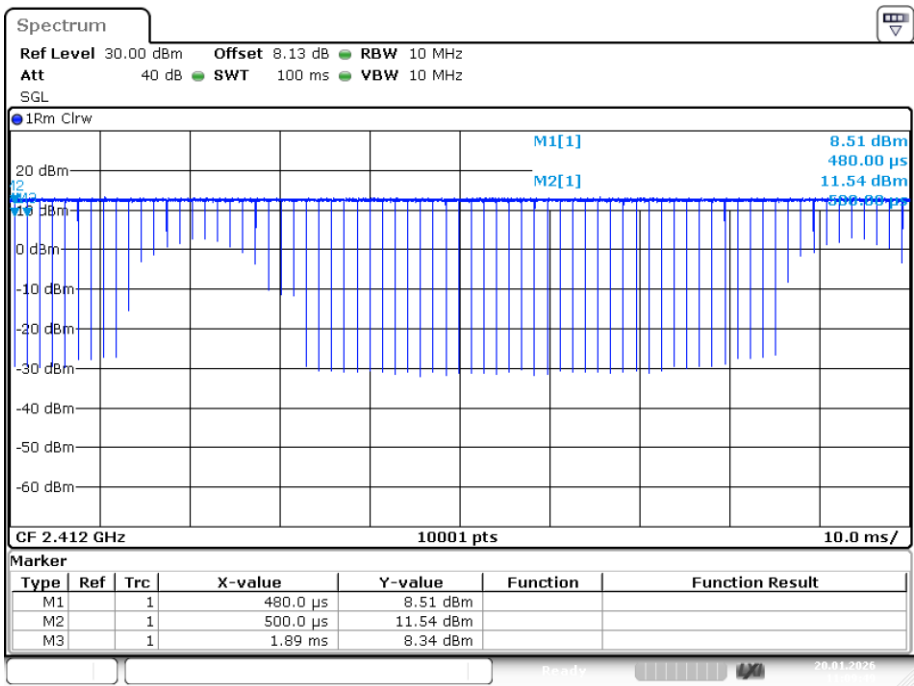
Duty Cycle NVNT b 2437MHz Ant1



Duty Cycle NVNT b 2462MHz Ant1

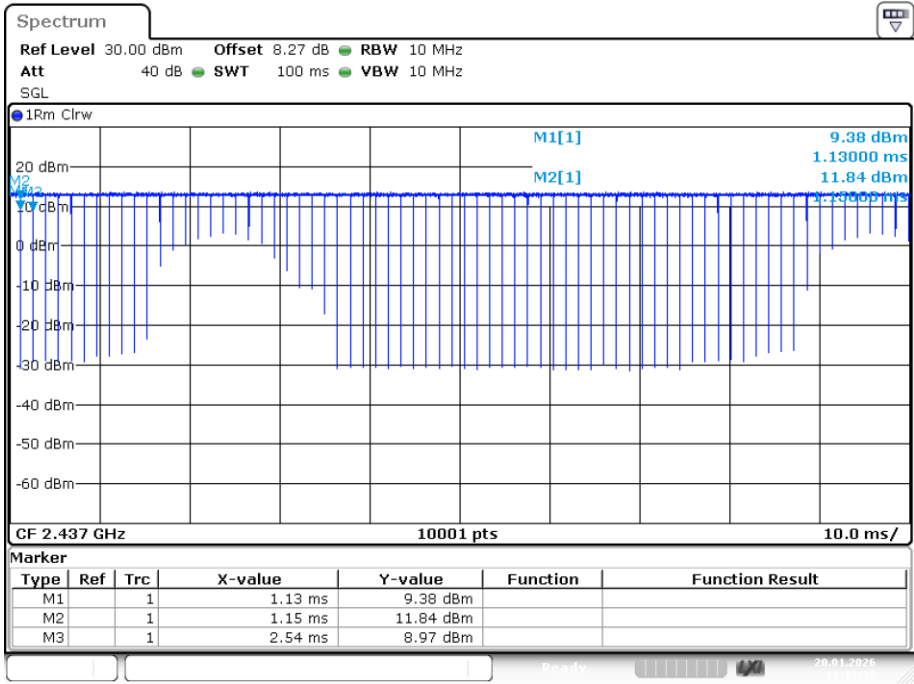


Duty Cycle NVNT g 2412MHz Ant1



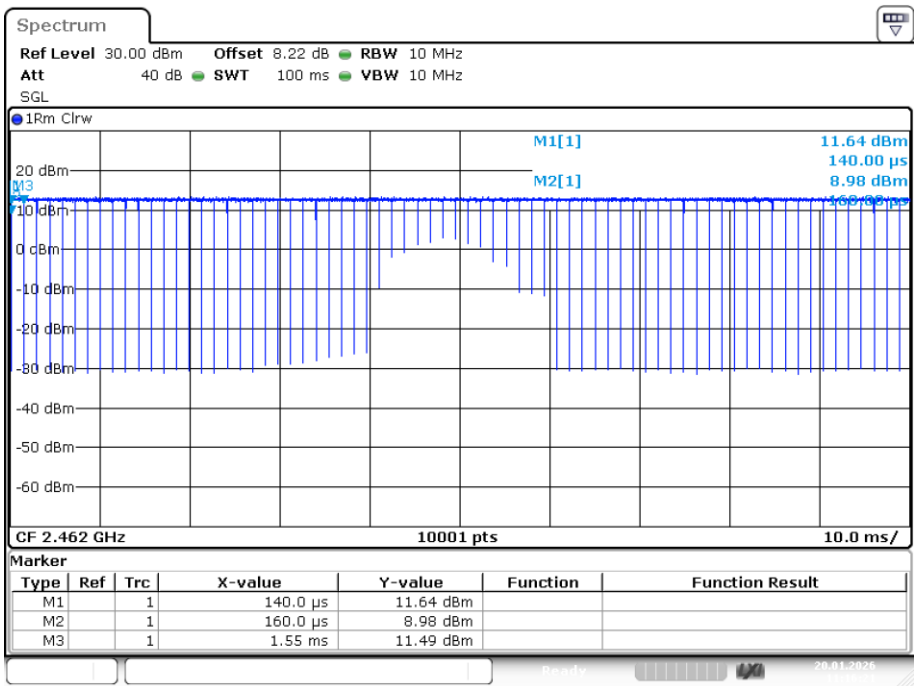
Date: 20.JAN.2026 11:09:50

Duty Cycle NVNT g 2437MHz Ant1



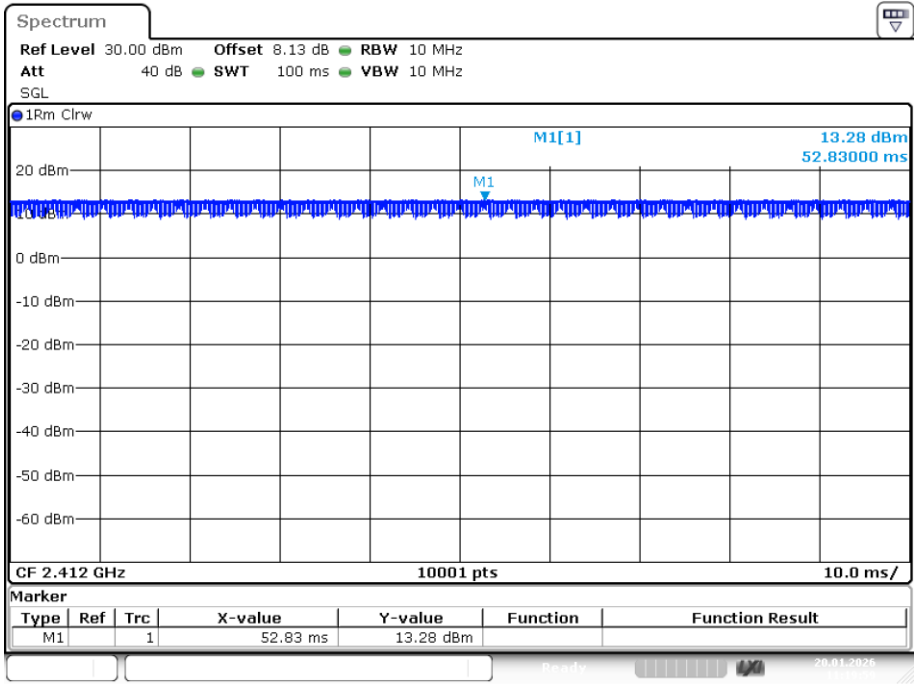
Date: 20.JAN.2026 11:12:35

Duty Cycle NVNT g 2462MHz Ant1



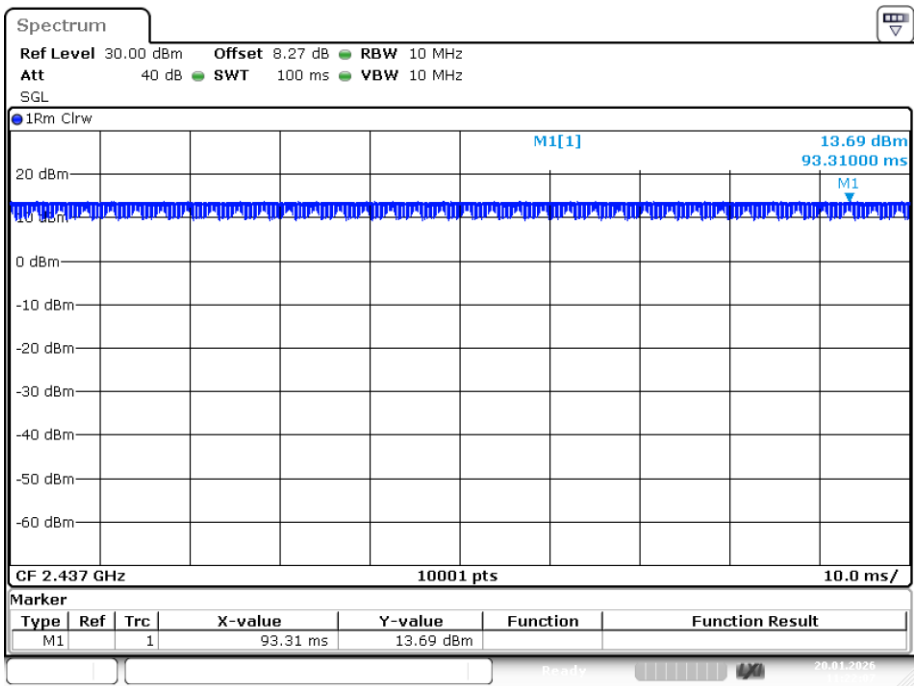
Date: 20.JAN.2026 11:16:21

Duty Cycle NVNT n20 2412MHz Ant1



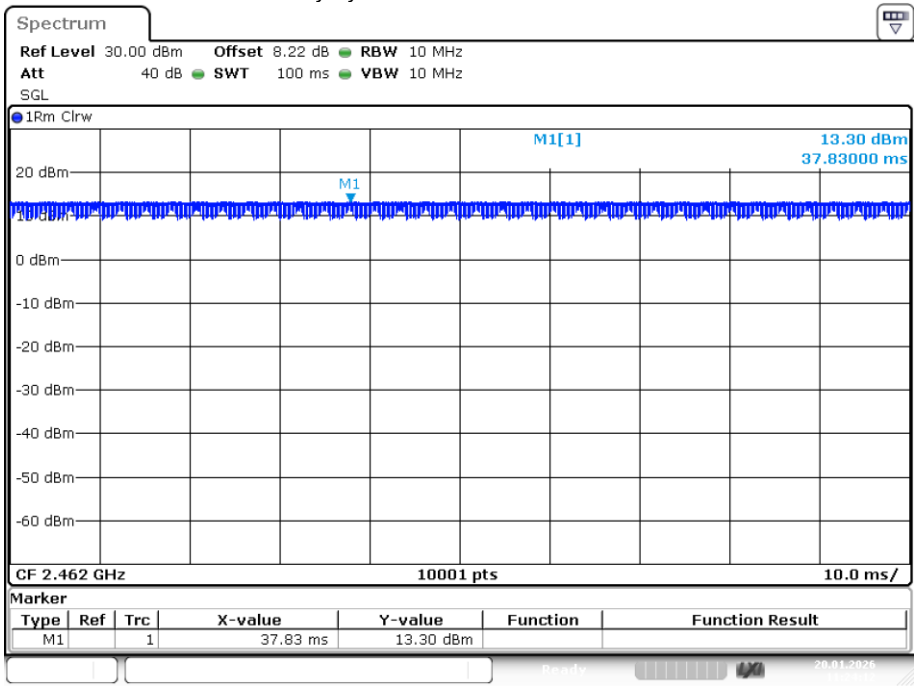
Date: 20.JAN.2026 11:19:59

