

## CFR 47 FCC PART 15 SUBPART C ISED RSS-247 ISSUE 2

**CERTIFICATION TEST REPORT** 

For

**Eaton Voice Dimmer** 

### MODEL NUMBER: WFAVD30

FCC ID: ZVAOH000024 IC: 9976A-OH000024

### REPORT NUMBER: 4789620349.1-2

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Prepared for

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### **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	09/22/2020	Initial Issue	



Summary of Test Results								
Clause	Test Items	FCC/ISED Rules	Test Results					
1	6dB Bandwidth and 99% Occupied Bandwidth	FCC Part 15.247 (a) (2) RSS-247 Clause 5.2 (a) ISED RSS-Gen Clause 6.7	Pass					
2	Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass					
3	Power Spectral Density	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass					
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d) RSS-247 Clause 5.5	Pass					
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass					
6	Conducted Emission Test for AC Power Port	FCC Part 15.207 RSS-GEN Clause 8.8	Pass					
7	Antenna Requirement	FCC Part 15.203 RSS-GEN Clause 6.8	Pass					
Note:			L					

1. This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

2. The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C >< ISED RSS-247 > when <Accuracy Method> decision rule is applied.



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# **1. ATTESTATION OF TEST RESULTS**

#### Applicant Information

Company Name:	TCL Technoly Electronics (Huizhou) Co., Ltd.
Address:	Section 37, Zhongkai High-tech Development Zone, Huizhou City,
	Guang Dong Province, P.R. China

#### Manufacturer Information

Company Name:	TCL Technoly Electronics (Huizhou) Co., Ltd.
Address:	Section 37, Zhongkai High-tech Development Zone, Huizhou City,
	Guang Dong Province, P.R. China

#### **EUT Information**

EUT Name:	Eaton Voice Dimmer
Model:	WFAVD30
Brand:	EATON
Sample Received Date:	August 27, 2020
Sample Status:	Normal
Sample ID:	3309105
Date of Tested:	August 27, 2020 ~ September 21, 2020

APPLICABLE STANDARDS								
STANDARD TEST RESULTS								
CFR 47 FCC PART 15 SUBPART C	PASS							
ISED RSS-247 Issue 2	PASS							
ISED RSS-GEN Issue 5	PASS							

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# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

# 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<ul> <li>A2LA (Certificate No.: 4102.01)</li> <li>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</li> <li>FCC (FCC Designation No.: CN1187)</li> <li>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules</li> <li>ISED (Company No.: 21320)</li> <li>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320.</li> <li>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</li> <li>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.</li> </ul>
	has been assessed and proved to be in compliance with VCCI, the
	Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004
	Shielding Room B, the VCCI registration No. is C-20012 and T-20011

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.



# 4. CALIBRATION AND UNCERTAINTY

## 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

# 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty					
Conduction emission	3.62 dB					
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB					
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB					
Radiated Emission	5.78 dB (1 GHz ~ 18 GHz)					
(Included Fundamental Emission) (1 GHz to 26 GHz)	5.23 dB (18 GHz ~ 26 GHz)					
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.						

# 5. EQUIPMENT UNDER TEST

## 5.1. DESCRIPTION OF EUT

EUT Name	Eator	Voice Dimmer					
Model	WFA	VD30	/D30				
Radio Technology	WLAI	N (IEEE 802.11b/g/n	l (IEEE 802.11b/g/n HT20)				
Operation frequency	IEEE	802.11b: 2412MHz ~ 2462MHz 802.11g: 2412MHz ~ 2462MHz 802.11n HT20: 2412MHz ~ 2462MHz					
Modulation	IEEE	EE 802.11b: DSSS (CCK, DQPSK, DBPSK) EE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) EE 802.11n HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)					
Ratings		/					
		Dower Adeptor	Input	AC 110 V, 50 / 60 Hz			
Power Supply		Power Adapter	Output	/			
		Battery	/				

## 5.2. CHANNEL LIST

	Channel List for 802.11b/g/n (20 MHz)										
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)				
1	2412	4	2427	7	2442	10	2457				
2	2417	5	2432	8	2447	11	2462				
3	2422	6	2437	9	2452	/	/				

## 5.3. MAXIMUM OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)	Maximum AVG EIRP (dBm)
b	2412 ~ 2462	1-11[11]	16.91	18.41
g	2412 ~ 2462	1-11[11]	16.00	17.50
n HT20	2412 ~ 2462	1-11[11]	15.23	16.73

## 5.4. TEST CHANNEL CONFIGURATION

IEEE Std. 802.11	Test Channel Number	Frequency
b	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
g	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT20	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz

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## 5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Softw	vare	QRCT					
	Transmit			Test C	Channel		
Modulation Mode	Antenna		NCB: 20MH	lz	NCB: 40MHz		
Mode	Number	CH 1	CH 1 CH 6 CH 11		CH 3	CH 6	CH 9
802.11b	1	default default default					
802.11g	1	default default /					
802.11n HT20	1	default	default	default			

## 5.6. THE WORSE CASE CONFIGURATIONS

The EUT was tested in the following configuration(s):

Controlled in test mode using a software application on the EUT supplied by customer. The application was used to enable a continuous transmission and to select the mode, test channels, bandwidth, data rates as required.

Test channels referring to section 5.4.

Maximum power setting referring to section 5.5.

Worst case Data Rates declared by the customer:

IEEE 802.11b /BPSK / 1 Mbps IEEE 802.11g / BPSK / 6 Mbps IEEE 802.11n HT20 /BPSK / MCS0

The measured additional path loss was included in any path loss calculations for all RF cable used during tested.

The 2.4 GHz beamforming function is enabled by test program, the carrier wave will be under radio chip phase control and sent to the antennas through the test program.



## 5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PIFA Antenna	1.5

IEEE Std. 802.11	Transmit and Receive Mode	Description
b	1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
g	1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
n HT20	1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

Note: The value of the antenna gain was declared by customer.



## 5.8. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	PC	Lenovo	E42-80	80T9A02QCD

#### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	Micro USB	/	1.0	/

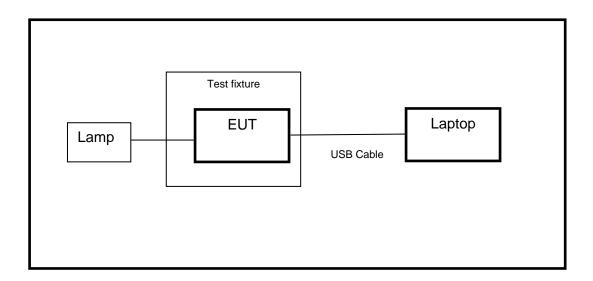
#### ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
1	Lamp	/	/	/

#### TEST SETUP

The EUT can work in engineering mode with a software through a Laptop.

#### SETUP DIAGRAM FOR TESTS





# 6. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions										
	Instrument									
Used	Equipment	Manufacturer	1	Mod	el No.		Seria	l No.	Last Cal.	Next Cal.
V	EMI Test Receiver	R&S		ES	SR3		101	961	Dec.05,2019	Dec.05,2020
V	Two-Line V- Network	R&S		EN	/216		101	983	Dec.05,2019	Dec.05,2020
	Software									
Used		Description					Manufa	acture	r Name	Version
$\checkmark$	Test Softwar	re for Conduct	ed di	stur	bance		Far	ad	EZ-EMC	Ver. UL-3A1
			Rad	liate	d Emi	ssic	ons			
				Ins	strume	nt				
Used	1 1	Manufacturer	ſ	Mod	el No.		Seria	l No.	Last Cal.	Next Cal.
V	MXE EMI Receiver	KESIGHT		N90	)38A		MY564	0003	6 Dec.06,2019	Dec.05,2020
V	Hybrid Log Periodic Antenna	TDK	HLP-3003C		, ,	130960		Sep.17,2018	Sep.17,2021	
$\checkmark$	Preamplifier	HP		844	47D		2944A09099		Dec.05,2019	Dec.05,2020
V	EMI Measurement Receiver	R&S	ESR26			101377		Dec.05,2019	Dec.05,2020	
V	Horn Antenna	TDK	ŀ	HRN	-0118		130939		Sep.17,2018	Sep.17,2021
V	High Gain Horn Antenna	Schwarzbeck	В	BHA	<b>\-917</b> 0	)	691		Aug.11,2018	Aug.11,2021
V	Preamplifier	TDK	Р	A-02	2-0118	}	TRS-305- 00067		Dec.05,2019	Dec.05,2020
V	Preamplifier	TDK		PA-	02-2		TRS- 000		Dec.05,2019	Dec.05,2020
	Loop antenna	Schwarzbeck			19B		000	800	Jan.07,2019	Jan.07,2022
V	High Pass Filter	Wi		30	10-270 00- )-40SS		2	3	Dec.05,2019	Dec.05,2020
				S	oftwar	e				
Used	De	escription			Man	ufac	acturer Name		Version	
$\checkmark$	Test Software fo	r Radiated dis	turba	ince	F	ara	ld		EZ-EMC	Ver. UL-3A1
			Ot	ther	instrur	nen	ts			
Used	Equipment	Manufact	urer		odel No.	S	Serial No.		Last Cal.	Next Cal.
V	Spectrum Analy	/zer Keysig	ht	N9	030A	MY	′554105	512 [	Dec.06,2019	Dec.05,2020
V	Power senso Power Meter			OS	P120		100921	[	Dec.06,2019	Dec.06,2020

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V	Temperature humidity probe	Omega	ITHX-SD- 5	18470010	Dec.11,2019	Dec.10,2020
V	Temperature humidity probe	Omega	ITHX-SD- 5	18470009	Dec.11,2019	Dec.10,2020



# 7. ANTENNA PORT TEST RESULTS

## 7.1. ON TIME AND DUTY CYCLE

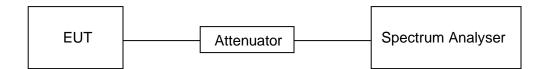
### <u>LIMITS</u>

None; for reporting purposes only

### PROCEDURE

Refer to ANSI C63.10-2013 clause 11.6 Zero – Span Spectrum Analyzer method.

### TEST SETUP



### TEST ENVIRONMENT

Temperature	27.2 °C	Relative Humidity	66.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

### **RESULTS**

Please refer to appendix A.



## 7.2. 6 dB DTS BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

#### <u>LIMITS</u>

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2								
Section	Test Item Limit Frequency Range (MHz)							
CFR 47 FCC 15.247(a)(2) ISED RSS-247 5.2 (a)	6 dB Bandwidth	≥ 500 kHz	2400-2483.5					
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only.	2400-2483.5					

### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

Connect the EUT to the spectrum analyser and use the following settings:

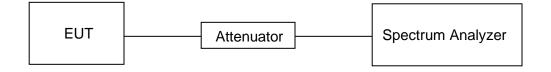
Center Frequency	The center frequency of the channel under test
Frequency Span	Between 1.5 times and 5.0 times the OBW
Detector	Peak
IBBW/	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied Bandwidth: ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	27.2 °C	Relative Humidity	66.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

#### **RESULTS**

Please refer to appendix B & C.



## 7.3. CONDUCTED OUTPUT POWER

### <u>LIMITS</u>

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section Test Item Limit Frequency Range (MHz)			
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	Peak Output Power	1 watt or 30 dBm	2400-2483.5

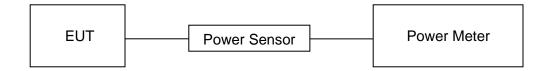
#### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.9.

Connect the EUT to a low loss RF cable from the antenna port to the power sensor (video bandwidth is greater than the occupied bandwidth).

Measure peak emission level, the indicated level is the average output power, after any corrections for external attenuators and cables.

#### TEST SETUP



#### TEST ENVIRONMENT

Temperature	27.2 °C	Relative Humidity	66.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

#### <u>RESULTS</u>

Please refer to appendix D.



## 7.4. POWER SPECTRAL DENSITY

### <u>LIMITS</u>

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section Test Item Limit Frequency Range (MHz)			
CFR 47 FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

#### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.10.

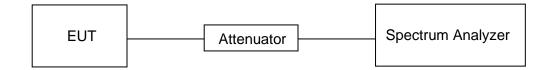
Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤ 100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

#### TEST SETUP



#### **TEST ENVIRONMENT**

Temperature	27.2 °C	Relative Humidity	66.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V



Please refer to appendix E.



## 7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

### <u>LIMITS</u>

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section Test Item Limit			
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5 Spurious Emissions		at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power	

#### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.11 and 11.13.

Connect the EUT to the spectrum analyser and use the following settings for reference level measurement:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level.

Change the settings for emission level measurement:

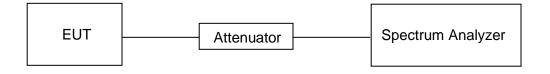
	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11.

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### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	27.2 °C	Relative Humidity	66.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

#### **RESULTS**

Please refer to appendix F & G.



# 8. RADIATED TEST RESULTS

### <u>LIMITS</u>

Please refer to CFR 47 FCC §15.205 and §15.209.

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz				
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m		
		Quasi-Peak		
30 - 88	100	40		
88 - 216	150	43.5		
216 - 960	200	46		
Above 960	500	54		
Above 1000	500	Peak	Average	
	500	74	54	

FCC Emissions radiated outside of the specified frequency bands below 30 MHz							
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							

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz						
Frequency         Magnetic field strength (H-Field) (μA/m)         Measurement distance						
9 - 490 kHz <sup>Note 1</sup>	6.37/F (F in kHz)	300				
490 - 1705 kHz	63.7/F (F in kHz)	30				
1.705 - 30 MHz	0.08	30				

**Note 1:** The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.



### ISED Restricted bands please refer to ISED RSS-GEN Clause 8.10

MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	158.7 - 158.9	10.6 - 12.7
3.020 - 3.028	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 18.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	980 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1845.5 - 1848.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
18.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138		

Note 1: Certain frequency bands listed in table / and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

### FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

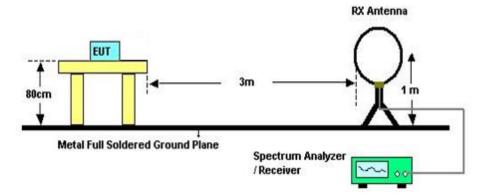
Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c

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### TEST SETUP AND PROCEDURE

Below 30 MHz



The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz) / 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz) / 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

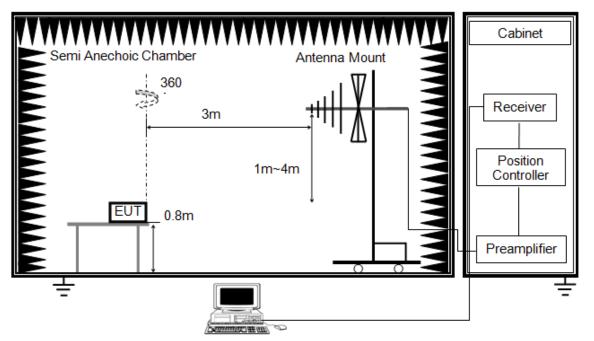
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode remeasured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

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### Below 1 GHz and above 30 MHz



The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

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

5. For measurement below 1 GHz, 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. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.



## Above 1 GHz Cabinet emi Anechoic Chamber Antenna Mount 360 Receiver 3m 1m~4m Position Controller EÜT 1.5m 1m Preamplifier 5

The setting of the spectrum analyser

RBW	1 MHz
IV BW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11 and 11.12.

2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

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

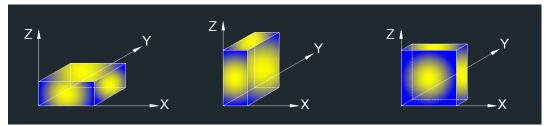
5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

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X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

#### TEST ENVIRONMENT

Temperature	23.8 °C	Relative Humidity	68.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

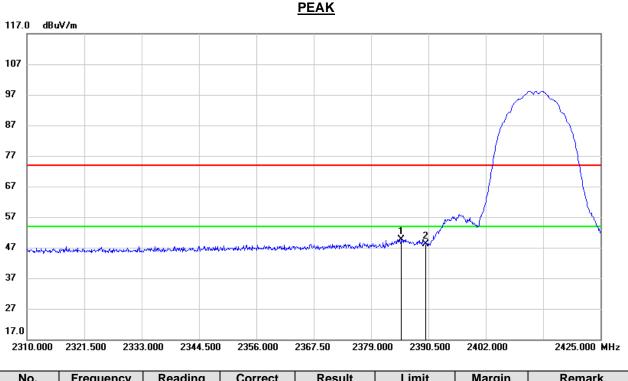
#### **RESULTS**



## 8.1. RESTRICTED BANDEDGE

## 8.1.1. 802.11b MODE

### **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2384.980	37.74	11.92	49.66	74.00	-24.34	peak
2	2390.000	36.17	11.96	48.13	74.00	-25.87	peak

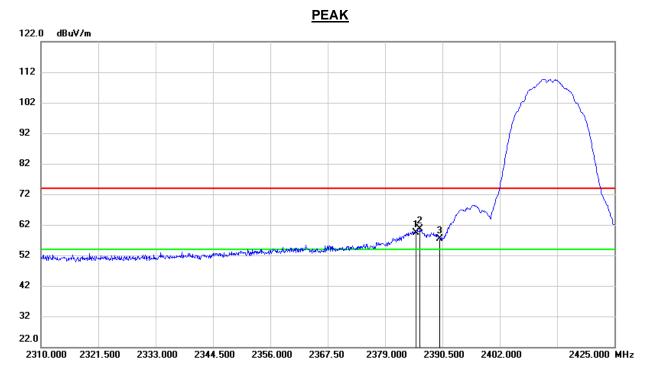
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### **RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.210	47.56	11.92	59.48	74.00	-14.52	peak
2	2386.015	48.64	11.93	60.57	74.00	-13.43	peak
3	2390.000	45.47	11.96	57.43	74.00	-16.57	peak

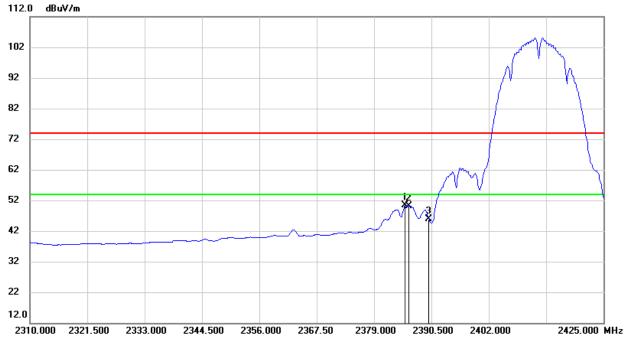
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.210	38.34	11.92	50.26	54.00	-3.74	AVG
2	2386.015	38.26	11.93	50.19	54.00	-3.81	AVG
3	2390.000	33.81	11.96	45.77	54.00	-8.23	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

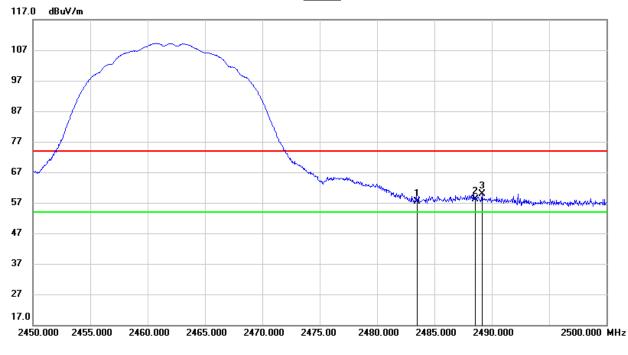
3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.



### **RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**

**PEAK** 



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	44.97	12.38	57.35	74.00	-16.65	peak
2	2488.550	45.76	12.40	58.16	74.00	-15.84	peak
3	2489.150	47.59	12.40	59.99	74.00	-14.01	peak

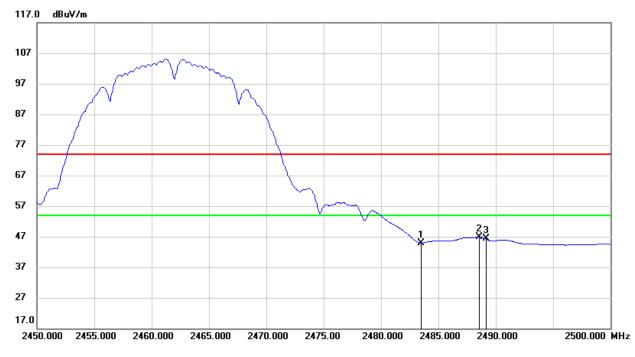
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	32.59	12.38	44.97	54.00	-9.03	AVG
2	2488.550	34.46	12.40	46.86	54.00	-7.14	AVG
3	2489.150	33.88	12.40	46.28	54.00	-7.72	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

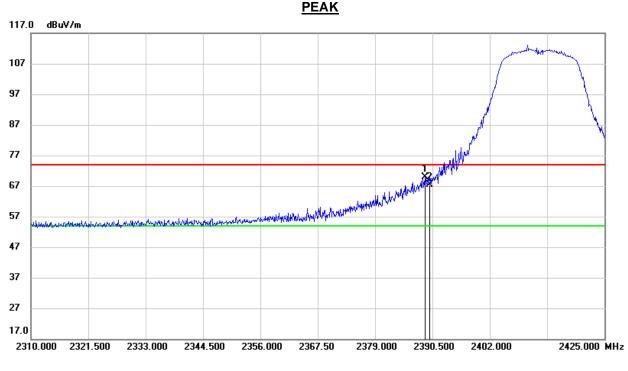
4. For the transmitting duration, please refer to clause 7.1.

5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the polarities (vertical and horizontal) had been tested, but only the worst data was recorded in the report.



## 8.1.2. 802.11g MODE



#### **RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.005	58.04	11.95	69.99	74.00	-4.01	peak
2	2390.000	55.52	11.96	67.48	74.00	-6.52	peak

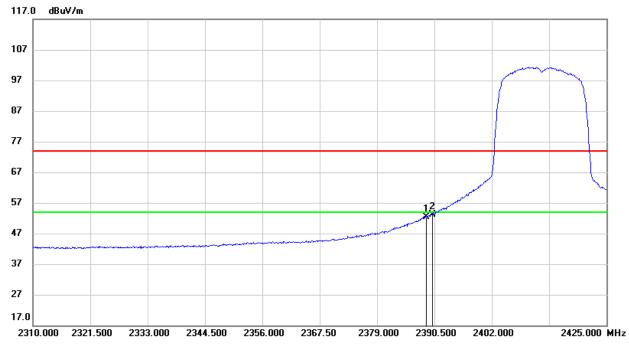
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.005	40.43	11.95	52.38	54.00	-1.62	AVG
2	2390.000	41.24	11.96	53.20	54.00	-0.80	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

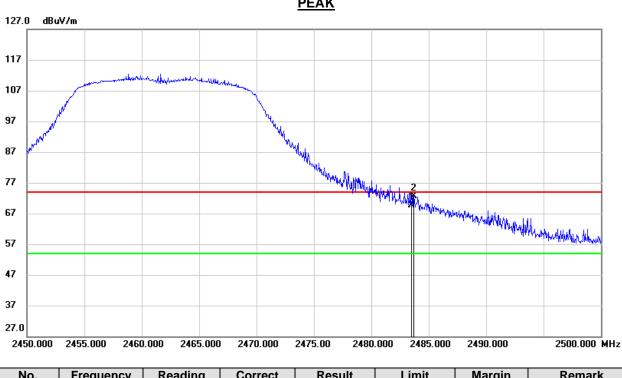
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.



### **RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	57.37	12.38	69.75	74.00	-4.25	peak
2	2483.700	60.37	12.38	72.75	74.00	-1.25	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

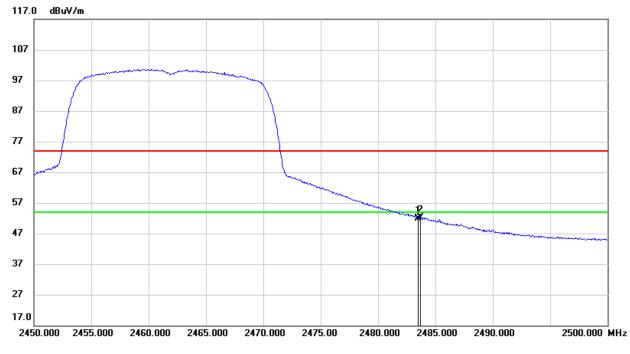
3. Peak: Peak detector.

4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

**PEAK** 



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	39.55	12.38	51.93	54.00	-2.07	AVG
2	2483.700	39.76	12.38	52.14	54.00	-1.86	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.

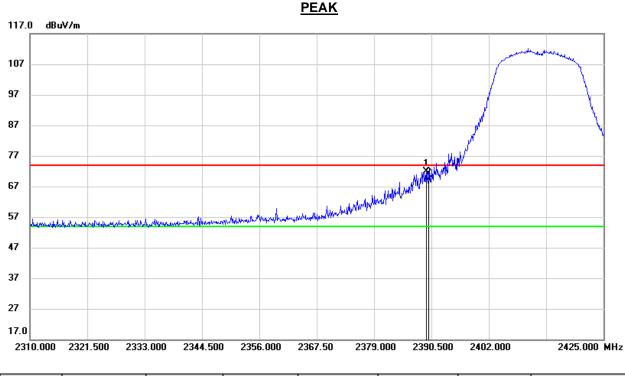
5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the polarities (vertical and horizontal) had been tested, but only the worst data was recorded in the report.



8.1.3. 802.11n HT20 MODE

#### **RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.465	59.92	11.96	71.88	74.00	-2.12	peak
2	2390.000	57.17	11.96	69.13	74.00	-4.87	peak

Note: 1. Measurement = Reading Level + Correct Factor.

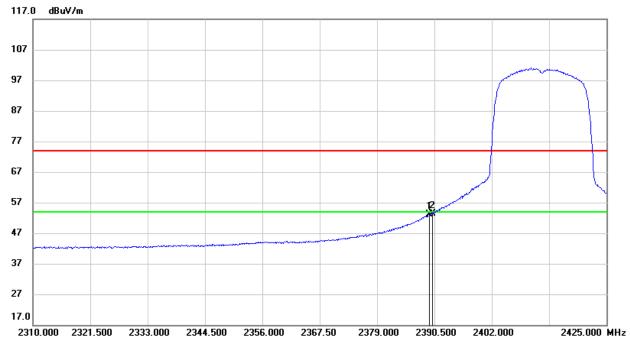
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.465	41.09	11.96	53.05	54.00	-0.95	AVG
2	2390.000	41.44	11.96	53.40	54.00	-0.60	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

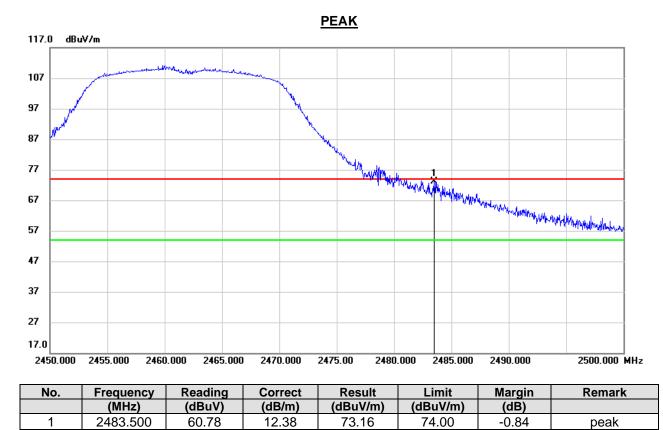
3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.

5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



Note: 1. Measurement = Reading Level + Correct Factor.

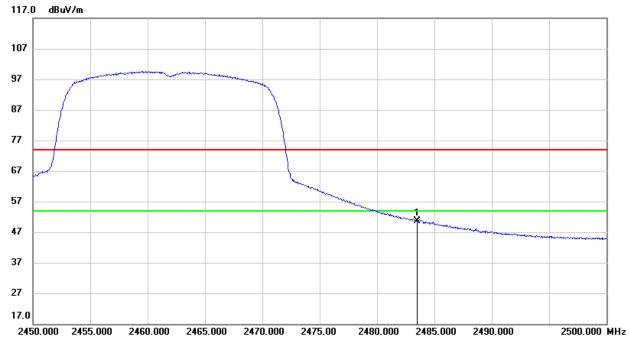
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	38.19	12.38	50.57	54.00	-3.43	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.

5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

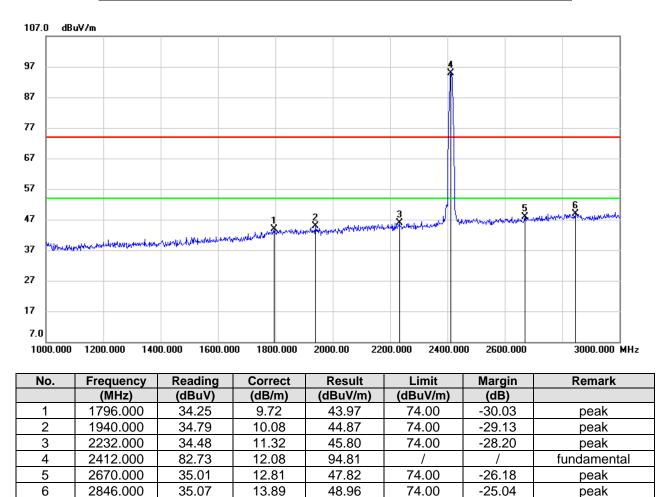
Note: All the polarities (vertical and horizontal) had been tested, but only the worst data was recorded in the report.



peak

#### SPURIOUS EMISSIONS (1 GHz ~ 3 GHz) 8.2.

#### 8.2.1. 802.11b MODE



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

Note: 1. Measurement = Reading Level + Correct Factor.

