

FCC RADIO TEST REPORT

FCC ID: 2BRKV-1018

Product: Stem2

Trade Mark: N/A

Model No.: 1018

Family Model: N/A

Report No.: S24101501301003

Issue Date: Oct. 31, 2025

Prepared for

AshDust UK Limited

Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX,
United Kingdom

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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1 TEST RESULT CERTIFICATION

Applicant's name	AshDust UK Limited
Address	Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX, United Kingdom
Manufacturer's Name	AshDust UK Limited
Address	Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX, United Kingdom
Product description	
Product name	Stem2
Trade Mark	N/A
Model and/or type reference	1018
Family Model	N/A
Test Sample Number	S241015013001
Date of Test	Oct. 24, 2024 ~ Oct. 31, 2025

Measurement Procedure Used:

APPLICABLE STANDARDS	
APPLICABLE STANDARD/ TEST PROCEDURE	TEST RESULT
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02	Complied

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., 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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The test results of this report relate only to the tested sample identified in this report.

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Gavan Zhang
(Project Engineer)

Reviewed By : Aaron Cheng
Aaron Cheng
(Supervisor)

Approved By : Alex Li
Alex Li
(Manager)

2 SUMMARY OF TEST RESULTS

FCC Part15 (15.247), Subpart C			
Standard Section	Test Item	Verdict	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Maximum Output Power	PASS	
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS	
15.247 (e)	Power Spectral Density	PASS	
15.247 (d)	Band Edge Emission	PASS	
15.247 (d)	Spurious RF Conducted Emission	PASS	
15.203	Antenna Requirement	PASS	

Remark:

1. "N/A" denotes test is not applicable in this Test Report.
2. All test items were verified and recorded according to the standards and without any deviation during the test.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

CNAS-Lab.

IC-Registration

FCC- Accredited

A2LA-Lab.

: The Certificate Registration Number is L5516.

The Certificate Registration Number is 9270A.

CAB identifier:CN0074

Test Firm Registration Number: 463705.

Designation Number: CN1184

The Certificate Registration Number is 4298.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

3.3 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	Conducted Emission Test	$\pm 3.70\text{dB}$
2	RF power, conducted	$\pm 0.9\text{dB}$
3	Spurious emissions, conducted	$\pm 2.2\text{dB}$
4	Occupied bandwidth	$\pm 1.15\%$
5	All emissions, radiated(<1G)	$\pm 4.9\text{dB}$
6	All emissions, radiated(>1G)	$\pm 5.1\text{dB}$
7	Temperature	$\pm 0.5^\circ\text{C}$
8	Humidity	$\pm 2\%$
9	Time	$\pm 0.01\%$

4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification	
Equipment	Stem2
Trade Mark	N/A
FCC ID	2BRKV-1018
Model No.	1018
Family Model	N/A
Model Difference	N/A
Operating Frequency	2412-2462MHz for 802.11b/g/11n(HT20); 2422-2452MHz for 802.11n(HT40);
Modulation	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Number of Channels	11 channels for 802.11b/g/11n(HT20); 7 channels for 802.11n(HT40);
Antenna Type	PIFA Antenna
Antenna Gain	0.5 dBi
Adapter	N/A
Battery	DC 7.3V, 6600mAh
Power supply	DC 7.3V from battery or DC 5V from Type-C port
HW Version	N/A
FW Version	N/A
SW Version	N/A

Note: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

5 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11b: 1 Mbps; 802.11g: 6 Mbps; 802.11n (HT20): MCS0; 802.11n (HT40): MCS0) were used for all test.

The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The Y-plane results were found as the worst case and were shown in this report.

Frequency and Channel list for 802.11b/g/n (HT20/HT40):

Channel	Frequency(MHz)
1	2412
2	2417
...	...
5	2432
6	2437
...	...
10	2457
11	2462

Note: $f_c = 2412\text{MHz} + (k-1) \times 5\text{MHz}$ $k=1$ to 11

EUT built-in battery-powered, the battery is fully-charged.

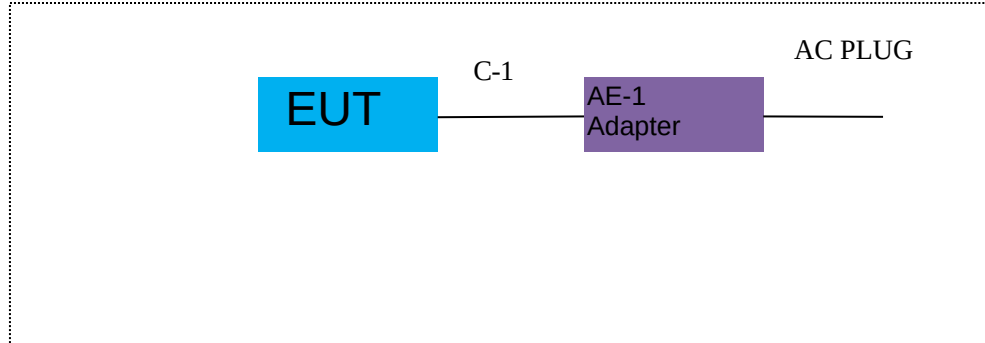
Test Mode:

Test Items	Mode	Data Rate	Channel	Ant
AC Power Line Conducted Emissions	Normal Link	-	-	-
Maximum Conducted Output Power	11b/CCK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20	MCS0	1/6/11	1
	11n HT40	MCS0	3/6/9	1
Power Spectral Density	11b/CCK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20	MCS0	1/6/11	1
	11n HT40	MCS0	3/6/9	1
6dB Spectrum Bandwidth	11b/CCK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20	MCS0	1/6/11	1
	11n HT40	MCS0	3/6/9	1
Radiated Emissions Below 1GHz	Normal Link	-	-	-
Radiated Emissions Above 1GHz	11b/CCK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20	MCS0	1/6/11	1
	11n HT40	MCS0	3/6/9	1
Band Edge Emissions	11b/CCK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20	MCS0	1/6/11	1
	11n HT40	MCS0	3/6/9	1

6 SETUP OF EQUIPMENT UNDER TEST

6.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM

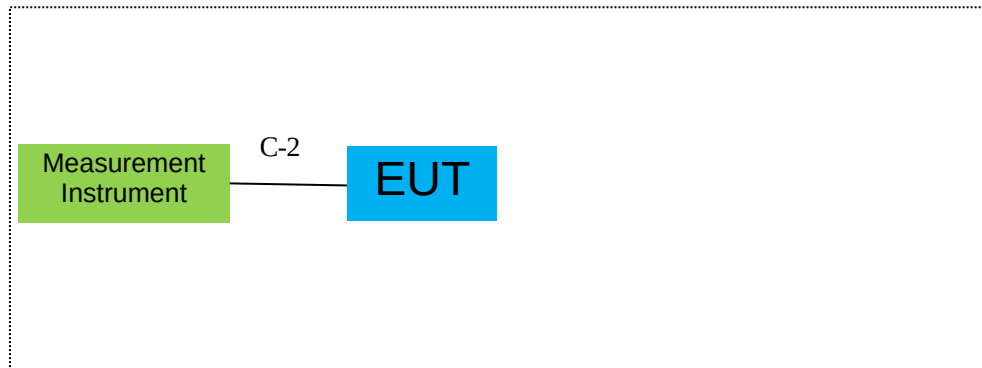
For AC Conducted Emission Mode



For Radiated Test Cases



For Conducted Test Cases



Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

6.2 SUPPORT EQUIPMENT

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	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	USB Cable	YES	NO	1.0m
C-2	RF Cable	YES	NO	0.1m

Notes:

- (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) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4440A	MY41000130	2024.04.26 2025.04.24	2025.04.25 2026.04.23	1 year
2	Spectrum Analyzer	Keysight	N9020A	MY53280244	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
4	Test Receiver	R&S	ESPI3	101417	2024.07.25 2025.07.23	2025.07.24 2026.07.22	1 year
5	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	675	2024.05.01 2025.04.29	2025.04.30 2026.04.28	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
7	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2817	2024.05.12	2027.05.11	3 year
8	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2816	2024.05.18	2027.05.17	3 year
9	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	803	2024.05.12	2027.05.11	3 year
10	Low Noise Amplifier	Agilent	8449B	30008A01520	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
11	Low Noise Amplifier	EMC	EMC051835 SE	980246	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
12	Low Noise Amplifier	B&Z	BZ-P540-550 850-452727	16476-11729	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
13	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
14	Power Meter	DARE	RPR3006W	15I00041SN O84	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
15	Test Cable	Talent Microwave	A40-2/92M2/ 92M-2M	22084903	2024.04.25	2027.04.24	3 year
16	Test Cable	Talent Microwave	A81-SMAMS MAM-2M	22084900	2024.04.26	2027.04.25	3 year
17	Test Cable	Talent Microwave	A81-SMAMS MAM-8.5M	22084899	2024.04.26	2027.04.25	3 year
18	Filter	TRILTHIC	2400MHz	29	2024.04.26	2027.04.25	3 year
19	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A
20	Spectrum Analyzer	Keysight	N9020B	MY60112710	2024.01.04 2025.01.02	2025.01.03 2026.01.01	1 year

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test
And this temporary antenna connector is listed within the instrument list

AC Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
2	LISN	R&S	ENV216	101313	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
3	LISN	R&S	ENV216	101490	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2024.04.26	2027.04.25	3 year
5	Test Cable	N/A	R-03	N/A	2024.04.25	2027.04.24	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.

Measurement Software

Item	Manufacturer	Software Name	Software Version	Description
1	MWRFTtest	MTS 8310 2.4GHz/5GHz	2.0	RF Conducted Test
2	Farad	EZ-EMC_RE	AIT-03A	RadiatedTest
3	Farad	EZ-EMC_CE	AIT-03A	AC Conducted Test

7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

7.1.1 Applicable Standard

According to FCC Part 15.207(a)

7.1.2 Conformance Limit

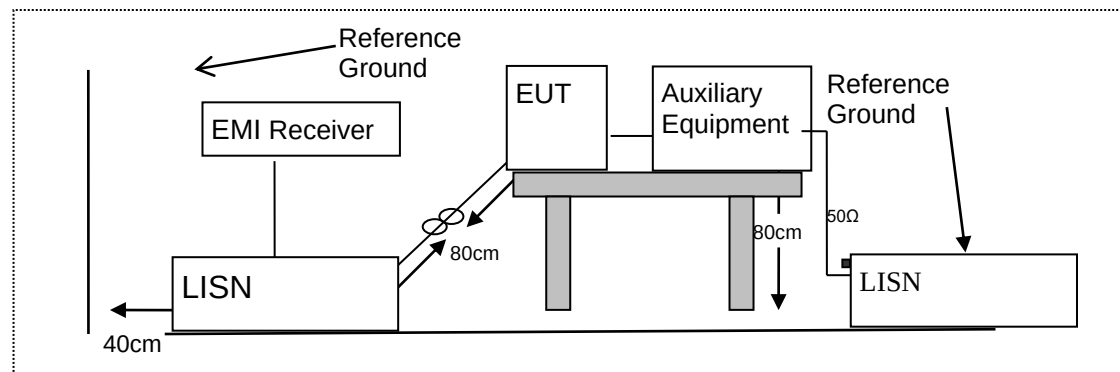
Frequency(MHz)	Conducted Emission Limit	
	Quasi-peak	Average
0.15-0.5	66-56*	56-46*
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. *Decreases with the logarithm of the frequency
 2. The lower limit shall apply at the transition frequencies
 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.1.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.1.4 Test Configuration



7.1.5 Test Procedure

According to the requirements in Section 6.2 of ANSI C63.10-2020 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
2. The EUT was placed on a table which is 0.8m above ground plane.
3. Connect EUT 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.
4. 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 40cm long.
5. 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.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. The frequency range from 150KHz to 30MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
9. For the actual test configuration, please refer to the related Item –EUT Test Photos.

