Test Report

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

Report No	ES0766-1
Client	Harman International Industries, Incorporated
Address	30001 Cabot Drive Novi, MI 48377
Phone	1-248-254-7751
Items tested	GEN3 BASE+ BC7
FCC ID	2AHPN-BE2840
IC	6434C-BE2840
Equipment Type	Part 15 Spread Spectrum Transmitter
Equipment Code	DSS
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2
Test Dates	03-23-2018 to 03-26-2018
Results	As detailed within this report
Prepared by	Christopher Hamel – EMC Engineer
Authorized by	Yunus Faziloglu – Sr. EMC Engineer
Issue Date	4/3/2018
Conditions of Issue	This Test Report is issued subject to the conditions stated in the '*Conditions of Testing*' section on page 16 of this report.

Contents

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 “GEN3 BASE+ BC7”. It is a frequency hopping spread spectrum transmitter that operates in the 2402 – 2480 MHz frequency range.

Antenna Type: Internal PCB Trace
Maximum Gain: 2.0dBi

We found that the product met the above requirements without modification.

Test samples were received in good condition.

Issue No.	Reason for change	Date Issued
1	Original Release	April 3, 2018

Curtis-Straus LLC, a wholly owned subsidiary of BV CPS
One Distribution Center Circle, #1 ● Littleton, MA ● TEL (978) 486-8880 ● FAX (978) 486-8828

Test Methodology

All testing was performed according to the following rules/procedures/documents;
CFR 47 Part 15.247, RSS-247 Issue 2, RSS-Gen Issue 4 and ANSI C63.10-2013.

Radiated emissions measurements were performed in EUT's only installation orientation.

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

Following bandwidths were used during radiated spurious emissions testing.

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

Product Tested - Configuration Documentation

EUT Configuration			
Work Order:	S0766		
Company:	Harman International Industries, Incorporated		
Company Address:	30001 Cabot Drive		
	Novi, MI, 48377		
Contact:	Cathie Murphy		
	MN	**PN**	**SN**
EUT:	GEN3 BASE+ BC7		
EUT Description:	Car Head Unit		
EUT Max Frequency:	2483.5 MHz		
EUT Min Frequency:	2483.5 MHz		

EUT Components	**MN**	**SN**
Subaru Head Unit	GEN3 BASE+ BC7	

Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under test	comment
DC Power	Power DC	2	2	other	No	No	1	in	yes	
Audio	other	1	1	other	No	No	1	in	yes	
Xm radio	other	1	1	Coaxial	Yes	No	0.5	in	yes	
Back up cammera	other	1	1	other	No	No	0.2	in	yes	
USB diag/setup	other	3	1	other	No	No	0.25	in	yes	

Software Operating Mode Description:

EUT will either be connected to CMW270 in client supplied test mode (loop back) or connected to a bluetooth tablet transmitting an audio signal (for unintentional emissions).

Performance Criteria:

Connection to CMW or tablet for Bluetooth connections. No Immunity.

Statement of Conformity

RSS-GEN	RSP-100	RSS 247	Part 15	Comments
6.3			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.
	4		15.21	Information to the user is shown in the instruction manual exhibit.
			15.27	No special accessories are required for compliance.
3, 6.1			15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13			15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
8.1			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.
8.3			15.203	EUT has a PCB trace antenna with 2dBi maximum 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. Powered from a vehicle battery only.

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)]

MEASUREMENTS / RESULTS

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt15_209 (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)	Lim2: FCC_pt15_209 (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)
30.485	26.6	-1.8	24.8	40	-15.2	PASS		40	-15.2	PASS	
148.631	30.2	-9.9	20.3	43.5	-23.2	PASS		43.5	-23.2	PASS	
184.109	31.3	-11.3	19.9	43.5	-23.6	PASS		43.5	-23.6	PASS	
245.025	32.5	-10.3	22.2	46	-23.8	PASS		46	-23.8	PASS	
566.992	29.7	-2.7	27	46	-19	PASS		46	-19	PASS	
924.777	28.3	2.7	31	46	-15	PASS	-15	46	-15	PASS	-15

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt15_209 (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)	Lim2: FCC_pt15_209 (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)
30.17	26.3	-1.5	24.8	40	-15.2	PASS	-15.2	40	-15.2	PASS	-15.2
39.361	31.1	-8.5	22.5	40	-17.5	PASS		40	-17.5	PASS	
465.579	30.4	-4.4	25.9	46	-20.1	PASS		46	-20.1	PASS	
566.968	31.3	-2.7	28.6	46	-17.4	PASS		46	-17.4	PASS	
788.298	29.2	0.4	29.6	46	-16.4	PASS		46	-16.4	PASS	
930.96	27.4	2.8	30.2	46	-15.8	PASS		46	-15.8	PASS	

30-1000MHz CH39 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Horizontal Data
Operator: CCH
Notes:
Low channel (0) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)
3021	33.9	25.3	12.1	46	74	-28	PASS		37.5	54	-16.5	PASS	
4804.2	41.2	30.2	12.2	53.4	74	-20.6	PASS	-20.6	42.4	54	-11.6	PASS	-11.6
5265.6	34.7	24.9	13.2	47.9	74	-26.1	PASS		38.1	54	-15.9	PASS	
5777.6	33.9	25.1	14.4	48.2	74	-25.8	PASS		39.5	54	-14.5	PASS	
5804.7	34.2	25	14.3	48.6	74	-25.4	PASS		39.3	54	-14.7	PASS	
5813.4	34.9	25	14.3	49.3	74	-24.7	PASS		39.3	54	-14.7	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Vertical Data
Operator: CCH
Notes:
Low channel (0) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
2883.8	33.5	24.7	12.7	46.2	74	-27.8	PASS		37.4	54	-16.6	PASS	
4803.6	33	34.8	12.2	45.2	74	-28.8	PASS		47	54	-7	PASS	-7
5262.1	35.2	24.9	13.2	48.4	74	-25.6	PASS		38.1	54	-15.9	PASS	
5781.9	33.1	25.4	14.4	47.5	74	-26.5	PASS		39.8	54	-14.2	PASS	
5803.6	34.7	25	14.3	49.1	74	-24.9	PASS	-24.9	39.3	54	-14.7	PASS	
5814.1	34.2	24.9	14.3	48.6	74	-25.4	PASS		39.3	54	-14.7	PASS	

1-6GHz CH0 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Horizontal Data
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)
1721	32.9	24.1	6.5	39.4	74	-34.6	PASS		30.6	54	-23.4	PASS	
2183.5	33.6	24.9	11.7	45.3	74	-28.7	PASS		36.6	54	-17.4	PASS	
4881.5	42.4	32.1	12.3	54.7	74	-19.3	PASS	-19.3	44.4	54	-9.6	PASS	-9.6
5264.8	33	24.8	13.2	46.2	74	-27.8	PASS		38	54	-16	PASS	
5802.7	34	25	14.3	48.3	74	-25.7	PASS		39.3	54	-14.7	PASS	
5813.8	34.2	24.9	14.3	48.5	74	-25.5	PASS		39.3	54	-14.7	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Vertical Data
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
1569.1	33.8	24.2	4.6	38.4	74	-35.6	PASS		28.8	54	-25.2	PASS	
1865.4	35.5	27.2	8.2	43.7	74	-30.3	PASS		35.4	54	-18.6	PASS	
2177.6	33.9	25	11.6	45.5	74	-28.5	PASS		36.6	54	-17.4	PASS	
4881.6	47.1	34.4	12.3	59.4	74	-14.6	PASS	-14.6	46.7	54	-7.3	PASS	-7.3
5266.3	33.8	25	13.2	47	74	-27	PASS		38.2	54	-15.8	PASS	
5738.8	34.7	25.3	14.3	49	74	-25	PASS		39.6	54	-14.4	PASS	

1-6GHz CH39 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Horizontal Data
Operator: CCH
Notes:
center channel (78) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)
2175.8	35	25	11.6	46.6	74	-27.4	PASS		36.6	54	-17.4	PASS	
3154.3	34.9	25.6	12.3	47.2	74	-26.8	PASS		37.9	54	-16.1	PASS	
4526.2	35.1	25	12	47.1	74	-26.9	PASS		37	54	-17	PASS	
4962	34	24.9	12.3	46.2	74	-27.8	PASS		37.1	54	-16.9	PASS	
5269.6	33.8	25	13.2	47.1	74	-26.9	PASS		38.2	54	-15.8	PASS	
5655.4	34.1	25.4	13.8	48	74	-26	PASS	-26	39.3	54	-14.7	PASS	-14.7

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Vertical Data
Operator: CCH
Notes:
center channel (78) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
1524.3	33.4	24.1	4.7	38.1	74	-35.9	PASS		28.8	54	-25.2	PASS	
1865.5	36.6	31	8.2	44.8	74	-29.2	PASS		39.2	54	-14.8	PASS	
2177.9	35.3	24.9	11.6	46.9	74	-27.1	PASS		36.6	54	-17.4	PASS	
2907.2	33.4	24.8	12.6	46	74	-28	PASS		37.5	54	-16.5	PASS	
4959.7	33.9	36.8	12.3	46.2	74	-27.8	PASS		49.1	54	-4.9	PASS	-4.9
5263.1	35	24.9	13.2	48.2	74	-25.8	PASS	-25.8	38.1	54	-15.9	PASS	

1-6GHz CH78 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
Low channel (0) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
16487.1	33.3	16.6	50	83.5	-33.5	PASS	-33.5	63.5	-13.5	PASS	-13.5

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
Low channel (0) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
12969.6	29.3	14.7	44	83.5	-39.5	PASS		63.5	-19.5	PASS	
17931.3	31	18.8	49.8	83.5	-33.7	PASS	-33.7	63.5	-13.7	PASS	-13.7

6-18GHz CH0 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
17969.7	30.8	19.1	49.9	83.5	-33.6	PASS	-33.6	63.5	-13.6	PASS	-13.6

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
center channel (39) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
17907.6	30.8	18.7	49.5	83.5	-34	PASS	-34	63.5	-14	PASS	-14

6-18GHz CH39 DH1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
center channel (78) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
Witnessed by - N/A
EUT Maximum Frequency - 2.4835GHz

Data Taken at Friday, March 23, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
12519.3	27.8	15.4	43.2	83.5	-40.3	PASS		63.5	-20.3	PASS	
17887.2	31.7	18.5	50.2	83.5	-33.3	PASS	-33.3	63.5	-13.3	PASS	-13.3

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
center channel (78) DH1

Work Order - S0766
EUT Power Input - 13.8V DC
Test Site - CH2
Conditions - 23.9°C; 41%RH; 1000mBar
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Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
12532.8	28.3	15.4	43.7	83.5	-39.8	PASS		63.5	-19.8	PASS	
16424.7	33.9	16.4	50.3	83.5	-33.2	PASS	-33.2	63.5	-13.2	PASS	-13.2
17922.9	31.4	18.8	50.2	83.5	-33.3	PASS		63.5	-13.3	PASS	

6-18GHz CH78 DH1

Radiated Emissions Table

Date: 23-Mar-18 **Company:** Harman International **Work Order:** S0766
Engineer: Chris Hamel **EUT Desc:** GEN3 BASE+ BC7 **EUT Operating Voltage/Frequency:** 13.8V DC
Temp: 23.9°C **Humidity:** 41% **Pressure:** 1000mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: No Emissions Found **EUT Max Freq:** 2483.5MHz
Channels 0, 39, 78

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
				---	---	---	---	---	---	---	---	---	---	---

Table Result: Pass by N/A dB ***Worst Freq:*** N/A MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Rental SA#3 **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.202

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz CH0, 39, 78

Rev. 3/22/2018

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	11/16/2018	11/16/2017

Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due	Calibrated on
EMI Chamber 2	719150	2762A-7	A-0015	30-1000MHz	1686	I	12/21/2018	12/21/2016
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	I	12/21/2018	12/21/2016

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2444 PA	9KHz-6GHz	BBV9744	SCWARZBECK	67	2444	I	2/5/2019	2/5/2018
2111 HF Preamp	0.5-18GHz	PAM-118A	COM-POWER	551063	2111	II	11/19/2018	11/19/2017
HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	II	10/16/2018	10/16/2017

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-Black Bilog	30-2000MHz	JB1	Sunol	A091604-2	1106	I	2/28/2019	2/28/2017
HF (White) Horn	18-26.5GHz	801-WLM	Waveline	758	758	III	Verify before Use	date of test
Blue Horn	1-18Ghz	3117	ETS	157647	1861	I	2/14/2019	2/14/2017

Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	4/28/2018	4/28/2016
TH A#2084		HTC-1	HDE		2084	II	3/22/2019	3/22/2018

Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #2458	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
Asset #2459	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
Asset #2466	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
Asset #2323	1-26.5GHz	TM26-S1S1-120	MEGAPHASE	17139101 002	2323	II	8/19/2018	8/19/2017

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

TEU

Radiated Band Edge

Radiated Emissions Table

Date: 23-Mar-18 **Company:** Harman International **Work Order:** S0766
Engineer: Chris Hamel **EUT Desc:** GEN3 BASE+ BC7 **EUT Operating Voltage/Frequency:** 13.8V DC
Temp: 23.9°C **Humidity:** 41% **Pressure:** 1000mBar
Frequency Range: 2.3-2.5GHz **Measurement Distance:** 3 m
Notes: Bluetooth Bandedges DH1 **EUT Max Freq:**

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
H Max		78.7		---	---	---	---	---	---	---	---	---	---	---
V Max		83.9		---	---	---	---	---	---	---	---	---	---	---
V	2390.0	33.6	33.6	25.6	32.2	3.2	43.4	43.4	74.0	-30.6	Pass	54.0	-10.6	Pass
V	2310.0	34.3	34.3	25.6	31.8	3.1	43.6	43.6	74.0	-30.4	Pass	54.0	-10.4	Pass
V	2357.5	37.8	37.8	25.6	32.0	3.2	47.4	47.4	74.0	-26.6	Pass	54.0	-6.6	Pass
				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---
H Max		79.4		---	---	---	---	---	---	---	---	---	---	---
V Max		84.9		---	---	---	---	---	---	---	---	---	---	---
V	2483.5	35.9	35.9	25.4	32.4	3.2	46.1	46.1	74.0	-27.9	Pass	54.0	-7.9	Pass
V	2500.0	36.6	36.6	25.4	32.4	3.2	46.8	46.8	74.0	-27.2	Pass	54.0	-7.2	Pass
V	2495.2	37.2	37.2	25.4	32.4	3.2	47.4	47.4	74.0	-26.6	Pass	54.0	-6.6	Pass

Table Result: Pass by -6.6 dB ***Worst Freq:*** 2357.5 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2458 **Cable 2:** Asset #2459 **Cable 3:** ---
Analyzer: Rental SA#3 **Preamp:** Asset #2444 **Antenna:** Blue Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.202

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

Rev. 3/22/2018								
Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	11/16/2018	11/16/2017
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	I	12/21/2018	12/21/2016
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
2444 PA	9KHz-6GHz	BBV9744	SCWARZBECK	67	2444	I	2/5/2019	2/5/2018
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Blue Horn	1-18Ghz	3117	ETS	157647	1861	I	2/14/2019	2/14/2017
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
TH A#2084		HTC-1	HDE		2084	II	3/22/2019	3/22/2018
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2458	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
Asset #2459	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.								