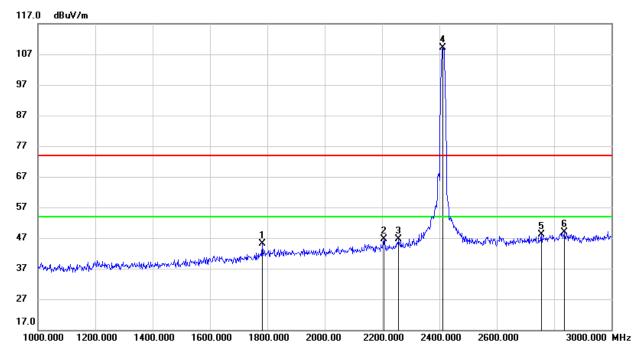
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

6



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

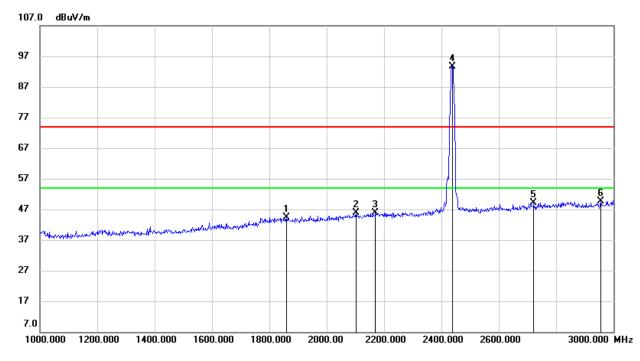


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1782.000	35.53	9.50	45.03	74.00	-28.97	peak
2	2206.000	35.21	11.32	46.53	74.00	-27.47	peak
3	2258.000	35.31	11.32	46.63	74.00	-27.37	peak
4	2412.000	97.15	12.08	109.23	/	/	fundamental
5	2756.000	34.60	13.42	48.02	74.00	-25.98	peak
6	2836.000	34.93	13.86	48.79	74.00	-25.21	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

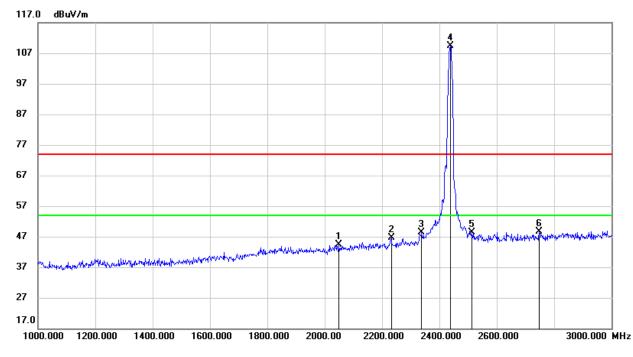


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1860.000	34.51	9.90	44.41	74.00	-29.59	peak
2	2102.000	34.77	11.04	45.81	74.00	-28.19	peak
3	2170.000	34.74	11.24	45.98	74.00	-28.02	peak
4	2437.000	81.47	12.19	93.66	/	/	fundamental
5	2722.000	36.04	13.17	49.21	74.00	-24.79	peak
6	2956.000	35.27	14.40	49.67	74.00	-24.33	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

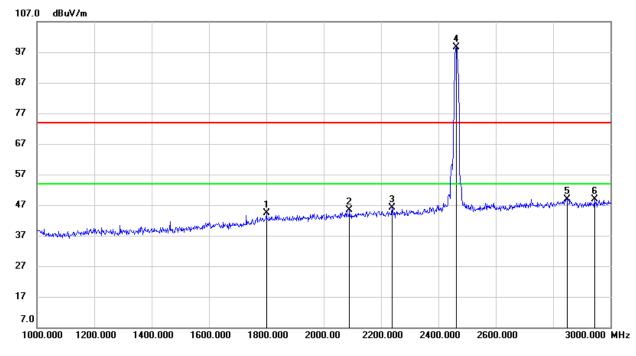


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2050.000	33.63	10.64	44.27	74.00	-29.73	peak
2	2232.000	35.26	11.32	46.58	74.00	-27.42	peak
3	2338.000	36.67	11.59	48.26	74.00	-25.74	peak
4	2437.000	97.29	12.19	109.48	/	/	fundamental
5	2514.000	36.00	12.44	48.44	74.00	-25.56	peak
6	2748.000	35.19	13.36	48.55	74.00	-25.45	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

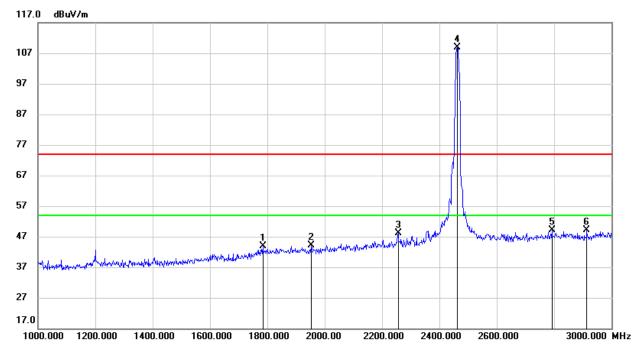


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1800.000	34.62	9.79	44.41	74.00	-29.59	peak
2	2090.000	34.47	10.95	45.42	74.00	-28.58	peak
3	2238.000	34.93	11.32	46.25	74.00	-27.75	peak
4	2462.000	86.36	12.29	98.65	/	/	fundamental
5	2848.000	35.06	13.89	48.95	74.00	-25.05	peak
6	2944.000	34.66	14.32	48.98	74.00	-25.02	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



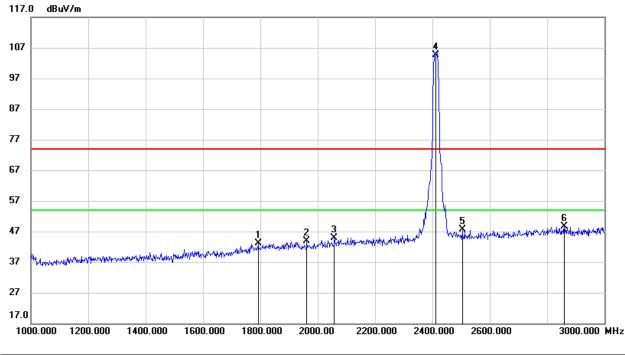
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1784.000	34.37	9.54	43.91	74.00	-30.09	peak
2	1952.000	34.00	10.12	44.12	74.00	-29.88	peak
3	2256.000	36.75	11.32	48.07	74.00	-25.93	peak
4	2462.000	96.60	12.29	108.89	/	/	fundamental
5	2792.000	35.39	13.70	49.09	74.00	-24.91	peak
6	2914.000	34.90	14.13	49.03	74.00	-24.97	peak

Note: 1. Measurement = Reading Level + Correct Factor.



# 8.2.2. 802.11g MODE





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1792.000	33.51	9.66	43.17	74.00	-30.83	peak
2	1962.000	33.71	10.15	43.86	74.00	-30.14	peak
3	2058.000	34.25	10.70	44.95	74.00	-29.05	peak
4	2412.000	92.51	12.08	104.59	/	/	fundamental
5	2504.000	35.21	12.44	47.65	74.00	-26.35	peak
6	2860.000	34.60	13.93	48.53	74.00	-25.47	peak

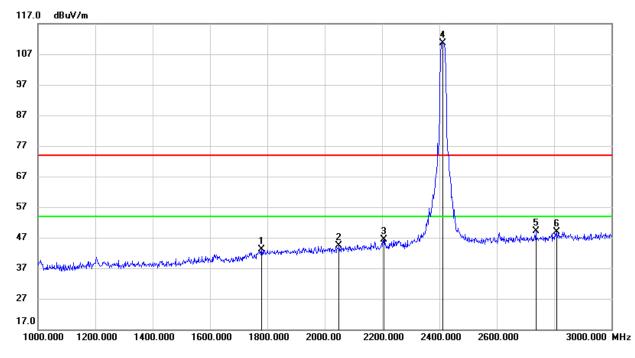
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

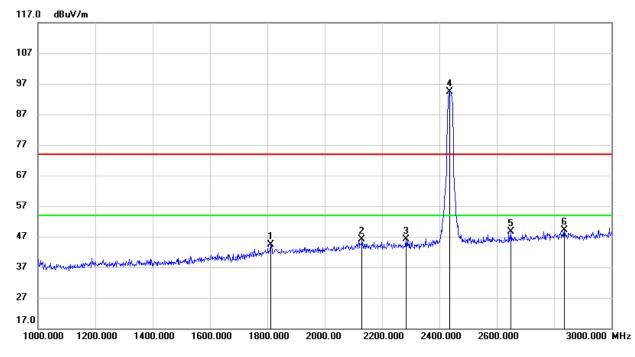


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1780.000	33.54	9.47	43.01	74.00	-30.99	peak
2	2050.000	33.73	10.64	44.37	74.00	-29.63	peak
3	2206.000	35.03	11.32	46.35	74.00	-27.65	peak
4	2412.000	98.67	12.08	110.75	/	/	fundamental
5	2736.000	35.96	13.27	49.23	74.00	-24.77	peak
6	2808.000	35.09	13.78	48.87	74.00	-25.13	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

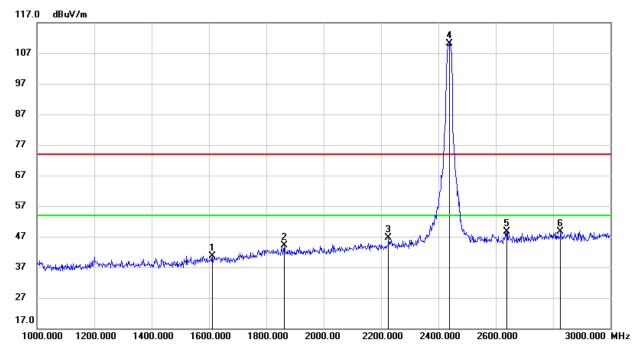


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1812.000	34.48	9.82	44.30	74.00	-29.70	peak
2	2130.000	34.89	11.12	46.01	74.00	-27.99	peak
3	2284.000	34.87	11.32	46.19	74.00	-27.81	peak
4	2437.000	82.21	12.19	94.40	/	/	fundamental
5	2650.000	36.00	12.70	48.70	74.00	-25.30	peak
6	2836.000	35.19	13.86	49.05	74.00	-24.95	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

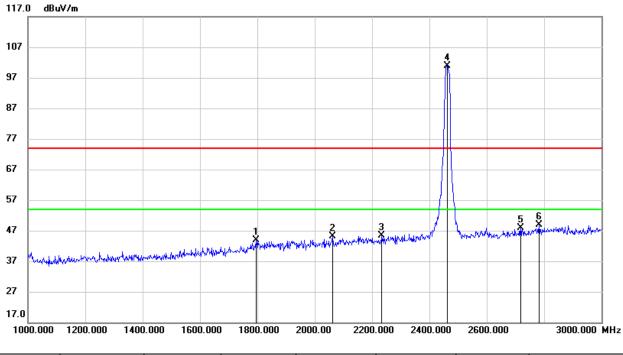


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1612.000	32.56	8.01	40.57	74.00	-33.43	peak
2	1862.000	34.18	9.91	44.09	74.00	-29.91	peak
3	2226.000	35.39	11.33	46.72	74.00	-27.28	peak
4	2437.000	97.82	12.19	110.01	/	/	fundamental
5	2638.000	36.04	12.64	48.68	74.00	-25.32	peak
6	2826.000	34.88	13.83	48.71	74.00	-25.29	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

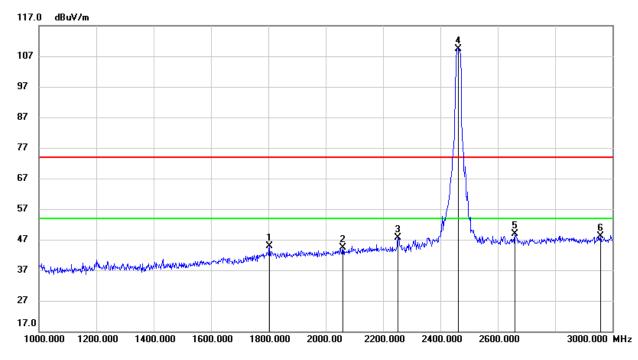


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1796.000	34.22	9.72	43.94	74.00	-30.06	peak
2	2062.000	34.29	10.74	45.03	74.00	-28.97	peak
3	2234.000	33.99	11.32	45.31	74.00	-28.69	peak
4	2462.000	88.52	12.29	100.81	/	/	fundamental
5	2718.000	34.68	13.12	47.80	74.00	-26.20	peak
6	2782.000	35.30	13.63	48.93	74.00	-25.07	peak

Note: 1. Measurement = Reading Level + Correct Factor.



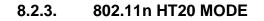
#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



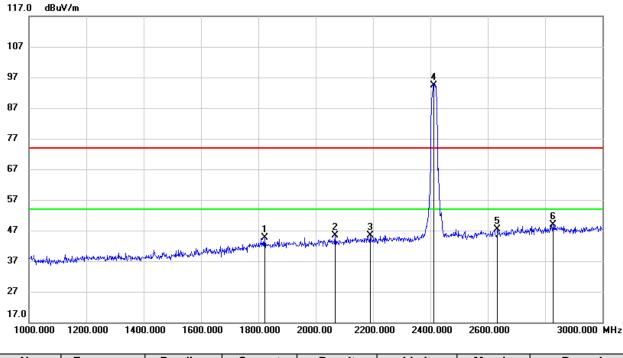
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1804.000	35.15	9.80	44.95	74.00	-29.05	peak
2	2060.000	33.64	10.72	44.36	74.00	-29.64	peak
3	2252.000	36.22	11.31	47.53	74.00	-26.47	peak
4	2462.000	97.05	12.29	109.34	/	/	fundamental
5	2660.000	36.00	12.76	48.76	74.00	-25.24	peak
6	2958.000	33.72	14.42	48.14	74.00	-25.86	peak

Note: 1. Measurement = Reading Level + Correct Factor.









No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1822.000	34.79	9.83	44.62	74.00	-29.38	peak
2	2068.000	34.50	10.78	45.28	74.00	-28.72	peak
3	2190.000	34.02	11.29	45.31	74.00	-28.69	peak
4	2412.000	82.41	12.08	94.49	/	/	fundamental
5	2634.000	34.86	12.61	47.47	74.00	-26.53	peak
6	2828.000	35.00	13.84	48.84	74.00	-25.16	peak

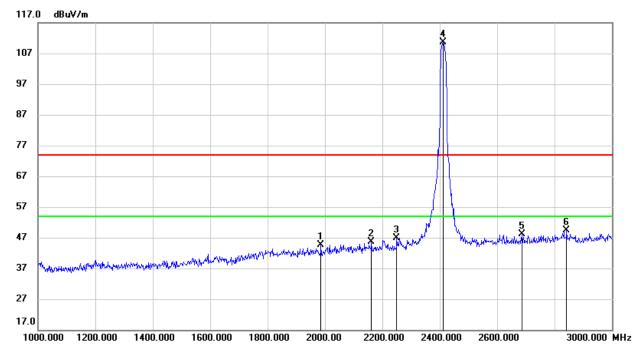
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

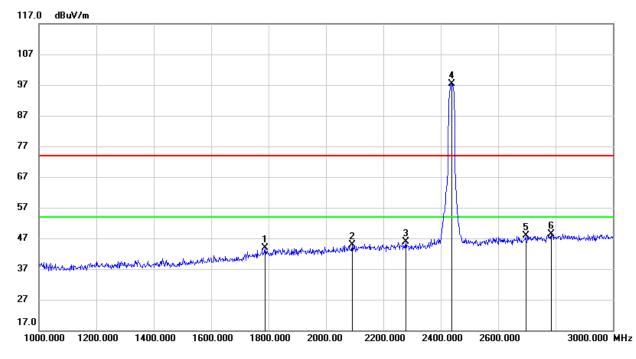


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1986.000	34.44	10.22	44.66	74.00	-29.34	peak
2	2162.000	34.36	11.21	45.57	74.00	-28.43	peak
3	2250.000	35.63	11.32	46.95	74.00	-27.05	peak
4	2412.000	98.50	12.08	110.58	/	/	fundamental
5	2686.000	35.20	12.91	48.11	74.00	-25.89	peak
6	2842.000	35.55	13.87	49.42	74.00	-24.58	peak

Note: 1. Measurement = Reading Level + Correct Factor.



### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

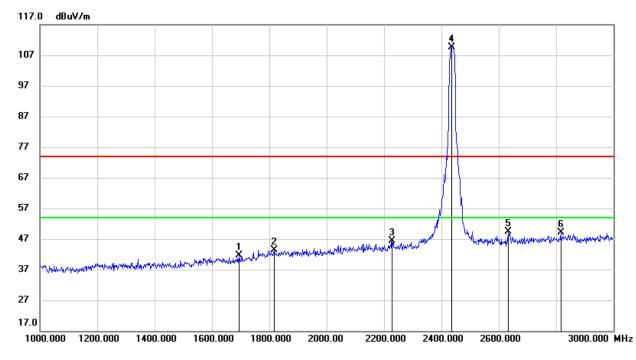


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1788.000	34.16	9.60	43.76	74.00	-30.24	peak
2	2092.000	33.93	10.98	44.91	74.00	-29.09	peak
3	2278.000	34.48	11.32	45.80	74.00	-28.20	peak
4	2437.000	85.31	12.19	97.50	/	/	fundamental
5	2696.000	35.00	12.98	47.98	74.00	-26.02	peak
6	2784.000	34.85	13.63	48.48	74.00	-25.52	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

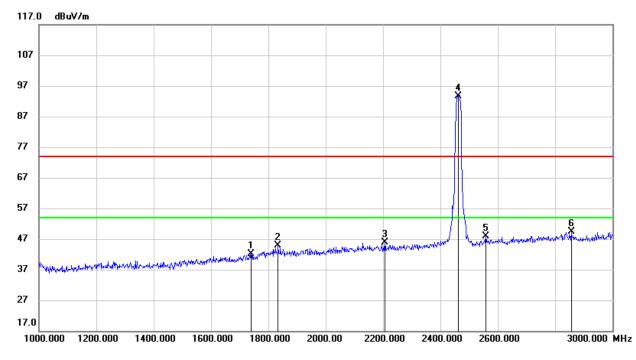


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1694.000	33.39	8.19	41.58	74.00	-32.42	peak
2	1818.000	33.58	9.82	43.40	74.00	-30.60	peak
3	2228.000	35.00	11.32	46.32	74.00	-27.68	peak
4	2437.000	97.41	12.19	109.60	/	/	fundamental
5	2632.000	36.85	12.60	49.45	74.00	-24.55	peak
6	2816.000	35.35	13.81	49.16	74.00	-24.84	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

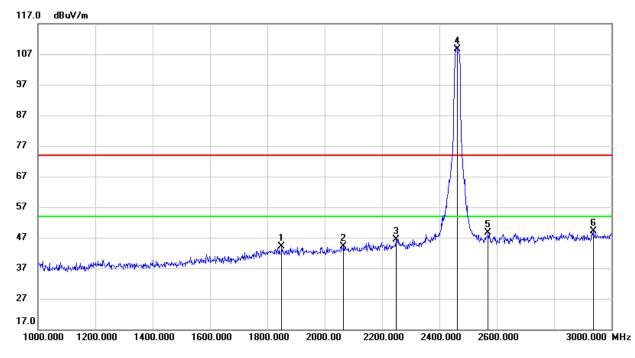


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1740.000	33.20	8.84	42.04	74.00	-31.96	peak
2	1834.000	35.02	9.85	44.87	74.00	-29.13	peak
3	2206.000	34.67	11.32	45.99	74.00	-28.01	peak
4	2462.000	81.28	12.29	93.57	/	/	fundamental
5	2558.000	35.45	12.43	47.88	74.00	-26.12	peak
6	2856.000	35.37	13.91	49.28	74.00	-24.72	peak

Note: 1. Measurement = Reading Level + Correct Factor.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



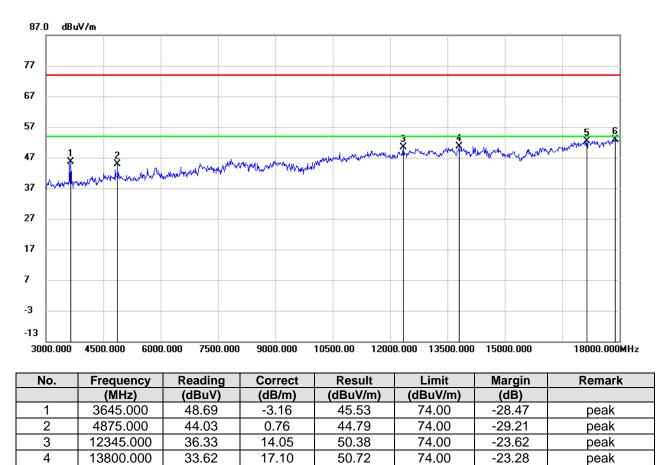
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1850.000	34.27	9.88	44.15	74.00	-29.85	peak
2	2066.000	33.32	10.77	44.09	74.00	-29.91	peak
3	2248.000	35.03	11.33	46.36	74.00	-27.64	peak
4	2462.000	96.41	12.29	108.70	/	/	fundamental
5	2570.000	36.26	12.42	48.68	74.00	-25.32	peak
6	2936.000	34.86	14.27	49.13	74.00	-24.87	peak

Note: 1. Measurement = Reading Level + Correct Factor.

# 8.3. SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)

# 8.3.1. 802.11b MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



Note: 1. Peak Result = Reading Level + Correct Factor.

31.70

29.66

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

52.47

53.00

74.00

74.00

-21.53

-21.00

peak

peak

3. Peak: Peak detector.

17145.000

17880.000

5

6

4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

20.77

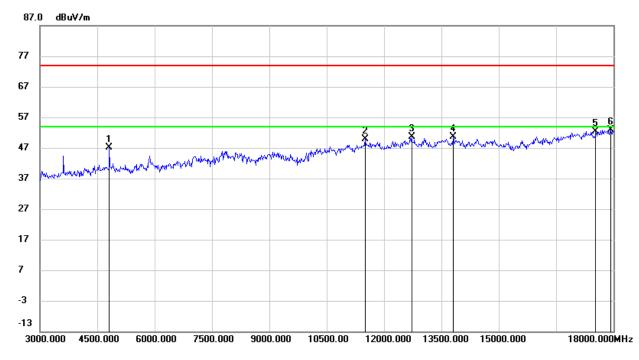
23.34

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	46.58	0.51	47.09	74.00	-26.91	peak
2	11505.000	36.57	13.42	49.99	74.00	-24.01	peak
3	12720.000	36.03	14.57	50.60	74.00	-23.40	peak
4	13815.000	33.72	16.97	50.69	74.00	-23.31	peak
5	17535.000	30.81	21.51	52.32	74.00	-21.68	peak
6	17925.000	29.49	23.37	52.86	74.00	-21.14	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

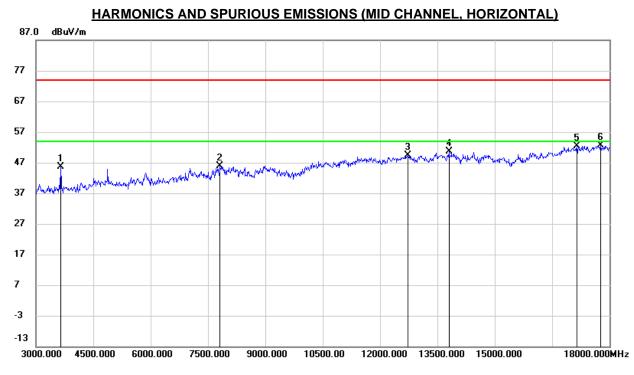
3. Peak: Peak detector.

4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3645.000	48.69	-3.16	45.53	74.00	-28.47	peak
2	7815.000	38.08	7.83	45.91	74.00	-28.09	peak
3	12735.000	34.57	14.77	49.34	74.00	-24.66	peak
4	13800.000	33.62	17.10	50.72	74.00	-23.28	peak
5	17145.000	31.70	20.77	52.47	74.00	-21.53	peak
6	17775.000	29.54	23.09	52.63	74.00	-21.37	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

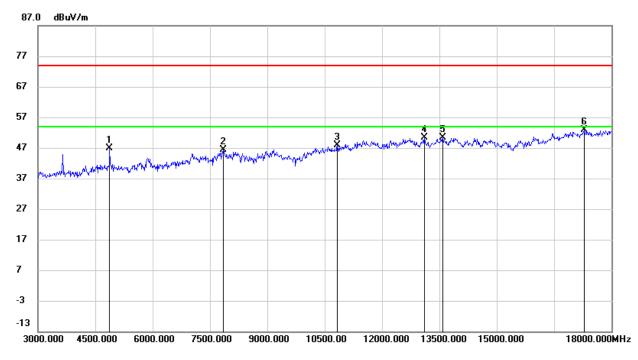
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4875.000	46.17	0.76	46.93	74.00	-27.07	peak
2	7845.000	38.70	7.62	46.32	74.00	-27.68	peak
3	10830.000	36.13	11.67	47.80	74.00	-26.20	peak
4	13110.000	35.07	15.19	50.26	74.00	-23.74	peak
5	13590.000	34.49	16.00	50.49	74.00	-23.51	peak
6	17280.000	31.23	21.59	52.82	74.00	-21.18	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

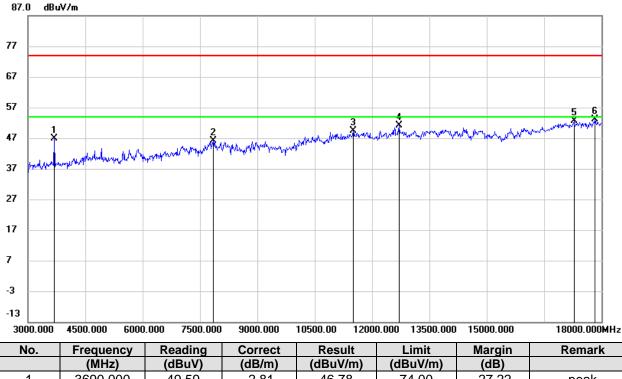
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	49.59	-2.81	46.78	74.00	-27.22	peak
2	7845.000	38.58	7.62	46.20	74.00	-27.80	peak
3	11505.000	36.01	13.42	49.43	74.00	-24.57	peak
4	12705.000	36.74	14.35	51.09	74.00	-22.91	peak
5	17280.000	31.01	21.59	52.60	74.00	-21.40	peak
6	17835.000	29.88	23.31	53.19	74.00	-20.81	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

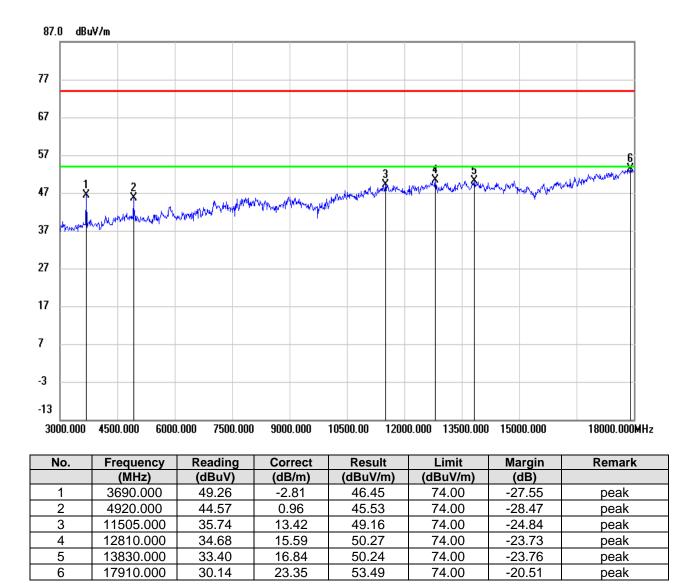
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

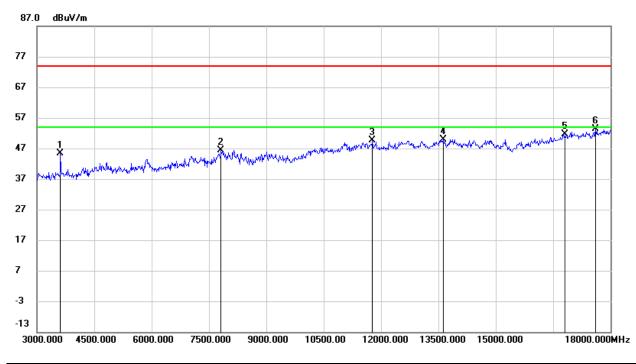
5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



## 8.3.2. 802.11g MODE





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3615.000	48.80	-3.40	45.40	74.00	-28.60	peak
2	7815.000	38.44	7.83	46.27	74.00	-27.73	peak
3	11775.000	36.40	13.13	49.53	74.00	-24.47	peak
4	13620.000	33.87	15.99	49.86	74.00	-24.14	peak
5	16815.000	31.59	19.96	51.55	74.00	-22.45	peak
6	17610.000	31.42	21.86	53.28	74.00	-20.72	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

