# Test Report



#### Curtis-Straus LLC, a wholly owned subsidiary of BV CPS

Report No	ES1636-1
Client	Harman International Industries Inc. Mark Bowman
Address	30001 Cabot Dr. Novi, MI 48377
Phone	1-248-254-7751
Items tested FCC ID IC	INFO3.5 CSM MY20 2AHPN-BE2843 6434C-BE2843
Equipment Type Equipment Code	Digital Transmission System DTS
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2
Test Dates	09/20/2018 to 11/15/2018
Results	As detailed within this report
Prepared by	Christopher Hamel – Test Engineer
Authorized by	Yunus Faziloglu – Sr. Engineer
Issue Date	11/30/2018
Conditions of Issue	This Test Report is issued subject to the conditions stated in the ' <i>Conditions of Testing</i> ' section on page 18 of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.





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Report REV Sep-08-2017 - YF



# Summary

This test report supports an application for certification of a transmitter operating pursuant to: CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2

The product is the INFO3.5 CSM MY20. It is a direct sequence spread spectrum transmitter that operates in the 2412-2462MHz frequency range. Supported 802.11 modes: 802.11b, 802.11g and 802.11n (HT20).

Antenna Type: External detachable Gain: 1.3dBi

We found that the product met the above requirements with modification. Modifications: Power reduction for 802.11n (HT20) from 14 to 12.

Test samples were received in good condition.



# Test Methodology

All testing was performed according to the following rules/procedures/documents; CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2, ISED Canada RSS-Gen Issue 5, FCC KDB 558074 D01 15.247 Measurement Guidance v05 and ANSI C63.10-2013

Radiated emissions were maximized by rotating the device around 3 orthogonal planes (X, Y and Z) as well as varying the test antenna's height and polarity. EUT antenna is external and it was maximized separately.

EUT operating voltage is 13.8V DC from a vehicle battery only, therefore AC line conducted emissions requirements are not applicable.

The following bandwidths were used during radiated spurious emissions testing.

Frequency	RBW	VBW
30-1000MHz	120kHz	1MHz
1-25GHz	1MHz	3MHz





Work Or				EUT C	onfiguration					
WORK OF	der: \$1636				0					
Comp	any: Harma	n Internation	al Industries Inc							
Company Add		Cabot Dr.								
¥ v		AI 48377								
~										
Con	tact: Mark	Bowman								
			MN			PN			SN	
F	CUT:	INFO3.	5 CSM MY20							
EUT Descrip	tion: Auton	otive Infotai	nment Unit with	Bluetooth/WLA	N					
EUT Max Freque	ncy: 5825 M	ЛНz								
EUT Min Freque		ИHz								
EUT Components			M					SN		
Head Unit			INFO3.5 C	SM MY20						
Support Equipment			M	N				SN		
ADB Dev board										
Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under	comment
I OIT Laber	1 oft Type		# populateu	cable type	sinclucu	Territes	length (m)	mout	test	comment
USB Port	other	1	1	other	Yes	No	1.5	in	yes	
Power/Low speed	other	2	2	other	No	No	1	in	yes	
signal Display	other	1	1	other	Yes	No	1.5	in	yes	
	other	1	1	other	Yes	No	2	in	yes	Orange Fackra
Sack up cam		1	1	other	Yes	No	-	in	yes	Beige Fakra
1	other		1 *	0.000	100		-			Blue fakra Cable
External 2.4G wifi	other	1	1	other	Yes	No	2	111	ves	
Back up cam External 2.4G wifi GPS port AM/FM Antenna	other	1	1 2	other	Yes	No	2	in in	yes	
External 2.4G wifi		1 2	1 2	other other	Yes Yes	No No	2 2	in	yes	Black Fakra am and fm, Green FN only

# **Product Tested - Configuration Documentation**





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otatomon	Statement of Comornity									
RSS-GEN	RSP-100	RSS 247	Part 15	Comments						
6.4			15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.						
	3.1		15.19	The label is shown in the label exhibit.						
	3.2		15.21	Information to the user is shown in the instruction manual exhibit.						
			15.27	No special accessories are required for compliance.						
3.2			15.31	The EUT was tested in accordance with the measurement standards in this section.						
6.13.2			15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.						
6.13.1			15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.						
6.8			15.203	EUT employs detachable external antenna with 1.3dBi gain.						
8.10			15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable						
8.8			15.207	N/A. EUT is vehicle battery powered only.						

# Statement of Conformity

Refer to Appendix A of this report for antenna port conducted measurements.





# Test Results

## **Radiated Spurious Emissions**

#### LIMITS

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). [15.247(d)]

Radiated emissions were maximized by rotating the EUT and its external antenna around 3 orthogonal planes (X, Y and Z) and worst case emissions observed in X orientation for both the EUT and its antenna. All the results below are for the worst case orientation only.

## **MEASUREMENTS / RESULTS**

Worst case mode: 802.11b 1Mbps

Curtis Straus - a Bureau Veritas Company	Work Order - S1636
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 13.8V DC
Top Peaks Vertical 30-1000MHz	Test Site - CH2
Operator: CCH	Conditions - 24.1°C; 54%RH; 1006mBar
Notes:	Witnessed by - N/A
802.11b 1Mbps Channel 1	EUT Maximum Frequency - 5825MHz

Frequency	Peak Reading	Correction Factor	Adjusted Peak Amplitude	Lim1: FCC_pt15_2 09	Lim1 Margin	Lim1 Test Results	Worst Margin Lim1
(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
30.194	32.1	-6.5	25.6	40	-14.4	PASS	
137.306	39.1	-14	25.1	43.5	-18.4	PASS	
690.521	35.4	-5.5	29.9	46	-16.1	PASS	
759.561	34.4	-3.8	30.6	46	-15.4	PASS	
828.625	35.3	-3.1	32.1	46	-13.9	PASS	-13.9
897.616	32.4	-1.8	30.7	46	-15.3	PASS	





636
DC
CH2
Bar
N/A
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/ (()

## Data Taken at 'October 07, 2018

Frequency	Peak Reading	Correction Factor	Adjusted Peak Amplitude	Lim1: FCC_pt15_2 09	Lim1 Margin	Lim1 Test Results	Worst Margin Lim1
(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
143.611	44	-14.5	29.4	43.5	-14.1	PASS	
258.047	47.1	-15.1	32	46	-14	PASS	
267.577	47.4	-14.2	33.2	46	-12.8	PASS	
690.521	37.4	-5.5	31.9	46	-14.1	PASS	
828.601	38.3	-3.1	35.2	46	-10.8	PASS	-10.8
897.689	34.3	-1.8	32.6	46	-13.4	PASS	

Curtis Straus - a Bureau Veritas Company

Work Order - S1636 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC Top Peaks Vertical 30-1000MHz Test Site - CH2 Operator: CCH Conditions - 24.1°C; 54%RH; 1006mBar Notes: Witnessed by - N/A 802.11b 1Mbps Channel 6 EUT Maximum Frequency - 5825MHz

Frequency	Peak Reading	Correction Factor	Adjusted Peak Amplitude	Lim1: FCC_pt15_2 09	Lim1 Margin	Lim1 Test Results	Worst Margin Lim1
(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
31.334	32.5	-7.4	25.1	40	-14.9	PASS	-14.9
130.929	39.1	-13.9	25.2	43.5	-18.3	PASS	
141.501	39	-14.3	24.7	43.5	-18.8	PASS	
690.497	34.2	-5.5	28.7	46	-17.3	PASS	
828.601	34.2	-3.1	31	46	-15	PASS	
918.278	32.3	-1.6	30.6	46	-15.4	PASS	





Curtis Straus - a Bureau Veritas Company	Work Order - S1636
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 13.8V DC
Top Peaks Horizontal 30-1000MHz	Test Site - CH2
Operator: CCH	Conditions - 24.1°C; 54%RH; 1006mBar
Notes:	Witnessed by - N/A
802.11b 1Mbps Channel 6	EUT Maximum Frequency - 5825MHz

#### Data Taken at 'October 07, 2018

Frequency	Peak Reading	Correction Factor	Adjusted Peak Amplitude	Lim1: FCC_pt15_2 09	Lim1 Margin	Lim1 Test Results	Worst Margin Lim1
(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
30.412	31.8	-6.7	25.1	40	-14.9	PASS	
143.636	44.9	-14.5	30.4	43.5	-13.1	PASS	
268.596	46.9	-14.1	32.8	46	-13.2	PASS	
759.537	35.3	-3.8	31.6	46	-14.4	PASS	
828.601	38.6	-3.1	35.4	46	-10.6	PASS	-10.6
897.641	34.1	-1.8	32.4	46	-13.6	PASS	

Curtis Straus - a Bureau Veritas Company Radiated Emissions Electric Field 3m Distance Top Peaks Vertical 30-1000MHz Operator: CCH Notes: 802.11b 1Mbps Channel 11

Work Order - S1636 EUT Power Input - 13.8V DC Test Site - CH2 Conditions - 24.1°C; 54%RH; 1006mBar Witnessed by - N/A EUT Maximum Frequency - 5825MHz

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt15_2 09 (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.679	32.3	-6.9	25.5	40	-14.5	PASS	-14.5
130.929	38.4	-13.9	24.5	43.5	-19	PASS	
141.501	38.7	-14.3	24.4	43.5	-19.1	PASS	
143.587	39.6	-14.5	25	43.5	-18.5	PASS	
828.601	34.1	-3.1	31	46	-15	PASS	
897.665	32.2	-1.8	30.4	46	-15.6	PASS	





Curtis Straus - a Bureau V	eritas Company	Work Order - S1636
Radiated Emissions Elect	ric Field 3m Distance	EUT Power Input - 13.8V DC
Top Peaks Horizontal 30-3	1000MHz	Test Site - CH2
Operator: CCH		Conditions - 24.1°C; 54%RH; 1006mBar
Notes:		Witnessed by - N/A
802.11b 1Mbps Channel 1	.1	EUT Maximum Frequency - 5825MHz

## Data Taken at 'October 07, 2018

Frequency (MHz)	Реаk Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt15_2 09 (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.218	33.4	-6.5	26.8	40	-13.2	PASS	
143.587	44.8	-14.5	30.3	43.5	-13.2	PASS	
262.072	46.9	-14.7	32.3	46	-13.7	PASS	
786.309	37.3	-3.5	33.8	46	-12.2	PASS	
828.601	39.6	-3.1	36.5	46	-9.5	PASS	-9.5
897.641	34.4	-1.8	32.7	46	-13.3	PASS	

## 30-1000MHz

Curtis Straus - a Bureau Veritas Company Radiated Emissions Electric Field 3m Distance 1-6GHz Vertical Data Operator: CCH Notes: 802.11b 1Mbps Channel 1 Work Order - S1636 EUT Power Input - 13.8V DC Test Site - CH2 Conditions - 24.1°C; 54%RH; 1006mBar Witnessed by - N/A EUT Maximum Frequency - 5825MHz

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_2 09_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	-	Av Lim: FCC_pt15_2 09_Average (dBμV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
1355.7	40.5	32.1	-3.5	37	74	-37	PASS		28.6	54	-25.4	PASS	
2173.2	42.8	32.3	1.9	44.7	74	-29.3	PASS		34.1	54	-19.9	PASS	
3086.9	42.7	32.6	2.1	44.9	74	-29.1	PASS		34.7	54	-19.3	PASS	
5783.1	39.3	30.6	6.1	45.4	74	-28.6	PASS	-28.6	36.8	54	-17.2	PASS	-17.2





