

FCC RADIO TEST REPORT FCC ID: 2BDJ6-MS12SF1

Product: WiFi Module Trade Mark: MINEWSEMI Model No.: MS12SF1 Family Model: MS12SF18 Report No.: S23102400705002 Issue Date: Jun 04 , 2024

Prepared for

SHENZHEN MINEWSEMI CO., LTD 3rd Floor,I Building, Gangzhilong Science Park, NO.6, Qinglong Road,Longhua District, Shenzhen

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd. 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen 518126 P.R. China Tel. 400-800-6106, 0755-2320 0050, 0755-2320 0090 Website: http://www.ntek.org.cn





TABLE OF CONTENTS

ACCREDITED

Certificate #4298.01

1	TEST RESULT CERTIFICATION				
2	SUI	MMARY OF TEST RESULTS	4		
3	FA	CILITIES AND ACCREDITATIONS	5		
	3.1 3.2 3.3	FACILITIES LABORATORY ACCREDITATIONS AND LISTINGS MEASUREMENT UNCERTAINTY	5		
4	GE	NERAL DESCRIPTION OF EUT	6		
5	DE	SCRIPTION OF TEST MODES	8		
6	SE	FUP OF EQUIPMENT UNDER TEST	10		
	6.1 6.2 6.3	BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM SUPPORT EQUIPMENT EQUIPMENTS LIST FOR ALL TEST ITEMS	10 11 12		
7	TE	ST REQUIREMENTS	14		
	7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9	CONDUCTED EMISSIONS TEST RADIATED SPURIOUS EMISSION 6DB BANDWIDTH. DUTY CYCLE. MAXIMUM OUTPUT POWER. POWER SPECTRAL DENSITY	17 27 29 30 32 34 36 37		
8	TE	ST RESULTS			
	8.1 8.2 8.3 8.4	MAXIMUM CONDUCTED OUTPUT POWER	39 46 53		
	8.5	CONDUCTED KF SPURIOUS EMISSION	02		

Report No.: S23102400705002



1 TEST RESULT CERTIFICATION

Applicant's name:	SHENZHEN MINEWSEMI CO., LTD	
Address:	3rd Floor,I Building, Gangzhilong Science Park, NO.6, Qinglong Road,Longhua District, Shenzhen	
Manufacturer's Name:	SHENZHEN MINEWSEMI CO., LTD	
Address:	3rd Floor,I Building, Gangzhilong Science Park, NO.6, Qinglong Road,Longhua District, Shenzhen	
Product description		
Product name:	WiFi Module	
Trade Mark:	MINEWSEMI	
Model and/or type reference :	MS12SF1	
Family Model:	MS12SF18	
Test Sample number::	S231024007003	
Date (s) of performance of tests	Oct. 24, 2023 ~ Mar 31 , 2024	
	Oct. 24, 2023 ~ Mar 31 , 2024	

Certificate #4298 01

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	Complied		
ANSI C63.10-2013	Complied		
KDB 558074 D01 15.247 Meas Guidance v05r02			

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.

This report shall not be reproduced except in full, without the written approval of Shenzhen NTEK Testing Technology Co., Ltd., this document may be altered or revised by Shenzhen NTEK Testing Technology Co., Ltd., personnel only, and shall be noted in the revision of the document. The test results of this report relate only to the tested sample identified in this report.

(Project Engineer) (Supervisor) (Manager)

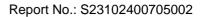
Report No.: S23102400705002



2 SUMMARY OF TEST RESULTS							
FCC Part15 (15.247), Subpart C							
Standard Section	Standard Section Test Item Verdict Remark						
15.207	Conducted Emission	PASS					
15.247 (a)(2)	6dB Bandwidth	PASS					
15.247 (b)	15.247 (b) Maximum Output Power						
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 1/F, Building E, Fenda Science Park Sanwei, Xixiang, Bao'an District Shenzhen, Guangdong, China The sites are constructed in conformance with the requirements of ANSI C63 7, ANSI C63 10 and

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	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 Communique dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: 1/F, Building E, Fenda Science Park Sanwei, Xixiang, Bao'an District
	Shenzhen, Guangdong, China
	Shenzhen, Guanguong, China

3.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y\pm U$, where expended 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	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(30MHz~1GHz)	±2.64dB
5	All emissions, radiated(1GHz~6GHz)	±2.40dB
6	All emissions, radiated(>6GHz)	±2.52dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	All emissions, radiated(9KHz~30MHz)	±6dB

Report No.: S23102400705002



4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification				
Equipment	WiFi Module			
Trade Mark	MINEWSEMI			
FCC ID	2BDJ6-MS12SF1			
Model No.	MS12SF1			
Family Model	MS12SF18			
Model Difference	All models are the same circuit and RF module, except for model names.			
Operating Frequency	2412-2462MHz for 802.11b/g/11n(HT20)/ ax20;			
Modulation	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n/ax20;			
Number of Channels	11 channels for 802.11b/g/11n(HT20)/ ax20;			
Antenna Type	External rod antenna			
Antenna Gain	4.01 dBi			
Adapter	N/A			
Battery	N/A			
Power supply	DC 3V from DC Supply			
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.



Revision History

Report No.	Version	Description	Issued Date			
S23102400705002	Rev.01	Initial issue of report	Jun 04 , 2024			



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 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)/ ax20:

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

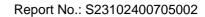
Note: fc=2412MHz+(k-1)×5MHz k=1 to 11

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





est Items	Mode	Data Rate	Channel	Ant
AC Power Line Conducted Emissions	Normal Link	-	-	-
	11b/CCK	1 Mbps	1/6/11	1
Maximum Conducted Output	11g/BPSK	6 Mbps	1/6/11	1
Power	11n HT20/ax20	MCS0	1/6/11	1
	11b/CCK	1 Mbps	1/6/11	1
Power Spectral Density	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20/ax20	MCS0	1/6/11	1
			1	1
6dB Spectrum Bandwidth	11b/CCK	1 Mbps	1/6/11	
	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20/ax20	MCS0	1/6/11	1
Radiated Emissions Below 1GHz	Normal Link		-	-
Radiated Emissions Above	11b/CCK	1 Mbps	1/6/11	1
1GHz	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20/ax20	MCS0	1/6/11	1
Dond Edge Emissions	11b/CCK	1 Mbps	1/6/11	1
Band Edge Emissions	11g/BPSK	6 Mbps	1/6/11	1
	11n HT20/ax20	MCS0	1/6/11	1





6 SETUP OF EQUIPMENT UNDER TEST

6.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM

For AC Conducted Emis	sion Mode		
EUT	C-1 A-1 DC Supply	AC PLUG	
or Radiated Test Cases	5		
I	EUT		
or Conducted Test Cas	es]
Measurement Instrument	² EUT		
		oldered on the PCB board in or s listed in the equipment list.	der to perform condu





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	DC Supply	N/A	N/A	Peripherals			

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	Power Cable	NO	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".

Report No.: S23102400705002



6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

ac-M

ACCREDITED

Certificate #4298.01

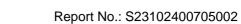
Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
,	1 Spectrum Analyzer	Agilent	E4440A	MY41000130	2023.03.27 2024.03.12	2024.03.26 2025.03.11	1 year
	2 Spectrum Analyzer	Agilent	N9020A	MY49100060	2023.05.29 2024.03.12	2024.05.28 2025.03.11	1 year
	3 Spectrum Analyzer	R&S	FSV40	101417	2023.05.29 2024.03.12	2024.05.28 2025.03.11	1 year
	4 Test Receiver	R&S	ESPI7	101318	2023.03.27 2024.03.12	2024.03.26 2025.03.11	1 year
	5 Bilog Antenna	TESEQ	CBL6111D	31216	2023.03.16 2024.03.11	2024.03.15 2025.03.10	1 year
(6 50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.06	2026.05.05	3 year
	7 Horn Antenna	SCHWARZBE CK	BBHA 9120 D	2816	2023.01.12	2026.01.11	3 year
1	8 Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2022.11.07	2025.11.06	3 year
9	9 Amplifier	EMC	EMC051835 SE	980246	2023.05.29 2024.03.12	2024.05.28 2025.03.11	1 year
1	0 Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2023.11.03	2026.11.02	3 year
1	1 Power Meter	DARE	RPR3006W	15I00041SN 084	2023.05.29 2024.03.12	2024.05.28 2025.03.11	1 year
1	2 Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
1	3 (30MHz-1GHz)	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
1	High Test 4 Cable(1G-40G Hz)	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
1	5 Filter	TRILTHIC	2400MHz	29	2023.03.26	2026.03.25	3 year
1	6 temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

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	2023.03.27 2024.03.12	2024.03.26 2025.03.11	1 year
2	LISN	R&S	ENV216	101313	2023.03.27 2024.03.12	2024.03.26 2025.03.11	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2023.03.27 2024.03.12	2024.03.26 2025.03.11	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2023.05.06	2026.05.05	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2023.05.06	2026.05.05	3 year

ACCREDITED

Certificate #4298.01

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.



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

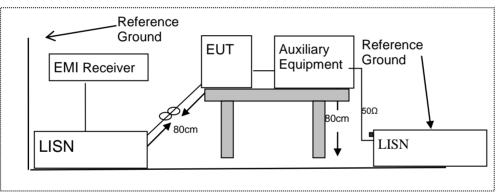
Note: 1. *Decreases with the logarithm of the frequency

- 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 13.1.4.1 of ANSI C63.10-2013 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:	WiFi Module	Model Name :	MS12SF1
Temperature:	22 °C	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 3V from DC Supply AC 120V/60Hz	Test Mode:	Normal Link

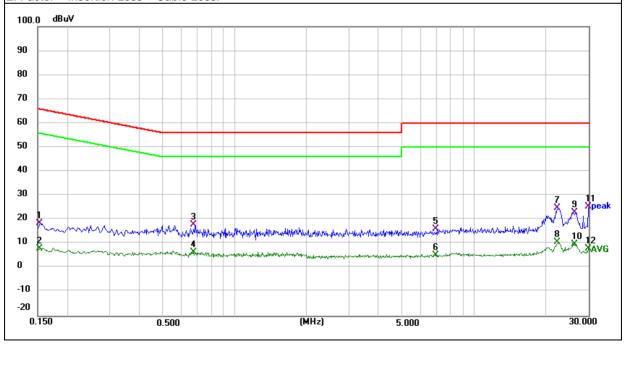
ACCREDITED

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domork
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1539	8.58	9.93	18.51	65.79	-47.28	QP
0.1539	-1.88	9.93	8.05	55.79	-47.74	AVG
0.6740	7.01	10.99	18.00	56.00	-38.00	QP
0.6740	-4.48	10.99	6.51	46.00	-39.49	AVG
6.8980	6.49	9.68	16.17	60.00	-43.83	QP
6.8980	-4.26	9.68	5.42	50.00	-44.58	AVG
22.3779	15.22	9.68	24.90	60.00	-35.10	QP
22.3779	0.96	9.68	10.64	50.00	-39.36	AVG
26.2460	13.34	9.62	22.96	60.00	-37.04	QP
26.2460	0.33	9.62	9.95	50.00	-40.05	AVG
29.9980	15.83	9.55	25.38	60.00	-34.62	QP
29.9980	-1.58	9.55	7.97	50.00	-42.03	AVG

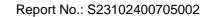
Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







EUT:	WiFi Module	Model Name :	MS12SF1
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 3V from DC Supply AC 120V/60Hz	Test Mode:	Normal Link

ACCREDITED

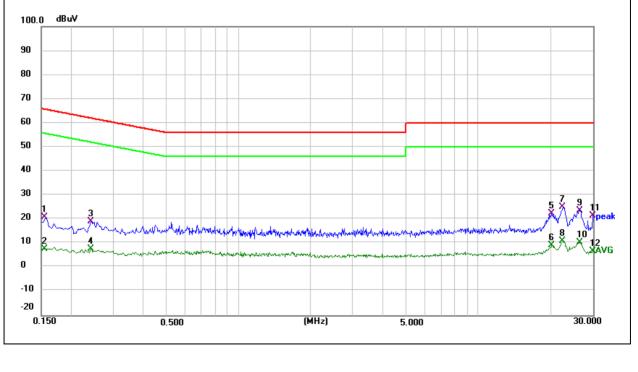
Certificate #4298.01

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Demeri
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1548	11.08	9.93	21.01	65.74	-44.73	QP
0.1548	-2.14	9.93	7.79	55.74	-47.95	AVG
0.2420	8.98	10.12	19.10	62.03	-42.93	QP
0.2420	-2.31	10.12	7.81	52.03	-44.22	AVG
20.0900	12.71	9.72	22.43	60.00	-37.57	QP
20.0900	-0.47	9.72	9.25	50.00	-40.75	AVG
22.4619	15.42	9.68	25.10	60.00	-34.90	QP
22.4619	1.40	9.68	11.08	50.00	-38.92	AVG
26.4460	14.14	9.61	23.75	60.00	-36.25	QP
26.4460	0.85	9.61	10.46	50.00	-39.54	AVG
29.9940	11.98	9.55	21.53	60.00	-38.47	QP
29.9940	-2.56	9.55	6.99	50.00	-43.01	AVG

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 and ANSI C63.10-2013

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 Part15.205, 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 (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/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)		
Frequency(MHZ)	PEAK	AVERAGE	
Above 1000	74	54	

Remark :1. Emission level in dBuV/m=20 log (uV/m)

Measurement was performed at an antenna to the closed point of EUT distance of meters.
 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.

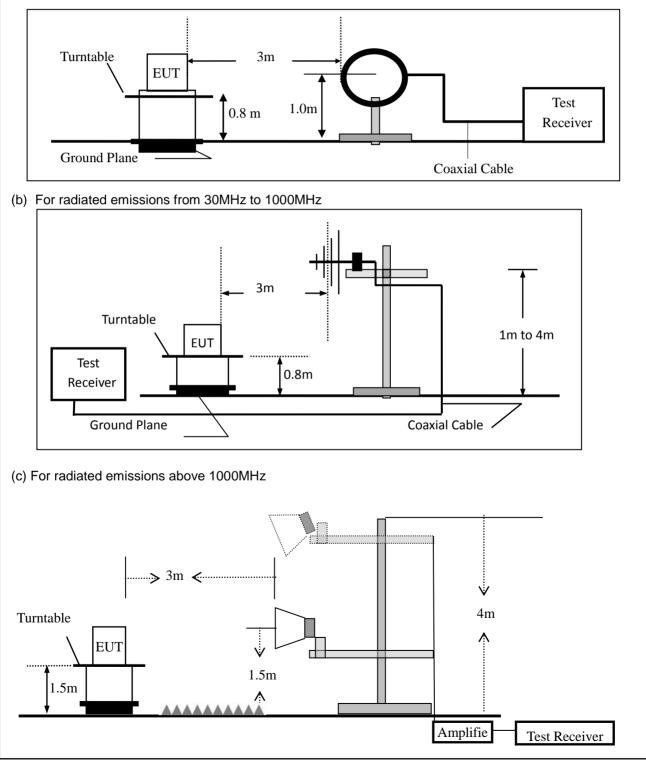


7.2.3 Measuring Instruments

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





7.2.5 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 1MHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz and frequencies above 1GHz,
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g $\;$ For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

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

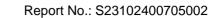
During the radiated emission test, the Spectrum Analyzer was set with the following configurations: For peak measurement:

Set RBW=120 kHz for f < 1 GHz; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold; Set RBW = 1 MHz, VBW= 3MHz for f≥1 GHz

For average measurement:

VBW = 10 Hz, when duty cycle is no less than 98 percent.

VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.





Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.2.6 Test Results

■ Spurious Emission below 30MHz (9KHz to 30MHz)

EUT:	WiFi Module	N	lodel No.:	MS12SF1
Temperature:	20 ℃	R	Relative Humidity:	48%
Test Mode:	802.11b/g/n(HT20)	/ax20 T	est By:	Mary Hu

Freq.	Ant.Pol.	Emission Level(dBuV/m)		Limit 3	m(dBuV/m)	Over(dB)		
(MHz)	H/V	PK	AV	PK	AV	PK	AV	

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



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

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

EUT:	WiFi Module	Model Name :	MS12SF1
Temperature:	25 ℃	Relative Humidity:	55%
Pressure:	1010hPa	Test Mode:	802.11b CH01
Test Voltage :	DC 3V		

Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	75.1822	6.05	14.42	20.47	40.00	-19.53	QP
V	127.2176	6.23	18.69	24.92	43.50	-18.58	QP
V	214.5143	5.58	16.62	22.20	43.50	-21.30	QP
V	413.2706	5.78	23.41	29.19	46.00	-16.81	QP
V	638.3686	7.20	26.91	34.11	46.00	-11.89	QP
V	866.0879	5.77	30.24	36.01	46.00	-9.99	QP
	k: n Level = Meter Bu¥/m	Reading+ Fa	actor, Marg	in= Emission	Level- Limit		
80.0 dE							
60							
50							
40						5	6. Xwww/
30 A _{MANAN}	hunne -		2	3	Alexandramation and the second	and have all have been been been been been been been be	
20	have a harder with make	www.willion.	and produced and a second second	When the the the the second			
10							
0.0							
30.000	60.0)0	(MHz)	300.00		1000.000



Polar	Fi	reque	ncy		/lete eadii		Fact	tor	Emis Lev		1	Lim	its	Ма	rgin	R	emark
(H/V)		(MHz	<u>z)</u>	(0	Bu\	/)	(dE	3)	(dBu	V/m))	(dBu\	//m)	(0	dB)		
Н	1	69.00)54	1	1.7 ⁻	1	17.3	39	29.	10		43.	50	-14	4.40		QP
Н	2	07.12	226	1	1.50)	16.3	37	27.	87		43.	50	-15	5.63		QP
Н	2	76.12	235		6.04	-	19.7	75	25.	79		46.0	00	-20).21		QP
Н	4	73.83	347	;	5.44	-	24.4	40	29.	84		46.0	00	-16	5.16		QP
Н	7	29.35	583		6.61		28.3	33	34.	94		46.0	00		1.06		QP
H Remar		16.06	687		6.90)	30.7	79	37.	69		46.0	00	-8	.31		QP
	on Le dBuV/m		Meter	Rea	ding	+ Fa	actor, N	<i>l</i> argir	n= Emi	ssior	n Le	evel- Lir	nit		1		
70																	
50																	ſ
40 -					(5	L. ANALY	WWW
30 w _{it}	What would	hynda y					berkensterght	WW	1 / ///////////////////////////////	Northan	3	we descendent	White a West Are	www.	dom with	48***	
20		14. M	Marine A	ntel WANN's an	where has	W. and and the	•• **										
10																	_
0.0								(M									

ACCREDITED

NTEK 北测 ^{® 《}

U	Г:	١	ViFi Mod	ule		M	odel	No.:	M	S12SF1	
Гen	nperature:	2	20 °C			Re	elativ	ve Humidi	ty: 48	3%	
Гes	t Mode:	8	302.11b/g	g/n(HT20)		Τe	est B	By:	M	ary Hu	
\II ti	he modulati	on mode	es have b	been teste	d, and the	worst re	esult	was repo	rt as be	elow:	
	Frequency	Read Level	Cable loss	Antenna Factor	Preamp Factor	Emissio Level		Limits	Margir	Remark	Comment
	(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/n	m)	(dBµV/m)	(dB)		
				Low Chan	nel (2412 N	ИHz)(802	.11b))Above 10	3		
	4824.90	67.02	5.21	35.59	44.30	63.52		74.00	-10.48	B Pk	Vertical
	4824.90	43.97	5.21	35.59	44.30	40.47		54.00	-13.53	B AV	Vertical
	7236.69	62.90	6.48	36.27	44.60	61.05		74.00	-12.95	5 Pk	Vertical
	7236.69	51.78	6.48	36.27	44.60	49.93		54.00	-4.07	AV	Vertical
	4824.35	67.39	5.21	35.55	44.30	63.85		74.00	-10.15	5 Pk	Horizontal
	4824.35	47.95	5.21	35.55	44.30	44.41		54.00	-9.59	AV	Horizontal
	7236.92	66.98	6.48	36.27	44.52	65.21		74.00	-8.79	Pk	Horizontal
	7236.92	45.76	6.48	36.27	44.52	43.99)	54.00	-10.01	AV	Horizontal
	Mid Channel (2437 MHz)(802.11b)Above 1G										
	4874.38	66.89	5.21	35.66	44.20	63.56	;	74.00	-10.44	Pk	Vertical
	4874.38	46.98	5.21	35.66	44.20	43.65		54.00	-10.35	5 AV	Vertical
	7311.50	62.55	7.10	36.50	44.43	61.72		74.00	-12.28	B Pk	Vertical
	7311.50	46.39	7.10	36.50	44.43	45.56	;	54.00	-8.44	AV	Vertical
	4874.14	65.59	5.21	35.66	44.20	62.26	;	74.00	-11.74	Pk	Horizontal
	4874.14	50.34	5.21	35.66	44.20	47.01		54.00	-6.99	AV	Horizontal
	7311.33	66.33	7.10	36.50	44.43	65.50)	74.00	-8.50	Pk	Horizontal
	7311.33	43.98	7.10	36.50	44.43	43.15		54.00	-10.85	5 AV	Horizontal
				High Chan	nel (2462 l	MHz)(802	2.11b))Above 10	G		
	4924.95	62.87	5.21	35.52	44.21	59.39)	74.00	-14.61	Pk	Vertical
	4924.95	47.20	5.21	35.52	44.21	43.72		54.00	-10.28	B AV	Vertical
	7386.85	65.00	7.10	36.53	44.60	64.03		74.00	-9.97	Pk	Vertical
	7386.85	45.23	7.10	36.53	44.60	44.26	;	54.00	-9.74	AV	Vertical
	4924.18	66.12	5.21	35.52	44.21	62.64		74.00	-11.36	6 Pk	Horizontal
	4924.18	44.73	5.21	35.52	44.21	41.25		54.00	-12.75	6 AV	Horizontal
	7385.31	64.39	7.10	36.53	44.60	63.42		74.00	-10.58	B Pk	Horizontal
	7385.31	47.91	7.10	36.53	44.60	46.94		54.00	-7.06	AV	Horizontal

ACCREDI

Certificate #4298.01

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.



Report No.: S23102400705002

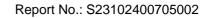
Spurious Emission in Restricted Band 2310MHz -18000MHz All the modulation modes have been tested, and the worst result was report as below:

ACCREDITED

Certificate #4298.01

	lation modes	s nave b	een testeo	d, and the	worst resu	It was repo	rt as belo	w:	-
Frequenc	y 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)	Туре	
				80	2.11b				
2310.00	66.65	2.97	27.80	43.80	53.62	74	-20.38	Pk	Horizontal
2310.00	45.92	2.97	27.80	43.80	32.89	54	-21.11	AV	Horizontal
2310.00	67.45	2.97	27.80	43.80	54.42	74	-19.58	Pk	Vertical
2310.00	49.50	2.97	27.80	43.80	36.47	54	-17.53	AV	Vertical
2390.00	69.81	3.14	27.21	43.80	56.36	74	-17.64	Pk	Vertical
2390.00	52.36	3.14	27.21	43.80	38.91	54	-15.09	AV	Vertical
2390.00	69.33	3.14	27.21	43.80	55.88	74	-18.12	Pk	Horizontal
2390.00	49.83	3.14	27.21	43.80	36.38	54	-17.62	AV	Horizontal
2483.50	70.92	3.58	27.70	44.00	58.20	74	-15.80	Pk	Vertical
2483.50	47.90	3.58	27.70	44.00	35.18	54	-18.82	AV	Vertical
2483.50	70.51	3.58	27.70	44.00	57.79	74	-16.21	Pk	Horizontal
2483.50	50.52	3.58	27.70	44.00	37.80	54	-16.20	AV	Horizontal
				80	2.11g				
2310.00	71.40	2.97	27.80	43.80	58.37	74	-15.63	Pk	Horizontal
2310.00	47.08	2.97	27.80	43.80	34.05	54	-19.95	AV	Horizontal
2310.00	72.10	2.97	27.80	43.80	59.07	74	-14.93	Pk	Vertical
2310.00	49.60	2.97	27.80	43.80	36.57	54	-17.43	AV	Vertical
2390.00	72.22	3.14	27.21	43.80	58.77	74	-15.23	Pk	Vertical
2390.00	50.27	3.14	27.21	43.80	36.82	54	-17.18	AV	Vertical
2390.00	70.48	3.14	27.21	43.80	57.03	74	-16.97	Pk	Horizontal
2390.00	50.13	3.14	27.21	43.80	36.68	54	-17.32	AV	Horizontal
2483.50	70.12	3.58	27.70	44.00	57.40	74	-16.60	Pk	Vertical
2483.50	48.38	3.58	27.70	44.00	35.66	54	-18.34	AV	Vertical
2483.50	68.68	3.58	27.70	44.00	55.96	74	-18.04	Pk	Horizontal
2483.50	48.62	3.58	27.70	44.00	35.90	54	-18.10	AV	Horizontal
				802	.11n20				
2310.00	70.27	2.97	27.80	43.80	57.24	74	-16.76	Pk	Horizontal
2310.00	51.56	2.97	27.80	43.80	38.53	54	-15.47	AV	Horizontal
2310.00	70.90	2.97	27.80	43.80	57.87	74	-16.13	Pk	Vertical
2310.00	47.81	2.97	27.80	43.80	34.78	54	-19.22	AV	Vertical
2390.00	64.04	3.14	27.21	43.80	50.59	74	-23.41	Pk	Vertical
2390.00	47.74	3.14	27.21	43.80	34.29	54	-19.71	AV	Vertical
2390.00	63.55	3.14	27.21	43.80	50.10	74	-23.90	Pk	Horizontal
2390.00	50.19	3.14	27.21	43.80	36.74	54	-17.26	AV	Horizontal
2483.50	70.58	3.58	27.70	44.00	57.86	74	-16.14	Pk	Vertical
2483.50	48.75	3.58	27.70	44.00	36.03	54	-17.97	AV	Vertical
2483.50	63.77	3.58	27.70	44.00	51.05	74	-22.95	Pk	Horizontal
2483.50	49.56	3.58	27.70	44.00	36.84	54	-17.16	AV	Horizontal





				802	.11ax20				
2310.00	70.55	2.97	27.80	43.80	57.52	74	-16.48	Pk	Horizontal
2310.00	55.02	2.97	27.80	43.80	41.99	54	-12.01	AV	Horizontal
2310.00	69.12	2.97	27.80	43.80	56.09	74	-17.91	Pk	Vertical
2310.00	61.48	2.97	27.80	43.80	48.45	54	-5.55	AV	Vertical
2390.00	68.36	3.14	27.21	43.80	54.91	74	-19.09	Pk	Vertical
2390.00	49.30	3.14	27.21	43.80	35.85	54	-18.15	AV	Vertical
2390.00	69.47	3.14	27.21	43.80	56.02	74	-17.98	Pk	Horizontal
2390.00	49.81	3.14	27.21	43.80	36.36	54	-17.64	AV	Horizontal
2483.50	73.20	3.58	27.70	44.00	60.48	74	-13.52	Pk	Vertical
2483.50	49.40	3.58	27.70	44.00	36.68	54	-17.32	AV	Vertical
2483.50	71.24	3.58	27.70	44.00	58.52	74	-15.48	Pk	Horizontal
2483.50	49.02	3.58	27.70	44.00	36.30	54	-17.70	AV	Horizontal

ACCREDITED

Certificate #4298.01



Spurious Emission in Restricted Bands 3260MHz- 18000MHz

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

Frequency	Reading Level	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
3260	66.32	4.04	29.57	44.70	55.23	74	-18.77	Pk	Vertical
3260	48.22	4.04	29.57	44.70	37.13	54	-16.87	AV	Vertical
3260	69.59	4.04	29.57	44.70	58.50	74	-15.50	Pk	Horizontal
3260	48.19	4.04	29.57	44.70	37.10	54	-16.90	AV	Horizontal
3332	66.07	4.26	29.87	44.40	55.80	74	-18.20	Pk	Vertical
3332	47.33	4.26	29.87	44.40	37.06	54	-16.94	AV	Vertical
3332	67.74	4.26	29.87	44.40	57.47	74	-16.53	Pk	Horizontal
3332	50.43	4.26	29.87	44.40	40.16	54	-13.84	AV	Horizontal
17797	50.88	10.99	43.95	43.50	62.32	74	-11.68	Pk	Vertical
17797	36.15	10.99	43.95	43.50	47.59	54	-6.41	AV	Vertical
17788	46.87	11.81	43.69	44.60	57.77	74	-16.23	Pk	Horizontal
17788	36.69	11.81	43.69	44.60	47.59	54	-6.41	AV	Horizontal

"802.11b" mode is the worst mode. When PK value is lower than the Average value limit, average don't record.

Other emissions are attenuated more than 20dB below the permissible limits, so it does not recorded in the report.





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 Subclause 11.8 of ANSI C63.10. 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 = the frequency band of operation RBW = 100KHz VBW \geq 3*RBW Sweep = auto Detector function = peak

Trace = max hold



7.3.6 Test Results

EUT:	WiFi Module	Model No.:	MS12SF1
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/ax20	Test By:	Mary Hu

Test data reference attachment.





7.4 DUTY CYCLE

7.4.1 Applicable Standard

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

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

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 µs.)

Measure T_{total} and T_{on}

Calculate Duty Cycle = T_{on} / T_{total}

7.4.6 Test Results

EUT:	WiFi Module	Model No.:	MS12SF1
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	N/A	Test By:	N/A

Note: Not Applicable



7.5 MAXIMUM OUTPUT POWER

7.5.1 Applicable Standard

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

7.5.2 Conformance Limit

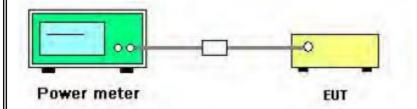
The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm). If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be 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.

7.5.3 Measuring Instruments

The following table is the setting of the power meter.

Power meter parameter	Setting
Detector	PK

7.5.4 Test Setup



7.5.5 Test Procedure

The testing follows Measurement Procedure Subclause 11.9.1.3 of ANSI C63.10

7.5.6 EUT operation during Test

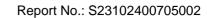
The EUT was programmed to be in continuously transmitting mode.



7.5.7 Test Results

EUT:	WiFi Module	Model No.:	MS12SF1
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/ax20	Test By:	Mary Hu

Test data reference attachment.





7.6 POWER SPECTRAL DENSITY

7.6.1 Applicable Standard

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

7.6.2 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.

7.6.3 Measuring Instruments

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

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 Test Procedure

The testing follows Measurement Procedure Subclause 11.10.2 of ANSI C63.10

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

a) Set analyzer center frequency to DTS channel center frequency.

b) Set the span to 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 *RBW.

e) Detector = peak.

f) Sweep time = auto couple.

