



FCC TEST REPORT

FCC ID:XUJS4006

Report Number..... : ZKT-260724L1721E-3

Date of Test..... Mar. 23, 2026 to Aug. 25, 2026

Date of issue..... Aug. 27, 2026

Total number of pages..... 218

Test Result..... : PASS

Testing Laboratory..... : Shenzhen ZKT Technology Co., Ltd.

Address : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name : Launch Tech Co., Ltd.

Address : No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District, Shenzhen, China

Manufacturer's name : Launch Tech Co., Ltd.

Address : No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District, Shenzhen, China

Test specification:

Standard..... : FCC CFR Title 47 Part 15 Subpart C Section 15.247
ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

Test procedure..... : /

Non-standard test method : N/A

Test Report Form No..... : TRF-EL-112_V0

Test Report Form(s) Originator..... : ZKT Testing

Master TRF : Dated: 2021-04-22

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Product name..... : Remote Diagnosis Interface

Trademark : LAUNCH

Model/Type reference..... : S4006

Ratings..... : Input: 8-36VDC (powered by 12V or 24V car battery), ≤1A



Testing procedure and testing location:

Testing Laboratory.....: Shenzhen ZKT Technology Co., Ltd.

Address.....: 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Tested by (name + signature).....: Jim Liu

Reviewer (name + signature).....: Jackson Fang

Approved (name + signature).....: Lake Xie





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1. VERSION

Report No.	Version	Description	Approved
ZKT-260724L1721E-3	Rev.01	Initial issue of report	Aug. 27, 2026



2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Result	Remark
FCC part 15.203/15.247 (c)	Antenna requirement	PASS	
FCC part 15.207	AC Power Line Conducted Emission	PASS	
FCC part 15.247 (b)(3)	Conducted Peak Output Power	PASS	
FCC part 15.247 (a)(2)	6dB Occupied Bandwidth	PASS	
FCC part 15.247 (e)	Power Spectral Density	PASS	
FCC part 15.247(d)	Band Edge	PASS	
FCC part 15.205/15.209	Spurious Emission	PASS	
ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	Duty cycle	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.
Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street,
Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 927491
Designation Number: CN1431
IC Registered No.: 27033
CAB identifier: CN0110

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	3m chamber Radiated spurious Emission (9KHz-30MHz)	U=4.5dB
2	3m chamber Radiated spurious emission (30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission (1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission (6GHz-40GHz)	U=5.0dB
5	Conducted Disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF Power Conducted	U=1.86dB
8	RF Conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8MHz
10	RF Power Spectral Density	U=1.75dB
11	Humidity Uncertainty	U=5.3%
12	Temperature Uncertainty	U=0.59°C
13	Duty Cycle	U=1.3dB



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	Remote Diagnosis Interface
Trade Mark:	LAUNCH
Model No.:	S4006
Serial No.:	X-431 SmartLink C HD V2, X-431 SmartLink C HD LITE V2
Model Different.:	The S4006 is equipped with black and green rubber sleeves. X-431 SmartLink C HD V2, X-431 SmartLink C HD LITE V2 and S4006 share the same main body, with differences only in the model names on the nameplates
Hardware Version:	V16
Software Version:	N/A
Sample Number:	260724L1721-1
Sample(s) Status:	Engineer sample
Channel numbers:	802.11b/g/n/ax20:11 CH 802.11 /n/ax40:7 CH
Modulation technology:	802.11b: Direct Sequence Spread Spectrum(DSSS) 802.11g/n/ax: Orthogonal Frequency Division Multiplexing(OFDM)
Data Rate	802.11b: 1/2/5.5/11Mbit/s 802.11g: 6/9/12/24/18/36/48/54Mbit/s 802.11n20/n40:MCS0-MCS7 802.11ax20/ax40: NSS1 MCS0-MCS7
Antenna Type:	FPC Antenna
Antenna gain:	ANT1:2.6 dBi ANT2: -0.02 dBi MIMO:4.40 dBi
Power supply:	Input: 8-36VDC (powered by 12V or 24V car battery), ≤1A
Battery Capacity:	N/A

Note1: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

Note2: The EUT's all information provided by client.



Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)	
	802.11b/g/n/ax20	802.11n/ax40
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

3.2 DESCRIPTION OF TEST MODES

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data. For battery operated equipment, the equipment tests shall be performed using a new battery.	

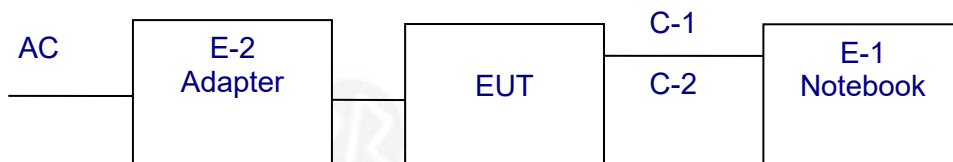
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:				
Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.				
Mode	802.11b	802.11g	802.11n20/n40	802.11ax20/ax40
Data rate	1Mbps	6Mbps	MCS0(HT0)	NSS1 MCS0

RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	ANT_1 Power Class	ANT_2 Power Class	Software For Testing
WIFI(2.4G)	2.4G WIFI	802.11b	ANT1:2.6 ANT2: -0.02 MIMO:4.40	12	14	CMD
		802.11g		12	12	
		802.11n(HT20)		11	11	
		802.11n(HT40)		10	10	
		802.11ax(HE20)		10	10	
		802.11ax(HE40)		10	10	

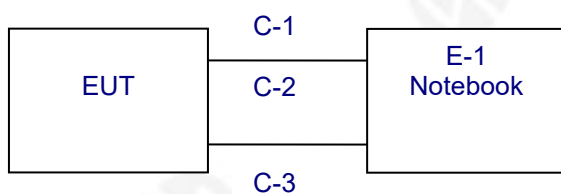


3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

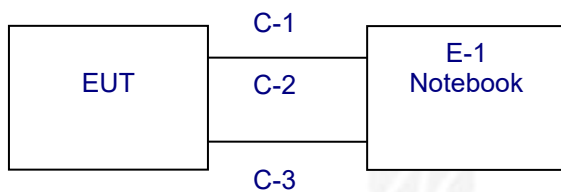
Conducted Emission



Radiated Emission



Conducted Spurious





3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Notebook	HP	ST-2	N/A
E-2	AC Adapter	UGREEN	X569	N/A
C-1	Serial port board	WAVGAT	CH340G	N/A
C-2	USB Cable	UGREEN	A88E6	N/A
C-3	USB Cable	ZTC	NB-A515A	N/A

Item	Equipment	Mfr/Brand	Length	Note
C-2	Shielded	NO	150cm	N/A
C-3	Shielded	NO	150cm	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) EUT is tested with new battery.



3.5EQUIPMENTS LIST FOR ALL TEST ITEMS

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 23, 2025	Sep. 22, 2026
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 19, 2025	Sep. 18, 2026
3	Test Cable	N/A	C-01	N/A	N/A	May 25, 2025 May 25, 2026	May 24, 2026 May 24, 2027
4	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Oct. 24, 2025	Oct. 23, 2026
5	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Radiation Emissions & Radiation Spurious Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 20, 2025	Sep. 19, 2026
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 20, 2025	Sep. 19, 2026
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Oct. 24, 2025	Oct. 23, 2026
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 20, 2025	Sep. 19, 2026
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 20, 2025	Sep. 19, 2026
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2025	Sep. 29, 2026
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Sep. 20, 2025	Sep. 19, 2026
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 19, 2025	Sep. 18, 2026
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 19, 2025	Sep. 18, 2026
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Oct. 24, 2025	Oct. 23, 2026
11	Test Cable	N/A	R-01	N/A	N/A	May 25, 2025 May 25, 2026	May 24, 2026 May 24, 2027
12	Test Cable	N/A	R-02	N/A	N/A	May 25, 2025 May 25, 2026	May 24, 2026 May 24, 2027
13	Test Cable	N/A	R-03	N/A	N/A	May 25, 2025 May 25, 2026	May 24, 2026 May 24, 2027
14	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\



RF Conducted Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 20, 2025	Sep. 19, 2026
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 20, 2025	Sep. 19, 2026
3	Test Cable	N/A	RF-01	N/A	N/A	May 25, 2025	May 24, 2026
						May 25, 2026	May 24, 2027
4	Test Cable	N/A	RF-02	N/A	N/A	May 25, 2025	May 24, 2026
						May 25, 2026	May 24, 2027
5	Test Cable	N/A	RF-03	N/A	N/A	May 25, 2025	May 24, 2026
						May 25, 2026	May 24, 2027
6	ESG Signal Generator	Agilent	E4421B	GB40051203	B.03.84	Sep. 19, 2025	Sep. 18, 2026
7	Signal Generator	Agilent	N5182A	MY47420215	A.01.87	Sep. 20, 2025	Sep. 19, 2026
8	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Sep. 25, 2025	Sep. 24, 2026
9	SHIELD BOX	TESCOM	TC-5970C	5970C015553	N/A	Dec. 18, 2025	Dec. 17, 2026
10	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Sep. 28, 2025	Sep. 27, 2026
11	MWRF Power Meter Test system	MW	MW100-R FCB	10371	N/A	Sep. 19, 2025	Sep. 18, 2026
12	MWRF Power Sensor	MW	MW100-P SB	10371	N/A	Sep. 19, 2025	Sep. 18, 2026
13	Power Meter	KEYSIGHT	N1912AP	926431	A.05.00	Sep. 19, 2025	Sep. 18, 2026
14	D.C. Power Supply	LongWei	TPR-6405 D	GQ7516	N/A	Sep. 19, 2025	Sep. 18, 2026
15	Attenuators	XINQY	XQY-SMAJ KS-12-2W	N/A	N/A	Sep. 19, 2025	Sep. 18, 2026
16	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

4.1.2 TEST PROCEDURE

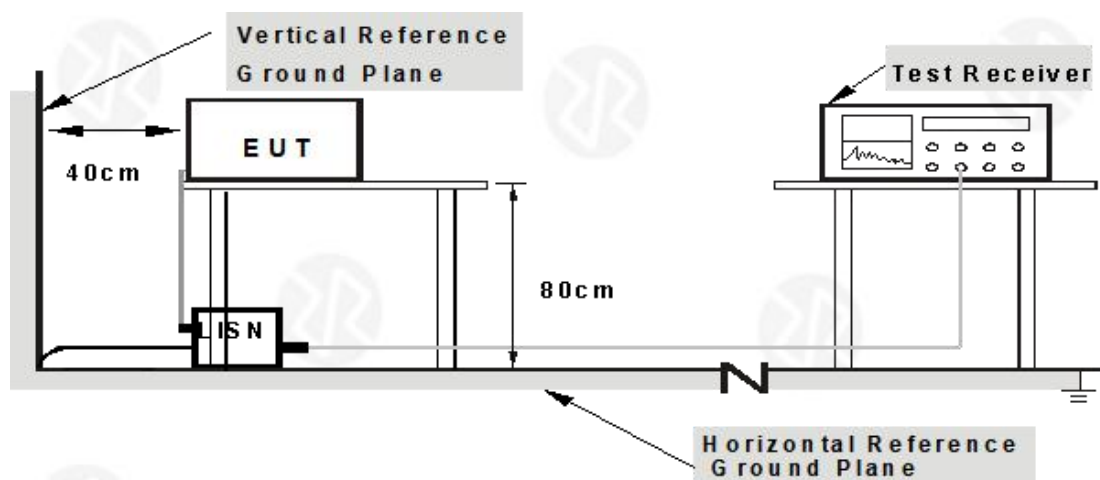
- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation



4.1.4 TEST SETUP



- Note: 1.Support units were connected to second LISN.**
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

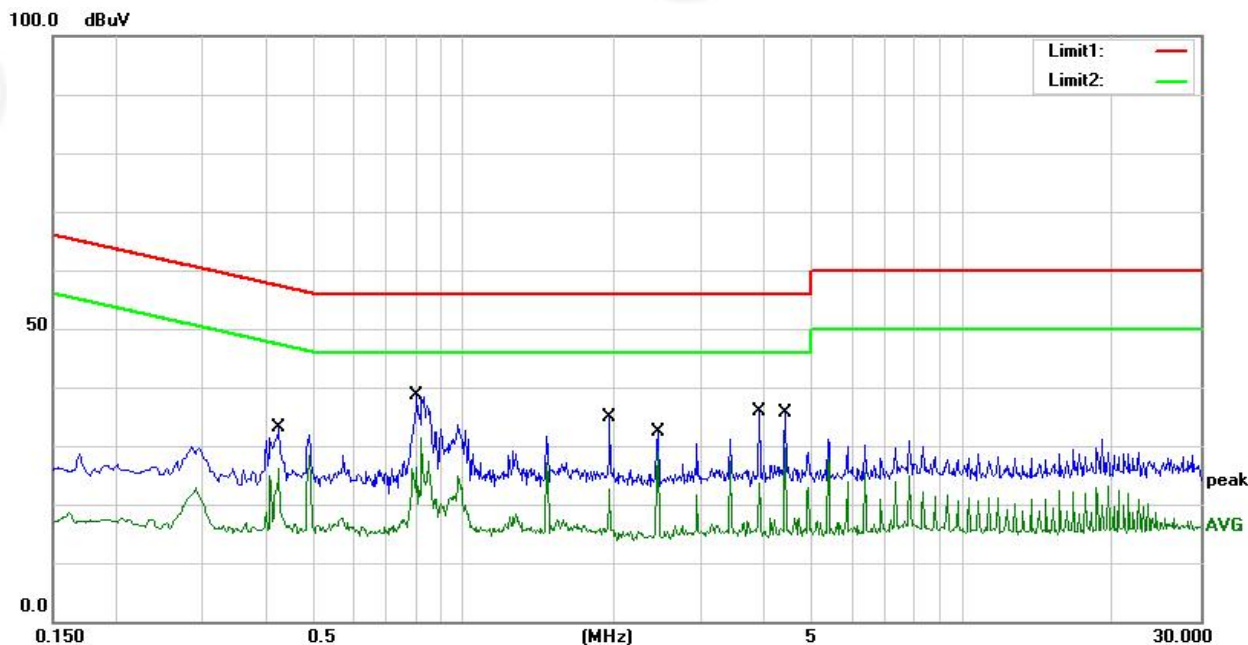
4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



4.1.6 TEST RESULT

Temperature:	25.4℃	Relative Humidity:	61.6%
Pressure:	101 kPa	Polarization:	L
Test Voltage:	AC 120V/60Hz	Test Mode:	TX 802.11ax40 - 2452MHz



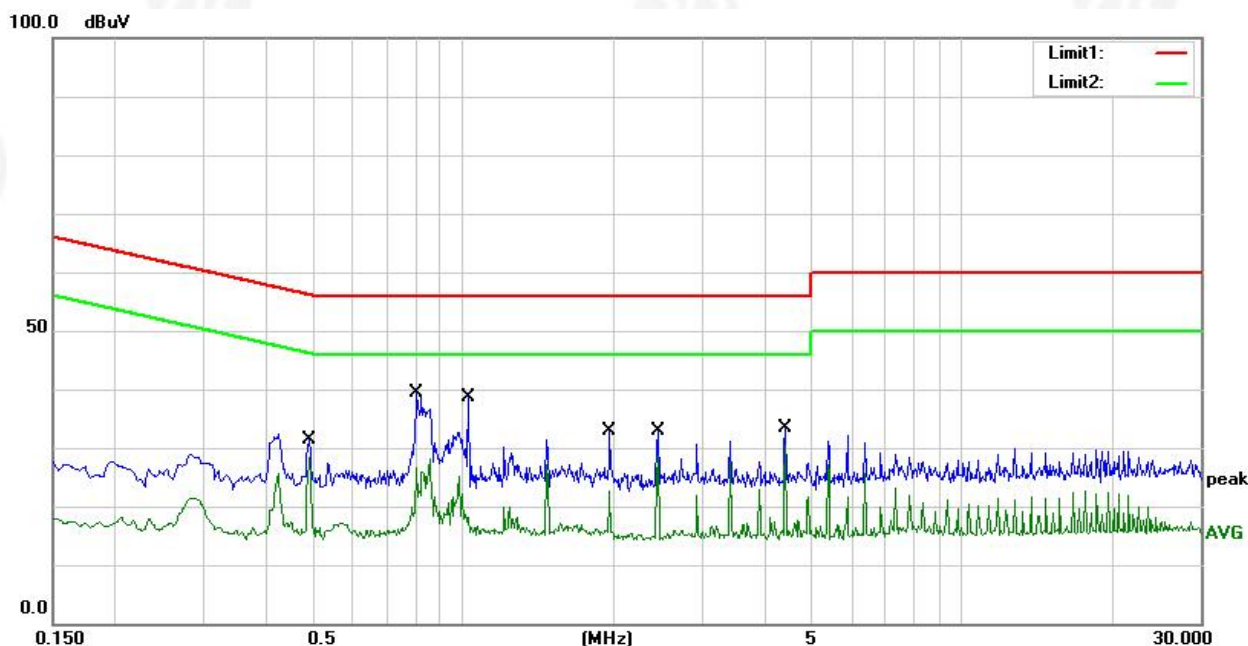
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.4260	13.78	19.39	33.17	57.33	-24.16	QP
2	0.4260	9.03	19.39	28.42	47.33	-18.91	AVG
3	0.8060	19.17	19.36	38.53	56.00	-17.47	QP
4	0.8060	11.99	19.36	31.35	46.00	-14.65	AVG
5	1.9620	15.57	19.35	34.92	56.00	-21.08	QP
6	1.9620	7.67	19.35	27.02	46.00	-18.98	AVG
7	2.4500	13.08	19.37	32.45	56.00	-23.55	QP
8	2.4500	9.85	19.37	29.22	46.00	-16.78	AVG
9	3.9220	16.57	19.41	35.98	56.00	-20.02	QP
10	3.9220	7.94	19.41	27.35	46.00	-18.65	AVG
11	4.4100	16.31	19.42	35.73	56.00	-20.27	QP
12	4.4100	10.30	19.42	29.72	46.00	-16.28	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Reading level + Correct Factor.
4. Correct Factor= Lisen factor+ Cable loss factor + limiter factor.
5. Margin= Measurement Level-Limit.
6. The test data shows only the worst case TX 802.11ax40 - 2452MHz.



Temperature:	25.4℃	Relative Humidity:	61.6%
Pressure:	101 kPa	Polarization:	N
Test Voltage:	AC 120V/60Hz	Test Mode:	TX 802.11ax40 - 2452MHz



	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.4900	12.02	19.34	31.36	56.17	-24.81	QP
2	0.4900	9.13	19.34	28.47	46.17	-17.70	AVG
3	0.8060	19.89	19.40	39.29	56.00	-16.71	QP
4	0.8060	8.74	19.40	28.14	46.00	-17.86	AVG
5	1.0260	19.12	19.39	38.51	56.00	-17.49	QP
6	1.0260	5.80	19.39	25.19	46.00	-20.81	AVG
7	1.9620	13.42	19.38	32.80	56.00	-23.20	QP
8	1.9620	7.83	19.38	27.21	46.00	-18.79	AVG
9	2.4500	13.34	19.42	32.76	56.00	-23.24	QP
10	2.4500	9.17	19.42	28.59	46.00	-17.41	AVG
11	4.4100	13.79	19.47	33.26	56.00	-22.74	QP
12	4.4100	10.90	19.47	30.37	46.00	-15.63	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Reading level + Correct Factor.
4. Correct Factor= Lisen factor+ Cable loss factor + limiter factor.
5. Margin= Measurement Level-Limit.
6. The test data shows only the worst case TX 802.11ax40 - 2452MHz.



4.2 RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KH z	Quasi-peak
	30MHz-1GHz	Quasi-peak	100K Hz	300K Hz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

4.2.1 RADIATED EMISSION LIMITS

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).