Radiated I 1-6GHz Hc Operator: Notes: 802.11b 1f	aus - a Bure Emissions E orizontal Da CCH Mbps Chani n at 'Octob	lectric Fiel ta nel 1	d 3m Dista	nce		Test Site - Condition Witnessed	r Input - 13 CH2 s - 24.1°C; 5	54%RH; 100					
Frequency	Raw Peak Reading	Raw Avg Reading	Correction Factor	Adjusted Peak Amplitude	Pk Lim: FCC_pt15_2 09_Peak	Peak Margin	Peak Results	Worst Peak Margin	Adjusted Avg Amplitude	Av Lim: FCC_pt15_2 09_Average	Avg Margin	Avg Results	Worst Average Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
1247.5	41.9	31.9	-3.5	38.4	74	-35.6	PASS		28.4	54	-25.6	PASS	
2159.9	41	32.3	1.8	42.7	74	-31.3	PASS		34.1	54	-19.9	PASS	
3202.1	42.4	32.7	2.5	44.9	74	-29.1	PASS	20.0	35.2	54	-18.8	PASS	47.4
5869.5	39.1	30.5	6.1	45.2	74	-28.8	PASS	-28.8	36.6	54	-17.4	PASS	-17.4
Operator: Notes:	ertical Data CCH Mbps Chan	nel 6				Witnesse	s - 24.1°C; 5						
Data Tako	n at 'Octob	or 07 2019					·	,					
Data Take Frequency (MHz)	n at 'Octob Raw Peak Reading (dBµV)	er 07, 2018 Raw Avg Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_2 09_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_2 09_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
Frequency	Raw Peak Reading	Raw Avg Reading	Correction Factor	Peak Amplitude	FCC_pt15_2 09_Peak	Margin	Peak Results	Worst Peak Margin	Adjusted Avg Amplitude	FCC_pt15_2 09_Average		-	Margin
Frequency (MHz) 1331.3 2161.6	Raw Peak Reading (dBµV) 40.8 40.6	Raw Avg Reading (dBµV) 32.2 32.3	Correction Factor (dB/m) -3.5 1.8	Peak Amplitude (dBµV/m) 37.3 42.4	FCC_pt15_2 09_Peak (dBµV/m) 74 74	Margin (dB) -36.7 -31.6	Peak Results (Pass/Fail) PASS PASS	Worst Peak Margin	Adjusted Avg Amplitude (dBμV/m) 28.7 34	FCC_pt15_2 09_Average (dBµV/m) 54 54	(dB) -25.3 -20	(Pass/Fail) PASS PASS	Margin
Frequency (MHz) 1331.3 2161.6 3246.8	Raw Peak           Reading           (dBμV)           40.8           40.6           41.3	Raw Avg Reading (dBμV) 32.2 32.3 32.6	Correction Factor (dB/m) -3.5 1.8 2.2	Peak Amplitude (dBμV/m) 37.3 42.4 43.4	FCC_pt15_2 09_Peak (dBµV/m) 74 74 74	Margin (dB) -36.7 -31.6 -30.6	Peak Results (Pass/Fail) PASS PASS PASS	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBμV/m) 28.7 34 34.7	FCC_pt15_2 09_Average (dBμV/m) 54 54 54	(dB) -25.3 -20 -19.3	(Pass/Fail) PASS PASS PASS	Margin (dB)
Frequency (MHz) 1331.3 2161.6	Raw Peak Reading (dBµV) 40.8 40.6	Raw Avg Reading (dBµV) 32.2 32.3	Correction Factor (dB/m) -3.5 1.8	Peak Amplitude (dBµV/m) 37.3 42.4	FCC_pt15_2 09_Peak (dBµV/m) 74 74	Margin (dB) -36.7 -31.6	Peak Results (Pass/Fail) PASS PASS	Worst Peak Margin	Adjusted Avg Amplitude (dBμV/m) 28.7 34	FCC_pt15_2 09_Average (dBµV/m) 54 54	(dB) -25.3 -20	(Pass/Fail) PASS PASS	Margin
Frequency (MHz) 1331.3 2161.6 3246.8 5856.8 Curtis Stra Radiated I 1-6GHz Hc Operator: Notes: 802.11b 10	Raw Peak Reading (dBµV) 40.8 40.6 41.3 39.8 aus - a Bure Emissions E brizontal Da CCH Wbps Chann	Raw Avg Reading (dBµV) 32.2 32.3 32.6 30.5 au Veritas lectric Fiel ta	Correction Factor (dB/m) -3.5 1.8 2.2 6.1 Company d 3m Dista	Реак Amplitude (dBµV/m) 37.3 42.4 43.4 45.9	FCC_pt15_2 09_Peak (dBµV/m) 74 74 74	Margin (dB) -36.7 -31.6 -28.1 Work Orde EUT Powe Test Site - Condition Witnessed	Peak Results (Pass/Fail) PASS PASS PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; s	Worst Peak Margin (dB) -28.1 .8V DC 54%RH; 100	Adjusted Avg Amplitude (dBμV/m) 28.7 34 34.7 36.6	FCC_pt15_2 09_Average (dBμV/m) 54 54 54	(dB) -25.3 -20 -19.3	(Pass/Fail) PASS PASS PASS	Margin (dB)
Frequency (MHz) 1331.3 2161.6 3246.8 5856.8 Curtis Stra Radiated I 1-6GHz Hc Operator: Notes: 802.11b 10	Raw Peak Reading (dBµV) 40.8 40.6 41.3 39.8 aus - a Bure Emissions E prizontal Da CCH	Raw Avg Reading (dBµV) 32.2 32.3 32.6 30.5 au Veritas lectric Fiel ta	Correction Factor (dB/m) -3.5 1.8 2.2 6.1 Company d 3m Dista	Реак Amplitude (dBµV/m) 37.3 42.4 43.4 45.9 nce	FCC_pt15_2 09_Peak (dBµV/m) 74 74 74 74 74	Margin (dB) -36.7 -31.6 -28.1 Work Orde EUT Powe Test Site - Condition Witnessed	Peak Results (Pass/Fail) PASS PASS PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; S d by - N/A	Worst Peak Margin (dB) -28.1 .8V DC 54%RH; 100	Adjusted Avg Amplitude (dBμV/m) 28.7 34 34.7 36.6 6 mBar 5MHz	FCC_pt15_2 09_Average (dBμV/m) 54 54 54 54 54 54	(dB) -25.3 -20 -19.3	(Pass/Fail) PASS PASS PASS	Margin (dB) -17.4
Frequency (MHz) 1331.3 2161.6 3246.8 5856.8 Curtis Stra Radiated I 1-6GHz Hc Operator: Notes: 802.11b 10	Raw Peak Reading (dBµV) 40.8 40.6 41.3 39.8 aus - a Bure Emissions E brizontal Da CCH Wbps Chann	Raw Avg Reading (dBµV) 32.2 32.3 32.6 30.5 au Veritas lectric Fiel ta	Correction Factor (dB/m) -3.5 1.8 2.2 6.1 Company d 3m Dista	Реак Amplitude (dBµV/m) 37.3 42.4 43.4 45.9	FCC_pt15_2 09_Peak (dBµV/m) 74 74 74	Margin (dB) -36.7 -31.6 -28.1 Work Orde EUT Powe Test Site - Condition Witnessed	Peak Results (Pass/Fail) PASS PASS PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; S d by - N/A	Worst Peak Margin (dB) -28.1 .8V DC 54%RH; 100	Adjusted Avg Amplitude (dBμV/m) 28.7 34 34.7 36.6	FCC_pt15_2 09_Average (dBμV/m) 54 54 54	(dB) -25.3 -20 -19.3 -17.4	(Pass/Fail) PASS PASS PASS PASS	Margin (dB)



2185.2

3145.5

5758.1

41.4

41.6

38.7

32.3

32.8

30.7

2

2.3

6.1

43.4

43.9

44.8

74

74

74

-30.6

-30.1

-29.2

PASS

PASS

PASS

-29.2

34.3

35.1

36.8

54

54

54

-19.7

-18.9

-17.2

PASS

PASS

PASS

-17.2



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	eus - a Bure Emissions E												
		lectric Fiel	u sm Dista	nce			r Input - 13	.8V DC					
	ertical Data					Test Site -		- 40/ DUL 400					
Operator:	CCH						s - 24.1°C; 5	54%RH; 100	6mBar				
Notes:						Witnessed							
	Vbps Chan					EUT Maxir	num Frequ	ency - 5825	5MHz				
Data Take	n at 'Octob	er 07, 2018											
Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_2 09_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBμV/m)	Av Lim: FCC_pt15_2 09_Average (dBμV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
2156.6	40.2	32.4	1.7	42	74	-32	PASS		34.1	54	-19.9	PASS	
3224.4	42.6	32.6	2.3	44.9	74	-29.1	PASS		34.9	54	-19.1	PASS	
5596.3	42	30.6	5.5	47.5	74	-26.5	PASS	-26.5	36.1	54	-17.9	PASS	-17.9
	CCH Vlbps Chani n at 'Octob					Witnessed	s - 24.1°C; 5 d by - N/A num Frequ	-					
Frequency	Raw Peak Reading	Raw Avg Reading	Correction Factor	Adjusted Peak Amplitude	Pk Lim: FCC_pt15_2 09_Peak	Peak Margin	Peak Results	Worst Peak Margin	Adjusted Avg Amplitude		Avg Margin	-	Worst Average Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBμV/m) 74	(dB)	(Pass/Fail) PASS	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
1710.9	41.2	32.1	-2.6	38.6		-35.4			29.5	54	-24.5	PASS	
1723.3	40.9	32	-2.5	38.4	74	-35.6	PASS		29.5	54	-24.5	PASS	
2106.8	41.5	32.3	1	42.5	74	-31.5	PASS		33.3	54	-20.7	PASS	
3015.8	40.4	32.5	2.2	42.6	74	-31.4	PASS		34.7	54	-19.3	PASS	
4603.5	40.8	31.1	3.6	44.4	74	-29.6	PASS	20.7	34.6	54	-19.4	PASS	47.4
5866.6	39.2	30.5	6.1	45.3	74	-28.7	PASS	-28.7	36.6	54	-17.4	PASS	-17.4
						1-60	GHz						

Curtis Stra	curtis Straus - a Bureau Veritas Company adiated Emissions Electric Field 1m Distance						Work Order - S1636							
Radiated E	missions E	lectric Fiel	d 1m Dista	nce		EUT Powe	r Input - 13	8.8V DC						
6-18GHz V	ertical Data	a				Test Site -	CH2							
Operator:	ССН					Condition	s - 24.1°C;	54%RH; 100	6mBar					
Notes:							Witnessed by - N/A							
802.11b 1N	02.11b 1Mbps Channel 1						num Frequ	iency - 5825	SMHz					
	02.11b 1Mbps Channel 1													
Data Taker	n at 'Octobe	er 07, 2018												
				Adjusted	Pk Lim:				Adjusted	Av Lim:				
Raw Peak Raw Avg Correction Peak FCC_pt						Peak	Peak	Worst Peak	-	FCC_pt15_2			Worst Avg	
Frequency Reading Reading Factor Amplitude 09_Pe						Margin	Results	Margin	Amplitude	09_Average	Avg Margin	Avg Results	Margin	
(MHz) (dBµV) (dBµV) (dB/m) (dBµV/m) (dBµV/m					(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	
17994.7	17994.7 39 30.5 21.4 60.4 83.5						-23.1 PASS -23.1 51.9 63.5 -11.6 PASS -11.6						-11.6	





Curtis Stra	us - a Bure	au venitas	Company			Work Order - S1636							
	Emissions E			nce			r Input - 13	.8V DC					
6-18GHz H	orizontal D	ata				Test Site -	•						
Operator:	ССН					Condition	s - 24.1°C; 5	54%RH; 100	6mBar				
Notes:						Witnessed	d by - N/A						
802.11b 1N	Abps Chani	nel 1				EUT Maxin	num Frequ	ency - 5825	SMHz				
Data Takei	n at 'Octob	er 07, 2018											
				Adjusted	Pk Lim:				Adjusted	Av Lim:			
	Raw Peak	Raw Avg	Correction	Peak	FCC_pt15_2	Peak	Peak Test	Worst Peak	Avg	FCC_pt15_2		Avg Test	Worst Avg
Frequency	Reading	Reading	Factor	Amplitude	09_Peak	Margin	Results	Margin	Amplitude	09_Average	Avg Margin	Results	Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
7058.6	38.7	30.1	8.4	47.2	83.5	-36.3	PASS		38.5	63.5	-25	PASS	
17955.7	40.4	30.5	20.9	61.3	83.5	-22.2	PASS	-22.2	51.4	63.5	-12.1	PASS	-12.1
Curtis Stra	us - a Bure	au Veritas	Company			Work Orde	er - S1636						
Radiated E	Emissions E	lectric Fiel	d 1m Dista	nce		EUT Powe	r Input - 13	.8V DC					
5-18GHz V	ertical Data	a				Test Site -	CH2						
Operator:	ССН					Condition	s - 24.1°C; 5	54%RH; 100	6mBar				
Notes:						Witnessed	d by - N/A						
302.11b 1M	Abps Chani	nel 6				EUT Maxin	num Frequ	ency - 5825	SMHz				
)-+- T-k	n at lOatal-	or 07 2010											
	n at 'Octob	er 07, 2018		A disease d	Dia Linea				A disease of	Aurthory			
	Raw Peak	Raw Avg	Correction	Adjusted Peak	Pk Lim: FCC pt15 2	Peak	Peak	Worst Peak	Adjusted Avg	Av Lim: FCC_pt15_2			Worst Av
Frequency	Reading	Reading	Factor	Amplitude	09_Peak	Margin	Results	Margin	-		Avg Margin	Avg Results	Margin
(		(40)()	(dB/m)	(dBµV/m)	_ (dBμV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
(IVIHZ)	(dBuV)	(αβμγ)				<b>N N</b>					1. I		
(MHz) 7899.6	(dBµV) 38.9	(dBμV) 29.3			83.5	-36.6	PASS		37.3	63.5	-26.2	PASS	
7899.6 17972.8 Curtis Stra adiated E -18GHz H	38.9 38.7 Jus - a Bure Emissions E orizontal D	29.3 30.7 au Veritas	8 21.1 Company	46.9 59.8	83.5 83.5	Test Site -	r Input - 13 CH2		37.3 51.8	63.5 63.5	-26.2 -11.7	PASS PASS	-11.7
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes:	38.9 38.7 Jus - a Bure Emissions E orizontal D	29.3 30.7 au Veritas lectric Fiel ata	8 21.1 Company	46.9 59.8	83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	1	51.8 6mBar				-11.7
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH	29.3 30.7 au Veritas lectric Fiel ata	8 21.1 Company d 1m Dista	46.9 59.8	83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100	51.8 6mBar				-11.7
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chani	29.3 30.7 au Veritas lectric Fiel ata	8 21.1 Company d 1m Dista	46.9 59.8	83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100	51.8 6mBar 5MHz	63.5			-11.7
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 302.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chani	29.3 30.7 au Veritas lectric Fiel ata	8 21.1 Company d 1m Dista	46.9 59.8	83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100	51.8 6mBar		-11.7		
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken	38.9 38.7 Emissions E orizontal D CCH Mbps Chann	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018	8 21.1 Company d 1m Dista	46.9 59.8 nce Adjusted	83.5 Pk Lim:	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 1 by - N/A num Frequ	.8V DC 54%RH; 100 ency - 5825	51.8 6mBar SMHz Adjusted Avg	63.5 Av Lim: FCC_pt15_2	-11.7	PASS Avg Test	
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018 Raw Avg	8 21.1 Company d 1m Dista	46.9 59.8 nce Adjusted Peak	83.5 Pk Lim: FCC_pt15_2	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test	.8V DC 54%RH; 100 ency - 5825 Worst Peak	51.8 6mBar SMHz Adjusted Avg	63.5 Av Lim: FCC_pt15_2	-11.7	PASS Avg Test	Worst Av
7899.6 17972.8 Curtis Stra Radiated E - 18GHz H Operator: Notes: NO2.11b 1N Data Taken Frequency (MHz)	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018 Raw Avg Reading	8 21.1 Company d 1m Dista Correction Factor	46.9 59.8 nce Adjusted Peak Amplitude	83.5 Pk Lim: FCC_pt15_2 09_Peak	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir Peak Margin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin	51.8 6mBar 5MHz Adjusted Avg Amplitude	63.5 Av Lim: FCC_pt15_2 09_Average	-11.7 Avg Margin	PASS Avg Test Results	Worst Av, Margin
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobu Raw Peak Reading (dBµV)	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018 Raw Avg Reading (dBµV)	8 21.1 Company d 1m Dista d 1m Dista	46.9 59.8 nce Adjusted Peak Amplitude (dBμV/m)	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m)	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir Peak Margin (dB)	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail)	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin	51.8 6mBar SMHz Adjusted Avg Amplitude (dBµV/m)	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m)	-11.7 Avg Margin (dB)	PASS Avg Test Results (Pass/Fail)	Worst Avį Margin
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N Data Taker Frequency (MHz) 17300.8 17978.4	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading (dBµV) 41.3	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2	46.9 59.8 nce Adjusted Peak Amplitude (dBμV/m) 60.7	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir EUT Maxir Peak Margin (dB) -22.8	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB)	51.8 6mBar SMHz Adjusted Avg Amplitude (dBµV/m) 51	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Avı Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taker Frequency (МНz) 17300.8 17978.4 Curtis Stra	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir Margin (dB) -22.8 -22.3 Work Orde	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3	51.8 6mBar SMHz Adjusted Avg Amplitude (dBµV/m) 51	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBμV) 41.3 40 us - a Bure	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir Margin (dB) -22.8 -22.3 Work Orde	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3	51.8 6mBar SMHz Adjusted Avg Amplitude (dBµV/m) 51	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 302.11b 1M Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 5-18GHz V	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site -	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 302.11b 1M Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 5-18GHz V Operator:	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site -	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 302.11b 1M Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 5-18GHz V Operator: Notes: Notes:	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 5-18GHz V Operator: Notes: Notes:	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 302.11b 1N Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 5-18GHz V Operator: Notes: 302.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH Mbps Chann	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company d 1m Dista	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency (MHz) 17300.8 17978.4 Curtis Stra Radiated E 6-18GHz V Operator: Notes: 802.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobo Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH	29.3 30.7 au Veritas Ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company d 1m Dista	46.9 59.8 nce Adjusted Peak Amplitude (dBµV/m) 60.7 61.2	Рк Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxir (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar	Ач Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB)
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taker Frequency (МНz) 17300.8 17978.4 Сurtis Stra Radiated E 5-18GHz V Operator: Notes: 802.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH Mbps Chann n at 'Octobe	29.3 30.7 au Veritas ilectric Fiel bata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas ilectric Fiel a nel 11	8 21.1 Company d 1m Dista d 1m Dista Correction Factor (dB/m) 19.4 21.2 Company d 1m Dista	Adjusted Peak Amplitude (dBμV/m) 60.7 61.2 nce	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBµV/m) 83.5 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100 ency - 5825	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar 5MHz	63.5 Av Lim: FCC_pt15_2 09_Average (dBµV/m) 63.5 63.5	-11.7 Avg Margin (dB) -12.5	PASS Avg Test Results (Pass/Fail) PASS	Worst Av Margin (dB) -11.6
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N Data Taken Taken (MHz) 173078.4 Curtis Stra Radiated E 6-18GHz V Operator: Notes: 802.11b 1N	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH Mbps Chann n at 'Octobe	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a nel 11 er 07, 2018 Raw Avg	8 21.1 Company d 1m Dista d 1m Dista Correction factor (dB/m) 19.4 21.2 Company d 1m Dista	Adjusted Peak Amplitude (dBμV/m) 60.7 61.2 nce	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBμV/m) 83.5 83.5 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100 ency - 5825 Worst Peak	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar 5MHz 6mBar 5MHz	63.5 Av Lim: FCC_pt15_2 09_Average (dBμV/m) 63.5 63.5 63.5	-11.7 Avg Margin (dB) -12.5 -11.6	PASS Avg Test Results (Pass/Fail) PASS PASS	Worst Av, Margin (dB) -11.6
7899.6 17972.8 Curtis Stra Radiated E 6-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency (MHz) 173078.4 Curtis Stra Radiated E 6-18GHz V Operator: Notes: 802.11b 1N Data Taken Frequency	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH Mbps Chann n at 'Octobe	29.3 30.7 au Veritas lectric Fiel ata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas lectric Fiel a nel 11 er 07, 2018 Raw Avg Reading	8 21.1 Company d 1m Dista d 1m Dista Correction Factor d 1m Dista	Adjusted Peak Amplitude (dBμV/m) 60.7 61.2 nce	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBμV/m) 83.5 83.5 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Results	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100 ency - 5825 Worst Peak Margin	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar 51.9	63.5 Av Lim: FCC_pt15_2 09_Average (dBμV/m) 63.5 63.5 63.5	-11.7 Avg Margin (dB) -12.5 -11.6	PASS Avg Test Results (Pass/Fail) PASS PASS	Worst Avy Margin (dB) -11.6
7899.6 17972.8 Curtis Stra Radiated E 5-18GHz H Operator: Notes: 802.11b 1N Data Taken Frequency (MHz) 173078.4 Curtis Stra Radiated E 5-18GHz V Operator: Notes: 802.11b 1N Data Taken	38.9 38.7 us - a Bure Emissions E orizontal D CCH Mbps Chann n at 'Octobe Raw Peak Reading (dBµV) 41.3 40 us - a Bure Emissions E ertical Data CCH Mbps Chann n at 'Octobe	29.3 30.7 au Veritas Ilectric Fiel ata nel 6 er 07, 2018 Raw Avg Reading (dBµV) 31.6 30.7 au Veritas Ilectric Fiel a nel 11 er 07, 2018 Raw Avg	8 21.1 Company d 1m Dista d 1m Dista Correction factor (dB/m) 19.4 21.2 Company d 1m Dista	Adjusted Peak Amplitude (dBμV/m) 60.7 61.2 nce	83.5 Pk Lim: FCC_pt15_2 09_Peak (dBμV/m) 83.5 83.5 83.5	-23.7 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin (dB) -22.8 -22.3 Work Orde EUT Powe Test Site - Condition Witnessed EUT Maxin	PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ Peak Test Results (Pass/Fail) PASS PASS er - S1636 r Input - 13 CH2 s - 24.1°C; 5 d by - N/A num Frequ	.8V DC 54%RH; 100 ency - 5825 Worst Peak Margin (dB) -22.3 .8V DC 54%RH; 100 ency - 5825 Worst Peak	51.8 6mBar 5MHz Adjusted Avg Amplitude (dBμV/m) 51 51.9 6mBar 5MHz 6mBar 5MHz	63.5 Av Lim: FCC_pt15_2 09_Average (dBμV/m) 63.5 63.5 63.5	-11.7 Avg Margin (dB) -12.5 -11.6	PASS Avg Test Results (Pass/Fail) PASS PASS	Worst Av Margin (dB) -11.6