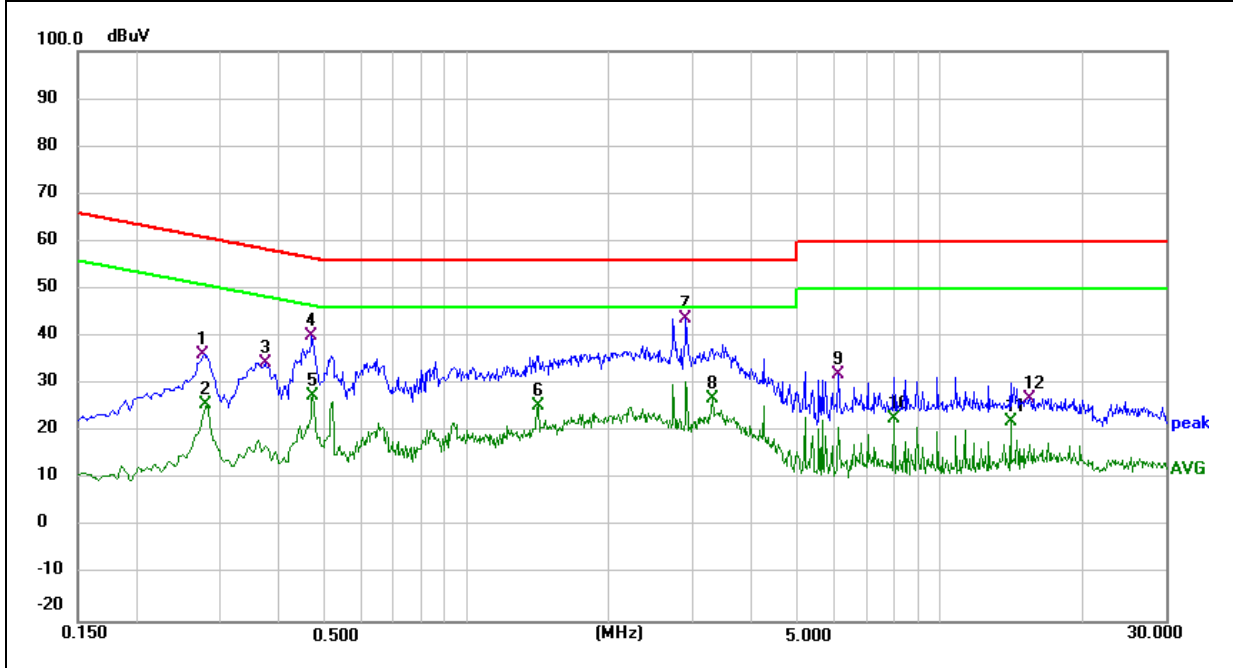
7.1.6 Test Results

EUT:	Stem2	Model Name :	1018
Temperature:	22 °C	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Normal Link

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.2779	25.96	10.25	36.21	60.88	-24.67	QP
0.2819	15.41	10.25	25.66	50.76	-25.10	AVG
0.3740	23.97	10.43	34.40	58.41	-24.01	QP
0.4700	29.61	10.63	40.24	56.51	-16.27	QP
0.4711	16.96	10.63	27.59	46.49	-18.90	AVG
1.4140	12.78	12.58	25.36	46.00	-20.64	AVG
2.9140	33.99	9.87	43.86	56.00	-12.14	QP
3.2940	17.06	9.91	26.97	46.00	-19.03	AVG
6.1180	21.72	10.27	31.99	60.00	-28.01	QP
7.9980	12.35	10.55	22.90	50.00	-27.10	AVG
14.1100	10.60	11.67	22.27	50.00	-27.73	AVG
15.5220	15.09	11.94	27.03	60.00	-32.97	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

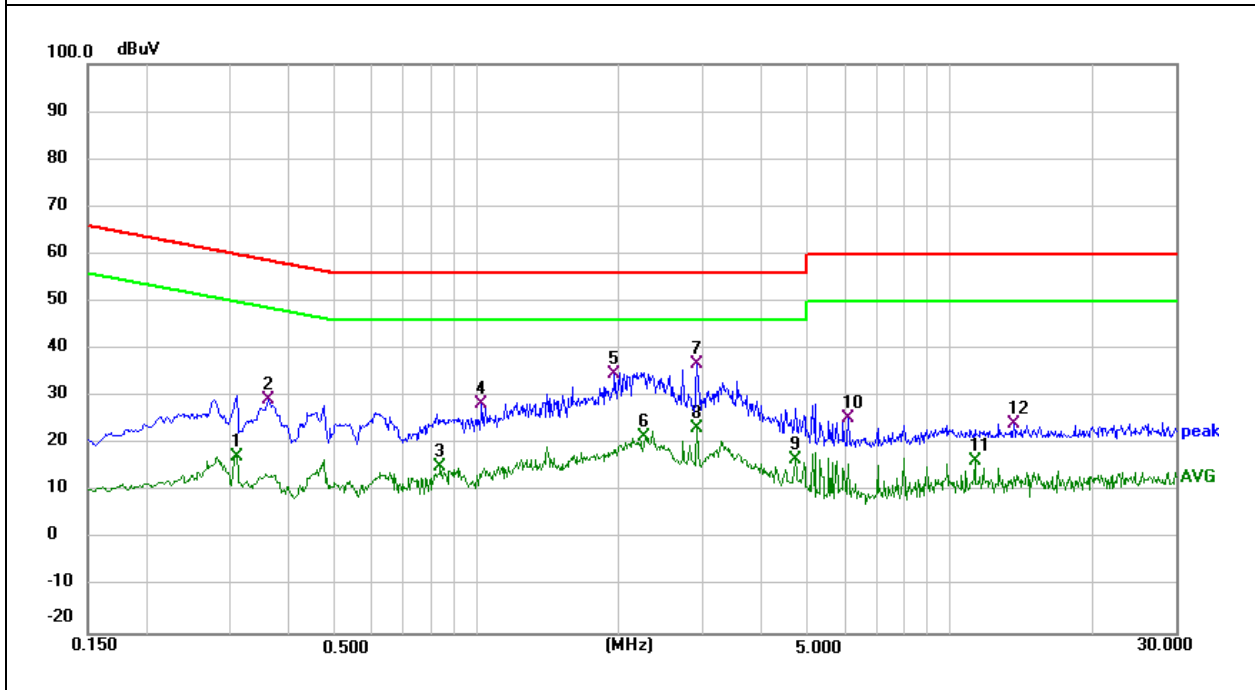


EUT:	Stem2	Model Name :	1018
Temperature:	22°C	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Normal Link

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.3100	7.72	9.72	17.44	49.97	-32.53	AVG
0.3620	19.51	9.80	29.31	58.68	-29.37	QP
0.8380	4.65	10.68	15.33	46.00	-30.67	AVG
1.0260	17.49	11.07	28.56	56.00	-27.44	QP
1.9500	21.77	12.96	34.73	56.00	-21.27	QP
2.2659	12.44	9.08	21.52	46.00	-24.48	AVG
2.9260	27.65	9.13	36.78	56.00	-19.22	QP
2.9260	14.33	9.13	23.46	46.00	-22.54	AVG
4.7057	7.54	9.30	16.84	46.00	-29.16	AVG
6.1140	15.97	9.48	25.45	60.00	-34.55	QP
11.2896	17.27	-0.97	16.30	50.00	-33.70	AVG
13.6380	13.53	10.78	24.31	60.00	-35.69	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



7.2 RADIATED SPURIOUS EMISSION

7.2.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209

7.2.2 Conformance Limit

According to FCC Part 15.247(d): 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)).
According to FCC Part 15.205, Restricted bands

MHz	MHz	MHz	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	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			

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (μV/m)	300
0.490-1.705	24000/F(KHz)	20 log (μV/m)	30
1.705-30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

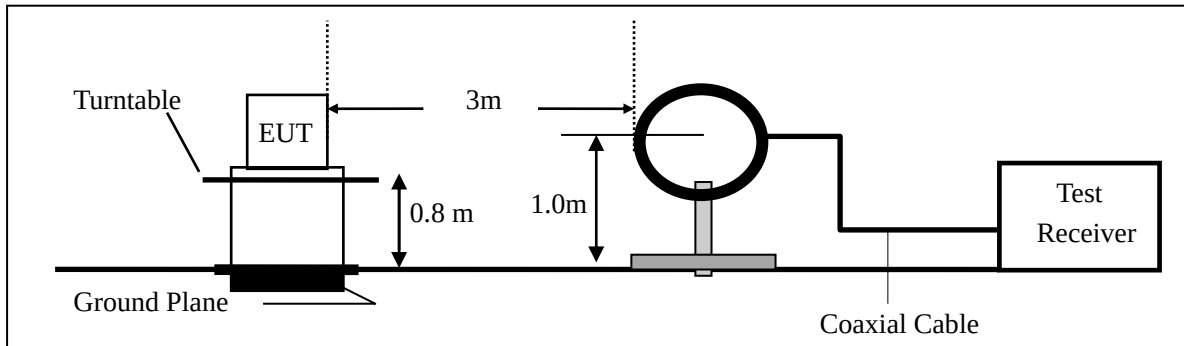
Remark : 1. Emission level in dBuV/m=20 log (μV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. For Frequency 9kHz~30MHz:
Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.
For Frequency above 30MHz:
Distance extrapolation factor =20log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.

7.2.3 Measuring Instruments

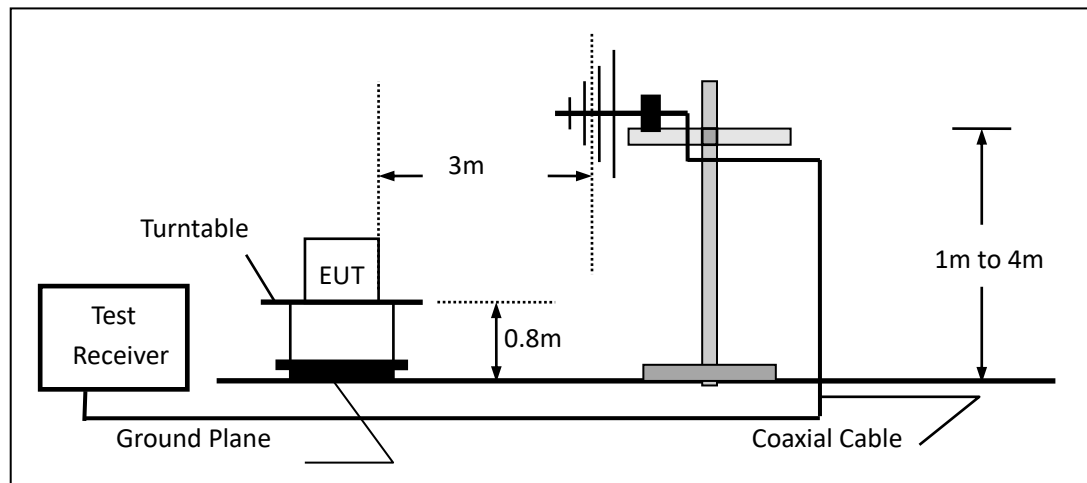
The Measuring equipment is listed in the section 6.3 of this test report.

7.2.4 Test Configuration

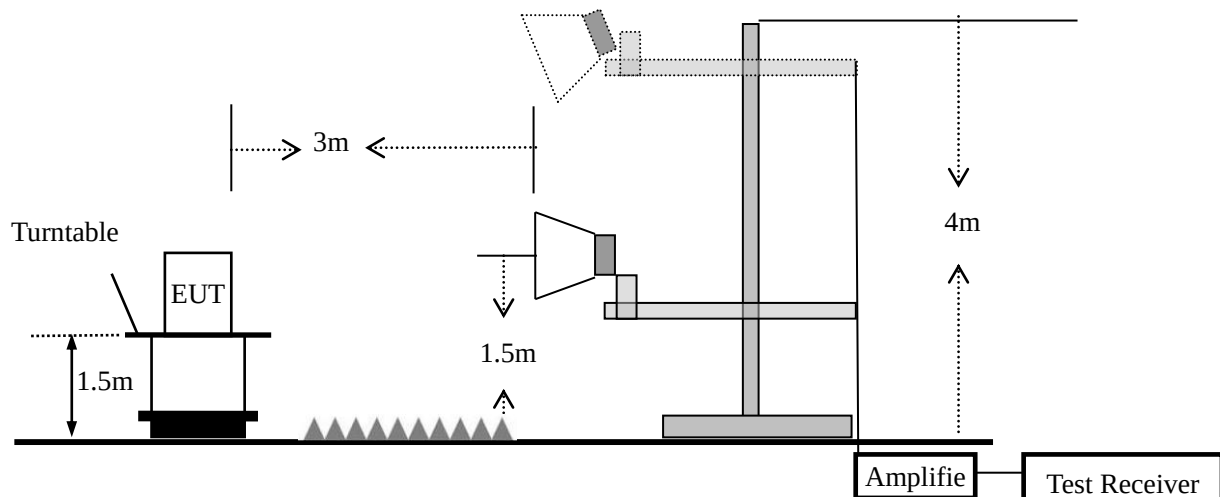
(a) For radiated emissions below 30MHz



(b) For radiated emissions from 30MHz to 1000MHz



(c) For radiated emissions above 1000MHz



7.2.5 Test Procedure

According to the requirements in Section 6.3, 6.5, 6.6, 6.10.5 and 11.12 of ANSI C63.10-2020

From 30 MHz to 1GHz test procedure as below:

- 1) 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.
- 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3) 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.
- 4) 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.

Above 1GHz test procedure as below:

- 1) 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.
- 2) Test the EUT in the lowest channel, middle channel, the highest channel
- 3) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and test the worst-case axis positioning.
- 4) Repeat above procedures until all frequencies measured was complete.