4.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change from table 0.8 meter to 1.5 meter (Above 18GHz the distance is 1 meter and table is 1.5 meter).
- Test the EUT in the lowest channel, the middle channel, the Highest channel

Note:

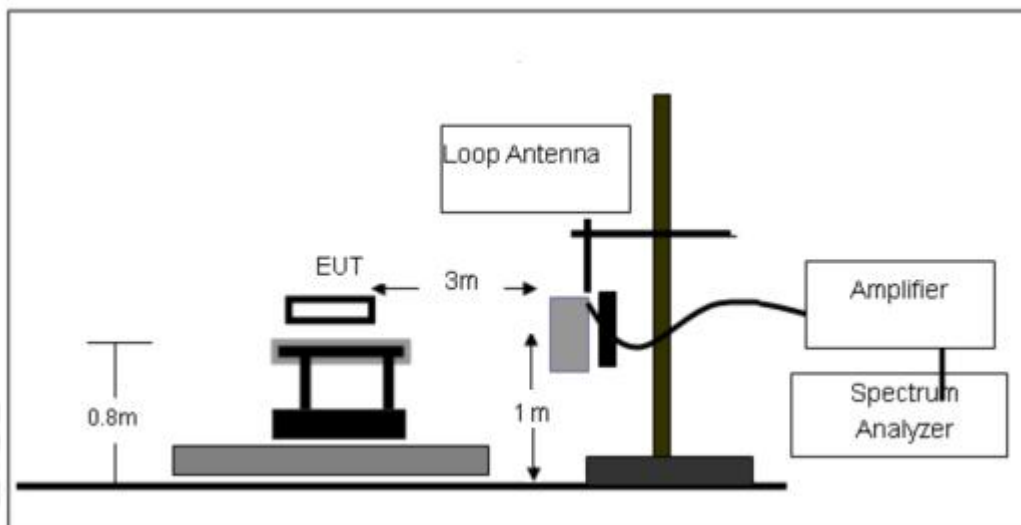
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

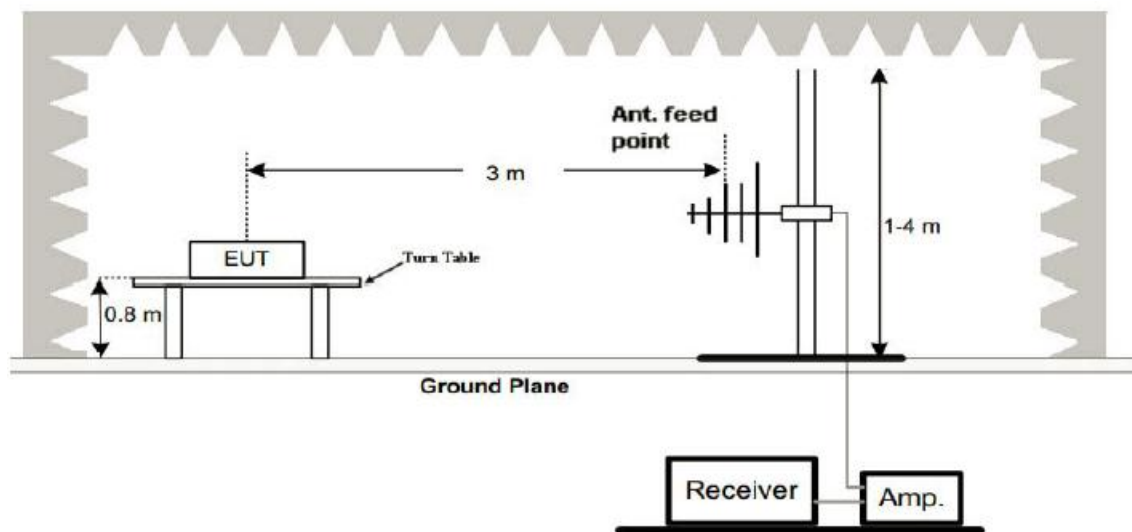
4.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz

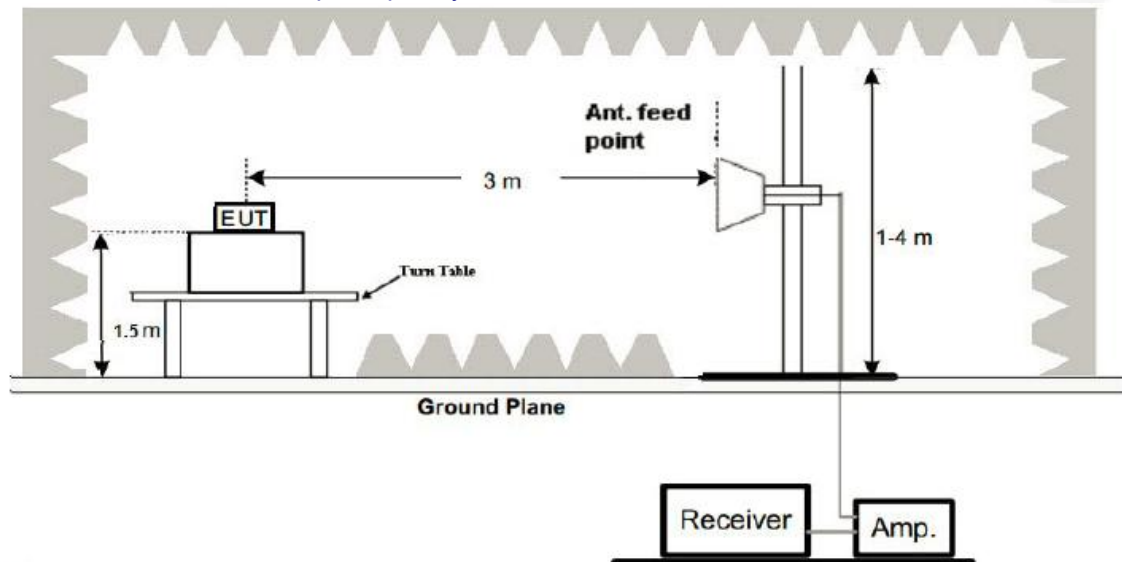




(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.2.5 EUT OPERATING CONDITIONS

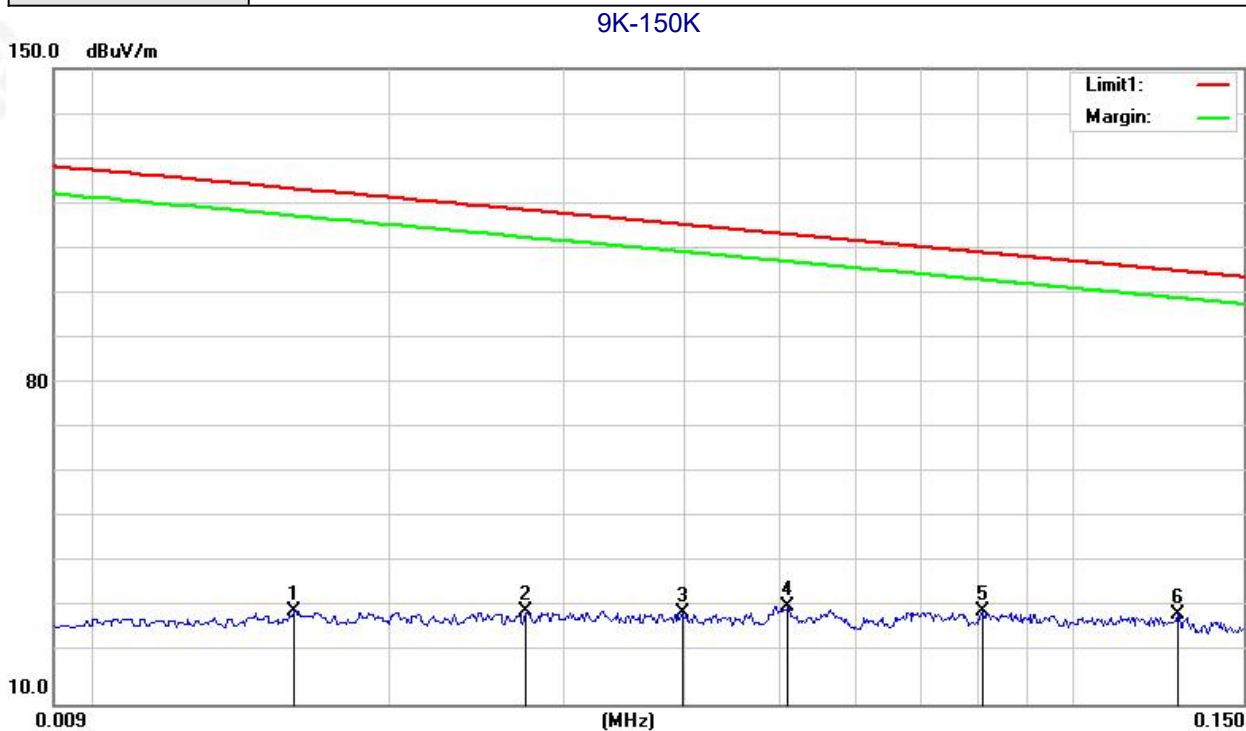
The EUT tested system was configured as the statements of 4.2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



4.2.6 TEST RESULTS

Between 9KHz – 30MHz

Temperature:	23.7℃	Relative Humidity:	54%
Test Voltage:	DC 12V	Polarization:	Coxial
Test Mode:	802.11ax40 - 2452MHz		



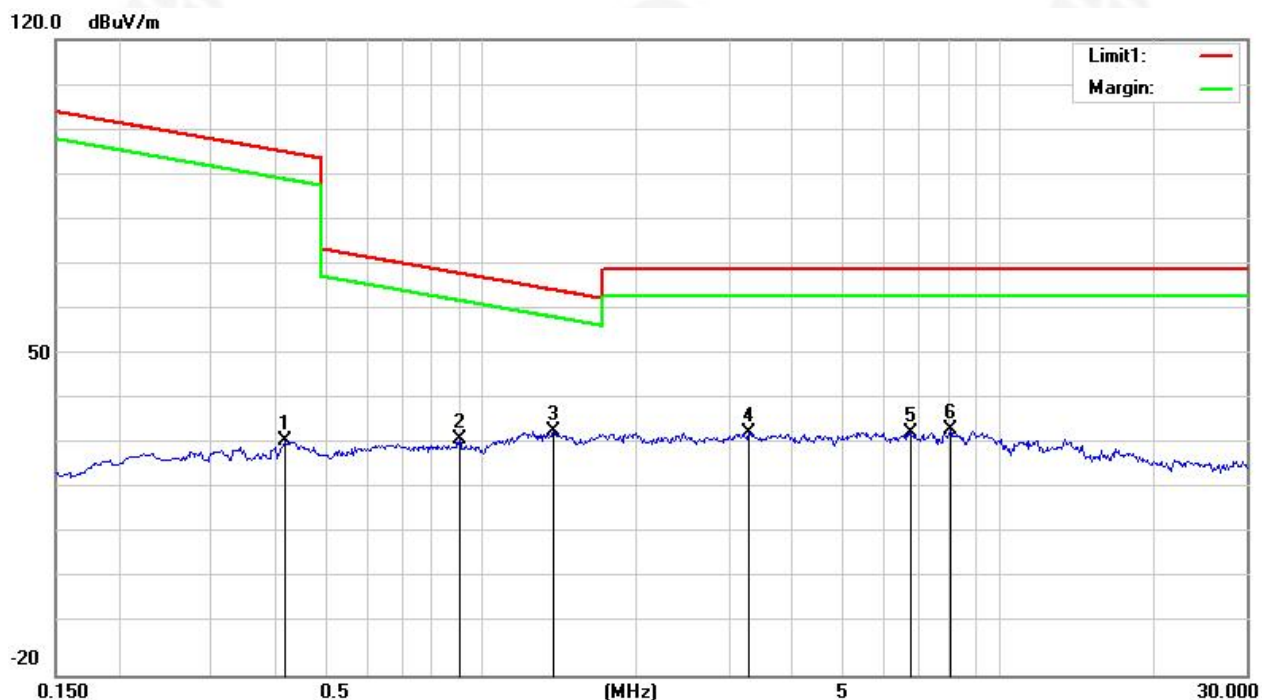
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0160	10.58	19.81	30.39	123.52	-93.13	AVG
2	0.0275	10.38	19.95	30.33	118.82	-88.49	AVG
3	0.0398	10.48	19.70	30.18	115.61	-85.43	AVG
4	0.0510	12.20	19.47	31.67	113.45	-81.78	AVG
5	0.0810	12.04	18.51	30.55	109.43	-78.88	AVG
6	0.1282	12.14	17.54	29.68	105.45	-75.77	AVG

Note:

1. Distance extrapolation factor = $40 \log (\text{specific distance/test distance})(\text{dB})$;
2. Limit line = specific limits (dBuV) + distance extrapolation factor.
3. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40MIMO - 2452MHz was reported



150K-30M



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.4187	11.33	20.17	31.50	95.17	-63.67	AVG
2	0.9040	11.75	20.24	31.99	68.48	-36.49	QP
3	1.3730	13.53	20.27	33.80	64.85	-31.05	QP
4	3.2841	13.05	20.19	33.24	69.50	-36.26	QP
5	6.7470	13.12	20.40	33.52	69.50	-35.98	QP
6	8.0304	13.70	20.32	34.02	69.50	-35.48	QP

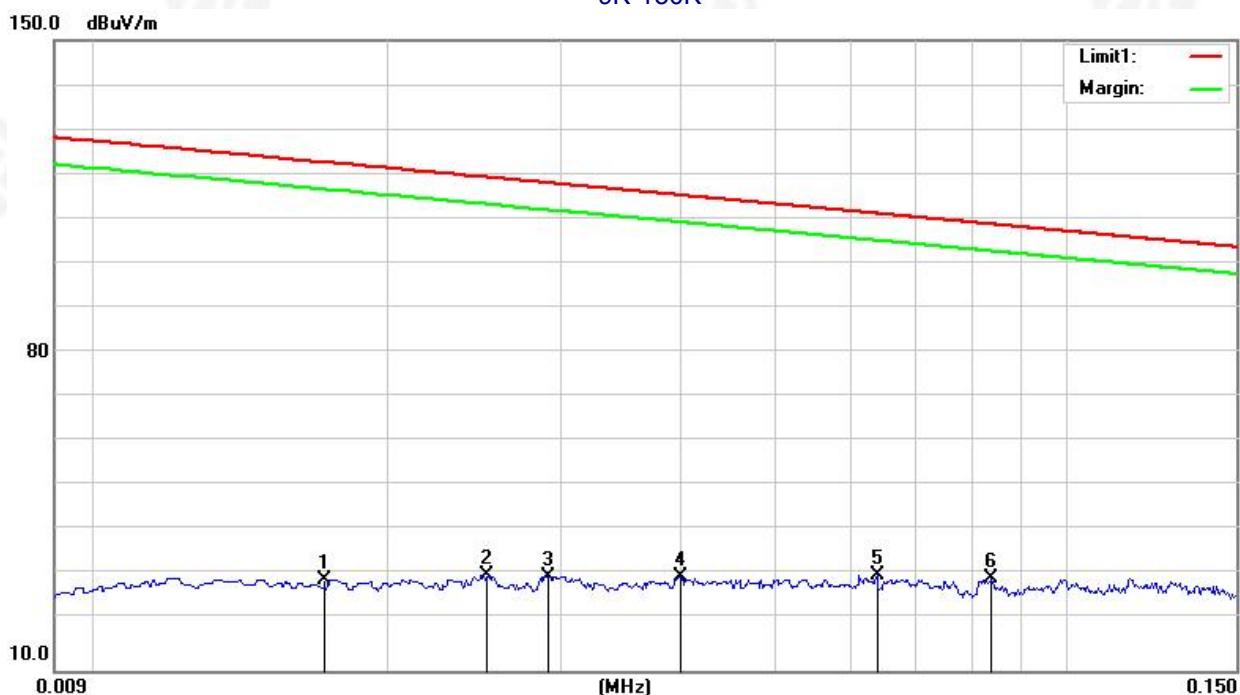
Note:

1. Distance extrapolation factor =40 log (specific distance/test distance)(dB);
2. Limit line = specific limits (dBuv) + distance extrapolation factor.
3. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40MIMO - 2452MHz was reported



Temperature:	23.7℃	Relative Humidity:	54%
Test Voltage:	DC 12V	Polarization:	Coplanar
Test Mode:	802.11ax40 - 2452MHz		

9K-150K



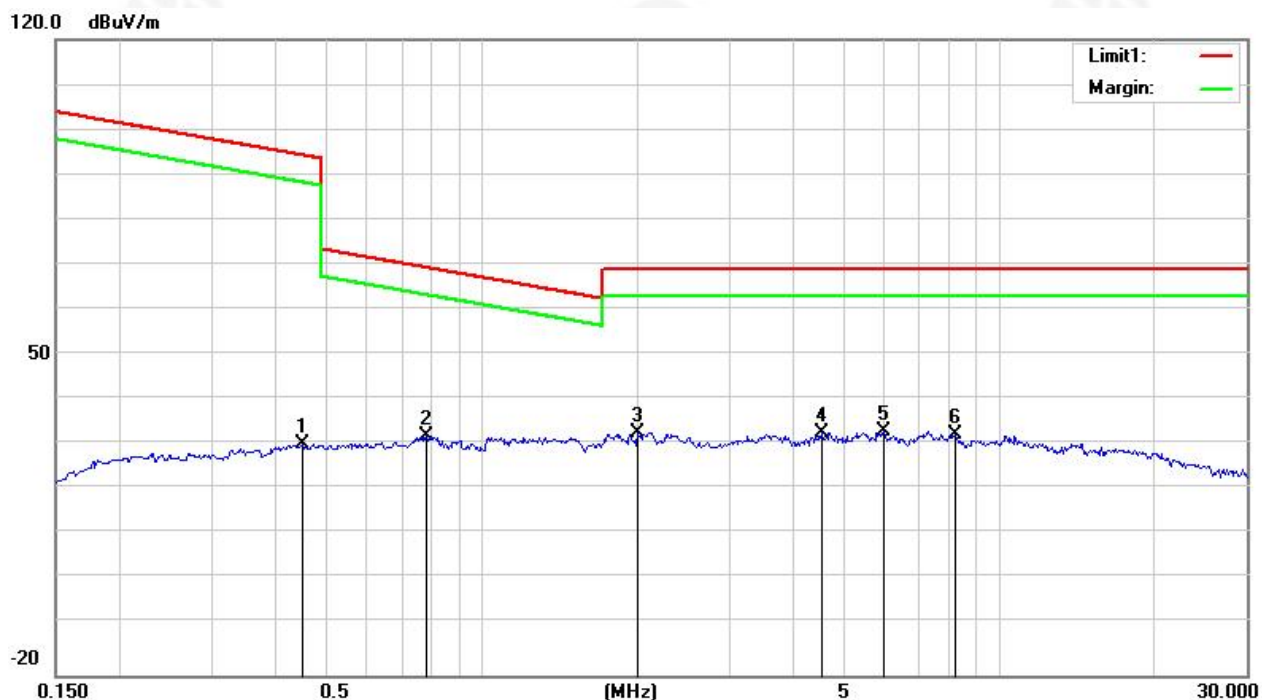
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0171	10.37	19.89	30.26	122.94	-92.68	AVG
2	0.0252	11.33	20.00	31.33	119.58	-88.25	AVG
3	0.0292	10.99	19.92	30.91	118.30	-87.39	AVG
4	0.0400	11.01	19.70	30.71	115.56	-84.85	AVG
5	0.0637	12.02	19.12	31.14	111.52	-80.38	AVG
6	0.0840	12.05	18.37	30.42	109.12	-78.70	AVG

Note:

1. Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$;
2. Limit line = specific limits (dBuV) + distance extrapolation factor.
3. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40MIMO - 2452MHz was reported



150K-30M



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.4490	10.71	20.18	30.89	94.56	-63.67	AVG
2	0.7792	12.36	20.29	32.65	69.77	-37.12	QP
3	2.0007	13.05	20.40	33.45	69.50	-36.05	QP
4	4.5380	13.03	20.45	33.48	69.50	-36.02	QP
5	5.9706	13.39	20.44	33.83	69.50	-35.67	QP
6	8.2094	12.88	20.31	33.19	69.50	-36.31	QP

