Test Report

Bureau Veritas Consumer Products Services Inc.

Report No	ET0720-1
Client	Dermal Photonics Corp.
Address	100 Corporate Place Suite 303 Peabody MA, 01960
Phone	603-264-3405
Items tested	Product Name: NIRA Laser, Model: 104-001
FCC ID	2ADZENIRD
FRN	0028133858
Equipment Type	Digital Transmission System
Equipment Code	DTS
Emission Designator	1M05F1D
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2
Test Dates	Apr 1-10, 2019
Results	As detailed within this report
Prepared by	Christopher Hamel – Test Engineer
Authorized by	Yunus Fazilioglu – Sr. Engineer
Issue Date	6/5/2019
Conditions of Issue	This Test Report is issued subject to the conditions stated in the '*Conditions of Testing*' section on page 32 of this report.

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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 NIRA Laser, Model: 104-001. It is a direct sequence spread spectrum transmitter that operates in the 2402 – 2480 MHz frequency range.

Antenna Type: PCB Trace
Gain: 1.6dBi

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

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 v05r01 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 internal, therefore could not be maximized separately.

EUT operating voltage is 3.6V DC from battery. External USB power supply is provided with the EUT for charging. EUT cannot transmit during charging; 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:	T0720		
Company:	Dermal Photonics		
Company Address:	100 Corporate Pl, Suite 303 Peabody, MA, 01960		
Contact:	Felix Feldchtein		
	Model Number	**Product Name**	**Serial Number**
EUT:	104-001	NIRA Laser	Sample 1
EUT Description:	Skincare Laser		
EUT Max Frequency:	2480 MHz (Tx), 2488MHz (non-Tx)		
EUT Min Frequency:	2402 MHz		
Software Operating Mode Description:			
Test firmware allowing transmission of modulated signal on 3 channels (Low: 2402MHz, Mid: 2440MHz, High: 2480MHz)			

Statement of Conformity

RSS-GEN	RSP-100	RSS 247	Part 15	Comments
6.4			15.15(b)	There are no controls accessible to the users that vary the output power.
	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 uses a non-detachable internal PCB trace antenna.
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 and RSS-Gen.

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 device around 3 orthogonal planes (X, Y and Z) and worst case emissions observed in Y orientation. All the results below are for the worst case orientation only.

MEASUREMENTS / RESULTS

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: AKZ
Notes:
Channel 0

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 02:21:00 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
30.024	32.4	-6.4	26	40	-14	PASS	-14	40	-14	PASS	-14	100	225
122.708	33.5	-14.2	19.3	43.5	-24.2	PASS		43.5	-24.2	PASS		100	135
171.814	35.8	-16	19.7	43.5	-23.8	PASS		43.5	-23.8	PASS		150	0
184.084	39.2	-16.3	23	43.5	-20.5	PASS		43.5	-20.6	PASS		150	225
466.403	37	-9.3	27.7	46	-18.3	PASS		46	-18.3	PASS		150	315
883.649	33.4	-2.7	30.7	46	-15.3	PASS		46	-15.3	PASS		200	225

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: AKZ
Notes:
Channel 0

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 02:21:00 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	Turntable Azimuth (degrees)
30.897	32.3	-7.1	25.3	40	-14.7	PASS		40	-14.7	PASS		200	180
196.355	35.5	-15	20.5	43.5	-23	PASS		43.5	-23	PASS		100	135
466.33	34.8	-9.3	25.5	46	-20.5	PASS		46	-20.5	PASS		200	0
819.095	36.7	-3.7	33.1	46	-12.9	PASS	-12.9	46	-13	PASS	-13	100	180
914.761	32.1	-2.2	29.9	46	-16.1	PASS		46	-16.1	PASS		200	0
995.926	32.2	-0.5	31.7	54	-22.3	PASS		54	-22.3	PASS		200	45

30-1000MHz Low Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: AKZ
Notes:
Channel 19

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 01:47:53 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
30.485	32.6	-6.8	25.9	40	-14.1	PASS		40	-14.1	PASS		150	135
466.379	37.6	-9.3	28.3	46	-17.7	PASS		46	-17.7	PASS		150	135
700.1	38.8	-5.3	33.5	46	-12.5	PASS		46	-12.5	PASS		150	315
701.749	37	-5.3	31.7	46	-14.3	PASS		46	-14.3	PASS		150	0
703.326	42.9	-5.3	37.7	46	-8.3	PASS	-8.3	46	-8.4	PASS	-8.4	100	315
883.649	32.9	-2.7	30.2	46	-15.8	PASS		46	-15.8	PASS		200	90

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: AKZ
Notes:
Channel 19

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 01:47:53 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	Turntable Azimuth (degrees)
30.558	32.2	-6.8	25.4	40	-14.6	PASS		40	-14.6	PASS		200	45
466.379	34.5	-9.3	25.2	46	-20.8	PASS		46	-20.8	PASS		200	135
490.92	34.4	-8.9	25.5	46	-20.5	PASS		46	-20.5	PASS		200	90
701.095	41.3	-5.3	36	46	-10	PASS	-10	46	-10	PASS	-10	200	315
703.034	38.9	-5.3	33.6	46	-12.4	PASS		46	-12.4	PASS		200	315
936.95	31.7	-1.9	29.8	46	-16.2	PASS		46	-16.2	PASS		150	90

30-1000MHz Mid Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: AKZ
Notes:
Channel 39

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 03:18:09 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
30.073	32	-6.5	25.5	40	-14.5	PASS	-14.5	40	-14.5	PASS	-14.5	100	0
122.077	34.1	-14.2	19.9	43.5	-23.6	PASS		43.5	-23.6	PASS		100	225
184.084	39.7	-16.3	23.4	43.5	-20.1	PASS		43.5	-20.1	PASS		150	225
196.379	34.1	-15	19.1	43.5	-24.4	PASS		43.5	-24.4	PASS		150	180
466.354	37.5	-9.3	28.2	46	-17.8	PASS		46	-17.8	PASS		150	90
956.544	31.7	-1.8	29.8	46	-16.2	PASS		46	-16.2	PASS		150	0

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: AKZ
Notes:
Channel 39

Work Order - S2579
EUT Power Input - 120Vac/60Hz
Test Site - CH-2
Conditions - 24°C; 45%RH; 1010mBar

EUT Maximum Frequency - 2488MHz

Data Taken at 03:18:09 PM, Wednesday, September 19, 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_109_Class_B (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	Turntable Azimuth (degrees)
30.461	33.1	-6.8	26.4	40	-13.6	PASS	-13.6	40	-13.6	PASS	-13.6	100	45
130.734	33.6	-14	19.6	43.5	-23.9	PASS		43.5	-24	PASS		150	0
196.379	36.7	-15	21.7	43.5	-21.8	PASS		43.5	-21.9	PASS		100	45
466.354	35.1	-9.3	25.8	46	-20.2	PASS		46	-20.2	PASS		200	180
490.896	34.3	-8.9	25.4	46	-20.6	PASS		46	-20.6	PASS		200	225
946.965	32.3	-1.8	30.5	46	-15.5	PASS		46	-15.5	PASS		150	45

30-1000MHz High Channel

Rev. 9/17/2018

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
2311 PA	1-1000MHz	PAM-103	COM-POWER	441174	2311	II	10/29/2018	10/29/2017

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-White Bilog	30-2000MHz	JB1	Sunol	A091604-1	1105	I	8/21/2019	8/21/2017

Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2082		HTC-1	HDE		2082	II	3/22/2019	3/22/2018

Cables	Range	Mfr	Cat	Calibration Due	Calibrated on
Asset #2051	9kHz - 18GHz	Florida RF	II	3/7/2019	3/7/2018
Asset #2054	9kHz - 18GHz	Florida RF	II	10/31/2018	10/31/2017
Asset #2466	9KHz-18GHz	MegaPhase	II	10/29/2018	10/29/2017
2490(6dB)	9KHz-18GHz		II	11/27/2018	11/27/2017

