

Report No.: KSCR220900173002 Page: 1 of 116

TEST REPORT

Application No.:	KSCR2209001730AT		
FCC ID:	2AVYF-IPC-D5XMI		
Applicant:	Hangzhou Huacheng Network Technology Co.,Ltd.		
Address of Applicant:	13th Floor, Building 3, 1399 Binxing Road, Changhe Street, Binjiang District, Hangzhou, China (Zhejiang) Pilot Free Trade Zone		
Manufacturer:	Hangzhou Huacheng Network Technology Co.,Ltd.		
Address of Manufacturer:	13th Floor, Building 3, 1399 Binxing Road, Changhe Street, Binjiang District, Hangzhou, China (Zhejiang) Pilot Free Trade Zone		
Equipment Under Test (EUT):		
EUT Name:	CONSUMER CAMERA		
Model No.:	IPC-D52MIP;IPC-D52MIN;IPC-D52MIP-0280B-imou;IPC-D52MIN-0280B- imou;IPC-D52MIP-0280B;IPC-D52MIN-0280B;IPC-D52MIP-0360B-imou;		
	IPC-D52MIN-0360B-imou;IPC-D52MIP-0360B;IPC-D52MIN-0360B +		
"	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.		
Standard(s) :	47 CFR Part 15, Subpart C 15.247		
Date of Receipt:	2022-09-13		
Date of Test:	2022-09-30 to 2022-10-09		
Date of Issue:	2022-10-11		
Test Result:	Pass*		

* In the configuration tested, the EUT complied with the standards specified above.

Enin fri

Eric Lin Laboratory Manager



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Report No.: KSCR220900173002 Page: 2 of 116

Revision Record				
Version	Description	Date	Remark	
00	Original	2022-10-11	/	

Authorized for issue by:		
	Ceril Lin	
	Eric Liu/Project Engineer	
	En fri	
	Eric Lin /Reviewer	



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Report No.: KSCR220900173002 Page: 3 of 116

2 Test Summary

Radio Spectrum Technical Requirement						
Item	Item Standard Method Requirement Result					
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass		

Radio Spectrum Matt	Radio Spectrum Matter Part					
Item	Standard	Method	Requirement	Result		
Conducted Emissions at AC Power Line (150kHz-30MHz)		ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass		
Conducted Average Output Power		ANSI C63.10 (2013) Section 11.9.2	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass		
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass		
Power Spectrum Density	47 CFR Part 15,	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass		
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass		
Conducted Spurious Emissions	Subpart C 15.247	ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass		
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		

Declaration of EUT Family Grouping:

There are series models mentioned in this report and they are the Identical in electrical and electronic characters. Only the model IPC-D52MIP was tested since their differences were the model number, trade name, Color and appearance.



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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 4 of 116

3 Contents

			Page
1	COVE	R PAGE	1
2	TEST	SUMMARY	3
-			
3	CONT	ENTS	4
4	GENE	RAL INFORMATION	6
	4.1	DETAILS OF E.U.T.	6
		POWER LEVEL SETTING USING IN TEST	•
		DESCRIPTION OF SUPPORT UNITS	
		Measurement Uncertainty	
		Fest Location	
	4.6	Test Facility	8
	4.7 [DEVIATION FROM STANDARDS	8
	4.8	ABNORMALITIES FROM STANDARD CONDITIONS	8
5	EQUI	PMENT LIST	9
_			1.
6		O SPECTRUM TECHNICAL REQUIREMENT	
		ANTENNA REQUIREMENT	
	6.1.1	Test Requirement:	
	6.1.2	Conclusion	10
7	RADI	O SPECTRUM MATTER TEST RESULTS	11
	7.1 (CONDUCTED EMISSIONS AT AC POWER LINE (150KHz-30MHz)	11
	7.1.1	E.U.T. Operation	
	7.1.2	Test Mode Description	11
	7.1.3	Test Setup Diagram	
	7.1.4	Measurement Procedure and Data	
		Conducted Average Output Power	
	7.2.1	E.U.T. Operation	
	7.2.2	Test Mode Description	
	7.2.3	Test Setup Diagram	
	7.2.4	Measurement Procedure and Data	
	7.3.7	Test Mode Description	
	7.3.2	Test Setup Diagram	
	7.3.4	Measurement Procedure and Data	
		Power Spectrum Density	
	7.4.1	E.U.T. Operation	
	7.4.2	Test Mode Description	
	7.4.3	Test Setup Diagram	
	7.4.4	Measurement Procedure and Data	



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Report No.: KSCR220900173002 Page: 5 of 116

7.	5 C	CONDUCTED BAND EDGES MEASUREMENT	19
	7.5.1	E.U.T. Operation	
	7.5.2	Test Mode Description	
	7.5.3	Test Setup Diagram	
	7.5.4	Measurement Procedure and Data	
7.	6 C	CONDUCTED SPURIOUS EMISSIONS	21
	7.6.1	E.U.T. Operation	21
	7.6.2	Test Mode Description	21
	7.6.3	Test Setup Diagram	21
	7.6.4	Measurement Procedure and Data	
7.	7 F	RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS	23
	7.7.1	E.U.T. Operation	23
	7.7.2	Test Mode Description	23
	7.7.3	Test Setup Diagram	24
	7.7.4	Measurement Procedure and Data	
7.	8 F	RADIATED SPURIOUS EMISSIONS BELOW 1GHZ	46
	7.8.1	E.U.T. Operation	46
	7.8.2	Test Mode Description	46
	7.8.3	Test Setup Diagram	
	7.8.4	Measurement Procedure and Data	
7.	9 F	RADIATED SPURIOUS EMISSIONS ABOVE 1GHZ	
	7.9.1	E.U.T. Operation	51
	7.9.2	Test Mode Description	51
	7.9.3	Test Setup Diagram	
	7.9.4	Measurement Procedure and Data	52
8	TEST	SETUP PHOTO	
-			
9	EUT C	CONSTRUCTIONAL DETAILS (EUT PHOTOS)	71
10		NDIX	70
		🛥 1/	



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Report No.: KSCR220900173002 Page: 6 of 116

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 12V,1A
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK);802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	Dipole Antenna
Antenna Gain:	4.01dBi (Provided by the manufacturer)

4.2 Power level setting using in test

Channel	802.11b	802.11g	802.11n(HT20)
Channel	Ant 1	Ant 1	Ant 1
1	Default	Default	Default
6	Default	Default	Default
11	Default	Default	Default

4.3 Description of Support Units

Description Manufacturer		Model No.	Serial No.
Notebook	LENOVO	K27	EB24537645



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Report No.: KSCR220900173002 Page: 7 of 116

ltem	Measurement Uncertainty	
Radio Frequency	8.4 x 10 ⁻⁸	
Timeout	2s	
Duty Cycle	Cycle 0.37%	
Occupied Bandwidth	3%	
RF Conducted Power	0.6dB	
RF Power Density	2.9dB	
Conducted Spurious Emissions	0.75dB	
PE Padiated Dowar	5.2dB (Below 1GHz)	
KF Kaulaleu Powel	5.9dB (Above 1GHz)	
	4.2dB (Below 30MHz)	
Dedicted Spurious Emission Test	4.5dB (30MHz-1GHz)	
Radiated Spunous Emission Test	5.1dB (1GHz-18GHz)	
	5.4dB (Above 18GHz)	
Temperature Test	1°C	
Humidity Test	3%	
Supply Voltages	1.5%	
Time	3%	
	Radio Frequency Image: Construction of the sector of t	

4.4 Measurement Uncertainty

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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Report No.: KSCR220900173002 Page: 8 of 116

4.5 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China. Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS

Compliance Certification Services (Kunshan) Inc. is accredited by the China National Accreditation Service for Conformity Assessment (CNAS). Registration No. CNAS L4354

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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Report No.: KSCR220900173002 Page: 9 of 116

5 Equipment List

ltem	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Condu	icted Emission at Mains Ter	minals (150kHz-30N	/Hz)			
1	EMI Test Receive	R&S	ESCI	KS301101	01/22/2022	01/21/2023
2	LISN	R&S	ENV216	KS301197	01/22/2022	01/21/2023
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/22/2022	01/21/2023
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	01/22/2022	01/21/2023
5	CE test Cable	Thermax	/	CZ301102	11/14/2021	11/13/2022
6	Test Software	Farad	EZ-EMC	/	N.C.R	N.C.R
RF Co	nducted Test					
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/22/2022	08/21/2023
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/22/2022	08/21/2023
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/22/2022	01/21/2023
4	Signal Generator	R&S	SMW200A	KSEM020-1	08/22/2022	08/21/2023
5	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/22/2022	08/21/2023
6	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/22/2022	08/21/2023
7	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	04/01/2022	03/31/2023
8	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/22/2022	08/21/2023
9	Switcher	CCSRF	FY562	KUS2001M001-3	08/22/2022	08/21/2023
10	AC Power Source	EXTECH	6605	KS301178	N.C.R	N.C.R
11	DC Power Supply	Aglient	E3632A	KS301180	N.C.R	N.C.R
12	Conducted Test Cable	Thermax	RF01-RF04	CZ301111- CZ301120	01/16/2022	01/15/2023
13	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	04/01/2021	03/31/2023
14	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	04/14/2022	04/13/2023
15	Software	BST	TST-PASS	/	N/A	N/A
RF Ra	diated Test					
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/22/2022	08/21/2023
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	04/01/2022	03/31/2023
3	Signal Generator	Agilent	E8257C	KS301066	08/22/2022	08/21/2023
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	04/13/2021	04/12/2023
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2021	06/28/2023
6	Bilog Antenna	SCHWARZBECK	VULB9160	CZ301016	04/13/2021	04/12/2024
7	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	04/02/2022	04/01/2024
8	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	KS301186	02/22/2021	02/21/2023
9	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	03/17/2022	03/16/2023
10	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/22/2022	01/21/2023
11	Amplifier(18~40GHz)	COM-POWER	PAM-840A	KUS1710E001	01/22/2022	01/21/2023
12	RE Test Cable	REBES MICROWAVE	/	CZ301097	11/14/2021	11/13/2022
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	01/04/2022	31/03/2023
14	Software	Faratronic	EZ_EMC-v 3A1	/	N/A	N/A



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Report No.: KSCR220900173002 Page: 10 of 116

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

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

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is Dipole Antenna on the main PCB and no consideration of replacement. The best case gain of the antenna is 4.01 dBi.

Antenna location: Refer to internal photo.





Report No.: KSCR220900173002 Page: 11 of 116

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement	47 CFR Part 15, Subpart C 15.207
Test Method:	ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of	Conducted limit(dBµV)				
emission(MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			
*Decreases with the logarithm of the frequency.					
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz					

7.1.1 E.U.T. Operation

Operating Environment:

Temperature:	23.1 °C	Humidity:	33.8 % RH	Atmospheric Pressure:	1010	mbar
7.1.2 Test Mode Desc	ription					

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

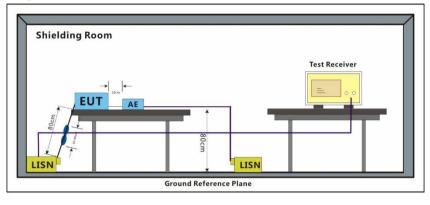


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Report No.: KSCR220900173002 Page: 12 of 116

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50 μ H + 50hm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: Level=Read Level+ Cable Loss+ LISN Factor

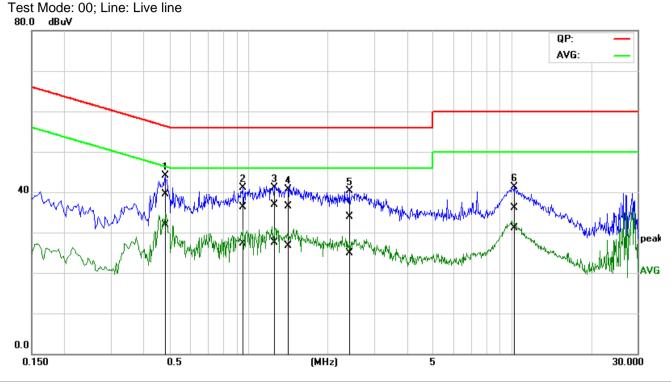


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Report No.: KSCR220900173002 Page: 13 of 116



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.4821	19.94	12.33	19.56	39.50	31.89	56.30	46.30	-16.80	-14.41	Pass
2	0.9416	16.66	7.72	19.59	36.25	27.31	56.00	46.00	-19.75	-18.69	Pass
3	1.2351	17.37	7.95	19.61	36.98	27.56	56.00	46.00	-19.02	-18.44	Pass
4	1.4003	16.85	7.10	19.62	36.47	26.72	56.00	46.00	-19.53	-19.28	Pass
5	2.3938	14.30	5.25	19.67	33.97	24.92	56.00	46.00	-22.03	-21.08	Pass
6	10.2732	15.99	11.06	20.05	36.04	31.11	60.00	50.00	-23.96	-18.89	Pass



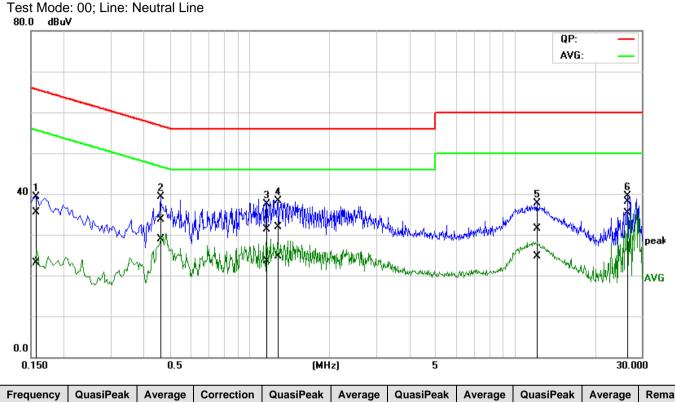
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Report No.: KSCR220900173002 Page: 14 of 116



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1547	16.11	3.54	19.48	35.59	23.02	65.74	55.74	-30.15	-32.72	Pass
2	0.4648	14.11	9.41	19.55	33.66	28.96	56.61	46.61	-22.95	-17.65	Pass
3	1.1675	11.68	3.80	19.61	31.29	23.41	56.00	46.00	-24.71	-22.59	Pass
4	1.2618	12.28	5.15	19.61	31.89	24.76	56.00	46.00	-24.11	-21.24	Pass
5	12.1206	11.35	4.55	20.11	31.46	24.66	60.00	50.00	-28.54	-25.34	Pass
6*	26.6090	17.81	14.99	20.28	38.09	35.27	60.00	50.00	-21.91	-14.73	Pass