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

N/A. EUT is vehicle battery powered only.

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 CISPR	 5.6dB 4.6dB	 N/A 5.2dB (Ucispr)
Radiated Emissions (1-26.5GHz)	4.6dB	N/A
Radiated Emissions (above 26.5GHz)	4.9dB	N/A
Magnetic Radiated Emissions	5.6dB	N/A
Conducted Emissions 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)	3.23×10^{-8}	1×10^{-7}
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		

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 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 lot 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.
3. 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.
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.
7. The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
8. 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.
9. 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. CLIENT 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.

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 nature in 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

Appendix A:

ES0766-1 Appendix A
CFR Title 47 FCC Part §15.247 and ISED Canada RSS-247 Issue 2

DUT Information

DUT Name:	GEN3 BASE+ BC7
Manufacturer:	Harman International Industries, Inc
Serial Number:	10

Frequencies

BT CH 0 (2402 MHz)		
BT CH 1 (2403 MHz)	BT CH 2 (2404 MHz)	BT CH 3 (2405 MHz)
BT CH 4 (2406 MHz)	BT CH 5 (2407 MHz)	BT CH 6 (2408 MHz)
BT CH 7 (2409 MHz)	BT CH 8 (2410 MHz)	BT CH 9 (2411 MHz)
BT CH 10 (2412 MHz)	BT CH 11 (2413 MHz)	BT CH 12 (2414 MHz)
BT CH 13 (2415 MHz)	BT CH 14 (2416 MHz)	BT CH 15 (2417 MHz)
BT CH 16 (2418 MHz)	BT CH 17 (2419 MHz)	BT CH 18 (2420 MHz)
BT CH 19 (2421 MHz)	BT CH 20 (2422 MHz)	BT CH 21 (2423 MHz)
BT CH 22 (2424 MHz)	BT CH 23 (2425 MHz)	BT CH 24 (2426 MHz)
BT CH 25 (2427 MHz)	BT CH 26 (2428 MHz)	BT CH 27 (2429 MHz)
BT CH 28 (2430 MHz)	BT CH 29 (2431 MHz)	BT CH 30 (2432 MHz)
BT CH 31 (2433 MHz)	BT CH 32 (2434 MHz)	BT CH 33 (2435 MHz)
BT CH 34 (2436 MHz)	BT CH 35 (2437 MHz)	BT CH 36 (2438 MHz)
BT CH 37 (2439 MHz)	BT CH 38 (2440 MHz)	BT CH 39 (2441 MHz)
BT CH 40 (2442 MHz)	BT CH 41 (2443 MHz)	BT CH 42 (2444 MHz)
BT CH 43 (2445 MHz)	BT CH 44 (2446 MHz)	BT CH 45 (2447 MHz)
BT CH 46 (2448 MHz)	BT CH 47 (2449 MHz)	BT CH 48 (2450 MHz)
BT CH 49 (2451 MHz)	BT CH 50 (2452 MHz)	BT CH 51 (2453 MHz)
BT CH 52 (2454 MHz)	BT CH 53 (2455 MHz)	BT CH 54 (2456 MHz)
BT CH 55 (2457 MHz)	BT CH 56 (2458 MHz)	BT CH 57 (2459 MHz)
BT CH 58 (2460 MHz)	BT CH 59 (2461 MHz)	BT CH 60 (2462 MHz)
BT CH 61 (2463 MHz)	BT CH 62 (2464 MHz)	BT CH 63 (2465 MHz)
BT CH 64 (2466 MHz)	BT CH 65 (2467 MHz)	BT CH 66 (2468 MHz)
BT CH 67 (2469 MHz)	BT CH 68 (2470 MHz)	BT CH 69 (2471 MHz)
BT CH 70 (2472 MHz)	BT CH 71 (2473 MHz)	BT CH 72 (2474 MHz)
BT CH 73 (2475 MHz)	BT CH 74 (2476 MHz)	BT CH 75 (2477 MHz)
BT CH 76 (2478 MHz)	BT CH 77 (2479 MHz)	BT CH 78 (2480 MHz)

DUT Settings

No. of transmission chains	1
Equipment Type	Frequency Hopping Spread Spectrum

Antenna Gain

Frequency, MHz	2402 MHz	2441 MHz	2480 MHz
Gain, dBi	2.0	0.2	-1.1

Test Equipment Used:

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	I	6/30/2018	6/30/2017
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	I	6/26/2018	6/26/2017
SMB100A Signal Generator	100kHz-40GHz	SMB100A	ROHDE & SCHWARZ	179846	2434	I	5/30/2018	5/30/2017
Power/Noise Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
OSP - open switch and control platform	30MHz-18GHz	OSP120	ROHDE & SCHWARZ	101674		I	6/1/2018	6/1/2017
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
DUT1	30MHz-26GHz		Micro-Coax			II	6/21/2018	6/21/2017
DUT2	30MHz-26GHz		Micro-Coax			II	6/22/2018	6/22/2017
DUT3	30MHz-26GHz		Micro-Coax			II	6/23/2018	6/23/2017
DUT4	30MHz-26GHz		Micro-Coax			II	6/24/2018	6/24/2017
Attenuators / Couplers	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
10dB Attenuator-01 Brown	30MHz-26GHz		Mini Curcuits			II	7/13/2018	7/14/2017
10dB Attenuator-02 Yellow	30MHz-26GHz		Mini Curcuits			II	7/13/2018	7/14/2017
10dB Attenuator-03 Red	30MHz-26GHz		Mini Curcuits			II	7/13/2018	7/14/2017
10dB Attenuator-04 orange	30MHz-26GHz		Mini Curcuits			II	7/13/2018	7/14/2017
Directional Coupler	0.5GHz-18GHz	UDC	AA MCS	001040		II	8/11/2018	8/11/2017
Communication Tester	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
CMW500 Wideband Radio Communication Tester	DC to 6GHz	CMW500	ROHDE & SCHWARZ	155905		I	6/2/2018	6/2/2017
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Temp/Humidity Chamber #18		EPX-2H	Espec	137664	1645	I	4/21/2018	4/21/2017
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.								

Summary

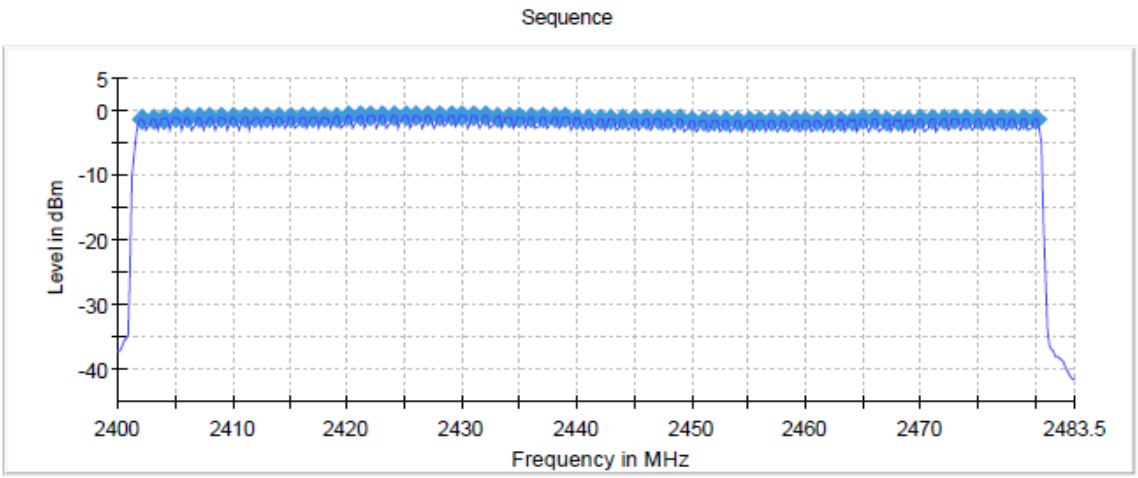
Test	Frequency (MHz)	DH1 Result	DH3 Result	DH5 Result	2-DH1 Result	2-DH3 Result	2-DH5 Result	3-DH1 Result	3-DH3 Result	3-DH5 Result
Hopping Frequencies	--- (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Band Edge (during hopping)	--- (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Carrier Frequency Separation	2402.000 (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Carrier Frequency Separation	2480.000 (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Time of Channel Occupancy	2402.000 (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Time of Channel Occupancy	2441.000 (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Time of Channel Occupancy	2480.000 (hopping)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Emission Bandwidth 20 dB	2402.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Band Edge low	2402.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Peak output power	2402.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Conducted Spurious Emissions	2402.000 (single)	---	---	---	---	---	---	---	---	PASS
Emission Bandwidth 20 dB	2441.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Peak output power	2441.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Conducted Spurious Emissions	2441.000 (single)	---	---	---	---	---	---	---	---	PASS
Emission Bandwidth 20 dB	2480.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Band Edge high	2480.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Peak output power	2480.000 (single)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Conducted Spurious Emissions	2480.000 (single)	---	---	---	---	---	---	---	---	PASS

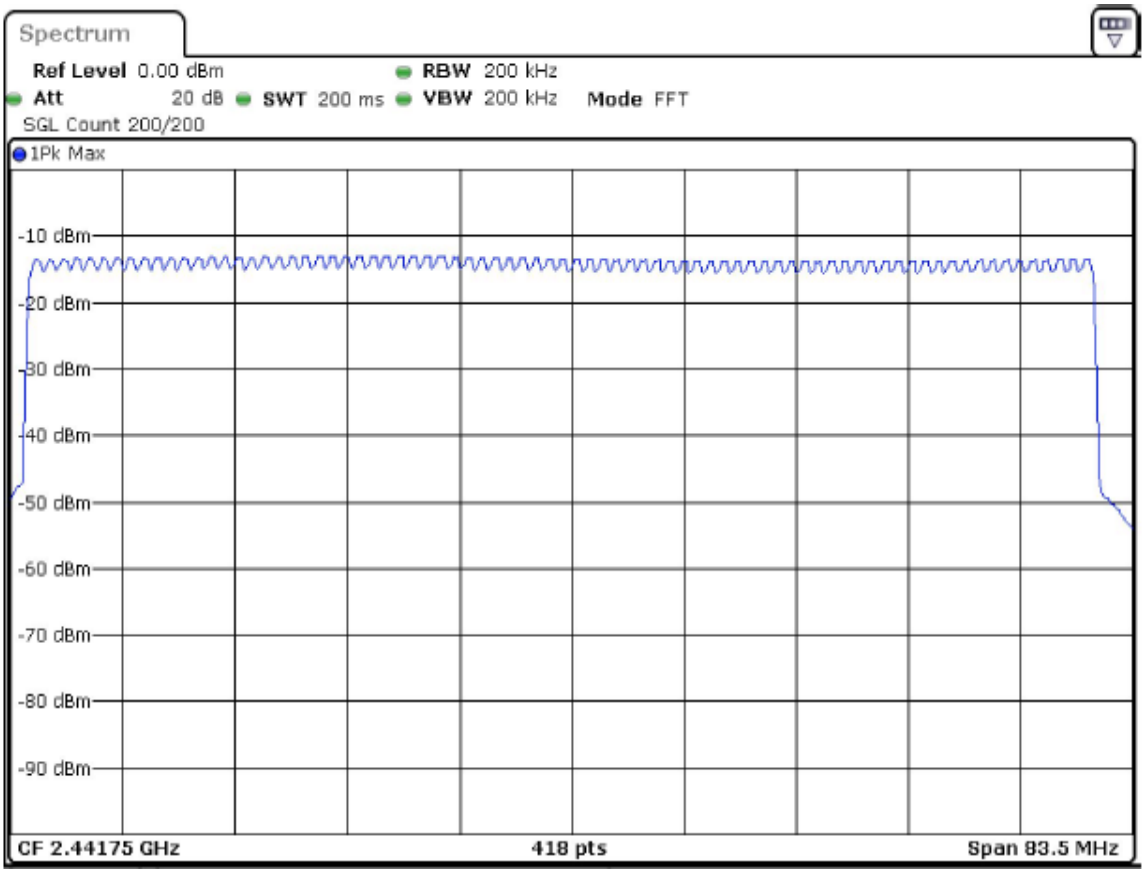
Number of Hopping Frequencies

Test procedure in accordance with ANSI C63.10-2013

Channels

Channels	Limit Min	Result
79	15	PASS





Band Edge (during hopping)