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 limit, reduce RBW (no less than 3 kHz) and repeat.



7.6.6 Test Results

EUT:	WiFi Module	Model No.:	MS12SF1
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/ax20	Test By:	Mary Hu

Test data reference attachment.





7.7 CONDUCTED BAND EDGE MEASUREMENT

7.7.1 Applicable Standard

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

7.7.2 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.

7.7.3 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 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

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.



7.7.6 Test Results

EUT:	WiFi Module	Model No.:	MS12SF1
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/ax20	Test By:	Mary Hu

Test data reference attachment.



7.8 SPURIOUS RF CONDUCTED EMISSIONS

7.8.1 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.

7.8.2 Measuring Instruments

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

7.8.3 Test Setup

Please refer to Section 6.1 of this test report.

7.8.4 Test Procedure

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength, and measure frequency range from 30MHz to 26.5GHz.

7.8.5 Test Results

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 and bandege measurement data.

Test data reference attachment.



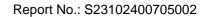
7.9 ANTENNA APPLICATION

7.9.1 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.

7.9.2 Result

The EUT antenna is permanent attached External rod antenna (Gain: 4.01 dBi). It comply with the standard requirement.





8 TEST RESULTS

8.1 Maximum Conducted Output Power

Condition	Mode	Frequency	Antenna	Conducted	Limit	Verdict
		(MHz)		Power (dBm)	(dBm)	
NVNT	b	2412	Ant1	15.87	30	Pass
NVNT	b	2437	Ant1	15.74	30	Pass
NVNT	b	2462	Ant1	15.63	30	Pass
NVNT	g	2412	Ant1	14.68	30	Pass
NVNT	g	2437	Ant1	14.58	30	Pass
NVNT	g	2462	Ant1	14.49	30	Pass
NVNT	n20	2412	Ant1	12.96	30	Pass
NVNT	n20	2437	Ant1	12.8	30	Pass
NVNT	n20	2462	Ant1	12.65	30	Pass
NVNT	ax20	2412	Ant1	13.71	30	Pass
NVNT	ax20	2437	Ant1	13.64	30	Pass
NVNT	ax20	2462	Ant1	13.39	30	Pass

ACCREDITED





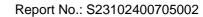
8.2 -6dB Bandwidth

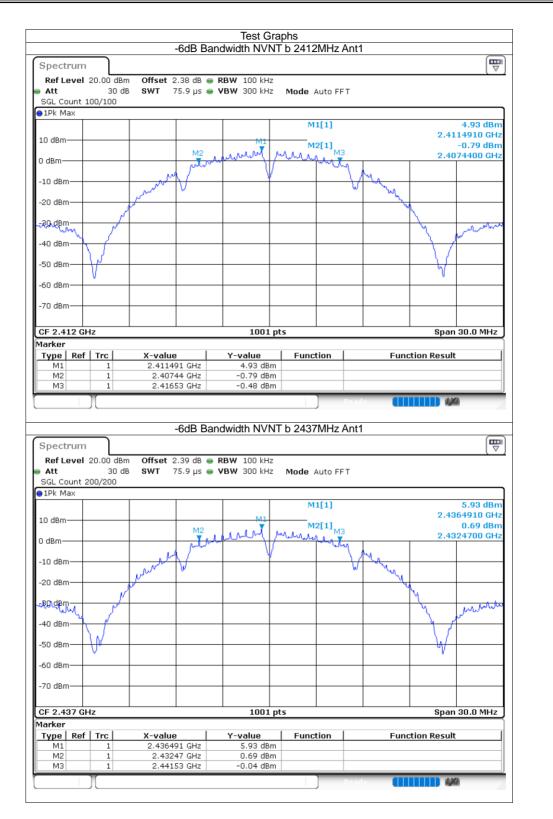
0.2 -001	5 Danu	WIGCII				
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.09	0.5	Pass
NVNT	b	2437	Ant1	9.06	0.5	Pass
NVNT	b	2462	Ant1	8.601	0.5	Pass
NVNT	g	2412	Ant1	16.473	0.5	Pass
NVNT	g	2437	Ant1	15.33	0.5	Pass
NVNT	g	2462	Ant1	15.663	0.5	Pass
NVNT	n20	2412	Ant1	17.544	0.5	Pass
NVNT	n20	2437	Ant1	13.476	0.5	Pass
NVNT	n20	2462	Ant1	13.284	0.5	Pass
NVNT	ax20	2412	Ant1	18.48	0.5	Pass
NVNT	ax20	2437	Ant1	18.897	0.5	Pass
NVNT	ax20	2462	Ant1	18.975	0.5	Pass



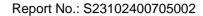
AC-MR

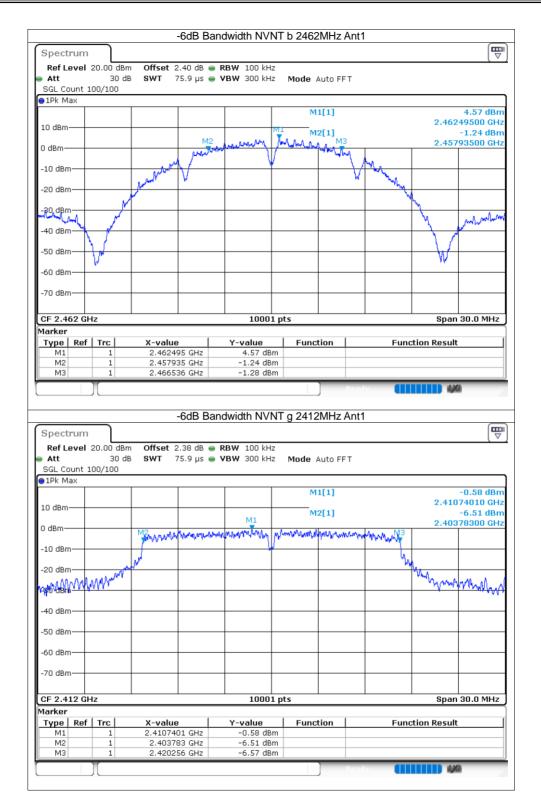
ACCREDITED



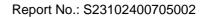








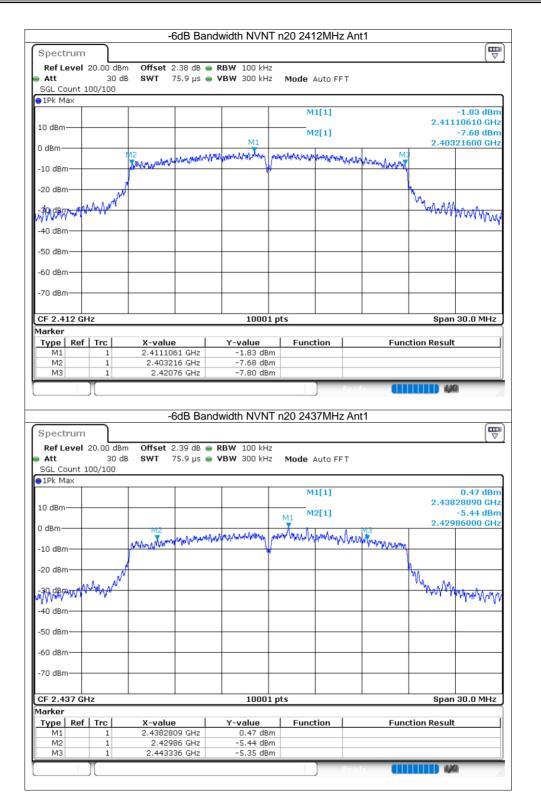




		-ous sar	ndwidth NVN	i g 24371		. 1		(
Spectrum								[₩
Ref Level 20.00 (RBW 100 kHz					
		75.9 µs 👄	VBW 300 kHz	Mode Au	uto FFT			
SGL Count 100/100 1Pk Max	J							
		1	T T	M1	[1]			2.90 dBm
10 dBm							2.43	572810 GHz
			M1	M2	[1]			-3.10 dBm
D dBm	M2	الاسالين ال	mallimen of	mmunite	A to the second	M3	2.42	979700 GHz
10.10	monor	N AMA NAMA NA Ku	WAR KAN A MAN	hurden of the second	a natural and a second	rannanna		
-10 dBm	N							
-20 dBm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					×	No.	
an all when the second	V.						an Mor	Margare
and ann								1 14 1400
-40 dBm								
-50 dBm			+ +					
-60 dBm								
-70 dBm			+ +			+		+
CF 2.437 GHz			10001	pts			Spai	n 30.0 MHz
larker Tung Dof Tro	X-valu	n	V	Functi	an I	F	ation Dearst	•
Type Ref Trc M1 1	2.43572		Y-value 2.90 dBm		on	Fun	ction Resul	<u> </u>
M2 1		'97 GHz	-3.10 dBm					
M3 1	2.4451	.27 GHz	-3.09 dBm					
					Rea	idy		KA)
Spectrum		-6dB Bar	ndwidth NVN	T g 2462N	Rec MHz Ant	idy 🚺		
Ref Level 20.00 (Att 30	dBm Offset : D dB SWT	2.40 dB 👄	RBW 100 kHz VBW 300 kHz			11		
Ref Level 20.00 Att 30 SGL Count 100/100	dBm Offset : D dB SWT	2.40 dB 👄	RBW 100 kHz			1		
Ref Level 20.00 (Att 30 SGL Count 100/100	dBm Offset : D dB SWT	2.40 dB 👄	RBW 100 kHz	Mode At	uto FFT	11		X
Ref Level 20.00 (Att 30 SGL Count 100/100 1Pk Max	dBm Offset : D dB SWT	2.40 dB 👄	RBW 100 kHz		uto FFT	it	2.46	2.11 dBm 071910 GHz
Ref Level 20.00 (Att 30 SGL Count 100/100 1Pk Max	dBm Offset : D dB SWT	2.40 dB 👄	RBW 100 kHz	Mode At	uto FFT	11 		2.11 dBm 071910 GHz -3.90 dBm
Ref Level 20.00 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 10	dBm Offset : 0 dB SWT 0	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]			2.11 dBm 071910 GHz
Ref Level 20,00 (Att 30 SGL Count 100/100 PIPk Max 10 0 dBm 0	dBm Offset : 0 dB SWT 0	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au M1	uto FFT [1] [1]			2.11 dBm 071910 GHz -3.90 dBm
Ref Level 20.00 (Att 30 SGL Count 100/100 IPk Max 10 0 dBm 0	dBm Offset : 0 dB SWT 0	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]			2.11 dBm 071910 GHz -3.90 dBm
Ref Level 20.00 C Att 30 SGL Count 100/100)1Pk Max 10 dBm	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 C Att 30 SGL Count 100/100)1Pk Max 10 dBm	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 C Att 30 SGL Count 100/100)1Pk Max 10 dBm	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 10 10 dBm 10 10 20 dBm 10 10 20 dBm 10 10	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 30 10 dBm 30 10 dBm 30 20 dBm 30 40 dBm 30	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 30 10 dBm 30 10 dBm 30 20 dBm 30 40 dBm 30	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 20 dBm 10 20 dBm 10 20 dBm 10 30 dBm 30 40 dBm 30 50 dBm 30	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB ● 75.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 11Pk Max 30 10 dBm 30 10 dBm 30 20 dBm 30 30 dBm 30 30 dBm 30 40 dBm 30 40 dBm 30 50 dBm 30 60 dBm 30	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB ● 75.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 11Pk Max 30 10 dBm 30 10 dBm 30 20 dBm 30 30 dBm 30 30 dBm 30 40 dBm 30 40 dBm 30 50 dBm 30 60 dBm 30	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB ● 75.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 -10 dBm 10 -20 dBm 10 -30 dBm 10 -30 dBm 10 -40 dBm 10 -50 dBm 10 -60 dBm 10	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB ● 75.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode Au M1 M2 M-4-M-M-M4 M-4-M-M-M4 M-4-M-M-M-M4 M-4-M-M-M-M	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 IPk Max 10 10 dBm 10 -10 dBm	dBm Offset : D dB SWT D M2 M2 M42 M42 M42 M42 M42 M42	2.40 dB ● 75.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode Au M1 M2 M-4-M-M-M4 M-4-M-M-M4 M-4-M-M-M-M4 M-4-M-M-M-M	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 -10 dBm - -20 dBm - -20 dBm - -50 dBm - -60 dBm - -70 dBm -	dBm Offset : D dB SWT D	2.40 dB • 75.9 µs •	RBW 100 kHz VBW 300 kHz	Mode At M1 M2 And MM/M	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 -0 dBm 10 -	dBm Offset : D dB SWT D	2.40 dB • 75.9 µs •	RBW 100 kHz VBW 300 kHz M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Mode At	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz
Ref Level 20.00 0 Att 30 SGL Count 100/100 1Pk Max 10 10 dBm 10 -10 dBm - -20 dBm - -20 dBm - -50 dBm - -60 dBm - -70 dBm -	dBm Offset : D dB SWT D	2.40 dB • 75.9 µs •	RBW 100 kHz VBW 300 kHz	Mode Au M1 M2 M-l-M-M-M-M- M-l-M-M-M-M-M- M-M-M-M-M-M	uto FFT [1] [1]		2.45	2.11 dBm 071910 GHz -3.90 dBm 447300 GHz