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Report No.: KSCR220900173002 Page: 15 of 116

7.2 Conducted Average Output Power

Test Requirement47 CFR Part 15, Subpart C 15.247(b)(3)Test Method:ANSI C63.10 (2013) Section 11.9.2Limit:Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
	1 for ≥50 hopping channels
902-928	0.25 for 25≤ hopping channels <50
	1 for digital modulation
	1 for ≥75 non-overlapping hopping channels
2400-2483.5	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

7.2.1 E.U.T. Operation

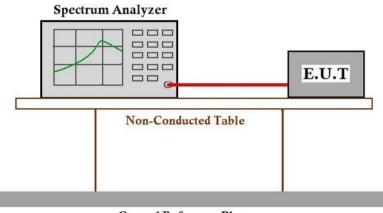
Operating Environment:

Tempe	erature:	26.7 °C	Humidity:	33.0 % RH	Atm	ospheric Pressure:	1010	mbar
7.2.2 Test Mode Description								
Pre-scan /	Mode	Description						

IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of

7.2.3 Test Setup Diagram



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Report No.: KSCR220900173002 Page: 16 of 116

7.2.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details



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Report No.: KSCR220900173002 Page: 17 of 116

7.3 Minimum 6dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.247a(2)
Test Method:	ANSI C63.10 (2013) Section 11.8.1
Limit:	≥500 kHz

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 26.7 °C

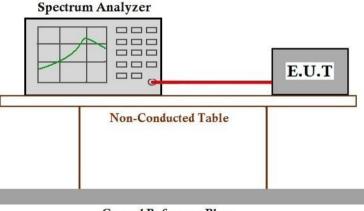
Humidity: 33.0 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



Ground Reference Plane

7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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Report No.: KSCR220900173002 Page: 18 of 116

7.4 Power Spectrum Density

Test Requirement	47 CFR Part 15, Subpart C 15.247(e)			
Test Method:	ANSI C63.10 (2013) Section 11.10.2			
Limit:				
<8dBm in any 3 kHz band during any time interval of continuous transmission				

7.4.1 E.U.T. Operation

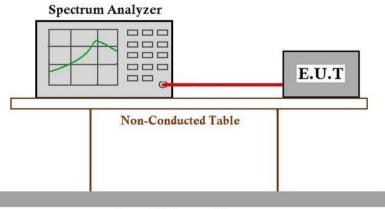
Operating Environment:

Temperature:	26.7 °C	Humidity:	33.0 % RH	Atmospheric Pressure:	1010	mbar
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7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



Ground Reference Plane

7.4.4 Measurement Procedure and Data

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Report No.: KSCR220900173002 Page: 19 of 116

7.5 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.13.3.2

Limit:

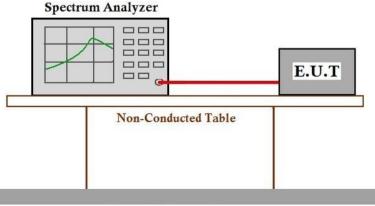
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.5.1 E.U.T. Operation

Operating Environment:

Opora						
Temperature:		26.7 °C	Humidity:	33.0 % RH	Atmospheric Pressure: 1010	mbar
7.5.2 Test M	lode Des	scription				
Pre-scan / Final test	Mode Code	Description				
Final test	00	All data rates f 1Mbps is the v IEEE 802.11g;	or each modula vorst case of II data rate @ 6 e considering t	ation type have EEE 802.11b; (.5Mbps is the v he modulation	smitting mode with all modulation been tested and found the data r data rate @ 6Mbps is the worst c vorst case of IEEE 802.11n(HT20 and worse data rates. Only the c	rate @ ase of), final

7.5.3 Test Setup Diagram



Ground Reference Plane



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Report No.: KSCR220900173002 Page: 20 of 116

7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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Report No.: KSCR220900173002 Page: 21 of 116

7.6 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.11

Limit:

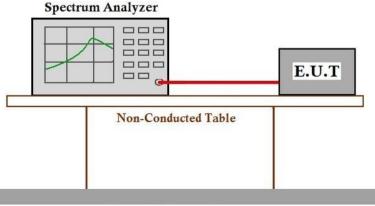
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.6.1 E.U.T. Operation

Operating Environment:

Opora						
Temperature:		26.7 °C	Humidity:	33.0 % RH	Atmospheric Pressure: 101	0 mbar
7.6.2 Test M	lode Des	scription				
Pre-scan / Final test	Mode Code	Description				
Final test	00	All data rates f 1Mbps is the v IEEE 802.11g;	or each modula vorst case of II data rate @ 6 e considering t	ation type have EEE 802.11b; (5.5Mbps is the v he modulation	smitting mode with all modulation been tested and found the data data rate @ 6Mbps is the worst worst case of IEEE 802.11n(HT) and worse data rates. Only the	a rate @ t case of 20), final

7.6.3 Test Setup Diagram



Ground Reference Plane



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Report No.: KSCR220900173002 Page: 22 of 116

7.6.4 Measurement Procedure and Data

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Report No.: KSCR220900173002 Page: 23 of 116

7.7 Radiated Emissions which fall in the restricted bands

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.10.5

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR guasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.7.1 E.U.T. Operation

Operating Environment:

2 Test Mode Des	cription						
Temperature:	23.5 °C	Humidity:	58.6 % RH	Atmospheric Pressure:	1010	mbar	

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.



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7.7.3 Test Setup Diagram

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Report No.: KSCR220900173002 Page: 24 of 116

3m or 10m Jantenna Tower Mattenna Tower Jantenna Tower Turntable Ground Reference Plane Test Receiver Test Receiver Test Receiver Test Receiver Jantenna Tower Test Receiver <tr



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Report No.: KSCR220900173002 Page: 25 of 116

7.7.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

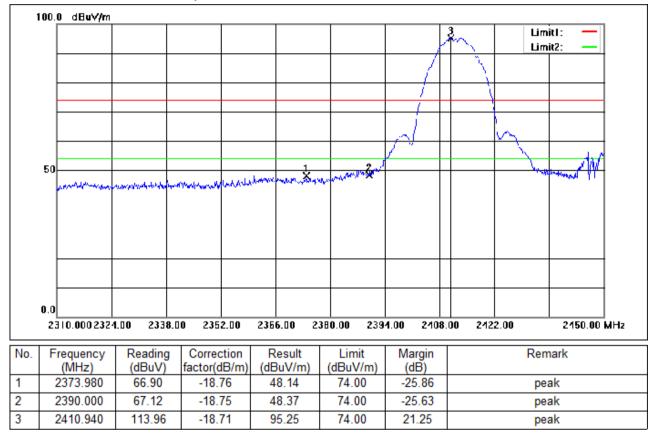
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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Report No.: KSCR220900173002 Page: 26 of 116



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Report No.: KSCR220900173002 Page: 27 of 116

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	2364.740	71.69	-18.76	52.93	74.00	-21.07		peak	
	2390.000	73.48	-18.75	54.73	74.00	-19.27		peak	
	2410.800	117.23	-18.71	98.52	74.00	24.52		peak	

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Report No.: KSCR220900173002 Page: 28 of 116

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	0.0	1.00 2338.0	0 2352.00	2356.00 2	380.00 239	1.00 2108.	.00 2122.00	2150.00 MHz
	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)		Remark
	2364.880	59.57	-18.76	40.81	54.00	-13.19		AVG
	2390.000	61.48	-18.75	42.73	54.00	-11.27		AVG
+	2411.220	115.25	-18.71	96.54	54.00	42.54		AVG

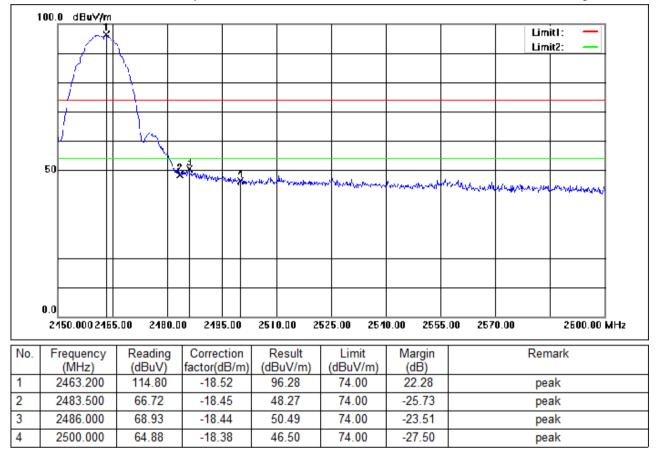
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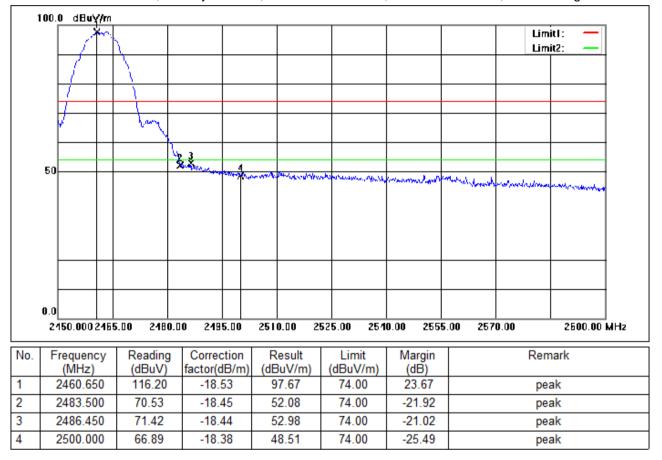
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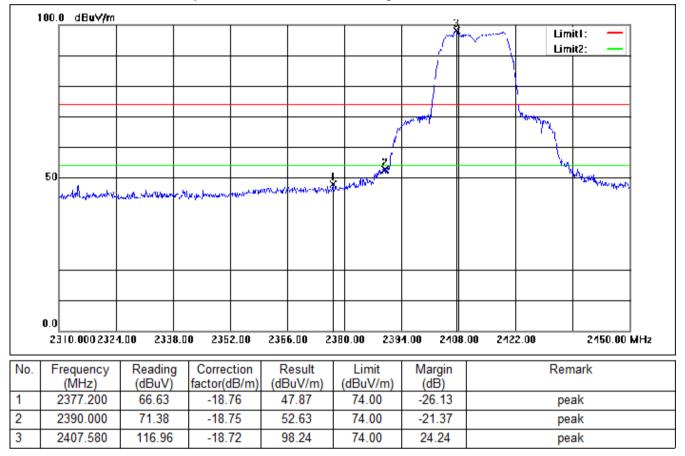
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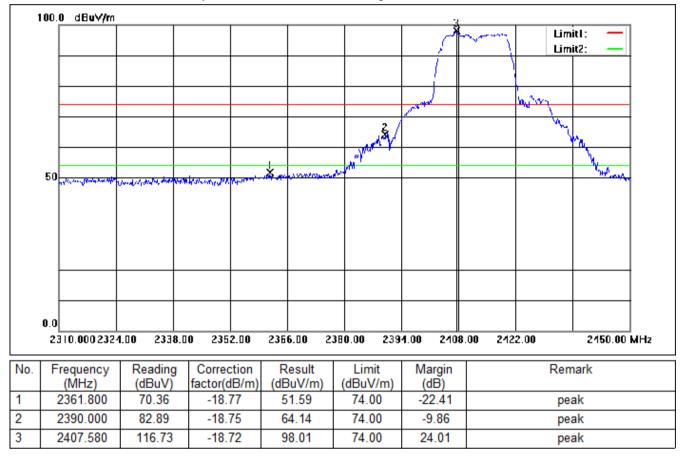
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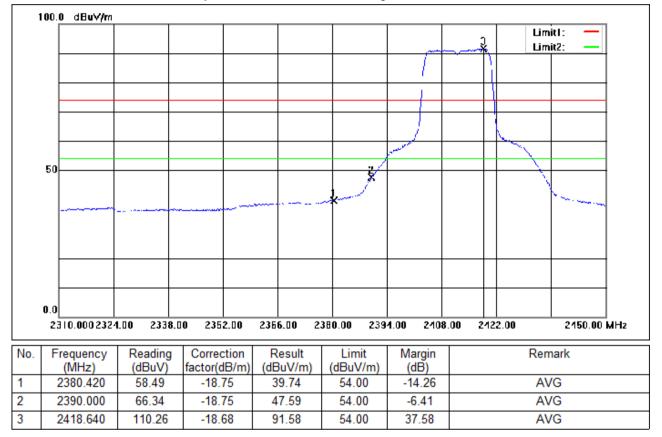
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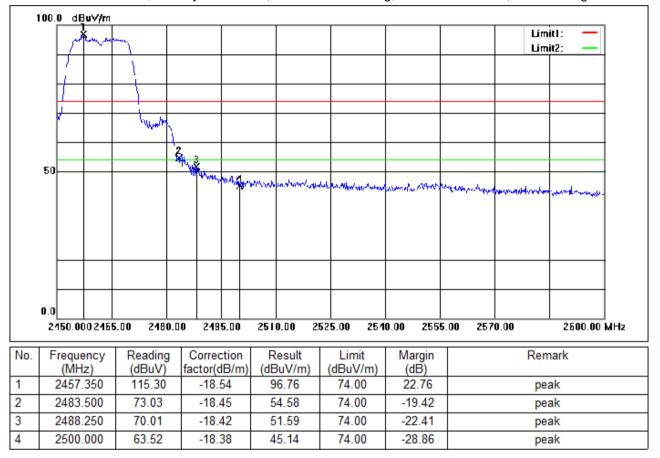
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Report No.: KSCR220900173002 Page: 34 of 116



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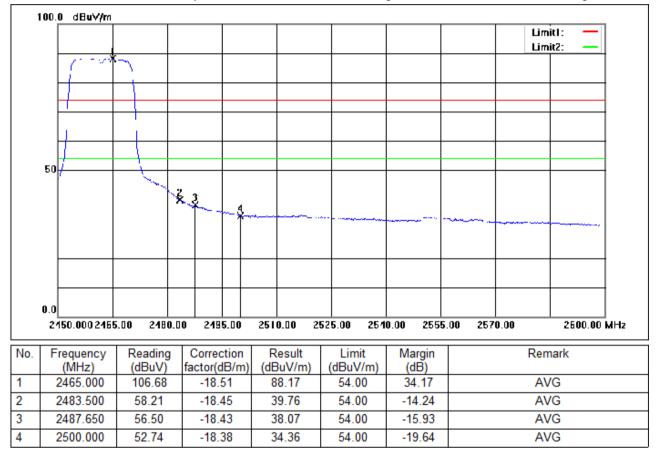