Duty Cycle NVNT n20 2437MHz Ant1



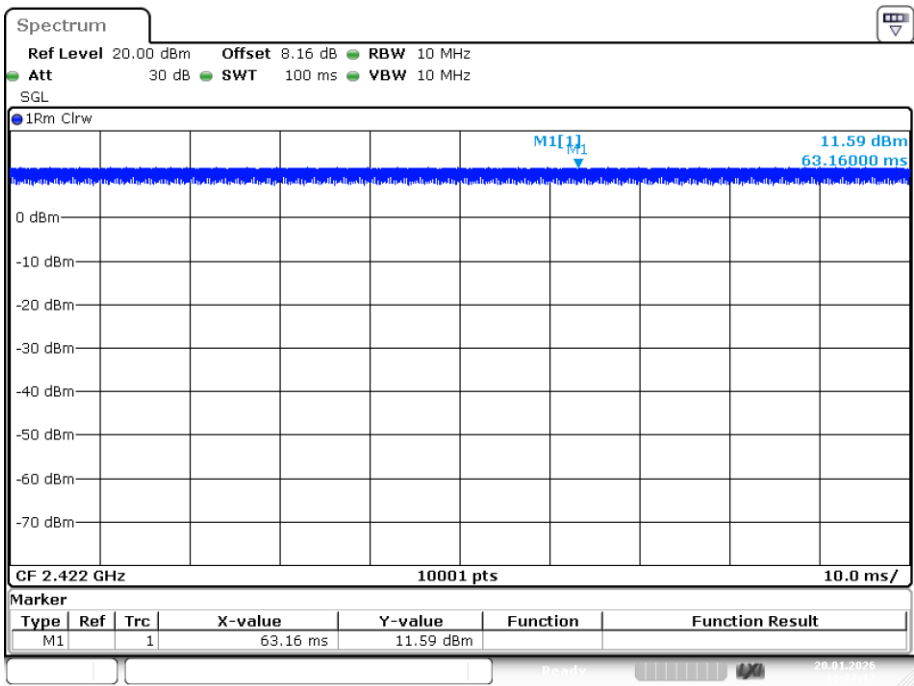
Date: 20.JAN.2026 11:22:07

Duty Cycle NVNT n20 2462MHz Ant1



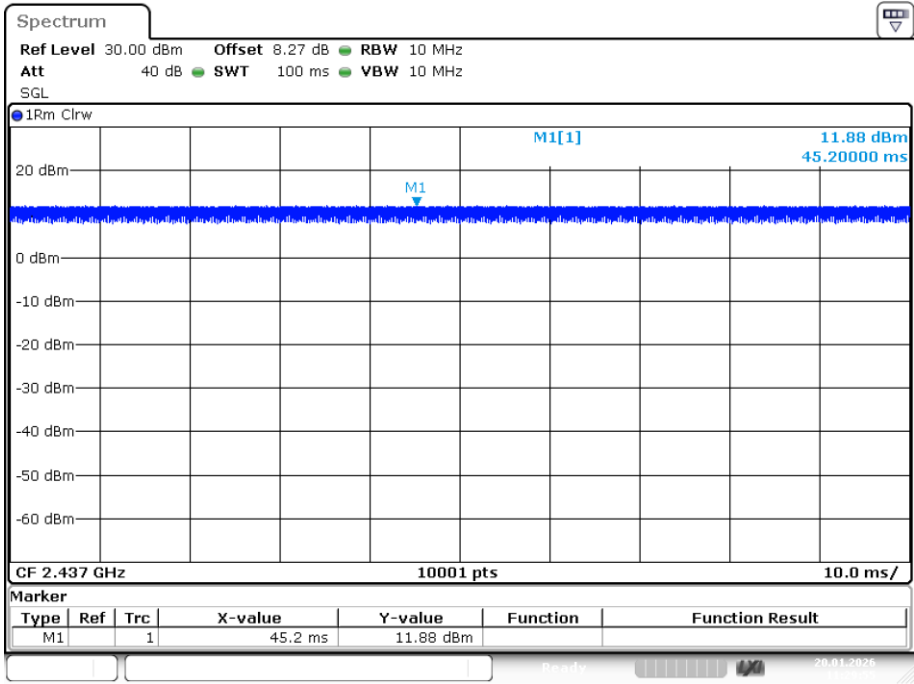
Date: 20.JAN.2026 11:24:12

Duty Cycle NVNT n40 2422MHz Ant1



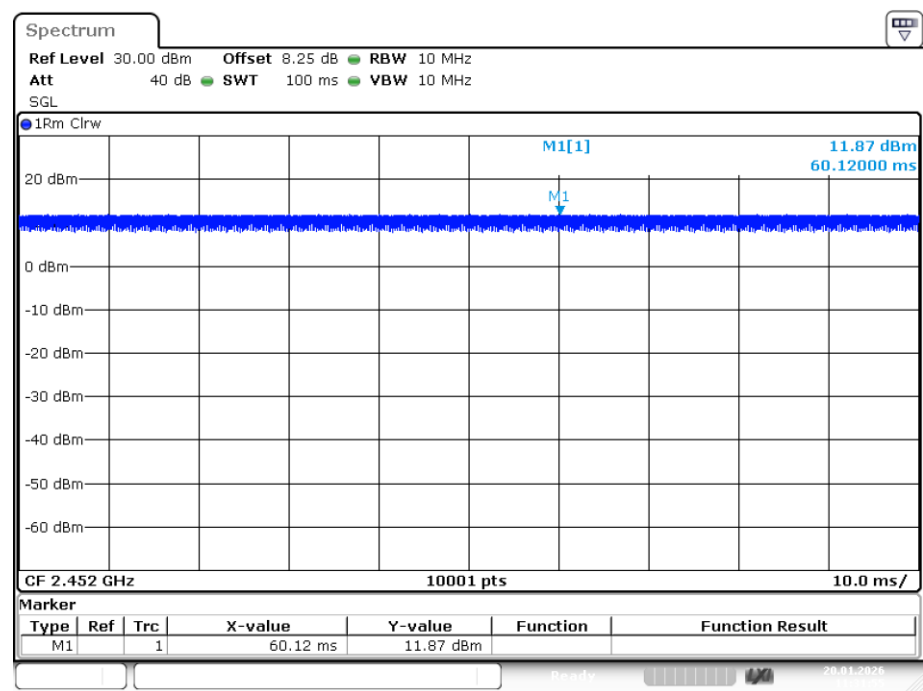
Date: 20.JAN.2026 11:27:17

Duty Cycle NVNT n40 2437MHz Ant1



Date: 20.JAN.2026 11:29:54

Duty Cycle NVNT n40 2452MHz Ant1

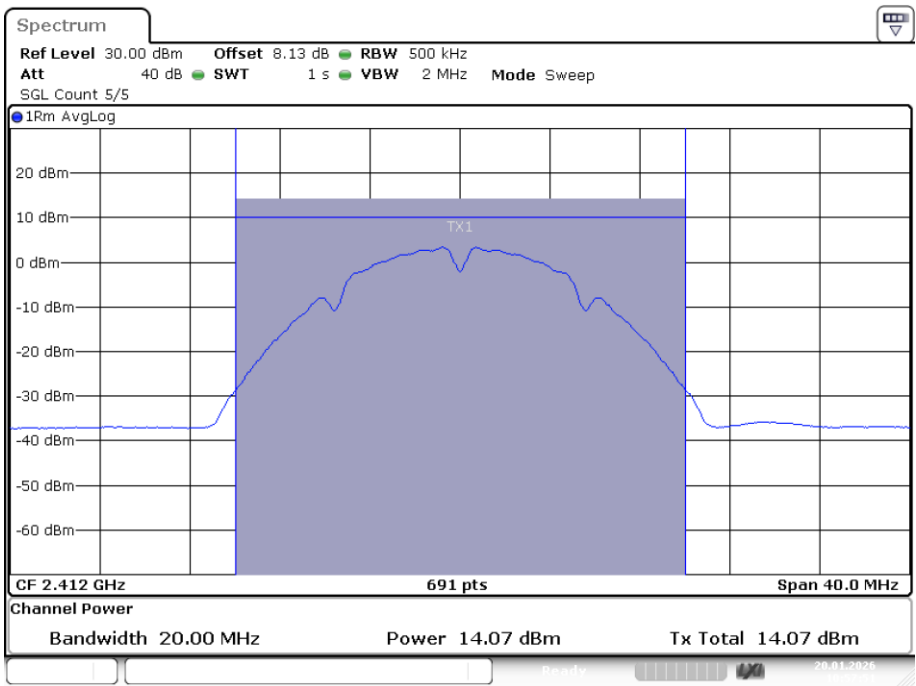


Date: 20.JAN.2026 11:31:55

Maximum Conducted Output Power

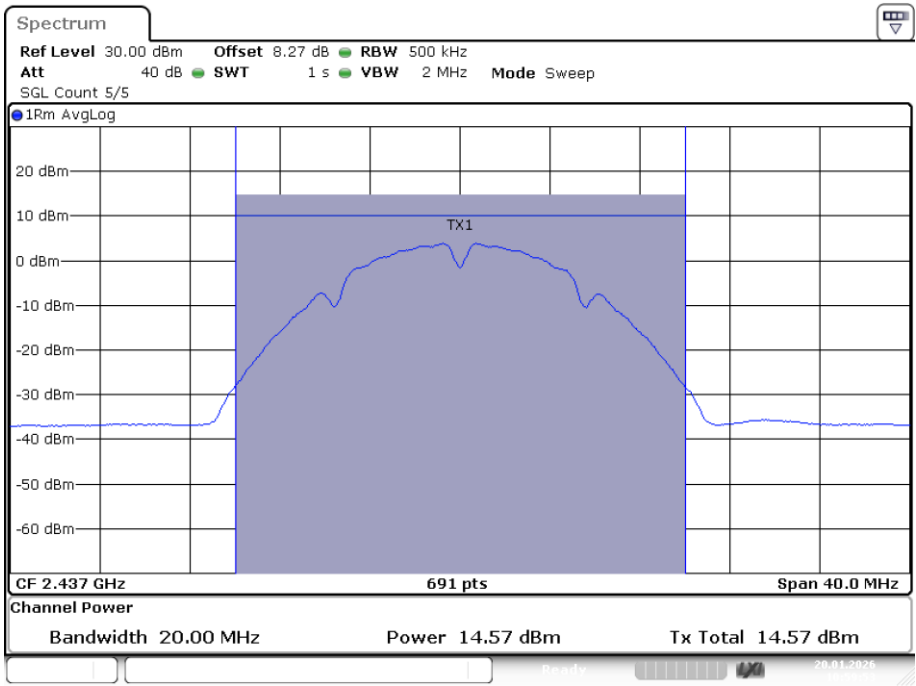
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.066	0.05	14.116	30	Pass
NVNT	b	2437	Ant1	14.571	0.05	14.621	30	Pass
NVNT	b	2462	Ant1	14.328	0.05	14.378	30	Pass
NVNT	g	2412	Ant1	14.059	0.06	14.119	30	Pass
NVNT	g	2437	Ant1	14.435	0.06	14.495	30	Pass
NVNT	g	2462	Ant1	14.144	0.06	14.204	30	Pass
NVNT	n20	2412	Ant1	14.287	0	14.287	30	Pass
NVNT	n20	2437	Ant1	14.659	0	14.659	30	Pass
NVNT	n20	2462	Ant1	14.234	0	14.234	30	Pass
NVNT	n40	2422	Ant1	14.512	0	14.512	30	Pass
NVNT	n40	2437	Ant1	14.802	0	14.802	30	Pass
NVNT	n40	2452	Ant1	14.804	0	14.804	30	Pass