Curtis Stra	Curtis Straus - a Bureau Veritas Company Radiated Emissions Electric Field 1m Distance					Work Order - S1636							
Radiated E	Emissions E	lectric Fiel	d 1m Dista	nce		EUT Powe	r Input - 13	8.8V DC					
6-18GHz H	orizontal D	ata				Test Site -	CH2						
Operator:	Dperator: CCH Notes:						s - 24.1°C; !	54%RH; 100	6mBar				
Notes:							Witnessed by - N/A						
802.11b 1N	02.11b 1Mbps Channel 11						num Frequ	iency - 5825	SMHz				
Data Taker	n at 'Octob	er 07, 2018											
				Adjusted	Pk Lim:				Adjusted	Av Lim:			
	Raw Peak	Raw Avg	Correction	Peak	FCC_pt15_2	Peak	Peak Test	Worst Peak	-	FCC_pt15_2		Avg Test	Worst Avg
Frequency Reading Reading Factor Amplitude 09_Per						Margin	Results	Margin	Amplitude	09_Average	Avg Margin	Results	Margin
(MHz) (dBµV) (dBµV) (dB/m) (dBµV/m) (dBµV/r					(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
17992.4	17992.4 39.7 30.7 21.4 61.1 83.5					-22.4	PASS	-22.4	52	63.5	-11.5	PASS	-11.5

## 6-18GHz

Radiated	l Emissio	ons Tab	ole											
Date:	07-Oct-18			Company:	Harman Ir	nternatio	nal					V	Work Order:	S1636
Engineer:	Chris Hamel			EUT Desc:	GM MY20						EUT Operat	ing Voltage/	/Frequency:	13.8V DC
Temp:	24.1°C			Humidity:	54%			Pressure:	1006mBar					
		Freque	ency Range:	18-26.5GH	z						Measureme	ent Distance:	0.1 m	
	No Emissions 802.11b 1Mbp		1, 6, and 11	L							EUT	T Max Freq:	5825MHz	
Antenna		Peak	Average	Preamp	Antenna	Cable	Adjusted	Adjusted	FCC Clas	ss B High Fre Peak	aquency -	FCC Cla	iss B High Fre Average	
Polarization	Frequency	Reading	Reading	Factor	Factor	Factor	Peak Reading	Avg Reading	Limit	Margin	Result	Limit	Margin	Result
(H/V)	(MHz)	(dBµV)	(dBµV)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dBµV/m)	(dB)	(Pass/Fail)
Table	e Result:		Pass	by	N/A	dB					We	orst Freq:	N/A	MHz
Test Site:	EMI Chamber	2		Cable 1:	Asset #232	23				Cable 2:			Cable 3:	
Analyzer:	Gold			Preamp:	18-26.5GH	lz				Antenna:	18-26.5GHz	Horn	Preselector:	
CSsoft Radiate	d Emissions C	Calculator	v 1.017.208										Copyright Curti	tis-Straus LLC 2000
Adjusted Readi	ing = Reading	- Preamp Fa	ictor + Anten	ina Factor +	- Cable Fac	tor								

#### 18-26.5GHz

Rev. 10/8/2018							
Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I.	11/16/2018
Gold	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/19/2019
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due
EMI Chamber 2	719150	2762A-7	A-0015	30-1000MHz	1686	Т	12/21/2018
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	Ι	12/21/2018
Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
2311 PA	1-1000MHz	PAM-103	COM-POWER	441174	2311	Ш	10/29/2018
2111 HF Preamp	0.5-18GHz	PAM-118A	COM-POWER	551063	2111	Ш	11/19/2018
HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	Ш	10/16/2018
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Red-White Bilog	30-2000MHz	JB1	Sunol	A091604-1	1105	I	8/21/2019
HF (White) Hom	18-26.5GHz	801-WLM	Waveline	758	758	Ш	Verify before Use
Blue Horn	1-18Ghz	3117	ETS	157647	1861	Т	2/14/2019
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020
TH A#2082		HTC-1	HDE		2082	П	3/22/2019
Cables	Range		Mfr			Cat	Calibration Due
Asset #2051	9kHz - 18GHz		Florida RF			Ш	3/7/2019
Asset #2054	9kHz - 18GHz		Florida RF			П	10/31/2018
Asset #2466	9KHz-18GHz		MegaPhase			П	10/29/2018
Asset #2323	1-26.5GHz	TM26-S1S1-120	MEGAPHASE	17139101 002	2323	II	8/9/2019

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

TEU



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# **Radiated Band Edge**

Date:	10-Oct-18			Company:	Harman In	ternationa	al					v	Vork Order:	S1636	
Engineer:	Chris Hamel			EUT Desc:	GM MY20						EUT Operat	ting Voltage/	Frequency:	13.8V DC	
Temp:	24.0°C			Humidity:	51%			Pressure:	1012mBar						
-		Freque	ncy Range:	2.3-2.5GH	z						Measureme	nt Distance:	1 m		
Notes:	Worst case a	ntenna polar	ization: V												
Antenna		Peak	Average	Preamp	Antenna	Cable	Adjusted	Adjusted	FCC Class B High Frequency djusted Peak			FCC Class B High Frequency - Average			
Polarization	Frequency	Reading	Reading	Factor	Factor	Factor	Peak Reading	Avg Reading	Limit	Margin	Result	Limit	Margin	Result	
(H / V)	(MHz)	(dBµV)	(dBµV)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dBµV/m)	(dB)	(Pass/Fail)	
	802.11b 1	Mbps													
Low															
V	2390.0	16.6	16.6	0.0	32.6	4.2	53.4	53.4	83.5	-30.1	Pass	63.5	-10.1	Pass	
High	0400 5	447	447												
V V	2483.5 2486.7	14.7 16.5	14.7	0.0	32.8 32.8	4.0 4.0	51.5 53.3	51.5 53.3	83.5	-32.0 -30.2	Pass Pass	63.5	-12.0	Pass	
v	2400.7 802.11g 6		16.5	0.0	32.0	4.0	53.3	53.5	83.5	-30.2	Pass	63.5	-10.2	Pass	
Low	002.11g 0	Nibps													
V	2390.0	24.7	13.7	0.0	32.6	4.2	61.5	50.5	83.5	-22.0	Pass	63.5	-13.0	Pass	
v	2381.4	21.2	9.7	0.0	32.5	4.2	57.9	46.4	83.5	-25.6	Pass	63.5	-17.1	Pass	
High															
V	2483.5	20.1	13.5	0.0	32.8	4.0	56.9	50.3	83.5	-26.6	Pass	63.5	-13.2	Pass	
V	2490.1	18.4	9.5	0.0	32.8	4.0	55.2	46.3	83.5	-28.3	Pass	63.5	-17.2	Pass	
	1n MCS 1 powe	er reduced to	12												
Low V	2390.0	26.4	15.4	0.0	32.6	4.2	63.2	52.2	83.5	-20.3	 Pass	63.5	-11.3	 Pass	
v	2390.0	26.4	15.4	0.0	32.6	4.2	64.6	52.2	83.5	-20.3	Pass	63.5	-11.3	Pass	
High	2307.5	21.9	14.0		32.5	4.2				-10.9	F d55		-12.0	F d 5 5	
V	2483.5	21.8	14.1	0.0	32.8	4.0	58.6	50.9	83.5	-24.9	Pass	63.5	-12.6	Pass	
V	2484.3	22.9	14.7	0.0	32.8	4.0	59.7	51.5	83.5	-23.8	Pass	63.5	-12.0	Pass	
Table	e Result:		Pass	by	-10.1	dB					W	orst Freq:	2390.0	MHz	
Test Site: EMI Chamber 2 Cable 1: Asset #2051										Cable 2:	: Asset #2054	ļ	Cable 3:		
Analyzer: Rental SA#4 Preamp: None									Antenna:	: Blue Horn		reselector:			

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	1	11/16/2018
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	1	12/21/2018
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Blue Horn	1-18Ghz	3117	ETS	157647	1861	1	2/14/2019
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020
TH A#2082		HTC-1	HDE		2082	I	3/22/2019
Cables	Range		Mfr			Cat	Calibration Due
Asset #2051	9kHz - 18GHz		Florida RF			П	3/7/2019
Asset #2054	9kHz - 18GHz		Florida RF			II	10/31/2018





# AC Line Conducted Emissions

LIMITS

Frequency of emission (MHz)	Quasi-peak limit (dBµV)	Average limit (dBµV)
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency. [47 CFR 15.207(a)]

## **MEASUREMENTS / RESULTS**

Not applicable. EUT is vehicle battery powered only.