Test procedure in accordance with ANSI C63.10-2013

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

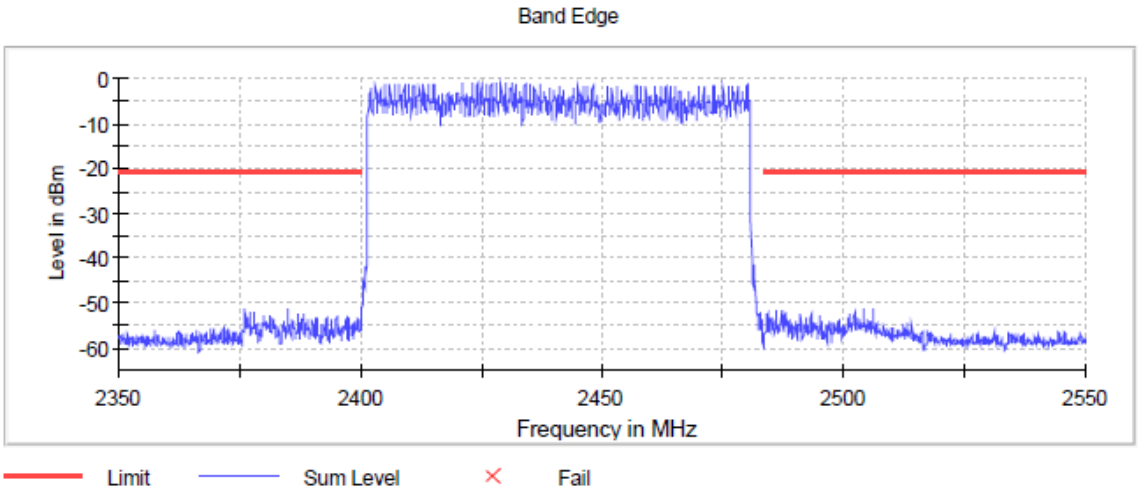
Inband Peak

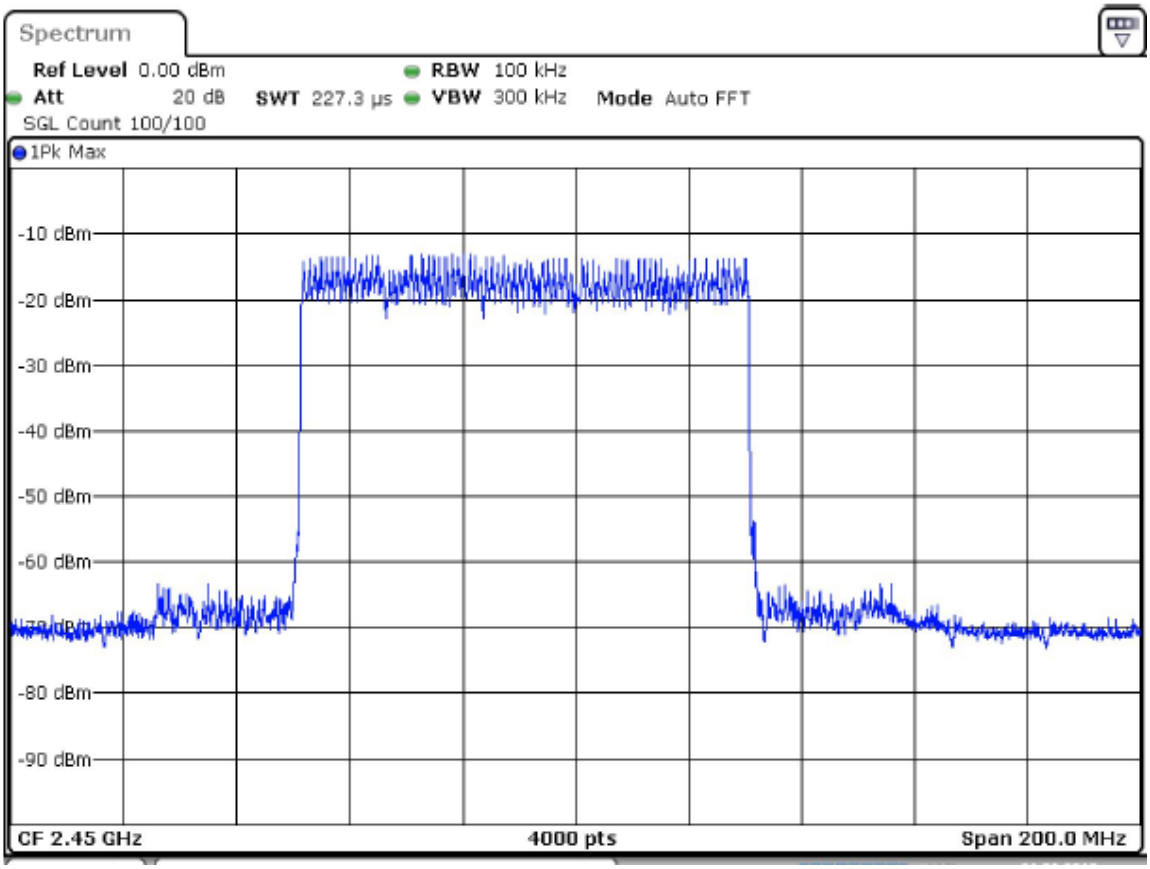
Data Rate	Frequency (MHz)	Level (dBm)
DH1	2430.825000	-0.8
DH3	2428.825000	-0.9
DH5	2430.825000	-0.8
2-DH1	2431.025000	-0.8
2-DH3	2431.025000	-0.9
2-DH5	2432.025000	-1.0
3-DH1	2430.025000	-0.8
3-DH3	2432.175000	-0.9
3-DH5	2430.025000	-0.9

Plots for packet type 3-DH5 shown below.

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2505.975000	-51.1	30.2	-20.9	PASS
2504.025000	-51.1	30.2	-20.9	PASS
2506.025000	-51.1	30.2	-20.9	PASS
2376.025000	-51.2	30.3	-20.9	PASS
2384.975000	-51.3	30.4	-20.9	PASS
2375.975000	-51.3	30.4	-20.9	PASS
2385.025000	-51.3	30.4	-20.9	PASS
2487.025000	-51.5	30.6	-20.9	PASS
2485.975000	-51.6	30.7	-20.9	PASS
2486.025000	-51.7	30.8	-20.9	PASS
2376.075000	-51.7	30.8	-20.9	PASS
2486.975000	-51.7	30.8	-20.9	PASS
2504.075000	-51.9	31.0	-20.9	PASS
2378.025000	-51.9	31.0	-20.9	PASS
2377.125000	-52.0	31.1	-20.9	PASS




Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB
SWT 227.3 µs
VBW 300 kHz
Mode Auto FFT
SGL Count 100/100
1Pk Max
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
CF 2.45 GHz
4000 pts
Span 200.0 MHz

Carrier Frequency Separation

Test procedure in accordance with ANSI C63.10-2013

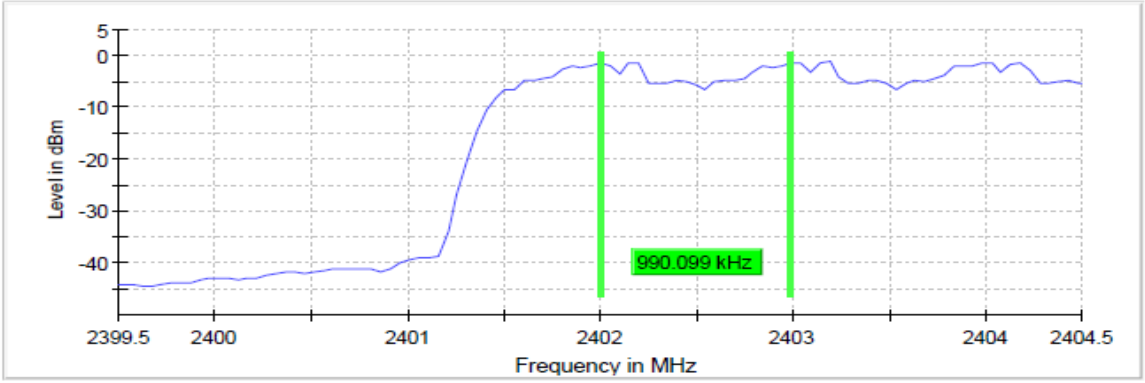
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (k = 2) < 1%

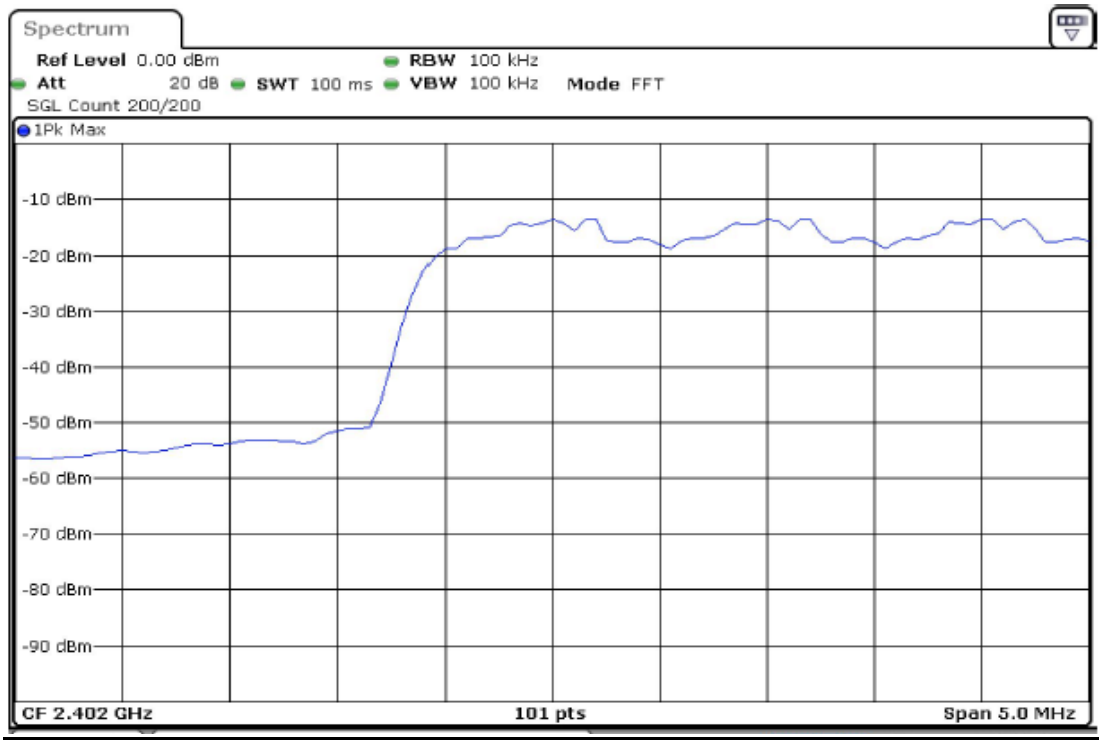
2402 MHz

Limit is 2/3 of the 20dB bandwidth measured for the corresponding mode.

Packet Type	DUT Frequency (MHz)	Frequency Separation (MHz)	Minimum Limit (MHz)	Result
DH1	2402.000000	0.990099	0.594060	PASS
DH3	2402.000000	0.990099	0.613862	PASS
DH5	2402.000000	0.990099	0.613862	PASS
2-DH1	2402.000000	0.990099	0.851485	PASS
2-DH3	2402.000000	0.990099	0.891089	PASS
2-DH5	2402.000000	0.990099	0.871287	PASS
3-DH1	2402.000000	0.990099	0.851485	PASS
3-DH3	2402.000000	0.990099	0.871287	PASS
3-DH5	2402.000000	0.990099	0.871287	PASS

Plots for packet type 3-DH5 shown below.