Report No.: S23102400705002

_	_	-0	dB Band	dwidth NVNT	n20 2462		11.1		m
Spectrum									
Ref Level Att	20.00 dBi 30 d			RBW 100 kHz VBW 300 kHz	Manda A.				
SGL Count 1		10 3 WI /	2.9 Hz 🖷	Y D W 300 KH2	Mode A				
1Pk Max									
					M1	[1]			1.61 dBm
10 dBm				+		C 1 1		2.463	324790 GHz
					M1 M2			2.45	-4.34 dBm 534600 GHz
) dBm		M12	an and a start when the	amanamman a	Maraha	alex la	Manham		
-10 dBm		halmonth	whith the set			C. L. INC. AND MALE	an way water	<u>ر</u>	
		1		1 1					
-20 dBm	1	1						Ma	
-30 dBm a, a A	MAN							Margare	
JO DBWWW	- 98-44-							1	manshart
40 dBm				+ +					
50 dBm									
-60 dBm		+ +		+ +			+	+	
-70 dBm									
. 2 32/11									
CF 2.462 GH	Ηz			10001	pts		1	Spar	1 30.0 MHz
1arker								<u> </u>	
Type Ref		X-value		Y-value	Functi	ion	Fun	ction Resul	t l
M1 M2	1	2.463247		1.61 dBm -4.34 dBm					
M3	1	2.4686		-4.36 dBm					
	1								
					1		d v		0
							dy 🚺		a
						Rea	dy 🚺		a //
	_	-60	dB Band	width NVNT	ax20 241	Poo 2MHz A	dv 🚺 nt1		•
Spectrum		-60	dB Band	width NVNT	ax20 241	2MHz A	dv 🚺		
Ref Level	20.00 dB	m Offset 2	.38 dB 👄	RBW 100 kHz			dv 🚺		
Ref Level Att	20.00 dBi 30 d	m Offset 2	.38 dB 👄				dv 🚺		
Ref Level Att SGL Count 1	20.00 dBi 30 d	m Offset 2	.38 dB 👄	RBW 100 kHz			dv 🚺		
Ref Level Att SGL Count 1	20.00 dBi 30 d	m Offset 2	.38 dB 👄	RBW 100 kHz	Mode A		dv 🚺		0.73 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dBi 30 d	m Offset 2	.38 dB 👄	RBW 100 kHz	Mode A	uto FFT [1]	dy 🚺	2.409	0.73 dBm 951020 GHz
Ref Level Att SGL Count 1 1Pk Max	20.00 dBi 30 d	m Offset 2	.38 dB 👄	RBW 100 kHz	Mode A	uto FFT [1]	nt1		0.73 dBm 951020 GHz -5.14 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dB/ 30 d	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm	20.00 dB/ 30 d	m Offset 2	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz -5.14 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm	20.00 dB/ 30 d	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz -5.14 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -10 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz -5.14 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -10 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -10 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm -10 dBm -20 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 10 dBm 20 dBm 20 dBm 40 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 10 dBm 20 dBm 20 dBm 40 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max IO dBm IO dBm 20 dBm -20 dBm -40 dBm -50 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 2 1Pk Max 10 dBm 10 dBm 20 dBm 20 dBm 40 dBm 50 dBm 60 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 2 1Pk Max 10 dBm 10 dBm 20 dBm 20 dBm 40 dBm 50 dBm 60 dBm	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]		2.40:	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 AU dBm SGL Count 1 SGL Count	20.00 dB 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz -5.14 dBm 883200 GHz
Ref Level Att SGL Count 1 SGL Count 1 IPk Max ID dBm ID dBm -10 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm -70 dBm	20.00 dB 30 d 100/100	m Offset 2 IB SWT 7	.38 dB 👄 5.9 µs 👄	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1]			0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 1 SGL Count 1 IPk Max IO dBm IO dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm CF 2.412 GHART	20.00 dBi 30 d 100/100	m Offset 2 IB SWT 7	.38 dB ● 5.9 µs ●	RBW 100 kHz VBW 300 kHz	Mode A	uto FFT [1] [1] [1] [1]			0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Ref Level Att SGL Count 3 SGL Count 3 SGL Count 3 IPK Max 10 dBm 10 dBm -10 dBm -20 dBm -40 dBm -50 dBm -60 dBm -60 dBm -70 dBm	20.00 dB 30 d 100/100	m Offset 2 B SWT 7	.38 dB ● 5.9 µs ● ₩√₩/М	RBW 100 kHz VBW 300 kHz M1	Mode A	uto FFT [1] [1] [1] [1]		2.402	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz
Att SGL Count 3 SGL Count 3 PR Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm	20.00 dB) 30 d 100/100	m Offset 2 B SWT 7	.38 dB ● 5.9 μs ● ₩₩₩,₩₩ ₩₩ ₩₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩	RBW 100 kHz VBW 300 kHz M1	Mode A	uto FFT [1] [1] [1] [1]		2.402	0.73 dBm 951020 GHz -5.14 dBm 283200 GHz

ACCREDITED





Cnoster		Ū		width NVNT					
Spectrum		05	0.00 -10 -1						
Ref Level Att	20.00 dBm 30 dB			RBW 100 kHz VBW 300 kHz		Ito EFT			
SGL Count 1			p. 🚽		mode At	ato n'n l			
1Pk Max									
					M1	[1]			-0.70 dBm
10 dBm								2.445	75910 GHz
10 42					M2	[1]	M1	0.40	-6.70 dBm
0 dBm	M2			A	م بر م ال ا			M3	55600 GHz
10 10	٣	nonthrough	and the states of the states o	" marine and a second	www.w	anth sound a part	mont	u r	
-10 dBm				T t					
-20 dBm								\downarrow	
An marth	with							mm	. 0 0
real dens my				+ +				U 11	and with the way of the
-40 dBm									
-50 dBm				+					
-60 dBm				+ +					
-70 dBm									
-70 ubili									
CF 2.437 GI				10001	nte			0	20.0 MU
CF 2.437 GI 1arker	H2			10001	pts			Spar	30.0 MHz
Type Ref	Trol	X-value	<u> </u>	Y-value	Functi	on I	Eupo	tion Result	. 1
M1	1	2.445759		-0.70 dBn			Func	cion Resul	
M2	1	2.4275	56 GHz	-6.70 dBn					
MЗ	1	2.4464	53 GHz	-6.61 dBn	1				
	\sim								
						Rea	iy al		0
	Л					Rea	dy (11) 40	
		-6	dB Band	width NVNT	ax20 246	Pee 2MHz Ai	tv 🛄) #	
Chasteuro	л	-6	dB Band	width NVNT	ax20 246	2MHz Ai	nt1) Ø	
		-				Rea 2MHz Ai	nt1		
Ref Level	20.00 dBm	Offset 2	2.40 dB 👄	RBW 100 kHz			de m		
Ref Level Att	20.00 dBm 30 dB	Offset 2	2.40 dB 👄				tv m		
Ref Level Att SGL Count 1	20.00 dBm 30 dB	Offset 2	2.40 dB 👄	RBW 100 kHz			ty		
Ref Level Att SGL Count 1	20.00 dBm 30 dB	Offset 2	2.40 dB 👄	RBW 100 kHz	Mode Au	uto FFT	dy M		-1.54 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dB	Offset 2	2.40 dB 👄	RBW 100 kHz		uto FFT	iv m	2.460	
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dB	Offset 2	2.40 dB 👄	RBW 100 kHz VBW 300 kHz	Mode Au	uto FFT	nt1		-1.54 dBm 330820 GHz -7.52 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 330820 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]			-1.54 dBm 330820 GHz -7.52 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 330820 GHz -7.52 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm -10 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 330820 GHz -7.52 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -40 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -50 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -50 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 10 dBm -20 dBm -20 dBm -40 dBm -50 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 10 dBm -20 dBm -20 dBm -40 dBm -50 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au [uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -60 dBm -70 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au M1 M2 M////////	uto FFT [1] [1]		2.452	-1.54 dBm 30820 GHz -7.52 dBm 252000 GHz
Ref Level Att SGL Count 1 SGL Count 1 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -60 dBm -60 dBm -70 dBm -70 dBm CF 2.462 GF	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB 🖷 75.9 µs 🖷	RBW 100 kHz VBW 300 kHz	Mode Au M1 M2 M////////	uto FFT [1] [1]		2.452	-1.54 dBm 30620 GHz -7.52 dBm 552000 GHz
Ref Level SGL Count 3 SGL Count 3 IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dB 100/100 M2 M2 Hz	Nhan gh M	2.40 dB 75.9 μs	RBW 100 kHz VBW 300 kHz M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Mode Au M1 M2 M/////////////////////////////////	uto FFT [1] [1]		2.452	-1.54 dBm 30620 GHz -7.52 dBm 552000 GHz
Ref Level Att SGL Count 3 SGL Count 3 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -60 dBm -60 dBm -60 dBm -70 dBm	20.00 dBm 30 dB 100/100	Offset 2 SWT 7	2.40 dB • 75.9 µs • • • • • • • • • • • • •	RBW 100 kHz VBW 300 kHz M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Mode Au M1 M2 M////////////////////////////////////	uto FFT [1] [1]		2.452	-1.54 dBm 30620 GHz -7.52 dBm 552000 GHz
Att SGL Count 1 SGL Count 2 IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dB 100/100 M2 M2 Hz	Offset 2 SWT 7	2.40 dB 75.9 μs 70.0	RBW 100 kHz VBW 300 kHz M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Mode Au M1 M2 M3 M2 M2 M2 M2 M2 M2 M2 M2	uto FFT [1] [1]		2.452	-1.54 dBm 30620 GHz -7.52 dBm 552000 GHz



8.3 Maximum Power Spectral Density Level

ilac-MR

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-8.75	8	Pass
NVNT	b	2437	Ant1	-8.9	8	Pass
NVNT	b	2462	Ant1	-10.36	8	Pass
NVNT	g	2412	Ant1	-13	8	Pass
NVNT	g	2437	Ant1	-12.44	8	Pass
NVNT	g	2462	Ant1	-13.66	8	Pass
NVNT	n20	2412	Ant1	-14.05	8	Pass
NVNT	n20	2437	Ant1	-13.73	8	Pass
NVNT	n20	2462	Ant1	-14.36	8	Pass
NVNT	ax20	2412	Ant1	-13.58	8	Pass
NVNT	ax20	2437	Ant1	-13.75	8	Pass
NVNT	ax20	2462	Ant1	-14.05	8	Pass