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## Measurement Uncertainty

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
Radiated Emissions (30-1000MHz) NIST	5.6dB	N/A
CISPR	4.6dB 4.6dB	5.2dB (Ucispr) N/A
Radiated Emissions (1-26.5GHz)		
Radiated Emissions (above 26.5GHz)	4.9dB	N/A
Magnetic Radiated Emissions Conducted Emissions	5.6dB	N/A
NIST CISPR	3.9dB 3.6dB	N/A 3.6dB (Ucispr)
Telco Conducted Emissions (Current)	2.9dB	N/A
Telco Conducted Emissions (Voltage)	4.4dB	N/A
Electrostatic Discharge	11.5%	N/A
Radiated RF Immunity (Uniform Field)	1.6dB	N/A
Electrical Fast Transients	23.1%	N/A
Surge	23.1%	N/A
Conducted RF Immunity	3dB	N/A
Magnetic Immunity	12.8%	N/A
Dips and Interrupts	2.3V	N/A
Harmonics	3.5%	N/A
Flicker	3.5%	N/A
Radio frequency (@ 2.4GHz)	3.23 x 10 <sup>-8</sup>	1 x 10 <sup>-7</sup>
RF power, conducted	0.40dB	0.75dB
Maximum frequency deviation: • Within 300Hz and 6kHz of audio frequency / Within 6kHz and 25kHz of audio frequency	3.4% 0.3dB	5% 3dB
Adjacent channel power	1.9dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	2.39dB	3dB
Conducted emission of receivers	1.3dB	3dB
Radiated emission of transmitter, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of transmitter, valid up to 80GHz	3.3dB	6dB
Radiated emission of receiver, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of receiver, valid up to 80GHz	3.3dB	6dB
Humidity	2.37%	5%
Temperature	0.7°C	1.0°C
Time	4.1%	10%
RF Power Density, Conducted	0.4dB	3dB
DC and low frequency voltages	1.3%	3%
Voltage (AC, <10kHz)	1.3%	2%
Voltage (DC)	0.62%	1%
The above reflects a 95% confidence level		



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## **Conditions Of Testing**

[Bureau Veritas Consumer Products Services, Inc., a Massachusetts corporation], and/or its affiliates (collectively, the "Company") will conduct, at the request of the Submitter ("Client"), the tests specified on the submitted Test Request Form or equivalent in accordance with, and subject to, the following terms and conditions (collectively, "Conditions"): 1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless

1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless and until such order is accepted by it, as evidenced by the issuance of a written report ("Test Report") by the Company. The Test Report is issued solely by the Company, is intended for the exclusive use of Client and shall not be published, used for advertising purposes, copied or replicated for distribution to any other person or entity or otherwise publicly disclosed without the prior written consent of the Company. By submitting a request for services to the Company, Client consents to the disclosure to accreditation bodies of those records of Client relevant to the accreditation body's assessment of the Company's competence and compliance with relevant accreditation criteria. The Company shall not be liable for any loss or damage whatsoever resulting from the failure of the Company to provide its services within any time period for completion estimated by the Company. If Client anticipates using the Test Report in any legal proceeding, arbitration, dispute resolution forum or other proceeding, it shall so notify the Company prior to submitting the Test Report in such proceeding. The Company has no obligation to provide a fact or expert witness at such proceeding unless the Company agrees in advance to do so for a separate and additional fee.

2. The Test Report will set forth the findings of the Company solely with respect to the test samples identified therein. Unless specifically and expressly indicated in the Test Report, the results set forth in such Test Report are not intended to be indicative or representative of the quality or characteristics of the lot from which a test sample is taken, and Client shall not rely upon the Test Report as being so indicative or representative of the tot or of the tested product in general. The Test Report will reflect the findings of the Company at the time of testing only, and the Company shall have no obligation to update the Test Report after its issuance. The Test Report will set forth the results of the tests performed by the Company based upon the written information provided to the Company. The Test Report will be based solely on the samples and written information submitted to the Company by Client, and the Company shall not be obligated to conduct any independent investigation or inquiry with respect thereto.

 The Company may, in its sole discretion, destroy samples which have been furnished to the Company for testing and which have not been destroyed in the course of testing. The Company may delegate the performance of all or a portion of the services contemplated hereunder to an affiliate, agent or subcontractor of the Company, and Client consents to such delegation.
 These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof

4. These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof and of the Test Report, and no modification, variance or extrapolation with respect thereto shall be permitted without the prior written consent of the Company.

5. The names, service marks, trademarks and copyrights of the Company and its affiliates, including the names "BUREAU VERITAS," "BUREAU VERITAS CONSUMER PRODUCTS SERVICES," "BVCPS", "MTL", "ACTS", "MTL-ACTS" and CURTIS-STRAUS (collectively, the "Marks") are and shall remain the sole property of the Company or its affiliates and shall not be used by Client except solely to the extent that Client obtains the prior written approval of the Company and then only in the manner prescribed by the Company. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of the Company or its affiliates.

6. Payment in full shall be due 30 days after the date of invoice. Interest shall be due on overdue amounts from the due date until paid at an interest rate of 1.5% per month or, if less, the maximum rate permitted by law. The Company reserves the right, at any time and from time to time, to revoke any credit extended to Client. Client shall reimburse the Company for any costs it incurs in collecting past due amounts, including court costs and fees and expenses of attorneys and collection agencies. The Test Report may not be used or relied upon by Client if and for so long as Client fails to pay when due any invoice issued by the Company or any affiliate of it to Client or any affiliate or subsidiary of Client together with interest and penalties, if any, accrued thereon.

The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
 Client understands and agrees that the Company is neither an insurer nor a guarantor, that the Company does not take the place of Client or any designer, manufacturer, agent, buyer, distributor or transportation or shipping company, and that the Company disclaims all liability in such capacities. Client further understands that if it seeks assurance against loss or damage, it should obtain appropriate insurance.
 Client agrees that the Company, by providing the services, does not take the place of Client nor any third party, nor does the Company

release them from any of their obligations, nor does the Company otherwise assume, abridge, abrogate or undertake to discharge any duty of any third party to Client or any duty of Client or any third party to any other third party, and Client will not release any third party from its obligations and duties with respect to the tested goods.

10. Client shall, on a timely basis, (a) provide adequate instructions to the Company in order to enable the Company to perform properly its services, (b) provide, or cause Client's suppliers and contractors to provide, the Company with all documents necessary to enable the Company to perform its services, (c) furnish the Company with all relevant information regarding Client's intended use and purposes of the tested goods, (d) advise the Company of essential dates and deadlines relevant to the tested goods and (e) fully exercise all rights and remedies available to Client against third parties in respect of the tested goods.

11. The Company shall undertake due care and ordinary skill in the performance of its services to Client, and the Company shall accept responsibility only were such skill has not been exercised and, even in such event, only to the extent of the limitation of liability set forth herein.

12. If Client desires to assert a claim arising from or relating to (i) the performance, purported performance or non-performance of any services by the Company or (ii) the sale, resale, manufacture, distribution or use of any tested goods, it must submit that claim to the Company in a writing that sets forth with particularity the basis for such claim within 60 days from discovery of the potential claim and not more than six months after the date of issuance of the Test Report to Client. Client waives any and all such claims including, without limitation, claims that the Test Report is inaccurate, incomplete or misleading or that additional or different testing is required, unless and then only to the extent that Client submits a written claim to the Company within both such time periods.

13. CLIÉNT SHALL, EXCEPT TO THE EXTENT OF COMPANY'S LIABILITY TO CLIENT HEREUNDER (WHICH IN NO EVENT SHALL EXCEED THE LIMITATION OF LIABILITY HEREIN), HOLD HARMLESS AND INDEMNIFY THE COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL ACTUAL OR ALLEGED THIRD PARTY CLAIMS FOR LOSS, DAMAGE OR EXPENSE OF WHATSOEVER NATURE AND HOWSOEVER ARISING FROM OR RELATING TO (i) THE PERFORMANCE, PURPORTED PERFORMANCE OR NON-PERFORMANCE OF ANY SERVICES BY THE COMPANY OR (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY TESTED GOODS.

14. EXCEPT AS MAY OTHERWISE BE EXPRESSLY AGREED TO IN WRITING BY THE COMPANY AND NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN OR IN ANY TEST REPORT, NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, IS MADE.





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15. (A) IN NO EVENT WHATSOEVER SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY OR PUNITIVE DAMAGES IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE TEST REPORT OR THE SERVICES PROVIDED BY THE COMPANY HEREUNDER, INCLUDING WITHOUT LIMITATION LOSS OF OR DAMAGE TO PROPERTY; LOSS OF INCOME, PROFIT OR USE; OR ANY CLAIMS OR DEMANDS MADE AGAINST CLIENT OR ANY OTHER PERSON BY ANY THIRD PARTY IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE SERVICES PROVIDED BY THE COMPANY HEREUNDER.

(B)NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN, AND IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS TO CLIENT AND THE COMPANY ASSOCIATED WITH THE TESTING SERVICES CONTEMPLATED HEREBY, THE RISKS HAVE BEEN ALLOCATED SUCH THAT UNDER NO CIRCUMSTANCES WHATSOEVER SHALL THE LIABILITY OF THE COMPANY TO CLIENT OR ANY THIRD PARTY IN RESPECT OF ANY CLAIM FOR LOSS, DAMAGE OR EXPENSE, OF WHATSOEVER NATURE OR MAGNITUDE, AND HOWSOEVER ARISING, EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF THE FEES PAID TO THE COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM OR U.S.\$10,000, WHICHEVER IS THE LESSER AMOUNT.

16. The Company shall not be liable for any loss or damage resulting from any delay or failure in performance of its obligations hereunder resulting directly or indirectly from any event of force majeure or any event outside the control of the Company. If any such event occurs, the Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

17. Company's services, including these Conditions, shall be governed by, and construed in accordance with, the local laws of the country where the Company performs the tests or, in the case of tests performed in the United States of America, the laws of Massachusetts without regard to conflicts of laws principles. If any aspect(s) of these Conditions is found to be illegal or unenforceable, the validity, legality and enforceability of all remaining aspects of these Conditions shall not in any way be affected or impaired thereby. Any proceeding related to the subject matter hereof shall be brought, if at all, in the courts of the country where the Company performs the tests or, in the case of tests performed in the United States of America, in the courts of Massachusetts. Client waives the right to interpose any counterclaim or setoffs of any litigation arising hereunder.

The complete list of the Approved Subcontractors Curtis-Straus may use to delegate the performance of work can be provided upon request. Rev.160009121(2)\_#684340 v14CS





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## Appendix A

## ES1636-1 Appendix A CFR Title 47 FCC Part §15.247 and ISED Canada RSS-247 Issue 2

#### DUT Information Model:

Manufacturer: Serial Number: INFO3.5 CSM MY20 Harman International Industries, Inc. 01

Channels available:

## 802.11b, 802.11g, 802.11n (HT20):

Channel	Freq. (MHz)	Channel	Freq. (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432		
6	2437		
7	2442		

#### Notes

1. The channels which were marked bold were tested.

2. Output power measurements were performed at the lowest and highest data rate of each supported 802.11 mode. Worst cases found to be: 802.11b 1Mbps, 802.11g 6Mbps and 802.11n (HT20) MCS0. 6dB BW, 99% OBW, conducted spurious and conducted bandedges were only tested at these worst case data rates.

Antenna Gain	1.3 dBi
Number of transmit chains	1
Equipment Type	Digital Transmission System

#### **Power Settings**

802.	11b	802.11g		
Channel	Power Setting	Channel	Power Setting	
1	Default	1	Default	
6	Default	6	Default	
11	Default	11	Default	
802.11n	(HT20)			
Channel	Power Setting			
1	12			
6	12			
11	12			





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# Test Equipment Used

Rev. 10/03/2018								
Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
FSV40 Signal/Spectrum Analyzer	10Hz-40GHz	FSV40	ROHDE & SCHWARZ	101551	2200	1	10/1/2019	10/1/2018
Signal Generators/Comparaison Noise Emitter	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
SMBV100A Vector Signal Generator	9KHz-6GHz	SMBV100A	ROHDE & SCHWARZ	261919	2201	1	10/1/2019	10/1/2018
SMB100A Signal Generator	100kHz-40GHz	SMB100A	ROHDE & SCHWARZ	179846	2557	1	10/1/2019	10/1/2018
Power/Noise Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
OSP - open switch and control platform	30MHz-18GHz	OSP-B157W8	ROHDE & SCHWARZ	1527.1144.02-100955-Ck	2558	1	2/1/2019	2/1/2018
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
DUT1	30MHz-26GHz		Micro-Coax			Ш	verify bef	ore use
DUT2	30MHz-26GHz		Micro-Coax			III	verify before use	
DUT3	30MHz-26GHz		Micro-Coax			Ш	verify before use	
DUT4	30MHz-26GHz		Micro-Coax			ш	verify before use	
Attenuators / Couplers	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
10dB Attenuator-01 Brown	30MHz-26GHz		Mini Curcuits			III	verify bef	ore use
10dB Attenuator-02 Yellow	30MHz-26GHz		Mini Curcuits			Ш	verify bef	ore use
10dB Attenuator-03 Red	30MHz-26GHz		Mini Curcuits			III	verify bef	ore use
10dB Attenuator-04 orange	30MHz-26GHz		Mini Curcuits			III	verify bef	ore use
API - 30dB 20W Attenuator	9KHz-40GHz	89-30-11	API Weinschel	703	2121	Ш	3/23/2019	3/23/2018
Directional Coupler	0.5GHz-18GHz	UDC	AA MCS	001040	2434	ш	verify before use	
Communication Tester	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
CMW270 Wideband Radio Communication Tester	DC to 6GHz	CMW270	ROHDE & SCHWARZ	1201.0002K75-101066-MV		1	6/13/2019	6/13/2018
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Temp/Humidity Chamber #18		EPX-2H	Espec	137664	1645		1/5/2019	1/5/2018

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.





#### **Test Results Summary**

Test	Frequency			802.11n
	(MHz)	802.11b	802.11g	(HT20)
Average Output Power	2412.000	PASS	PASS	PASS
Peak Power Spectral Density	2412.000	PASS	PASS	PASS
DTS Bandwidth (6dB)	2412.000	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	2412.000	PASS	PASS	PASS
Conducted Band Edges	2412.000	PASS	PASS	PASS
Conducted Spurious Emissions	2412.000	PASS	PASS	PASS
Average Output Power	2437.000	PASS	PASS	PASS
Peak Power Spectral Density	2437.000	PASS	PASS	PASS
DTS Bandwidth (6dB)	2437.000	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	2437.000	PASS	PASS	PASS
Conducted Band Edges	2437.000	PASS	PASS	PASS
Conducted Spurious Emissions	2437.000	PASS	PASS	PASS
Average Output Power	2462.000	PASS	PASS	PASS
Peak Power Spectral Density	2462.000	PASS	PASS	PASS
DTS Bandwidth (6dB)	2462.000	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	2462.000	PASS	PASS	PASS
Conducted Band Edges	2462.000	PASS	PASS	PASS
Conducted Spurious Emissions	2462.000	PASS	PASS	PASS





## **Average Output Power (Gated)**

Test according to FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.3.2.3.