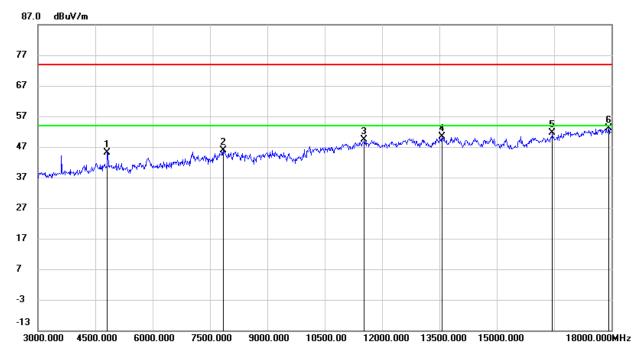
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	44.51	0.51	45.02	74.00	-28.98	peak
2	7845.000	38.24	7.62	45.86	74.00	-28.14	peak
3	11535.000	35.97	13.33	49.30	74.00	-24.70	peak
4	13560.000	34.37	15.93	50.30	74.00	-23.70	peak
5	16455.000	32.54	19.00	51.54	74.00	-22.46	peak
6	17925.000	29.71	23.37	53.08	74.00	-20.92	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

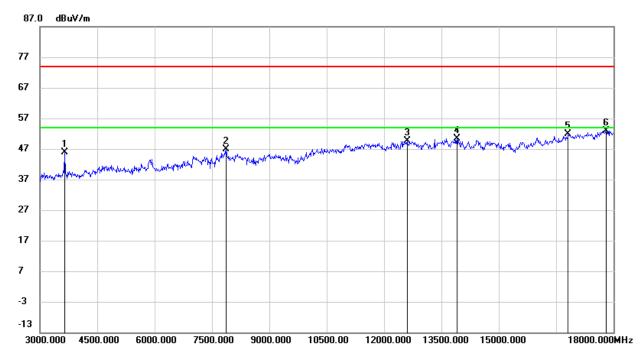
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3645.000	49.03	-3.16	45.87	74.00	-28.13	peak
2	7875.000	39.37	7.40	46.77	74.00	-27.23	peak
3	12600.000	35.67	13.99	49.66	74.00	-24.34	peak
4	13905.000	34.30	16.20	50.50	74.00	-23.50	peak
5	16815.000	31.88	19.96	51.84	74.00	-22.16	peak
6	17805.000	29.69	23.31	53.00	74.00	-21.00	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

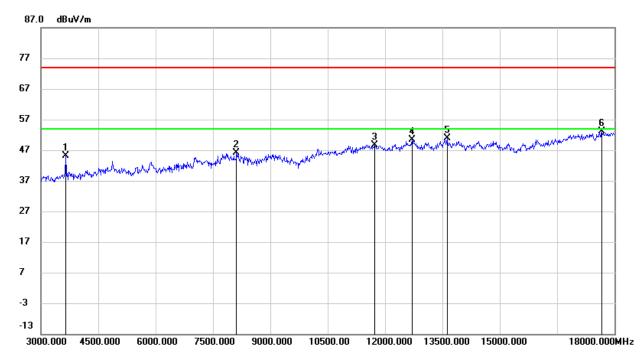
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3645.000	48.33	-3.16	45.17	74.00	-28.83	peak
2	8115.000	38.14	7.90	46.04	74.00	-27.96	peak
3	11730.000	35.72	13.02	48.74	74.00	-25.26	peak
4	12705.000	35.91	14.35	50.26	74.00	-23.74	peak
5	13620.000	34.90	15.99	50.89	74.00	-23.11	peak
6	17670.000	30.82	22.24	53.06	74.00	-20.94	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

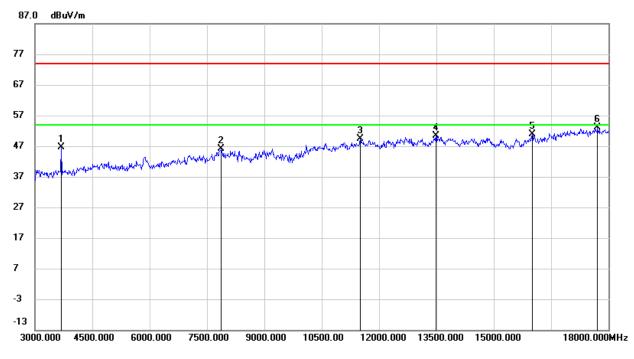
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	49.39	-2.81	46.58	74.00	-27.42	peak
2	7875.000	38.74	7.40	46.14	74.00	-27.86	peak
3	11505.000	35.97	13.42	49.39	74.00	-24.61	peak
4	13485.000	34.56	15.82	50.38	74.00	-23.62	peak
5	16005.000	33.29	17.71	51.00	74.00	-23.00	peak
6	17715.000	30.49	22.56	53.05	74.00	-20.95	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

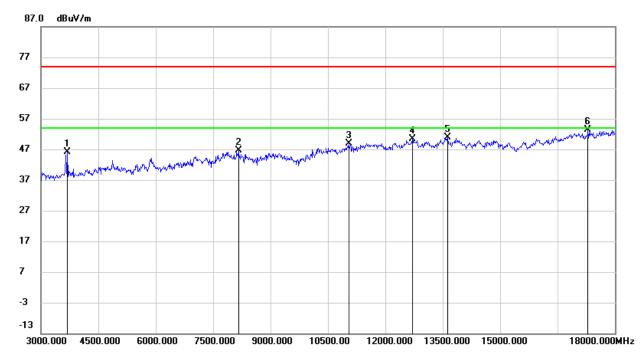
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	48.82	-2.81	46.01	74.00	-27.99	peak
2	8160.000	38.33	8.18	46.51	74.00	-27.49	peak
3	11040.000	36.31	12.61	48.92	74.00	-25.08	peak
4	12705.000	35.91	14.35	50.26	74.00	-23.74	peak
5	13620.000	34.90	15.99	50.89	74.00	-23.11	peak
6	17295.000	31.63	21.71	53.34	74.00	-20.66	peak

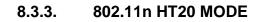
Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

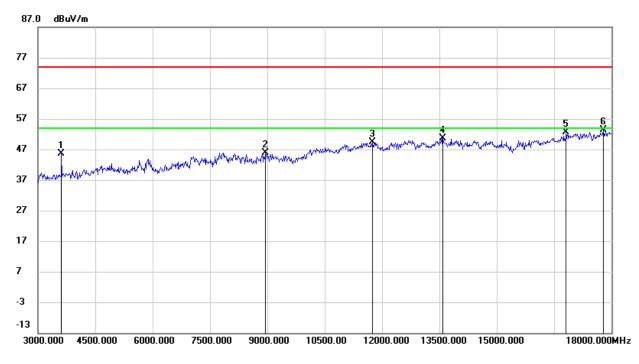
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3615.000	49.12	-3.40	45.72	74.00	-28.28	peak
2	8955.000	36.99	8.84	45.83	74.00	-28.17	peak
3	11745.000	36.34	13.05	49.39	74.00	-24.61	peak
4	13590.000	34.69	16.00	50.69	74.00	-23.31	peak
5	16815.000	32.79	19.96	52.75	74.00	-21.25	peak
6	17790.000	30.05	23.22	53.27	74.00	-20.73	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

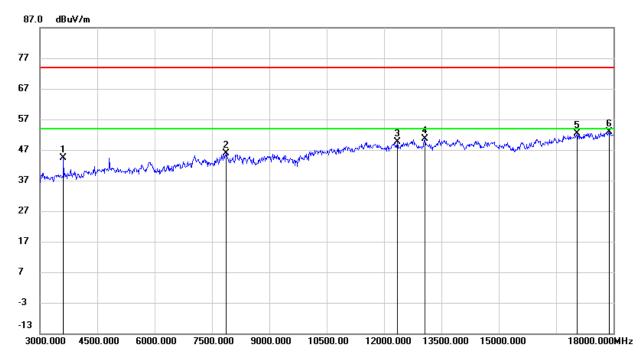
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3615.000	47.80	-3.40	44.40	74.00	-29.60	peak
2	7875.000	38.37	7.40	45.77	74.00	-28.23	peak
3	12345.000	35.58	14.05	49.63	74.00	-24.37	peak
4	13065.000	35.48	15.11	50.59	74.00	-23.41	peak
5	17055.000	31.92	20.53	52.45	74.00	-21.55	peak
6	17895.000	29.43	23.34	52.77	74.00	-21.23	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

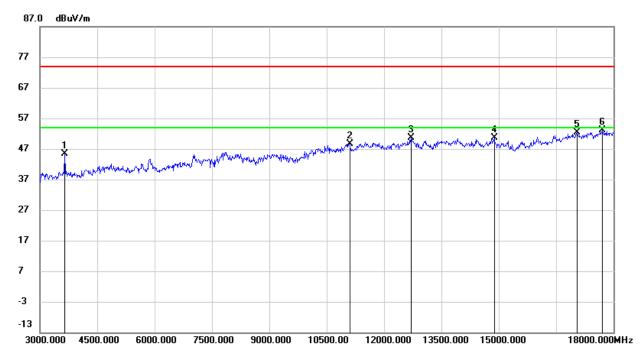
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3645.000	48.60	-3.16	45.44	74.00	-28.56	peak
2	11100.000	36.14	12.56	48.70	74.00	-25.30	peak
3	12705.000	36.19	14.35	50.54	74.00	-23.46	peak
4	14880.000	34.57	16.00	50.57	74.00	-23.43	peak
5	17040.000	31.77	20.49	52.26	74.00	-21.74	peak
6	17700.000	30.60	22.43	53.03	74.00	-20.97	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

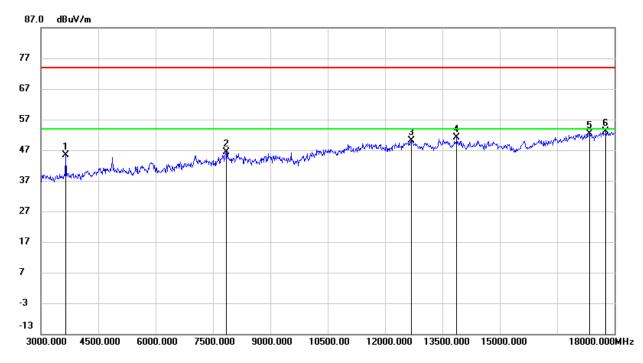
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3645.000	48.50	-3.16	45.34	74.00	-28.66	peak
2	7845.000	38.87	7.62	46.49	74.00	-27.51	peak
3	12690.000	36.00	14.25	50.25	74.00	-23.75	peak
4	13875.000	34.71	16.44	51.15	74.00	-22.85	peak
5	17340.000	30.75	21.61	52.36	74.00	-21.64	peak
6	17775.000	30.11	23.09	53.20	74.00	-20.80	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

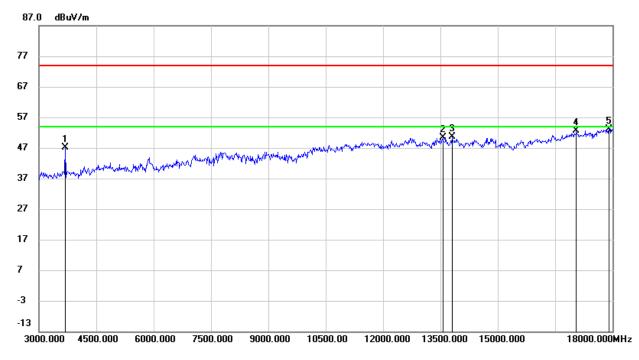
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	49.88	-2.81	47.07	74.00	-26.93	peak
2	13560.000	34.40	15.93	50.33	74.00	-23.67	peak
3	13815.000	33.77	16.97	50.74	74.00	-23.26	peak
4	17055.000	32.02	20.53	52.55	74.00	-21.45	peak
5	17910.000	29.87	23.35	53.22	74.00	-20.78	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

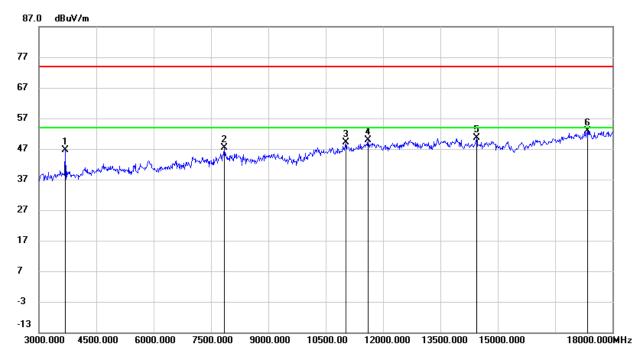
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



### HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	49.39	-2.81	46.58	74.00	-27.42	peak
2	7845.000	39.71	7.62	47.33	74.00	-26.67	peak
3	11025.000	36.58	12.61	49.19	74.00	-24.81	peak
4	11610.000	36.70	13.15	49.85	74.00	-24.15	peak
5	14445.000	34.18	16.36	50.54	74.00	-23.46	peak
6	17340.000	31.29	21.61	52.90	74.00	-21.10	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

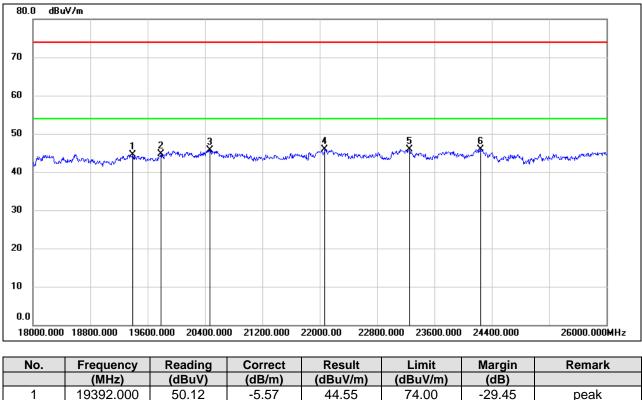
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.



# 8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

# 8.4.1. 802.11n HT20 MODE

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	19392.000	50.12	-5.57	44.55	74.00	-29.45	peak
2	19784.000	50.08	-5.28	44.80	74.00	-29.20	peak
3	20472.000	51.19	-5.39	45.80	74.00	-28.20	peak
4	22072.000	50.27	-4.41	45.86	74.00	-28.14	peak
5	23256.000	49.22	-3.35	45.87	74.00	-28.13	peak
6	24248.000	48.82	-2.83	45.99	74.00	-28.01	peak

Note: 1. Measurement = Reading Level + Correct Factor.

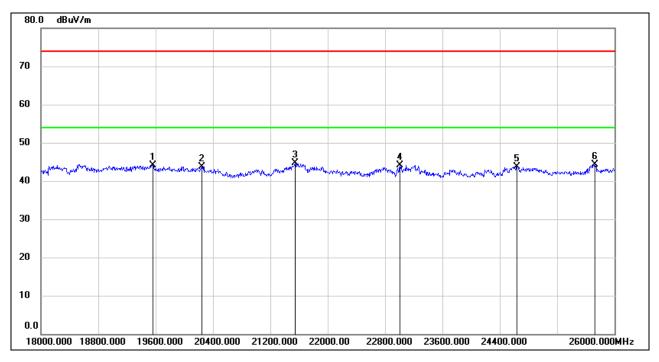
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.



### SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	19560.000	49.64	-5.48	44.16	74.00	-29.84	peak
2	20240.000	49.32	-5.61	43.71	74.00	-30.29	peak
3	21544.000	49.26	-4.63	44.63	74.00	-29.37	peak
4	23008.000	47.60	-3.44	44.16	74.00	-29.84	peak
5	24640.000	46.05	-2.32	43.73	74.00	-30.27	peak
6	25728.000	45.11	-0.72	44.39	74.00	-29.61	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

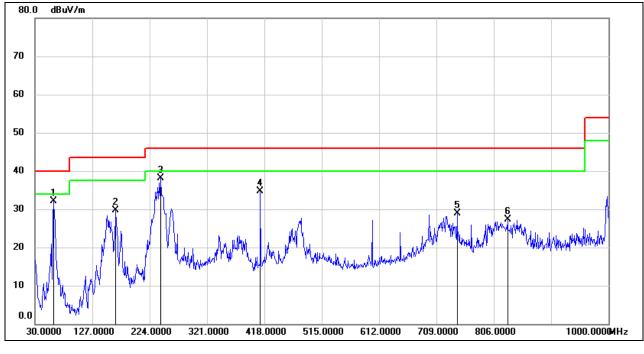
4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

Note: All the other channels and modes had been tested, but only the worst data was recorded in the report.

# 8.5. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

## 8.5.1. 802.11n HT20 MODE

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	62.0100	51.73	-19.54	32.19	40.00	-7.81	QP
2	166.7700	47.00	-17.22	29.78	43.50	-13.72	QP
3	242.4300	54.95	-16.90	38.05	46.00	-7.95	QP
4	411.2100	47.19	-12.51	34.68	46.00	-11.32	QP
5	743.9200	35.39	-6.42	28.97	46.00	-17.03	QP
6	829.2800	32.43	-5.11	27.32	46.00	-18.68	QP

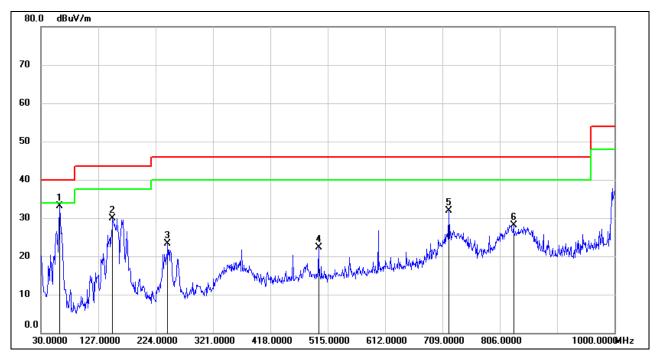
Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



#### SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	62.0100	52.66	-19.54	33.12	40.00	-6.88	QP
2	151.2500	48.18	-18.32	29.86	43.50	-13.64	QP
3	244.3700	40.22	-16.84	23.38	46.00	-22.62	QP
4	499.4800	33.21	-10.93	22.28	46.00	-23.72	QP
5	719.6700	38.34	-6.45	31.89	46.00	-14.11	QP
6	829.2800	33.31	-5.11	28.20	46.00	-17.80	QP

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

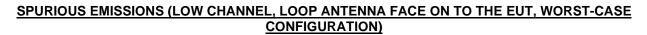
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

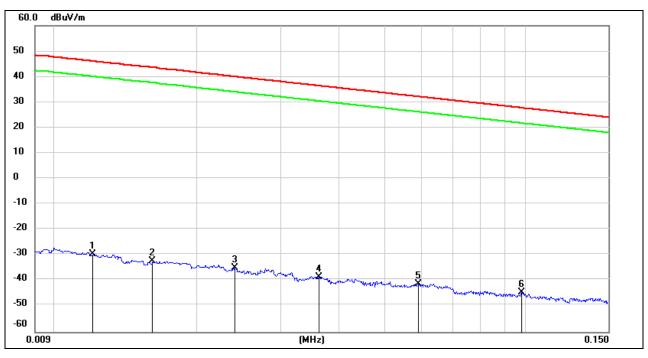
Note: All the other channels and modes had been tested, but only the worst data was recorded in the report.



## 8.6. SPURIOUS EMISSIONS BELOW 30 MHz

## 8.6.1. 802.11n HT20 MODE





<u>9 kHz~ 150 kHz</u>

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0120	71.86	-101.39	-29.53	46.02	-81.03	-5.48	-75.55	peak
2	0.0160	68.97	-101.37	-32.40	43.52	-83.90	-7.98	-75.92	peak
3	0.0240	66.32	-101.36	-35.04	40.00	-86.54	-11.50	-75.04	peak
4	0.0362	63.01	-101.42	-38.41	36.43	-89.91	-15.07	-74.84	peak
5	0.0589	60.31	-101.52	-41.21	32.20	-92.71	-19.30	-73.41	peak
6	0.0981	57.27	-101.78	-44.51	27.77	-96.01	-23.73	-72.28	peak

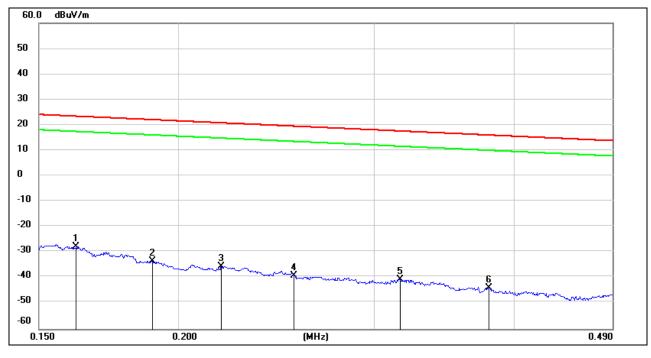
Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120 $\pi$ ] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



#### <u>150 kHz ~ 490 kHz</u>



No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1621	73.92	-101.65	-27.73	23.41	-79.23	-28.09	-51.14	peak
2	0.1895	68.15	-101.70	-33.55	22.05	-85.05	-29.45	-55.60	peak
3	0.2187	66.25	-101.75	-35.50	20.80	-87.00	-30.70	-56.30	peak
4	0.2540	62.60	-101.80	-39.20	19.50	-90.70	-32.00	-58.70	peak
5	0.3163	61.20	-101.87	-40.67	17.60	-92.17	-33.90	-58.27	peak
6	0.3800	58.02	-101.94	-43.92	16.01	-95.42	-35.49	-59.93	peak

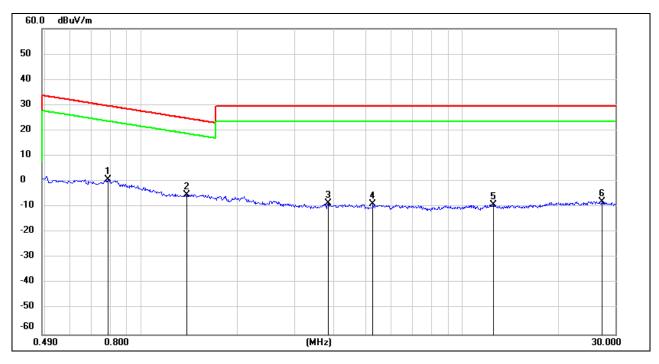
Note: 1. Measurement = Reading Level + Correct Factor ( $dBuA/m = dBuV/m - 20Log10[120\pi] = dBuV/m - 51.5$ ).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



<u>490 kHz ~ 30 MHz</u>



No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.7861	62.83	-62.14	0.69	29.69	-50.81	-21.81	-29.00	peak
2	1.3810	56.97	-62.10	-5.13	24.80	-56.63	-26.70	-29.93	peak
3	3.8246	52.70	-61.38	-8.68	29.54	-60.18	-21.96	-38.22	peak
4	5.2705	52.54	-61.45	-8.91	29.54	-60.41	-21.96	-38.45	peak
5	12.5006	51.82	-60.91	-9.09	29.54	-60.59	-21.96	-38.63	peak
6	27.1966	52.31	-60.24	-7.93	29.54	-59.43	-21.96	-37.47	peak

Note: 1. Measurement = Reading Level + Correct Factor ( $dBuA/m = dBuV/m - 20Log10[120\pi] = dBuV/m - 51.5$ ).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

Note: All the modes had been tested, but only the worst data was recorded in the report.



# 9. AC POWER LINE CONDUCTED EMISSIONS

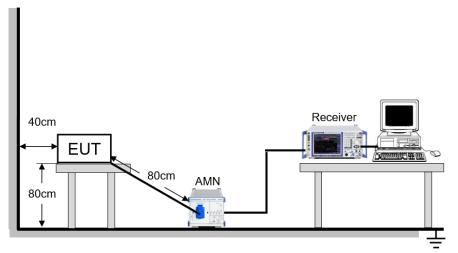
### LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

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

### TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

#### TEST ENVIRONMENT

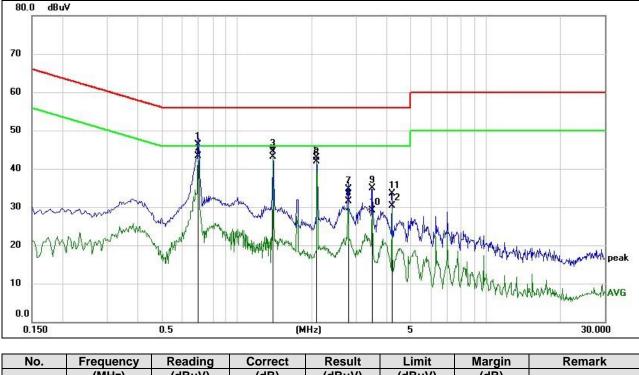
Temperature	22 °C	Relative Humidity	68.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 110 V

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## 9.1. 802.11n HT20 MODE

### LINE L RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.6988	36.80	9.60	46.40	56.00	-9.60	QP
2	0.6988	33.64	9.60	43.24	46.00	-2.76	AVG
3	1.3983	34.92	9.61	44.53	56.00	-11.47	QP
4	1.3983	33.45	9.61	43.06	46.00	-2.94	AVG
5	2.0973	33.22	9.62	42.84	56.00	-13.16	QP
6	2.0973	32.21	9.62	41.83	46.00	-4.17	AVG
7	2.7965	25.02	9.64	34.66	56.00	-21.34	QP
8	2.7965	21.84	9.64	31.48	46.00	-14.52	AVG
9	3.4956	25.21	9.65	34.86	56.00	-21.14	QP
10	3.4956	19.53	9.65	29.18	46.00	-16.82	AVG
11	4.1949	23.78	9.66	33.44	56.00	-22.56	QP
12	4.1949	20.68	9.66	30.34	46.00	-15.66	AVG

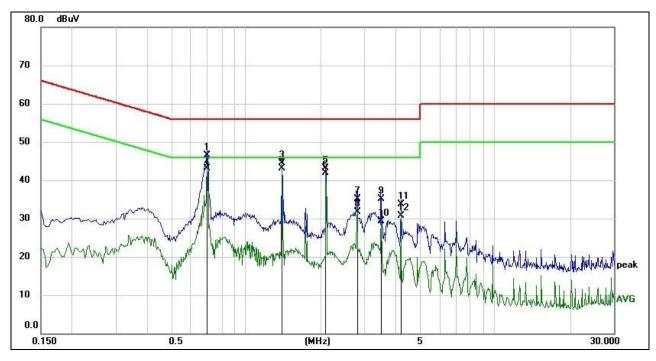
Note: 1. Result = Reading +Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.





#### LINE N RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.6982	36.83	9.60	46.43	56.00	-9.57	QP
2	0.6982	33.43	9.60	43.03	46.00	-2.97	AVG
3	1.3981	34.91	9.61	44.52	56.00	-11.48	QP
4	1.3981	33.48	9.61	43.09	46.00	-2.91	AVG
5	2.0970	33.46	9.63	43.09	56.00	-12.91	QP
6	2.0970	32.36	9.63	41.99	46.00	-4.01	AVG
7	2.7962	25.54	9.65	35.19	56.00	-20.81	QP
8	2.7962	22.13	9.65	31.78	46.00	-14.22	AVG
9	3.4952	25.40	9.65	35.05	56.00	-20.95	QP
10	3.4952	19.71	9.65	29.36	46.00	-16.64	AVG
11	4.1945	23.99	9.66	33.65	56.00	-22.35	QP
12	4.1945	21.03	9.66	30.69	46.00	-15.31	AVG

Note: 1. Result = Reading +Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes had been tested, but only the worst data was recorded in the report.



# **10. ANTENNA REQUIREMENTS**

#### **APPLICABLE REQUIREMENTS**

#### Please refer to FCC §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### Please refer to FCC §15.247(b)(4)

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.

### **RESULTS**

Complies



# APPENDIX A: DUTY CYCLE

## **Test Result**

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11b	8.411	8.515	0.9878	98.78%	0.053	0.12	0.01
11g	1.393	1.497	0.9305	93.05%	0.313	0.72	1
11n HT20	1.305	1.409	0.9262	92.62%	0.333	0.77	1

Note:

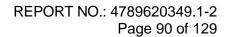
Duty Cycle Correction Factor=10log (1/x).

Where: x is Duty Cycle (Linear)

Where: T is On Time

The final setting for 802.11b is 0.01KHz due to duty cycle of it is above 98%.

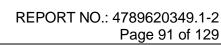
If that calculated VBW is not available on the analyzer then the next higher value should be used.