ACCREDITED

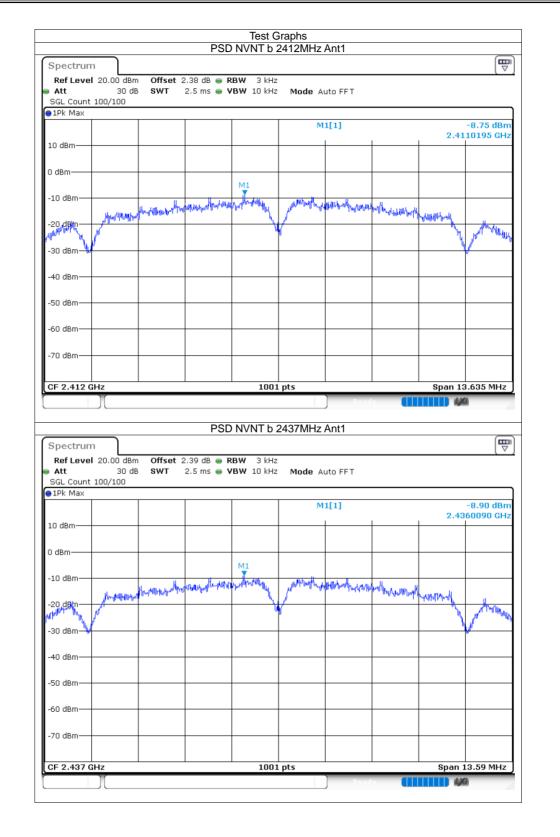


ac-MR

ACCREDITED

Certificate #4298.01

Report No.: S23102400705002

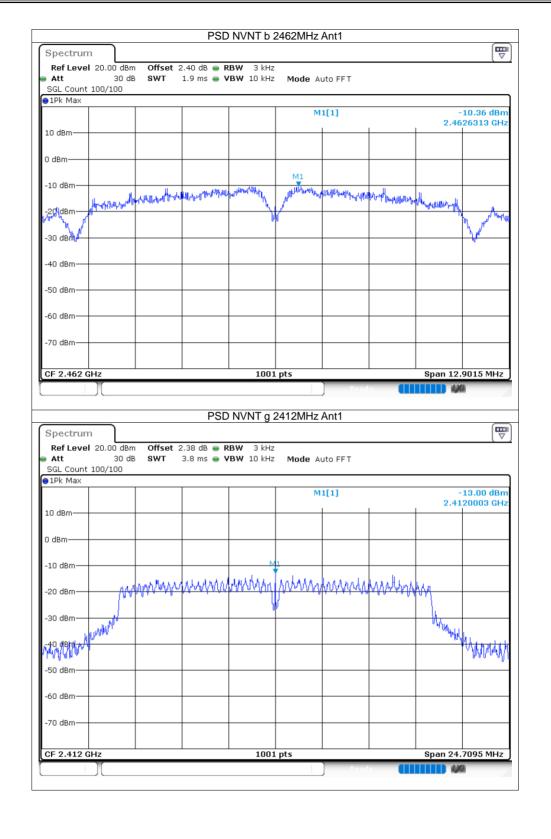




AC-MR

ACCREDITED

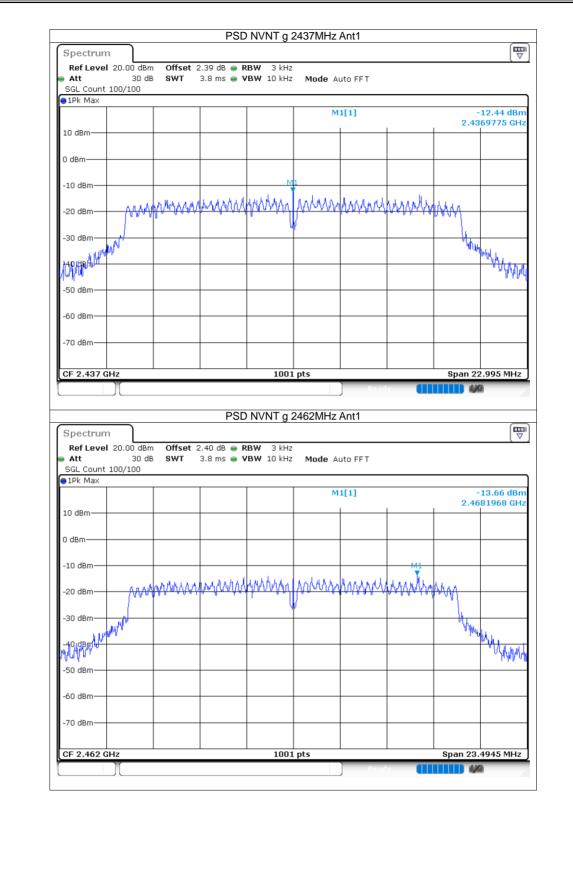






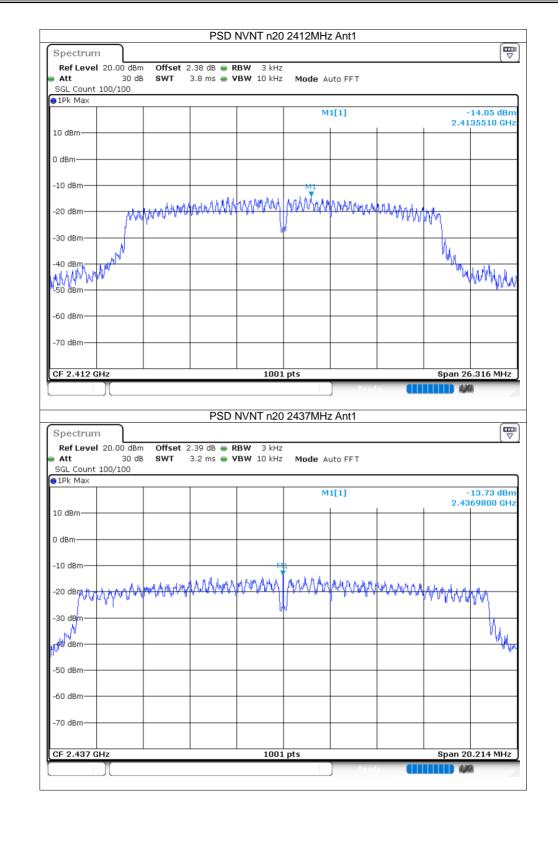


Report No.: S23102400705002





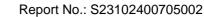


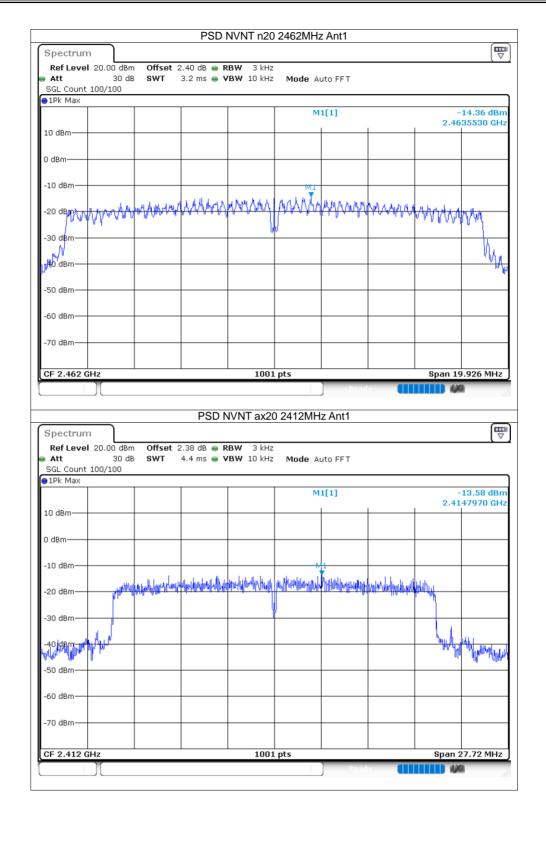




AC-MR

ACCREDITED









Spectrum Ref Level 20	.00 dBm	Offset 9	.39 dB 👄 F	BW 3 kHz					
Att SGL Count 100	30 dB		_	BW 10 kHz		uto FFT			
●1Pk Max				1					
					M	11[1]			-13.75 dBn 398033 GH
10 dBm									
0 dBm									
-10 dBm					P.	1			
-20 dBm	prostantia () (and the second	htten to substitut pet	Mandallar-Alt-Ianah	publicphonographic	o <mark>hillehlermidellen</mark>	44445-ladimitically	laulliped	
-30 dBm					<i>,</i>				
								- Market	White Walter
-50 dBm									
-70 dBm									
CF 2.437 GHz				1001	. pts			Span 28	.3455 MHz
Spectrum Ref Level 20	.00 dBm	Offset 2	PSD N	NVNT ax20		Iz Ant1			ſ₩
-	30 dB		.40 dB 👄 F						∏ ⊽
Ref Level 20 Att	30 dB		.40 dB 👄 F	BW 3 kHz	Mode A	uto FFT			-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max	30 dB		.40 dB 👄 F	BW 3 kHz	Mode A				•
Ref Level 20 Att SGL Count 100	30 dB		.40 dB 👄 F	BW 3 kHz	Mode A	uto FFT			-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max	30 dB		.40 dB 👄 F	BW 3 kHz	Mode A	uto FFT			-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm	30 dB		.40 dB 👄 F	BW 3 kHz	Mode A	uto FFT			-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]		2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]	typic shakin typed	2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]	ter stor starting to get a store sto	2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]	hu a to - An Anna thigan thig	2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]		2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]		2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]		2.4	-14.05 dBn
Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	XBW 3 kHz YBW 10 kHz	Mode A	11[1]			-14.05 dBn 557448 GH
Ref Level 20 Att SGL Count 100 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -60 dBm -70 dBm	30 dB 1/100	SWT	4.40 dB ● F 4.4 ms ● V	BW 3 kHz BW 10 kHz	Mode A	11[1]			-14.05 dBn 557448 GH





8.4 Band Edge

Condition	Mada		Antonno	Max Value (dDa)	limit (dDa)	Verdict
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	verdict
NVNT	b	2412	Ant1	-51.53	-20	Pass
NVNT	b	2462	Ant1	-55.88	-20	Pass
NVNT	g	2412	Ant1	-36.24	-20	Pass
NVNT	g	2462	Ant1	-39.83	-20	Pass
NVNT	n20	2412	Ant1	-42.97	-20	Pass
NVNT	n20	2462	Ant1	-38.22	-20	Pass
NVNT	ax20	2412	Ant1	-34.56	-20	Pass
NVNT	ax20	2462	Ant1	-29.12	-20	Pass

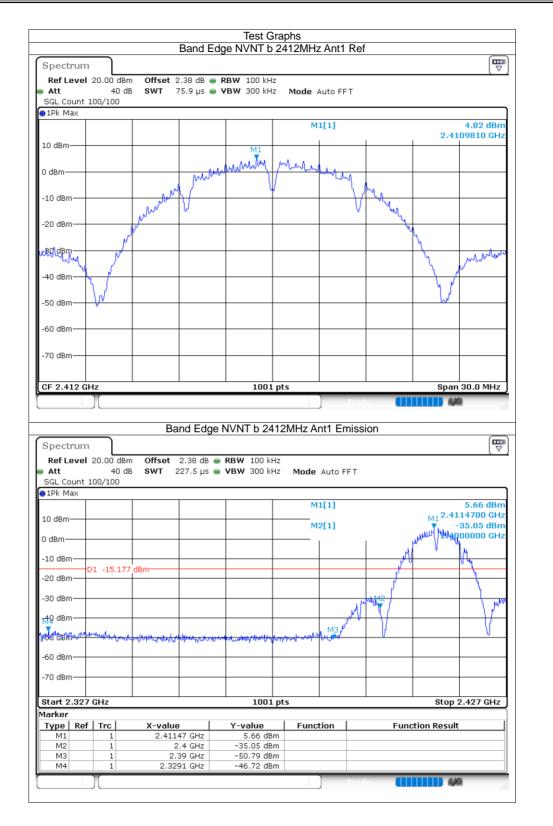


AC-MR

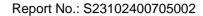
ACCREDITED

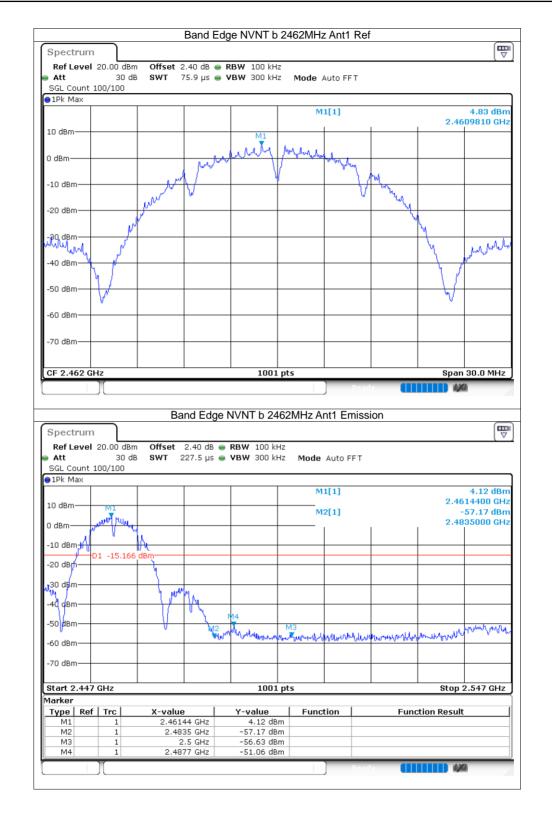
Certificate #4298.01

Report No.: S23102400705002

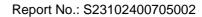






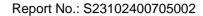


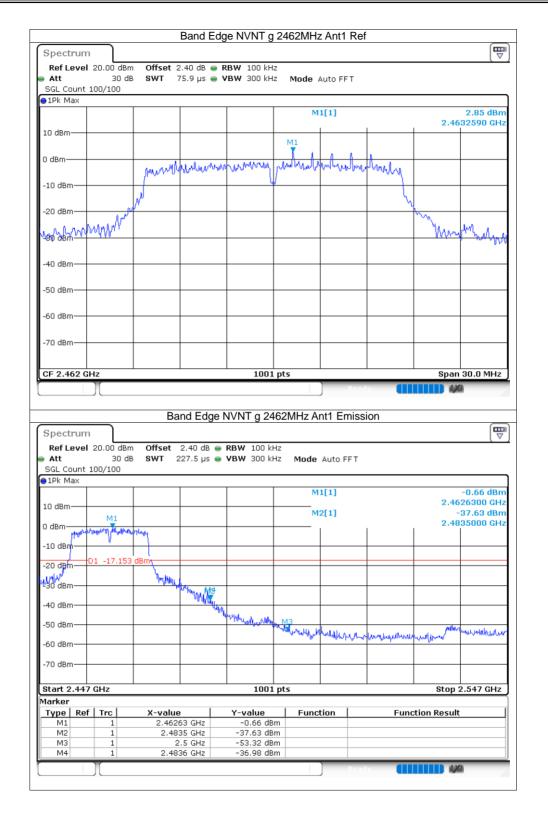




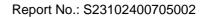
Spectrum									
Ref Level 20 Att SGL Count 100	30 dB			RBW 100 kHz VBW 300 kHz		uto FFT			
1Pk Max	y 100								
					M1	[1]			-0.68 dBn
10 dBm							+	2.4	132290 GH
					M1				
0 dBm		which	MANMAN	monon	mound	mmun	Maria		
-10 dBm		M-0 - VV 0							
		x					4	là.	
-20 dBm 1	. NV	r						MAN N	
	Mr ^r							VUWV	mmy
-go ubin									- Y
-40 dBm				+					
-50 dBm								1	
-60 dBm			ļ	<u> </u>					
-70 dBm									
OF 0 410 0U-									
		Ва	and Edge	1001 J NVNT g 241		Rea ht1 Emise	dy	Spa	n 30.0 MHz
Spectrum Ref Level 20	.00 dBm 30 dB	Offset	2.38 dB 👄		I2MHz Ar		dy 🚺	Spa	
Spectrum Ref Level 20 Att SGL Count 100	30 dB	Offset	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar		idy 🚺	Spa	
Spectrum Ref Level 20 Att SGL Count 100	30 dB	Offset	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar z z Mode		dy 🚺		2.57 dBn
Spectrum Ref Level 20 Att SGL Count 100 1Pk Max	30 dB	Offset	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FFT		2.4	2.57 dBn 057700 GH;
Spectrum Ref Level 20 Att SGL Count 100 JPk Max	30 dB	Offset	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FF T		2.4	2.57 dBn 057700 GH: -27.59 dBn
Att SGL Count 100 1Pk Max 10 dBm 0 dBm	30 dB	Offset	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FFT		2.4	2.57 dBn 057700 GH: -27.59 dBn
Spectrum Ref Level 20 Att SGL Count 100 PIPk Max 10 dBm -10 dBm	30 dB 1/100	Offset SWT	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FFT [[1] 2[1]	N. Po	2.4	2.57 dBn 057700 GH: -27.59 dBn
Spectrum Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm -10 dBm -20 dBm D1	30 dB 1/100	Offset SWT	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FFT [[1] 2[1]	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 PIPk Max 10 dBm -10 dBm -10 dBm	30 dB 1/100	Offset SWT	2.38 dB 👄	NVNT g 241 RBW 100 kH:	I2MHz Ar	Auto FFT [[1] 2[1]	N. Po	2.4	2.57 dBn 057700 GH: -27.59 dBn
Spectrum Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	30 dB 1/100	Offset SWT	2.38 dB 👄	NVNT g 241 RBW 100 kH: VBW 300 kH:	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm	30 dB //100 -20.679	Offset SWT	2.38 dB 227.5 µs 227.5 µs	NVNT g 241	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	30 dB //100 -20.679	Offset SWT	2.38 dB 227.5 µs 227.5 µs	NVNT g 241 RBW 100 kH: VBW 300 kH:	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	30 dB //100 -20.679	Offset SWT	2.38 dB 227.5 µs 227.5 µs	NVNT g 241	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	30 dB //100 -20.679	Offset SWT	2.38 dB 227.5 µs 227.5 µs	NVNT g 241	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -70 dBm -70 dBm	30 dB //100 -20.679	Offset SWT	2.38 dB 227.5 µs 227.5 µs	NVNT g 241	I2MHz Ar	Auto FF T	N. Po	2.4	2.57 dBn 057700 GH; -27.59 dBn 000000 GH;
Spectrum Ref Level 20 Att SGL Count 100 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -70 dBm -70 dBm -70 dBm -70 dBm	30 dB //100 -20.679	Offset SWT dBm հիմուկերդնենը	2.38 dB 227.5 μs 227.5 μs	NVNT g 241	I2MHz Ar	Auto FFT		2.4 2.4	2.57 dBn 057700 GH: -27.59 dBn 000000 GH: ₩₩
Spectrum Ref Level 20 Att SGL Count 1000 1Pk Max 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -30 dBm -60 dBm -70 dBm	30 dB /100 -20.679 //////// //////////////////	Offset SWT dBm ມູງ/ກະປະມາງ ມູງ/ກະປະມາງ ມູງ/ກະປະມາງ 2.405	2.38 dB 227.5 μs 227.5 μs	NVNT g 241	I2MHz Ar	Auto FFT		2.4	2.57 dBn 057700 GH: -27.59 dBn 000000 GH: ₩₩
Spectrum Ref Level 20 Att SGL Count 100 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -70 dBm	30 dB /100 -20.679	Offset SWT dBm Aptaulumuhing X-value 2.405	2.38 dB • 227.5 μs •	NVNT g 241	I2MHz Ar	Auto FFT		2.4 2.4	2.57 dBn 057700 GH: -27.59 dBn 000000 GH: ₩₩