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

#### 802.11b

Data Rate	Gated RMS (dBm) 2412 MHz	Gated RMS (dBm) 2437 MHz	Gated RMS (dBm) 2462 MHz	Limit (dBm)	Duty Cycle (%)
1 Mbps	10.622	11.204	11.348	30	99.814
11 Mbps	10.591	10.955	11.063	30	98.117

#### 802.11g

Data Rate	Gated RMS (dBm) 2412 MHz	Gated RMS (dBm) 2437 MHz	Gated RMS (dBm) 2462 MHz	Limit (dBm)	Duty Cycle (%)
6 Mbps	11.616	12.032	12.229	30	98.550
54 Mbps	11.252	11.563	11.669	30	89.213

#### 802.11n(HT20)

Data Rate	Gated RMS (dBm) 2412 MHz	Gated RMS (dBm) 2437 MHz	Gated RMS (dBm) 2462 MHz	Limit (dBm)	Duty Cycle (%)
MCS0	9.621	10.084	11.054	30	98.449
MCS7	9.324	9.780	10.557	30	88.383



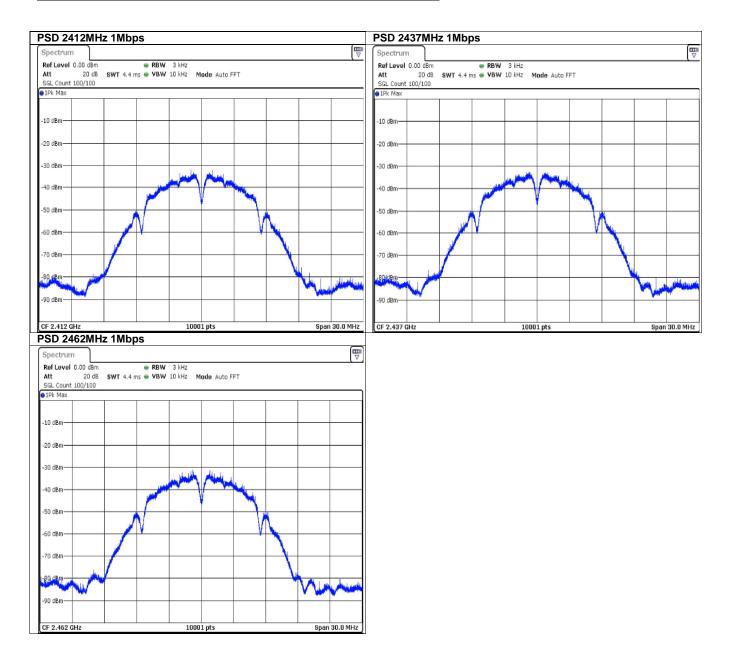


## Peak Power Spectral Density

Test according to FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.4

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

802.11b				
Data Rate	Peak PSD	Peak PSD	Peak PSD	Limit
	(dBm)	(dBm)	(dBm)	(dBm)
	2412 MHz	2437 MHz	2462 MHz	
1 Mbps	-10.414	-10.882	-9.383	8
11 Mbps	-11.172	-11.081	-10.959	8



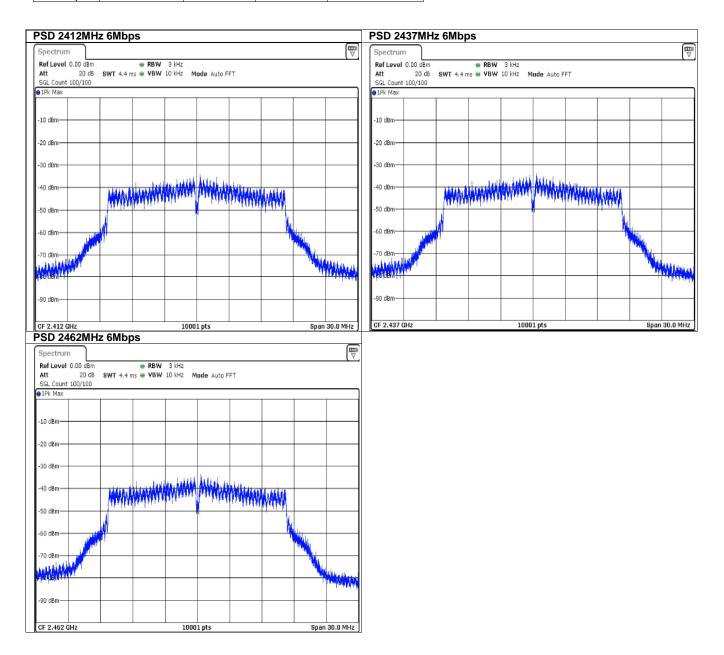




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802.11g

· · J				
Data Rate	Peak PSD (dBm) 2412 MHz	Peak PSD (dBm) 2437 MHz	Peak PSD (dBm) 2462 MHz	Limit (dBm)
6 Mbps	-12.956	-12.124	-11.874	8
54 Mbps	-16.089	-15.680	-15.587	8



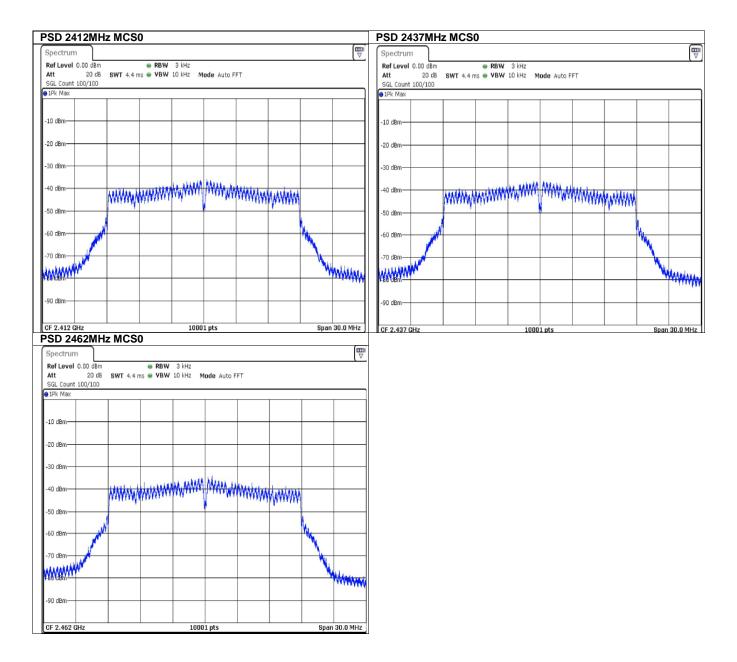




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#### 802.11n (HT20)

Data Rate	Peak PSD (dBm) 2412 MHz	Peak PSD (dBm) 2437 MHz	Peak PSD (dBm) 2462 MHz	Limit (dBm)
MCS0	-14.045	-14.341	-12.340	8
MCS7	-16.290	-15.613	-15.452	8





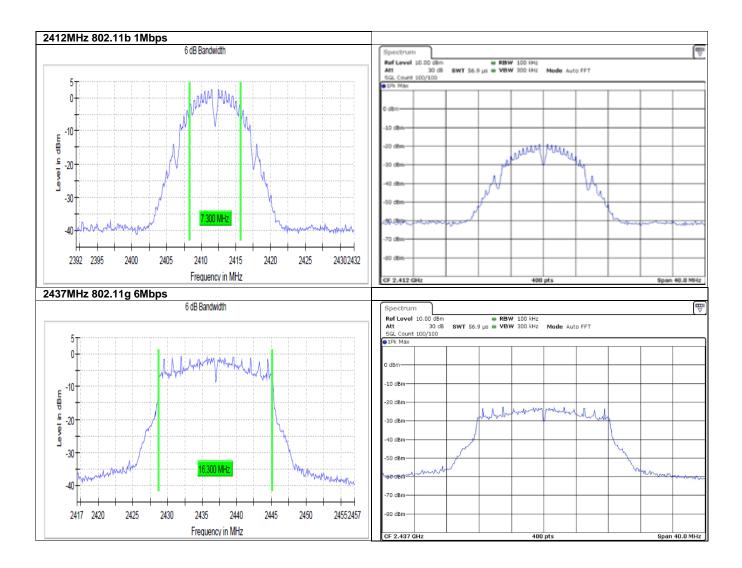


# DTS Bandwidth (6dB)

Test according to FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.3.1.1

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

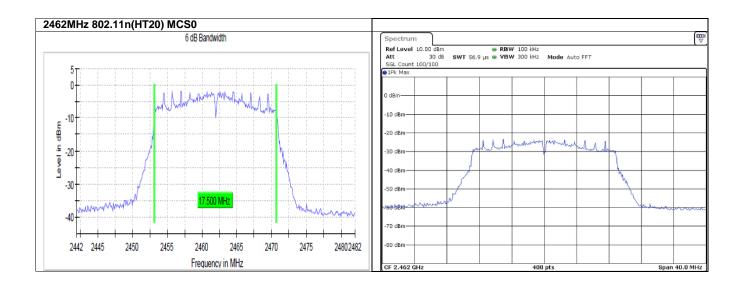
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Minimum Limit (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
802.11b 1 Mbps	2412.000	7.300000	0.5	2408.350000	2415.650000
802.11g 6 Mbps	2412.000	16.500000	0.5	2403.750000	2420.250000
802.11n(HT20) MCS0	2412.000	17.700000	0.5	2403.150000	2420.850000
802.11b 1 Mbps	2437.000	7.300000	0.5	2433.350000	2440.650000
802.11g 6 Mbps	2437.000	16.300000	0.5	2428.750000	2445.050000
802.11n(HT20) MCS0	2437.000	17.500000	0.5	2428.150000	2445.650000
802.11b 1 Mbps	2462.000	7.300000	0.5	2458.350000	2465.650000
802.11g 6 Mbps	2462.000	16.500000	0.5	2453.750000	2470.250000
802.11n(HT20) MCS0	2462.000	17.500000	0.5	2453.150000	2470.650000















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# Occupied Channel Bandwidth 99% Test according to ISED Canada RSS-Gen Issues 5 Section 6.7

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)
802.11b 1 Mbps	2412.000	10.332850
802.11g 6 Mbps	2412.000	16.888567
802.11n(HT20) MCS0	2412.000	18.147612
802.11b 1 Mbps	2437.000	10.549927
802.11g 6 Mbps	2437.000	16.931982
802.11n(HT20) MCS0	2437.000	18.104196
802.11b 1 Mbps	2462.000	10.419681
802.11g 6 Mbps	2462.000	16.888567
802.11n(HT20) MCS0	2462.000	18.147612

2412MHz 802.11b 1Mbps			2412MHz 802.1	rig olviops		
Spectrum			Spectrum			( <b>E</b>
Ref Level 10.00 dBm 🛛 🖷 RBW	300 kHz	<u>,                                     </u>	Ref Level 10.00 dBm	😑 RBW 300 kHz		
	1 MHz Mode Auto Sweep			SWT 1 s 👄 VBW 1 MHz	Mode Auto Sweep	
1Pk Max			●1Pk Max			
	M1[1]	-8.75 dBm 2.4114790 GHz			M1[1]	-7.87 dB 2.4114790 GH
D dBm	M1 Occ Bw	10.332850941 MHz	0 dBm	N	Occ Bw	16.888567294 MH
-10 dBm			-10 dBm	minor	Kanna Markan	A-
-20 dBm	MANY MANY		-20 dBm	¥		Y2 Y
, j						
-30 dBm			-30 dBm			
-40 dBm		$\mathcal{H}$	-40 dBm			holon
50 dBm			-50 dBm			
-60 dBm		martin	-60 dBm			
-70 dBm			-70 dBm			
-80 dBm			-80 dBm			
CF 2.412 GHz	691 pts	Span 30.0 MHz	CF 2.412 GHz	69	91 pts	Span 30.0 MHz



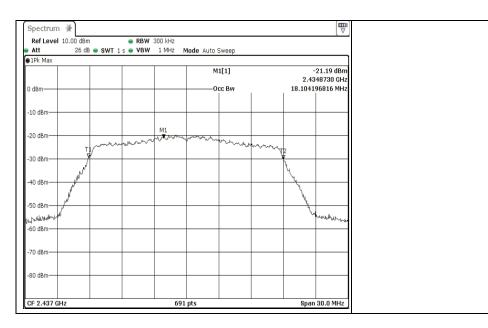


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1Pk Max	- 3WI 15 - F	BW 1 MHz r	HOUE AUTO SWE	esh													
			M1[	[1]			-8.36 dBm										
dD as			Occ	- D			29990 GHz 12156 MHz										
dBm				CBW		18.1470	12150 MHZ										
) dBm			M1														
	mannon	www.w	1	"hhow	wing	,											
0 dBm 71	/				¥.	Ţ											
مى سىر						Y.											
0 dBm						1											
de la companya de la comp																	
0 dBm						1											
water broker bereford						М	handrahan										
0 dBm							Well										
0 dBm																	
0 dBm																	
0 dBm																	
2.412 GHz		69	1 pts			Span	30.0 MHz										
07MU - 000	11h 1Mh	ns							U- 000	11a 6	Mbps						
37 MHZ 802								2437M	nz ouz								
		55					(	2437M	<u> </u>	ing o							
pectrum								Spectrum	ı ₩			200 kH2					
pectrum Ref Level 10.00 dBm	•	<b>RBW</b> 300 kHz	Mode Auto Si	weep				Spectrum	n ¥ I 10.00 dBm	1	• RBW 3		Mode Aut	o Sweep			
pectrum Ref Level 10.00 dBm Att 26 dB		<b>RBW</b> 300 kHz						Spectrum Ref Level	n ¥ I 10.00 dBm		• RBW 3						
B37MHz         802           pectrum	•	<b>RBW</b> 300 kHz		weep			-34.41 dBm	Spectrun Ref Level Att	n ¥ I 10.00 dBm	1	• RBW 3			o Sweep M1[1]			
pectrum Ref Level 10.00 dBm Att 26 dB Pk Max	•	<b>RBW</b> 300 kHz	M1	[1]		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att	n ¥ I 10.00 dBm	1	• RBW 3			M1[1]		2.4	378680
pectrum Ref Level 10.00 dBm Att 26 dB Pk Max	•	<b>RBW</b> 300 kHz	M1			2.4	-34.41 dBm	Spectrun Ref Level Att	n ¥ I 10.00 dBm	1	• RBW 3						378680
Ref Level 10.00 dBm Att 26 dB Pk Max	•	<b>RBW</b> 300 kHz	M1	[1]		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att	n ¥ I 10.00 dBm	1	• RBW 3			M1[1]		2.4	378680
Ref Level 10.00 dBm Att 26 dB Pk Max	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	l[1] cc Bw		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att IPk Max	n ¥ I 10.00 dBm	1	• RBW 3			M1[1]		2.4	378680
bectrum tef Level 10.00 dBm Att 26 dB Pk Max dBm 0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	l[1] cc Bw		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att IPk Max	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3			M1[1]		2.4	378680
bectrum tef Level 10.00 dBm Att 26 dB Pk Max dBm 0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	l[1] cc Bw		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att 1Pk Max 0 dBm	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Sectrum           Ref Level 10.00 dBm           Mt         26 dB           Pk Max           dBm           0 dBm           0 dBm	• SWT 1s •	<b>RBW</b> 300 kHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att 1Pk Max 0 dBm	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Dectrum           Ref Level 10.00 dBm           Att 26 dB           Pk Max           dBm           0 dBm           D dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	l[1] cc Bw		2.4	-34.41 dBm 422100 GHz	Spectrun Ref Leve Att IPk Max 0 dBm	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
pectrum RefLevel 10.00 dBm Att 26 dB	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz	Spectrun Ref Leve Att IPk Max 0 dBm	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Pectrum  Ref Level 10.00 dBm  Att 26 dB  PK Max  dBm  0 dBm  0 dBm  0 dBm  0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz	Spectrum Ref Leve Att 1Pk Max 0 dBm	n ¥ I 10.00 dBm	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Dectrum	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw	A.	2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Pectrum           Ref Level 10.00 dBm           Att 26 dB           Pk Max           dBm           0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Pectrum  Ref Level 10.00 dBm  Att 26 dB  PK Max  dBm  0 dBm  0 dBm  0 dBm  0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw	A Contraction of the second se	2.4	-34.41 dBm 422100 GHz	Spectrum Ref Level Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Ref Level     10.00 dBm       Att     26 dB       Pk     Max       dBm     0 dBm       D     dBm       D     dBm       D     dBm       D     dBm       D     dBm       D     dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve • Att • 1Pk Max • 10 dBm - 10 dBm - 20 dBm - 30 dBm - 40 dBm - 50 dBm - 50 dBm - 60 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	-18.22 378680 992634
Ref Level         10.00 dBm           Att         26 dB           Pk         Max           dBm         0           0         dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	-18.22
Dectrum           Ref Level 10.00 dBm           Att 26 dB           Pk Max           dBm           0 dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680
Jectrum	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve • Att • 1Pk Max • 10 dBm - 10 dBm - 20 dBm - 30 dBm - 40 dBm - 50 dBm - 50 dBm - 60 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]	12 12	2.4	378680
Sectrum           Ref Level 10.00 dBm           Max           JBm           J dBm	• SWT 1s •	RBW 300 kHz VBW 1 MHz	M1	1[1] ac Bw		2.4	-34.41 dBm 422100 GHz 927641 MHz	Spectrum Ref Leve Att 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70 dBm	26 dt	3 • SWT 1	• RBW 3	1 MHz M		M1[1]		2.4	378680