### **Test Graphs**

Keysight Spectrum Analyzer - Swep		CENCE THE	A1 7-71 -		4 Cen 14, 2025	
Center Freq 2.437000		Trig Delay-200.0   Trig: Video #Atten: 40 dB	ALIGN A IS #Avg Type: RMS	S TRAC	4 Sep 14, 2020 E 1 2 3 4 5 6 PE WWWWWWWWW T P P P P P P P	Frequency
Ref Offset 19.0 10 dB/div Ref 35.00 d	51 dB			ΔMkr3 8.	515 ms 0.26 dB	Auto Tune
25.0 15.00 1		3Δ				Center Freq 2.437000000 GHz
-5.00 -15.0 -25.0						<b>Start Freq</b> 2.437000000 GHz
-35.0						<b>Stop Freq</b> 2.437000000 GHz
Center 2.437000000 G Res BW 8 MHz MKR MODE TRC SCL		¥ 8.0 MHz		p 20.26 ms (		<b>CF Step</b> 8.000000 MHz <u>Auto</u> Man
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2.161 ms 8.411 ms (Δ) 8.515 ms (Δ)	19.61 dBm 2.34 dB 0.26 dB			E	Freq Offset 0 Hz
6 7 8 9 10 11						Scale Type
MSG		III		STATUS	Þ	
		11R Ar				
Keysight Spectrum Analyzer - Swep	pt SA	11B_Ar	nt1_2437			
Keysight Spectrum Analyzer - Swep 20 RL RF 50Ω Center Freq 2.437000 Ν	DC	SENSE:INT	nt1_2437	UTO 02:29:21 PM	1 Sep 14, 2020 E 1 2 3 4 5 6 E WWWWW T P P P P P P	Frequency
RL         RF         50 Ω           Center Freq 2.437000         Λ           Ref Offset 19.4         Λ           10 dB/div         Ref 35.00 d	DC ODOO GHz NFE PNO: Fast ↔ IFGain:Low	SENSE:INT Trig Delay-200.0	nt1_2437	ΔUTO 02:29:21 PM S TRAC TYP DE ΔMkr3 1.	E 1 2 3 4 5 6 WWWWWW T P P P P P P	
22 RL RF 50 Ω Center Freq 2.437000 Ref Offset 19.1 10 dB/div Ref 35.00 d	DC 0000 GHz NFE PNO: Fast ↔ IFGain:Low 51 dB Bm	SENSE:INT Trig Delay-200.0 p Trig: Video #Atten: 40 dB	nt1_2437	UTO 02:29:21 PM S ТRаС Түр DE <b>ΔMkr3 1.</b> -(	497 ms 0.52 dB	Frequency
20         RL         RF         50 Ω           Center Freq 2.437000         N           10         dB/div         Ref Offset 19.4           25.0         Log         Ref 35.00 d           25.0         Interf 400 benchmark         Log           15.0         Ref 10.4         Log	DC 0000 GHz NFE PNO: Fast → IFGain:Low 51 dB Bm	SENSE:INT Trig Delay-200.0 p Trig: Video #Atten: 40 dB	ALIGN A ALIGN A IS #Avg Type: RM3	UTO 02:29:21 PM S ТRас Түр DE <b>ΔMkr3 1.</b> -(	497 ms 0.52 dB	Frequency Auto Tune Center Freq
20 RL RF 50Ω Center Freq 2.437000 10 dB/div Ref Offset 19.4 25.0 15.0 -5.00 -15.0	DC 0000 GHz NFE PNO: Fast → IFGain:Low 51 dB Bm	SENSE:INT Trig Delay-200.0 p Trig: Video #Atten: 40 dB	ALIGN A ALIGN A IS #Avg Type: RM3	UTO 02:29:21 PM S ТRас Түр DE <b>ΔMkr3 1.</b> -(	497 ms 0.52 dB	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq
MRL         RF         50 Ω           Center Freq 2.437000         Ref Offset 19.1           10 dB/div         Ref 35.00 d           25.0         1           15.0         1           -5.00 <td>DCC DODO GHZ NFE PNO: Fast → IFGain:Low 51 dB Bm 3Δ1 ACC DIMENSION ACC D</td> <td>SENSE:INT Trig Delay-200.0   #Atten: 40 dB</td> <td>ALIGN A ALIGN A IS #Avg Type: RMS</td> <td>UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 10000000000000000000000000000000000</td> <td>497 ms 0.52 dB 160 J</td> <td>Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq</td>	DCC DODO GHZ NFE PNO: Fast → IFGain:Low 51 dB Bm 3Δ1 ACC DIMENSION ACC D	SENSE:INT Trig Delay-200.0   #Atten: 40 dB	ALIGN A ALIGN A IS #Avg Type: RMS	UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 10000000000000000000000000000000000	497 ms 0.52 dB 160 J	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq
20         RL         RF         50 Ω           Center Freq 2.437000         Ref Offset 19.4         Ref 35.00 d           10         dB/div         Ref 35.00 d           250         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           600         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1	DCC DODO GHZ NFE PNO: Fast → IFGain:Low 51 dB Bm 3Δ1 ACC DIMENSION ACC D	V 8.0 MHz	ht1_2437	UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 10000000000000000000000000000000000	497 ms 0.52 dB 160 J	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz CF Step 8.000000 MHz
20         RL         RF         50 Ω           Center Freq 2.437000         Ref Offset 19.4         Ref 35.00 d           10         dB/div         Ref 35.00 d           250         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           600         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1	DCC         DCC           0000 GHz         PNO: Fast → IFGain:Low           \$1 dB         Bm           3∆1         IfGain:Low           addition of the state of the s	V 8.0 MHz	ht1_2437	UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 	497 ms 0.52 dB 160 J	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz CF Step 8.000000 MHz Auto Man Freq Offset
Q         RL         RF         50 Ω           Center Freq 2.437000         Ref Offset 19.1           10 dB/div         Ref 35.00 d           25.0         In attribute to the set of the	DCC         DCC           0000 GHz         PNO: Fast → IFGain:Low           \$1 dB         Bm           3∆1         IfGain:Low           addition of the state of the s	V 8.0 MHz	ht1_2437	UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 	497 ms 0.52 dB 160 J	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz CF Step 8.000000 MHz Auto Man Freq Offset 0 Hz
20         RL         RF         50 Ω           Center Freq 2.437000         Ref Offset 19.4         Ref 35.00 d           10         dB/div         Ref 35.00 d           250         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         Ref 35.00 d           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           500         1         1           600         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1           150         1         1	DCC         DCC           0000 GHz         PNO: Fast → IFGain:Low           \$1 dB         Bm           3∆1         IfGain:Low           addition of the state of the s	V 8.0 MHz	ALIGN A ALIGN A ALI	UTO 02:29:21 PM S TRAC DE AMkr3 1. ( 	497 ms 0.52 dB 160 J	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz 8.000000 MHz Auto Man Freq Offset 0 Hz Scale Type





Center Fre	RF 50 Ω C eq 2.4370000	000 GHz PNO: Fast ↔	SENSE:INT Trig Delay-200.0 μs Trig: Video	ALIGN AUTO #Avg Type: RMS	01:52:49 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWW DET P P P P P P	Frequency
10 dB/div	Ref Offset 19.51 Ref 35.00 dB		#Atten: 40 dB	4	∆Mkr3 1.409 ms -0.37 dB	Auto Tune
25.0 15.0				ale of a second seco		Center Freq 2.437000000 GHz
-5.00			¥ ¥			<b>Start Freq</b> 2.437000000 GHz
-25.0 -35.0 -45.0						<b>Stop Freq</b> 2.437000000 GHz
Center 2.44 Res BW 8			V 8.0 MHz	Sweep 1	Span 0 Hz 0.13 ms (8000 pts) FUNCTION VALUE	CF Step 8.000000 MHz <u>Auto</u> Man
1 N 1 2 Δ1 1 3 Δ1 1 4 5 6	t t (Δ) t (Δ)	1.301 ms 1.305 ms (Δ) 1.409 ms (Δ)	18.26 dBm 1.58 dB		=	Freq Offset 0 Hz
7 8 9 10						Scale Type
11			m			



# **APPENDIX B: DTS BANDWIDTH**

### **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
		2412	8.600	2407.480	2416.080	0.5	PASS
11B	Ant1	2437	8.640	2432.440	2441.080	0.5	PASS
		2462	7.640	2457.960	2465.600	0.5	PASS
		2412	15.560	2404.080	2419.640	0.5	PASS
11G	Ant1	2437	15.200	2429.440	2444.640	0.5	PASS
		2462	15.200	2454.440	2469.640	0.5	PASS
		2412	16.120	2404.080	2420.200	0.5	PASS
11N20SISO	Ant1	2437	15.120	2429.440	2444.560	0.5	PASS
		2462	15.160	2454.440	2469.600	0.5	PASS



## **Test Graphs**



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<b>K</b> L RF 50 Ω E		ALIGN AUTO	01:15:48 PM Sep 14, 2020	Frequency
Center Freq 2.462000		#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	requercy
Ref Offset 19.51		ΔΝ	kr3 7.64 MHz	Auto Tune
10 dB/div Ref 20.00 dB			0.050 dB	
10.0	1	3Δ1		Center Freq
0.00	and more haven	And the second s	DL1 2.97 dBm	2.462000000 GHz
-10.0		- Valan		
-20.0		- May		Start Freq
-30.0 -40.0 - Man Min Mark	hand	Marrie	,	2.442000000 GHz
-50.0		)	and the stand and a stand	
-60.0				<b>Stop Freq</b> 2.482000000 GHz
-70.0				2.40200000 0112
Center 2.46200 GHz			Span 40.00 MHz	CF Step
#Res BW 100 kHz	#VBW 300 kHz	-	33 ms (1001 pts)	4.000000 MHz <u>Auto</u> Man
MKR MODE TRC SCL 1 N 1 f 2 N 1 f	2.457 96 GHz 1.799 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	
<b>3</b> Δ1 1 f (Δ)	2.461 52 GHz 8.974 dBm 7.64 MHz (Δ) 0.050 dB			Freq Offset
4 5			E	0 Hz
5 6 7 8				Scale Type
9 10				
11				Log <u>Lin</u>
MSG		STATUS		L
	11 <u>B_</u> A	nt1_2462		
Keysight Spectrum Analyzer - Swept S	5A	nt1_2462	01-27-42 DM C== 14, 2020	
X RL RF 50 Ω C Center Freq 2.4120000	SA SENSE:INT	nt1_2462 ALIGN AUTO #Avg Type: RMS	01:27:42 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
L <mark>X/</mark> RL RF 50Ω D	SA SENSE:INT	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
047 RL RF 50Ω C Center Freq 2.4120000 NFi RefOffset 19.48	SA DO GHZ PNO: Wide IFGain:Low Trig: Free Run #Atten: 30 dB	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P TT3 15.56 MHz	
XI         RF         50 Q E           Center Freq 2.4120000         Ref         NEI	SA DO GHZ PNO: Wide IFGain:Low Trig: Free Run #Atten: 30 dB	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency Auto Tune
00 RL RF 50 Ω C Center Freq 2.4120000 NFI 10 dB/div Ref 0ffset 19.48 Log 10.0	SA DO GHZ PNO: Wide IFGain:Low Trig: Free Run #Atten: 30 dB	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P TT3 15.56 MHz	Frequency Auto Tune Center Freq
00 RL RF 50 Ω C Center Freq 2.412000 C NFI 10 dB/div Ref 0ffset 19.48 Ref 20.00 dB	SA DOO GHZ PNO: Wide →→ IFGain:Low #Atten: 30 dB m 2 dB m	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	rrace 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P 0.550 dB	Frequency Auto Tune
00 RL RF 50 Ω C Center Freq 2.4120000 NFI 10 dB/div Ref 20.00 dB 10 dB/div Ref 20.00 dB 10 0 10	SA SENSE:INT DOO GHZ E PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB m C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	nt1_2462 ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	rrace 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P 0.550 dB	Frequency Auto Tune Center Freq
Ø/ RL         RF         50 Ω C           Center Freq 2.4120000         Ref           10 dB/div         Ref 0ffset 19.48           10 dB/div         Ref 20.00 dB           10.0	SA DOO GHZ PNO: Wide →→ IFGain:Low #Atten: 30 dB m 2 dB m	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P Cr3 15.56 MHz 0.550 dB DL1-0.65 dBm	Frequency Auto Tune Center Freq 2.412000000 GHz
RL         RF         50.0         C           Center Freq 2.4120000         NFI           Ref Offset 19.48           Log         Ref 20.00 dB           10.0         0.00           .00	SA SENSE:INT DOO GHZ E PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB m C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	nt1_2462	rrace 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P 0.550 dB	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq
RL         RF         S0 Q C           Center Freq 2.4120000         Ref Offset 19.48           Ref Offset 19.48         Ref 20.00 dB           10 dB/div         Ref 20.00 dB           10.0	SA SENSE:INT DOO GHZ E PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB m C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P Cr3 15.56 MHz 0.550 dB DL1-0.65 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.39200000 GHz Stop Freq
RL         RF         50 Q         C           Center Freq 2.4120000         NFI           Ref Offset 19.48           Log         0           10.0         0           .000         0	SA SENSE:INT DOO GHZ E PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB m C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P Cr3 15.56 MHz 0.550 dB DL1-0.65 dBm	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz
RL         RF         50 0 c           Center Freq 2.4120000         Ref 0ffset 19.48           Ref 0ffset 19.48         Ref 20.00 dB           10 dB/div         Ref 20.00 dB           -00	SA SENSE:INT DOO GHZ E PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB m C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P Cr3 15.56 MHz 0.550 dB DL1-0.65 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.39200000 GHz Stop Freq 2.43200000 GHz
RL         RF         50 Q         C           Center Freq 2.4120000         NFI           Ref Offset 19.48           Log         Ref Offset 19.48           10 dB/dlv         Ref 20.00 dB           0.00	SA DOO GHZ PNO: Wide IFGain:Low #Atten: 30 dB m Atten: 30 dB m #VBW 300 kHz	nt1_2462	TRACE [1 2 3 4 5 6           TYPE [MWWWW           DET [P P P P P           (r3 15.56 MHz           0.550 dB           DL1 - 0.65 dBm           Wmw/	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz
XI         RF         S0 Q I           Center Freq 2.4120000         NFI           0         BI/div         Ref Offset 19.48           10 dB/div         Ref 20.00 dB           10.0	SA SC SC SC SC SC SC SC SC SC SC	nt1_2462 #Avg Type: RMS Avg Hold: 100/100 ΔΜΗ	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P (r3 15.56 MHz 0.550 dB DL1 -065 dBm Wmm/ Num Num Span 40.00 MHz	Frequency Auto Tune Center Freq 2.412000000 GHz 2.392000000 GHz 2.432000000 GHz 2.432000000 GHz CF Step
RL         RF         S0 Q I           Center Freq 2.412000 (NFI)         NFI           Ref Offset 19.48         Ref 20.00 dB           10 dB/div         Ref 20.00 dB           20 dB/div         Ref 20.00 dB	SA SC SENSE:INT DOO GHZ F PNO: Wide ++ IFGain:Low #Atten: 30 dB m Atten: 30 dB m #VBW 300 kHz X Y	nt1_2462	TRACE [1 2 3 4 5 6           TYPE [MWWWW           DET [P P P P P           (r3 15.56 MHz           0.550 dB           DL1 - 0.65 dBm           Wmw/	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz
RL         RF         S0 Q I           Center Freq 2.412000 K         Ref Offset 19.48           Ref Offset 19.48         Ref 20.00 dB           10 dB/div         Ref 20.00 dB           20 db/div         Ref 20.00 dB           10 db/div         Ref 20.00 dB           11 db/div         11 db/div           11 db/div         11 db/div	SA SC SC SC SC SENSE:INT PNO: Wide →→ IFGain:Low #Atten: 30 dB m Atten: 30 dB m #Atten: 30 dB # Atten: 40 Atten: 40	nt1_2462	TRACE [1 2 3 4 5 6           TYPE [MWWWW           DET [P P P P P           (r3 15.56 MHz           0.550 dB           DL1 - 0.65 dBm           Wmw/	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz 2.432000000 GHz CF Step 4.00000 MHz Auto Man
RL         RF         S0 Q I           Center Freq 2.412000 K         Ref Offset 19.48           Ref Offset 19.48         Ref 20.00 dB           10 dB/div         Ref 20.00 dB           20 db/div         Ref 20.00 dB           10 db/div         Ref 20.00 dB           11 db/div         11 db/div           11 db/div         11 db/div	SA SC SC SC SC SENSE:INT PNO: Wide →→ IFGain:Low #Atten: 30 dB m Atten: 30 dB m #Atten: 30 dB # Atten: 40 Atten: 40	nt1_2462	TRACE [1 2 3 4 5 6           TYPE [MWWWW           DET [P P P P P           (r3 15.56 MHz           0.550 dB           DL1 - 0.65 dBm           Wmw/	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
RL         RF         S0 Ω I           Center Freq 2.412000 (NFI)         Ref Offset 19.48           Ref Offset 19.48         Ref 20.00 dB           10         Ref Offset 19.48           0 dB/div         Ref 20.00 dB           10	SA SC SC SC SC SENSE:INT PNO: Wide →→ IFGain:Low #Atten: 30 dB m Atten: 30 dB m #Atten: 30 dB # Atten: 40 Atten: 40	nt1_2462	TRACE [1 2 3 4 5 6           TYPE [MWWWW           DET [P P P P P           (r3 15.56 MHz           0.550 dB           DL1 - 0.65 dBm           Wmw/	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset
RL         RF         S0 Q I           Center Freq 2.412000 (NFI)         NFI           Ref Offset 19.48         Ref 20.00 dB           10 dB/dlv         Ref 20.00 dB           0.00	SA SC SENSE:INT DOO GHZ F PNO: Wide → Trig: Free Run #Atten: 30 dB m #VBW 300 kHz X 2.401 28 GHz 2.413 28 GHz 15.56 MHz (Δ) 0.550 dB	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P (r3 15.56 MHz 0.550 dB DL1-0.65 dBn WWWWWWWWWWWWW Span 40.00 MHz 33 ms (1001 pts) FUNCTION VALUE	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
M         RL         RF         S0 Q C           Center Freq 2.412000 f         NFI           Ref Offset 19.48         Ref 20.00 dB           0 dB/div         Ref 20.00 dB           0 00         A         A           1 0         A         A           1 0         A         A           1 0         A         A           1 0         A         A	SA SC SC SC SC SENSE:INT PNO: Wide →→ IFGain:Low #Atten: 30 dB m Atten: 30 dB m #Atten: 30 dB # Atten: 40 Atten: 40	nt1_2462	TRACE   1 2 3 4 5 6 TYPE   WWWWW DET   P P P P P (r3 15.56 MHz 0.550 dB DL1-0.65 dBn WWWWWWWWWWWWW Span 40.00 MHz 33 ms (1001 pts) FUNCTION VALUE	Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz Scale Type

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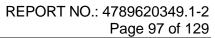


Keysight Spectrum Analyzer - Swept SA     RL     RF     S0 Ω DC	SENSE:INT	ALIGN AUTO	01:34:34 PM Sep 14, 2020	
Center Freq 2.4370000	DO GHZ PNO: Wide +++ Trig: Free Run	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6	Frequency
	IFGain:Low #Atten: 30 dB			Auto Tune
Ref Offset 19.51 o 10 dB/div Ref 20.00 dBn			kr3 15.20 MHz -0.155 dB	
Log				
10.0	1 a charter will walkard	1∆A μαθει A 3∆1	DL1 -0.95 dBm	Center Freq 2.437000000 GHz
-10.0		A Stand of the sta		2.437000000 GH2
		h_		
20.0	ml Mar	- Willy with the second		Start Freq 2.417000000 GHz
-40.0 throw manufacture			When any and a start of the	
-50.0				Stop Freq
-60.0				2.457000000 GHz
-70.0				
Center 2.43700 GHz	<i>"</i>		Span 40.00 MHz	CF Step
#Res BW 100 kHz	#VBW 300 kHz	•	533 ms (1001 pts)	4.000000 MHz <u>Auto</u> Man
	2.429 44 GHz -2.190 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	
3 Δ1 1 f (Δ)	2.435 76 GHz 5.047 dBm 15.20 MHz (Δ) -0.155 dB			Freq Offset
4 5			E	0 Hz
6 7				
8				Scale Type
10 11			-	Log <u>Lin</u>
•	m		•	
MSG		STATUS		
MSG	11G An	STATUS		
	11G_Ar			
Keysight Spectrum Analyzer - Swept SA M RL RF 50 Ω DC	SENSE:INT	t1_2437	01:40:43 PM Sep 14, 2020	Frequency
	SENSE:INT OO GHZ PNO: Wide → Trig: Free Run	t1_2437	01:40:43 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P	
Keysight Spectrum Analyzer - Swept SA WR RL RF 50 Ω DC Center Freq 2.46200000 NFE	OO GHz PNO: Wide ↔ Trig: Free Run IFGain:Low #Atten: 30 dB	ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6	
	00 GHz PNO: Wide →→ IFGain:Low #Atten: 30 dB	ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P	Frequency
Seyight Spectrum Analyzer - Swept SA RL RF   50 Ω DC Center Freq 2.46200000 NFE Ref Offset 19.51 α	00 GHz PNO: Wide →→ IFGain:Low #Atten: 30 dB	t1_2437 #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr3 15.20 MHz	Frequency
Keysight Spectrum Analyzer - Swept SA           RL         RF         50 Q DC           Center Freq 2.46200000         NFE           10 dB/div         Ref Offset 19.51 a           10 dB/div         Ref 20.00 dBm	00 GHz PNO: Wide →→ IFGain:Low #Atten: 30 dB	ALIGN AUTO #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr3 15.20 MHz	Frequency Auto Tune
Keysight Spectrum Analyzer - Swept SA     RL RF   50 Ω DC     Center Freq 2.46200000     NFE     Ref Offset 19.51 c     10 dB/div Ref 20.00 dBn     10.0	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100	kr3 15.20 MHz -1.390 dB	Frequency Auto Tune Center Freq
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Q         DC           Center Freq 2.46200000         NFE           10 dB/div         Ref Offset 19.51 c           10 dB/div         Ref 20.00 dBm           -00	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	TRACE 12.3.4.5.6 TYPE NWWWW DET P P P P P P kr3 15.20 MHz -1.390 dB DL1-1.44.dbn	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq
Keysight Spectrum Analyzer - Swept SA           W         RL         RF         50 Q         DC           Center Freq 2.4620000         NFE         NFE         NFE           10 dB/div         Ref Offset 19.51 of 0.00 dBn         NFE         NFE           10.0         .00         .00         .00         .00           .10.0         .00         .00         .00         .00           .30.0	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	TRACE 12.3.4.5.6 TYPE NWWWW DET P P P P P P kr3 15.20 MHz -1.390 dB DL1-1.44.dbn	Frequency Auto Tune Center Freq 2.462000000 GHz
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Q         DC           Center Freq 2.46200000         NFE           10 dB/div         Ref Offset 19.51 c           10 dB/div         Ref 20.00 dBm           -00	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	kr3 15.20 MHz -1.390 dB	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz
Keysight Spectrum Analyzer - Swept SA           W         RL         RF         50 %         DC           Center Freq 2.4620000         NFE         NFE         NFE           Od B/div         Ref Offset 19.51 c         Od B/div         Ref 20.00 dBn           10 dB/div         Ref 20.00 dBn         NFE           -00         -00         -00         -00         -00           -10 0         -00         -00         -00         -00         -00         -00           -00<	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	TRACE 12.3.4.5.6 TYPE NWWWW DET P P P P P P kr3 15.20 MHz -1.390 dB DL1-1.44.dbn	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz Stop Freq
Keysight Spectrum Analyzer - Swept SA           W         RL         RF         50 %         DC           Center Freq 2.4620000         NFE         NFE         NFE           Od B/div         Ref Offset 19.51 c         Od B/div         Ref 20.00 dBn           10 dB/div         Ref 20.00 dBn         NFE	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	TRACE 12.3.4.5.6 TYPE NWWWW DET P P P P P P kr3 15.20 MHz -1.390 dB DL1-1.44.dbn	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz
Keysight Spectrum Analyzer - Swept SA           W         RL         RF         50 Ω         DC           Center Freq 2.4620000/         NFE           Ref Offset 19.51 c         Ref Offset 19.51 c           Od B/div         Ref 20.00 dBn           10 dB/div         Ref 20.00 dBn           -00         -00         -00           -10.0         -00         -00           -20.0         -00         -00           -40.0	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔM	TRACE 12.3.4.5.6 TYPE NWWWW DET P P P P P P kr3 15.20 MHz -1.390 dB DL1-1.44.dbn	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz Stop Freq 2.48200000 GHz
Keysight Spectrum Analyzer - Swept SA           Will RL         RF         50 Q         DC           Center Freq 2.46200000         NFE           Ref Offset 19.51 c         Ref Offset 19.51 c         Od Bhar           Og         Od Bhar         Ref 20.00 dBh         Od Bhar           10 dB/div         Ref 20.00 dBh         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar           10.0         Od Bhar         Od Bhar         Od Bhar         Od Bhar	SENSE:INT PNO: Wide ← Trig: Free Run IFGain:Low #Atten: 30 dB dB 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz 2.482000000 GHz CF Step 4.000000 MHz
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Q         DC           Center Freq 2.46200000         NFE         NFE         NFE           Conter Freq 2.46200000         NFE         NFE         NFE           Conter Freq 2.46200000         NFE         NFE         NFE           Conter Freq 2.46200000         NFE         NFE         NFE           Set Offset 19.51 c         NFE         NFE         NFE           Non-         NE         NFE         NFE         NFE           Set Offset 19.51 c         NE         NFE         NFE         NFE           Set Offset 19.51 c         NE         NE         NE         NE           Set Offset 19.51	SENSE:INT DO GHZ PNO: Wide ↔ Trig: Free Run #Atten: 30 dB 19 19 19 19 19 19 19 19 19 19	t1_2437 #Avg Type: RMS Avg Hold: 100/100	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.090 MM MM MM MM MM MM MM MM MM M	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz Stop Freq 2.48200000 GHz CF Step
Keysight Spectrum Analyzer - Swept SA           W         RL         RF         50 Q         DC           Center Freq 2.46200000         NFE           Ref Offset 19.51 c         Ref Offset 19.51 c         Od Bh           0 dB/div         Ref 20.00 dBn         Od Bh           0 dB/div         Ref 20.00 dBn         Od Bh           0.0	SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz 2.482000000 GHz 2.482000000 GHz CF Step 4.00000 MHz Auto Man
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         DC           Center Freq 2.46200000         NFE           Code         NFE           Code         NFE           Code         NFE           Code         NFE           Code         NFE           Code         NFE           No         NE           Code         Ne         Ne         Ne           Code         Ne <th< td=""><td>SENSE:INT PNO: Wide → Trig: Free Run IFGain:Low Trig: Free Run #Atten: 30 dB 1 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4</td><td>t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ</td><td>TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)</td><td>Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz 2.482000000 GHz CF Step 4.000000 MHz</td></th<>	SENSE:INT PNO: Wide → Trig: Free Run IFGain:Low Trig: Free Run #Atten: 30 dB 1 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz 2.482000000 GHz CF Step 4.000000 MHz
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         DC           Center Freq 2.46200000         NFE           Code         Ref Offset 19.51 c         Sec         Ode           10.0         Ref 20.00 dBn         Code         Sec         Sec           10.0         Ref Offset 19.51 c         Sec         Sec         Sec         Sec           10.0         Ref 20.00 dBn         Ref 20.00 dBn         Sec	SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz 2.44200000 GHz 2.48200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         DC           Center Freq 2.4620000         NFE         NFE         NFE           Conter Freq 2.4620000         Ref Offset 19.51 c         Other State         NFE           Od B/div         Ref 20.00 dBn         Other State         NFE           Og         Δ         Λ         NFE         NE           Od B/div         Ref 20.00 dBn         Other State         NE           Og         Δ         Δ         Δ         Δ           -10 0         Δ         Δ         Δ         Δ           -20.0         Δ         Δ         Δ <t< td=""><td>SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td>t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ</td><td>TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)</td><td>Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz 2.44200000 GHz 2.48200000 GHz 4.00000 MHz Auto Man</td></t<>	SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz 2.44200000 GHz 2.48200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         DC           Center Freq 2.46200000         NFE           Code         NFE           Code         Ref Offset 19.51 c         Ode           10.0         Ref 20.00 dBn         Ode         Ode           10.0         Analyzer - Swept SA         Ode         Ode         Ode           10.0         Ref Offset 19.51 c         Ode	SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.46200000 GHz Start Freq 2.44200000 GHz 2.44200000 GHz 2.48200000 GHz 4.00000 MHz Auto Man Freq Offset 0 Hz
Keysight Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         DC           Center Freq 2.46200000         NFE           Conter Freq 2.46200000         NFE           Ref Offset 19.51 c         Conter Freq 2.4620000           N         Ref 20.00 dBn           O         Conter Freq 2.46200000           N         Conter Freq 2.462000000           -20.0	SENSE:INT DO GHZ PRO: Wide → Trig: Free Run #Atten: 30 dB 1B 1 1 1 1 1 1 1 1 1 1 1 1 1	t1_2437 #Avg Type: RMS Avg Hold: 100/100 ΔΜ	TRACE 12.3.4.5.6 TRACE 12.3.4.5.6 TYPE P P P P P kr3 15.20 MHz -1.390 dB DL1.1.44.0Pm Span 40.00 MHz 533 ms (1001 pts)	Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz 2.442000000 GHz 2.482000000 GHz 4.000000 MHz Auto Man Freq Offset 0 Hz Scale Type

