Test Report

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

Report No	ER2559-1
Client	Lear Corporation
Address	21557 Telegraph Road Southfield MI 48033
Phone	248.447.5040
Items tested	Locomate Roadstar RSU
FCC ID	KOBIXZ19A
FRN	0007378441
Equipment Type	Licensed Non-Broadcast Station Transmitter
Equipment Code	TNB
FCC/IC Rule Parts	CFR Title 47 FCC Part 90 Subpart M
Test Dates	Mar 30 through May 21, 2018
Results	As detailed within this report
Prepared by	Christopher Hamel – EMC Engineer
Authorized by	Yunus Fazilioglu – Sr. Engineer
Issue Date	9/23/2018
Conditions of Issue	This Test Report is issued subject to the conditions stated in the '*Conditions of Testing*' section on page *21* 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 90 Subpart M for "Regulations Governing the Licensing and Use of Frequencies in the 5850-5925 MHz Band for Dedicated Short-Range Communications Service (DSRCS)"

EUT is the "Locomate Roadstar RSU". It operates under the following channel plan in a 4x4 MIMO configuration.

Channel Bandwidth	Frequency, MHz	Channel
10 MHz	5860	172
	5870	174
	5880	176
	5890	178
	5900	180
	5910	182
	5920	184
20 MHz	5875	175
	5905	181

Antennas: 4 detachable 5dBi dipoles

We found that the EUT met the above requirements with the following modifications.
Modification 1: Power setting was reduced to -1dBm for 20MHz channel bandwidth mode in order to comply with RF output power requirements. All other measurements were done after this modification.
Modification 2: A firmware upgrade was necessary to stabilize the CW unmodulated carrier test mode used during frequency stability tests. This modification was specific to this test mode and not related to the application RF firmware that controls other RF parameters of the device. Therefore any previous measurements were not repeated after this modification.

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

All 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 90 Subpart M
ANSI C63.26-2015 "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services"
ASTM E2213-03 "Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems—5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications"

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 is powered by an external PoE adapter.

Following bandwidths were used during radiated spurious emissions testing.

Frequency	RBW	VBW
30-1000MHz	120kHz	1MHz
1-40GHz	1MHz	3MHz

Product Tested - Configuration Documentation

EUT Configuration			
Work Order:	R2559		
Company:	Lear Corporation		
Company Address:	21557 Telegraph Road		
	Southfield, MI, 48033		
Contact:	Nazeer Shaik		
	MN	**PN**	**SN**
EUT:	LocoMate Roadstar RSU		GClocomate300rsu00066
EUT Description:	Road Side Dedicated Short-Range Communications Service (DSRCS) Device		
EUT Max Frequency:	5920 MHz		

EUT Components	**MN**	**SN**
	Locomate Roadstar RSU	

Support Equipment	**MN**	**SN**
POE adapter	Gigabit	
Laptop (CS Supplied)		

Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under test	comment
Ethernet	Ethernet	1	1	Ethernet	Yes	No	5	out	yes	
Micro USB diag	USB	1	1	USB	Yes	No	1	in	no	Set up, Diag, and update port only.

Software Operating Mode Description:

EUT constantly transmits on all 4 ports in 10MHz and 20MHz channel bandwidth modes via client supplied test software. Channels and data rates are selectable.

Test Results

Radiated Spurious Emissions

Limit: -25dBm EIRP per ASTM E2213-03 standard (incorporated by reference in FCC §90.379)
-25dBm EIRP is equivalent to 70.2dBuV/m at 3m or 79.7dBuV/m at 1m

Preliminary measurements performed to identify worst case orientation by rotating the device around 3 orthogonal planes (X, Y and Z). X orientation was found to be the worst. In addition, data rates were varied to identify the worst case configuration. All measurements below are from worst case orientation and configuration.

MEASUREMENTS / RESULTS

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt90M (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
31.091	42.2	-2.5	39.8	70.2	-30.4	PASS	-30.4
35.456	36.5	-6.6	30	70.2	-40.2	PASS	
374.981	38.1	-6.6	31.4	70.2	-38.8	PASS	
479.983	33.8	-3.6	30.2	70.2	-40	PASS	
875.015	33.1	2.1	35.2	70.2	-35	PASS	
1000	34.2	3.8	38	70.2	-32.2	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt90M (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
31.479	44.1	-3	41.1	70.2	-29.1	PASS	-29.1
480.007	34.4	-3.6	30.8	70.2	-39.4	PASS	
875.015	33.2	2.1	35.3	70.2	-34.9	PASS	
911.997	29.6	2.4	31.9	70.2	-38.3	PASS	
940.466	30.8	2.8	33.7	70.2	-36.5	PASS	
999.976	34.7	3.8	38.5	70.2	-31.7	PASS	

30-1000MHz center channel 10MHz at 12Mbps

Since emissions at center channel were more than 20dB below the limits, low and high channels were not tested in this range.

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: CCH
Notes:
Low Channel 5860MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)
2465.38	36.7	10.2	46.9	70.2	-23.3	PASS		70.2	-23.3	PASS	
4626	34.2	13.1	47.4	70.2	-22.8	PASS		70.2	-22.8	PASS	
5253	34.4	13.2	47.6	70.2	-22.6	PASS		70.2	-22.6	PASS	
5746.75	34.7	13.7	48.5	70.2	-21.7	PASS	-21.7	70.2	-21.7	PASS	-21.7

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: CCH
Notes:
Low Channel 5860MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)
2461.88	39.5	10.1	49.7	70.2	-20.5	PASS		70.2	-20.5	PASS	
5260.25	38.4	13.1	51.5	70.2	-18.7	PASS	-18.7	70.2	-18.7	PASS	-18.7
5284	36.5	13.1	49.6	70.2	-20.6	PASS		70.2	-20.6	PASS	

1-6GHz Low Channel 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)
2461.5	40.9	10.1	51.1	70.2	-19.1	PASS		70.2	-19.1	PASS	
3228.63	34.4	11.6	46	70.2	-24.2	PASS		70.2	-24.2	PASS	
5253.75	40.3	13.2	53.4	70.2	-16.8	PASS	-16.8	70.2	-16.8	PASS	-16.8
5276.88	37.1	13.1	50.2	70.2	-20	PASS		70.2	-20	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)
4580.5	34.3	13.1	47.3	70.2	-22.9	PASS	-22.9	70.2	-22.9	PASS	-22.9

1-6GHz Center Channel 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: CCH
Notes:
High Channel 5920MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)
3724.38	34.2	12.2	46.4	70.2	-23.8	PASS		70.2	-23.8	PASS	
5263.38	35.2	13.1	48.3	70.2	-21.9	PASS		70.2	-21.9	PASS	
5275.38	37.7	13.1	50.8	70.2	-19.4	PASS	-19.4	70.2	-19.4	PASS	-19.4

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: CCH
Notes:
High Channel 5920MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)
1000	36.5	1.9	38.4	70.2	-31.8	PASS		70.2	-31.8	PASS	
2462.25	40.6	10.1	50.7	70.2	-19.5	PASS		70.2	-19.5	PASS	
5253.88	37.4	13.2	50.6	70.2	-19.6	PASS		70.2	-19.6	PASS	
5275.25	38.2	13.1	51.3	70.2	-18.9	PASS	-18.9	70.2	-18.9	PASS	-18.9

1-6GHz High Channel 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
Low Channel 5860MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14507.4	45.1	16	61.1	79.7	-18.6	PASS		79.7	-18.6	PASS	
17956.2	43.9	24.2	68.1	79.7	-11.6	PASS	-11.6	79.7	-11.6	PASS	-11.6

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
Low Channel 5860MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14050.2	44.1	16.4	60.5	79.7	-19.2	PASS		79.7	-19.2	PASS	
17946.6	43.6	24.1	67.7	79.7	-12	PASS	-12	79.7	-12	PASS	-12

6-18GHz Low Channel 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14521.8	45.2	15.9	61.1	79.7	-18.6	PASS		79.7	-18.6	PASS	
17967.3	43.3	24.3	67.5	79.7	-12.2	PASS	-12.2	79.7	-12.2	PASS	-12.2

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
Center Channel 5890MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14334.3	43.9	16.3	60.1	79.7	-19.6	PASS		79.7	-19.6	PASS	
16505.1	45.1	15.2	60.3	79.7	-19.4	PASS		79.7	-19.4	PASS	
17909.4	43.5	23.7	67.2	79.7	-12.5	PASS	-12.5	79.7	-12.5	PASS	-12.5

6-18GHz Center Channel 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
High Channel 5920MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
13926.9	44.3	16.1	60.4	79.7	-19.3	PASS		79.7	-19.3	PASS	
17958.9	43.4	24.2	67.6	79.7	-12.1	PASS	-12.1	79.7	-12.1	PASS	-12.1

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
High Channel 5920MHz 12Mbps 10MHz BW

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
8711.7	44.9	9.8	54.7	79.7	-25	PASS		79.7	-25	PASS	
13751.7	45.4	15.3	60.7	79.7	-19	PASS		79.7	-19	PASS	
17959.5	43.2	24.2	67.4	79.7	-12.3	PASS	-12.3	79.7	-12.3	PASS	-12.3