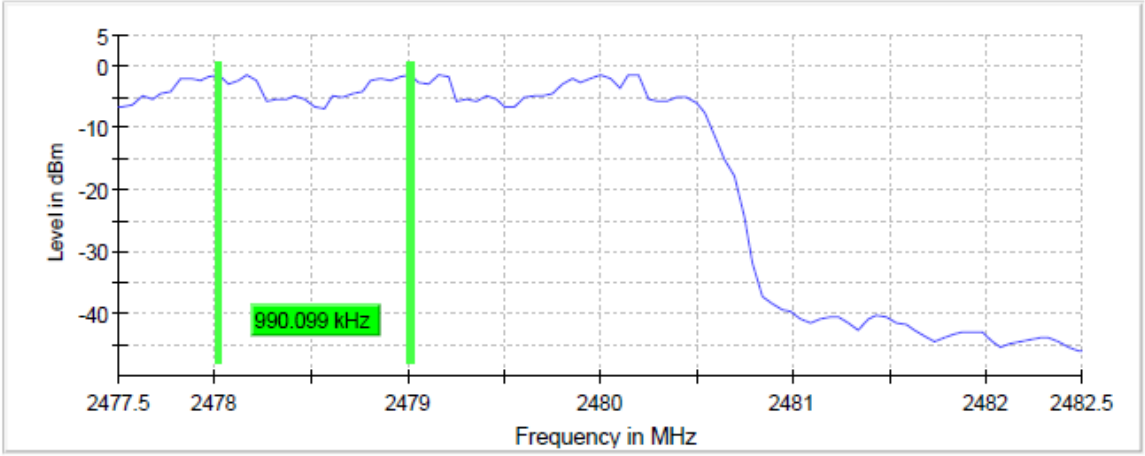


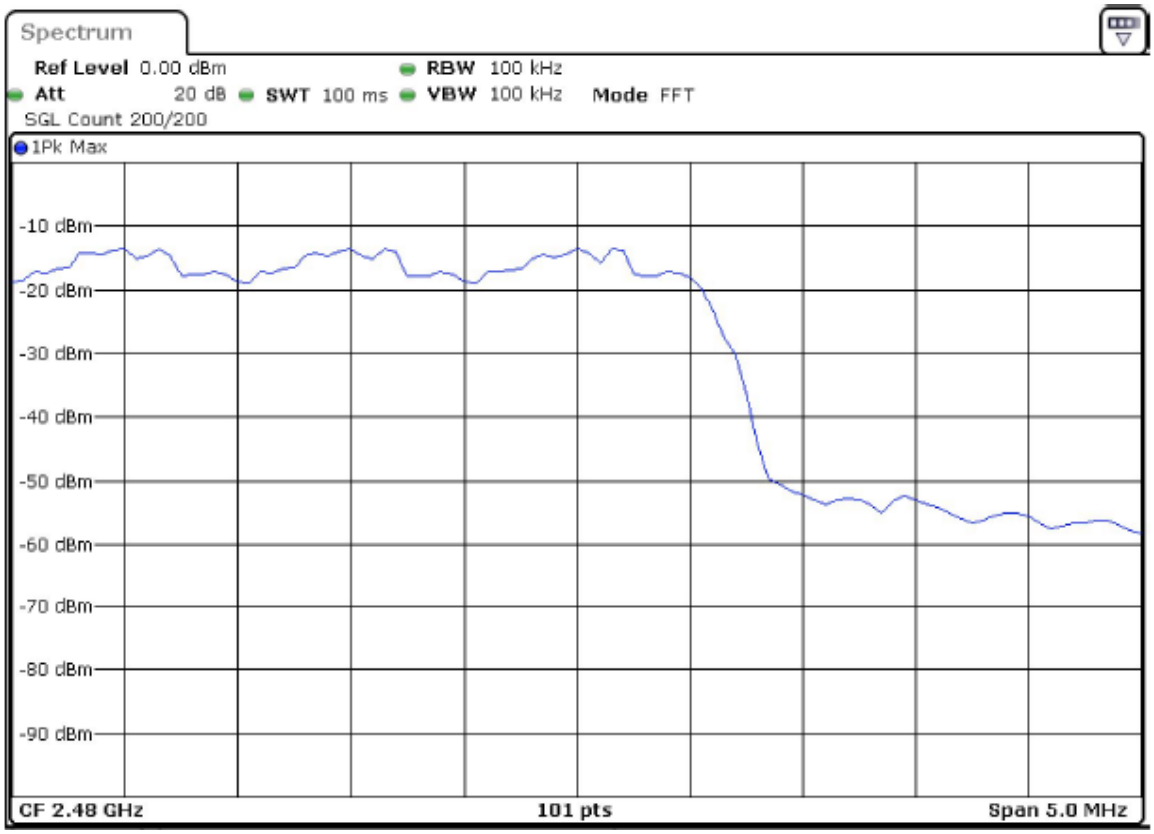
2480 MHz

Limit is 2/3 of the 20dB bandwidth measured for the corresponding mode.

Packet Type	DUT Frequency (MHz)	Frequency Separation (MHz)	Minimum Limit (MHz)	Result
DH1	2480.000000	0.990099	0.594060	PASS
DH3	2480.000000	0.990099	0.613862	PASS
DH5	2480.000000	0.990099	0.613862	PASS
2-DH1	2480.000000	0.990099	0.851485	PASS
2-DH3	2480.000000	0.990099	0.891089	PASS
2-DH5	2480.000000	0.990099	0.871287	PASS
3-DH1	2480.000000	0.990099	0.851485	PASS
3-DH3	2480.000000	0.990099	0.871287	PASS
3-DH5	2480.000000	0.990099	0.871287	PASS

Plots for packet type 3-DH5 shown below.




Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB SWT 100 ms VBW 100 kHz Mode FFT
SGL Count 200/200
1Pk Max
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
CF 2.48 GHz
101 pts
Span 5.0 MHz

Time of Channel Occupancy (Dwell Time)

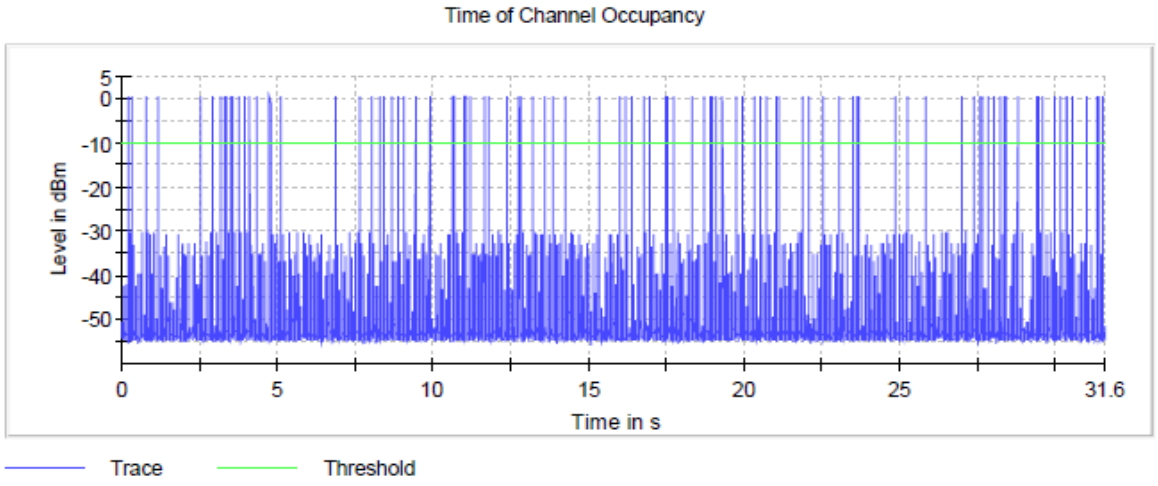
Test procedure in accordance with ANSI C63.10-2013

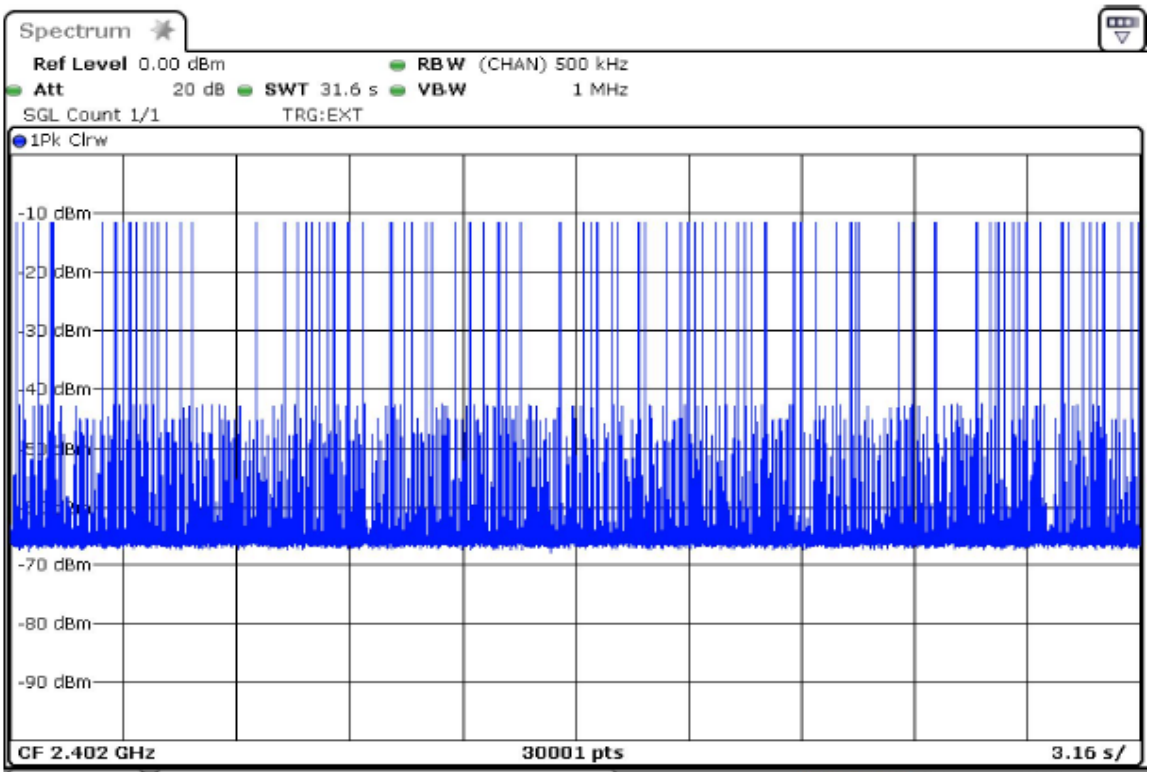
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1%

2402 MHz

Data Rate	Time (ms)	Limit Max (ms)	Result
DH1	144.200	400.000	PASS
DH3	250.860	400.000	PASS
DH5	304.310	400.000	PASS
2-DH1	126.210	400.000	PASS
2-DH3	230.920	400.000	PASS
2-DH5	258.960	400.000	PASS
3-DH1	126.890	400.000	PASS
3-DH3	209.570	400.000	PASS
3-DH5	238.720	400.000	PASS

Plots for packet type 3-DH5 shown below.

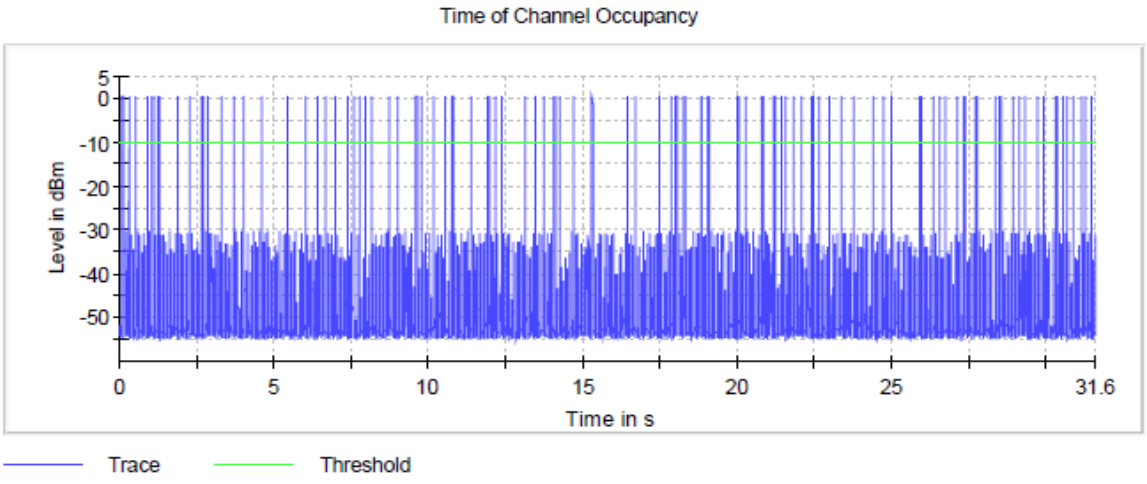


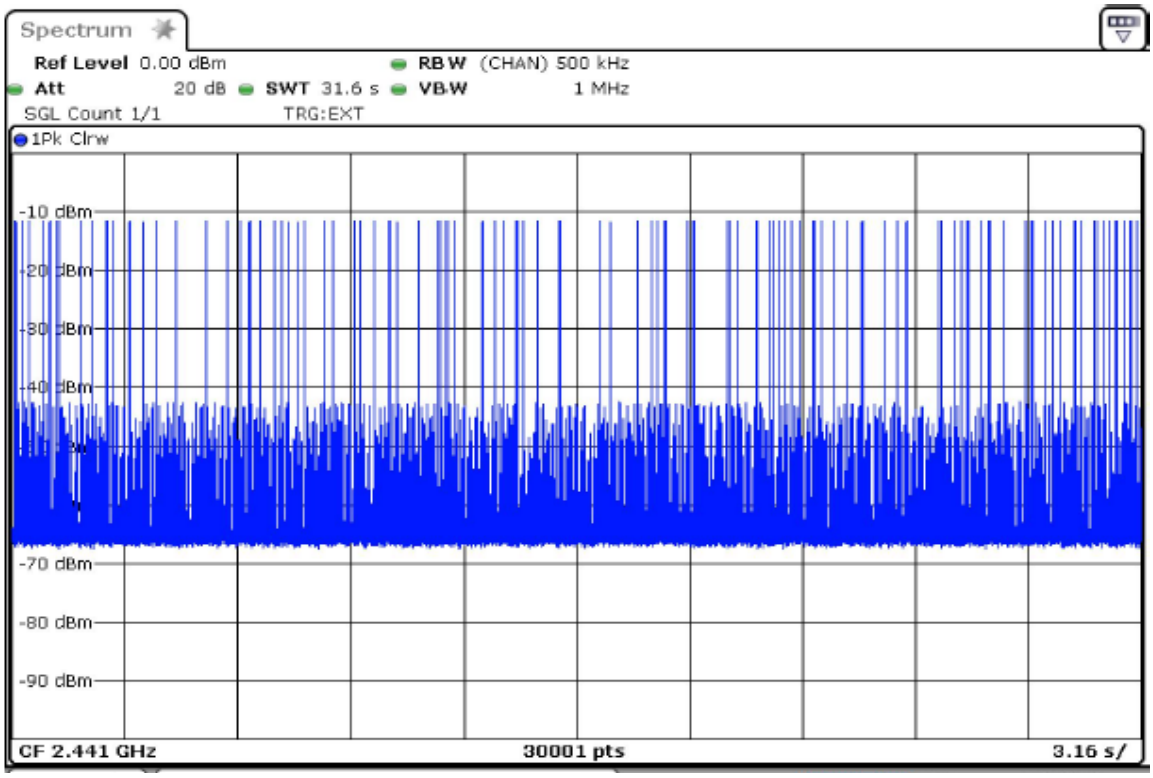


2441 MHz

Data Rate	Time (ms)	Limit Max (ms)	Result
DH1	144.210	400.000	PASS
DH3	267.920	400.000	PASS
DH5	322.170	400.000	PASS
2-DH1	126.210	400.000	PASS
2-DH3	236.950	400.000	PASS
2-DH5	236.950	400.000	PASS
3-DH1	126.270	400.000	PASS
3-DH3	222.160	400.000	PASS
3-DH5	268.720	400.000	PASS

Plots for packet type 3-DH5 shown below.