Power NVNT b 2412MHz Ant1



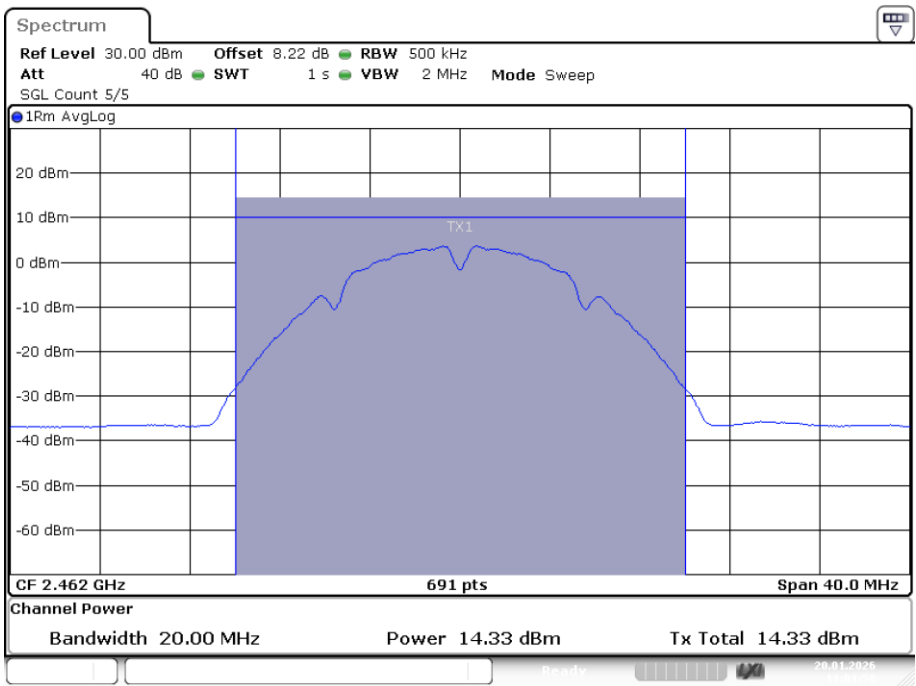
Date: 20.JAN.2026 10:57:51

Power NVNT b 2437MHz Ant1



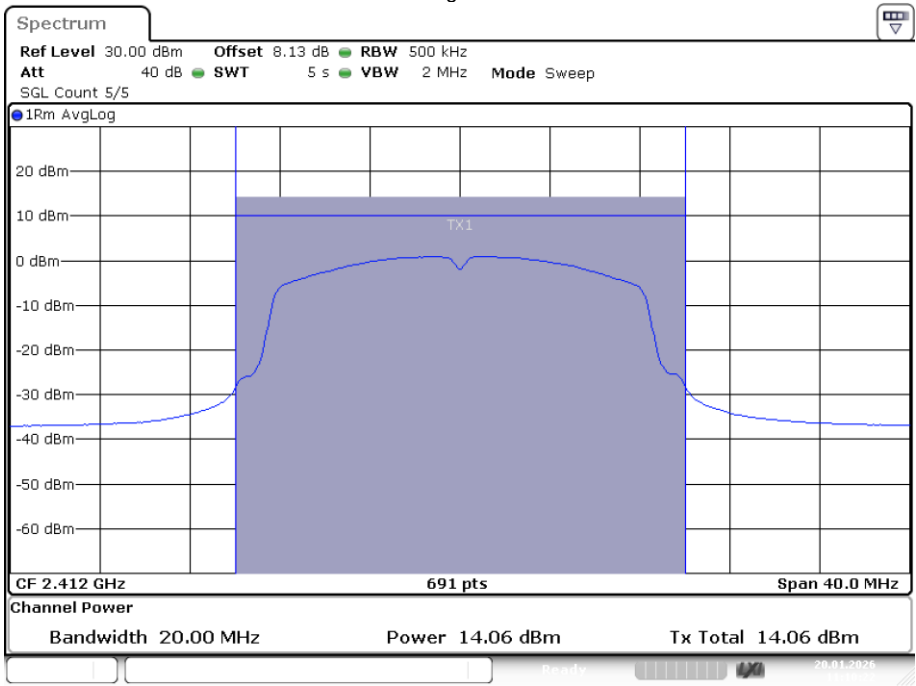
Date: 20.JAN.2026 10:59:53

Power NVNT b 2462MHz Ant1



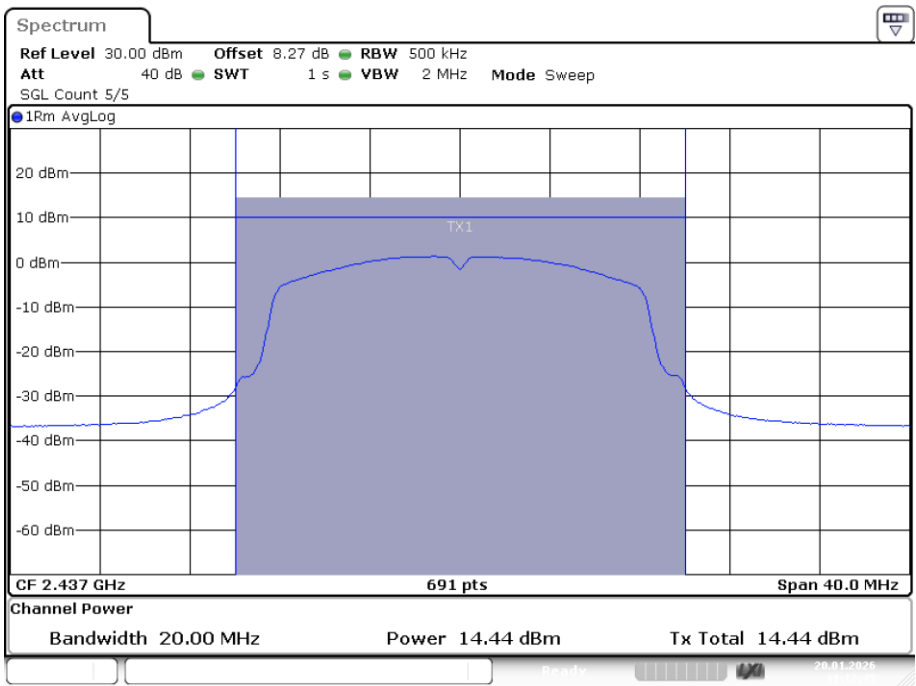
Date: 20.JAN.2026 11:01:58

Power NVNT g 2412MHz Ant1



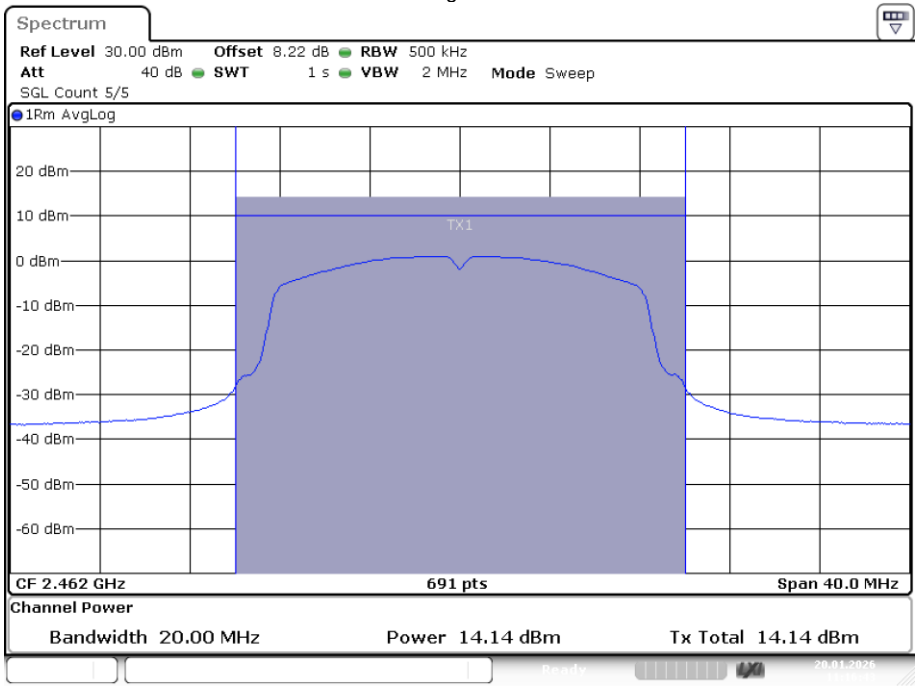
Date: 20.JAN.2026 11:10:21

Power NVNT g 2437MHz Ant1



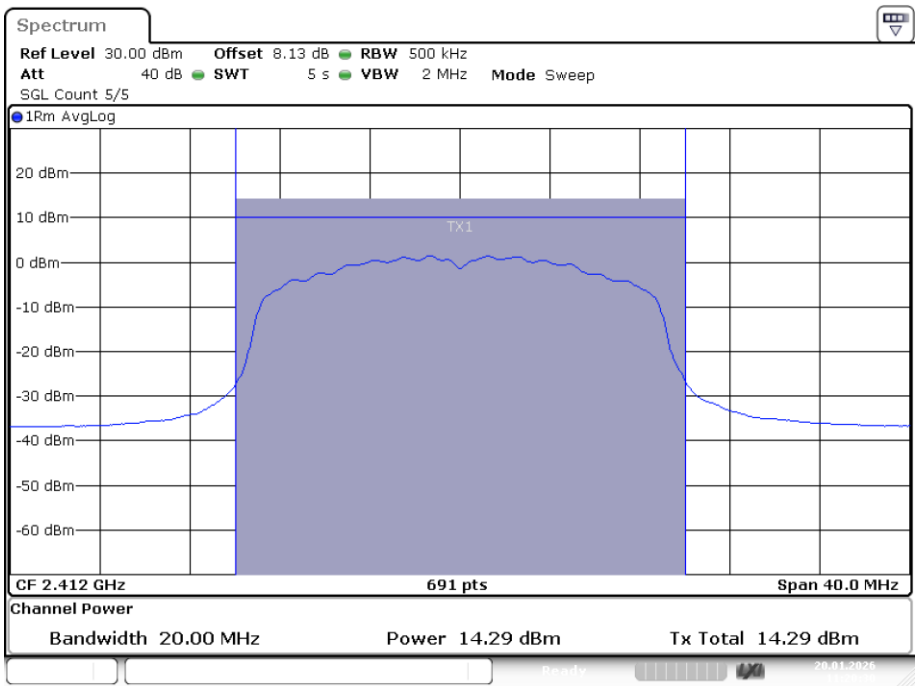
Date: 20.JAN.2026 11:12:46

Power NVNT g 2462MHz Ant1