6-18GHz High Channel 10MHz

Radiated Emissions Table

Date: 22-May-18 **Company:** Lear Corp. **Work Order:** R2559
Engineer: Chris Hamel **EUT Desc:** RSU **EUT Operating Voltage/Frequency:** 52V DC POE
Temp: 22.4°C **Humidity:** 38% **Pressure:** 1022mBar
Frequency Range: 18-40GHz **Measurement Distance:** 0.1 m
Notes: No Emissions Found **EUT Max Freq:**
Low, Mid, High Channels 12Mbps

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 A High Frequency - Peak Limit (dBµV/m)	FCC Class A High Frequency - Peak Margin (dB)	FCC Class A High Frequency - Peak Result (Pass/Fail)	FCC Class A High Frequency - Average Limit (dBµV/m)	FCC Class A High Frequency - Average Margin (dB)	FCC Class A High Frequency - Average Result (Pass/Fail)
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Table Result: Pass by N/A dB ***Worst Freq:*** N/A MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.203 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

Test Site: EMI Chamber 1 **Cable 1:** Asset #2323 **Cable 2:** Asset #2324 **Cable 3:** ---
Analyzer: Gold **Preamp:** 40GHz Mixer **Antenna:** 40GHz Mixer **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.203 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-40GHz All Channels 10MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 30-1000MHz
Operator: CCH
Notes:
Low Channel 5875MHz 9Mbps 20MHz BW power reduced to -1dBm

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt90M (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
375.005	38.1	-6.6	31.5	70.2	-38.7	PASS	
499.989	34.3	-3.6	30.7	70.2	-39.5	PASS	
750.007	30.5	0.1	30.6	70.2	-39.6	PASS	
874.967	33.4	2.1	35.5	70.2	-34.7	PASS	
940.466	29.4	2.8	32.3	70.2	-37.9	PASS	
1000	33.9	3.8	37.7	70.2	-32.5	PASS	-32.5

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 30-1000MHz
Operator: CCH
Notes:
Low Channel 5875MHz 9Mbps 20MHz BW power reduced to -1dBm

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt90M (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
31.164	43.5	-2.6	40.9	70.2	-29.3	PASS	-29.3
480.031	35.5	-3.6	31.9	70.2	-38.3	PASS	
500.014	35	-3.6	31.4	70.2	-38.8	PASS	
749.982	31.3	0.1	31.4	70.2	-38.8	PASS	
874.991	31.2	2.1	33.3	70.2	-36.9	PASS	
999.976	32.3	3.8	36.1	70.2	-34.1	PASS	

30-1000MHz Low channel 20MHz

Since emissions at low channel were more than 20dB below the limits, high channel was not tested in this range.

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: CCH
Notes:
Center Channel 5875MHz 9Mbps 20MHz BW power reduced to -

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)
1062.5	35.4	2.3	37.7	70.2	-32.5	PASS		70.2	-32.5	PASS	
1299.88	34.4	4.6	39	70.2	-31.2	PASS		70.2	-31.2	PASS	
2465.13	36.5	10.2	46.6	70.2	-23.6	PASS		70.2	-23.6	PASS	
5261.63	38	13.1	51.1	70.2	-19.1	PASS	-19.1	70.2	-19.1	PASS	-19.1
5277.88	37.9	13.1	51	70.2	-19.2	PASS		70.2	-19.2	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: CCH
Notes:
Center Channel 5875MHz 9Mbps 20MHz BW power reduced to -

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)
2461.5	41.6	10.1	51.8	70.2	-18.4	PASS		70.2	-18.4	PASS	
5259.25	38.8	13.1	51.9	70.2	-18.3	PASS	-18.3	70.2	-18.3	PASS	-18.3
5278.5	35.4	13.1	48.5	70.2	-21.7	PASS		70.2	-21.7	PASS	
5573.13	35.9	13.4	49.3	70.2	-20.9	PASS		70.2	-20.9	PASS	
5745.88	36.4	13.7	50.2	70.2	-20	PASS		70.2	-20	PASS	

1-6GHz Low Channel 20MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Horizontal 1-6GHz
Operator: CCH
Notes:
High Channel 5905MHz 9Mbps 20MHz BW power reduced to 0dB

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)
2461.38	39.8	10.1	49.9	70.2	-20.3	PASS		70.2	-20.3	PASS	
5262.25	38.2	13.1	51.4	70.2	-18.8	PASS	-18.8	70.2	-18.8	PASS	-18.8
5275.13	37.7	13.1	50.8	70.2	-19.4	PASS		70.2	-19.4	PASS	

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 3m Distance
Top Peaks Vertical 1-6GHz
Operator: CCH
Notes:
High Channel 5905MHz 9Mbps 20MHz BW power reduced to 0dB

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 21 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)
1000.13	35.9	1.9	37.8	70.2	-32.4	PASS		70.2	-32.4	PASS	
2461.88	39.3	10.1	49.5	70.2	-20.7	PASS		70.2	-20.7	PASS	
5253	37.9	13.2	51.1	70.2	-19.1	PASS	-19.1	70.2	-19.1	PASS	-19.1
5267.25	35.4	13.1	48.5	70.2	-21.7	PASS		70.2	-21.7	PASS	
5280	35.6	13.1	48.7	70.2	-21.5	PASS		70.2	-21.5	PASS	

1-6GHz High Channel 20MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
Low Channel 5875MHz 9Mbps 20MHz BW power reduced to -1dBm

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
10630.2	44.1	12.3	56.3	79.7	-23.4	PASS		79.7	-23.4	PASS	
14442.3	44.7	16	60.8	79.7	-18.9	PASS		79.7	-18.9	PASS	
17937.9	43.5	24	67.5	79.7	-12.2	PASS	-12.2	79.7	-12.2	PASS	-12.2

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
Low Channel 5875MHz 9Mbps 20MHz BW power reduced to -1dBm

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14506.5	44.7	16	60.7	79.7	-19	PASS		79.7	-19	PASS	
17995.5	42.5	24.6	67	79.7	-12.7	PASS	-12.7	79.7	-12.7	PASS	-12.7

6-18GHz Low Channel 20MHz

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Horizontal 6-18GHz
Operator: CCH
Notes:
High Channel 5905MHz 9Mbps 20MHz BW power reduced to 0dE

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14455.2	44.3	16	60.3	79.7	-19.4	PASS		79.7	-19.4	PASS	
17937.6	43.7	24	67.7	79.7	-12	PASS	-12	79.7	-12	PASS	-12

Curtis Straus - a Bureau Veritas Company
Radiated Emissions Electric Field 1m Distance
Top Peaks Vertical 6-18GHz
Operator: CCH
Notes:
High Channel 5905MHz 9Mbps 20MHz BW power reduced to 0dE

Work Order - R2559
EUT Power Input - 52VDC POE
Test Site - CH1
Conditions - 24.3°C; 32%RH; 1030mBar
Witnessed by - N/A
EUT Maximum Frequency - 5920MHz

Data Taken at May 19 2018

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt90M (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt90M (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)
14208.6	44.9	16.5	61.4	79.7	-18.3	PASS		79.7	-18.3	PASS	
17948.4	43.1	24.1	67.2	79.7	-12.5	PASS	-12.5	79.7	-12.5	PASS	-12.5

6-18GHz High Channel 20MHz

Radiated Emissions Table

Date: 22-May-18 **Company:** Lear Corp. **Work Order:** R2559
Engineer: Chris Hamel **EUT Desc:** RSU **EUT Operating Voltage/Frequency:** 52V DC POE
Temp: 22.4°C **Humidity:** 38% **Pressure:** 1022mBar
Frequency Range: 18-40GHz **Measurement Distance:** 0.1 m
Notes: No Emissions Found **EUT Max Freq:**
Low, High Channels 9Mbps 20MHz BW

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 A High Frequency - Peak Limit (dBµV/m)	FCC Class A High Frequency - Peak Margin (dB)	FCC Class A High Frequency - Peak Result (Pass/Fail)	FCC Class A High Frequency - Average Limit (dBµV/m)	FCC Class A High Frequency - Average Margin (dB)	FCC Class A High Frequency - Average Result (Pass/Fail)
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Table Result: Pass by N/A dB ***Worst Freq:*** N/A MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.203 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

Test Site: EMI Chamber 1 **Cable 1:** Asset #2323 **Cable 2:** Asset #2324 **Cable 3:** ---
Analyzer: Gold **Preamp:** 40GHz Mixer **Antenna:** 40GHz Mixer **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.203 Copyright Curtis-Straus LLC 2000
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-40GHz All Channels 20MHz