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

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: ZJ
Notes:
Low Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 11:02:52 PM, Wednesday, September 19, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ClassB_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_109_ClassB_AVG (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1860.25	47.2	-1.4	45.7	74	-28.2	PASS		54	-8.2	PASS		200	23
1941.25	47.8	-0.9	46.9	74	-27.1	PASS		54	-7.1	PASS		200	23
2161.75	45.2	1.8	46.9	74	-27	PASS		54	-7	PASS		200	169
3061.63	46.4	2.2	48.6	74	-25.4	PASS		54	-5.4	PASS		100	42
5819.88	43.1	6.1	49.2	74	-24.7	PASS	-24.7	54	-4.7	PASS	-4.7	200	33

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: ZJ
Notes:
Low Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 06:46:35 PM, Wednesday, September 19, 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ClassB_Peak (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)	Pk Lim: FCC_pt15_109_ClassB_Avg (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2173.63	44.6	1.9	46.5	74	-27.5	PASS		54	-7.5	PASS		200	169
2909.38	45.7	2.6	48.3	74	-25.7	PASS		54	-5.7	PASS		100	126
5963.13	43	6.1	49.1	74	-24.9	PASS	-24.9	54	-4.9	PASS	-4.9	300	298

1-6GHz Low Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Vertical Data
Operator: ZJ
Notes:
Mid Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 09:26:55 PM, Wednesday, September 19, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ClassB_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_ClassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2166.7	42.4	32.6	1.8	44.2	74	-29.8	PASS		34.4	54	-19.6	PASS		204	91
2939.9	42.1	32.7	2.6	44.7	74	-29.3	PASS		35.2	54	-18.8	PASS		222	92
5932.4	39.5	30.8	6.2	45.6	74	-28.4	PASS	-28.4	37	54	-17	PASS	-17	295	319

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
1-6GHz Horizontal Data
Operator: ZJ
Notes:
Mid Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 09:55:51 PM, Wednesday, September 19, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ ClassB_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109 _ClassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2132.6	41	32.7	1.5	42.5	74	-31.5	PASS		34.1	54	-19.8	PASS		275	2
3125.6	42.2	33	2.2	44.4	74	-29.5	PASS		35.2	54	-18.8	PASS		215	67
5263.3	39	30.9	4.9	43.9	74	-30.1	PASS		35.8	54	-18.2	PASS		196	202
5276.9	39.9	31	5	44.8	74	-29.1	PASS	-29.1	35.9	54	-18.1	PASS	-18.1	225	70

1-6GHz Mid Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: ZJ
Notes:
High Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 08:30:55 PM, Wednesday, September 19, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_Cl assB_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_109_C lassB_AVG (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2177	44.5	1.9	46.4	74	-27.5	PASS		54	-7.5	PASS		100	21
3204	45.3	2.5	47.8	74	-26.1	PASS		54	-6.1	PASS		300	167
5919.25	42.6	6.2	48.8	74	-25.2	PASS	-25.2	54	-5.2	PASS	-5.2	100	10

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: ZJ
Notes:
High Channel

Work Order - S2579
EUT Power Input - 120V/60Hz
Test Site - CH-2
Conditions - 22.8°C; 64%RH; 1003mBar

Data Taken at 08:30:55 PM, Wednesday, September 19, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_Class B_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_109_Cla ssB_AVG (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2168.13	44.4	1.8	46.2	74	-27.8	PASS		54	-7.8	PASS		200	242
2943.5	45.7	2.5	48.2	74	-25.8	PASS		54	-5.8	PASS		200	190
5285.5	45.5	5.1	50.5	74	-23.5	PASS	-23.5	54	-3.5	PASS	-3.5	300	73

1-6GHz High Channel

Rev. 9/19/2018

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**
2311 PA	1-1000MHz	PAM-103	COM-POWER	441174	2311	II	10/29/2018	10/29/2017
2116 BRF	0.009-18000MHz	BRM50702	Micro-Tronics	G226	2116	II	11/8/2018	11/8/2017
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**
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2077		HTC-1	HDE		2077	II	3/22/2019	3/22/2018
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2051	9kHz - 18GHz		Florida RF			II	3/7/2019	3/7/2018
Asset #2054	9kHz - 18GHz		Florida RF			II	10/31/2018	10/31/2017
Asset #2466	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.

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Vertical Data
Operator: ZJ
Notes:

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar

EUT Maximum Frequency - 2480MHz

Data Taken at 04:08:15 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ClassB_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_ClassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
10667.1	39.1	29.8	13	52.1	83.5	-31.4	PASS		42.8	63.5	-20.7	PASS		100	56
16463.6	40.3	31.4	18.1	58.4	83.5	-25.1	PASS		49.5	63.5	-14	PASS		191	164
17976.3	38.8	30.6	21.2	60	83.5	-23.5	PASS	-23.5	51.8	63.5	-11.7	PASS	-11.7	200	340

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Horizontal Data
Operator: ZJ
Notes:

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar

EUT Maximum Frequency - 2480MHz

Data Taken at 04:08:15 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ClassB_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_ClassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7206.7	46.2	35	7.9	54.1	83.5	-29.4	PASS		42.9	63.5	-20.6	PASS		147	1
17948.4	39.7	30.8	20.8	60.5	83.5	-23	PASS	-23	51.6	63.5	-11.9	PASS	-11.9	175	242

6-18GHz Low Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Vertical Data
Operator: ZJ
Notes:
Mid Channel

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar
EUT Maximum Frequency - 2480MHz

Data Taken at 03:29:02 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_ ClassB_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_ ClassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7320.8	44	31.6	8	52	83.5	-31.5	PASS		39.6	63.5	-23.9	PASS		100	25
17673.9	39.9	30.7	20.2	60.1	83.5	-23.4	PASS	-23.4	50.8	63.5	-12.7	PASS	-12.7	124	140

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Horizontal Data
Operator: ZJ
Notes:
Mid Channel

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar
EUT Maximum Frequency - 2480MHz

Data Taken at 03:29:02 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_Cla ssB_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_C lassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7320.9	45.5	36	8	53.6	83.5	-29.9	PASS		44.1	63.5	-19.4	PASS		162	0
17984.2	40.1	30.3	21.3	61.4	83.5	-22.1	PASS	-22.1	51.6	63.5	-11.9	PASS	-11.9	125	270

6-18GHz Mid Channel

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Vertical Data
Operator: ZJ
Notes:
High Channel

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar
EUT Maximum Frequency - 2480MHz

Data Taken at 04:46:22 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_Cl assB_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_C lassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7439.1	45	34.9	8	53	83.5	-30.5	PASS		43	63.5	-20.5	PASS		100	25
16481	40.2	31.4	18.2	58.4	83.5	-25.1	PASS		49.6	63.5	-13.9	PASS		100	73
17072.4	40.4	32	19.1	59.5	83.5	-24	PASS	-24	51.1	63.5	-12.4	PASS	-12.4	100	0

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
6-18GHz Horizontal Data
Operator: ZJ
Notes:
High Channel

Work Order - S2579
EUT Power Input - 5V DC
Test Site - CH-2
Conditions - 22.2°C; 42%RH; 1004mBar
EUT Maximum Frequency - 2480MHz

Data Taken at 04:46:22 PM, Monday, September 24, 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_109_Cl assB_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_109_C lassB_AVG (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7440.6	49.4	39.7	8	57.4	83.5	-26.1	PASS		47.7	63.5	-15.8	PASS		163	174
17947.5	39.7	30.7	20.8	60.5	83.5	-23	PASS	-23	51.5	63.5	-12	PASS	-12	187	190

6-18GHz High Channel

Rev. 9/19/2018

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**
2111 HF Preamp	0.5-18GHz	PAM-118A	COM-POWER	551063	2111	II	11/19/2018	11/19/2017
2116 BRF	0.009-18000MHz	BRM50702	Micro-Tronics	G226	2116	II	11/8/2018	11/8/2017
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**
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2080		HTC-1	HDE		2080	II	3/22/2019	3/22/2018
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2051	9kHz - 18GHz		Florida RF			II	3/7/2019	3/7/2018
Asset #2054	9kHz - 18GHz		Florida RF			II	10/31/2018	10/31/2017
Asset #2467	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.