7.2.6 Test Results

■ Spurious Emission below 1GHz (30MHz to 1GHz)

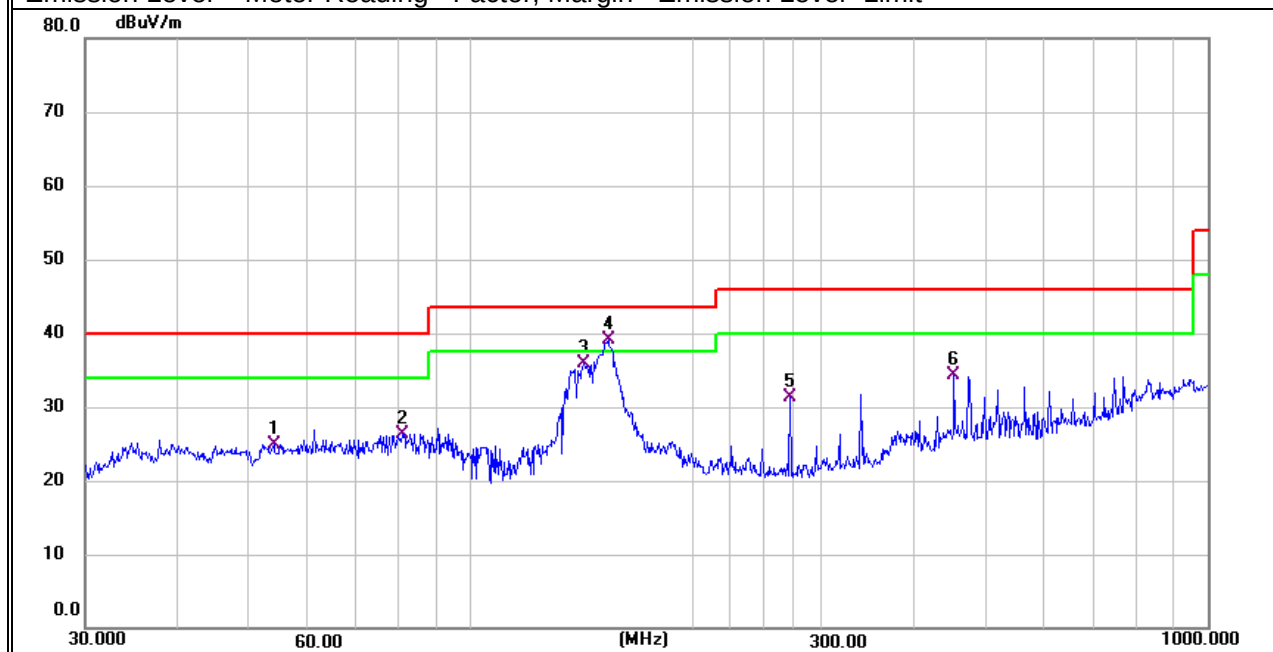
All the modulation modes have been tested, and the worst result was report as below:

EUT:	Stem2	Model Name :	1018
Temperature:	25 °C	Relative Humidity:	55%
Pressure:	1010hPa	Test Mode:	Normal Link
Test Voltage :	DC 7.3V		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	54.0710	5.39	19.58	24.97	40.00	-15.03	QP
V	80.9274	12.08	14.28	26.36	40.00	-13.64	QP
V	142.3240	21.59	14.26	35.85	43.50	-7.65	QP
V	153.7384	24.47	14.54	39.01	43.50	-4.49	QP
V	271.3245	12.26	19.07	31.33	46.00	-14.67	QP
V	452.7196	11.16	23.19	34.35	46.00	-11.65	QP

Remark:

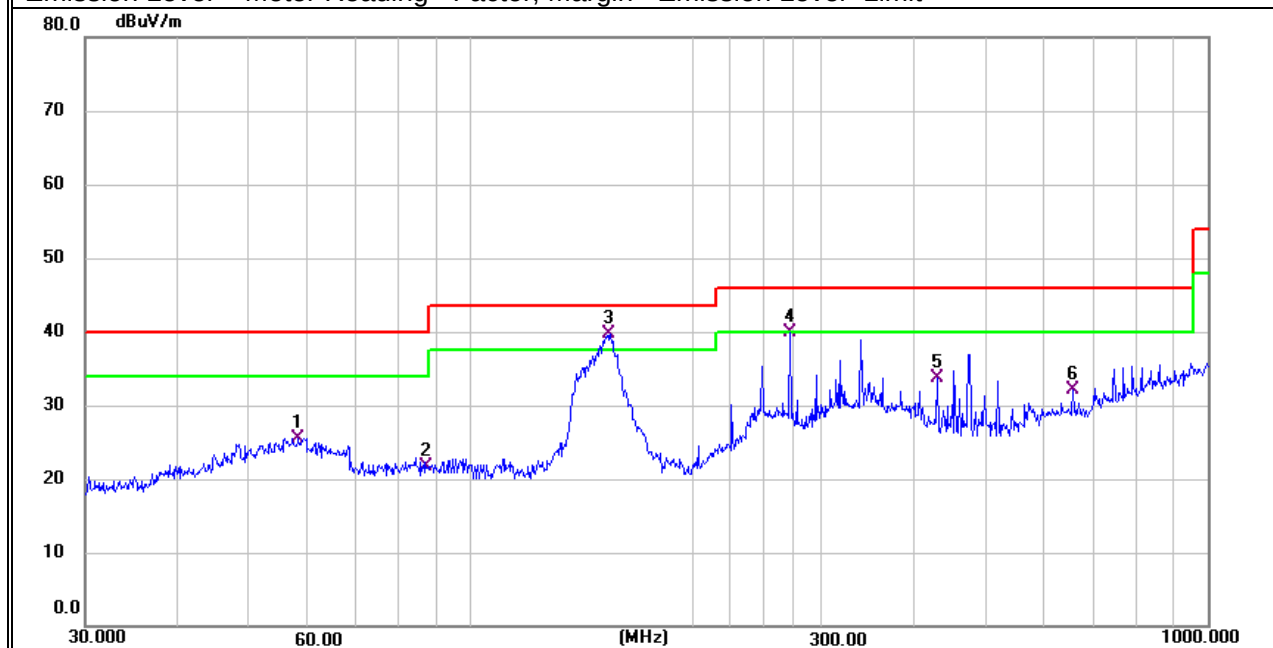
Emission Level = Meter Reading+ Factor, Margin= Emission Level- Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	58.4074	6.12	19.33	25.45	40.00	-14.55	QP
H	87.1115	6.91	14.76	21.67	40.00	-18.33	QP
H	154.8204	25.00	14.67	39.67	43.50	-3.83	QP
H	271.3245	20.90	19.07	39.97	46.00	-6.03	QP
H	429.5228	10.86	22.80	33.66	46.00	-12.34	QP
H	656.5300	5.50	26.57	32.07	46.00	-13.93	QP

Remark:

Emission Level = Meter Reading+ Factor, Margin= Emission Level- Limit



■ Spurious Emission Above 1GHz

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n(HT20, HT40)	Test By:	Harry Huang

All the modulation modes have been tested, and the worst result was report as below:

Frequency	Read Level	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark	Comment
(MHz)	(dBμV)	(dB)	dB/m	(dB)	(dBμV/m)	(dBμV/m)	(dB)		
Low Channel (2412 MHz)(802.11b)--Above 1G									
4824.069	65.71	5.21	35.59	44.30	62.21	74.00	-11.79	Pk	Vertical
4824.069	43.68	5.21	35.59	44.30	40.18	54.00	-13.82	AV	Vertical
7236.154	66.53	6.48	36.27	44.60	64.68	74.00	-9.32	Pk	Vertical
7236.154	50.56	6.48	36.27	44.60	48.71	54.00	-5.29	AV	Vertical
4824.103	67.64	5.21	35.55	44.30	64.10	74.00	-9.90	Pk	Horizontal
4824.103	50.00	5.21	35.55	44.30	46.46	54.00	-7.54	AV	Horizontal
7236.146	66.89	6.48	36.27	44.52	65.12	74.00	-8.88	Pk	Horizontal
7236.146	44.14	6.48	36.27	44.52	42.37	54.00	-11.63	AV	Horizontal
Mid Channel (2437 MHz)(802.11b)--Above 1G									
4874.135	66.11	5.21	35.66	44.20	62.78	74.00	-11.22	Pk	Vertical
4874.135	47.31	5.21	35.66	44.20	43.98	54.00	-10.02	AV	Vertical
7311.271	63.33	7.10	36.50	44.43	62.50	74.00	-11.50	Pk	Vertical
7311.271	45.04	7.10	36.50	44.43	44.21	54.00	-9.79	AV	Vertical
4874.089	63.13	5.21	35.66	44.20	59.80	74.00	-14.20	Pk	Horizontal
4874.089	47.52	5.21	35.66	44.20	44.19	54.00	-9.81	AV	Horizontal
7311.192	66.57	7.10	36.50	44.43	65.74	74.00	-8.26	Pk	Horizontal
7311.192	46.75	7.10	36.50	44.43	45.92	54.00	-8.08	AV	Horizontal
High Channel (2462 MHz)(802.11b)--Above 1G									
4924.055	63.32	5.21	35.52	44.21	59.84	74.00	-14.16	Pk	Vertical
4924.055	46.29	5.21	35.52	44.21	42.81	54.00	-11.19	AV	Vertical
7386.215	62.73	7.10	36.53	44.60	61.76	74.00	-12.24	Pk	Vertical
7386.215	45.29	7.10	36.53	44.60	44.32	54.00	-9.68	AV	Vertical
4924.183	66.93	5.21	35.52	44.21	63.45	74.00	-10.55	Pk	Horizontal
4924.183	44.82	5.21	35.52	44.21	41.34	54.00	-12.66	AV	Horizontal
7386.144	64.15	7.10	36.53	44.60	63.18	74.00	-10.82	Pk	Horizontal
7386.144	47.29	7.10	36.53	44.60	46.32	54.00	-7.68	AV	Horizontal

Note:

- (1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor
- (2) Other emissions are attenuated more than 20dB below the permissible limits, so it does not recorded in the report.
- (3)"802.11b" mode is the worst mode. When PK value is lower than the Average value limit, average don't record.

■ Spurious Emission in Band Edge

All the modulation modes have been tested, and the worst result was report as below:

Frequency	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV)	(dB)	dB/m	(dB)	(dBμV/m)	(dBμV/m)	(dB)	Type	
802.11b									
2310.00	65.83	2.97	27.21	43.80	52.21	74	-21.79	Pk	Horizontal
2310.00	45.94	2.97	27.21	43.80	32.32	54	-21.68	AV	Horizontal
2310.00	69.09	2.97	27.21	43.80	55.47	74	-18.53	Pk	Vertical
2310.00	49.96	2.97	27.21	43.80	36.34	54	-17.66	AV	Vertical
2390.00	65.95	3.14	27.33	43.80	52.62	74	-21.38	Pk	Vertical
2390.00	51.10	3.14	27.33	43.80	37.77	54	-16.23	AV	Vertical
2390.00	67.82	3.14	27.33	43.80	54.49	74	-19.51	Pk	Horizontal
2390.00	48.67	3.14	27.33	43.80	35.34	54	-18.66	AV	Horizontal
2483.50	68.88	3.58	27.70	44.00	56.16	74	-17.84	Pk	Vertical
2483.50	47.50	3.58	27.70	44.00	34.78	54	-19.22	AV	Vertical
2483.50	70.04	3.58	27.70	44.00	57.32	74	-16.68	Pk	Horizontal
2483.50	52.04	3.58	27.70	44.00	39.32	54	-14.68	AV	Horizontal
802.11g									
2310.00	72.31	2.97	27.21	43.80	58.69	74	-15.31	Pk	Horizontal
2310.00	46.29	2.97	27.21	43.80	32.67	54	-21.33	AV	Horizontal
2310.00	72.11	2.97	27.21	43.80	58.49	74	-15.51	Pk	Vertical
2310.00	49.75	2.97	27.21	43.80	36.13	54	-17.87	AV	Vertical
2390.00	74.25	3.14	27.33	43.80	60.92	74	-13.08	Pk	Vertical
2390.00	47.16	3.14	27.33	43.80	33.83	54	-20.17	AV	Vertical
2390.00	69.85	3.14	27.33	43.80	56.52	74	-17.48	Pk	Horizontal
2390.00	48.56	3.14	27.33	43.80	35.23	54	-18.77	AV	Horizontal
2483.50	69.07	3.58	27.70	44.00	56.35	74	-17.65	Pk	Vertical
2483.50	48.60	3.58	27.70	44.00	35.88	54	-18.12	AV	Vertical
2483.50	69.96	3.58	27.70	44.00	57.24	74	-16.76	Pk	Horizontal
2483.50	48.96	3.58	27.70	44.00	36.24	54	-17.76	AV	Horizontal
802.11n20									
2310.00	73.21	2.97	27.21	43.80	59.59	74	-14.41	Pk	Horizontal
2310.00	51.64	2.97	27.21	43.80	38.02	54	-15.98	AV	Horizontal
2310.00	68.53	2.97	27.21	43.80	54.91	74	-19.09	Pk	Vertical
2310.00	49.67	2.97	27.21	43.80	36.05	54	-17.95	AV	Vertical
2390.00	66.93	3.14	27.33	43.80	53.60	74	-20.40	Pk	Vertical
2390.00	45.72	3.14	27.33	43.80	32.39	54	-21.61	AV	Vertical
2390.00	65.83	3.14	27.33	43.80	52.50	74	-21.50	Pk	Horizontal
2390.00	46.95	3.14	27.33	43.80	33.62	54	-20.38	AV	Horizontal
2483.50	70.27	3.58	27.70	44.00	57.55	74	-16.45	Pk	Vertical
2483.50	48.05	3.58	27.70	44.00	35.33	54	-18.67	AV	Vertical
2483.50	63.16	3.58	27.70	44.00	50.44	74	-23.56	Pk	Horizontal
2483.50	46.98	3.58	27.70	44.00	34.26	54	-19.74	AV	Horizontal