Rev. 5/21/2018							
Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Gold	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/19/2019
Rental MXE EMI Receiver(1170725)	20Hz-26.5GHz	N9038A	Agilent	MY51210151	1170725	I	4/10/2019
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**	**Asset**	**Cat**	**Calibration Due**
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz	1685	I	12/21/2018
EMI Chamber 1	719150	2762A-6	A-0015	1-18GHz	1685	I	12/21/2018
Mixers/Diplexers	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Mixer / Horn	26.5-40 GHz	11970A	Agilent	3003A10230	2154	I	3/12/2019
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
2443 PA	9KHz-6GHz	BBV9744	SCWARZBECK	63	2443	I	2/5/2019
2111 HF Preamp	0.5-18GHz	PAM-118A	COM-POWER	551063	2111	II	11/19/2018
HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	II	10/16/2018
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Red-Brown Bilog	30-2000MHz	JB1	Sunol	A0032406	1218	I	1/13/2019
Black Horn	1-18GHz	3115	EMCO	9703-5148	56	I	8/29/2018
HF (White) Horn	18-26.5GHz	801-WLM	Waveline	758	758	III	Verify before Use
Blue Horn	1-18Ghz	3117	ETS	157647	1861	I	2/14/2019
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
TH A#2080		HTC-1	HDE		2080	II	3/22/2019
Barometric A#2160		5396-0321	Monarch Instruments	4000060	2160	I	4/13/2019
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
Asset #2456	9KHz-18GHz		MegaPhase			II	10/29/2018
Asset #2465	9KHz-18GHz		MegaPhase			II	10/29/2018
Asset #2480	9KHz-18GHz		MegaPhase			II	10/29/2018
Asset #2323	1-26.5GHz	TM26-S1S1-120	MEGAPHASE	17139101 002	2323	II	8/19/2018
Asset #2324	1-26.5GHz	TM26-S1S1-120	MEGAPHASE	17139101 001	2324	II	8/19/2018
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.							

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:

ER2559-1 Appendix A
CFR Title 47 FCC Part 90 Subpart M
Regulations Governing the Licensing and Use of Frequencies in the 5850-5925 MHz Band for Dedicated Short-Range Communications Service (DSRCS)

DUT Information

Model:	Locomate Roadstar RSU
Manufacturer:	Lear Corporation
Serial Number:	GClocomate300rsu00066

802.11p

Channel Bandwidth	Frequency, MHz	Channel
10 MHz	5860	172
	5870	174
	5880	176
	5890	178
	5900	180
	5910	182
	5920	184
20 MHz	5875	175
	5905	181

Antenna Gain	5dBi
Number of transmit chains	4
Equipment Type	Licensed Non-Broadcast Station Transmitter

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

Test Results Summary

Requirement	FCC Rule Part	Results
RF Output Power	90.379	Pass
EIRP	90.377	Pass
Transmit Spectrum Mask	90.379	Pass
Conducted Spurious Emissions	90.379, 2.1051	Pass
99% Occupied Bandwidth	2.1049	Pass
Frequency Stability	90.379, 2.1055	Pass

Conducted RMS Average Output Power and EIRP

Measurement Method: ANSI C63.26-2015 Section 5.2.4.2

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

10MHz Channel Bandwidth

Channel / Frequency (MHz)	Rate (Mbps)	RMS (dBm) Transmit Chains				Total RMS (dBm)	Ant. Gain (dBi)	Total EIRP (dBm)	Limit Conducted /EIRP (dBm)	Result
		TX1A	TX1B	TX2A	TX2B					
172 / 5860	3	13.945	16.34	15.233	13.542	20.928	5	25.928	28.8 / 33	Pass
	4.5	13.846	16.319	15.255	13.565	20.911	5	25.911	28.8 / 33	Pass
	6	13.884	16.253	15.316	13.612	20.921	5	25.921	28.8 / 33	Pass
	9	14.13	16.569	15.536	13.842	**21.181**	5	**26.181**	28.8 / 33	Pass
	12	14.003	16.437	15.344	13.674	21.027	5	26.027	28.8 / 33	Pass
	18	13.614	16.315	15.251	13.441	20.841	5	25.841	28.8 / 33	Pass
	24	13.882	16.365	15.246	13.52	20.924	5	25.924	28.8 / 33	Pass
	27	13.841	16.417	15.315	13.477	20.945	5	25.945	28.8 / 33	Pass
178 / 5890	3	13.99	16.233	14.934	12.885	20.706	5	25.706	28.8 / 33	Pass
	4.5	13.84	16.192	14.923	12.861	20.652	5	25.652	28.8 / 33	Pass
	6	13.92	16.891	14.911	12.794	20.918	5	25.918	28.8 / 33	Pass
	9	13.981	16.362	14.973	12.918	20.766	5	25.766	28.8 / 33	Pass
	12	13.975	16.271	15.1	12.993	20.778	5	25.778	28.8 / 33	Pass
	18	13.596	16.255	15.065	12.67	20.633	5	25.633	28.8 / 33	Pass
	24	13.953	16.279	14.99	12.791	20.714	5	25.714	28.8 / 33	Pass
	27	13.836	16.257	15.077	12.77	20.702	5	25.702	28.8 / 33	Pass
180 / 5900	3	3.62	5.638	4.275	-0.686	9.775	5	14.775	10 / 23	Pass
	4.5	2.563	4.796	3.616	1.266	9.273	5	14.273	10 / 23	Pass
	6	1.386	4.817	3.517	1.38	9.047	5	14.047	10 / 23	Pass
	9	3.631	5.661	4.623	-0.273	**9.925**	5	**14.925**	10 / 23	Pass
	12	2.714	4.889	3.572	1.431	9.353	5	14.353	10 / 23	Pass
	18	2.403	4.774	3.566	-1.398	8.887	5	13.887	10 / 23	Pass
	24	2.521	4.742	3.516	0.418	9.091	5	14.091	10 / 23	Pass
	27	2.452	4.785	3.524	0.593	9.12	5	14.12	10 / 23	Pass
182 / 5910	3	2.545	4.737	3.5	0.896	9.16	5	14.16	10 / 23	Pass
	4.5	3.786	5.637	3.411	0.958	9.774	5	14.774	10 / 23	Pass
	6	2.55	4.639	3.399	0.938	9.105	5	14.105	10 / 23	Pass
	9	2.561	4.709	3.516	0.982	9.17	5	14.17	10 / 23	Pass
	12	2.765	4.566	3.321	1.161	9.142	5	14.142	10 / 23	Pass
	18	2.578	4.664	3.411	-0.819	8.898	5	13.898	10 / 23	Pass
	24	2.587	4.438	3.393	0.068	8.917	5	13.917	10 / 23	Pass
	27	2.613	4.663	3.499	0.111	9.039	5	14.039	10 / 23	Pass
184 / 5920	3	14.268	15.826	15.049	12.391	20.58	5	25.58	28.8 / 33	Pass
	4.5	14.316	15.937	14.962	12.396	20.605	5	25.605	28.8 / 33	Pass
	6	14.198	15.968	14.892	12.452	20.578	5	25.578	28.8 / 33	Pass
	9	14.387	15.969	15.107	12.483	20.686	5	25.686	28.8 / 33	Pass
	12	14.343	15.957	14.994	12.507	20.644	5	25.644	28.8 / 33	Pass
	18	14.237	16.105	14.979	12.26	20.63	5	25.63	28.8 / 33	Pass
	24	14.291	15.953	14.835	12.319	20.559	5	25.559	28.8 / 33	Pass
	27	13.953	15.893	14.838	12.095	20.428	5	25.428	28.8 / 33	Pass

20MHz Channel Bandwidth

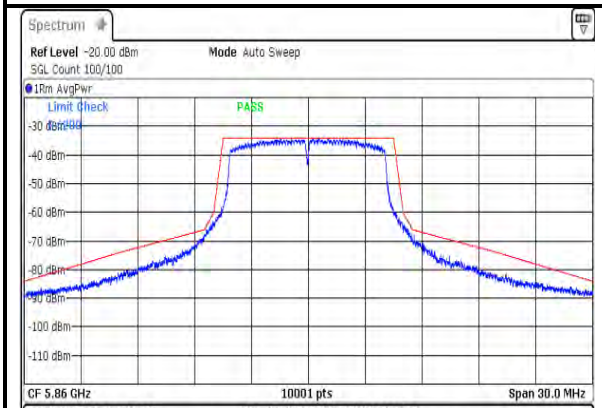
Channel / Frequency (MHz)	Rate (Mbps)	RMS (dBm) Transmit Chains				Total RMS (dBm)	Ant. Gain (dBi)	Total EIRP (dBm)	Limit Conducted /EIRP (dBm)	Result
		TX1A	TX1B	TX2A	TX2B					
175 / 5875	6	1.307	4.945	2.136	0.33	8.566	5	13.566	10 / 23	Pass
	9	2.584	4.929	3.867	1.58	9.444	5	14.444	10 / 23	Pass
	12	2.273	4.863	3.315	1.403	9.18	5	14.18	10 / 23	Pass
	18	2.437	5.013	3.937	1.455	9.444	5	14.444	10 / 23	Pass
	24	2.138	4.865	3.806	1.155	9.247	5	14.247	10 / 23	Pass
	36	3.59	5.808	4.665	-0.144	**9.996**	5	**14.996**	10 / 23	Pass
	48	3.409	5.67	4.739	-0.208	9.918	5	14.918	10 / 23	Pass
	54	0.444	4.856	3.808	-0.342	8.747	5	13.747	10 / 23	Pass
181 / 5905	6	1.475	4.654	1.984	-0.304	8.348	5	13.348	10 / 23	Pass
	9	3.052	5.67	4.475	1.497	**9.966**	5	**14.966**	10 / 23	Pass
	12	2.118	5.551	4.369	0.547	9.585	5	14.585	10 / 23	Pass
	18	2.724	5.695	4.507	1.111	9.867	5	14.867	10 / 23	Pass
	24	3.6	5.506	4.393	-0.725	9.75	5	14.75	10 / 23	Pass
	36	3.379	5.49	4.312	-0.936	9.648	5	14.648	10 / 23	Pass
	48	1.106	4.953	4.403	0.33	9.116	5	14.116	10 / 23	Pass
	54	4.728	4.917	4.361	-0.995	9.821	5	14.821	10 / 23	Pass