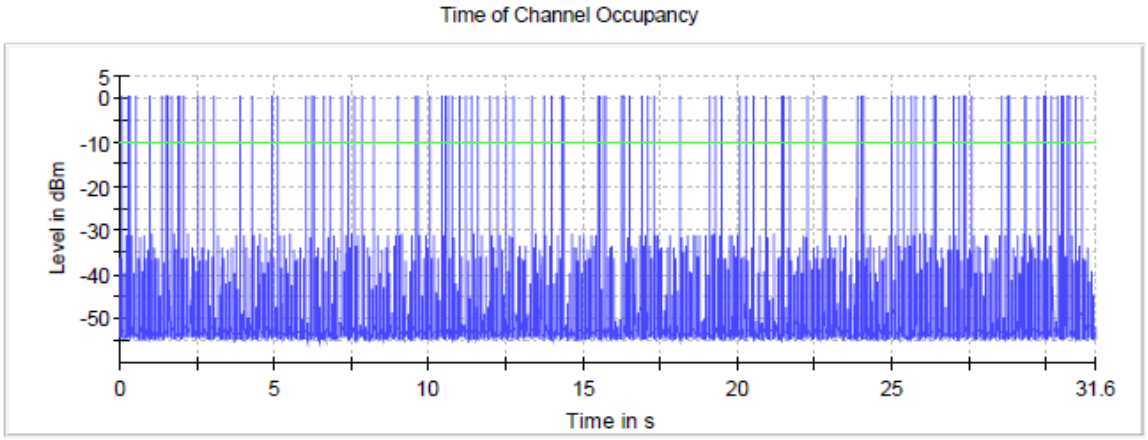


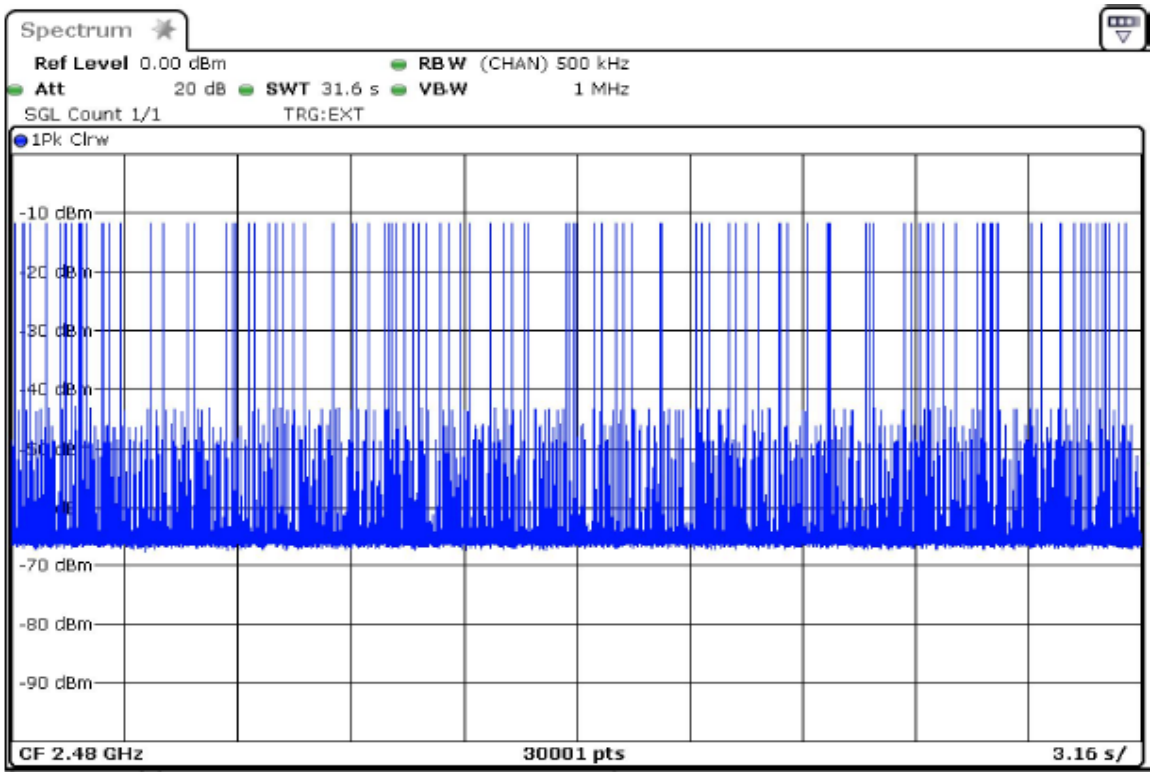


2480 MHz

Data Rate	Time (ms)	Limit Max (ms)	Result
DH1	144.200	400.000	PASS
DH3	278.120	400.000	PASS
DH5	310.290	400.000	PASS
2-DH1	125.870	400.000	PASS
2-DH3	222.810	400.000	PASS
2-DH5	271.560	400.000	PASS
3-DH1	126.430	400.000	PASS
3-DH3	248.150	400.000	PASS
3-DH5	263.570	400.000	PASS

Plots for packet type 3-DH5 shown below.



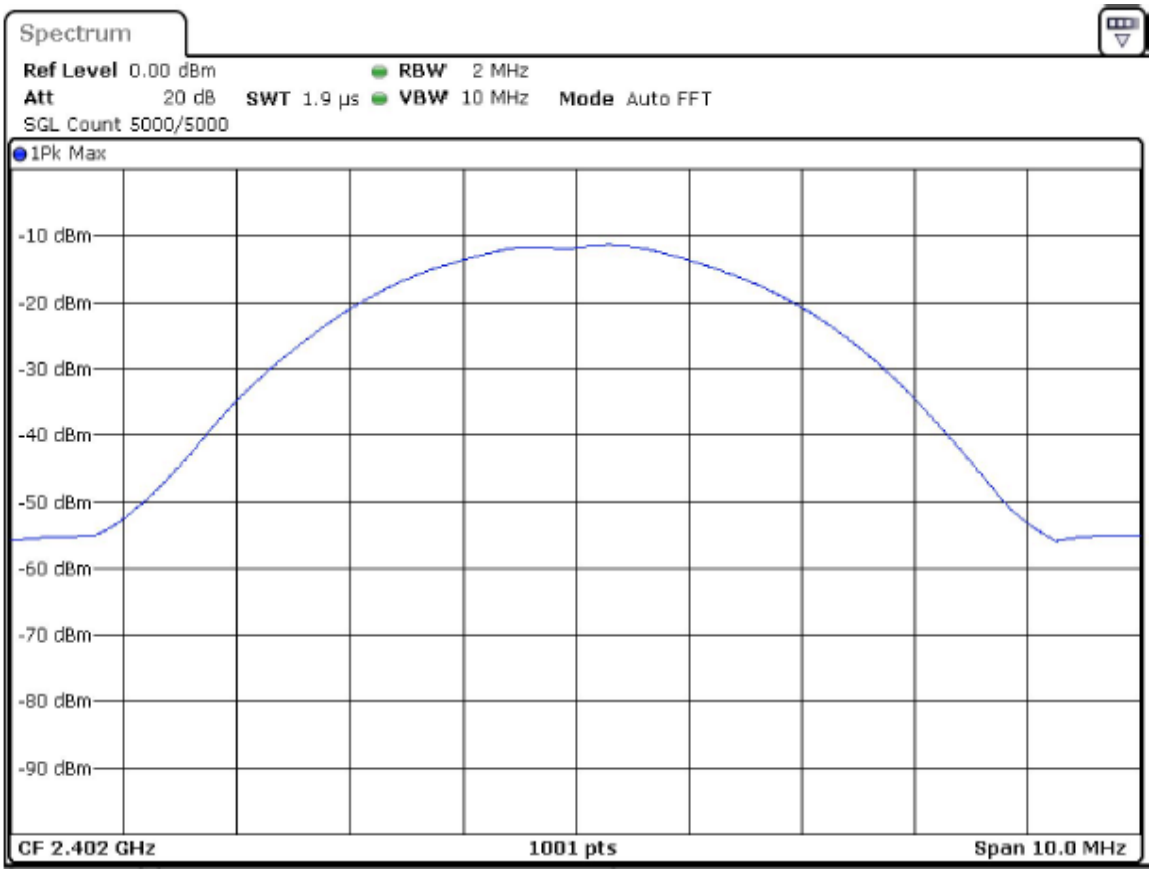


Peak Output Power

Test procedure in accordance with ANSI C63.10-2013

Data Rate	2402MHz	2441MHz	2480MHz	Limit dBm
DH1	-1.065	-1.065	-1.141	30
DH3	-1.053	-1.075	-1.15	30
DH5	-1.063	-1.058	-1.164	30
2-DH1	0.263	0.329	0.15	30
2-DH3	0.504	0.354	0.214	30
2-DH5	0.531	0.37	0.402	30
3-DH1	0.687	0.737	0.575	30
3-DH3	0.773	0.756	0.679	30
3-DH5	0.831	0.714	0.633	30

Plot for packet type 3-DH5 shown below.



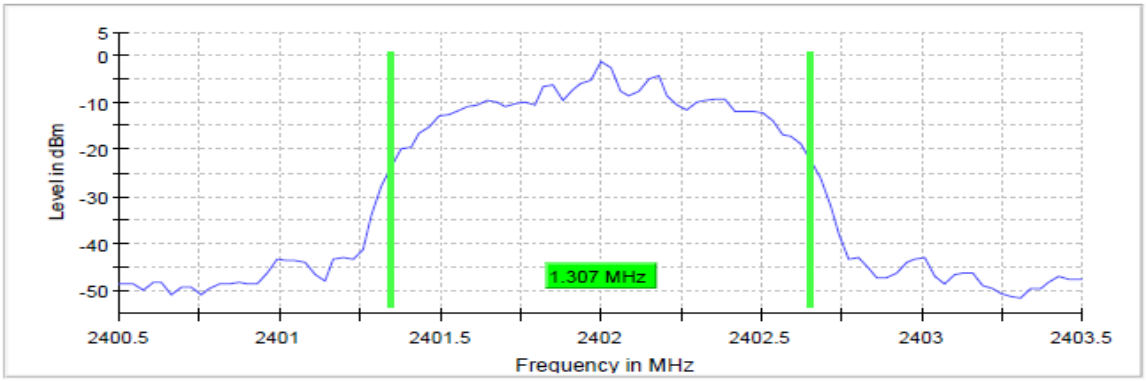
Emission Bandwidth 20 dB

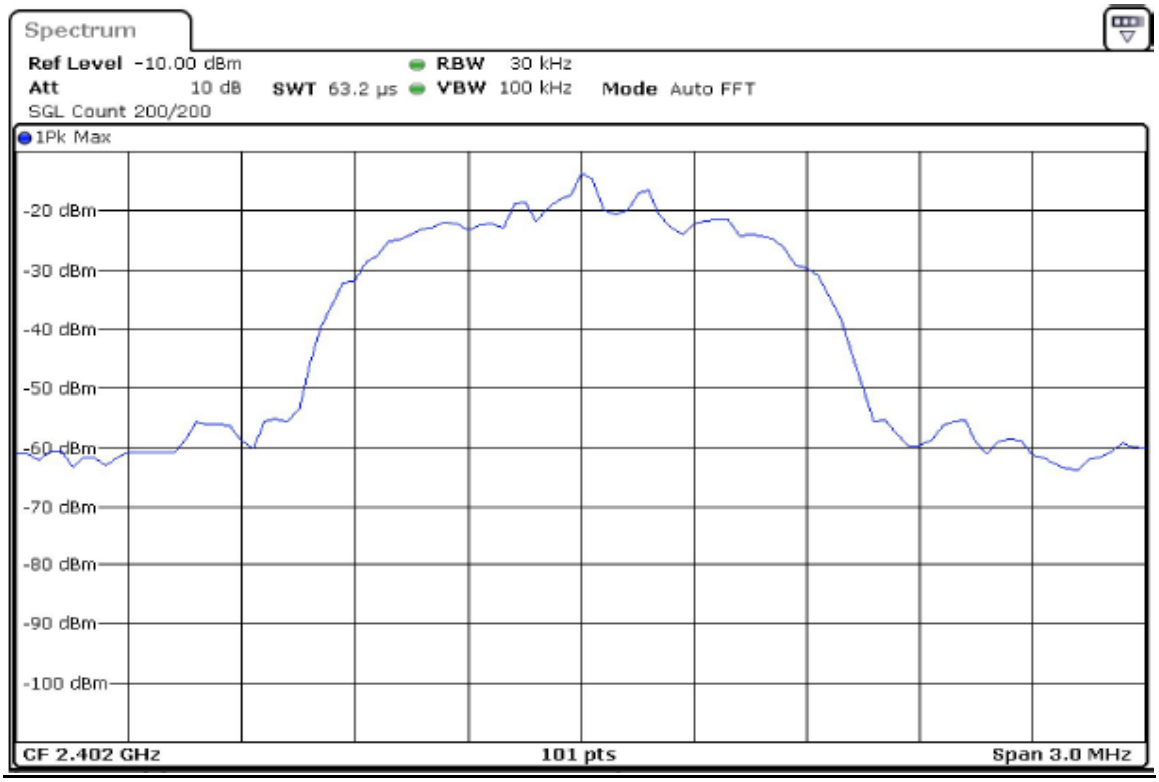
Test procedure in accordance with ANSI C63.10-2013
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

2402 MHz

Data Rate	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
DH1	0.891090	2401.524752	2402.415842	PASS
DH3	0.920793	2401.524752	2402.445545	PASS
DH5	0.920793	2401.524752	2402.445545	PASS
2-DH1	1.277227	2401.346535	2402.623762	PASS
2-DH3	1.336633	2401.346535	2402.683168	PASS
2-DH5	1.306930	2401.346535	2402.653465	PASS
3-DH1	1.277227	2401.376238	2402.653465	PASS
3-DH3	1.306930	2401.346535	2402.653465	PASS
3-DH5	1.306930	2401.346535	2402.653465	PASS

Plots for packet type 3-DH5 shown below.