802.11n40									
2310.00	73.04	2.97	27.21	43.80	59.42	74	-14.58	Pk	Horizontal
2310.00	51.53	2.97	27.21	43.80	37.91	54	-16.09	AV	Horizontal
2310.00	70.38	2.97	27.21	43.80	56.76	74	-17.24	Pk	Vertical
2310.00	60.92	2.97	27.21	43.80	47.30	54	-6.70	AV	Vertical
2390.00	70.78	3.14	27.33	43.80	57.45	74	-16.55	Pk	Vertical
2390.00	49.10	3.14	27.33	43.80	35.77	54	-18.23	AV	Vertical
2390.00	69.28	3.14	27.33	43.80	55.95	74	-18.05	Pk	Horizontal
2390.00	47.76	3.14	27.33	43.80	34.43	54	-19.57	AV	Horizontal
2483.50	70.54	3.58	27.70	44.00	57.82	74	-16.18	Pk	Vertical
2483.50	48.77	3.58	27.70	44.00	36.05	54	-17.95	AV	Vertical
2483.50	69.64	3.58	27.70	44.00	56.92	74	-17.08	Pk	Horizontal
2483.50	47.68	3.58	27.70	44.00	34.96	54	-19.04	AV	Horizontal

7.3 6DB BANDWIDTH

7.3.1 Applicable Standard

According to FCC Part 15.247(a)(2) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.2.

7.3.2 Conformance Limit

The minimum permissible 6dB bandwidth is 500 kHz.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

7.3.5 Test Procedure

The testing follows ANSI C63.10-2020 clause 11.8

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.

Set the VBW $\geq 3 \times$ RBW

Detector = peak

Trace mode = max-hold

7.3.6 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.4 99% OCCUPIED BANDWIDTH

7.4.1 Applicable Standard

According to FCC Part 2.1049 and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.

7.4.2 Conformance Limit

No limit requirement.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 Test Procedure

The testing follows ANSI C63.10-2020 clause 6.9.3

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = 1.5 to 5 times the OBW

Set RBW = 1% to 5% of the OBW

Set VBW $\geq 3 \times$ RBW

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple

7.4.6 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.5 DUTY CYCLE

7.5.1 Applicable Standard

According to KDB 558074 D01 15.247 Meas Guidance v05r02 Section 6&8.

7.5.2 Conformance Limit

No limit requirement.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 Test Procedure

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set the center frequency of the instrument to the center frequency of the transmission.

Set RBW $\geq$ OBW if possible; otherwise, set RBW to the largest available value.

Set VBW $\geq$ RBW. Set detector = peak or average.

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 $T \leq 16.7 \mu s$.)

7.5.6 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.6 MAXIMUM OUTPUT POWER

7.6.1 Applicable Standard

According to FCC Part 15.247(b)(3) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.3.2.3.

7.6.2 Conformance Limit

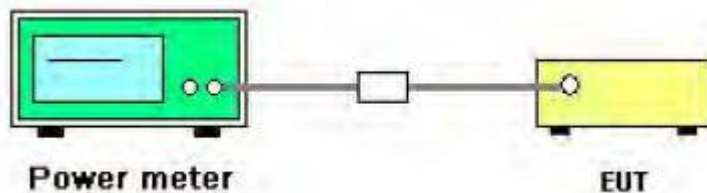
The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm). If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

7.6.3 Measuring Instruments

The following table is the setting of the power meter.

Power meter parameter	Setting
Detector	PK

7.6.4 Test Setup



7.6.5 Test Procedure

The testing follows Measurement Procedure Subclause 11.9.1.2 of ANSI C63.10

7.6.6 EUT operation during Test

The EUT was programmed to be in continuously transmitting mode.

7.6.7 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.7 POWER SPECTRAL DENSITY

7.7.1 Applicable Standard

According to FCC Part 15.247(e) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.4.

7.7.2 Conformance Limit

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows ANSI C63.10-2020 clause 11.10.2

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span >1.5 times the DTS bandwidth.
- c) Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW $\geq [3 \times \text{RBW}]$.
- e) Detector = peak.
- f) Sweep time = No faster than coupled (auto) time.
- g) Trace mode = max-hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

7.7.6 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.8 CONDUCTED BAND EDGE MEASUREMENT

7.8.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

7.8.2 Conformance Limit

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.

7.8.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.4 Test Setup

Please refer to Section 6.1 of this test report.

7.8.5 Test Procedure

The testing follows ANSI C63.10-2020 clause 6.10.4 and 11.11

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

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.

Repeat above procedures until all measured frequencies were complete.

7.8.6 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Test data reference attachment.

7.9 SPURIOUS RF CONDUCTED EMISSIONS

7.9.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

7.9.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.9.3 Test Setup

Please refer to Section 6.1 of this test report.

7.9.4 Test Procedure

The testing follows ANSI C63.10-2020 clause 11.11

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz.

Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point frequency.

The spectrum shall be investigated from the lowest radio frequency signal generated in the device to the tenth harmonic of the highest fundamental frequency.

Repeat above procedures until all measured frequencies were complete.

7.9.5 Test Results

EUT:	Stem2	Model No.:	1018
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Leo Wang

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions measurement data.

Test data reference attachment.

7.10 ANTENNA APPLICATION

7.10.1 Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: 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.

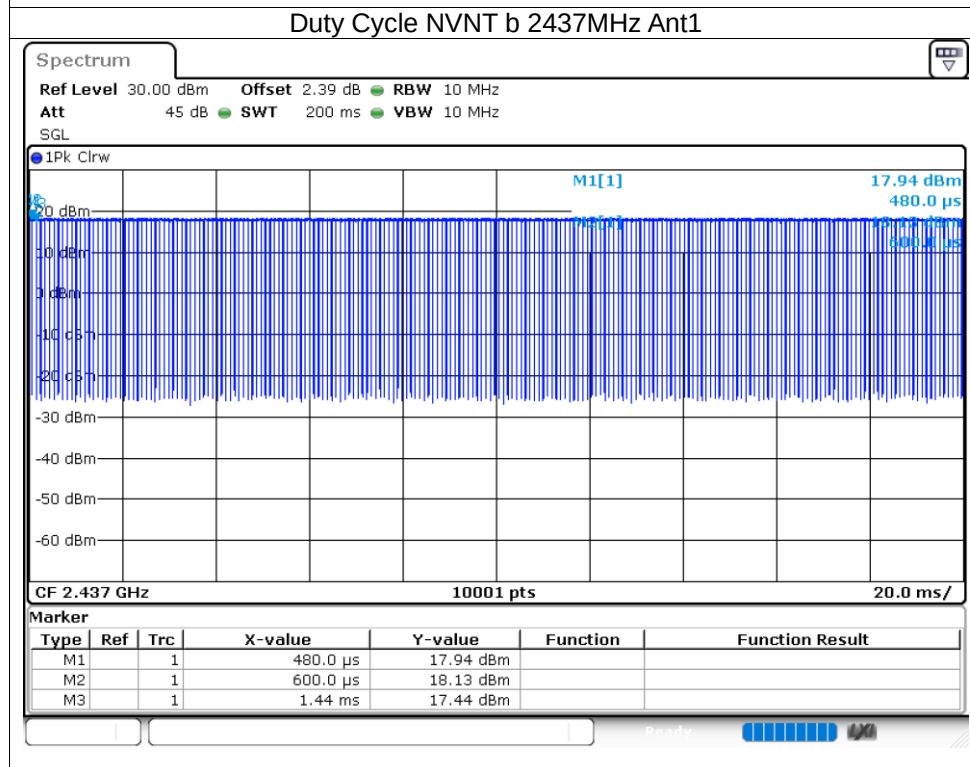
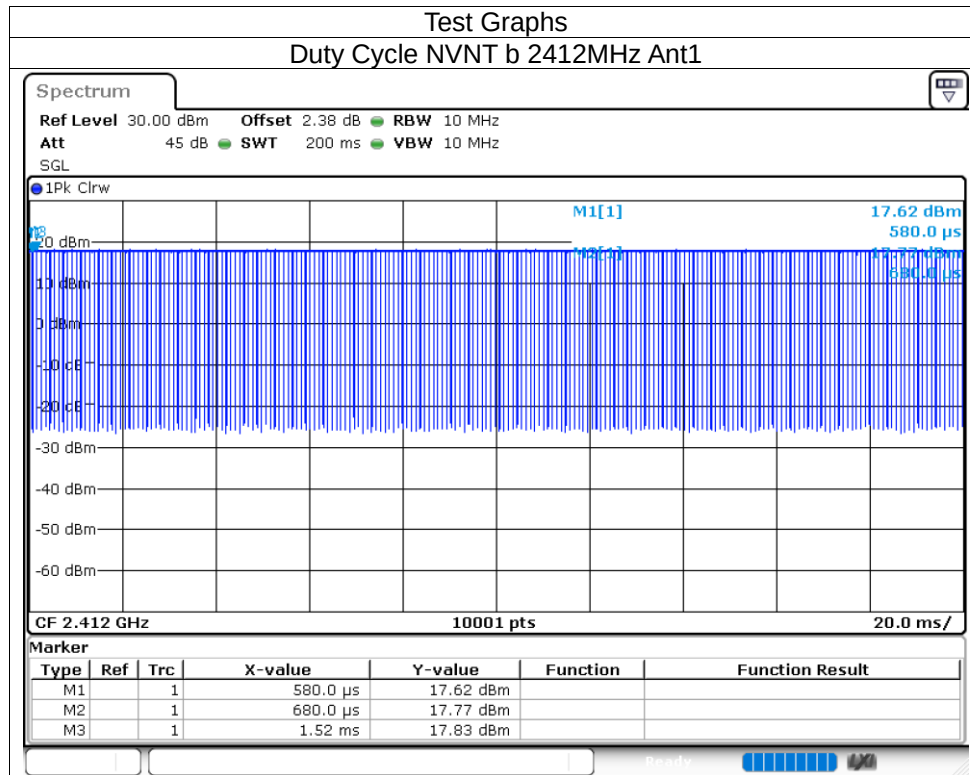
7.10.2 Result