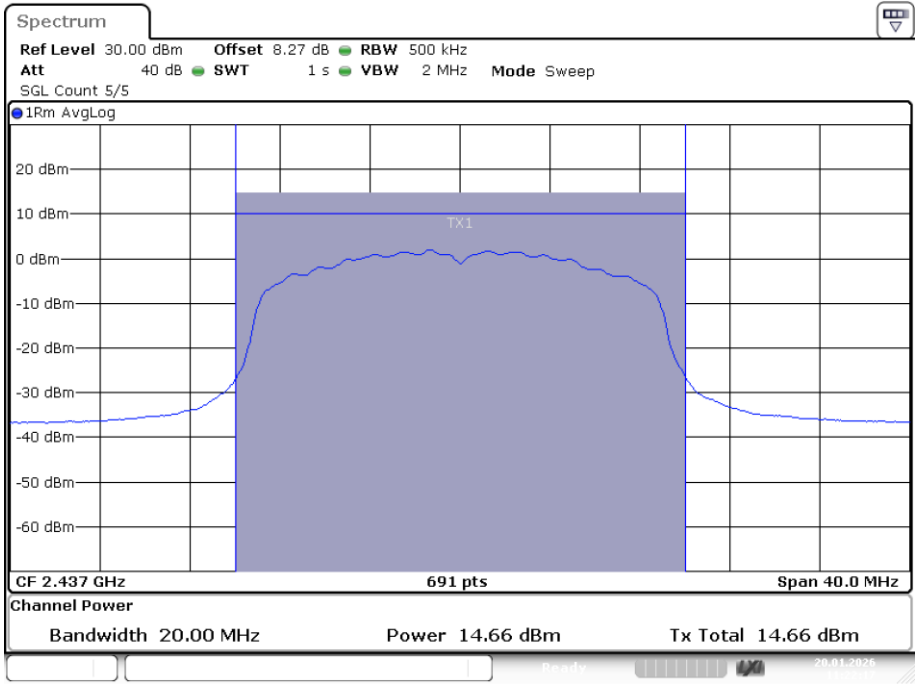
Date: 20.JAN.2026 11:16:43

Power NVNT n20 2412MHz Ant1



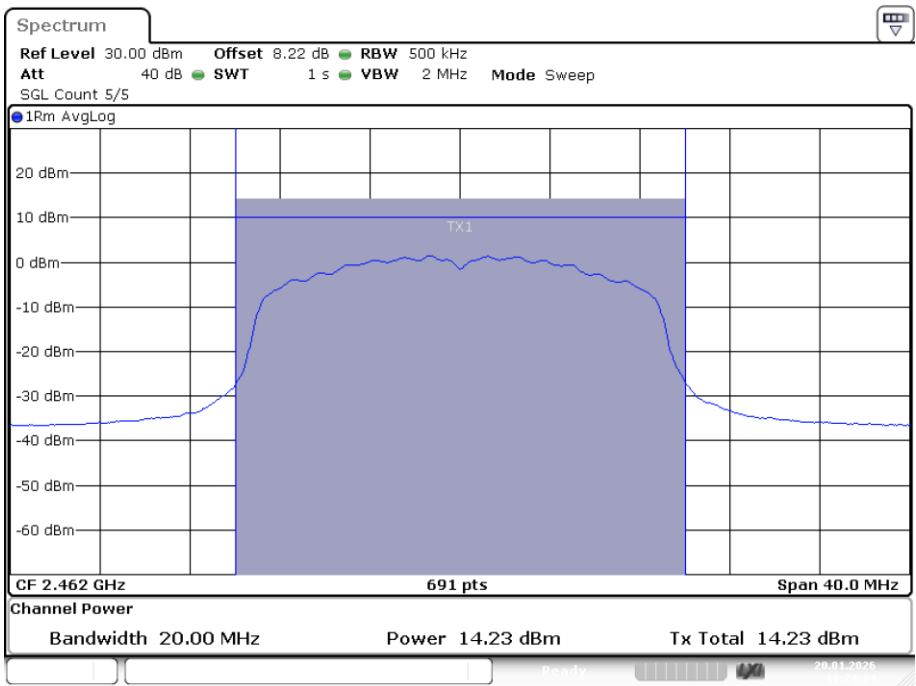
Date: 20.JAN.2026 11:20:30

Power NVNT n20 2437MHz Ant1



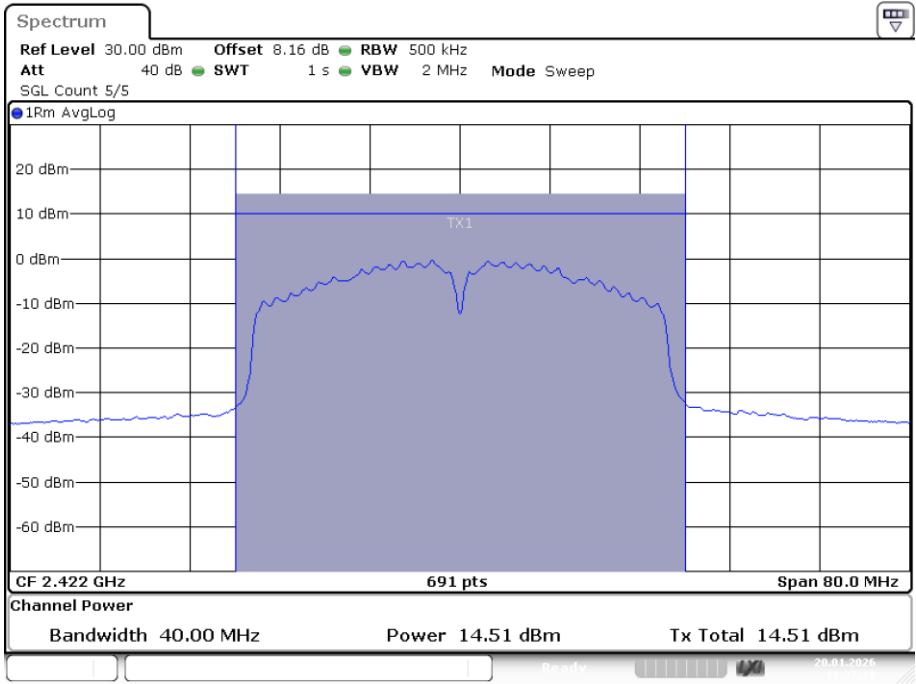
Date: 20.JAN.2026 11:22:18

Power NVNT n20 2462MHz Ant1



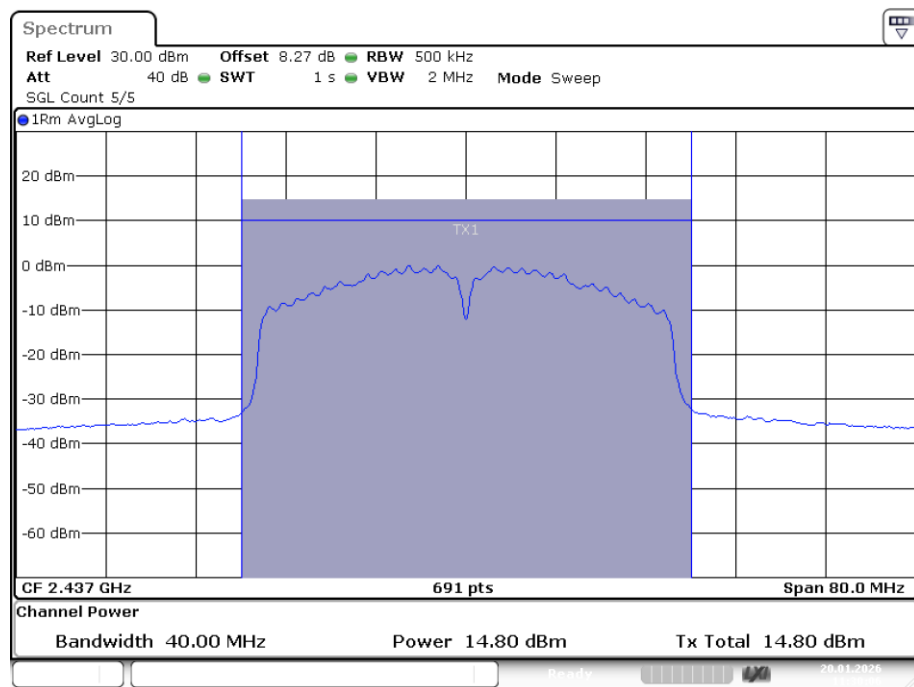
Date: 20.JAN.2026 11:24:23

Power NVNT n40 2422MHz Ant1

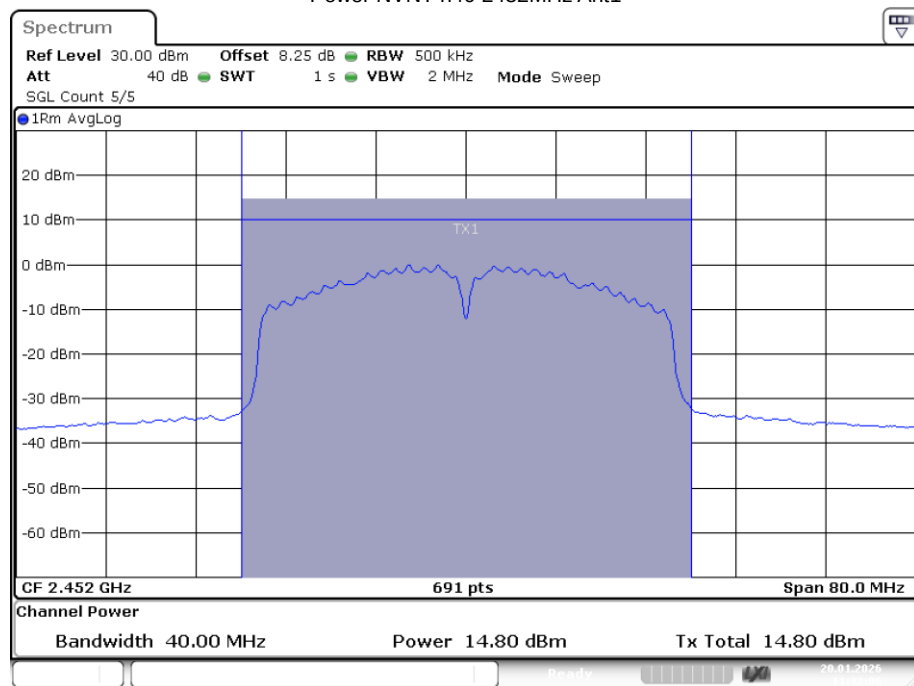


Date: 20.JAN.2026 11:27:28

Power NVNT n40 2437MHz Ant1

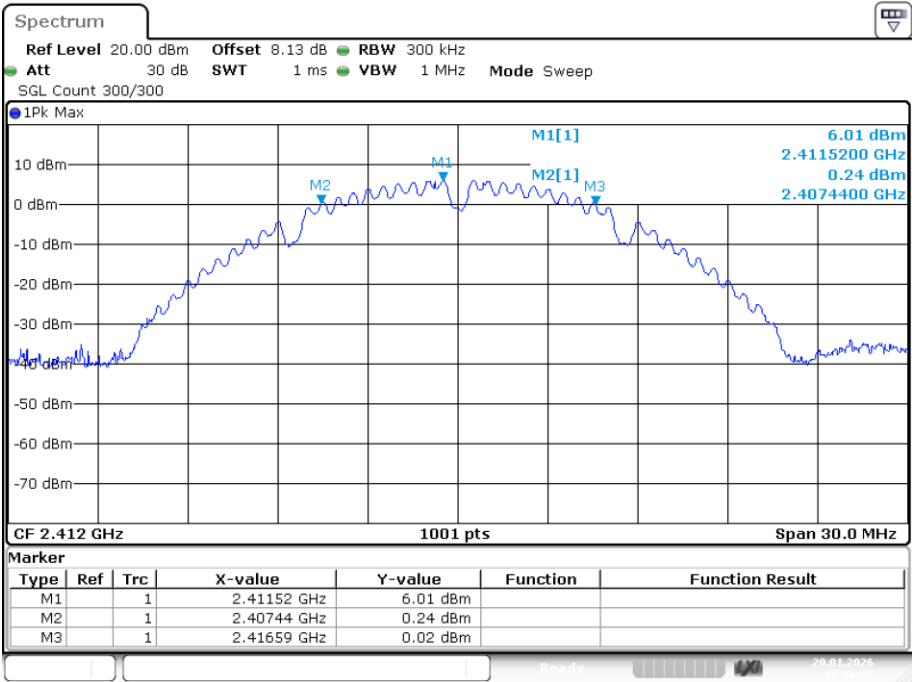