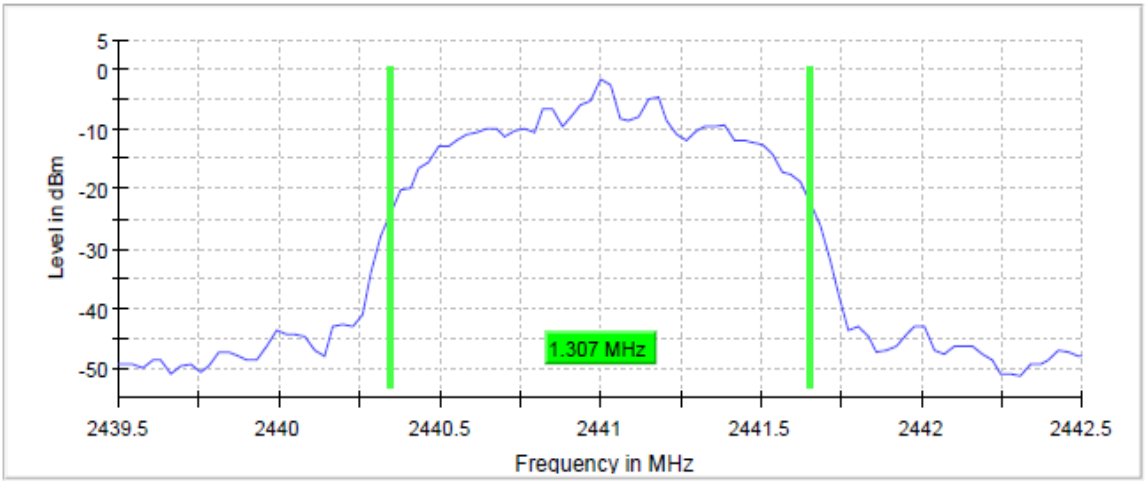


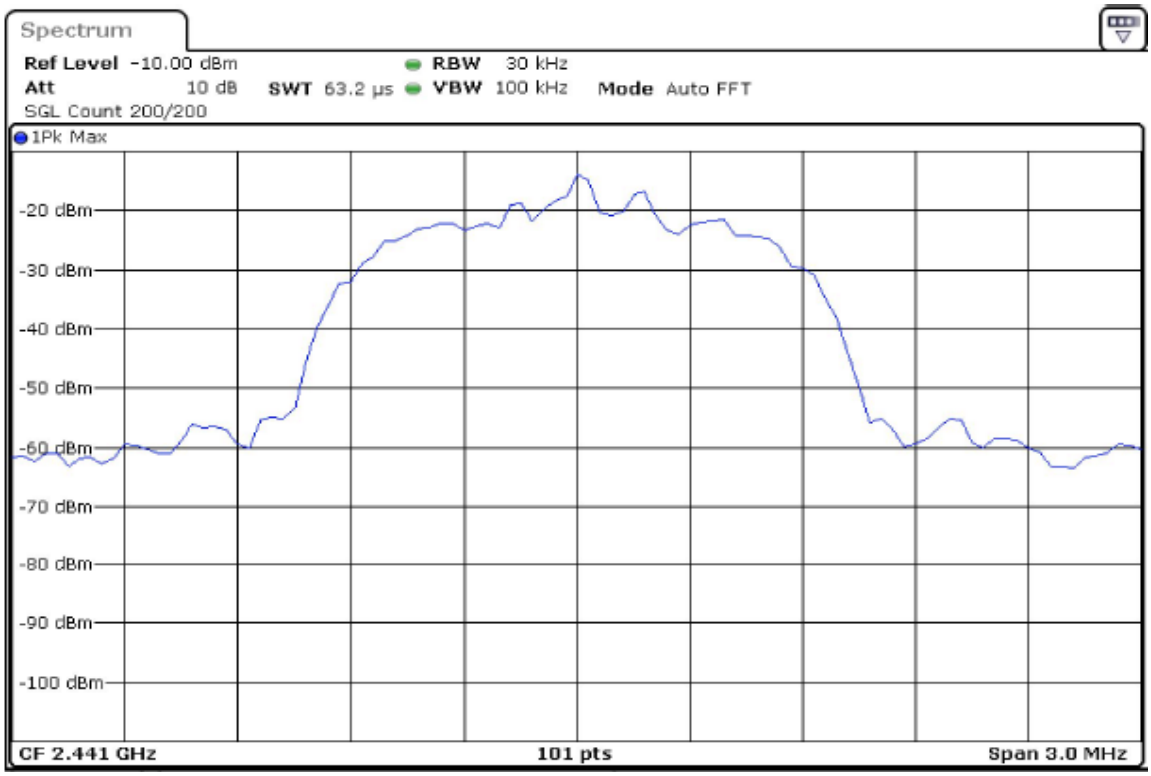


2441 MHz

Data Rate	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
DH1	0.891090	2440.524752	2441.415842	PASS
DH3	0.920793	2440.524752	2441.445545	PASS
DH5	0.920793	2440.524752	2441.445545	PASS
2-DH1	1.277227	2440.346535	2441.623762	PASS
2-DH3	1.336633	2440.346535	2441.683168	PASS
2-DH5	1.306930	2440.346535	2441.653465	PASS
3-DH1	1.277227	2440.376238	2441.653465	PASS
3-DH3	1.306930	2440.346535	2441.653465	PASS
3-DH5	1.306930	2440.346535	2441.653465	PASS

Plots for packet type 3-DH5 shown below.

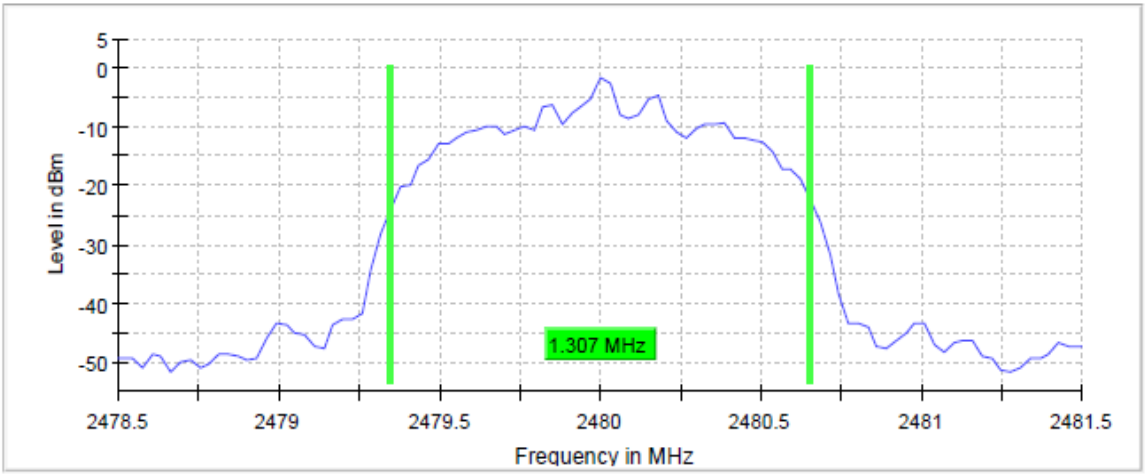

5
0
-10
-20
-30
-40
-50
Level in dBm
1.307 MHz
2439.5
2440
2440.5
2441
2441.5
2442
2442.5
Frequency in MHz

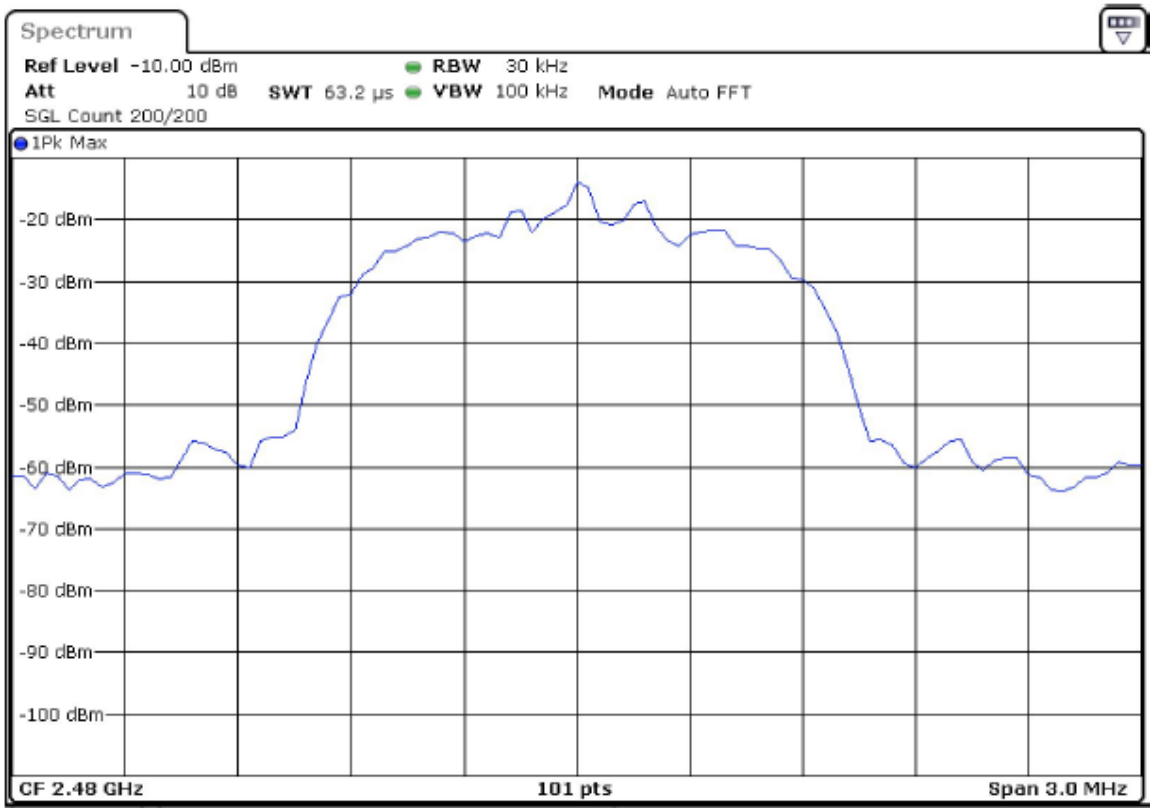

Spectrum
Ref Level -10.00 dBm
RBW 30 kHz
Att 10 dB
SWT 63.2 µs
VBW 100 kHz
Mode Auto FFT
SGL Count 200/200
1Pk Max
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
CF 2.441 GHz
101 pts
Span 3.0 MHz

2480 MHz

Data Rate	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
DH1	0.891090	2479.524752	2480.415842	PASS
DH3	0.920793	2479.524752	2480.445545	PASS
DH5	0.920793	2479.524752	2480.445545	PASS
2-DH1	1.277227	2479.346535	2480.623762	PASS
2-DH3	1.336633	2479.346535	2480.683168	PASS
2-DH5	1.306930	2479.346535	2480.653465	PASS
3-DH1	1.277227	2479.376238	2480.653465	PASS
3-DH3	1.306930	2479.346535	2480.653465	PASS
3-DH5	1.306930	2479.346535	2480.653465	PASS

Plots for packet type 3-DH5 shown below.





Band Edge Low (2402 MHz)

Test procedure in accordance with ANSI C63.10-2013
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