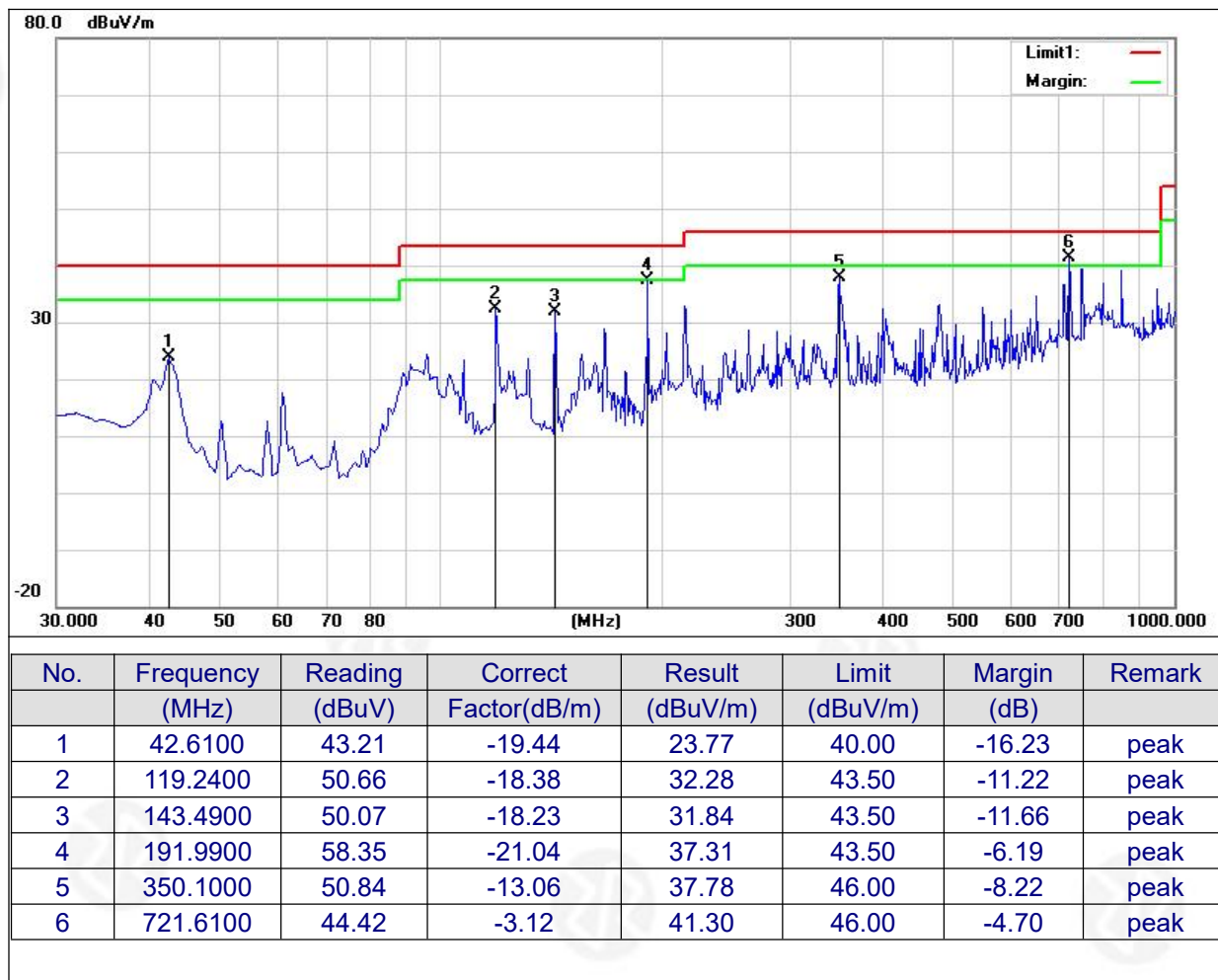
Note:

1. Distance extrapolation factor =40 log (specific distance/test distance)(dB);
2. Limit line = specific limits (dBuv) + distance extrapolation factor.
3. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40MIMO - 2452MHz was reported



Between 30MHz – 1GHz

Temperature:	23.4℃	Relative Humidity:	60%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 12V	Test Mode :	802.11ax40 - 2452MHz

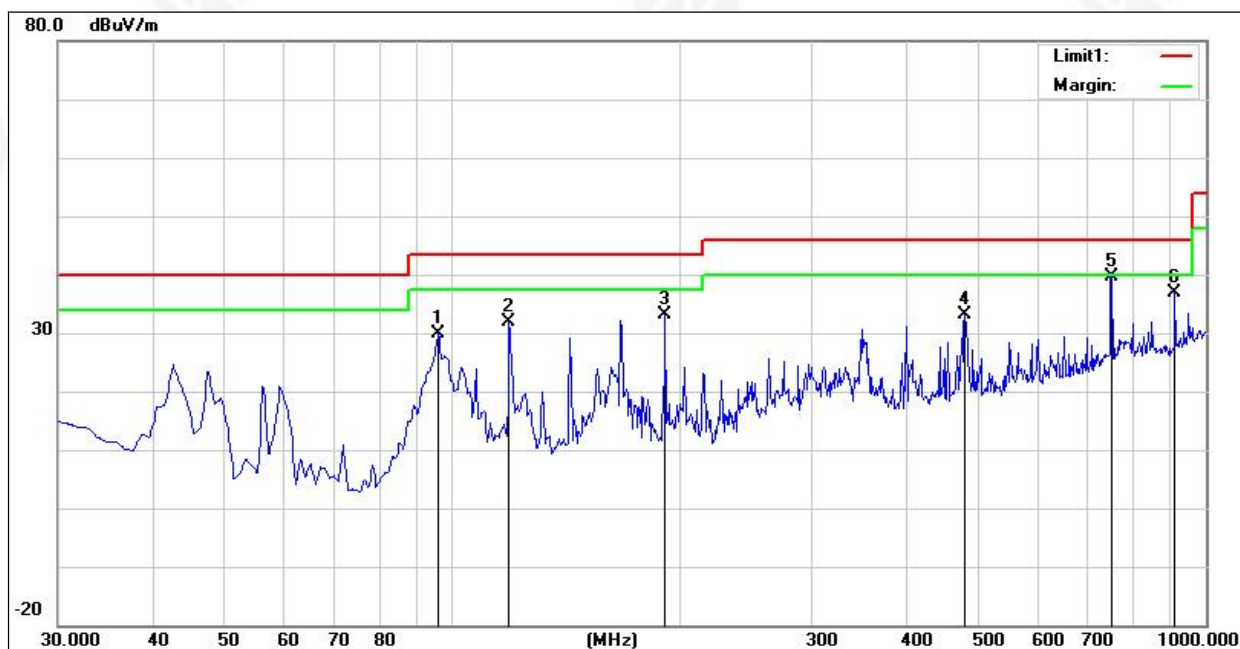


Note:

1. An initial pre-scan was performed on the peak detector.
2. Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Final Level = Reading level + Correct Factor.
5. Correct Factor= Antenna factor+ Cable loss factor - Amplifier factor.
6. Margin= Measurement Level-Limit.
7. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40MIMO - 2452MHz was reported



Temperature:	23.4℃	Relative Humidity:	60%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 12V	Test Mode :	802.11ax40 - 2452MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	95.9600	50.52	-20.67	29.85	43.50	-13.65	peak
2	119.2400	50.32	-18.38	31.94	43.50	-11.56	peak
3	191.9900	54.28	-21.04	33.24	43.50	-10.26	peak
4	480.0800	41.88	-8.65	33.23	46.00	-12.77	peak
5	750.7100	41.87	-2.16	39.71	46.00	-6.29	peak
6	909.7900	37.10	-0.19	36.91	46.00	-9.09	peak

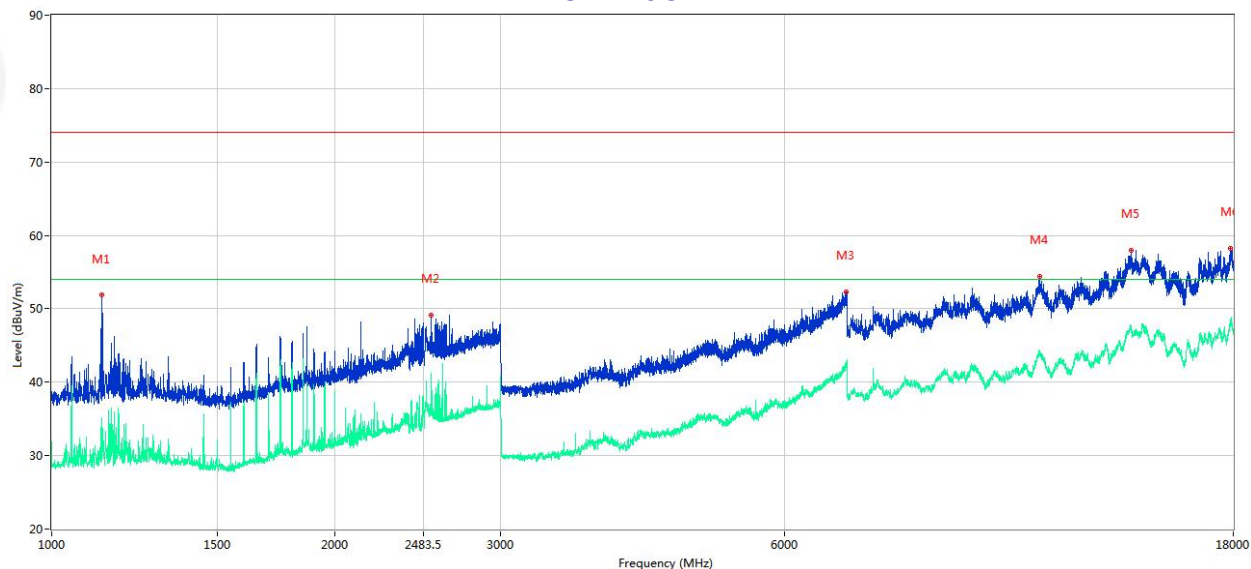
Note:

1. An initial pre-scan was performed on the peak detector.
2. Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Final Level = Reading level + Correct Factor.
5. Correct Factor= Antenna factor+ Cable loss factor - Amplifier factor.
6. Margin= Measurement Level-Limit.
7. All modes of 2.4G WIFI 802.11b/n20 /ax20/n40 /ax40 were tested at Low, Middle, and High channel; only the worst result of 802.11ax40 MIMO - 2452MHz was reported



Above 1GHz

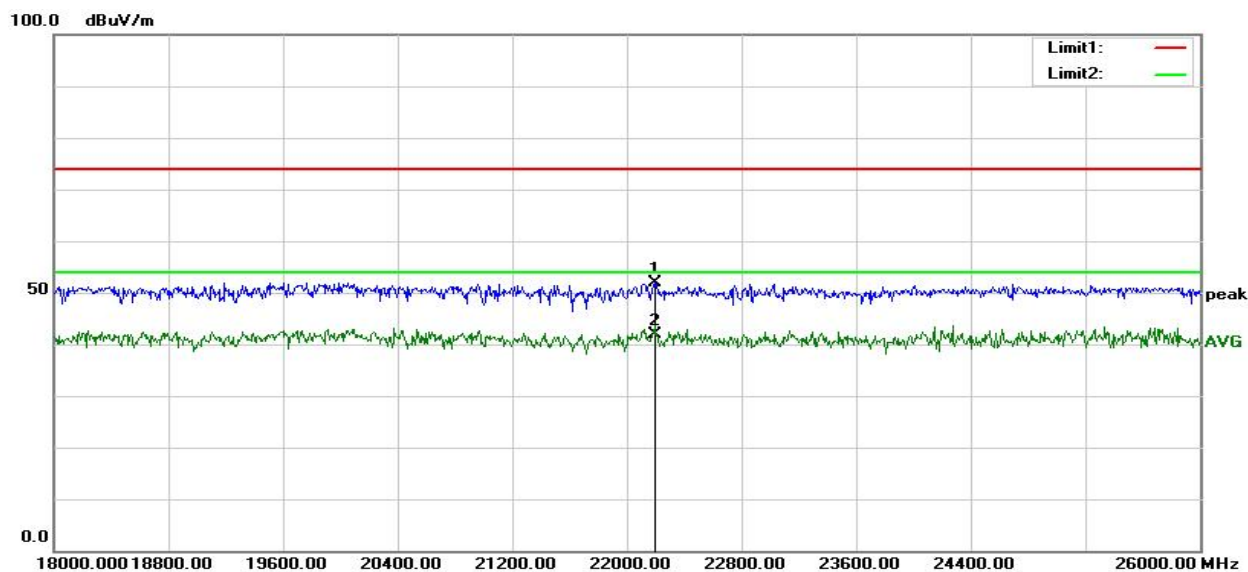
802.11ax40-MIMO
Low Channel
Horizontal
1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	1131.000	51.84	-1.71	74.0	-22.16	Peak	239.00	Horizontal	Pass
1**	1131.000	33.96	-1.71	54.0	-20.04	AV	239.00	Horizontal	Pass
2	2532.000	49.11	3.41	74.0	-24.89	Peak	147.10	Horizontal	Pass
2**	2532.000	40.56	3.41	54.0	-13.44	AV	147.10	Horizontal	Pass
3	6986.000	52.36	1.21	74.0	-21.64	Peak	220.10	Horizontal	Pass
3**	6986.000	42.43	1.21	54.0	-11.57	AV	220.10	Horizontal	Pass
4	11202.000	54.40	2.61	74.0	-19.60	Peak	170.30	Horizontal	Pass
4**	11202.000	43.90	2.61	54.0	-10.10	AV	170.30	Horizontal	Pass
5	14007.000	57.97	8.34	74.0	-16.03	Peak	116.30	Horizontal	Pass
5**	14007.000	47.42	8.34	54.0	-6.58	AV	116.30	Horizontal	Pass
6	17862.500	58.22	6.92	74.0	-15.78	Peak	353.50	Horizontal	Pass
6**	17862.500	47.80	6.92	54.0	-6.20	AV	353.50	Horizontal	Pass



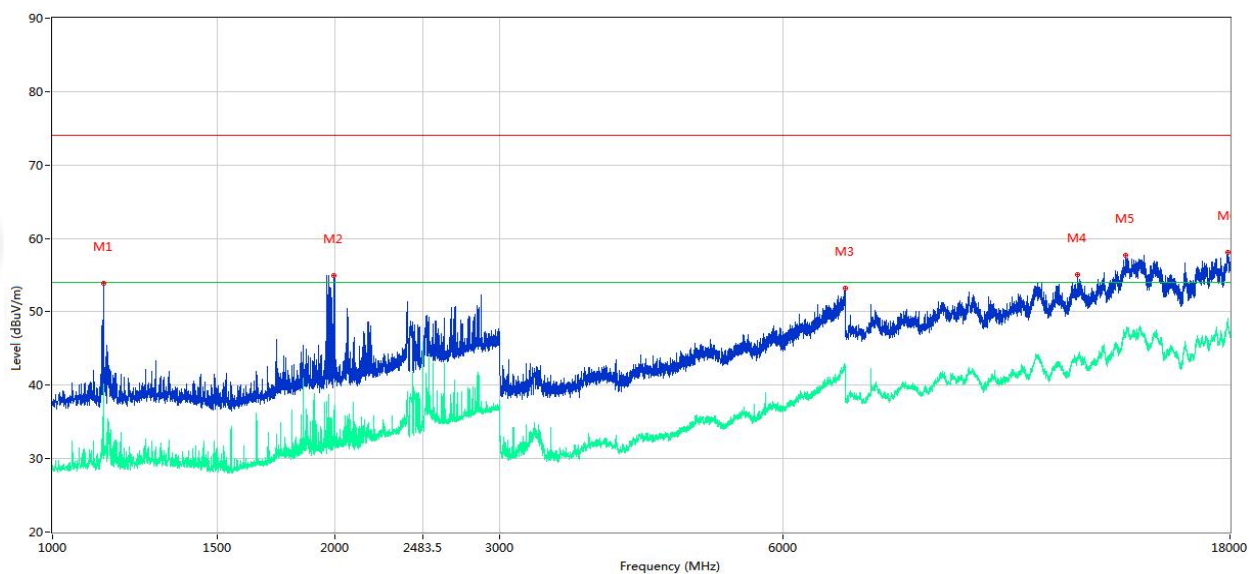
18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	22192.000	48.35	3.61	51.96	74.00	-22.04	peak
2	22192.000	38.37	3.61	41.98	54.00	-12.02	AVG



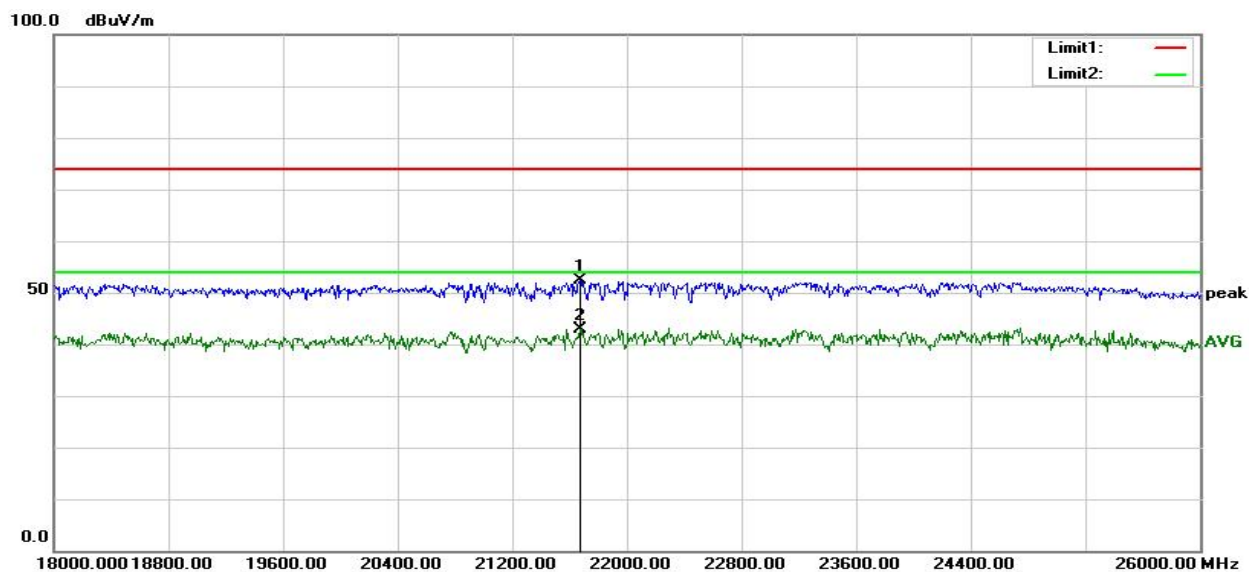
Vertical
1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	1132.500	53.94	-1.70	74.0	-20.06	Peak	136.70	Vertical	Pass
1**	1132.500	40.19	-1.70	54.0	-13.81	AV	136.70	Vertical	Pass
2	1996.000	54.93	0.36	74.0	-19.07	Peak	102.80	Vertical	Pass
2**	1996.000	36.66	0.36	54.0	-17.34	AV	102.80	Vertical	Pass
3	6994.000	53.22	1.27	74.0	-20.78	Peak	315.60	Vertical	Pass
3**	6994.000	42.51	1.27	54.0	-11.49	AV	315.60	Vertical	Pass
4	12390.000	55.04	3.16	74.0	-18.96	Peak	257.70	Vertical	Pass
4**	12390.000	43.85	3.16	54.0	-10.15	AV	257.70	Vertical	Pass
5	13938.250	57.77	7.68	74.0	-16.23	Peak	150.50	Vertical	Pass
5**	13938.250	46.79	7.68	54.0	-7.21	AV	150.50	Vertical	Pass
6	17914.751	58.07	7.13	74.0	-15.93	Peak	312.40	Vertical	Pass
6**	17914.751	48.40	7.13	54.0	-5.60	AV	312.40	Vertical	Pass



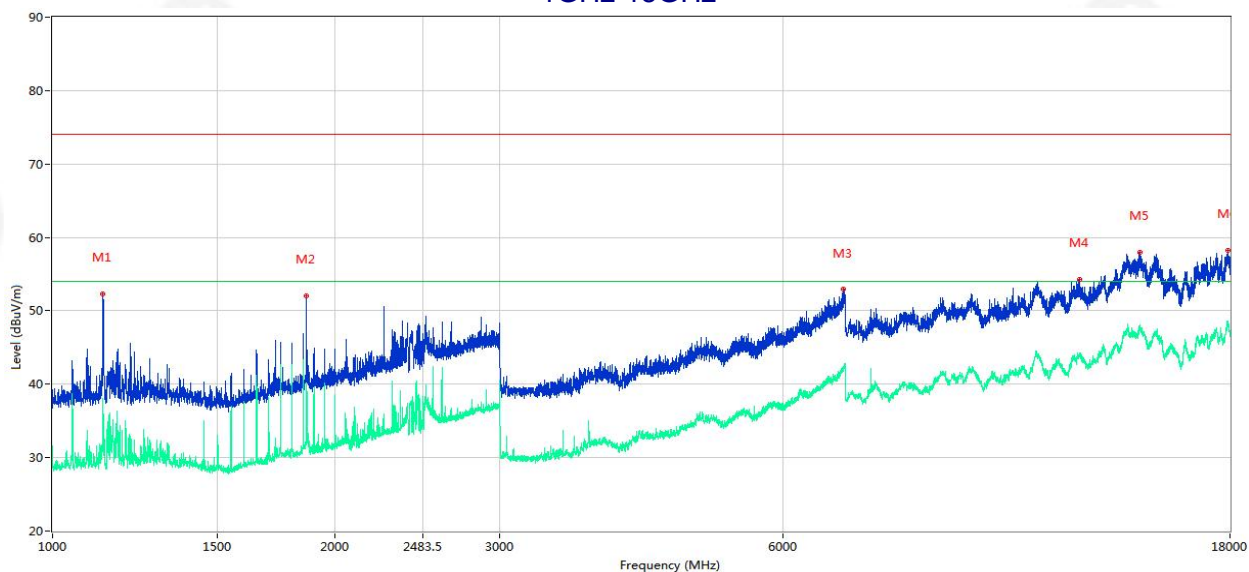
18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	21672.000	49.26	3.10	52.36	74.00	-21.64	peak
2	21672.000	39.76	3.10	42.86	54.00	-11.14	AVG