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LX RL RF 50	wept SA           Ω         DC         SENSE:INT	ALIGN AUTO	01:46:13 PM Sep 14, 2020	
Center Freq 2.4120	000000 GHz	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6	Frequency
Ref Offset 1 10 dB/div Ref 20.00	IFGain:Low #Atten: 30 dB		остреререр kr3 16.12 MHz 0.586 dB	Auto Tune
10.0 0.00	1 policy of action from the operation	3∆1	DL1-2:79 dDm	Center Freq 2.412000000 GHz
-10.0 -20.0 -30.0 -40.0	Anne Mart		Whin which and mention	<b>Start Freq</b> 2.392000000 GHz
-50.0 -60.0 -70.0				<b>Stop Freq</b> 2.432000000 GHz
Center 2.41200 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 1.	Span 40.00 MHz 533 ms (1001 pts) FUNCTION VALUE	CF Step 4.000000 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 Δ1 1 f (Δ) 4 5	2.404 08 GHz -4.495 dBm 2.410 76 GHz 3.207 dBm 16.12 MHz (Δ) 0.586 dB		E	Freq Offset 0 Hz
6 7 8 9 10				Scale Type
11 • [				
MSG		STATUS		
		_Ant1_2412		
Keysight Spectrum Analyzer - S				
	32 00 000000	ALIGN AUTO	01:55:05 PM Sep 14, 2020	
Center Freq 2.4370		#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE M DET P P P P P P	Frequency
Ref Offset 1 10 dB/div Ref 20.00	NFE PNO: Wide → Trig: Free Run IFGain:Low #Atten: 30 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6	
Ref Offset 1 10 dB/div Ref 20.00 10.0	NFE PNO: Wide → Trig: Free Run IFGain:Low #Atten: 30 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P Kr3 15.12 MHz	Frequency
Ref Offset 1 10 dB/div Ref 20.00 10.0 1	000000 GHz NFE PNO: Wide →→ Trig: Free Run IFGain:Low #Atten: 30 dB 9.51 dB dBm	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr3 15.12 MHz 0.713 dB	Frequency Auto Tune Center Freq
Ref Offset 1 10 dB/div Ref 20.00 10.0 .0.0 .10.0 .20.0 .30.0	100000 GHz NFE PNO: Wide →→ IFGain:Low #Atten: 30 dB (BB) 100000 GHz #Atten: 30 dB 100000 GHz #Atten: 30 dB 100000 GHz #Atten: 30 dB	#Avg Type: RMS Avg Hold: 100/100	kr3 15.12 MHz 0.713 dB	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq
Ref Offset 1         Ref Offset 20.00           10.0	000000 GHZ NFE PNO: Wide → Trig: Free Run IFGain:Low #Atten: 30 dB 9.51 dB dBm 1 dBm 1	#Avg Type: RMS Avg Hold: 100/100	TRACE 12 3 4 5 6 TWEE MANNAUMON DET P P P P P P kr3 15.12 MHz 0.713 dB	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.417000000 GHz Stop Freq
Ref Offset 1         Ref 20.00           Log	000000 GHZ NFE PNO: Wide → Trig: Free Run IFGain:Low #Atten: 30 dB 9.51 dB dBm 1 dBm 1	#Avg Type: RMS Avg Hold: 100/100	TRACE 12 3 4 5 6           TYPE NAME           DET P P P P P           kr3 15.12 MHz           0.713 dB           DL1-1.87.40m           VM           VM           Span 40.00 MHz	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.417000000 GHz 2.457000000 GHz CF Step 4.000000 MHz
Ref Offset 1           10 dB/div         Ref 20.00           10.0	NFE     PNO: Wide → IFGain:Low     Trig: Free Run #Atten: 30 dB       9.51 dB     Image: State of the state	#Avg Type: RMS Avg Hold: 100/100	TRACE 12 3 4 5 6 TWEE MANNAUMON DET P P P P P P kr3 15.12 MHz 0.713 dB	Frequency Auto Tune Center Freq 2.437000000 GHz 2.417000000 GHz 2.417000000 GHz 2.457000000 GHz 4.000000 MHz Auto Man
Ref Offset 1         Ref 20.00           10 dB/div         Ref 20.00           10.0	NFE     PNO: Wide → IFGain:Low     Trig: Free Run #Atten: 30 dB       9.51 dB     Image: State of the state	#Avg Type: RMS Avg Hold: 100/100	TRACE 123456         TYPE NUMWAY         DET P P P P P P         kr3 15.12 MHz         0.1-187.dbn         0.1-187.dbn         When the	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.417000000 GHz 2.457000000 GHz 2.457000000 GHz 4.000000 MHz Auto Man Freq Offset 0 Hz
Ref Offset 1         Ref 20.00           10.0         Ref 20.00           10.0	NFE     PNO: Wide → IFGain:Low     Trig: Free Run #Atten: 30 dB       9.51 dB     Image: State of the state	#Avg Type: RMS Avg Hold: 100/100	TRACE 123456         TYPE NUMWAY         DET P P P P P P         kr3 15.12 MHz         0.1-187.dbn         0.1-187.dbn         When the	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.41700000 GHz 2.41700000 GHz 2.45700000 GHz 4.00000 MHz 4.00000 MHz Auto Man Freq Offset 0 Hz Scale Type





Center Freq 2.462000	DC SENSE:INT 0000 GHz FE PNO: Wide ↔ Trig: Free Run	#Avg Type: RMS TRA	M Sep 14, 2020 CE 1 2 3 4 5 6 PE M WWWW ET P P P P P P F P P P P P P
Ref Offset 19.5 10 dB/div Ref 20.00 dB	IFGain:Low #Atten: 30 dB	ΔMkr3 15	Auto Tupo
10.0 .000	produced intervention provide	3 <u></u> 201	Center Freq 2.462000000 GHz
20.0		- Automatical and a second and	Start Freq 2.442000000 GHz
-50.0			Stop Freq 2.482000000 GHz
Center 2.46200 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 1.533 ms (	0.00 MHz (1001 pts) 0NVALUE
1 N 1 f 2 N 1 f 3 Δ1 1 f (Δ) 4 5	2.454 44 GHz -4.068 dBm 2.457 04 GHz 3.525 dBm 15.16 MHz (Δ) -0.204 dB		Freq Offset 0 Hz
6 7 8 9			Scale Type
10 11			Log <u>Lin</u>



# APPENDIX C: OCCUPIED CHANNEL BANDWIDTH

### **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
		2412	14.072	2405.006	2419.078	PASS
11B	Ant1	2437	14.052	2429.988	2444.040	PASS
		2462	14.018	2455.004	2469.022	PASS
		2412	16.502	2403.788	2420.290	PASS
11G	Ant1	2437	16.530	2428.727	2445.257	PASS
		2462	16.509	2453.744	2470.253	PASS
		2412	17.671	2403.195	2420.866	PASS
11N20SISO	Ant1	2437	17.687	2428.177	2445.864	PASS
		2462	17.693	2453.201	2470.894	PASS



## **Test Graphs**

	RF 50 Ω DC		SENSE:INT	ALIGN AUTO			Frequency
Center Fre	q 2.41200000 NFE	Tr	enter Freq: 2.412000 ig: Free Run atten: 30 dB	000 GHz Avg Hold: 100/100	Radio Std: Radio Devic		Frequency
	B.400 (10)	an ounieon	men. ov uD	Mk	(r1 2.412		
10 dB/div	Ref Offset 19.48 Ref 20.00 dBn					8 dBm	
10.0			v~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				Center Freq
0.00			vi o vim	mon -			2.412000000 GHz
-10.0							
-20.0				h h			
-30.0	wowed way was a				Marton Marter	www.ww	
-50.0							
-60.0							
-70.0							
Center 2.4			4) (B)(c) = = = =			40 MHz	CF Step
#Res BW 4	430 KHZ		#VBW 1.5 MH	Hz	Swee	ep 1 ms	4.000000 MHz <u>Auto</u> Man
Occup	ied Bandwidt	th	Total Po	ower 19	.9 dBm		Man
	14	4.072 MHz					Freq Offset
Transm	it Freq Error	41.588 kHz	% of OB	W Power 9	99.00 %		0 Hz
	ndwidth	17.37 MHz			6.00 dB		
MSG			440 0-14	STAT	TUS		
	rum Analyzer - Occupied Pi	N	11B_Ant1		rus		
Keysight Spect	rum Analyzer - Occupied BV RF 50 Ω DC		SENSE:INT	_2412	01:10:02 PM	Sep 14, 2020	Frequency
Keysight Spect		) GHz Ce	SENSE:INT enter Freq: 2.437000 ig: Free Run	_2412	01:10:02 PM Radio Std:	None	
Keysight Spect	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE	) GHz Ce #IFGain:Low #A	SENSE:INT	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM	None ce: BTS	
Keysight Spect RL Center Fre	RF 50 Ω DC	O GHz Ce #IFGain:Low #A	SENSE:INT enter Freq: 2.437000 ig: Free Run	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS	
Keysight Spect	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS 56 GHZ	
10 dB/div	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51	O GHz Ce #IFGain:Low #A	SENSE:INT enter Freq: 2.437000 ig: Free Run	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS 56 GHZ	Frequency
Keysight Spect	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS 56 GHZ	Frequency Center Freq
Keysight Spect           RL           Center Free           Log           10.0           0.00           -10.0           -20.0	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS 56 GHZ	Frequency Center Freq
Keysight Spect           R           Center Fre           Log           10           0.0	№F         50 Ω         Dc           2q         2.437000000         NFE           Ref Offset 19.51         Ref 20.00 dBn	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02 PM Radio Std: 1 Radio Devic (r1 2.436	None ce: BTS 56 GHz '8 dBm	Frequency Center Freq
Keysight Spect     RL     Center Fre     10 dB/dlv     Log     10.0     .0.0     .0.0     .20.0     .30.0	№F         50 Ω         Dc           2q         2.437000000         NFE           Ref Offset 19.51         Ref 20.00 dBn	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02PM Radio Std: 1 Radio Devic (r1 2.4365 9.247	None ce: BTS 56 GHz '8 dBm	Frequency Center Freq
Keysight Spect           Ø         RL           Center Fre           10         B/div           10.0	№F         50 Ω         Dc           2q         2.437000000         NFE           Ref Offset 19.51         Ref 20.00 dBn	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02PM Radio Std: 1 Radio Devic (r1 2.4365 9.247	None ce: BTS 56 GHz '8 dBm	Frequency Center Freq
Keysight Spect           Xe           Center Fre           10.0           0.00           -10.0           -20.0           -30.0           -40.0	№F         50 Ω         Dc           2q         2.437000000         NFE           Ref Offset 19.51         Ref 20.00 dBn	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 ALIGN AUTO 0000 GHz Avg Hold: 100/100	01:10:02PM Radio Std: 1 Radio Devic (r1 2.4365 9.247	None ce: BTS 56 GHz '8 dBm	Frequency Center Freq
Keysight Spect           RL           Center Fre           10 dB/dlv           Log           10.0           .0.0           .10.0           .20.0           .30.0           .40.0           .650.0           .600.0           .70.0           Center 2.4	RF         59.9. DC           2q         2.4370000000           NFE           Ref Offset 19.51 a           Ref 20.00 dBm	O GHz Ce #IFGain:Low #A	SENSE:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 	adio Span	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz
Keysight Spect           R           Center Fre           Log           10.0           0.00           10.0           0.00           10.0 <th10.< td=""><td>RF         59.9. DC           2q         2.4370000000           NFE           Ref Offset 19.51 a           Ref 20.00 dBm          </td><td>O GHz Ce #IFGain:Low #A</td><td>sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB</td><td>_2412 </td><td>adio Span</td><td>None ce: BTS 56 GHz 8 dBm</td><td>Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz</td></th10.<>	RF         59.9. DC           2q         2.4370000000           NFE           Ref Offset 19.51 a           Ref 20.00 dBm	O GHz Ce #IFGain:Low #A	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412 	adio Span	None ce: BTS 56 GHz 8 dBm	Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz
Keysight Spect           IO         RL           Center Fre           IO         dB/div           Log	RF         59.9. DC           2q         2.4370000000           NFE           Ref Offset 19.51 a           Ref 20.00 dBm	dB n	SENSE:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB	_2412	adio Span	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz
Keysight Spect           IO         RL           Center Fre           IO         dB/div           Log	RF         50 9. pc           22         2.437000000           NFE           Ref Offset 19.51 / Ref 20.00 dBn	dB n dB n dB n dB n dB n dB n dB n dB n	sense:INT Inter Freq: 2.437000 ig: Free Run itten: 30 dB	_2412	Badio Series Radio Devic Radio Devic 9.247 9.247 Span Span	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz <u>Auto</u> Man
Keysight Spect           RL           Center Fre           10 dB/dlv           Log           10.0           .0.0	Ref         50 0.0 DC           22         2.43700000           NFE           Ref Offset 19.51 /           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14	D GHz #IFGain:Low ## dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc	_2412 ALIGN AUTC AVGIHOID: 100/100 Mk AVGIHOID: 100/100 AVGIHOID: 100/100 Mk AVGIHOID: 100/	o 01:10:02PM Radio Std: Radio Devic 9.247	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz
Keysight Spect     RL     Center Fre     Center Fre     10 dB/dlv     Log     10.0     0.00     0	RF         59.9. Dc           2q         2.4370000000           NFE           Ref Offset 19.51 (           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14           15	b) GHz #IFGain:Low dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc % of OB	_2412 000 GHz AvgiHold: 100/100 Mk Mk Hz Dwer 20 W Power S	o 01:10:02PM Radio Std: I Radio Devic 9.247 9.24	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Keysight Spect     RL     Center Fre     Center Fre     10 dB/dlv     Log     10.0     0.00     0	Ref         50 0.0 DC           22         2.43700000           NFE           Ref Offset 19.51 /           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14	D GHz #IFGain:Low ## dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc % of OB	_2412 000 GHz AvgiHold: 100/100 Mk Mk Hz Dwer 20 W Power S	o 01:10:02PM Radio Std: Radio Devic 9.247	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Keysight Spect     RL     Center Fre     Center Fre     10 dB/dlv     Log     10.0     0.00     0	RF         59.9. Dc           2q         2.4370000000           NFE           Ref Offset 19.51 (           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14           15	b) GHz #IFGain:Low dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc % of OB	_2412 000 GHz AvgiHold: 100/100 Mk Mk Hz Dwer 20 W Power S	o 01:10:02PM Radio Std: I Radio Devic 9.247 9.24	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Keysight Spect     RL     Center Fre     Center Fre     10 dB/dlv     Log     10.0     0.00     0	RF         59.9. Dc           2q         2.4370000000           NFE           Ref Offset 19.51 (           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14           15	b) GHz #IFGain:Low dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc % of OB	_2412	0 01:10:02PM Radio Std: Radio Devic 9.247	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Keysight Spect     RL     Center Fre     Center Fre     10 dB/dlv     Log     10.0     0.00     0	RF         59.9. Dc           2q         2.4370000000           NFE           Ref Offset 19.51 (           Ref 20.00 dBm           37 GHz           430 kHz           ied Bandwidt           14           15	b) GHz #IFGain:Low dB n dB n dB n dB n dB n dB n dB n dB	sense:INT Inter Freq: 2.437000 ig: Free Run Itten: 30 dB #VBW 1.5 MH Total Pc % of OB	_2412 000 GHz AvgiHold: 100/100 Mk Mk Hz Dwer 20 W Power S	0 01:10:02PM Radio Std: Radio Devic 9.247	None ce: BTS 56 GHz 8 dBm Utwinke	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset



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Center Fr	RF 50 Ω C eq 2.4620000	000 GHz	Center	Freq: 2.46200	00000 GHz	ALIGN AUTO	Radio Std	M Sep 14, 2020 I: None	Frequency
	NFI	E + #IFGain:Low	#Atten:	ree Run 30 dB	Avg Hold	d: 100/100	Radio Dev	vice: BTS	
	Ref Offset 19	.51 dB				Mkr		152 GHz	
10 dB/div Log	Ref 20.00 c			Ā			9.21	67 dBm	
10.0				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Center Freq
0.00					m				2.462000000 GHz
-10.0						Y			
-20.0						han a			
-40.0	man man man and man					~~~~~	CULTUR CONTRACT	Musil Mary	
-50.0			_						
-60.0			_						
-70.0									
Center 2.4	62 GHz						Spa	an 40 MHz	OF Ota-
#Res BW			#\	/BW 1.5 Ⅳ	IHz			eep 1ms	4.000000 MHz
Occup	ied Bandw	idth		Total P	ower	19.9	dBm		<u>Auto</u> Man
		14.018 N	1Hz						<b>Face a Office at</b>
-									Freq Offset 0 Hz
	it Freq Error				BW Pow		9.00 %		
хавва	andwidth	17.32	WHZ	x dB		-20.	00 dB		
MSG						STATUS	s		
MSG			1	1B Ant1	1 2462	STATUS	S		
	trum Analyzer - Occupi			1B_Ant1	1_2462				
Keysight Spec	RF 50 Ω [	DC	Center	SENSE:INT Freq: 2.41200	00000 GHz	ALIGN AUTO		PM Sep 14, 2020 I: None	Frequency
Keysight Spec		DOO GHz	Center	SENSE:INT Freq: 2.41200 ree Run	00000 GHz		01:27:57 P	i: None	
Keysight Spec	RF 50 Ω [ eq 2.412000( NFI	DOO GHZ E #IFGain:Low	Center → Trig: Fi	SENSE:INT Freq: 2.41200 ree Run	00000 GHz	ALIGN AUTO	01:27:57 P Radio Std Radio Dev 1 2.410	l: None vice: BTS 0 <b>72 GHz</b>	Frequency
Keysight Species RL Center Fr 10 dB/div	RF 50 Ω C	DOO GHZ E #IFGain:Low	Center → Trig: Fi	SENSE:INT Freq: 2.41200 ree Run	00000 GHz	ALIGN AUTO	01:27:57 P Radio Std Radio Dev 1 2.410	l: None vice: BTS	Frequency
Keysight Species R L	RF 50 Ω C eq 2.4120000 NF Ref Offset 19	A8 dB	Center → Trig: Fi	SENSE:INT Freq: 2.41200 ree Run	00000 GHz Avg Holo	ALIGN AUTO	01:27:57 P Radio Std Radio Dev 1 2.410	l: None vice: BTS 0 <b>72 GHz</b>	Frequency
Keysight Spec	RF 50 Ω C eq 2.4120000 NF Ref Offset 19	DOO GHZ E #IFGain:Low	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO	01:27:57 P Radio Std Radio Dev 1 2.410	l: None vice: BTS 0 <b>72 GHz</b>	Frequency
Keysight Spec           Q         RL           Center Fr           10 dB/div           Log           10.0           .000	RF 50 Ω C eq 2.4120000 NF Ref Offset 19	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57 P Radio Std Radio Dev 1 2.410	l: None vice: BTS 0 <b>72 GHz</b>	Frequency Center Freq
Keysight Spec     Reysight Spec     Center Fr      Center Fr      0 dB/div     Cog     10.0     .00     .	Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 (	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO	01:27:57 Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm	Frequency Center Freq
Keysight Spec     R     R     Center Fr     0 dB/div     Log     0.0     0.00     -10.0     -20.0     -30.0     k-untwhite	Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 (	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57 P Radio Std Radio Dev 1 2.410	I: None vice: BTS 072 GHz 45 dBm	Frequency Center Freq
Keysight Spec     Reysight Spec     Center Fr      Center Fr      0 dB/div     Cog     10.0     .00     .	Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 (	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57 Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm	Frequency Center Freq
Keysight Spec     R     Center Fr      Conter Fr      10.0     0.00     -10.0     -20.0     -30.0     -40.0	Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 (	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57 Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm	Frequency Center Freq
Keysight Spec     W RL     Center Fr     10.0     0.00     -10.0     -20.0     -30.0     -40.0     -50.0	Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 (	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57 Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm	Frequency Center Freq
Keysight Spec     W RL     Center Fr     10.0     0.00     -10.0     -20.0     -30.0     -40.0     -50.0     -60.0	Ref Offset 19 Ref Offset 19 Ref 20.00 c	A8 dB	Center → Trig: Fi	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Holo	ALIGN AUTO 4: 100/100 Mkr	01:27:57P Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm	Center Freq 2.412000000 GHz
Keysight Spec     Conter Fr      Center Fr      Conter Fr	RF         30 Q ±           Eq         2.4120000           Ref Offset 19         Ref 20.00 c           Ref 20.00 c         Ref 20.00 c           When we	A8 dB	Center Trig: Fi #Atten:	5ENSE:INT Freq: 2.41200 ree Run : 30 dB	00000 GHz Avg Hold	ALIGN AUTO 4: 100/100 Mkr	01:27:57F Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS D72 GHz 45 dBm	Center Freq 2.41200000 GHz
Keysight Spect           Center Fr           Conter Fr           Center 2.4	Ref Offset 19 Ref Offset 19 Ref 2.412000 ( NFI Ref 20.00 ( 10 112 GHz 430 kHz	AB dB	Center Trig: Fi #Atten:	SENSE:INT Freq: 2.41200 ree Run 30 dB	00000 GHz Avg Hold	ALIGN AUTO I: 100/100 Mkr	01:27:57P Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.412000000 GHz
Keysight Spect           Center Fr           Conter Fr           Center 2.4	RF         50 0.0         c           eq 2.4120000         NFI           Ref Offset 19         Ref 20.00 c	idth	Center Trig: Fi #Atten:	SENSE:INT Freq: 2.41200 ree Run 30 dB	00000 GHz Avg Hold	ALIGN AUTO I: 100/100 Mkr	01:27:57F Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     Re     Center Fr      Center Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Center 2.4 #Res BW      Occup	Ref Offset 19 Ref 2.4120000 Ref 20.00 c	idth 16.502 N	Center Trig: Fi #Atten:	SENSE:INT Freq: 2.41200 ree Run 30 dB	00000 GHz Avg Hold	22.3	D1:27:57F Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     Re     Center Fr      Center Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Center 2.4 #Res BW      Occup	RF         50 0.0         c           eq 2.4120000         NFI           Ref Offset 19         Ref 20.00 c	16.502 N 39.008	Center Trig: Fi #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: ####################################	SENSE:INT Freq: 2.41200 ree Run 30 dB	00000 GHz Avg Hold	ALIGN AUTO 1: 100/100 Mkr 22.: er 99	01:27:57F Radio Std Radio Dev 1 2.410 10.1 	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     RL     Center Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Center 2.4  #Res BW      Occup      Transm	Ref Offset 19 Ref 2.4120000 Ref 20.00 c	idth 16.502 N	Center Trig: Fi #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: ####################################	SENSE:INT Freq: 2.41200 ree Run 30 dB	00000 GHz Avg Hold	ALIGN AUTO 1: 100/100 Mkr 22.: er 99	D1:27:57F Radio Std Radio Dev 1 2.410 10.1	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     RL     Center Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Center 2.4  #Res BW      Occup      Transm	Ref Offset 19 Ref 2.4120000 NFI Ref 20.00 c wit Freq Error	16.502 N 39.008	Center Trig: Fi #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: ####################################	SENSE:INT Freq: 2.41200 ree Run 30 dB 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00000 GHz Avg Hold	ALIGN AUTO 1: 100/100 Mkr 22.: er 99	01:27:57F Radio Std Radio Dev 1 2.410 10.1 	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     RL     Center Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Conter Fr      Center 2.4  #Res BW      Occup      Transm	Ref Offset 19 Ref 2.4120000 NFI Ref 20.00 c wit Freq Error	16.502 N 39.008	Center Trig: Fi #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: ####################################	SENSE:INT Freq: 2.41200 ree Run 30 dB 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00000 GHz Avg Hold	ALIGN AUTO 1: 100/100 Mkr 22.: er 99	01:27:57F Radio Std Radio Dev 1 2.410 10.1 	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man
Keysight Spec     Re     Center Fr      Center Fr      Conter Fr      Center 2.4      #Res BW      Occup      Transm	Ref Offset 19 Ref 2.4120000 NFI Ref 20.00 c wit Freq Error	16.502 N 39.008	Center Trig: Fi #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: #Atten: ####################################	SENSE:INT Freq: 2.41200 ree Run 30 dB 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00000 GHz Avg Hold	ALIGN AUTO 1: 100/100 Mkr 22.: er 99	01:27:57 Radio Std Radio Dev 1 2.410 10.1 Spa Spa Sww 3 dBm 9.00 % 00 dB	I: None vice: BTS 072 GHz 45 dBm 45 dBm	Center Freq 2.41200000 GHz 4.00000 MHz Auto Man



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Keysight Spectrum A	50 Ω	DC	-	SE	NSE:INT req: 2.43700		ALIGN AUTO	01:34:48 P Radio Std	M Sep 14, 2020	Frequency
Center Freq 2		FE			e Run	Avg Hold:	100/100	Radio Sto		,
			Gain:Low	#Atten: 3			Mkr		784 GHz	ſ
	Ref Offset 1 Ref 20.00								81 dBm	
Log 10.0					<b>1</b>					
0.00			and a state on the state of the	waterhandra	Juni Internet	an some party	ų			Center Freq 2.437000000 GHz
-10.0		<b>/</b>					<u>\</u>			2.437000000 GH2
		howry					Www.White		and manually of	
-20.0 -30.0 -40.0	APRICANT P	(* -						White has been been the	Marrie A. H	
-40.0									C. Charles and C.	
-50.0										
-60.0										
-70.0										
Center 2.437								Spa	in 40 MHz	CF Step
#Res BW 430	кНz			#VE	3W 1.5 Ⅳ	/IHz		Swe	eep 1ms	4.000000 MHz
Occupied	Bandv	vidth			Total P	ower	22.2	2 dBm		Auto Man
		16.5	30 MH	Ηz						Freq Offset
Transmit F	reg Erro	)r	-8.000 k	Hz	% of O	BW Powe	r 90	9.00 %		0 Hz
x dB Band	-		20.56 M		x dB			00 dB		
			20100 11		Au		201	oo ab		
MSG							STATUS	S		
				11	G_Ant	1_2437	STATUS	5		
MSG Keysight Spectrum A					G_Ant'	_	STATU:		'M Sep 14, 2020	
Keysight Spectrum A	50 Ω 2.462000	DC   0000 GH		SE Center F			ALIGN AUTO			Frequency
Keysight Spectrum A	50 Ω 2.462000	DC 0000 GH FE	<b>1z</b> Gain:Low	Center F	NSE:INT req: 2.46200 e Run	_	ALIGN AUTO 100/100	01:40:57 P Radio Std Radio Dev	l: None vice: BTS	
Keysight Spectrum A MRL RF Center Freq 2	50 Ω 2.462000 Ν Ref Offset 1	DC 0000 GH FE #IF0 9.51 dB	••	SE Center F Trig: Fre	NSE:INT req: 2.46200 e Run		ALIGN AUTO	01:40:57 P Radio Std Radio Dev 1 2.460	l: None vice: BTS 028 GHZ	
Keysight Spectrum A W RL RF Center Freq 2 10 dB/div F Log	50 Ω 2.462000 Ν	DC 0000 GH FE #IF0 9.51 dB	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run		ALIGN AUTO 100/100	01:40:57 P Radio Std Radio Dev 1 2.460	l: None vice: BTS	
Keysight Spectrum // M RL RF Center Freq 2 10 dB/div F Log 10.0	50 Ω 2.462000 Ν Ref Offset 1	DC 0000 GH FE #IF0 9.51 dB	••	SE Center F Trig: Fre	NSE:INT req: 2.46200 e Run		ALIGN AUTO 100/100	01:40:57 P Radio Std Radio Dev 1 2.460	l: None vice: BTS 028 GHZ	Frequency Center Freq
Keysight Spectrum A M RL RF Center Freq 2 Conter Freq 2 10 dB/div F Log 10.0 0.00	50 Ω 2.462000 Ν Ref Offset 1	DC 0000 GH FE #IF0 9.51 dB	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 P Radio Std Radio Dev 1 2.460	l: None vice: BTS 028 GHZ	Frequency
Keysight Spectrum A RL RF Center Freq 2 10 dB/dlv F Log 10.0 .00 .00	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC 0000 GH FE #IF0 9.51 dB	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	ALIGN AUTO 100/100	01:40:57 Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 28 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum A RL RF Center Freq 2 10 dB/dlv F Log 10.0 .00 .00	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 P Radio Std Radio Dev 1 2.460	I: None vice: BTS 028 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum A X RL RF Center Freq 2 10 dB/div F Log 10.0 0.00 -10.0 -20.0	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 28 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum A     RL RF     Center Freq 2     10 dB/div F     10 0     0.00     -10.0     -20.0     -30.0     mucrfutment	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 028 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum A 27 RL RF Center Freq 2 10 dB/div F 10.0 0.00 0	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 028 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum A     RL RF     Center Freq 2	50 Ω 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 028 GHz 52 dBm	Frequency Center Freq
Keysight Spectrum //           RL         RF           Center Freq 2           10 dB/dlv         F           10 dB/dlv         F           20 0         -           -40 0         -           -50 0         -           -60 0         -           -70 0         -           Center 2.462         -	SO R 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	D00000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 028 GHz 52 dBm	Center Freq 2.462000000 GHz
Keysight Spectrum A           RL         RF           Center Freq 2           Io dB/div         F           Log         Io           10.0         Io           -20.0         Io           -30.0         Io           -60.0         Io           -70.0         Io	SO R 2.462000 N Ref Offset 1 Ref 20.00	DC D	••	SE Center F Trig: Fre #Atten: 3	NSE:INT req: 2.46200 e Run	20000 GHz Avg Hold:	align auto 100/100 Mkr	01:40:57 P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS D28 GHz 52 dBm	Center Freq 2.46200000 GHz CF Step 4.00000 MHz
Keysight Spectrum A           IRL         RF           Center Freq 2           IO dB/div         F	SO R 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz	DC 0000 GF FE #FF 9.51 dB dBm	••	SE Center F Trig: Fre #Atten: 3		Avg Hold:	ALIGN AUTO 100/100 Mkr	01:40:57 P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz
Keysight Spectrum /           RL         RF           Center Freq 2           10 dB/div         F           10 dB/div         F           20 0         0.00           -20.0	SO R 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz	pc pc pc pc pc pc pc pc pc pc	Gain:Low	#VE	NSEINT] NSEINT] e Run 0 dB	Avg Hold:	ALIGN AUTO 100/100 Mkr	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz <u>Auto</u> Man
Keysight Spectrum //           RL         RF           Center Freq /           10 dB/dlv         F           Log         0           10.0         0           .20.0         0           .30.0         0           .40.0         0           .50.0         0           .60.0         0           .70.0         0           Center 2.462         #Res BW 430           Occupied         0	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Free #Atten: 3	MSEINT NSEINT e Run 100 dB	Avg Hold:	ALIGN AUTO 100/100 Mkr 222.2	D1:40:57 P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum //           RL         RF           Center Freq 2           10 dB/dlv         F           Log         0           10.0         0           20.0         0           30.0         0           40.0         0           50.0         0           68.0         0           77.0         0           Center 2.462         430           Occupied         Transmit F	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Fre #Atten: 3	MSEINT NSEINT e Run io dB BW 1.5 M Total P % of OI	Avg Hold:	ALIGN AUTO 100/100 Mkr 22.2 r 99	01:40:57 P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz <u>Auto</u> Man
Keysight Spectrum //           RL         RF           Center Freq /           10 dB/dlv         F           Log         0           10.0         0           -10.0         0           -20.0         0           -30.0         0           -60.0         0           -70.0         0           Center 2.462         #Res BW 430           Occupied         0	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Fre #Atten: 3	MSEINT NSEINT e Run 100 dB	Avg Hold:	ALIGN AUTO 100/100 Mkr 22.2 r 99	D1:40:57 P Radio Std Radio Dev 1 2.460 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum A           RL         RF           Center Freq 2           10 dB/dlv         F           Log         0           10.0         0           -10.0         0           -20.0         0           -30.0         0           -40.0         0           -40.0         0           -50.0         0           -60.0         0           -70.0         0           Center 2.462 /         #Res BW 4300           Occupied         Transmit F	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Fre #Atten: 3	MSEINT NSEINT e Run io dB BW 1.5 M Total P % of OI	Avg Hold:	ALIGN AUTO 100/100 Mkr 22.2 r 99	01:40:57 P Radio Std Radio Dev 1 2.460 9.65 9.65 9.65 9.65 9.65 9.65 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum //           RL         RF           Center Freq 2           10 dB/dlv         F           Log         0           10.0         0           20.0         0           30.0         0           40.0         0           50.0         0           68.0         0           77.0         0           Center 2.462         430           Occupied         Transmit F	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Fre #Atten: 3	MSEINT NSEINT e Run io dB BW 1.5 M Total P % of OI	Avg Hold:	ALIGN AUTO 100/100 Mkr 22.2 r 99	01:40:57 P Radio Std Radio Dev 1 2.460 9.65 9.65 9.65 9.65 9.65 9.65 9.65	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz Auto Man
Keysight Spectrum A           RL         RF           Center Freq 2           10 dB/dlv         F           Log         0           10.0         0           -10.0         0           -20.0         0           -30.0         0           -40.0         0           -40.0         0           -50.0         0           -60.0         0           -70.0         0           Center 2.462 /         #Res BW 4300           Occupied         Transmit F	SOR 2.462000 N Ref Offset 1 Ref 20.00 GHz KHz I Bandv	vidth	Gain:Low	SE Center F Trig: Fre #Atten: 3	MSEINT NSEINT e Run io dB BW 1.5 M Total P % of OI	Avg Hold:	ALIGN AUTO 100/100 Mkr 22.2 r 99	2 dBm	I: None vice: BTS 228 GHz 52 dBm	Center Freq 2.46200000 GHz 4.00000 MHz Auto Man