Transmit Spectrum Mask

Measurement Method: ASTM E2213-03 “Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems—5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications” Section 8.10.2

5860MHz 10MHz 3Mbps

Ch172 Tx1

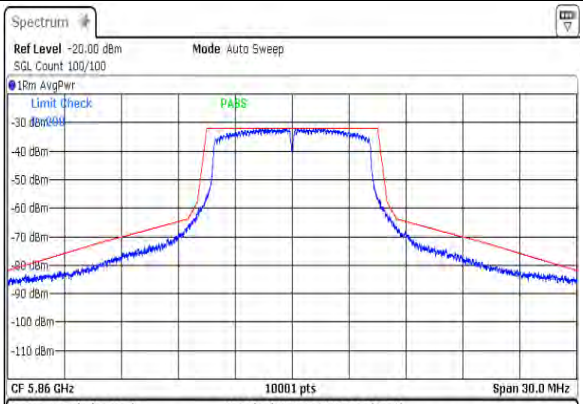


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -34.13 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84527 GHz	-87.38 dBm	-53.25 dB	-3.80 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85448 GHz	-68.32 dBm	-34.19 dB	-2.16 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85463 GHz	-66.34 dBm	-32.22 dB	-1.72 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-63.77 dBm	-29.64 dB	-3.72 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86499 GHz	-64.96 dBm	-30.83 dB	-5.38 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86542 GHz	-67.58 dBm	-33.45 dB	-2.41 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86558 GHz	-68.04 dBm	-33.91 dB	-1.77 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87497 GHz	-87.66 dBm	-53.53 dB	-3.59 dB

Ch172 Tx2

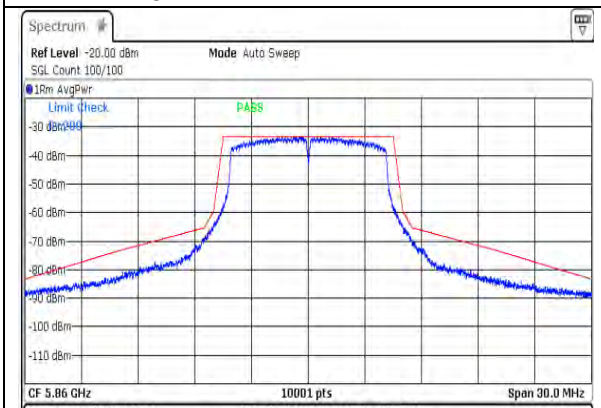


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -31.88 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84519 GHz	-84.66 dBm	-52.78 dB	-3.16 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85449 GHz	-66.20 dBm	-34.33 dB	-2.31 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85452 GHz	-65.83 dBm	-33.96 dB	-2.19 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-61.91 dBm	-30.04 dB	-4.12 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86500 GHz	-62.11 dBm	-30.24 dB	-4.47 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86534 GHz	-65.04 dBm	-33.16 dB	-3.02 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86550 GHz	-66.76 dBm	-34.89 dB	-2.88 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87485 GHz	-84.43 dBm	-52.55 dB	-2.86 dB

Ch172 Tx3

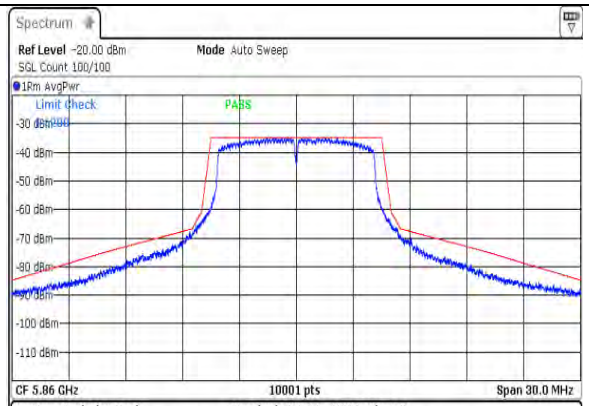


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -33.35 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84500 GHz	-87.42 dBm	-54.06 dB	-4.07 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85441 GHz	-69.04 dBm	-35.68 dB	-3.53 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85453 GHz	-68.45 dBm	-35.10 dB	-3.48 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-64.50 dBm	-31.15 dB	-5.23 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86499 GHz	-64.23 dBm	-30.88 dB	-5.59 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86533 GHz	-66.88 dBm	-33.53 dB	-3.61 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86555 GHz	-69.45 dBm	-36.10 dB	-4.01 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87490 GHz	-87.97 dBm	-54.62 dB	-4.82 dB

Ch172 Tx4



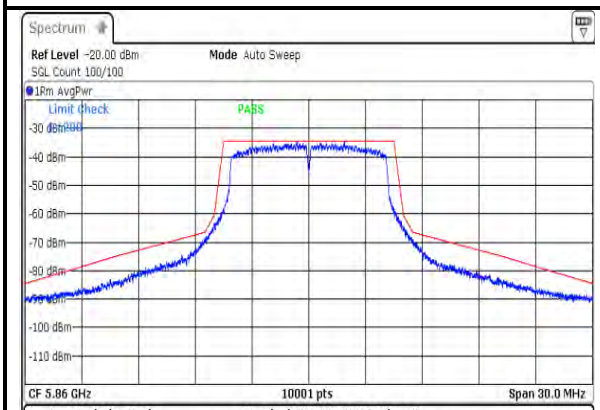
Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -34.79 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84518 GHz	-88.11 dBm	-53.32 dB	-3.67 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85437 GHz	-67.86 dBm	-33.07 dB	-0.84 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85453 GHz	-67.66 dBm	-32.87 dB	-1.21 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85501 GHz	-64.04 dBm	-29.25 dB	-3.96 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86500 GHz	-65.10 dBm	-30.31 dB	-4.55 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86533 GHz	-66.81 dBm	-32.03 dB	-2.03 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86551 GHz	-68.96 dBm	-34.17 dB	-2.16 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87498 GHz	-87.95 dBm	-53.16 dB	-3.20 dB

5860MHz 10MHz 27Mbps

Ch172 Tx1

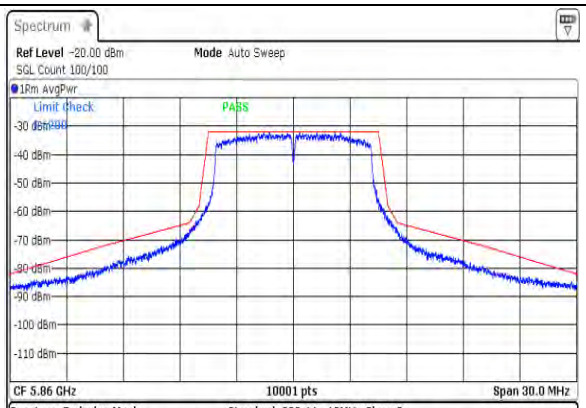


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -34.57 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84540 GHz	-88.57 dBm	-54.00 dB	-4.80 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85445 GHz	-69.15 dBm	-34.58 dB	-2.50 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85455 GHz	-68.11 dBm	-33.55 dB	-2.18 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-63.88 dBm	-29.31 dB	-3.39 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86500 GHz	-64.68 dBm	-30.11 dB	-4.19 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86549 GHz	-68.95 dBm	-34.38 dB	-2.54 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86556 GHz	-69.81 dBm	-35.24 dB	-3.14 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87499 GHz	-89.06 dBm	-54.49 dB	-4.50 dB