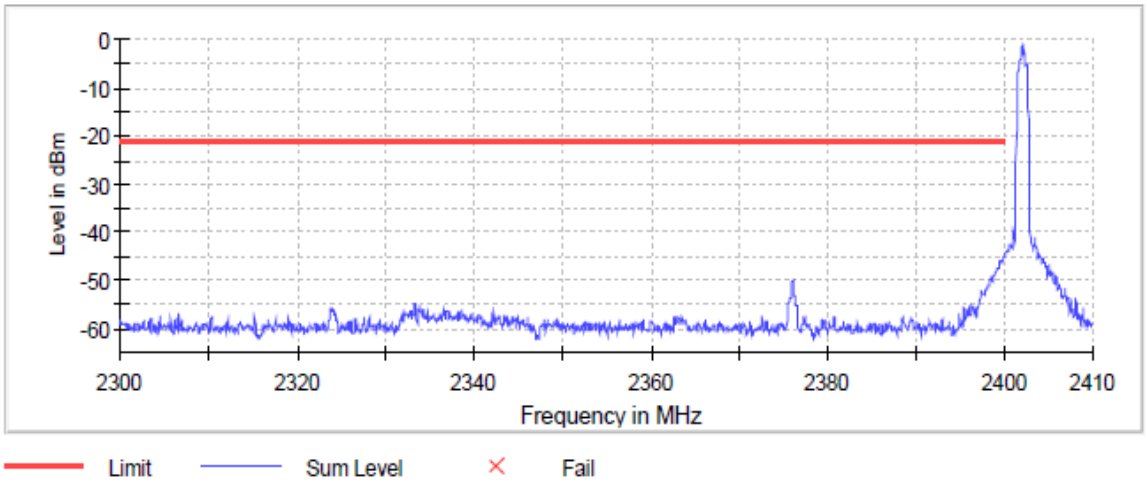
Inband Peak

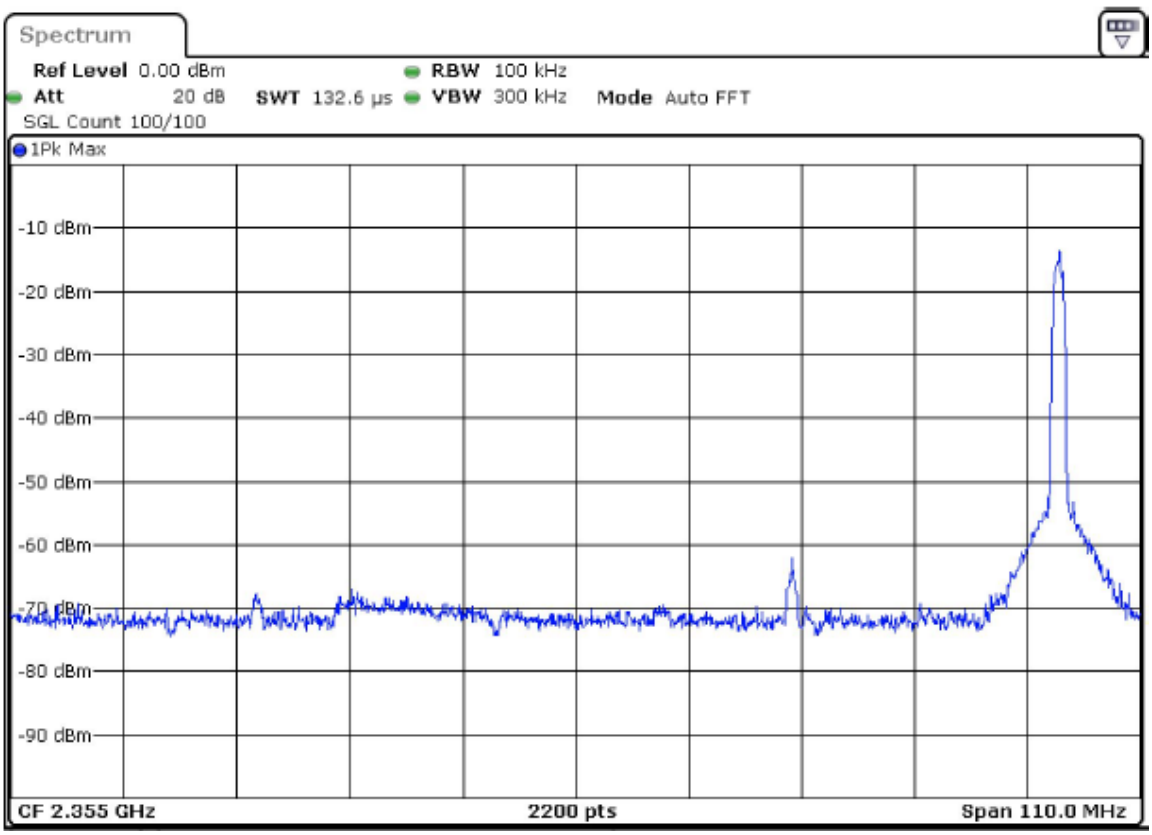
Data Rate	Frequency (MHz)	Level (dBm)
DH1	2401.82500	-1.2
DH3	2401.82500	-1.2
DH5	2402.17500	-1.3
2-DH1	2402.02500	-1.2
2-DH3	2402.02500	-1.3
2-DH5	2402.02500	-1.3
3-DH1	2401.82500	-1.2
3-DH3	2402.17500	-1.2
3-DH5	2402.02500	-1.3

Plots for packet type 3-DH5 shown below.

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.925000	-45.0	23.7	-21.3	PASS
2399.975000	-45.0	23.7	-21.3	PASS
2399.875000	-45.3	24.0	-21.3	PASS
2399.825000	-45.5	24.2	-21.3	PASS
2399.775000	-45.6	24.3	-21.3	PASS
2399.725000	-45.8	24.5	-21.3	PASS
2399.475000	-45.9	24.6	-21.3	PASS
2399.425000	-45.9	24.7	-21.3	PASS
2399.525000	-46.0	24.8	-21.3	PASS
2399.675000	-46.2	24.9	-21.3	PASS
2399.575000	-46.5	25.2	-21.3	PASS
2399.625000	-46.5	25.3	-21.3	PASS
2399.375000	-46.7	25.4	-21.3	PASS
2399.325000	-47.5	26.2	-21.3	PASS
2399.275000	-47.7	26.4	-21.3	PASS





Band Edge High (2480 MHz)

Test procedure in accordance with ANSI C63.10-2013
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

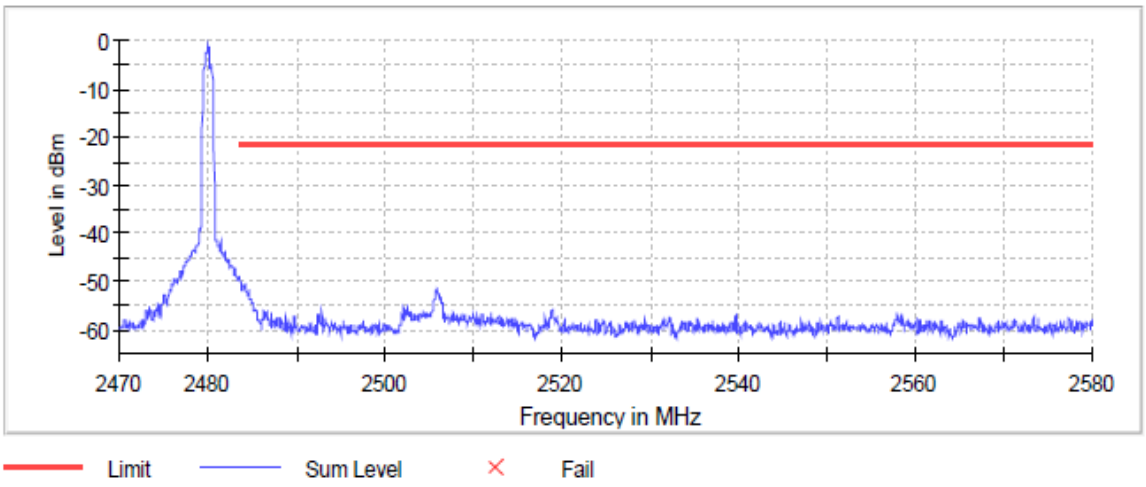
Inband Peak

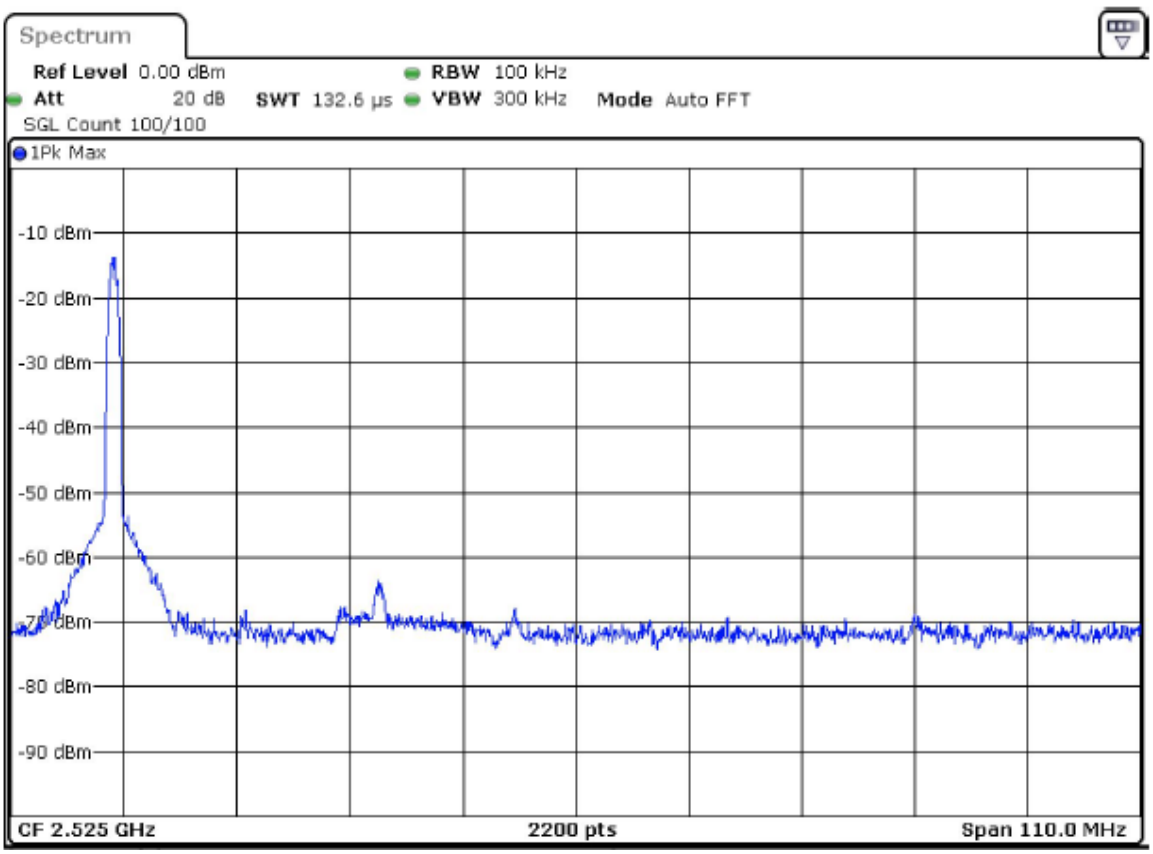
Data Rate	Frequency (MHz)	Level (dBm)
DH1	2479.82500	-1.3
DH3	2480.17500	-1.3
DH5	2479.82500	-1.4
2-DH1	2480.02500	-1.3
2-DH3	2480.02500	-1.4
2-DH5	2480.02500	-1.4
3-DH1	2479.82500	-1.3
3-DH3	2480.17500	-1.3
3-DH5	2480.17500	-1.4

Plots for packet type 3-DH5 shown below.

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.525000	-49.4	28.0	-21.4	PASS
2483.575000	-49.6	28.2	-21.4	PASS
2483.625000	-49.8	28.4	-21.4	PASS
2484.225000	-50.3	28.9	-21.4	PASS
2484.175000	-50.3	28.9	-21.4	PASS
2483.675000	-50.4	29.0	-21.4	PASS
2484.125000	-50.8	29.4	-21.4	PASS
2484.275000	-50.8	29.4	-21.4	PASS
2483.925000	-50.9	29.5	-21.4	PASS
2483.875000	-51.0	29.6	-21.4	PASS
2483.975000	-51.2	29.8	-21.4	PASS
2483.825000	-51.4	30.0	-21.4	PASS
2505.825000	-51.5	30.1	-21.4	PASS
2483.725000	-51.7	30.3	-21.4	PASS
2484.075000	-51.7	30.3	-21.4	PASS





Conducted Spurious Emissions

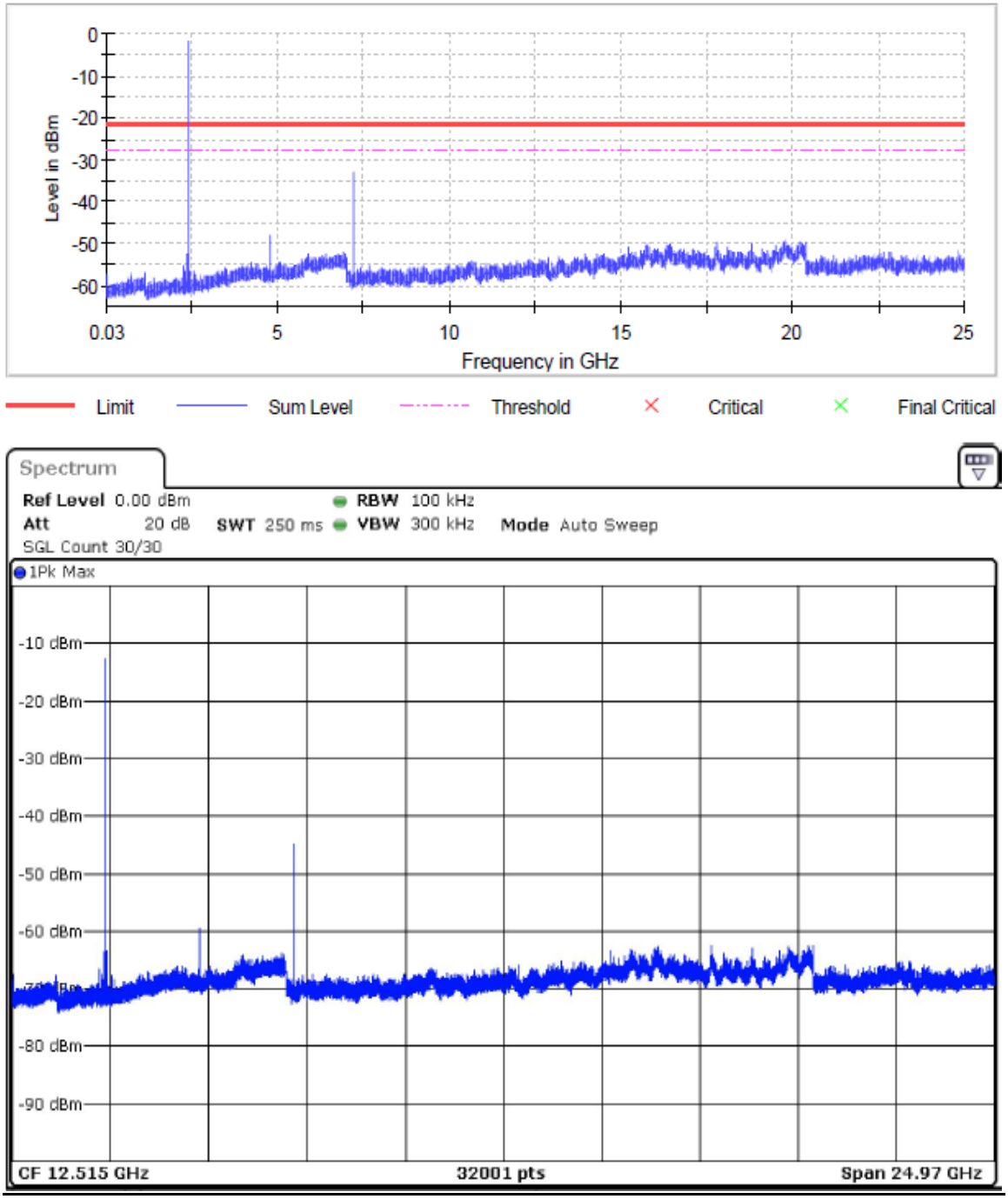
Test procedure in accordance with ANSI C63.10-2013
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

2402 MHz

Plots for packet type 3-DH5 shown below.