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		Center 5	INSE:INT Freq: 2.412000000 GHz	ALIGN AUTO	01:46:28 P	M Sep 14, 2020	Frequency
Center Freq 2.4120		Trig: Fre	eRun Avg∣Hol	d: 100/100	Radio Dev		
		w/ttern.		Mki	1 2.410		
Ref Offse 10 dB/div Ref 20.0						57 dBm	
Log 10.0		<b>≬</b> 1					Contor From
0.00	mannam	harryamanterney	Marthan Marthaland	m			Center Freq 2.412000000 GHz
-10.0	1.184 <sup>0</sup>			1			
-20.0	H WING W			WWW W	M		
-30.0					Muhammapy	Whate	
-40.0							
-50.0							
-70.0							
Center 2.412 GHz #Res BW 430 kHz		#V	BW 1.5 MHz		Spa Swe	n 40 MHz ep 1 ms	CF Step
				<u>.</u>			4.000000 MHz <u>Auto</u> Man
Occupied Band			Total Power	21.4	4 dBm		
	17.671 M	IHZ					Freq Offset
Transmit Freq Er	ror 30.279	kHz	% of OBW Pow	/er 99	9.00 %		0 Hz
x dB Bandwidth	22.81	MHz	x dB	-26	.00 dB		
MSG				STATU	s		
				UIAIO			
		11N2	0SISO_Ant1_2				
Keysight Spectrum Analyzer - Or					01:55:20 P	M Sep 14, 2020	
	2 DC 00000 GHz	St Center F	NSE:INT req: 2.437000000 GHz	ALIGN AUTO	01:55:20 P Radio Std	M Sep 14, 2020 : None	Frequency
🗶 RL RF 50 S	2 DC 00000 GHz	SE	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev	: None rice: BTS	[
Center Freq 2.4370	2 DC 00000 GHz NFE #IFGain:Low t 19.51 dB	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO	Radio Std Radio Dev 1 2.439	: None rice: BTS 172 GHz	[
Center Freq 2.4370	2 DC 00000 GHz NFE #IFGain:Low t 19.51 dB	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439	: None rice: BTS	Frequency
XI         RF         30 G           Center Freq 2.4370/         Ref 0ffse           10 dB/div         Ref 0ffse           10 dB/div         Ref 20.0           Log         10.0	2 DC 00000 GHz NFE #IFGain:Low t 19.51 dB	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439	: None rice: BTS 172 GHz	Frequency Center Freq
XI         RF         30.5           Center Freq 2.4370/	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439	: None rice: BTS 172 GHz	Frequency
XI         RF         30.5           Center Freq 2.4370/	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439 8.59	: None rice: BTS 172 GHz	Frequency Center Freq
RL         RF         30 S           Center Freq 2.43701	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439 8.59	: None rice: BTS 72 GHz 27 dBm	Frequency Center Freq
XX         RL         RF         S0 G           Center Freq 2.4370i           10 dB/div         Ref Offse           10 0         0.00           -0.00	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439 8.59	: None rice: BTS 172 GHz	Frequency Center Freq
RL         RF         S0 C           Center Freq 2.4370i           10 dB/div         Ref Offse           10.0         0.00           10.0         0.00           -20.0         -30.0           -30.0         -30.0           -30.0         -30.0	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439 8.59	: None rice: BTS 72 GHz 27 dBm	Frequency Center Freq
RL         RF         50 c           Center Freq 2.43701           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10.0	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev 1 2.439 8.59	: None rice: BTS 72 GHz 27 dBm	Frequency Center Freq
XI         RF         S0 S           Center Freq 2.43701           0         B/div         Ref Offse           10         dB/div         Ref Offse           10.0	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Center F	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev r1 2.439 8.59	: None rice: BTS 72 GHz 27 dBm	Frequency Center Freq
III         RL         RF         50 c           Center Freq 2.43701         Ref Offse         Ref Offse           10         dB/div         Ref Offse         Ref Offse           10.0	2 DC 0000 GHz NFE #IFGain:Low t 19.51 dB 00 dBm	Standard Sta	INSE:INT Freq: 2.437000000 GHz Run Avg Hol	ALIGN AUTO d: 100/100	Radio Std Radio Dev r1 2.439 8.59	: None rice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz
KL         RF         50 c           Center Freq 2.43701           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10.0	2 DC 0000 GHz NFE #FGain:Low t 19.51 dB 00 dBm 	Standard Sta	BW 1.5 MHz	412 ALIGN AUTO d: 100/100 Mkr	Radio Std Radio Dev 1 2.439 8.59	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz
RL         RF         50 c           Center Freq 2.43701           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10.0	2 DC 0000 GHz NFE #FGain:Low t 19.51 dB 00 dBm	St Center F Trig: Fre #Atten::	Preci: 2.437000000 GHz se Run Avg Hol 30 dB	412 ALIGN AUTO d: 100/100 Mkr	Radio Std Radio Dev r1 2.439 8.59	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man
KL         RF         50 c           Center Freq 2.43701           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10.0	2 DC 0000 GHz NFE #FGain:Low t 19.51 dB 00 dBm 	St Center F Trig: Fre #Atten::	BW 1.5 MHz	412 ALIGN AUTO d: 100/100 Mkr	Radio Std Radio Dev 1 2.439 8.59	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
KL         RF         50 c           Center Freq 2.43701           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10.0	2 DC 00000 GHz NFE #FGain:Low t19.51 dB 00 dBm 0 dBm 0 dBm 0 dBm 1 19.51 dB 0 dBm 1 17.687 M	St Center F Trig: Fre #Atten:	BW 1.5 MHz	21.3	Radio Std Radio Dev 1 2.439 8.59	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man
Image: Network of the second	2 DC 00000 GHz NFE #FGain:Low t19.51 dB 00 dBm 0 dBm 0 dBm 0 dBm 1 19.51 dB 0 dBm 1 17.687 M	St Center F Trig: Fre #Atten:: #VI #VI	BW 1.5 MHz	21.: ver 95	Radio Std Radio Dev 1 2.439 8.59 8.59 8.59 8.59 8.59 8.59 8.59 8.5	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Image: Network of the second	2 DC 00000 GHz NFE #IFGain:Low t19.51 dB 00 dBm amathem	St Center F Trig: Fre #Atten:: #VI #VI	BW 1.5 MHz Total Power	21.: ver 95	Radio Std Radio Dev r1 2.439 8.59 8.59 9.00 %	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
Image: Network of the second	2 DC 00000 GHz NFE #IFGain:Low t19.51 dB 00 dBm amathem	St Center F Trig: Fre #Atten:: #VI #VI	BW 1.5 MHz Total Power	21.: ver 95	Radio Std Radio Dev r1 2.439 8.59 8.59 9.00 %	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset
RL         RF         S0 C           Center Freq 2.43701         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref Offse           10 dB/div         Ref 20.0           10.0	2 DC 00000 GHz NFE #IFGain:Low t19.51 dB 00 dBm amathem	St Center F Trig: Fre #Atten:: #VI #VI	BW 1.5 MHz Total Power	21.: ver 95	Radio Std Radio Dev r1 2,439 8,59 8,59 Spa Spa Swe 3 dBm 9.00 % .00 dB	: None irice: BTS 72 GHz 27 dBm	Frequency Center Freq 2.437000000 GHz 4.000000 MHz Auto Man Freq Offset



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κL         RF         50 Ω         DC           Center Freq         2.46200000         NFE	Trig:	r Freq: 2.462000000 GHz Free Run Avg Hold: 10 n: 30 dB	Radio Std 00/100 Radio Dev		Frequency
Ref Offset 19.51 10 dB/div Ref 20.00 dB			Mkr1 2.463 8.16	384 GHz 73 dBm	
10.0	and an and the first and	Norman hand and the second			Center Freq 2.462000000 GHz
-10.0			Malarra		2.40200000 0112
-20.0 -30.0			monthy	WMAN MAN	
-40.0					
-60.0					
-70.0					
Center 2.462 GHz #Res BW 430 kHz	#	VBW 1.5 MHz		n 40 MHz eep 1 ms	CF Step 4.000000 MHz
Occupied Bandwid	th	Total Power	21.4 dBm		<u>Auto</u> Man
1	7.693 MHz				Freq Offset
Transmit Freq Error	47.606 kHz	% of OBW Power			0 Hz
x dB Bandwidth	22.67 MHz	x dB	-26.00 dB		
MSG			STATUS		

# APPENDIX D: CONDUCTED AVERAEG OUTPUT POWER

### **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
		2412	16.82	30	PASS
11B	Ant1	2437	16.86	30	PASS
		2462	16.91	30	PASS
		2412	16.00	30	PASS
11G	Ant1	2437	15.79	30	PASS
		2462	15.97	30	PASS
		2412	15.14	30	PASS
11N20SISO	Ant1	2437	15.17	30	PASS
		2462	15.23	30	PASS



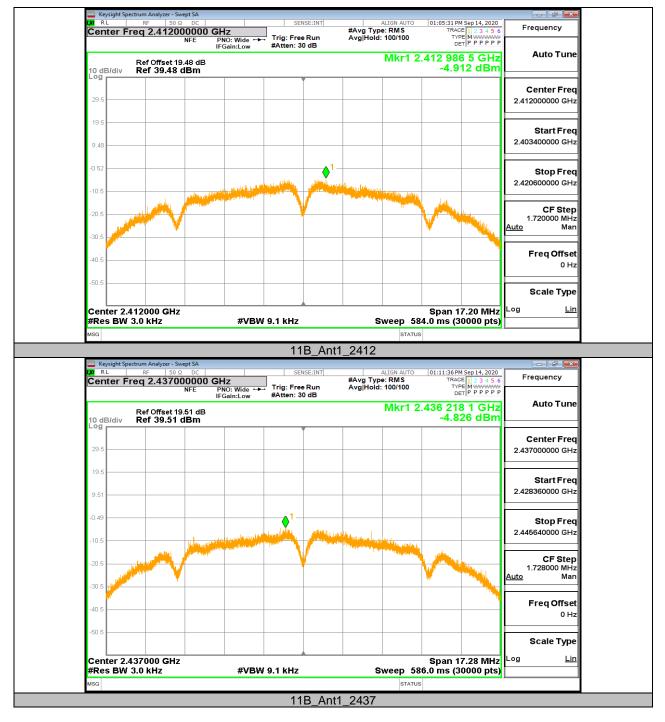
# APPENDIX E: POWER SPECTRAL DENSITY

### **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
		2412	-4.91	<=8	PASS
11B	Ant1	2437	-4.83	<=8	PASS
		2462	-4.38	<=8	PASS
		2412	-9.23	<=8	PASS
11G	Ant1	2437	-9.26	<=8	PASS
		2462	-9.21	<=8	PASS
		2412	-8.98	<=8	PASS
11N20SISO	Ant1	2437	-9.05	<=8	PASS
		2462	-8.84	<=8	PASS

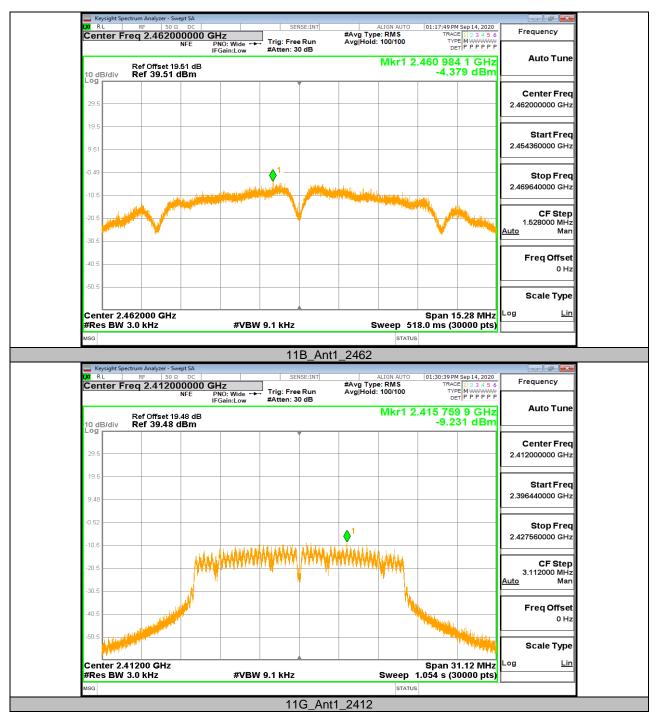


## **Test Graphs**



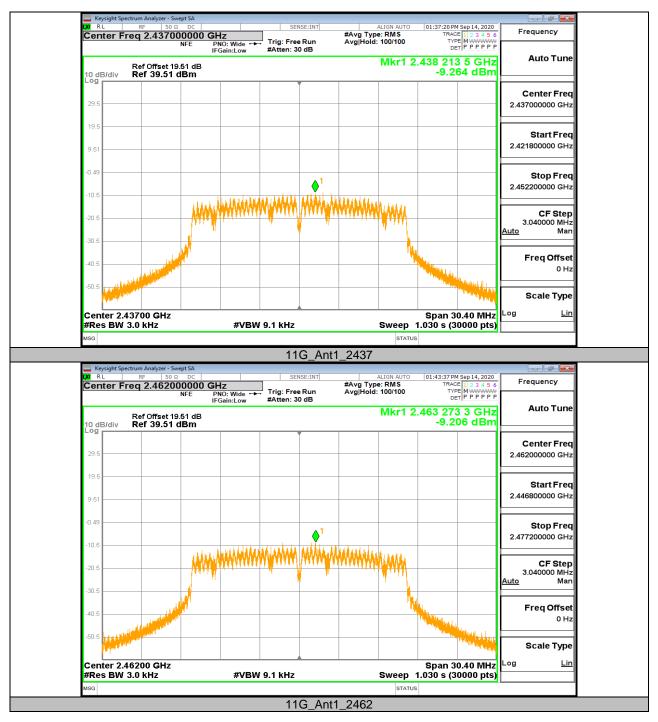


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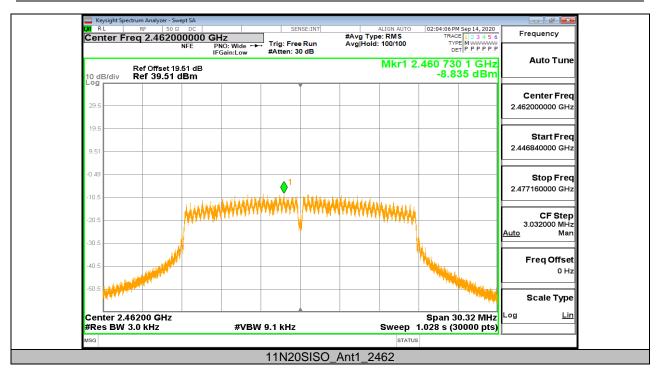


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# APPENDIX F: CONDUCTED BANDEDGE

### **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Ch Name	Channel	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	8.71	-35.58	<=-21.29	PASS
IID	Anti	High	2462	9.10	-41.01	<=-20.9	PASS
11G	Ant1	Low	2412	5.05	-30.85	<=-24.95	PASS
IIG	Anti	High	2462	5.08	-39.21	<=-24.92	PASS
11N20SISO	Ant1	Low	2412	4.57	-28.74	<=-25.43	PASS
111203130	Anti	High	2462	4.75	-39.02	<=-25.25	PASS



## **Test Graphs**

Keysight Spectrum Analyzer - Swept S			
RL RF 50 Ω C Center Freq 2.3650000		ALIGN AUTO 01:05:45 PM Sep 14, 20 #Avg Type: RMS TRACE 1 2 3 4 AvgIHold: 300/300 TYPE M	Frequency
NFI		DETPPP	
Ref Offset 19.48 10 dB/div Ref 20.00 dB		Mkr5 2.399 45 GH -35.580 dBi	Z
10.0			Center Freq
0.00		A A A A A A A A A A A A A A A A A A A	2.365000000 GHz
-10.0		/ ` /\	
-20.0		DL1 21.29 dl	3m.
-30.0		5	Start Freq 2.30000000 GHz
-40.0			2.30000000 GHz
-50.0	ent descendent interfaction with a destination with interfaction of the second s	Alleder on the spin strategies and the spin strategies	M
-60.0			Stop Freq
-70.0			2.430000000 GHz
Start 2.30000 GHz		Stop 2.43000 GH	CE Stop
#Res BW 100 kHz	#VBW 300 kHz	Sweep 4.800 ms (1001 pt	
MKR MODE TRC SCL	X Y FU	NCTION FUNCTION WIDTH FUNCTION VALUE	<u>Auto</u> Man
1 N 1 f 2 N 1 f	2.412 97 GHz 8.706 dBm 2.400 00 GHz -40.948 dBm		
3 N 1 f 4 N 1 f	2.390 00 GHz -41.772 dBm 2.310 00 GHz -44.828 dBm		Freq Offset
5 N 1 f	2.399 45 GHz -35.580 dBm		≡ 0 Hz
6 7			Coolo Trmo
7 8 9			Scale Type
10 11			- Log <u>Lin</u>
	m	•	
MSG		STATUS	
	11B_Ant1_	Low_2412	
www.sight Spectrum Analyzer - Swept S	C SENSE:INT	ALIGN AUTO 01:18:02 PM Sep 14, 20	20 _
Center Freq 2.4950000	000 GHz	#Avg Type: RMS Avg Hold: 300/300 TRACE 1 2 3 4 TYPE M WWW DET P P P	Frequency
Ref Offset 19.51	dB	Mkr4 2.494 23 GF -41.010 dBi	
10 dB/div Ref 20.00 dB	m	-41.010 (16)	-
10.0	Bu I I I I I I I I I I I I I I I I I I I		Center Freq
0.00			
-10.0	<u>v v</u>		2.495000000 GHz
	\	D 1 20 20 4	_
-20.0		DL1 -20.90 dl	m Start Freq
-20.0 -30.0	$\wedge$	DL1 -20 50 d	
-20.0 -30.0 -40.0	2 4 3	DL1-20.90 dl	m Start Freq
-20.0 -30.0 -40.0 -50.0	2 4 3	0.1 -20.50 d	Start Freq 2.44000000 GHz Stop Freq
-20.0 -30.0 -40.0 -50.0 -60.0		0.1 -20.50 d	Start Freq 2.440000000 GHz
-20.0 -30.0 -40.0 -50.0 -50.0 -70.0 -70.0 -2		angle gand by mining and gand gand gand gand gand gand gan	Start Freq           2.440000000 GHz           Stop Freq           2.55000000 GHz
-20.0 -30.0 -40.0 -50.0 -50.0 -70.0 Start 2.44000 GHz	2 4 3 2 4 3 #VBW 300 kHz	Stop 2.55000 GF	T Start Freq 2.44000000 GHz Stop Freq 2.55000000 GHz
-20.0 -30.0 -40.0 -40.0 -50.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz	2 4 3 2 4 3 4 3 #VBW 300 kHz	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	T Start Freq 2.44000000 GHz Stop Freq 2.55000000 GHz
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXX: MODE HEC SCL 1 N f	X Y FU 2.462 55 GHz 9.096 dBm	Stop 2.55000 GF	Start Freq           2.440000000 GHz           Stop Freq           2.550000000 GHz           Iz           CF Step           11.000000 MHz
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXXR MODE IFCE SOL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Marking Start Freq 2.440000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 11.000000 MHz Auto Man Freq Offset
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXXR MODE IFCE SOL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43 749 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Start Freq           2.440000000 GHz           Stop Freq           2.550000000 GHz           CF Step           11.000000 MHz           Auto
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXXR MODE IFCE SOL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Start Freq           2.440000000 GHz           2.550000000 GHz           2.550000000 GHz           CF Step           11.000000 MHz           Auto           Freq Offset           0 Hz
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXXR MODE IFCE SOL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Marking Start Freq 2.440000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 11.000000 MHz Auto Man Freq Offset
-20.0 -30.0 -40.0 -50.0 -70.0 Start 2.44000 GHz #Res BW 100 kHz MXXR MODE IFCE SOL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Start Freq           2.440000000 GHz           2.550000000 GHz           2.550000000 GHz           CF Step           11.000000 MHz           Auto           Freq Offset           0 Hz
-200 -300 -400 -500	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Start Freq           2.44000000 GHz           2.55000000 GHz           2.55000000 GHz           CF Step           11.00000 MHz           Auto           Freq Offset           0 Hz           Scale Type
-20.0 -30.0 -40.0 -50.0 -50.0 -70.0 Start 2.44000 GHz #Res BW100 kHz MKR MODE TRG SCL 1 N 1 f 3 N 1 f	X Y FU 2.462 55 GHz 9.096 dBm 2.483 50 GHz -43.749 dBm 2.500 00 GHz -42.574 dBm	Stop 2.55000 GF Sweep 4.067 ms (1001 pt	Start Freq           2.44000000 GHz           2.55000000 GHz           2.55000000 GHz           CF Step           11.00000 MHz           Auto           Freq Offset           0 Hz           Scale Type

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Center Freq 2.3650	Vept SA 2 DC SENSE:INT	ALIGN AUTO 01:30:52 PM Sep 14, 2020 #Avg Type: RMS TRACE 1 2 3 4 5 6	Frequency
Center Fred 2.3050	NFE PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 300/300 TYPE M WWWW DET P P P P P	
Ref Offset 1		Mkr5 2.399 97 GHz	Auto Tune
10 dB/div Ref 20.00		-30.849 dBm	
10.0			Center Freq
0.00		- Julieurophia -	2.365000000 GHz
-10.0			
-20.0		5 DL1 -¥4.95 dBm	Start Freq
-30.0			2.300000000 GHz
-40.0 mannestingthemmore	a marting a share and a source of the martine and the second and t	wounderstand work at the	
-50.0			Stop Freq
-60.0			2.430000000 GHz
Start 2.30000 GHz #Res BW 100 kHz	#VBW 300 kHz	Stop 2.43000 GHz Sweep   4.800 ms (1001 pts)	CF Step 13.000000 MHz
MKR MODE TRC SCL		NCTION FUNCTION WIDTH FUNCTION VALUE	Auto Man
1 N 1 f 2 N 1 f	2.413 23 GHz 5.052 dBm 2.400 00 GHz -30.849 dBm		
3 N 1 f 4 N 1 f	2.390 00 GHz -43.840 dBm 2.310 00 GHz -44.525 dBm		Freq Offset 0 Hz
5 N 1 f	2.399 97 GHz -30.849 dBm	E	0 Hz
7 8			Scale Type
9 10			
11			Log <u>Lin</u>
MSG		STATUS	
	11G Ant1	Low 2412	
Keysight Spectrum Analyzer - Sv	vept SA	Low_2412	
LXI RL RF 50 S	vept SA 2 DC SENSE:INT 00000 GH7	ALIGN AUTO 01:43:50 PM Sep 14, 2020	Frequency
	vept SA 2 DC SENSE:INT	ALIGN AUTO 01:43:50 PM Sep 14, 2020	Frequency
Center Freq 2.4950	vept SA SENSE:INT 2 DC SENSE:INT 000000 GHZ NFE PNO: Fast ↔ Trig: Free Run IFGain:Low #Atten: 30 dB	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS TRACE[123456 Avg Hold: 300/300 TYPE MWWWWW DET P P P P P P Mkr4 2.483 56 GHz	Frequency
LXI RL RF 50 S	vept SA 2 DC SENSE:INT 000000 GHz NFE PNO: Fast ↔ IFGain:Low #Atten: 30 dB 9.51 dB	ALTON AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS TRACE 12345 6 Avg Hold: 300/300 TrPE M WWWWWW DET P P P P P	Frequency
RL         RF         50 (2000)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           Log         10.0	vept SA 2 DC SENSE:INT 000000 GHz NFE PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS TRACE[123456 Avg Hold: 300/300 TYPE MWWWWW DET P P P P P P Mkr4 2.483 56 GHz	Frequency
RL         RF         50 (2000)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           10.0	vept SA 2 DC SENSE:INT 000000 GHz NFE PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS TRACE[123456 Avg Hold: 300/300 TYPE MWWWWW DET P P P P P P Mkr4 2.483 56 GHz	Frequency Auto Tune
RL         RF         50 (2000)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           10.0	vept SA 2 DC SENSE:INT 000000 GHz NFE PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 TYPE M WAWAWAW DET P P P P P Mkr4 2.483 56 GHz -39.206 dBm	Auto Tune
XX         RL         RF         50 d           Center Freq 2.4950         Ref Offset 1         Ref Offset 1           10 dB/div         Ref 20.00         Ref 20.00           10.0	vept SA 2 DC SENSE:INT OD0000 GHZ PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS TRACE[123456 Avg Hold: 300/300 TYPE MWWWWW DET P P P P P P Mkr4 2.483 56 GHz	Frequency Auto Tune Center Freq 2.49500000 GHz Start Freq
XI         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           10 dB/div         Ref 20.00           -0.0         -0.0           -10.0         -0.0           -20.0         -0.0	vept SA 2 DC SENSE:INT OD0000 GHZ PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 TYPE M WAWAWAW DET P P P P P Mkr4 2.483 56 GHz -39.206 dBm	Frequency Auto Tune Center Freq 2.495000000 GHz
XX         RL         RF         50 d           Center Freq 2.4950         Ref Offset 1         Ref Offset 1         Ref Offset 1           10 dB/div         Ref 20.00	vept SA 2 DC SENSE:INT NFE PNO: Fast	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 TYPE M WAWAWAW DET P P P P P Mkr4 2.483 56 GHz -39.206 dBm	Frequency Auto Tune Center Freq 2.495000000 GHz Start Freq 2.440000000 GHz
XX         RL         RF         50 d           Center Freq 2.4950         Ref Offset 1         Ref Offset 1         Ref Offset 1           10 dB/div         Ref 20.00	vept SA 2 DC SENSE:INT OD0000 GHZ PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 TYPE M WAWAWAW DET P P P P P Mkr4 2.483 56 GHz -39.206 dBm	Frequency Auto Tune Center Freq 2.495000000 GHz Start Freq 2.440000000 GHz Stop Freq
XX         RL         RF         50 d           Center Freq 2.4950         Ref Offset 1         Ref Offset 20.00           10 dB/div         Ref 20.00         Ref 20.00           10.0	vept SA 2 DC SENSE:INT OD0000 GHZ PNO: Fast ↔ Trig: Free Run #Atten: 30 dB 9.51 dB dBm	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 TYPE M WAWAWAW DET P P P P P Mkr4 2.483 56 GHz -39.206 dBm	Frequency Auto Tune Center Freq 2.495000000 GHz Start Freq 2.440000000 GHz
NR         RF         50 €           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           000         Ref 0000           10.0         Ref 0000	vept SA 2 DC SENSE:INT NFE PNO: Fast → IFGein:Low 9.51 dB dBm 4 4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 3	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 Type [M WAWWAW DEP P P P P P P Mkr4 2.483 56 GHz -39.206 dBm DL1 -24 92 dBm DL1 -24 92 dBm DL1 -24 92 dBm Stop 2.55000 GHz	Frequency Auto Tune Center Freq 2.495000000 GHz 2.440000000 GHz 2.550000000 GHz CF Step
XX         RL         RF         50 c           Center Freq 2.4950         Ref Offset 1           10 dB/dlv         Ref 20.00           10 dB/dlv <td>wept SA 2 DC SENSE:INT NFE PNO: Fast → IFGein:Low #Atten: 30 dB 9.51 dB dBm 4 4 4 4 4 4 4 4 4 4 4 4 4</td> <td>ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)</td> <td>Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz</td>	wept SA 2 DC SENSE:INT NFE PNO: Fast → IFGein:Low #Atten: 30 dB 9.51 dB dBm 4 4 4 4 4 4 4 4 4 4 4 4 4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz
RL         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           Log         Ref Offset 1           10 dE/div         Ref Offset 1           -00	wept SA 2 DC SENSE:INT NFE PNO: Fast → Trig: Free Run #Atten: 30 dB 9.51 dB dBm 4 4 4 4 4 4 4 4 4 4 4 4 4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TrACE[1 2 3 4 5 6 Type [M WAWWAW DEP P P P P P P Mkr4 2.483 56 GHz -39.206 dBm DL1 -24 92 dBm DL1 -24 92 dBm DL1 -24 92 dBm Stop 2.55000 GHz	Frequency Auto Tune Center Freq 2.495000000 GHz Start Freq 2.440000000 GHz Stop Freq 2.550000000 GHz CF Step 11.00000 MHz
XX         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           20 d0         Ref 20.00	wept SA         SENSE:INT           2         DC         SENSE:INT           00000 GHz         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 30 dB           9.51 dB         dB           4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz
RL         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           Log         Ref Offset 1           10 dB/div         Ref 20.00           -000	xept SA 2 DC 3 DC 3 SENSE:INT NFE PNO: Fast → Trig: Free Run IFGain:Low #Atten: 30 dB 9.51 dB dBm 4 4 4 4 4 4 4 4 4 4 4 4 4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency Auto Tune Center Freq 2.495000000 GHz 2.440000000 GHz 2.550000000 GHz 2.550000000 GHz CF Step 11.00000 MHz Auto Man
RL         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           Log         Ref Offset 1           10 dB/div         Ref 20.00           -000	wept SA         SENSE:INT           2         DC         SENSE:INT           00000 GHz         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 30 dB           9.51 dB         dB           4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz         Auto         Man         Freq Offset         0 Hz
XX         RE         Ref         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1         Ref 20.00           Log         Ref 0 (Greet 1)         Ref 20.00           10         Bar (Comparison 1)         Ref 0 (Greet 1)           10         Bar (Comparison 1)         Bar (Comparison 1)         Bar (Comparison 1)           10         Greet 1)         Bar (Comparison 1)         Bar (Comparison 1)         Bar (Comparison 1)         Bar (Comparison 1)           10         Greet 1)         Bar (Comparison 1)	wept SA         SENSE:INT           2         DC         SENSE:INT           00000 GHz         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 30 dB           9.51 dB         dB           4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency Auto Tune Center Freq 2.495000000 GHz Start Freq 2.440000000 GHz 2.550000000 GHz CF Step 11.000000 MHz Auto Man
XX         RE         Ref         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1         10 dB/div         Ref 20.00           10 dB/div         Ref 20.00         0.00	wept SA         SENSE:INT           2         DC         SENSE:INT           00000 GHz         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 30 dB           9.51 dB         dB           4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz         Auto         Man         Freq Offset         0 Hz
RL         RF         50 (Center Freq 2.4950)           Center Freq 2.4950         Ref Offset 1           10 dB/div         Ref 20.00           -00 d	wept SA         SENSE:INT           2         DC         SENSE:INT           00000 GHz         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 30 dB           9.51 dB         dB           4	ALIGN AUTO 01:43:50 PM Sep 14, 2020 #Avg Type: RMS Avg Hold: 300/300 TRACE[] 2:3:4:5:6 Type [M www.ww DF P P P P P P Mkr4 2:483 56 GHz -39.206 dBm DL1 -24:92 dBm DL1 -24:92 dBm DL1 -24:92 dBm Stop 2:55000 GHz Sweep 4:067 ms (1001 pts)	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz         Auto         Man         Freq Offset         0 Hz         Scale Type