Ch172 Tx2

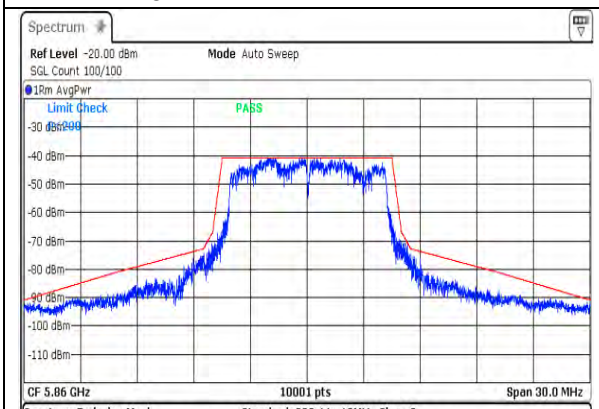


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -32.07 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84500 GHz	-85.69 dBm	-53.62 dB	-3.63 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85450 GHz	-66.82 dBm	-34.75 dB	-2.75 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85450 GHz	-66.43 dBm	-34.36 dB	-2.38 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85501 GHz	-62.83 dBm	-30.76 dB	-5.15 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86500 GHz	-62.94 dBm	-30.87 dB	-4.94 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86546 GHz	-65.83 dBm	-33.76 dB	-2.22 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86550 GHz	-67.25 dBm	-35.18 dB	-3.18 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87472 GHz	-84.64 dBm	-52.57 dB	-3.13 dB

Ch172 Tx3

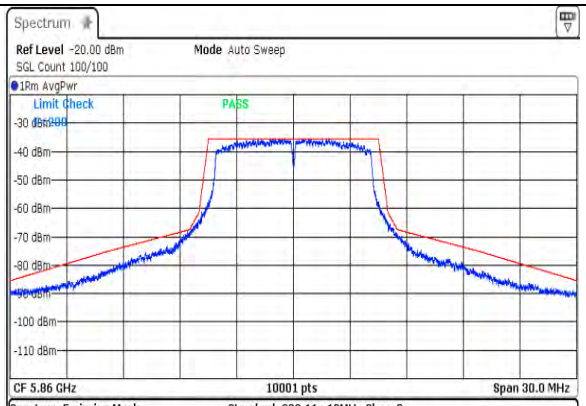


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -40.87 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84503 GHz	-92.52 dBm	-51.66 dB	-1.72 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85397 GHz	-76.16 dBm	-35.30 dB	-2.35 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85452 GHz	-74.42 dBm	-33.56 dB	-1.83 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-71.81 dBm	-30.94 dB	-5.02 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86499 GHz	-71.60 dBm	-30.73 dB	-5.12 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86530 GHz	-70.92 dBm	-30.05 dB	-0.42 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86570 GHz	-75.70 dBm	-34.83 dB	-2.47 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87484 GHz	-91.78 dBm	-50.91 dB	-1.23 dB

Ch172 Tx4



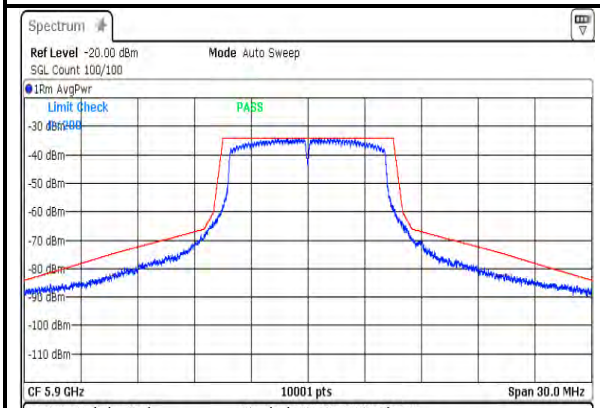
Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -35.47 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84503 GHz	-88.93 dBm	-53.45 dB	-3.51 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85438 GHz	-67.96 dBm	-32.49 dB	-0.27 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85456 GHz	-67.62 dBm	-32.15 dB	-0.89 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-64.66 dBm	-29.19 dB	-3.27 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86499 GHz	-64.99 dBm	-29.52 dB	-4.22 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86550 GHz	-69.29 dBm	-33.82 dB	-1.87 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86572 GHz	-69.99 dBm	-34.51 dB	-2.12 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87480 GHz	-89.01 dBm	-53.54 dB	-3.94 dB

5900MHz 10MHz 3Mbps

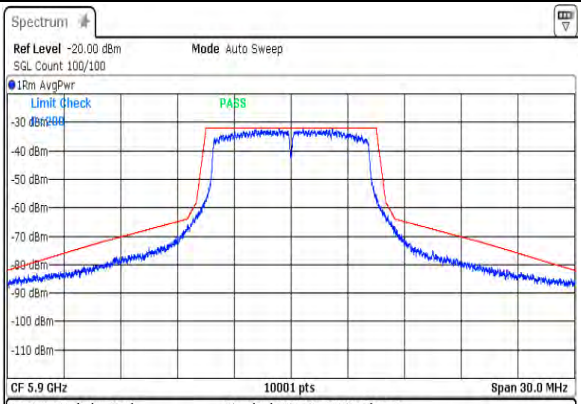
Ch180 Tx1



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -34.16 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88522 GHz	-87.21 dBm	-53.05 dB	-3.48 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89435 GHz	-68.18 dBm	-34.02 dB	-1.74 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89459 GHz	-67.23 dBm	-33.07 dB	-2.10 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89500 GHz	-64.24 dBm	-30.08 dB	-4.31 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90499 GHz	-63.84 dBm	-29.68 dB	-4.07 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90515 GHz	-64.71 dBm	-30.54 dB	-2.76 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90604 GHz	-70.10 dBm	-35.93 dB	-2.98 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91483 GHz	-86.93 dBm	-52.77 dB	-3.11 dB

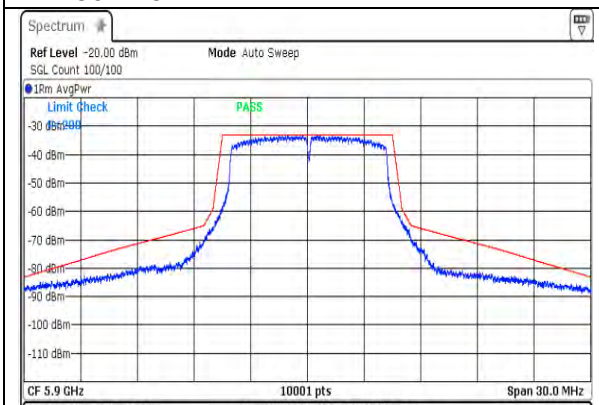
Ch180 Tx2



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -32.01 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88545 GHz	-84.21 dBm	-52.20 dB	-3.11 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89450 GHz	-67.25 dBm	-35.24 dB	-3.24 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89455 GHz	-65.94 dBm	-33.93 dB	-2.49 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89501 GHz	-62.61 dBm	-30.60 dB	-5.00 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90499 GHz	-62.96 dBm	-30.95 dB	-5.49 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90549 GHz	-67.08 dBm	-35.07 dB	-3.16 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90552 GHz	-67.43 dBm	-35.42 dB	-3.40 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91480 GHz	-84.85 dBm	-52.84 dB	-3.24 dB

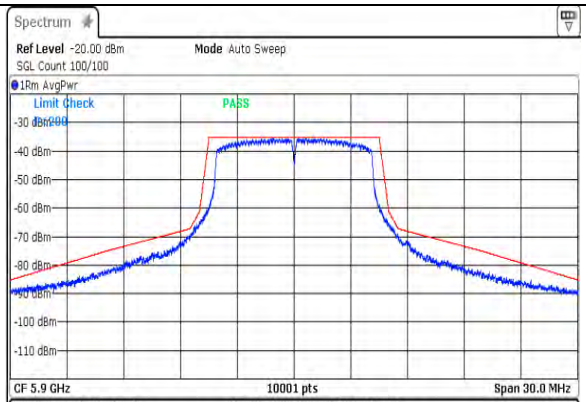
Ch180 Tx3



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -33.16 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88520 GHz	-85.95 dBm	-52.79 dB	-3.20 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89431 GHz	-70.86 dBm	-37.70 dB	-5.36 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89459 GHz	-68.91 dBm	-35.75 dB	-4.78 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89500 GHz	-65.79 dBm	-32.64 dB	-6.71 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90500 GHz	-64.28 dBm	-31.13 dB	-5.20 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90538 GHz	-66.46 dBm	-33.31 dB	-2.81 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90554 GHz	-70.12 dBm	-36.97 dB	-4.90 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91476 GHz	-86.51 dBm	-53.35 dB	-3.84 dB

Ch180 Tx4

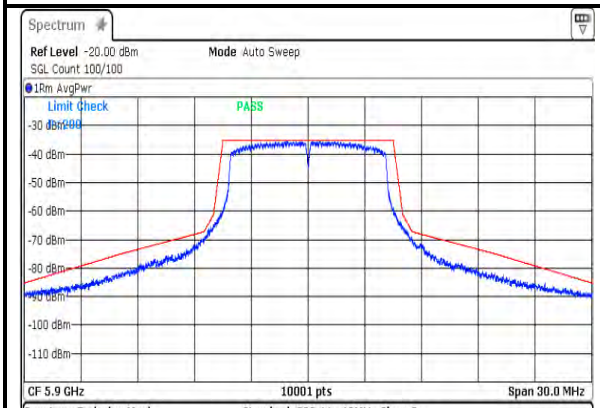


Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -35.25 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88501 GHz	-88.48 dBm	-53.24 dB	-3.25 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89437 GHz	-69.88 dBm	-34.63 dB	-2.40 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89475 GHz	-66.22 dBm	-30.97 dB	-1.96 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89500 GHz	-64.70 dBm	-29.45 dB	-3.69 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90500 GHz	-65.11 dBm	-29.86 dB	-3.94 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90547 GHz	-69.30 dBm	-34.06 dB	-2.44 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90554 GHz	-70.37 dBm	-35.12 dB	-3.05 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91500 GHz	-88.92 dBm	-53.67 dB	-3.67 dB