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	dB 😑 SWT 1	s 😑 VBW	1 MHz N	lode Auto S	weep				Att	26 d	8 😑 SWT 1	s 😑 VBW	1 MHz N	<b>lode</b> Auto	Sweep			
●1Pk Max									●1Pk Max									
				M	[1]			-19.21 dBm						N	11[1]			-18.12 d 528680 (
0 dBm				0	c Bw			515220 GHz 581621 MHz	0 dBm						cc Bw		2.40	
Jubin				0			10.4190		U UBIII								10.0000	
10 dBm									-10 dBm									<u> </u>
			M1											M1				
20 dBm			ww	j~~~					-20 dBm		000.10	hann	mm	mon	m.			<u> </u>
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-30 dBm					- MIS				-30 dBm		<u>۶</u>					<u>     ₹</u>		<u> </u>
		<b>√</b>			Y						ł							
-40 dBm	1	V							-40 dBm									<u> </u>
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-60 dBm	w					Wight	hounder	unalmound										merro
-60 dBm									-60 dBm									
-70 dBm									-70 dBm—		<u> </u>				<u> </u>			<u> </u>
-80 dBm									-80 dBm		-				-			
CF 2.462 GHz			691	pts			Spar	1 30.0 MHz	CF 2.462 (	GHz			691	pts			Spar	30.0 M
462MHz 80	0.44 m/11	T20) M		P-2			-741			-								





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Att 🗧	26 dB	SWT 1	s 😑 VBW	1 MHz M	<b>lode</b> Auto	Sweep			
∎1Pk Max									
					м	1[1]			18.67 dBm 30420 GHz
0 dBm					o	CC BW			12156 MHz
-10 dBm									
					M1				
-20 dBm		m	vw	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	faire	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
-30 dBm	L L	/					Ŷ	2	
								hay .	
-40 dBm								7	
-50 dBm								<u> </u>	
application	[							×,	lillingersauger
-60 dBm									
-70 dBm									
-80 dBm									
CF 2.462 G	Hz		-	691	pts			Span	30.0 MHz



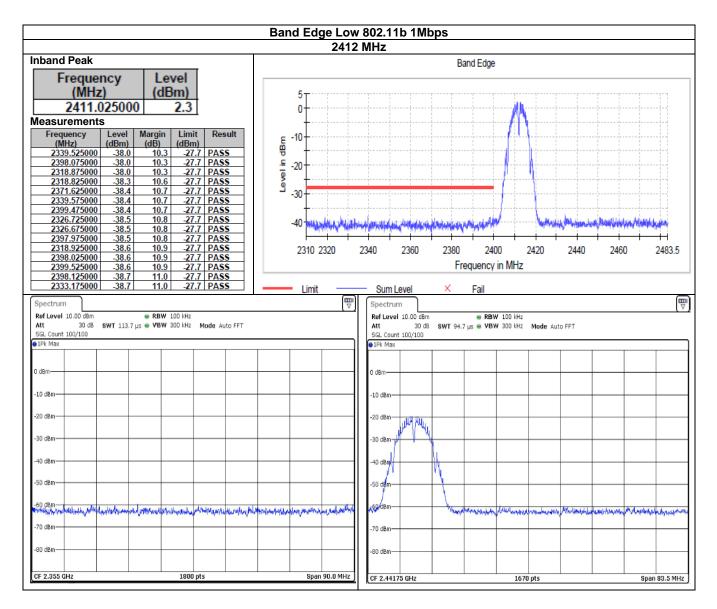


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# Conducted Band Edge

Test according to FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.7

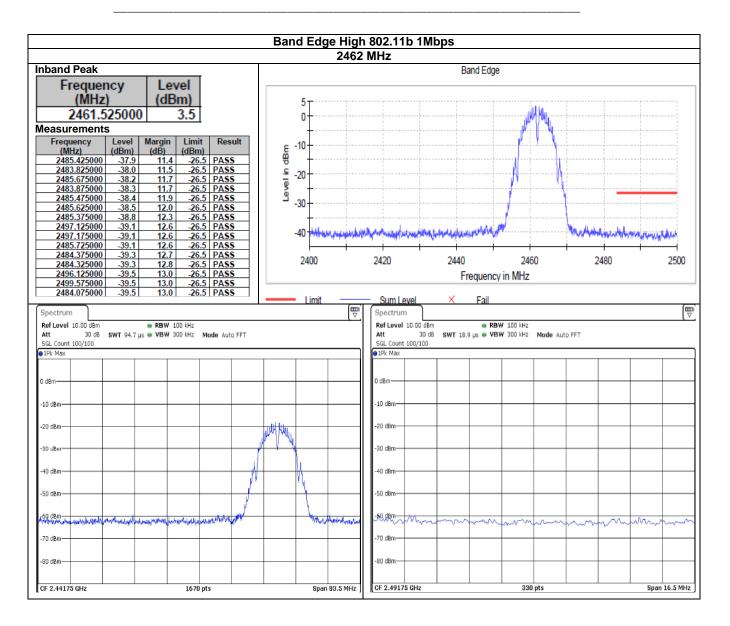
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB





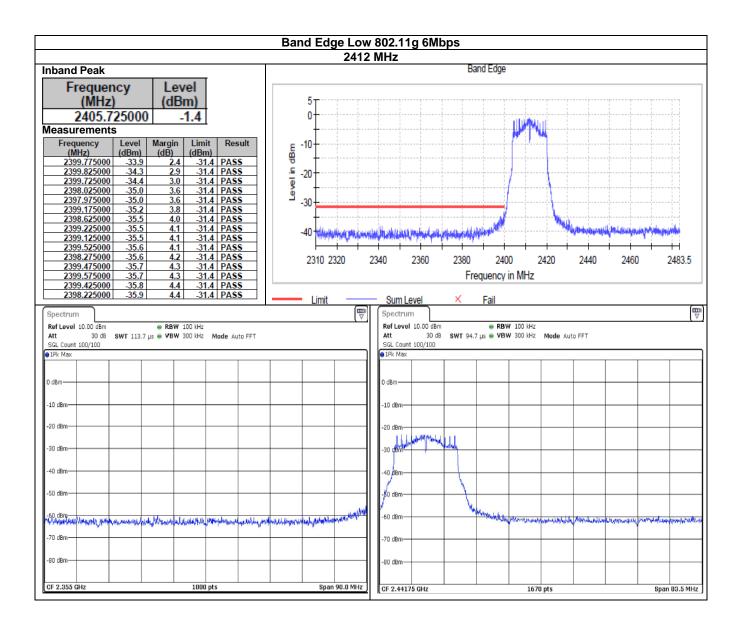


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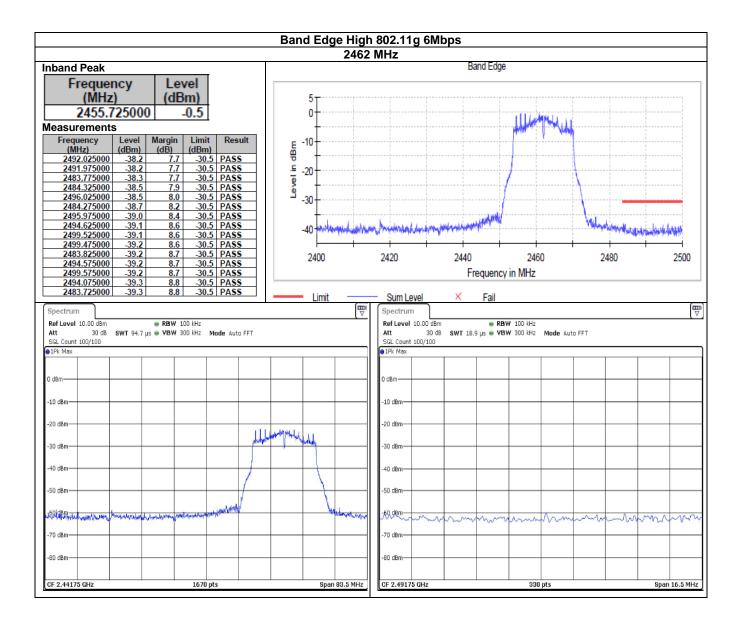








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					02.11n 2 MHz	. /								
nband Peak				<b>A</b> -T I	2 101112		Ba	nd Edge						
Frequency	Level													
(MHz)	(dBm)		01				· · · · · · · · · · · · · · · · · · ·							- 11
2405.725000	-3.3								Haliyinda					11
Aleasurements	-5.5		-10-						1					
	Margin Limit (dB) (dBm)	Result												
2398.925000 -35.8	2.5 -33.3		-20 - 90 - 190 - 20 -							1				
2398.875000 -35.9 2399.775000 -36.2		PASS PASS												
2399.725000 -36.5	3.2 -33.3	PASS	∦ -30-				+							-1-1
2398.225000 -36.5 2399.225000 -36.5		PASS PASS	2							- 4		- <del> </del> <del> </del>		
2399.175000 -36.6		PASS	-40-	HELMALANIA	Astronuba	al Milicoutette	abaild is hoor	Laning			en and the second	Hander	et little	and the
2399.625000 -36.6		PASS		and the second second	an a	ad an and an	44.444					.ļļ.		
2399.575000 -36.7 2398.975000 -36.8		PASS			_					_				
2399.875000 -37.1		PASS	22	10 2320	2340	2360	2380	2400		2420	2440	2460		2483.5
2398.625000 -37.1		PASS	23	10 2320	2340	2300			-	420	2440	2400		2403.3
2399.125000 -37.2 2397.875000 -37.2		PASS PASS					Fre	equency in	IVIHZ					
2396.125000 -37.2		PASS		imit —	Cum	Level	×	Fail						
Spectrum			L	linin.			~	T dil						( P
Ref Level 10.00 dBm	RBW 100 kHz			V										
Ker Lever 10.00 ubin	- ROW 100 KH2													
	5 🖷 VBW 300 kHz	Mode Auto FFT			Att	el 10.00 dBm 30 dB		■ RBW 3 µs ● VBW 3		Mode Aut	O FFT			
SGL Count 100/100	5 🖷 VBW 300 kHz 🕴	Mode Auto FFT			Att SGL Co	30 dē unt 100/100				Mode Aut	O FFT			
	5 <b>• VBW</b> 300 kHz M	Mode Auto FFT	1		Att	30 dē unt 100/100				Mode Aut	O FFT			
SGL Count 100/100 91Pk Max	5 • <b>VBW</b> 300 kHz M	Mode Auto FFT			Att SGL Cor 9 1Pk Ma	30 dē unt 100/100				Mode Aut	O FFT			
SGL Count 100/100	5 • <b>VBW</b> 300 kHz M	Mode Auto FFT			Att SGL Co	30 dē unt 100/100				Mode Aut	O FFT			
SGL Count 100/100	5 • <b>VBW</b> 300 kHz M	Mode Auto FFT			Att SGL Cor P 1Pk Ma 0 dBm-	30 dē unt 100/100				Mode Aut	O FFT			
SGL Count 100/100	5 • VBW 300 kHz M	Mode Auto FFT			Att SGL Cor 9 1Pk Ma	30 dē unt 100/100				Mode Aut	O FFT			
SGL Count 100/100	s 🖝 VBW 300 kHz 🛉	Mode Auto FFT			Att SGL Cor P 1Pk Ma 0 dBm-	30 dE unt 100/100 ×				Mode Aut	CO FFT			
SGL Count 100/100	s 🖝 VBW 300 kHz 🛉	Mode Auto FFT			Att SGL Con P 1Pk Ma O dBm -10 dBm	30 dE	3 SWT 94.7			Mode Aut	CO FFT			
SGL Count 100/100    IPk Max   0 dBm  -10 dBm	s 🖝 VBW 300 kHz 🛉	Mode Auto FFT			Att SGL Con P 1Pk Ma O dBm -10 dBm	30 dE unt 100/100 ×	3 SWT 94.7			Mode Aut				
SGL Count 100/100	5 • VBW 300 kHz •	Mode Auto FFT			Att SGL Cor 1Pk Ma 0 dBm- -10 dBm -20 dBm -30 gBm	30 de unt 100/100 ×	3 SWT 94.7			Mode Aut	ID FFT			
SGL Count 100/100 91Pk Max 0 dBm -10 dBm -20 dBm -20 dBm	5 • VBW 300 kHz •	Mode Auto FFT			Att SGL Col 9 1Pk Ma 0 dBm- - 10 dBm 20 dBm	30 de unt 100/100 ×	3 SWT 94.7			Mode Aut				
SGL Count 100/100	5 • VBW 300 kHz •	Mode Auto FFT			Att SGL Co • 1Pk Ma • 0 dBm— - 10 dBm - 20 dBm - 30 dBm - 40 dBm	30 de unt 100/100 ×	3 SWT 94.7			Mode Aut				
SGL Count 100/100	5 • VBW 300 kHz •	Mode Auto FFT			Att SGL Cor 1Pk Ma 0 dBm- -10 dBm -20 dBm -30 gBm	30 de unt 100/100 ×	S SWT 94.7	μs • VBW 3	300 kHz					
SGL Count 100/100  91Pk Max  0 dBm10 dBm20 dBm30 dBm30 dBm50					Att SGL Co • 1Pk Ma • 0 dBm— - 10 dBm - 20 dBm - 30 dBm - 40 dBm	30 de unt 100/100 ×	S SWT 94.7	μs • VBW 3	300 kHz					
SGL Count 100/100					Att SGL Co 9 IPk Ma 0 dBm- - 10 dBm - 20 dBm - 30 dBm - 40 dBm	30 de unt 100/100 ×	S SWT 94.7		300 kHz			والمراجع المراجع		
SGL Count 100/100  IPK Max  0 dBm  10 dBm  20 dBm  40 dBm  50 dBm  50 dBm					Att SGL Co 9 IPk Ma 0 dBm- - 10 dBm - 20 dBm - 30 dBm - 40 dBm	30 de unt 100/100 ×	S SWT 94.7	μs • VBW 3	300 kHz				بالمرار معرف في إلى	
SGL Count 100/100  IPK Max  0 dBm  10 dBm  20 dBm  30 dBm  40 dBm  50 dBm  50 dBm  70 dBm				ush, a topologi i yaki	Att SGL Co 9 IPk Ma - 10 dBm - 20 dBm 20 dBm - 40 dBm - 40 dBm - 40 dBm - 70 dBm	30 de unt 100/100 ×	S SWT 94.7	μs • VBW 3	300 kHz					
SGL Count 100/100  IPK Max  0 dBm  10 dBm  20 dBm  30 dBm  40 dBm  50					Att SGL Co 9 IPk Ma 0 dBm— -10 dBm -20 dBm -30 gBm -40 dBm -60 dBm	30 de unt 100/100 ×	S SWT 94.7	μs • VBW 3	300 kHz					