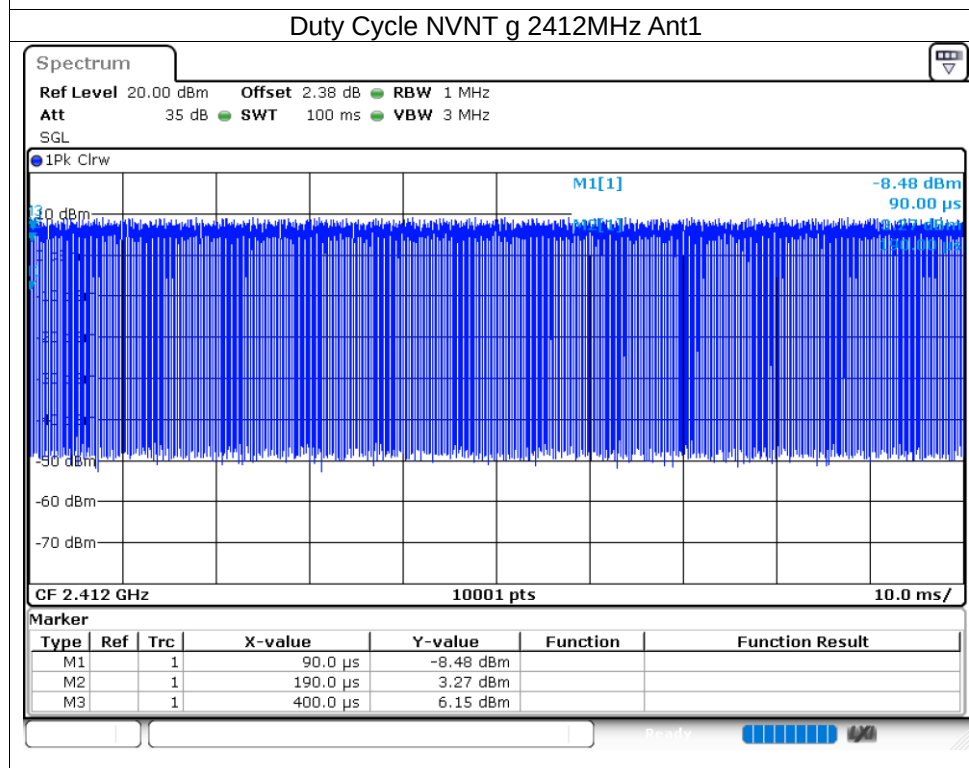
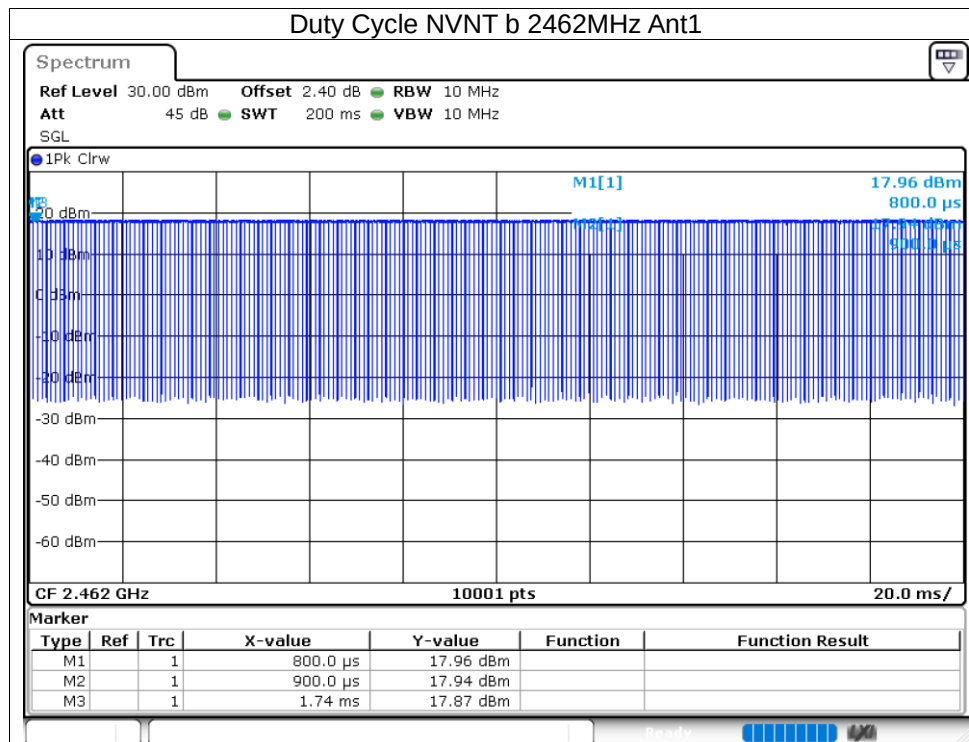
The EUT antenna is permanent attached PIFA Antenna (Gain: 0.5dBi). It comply with the standard requirement.

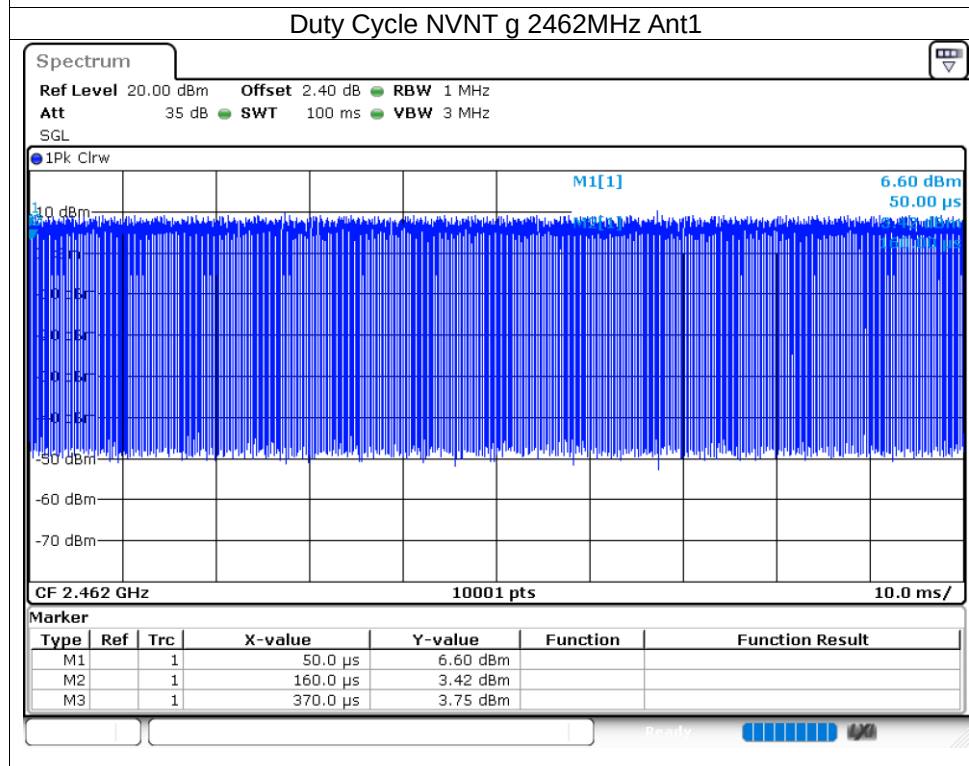
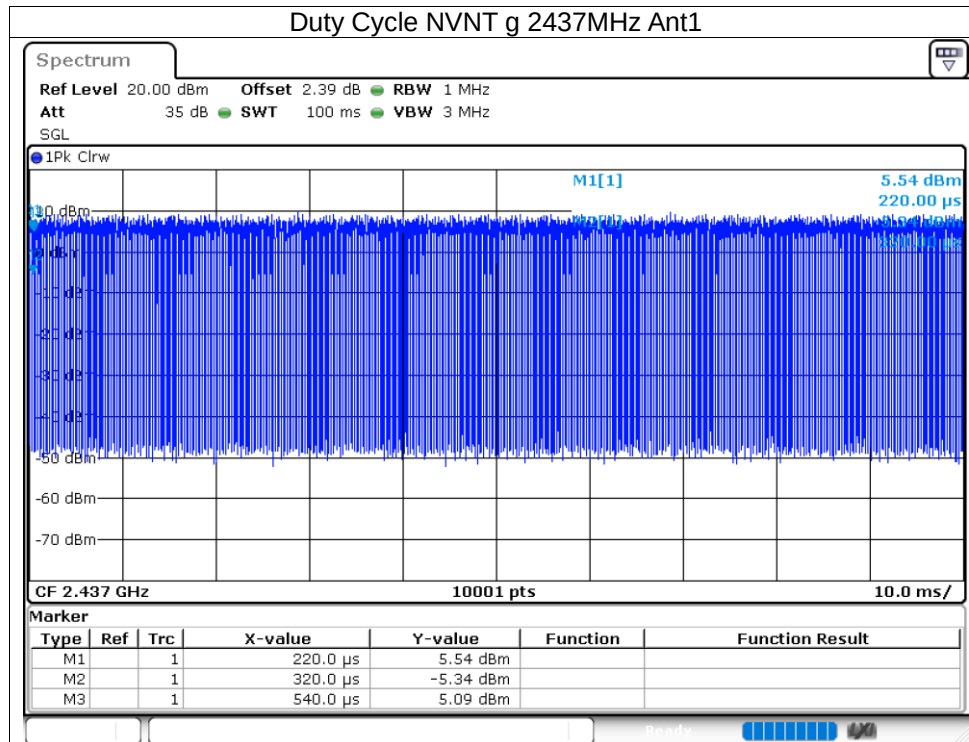
8 TEST RESULTS

8.1 DUTY CYCLE

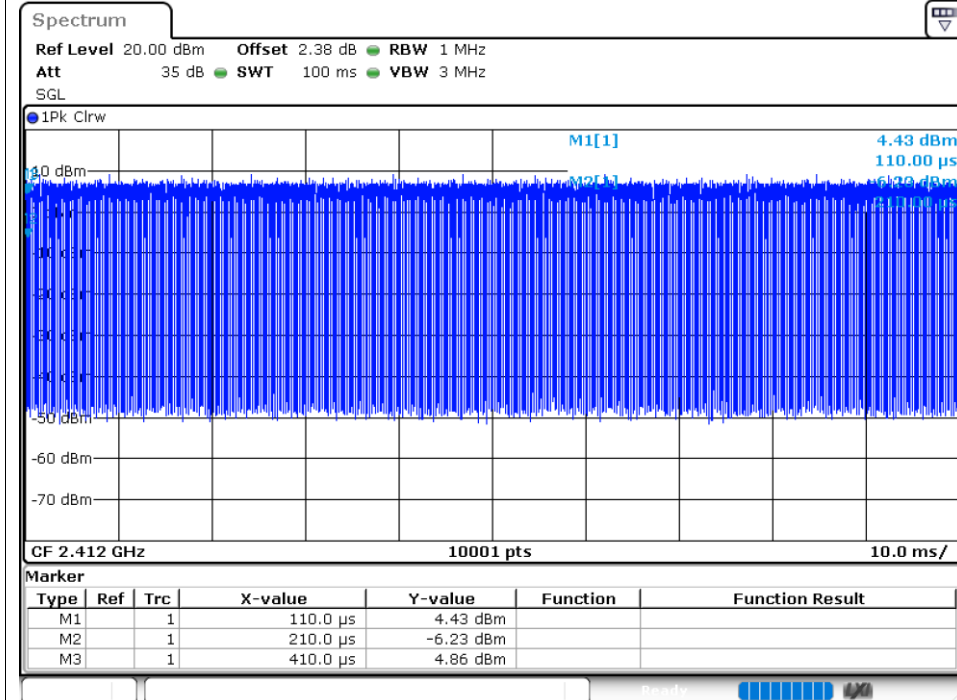
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	91.23	0.4	1.19
NVNT	b	2437	Ant1	91.23	0.4	1.19
NVNT	b	2462	Ant1	91.24	0.4	1.19
NVNT	g	2412	Ant1	71.09	1.48	4.76
NVNT	g	2437	Ant1	71.06	1.48	4.55
NVNT	g	2462	Ant1	70.82	1.5	4.76
NVNT	n20	2412	Ant1	69.12	1.6	5
NVNT	n20	2437	Ant1	69.58	1.57	5
NVNT	n20	2462	Ant1	69.33	1.59	5
NVNT	n40	2422	Ant1	58.03	2.36	8.33
NVNT	n40	2437	Ant1	58.05	2.36	9.09
NVNT	n40	2452	Ant1	58.01	2.36	8.33