5900MHz 10MHz 27Mbps

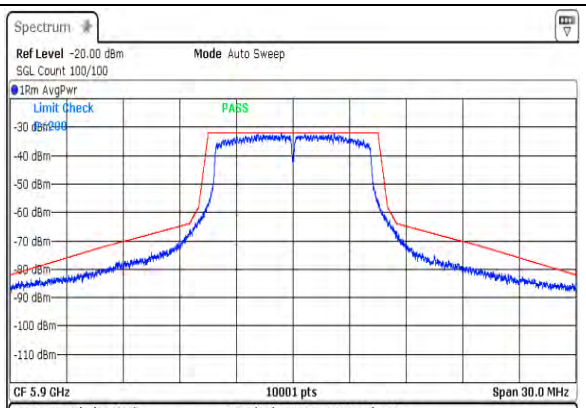
Ch180 Tx1



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -35.25 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88501 GHz	-88.48 dBm	-53.24 dB	-3.25 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89437 GHz	-69.88 dBm	-34.63 dB	-2.40 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89475 GHz	-66.22 dBm	-30.97 dB	-1.96 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89500 GHz	-64.70 dBm	-29.45 dB	-3.69 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90500 GHz	-65.11 dBm	-29.86 dB	-3.94 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90547 GHz	-69.30 dBm	-34.06 dB	-2.44 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90554 GHz	-70.37 dBm	-35.12 dB	-3.05 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91500 GHz	-88.92 dBm	-53.67 dB	-3.67 dB

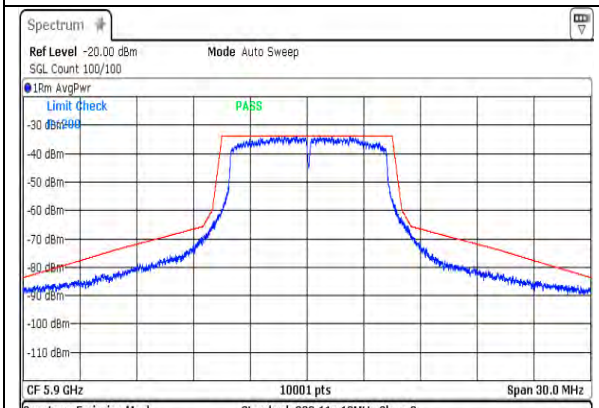
Ch180 Tx2



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -32.01 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88545 GHz	-84.21 dBm	-52.20 dB	-3.11 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89450 GHz	-67.25 dBm	-35.24 dB	-3.24 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89455 GHz	-65.94 dBm	-33.93 dB	-2.49 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89501 GHz	-62.61 dBm	-30.60 dB	-5.00 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90499 GHz	-62.96 dBm	-30.95 dB	-5.49 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90549 GHz	-67.08 dBm	-35.07 dB	-3.16 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90552 GHz	-67.43 dBm	-35.42 dB	-3.40 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91480 GHz	-84.85 dBm	-52.84 dB	-3.24 dB

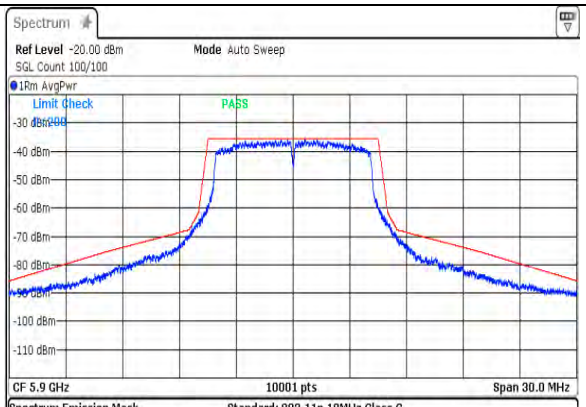
Ch180 Tx3



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -33.68 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88500 GHz	-87.15 dBm	-53.47 dB	-3.47 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89440 GHz	-69.60 dBm	-35.92 dB	-3.74 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89450 GHz	-69.07 dBm	-35.39 dB	-3.44 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89501 GHz	-64.26 dBm	-30.57 dB	-5.28 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90499 GHz	-63.40 dBm	-29.72 dB	-4.11 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90534 GHz	-65.70 dBm	-32.02 dB	-1.99 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90550 GHz	-68.40 dBm	-34.72 dB	-2.71 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91491 GHz	-87.35 dBm	-53.67 dB	-3.86 dB

Ch180 Tx4

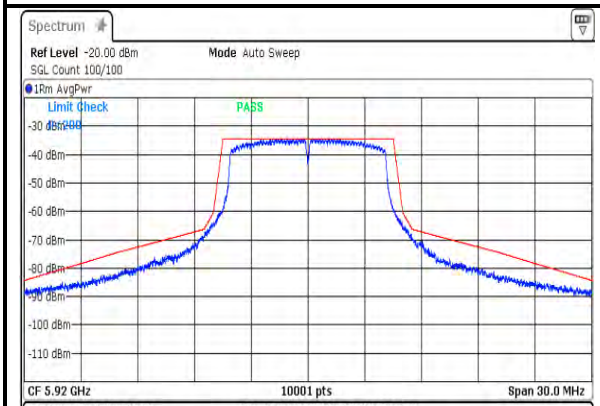


Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -35.70 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.88513 GHz	-88.81 dBm	-53.10 dB	-3.37 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.89445 GHz	-69.72 dBm	-34.02 dB	-1.94 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.89466 GHz	-66.64 dBm	-30.94 dB	-0.87 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.89502 GHz	-64.00 dBm	-28.30 dB	-3.32 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.90499 GHz	-64.93 dBm	-29.23 dB	-3.62 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.90547 GHz	-69.34 dBm	-33.64 dB	-1.98 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.90550 GHz	-70.53 dBm	-34.83 dB	-2.82 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.91495 GHz	-89.60 dBm	-53.90 dB	-4.00 dB

5920MHz 10MHz 3Mbps

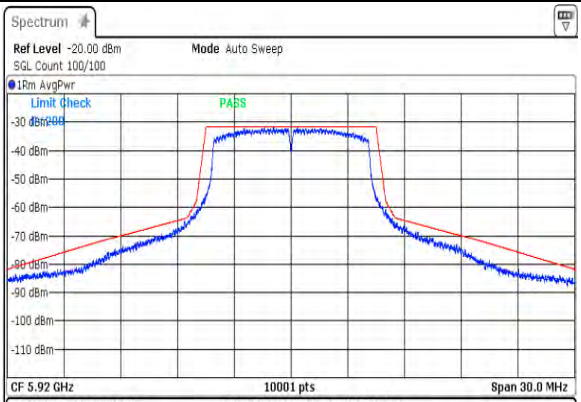
Ch184 Tx1



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -34.34 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90512 GHz	-87.28 dBm	-52.94 dB	-3.17 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91437 GHz	-68.80 dBm	-34.46 dB	-2.22 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91455 GHz	-67.47 dBm	-33.12 dB	-1.72 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91501 GHz	-63.94 dBm	-29.60 dB	-4.30 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92496 GHz	-63.78 dBm	-29.43 dB	-5.39 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92548 GHz	-68.38 dBm	-34.04 dB	-2.31 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92551 GHz	-69.35 dBm	-35.00 dB	-2.99 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93494 GHz	-87.63 dBm	-53.29 dB	-3.41 dB

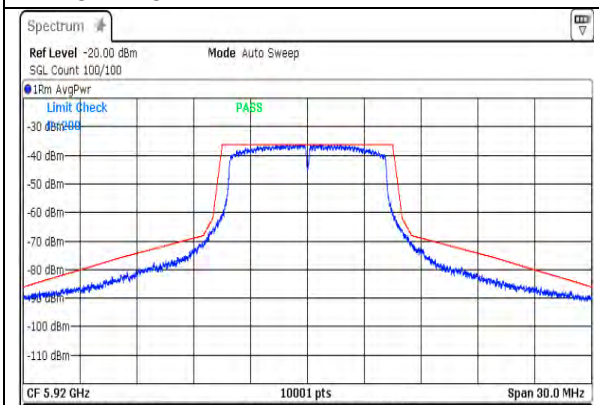
Ch184 Tx2



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -31.79 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90542 GHz	-83.62 dBm	-51.83 dB	-2.68 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91439 GHz	-65.05 dBm	-33.26 dB	-1.06 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91468 GHz	-63.27 dBm	-31.49 dB	-1.67 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91501 GHz	-60.95 dBm	-29.17 dB	-3.71 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-60.79 dBm	-29.00 dB	-3.23 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92535 GHz	-63.74 dBm	-31.95 dB	-1.71 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92560 GHz	-65.68 dBm	-33.89 dB	-1.72 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93486 GHz	-85.08 dBm	-53.29 dB	-3.57 dB