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Report No.: KSCR220900173002 Page: 35 of 116



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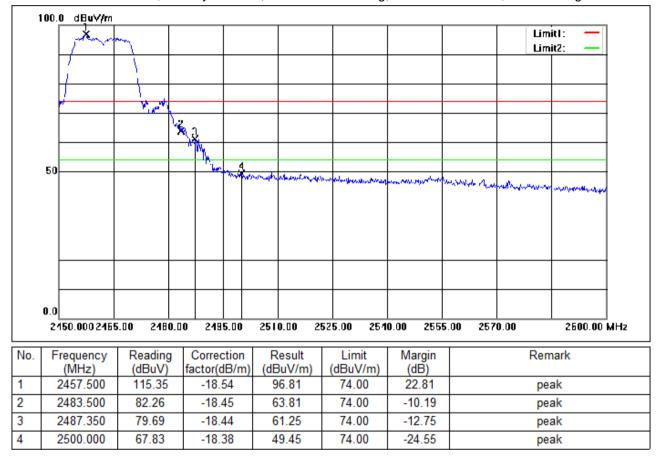


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Report No.: KSCR220900173002 Page: 36 of 116



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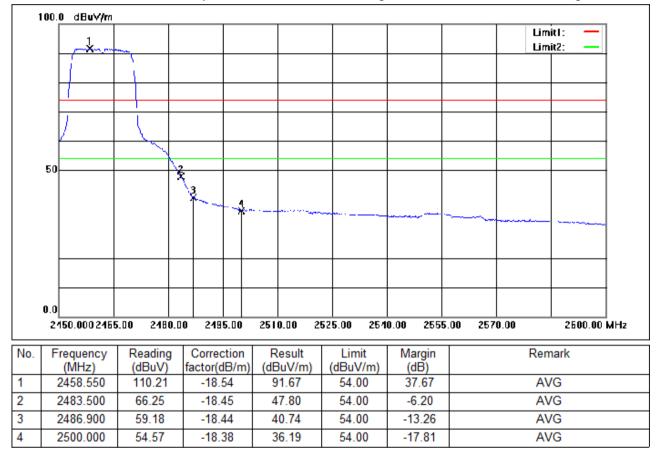
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Report No.: KSCR220900173002 Page: 37 of 116



Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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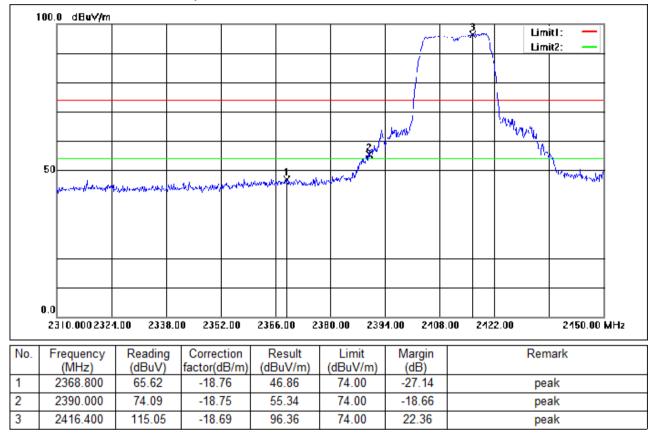
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Report No.: KSCR220900173002 Page: 38 of 116



Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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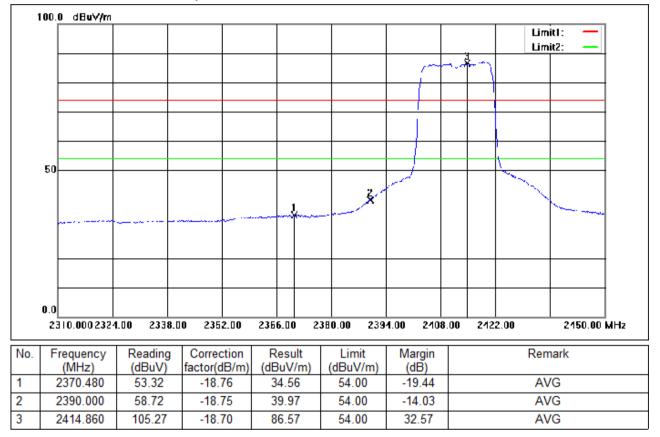
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Report No.: KSCR220900173002 Page: 39 of 116



Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 40 of 116

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	2	2390.000	83.96	-18.	75	6	5.21	74.00)	-8.	79				peak		
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Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

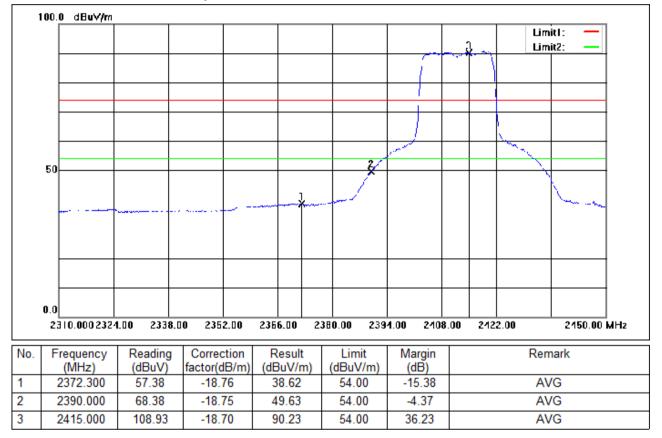


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Report No.: KSCR220900173002 Page: 41 of 116



Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

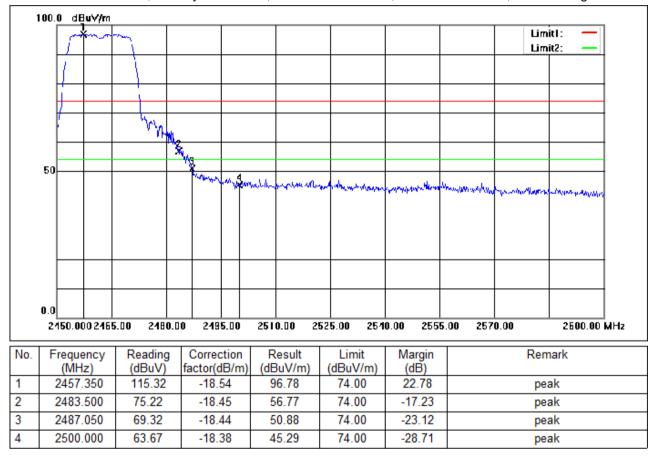


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Report No.: KSCR220900173002 Page: 42 of 116



Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



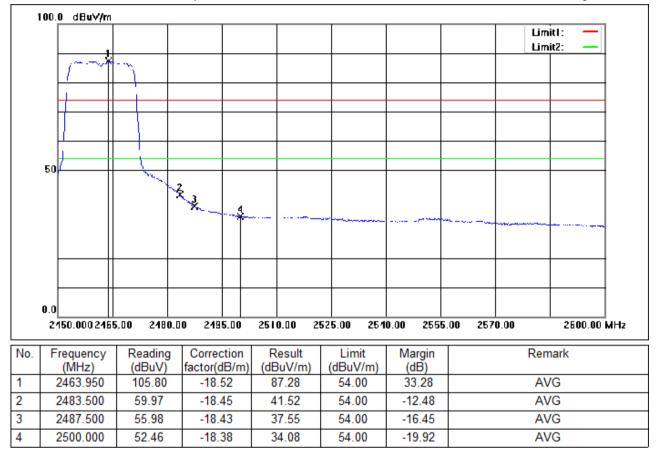
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Report No.: KSCR220900173002 Page: 43 of 116



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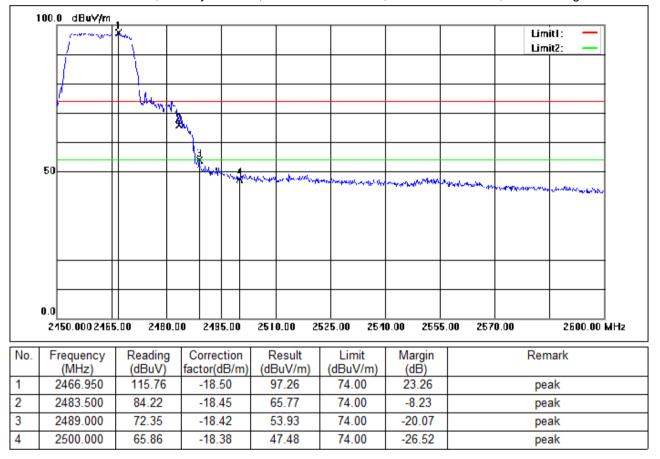
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Report No.: KSCR220900173002 Page: 44 of 116



Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

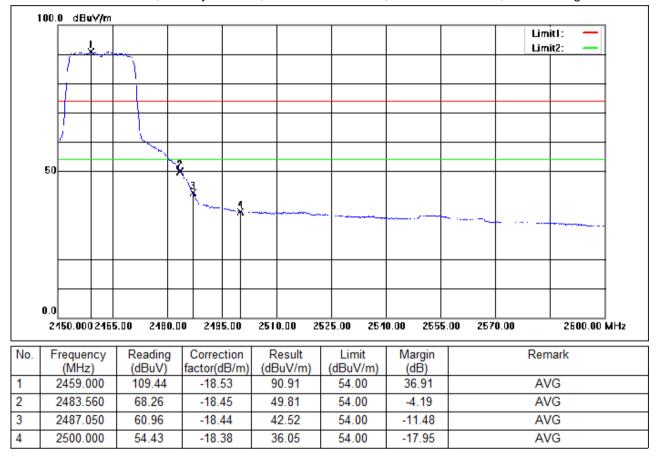


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Report No.: KSCR220900173002 Page: 45 of 116



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Report No.: KSCR220900173002 Page: 46 of 116

7.8 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209 Test Method: ANSI C63.10 (2013) Section 6.4,6.5

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.8.1 E.U.T. Operation

Operating Environment:

Temperature:	23.6 °C	Humidity:	58.6 % RH	Atmosphe	eric Pressure:	1010	mbar
7.8.2 Test Mode Desc	ription						

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

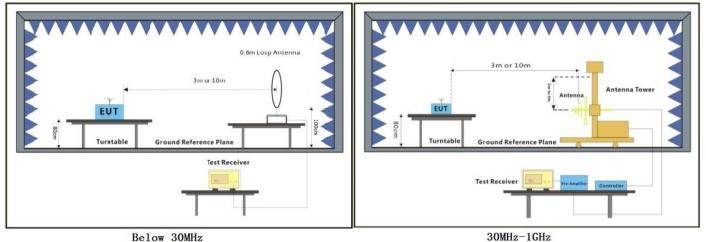


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7.8.3 Test Setup Diagram



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Report No.: KSCR220900173002 Page: 48 of 116

7.8.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



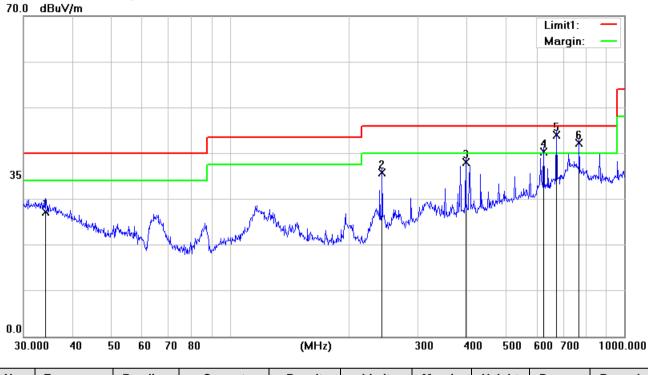
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Report No.: KSCR220900173002 Page: 49 of 116



Test Mode: 00; Polarity: Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	34.1561	2.36	24.86	27.22	40.00	-12.78	200	356	QP
2	243.3772	16.60	19.14	35.74	46.00	-10.26	100	295	QP
3	396.2415	14.89	23.18	38.07	46.00	-7.93	100	0	QP
4	625.0780	13.08	27.33	40.41	46.00	-5.59	100	0	QP
5	672.8444	16.63	27.46	44.09	46.00	-1.91	200	360	QP
6	768.7481	39.88	2.32	42.20	46.00	-3.80	200	360	QP



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Report No.: KSCR220900173002 Page: 50 of 116

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0.0			80						1000.000
0.0			Correct						1000.000 Remark
0.0	000 40 5	0 60 70		(MHz)		300 40	0 500	600 700	
0.0	000 40 5 Frequency	0 60 70 Reading	Correct	(MHz) Result	Limit	300 40 Margin	0 500 Height	600 700 Degree	
0.0 30.0 No.	000 40 5 Frequency (MHz)	0 60 70 Reading (dBuV)	Correct Factor(dB/m)	(MHz) Result (dBuV/m)	Limit (dBuV/m)	300 40 Margin (dB)	0 500 Height (cm)	600 700 Degree (deg.)	Remark
0.0 30.0 No.	000 40 5 Frequency (MHz) 31.3992	0 60 70 Reading (dBuV) 2.55	Correct Factor(dB/m) 25.14	(MHz) Result (dBuV/m) 27.69	Limit (dBuV/m) 40.00	300 40 Margin (dB) -12.31	0 500 Height (cm) 200	600 700 Degree (deg.) 0	Remark QP
0.0 30.0 No.	000 40 5 Frequency (MHz) 31.3992 117.3603	0 60 70 Reading (dBuV) 2.55 12.54	Correct Factor(dB/m) 25.14 19.23	(MHz) Result (dBuV/m) 27.69 31.77	Limit (dBuV/m) 40.00 43.50	300 40 Margin (dB) -12.31 -11.73	0 500 Height (cm) 200 100	600 700 Degree (deg.) 0 4	Remark QP QP

39.90



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768.7481

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142

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Report No.: KSCR220900173002 Page: 51 of 116

7.9 Radiated Spurious Emissions Above 1GHz

Test Requirement47 CFR Part 15, Subpart C 15.205 & 15.209Test Method:ANSI C63.10 (2013) Section 6.6

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

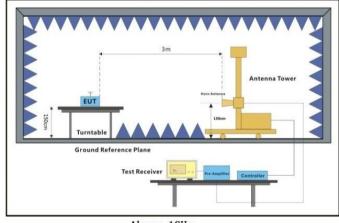
7.9.1 E.U.T. Operation

Operating Environment:

Temperature:	23.6 °C	Humidity:	56.6 % RH	Atmospheric Pressure:	1010	mbar
7.9.2 Test Mode Desc	cription					

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



Above 1GHz



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Report No.: KSCR220900173002 Page: 52 of 116