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Center Freq 2.36500		ALIGN AUTO 01:49:29 PM Sep 14, 2020 #Avg Type: RMS TRACE 1 2 3 4 5 6	Frequency
	NFE PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB	AvgHold: 300/300 TYPE MWWWW DET PPPPF	
Ref Offset 19.		Mkr5 2.399 71 GHz -28.740 dBm	
10 dB/div Ref 20.00 d			
10.0		L. Hill and L.	Center Freq 2.365000000 GHz
-10.0		- Automorphic -	2.365000000 GHz
-20.0		DL1 -25.43 dBm	Start From
-30.0			Start Freq 2.30000000 GHz
-40.0 -40.0	าม <sup>19</sup> างกุ่านใหญ่ (1914)	and which are and the second of the second o	
-50.0			Stop Freq
-60.0			2.430000000 GHz
Start 2.30000 GHz #Res BW 100 kHz	#VBW 300 kHz	Stop 2.43000 GHz Sweep 4.800 ms (1001 pts)	
MKR MODE TRC SCL		JNCTION FUNCTION WIDTH FUNCTION VALUE	<u>Auto</u> Man
1 N 1 f 2 N 1 f 3 N 1 f	2.410 76 GHz 4.572 dBm 2.400 00 GHz -30.457 dBm		Freq Offset
4 N 1 f	2.390 00 GHz -41.724 dBm 2.310 00 GHz -43.833 dBm		0 Hz
5 N 1 f 6 7	2.399 71 GHz -28.740 dBm		
7 8 9			Scale Type
9 10 11			Log <u>Lin</u>
•			
MSG		STATUS	
	11N20SISO_A	nt1_Low_2412	
Keysight Spectrum Analyzer - Swep	1.64		
LX/ RL RF 50Ω	DC SENSE:INT	ALIGN AUTO 02:04:20 PM Sep 14, 2020	
RL RF 50 Ω Center Freq 2.49500	DC SENSE:INT 0000 GHz NFE PNO: Fast ↔ Trig: Free Run	#Avg Type: RMS TRACE 1 2 3 4 5 6 AvgHold: 300/300 TYPEIM	Frequency
M RL   RF   50 Ω Center Freq 2.49500	DC SENSE:INT 00000 GHz NFE PNO: Fast +++ IFGain:Low #Atten: 30 dB	#Avg Type: RMS Avg Hold: 300/300 DET P P P P P	Frequency
224 RL RF 50 Ω Center Freq 2.495000 Ref Offset 19.5 10 dB/div Ref 20.00 d	DC SENSE:INT 0000 GHz NFE PNO: Fast	#Avg Type: RMS TRACE 1 2 3 4 5 6 AvgHold: 300/300 TYPEIM	Frequency Auto Tune
22 RL RF 50 Ω Center Freq 2.495000 N Ref Offset 19.5	DC SENSE:INT 0000 GHz NFE PNO: Fast	#Avg Type: RMS Avg Hold: 300/300 DET P P P P P P Mkr4 2.486 09 GHz	Frequency Auto Tune
M         RL         RF         50 02           Center Freq 2.495000         M           10 dB/div         Ref Offset 19.0           10 dB/div         Ref 20.00 d	DC SENSE:INT 0000 GHz NFE PNO: Fast	#Avg Type: RMS Avg Hold: 300/300 DET P P P P P P Mkr4 2.486 09 GHz	Frequency Auto Tune
RL         RF         50 m2           Center Freq 2.495000         Ref Offset 19.0           10 dB/div         Ref 20.00 d           10 d.0         0.00           -10.0	DC SENSE:INT 0000 GHz NFE PNO: Fast	#Avg Type: RMS Avg Hold: 300/300 DET P P P P P P Mkr4 2.486 09 GHz	Frequency Auto Tune Center Freq
RL         RF         50 m           Center Freq 2.495000         Ref Offset 19.0           Ref Offset 19.0         Ref 20.00 d           10 dB/div         Ref 20.00 d           10.0	oc sense:INT 00000 GHz NFE PNO: Fast →→ Trig: Free Run IFGain:Low 51 dB Bm 1 1 1 1 1 1 1 1 1 1 1 1 1	#Avg Type: RMS Avg Hold: 300/300 DET P P P P P P Mkr4 2.486 09 GHz	Frequency Auto Tune Center Freq 2.49500000 GHz Start Freq
RL         RF         50 0           Center Freq 2.495001         Ref Offset 19.1           10 dB/div         Ref Offset 19.1           10 dB/div         Ref 20.00 d           -10 0         -10 0           -20.0         -20.0	DC SENSE:INT 0000 GHz NFE PNO: Fast	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 c TRACE 12 4 c TRACE 12 4 5 c TRACE 12 4 c T	Frequency       Auto Tune       Center Freq       2.495000000 GHz
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.0           Ref 20.00 d         Ref 20.00 d           10 dB/div         Ref 20.00 d           10.0	oc SENSE:INT 0000 GHz NFE PNO: Fast →→ IFGain:Low 51 dB Bm 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	#Avg Type: RMS Avg Hold: 300/300 TYPE MWHWWW Mkr4 2.486 09 GHz -39.022 dBm	Frequency Auto Tune Center Freq 2.49500000 GHz Start Freq 2.44000000 GHz
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.0           Ref Offset 19.0         Ref 20.00 d           10 dB/div         Ref 20.00 d           10.0	oc SENSE:INT 0000 GHz NFE PNO: Fast →→ IFGain:Low 51 dB Bm 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 c TRACE 12 4 c TRACE 12 4 5 c TRACE 12 4 c T	Frequency Auto Tune Center Freq 2.49500000 GHz Start Freq
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.0           Ref Offset 19.0         Ref 20.00 d           10 dB/div         Ref 20.00 d           10.0	oc SENSE:INT 0000 GHz NFE PNO: Fast →→ IFGain:Low 51 dB Bm 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 c TRACE 12 4 c TRACE 12 4 5 c TRACE 12 4 c T	Frequency         Auto Tune         Center Freq         2.49500000 GHz         Start Freq         2.44000000 GHz         Stop Freq
101         RL         RF         50 0           Center Freq 2.495001         Ref Offset 19.1         Ref Offset 19.1           10         B/div         Ref 20.00 d           10.0             10.0             10.0             20.0             -10.0             -20.0             -30.0             -40.0             -50.0             -50.0             -50.0             -50.0             -50.0             -50.0             -50.0             -70.0             Start 2.44000 GHz	DOC     SENSE:INT       OOOO GHz     Trig: Free Run #Atten: 30 dB       51 dB IBm     1       1     4       1     4	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 C TRACE 12 1 4 5 C TRACE 1	Frequency         Auto Tune         Center Freq         2.49500000 GHz         Start Freq         2.44000000 GHz         Stop Freq         2.55000000 GHz         CF Stop Freq         CF Step
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.0           Ref 20.00 d         Ref 20.00 d           10 dB/div         Ref 20.00 d           10 dB/div         Ref 20.00 d           10 dB/div         Ref 20.00 d           10.0	DC SENSE:INT 0000 GHz IFGain:Low Trig: Free Run #Atten: 30 dB 51 dB Bm 1 1 1 1 1 1 1 1 1 1 1 1 1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency         Auto Tune         Center Freq         2.49500000 GHz         Start Freq         2.44000000 GHz         Stop Freq         2.55000000 GHz         CF Stop Freq         CF Step
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.1           10 dB/div         Ref 20.00 d           20 d         Image: State 2.40 d           10 dB/div         State 2.44000 GHz           #Res BW 100 kHz         Image: State 2.40 S	DOC SENSE:INT 00000 GHz NFE PNO: Fast → IFGain:Low Trig: Free Run #Atten: 30 dB 1 1 1 1 1 1 1 1 1 1 1 1 1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 C TRACE 12 1 4 5 C TRACE 1	Frequency         Auto Tune         Center Freq         2.495000000 GHz         Start Freq         2.440000000 GHz         Stop Freq         2.550000000 GHz         CF Step         11.000000 MHz
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.1           10 dB/div         Ref 20.00 d           10 dB/div         Ref 20.00 d           0.00	DOC         SENSE:INT           00000 GHz         Trig: Free Run #Atten: 30 dB           51 dB Bm         Trig: Free Run #Atten: 30 dB           1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency         Auto Tune         Center Freq         2.49500000 GHz         Start Freq         2.4000000 GHz         Stop Freq         2.55000000 GHz         CF Step         11.00000 MHz         Auto         Man         Freq Offset
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.1           10 dB/div         Ref 20.00 d           20 d         Image: State 2.40 d           10 dB/div         State 2.44000 GHz           #Res BW 100 kHz         Image: State 2.40 S	DOC         SENSE:INT           00000 GHz         Trig: Free Run #Atten: 30 dB           51 dB Bm         I           1         I           4         J           2.483 50 GHz         42.789 dBm	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency Auto Tune Center Freq 2.49500000 GHz 2.44000000 GHz 2.55000000 GHz 2.55000000 GHz CF Step 11.00000 MHz Auto Man
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.1           10 dB/div         Ref 20.00 d           10 dB/div         Ref 20.00 d           0.00	DOC         SENSE:INT           00000 GHz         Trig: Free Run #Atten: 30 dB           51 dB Bm         Trig: Free Run #Atten: 30 dB           1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency           Auto Tune           2.49500000 GHz           2.49500000 GHz           2.4000000 GHz           2.55000000 GHz           2.55000000 GHz           2.55000000 GHz           Auto Tune           CF Step           11.00000 MHz           Auto Man           Freq Offset           0 Hz
M         RL         RF         50.0           Center Freq 2.495000         Ref Offset 19.1         Ref Offset 19.1           0 dB/div         Ref 20.00 d         Ref 20.00 d           10 dB/div         Ref 20.00 d         Ref 20.00 d           -0.0         -0.0         -0.0         -0.0           -0.0         -0.0         -0.0         -0.0         -0.0           -0.0         -0.0         -0.0         -0.0         -0.0         -0.0           -0.0	DOC         SENSE:INT           00000 GHz         Trig: Free Run #Atten: 30 dB           51 dB Bm         Trig: Free Run #Atten: 30 dB           1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency         Auto Tune         Center Freq         2.49500000 GHz         Start Freq         2.44000000 GHz         Stop Freq         2.55000000 GHz         CF Step         11.00000 MHz         Auto         Man         Freq Offset         0 Hz         Scale Type
RL         RF         50 0           Center Freq 2.495000         Ref Offset 19.9           10 dB/div         Ref 20.00 d           10 dB/div         Ref 20.00 d           0.00	DOC         SENSE:INT           00000 GHz         Trig: Free Run #Atten: 30 dB           51 dB Bm         Trig: Free Run #Atten: 30 dB           1	#Avg Type: RMS Avg Hold: 300/300 TRACE 12 3 4 5 6 TRACE 12 5 7 TRACE 12 5 7 TRAC	Frequency           Auto Tune           2.49500000 GHz           2.49500000 GHz           2.4000000 GHz           2.55000000 GHz           2.55000000 GHz           2.55000000 GHz           Auto Tune           CF Step           11.00000 MHz           Auto Man           Freq Offset           0 Hz



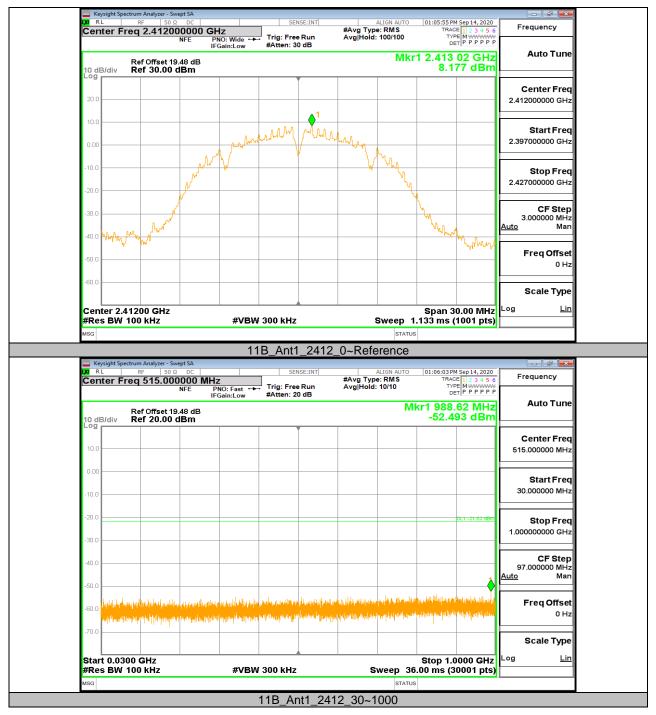
## APPENDIX G: CONDUCTED SPURIOUS EMISSION

## **Test Result**

Test Mode (IEEE Std. 802.11)	Antenna	Channel	Verdict
			PASS
		2412	PASS
			PASS
			PASS
11B	Ant1	2437	PASS
			PASS
			PASS
		2462	PASS
			PASS
			PASS
		2412	PASS
			PASS
			PASS
11G	Ant1	2437	PASS
			PASS
			PASS
		2462	PASS
			PASS
			PASS
		2412	PASS
			PASS
			PASS
11N20SISO	Ant1	2437	PASS
			PASS
			PASS
		2462	PASS
			PASS



## **Test Graphs**



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	rum Analyzer - Swept SA RF 50 Ω DC Q 13.75000000	0 GHz	SENSE:INT	#Avg Typ	e:RMS	01:06:30 PM S TRACE	ep 14, 2020 1 2 3 4 5 6	Frequency
	NFE	PNO: Fast ++ IFGain:Low	, Trig: Free Run #Atten: 20 dB	Avg Hold	: 10/10		1 2 3 4 5 6 M WWWW P P P P P P	<b>_</b>
	Ref Offset 19.48 dB Ref 20.00 dBm				Mkr1	26.355 5 -44.82		Auto Tune
Log								Center Freq
10.0								13.750000000 GHz
0.00								Start Freq
-10.0								1.000000000 GHz
-20.0						DL	.1 -21.82 dBm	Stop Freq
-30.0								26.50000000 GHz
-40.0							<u> </u> 1	CF Step 2.55000000 GHz
-50.0		aptent del a la patronia	and the second	Constitution of the second of the	ulo addono	. Itele-Jonates as to day	- NAMES OF T	<u>Auto</u> Man
-60.0		and all all president allocations	- Managaran Managaran	Station Management	a sel for second second s			Freq Offset
-70.0								0 Hz
-70.0								Scale Type
Start 1.00 G #Res BW 1		#VBW	300 kHz	s	weep 93	Stop 26. 38.0 ms (30		Log <u>Lin</u>
MSG					STATUS	s		
Keysight Spect	rum Analyzer - Swept SA	11	B_Ant1_24	12_1000~:	26500			
LXI RL	кғ <u>50 Ω DC</u> с <b>q 2.437000000</b>		SENSE:INT	#Avg Typ	e:RMS	01:11:47 PM S TRACE TYPE	ep 14, 2020 1 2 3 4 5 6	Frequency
Center Fre	RF 50 Ω DC eq 2.437000000 NFE	GHz PNO: Wide ↔ IFGain:Low		#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 M P P P P P P P P P P P P P P P P P P	
Center Fre	кғ <u>50 Ω DC</u> с <b>q 2.437000000</b>	PNO: Wide ++	Trig: Free Run	#Avg Typ	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 M P P P P P P P P P P P P P P P P P P	Frequency
Center Fre	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ++	Trig: Free Run	#Avg Typ	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune Center Freq
Center Fre	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune
10 dB/div	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune Center Freq
20.0 RL Center Fre	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq
10 dB/div	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq
00 RL Center Fre	RF 50 Ω DC 2 <b>q 2.437000000</b> NFE Ref Offset 19.51 dB	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET	1 2 3 4 5 6 MWWWW P P P P P P 4 GHz	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz
Odd         RL           Center Fre           10 dB/div           20.0           10.0           -10.0           -20.0           -30.0	RF         50 92 DC         DC           cq         2.437000000         NFE           Ref Offset 19.51 dB         Ref 30.00 dBm	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100	TRACE TYPE DET 1 2.437 5 7.674	4 GHz 4 dBm	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq
Odd         RL           Center Fre           10 dB/div           20.0           10.0           -0.00           -10.0           -20.0	RF         50 92 DC         DC           cq         2.437000000         NFE           Ref Offset 19.51 dB         Ref 30.00 dBm	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100		4 GHz 4 dBm	Frequency           Auto Tune           Center Freq           2.43700000 GHz           Start Freq           2.42200000 GHz           Stop Freq           2.45200000 GHz           CF Step           3.00000 MHz           Auto
Odd RL         Center Fre           10 dB/dlv         20.0           10.0	RF         50 92 DC         DC           cq         2.437000000         NFE           Ref Offset 19.51 dB         Ref 30.00 dBm	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100		4 GHz 4 dBm	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz 2.452000000 GHz 2.452000000 GHz 3.00000 MHz
Odd         RL           Center Fre           10 dB/div           20.0           10.0           -10.0           -10.0           -20.0           -30.0           -40.0           MM	RF         50 92 DC         DC           cq         2.437000000         NFE           Ref Offset 19.51 dB         Ref 30.00 dBm	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100		4 GHz 4 dBm	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz 2.452000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz
Odd         RL           Center Fre           10 dB/div           20.0           10.0           -10.0           -20.0           -30.0           -40.0           -50.0	RF         50 92 DC         DC           cq         2.437000000         NFE           Ref Offset 19.51 dB         Ref 30.00 dBm         Image: Comparison of the second data seco	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 30 dB	#Avg Typ Avg Hold	e:RMS :100/100		4 GHz 4 dBm	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz 2.452000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz Scale Type

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RL         RF         50 Ω         D           Center Freq 515.00000         NFE         NFE	0 MHz PNO: Fast +++ Trig: Free Run	ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:11:55 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P	Frequency
Ref Offset 19.51 10 dB/div Ref 20.00 dBr	IFGain:Low #Atten: 20 dB		r1 980.50 MHz -53.439 dBm	Auto Tune
10.0				Center Freq 515.000000 MHz
-10.0				Start Freq 30.000000 MHz
-20.0			DL1 -22.33 dBm	<b>Stop Freq</b> 1.00000000 GHz
-40.0				<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
-50.0	n aleman and the termination of a state of the design of the state of the state of the state of the state of the		n na stan an an Alaka ka mula stan an Agu	Freq Offset
-70.0	<mark>y han se a fan yn het han yn hennydd e lan han yn en yn hend yn hend I</mark>	alina di alinati destri de al	אייני פין יייארן די קריינא דיין	Scale Type
Start 0.0300 GHz #Res BW 100 kHz	#VBW 300 kHz	Sween 36	Stop 1.0000 GHz .00 ms (30001 pts)	Log <u>Lin</u>
MSG	11B_Ant1_24	STATUS		
MSG	11B_Ant1_24	status 137_30~1000		
MSG	11B_Ant1_24	STATUS		Frequency
MSG Keysight Spectrum Analyzer - Swept S 20 RL RF 50 0 D Center Freq 13.750000 NFE Ref Offset 19.51 10 dB/div Ref 20.00 dBr	A C SENSE:INT ODO GHZ PNO: Fast ↔ IFGain:Low dB	STATUS I37_30~1000 ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:12:22 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE M WWWWW	
MSG Keysight Spectrum Analyzer - Swept S WRL RF 50 Ω D Center Freq 13.750000 NFE Ref Offset 19.51	A C SENSE:INT ODO GHZ PNO: Fast ↔ IFGain:Low dB	STATUS I37_30~1000 ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:12:22 PM Sep 14, 2020 TRACE [1:3:4:5:6 TYPE MWWWWW DET P P P P P P 25.627 05 GHz	Frequency
MSG Keysight Spectrum Analyzer - Swept S RL RF 50 0 D Center Freq 13.750000 NFE Ref Offset 19.51 10 dB/div Ref 20.00 dBr	A C SENSE:INT ODO GHZ PNO: Fast ↔ IFGain:Low dB	STATUS I37_30~1000 ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:12:22 PM Sep 14, 2020 TRACE [1:3:4:5:6 TYPE MWWWWW DET P P P P P P 25.627 05 GHz	Frequency Auto Tune Center Freq
Keysight Spectrum Analyzer - Swept S           W RL         RF         50 0 D           Center Freq 13.750000         NFE           10 dB/div         Ref Offset 19.51           10.0	A C SENSE:INT ODO GHZ PNO: Fast ↔ IFGain:Low dB	STATUS I37_30~1000 ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:12:22 PM Sep 14, 2020 TRACE [1:3:4:5:6 TYPE MWWWWW DET P P P P P P 25.627 05 GHz	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq
MSG Keysight Spectrum Analyzer - Swept S RL RF 50 Q D Center Freq 13.750000 NFE Ref Offset 19.51 Condel/div Ref 20.00 dBr 10.0 .000	11B_Ant1_2/       SENSE:INT       000 GHz       PIND: Fast → Trig: Free Run       PRO: Fast → Irig: Free Run       #Atten: 20 dB       dB       n	ISTATUS ISTATU	01:12:22 PM Sep 14, 2020 TRACE 1 3 3 4 5 6 TYPE M Sep 14, 2020 TYPE M Sep 14, 2020 DET P P P P P P 25.627 05 GHz -44.789 dBm	Frequency           Auto Tune           Center Freq           13.750000000 GHz           Start Freq           1.000000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
MSG	11B_Ant1_2/       SENSE:INT       000 GHz       PIND: Fast → Trig: Free Run       PRO: Fast → Irig: Free Run       #Atten: 20 dB       dB       n	STATUS I37_30~1000 ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	01:12:22 PM Sep 14, 2020 TRACE 1 3 3 4 5 6 TYPE M Sep 14, 2020 TYPE M Sep 14, 2020 DET P P P P P P 25.627 05 GHz -44.789 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz 26.50000000 GHz CF Step 2.55000000 GHz Auto Man Freq Offset
Keysight Spectrum Analyzer - Swept S           Image: Content Freq 13.750000           Center Freq 13.750000           Ref Offset 19.51           10 dB/div           Ref 20.00 dBr           10.0	11B_Ant1_2/       SENSE:INT       000 GHz       PIND: Fast → Trig: Free Run       PRO: Fast → Irig: Free Run       #Atten: 20 dB       dB       n	ISTATUS ISTATU	01:12:22 PM Sep 14, 2020 TRACE 1 3 3 4 5 6 TYPE M Sep 14, 2020 TYPE M Sep 14, 2020 DET P P P P P P 25.627 05 GHz -44.789 dBm	Frequency           Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.55000000 GHz           Auto

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Center Freq 13.7500	ept SA DC D00000 GHz	SENSE:INT	#Avg Type: RMS	UTO 01:18:47 PM TRACE	Sep 14, 2020 1 2 3 4 5 6 M WWWW P P P P P P P	Frequency
	IFGain:Low #	Atten: 20 dB	Avg Hold: 10/10	kr1 26.228 (		Auto Tune
Ref Offset 19 10 dB/div Ref 20.00 (					0 dBm	
10.0						<b>Center Freq</b> 13.750000000 GHz
-10.0						<b>Start Freq</b> 1.000000000 GHz
-20.0				C	<del>L1 -21.54 dBm</del>	Stop Freq 26.50000000 GHz
-40.0					<b>x</b>	CF Step 2.55000000 GHz
-50.0		and the second s	Conceptual and a second second			Auto Man Freq Offset
-70.0		-				0 Hz
Start 1.00 GHz				Stop 26	.50 GHz	Scale Type
#Res BW 100 kHz	#VBW 30	00 kHz	-	938.0 ms (30		
MSG	440	A == 14 0 4 0 0		TATUS		
				$\mathbf{n}$		
Keysight Spectrum Analyzer - Sw		_ANU_2402	_1000~2650	00		- # <mark>-</mark> ×
Center Freq 2.41200	ept SA DC 00000 GHz NFE PNO: Wide ↔ 1	SENSE:INT		UTO 01:31:03 PM	1 2 3 4 5 6 Maaaaaaaaa	Frequency
022 RL RF 50 Ω Center Freq 2.41200 RefOffset 19 10 dB/div Ref 30.00 (	ept SA DC DOOOO GHZ NFE PNO: Wide → 1 IFGain:Low #	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM TRACE 00 TYPE DET VIKr1 2.414 \$	1 2 3 4 5 6 M WWWW P P P P P P P	
047 RL   RF   50 Ω Center Freq 2.41200 Ref Offset 19	ept SA DC DOOOO GHZ NFE PNO: Wide → 1 IFGain:Low #	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM TRACE 00 TYPE DET VIKr1 2.414 \$	1 2 3 4 5 6 MWWWW P P P P P P P 52 GHz	Frequency
KL         RF         50 0           Center Freq 2.41200         Ref 0ffset 19           10 dB/div         Ref 30.00 0	ept SA DCC DO000 GHZ NFE PNO: Wide	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	01:31:03PM 5 TRACE 30 TYPE Mkr1 2.414 5 5.29	1 2 3 4 5 6 MWWWW P P P P P P P 52 GHz	Frequency Auto Tune Center Freq
XI         RF         50 02           Center Freq 2.41200         Ref Offset 19           10 dB/div         Ref 30.00 0           20.0	ept SA DCOOD GHZ NFE PNO: Wide	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM TRACE 00 TYPE DET VIKr1 2.414 { 5.29	123456 PPPPP 52 GHz 1 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.427000000 GHz
RL         RF         50 02           Center Freq 2.41200         Ref Offset 19           10 dB/div         Ref Offset 19           20.0	ept SA DCOOD GHZ NFE PNO: Wide	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM TRACE 00 TYPE DET VIKr1 2.414 { 5.29	123456 PPPPP 52 GHz 1 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.427000000 GHz
Ket         RF         50 g           Center Freq 2.41200         Ref Offset 19           10 dB/div         Ref 30.00 d           20.0	ept SA DCOOD GHZ NFE PNO: Wide	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM 5 TRACE 30 TYPE Mkr1 2.414 5 5.29	123456 PPPPP 52 GHz 1 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.427000000 GHz
RL         RF         50 2           Center Freq 2.41200         Ref Offset 19           10 dB/div         Ref 30.00 c           20.0	ept SA DCOOD GHZ NFE PNO: Wide	SENSE:INT	ALIGN A #Avg Type: RMS Avg Hold: 100/10	UTO 01:31:03 PM TRACE 00 TYPE DET VIKr1 2.414 { 5.29	123456 PPPPP 52 GHz 1 dBm	Frequency Auto Tune Center Freq 2.41200000 GHz Start Freq 2.397000000 GHz 2.427000000 GHz CF Step 3.00000 MHz Auto Man Freq Offset