Radiated Emissions Table

Date: 24-Sep-18 **Company:** Dermal Photonics **Work Order:** S2579
Engineer: Zachary Johnson **EUT Desc:** NIRA **EUT Operating Voltage/Frequency:** 5V DC
Temp: 22.2°C **Humidity:** 42% **Pressure:** 1004mBar
Frequency Range: 18-26.5GHz **Measurement Distance:** 0.1 m
Notes: Tested high, mid, and low channels **EUT Max Freq:** 2480MHz

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)	FCC Class B High Frequency - Peak Margin (dB)	FCC Class B High Frequency - Peak Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	FCC Class B High Frequency - Average Margin (dB)	FCC Class B High Frequency - Average Result (Pass/Fail)
H / V	No Emissions Found			---	---	---	---	---	---	---	---	---	---	---

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

Test Site: EMI Chamber 2 **Cable 1:** Asset #2324 **Cable 2:** --- **Cable 3:** ---
Analyzer: 1860 SA **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.207 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-26.5GHz All Channels

Rev. 9/19/2018

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
SA #2 (1860)	9kHz-26.5 GHz	E7405A	Agilent	MY45104916	1860	I	3/15/2019	3/15/2018
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
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**
HF (White) Horn	18-26.5GHz	801-WLM	Waveline	758	758	III	Verify before Use	date of test
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2080		HTC-1	HDE		2080	II	3/22/2019	3/22/2018
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2324	1-26.5GHz	TM26-S1S1-120	MEGAPHASE	17139101 001	2324	II	8/9/2019	8/9/2018

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

Radiated Band Edge

Radiated Emissions Table

Date: 05-Apr-19 **Work Order:** T0720
Engineer: Chris Hamel **EUT Operating Voltage/Frequency:** Battery
Temp: 22.2 **Humidity:** 19% **Pressure:** 1012mBar
Frequency Range: 2310-2500MHz **Measurement Distance:** 3 m
Notes: BLE Band edges **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)	FCC Class B High Frequency - Peak Margin (dB)	FCC Class B High Frequency - Peak Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	FCC Class B High Frequency - Average Margin (dB)	FCC Class B High Frequency - Average Result (Pass/Fail)
Low				---	---	---	---	---	---	---	---	---	---	---
V	2390.0	23.7	5.1	0.0	32.2	2.8	58.7	40.1	74.0	-15.3	Pass	54.0	-13.9	Pass
V	2388.0	22.2	5.0	0.0	32.2	2.8	57.2	40.0	74.0	-16.8	Pass	54.0	-14.0	Pass
				---	---	---	---	---	---	---	---	---	---	---
High				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	32.2	7.8	0.0	32.4	2.7	67.3	42.9	74.0	-6.7	Pass	54.0	-11.1	Pass
V	2483.8	32.6	7.9	0.0	32.4	2.7	67.7	43.0	74.0	-6.3	Pass	54.0	-11.0	Pass
V	2484.3	31.5	7.6	0.0	32.4	2.7	66.6	42.7	74.0	-7.4	Pass	54.0	-11.3	Pass
V	2487.4	27.3	7.2	0.0	32.4	2.7	62.4	42.3	74.0	-11.6	Pass	54.0	-11.7	Pass
V	2490.1	24.6	6.7	0.0	32.4	2.7	59.7	41.8	74.0	-14.3	Pass	54.0	-12.2	Pass
				---	---	---	---	---	---	---	---	---	---	---

Table Result: Pass by -6.3 dB ***Worst Freq:*** 2483.8 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2465 **Cable 2:** Asset #2480 **Cable 3:** ---
Analyzer: Rental SA#2 **Preamp:** None **Antenna:** Blue Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.214 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

Rev. 4/2/2019							
Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	11/21/2019
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	I	12/7/2020
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Blue Horn	1-18Ghz	3117	ETS	157647	1861	I	3/9/2021
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#2084		HTC-1	HDE		2084	II	4/23/2019
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
Asset #2465	9KHz-18GHz		MegaPhase			II	10/31/2019
Asset #2480	9KHz-18GHz		MegaPhase			II	10/29/2019
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 battery powered only. EUT cannot transmit during charging; therefore AC line conducted emissions requirements are not applicable.

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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 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 Bureau Veritas Consumer Products Services Inc.** (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 Bureau Veritas Consumer Products Services Inc.may use to delegate the performance of work can be provided upon request.

Rev.160009121(2)_#684340 v14CS

Appendix A

CFR Title 47 FCC Part §15.247 and ISED Canada RSS-247 Issue 2

DUT Information

Product Name:	NIRA Laser
Model Number:	Model: 104-001
Manufacturer:	Dermal Photonics
Serial Number:	01

40 channels are provided for BLE mode:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	**2402**	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	**19**	**2440**	29	2460	**39**	**2480**

Notes: Channels indicated above in bold were selected as representative test channels.

Modulation	Data Rate
GFSK	1Mbps

Antenna type	PCB Trace
Antenna gain	1.6dBi
Number of transmit chains	1
Equipment type	Digital Transmission System

Test Equipment Used

Rev. 04/10/2019								
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	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	I	10/1/2019	10/1/2018
SMB100A Signal Generator	100kHz-40GHz	SMB100A	ROHDE & SCHWARZ	179884	2557	I	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	I	3/14/2020	3/14/2019
Cables	**Range**		**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
DUT1	30MHz-40GHz		Micro-Coax	UFB142A-1-0787-200200	2593	I	3/13/2020	3/13/2019
DUT2	30MHz-40GHz		Micro-Coax	UFB142A-1-0787-200200	2594	I	3/13/2020	3/13/2019
DUT3	30MHz-40GHz		Micro-Coax	UFB142A-1-0787-200200	2595	I	3/13/2020	3/13/2019
DUT4	30MHz-40GHz		Micro-Coax	UFB142A-1-0787-200200	2596	I	3/13/2020	3/13/2019
Attenuators / Couplers	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
10dB Attenuator-01 Brown	30MHz-18GHz		Mini Curcuits	BW-S10W2+		I	3/13/2020	3/13/2019
10dB Attenuator-02 Yellow	30MHz-18GHz		Mini Curcuits	BW-S10W2+		I	3/13/2020	3/13/2019
10dB Attenuator-03 Red	30MHz-18GHz		Mini Curcuits	BW-S10W2+		I	3/13/2020	3/13/2019
10dB Attenuator-04 orange	30MHz-18GHz		Mini Curcuits	BW-S10W2+		I	3/13/2020	3/13/2019
API - 30dB 20W Attenuator	9KHz-40GHz	89-30-11	API Weinschel	703	2121	II	3/23/2020	3/23/2019
Directional Coupler	0.5GHz-18GHz	UDC	AA MCS	001040	2434	I	8/8/2019	8/9/2018
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	2559	I	2/14/2020	2/14/2019
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Temp/Humidity Chamber #18		EPX-2H	Espec	137664	1645	I	1/2/2020	1/2/2019
Weather Clock (Pressure only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2086		HTC-1	HDE		2086	II	3/23/2020	3/23/2019
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.								

Rohde&Schwarz Test System TS8997					
Test Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Firmware Version**	**Software Version**
Spectrum Analyzer	Rohde&Schwarz	FSV40	101551	3.40	N/A
Signal Generator	Rohde&Schwarz	SMB100A	179884	3.20.390.24 / Drv:Rev 2.21.0, 07/2016, CVI 2015	N/A
Vector Signal Generator	Rohde&Schwarz	SMBV100A	261919	3.1.19.15 - 3.50.082.47	N/A
Switching Platform	Rohde&Schwarz	OSP-B157W	1527.1144	1.23.0.2	N/A
Wireless Connectivity Tester	Rohde&Schwarz	CMW270	101066	3.7	N/A
Test Software	Rohde&Schwarz	WMS32	N/A	N/A	V10.50.00

Summary

Test	Frequency (MHz)	Result
Average Output Power	**2402 / 2440 / 2480**	**PASS**
Peak Power Spectral Density	**2402 / 2440 / 2480**	**PASS**
DTS Bandwidth (6dB)	**2402 / 2440 / 2480**	**PASS**
Occupied Channel Bandwidth 99%	**2402 / 2440 / 2480**	**PASS**
Conducted Band Edges	**2402 / 2440 / 2480**	**PASS**
Conducted Spurious Emissions	**2402 / 2440 / 2480**	**PASS**

Average Output Power

Test procedure in accordance with ANSI C63.10-2013 Section 11.9.2.3.2 Method AVGPM-G.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