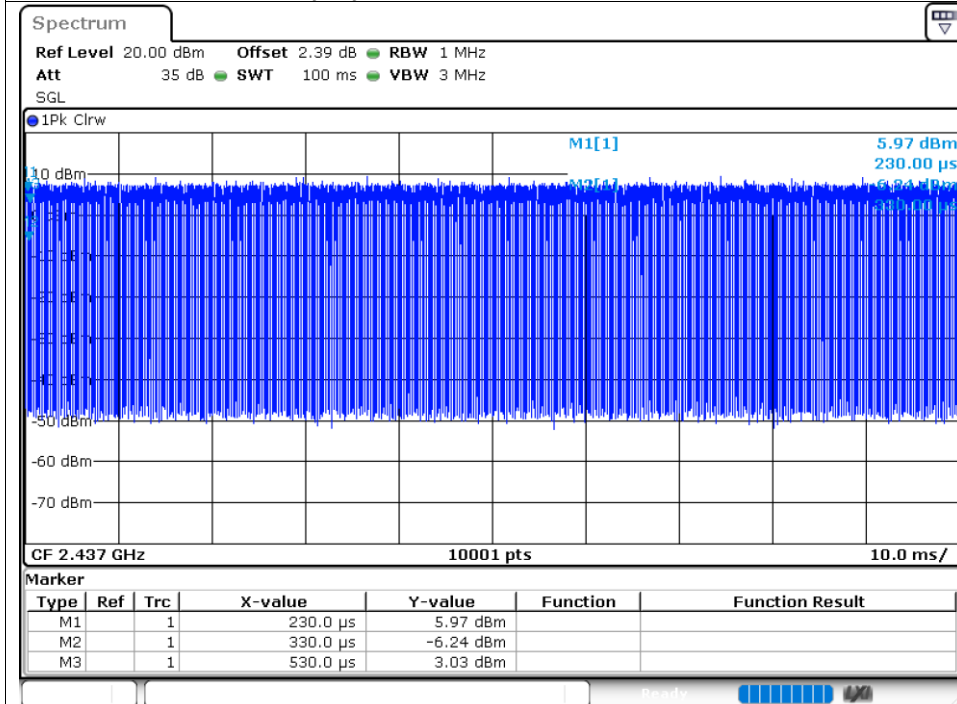


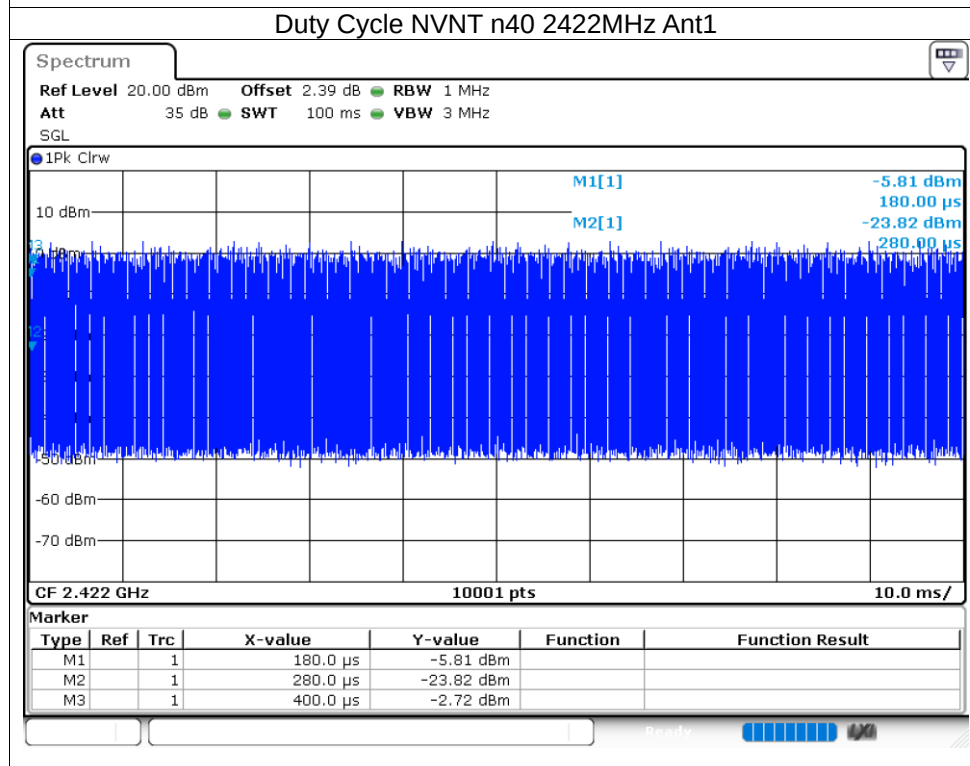
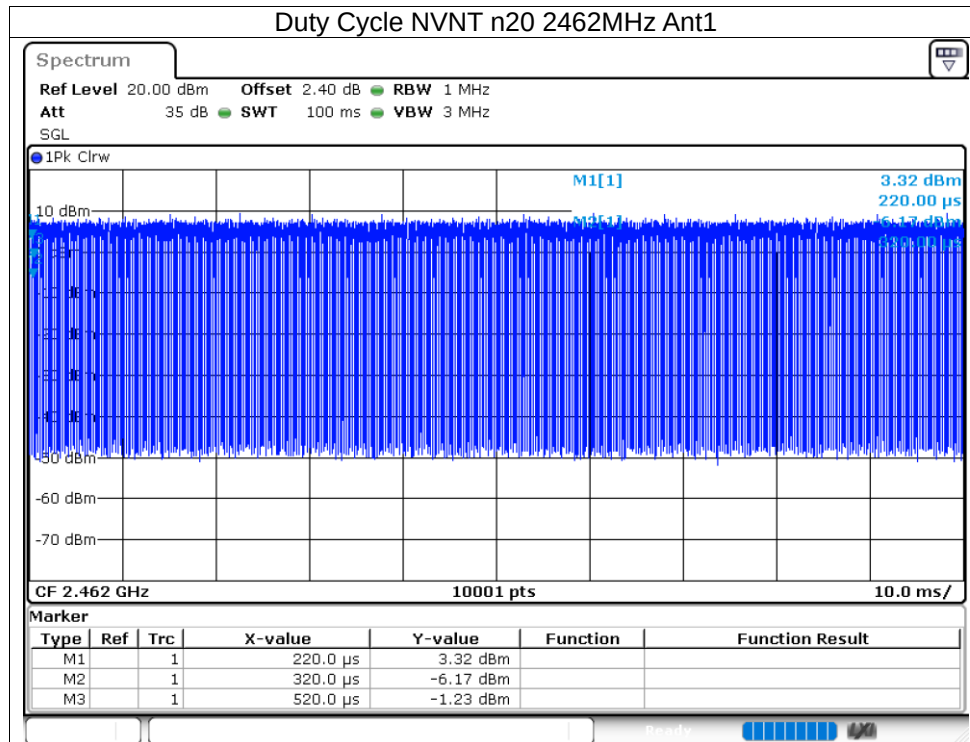


Duty Cycle NVNT n20 2412MHz Ant1

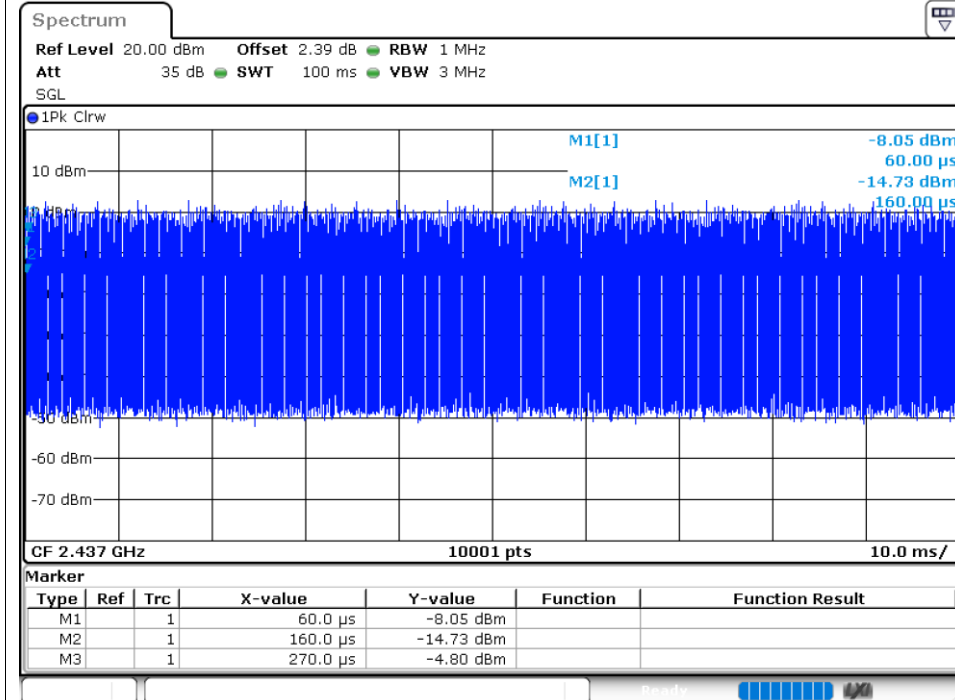


Duty Cycle NVNT n20 2437MHz Ant1

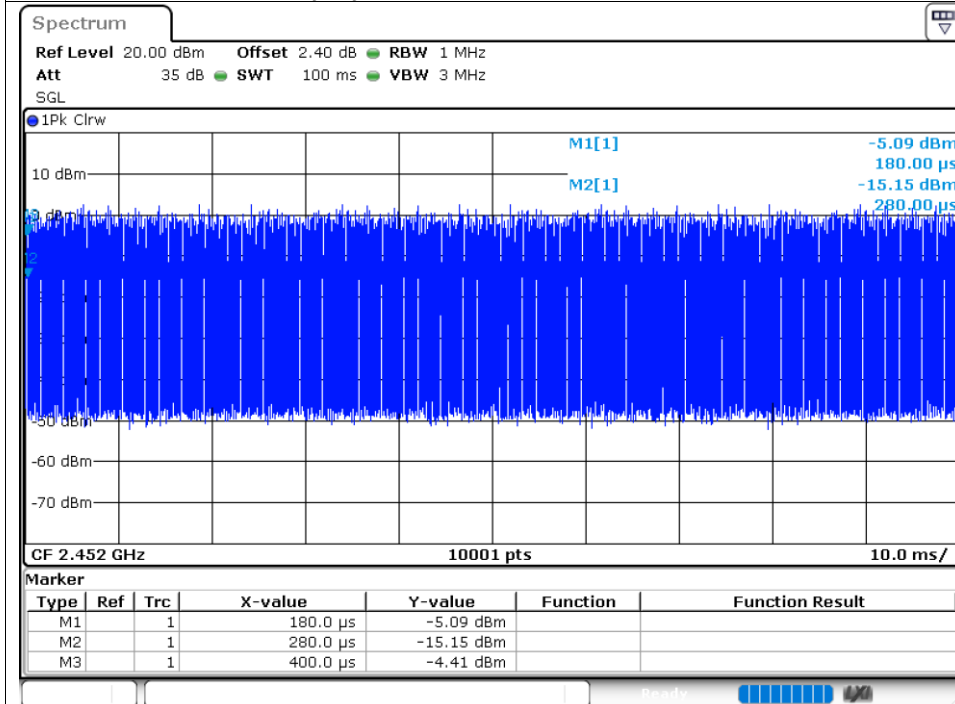




Duty Cycle NVNT n40 2437MHz Ant1



Duty Cycle NVNT n40 2452MHz Ant1



8.2 MAXIMUM CONDUCTED OUTPUT POWER

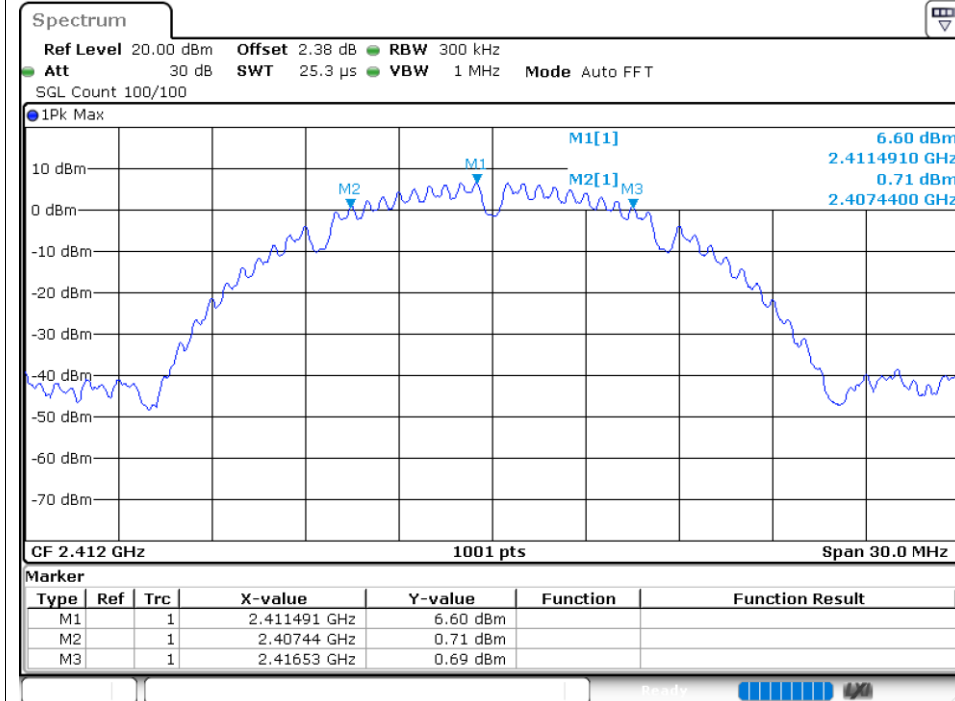
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.39	30	Pass
NVNT	b	2437	Ant1	15.34	30	Pass
NVNT	b	2462	Ant1	15.24	30	Pass
NVNT	g	2412	Ant1	14.07	30	Pass
NVNT	g	2437	Ant1	13.99	30	Pass
NVNT	g	2462	Ant1	14.07	30	Pass
NVNT	n20	2412	Ant1	13.47	30	Pass
NVNT	n20	2437	Ant1	13.33	30	Pass
NVNT	n20	2462	Ant1	13.57	30	Pass
NVNT	n40	2422	Ant1	12.88	30	Pass
NVNT	n40	2437	Ant1	12.73	30	Pass
NVNT	n40	2452	Ant1	12.66	30	Pass