Power NVNT n40 2452MHz Ant1

**-6dB Bandwidth**

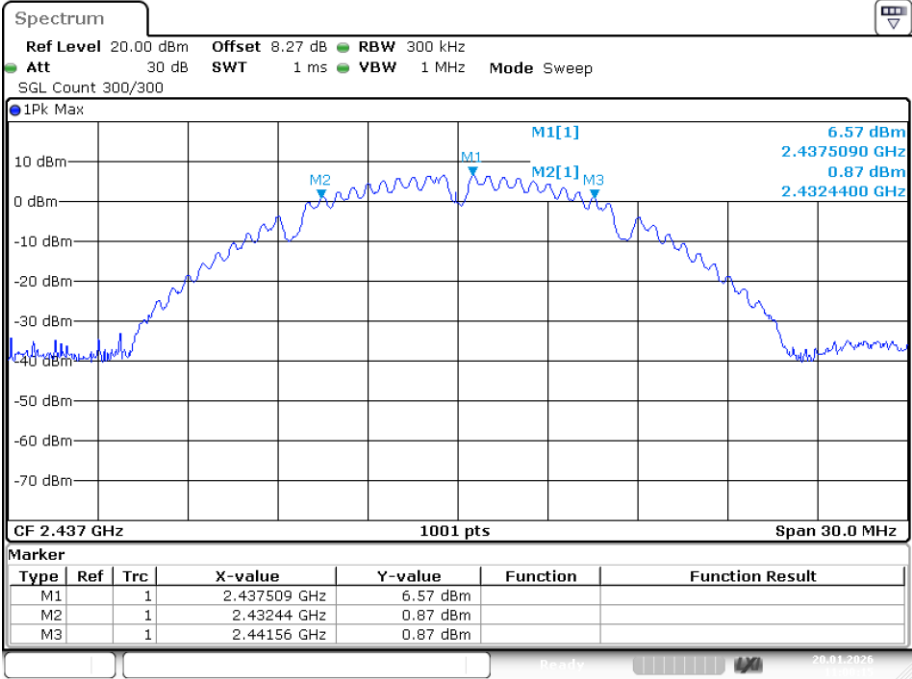
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.15	0.5	Pass
NVNT	b	2437	Ant1	9.12	0.5	Pass
NVNT	b	2462	Ant1	9.12	0.5	Pass
NVNT	g	2412	Ant1	13.74	0.5	Pass
NVNT	g	2437	Ant1	13.71	0.5	Pass
NVNT	g	2462	Ant1	13.71	0.5	Pass
NVNT	n20	2412	Ant1	14.55	0.5	Pass
NVNT	n20	2437	Ant1	14.55	0.5	Pass
NVNT	n20	2462	Ant1	14.61	0.5	Pass
NVNT	n40	2422	Ant1	26.58	0.5	Pass
NVNT	n40	2437	Ant1	26.58	0.5	Pass
NVNT	n40	2452	Ant1	26.52	0.5	Pass