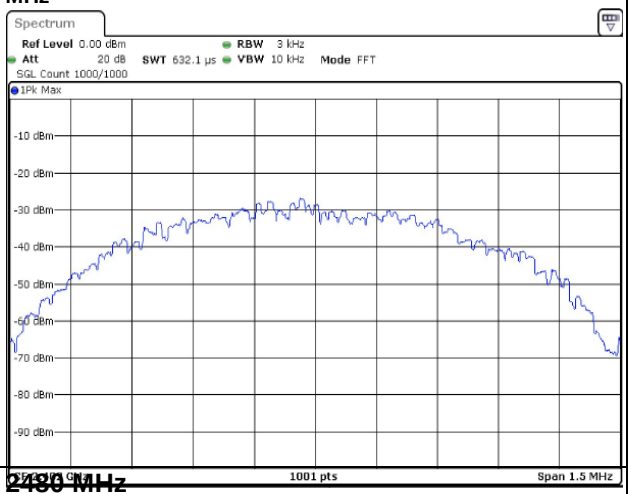
Channel	Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)
0	2402	**1.977**	30
19	2440	1.732	30
39	2480	1.691	30

Peak Power Spectral Density

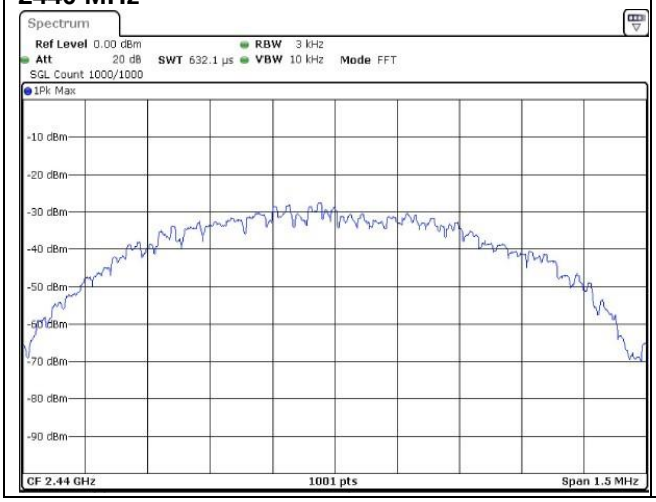
Test procedure in accordance with ANSI C63.10-2013 Section 11.10.2 Method PKPSD.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB.

Channel	Frequency (MHz)	Peak PSD (dBm)	Limit Max (dBm)
0	2402	-13.582	8
19	2440	-14.104	8
39	2480	-14.033	8

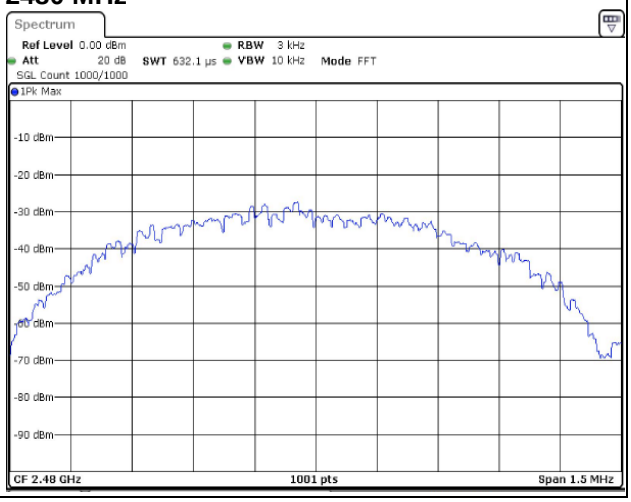
2402 MHz



2440 MHz



2480 MHz

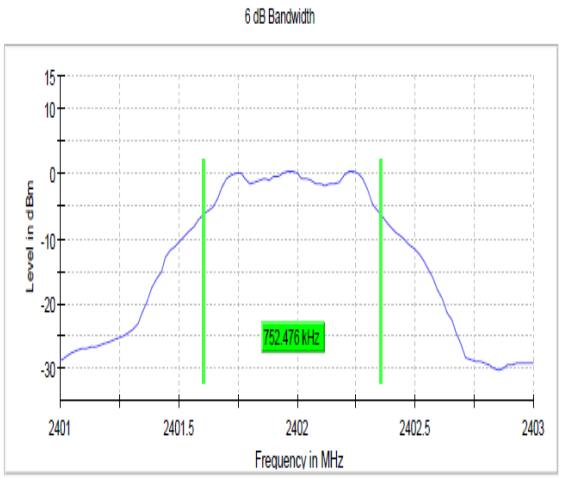


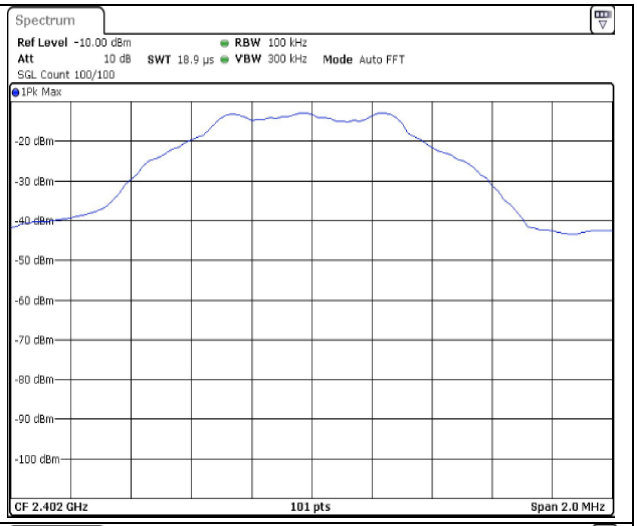
DTS Bandwidth (6dB)

Test procedure in accordance with ANSI C63.10-2013 Section 11.8.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

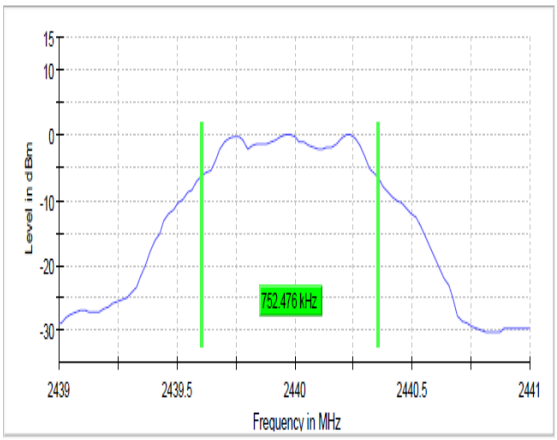
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
0	2402	0.752476	> 0.5	Pass
19	2440	0.752476	> 0.5	Pass
39	2480	0.772278	> 0.5	Pass