7.9.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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Report No.: KSCR220900173002 Page: 53 of 116

1	00.0	0 dBu∀/m																
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		100.0002700	.00 4400).00	610	0.00	780	0.00 9	950)	0.00 ;	200.00	1290	0.00	1600.0	0	180	100.00M	Ηz
D.		requency (MHz)	Reading (dBuV)		Correc factor(d		(dE	lesult BuV/m)	(Limit dBuV/m)	Mar (dł	rgin B)			Rer	mark		
		4824.000	60.25		-11.3			8.91		74.00		.09			pe	eak		
	1	7236.000	54.97		-4.9	9	4	9.98		74.00	-24	.02			pe	eak		
	9	9648.000	51.11		-0.1	2	5	0.99		74.00	-23	.01			pe	eak		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 54 of 116

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		equency (MHz)	Reading (dBuV)		Correct factor(d			lesult BuV/m)	(Limit dBuV/m)	Margi (dB)	in			Rem	ark	
		824.000	59.52		-11.3			8.18		74.00	-25.8				pea	ık	
	- 7	236.000	54.05		-4.9	9	4	9.06		74.00	-24.9	4			pea	ık	
	9	648.000	50.24		-0.1	2	5	0.12		74.00	-23.8	8			pea	ık	

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 55 of 116

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D .	F	requency	Reading		Correc			lesult			Limit	Ma	irgin				Rem	nark		
		(MHz)	(dBuV)		factor(d			BuV/m)	(_	BuV/m)		IB)							
		4874.000	59.86		-11.1			8.73			74.00		5.27				pea			
		7311.000	54.84		-4.9			9.91			74.00		4.09				pea			
	9	9748.000	50.45		-0.1	1	5	0.34		7	74.00	-23	3.66				pea	ak		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 56 of 116

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	4	4874.000	61.06		-11.1			9.93		74.			1.07				pea	ak		
	1	7311.000	54.37		-4.9	3	4	9.44		74.	00	-24	.56				pea	ak		
	9	9748.000	50.38		-0.1	1	5	0.27		74.	00	-23	3.73				pea	ak		

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 57 of 116

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-	(MHz) 4924.00	0	(dBuV) 58.96	-	factor(d -10.9			BuV/m 8.03	-		BuV/m) 74.00		B) 5.97				peal	k	
\dashv	7386.00		54.62	+	-4.8			9.76	+		4.00		1.24				peal		
\dashv	9848.00		50.80	+	0.0			0.83	+		74.00		3.17				peal		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 58 of 116

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).	Fre	quency	Reading	9	Correc			lesult	Τ		imit	Mai	rgin				Rem	nark		
		MHz)	(dBuV)		factor(d			BuV/m)	(BuV/m)		B)							
		24.000	59.62		-10.9			8.69			4.00		.31				pea	ak		
	73	86.000	54.08		-4.8	6	4	9.22		7	4.00	-24	.78				pea	ak		
	98	48.000	50.84		0.0	3	5	0.87		7	4.00	-23	.13				pea	ak		

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 59 of 116

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0.		equency (MHz)	Reading (dBuV)		Correct factor(d			lesult BuV/m)	(Lim dBu\		Ma (d	rgin B)				Rem	nark		
		824.000	59.93		-11.3		4	8.59		74.(-25	5.41				pea	ak		
	7	236.000	54.98		-4.9	9	4	9.99		74.(00	-24	1.01				pea	ak		
	9	648.000	50.18		-0.1	2	5	0.06		74.(00	-23	3.94				pea	ak		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 60 of 116

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I.		equency (MHz)	Reading (dBuV)	Corre factor(lesult BuV/m)	(Limit dBuV/m)	Margin (dB)			F	Remark	< .	
		824.000	59.75	-11.			8.41		74.00	-25.59				peak		
	7	236.000	54.79	-4.9	99	4	9.80		74.00	-24.20				peak		
1	9	648.000	51.05	-0.1	12	5	i0.93		74.00	-23.07				peak		

Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 61 of 116

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		1874.000	59.96	-	11.13	4	18.83		74.00	-25.17			peak	
	7	7311.000	54.74		-4.93	4	19.81		74.00	-24.19			peak	
	9	9748.000	50.87		-0.11	5	50.76		74.00	-23.24			peak	

Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 62 of 116

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	4	4874.000	59.26	-11			8.13	- "	74.00	-25.87	7			peak		
		7311.000	54.32	-4.	93	4	9.39		74.00	-24.61				peak		
	9	9748.000	50.87	-0.	11	5	0.76		74.00	-23.24	1			peak		

Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 63 of 116

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	4	4924.000	59.79		-10.9	93	4	8.86		7	4.00	-25	5.14				pe	ak		
	Ĩ	7386.000	54.27		-4.8	6	4	9.41		7	4.00	-24	.59				pe	ak		
	9	9848.000	50.66		0.0	3	5	60.69		7	4.00	-23	3.31				pe	ak		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 64 of 116

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		4.000	59.53		-10.			8.60			4.00		5.40			· ·	ak		
	738	6.000	54.36		-4.8	6	4	9.50		7	74.00	-24	.50			ре	ak		
Τ	984	8.000	50.74		0.0	3	5	0.77	Τ	7	74.00	-23	3.23			pe	ak		

Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 65 of 116

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	4824.0	00	60.34		-11.3	34	4	9.00		74	4.00	-25	5.00				pea	k		
	7236.0	00	54.70		-4.9	9	4	9.71		74	4.00	-24	.29				pea	k		
	9648.0	00	50.98		-0.1	2	5	0.86		74	1.00	-23	3.14				pea	k		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 66 of 116

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	4	824.000	60.10	-11.	34	4	8.76		74.00	-25.24	-			pea	k	
	7	236.000	54.61	-4.9	99	4	9.62		74.00	-24.38	}			pea	k	
Τ	9	648.000	51.05	-0.1	12	5	50.93	Τ	74.00	-23.07	'			pea	k	

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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Report No.: KSCR220900173002 Page: 67 of 116

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		4874.000	59.46	-11.			8.33		74.00		-25.67				pea			
		7311.000	54.79	-4.9			9.86		74.00		-24.14				pea			
	9	9748.000	50.38	-0.1	1	5	50.27		74.00		-23.73	3			pea	ık		

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 68 of 116

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	4	1874.000	59.89		-11.1		4	8.76		1	74.00		5.24		peak					
	7	7311.000	54.55		-4.9	3	4	9.62		1	74.00	-24	.38		peak					
	9	9748.000	51.04		-0.1	1	5	0.93		1	74.00	-23	8.07		peak					

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



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Report No.: KSCR220900173002 Page: 69 of 116

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			59.72					8.79	+		4.00		5.21	peak						
		7386.000	53.94		-4.8			9.08	\perp		4.00		.92		peak					
		9848.000	50.84		0.0	3	5	50.87		7	4.00	-23	3.13		peak					

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 70 of 116

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	(MHz)		(dBuV)		factor(d			3uV/m)			BuV/m)	(dl	B)						
	4924.0		59.92		-10.9	93		8.99		7	4.00		.01				peak		
	7386.0	00	54.48		-4.8	6	4	9.62	Τ	7	4.00	-24	.38		peak				
	9848.0	00	50.10		0.0	3	5	0.13		7	4.00	-23	.87		peak				

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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Report No.: KSCR220900173002 Page: 71 of 116

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2209001730AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2209001730AT



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Report No.: KSCR220900173002 Page: 72 of 116

10 Appendix

Appendix for KSCR220900173002-FCC-2.4G

- 1. Duty Cycle
- 1.1 Ant1
- 1.1.1 Test Result

Ant1												
Mode	ТХ Туре	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)					
		2412	8.383	8.403	99.76	0.01	0.04					
802.11b	SISO	2437	8.387	8.404	99.80	0.01	0.00					
		2462	8.383	8.403	99.76	0.01	0.04					
		2412	1.392	1.410	98.72	0.06	0.03					
802.11g	SISO	2437	1.392	1.409	98.79	0.05	0.03					
		2462	1.393	1.410	98.79	0.05	0.03					
000.44		2412	5.085	5.101	99.69	0.01	0.04					
802.11n (HT20)	SISO	2437	5.083	5.101	99.65	0.02	0.04					
(11120)		2462	5.083	5.101	99.65	0.02	0.04					



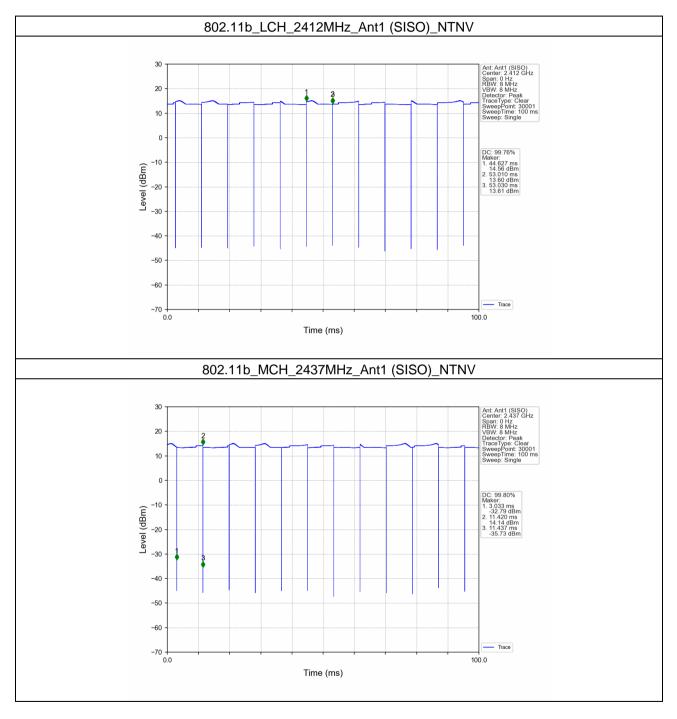
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Report No.: KSCR220900173002 Page: 73 of 116

1.1.2 Test Graph





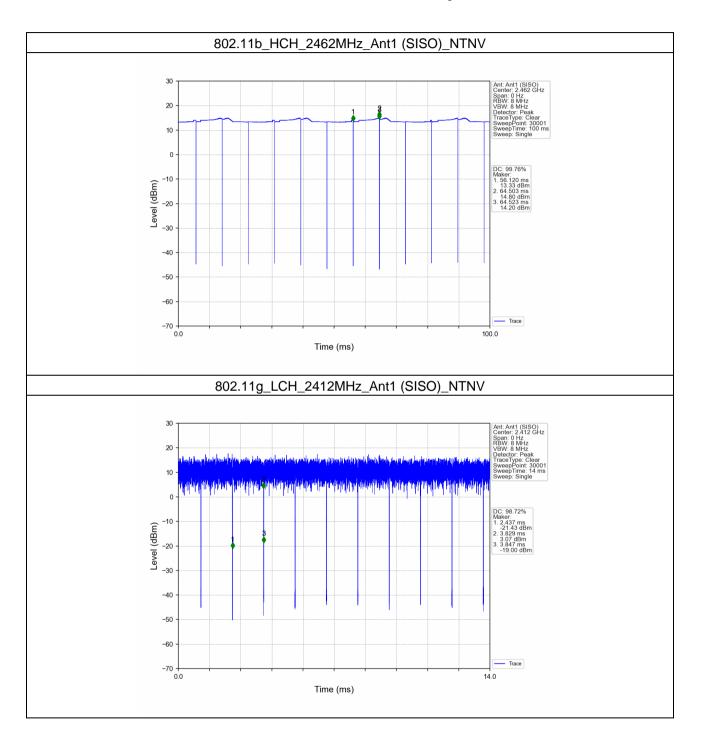
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 74 of 116





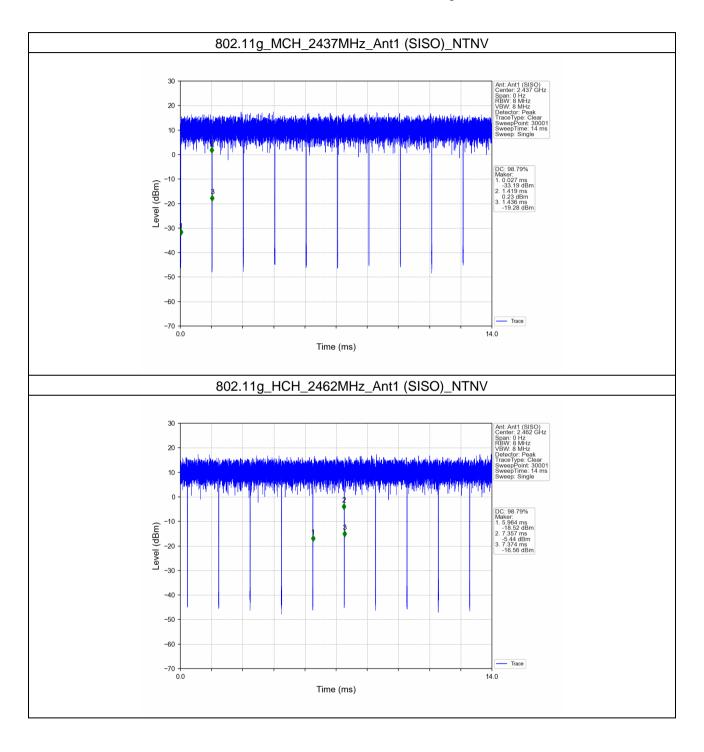
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 75 of 116





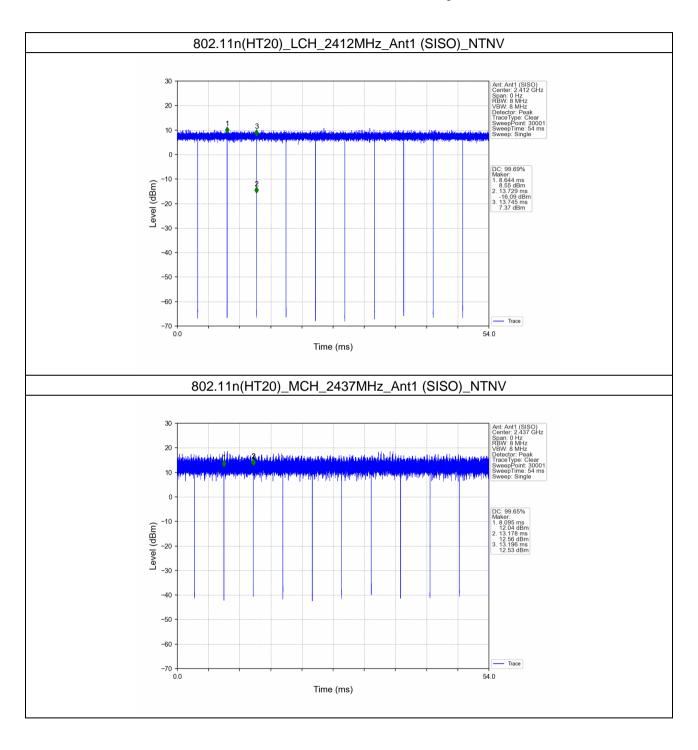
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 76 of 116