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				02.11n (HT2 2 MHz					
nband Peak					Band Edg	je			
Frequency	Level								
(MHz)	(dBm)		5π						
2455.725000	-1.8		0						
leasurements			-			1 Luid Marine	H		
		lesult1	10-			Manual 1	4494		
(MHz) (dBm) 2484.775000 -38.2	(dB) (dBm) 6.4 -31.8 P/								
2495.925000 -38.7	6.9 -31.8 P/	<u>\SS</u> .≘ .2							
2484.825000 -38.9	7.1 -31.8 P/	ASS 2	20			/			
2490.325000 -38.9 2486.125000 -39.0	7.1 -31.8 P/ 7.2 -31.8 P/	SS Ó							
2490.275000 -39.0	7.2 -31.8 P/	SS -3	su <del>-</del>			1			
2495.975000 -39.0 2486.175000 -39.2	7.2 -31.8 P/ 7.4 -31.8 P/	22			and the sub-minimum	1	ala. i		
2483.975000 -39.2	7.4 -31.8 P/		10 - Anno Anna Anna Anna	wangenphicadentectantral	var nadmittle Heline			water hand a state of the second	1 mar
2484.725000 -39.4	7.6 -31.8 P/								
2484.025000 -39.4 2485.425000 -39.5	7.6 -31.8 P/		2400	2420	2440	2460	248	30	2500
2489.775000 -39.5	7.7 -31.8 P/	SS			Frequence	cy in MHz			
2483.925000 -39.6 2483.675000 -39.6	7.8 -31.8 P/								
Z403.0/3000 -39.0									
	1.0 -51.0 17	155	Limit	Sum Level	× Fail				
Spectrum	1.0		Limit 💮		× Fail				
Ref Level 10.00 dBm (	• RBW 100 kHz			Spectrum Ref Level 10.00	dBm e R	BW 100 kHz			[
Ref Level 10.00 dBm (				Spectrum Ref Level 10.00	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[
Ref Level 10.00 dBm Att 30 dB SWT 94.7 μs €	• RBW 100 kHz			Ref Level 10.00 Att 30	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[
Ref Level 10.00 dBm Att 30 dB SWT 94.7 μs θ SGL Count 100/100	• RBW 100 kHz			Spectrum Ref Level 10.00 Att 30 SGL Count 100/10	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		(
Ref Level 10.00 dBm Att 30 dB SWT 94.7 μs θ SGL Count 100/100	• RBW 100 kHz			Spectrum Ref Level 10.00 Att 30 SGL Count 100/10	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[
Ref Level 10.00 dbm            Att         30 db         SWT 94.7 μs           SGL Count 100/100             D1Pk Max             0 dbm	• RBW 100 kHz			Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           • IPK Max           0 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[1
RefLevel 10.00 dBm ( Att 30 dB SWT 94.7 µs ( SGL Count 100/100 1Pk Max	• RBW 100 kHz			Spectrum Ref Level 10.00 Att 30 SGL Count 100/10 @ IPk Max	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[t
Ref Level 10.00 dbm         (4)           Att         30 db         SWT 94.7 μs           SGL Count 100/100         (4)         (4)           1Pk Max         (4)         (4)           0 dBm         (4)         (4)           -10 dBm         (4)         (4)	• RBW 100 kHz			Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           Ø JPk Max           0 dBm           -10 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		[
Ref Level 10.00 dbm            Att         30 db         SWT 94.7 μs           SGL Count 100/100             D1Pk Max             0 dbm	• RBW 100 kHz	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           • IPK Max           0 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dbm         (4)           Att         30 db         SWT 94.7 μs           SGL Count 100/100         (4)         (4)           1Pk Max         (4)         (4)           0 dBm         (4)         (4)           -10 dBm         (4)         (4)	• RBW 100 kHz			Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           Ø JPk Max           0 dBm           -10 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dbm         (4)           Att         30 dB         SWT 94.7 μs           SGL Count 100/100         (4)         (4)           0 dBm         (4)         (4)           -10 dBm         (4)         (4)           -20 dBm         (4)         (4)	• RBW 100 kHz	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ●1Pk Max           0 dBm           -10 dBm           -20 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dbm         (4)           Att         30 dB         SWT 94.7 μs           SGL Count 100/100         (4)         (4)           0 dBm         (4)         (4)           -10 dBm         (4)         (4)           -20 dBm         (4)         (4)	• RBW 100 kHz	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ●1Pk Max           0 dBm           -10 dBm           -20 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dBm         (4)           Att         30 dB         SWT 94.7 μs           SGL Count 100/100         100 km           11Pk Max         (2)           20 dBm         (2)           30 dBm         (2)           40 dBm         (2)	• RBW 100 kHz	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           Image: Provide the second secon	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dbm         •           Att 30 db         SWT 94.7 μs           SGL Count 100/100         •           PIPk Max         •           0 dbm         •           .10 dbm         •           .20 dbm         •           .30 dbm         •           .40 dbm         •	• RBW 100 kHz	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           IPK Max           0 dBm           -10 dBm           -20 dBm           -30 dBm	dBm e R 0 dB SWT 18.9 µs e V		Auto FFT		
Ref Level 10.00 dbm         •           Att         30 db         SWT 94.7 µs           SGL Count 100/100         •         •           JPFr Max         •         •           0 dbm         •         •         •           10 dbm         •         •         •           -20 dbm         •         •         •           -30 dbm         •         •         •           -50 dbm         •         •         •	RBW 100 kHz Mode	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ● IPK Max           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm	dBm <b>R R</b> 0 dB <b>SWT</b> 18.9 μs <b>V</b> 00	BW 300 kHz Mode			
Ref Level 10.00 dBm         (************************************	RBW 100 kHz Mode	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ● IPK Max           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm	dBm e R 0 dB SWT 18.9 µs e V	BW 300 kHz Mode			
Ref Level 10.00 dBm         ••••••••••••••••••••••••••••••••••••	RBW 100 kHz Mode	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ● IPK Max           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm	dBm <b>R R</b> 0 dB <b>SWT</b> 18.9 μs <b>V</b> 00	BW 300 kHz Mode			
Ref Level 10.00 dBm         •           Att         30 dB         SWT 94.7 µs           SGL Count 100/100         IPF Max           D dBm         -         -           10 dBm         -         -           20 dBm         -         -           30 dBm         -         -           50 dBm         -         -           50 dBm         -         -           70 dBm         -         -	RBW 100 kHz Mode	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ● 1Pk Max           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -50 dBm           -70 dBm	dBm <b>R R</b> 0 dB <b>SWT</b> 18.9 μs <b>V</b> 00	BW 300 kHz Mode			
Ref Level 10.00 dBm	RBW 100 kHz Mode	Auto FFT		Spectrum           Ref Level 10.00           Att 30           SGL Count 100/10           ● JPK Max           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -50 dBm	dBm <b>R R</b> 0 dB <b>SWT</b> 18.9 μs <b>V</b> 00	BW 300 kHz Mode		Munum	



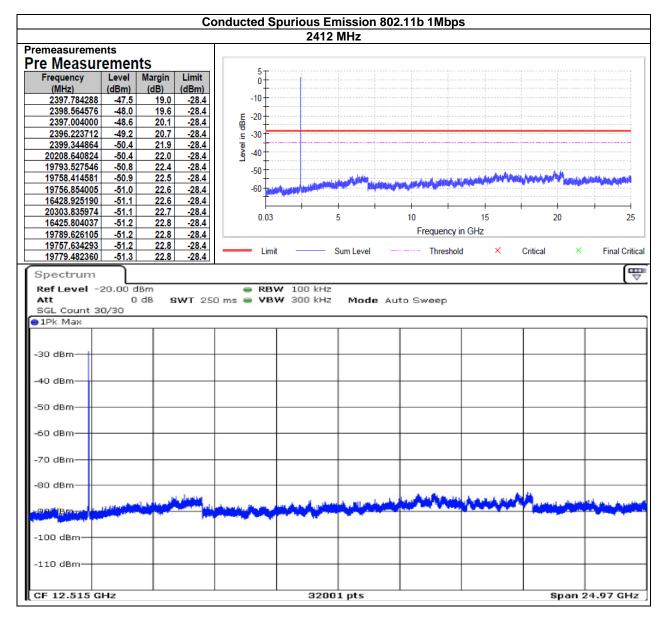


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# **Conducted Spurious Emissions**

Test according to FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.5

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.8 dB







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				ond			0407	, RALI-							
remeasureme	nte			1			2437	' MHz							
		Manain	Linalé												
Frequency	Level				5-										
(MHz)	(dBm) -51.0	(dB)	(dBm)		0-										
19765.437174		22.1	-28.9		-10										
19760.755445 16398.493953	-51.0 -51.1	22.2	-28.9 -28.9		-10										
16344.654073	-51.1	22.3	-28.9		표 -20 편 -30										
16408.637699	-51.1	22.3	-28.9								1				
20187.573045	-51.2	22.3	-28.9		.E -30										
20245.314365	-51.2	22.3	-28.9		a -40										
16372.744445	-51.2	22.3	-28.9		-50					j	j				
16455.454986	-51.2	22.4	-28.9		-50			. Anderson			d to be	and set of the	in advant	Manada	أنشرف وعيارا أواري
19941.002000	-51.2	22.4	-28.9		-60	أنوالبرا	and the second second		A MARKAGE	And and And					
20207.860536	-51.3	22.4	-28.9		1										
16407.857411	-51.3	22.5	-28.9	1	0.0	13		5		10		15		20	2
16422.682885	-51.3	22.5	-28.9		0.0					Freque	ocv in G			20	-
20289.790788	-51.3	22.5	-28.9							ricque		112			
20290.571076	-51.4	22.5	-28.9		— Li	mit		Sum Level		Thre	shold	×	Critical	×	Final Cri
Att SGL Count 30 1Pk Max	0	IBm dB S	WT 25	50 ms			100 kHz 300 kHz		e Auto	Sweep			1		
SGL Count 30 1Pk Max	0		WT 25	50 ms					Auto	Sweep					
SGL Count 30	0		WT 25	50 ms					Auto	Sweep					
SGL Count 30 1Pk Max	0		WT 25	io ms					Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm -40 dBm	0		SWT 25	60 ms					Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm	0		SWT 25	50 ms					Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm -40 dBm	0		SWT 25	50 ms					Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm	0		SWT 25						Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm -40 dBm -50 dBm	0		WT 25						Auto	Sweep					
SGL Count 30 1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm	0		WT 25						Auto	Sweep					
SGL Count 34  TPk Max  -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm -80 dBm	0		WT 25						Auto	Sweep					
SGL Count 34  TPk Max  -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm	0		WT 25	50 ms					Auto	Sweep					
SGL Count 34 ■ 1Pk Max -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -80 dBm -80 dBm	0		wT 25						Auto	Sweep					
SGL Count 34  TPk Max  -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm -80 dBm	0		wT 25						Auto	Sweep					
SGL Count 34  TPk Max  -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70 dBm -80 dBm -80 dBm -100 dBm -100 dBm	0		wT 25						Auto	Sweep					
SGL Count 34 ■ 1Pk Max -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -80 dBm -80 dBm	0		wT 25						Auto	Sweep					