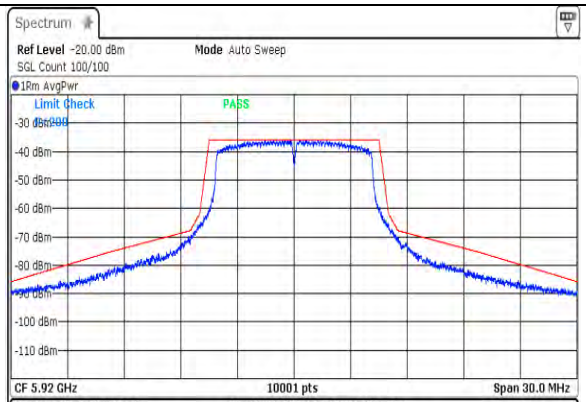
Ch184 Tx3



Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -36.09 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90500 GHz	-89.26 dBm	-53.16 dB	-3.17 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91445 GHz	-70.50 dBm	-34.41 dB	-2.32 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91478 GHz	-67.32 dBm	-31.23 dB	-2.58 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91501 GHz	-65.69 dBm	-29.60 dB	-3.99 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-66.12 dBm	-30.03 dB	-4.11 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92529 GHz	-68.13 dBm	-32.04 dB	-2.59 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92551 GHz	-70.12 dBm	-34.03 dB	-2.01 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93492 GHz	-89.31 dBm	-53.22 dB	-3.38 dB

Ch184 Tx4

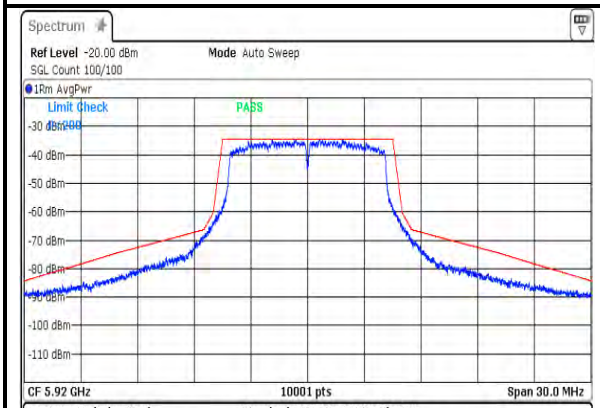


Spectrum Emission Mask Standard: 802.11p 10MHz Class C
Peak Power -35.81 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90526 GHz	-88.26 dBm	-52.44 dB	-2.97 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91440 GHz	-69.94 dBm	-34.12 dB	-1.94 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91455 GHz	-69.53 dBm	-33.72 dB	-2.31 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91500 GHz	-65.78 dBm	-29.96 dB	-4.04 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-65.69 dBm	-29.88 dB	-3.96 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92545 GHz	-70.05 dBm	-34.23 dB	-2.87 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92551 GHz	-70.31 dBm	-34.49 dB	-2.48 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93498 GHz	-89.15 dBm	-53.33 dB	-3.36 dB

5920MHz 10MHz 27Mbps

Ch184 Tx1

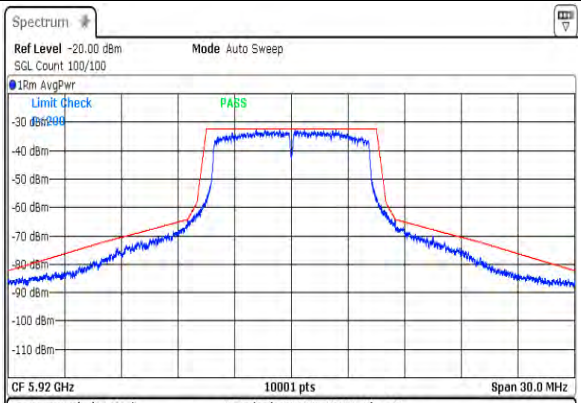


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -34.33 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90545 GHz	-87.24 dBm	-52.91 dB	-3.82 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91441 GHz	-68.68 dBm	-34.35 dB	-2.18 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91451 GHz	-68.56 dBm	-34.23 dB	-2.39 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91500 GHz	-64.43 dBm	-30.10 dB	-4.18 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-65.70 dBm	-31.37 dB	-5.45 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92539 GHz	-67.96 dBm	-33.63 dB	-2.99 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92556 GHz	-69.75 dBm	-35.42 dB	-3.31 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93495 GHz	-88.41 dBm	-54.08 dB	-4.19 dB

Ch184 Tx2

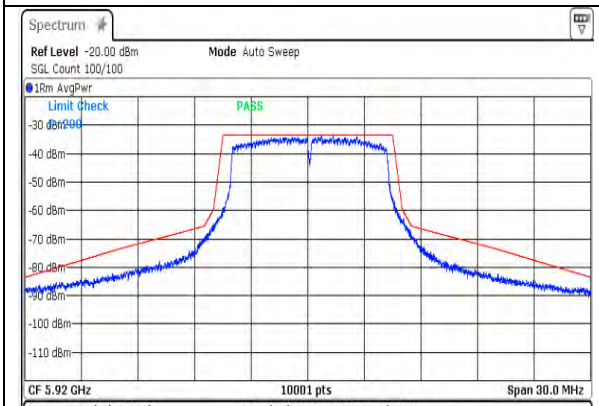


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -32.31 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90502 GHz	-85.43 dBm	-53.12 dB	-3.17 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91450 GHz	-66.00 dBm	-33.69 dB	-1.69 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91451 GHz	-64.87 dBm	-32.56 dB	-0.65 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91500 GHz	-62.17 dBm	-29.86 dB	-3.94 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-62.24 dBm	-29.93 dB	-4.00 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92549 GHz	-64.63 dBm	-32.32 dB	-0.48 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92592 GHz	-66.97 dBm	-34.66 dB	-1.91 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93500 GHz	-85.95 dBm	-53.64 dB	-3.64 dB

Ch184 Tx3

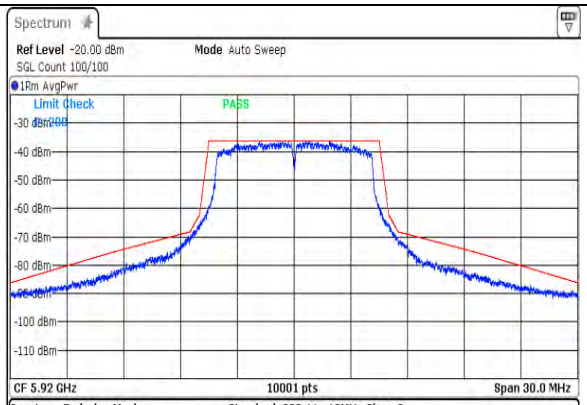


Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -33.58 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90510 GHz	-87.36 dBm	-53.78 dB	-3.98 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91445 GHz	-70.03 dBm	-36.45 dB	-4.37 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91456 GHz	-69.11 dBm	-35.54 dB	-4.20 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91501 GHz	-65.52 dBm	-31.94 dB	-6.49 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92499 GHz	-63.48 dBm	-29.90 dB	-4.45 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92543 GHz	-66.98 dBm	-33.41 dB	-2.22 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92557 GHz	-69.03 dBm	-35.46 dB	-3.33 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93448 GHz	-87.03 dBm	-53.46 dB	-4.49 dB

Ch184 Tx4



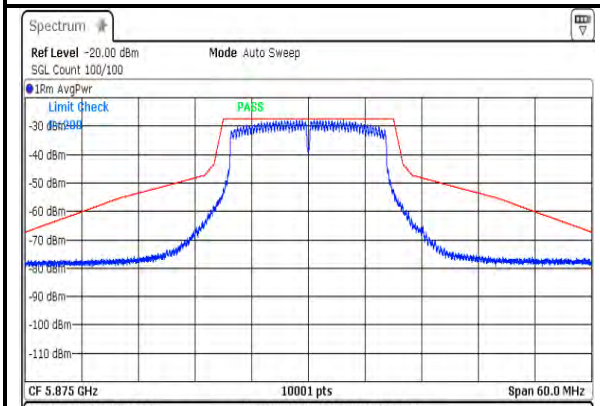
Spectrum Emission Mask Standard: 802.11p 10MHz Class C

Peak Power -36.22 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.90515 GHz	-89.51 dBm	-53.30 dB	-3.60 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.91441 GHz	-69.94 dBm	-33.72 dB	-1.57 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.91453 GHz	-69.25 dBm	-33.03 dB	-1.45 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.91502 GHz	-65.21 dBm	-29.00 dB	-3.86 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.92500 GHz	-65.93 dBm	-29.71 dB	-3.79 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.92548 GHz	-70.19 dBm	-33.98 dB	-2.21 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.92562 GHz	-71.34 dBm	-35.12 dB	-2.91 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.93474 GHz	-89.03 dBm	-52.81 dB	-3.32 dB