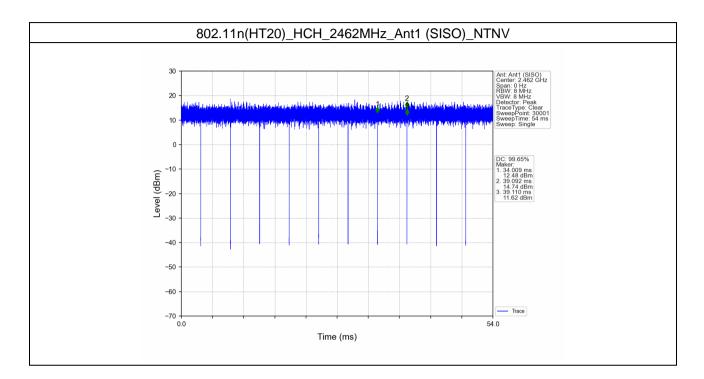
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Report No.: KSCR220900173002 Page: 77 of 116





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Report No.: KSCR220900173002 Page: 78 of 116

2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	ТΧ	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict	
	Туре			Result		
		2412		15.078	Pass	
802.11b	SISO	2437	1	15.119	Pass	
		2462	1	15.133	Pass	
	SISO		2412	1	17.822	Pass
802.11g		2437	1	17.860	Pass	
		2462	1	17.858	Pass	
		2412	1	18.563	Pass	
802.11n (HT20)	SISO	2437	1	18.583	Pass	
(1120)		2462	1	18.594	Pass	



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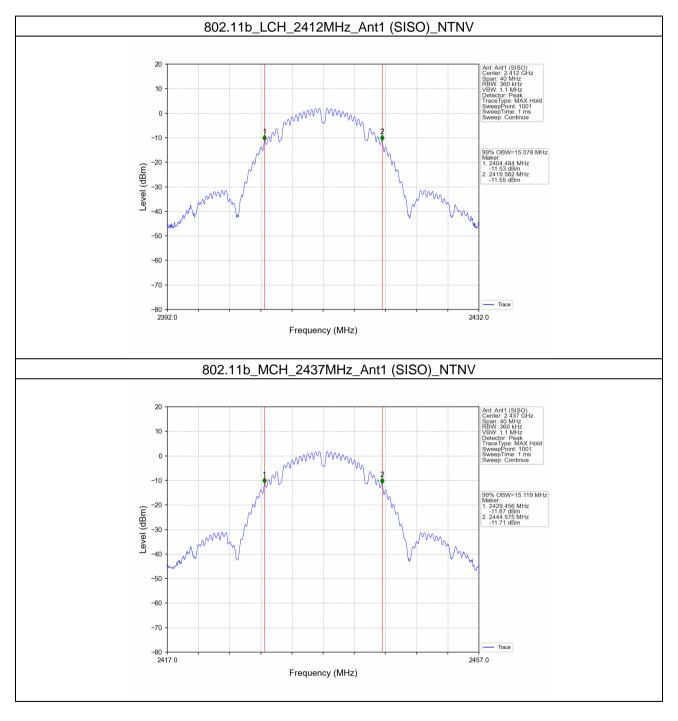
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Report No.: KSCR220900173002 Page: 79 of 116

2.1.2 Test Graph





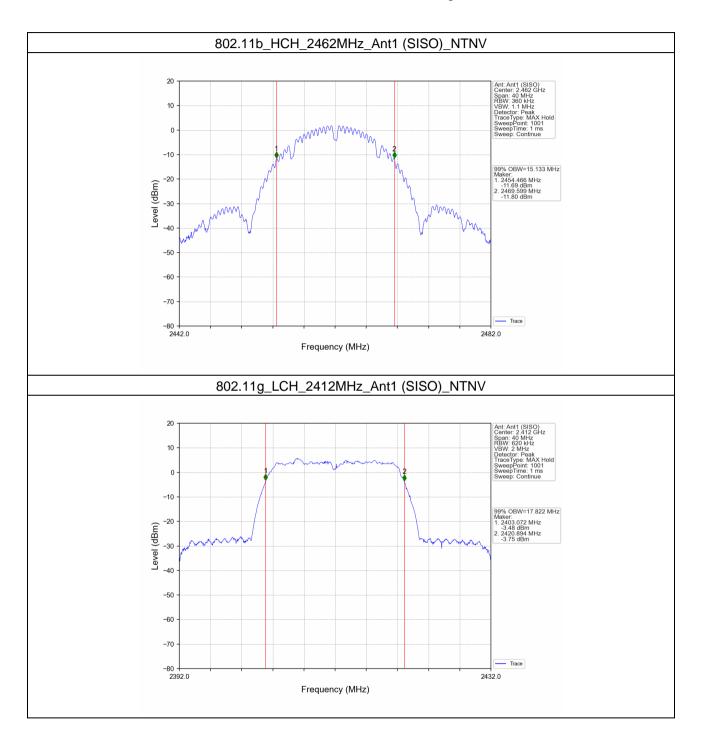
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Report No.: KSCR220900173002 Page: 80 of 116





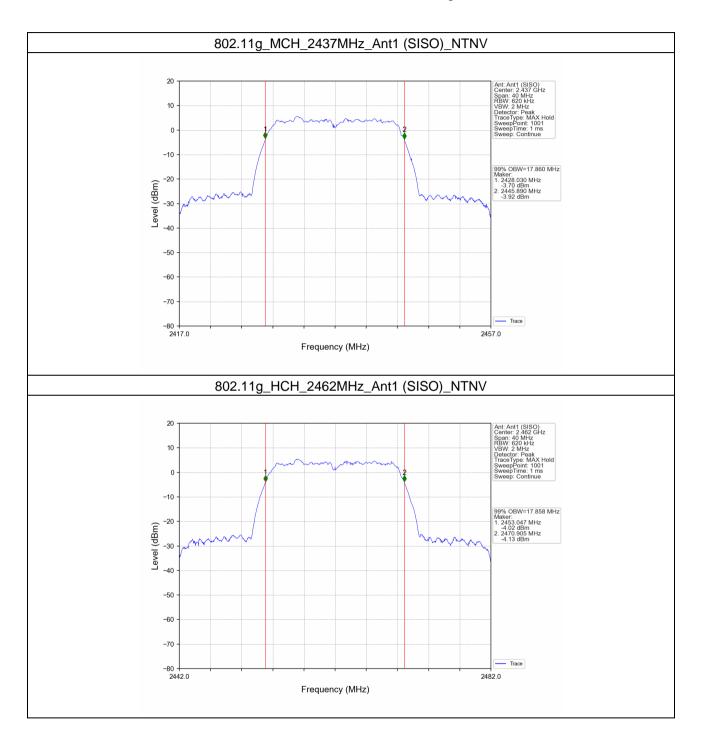
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Report No.: KSCR220900173002 Page: 81 of 116





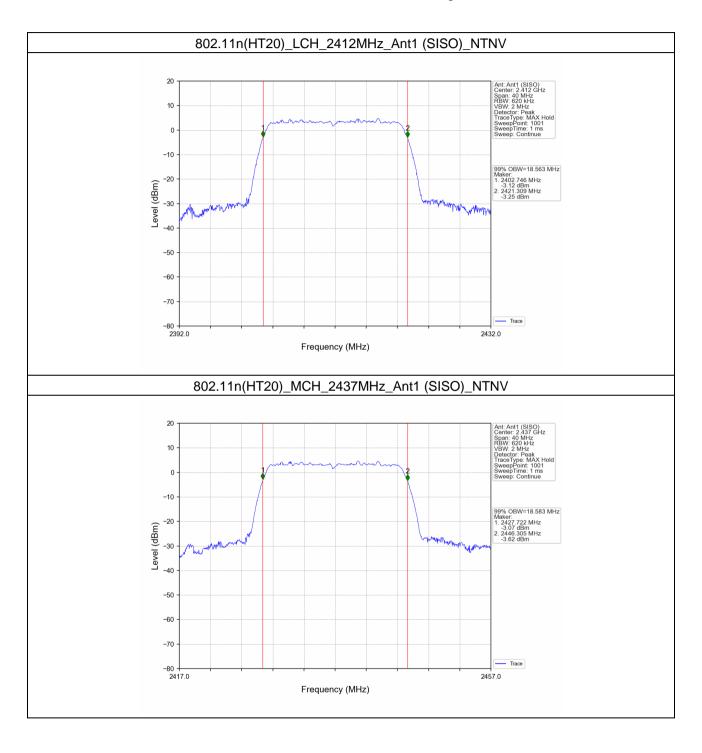
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Report No.: KSCR220900173002 Page: 82 of 116





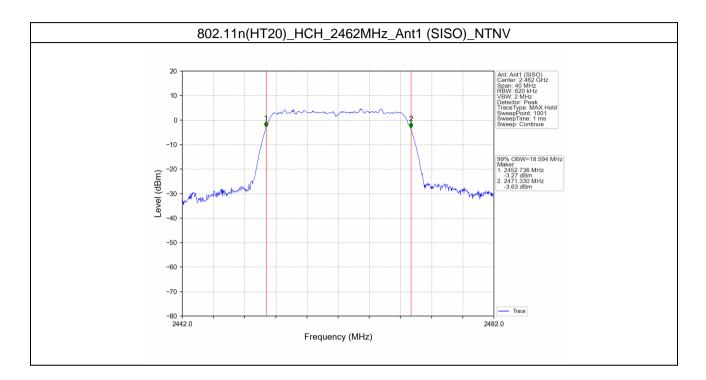
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Report No.: KSCR220900173002 Page: 84 of 116

2.2 6dB BW

2.2.1 Test Result

Mode	ТХ	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Vordiat
	Туре			Result	Limit	Verdict
		2412	1	10.086	>=0.5	Pass
802.11b	SISO	2437	1	10.089	>=0.5	Pass
		2462	1	10.084	>=0.5	Pass
802.11g	SISO	2412	1	16.388	>=0.5	Pass
		2437	1	16.390	>=0.5	Pass
		2462	1	16.387	>=0.5	Pass
802.11n (HT20)		2412	1	17.631	>=0.5	Pass
	SISO	2437	1	17.635	>=0.5	Pass
		2462	1	17.635	>=0.5	Pass



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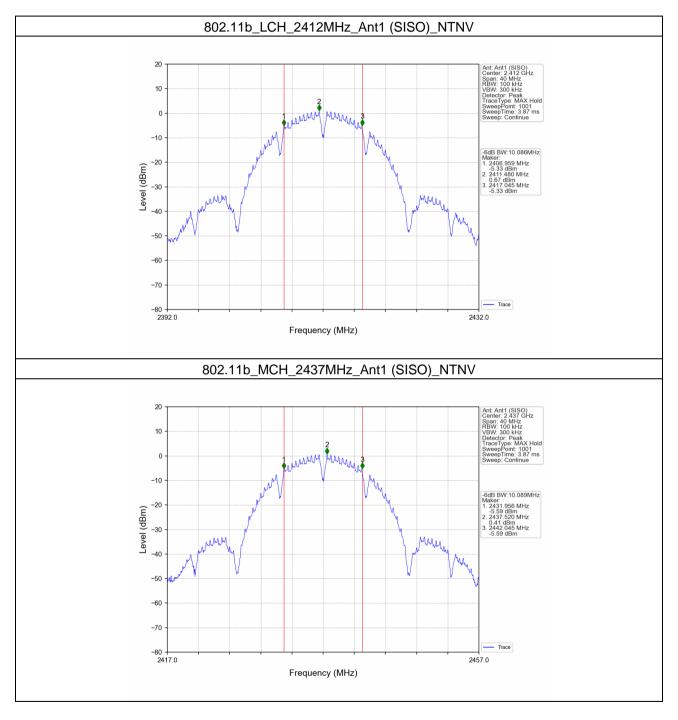
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Report No.: KSCR220900173002 Page: 85 of 116

2.2.2 Test Graph





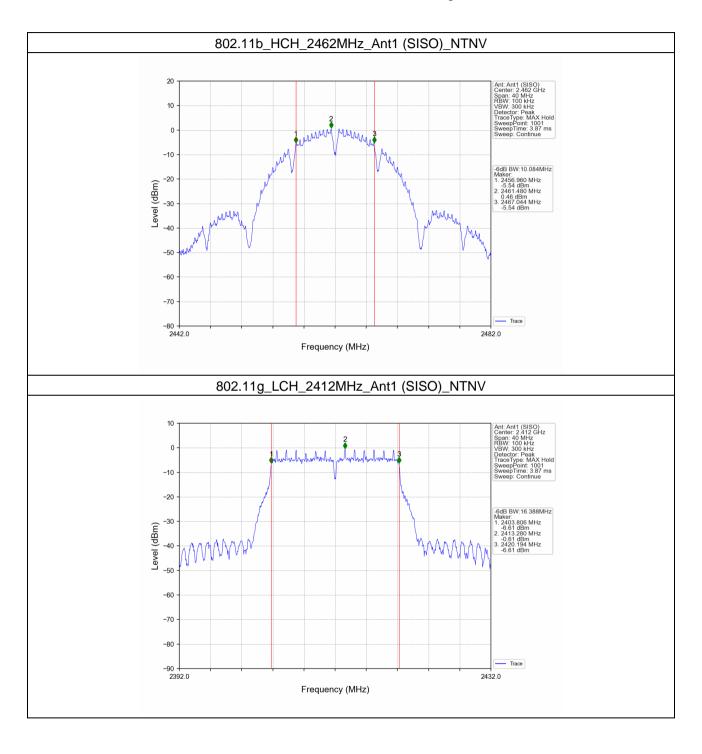
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Report No.: KSCR220900173002 Page: 86 of 116