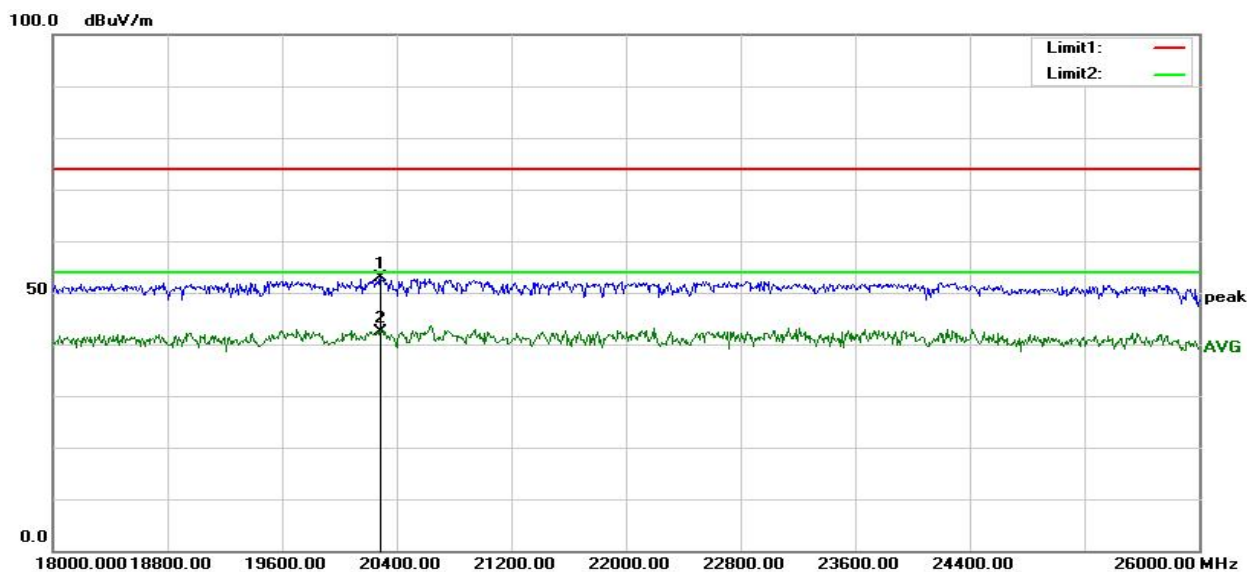
Mid Channel
Horizontal
1GHz-18GHz



No.	Frequency (MHz)	Results (dBUV/m)	Factor (dB/m)	Limit (dBUV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	1130.500	52.29	-1.71	74.0	-21.71	Peak	234.90	Horizontal	Pass
1**	1130.500	38.09	-1.71	54.0	-15.91	AV	234.90	Horizontal	Pass
2	1865.500	52.06	-0.09	74.0	-21.94	Peak	237.20	Horizontal	Pass
2**	1865.500	39.56	-0.09	54.0	-14.44	AV	237.20	Horizontal	Pass
3	6971.000	52.90	1.09	74.0	-21.10	Peak	322.40	Horizontal	Pass
3**	6971.000	42.08	1.09	54.0	-11.92	AV	322.40	Horizontal	Pass
4	12453.250	54.27	2.64	74.0	-19.73	Peak	22.90	Horizontal	Pass
4**	12453.250	44.06	2.64	54.0	-9.94	AV	22.90	Horizontal	Pass
5	14422.250	58.02	6.83	74.0	-15.98	Peak	360.00	Horizontal	Pass
5**	14422.250	47.86	6.83	54.0	-6.14	AV	360.00	Horizontal	Pass
6	17923.000	58.26	7.06	74.0	-15.74	Peak	204.50	Horizontal	Pass
6**	17923.000	48.29	7.06	54.0	-5.71	AV	204.50	Horizontal	Pass



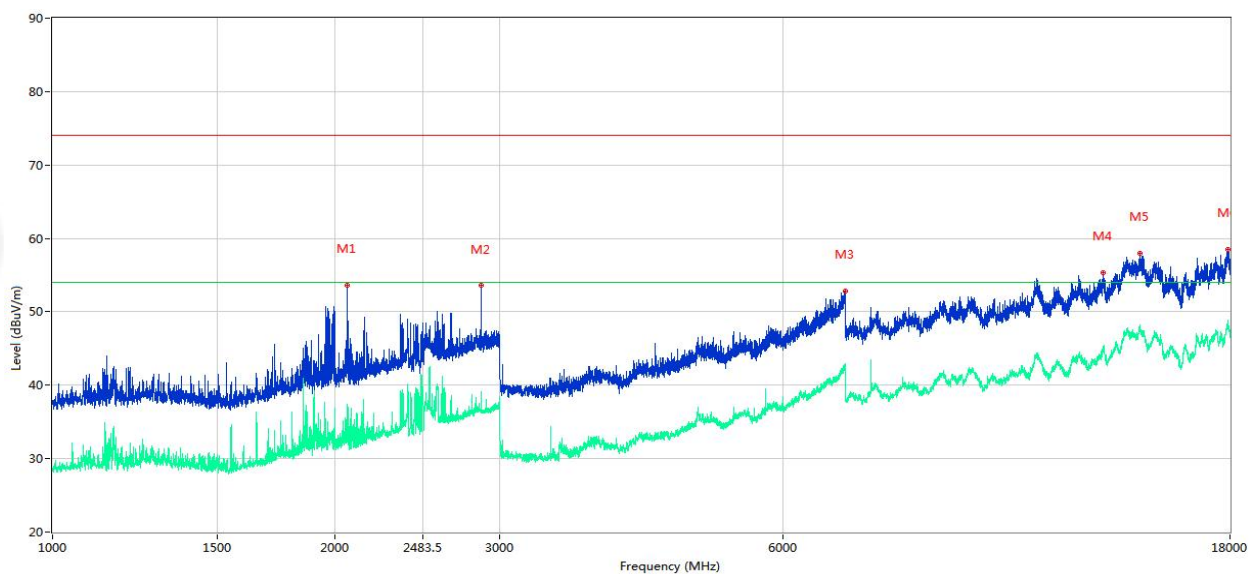
18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	20288.000	50.86	2.05	52.91	74.00	-21.09	peak
2	20288.000	40.32	2.05	42.37	54.00	-11.63	AVG



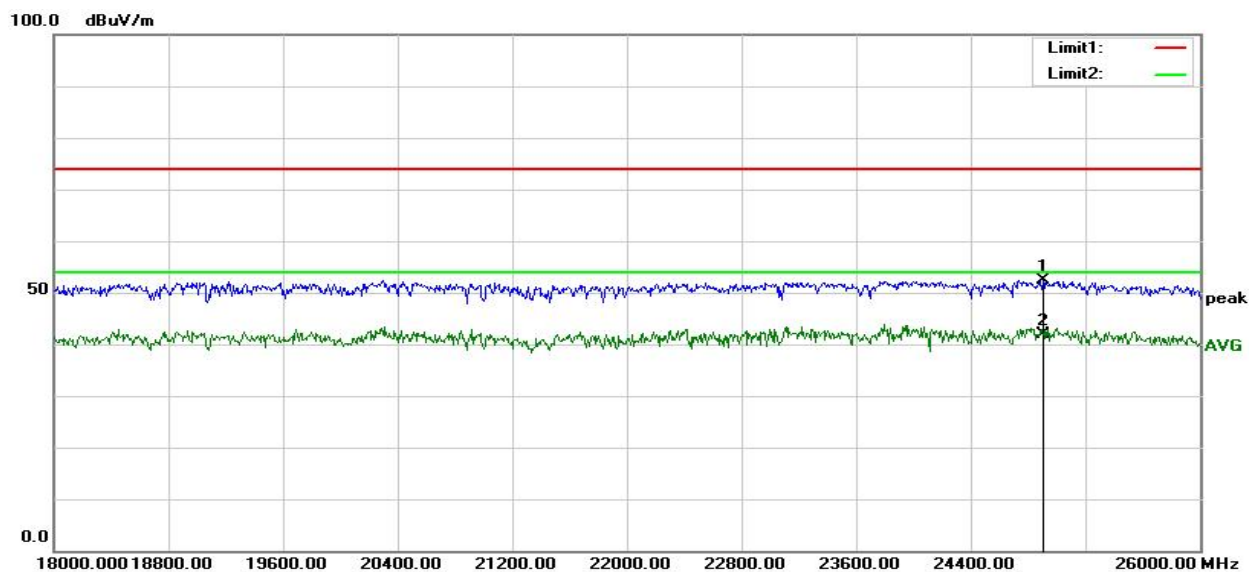
Vertical
1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	2063.000	53.58	0.83	74.0	-20.42	Peak	109.20	Vertical	Pass
1**	2063.000	37.44	0.83	54.0	-16.56	AV	109.20	Vertical	Pass
2	2865.000	53.55	4.97	74.0	-20.45	Peak	233.40	Vertical	Pass
2**	2865.000	39.09	4.97	54.0	-14.91	AV	233.40	Vertical	Pass
3	6997.000	52.78	1.30	74.0	-21.22	Peak	59.40	Vertical	Pass
3**	6997.000	42.67	1.30	54.0	-11.33	AV	59.40	Vertical	Pass
4	13187.500	55.35	5.32	74.0	-18.65	Peak	319.40	Vertical	Pass
4**	13187.500	44.95	5.32	54.0	-9.05	AV	319.40	Vertical	Pass
5	14416.750	57.94	6.87	74.0	-16.06	Peak	66.20	Vertical	Pass
5**	14416.750	47.68	6.87	54.0	-6.32	AV	66.20	Vertical	Pass
6	17903.749	58.52	7.21	74.0	-15.48	Peak	1.40	Vertical	Pass
6**	17903.749	48.73	7.21	54.0	-5.27	AV	1.40	Vertical	Pass



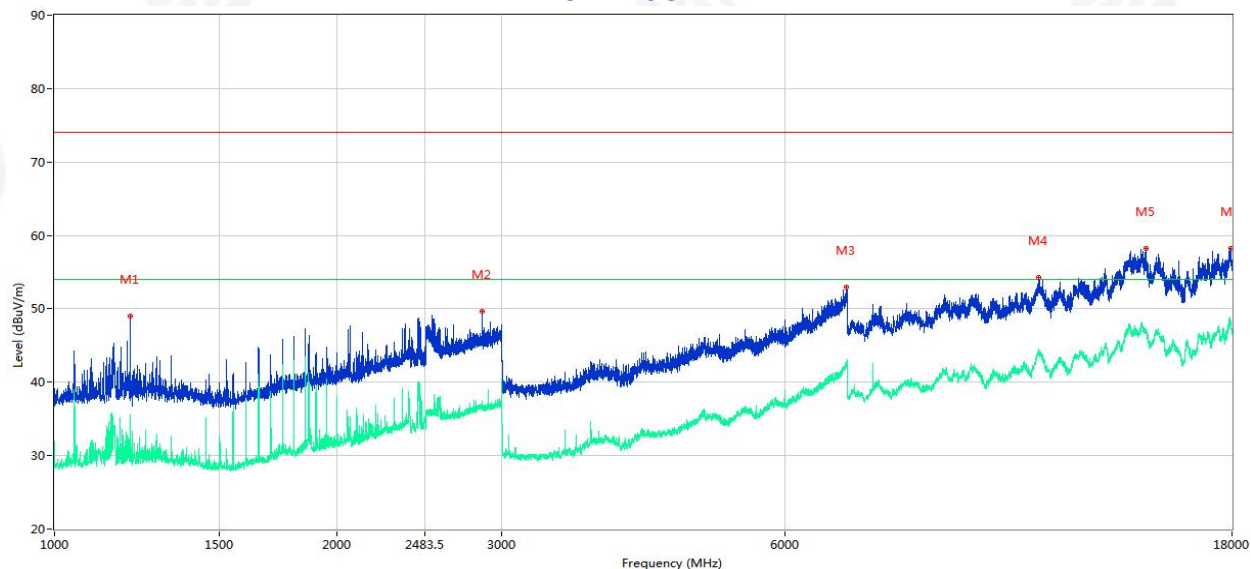
18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	24904.000	47.19	5.19	52.38	74.00	-21.62	peak
2	24904.000	36.58	5.19	41.77	54.00	-12.23	AVG



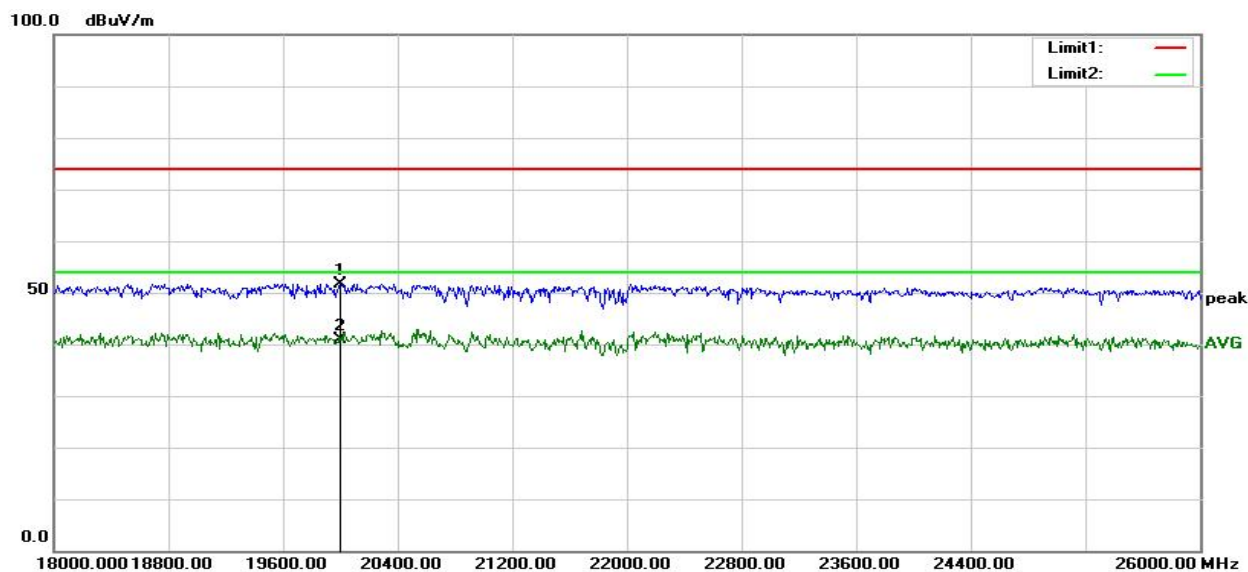
High Channel
Horizontal
1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	1205.000	49.05	-1.49	74.0	-24.95	Peak	243.90	Horizontal	Pass
1**	1205.000	35.53	-1.49	54.0	-18.47	AV	243.90	Horizontal	Pass
2	2855.500	49.68	4.98	74.0	-24.32	Peak	315.60	Horizontal	Pass
2**	2855.500	37.42	4.98	54.0	-16.58	AV	315.60	Horizontal	Pass
3	6993.000	52.92	1.26	74.0	-21.08	Peak	360.50	Horizontal	Pass
3**	6993.000	42.55	1.26	54.0	-11.45	AV	360.50	Horizontal	Pass
4	11199.250	54.33	2.62	74.0	-19.67	Peak	0.00	Horizontal	Pass
4**	11199.250	43.92	2.62	54.0	-10.08	AV	0.00	Horizontal	Pass
5	14565.250	58.29	6.31	74.0	-15.71	Peak	325.10	Horizontal	Pass
5**	14565.250	47.23	6.31	54.0	-6.77	AV	325.10	Horizontal	Pass
6	17936.751	58.19	6.96	74.0	-15.81	Peak	327.00	Horizontal	Pass
6**	17936.751	47.56	6.96	54.0	-6.44	AV	327.00	Horizontal	Pass



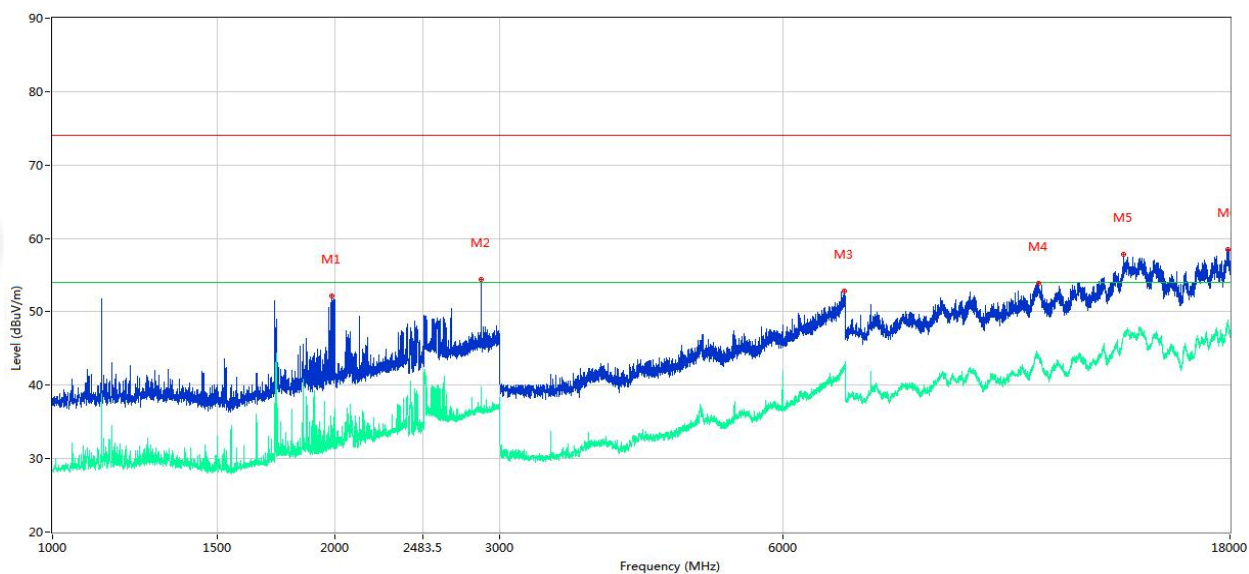
18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	20000.000	49.95	1.80	51.75	74.00	-22.25	peak
2	20000.000	39.19	1.80	40.99	54.00	-13.01	AVG



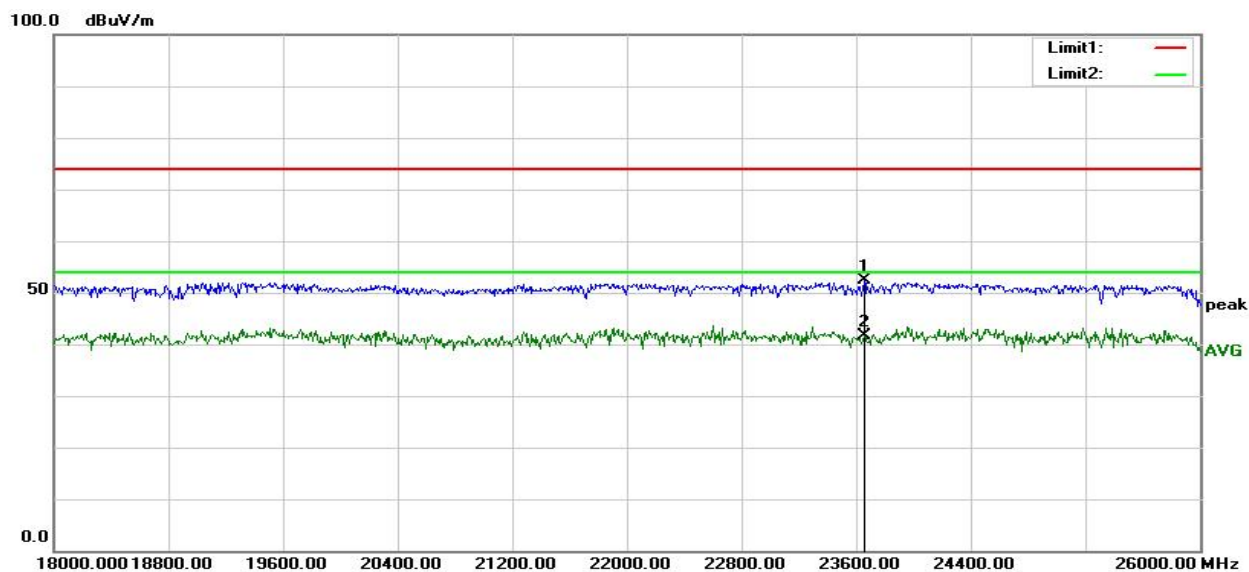
Vertical
1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin-(dB)	Detector	Table (Degree)	Antenna	Verdict
1	1983.000	52.14	0.25	74.0	-21.86	Peak	105.50	Vertical	Pass
1**	1983.000	34.47	0.25	54.0	-19.53	AV	105.50	Vertical	Pass
2	2864.000	54.42	4.97	74.0	-19.58	Peak	79.50	Vertical	Pass
2**	2864.000	39.78	4.97	54.0	-14.22	AV	79.50	Vertical	Pass
3	6979.000	52.88	1.15	74.0	-21.12	Peak	124.20	Vertical	Pass
3**	6979.000	42.29	1.15	54.0	-11.71	AV	124.20	Vertical	Pass
4	11262.500	53.87	2.41	74.0	-20.13	Peak	127.10	Vertical	Pass
4**	11262.500	43.55	2.41	54.0	-10.45	AV	127.10	Vertical	Pass
5	13877.750	57.78	6.87	74.0	-16.22	Peak	223.50	Vertical	Pass
5**	13877.750	46.95	6.87	54.0	-7.05	AV	223.50	Vertical	Pass
6	17923.000	58.51	7.06	74.0	-15.49	Peak	79.10	Vertical	Pass
6**	17923.000	48.17	7.06	54.0	-5.83	AV	79.10	Vertical	Pass



18GHz-26GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	23656.000	48.06	4.29	52.35	74.00	-21.65	peak
2	23656.000	37.32	4.29	41.61	54.00	-12.39	AVG

Note:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Emission Level = Reading + Factor.
- The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.
- All modes of 2.4G WIFI were tested, only the worst results of 802.11ax40-MIMO mode were reported.