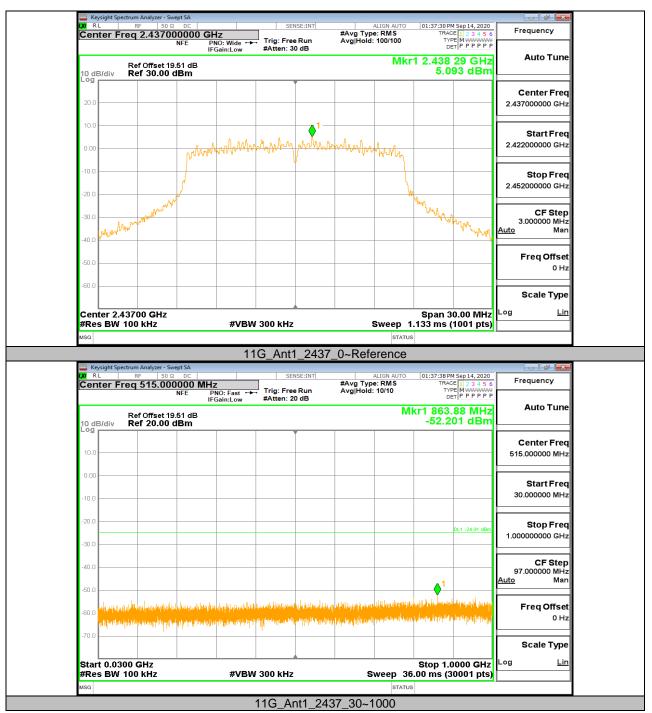
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Center Fre	RF         50 Ω         DC           q 515.000000         NFE	PNO: Fast +	SENSE:I	#Avg Type: n Avg Hold: 1	IGN AUTO RMS 0/10	01:31:11 PM Sep 14, 2020 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
10 dB/div	Ref Offset 19.48 dB Ref 20.00 dBm	IFGain:Low	#Atten: 20 dE	5	Mk	r1 892.98 MHz -52.482 dBm	Auto Tune
10.0							Center Freq 515.000000 MHz
-10.0							Start Freq 30.000000 MHz
-20.0						DL1 -24.71 dBm	<b>Stop Freq</b> 1.00000000 GHz
-40.0							<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
-50.0	efte tils bernster og skjøder be	tellerenten andra	Yong to provide a state of the	Hansang mala pertakan ang kalanan Manang mala pertakan ang kalanan	apalasing turi at constant	n Jag kelang penangan kelakan kerangan Kerakanan ana kelakan kerangkan kerang	Freq Offset
-70.0	ניייניקיינא קייין אין געשיאנער אין אייידי אין אייידי אין אייידי אין געשיאנער אייידי אייידי אייידי אייידי אייידי געער אייז אייז אייז אייז אייז אייז אייז איי	an a suite ann an tha a	and held and hear				Scale Type
Start 0.0300 #Res BW 10		#VBW	/ 300 kHz	Sw	-	Stop 1.0000 GHz 00 ms (30001 pts)	Log <u>Lin</u>
MSG			11G_Ant1	_2412_30~10	status		
	um Analyzer - Swept SA						
K RL	RF 50 Ω DC q 13.75000000		SENSE:I		IGN AUTO	01:31:38 PM Sep 14, 2020	Frequency
Center Fre	NFE	PNO: Fast +	Trig: Free Ru #Atten: 20 dE	#Avg Type: n Avg Hold: 10 3	RMS 0/10	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
10 dB/div		PNO: Fast ↔ IFGain:Low	Trig: Free Ru #Atten: 20 dE	n Avg Hold: 1	0/10	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P 26.399 70 GHz -44.557 dBm	Auto Tune
F	NFE Ref Offset 19.48 dB	PNO: Fast ↔ IFGain:Low	Trig: Free Ru #Atten: 20 dE	n Avg Hold: 1	0/10	26.399 70 GHz	
10 dB/div	NFE Ref Offset 19.48 dB	PNO: Fast ↔ IFGain:Low	Trig: Free Ru #Atten: 20 dE	n Avg Hold: 1	0/10	26.399 70 GHz	Auto Tune Center Freq
10 dB/div	NFE Ref Offset 19.48 dB	PNO: Fast ↔ IFGain:Low	Trig: Free Ru #Atten: 20 dE	n Avg Hold: 1	0/10	26.399 70 GHz	Auto Tune Center Freq 13.75000000 GHz Start Freq
10 dB/div F Log	NFE	PNO: Fast ↔ IFGain:Low	#Atten: 20 dE	n Avg Hold: 11	Mkr1 :	DETIP PPPPP 26.399 70 GHz -44.557 dBm	Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.000000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
10.0 .0.000 .0.000 .0.000 .0.000 .0.000 .0.000 .0.000 .0.000 .0	NFE Ref Offset 19.48 dB	PNO: Fast ↔ IFGain:Low	#Atten: 20 dE	n Avg Hold: 1	Mkr1 :	DETIP PPPPP 26.399 70 GHz -44.557 dBm	Auto Tune
10 dB/div F 10.0 .000 .10.0 .10.0 .20.0 .30.0 .40.0	NFE	PNO: Fast ↔ IFGain:Low	#Atten: 20 dE	n Avg Hold: 11	Mkr1 :	DETIP PPPPP 26.399 70 GHz -44.557 dBm	Start Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           2.55000000 GHz           Auto           Man           Freq Offset           0 Hz
10.0 10.0 -10.0 -20.0 -30.0 -40.0 -50.0 -50.0	NFE	PNO: Fast ↔ IFGain:Low	#Atten: 20 dE	n Avg Hold: 11		DETIP PPPPP 26.399 70 GHz -44.557 dBm	Auto Tune

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Center Freq 13.7500	NFE PNO: Fast +++ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	TO 01:38:06 PM Sep 14, 2020 TRACE 1 2 3 4 5 TYPE MWWWW DET P P P P	Frequency
Ref Offset 19 10 dB/div Ref 20.00 d	IFGain:Low #At	ten: 20 dB	Mk	r1 25.893 95 GHz -43.751 dBn	Auto Tune
10.0					Center Freq 13.750000000 GHz
-10.0					Start Freq 1.000000000 GHz
-20.0				DL1 -24.91 dBn	<b>Stop Freq</b> 26.50000000 GHz
-40.0				1	<b>CF Step</b> 2.550000000 GHz <u>Auto</u> Man
-50.0					Freq Offset
-70.0					Scale Type
Start 1.00 GHz #Res BW 100 kHz	#VBW 300	kHz	•	Stop 26.50 GHz 938.0 ms (30001 pts	
MSG	11G .	Ant1 2437	_1000~2650	atus O	
🧫 Keysight Spectrum Analyzer - Sw	ept SA			-	- # <mark>-×</mark>
22 RL RF 50Ω Center Freq 2.46200	NEE PNO: Wide +++ Trig	SENSE:INT g: Free Run ten: 30 dB	ALIGN AU #Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5	Frequency
				DET P P P P P	P
Ref Offset 19 10 dB/div Ref 30.00 d			M	lkr1 2.463 29 GHz 5.125 dBn	Auto Tune
			M	lkr1 2.463 29 GH	Auto Tune
10 dB/div Ref 30.00 c	IBm	phon phonon		lkr1 2.463 29 GH; 5.125 dBn	Auto Tune
10.0 BJ/div Ref 30.00 c	18m	phen phen h		lkr1 2.463 29 GH; 5.125 dBn	Auto Tune Center Freq 2.46200000 GHz Start Freq
10 dB/div Ref 30.00 c	18m	jen particular		lkr1 2.463 29 GH; 5.125 dBn	Auto Tune           Center Freq           2.46200000 GHz           Start Freq           2.447000000 GHz           Stop Freq           2.477000000 GHz
10 dB/div         Ref 30.00 c           20.0	18m	lery Marhan		lkr1 2.463 29 GH; 5.125 dBn	Auto Tune           Center Freq           2.46200000 GHz           Start Freq           2.447000000 GHz           Stop Freq           2.477000000 GHz           CF Step           3.00000 MHz           Auto           Freq Offset
10 dB/div         Ref 30.00 c           20.0	18m	jery perhon		lkr1 2.463 29 GH; 5.125 dBn	Auto Tune           Center Freq           2.46200000 GHz           Start Freq           2.44700000 GHz           Stop Freq           2.47700000 GHz           CF Step           3.00000 MHz           Auto Man

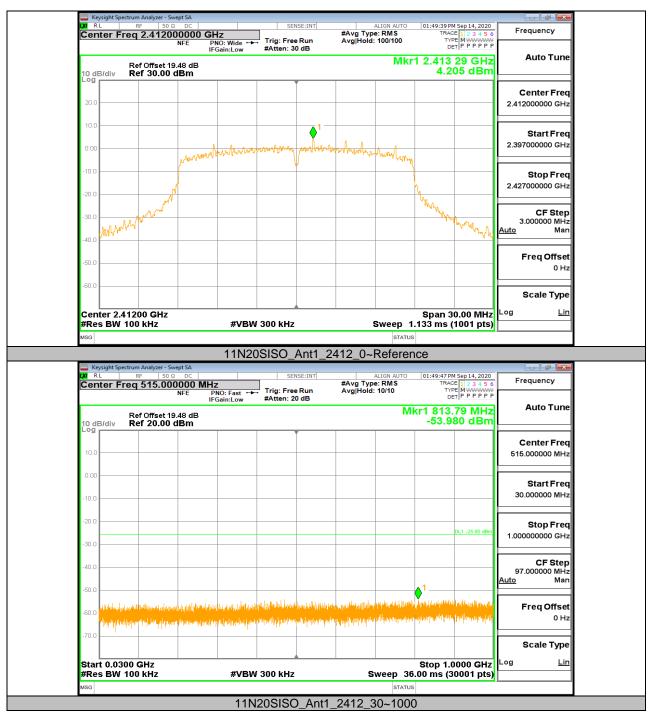
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	RF 50 Ω Freq 515.000	000 MHz	SENSE:	#Avg Type: RMS		Frequency
10 dB/div	Ref Offset 19. <b>Ref 20.00 d</b>	NFE PNO: Fast IFGain:Low 51 dB IBM			Mkr1 861.23 MHz -53.582 dBm	Auto Tune
10.0						Center Freq 515.000000 MHz
0.00						Start Freq 30.000000 MHz
-20.0					DL1 -24.88 dBm	<b>Stop Freq</b> 1.000000000 GHz
-40.0						<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
-50.0	ahilana magalahila jar	naliste time becaule ee by lay	lana ang ang ang ang ang ang ang ang ang	a digity the papel to assign the second	a fan feldina fe bere fen neder ferder ferdin ferdin. I neder ferder ferder ferdin ferd	Freq Offset
-70.0	e di sute se su per l'el fait i de l'acteur.	Line all desires and a second	a kanan ana ang kanan ang kana Ng kanang kana	an adama da da angarang angarang angarang angarang angarang angarang angarang ang ang ang ang ang ang ang ang a Tang ang ang ang ang ang ang ang ang ang	and the reaction metallity	Scale Type
Start 0.0 #Res BW	300 GHz / 100 kHz	#V	BW 300 kHz	Sweep	Stop 1.0000 GHz 36.00 ms (30001 pts)	Log <u>Lin</u>
MSG			110 Amt		FATUS	
Kausiaha C	pectrum Analyzer - Swe		TIG_Anti	_2462_30~1000		
Keysight 5	RF 50 Ω	DC	SENSE:I		JTO 01:44:36 PM Sep 14, 2020	
Center I	req 13.7500	NFE PNO: Fast	Trig: Free Ru	#Avg Type: RMS n Avg Hold: 10/10	TRACE 1 2 3 4 5 6 TYPE M WWWW	Frequency
10 dB/div	req 13.7500	NFE PNO: Fast IFGain:Low 51 dB		n Avg Hold: 10/10	тяасе <u>1 2 3 4 5 6</u> туре Мижижи рет Р Р Р Р Р Р kr1 25.819 15 GHz -43.884 dBm	A
	Freq 13.7500 Ref Offset 19.	NFE PNO: Fast IFGain:Low 51 dB		n Avg Hold: 10/10	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr1 25.819 15 GHz	A
10 dB/div Log	Freq 13.7500 Ref Offset 19.	NFE PNO: Fast IFGain:Low 51 dB		n Avg Hold: 10/10	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr1 25.819 15 GHz	Auto Tune Center Freq
10 dB/div 10.0	Freq 13.7500 Ref Offset 19.	NFE PNO: Fast IFGain:Low 51 dB		n Avg Hold: 10/10	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P P kr1 25.819 15 GHz	Auto Tune Center Freq 13.75000000 GHz Start Freq
10.0 <b>B/div</b> 10.0 0.00	Freq 13.7500 Ref Offset 19.	NFE PNO: Fast IFGain:Low 51 dB	, #Atten: 20 dE	n Avg Hold: 10/10 MI	TRACE [] 2 3 4 5 6 TYPE [] VIEW MUNICIPAL PP PP P kr1 25.819 15 GHz -43.884 dBm DL1-2488 dbm	Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
10.0	Freq 13.7500 Ref Offset 19.	NFE PNO: Fast IFGain:Low 51 dB IBm	, #Atten: 20 dE	n Avg Hold: 10/10 MI	TRACE [] 23456 TYPE [] WITCH MUNICIPAL AND A CONTROL DET PPPPPP 43.884 dBm	Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
10.0	Freq 13.7500	NFE PNO: Fast IFGain:Low BBM	, #Atten: 20 dE	n Avg Hold: 10/10 MI	TRACE [] 2 3 4 5 6 TYPE [] VIEW MUNICIPAL PP PP P kr1 25.819 15 GHz -43.884 dBm DL1-2488 dbm	Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.55000000 GHz           Auto
10.0	Ref Offset 19. Ref 20.00 d	NFE PNO: Fast IFGain:Low BBM	, #Atten: 20 dE	n Avg Hold: 10/10 MI	TRACE [] 2 3 4 5 6 TYPE [] VIEW MUNICIPAL PP PP P kr1 25.819 15 GHz -43.884 dBm DL1-2488 dbm	Auto Tune

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₩ RL RF 50 Ω Center Freq 13.75000 N	0000 GHz E PNO: Fast +++ T	SENSE:INT	ALIG #Avg Type: R Avg Hold: 10/	MS	01:50:15 PM Se TRACE 1 TYPE M	p 14, 2020 2 3 4 5 6 P P P P P	Frequency
Ref Offset 19.44 10 dB/div Ref 20.00 dE	3 dB	Atten: 20 dB		Mkr1 2	25.577 75	5 GHz	Auto Tune
10.0							<b>Center Freq</b> 13.750000000 GHz
-10.0							<b>Start Freq</b> 1.000000000 GHz
-20.0					DL1	-25.80 dBm	<b>Stop Freq</b> 26.50000000 GHz
-40.0						1	<b>CF Step</b> 2.550000000 GHz <u>Auto</u> Man
-50.0	and the set of the set		en la progra de la construcción de la constru Antes progra de la construcción de la construcción de la constru Antes programas de la construcción d				Freq Offset 0 Hz
-70.0					04am 26 5		Scale Type
Start 1.00 GHz #Res BW 100 kHz	#VBW 30	0 kHz	Swe	ep 938.	Stop 26.5 0 ms (300.		
MSG				STATUS			0
MSG	11N20S	SO_Ant1_2	2412_1000		0		с
🔤 Keysight Spectrum Analyzer - Swept	SA	SO_Ant1_2		~2650			
	SA DC 000 GHz TE PNO: Wide ↔ T	SO_Ant1_2 SENSE:INT rig: Free Run Atten: 30 dB		-2650 M AUTO	01:58:01 PM Set	p 14, 2020 2 3 4 5 6 9 P P P P P	Frequency
keysight Spectrum Analyzer - Swept Wa RL RF 50 Ω Center Freq 2.437000 Ni Ref Offset 19.5 10 dB/div Ref 30.00 dE	SA DC 000 GHz FE PNO: Wide ↔ Ti IFGain:Low #/	SENSE:INT	ALIG #Avg Type: R	)~2650 IN AUTO RMS 0/100	01:58:01 PM Set	23456 PPPPPP 2GHz	1
Keysight Spectrum Analyzer - Swept     RL RF 50 Ω     Center Freq 2.437000     NI     Ref Offset 19.5	SA DC 000 GHz FE PNO: Wide ↔ Ti IFGain:Low #/	SENSE:INT	ALIG #Avg Type: R	)~2650 IN AUTO RMS 0/100	01:58:01 PM Set TRACE 1 TYPE DET P 2.439 52	23456 PPPPPP 2GHz	Frequency
Keysight Spectrum Analyzer - Swept           ØJ         RL         RF         50 Ω           Center Freq 2.437000         NI           Ref Offset 19.6         Ref 30.00 dE           20.0         10.0         10.0	SA DC DOOD GHz IF PNO: Wide ↔ T IFGain:Low 1 dB im	SENSE:INT	ALIG #Avg Type: R Avg Hold: 100	IN AUTO IN AUTO IMS 0/100 Mkr1	01:58:01 PM Set TRACE 1 TYPE DET P 2.439 52	23456 PPPPPP 2GHz	Frequency Auto Tune Center Freq
Keysight Spectrum Analyzer - Swept           Ød         R⊥         RF         50 Ω           Center Freq 2.4370000         Ni           Ref Offset 19.5         Ref 30.00 dE           20.0         Ref 30.00 dE           10 dB/div         Ref 30.00 dE           0.00	SA DC 000 GHz FE PNO: Wide ↔ Ti IFGain:Low #/	SENSE:INT	ALIG #Avg Type: R Avg Hold: 100	N-2650 IN AUTO IMS 0/100 Mkr1	01:58:01 PM See TRACE 1 TYPE M DET P 2.439 52 4.540	23456 PPPPPP 2GHz	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq
Кеузіді Spectrum Analyzer - Swept     П RL RF 50 Ω     Сепter Freq 2.4370000     Ni     Ref Offset 19.5     Ref 30.00 dE     20.0     10.0     .00     -10.0     -20.0     .00	SA DC DOOD GHz IF PNO: Wide ↔ T IFGain:Low 1 dB im	SENSE:INT	ALIG #Avg Type: R Avg Hold: 100	N-2650 IN AUTO IMS 0/100 Mkr1	01:58:01 PM See TRACE 1 TYPE M 2.439 52 4.540	23456 (PPPPPP 2 GHz 0 dBm	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz 2.452000000 GHz 2.452000000 GHz CF Step 3.00000 MHz
Keysight Spectrum Analyzer - Swept     Ref So Ω     Center Freq 2.437000     Ni     Ref Offset 19.5     Ref 30.00 dE     20.0     .00	SA DC DOOD GHz IF PNO: Wide ↔ T IFGain:Low 1 dB im	SENSE:INT	ALIG #Avg Type: R Avg Hold: 100	N-2650 IN AUTO IMS 0/100 Mkr1	01:58:01 PM See TRACE 1 TYPE M 2.439 52 4.540	23456 PPPPP 2 GHz 1 dBm	Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz CF Step 3.00000 MHz
Keysight Spectrum Analyzer - Swept           Ø RL         RF         50 Ω           Center Freq 2.437000         Ni           10 dB/div         Ref Offset 19.5           20.0         Ref 30.00 dE           10.0         A           -10.0         A           -20.0         A           -40.0         A	SA DC DOOD GHz IFGain:Low I dB Im	SENSE:INT	ALIG #Avg Type: R Avg Hold: 100	N-2650 IN AUTO IMS 0/100 Mkr1	01:58:01 PM See TRACE 1 TYPE M 2.439 52 4.540	23456 (PPPPPP 2 GHz 0 dBm	Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz 2.452000000 GHz 2.452000000 GHz 3.000000 MHz Auto Man

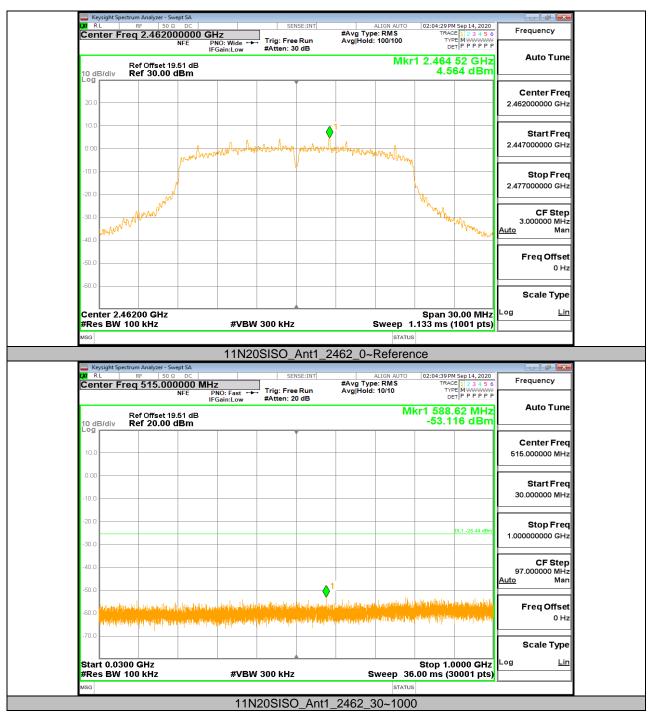
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Center I	RF 50 Freq 515.00			SENSE:INT	ALIGN AL #Avg Type: RMS	UTO 01:58:09 PI TRAC	M Sep 14, 2020 CE 1 2 3 4 5 6	Frequency
Jonati		NFE PN		g: Free Run tten: 20 dB	Avg Hold: 10/10	TYI DE	CE 1 2 3 4 5 6 PE M WWWW ET P P P P P P	
	Auto Tune							
10 dB/div	Ref 20.00	dBm				-92.7	37 dBm	
10.0								Center Freq
10.0								515.000000 MHz
0.00								Start Freq
-10.0		_						30.000000 MHz
-20.0							DL1 -25.46 dBm	<b>Stop Freq</b> 1.000000000 GHz
-30.0								1.00000000 GHz
-40.0								CF Step
								97.000000 MHz <u>Auto</u> Man
-50.0							al at at 1	
-60.0	of the shale to block the	allipsetamaticabili	den dagen der gescherten der	Arean Charles Character Arean Charles Character	adopted appropriate the second	na per lengen na del de le del de la dela del	a tha faile is a caracteria.	Freq Offset 0 Hz
-70.0	a a search an a fair an	des and the property of	a da antisection de la construction	a. wata da mina a	an lighed when the hermited	ويريبنان لللعد ويعود	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	
-70.0								Scale Type
Start 0.0	300 GHz					Stop 1.0	0000 GHz	Log <u>Lin</u>
	V 100 kHz		#VBW 300	kHz	-	36.00 ms (3	30001 pts)	
MSG			111000			TATUS	*	
					2/37 30.1	000		
	pectrum Analyzer - S		TINZUS		_2437_30~1			
X/RL	RF 50 S	Ω DC 0000000 GH	Hz	SENSE:INT	ALIGN AL #Avg Type: RMS	UTO 01:58:37 PM	M Sep 14, 2020 CE 1 2 3 4 5 6	Frequency
X/RL	RF 50	Ω DC 0000000 GH NFE PN	Hz IO: Fast ↔ Trig		ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PI TRAC TYF DE	CE 1 2 3 4 5 6 PE M WWWW ET P P P P P P	Frequency
RL Center I	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency
Center I	RF 50 € Freq 13.750	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE M WWWW ET P P P P P P	Frequency Auto Tune
X RL Center I 10 dB/div	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency
10 dB/div	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency Auto Tune Center Freq
10 dB/div	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq
10 dB/div	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency Auto Tune Center Freq 13.75000000 GHz
10 dB/div	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz
21 RL Center I 10.0 dB/div 10.0 -10.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	CE 1 2 3 4 5 6 PE MWWWW ET P P P P P P 60 GHz	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq
10 dB/div Log 10.00	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	60 GHz 02 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz 1.00000000 GHz Stop Freq 26.50000000 GHz
M         RL           Center I           10.0           10.0           -10.0           -20.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC TYF E kr1 25.646	60 GHz 02 dBm	Frequency           Auto Tune           Center Freq           13.750000000 GHz           Start Freq           1.000000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
Image: Right Content in Content	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AU #Avg Type: RMS Avg Hold: 10/10	kr1 25.646 -44.5	DL1 -2546 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz 1.00000000 GHz 26.5000000 GHz CF Step
M         RL           Center I           10.0           10.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AL #Avg Type: RMS Avg Hold: 10/10	kr1 25.646 -44.5	DL1 -2546 dBm	Frequency           Auto Tune           Center Freq           13.750000000 GHz           Start Freq           1.000000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
M         RL           Center I           10.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AL #Avg Type: RMS Avg Hold: 10/10	kr1 25.646 -44.5	DL1 -2546 dBm	Frequency           Auto Tune           Center Freq           13.750000000 GHz           Start Freq           1.000000000 GHz           Stop Freq           26.50000000 GHz           CF Step           2.550000000 GHz
M         RL           Center I           10.0           10.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AL #Avg Type: RMS Avg Hold: 10/10	kr1 25.646 -44.5	DL1 -2546 dBm	Frequency           Auto Tune           Center Freq           13.75000000 GHz           1.00000000 GHz           Stop Freq           26.50000000 GHz           2.55000000 GHz           Auto Tune           Freq Offset           0 Hz
121         RL           Center I           10.0           -10.0           -20.0           -30.0           -40.0           -50.0           -60.0	RF 50 Freq 13.750 Ref Offset 1	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT	ALIGN AL #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC Try DE kr1 25.646 -44.5	DL1-25.46 (dbm	Frequency         Auto Tune         Center Freq         13.750000000 GHz         Start Freq         1.000000000 GHz         Stop Freq         26.50000000 GHz         2.550000000 GHz         Auto         Man         Freq Offset         0 Hz         Scale Type
UX         RL           Center I           10.0           10.0           -10.0           -20.0           -30.0           -40.0           -50.0           -60.0           -70.0           Start 1.0	Ref Offset 1 Ref 20.00	Ω DC 0000000 GH NFE PNI IFG 9.51 dB	Hz Ю: Fast ↔ Trig	SENSE:INT g: Free Run ten: 20 dB	ALIGN AL #Avg Type: RMS Avg Hold: 10/10	UTO 01:58:37 PM TRAC Try DE kr1 25.646 -44.5	DL1-2546 dBm	Frequency           Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.50000000 GHz           2.550000000 GHz           2.550000000 GHz           Auto           Freq Offset           0 Hz           Scale Type           Log         Lin

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LXI RL			Ω DC		SE	NSE:INT		ALIGN AUTO	02:05:05 PM Sep 14, 2020		
Cente	Center Free		13.750000000 GHz		Tria: Fre	Trig: Free Run		be:RMS I:10/10	TRACE 1 2 3 4 5 6	Frequency	
				PNO: Fast ↔ FGain:Low	#Atten: 2		Avginoid	. 10/10	DET P P P P P		
	-	Ref Offset	40.54 JD					Mkr1	26.453 25 GHz	Auto Tune	
10 dB/		Ref 20.00							-44.683 dBm		
Log [						Y					
										Center Freq	
10.0										13.750000000 GHz	
0.00										Start Fred	
										1.000000000 GHz	
-10.0											
-20.0											
-20.0									DL1 -25.44 dBm	Stop Fred	
									0E1 -23,44 (dbii)	26.50000000 GHz	
-30.0											
										CF Step	
-40.0 -									V	2.550000000 GHz	
-50.0							. In Los	وريقي والمحالية	a bar dan gana dan ga	<u>Auto</u> Man	
-50.0	ALL DALL	ALC: NOT ON	an sit affin differente site,	ngen mer er og og som	line of the second	्यू सः ३ व्या सः स्वर्थे विश्वास् राजनाः अस्य स्वर्थे विश्वास्य		a provinsi p	a Adaptitican Alexand Measuraber Statistics		
-60.0	and the star	T	and the second se	elling selection also also asso	a second s		1.00			Freq Offset	
-00.0										0 Hz	
-70.0											
10.0										Scale Type	
L						L					
Start					/ 200 kll=				Stop 26.50 GHz	Log <u>Lin</u>	
#Res	BVV 10	U KHZ		#VBM	/ 300 kHz		2		8.0 ms (30001 pts)		
MSG								STATUS			

**END OF REPORT**