8.3 -6dB BANDWIDTH

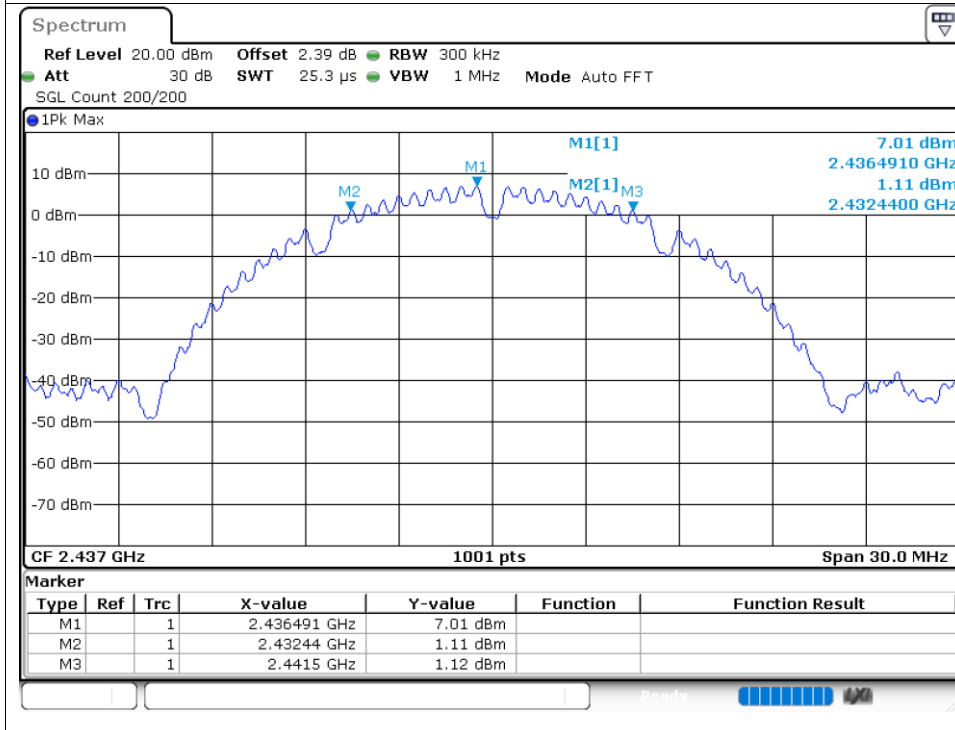
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.09	0.5	Pass
NVNT	b	2437	Ant1	9.06	0.5	Pass
NVNT	b	2462	Ant1	9.093	0.5	Pass
NVNT	g	2412	Ant1	16.092	0.5	Pass
NVNT	g	2437	Ant1	15.282	0.5	Pass
NVNT	g	2462	Ant1	16.008	0.5	Pass
NVNT	n20	2412	Ant1	17.316	0.5	Pass
NVNT	n20	2437	Ant1	16.344	0.5	Pass
NVNT	n20	2462	Ant1	17.397	0.5	Pass
NVNT	n40	2422	Ant1	35.43	0.5	Pass
NVNT	n40	2437	Ant1	35.496	0.5	Pass
NVNT	n40	2452	Ant1	35.442	0.5	Pass

Test Graphs

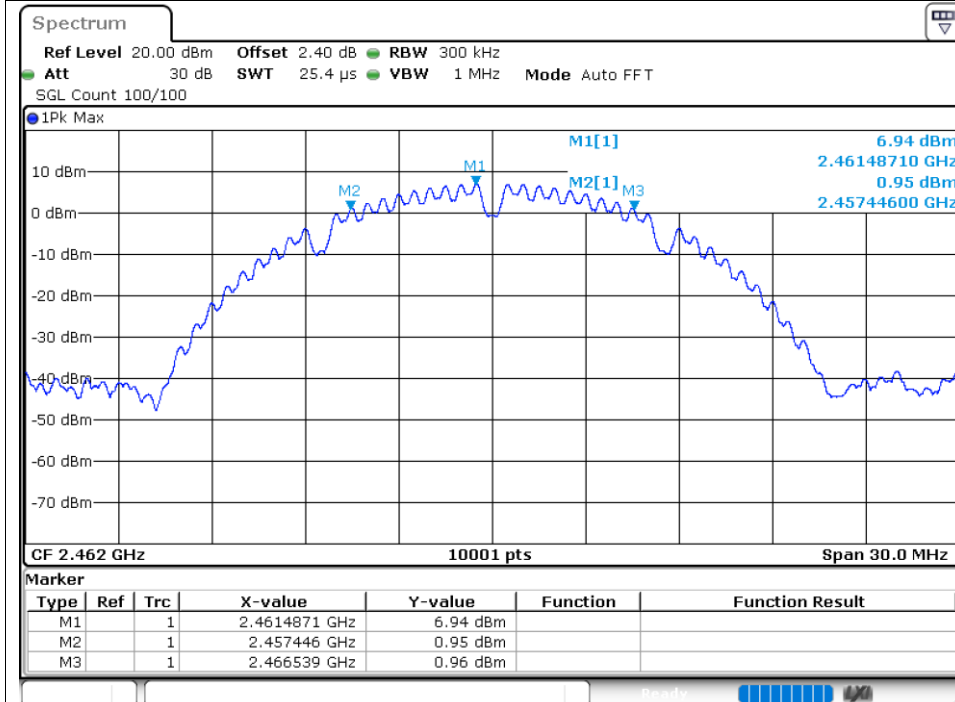
-6dB Bandwidth NVNT b 2412MHz Ant1



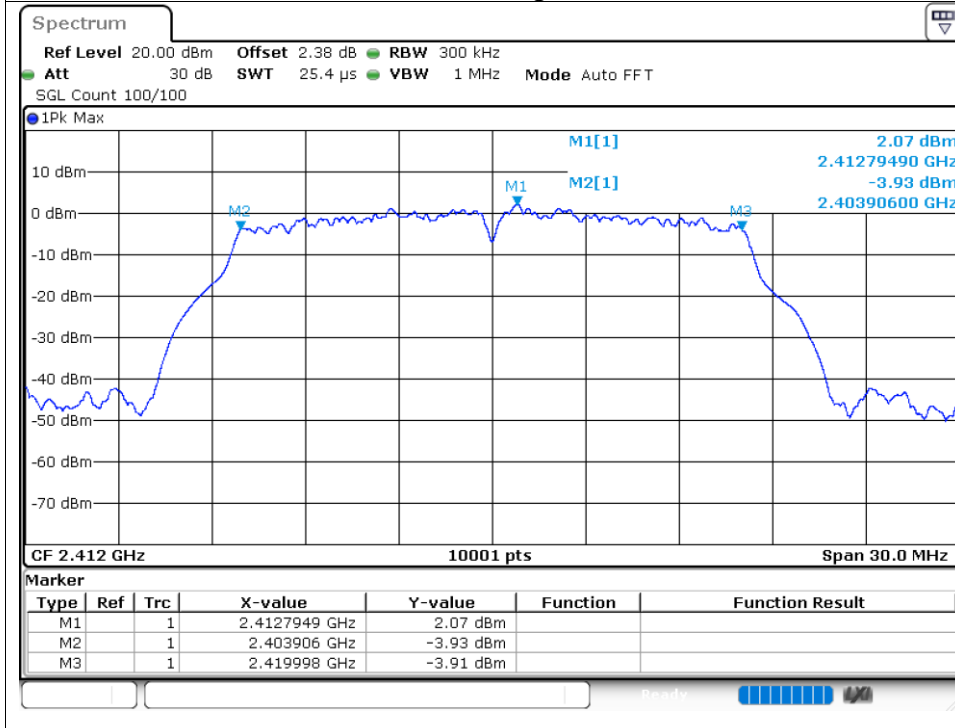
-6dB Bandwidth NVNT b 2437MHz Ant1

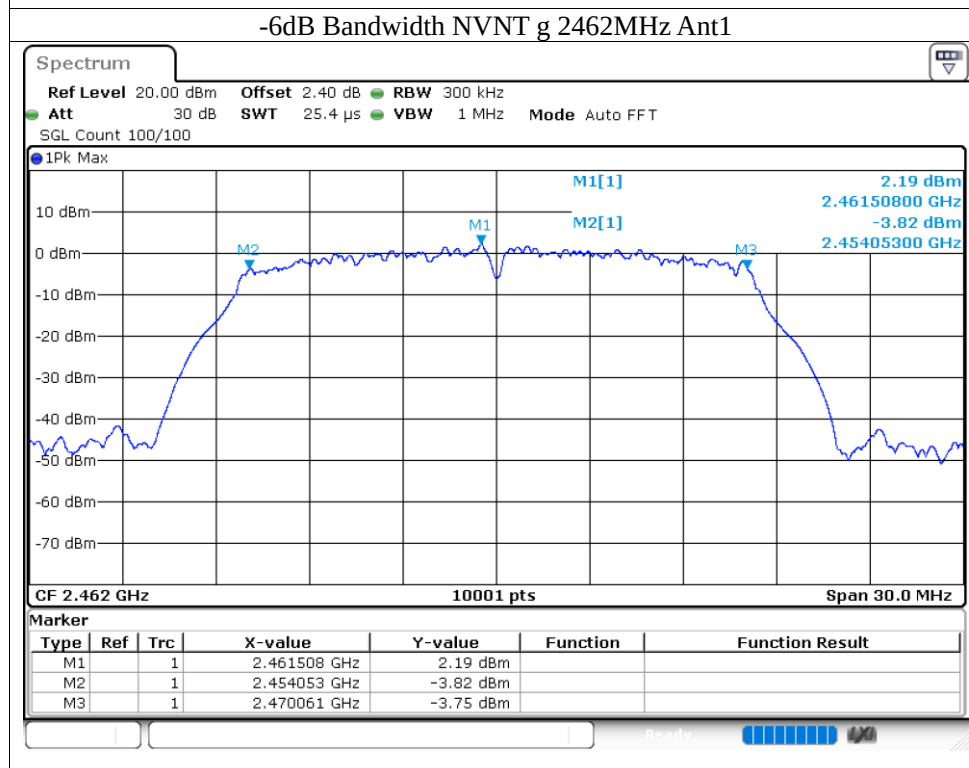
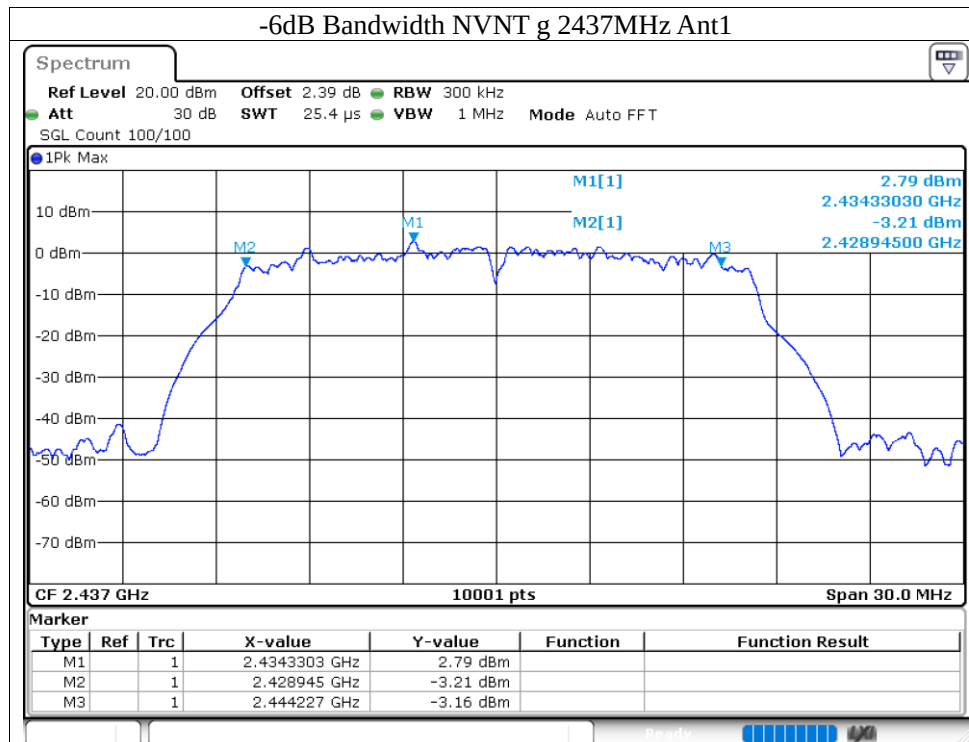