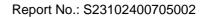






Spectrum				e NVNT n20					E □
Ref Level 2	0.00 dBm	Offset 2.3	38 dB 👄	RBW 100 kHz					(\
Att	30 dB	SWT 75	.9 µs 👄	VBW 300 kHz	Mode	Auto FFT			
SGL Count 10 1Pk Max	10/100								
					M	1[1]			1.64 dBm
10 dBm								2	.4132590 GHz
10 0000					M1				
0 dBm						h .			
		man reprint	Manna	whenthe	markanly	pullul	unharyo		
-10 dBm		MWWU114 ~~		+ Ψ				m.	
-20 dBm -30 dBm MU-MW VIA	. N							100	Monthand
-30 dBm	halon							- Unde	Maria
M. W.									huwwell
-40 dBm				+					
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.412 GH	z			1001	ntc	1		S	pan 30.0 MHz
				1001	pts			-	5411 00:0 10112
Spectrum		Band	Edge N	1001 IVNT n20 24) Pr	nission		4,40
Spectrum Ref Level 2		Offset 2	.38 dB 👄	VNT n20 24	412MHz . z				
Ref Level 2 Att	30 dB	Offset 2	.38 dB 👄	IVNT n20 24	412MHz . z				4,40
Ref Level 2	30 dB	Offset 2	.38 dB 👄	VNT n20 24	412MHz . z				4,40
Ref Level 2 Att SGL Count 10	30 dB	Offset 2	.38 dB 👄	VNT n20 24	412MHz . ² ² Mode				(₩) (₩ ▼ 1.52 dBm
Ref Level 2 Att SGL Count 10	30 dB	Offset 2	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF		2	
Ref Level 2 Att SGL Count 10 1Pk Max	30 dB	Offset 2	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF		2	1.52 dBm 2.4132600 GHz
Ref Level 2 Att SGL Count 10 1Pk Max	30 dB	Offset 2	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF		2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm 10 0 dBm	30 dB 00/100	Offset 2 SWT 22	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF		2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm 0 dBm -10 dBm	30 dB	Offset 2 SWT 22	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm 10 0 dBm	30 dB 00/100	Offset 2 SWT 22	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm
Ref Level 2 Att SGL Count 10 PIPk Max 10 dBm 10 dBm	30 dB 00/100	Offset 2 SWT 22	.38 dB 👄	VNT n20 24	412MHz . ^z Mode	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2- RBW 100 kH VBW 300 kH	412MHz	Auto FF		2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2- RBW 100 kH VBW 300 kH	412MHz	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	VNT n20 24	412MHz . z Mode	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm -10 dBm -20 dBm -30 dBm	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2- RBW 100 kH VBW 300 kH	412MHz . z Mode	Auto FF	r k	2	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 SGL Max 10 dBm 10 10 dBm - 0 dBm - -10 dBm - 0 dBm - - -30 dBm - 0 dBm - - - 0 dBm - - - 0 dBm - - 0 dBm - - 0 dBm - - dBm -	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2/ RBW 100 kH VBW 300 kH	412MHz . z Mode M	Auto FF	r k	And the law of the second seco	1.52 dBm 2.4132600 GHz 4000000 GHz
Ref Level 2 Att SGL Count 10 SGL Count 10 B IPk Max 0 dBm 0 10 dBm -0 dBm -0 -10 dBm -0 -0 dBm -0 -30 dBm -0 -0 -0 -0 -50 dBm -0 -0 -0 -0 -50 dBm -0 -0 -0 -0 -0 -50 dBm -0 <	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2- RBW 100 kH VBW 300 kH	412MHz . z Mode M	Auto FF	r k	And the law of the second seco	1.52 dBm 2.4132600 GHz 1 -31.01 dBm 4000000 GHz
Ref Level 2 Att SGL Count 10 SGL Max 10 dBm 10 10 dBm - 0 dBm - -10 dBm - 0 dBm - - -30 dBm - 0 dBm - - - 0 dBm - - - 0 dBm - - 0 dBm - - 0 dBm - - dBm -	30 dB 30/100	Offset 2 SWT 22	.38 dB ● 7.5 μs ●	IVNT n20 2/ RBW 100 kH VBW 300 kH	412MHz . z Mode M	Auto FF [*]		And the law of the second seco	1.52 dBm 2.4132600 GHz
Ref Level 2 Att SGL Count 10 IPk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	30 dB 30/100 L -18.358 WALLING SHZ Trc 1 1	Offset 2 SWT 22	.38 dB 7.5 µs 	IVNT n20 2- RBW 100 kH VBW 300 kH 	2 2 3 412MHz 412MHz Mode M 4 412MHz 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Auto FF [*]		M M M M M M M M M M M M M M M M M M M	1.52 dBm 2.4132600 GHz
Ref Level 2 Att SGL Count 10 1Pk Max 10 dBm -10 dBm -10 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm Start 2.327 G Type	30 dB 10/100 1 -18.358 1 -18.358 1 -18.358 3 - 18.358 1 - 19.5 1	Offset 2 SWT 22	.38 dB • 7.5 µs • 	IVNT n20 24	2 2 3 412MHz - 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Auto FF [*]		M M M M M M M M M M M M M M M M M M M	1.52 dBm 2.4132600 GHz
Ref Level 2 Att SGL Count 10 SGL Count 10 10 IPk Max 10 10 dBm - -10 dBm - -20 dBm 01 -30 dBm - -40 dBm - -50 dBm - -60 dBm - -70 dBm -	30 dB 10/100 1 -18.358 1 -19.558 1 -19.5	Offset 2 SWT 22	.38 dB ● 7.5 µs ●	IVNT n20 24	2 2 3 412MHz 2 412MHz 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Auto FF [*]		M M M M M M M M M M M M M M M M M M M	1.52 dBm 2.4132600 GHz





Spectrum								
Ref Level Att	20.00 dBm 30 dB		IB 🖷 RBW 100 kHz Is 🖶 VBW 300 kHz					(!
SGL Count 1		3 3 11 1 13.9 µ	15 🖶 VIDW 300 KH2	Moue	Auto FFT			
1Pk Max								
				м	1[1]			-1.26 dBm
10 dBm					-		2.46	36180 GHz
0 dBm				M1				
		Lamana	warmetricking	pproduction	amar	whenny		
-10 dBm		hallman				- Murry	1	
]						
-20 dBm		4					<u>h</u>	
	Aunt						M N	
-39 dBmc.At	MY¥¶"						- many	MMARA
•							L'Alexand	o www.ord
-40 dBm								
-50 dBm								
-50 aBm								
-60 dBm								
oo abiii								
-70 dBm								
05.0.460.01	1-						0	00 0 MUL-
CF 2.462 GI	12		1001	pts			span	30.0 MHz
Spectrum		Band Ed	lge NVNT n20 24	462MHz /	Ant1 En	nission		
Ref Level	20.00 dBm	n Offset 2.40	dB 🖷 RBW 100 kH	Iz				
-	20.00 dBm 30 dB	n Offset 2.40		Iz				
Ref Level Att	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode	Auto FF			
Ref Level Att SGL Count 1	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode				(⊽ -1.18 dBm
Ref Level Att SGL Count 1	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	(⊽ -1.18 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz 42.99 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dB	n Offset 2.40	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz 42.99 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 0 dBm	20.00 dBm 30 dB	n Offset 2.40 3 SWT 227.5	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz 42.99 dBm
Ref Level Att SGL Count 1 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz 42.99 dBm
Ref Level Att SGL Count 3 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm 20 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB 🖷 RBW 100 kH	iz iz Mode M	Auto FF		2.46	-1.18 dBm 07400 GHz 42.99 dBm
Ref Level Att SGL Count 1 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm	20.00 dBm 30 dB 100/100	n Offset 2.40 3 SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	iz Mode M	Auto FF 1[1] 2[1]	T	2.46	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 3 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm 20 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	iz Mode M	Auto FF 1[1] 2[1]	T	2.46	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -40 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	iz Mode M	Auto FF 1[1] 2[1]	T	2.46	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	iz Mode M	Auto FF 1[1] 2[1]	T	2.46	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -40 dBm	20.00 dBm 30 dB 100/100	B Offset 2.40 B SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	iz Mode M	Auto FF 1[1] 2[1]	T	2.46	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 3 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -40 dBm -50 dBm -60 dBm	20.00 dBm 30 dE 100/100	B Offset 2.40 B SWT 227.5	dB • RBw 100 kH µs • VBW 300 kH	12 Mode 	Auto FF 1[1] 2[1]	T	2.46 - 2.48	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -40 dBm -50 dBm	20.00 dBm 30 dE 100/100	B Offset 2.40 B SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	12 Mode 	Auto FF 1[1] 2[1]	T	2.46 - 2.48	-1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dE 100/100 M1 	dBm	dB • RBW 100 kH µs • VBW 300 kH M4 M4 1001 Y-value	IZ Mode	Auto FF 1[1] 2[1]	T	2.46 - 2.48	ر ⊽ -1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dE 100/100 M1 	Contraction of the second seco	dB ● RBW 100 kH µs ● VBW 300 kH M4 M4 1001 Y-value z -1.18 dBr	12 Mode M M M M M M M M M M M M M M M M M M M	Auto FF 1[1] 2[1]	T	2.46 - 2.48 - 	ر ⊽ -1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 1 SGL Count 2 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dE 100/100 M1 	dBm	dB ● RBW 100 kH µs ● VBW 300 kH	الالا الالالالالالالالالالالالالالالالا	Auto FF 1[1] 2[1]	T	2.46 - 2.48 - 	ر ⊽ -1.18 dBm 07400 GHz 42.99 dBm 35000 GHz
Ref Level Att SGL Count 3 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dE 100/100 M1 	Contraction of the second seco	dB ● RBW 100 kH µs ● YBW 300 kH M4 M4 M4 M4 M4 M4 M4 M4 M4	12 Mode 12 Mode M M M M M M M M M M M M M	Auto FF 1[1] 2[1]	T	2.46 - 2.48 - 	ر ⊽ -1.18 dBm 07400 GHz 42.99 dBm 35000 GHz





				M1[1]	2.41	3.36 dBm 32290 GHz
10 dBm				M1			02290 012
0 dBm			hammunning	. entralis of	h. h. h.		
-10 dBm	ſ	olimp Milling	when the star of the second	INTO MARINOOD	and a sher about of	www	
-20 dBm	mmy					Winh	Marrian
~36 Abu							~ V level Magar
-40 dBm							
-50 dBm							
-60 dBm							
-00 0011							
-70 dBm							
							00 0 MU-
Spectrun			1001 dge NVNT ax20 2	2412MHz An	Ready t1 Emission	span	30.0 MHz)
Spectrun Ref Level Att	n I 20.00 dBr 30 dl	n Offset 2.3		2412MHz An		span	
Spectrum Ref Level Att SGL Count	n I 20.00 dBr 30 dl	n Offset 2.3	dge NVNT ax20 2 3 dB e RBW 100 kH	2412MHz An Az Hz Mode Aut	:o FFT	span	
Spectrun Ref Level Att SGL Count 1Pk Max	n I 20.00 dBr 30 dl	n Offset 2.3	dge NVNT ax20 2 3 dB e RBW 100 kH	2412MHz An ¹² ¹² ¹² Mode Aut M1[1]	:o FF T		4.00 dBm 32600 GHz
Spectrum Ref Level SGL Count 1Pk Max 10 dBm-	n I 20.00 dBr 30 dl	n Offset 2.3	dge NVNT ax20 2 3 dB e RBW 100 kH	2412MHz An Az Hz Mode Aut	:o FF T	2.41 M1 _ [2.40	(₩)
Spectrun Ref Level Att SGL Count 1Pk Max 10 dBm	n I 20.00 dBr 30 dl	n Offset 2.3	dge NVNT ax20 2 3 dB ● RBW 100 kH 5 µs ● VBW 300 kH	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1	4.00 dBm 32600 GHz 24.44 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm	n I 20.00 dBr 30 dl	n Offset 2.30 3 SWT 227.	dge NVNT ax20 2 3 dB ● RBW 100 kH 5 µs ● VBW 300 kH	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm	1 20.00 dBr 30 di 100/100	n Offset 2.30 3 SWT 227.	dge NVNT ax20 2 3 dB ● RBW 100 kH 5 µs ● VBW 300 kH	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm
Spectrun Ref Level Att SGL Count 10 dBm	D1 -16.640	n Offset 2.3 3 SWT 227.	dge NVNT ax20 2 3 dB • RBW 100 kF 5 µs • VBW 300 kF	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Spectrun Ref Level Att SGL Count 10 dBm	D1 -16.640	n Offset 2.3 3 SWT 227.	dge NVNT ax20 2 3 dB • RBW 100 kF 5 µs • VBW 300 kF	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Spectrun Ref Level Att SGL Count 10 dBm	D1 -16.640	n Offset 2.3 3 SWT 227.	dge NVNT ax20 2 3 dB ● RBW 100 kH 5 µs ● VBW 300 kH	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FF T	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm	D1 -16.640	n Offset 2.3 3 SWT 227.	dge NVNT ax20 2 3 dB • RBW 100 kF 5 µs • VBW 300 kF	2412MHz Ant Hz Hz Mode Aut M1[1 M2[1	:o FFT]]	2.41 M1 _ [2.40	4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Spectrun Ref Level Att SGL Count 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 2.32	D1 -16.640	n Offset 2.3 3 SWT 227.	dge NVNT ax20 2 3 dB • RBW 100 kF 5 µs • VBW 300 kF	2412MHz An 12 12 12 12 12 12 12 12 12 12	:o FFT]]		4.00 dBm 32600 GHz 24.44 dBm ppp00 GHz
Ref Level Att SGL Count 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 2.32	D1 -16.640	n Offset 2.31	dge NVNT ax20 2 3 dB • RBW 100 kF 5 μs • VBW 300 kF 	2412MHz Ani iz iz Mode Aut M1[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1] M2[1 M2[1] M2[1			4.00 dBm 32600 GHz 24.44 dBm pp000 GHz %
Spectrun Ref Level Att SGL Count 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm Start 2.32 Marker	D1 -16.640	n Offset 2.34	dge NVNT ax20 2 3 dB • RBW 100 kF 5 µs • VBW 300 kF 	2412MHz Ani iz iz Mode Aut M1[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2[1 M2] M1 M2[1 M2] M2 M2 M2 M2 M2 M2 M2 M2 M2 M2		2.41 M1 P140 P140 P140 P140 P140 P140 P140 P14	4.00 dBm 32600 GHz 24.44 dBm pp000 GHz %





Spectrum Ref Level		Offset 2 40 d	B 😑 RBW 100 kHz					
Att	30 dB		s 🖶 VBW 100 kHz s 🖶 VBW 300 kHz		Auto FFT			
SGL Count	100/100							
				м	1[1]			-1.31 dBm
10 dBm						1	2.46	31390 GHz
10 ubiii								
0 dBm				M1				
		mangalite	mannon	wally	monthal	Vinnehan	M.	
-10 dBm—								
00 d0m								
-20 dBm	m						MAN.	Annall
-006 dBm	P V *						v (/ ~	"Sharlylyly
-40 dBm								
FO dD								
-50 dBm								
-60 dBm								
-70 dBm								
CF 2.462 G	Hz	1 1	1001	pts			Span	30.0 MHz
		Band Edg	ge NVNT ax20 2	462MHz	Ant1 Emi	ssion		
Spectrum Ref Level					Ant1 Emi	ssion		
Ref Level Att	l 20.00 dBm 30 dB	o Offset 2.40	ge NVNT ax20 2 dв е квж 100 kн µs е увж 300 kн	z		ssion		
Ref Level Att SGL Count	l 20.00 dBm 30 dB	o Offset 2.40	dB 😑 RBW 100 kH	z		ssion		
Ref Level Att	l 20.00 dBm 30 dB	o Offset 2.40	dB 😑 RBW 100 kH	z z Mode		ssion		
Ref Level Att SGL Count 1Pk Max	l 20.00 dBm 30 dB	o Offset 2.40	dB 😑 RBW 100 kH	z Mode M	Auto FFT	ssion		1.53 dBm 45400 GHz
Ref Level Att SGL Count 1Pk Max 10 dBm	20.00 dBm 30 dB 100/100	0 Offset 2.40 3 SWT 227.5	dB 😑 RBW 100 kH	z Mode M	Auto FFT	ssion	-	1.53 dBm
Ref Level Att SGL Count 1Pk Max 10 dBm M1 0 dBm	l 20.00 dBm 30 dB	Offset 2.40 SWT 227.5	dB 😑 RBW 100 kH	z Mode M	Auto FFT	ssion	-	1.53 dBm 45400 GHz 34.64 dBm
Ref Level Att SGL Count 1Pk Max 10 dBm 0 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB 😑 RBW 100 kH	z Mode M	Auto FFT		-	1.53 dBm 45400 GHz 34.64 dBm
Ref Level Att SGL Count 1Pk Max 10 dBm 0 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	z Mode M	Auto FFT		-	1.53 dBm 45400 GHz 34.64 dBm
Ref Level Att SGL Count 1Pk Max 10 dBm 0 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	z Mode M	Auto FFT		-	1.53 dBm 45400 GHz 34.64 dBm
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	2 Mode M 	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	2 Mode M 	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	2 Mode M 	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	2 Mode M 	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	1 20.00 dBm 30 dE 100/100	Offset 2.40 SWT 227.5	dB ● RBW 100 kH µs ● VBW 300 kH	2 Mode M 	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	20.00 dBr 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	Z Mode	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	20.00 dBr 30 dE 100/100	Offset 2.40 SWT 227.5	dB • RBW 100 kH µs • VBW 300 kH	Z Mode	Auto FFT 1[1] 2[1]		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	20.00 dBm 30 dE 100/100	Contraction 2.40 SWT 227.5 Contraction 2.40 Contraction 2.40 C	dB RBW 100 kH VBW 300 kH	Z Mode M M M M M M M M M M M M M M M M M M M	Auto FFT 1[1] 2[1] 		2.48	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz "Upw/w/w/w/w 2.547 GHz
Ref Level Att SGL Count IPk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm -70 dBm	20.00 dBm 30 dE 100/100	dBm	dB • RBW 100 kH µs • VBW 300 kH M4 M4 M4 M4 M4 M4 M4 M4	2 2 Mode M M M M M M M M M M M M M M M M M M M	Auto FFT 1[1] 2[1] 		2.48 برایم از الاساری Stop :	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz "Upw/w/w/w/w 2.547 GHz
Ref Level Att SGL Count 1Pk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	1 20.00 dBr 30 dE 100/100 	Contraction of the second seco	dB ● RBW 100 kH µs ● VBW 300 kH M4 M4 M4 M4 M4 M4 M4 M4 M4	2 2 Mode M M M M M M M M M M M M M	Auto FFT 1[1] 2[1] 		2.48 برایم از الاساری Stop :	1.53 dBm 45400 GHz 34.64 dBm 35000 GHz "Upw/w/w/w/w 2.547 GHz