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
7205.919659	-33.0	11.6	-21.5
7206.699947	-36.9	15.4	-21.5
7205.139371	-41.4	19.9	-21.5
2399.344864	-47.3	25.8	-21.5
4804.192838	-48.1	26.6	-21.5
2398.564576	-48.3	26.8	-21.5
19758.414581	-49.4	27.9	-21.5
19759.194869	-49.5	28.0	-21.5
20369.380176	-49.5	28.0	-21.5
19739.687666	-49.5	28.0	-21.5
19768.558326	-49.7	28.2	-21.5
17803.792850	-49.7	28.2	-21.5
20242.973501	-49.7	28.2	-21.5
19750.611700	-49.7	28.2	-21.5
19753.732852	-49.9	28.4	-21.5

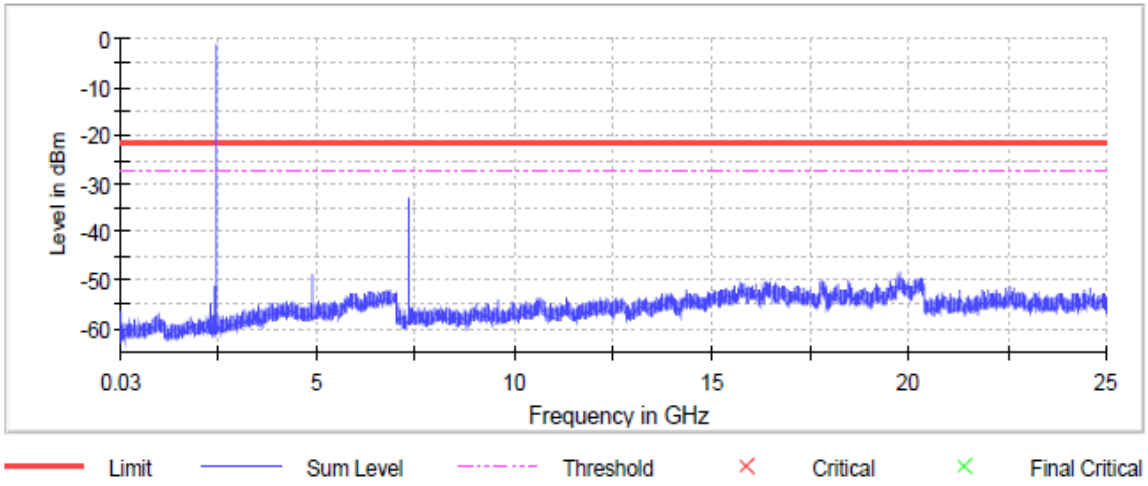


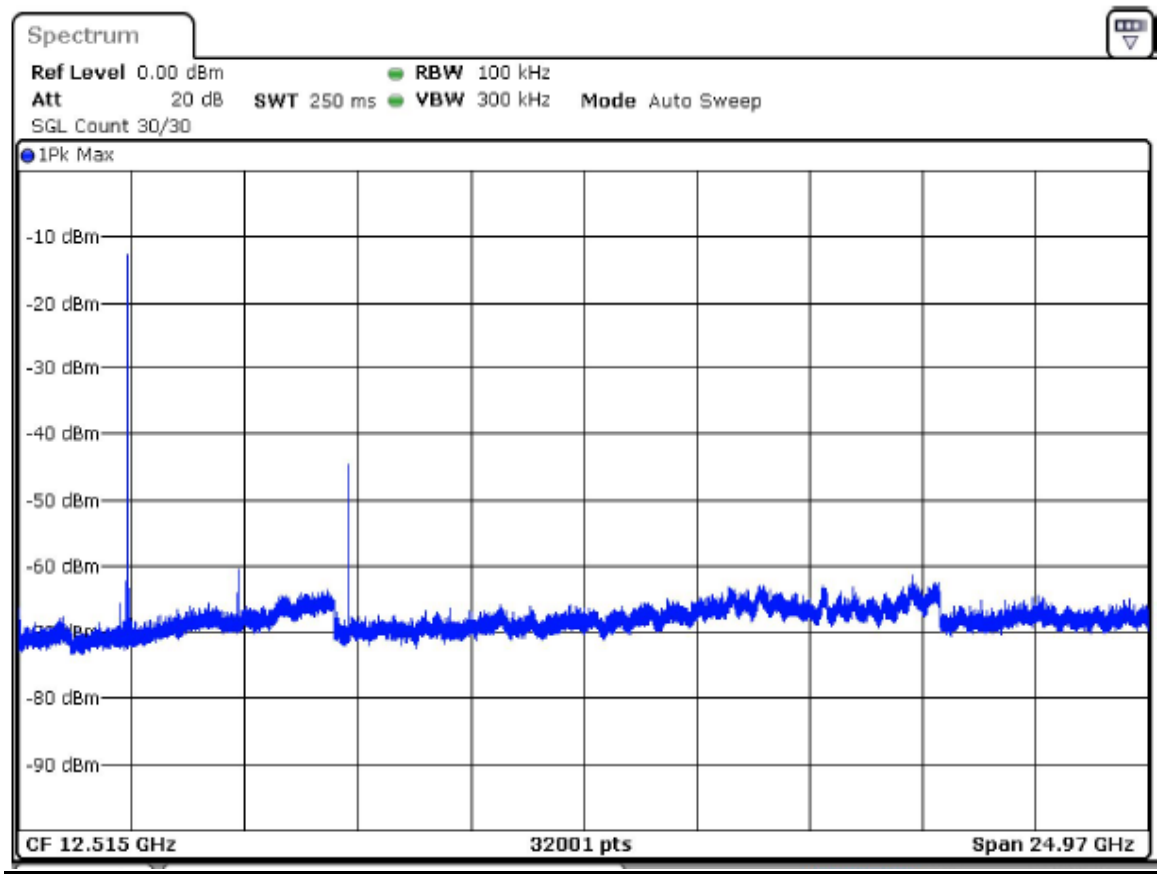
2441 MHz

Plots for packet type 3-DH5 shown below.

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
7322.962876	-32.8	11.4	-21.4
7323.743164	-36.8	15.4	-21.4
7322.182588	-36.9	15.5	-21.4
19771.679479	-48.3	26.8	-21.4
4882.221649	-48.9	27.5	-21.4
19774.020343	-48.9	27.5	-21.4
19792.747258	-49.4	28.0	-21.4
20280.427330	-49.4	28.0	-21.4
19784.944377	-49.4	28.0	-21.4
20358.456142	-49.5	28.0	-21.4
19798.989563	-49.5	28.0	-21.4
19739.687666	-49.5	28.1	-21.4
19757.634293	-49.5	28.1	-21.4
19769.338614	-49.5	28.1	-21.4
19695.991532	-49.6	28.2	-21.4



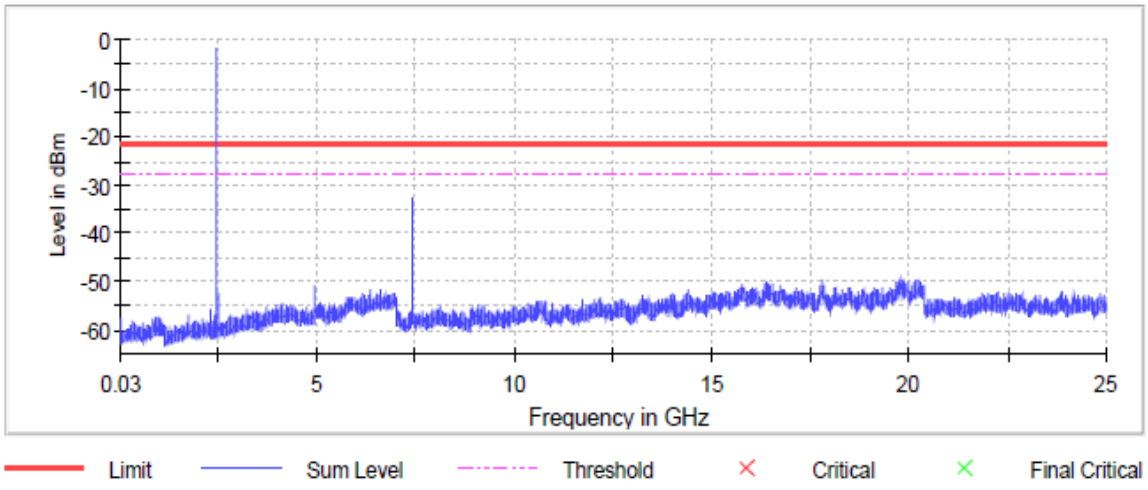

Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB
SWT 250 ms
VBW 300 kHz
Mode Auto Sweep
SGL Count 30/30
1Pk Max
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-80 dBm
-90 dBm
CF 12.515 GHz
32001 pts
Span 24.97 GHz

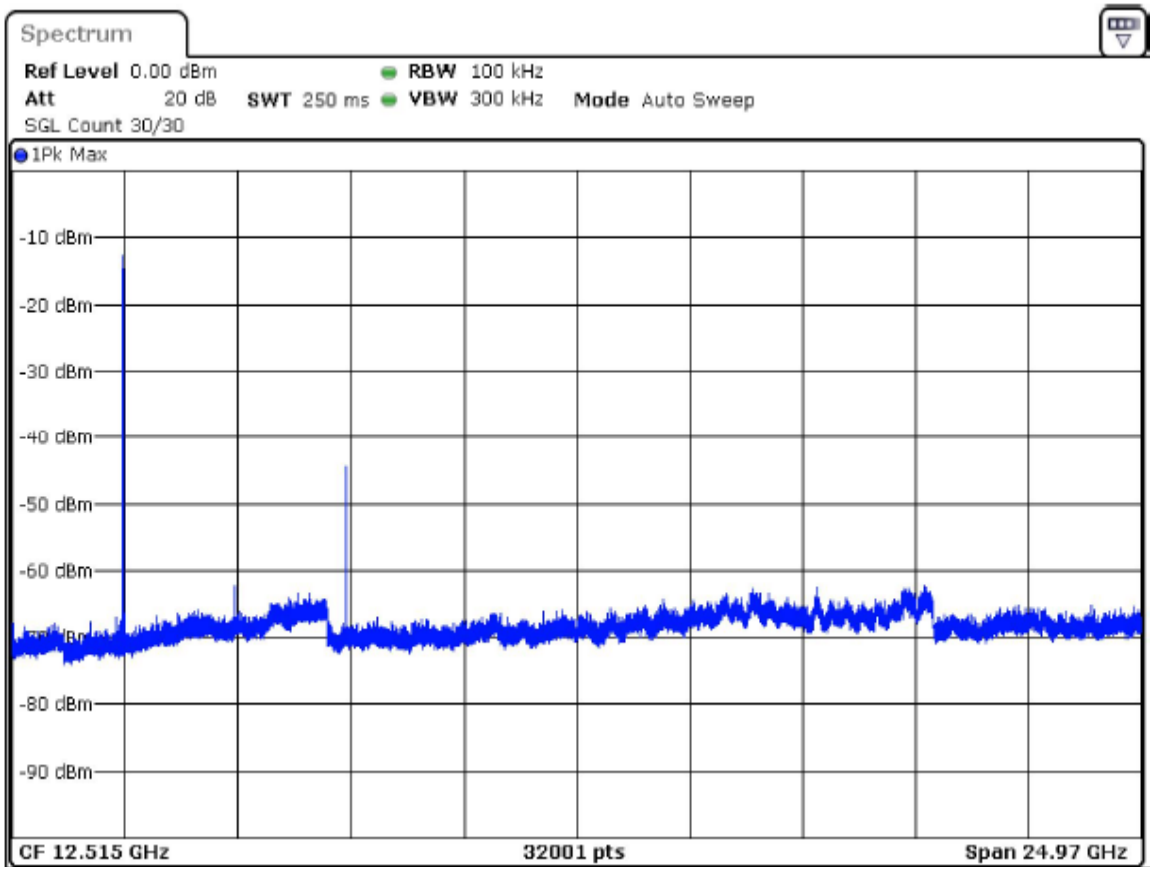
2480 MHz

Plots for packet type 3-DH5 shown below.

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
7440.006094	-32.6	11.1	-21.4
7440.786382	-35.9	14.5	-21.4
7439.225805	-36.5	15.1	-21.4
20210.981688	-49.4	27.9	-21.4
19758.414581	-49.4	28.0	-21.4
19768.558326	-49.5	28.1	-21.4
20233.610043	-49.6	28.2	-21.4
17820.178901	-49.6	28.2	-21.4
20200.057654	-49.6	28.2	-21.4
19843.465985	-49.6	28.2	-21.4
20234.390332	-49.6	28.2	-21.4
19795.088122	-49.7	28.3	-21.4
19719.400175	-49.8	28.4	-21.4
19788.065529	-49.8	28.4	-21.4
19732.665073	-49.8	28.4	-21.4




Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB
SWT 250 ms
VBW 300 kHz
Mode Auto Sweep
SGL Count 30/30
1Pk Max
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
CF 12.515 GHz
32001 pts
Span 24.97 GHz