5. EMISSIONS AT RESTRICTED BAND

5.1 TEST REQUIREMENT

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
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
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	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	Above 38.6
13.36-13.41			

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	Limit (dBuV/m) (at 3M)	
	Peak	Average
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

5.2 TEST PROCEDURE

According to ANSI C63.10 Field Strength Approach (linear terms):

$$E = \text{EIRP} - 20 \log d + 104.8$$

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.



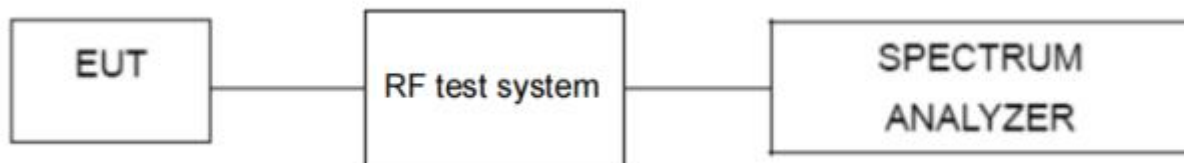
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to an EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1MHz, VBW=3MHz for peak detector and RBW=1MHz, VBW=3 MHz for AVG detector, Max Hold=Average, Trace=100times for AV test.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.
6. Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
7. Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)
8. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
9. For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
10. Compare the resultant electric field strength level to the applicable regulatory limit.
11. Perform radiated spurious emission test duress until all measured frequencies were complete.

5.3 DEVIATION FROM TEST STANDARD

No deviation



5.4 TEST SETUP



5.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



5.6 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

Remark:

1. Test results including cable loss;
2. Measured at difference Packet Type for each mode and recorded worst case for each mode.
3. “---” means that the fundamental frequency not for RSS GEN limits requirement.
4. The other emission levels were very low against the limit.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. Detector AV is setting spectrum/receiver. RBW=1MHz/VBW=3MHz/Sweep time=Auto/Detector=RMS, Max Hold=Average, Trace=100times.
7. Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.



6. POWER SPECTRAL DENSITY TEST

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8dBm/3kHz	2400-2483.5	PASS

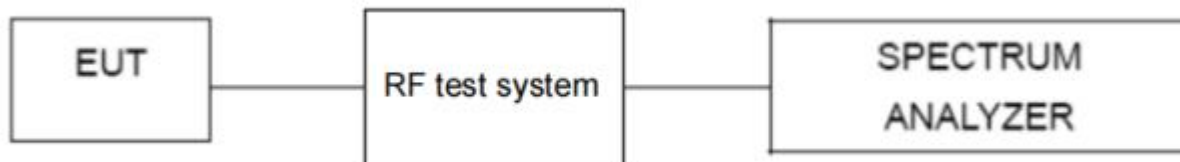
6.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 6.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULT

Note: The test data please refer to APPENDIX 1.



7. 6DB OCCUPIED BANDWIDTH

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB Occupied Bandwidth)	2400-2483.5	PASS

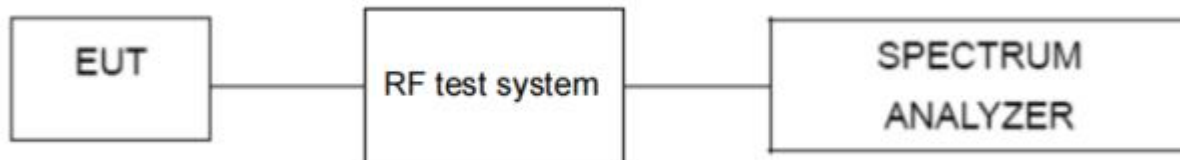
7.2 TEST PROCEDURE

1. Set RBW = 1%~5%OBW.
2. Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 7.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULT

Note: The test data please refer to APPENDIX 1.



8. PEAK OUTPUT POWER TEST

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

8.1 APPLIED PROCEDURES/LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the Power meter

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 8.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULT

Note: The test data please refer to APPENDIX 1.



9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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 in15.209(a).

9.2 TEST PROCEDURE

A. Reference level measurement, establish a reference level by using the following procedure:

- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW = $[3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

B. Emission level measurement, establish an emission level by using the following procedure:

- Set the center frequency and span to encompass frequency range to be measured.
- Set the RBW = 100 kHz.
- Set the VBW = $[3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

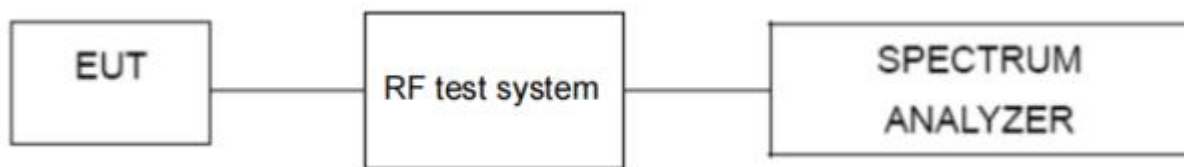
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

9.3 DEVIATION FROM STANDARD

No deviation.



9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 9.4 Unless otherwise a special operating condition is specified in the follows during the testing.

9.6 TEST RESULTS

Notes:

1. The test data please refer to APPENDIX 1.
2. Input compensation coefficient (dB) = Cable Loss (dB).
3. For Conducted spurious emissions plots from 30MHz to 26.5GHz, the worst cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



10. DUTY CYCLE

Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
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10.1 APPLIED PROCEDURES / LIMIT

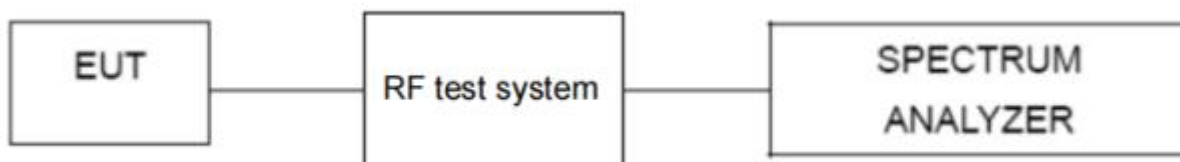
Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- a) A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.
- b) 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 $VBW \geq RBW$. Set detector = peak or 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. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)

10.2 DEVIATION FROM STANDARD

No deviation.

10.3 TEST SETUP



10.4 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



11. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: 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, 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. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is FPC antenna, the best case gain of the antennas is ANT1:2.6 dBi, ANT2: -0.02 dBi, MIMO:4.40 dBi reference to the appendix II for details	



12. APPENDIX 1-TEST DATA

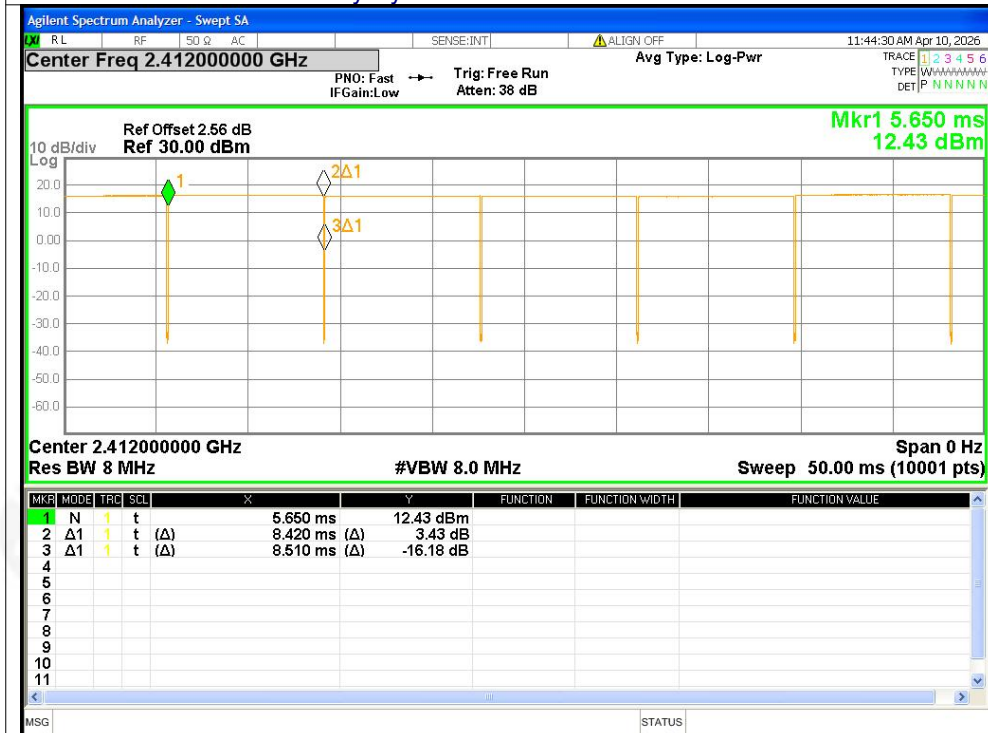
Duty Cycle

Mode	Frequency (MHz)	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
b	2412	Ant1	8.42	8.51	98.94	0.05	0.12
b	2437	Ant1	8.42	8.515	98.88	0.05	0.12
b	2462	Ant1	8.415	8.51	98.88	0.05	0.12
b	2412	Ant2	8.415	8.51	98.88	0.05	0.12
b	2437	Ant2	8.415	8.51	98.88	0.05	0.12
b	2462	Ant2	8.415	8.51	98.88	0.05	0.12
g	2412	Ant1	1.397	1.495	93.44	0.29	0.72
g	2437	Ant1	1.397	1.496	93.38	0.3	0.72
g	2462	Ant1	1.397	1.495	93.44	0.29	0.72
g	2412	Ant2	1.396	1.495	93.38	0.3	0.72
g	2437	Ant2	1.396	1.495	93.38	0.3	0.72
g	2462	Ant2	1.396	1.495	93.38	0.3	0.72
n20	2412	Ant1	1.31	1.408	93.04	0.31	0.76
n20	2412	Ant2	1.308	1.408	92.9	0.32	0.76
n20	2437	Ant1	1.31	1.408	93.04	0.31	0.76
n20	2437	Ant2	1.308	1.408	92.9	0.32	0.76
n20	2462	Ant1	1.308	1.408	92.9	0.32	0.76
n20	2462	Ant2	1.308	1.408	92.9	0.32	0.76
n40	2422	Ant1	0.649	0.748	86.76	0.62	1.54
n40	2422	Ant2	0.648	0.748	86.63	0.62	1.54
n40	2437	Ant1	0.649	0.748	86.76	0.62	1.54
n40	2437	Ant2	0.648	0.748	86.63	0.62	1.54
n40	2452	Ant1	0.649	0.748	86.76	0.62	1.54
n40	2452	Ant2	0.648	0.747	86.75	0.62	1.54
ax20	2412	Ant1	1.021	1.12	91.16	0.4	0.98
ax20	2412	Ant2	1.021	1.121	91.08	0.41	0.98
ax20	2437	Ant1	1.021	1.12	91.16	0.4	0.98
ax20	2437	Ant2	1.021	1.121	91.08	0.41	0.98
ax20	2462	Ant1	1.021	1.12	91.16	0.4	0.98
ax20	2462	Ant2	1.021	1.12	91.16	0.4	0.98
ax40	2422	Ant1	0.542	0.641	84.56	0.73	1.85
ax40	2422	Ant2	0.542	0.641	84.56	0.73	1.85
ax40	2437	Ant1	0.542	0.641	84.56	0.73	1.85
ax40	2437	Ant2	0.542	0.641	84.56	0.73	1.85
ax40	2452	Ant1	0.542	0.641	84.56	0.73	1.85
ax40	2452	Ant2	0.541	0.64	84.53	0.73	1.85