-6dB Bandwidth NVNT b 2412MHz Ant1



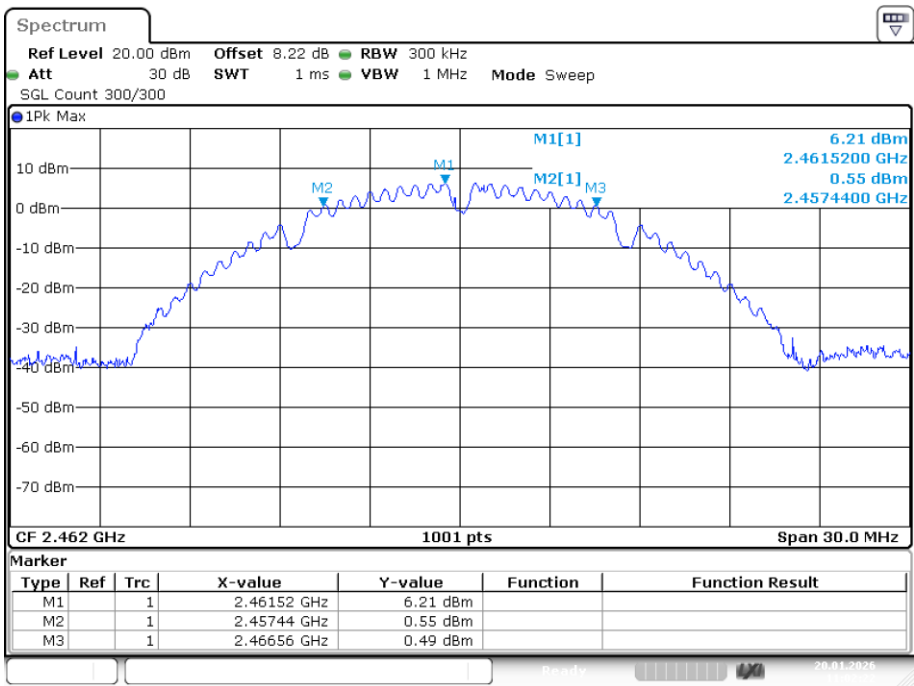
Date: 20.JAN.2026 10:58:12

-6dB Bandwidth NVNT b 2437MHz Ant1



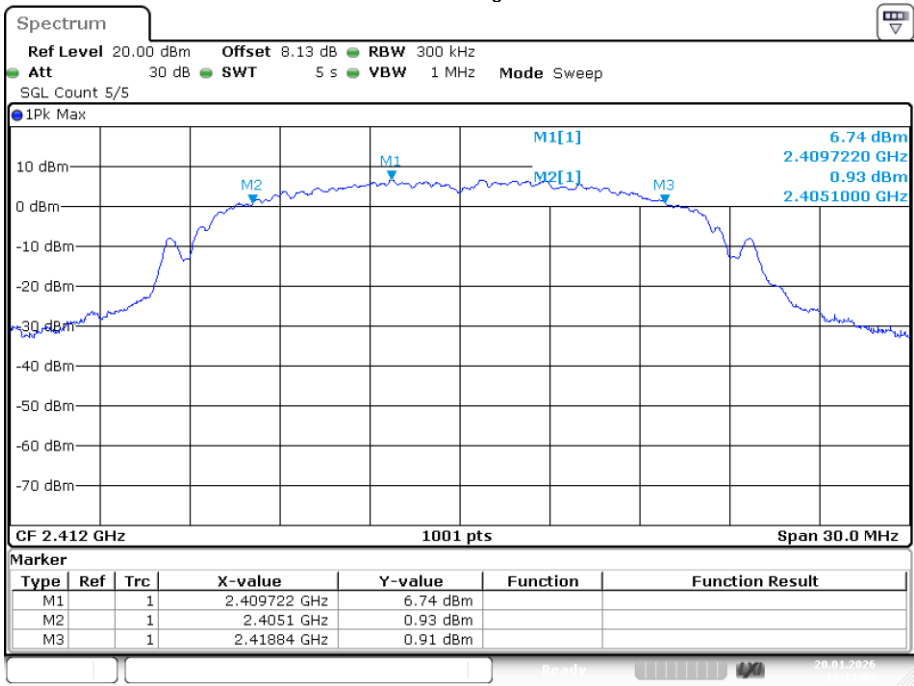
Date: 20.JAN.2026 11:00:15

-6dB Bandwidth NVNT b 2462MHz Ant1



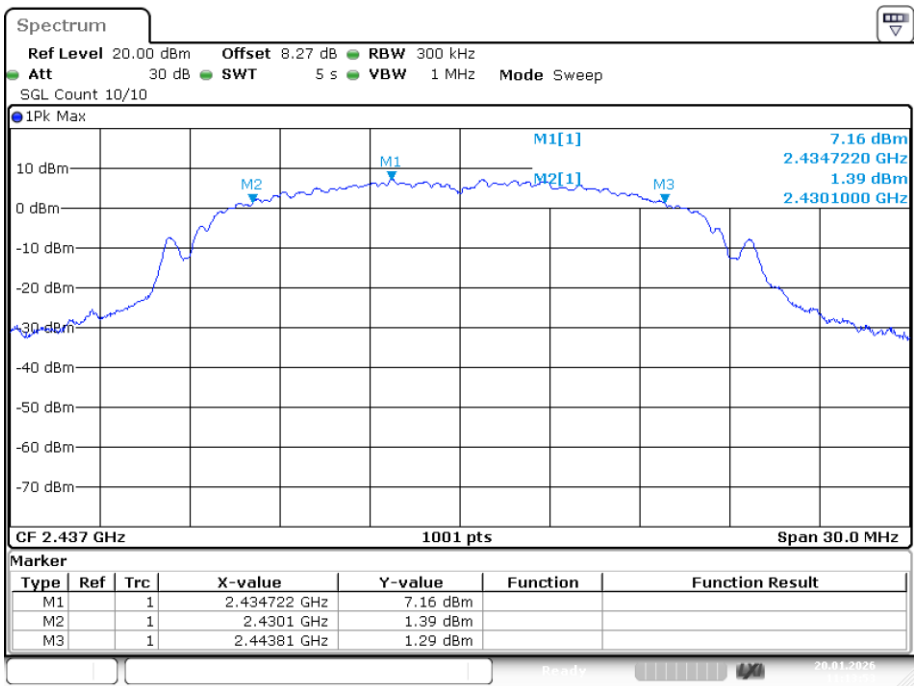
Date: 20.JAN.2026 11:02:22

-6dB Bandwidth NVNT g 2412MHz Ant1



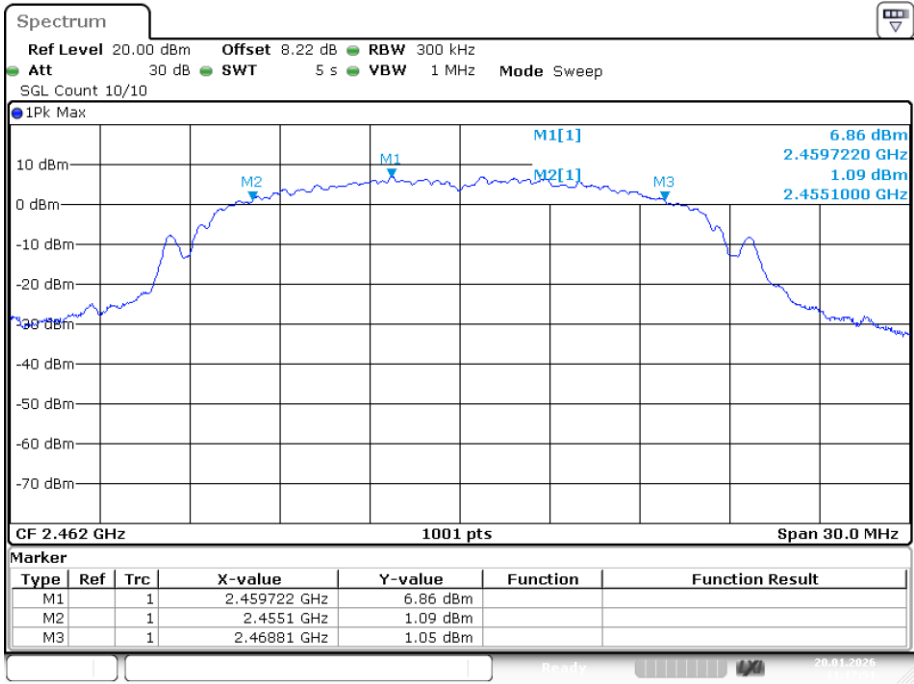
Date: 20.JAN.2026 11:11:02

-6dB Bandwidth NVNT g 2437MHz Ant1



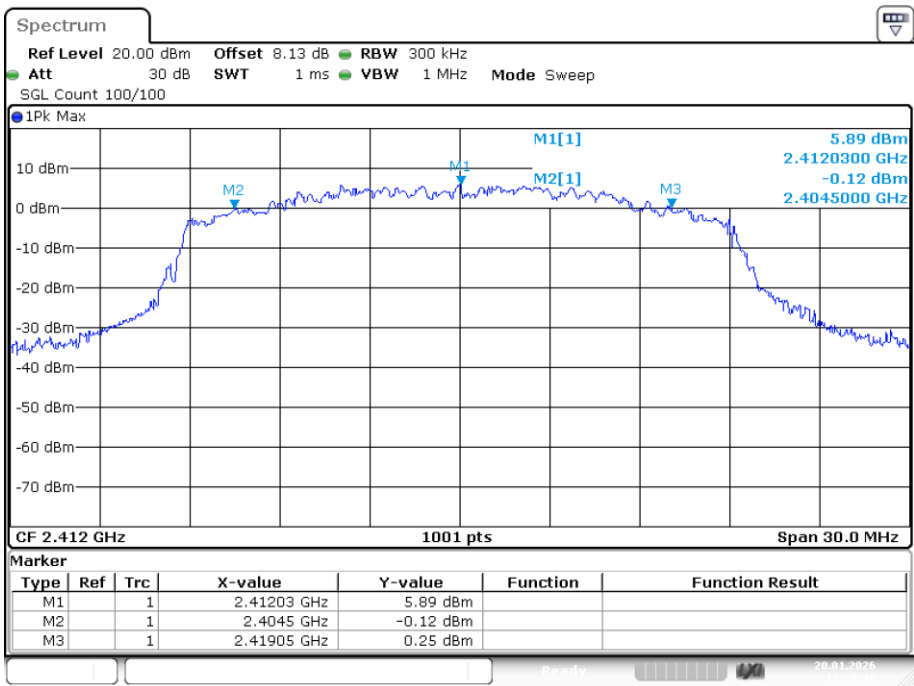