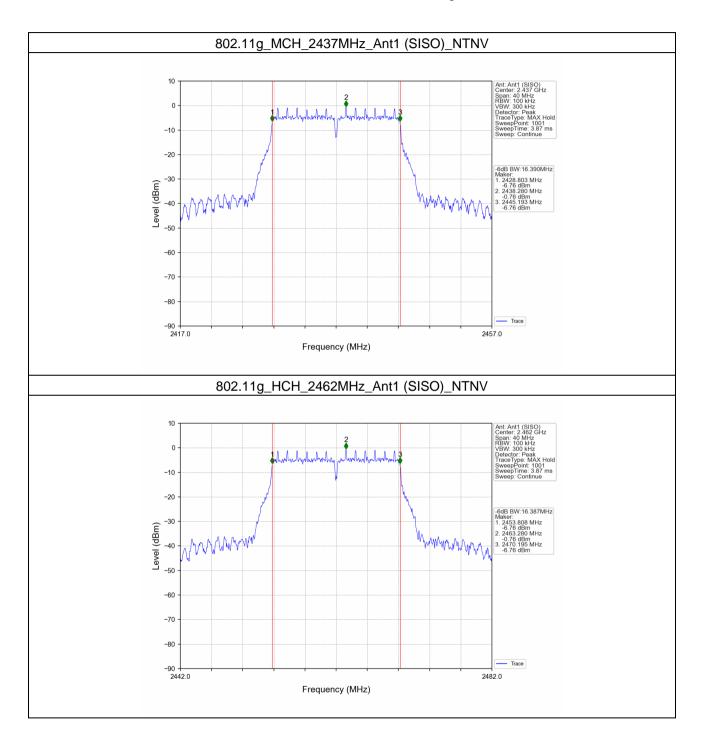
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 87 of 116





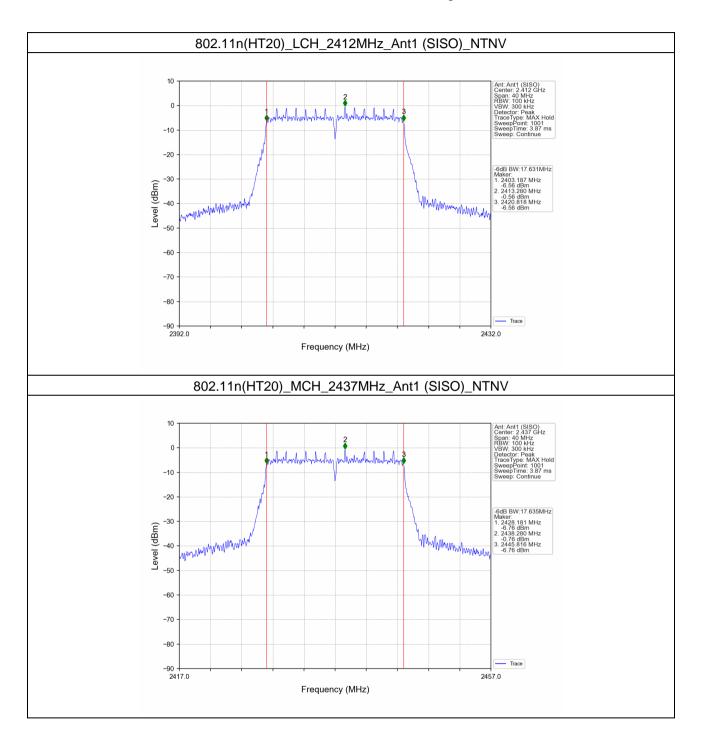
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 88 of 116





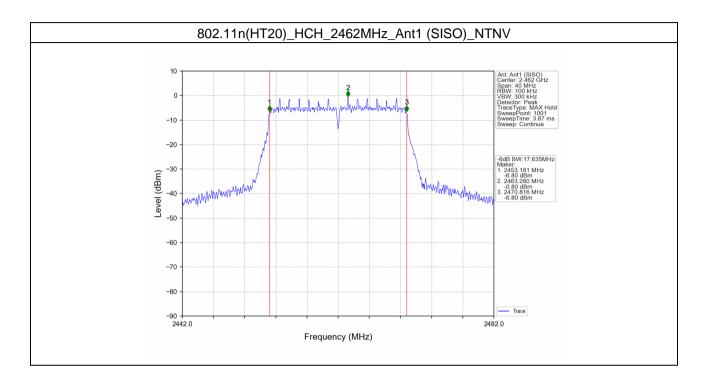
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Report No.: KSCR220900173002 Page: 89 of 116





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Report No.: KSCR220900173002 Page: 90 of 116

3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode TX Type	ТХ	Frequency	Maximum Average Condu	Vardiat	
	(MHz)	ANT1	Limit	verdict	
		2412	10.46	<=30	Pass
802.11b SISO	SISO	2437	10.24	<=30	Pass
		2462	10.26	<=30	Pass
802.11g		2412	10.66	<=30	Pass
	SISO	2437	10.55	<=30	Pass
		2462	10.45	<=30	Pass
802.11n (HT20)		2412	10.62	<=30	Pass
	SISO	2437	10.53	<=30	Pass Pass Pass Pass Pass
		2462	10.45	<=30	Pass
Note1: Ante	nna Gain: A	nt1: 4.01dBi;		· · · · · · · · · · · · · · · · · · ·	



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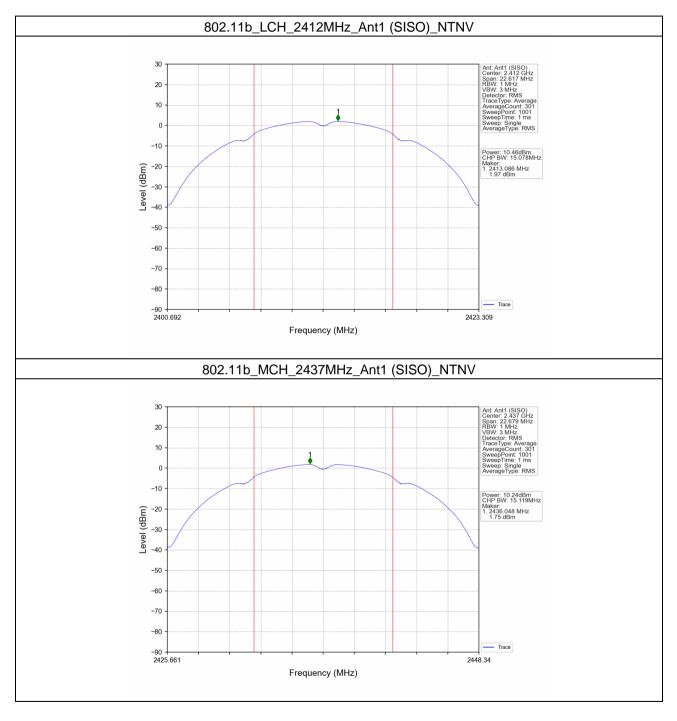
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Report No.: KSCR220900173002 Page: 91 of 116

3.1.2 Test Graph



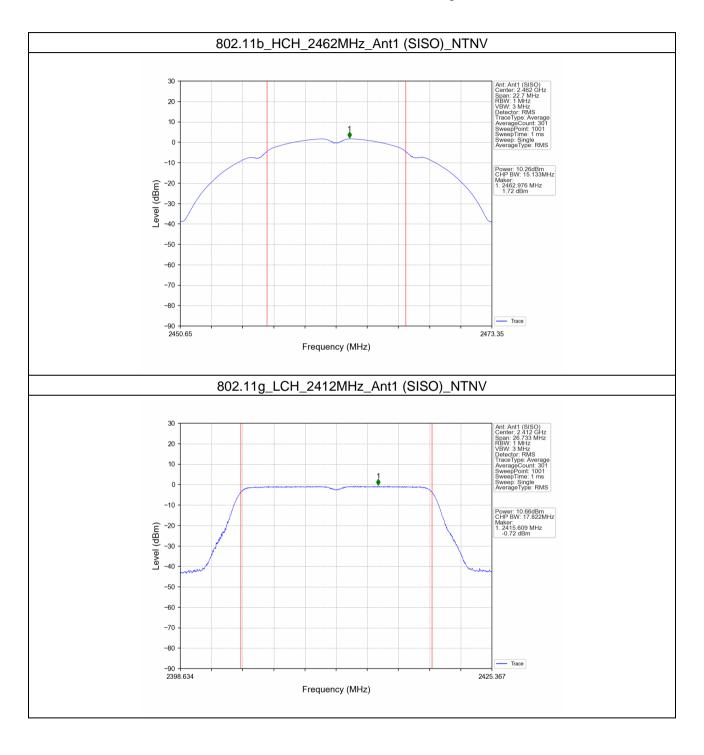


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Report No.: KSCR220900173002 Page: 92 of 116



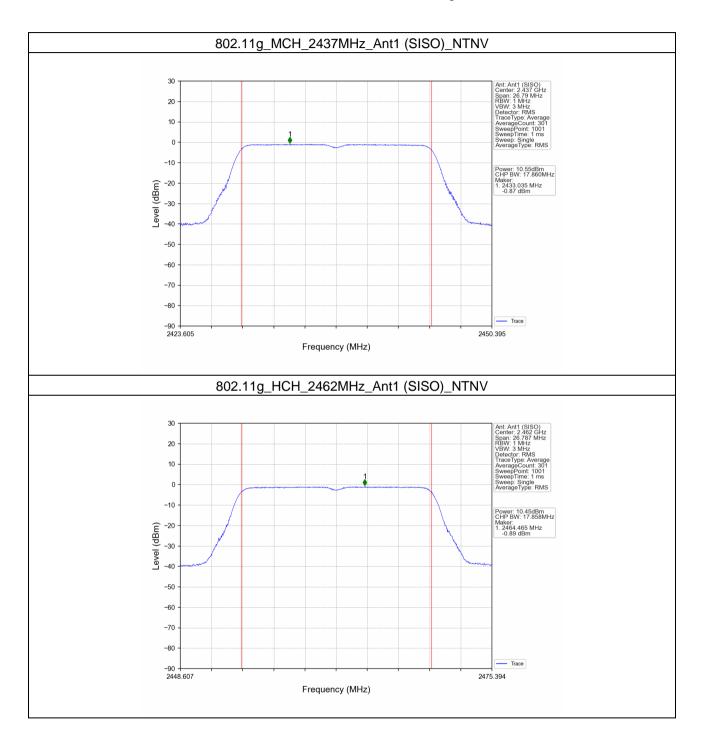


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Report No.: KSCR220900173002 Page: 93 of 116





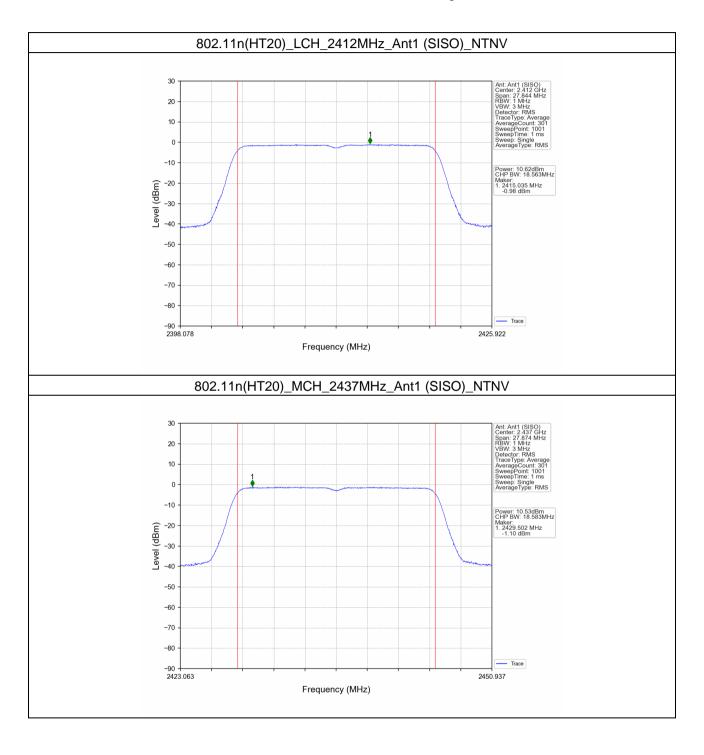
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Report No.: KSCR220900173002 Page: 94 of 116





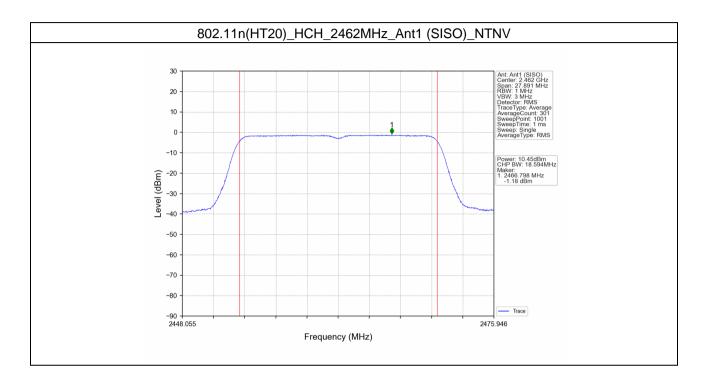
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Report No.: KSCR220900173002 Page: 96 of 116

4. Maximum Power Spectral Density

4.1 PSD

4.1.1 Test Result

Mode	ТХ	Frequency (MHz)	Maximum PS	Vardiat	
	Туре		ANT1	Limit	Verdict
		2412	-15.79	<=8	Pass
802.11b	SISO	2437	-16.09	<=8	Pass
		2462	-16.30	<=8	Pass
802.11g	SISO	2412	-16.66	<=8	Pass
		2437	-16.05	<=8	Pass
		2462	-17.35	<=8	Pass
802.11n (HT20)		2412	-16.96	<=8	Pass
	SISO	2437	-17.06	<=8	Pass
		2462	-16.69	<=8	Pass



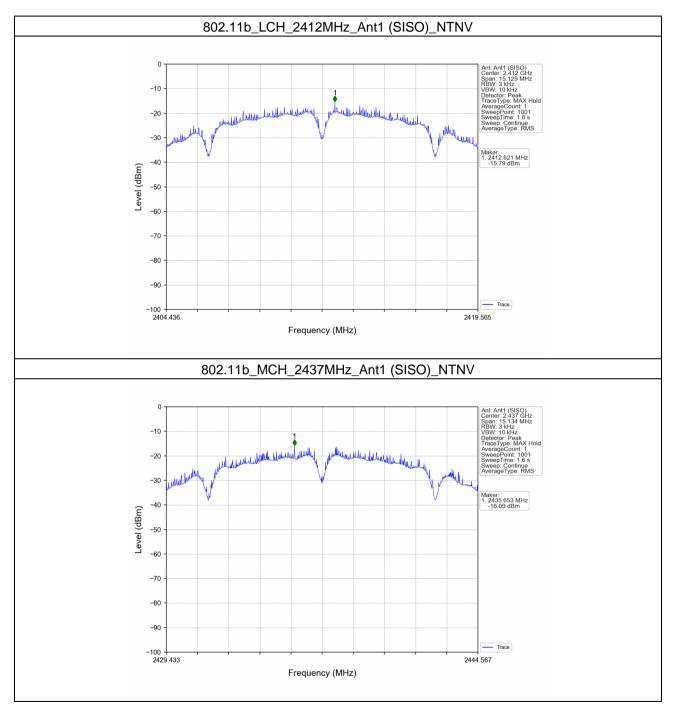
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Report No.: KSCR220900173002 Page: 97 of 116