8.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.61	-20	Pass
NVNT	b	2437	Ant1	-48.34	-20	Pass
NVNT	b	2462	Ant1	-48.94	-20	Pass
NVNT	g	2412	Ant1	-46.39	-20	Pass
NVNT	g	2437	Ant1	-50.54	-20	Pass
NVNT	g	2462	Ant1	-48.51	-20	Pass
NVNT	n20	2412	Ant1	-52	-20	Pass
NVNT	n20	2437	Ant1	-50.54	-20	Pass
NVNT	n20	2462	Ant1	-46.39	-20	Pass
NVNT	ax20	2412	Ant1	-53.48	-20	Pass
NVNT	ax20	2437	Ant1	-50.18	-20	Pass
NVNT	ax20	2462	Ant1	-48.04	-20	Pass

ACCREDITED

Certificate #4298.01

ilac-MR

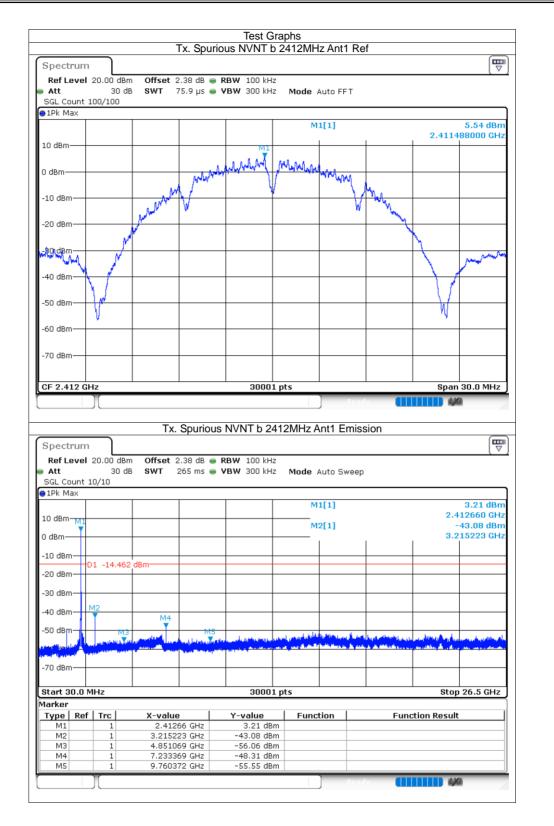


AC-MR

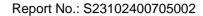
ACCREDITED

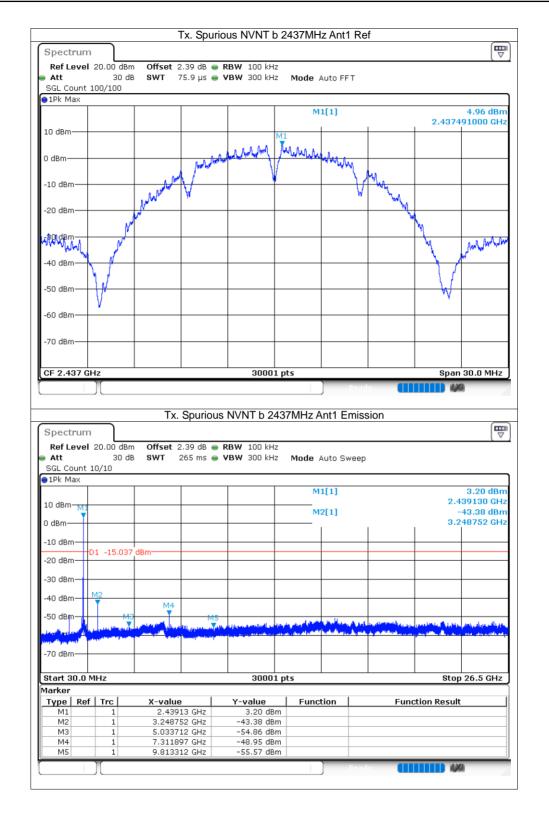
Certificate #4298.01

Report No.: S23102400705002



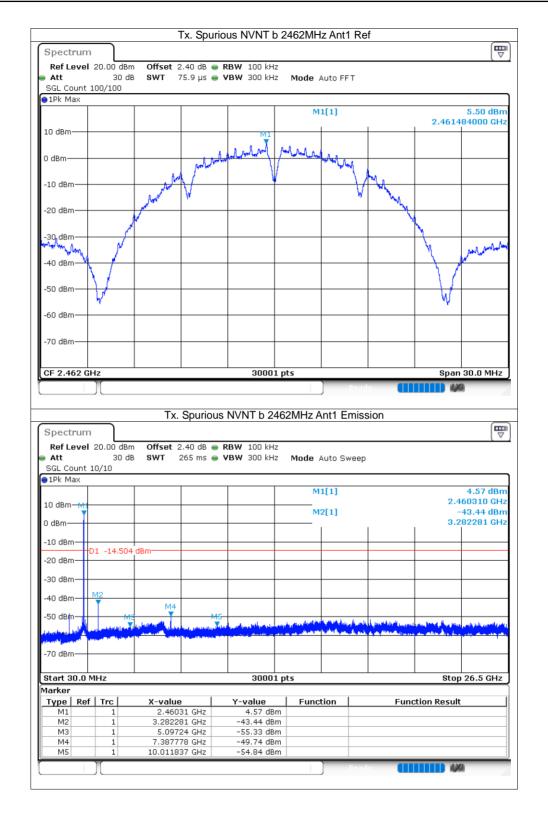




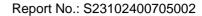


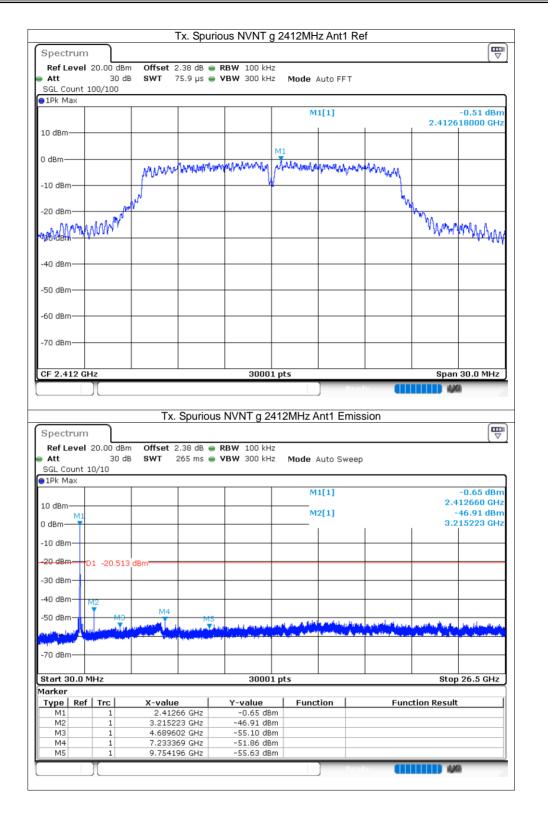




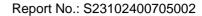


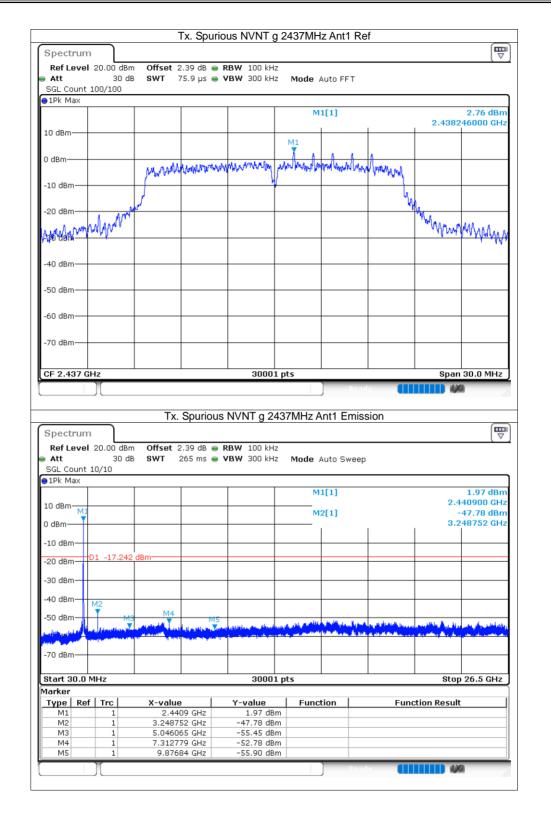




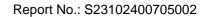












Spect	rum		Spurious NVNT g				
-	evel 20.00 d	IBm Offset 2.40	dB 🖷 RBW 100 kHz				(v
Att	30	dB SWT 75.9	µs 🖷 VBW 300 kHz	Mode Auto FFT			
SGL Co 1Pk Ma	ount 100/100						
JIPK MR	ax			M1[1]		0.99	dBm
				and the		2.455721200	
10 dBm-							
		M1					
0 dBm—			when the work of the	An Malin Walland	monoral and be and		
-10 dBm		Junion			Y WUW		
-10 080	'		The second se		h		
-20 dBm)	~ ~			<u> </u>	h	
	malan	N				Mananana	
Азфійві	<u> </u>					, AM MARINA	WW
1							.
-40 dBm	ν - 			<u> </u>			
-50 dBm	<u>۱</u>						
-60 dBm							
-00 UBII	·						
-70 dBm							
, o abii							
CF 2.40	62 GHz		30001	pts		Span 30.0 M	IHZ
Specti Ref Le	evel 20.00 d		dB 👄 RBW 100 kHz				♥
Att	30 ount 10/10	dB SWT 265	ms 👄 VBW 300 kHz	Mode Auto Swe	еер		
1Pk Ma							
				M1[1]		-1.29	
10 dBm-				M2[1]		2.464720 -47.52	
0 dBm—	M1					3.282281	
-10 dem							
	ו ק==D1 -19.0)12 dBm					
-20 dBm	D1 -19.0)12 dBm					
-20 dBm -30 dBm	D1 -19.0)12 dBm					
-20 dBm -30 dBm -40 dBm	D1 -19.0						
-20 dBm -30 dBm	D1 -19.0		MS		ie die kennen die	Ar den de de production	
-20 dBm -30 dBm -40 dBm	D1 -19.0		MS .				
-20 dBm -30 dBm -40 dBm -50 dBm	D1 -19.0		MS Inclusion of the state of th				
-20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	01 -19.0		M5				
-20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 3	D1 -19.0		M5 30001			Stop 26.5 C	<mark> </mark>
-20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 3 Marker	D1 -19.0	MS M4		pts			GHz 1
-20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 3 Marker Type M1	0.0 MHz	<u>X-value</u> 2.46472 G	Y-value	pts		Stop 26.5 C	GHz
-20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm Start 3 Marker Type M1 M2	0.0 MHz Ref Trc 1 1	M3 M4 X-value 2.46472 G 3.282281 G	Y-value Hz -1.29 dBm Hz -47.52 dBm	pts			GHz
-20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 3 Marker Type M1	0.0 MHz	<u>X-value</u> 2.46472 G	Y-value Hz -1.29 dBrr Hz -47.52 dBrr Hz -55.62 dBrr	pts			GHz
-30 dBm -40 dBm -50 dBm -70 dBm Start 3 Marker Type M1 M2 M3	0.0 MHz	X-value 2.46472 G 3.28281 G 4.928715 G	Y-value Hz -1.29 dBr Hz -47.52 dBr Hz -55.62 dBr Hz -53.57 dBr	pts			GHz



Report No.: S23102400705002

					20 2412M				(FF
Spectrum									[₩
Ref Level Att	20.00 dBm 30 dB		_		iz Iz Mode /				
SGL Count 1		- 3WI 73.9	a ha 🖷 🗛	DW 300 KH	iz Mode /	AUCO FF I			
)1Pk Max									
					M	1[1]			1.61 dBm
10 dBm							1	2.4107	25000 GHz
IO UDIII				M1					
0 dBm				-					
Jabin			Incalast	Normal Wary	APANALMAN	Mandana			
-10 dBm		Maryman	hundre bereit		4.45		WWWWWW		
					ľ				
-20 dBm								1	
	A. AN							WM wany by	
-30, dBm,	⋈⋈⋎							"WANG/MA	Distant of
Manned & a de								· · ·	a wana Maada
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.412 GH	47	I I		3000	1 pts	1	1	Span	30.0 MHz
	12								
		Tx. Spu	urious N'		2412MHz) Rear Ant1 Emi	ssion		
				VNT n20	2412MHz) Poar Ant1 Emi	ssion		
Ref Level	20.00 dBm	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz				
Ref Level Att	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz				
Ref Level Att SGL Count 1	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep			[\(\neq \)
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /				(⊽ 0.22 dBm
Ref Level Att SGL Count 1 1Pk Max	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]			0.22 dBm 08250 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm M1	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep		-	(⊽ 0.22 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm M1 0 dBm	20.00 dBm 30 dE	n Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm 10 dBm	20.00 dBm 30 dE	Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm 10 dBm	20.00 dBm 30 dE	Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 PIPK Max 10 dBm 10 dBm -10 dBm -20 dBm	20.00 dBm 30 dE	Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm	20.00 dBm 30 dE	Offset 2.38	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 PIPk Max 10 dBm 10 dBm 20 dBm -10 dBm -20 dBm -30 dBm	20.00 dBm 30 dE	dBm	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Mef Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm	20.00 dBm 30 dE 10/10	dBm	3 dB 👄 RI	VNT n20 BW 100 kH	2412MHz ^{Iz} Mode /	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Mef Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm	20.00 dBm 30 dE 10/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH	2412MHz	Auto Sweep 1[1]		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm -10 dBm -30 dBm -30 dBm -50 dBm	20.00 dBm 30 dE 10/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH	2412MHz	Auto Sweep		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm -10 dBm -30 dBm -30 dBm -50 dBm	20.00 dBm 30 dE 10/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH	2412MHz	Auto Sweep		-	0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 PR Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -70 dBm	20.00 dBm 30 dE 00/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH BW 300 kH	2412MHz	Auto Sweep			0.22 dBm 08250 GHz 50.40 dBm 16106 GHz
Ref Level Att SGL Count 1 SGL Count 1 PR Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 30.0 M	20.00 dBm 30 dE 00/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH	2412MHz	Auto Sweep			0.22 dBm 08250 GHz 50.40 dBm
Ref Level Att SGL Count 1 SGL Count 1 PR Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 30.0 M	20.00 dBm 30 dE 10/10	dBm	3 dB • Ri i ms • VI	VNT n20 BW 100 kH BW 300 kH	2412MHz	Auto Sweep			0.22 dBm 08250 GHz 50.40 dBm 16106 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm 50 dBm 70 dBm Start 30.0 M Aarker Type Ref	20.00 dBm 30 dE 0/10	Offset 2.36 SWT 265 dBm dBm	B dB R R	VNT n20 BW 100 kH BW 300 kH 300 kH 30	2412MHz	Auto Sweep		3.2	0.22 dBm 08250 GHz 50.40 dBm 16106 GHz
Ref Level Att SGL Count 1 IPk Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 30.0 M Arker Type Ref M1	20.00 dBm 30 dE 00/10 01 -18.393 01 -18.393 01 -18.393 01 -18.393 01 -18.393 01 -18.393 01 -18.393	Offset 2.36 SWT 265 dBm dBm	3 dB RI	VNT n20 BW 100 kH BW 300 kH 300 kH 3000 kH 3000 Y-value 0.22 dB -50.40 dB	2412MHz	Auto Sweep		3.2	0.22 dBm 08250 GHz 50.40 dBm 16106 GHz
Ref Level Att SGL Count 1 1Pk Max 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm 50 dBm 70 dBm Start 30.0 M Aarker Type Ref	20.00 dBm 30 dE 0/10	Offset 2.36 SWT 265 dBm dBm	3 dB RI i ms VI i ms VI GH2 GH2 GH2 GH2 GH2	VNT n20 BW 100 kH BW 300 kH 300 kH 30	2412MHz	Auto Sweep		3.2	0.22 dBm 08250 GHz 50.40 dBm 16106 GHz
Att SGL Count 1 SGL Count 1 PR Max 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -50 dBm -70 dBm Start 30.0 W M1 M2 M3	20.00 dBm 30 dE 10/10	Offset 2.36 SWT 265 GBm dBm	MS MS GHz GHz GHz GHz GHz GHz	VNT n20 BW 100 kH BW 300 kH 300 kH 3000 kH 3000 Y-value -50.40 dB -50.40 dB	2412MHz	Auto Sweep		3.2	0.22 dBm 08250 GHz 50.40 dBm 16106 GHz