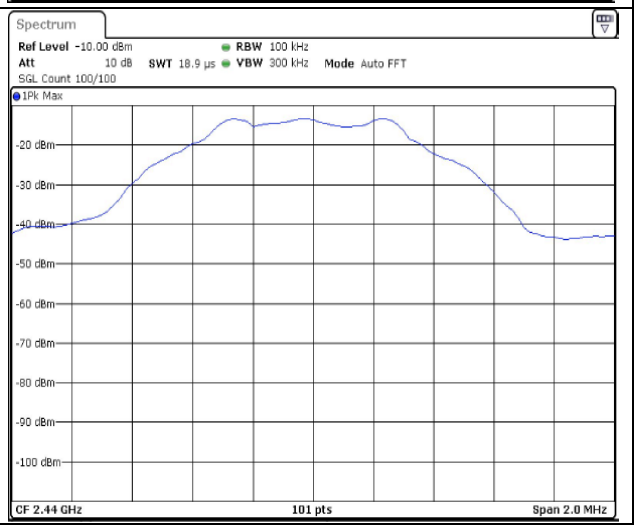
2402 MHz



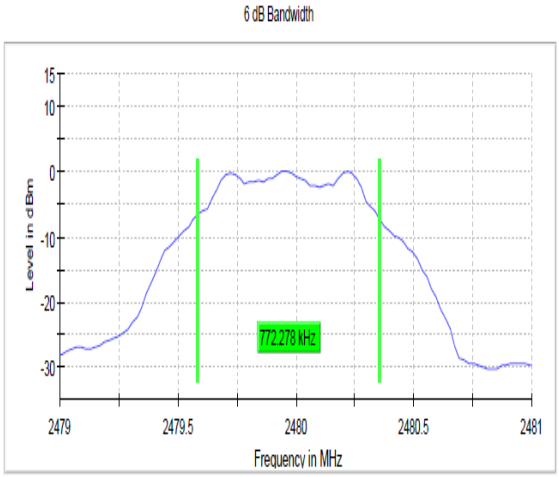


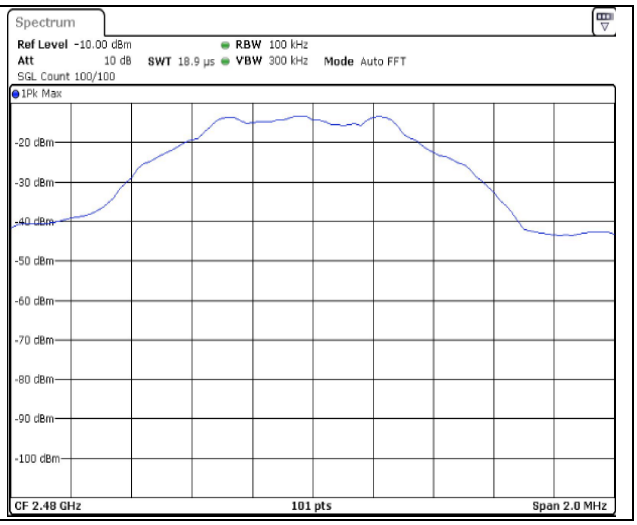
2440 MHz





2480 MHz


6 dB Bandwidth
Level in dBm
15
10
0
-10
-20
-30
772.278 kHz
2479
2479.5
2480
2480.5
2481
Frequency in MHz

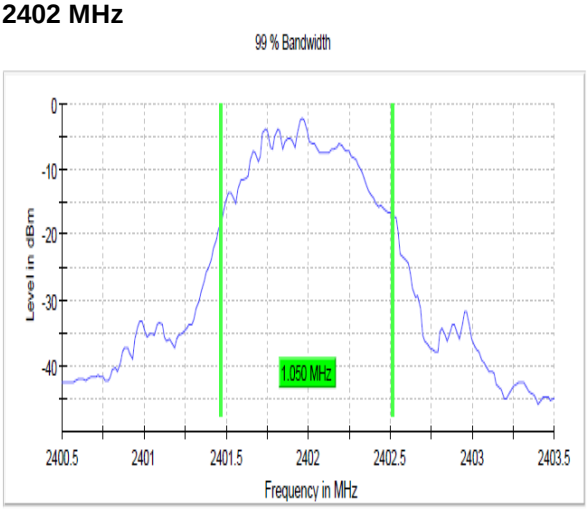

Spectrum
Ref Level -10.00 dBm
RBW 100 kHz
Att 10 dB
SWT 18.9 µs
VBW 300 kHz
Mode Auto FFT
SGL Count 100/100
1Pk Max
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
CF 2.48 GHz
101 pts
Span 2.0 MHz

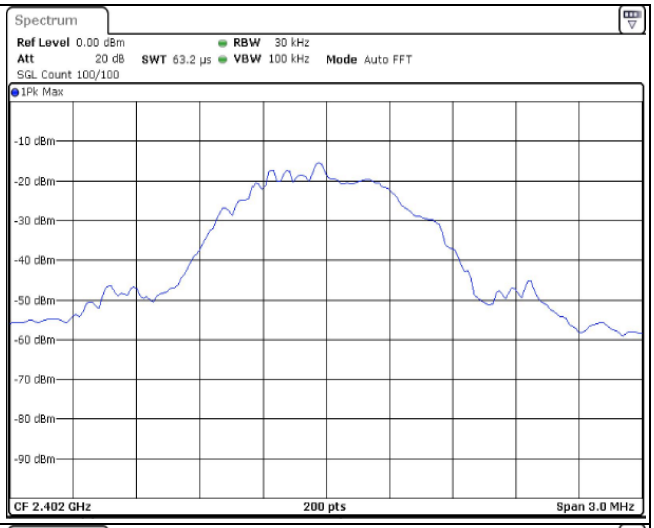
Occupied Channel Bandwidth 99%

Test procedure in accordance with RSS-Gen Issue 5 Section 6.7.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

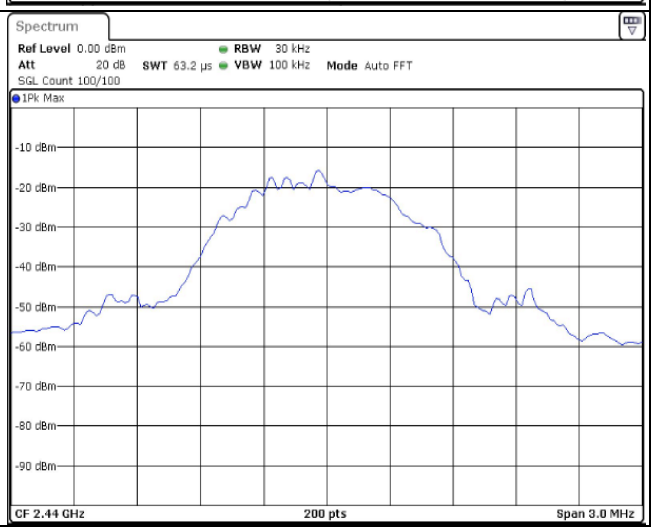
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
0	2402	1.050
19	2440	1.050
39	2480	1.050

2402 MHz

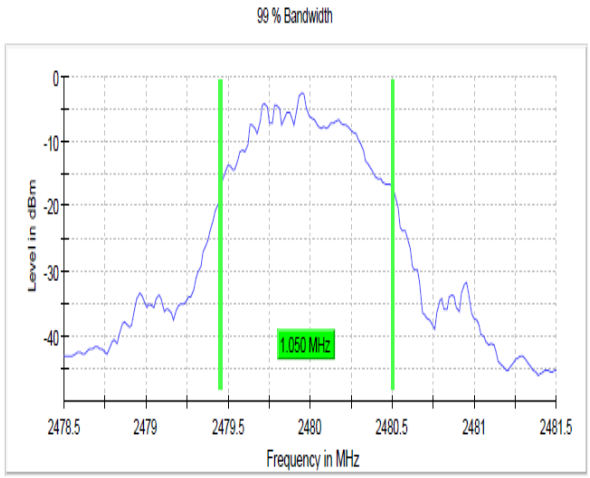


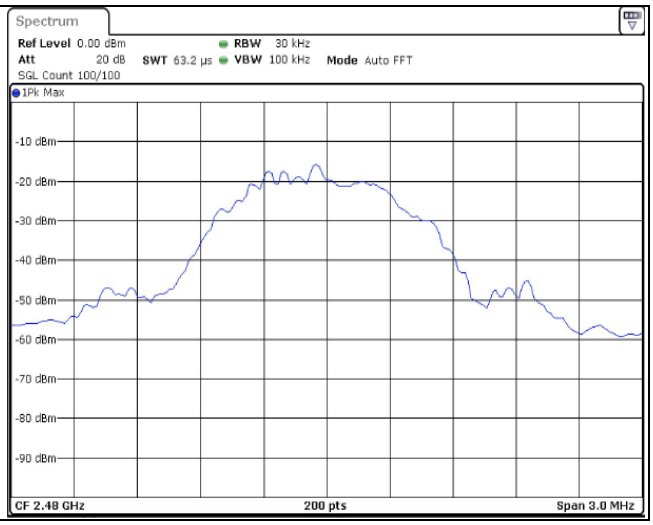


2440 MHz



2480 MHz


99 % Bandwidth
Level in dBm
0
-10
-20
-30
-40
1.050 MHz
2478.5
2479
2479.5
2480
2480.5
2481
2481.5
Frequency in MHz


Spectrum
Ref Level 0.00 dBm
RBW 30 kHz
Att 20 dB
SWT 63.2 µs
VBW 100 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 2.48 GHz
200 pts
Span 3.0 MHz