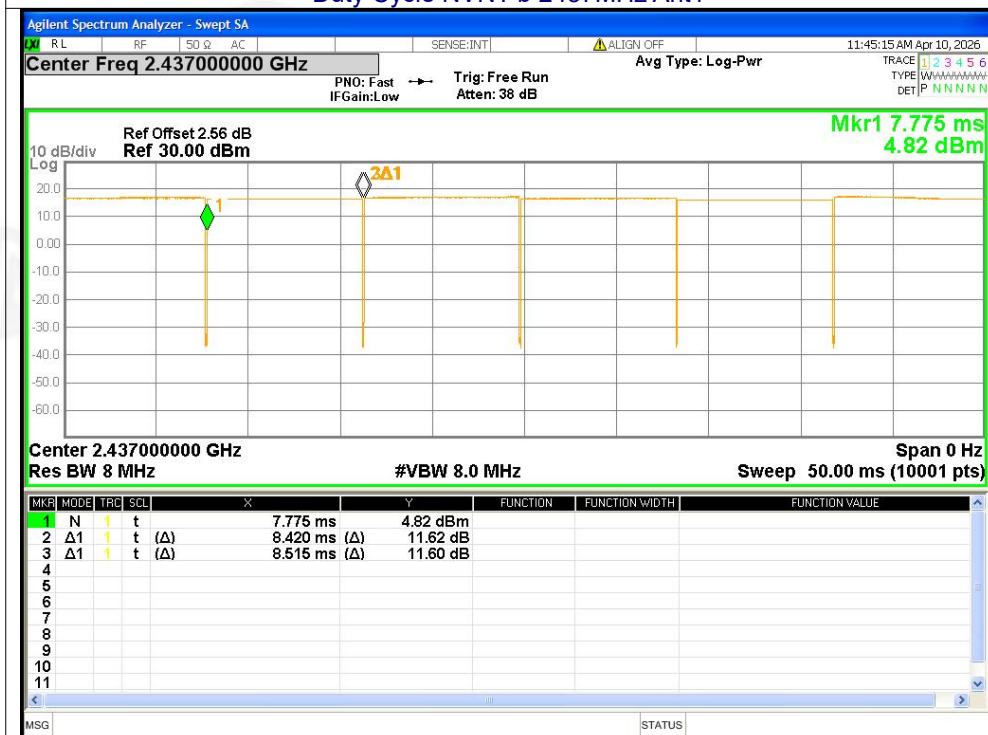


Test Graphs

Duty Cycle NVNT b 2412MHz Ant1

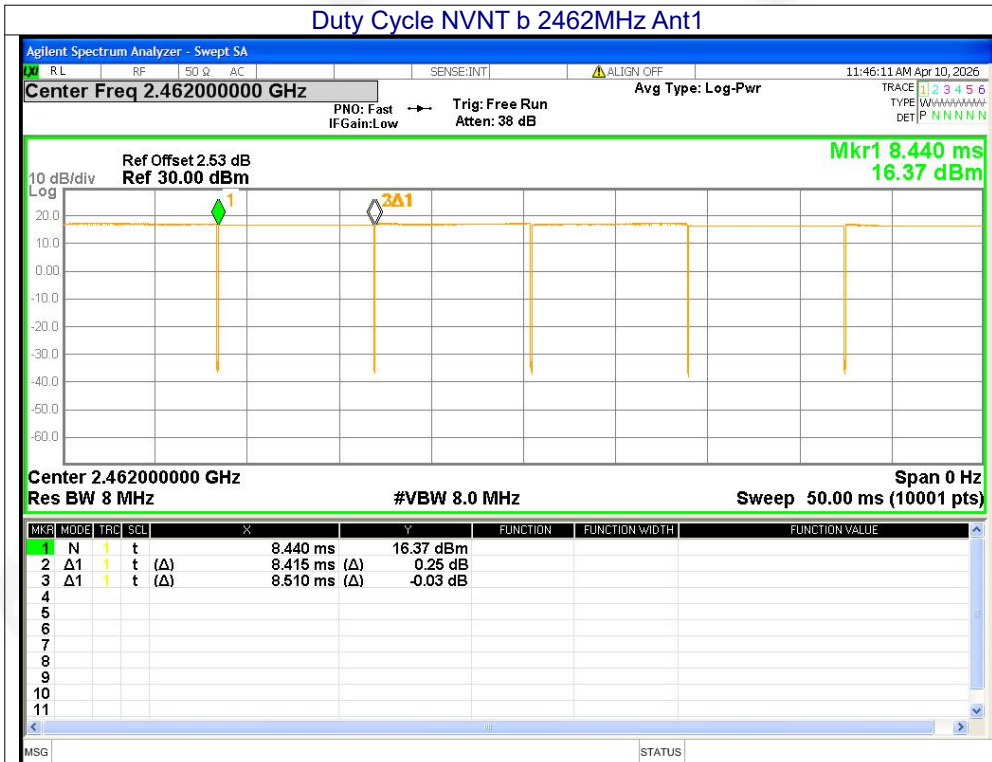


Duty Cycle NVNT b 2437MHz Ant1

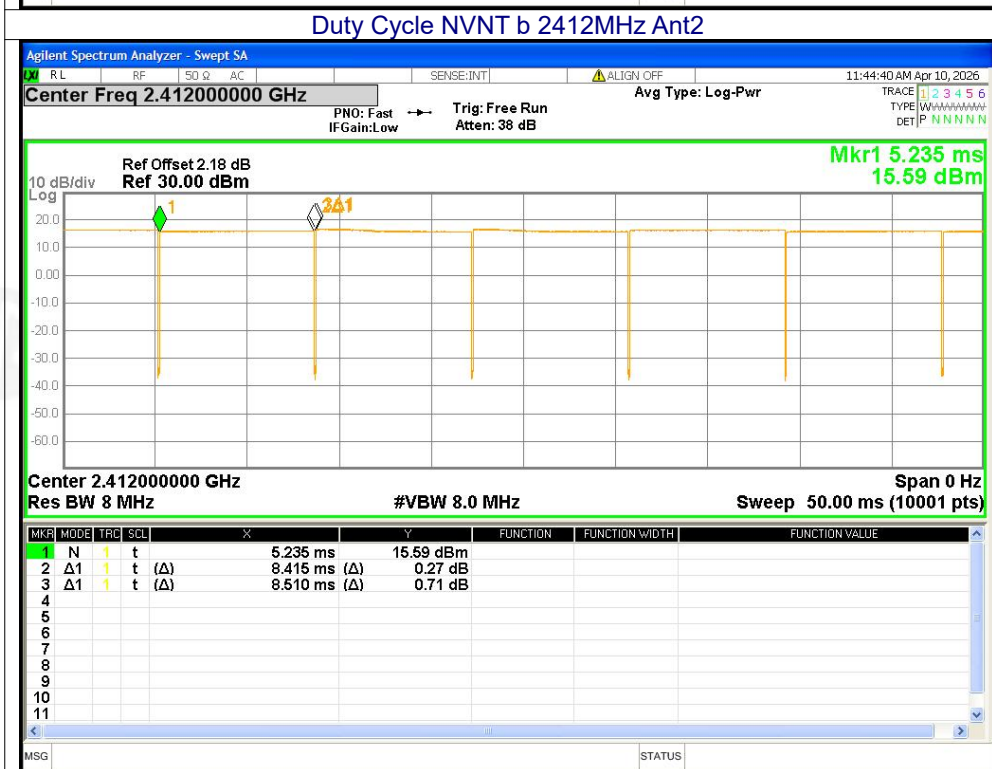




Duty Cycle NVNT b 2462MHz Ant1

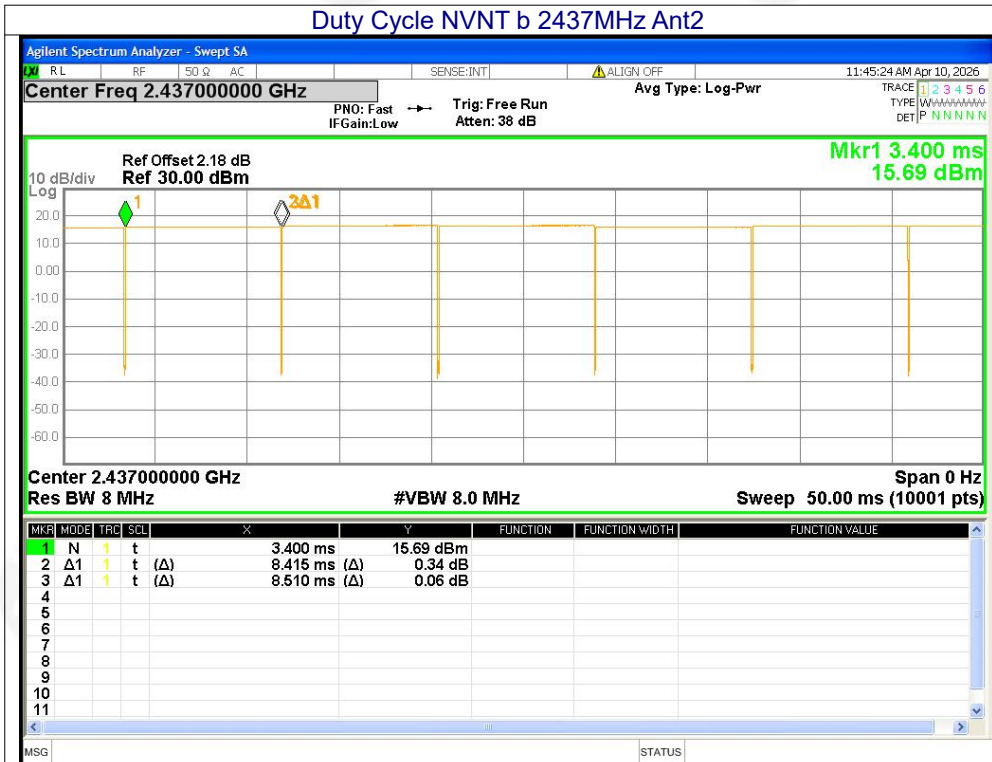


Duty Cycle NVNT b 2412MHz Ant2

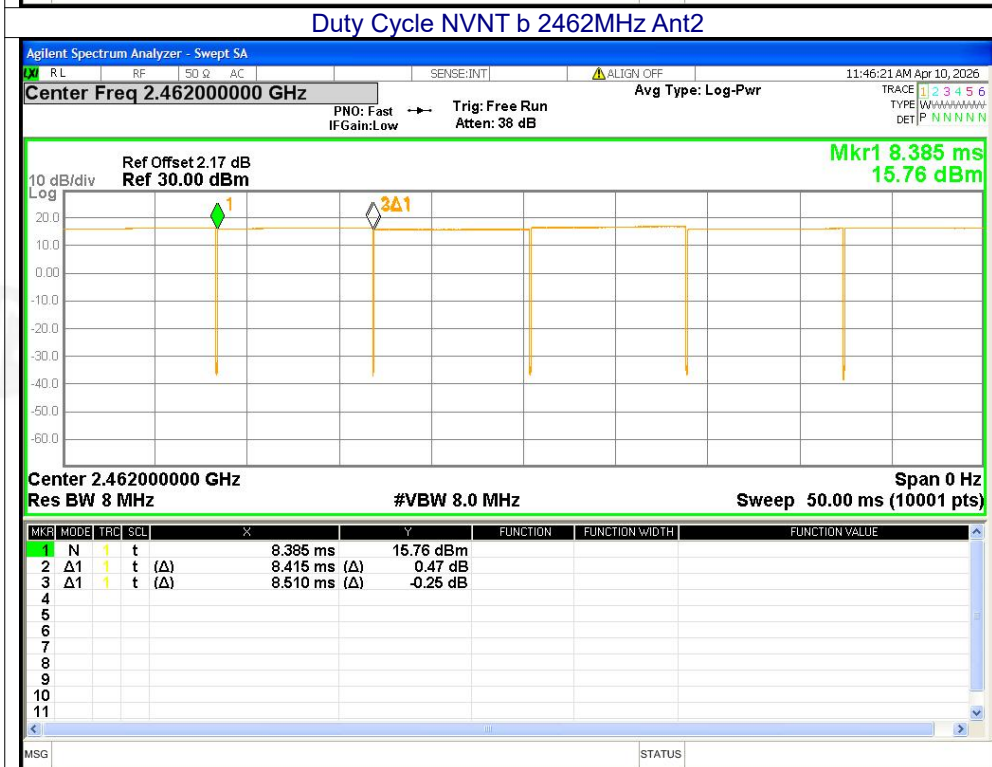




Duty Cycle NVNT b 2437MHz Ant2

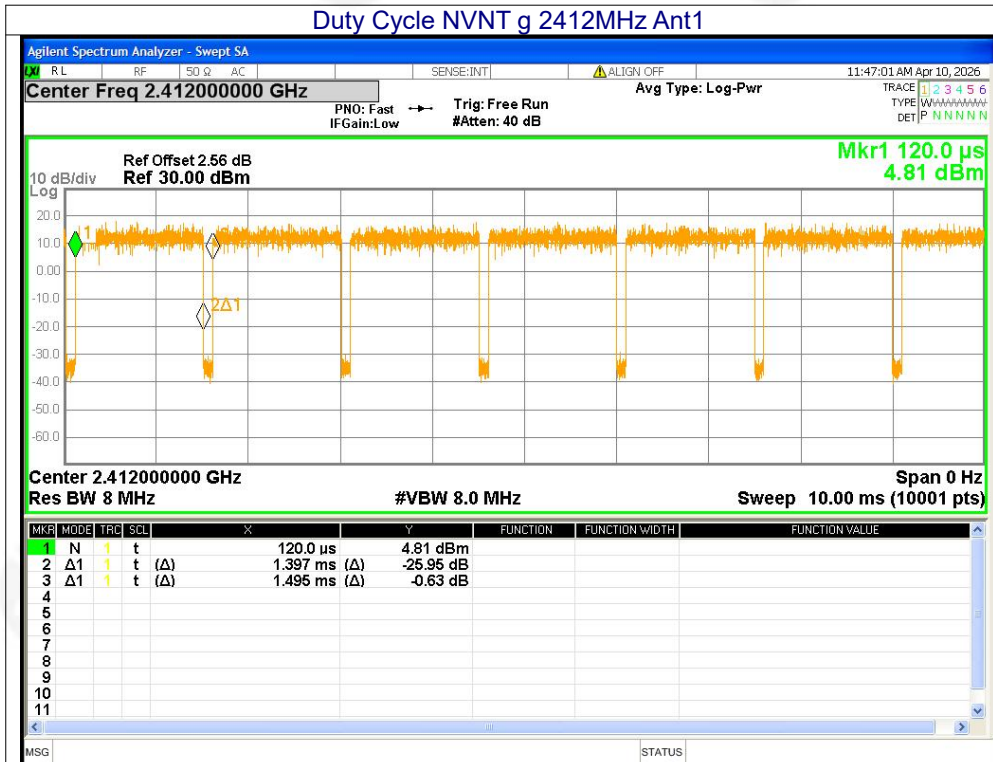


Duty Cycle NVNT b 2462MHz Ant2

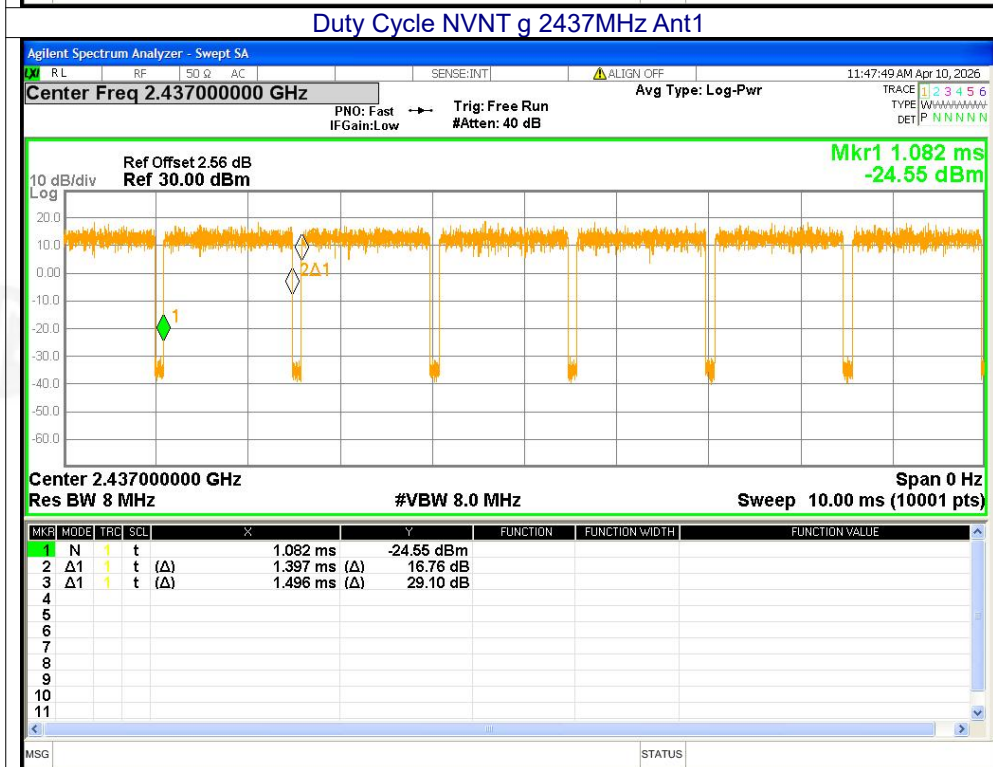




Duty Cycle NVNT g 2412MHz Ant1

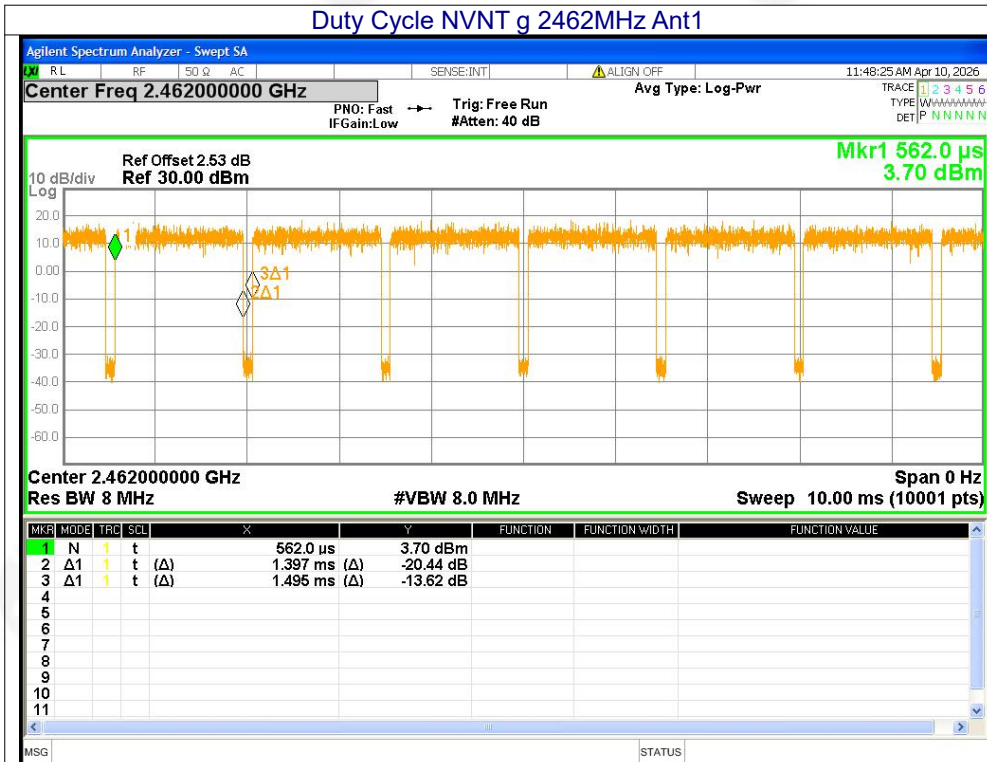


Duty Cycle NVNT g 2437MHz Ant1

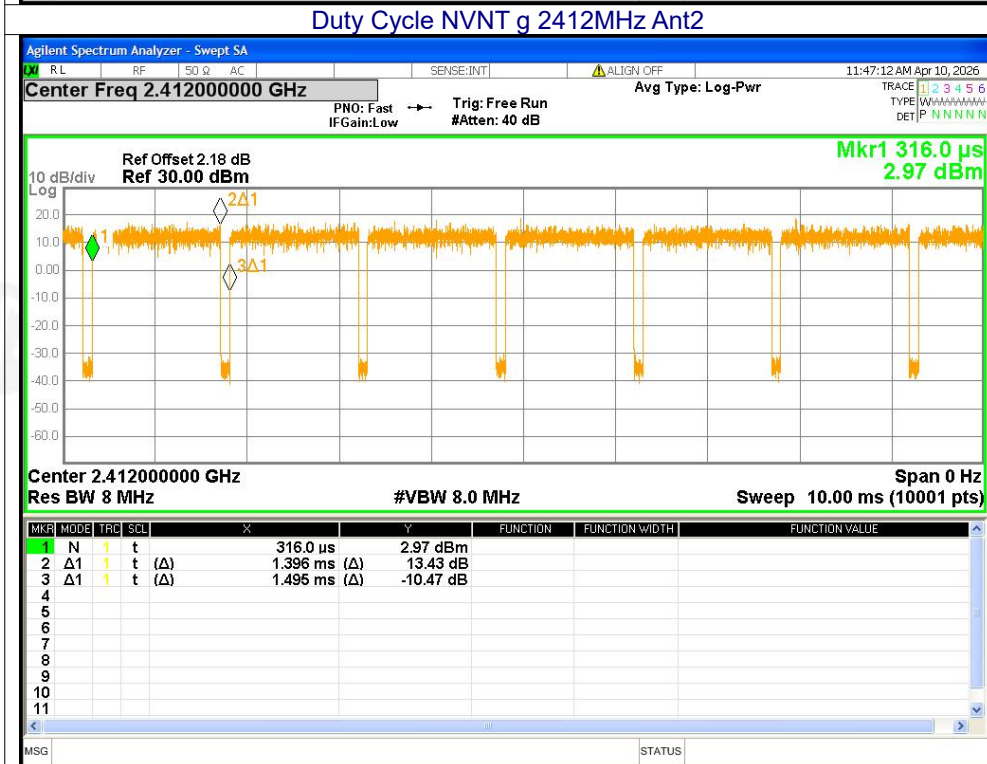




Duty Cycle NVNT g 2462MHz Ant1

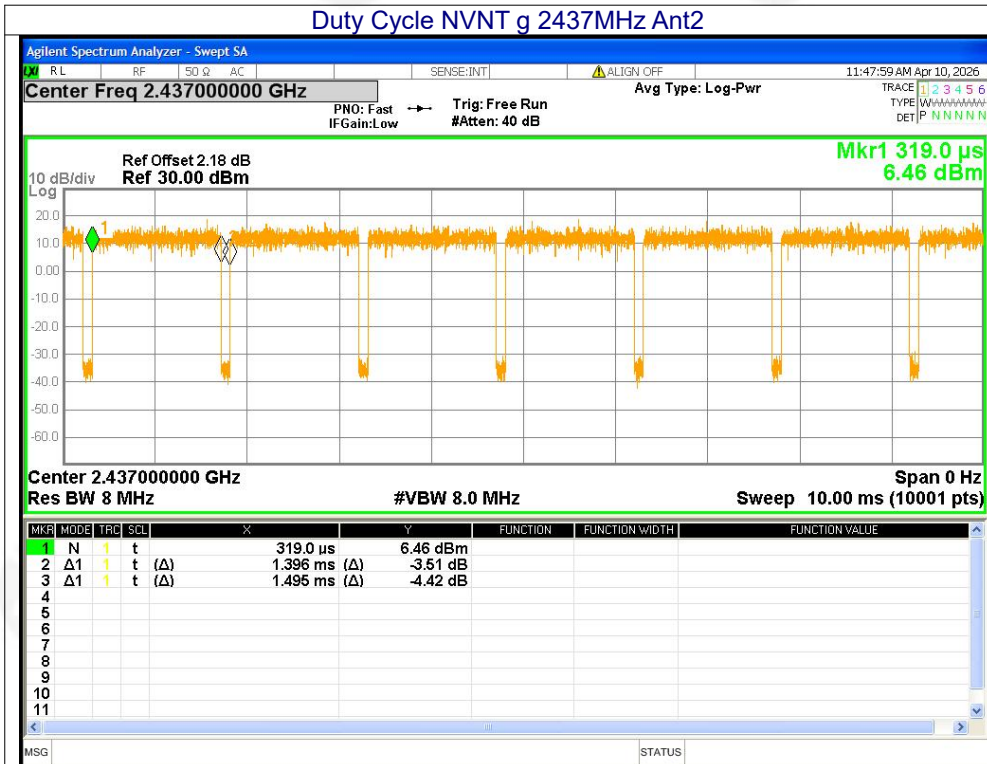