ACCREDITED

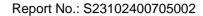


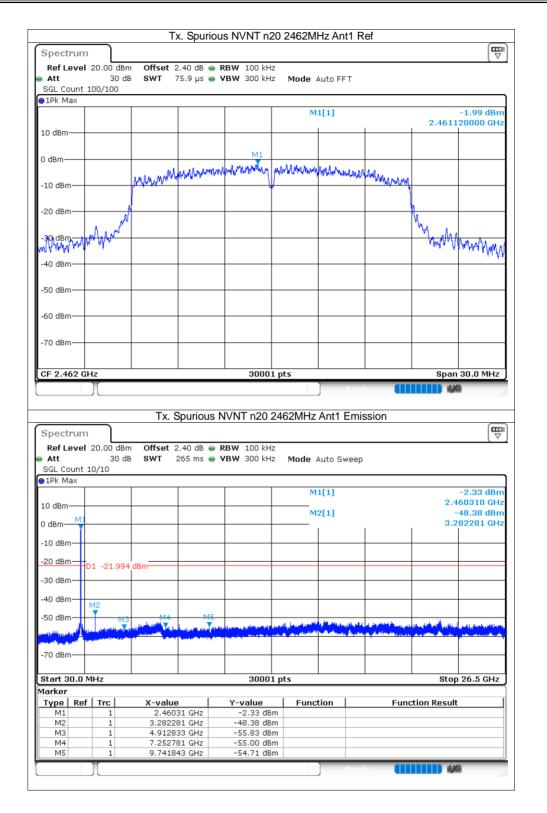
Report No.: S23102400705002

_)		ous NVNT n20				(m-
Spectrum						
Ref Level 20.00 dB						
Att 30 c SGL Count 100/100	iв SWT 75.9 µs 🖷	• VBW 300 kHz	Mode Auto FFT			
1Pk Max						
			M1[1]			0.82 dBm
					2.43827	73000 GHz
10 dBm						
			M1			
0 dBm			J. K. A.			
	martinenter	Werellerichtenskerkerer Jerre	otembaranta	Mar Anna		
-10 dBm	Minde Alberta					
		1				
-20 dBm	<i>i</i>				ħ	
A DA					Mapplay	
-30 dBrowy Alex Avy V					- WWW	ALACH A JULY
Winny is						e es sul autili
-40 dBm						
				1		
-50 dBm				-		
				1		
-60 dBm	+					
				1		
-70 dBm						
CF 2.437 GHz		30001 p	ts		Span	30.0 MHz
,			Re			li
,	Tx. Spurious	s NVNT n20 24	37MHz Ant1 Em	nission	ayar	
Spectrum	Tx. Spurious	3 NVNT n20 24	37MHz Ant1 Em	nission	1942	
Spectrum	·		37MHz Ant1 Em	nission		
RefLevel 20.00 dB	m Offset 2.39 dB 🖷	RBW 100 kHz	37MHz Ant1 Em			
Ref Level 20.00 dB Att 30 c SGL Count 10/10	m Offset 2.39 dB 🖷	RBW 100 kHz				
Ref Level 20.00 dB Att 30 c SGL Count 10/10	m Offset 2.39 dB 🖷	RBW 100 kHz	Mode Auto Swee			
Ref Level 20.00 dB Att 30 c SGL Count 10/10	m Offset 2.39 dB 🖷	RBW 100 kHz				-2.16 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 IPk Max 10 dBm	m Offset 2.39 dB 🖷	RBW 100 kHz	Mode Auto Swee		2.43	
Ref Level 20.00 dB Att 30 d SGL Count 10/10 IPk Max	m Offset 2.39 dB 🖷	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz
Ref Level 20.00 dB Att 30 d SGL Count 10/10 1Pk Max 10 dBm 10 dBm 0 dBm M1 0 dBm	m Offset 2.39 dB 🖷	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 d SGL Count 10/10 1Pk Max 10 dBm 0 dBm M1	m Offset 2.39 dB 🖷	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm 11 -10 dBm 10 dBm	m Offset 2.39 dB IB SWT 265 ms 	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 0 dBm 10 dBm -10 dBm -10 dBm -20 dBm D1 -19.17	m Offset 2.39 dB IB SWT 265 ms 	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 0 dBm M1 -10 dBm -10 dBm -20 dBm D1	m Offset 2.39 dB IB SWT 265 ms 	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 IPk Max 10 dBm 10 dBm 0 -10 dBm -10 dBm -20 dBm D1 -30 dBm -19.17 -40 dBm -10 dBm	m Offset 2.39 dB IB SWT 265 ms 	RBW 100 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 d SGL Count 10/10 IPk Max 10 dBm M1 0 dBm M1 -10 dBm D1 -30 dBm M2	m Offset 2.39 dB iB SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 IPk Max 10 dBm 10 dBm 0 -10 dBm -10 dBm -20 dBm D1 -30 dBm -19.17 -40 dBm -10 dBm	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43 	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 IPk Max 10 dBm M1 0 dBm M1 -10 dBm D1 -30 dBm M2	m Offset 2.39 dB iB SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm 10 dBm -10 dBm 10 dBm -20 dBm D1 -19.17 -30 dBm M2 -50 dBm M2	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43 	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm 10 dBm -10 dBm 10 dBm -20 dBm D1 -19.17 -30 dBm M2 -50 dBm M2	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43 	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee M1[1] M2[1] U M2[1] M2[1] M2[1]		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Ref Level 20.00 dB SGL Count 10/10 1Pk Max 10 dBm 10 dBm 0 dBm -10 dBm -10 dBm -20 dBm D1 -19.17 -30 dBm -19.17 -30 dBm -19.17 -70 dBm -19.17 -70 dBm M2 -70 dBm -19.17	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee M1[1] M2[1] U M2[1] M2[1] M2[1]		2.43 	-2.16 dBm 38250 GHz 19.73 dBm
Ref Level 20.00 dB Att 30 c SGL Count 10/10 IPk Max 10 dBm 10 dBm M1 0 dBm M1 -10 dBm -10 dBm -20 dBm D1 -19.17 -30 dBm M2 -50 dBm M2 -70 dBm M2 -70 dBm M2 -70 dBm M2 -70 dBm M2	m Offset 2.39 dB B SWT 265 ms 8 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto Swee M1[1] M2[1] U M2[1] M2[1] M2[1]		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 10 dBm 10 -10 dBm 10 -20 dBm D1 -30 dBm M2 -50 dBm M2 -70 dBm M2 -70 dBm M2 -70 dBm M2 -70 dBm M1 Type Ref Trc M1 1 1	m Offset 2.39 dB IB SWT 265 ms 8 dBm 8 dBm 8 dBm 10 10 10 10 10 10 10 10 10 10 10 10 10 1	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm 0 -10 dBm 0 -20 dBm D1 -30 dBm -19.17 -30 dBm -40 dBm -40 dBm M2 -50 dBm -19.17 -30 dBm -19.17 -30 dBm -19.17 -70 dBm M2 -70 dBm M2 -70 dBm -11 Marker Trc M1 1 M2 1	m Offset 2.39 dB B SWT 265 ms 8 dBm 8 dBm 4 m 2 43825 GHz 3.248752 GHz	RBW 100 kHz VBW 300 kHz	Mode Auto Swee		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Ref Level 20.00 dB Att 30 d SGL Count 10/10 1Pk Max 10 dBm 10 dBm M1 0 dBm M1 -10 dBm -10 dBm -20 dBm D1 -19.17 -30 dBm M2 -50 dBm M2 -70 dBm M3 -70 dBm M3 -70 dBm M3	m Offset 2.39 dB B SWT 265 ms 8 dBm 8 dBm M4 m 2.43825 GHz 2.43825 GHz 4.723131 GHz	RBW 100 kHz VBW 300 kHz Image: state st	Mode Auto Swee		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Ref Level 20.00 dB Att 30 c SGL Count 10/10 1Pk Max 10 dBm 10 dBm M1 0 dBm M1 -10 dBm -10 dBm -20 dBm 01 -19.17 -30 dBm M2 -50 dBm M2 -70 dBm M3	m Offset 2.39 dB B SWT 265 ms 8 dBm 8 dBm 2 4 4 6 2 4 3825 GHz 3 .248752 GHz 3 .248752 GHz 4 .723131 GHz 7 .311897 GHz	RBW 100 kHz VBW 300 kHz Image: state st	Mode Auto Swee		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz
Att 30 c SGL Count 10/10 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 30.0 MHz M1 1 M1 1 M2 -70 dBm M1 1 Marker Type Ref M1 1 M3 1	m Offset 2.39 dB B SWT 265 ms 8 dBm 8 dBm M4 m 2.43825 GHz 2.43825 GHz 4.723131 GHz	RBW 100 kHz VBW 300 kHz Image: state st	Mode Auto Swee		2.43 	-2.16 dBm 88250 GHz 19.73 dBm 18752 GHz

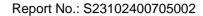
ACCREDITED

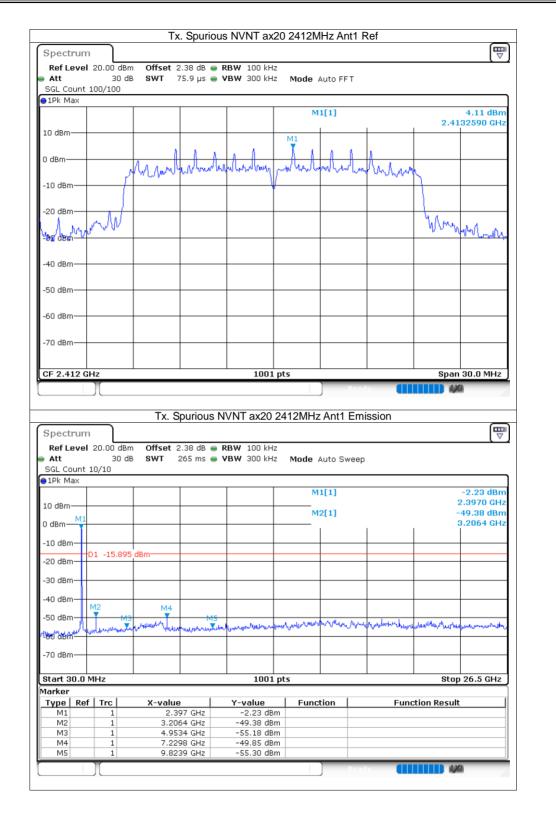




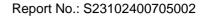


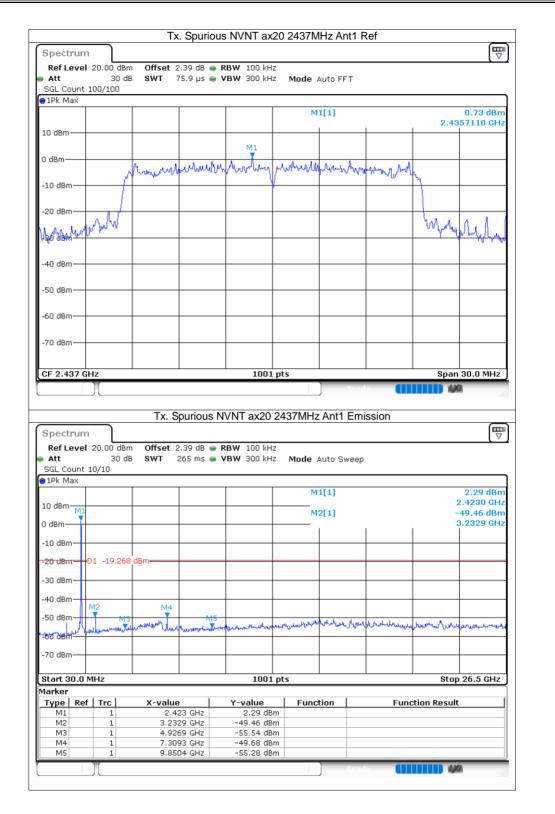




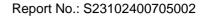


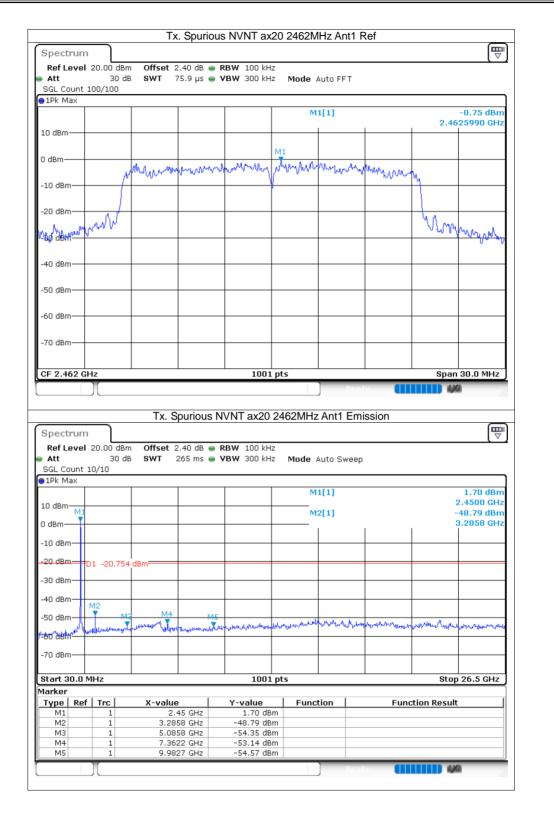












Certificate #4298.01

END OF REPORT