Conducted Band Edge Low

Test procedure in accordance with ANSI C63.10-2013 Section 11.11.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

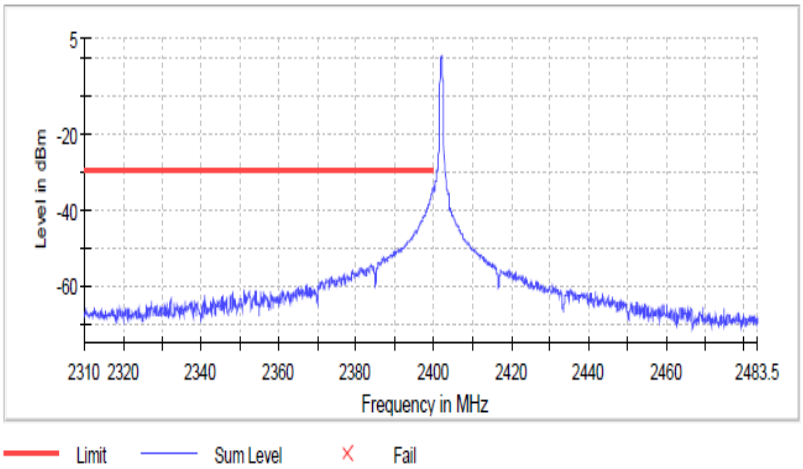
2402 MHz

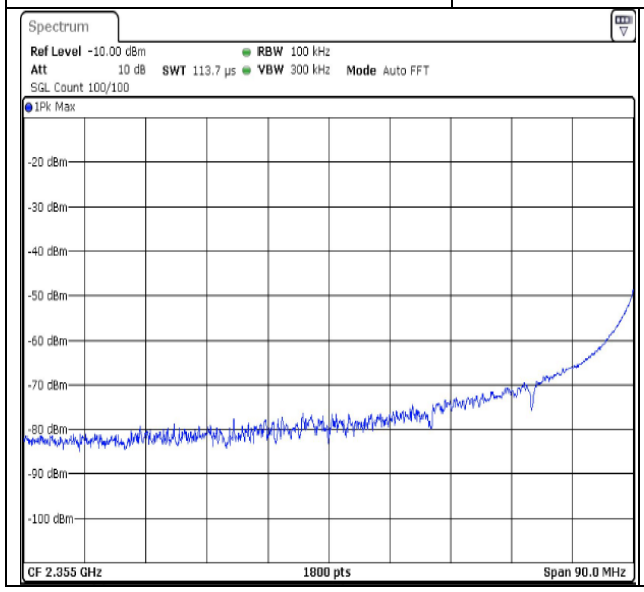
In-band Peak

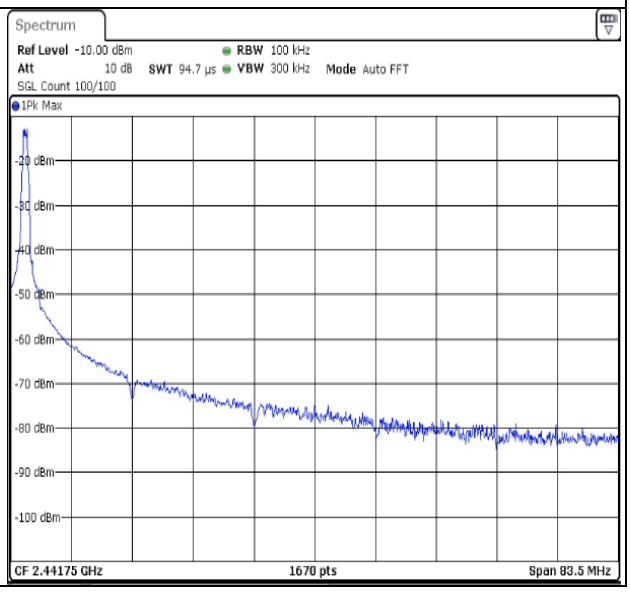
Frequency (MHz)	Level (dBm)
2401.975000	0.4

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.925000	-33.3	3.7	-29.6	PASS
2399.875000	-33.4	3.9	-29.6	PASS
2399.975000	-33.7	4.1	-29.6	PASS
2399.825000	-34.4	4.8	-29.6	PASS
2399.775000	-34.6	5.1	-29.6	PASS
2399.725000	-35.0	5.4	-29.6	PASS
2399.675000	-35.2	5.6	-29.6	PASS
2399.625000	-35.4	5.8	-29.6	PASS
2399.575000	-35.5	6.0	-29.6	PASS
2399.525000	-35.8	6.2	-29.6	PASS
2399.475000	-36.0	6.4	-29.6	PASS
2399.425000	-36.2	6.6	-29.6	PASS
2399.375000	-36.4	6.8	-29.6	PASS
2399.325000	-36.6	7.0	-29.6	PASS
2399.275000	-36.8	7.2	-29.6	PASS







Conducted Band Edge High

Test procedure in accordance with ANSI C63.10-2013 Section 11.11.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