4.1.2 Test Graph



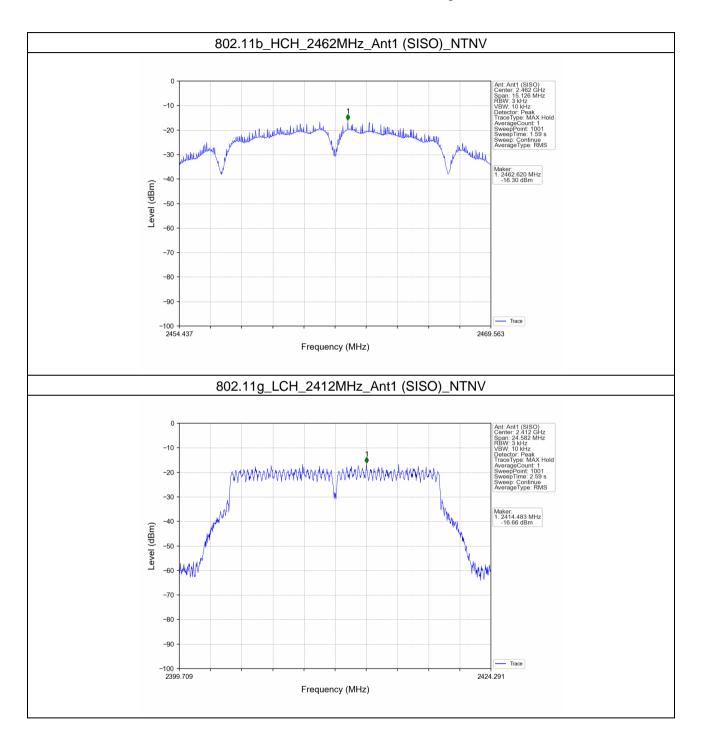


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Report No.: KSCR220900173002 Page: 98 of 116





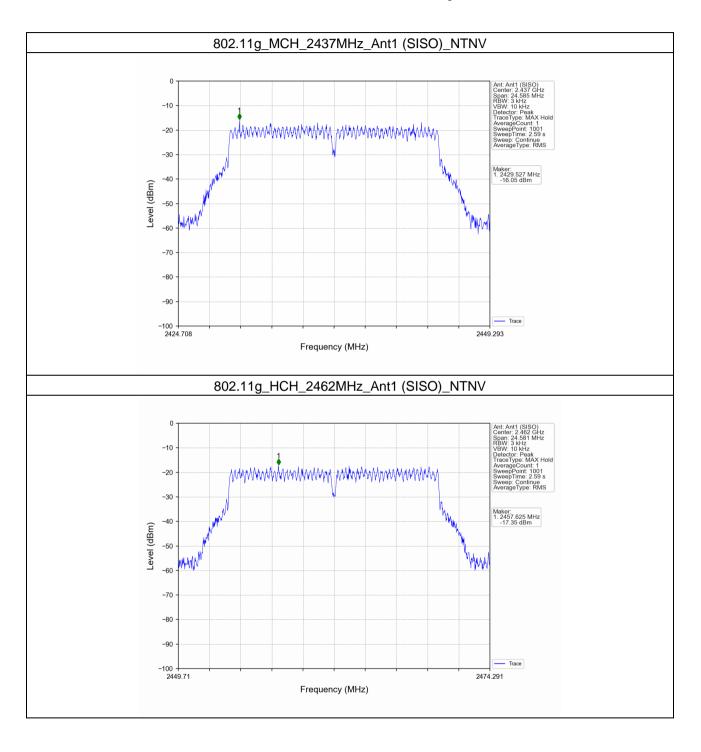
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Report No.: KSCR220900173002 Page: 99 of 116





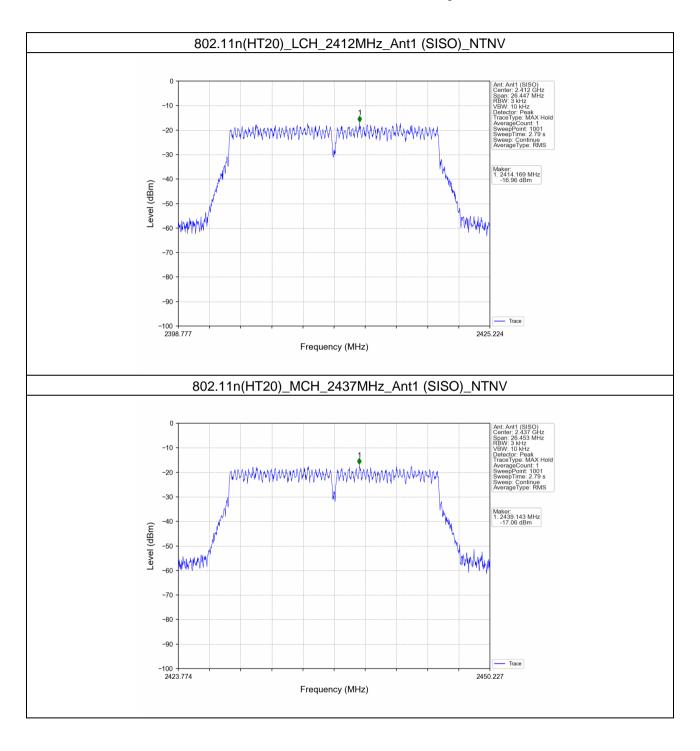
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Report No.: KSCR220900173002 Page: 100 of 116





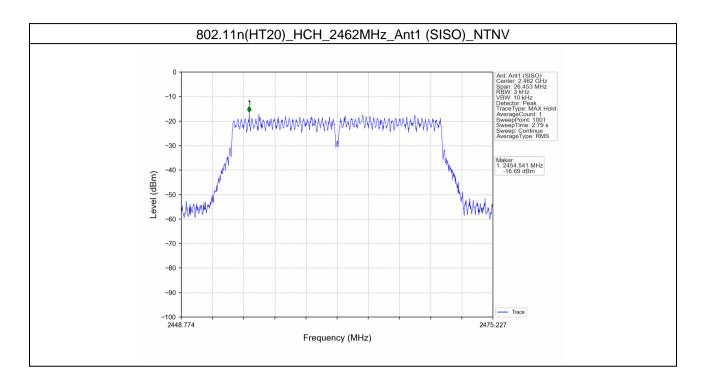
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Report No.: KSCR220900173002 Page: 102 of 116

- 5. Unwanted Emissions InStandard Non-restricted Frequency Bands
- 5.1 Ref
- 5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
	SISO	2412	1	0.64
802.11b		2437	1	0.40
		2462	1	0.42
	SISO	2412	1	-0.61
802.11g		2437	1	-0.81
		2462	1	-0.79
802.11n	SISO	2412	1	-0.67
(HT20)		2437	1	-0.95
		2462	1	-1.25
Note1: Refer to FC was used to establ			13, the channel co	ntains the maximum PSD level

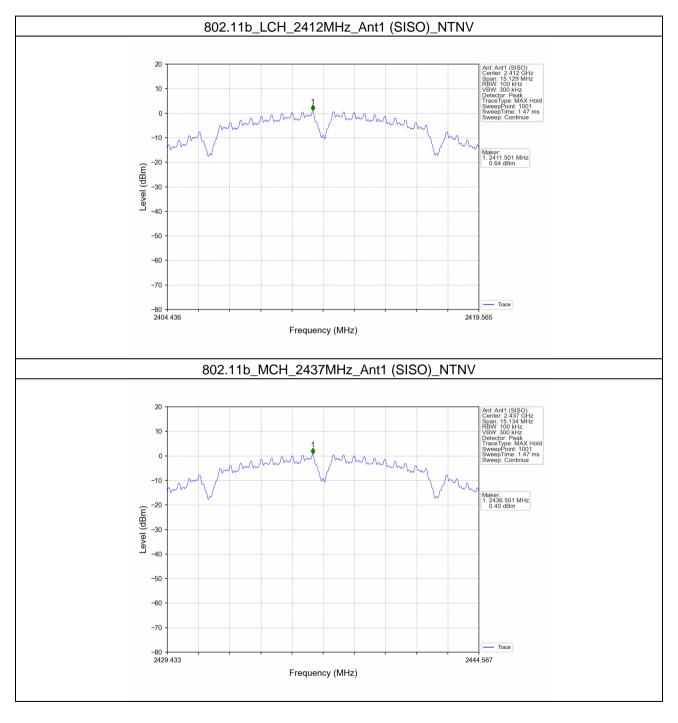


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Report No.: KSCR220900173002 Page: 103 of 116

5.1.2 Test Graph





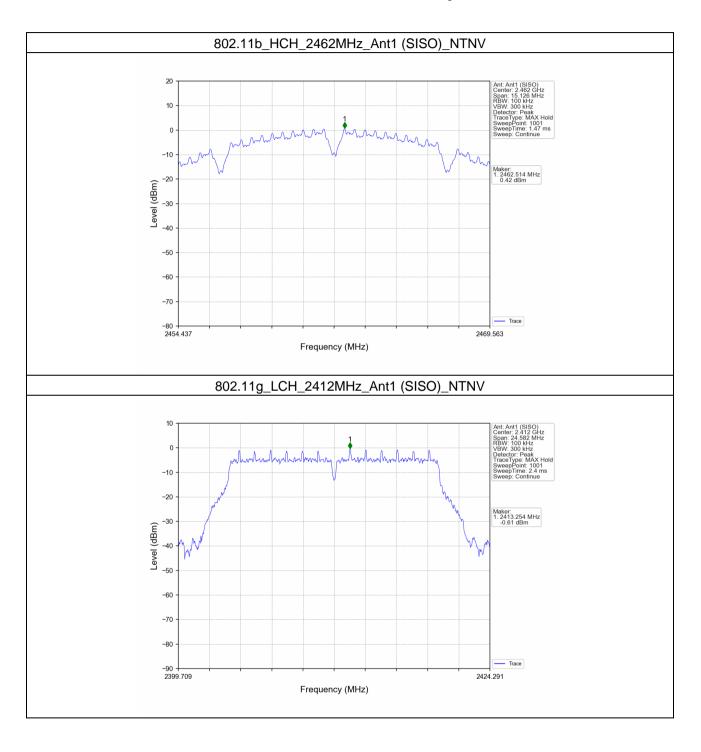
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Report No.: KSCR220900173002 Page: 104 of 116





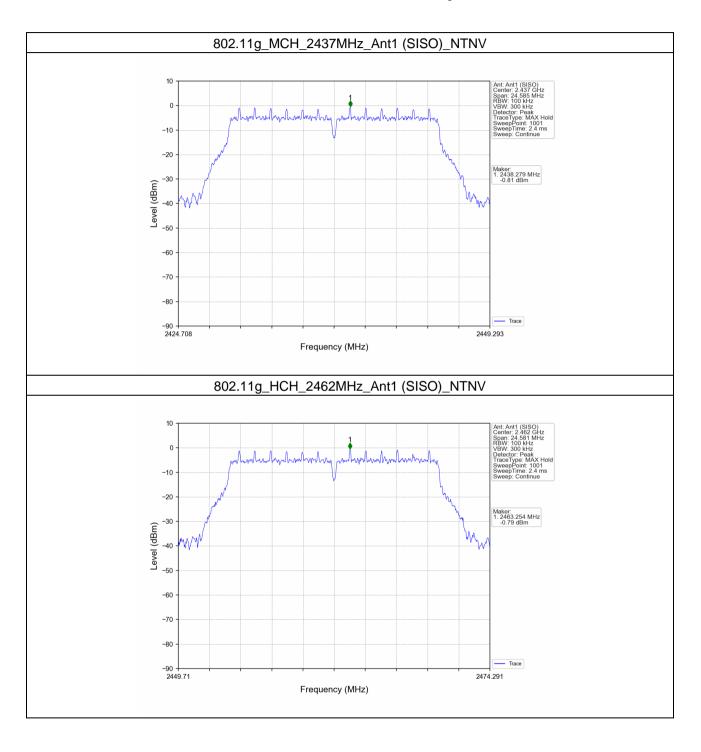
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Report No.: KSCR220900173002 Page: 105 of 116





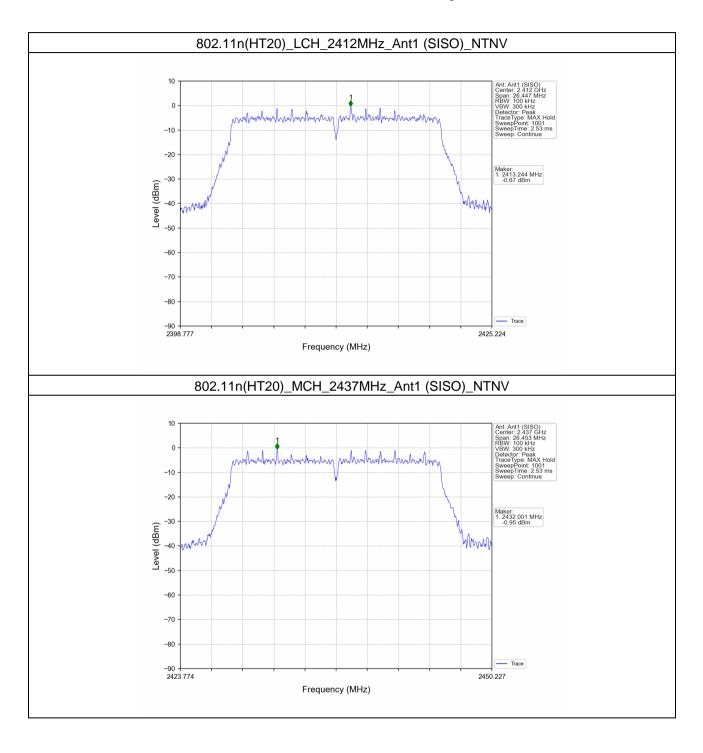
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Report No.: KSCR220900173002 Page: 106 of 116





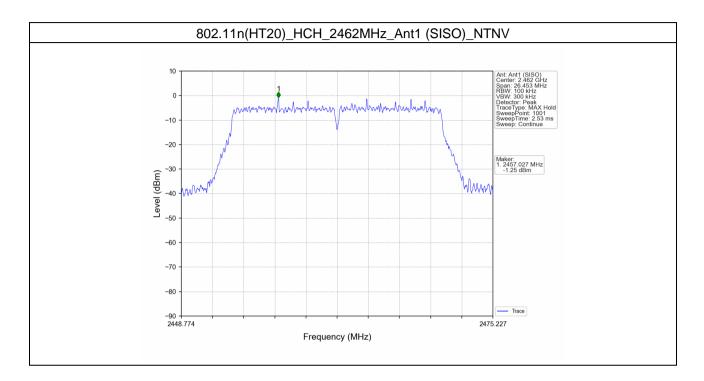
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Report No.: KSCR220900173002 Page: 107 of 116





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Report No.: KSCR220900173002 Page: 108 of 116

5.2 CSE

5.2.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b		2412	1	0.64	-29.36	Pass
	SISO	2437	1	0.64	-29.36	Pass
		2462	1	0.64	-29.36	Pass
802.11g		2412	1	-0.61	-30.61	Pass
	SISO	2437	1	-0.61	-30.61	Pass
		2462	1	-0.61	-30.61	Pass
802.11n (HT20)	SISO	2412	1	-0.67	-30.67	Pass
		2437	1	-0.67	-30.67	Pass
		2462	1	-0.67	-30.67	Pass

was used to establish the reference level.