Duty Cycle NVNT g 2412MHz Ant2

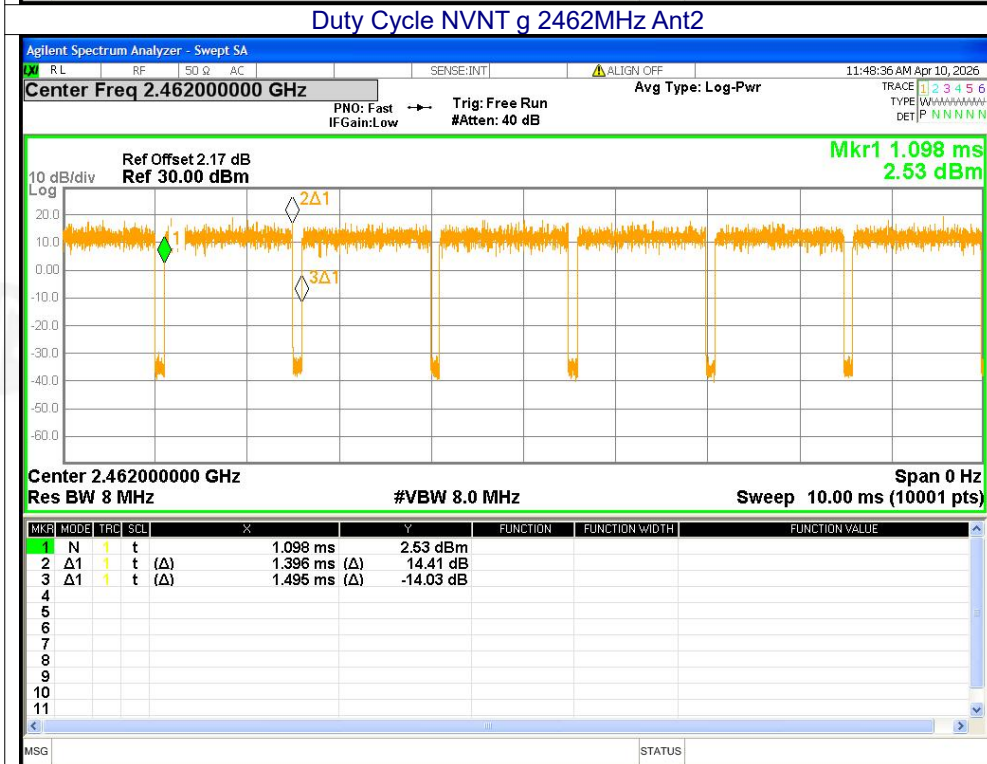




Duty Cycle NVNT g 2437MHz Ant2

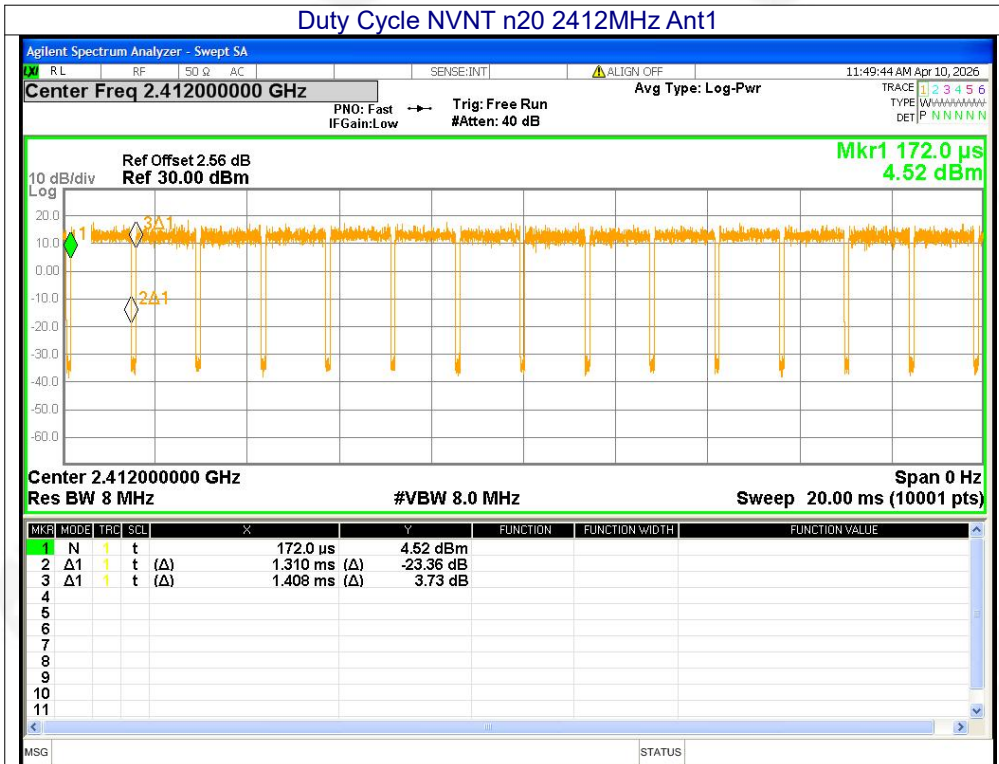


Duty Cycle NVNT g 2462MHz Ant2

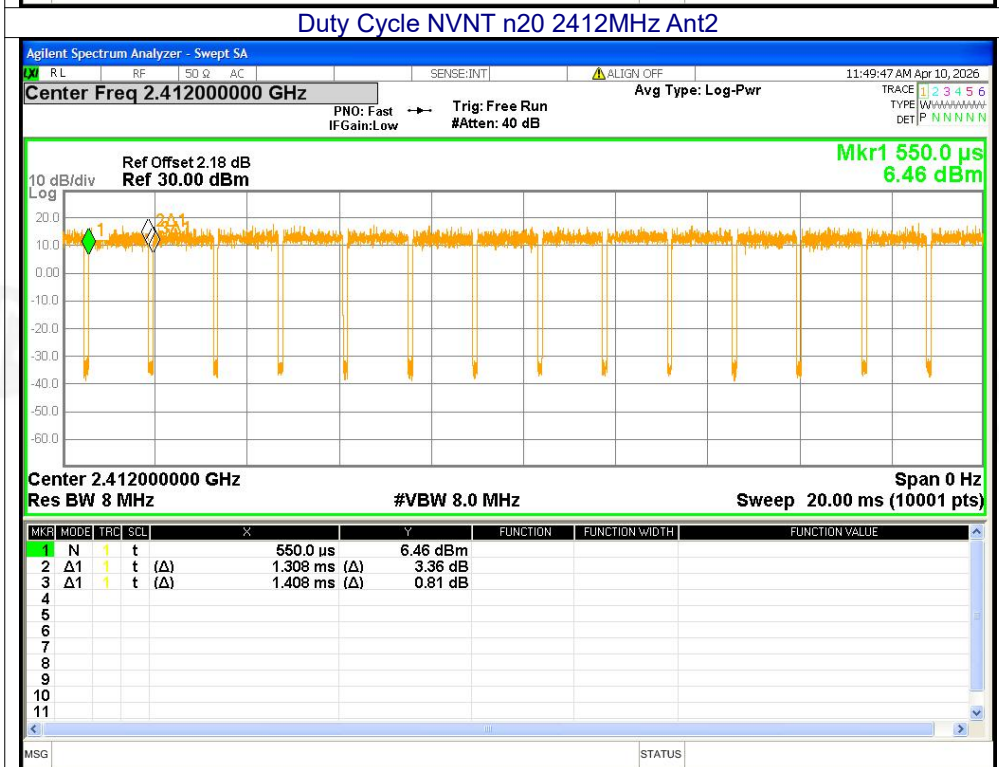




Duty Cycle NVNT n20 2412MHz Ant1

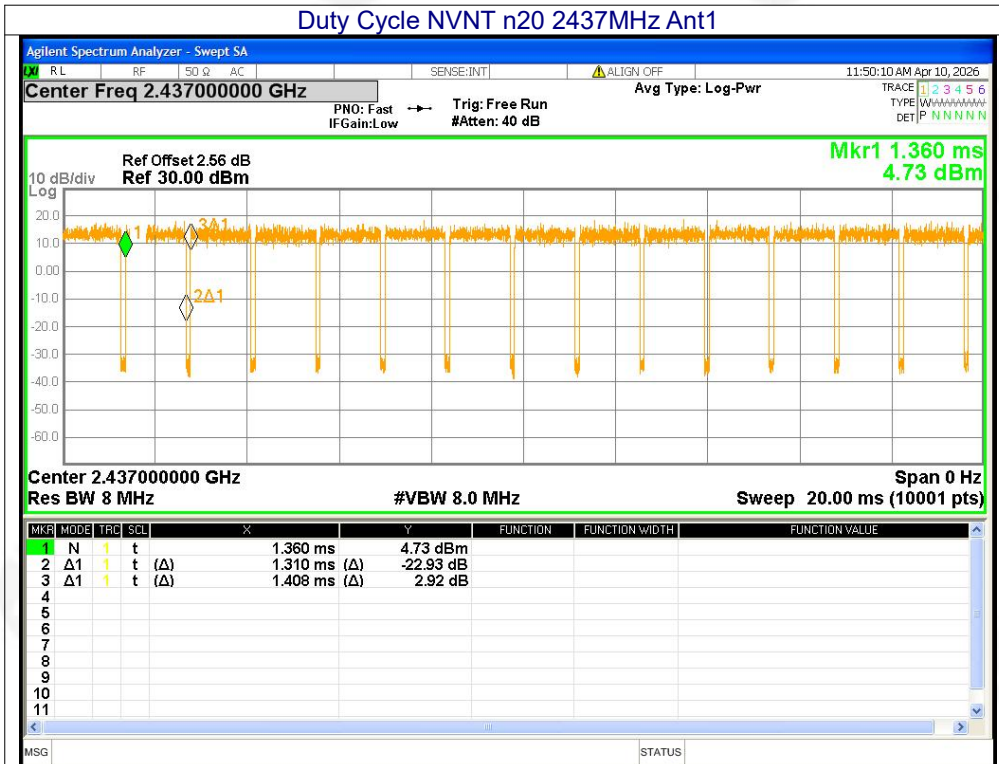


Duty Cycle NVNT n20 2412MHz Ant2

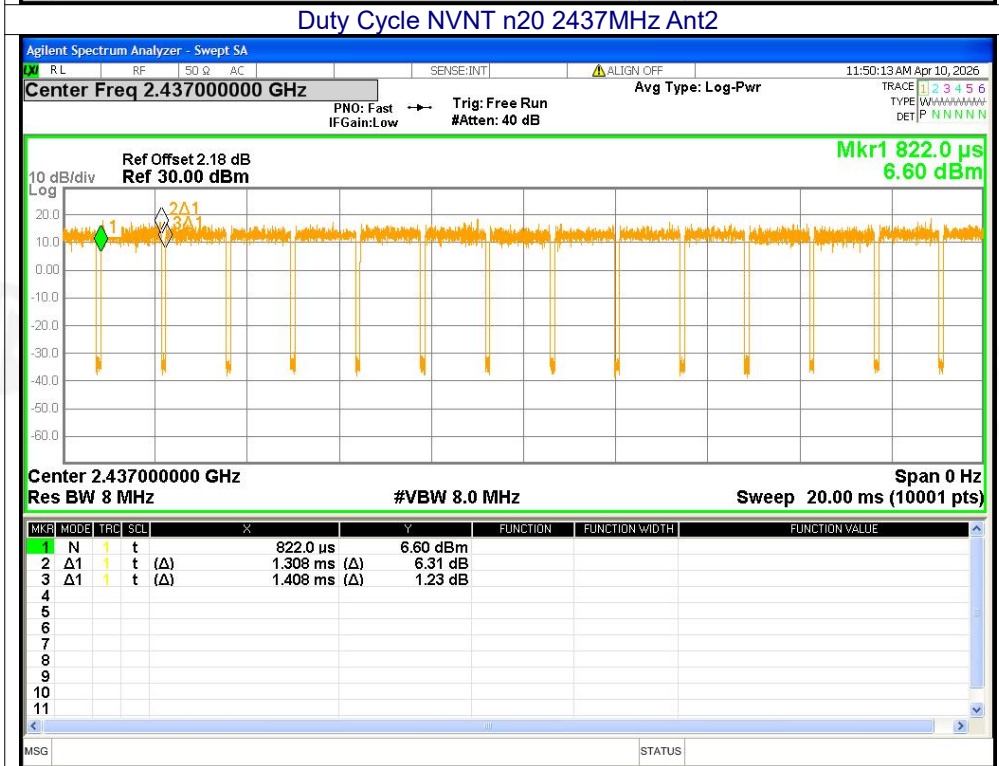




Duty Cycle NVNT n20 2437MHz Ant1

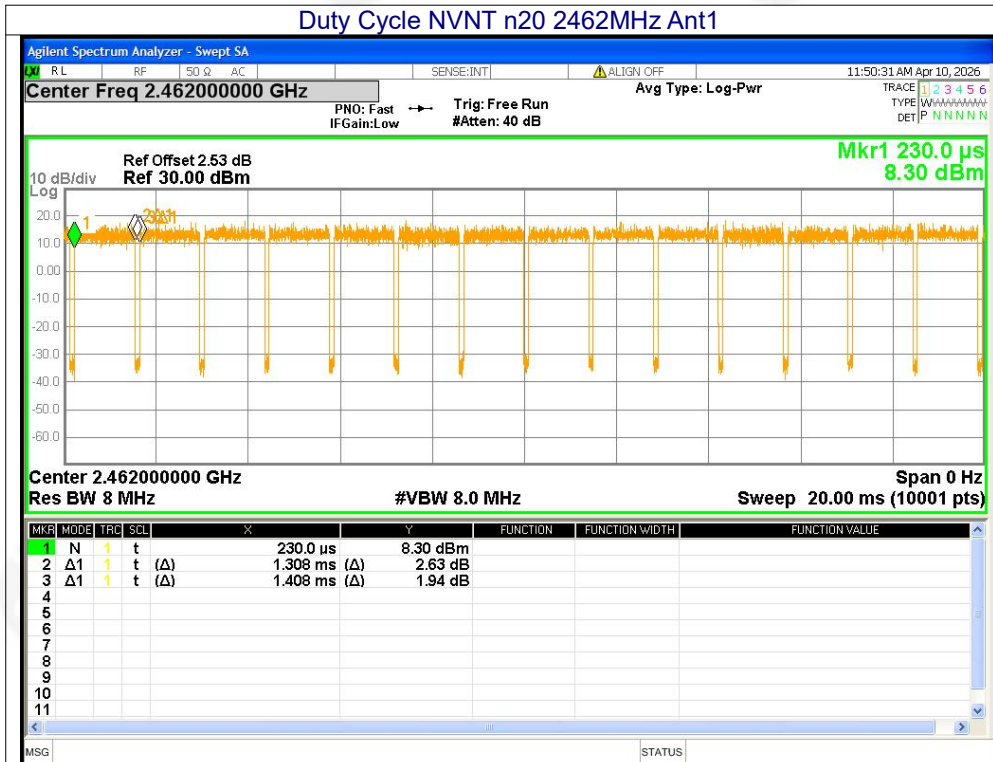


Duty Cycle NVNT n20 2437MHz Ant2

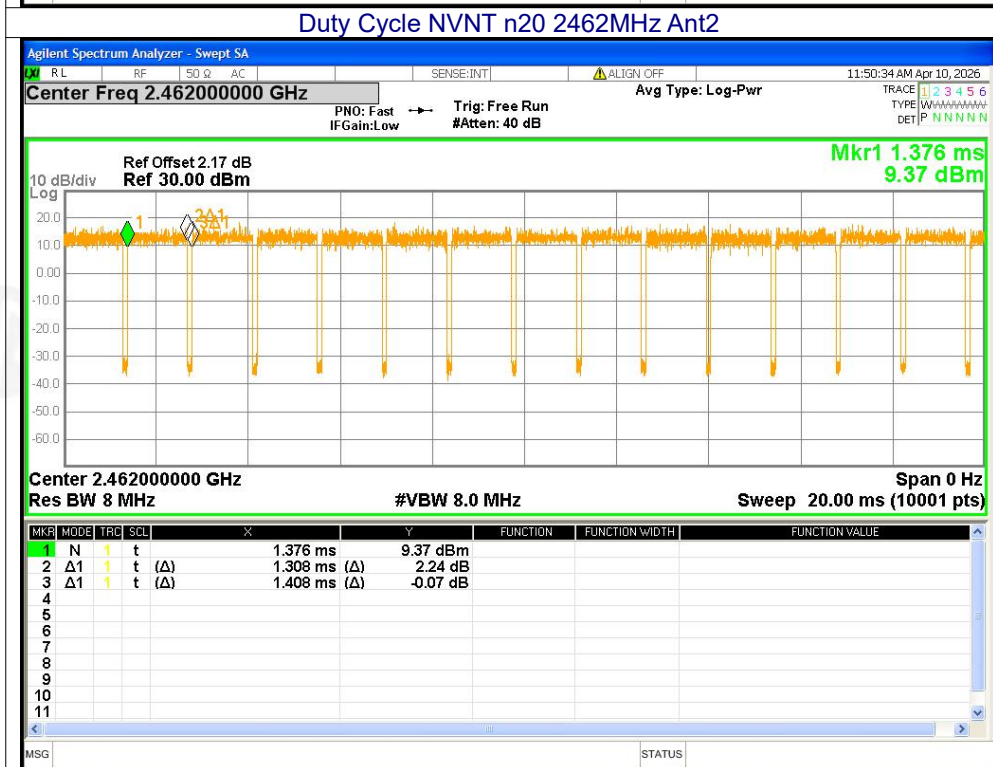




Duty Cycle NVNT n20 2462MHz Ant1

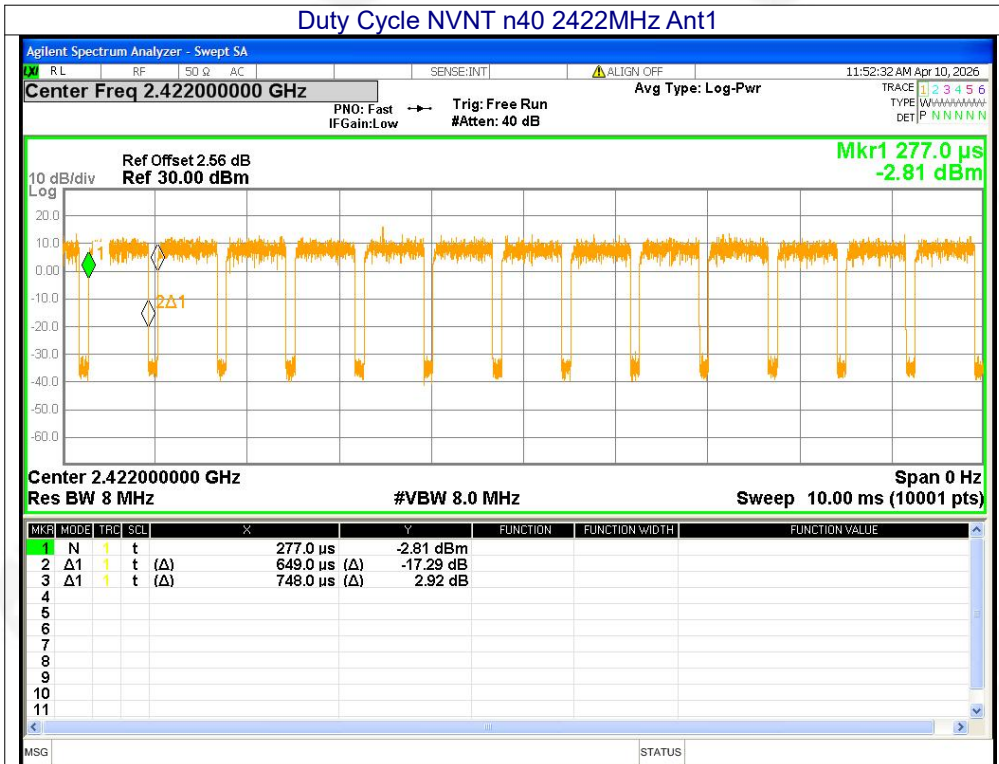


Duty Cycle NVNT n20 2462MHz Ant2

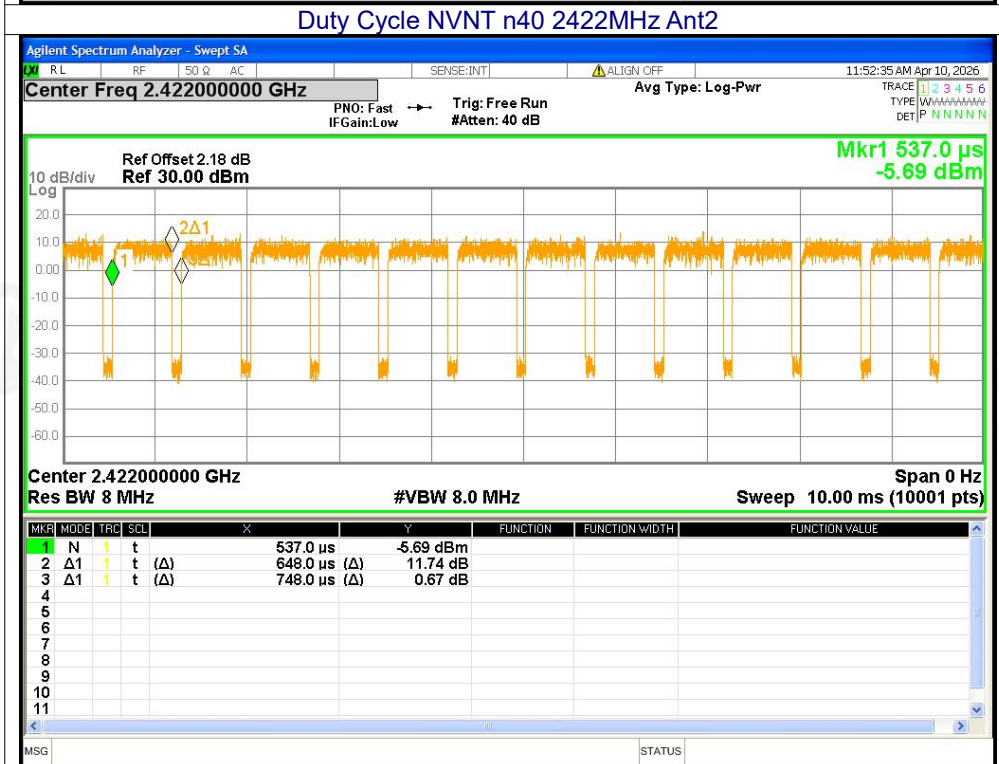




Duty Cycle NVNT n40 2422MHz Ant1

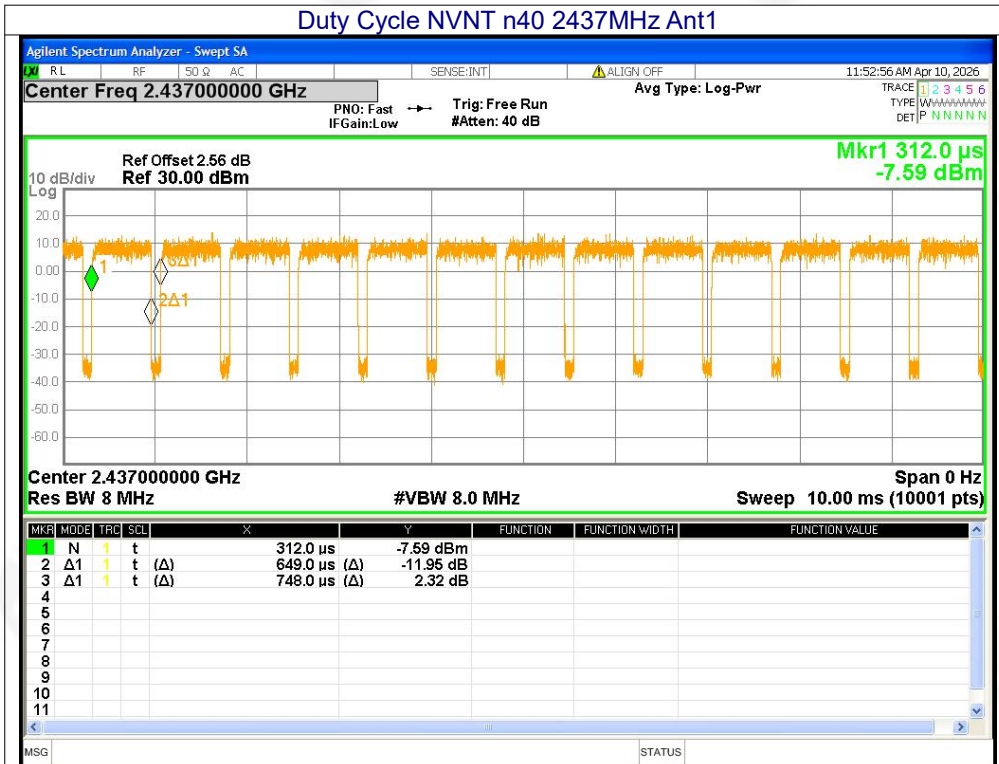