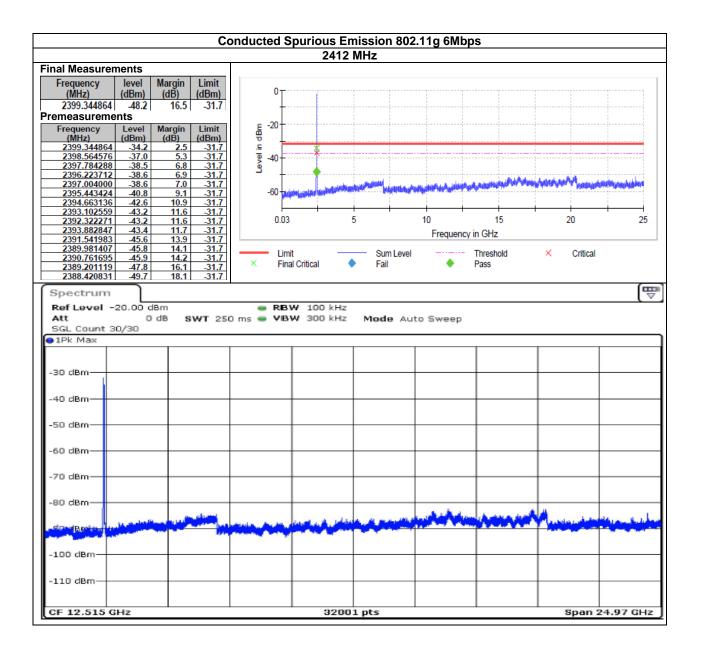
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							2462	MHz		11b 1Mbp					
emeasureme	nts														
Frequency	Level	Margin	Limit		-										
(MHz)	(dBm)	(dB)	(dBm)		0Ŧ			· · · · · · · · · · · · · · · · · · ·	1						
19781.042936	-50.4	21.7	-28.7		<b>"</b> +										
19788.065529	-50.7	21.9	-28.7		-10+										
19789.626105	-50.8	22.0	-28.7		-20			÷	İ				i		
16398.493953	-51.0	22.3	-28.7	Level in dBm	-20+										
16503.832849	-51.1	22.4	-28.7		-30			T	1				[		
19795.088122	-51.2	22.5	-28.7	ve l	-40			1							
19770.118903	-51.2	22.5	-28.7	Le	-40			+	÷		· · · · · · · · · · · · · · · · · · ·				
19764.656886	-51.2	22.5	-28.7		-50+		-					deall does	No. and Acc	4.0	
16381.327615	-51.3	22.5	-28.7		-60	inii addi	A DESCRIPTION OF	ACT OF THE OWNER	LOUIS DE LINE	West of the Party	and the second second	in na serie	Association	R.Dohn	an the state of th
16393.031937	-51.3	22.5	-28.7		-00	htm Although									
19765.437174	-51.3	22.6	-28.7		F		+	I		+ +			I	+	-
16411.758851	-51.3	22.6	-28.7		0.0	3		5		10	15			20	2
16361.040124	-51.3	22.6	-28.7							Frequency	in GHz				
19778.702072	-51.3	22.6	-28.7												
16389.910784	-51.3	22.6	-28.7		- Lin	nit –	(	Sum Level		Thresh	bld	×	Critical	×	Final Cr
Ref Level -2 Att SGL Count 30 1Pk Max	0		WT 25				00 kHz 00 kHz	Mode	e Auto	o Sweep					
Att SGL Count 30 1Pk Max	0		WT 250					Mod	e Auto	o Sweep					
Att SGL Count 30	0		WT 250					Mode	e Auto	o Sweep					
Att SGL Count 30 1Pk Max	0		WT 250					Mode	e Auto	o Sweep					
Att SGL Count 30 1Pk Max -30 dBm	0		WT 250					Mod	e Auto	o Sweep					
Att SGL Count 30 1Pk Max -30 dBm -40 dBm	0		WT 250					Mod	e Autr	o Sweep					
Att SGL Count 30 1Pk Max -30 dBm -40 dBm	0		<b>WT</b> 250					Mode	e Autr	o Sweep					
Att SGL Count 30 PIPK Max -30 dBm -40 dBm -50 dBm	0		<b>WT</b> 250					Mod	e Auto	o Sweep					
Att <u>SGL Count 30</u> <u>JPk Max</u> -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	0		<b>WT</b> 250					Mod	e Auto	2 Sweep					
Att <u>SGL Count 30</u> <u>PIPk Max</u> -30 dBm -40 dBm -50 dBm -60 dBm	0		wT 250					Mod	e Auto	o Sweep					
Att <u>SGL Count 30</u> <u>1Pk Max</u> -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -80 dBm	0		WT 250					Mode	e Auto	o Sweep					
Att SGL Count 30 PIPk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	0		wT 25					Mode	e Auto	Sweep					
Att <u>SGL Count 30</u> <u>1Pk Max</u> -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -80 dBm	0		wT 250					Mod	e Auto	Sweep					
Att <u>SGL Count 30</u> 1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm -80 dBm -100 dBm	0		wT 250					Mode	e Auto	Sweep		····			
Att SGL Count 30 PR Max -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -80 dBm -80 dBm	0		wT 25					Mode	e Auto	Sweep		· · · · ·			





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						2	437 N	/IHz								
remeasureme	nts															
Frequency	Level	Margin	Limit		0 T											
(MHz)	(dBm)	(dB)	(dBm)													
16432.826630	-49.8	17.8	-32.0		+-					1						
20208.640824	-49.9	17.9	-32.0		-20+-											
16356.358395	-50.3	18.3	-32.0	Level in dBm	20											
19774.020343	-50.6	18.7	-32.0	P	-		i	i				i			i	
19790.406394	-50.6	18.7	-32.0		-40											
16359.479548	-50.0	19.1	-32.0	e e	-40			1								
16405.516546	-51.0	19.1	-32.0		+											
16439.068935	-51.1	19.2	-32.0			. L		ANGULAR AND	والمطالب وساويات	Sec. a state	الأذارية	in the second	and a ball of the	and Restored	a distant and the second second	HAN
2485.956845	-51.2	19.2	-32.0		-60	in standing the	<b>Weltonia and Bar</b>		harmentfishing	New April and	a, as dealed					
16397.713665	-51.3	19.3	-32.0			÷.										_
2485.176557	-51.3	19.3	-32.0		0.03	'	5		· .	10		15	1	20		25
16413.319428	-51.3	19.4	-32.0		0.05		5	,						20		20
	-51.3	19.4								Frequen	cy in GF	IZ				
20271.844161 20233.610043			-32.0		Lins					Three	hald	×	Oritical	×	Final	Orition
16441.409800	-51.3 -51.3	<u>19.4</u> 19.4	-32.0 -32.0		Lim	ι —	- 5	um Level		Thres	nola	<u>^</u>	Critical	^	Final	Critica
Ref Level -2 Att SGL Count 30 1Pk Max	0		<b>VT</b> 250	ms 🖷		V 100 V 300		Mode	Auto	Sweep						
Att	0		<b>VT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 3	0		<b>WT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 3 1Pk Max	0		<b>vT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 30 1Pk Max -30 dBm	0		<b>VT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 30 1Pk Max -30 dBm -40 dBm	0		WT 250	-				Mode	Auto	Sweep						
Att SGL Count 30 PIPk Max -30 dBm -40 dBm -50 dBm	0		<b>WT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 30 PIPk Max -30 dBm -40 dBm -50 dBm -60 dBm	0		<b>VT</b> 250	-				Mode	Auto	Sweep						
Att SGL Count 30 PIPk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	0		WT 250	-				Mode	Auto	Sweep						
Att SGL Count 30 PIPk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	0		VT 250	-				Mode	Auto	Sweep						
Att <u>SGL Count 30</u> 1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	0		VT 250	-				Mode	Auto	Sweep						



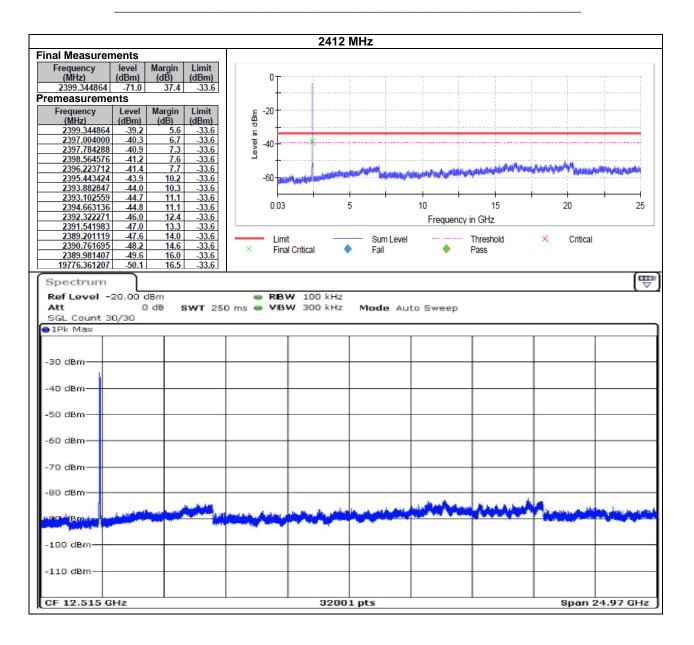


							2462	MHZ								
remeasuremer	nts						2402									
Frequency	Level	Margin	Limit		0т		·									
(MHz)	(dBm)	(dB)	(dBm)													
19765.437174	-50.0	19.1	-30.9		Ť											
19766.217462		19.4	-30.9		-20+											
19740.467954	-50.5	19.6	-30.9	- h												
20195.375926	-50.7	19.8	-30.9	⊒.	1											
19764.656886	-50.8	19.8	-30.9	Level in dBm	-40 -											
2485.956845	-50.9	19.9	-30.9	L D												
19795.088122	-50.9	19.9	-30.9		T					al a ship	فحميتهم ورارية	abut the Area	and the state of t	Allement	in the life in a last	anita .
19780.262648 16413.319428	-51.0 -51.0	<u>20.0</u> 20.1	-30.9 -30.9	-	-60 🕂	A Results	And the second second	Division and Des	philippinghuch	Apple State Press	distantian a			a fan ar fan		
20139.975470	-51.0	20.1	-30.9					_								
19766.997750	-51.1	20.2	-30.9		0.03	2	1	5		10		15	1	20	1	25
19763.096309	-51.2	20.2	-30.9		0.0.	,		5		Frequen				20		25
16368.062717	-51.2	20.3	-30.9							Frequen	ay in Gri	2				
20235.170620	-51.3	20.3	-30.9		Lin	nit —		Sum Level		Thres	hold	×	Critical	×	Fina	I Critica
19829.420799	-51.3	20.4	-30.9													
Ref Level -2 Att SGL Count 30	0		<b>WT</b> 250	) ms 🗧			0 kHz 0 kHz	Mode	e Auto	Sweep						
Att	0		<b>WT</b> 250					Mode	e Auto	Sweep						
Att SGL Count 30	0		WT 250					Mode	Auto	Sweep						
Att SGL Count 30 1Pk Max	0		WT 250					Mode	Auto	Sweep						
Att SGL Count 30 1Pk Max -30 dBm	0		WT 250					Mode	, Auto	Sweep						
Att SGL Count 30 1Pk Max -30 dBm -40 dBm	0		wT 250					Mode	Auto	Sweep						
Att SGL Count 30 Pk Max -30 dBm -40 dBm -50 dBm	0		WT 250					Mode	Auto	Sweep						
Att <u>SGL Count 31</u> -10k Max -30 dBm -40 dBm -50 dBm -60 dBm	0		wT 250					Mode	Auto	Sweep						
Att <u>SGL Count 31</u> -1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	0		wT 250					Mode	Auto	Sweep						
Att SGL Count 31 Pk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	0		wT 250					Mode	Auto	Sweep						
Att SGL Count 31 1Pk Max -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	0		wT 250					Mode	Auto	Sweep						

#### Conducted Spurious Emission 802.11n (HT20) MCS0

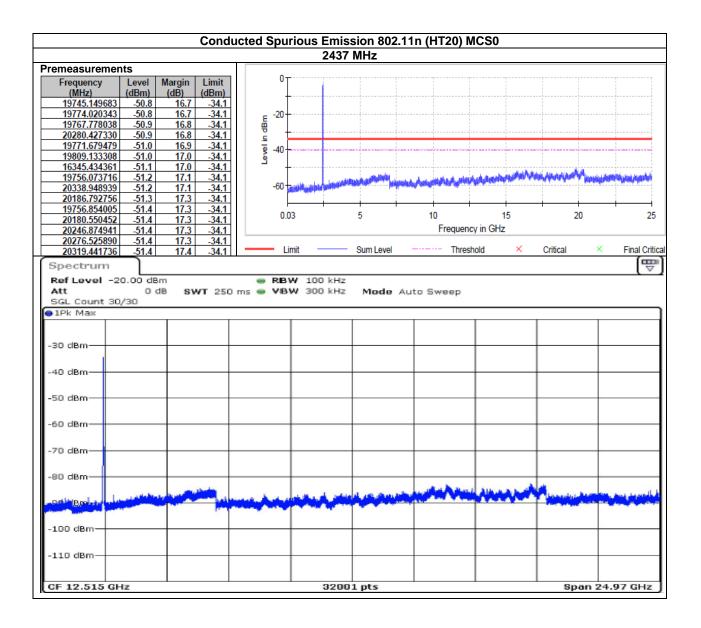
















							2462			(HT20)	-					
emeasureme	nts															
Frequency	Level	Margin	Limit		0				;		,					
(MHz)	(dBm)	(dB)	(dBm)													
16427.364614	-50.5	18.3	-32.2		1						     					
19761.535733	-50.7	18.5	-32.2		-20-											{
19765.437174	-50.7	18.5	-32.2	B							1					
16402.395394	-50.8	18.6	-32.2	р с	-											
16421.902597	-50.9	18.7	-32.2	0	-40-											
16405.516546	-50.9	18.7	-32.2	Level in dBm												
19731.884785	-50.9	18.8	-32.2		-				!		, ,	1 141				
16384.448767	-51.0	18.9	-32.2		-60			No REAL PROPERTY AND	distant. And	الشيارية الله	الالبادان أذياك	dirtin security	m Add Add	A STATEMENT	in the standard in the second s	84
<u>16375.865598</u> 16410.978563	-51.2 -51.2	19.0 19.0	-32.2 -32.2		-00	With the full light the	Hinney									
20292.911940	-51.2	19.1	-32.2				i		i	-			-i	-i	-	-i
19750.611700	-51.2	19.1	-32.2		0.0	)3		5		10		15		20		2
19797.428987	-51.3	19.1	-32.2							Frequer	cy in GH	7				
16837.015875	-51.3	19.2	-32.2									-				-
19731.104497	-51.3	19.2	-32.2		- Li	mit –		Sum Level		Three	shold	×	Critical	×	Final	Cri
Spectrum																
SGL Count 30 1Pk Max	_	HB SV	VI 250	ms 😑	ΨiE	W 30	J KHZ	Mode	Auto	Sweep						
1Pk Max	_		vi 250	ms 🕊	VIL.	W 30	J KHZ	Mode	Auto	Sweep						
-30 dBm	_		1 250	ms –	V.		J KHZ	Mode	Auto	Sweep						
1Pk Max	_		41 250	- ms -			J KHZ	Mode	Auto	Sweep						
-30 dBm	_			- ms -			J KHZ	Mode	Auto	Sweep						
-30 dBm	_						D KHZ	Mode	Auto	Sweep						
-30 dBm -40 dBm -50 dBm	_						J KHZ	Mode	Auto	Sweep						
-30 dBm -40 dBm -50 dBm -60 dBm	_						D KHZ	Mode	Auto	Sweep						
-30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	_							Mode	Auto	Sweep						
-30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	_							Mode	Auto	Sweep						
-30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm	_							Mode	Auto	Sweep		•••••				





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