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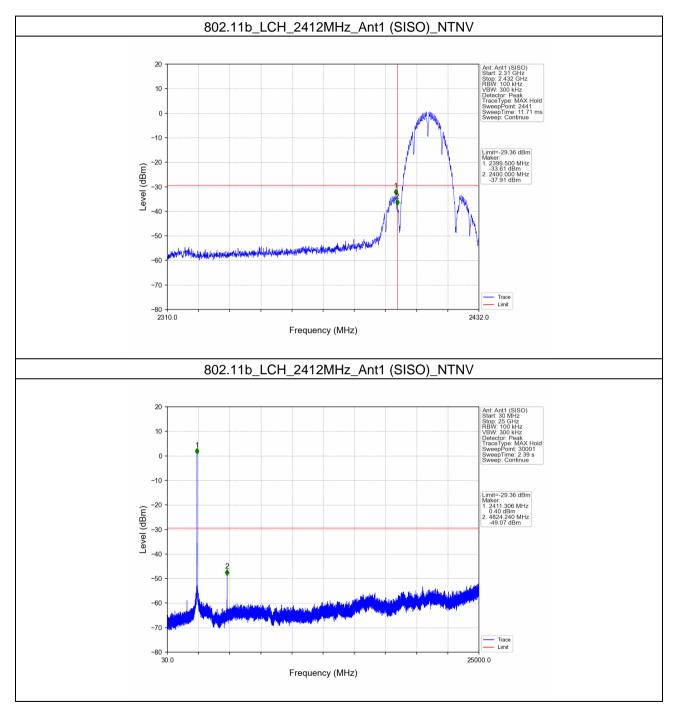
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Report No.: KSCR220900173002 Page: 109 of 116

5.2.2 Test Graph





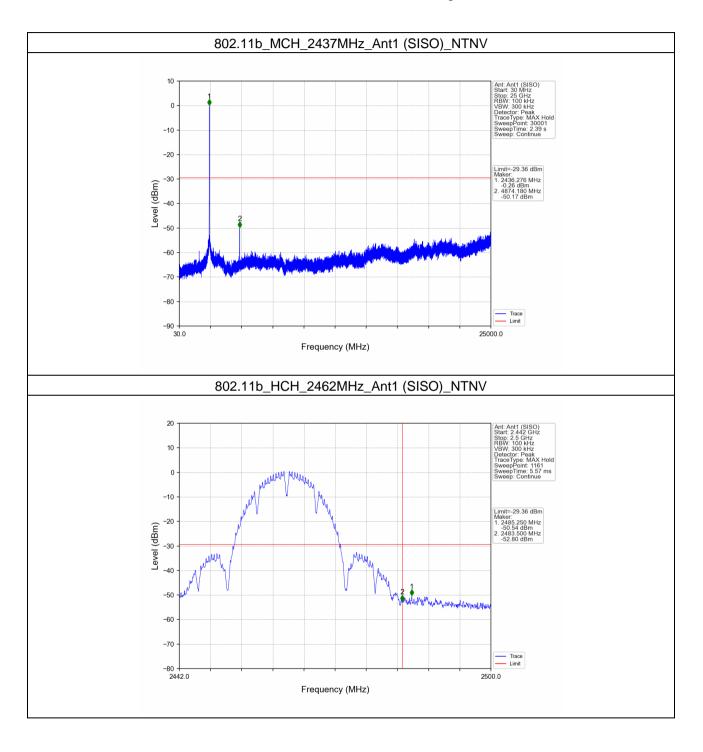
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Report No.: KSCR220900173002 Page: 110 of 116





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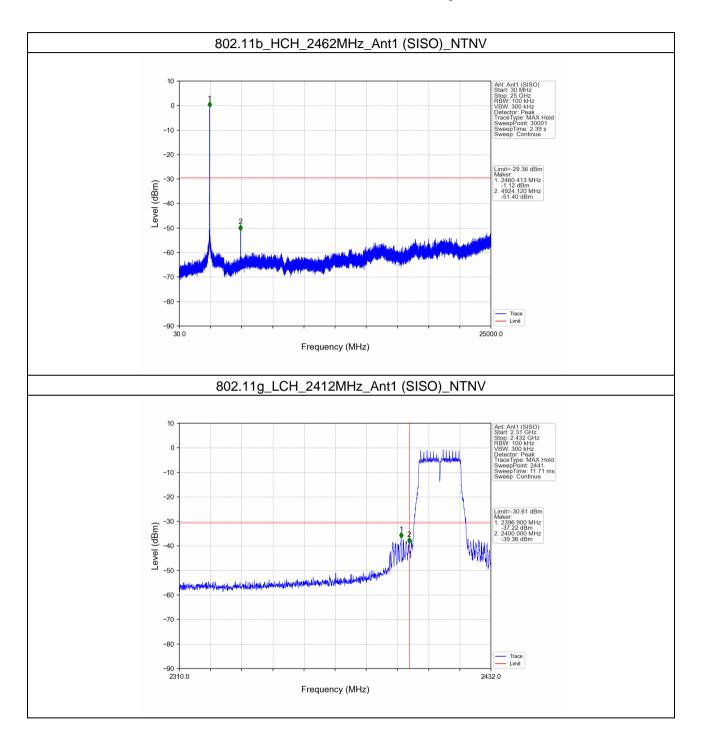
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 111 of 116





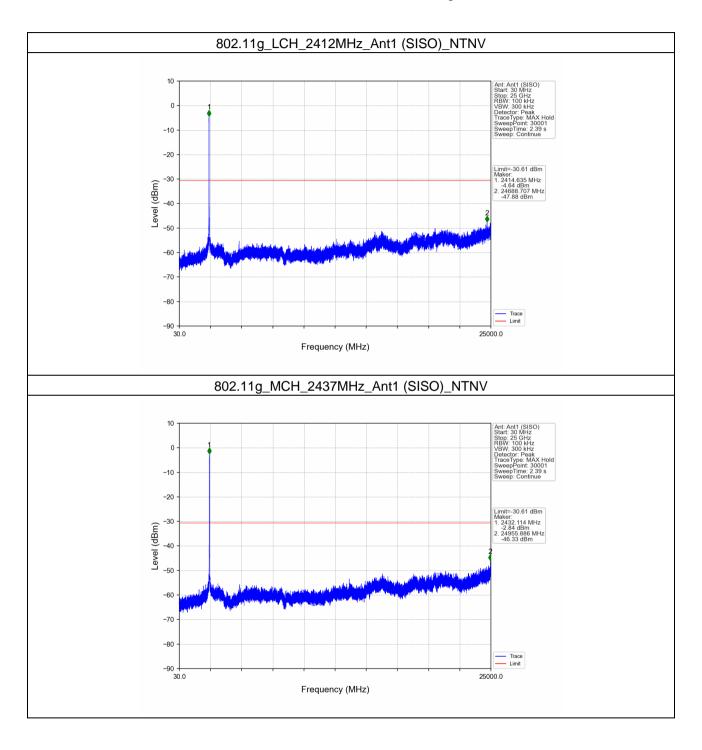
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 112 of 116





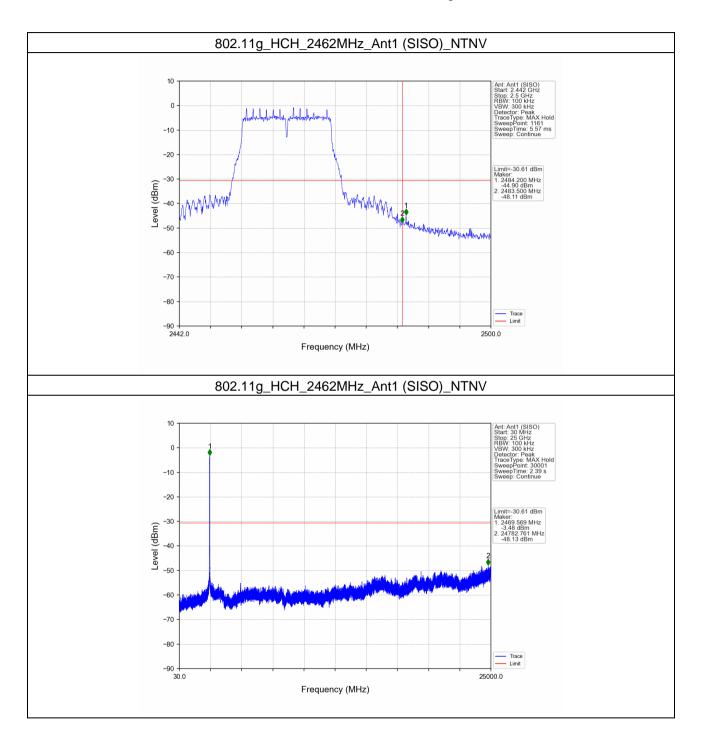
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 113 of 116





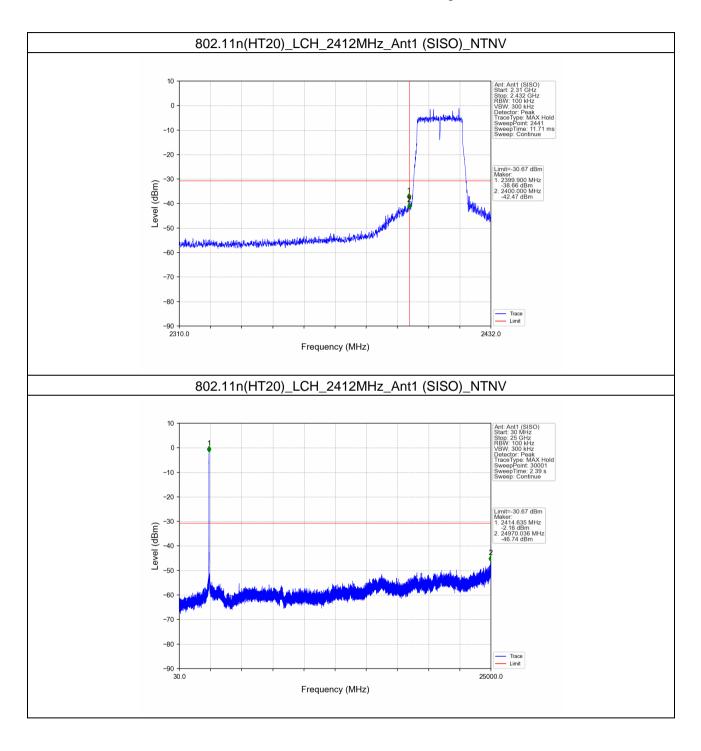
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 114 of 116





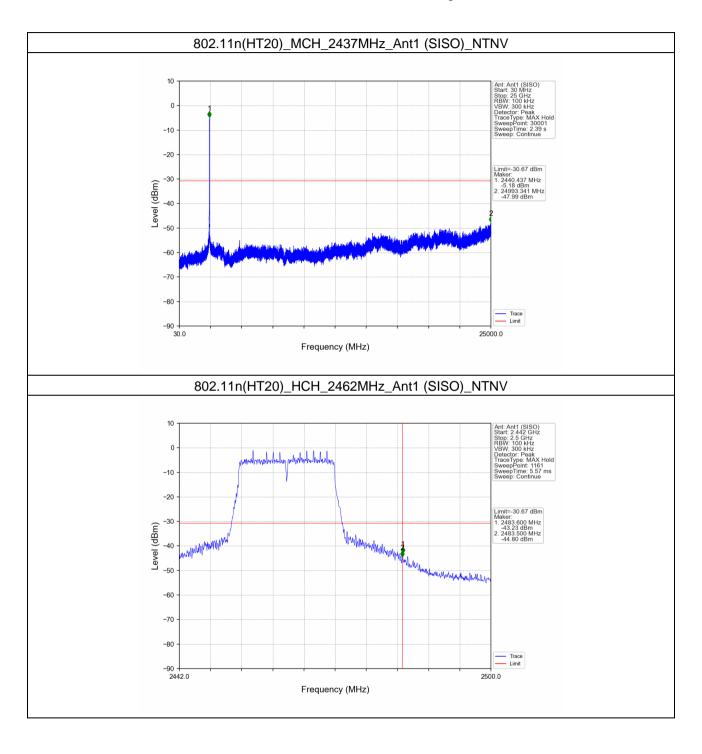
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Test Report Form Version: Rev01



Report No.: KSCR220900173002 Page: 115 of 116





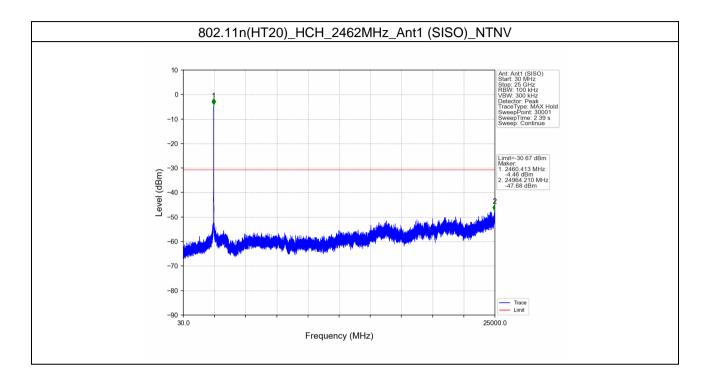
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Report No.: KSCR220900173002 Page: 116 of 116



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