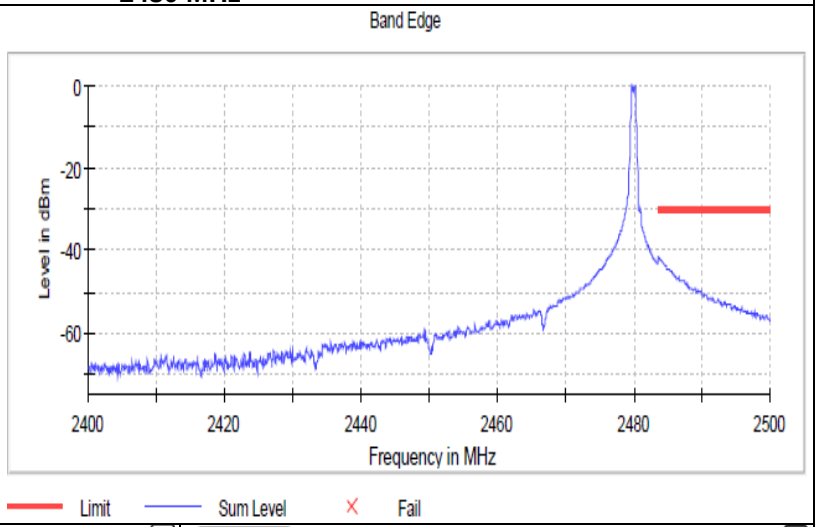
2480 MHz

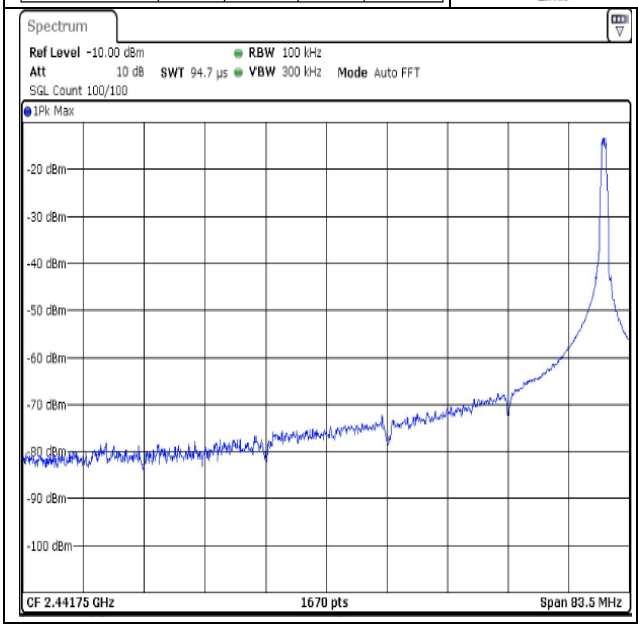
In-band Peak

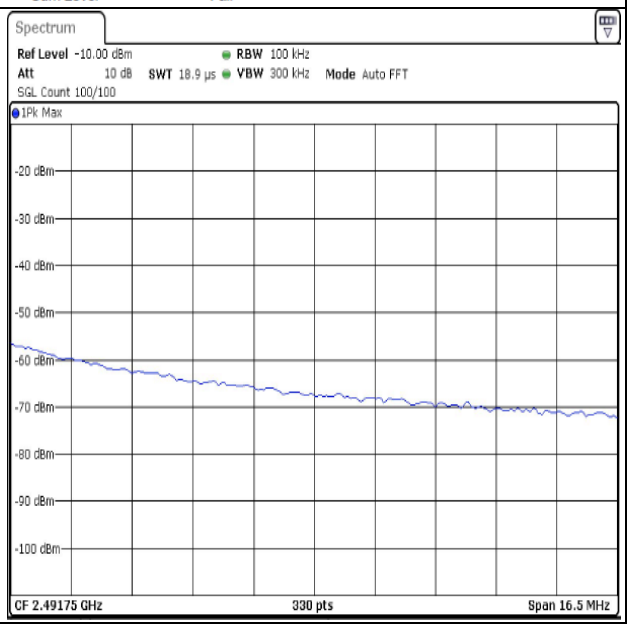
Frequency (MHz)	Level (dBm)
2479.975000	0.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.525000	-41.2	11.2	-30.0	PASS
2483.575000	-41.4	11.4	-30.0	PASS
2483.625000	-41.6	11.6	-30.0	PASS
2483.775000	-41.8	11.8	-30.0	PASS
2483.725000	-41.8	11.8	-30.0	PASS
2483.675000	-41.8	11.8	-30.0	PASS
2483.825000	-41.9	11.8	-30.0	PASS
2483.875000	-42.1	12.1	-30.0	PASS
2483.975000	-42.1	12.1	-30.0	PASS
2484.025000	-42.1	12.1	-30.0	PASS
2483.925000	-42.2	12.2	-30.0	PASS
2484.075000	-42.3	12.3	-30.0	PASS
2484.125000	-42.5	12.5	-30.0	PASS
2484.175000	-42.6	12.6	-30.0	PASS
2484.225000	-42.6	12.6	-30.0	PASS







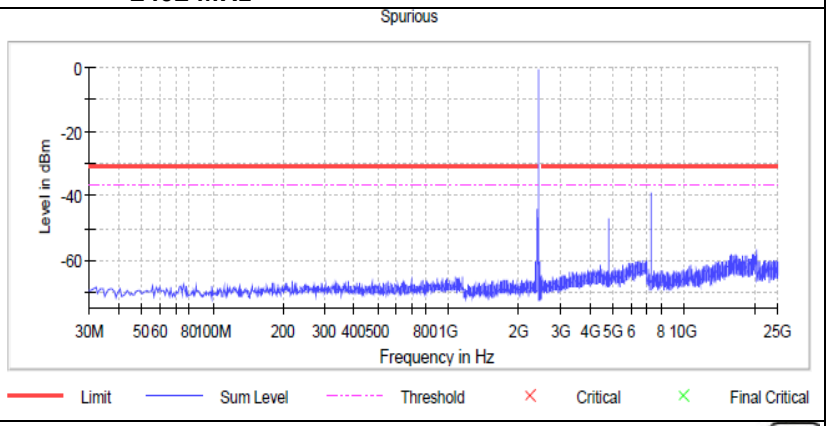
Conducted Spurious Emissions

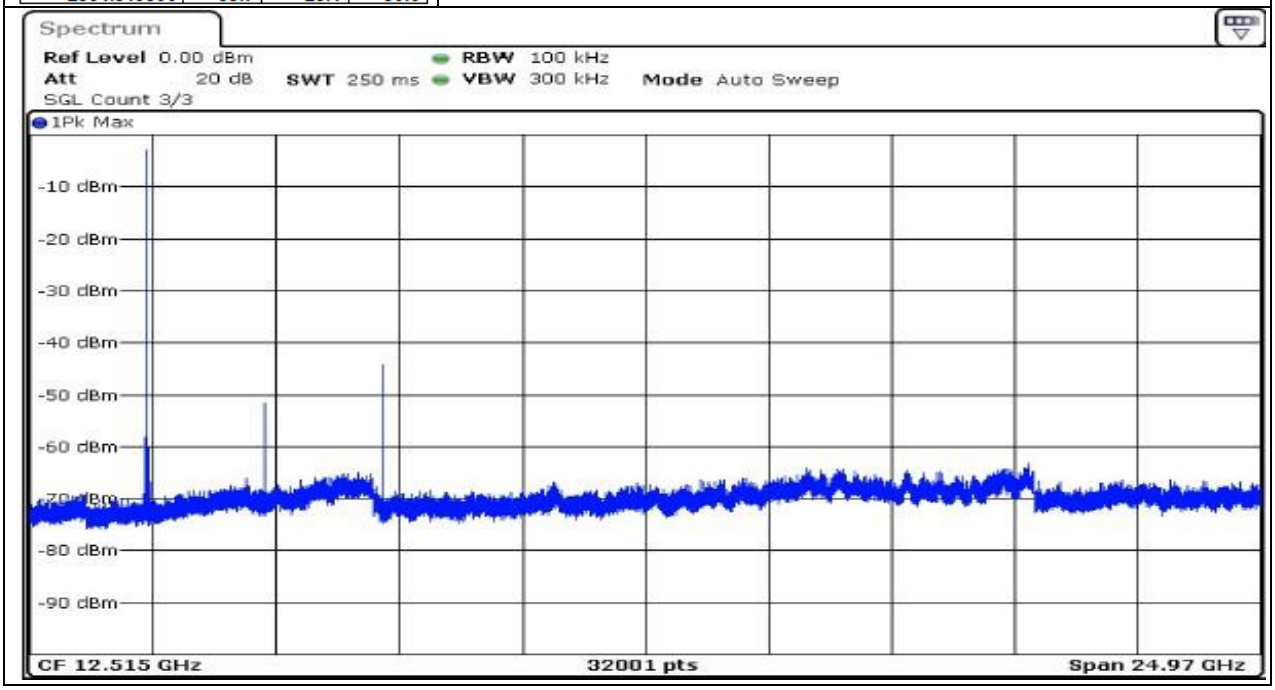
Test procedure in accordance with ANSI C63.10-2013 Section 11.11.
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.8 dB

2402 MHz

Premeasurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2399.344864	-36.8	6.2	-30.6
7206.699947	-39.1	8.5	-30.6
2398.564576	-39.3	8.7	-30.6
7205.139371	-40.4	9.8	-30.6
7205.919659	-41.9	11.3	-30.6
2396.223712	-43.9	13.3	-30.6
2395.443424	-44.9	14.3	-30.6
2394.663136	-46.0	15.4	-30.6
4804.192838	-46.9	16.3	-30.6
2393.882847	-46.9	16.3	-30.6
4803.412550	-48.1	17.5	-30.6
2392.322271	-48.4	17.8	-30.6
2393.102559	-48.8	18.2	-30.6
2397.784288	-49.4	18.8	-30.6
2384.519390	-53.7	23.1	-30.6