-6dB Bandwidth NVNT b 2462MHz Ant1

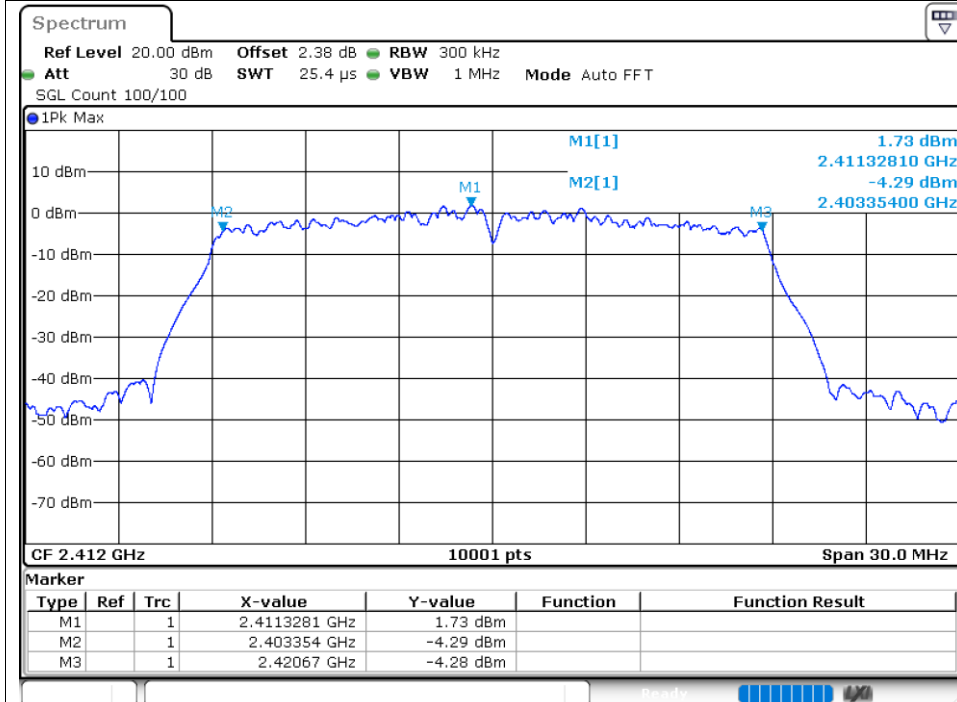


-6dB Bandwidth NVNT g 2412MHz Ant1

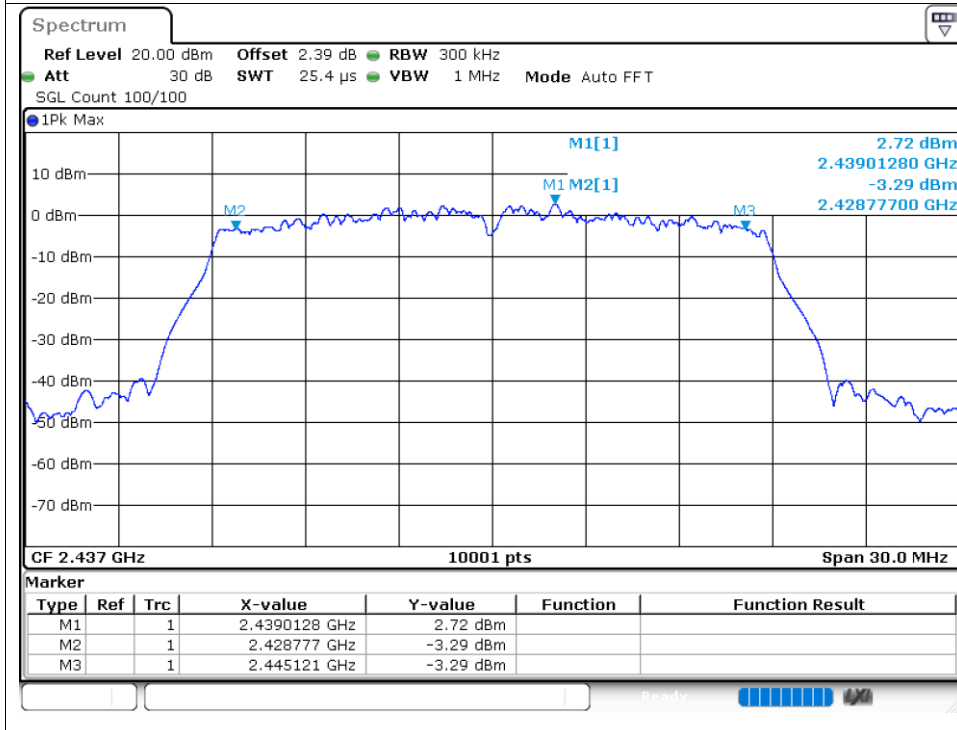




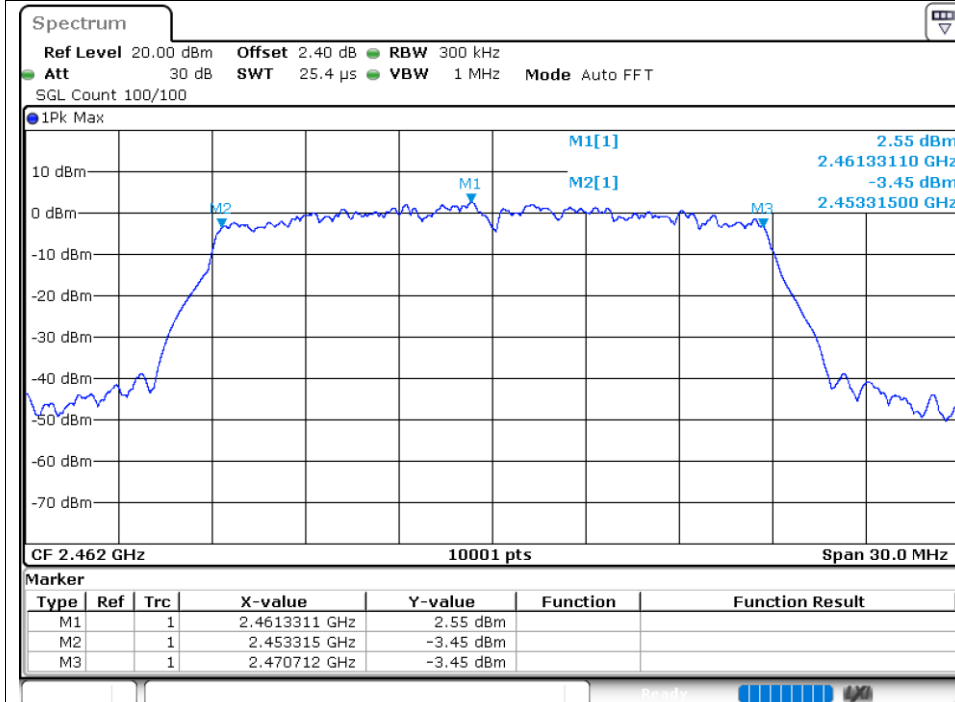
-6dB Bandwidth NVNT n20 2412MHz Ant1



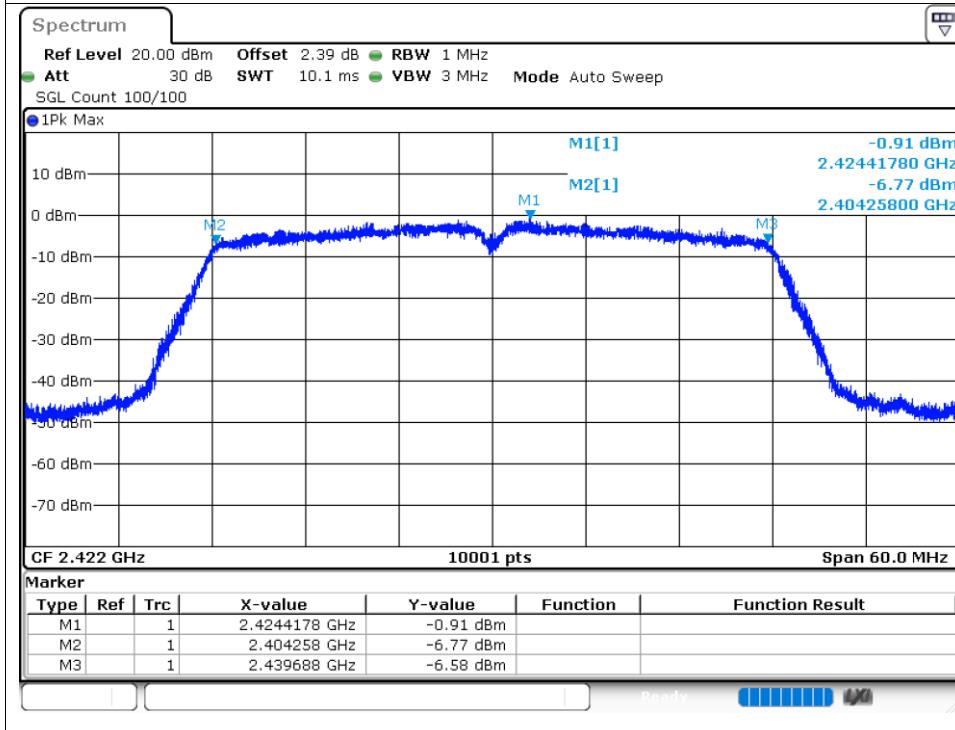
-6dB Bandwidth NVNT n20 2437MHz Ant1



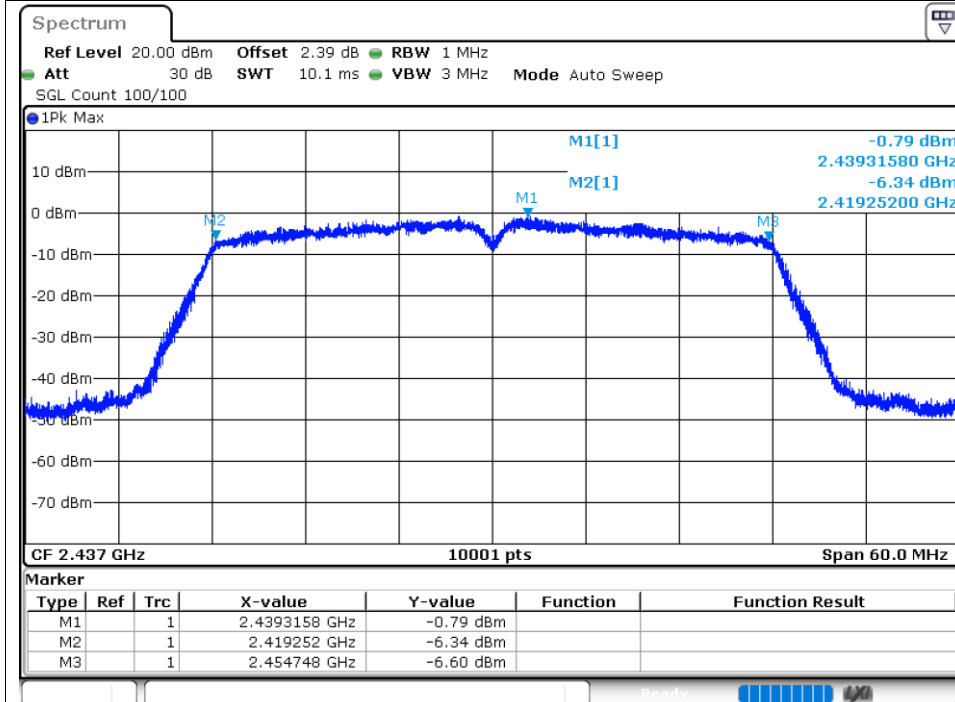
-6dB Bandwidth NVNT n20 2462MHz Ant1



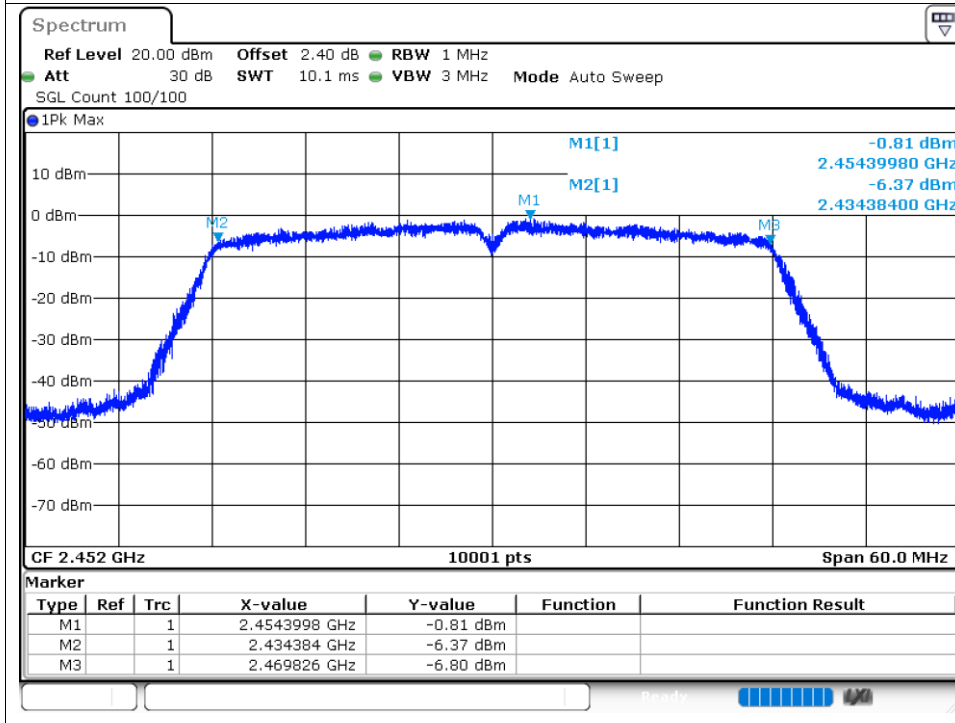
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1



8.4 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	12.108
NVNT	b	2437	Ant1	11.988
NVNT	b	2462	Ant1	12.108
NVNT	g	2412	Ant1	16.645
NVNT	g	2437	Ant1	16.603
NVNT	g	2462	Ant1	16.549
NVNT	n20	2412	Ant1	17.848
NVNT	n20	2437	Ant1	17.737
NVNT	n20	2462	Ant1	17.68
NVNT	n40	2422	Ant1	36.224
NVNT	n40	2437	Ant1	36.218
NVNT	n40	2452	Ant1	36.242