Date: 20.JAN.2026 11:13:53

-6dB Bandwidth NVNT g 2462MHz Ant1



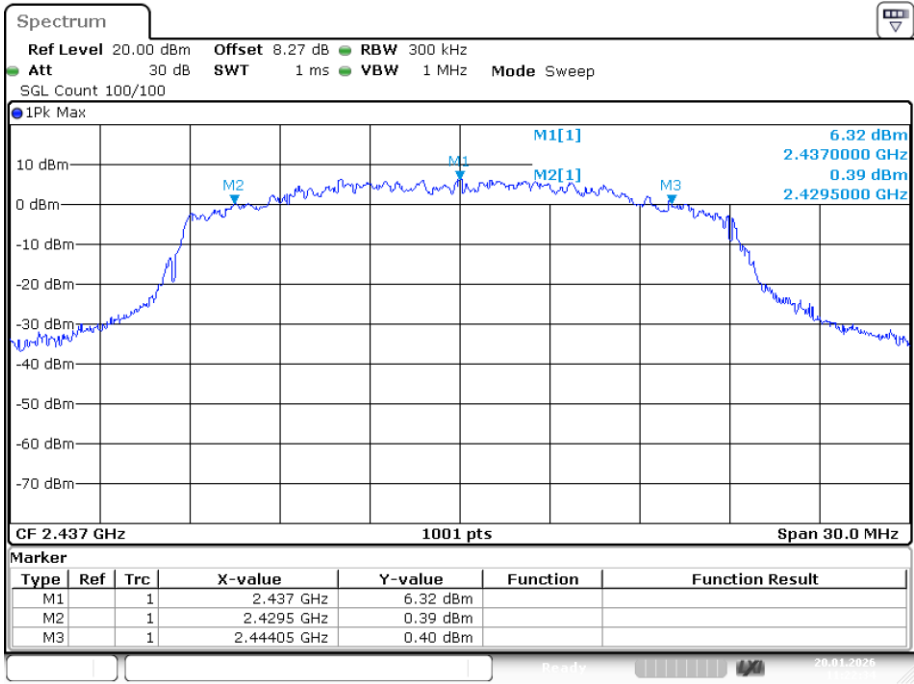
Date: 20.JAN.2026 11:17:51

-6dB Bandwidth NVNT n20 2412MHz Ant1



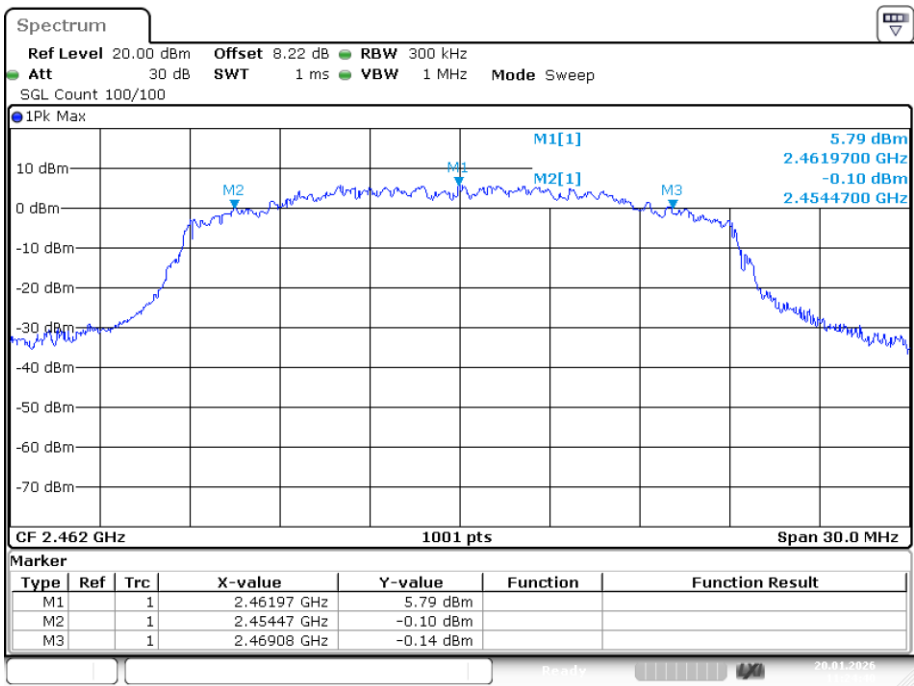
Date: 20.JAN.2026 11:20:46

-6dB Bandwidth NVNT n20 2437MHz Ant1



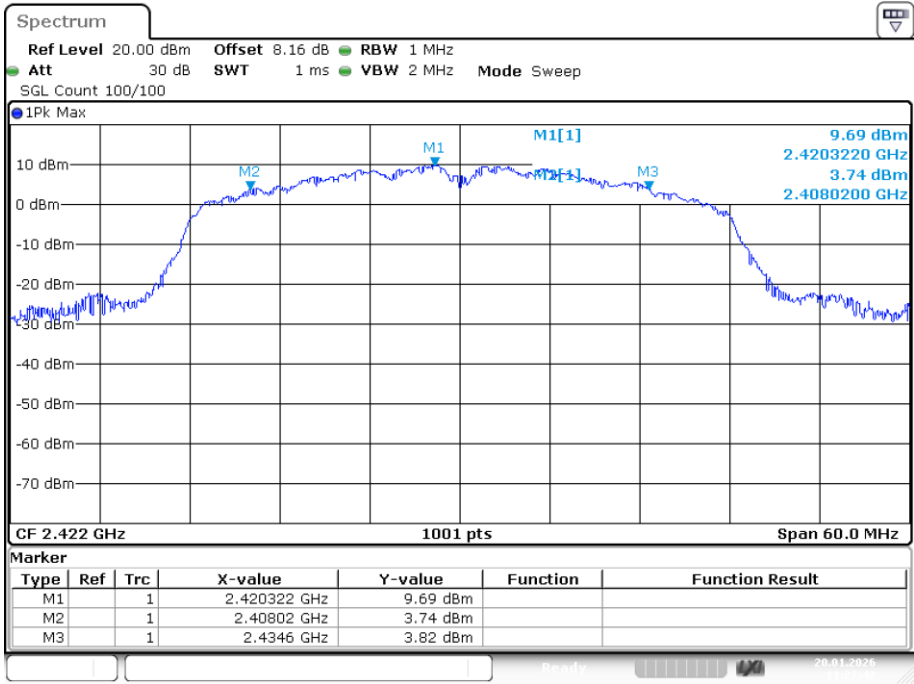
Date: 20.JAN.2026 11:22:33

-6dB Bandwidth NVNT n20 2462MHz Ant1



Date: 20.JAN.2026 11:24:39

-6dB Bandwidth NVNT n40 2422MHz Ant1



Date: 20.JAN.2026 11:27:42

-6dB Bandwidth NVNT n40 2437MHz Ant1