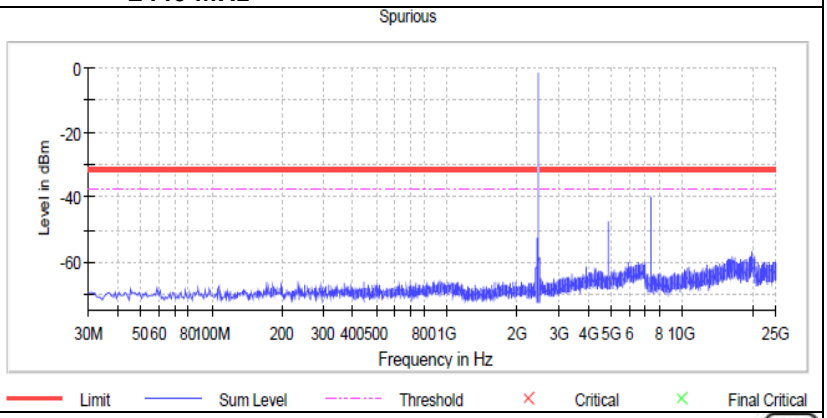


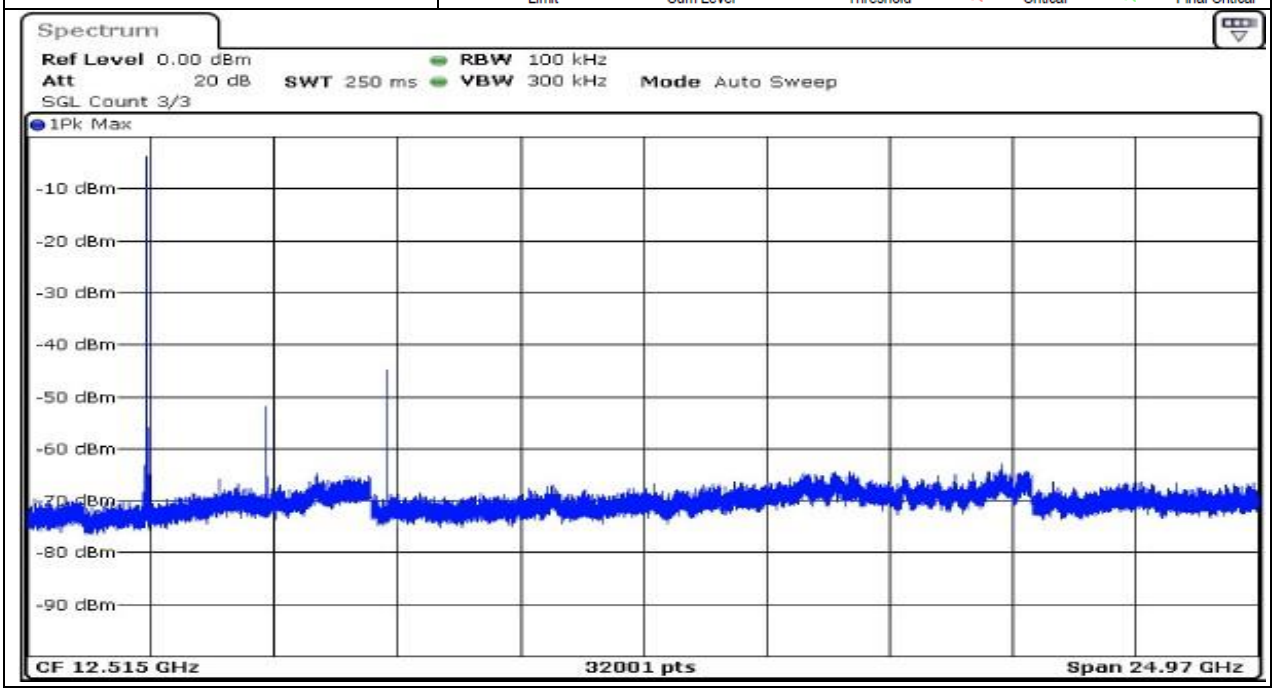


2440 MHz

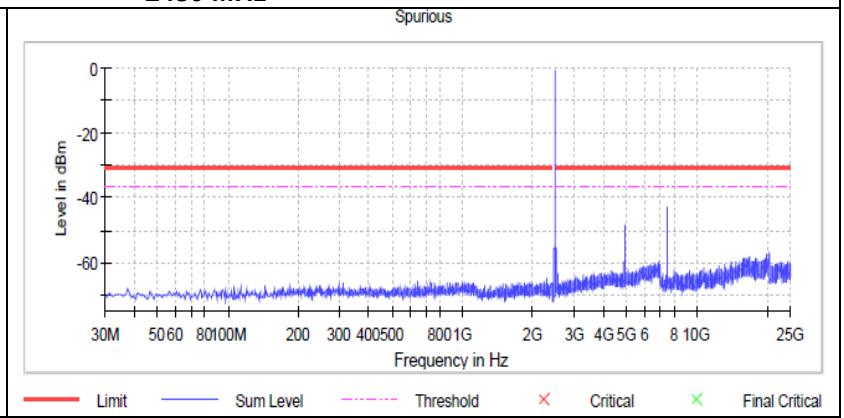
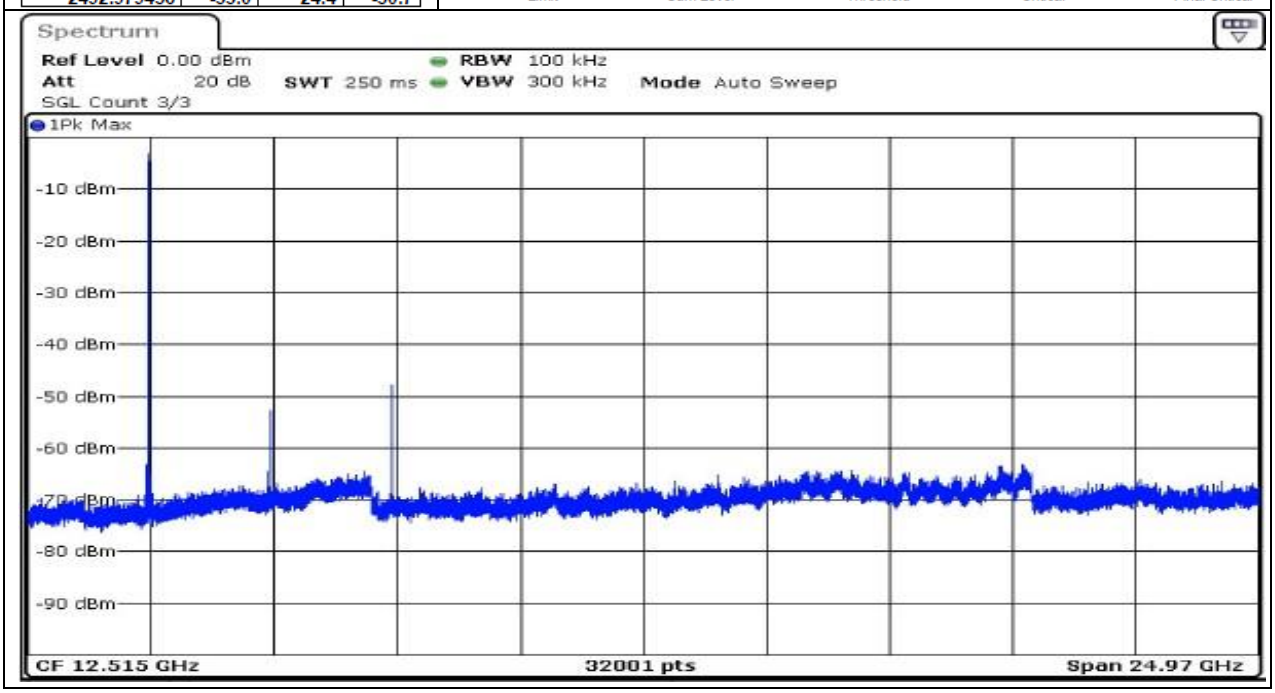
Premeasurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
7320.622012	-39.7	8.4	-31.3
7319.061436	-43.0	11.7	-31.3
7319.841724	-43.4	12.0	-31.3
4880.661073	-47.1	15.8	-31.3
4879.880785	-48.4	17.1	-31.3
4879.100497	-48.9	17.5	-31.3
7321.402300	-54.9	23.5	-31.3
19773.240055	-56.7	25.4	-31.3
19772.459767	-57.0	25.7	-31.3
19765.437174	-57.8	26.4	-31.3
20279.647042	-58.0	26.6	-31.3
19794.307834	-58.0	26.6	-31.3
20282.768195	-58.0	26.6	-31.3
20294.472516	-58.1	26.8	-31.3
19770.118903	-58.2	26.8	-31.3





2480 MHz

Premeasurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2483.615981	-42.2	11.5	-30.7
7439.225805	-42.7	12.1	-30.7
2484.396269	-43.4	12.7	-30.7
2485.176557	-43.6	13.0	-30.7
7440.786382	-43.7	13.0	-30.7
7440.006094	-47.6	16.9	-30.7
4959.470173	-48.1	17.4	-30.7
4960.250461	-48.6	17.9	-30.7
2489.077998	-49.4	18.8	-30.7
2490.638574	-49.9	19.2	-30.7
2493.759726	-52.2	21.5	-30.7
2485.956845	-52.2	21.6	-30.7
2491.418862	-53.7	23.1	-30.7
2496.880879	-54.5	23.8	-30.7
2492.979438	-55.0	24.4	-30.7