Duty Cycle NVNT n40 2422MHz Ant2

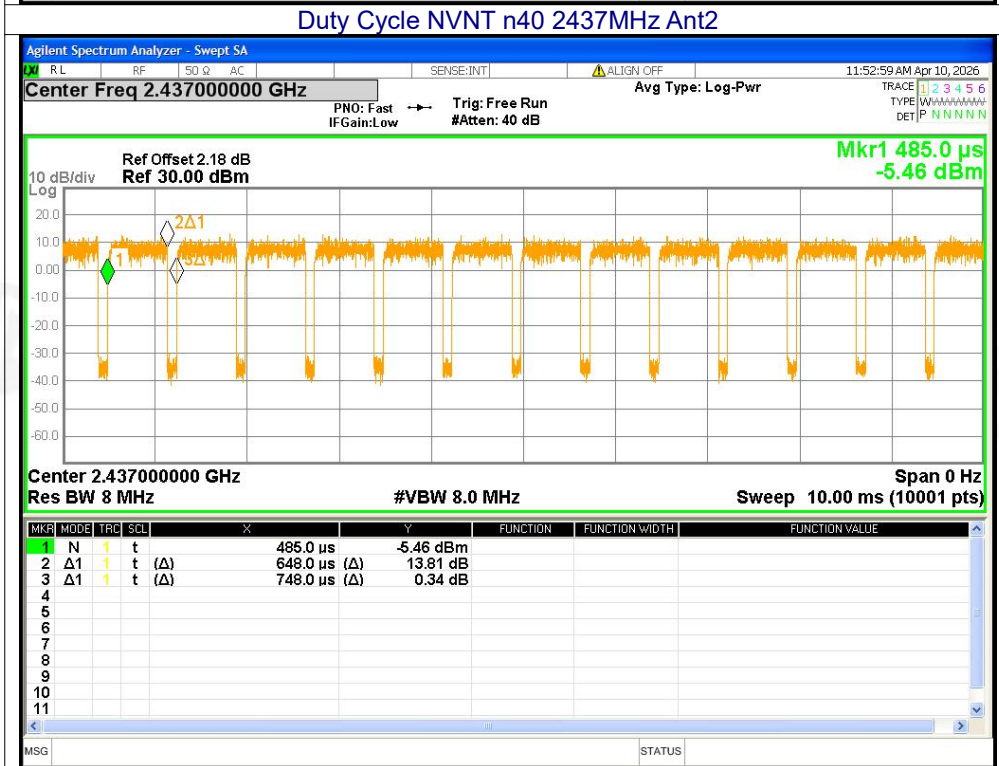




Duty Cycle NVNT n40 2437MHz Ant1

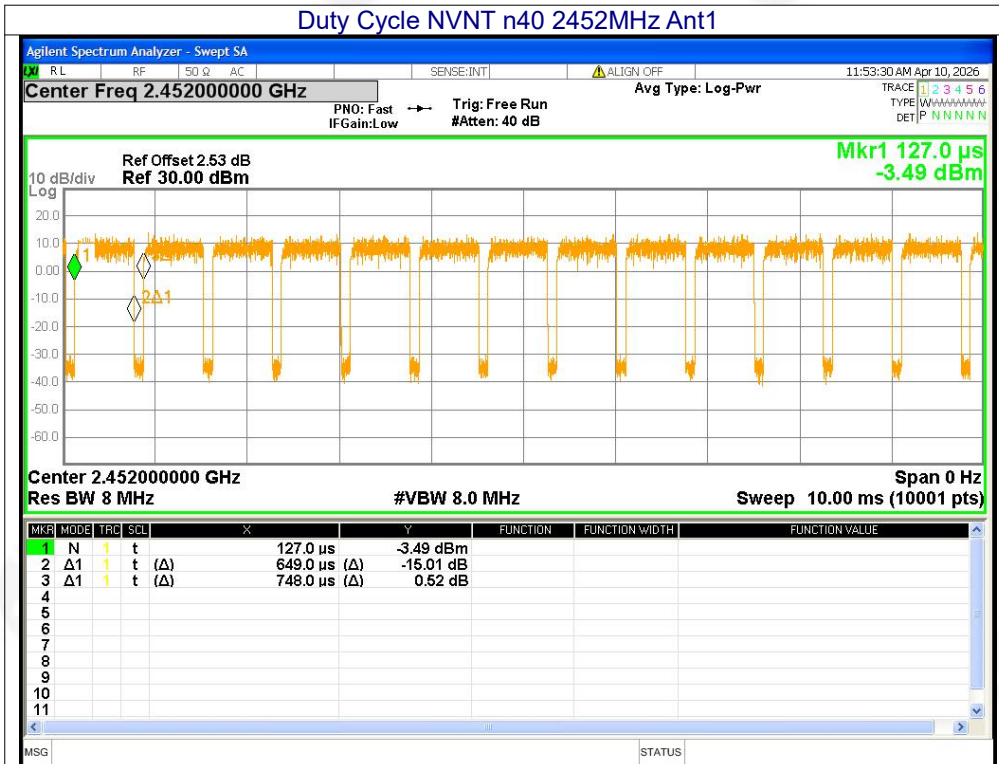


Duty Cycle NVNT n40 2437MHz Ant2

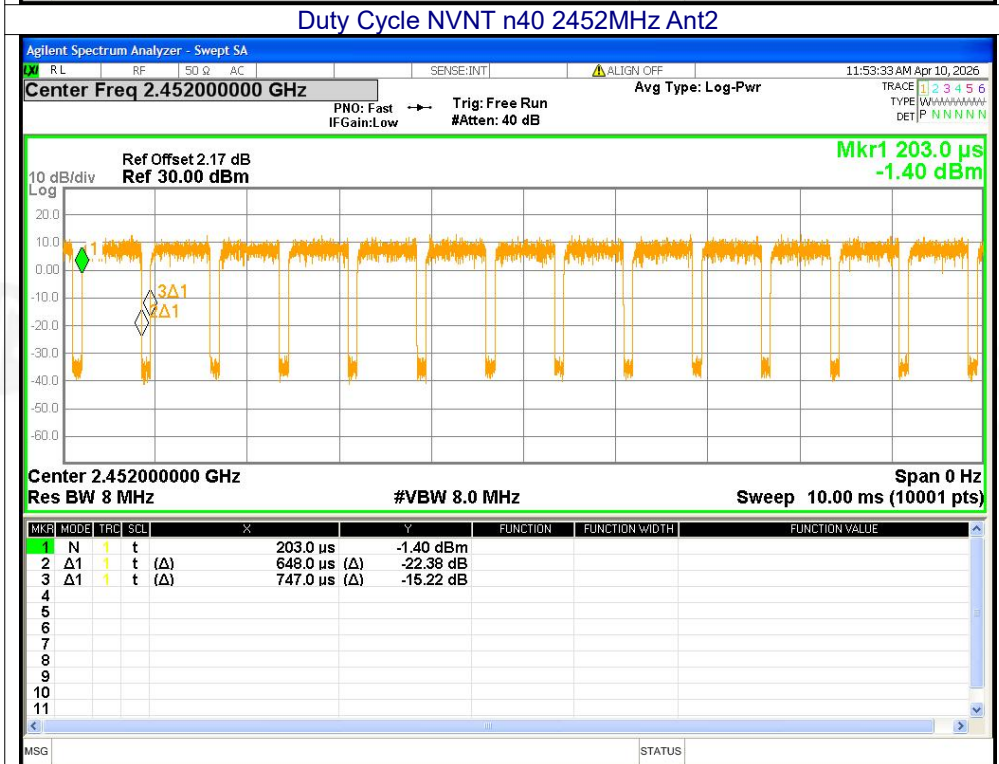




Duty Cycle NVNT n40 2452MHz Ant1

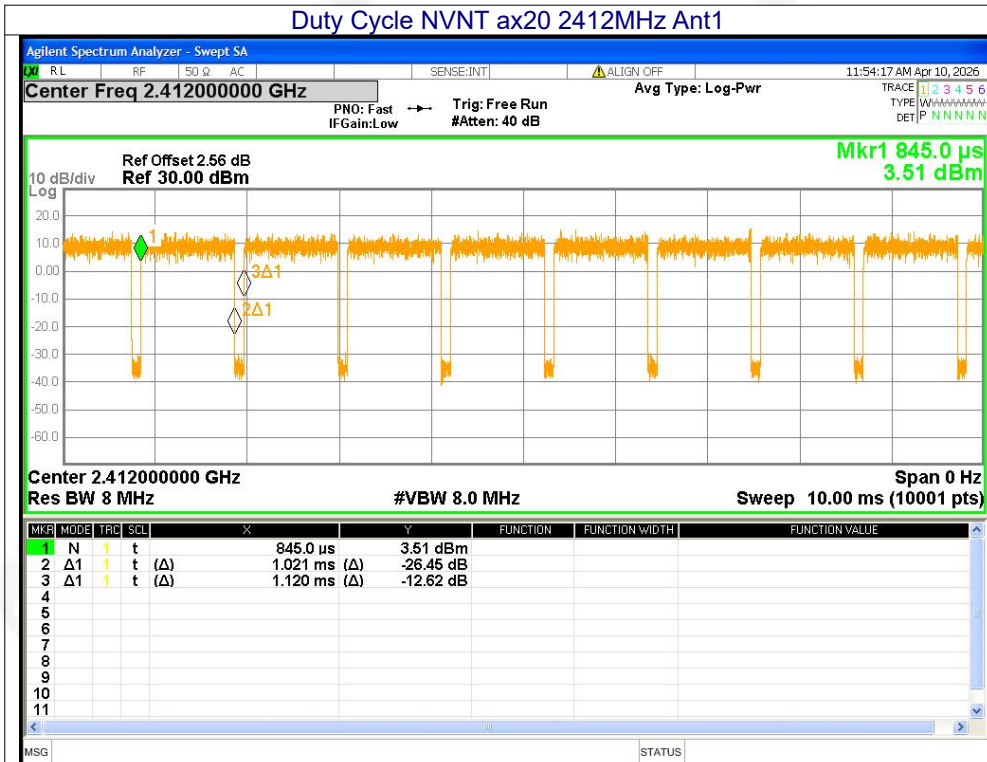


Duty Cycle NVNT n40 2452MHz Ant2

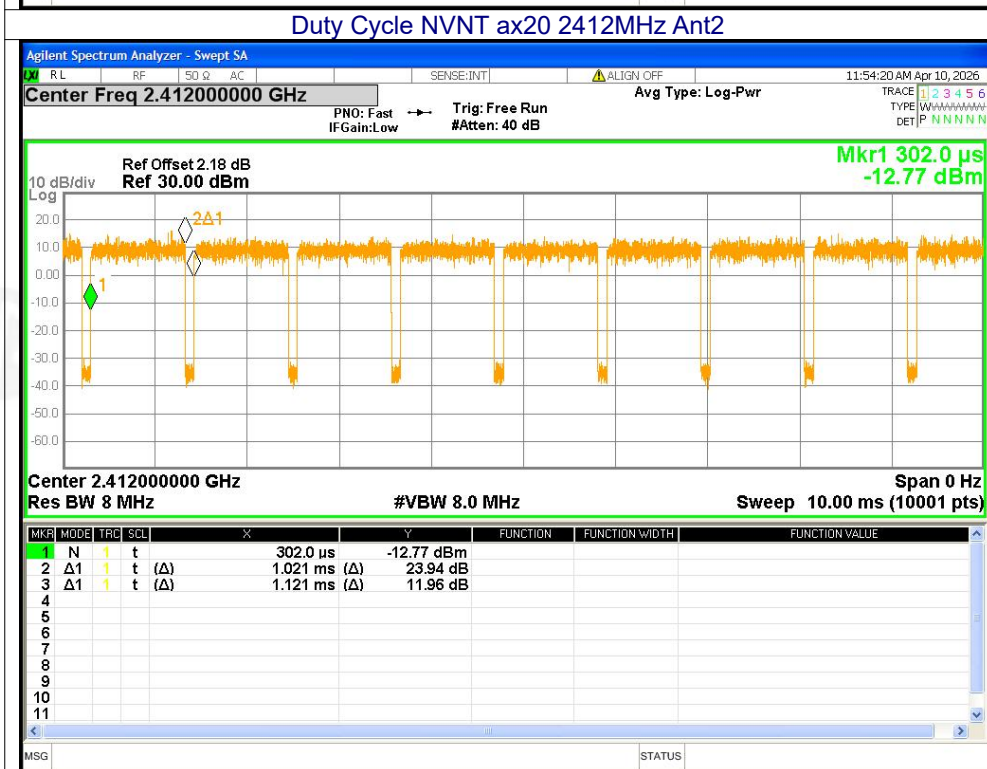




Duty Cycle NVNT ax20 2412MHz Ant1

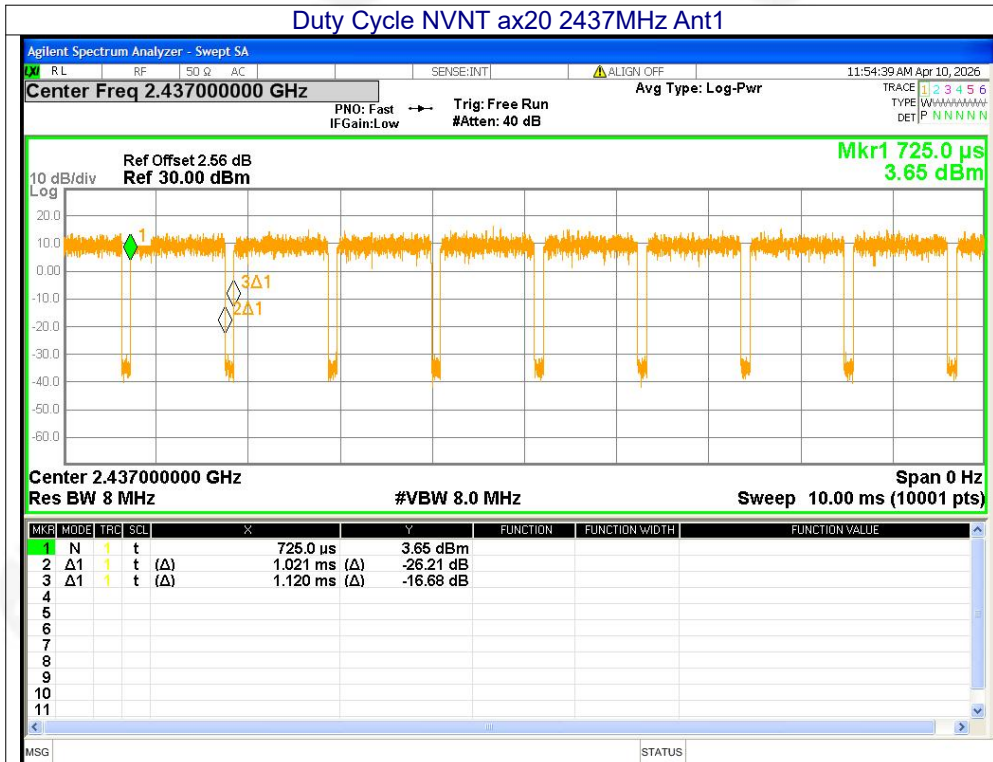


Duty Cycle NVNT ax20 2412MHz Ant2

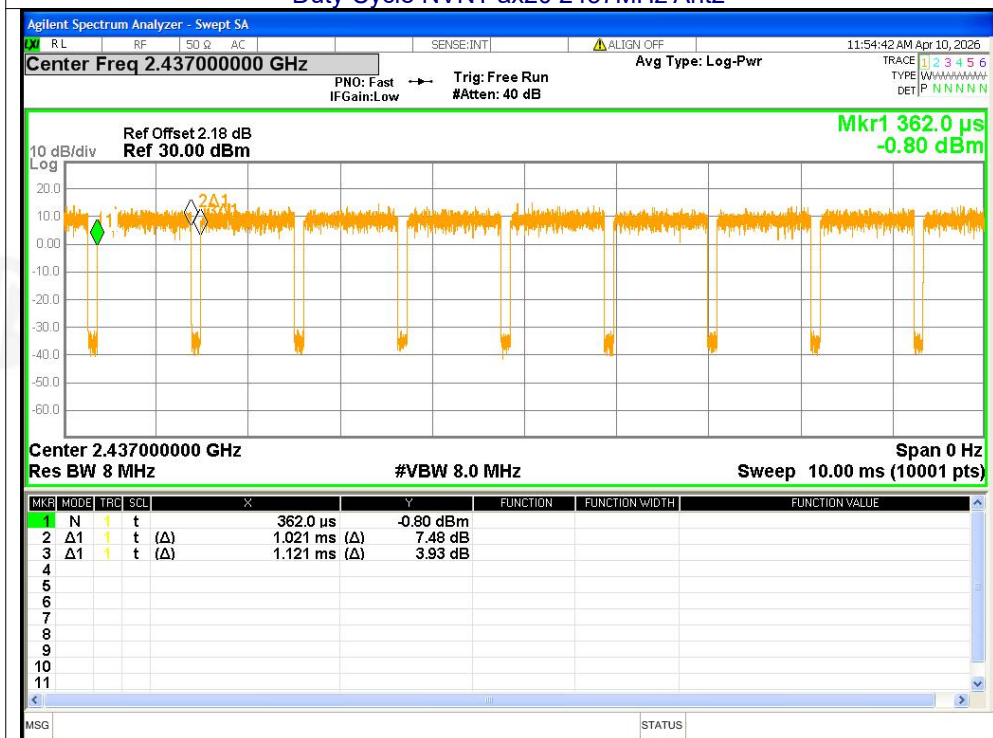




Duty Cycle NVNT ax20 2437MHz Ant1

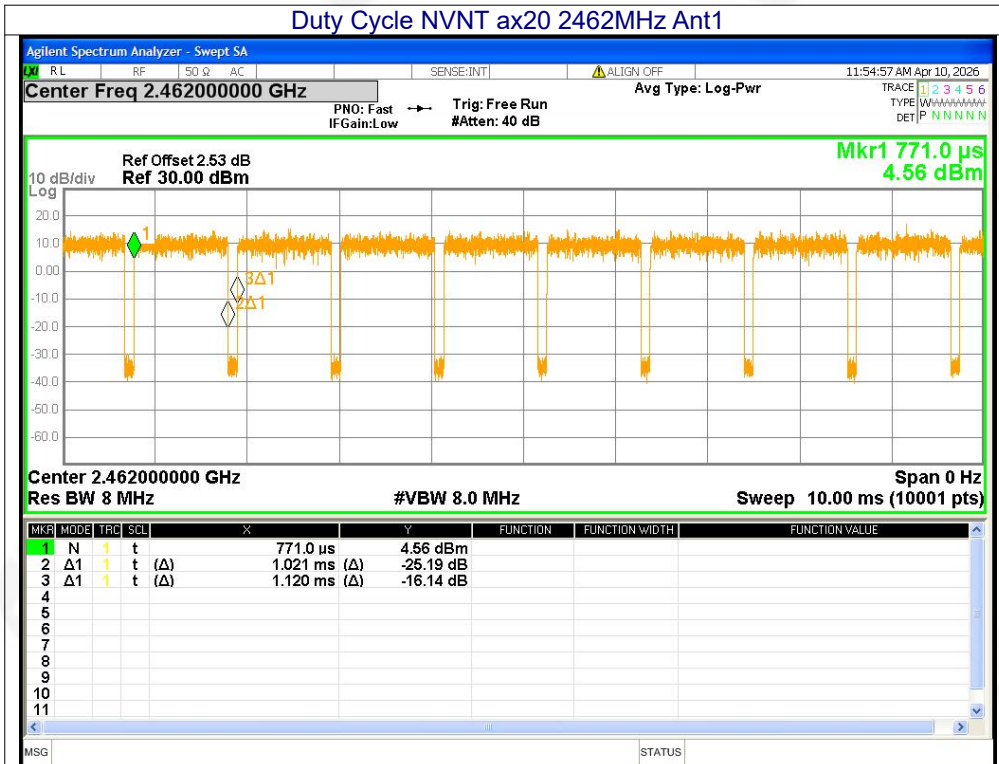


Duty Cycle NVNT ax20 2437MHz Ant2





Duty Cycle NVNT ax20 2462MHz Ant1



Duty Cycle NVNT ax20 2462MHz Ant2