5875MHz 20MHz 6Mbps

Ch175 Tx1

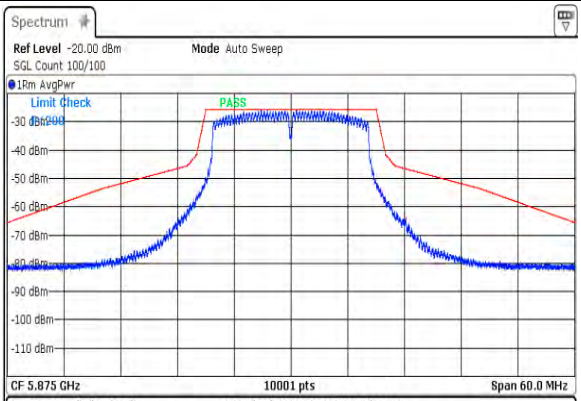


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -27.35 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84534 GHz	-77.38 dBm	-50.03 dB	-10.44 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86374 GHz	-63.62 dBm	-36.28 dB	-16.04 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86465 GHz	-59.45 dBm	-32.10 dB	-14.72 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86501 GHz	-58.01 dBm	-30.66 dB	-14.80 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88497 GHz	-57.91 dBm	-30.56 dB	-14.99 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88559 GHz	-60.20 dBm	-32.85 dB	-14.50 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88602 GHz	-63.83 dBm	-36.48 dB	-16.47 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90472 GHz	-76.81 dBm	-49.46 dB	-9.80 dB

Ch175 Tx2

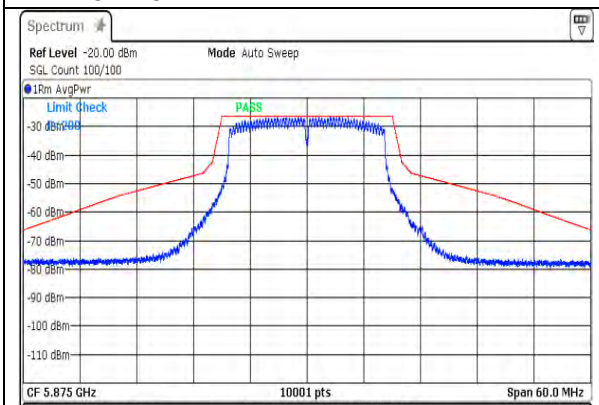


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -25.65 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84549 GHz	-80.25 dBm	-54.61 dB	-15.19 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86398 GHz	-60.93 dBm	-35.28 dB	-15.26 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86433 GHz	-58.99 dBm	-33.35 dB	-14.68 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86502 GHz	-56.27 dBm	-30.63 dB	-14.87 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88495 GHz	-56.39 dBm	-30.74 dB	-15.46 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88532 GHz	-58.20 dBm	-32.56 dB	-15.27 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88620 GHz	-62.05 dBm	-36.40 dB	-16.22 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90470 GHz	-79.93 dBm	-54.29 dB	-14.65 dB

Ch175 Tx3

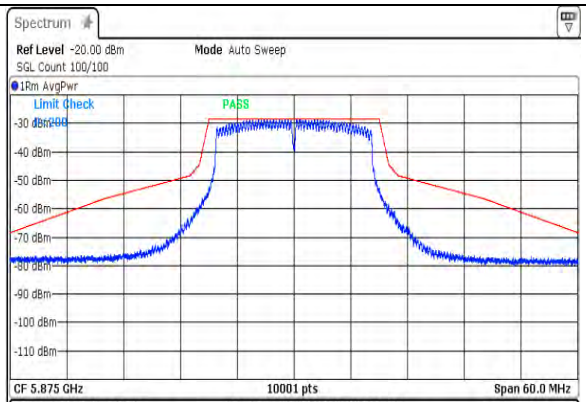


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -26.34 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84500 GHz	-76.90 dBm	-50.55 dB	-10.56 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86379 GHz	-62.98 dBm	-36.64 dB	-16.45 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86498 GHz	-57.20 dBm	-30.85 dB	-14.77 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86502 GHz	-56.93 dBm	-30.58 dB	-14.92 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88495 GHz	-56.93 dBm	-30.58 dB	-15.30 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88534 GHz	-58.01 dBm	-31.67 dB	-14.31 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88627 GHz	-63.54 dBm	-37.20 dB	-16.96 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90478 GHz	-77.32 dBm	-50.97 dB	-11.24 dB

Ch175 Tx4



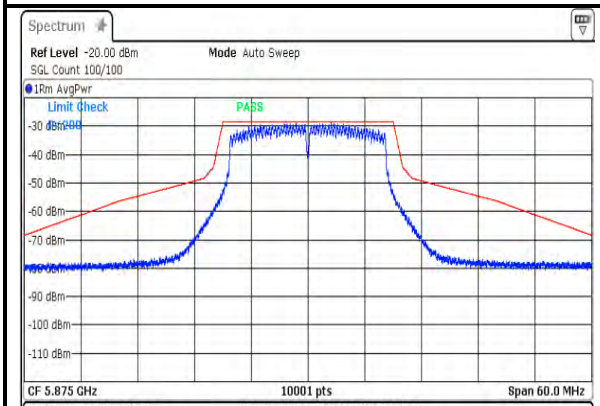
Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -28.42 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84502 GHz	-76.87 dBm	-48.44 dB	-8.47 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86374 GHz	-63.29 dBm	-34.86 dB	-14.64 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86469 GHz	-59.74 dBm	-31.32 dB	-14.08 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86501 GHz	-58.99 dBm	-30.56 dB	-14.71 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88499 GHz	-58.79 dBm	-30.37 dB	-14.51 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88532 GHz	-59.95 dBm	-31.53 dB	-14.24 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88617 GHz	-65.01 dBm	-36.59 dB	-16.44 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90492 GHz	-77.70 dBm	-49.27 dB	-9.37 dB

5875MHz 20MHz 54Mbps

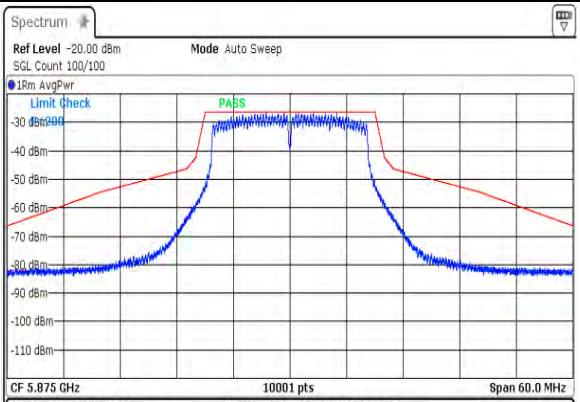
Ch175 Tx1



Spectrum Emission Mask Standard: 802.11p 20MHz Class B
Peak Power -28.43 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84523 GHz	-78.73 dBm	-50.30 dB	-10.58 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86398 GHz	-64.37 dBm	-35.94 dB	-15.93 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86498 GHz	-59.11 dBm	-30.68 dB	-14.62 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86502 GHz	-58.95 dBm	-30.52 dB	-14.86 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88500 GHz	-60.36 dBm	-31.93 dB	-15.98 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88515 GHz	-59.64 dBm	-31.21 dB	-14.62 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88619 GHz	-65.10 dBm	-36.66 dB	-16.50 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90497 GHz	-78.04 dBm	-49.61 dB	-9.65 dB

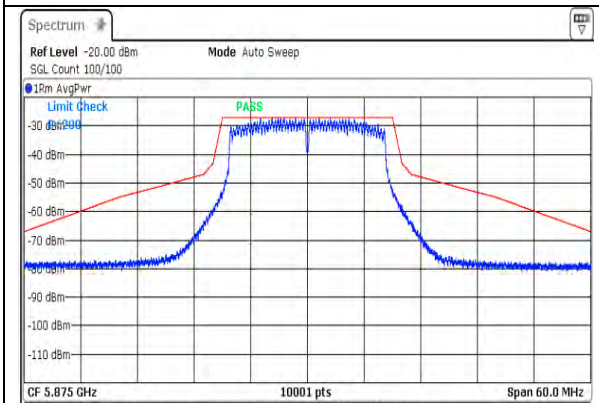
Ch175 Tx2



Spectrum Emission Mask Standard: 802.11p 20MHz Class B
Peak Power -26.40 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84500 GHz	-81.62 dBm	-55.22 dB	-15.22 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86398 GHz	-63.66 dBm	-37.26 dB	-17.25 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86457 GHz	-60.10 dBm	-33.70 dB	-15.98 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86500 GHz	-58.79 dBm	-32.39 dB	-16.43 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88495 GHz	-57.87 dBm	-31.47 dB	-16.19 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88508 GHz	-58.56 dBm	-32.16 dB	-15.86 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88609 GHz	-64.07 dBm	-37.67 dB	-17.59 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90492 GHz	-81.51 dBm	-55.11 dB	-15.20 dB

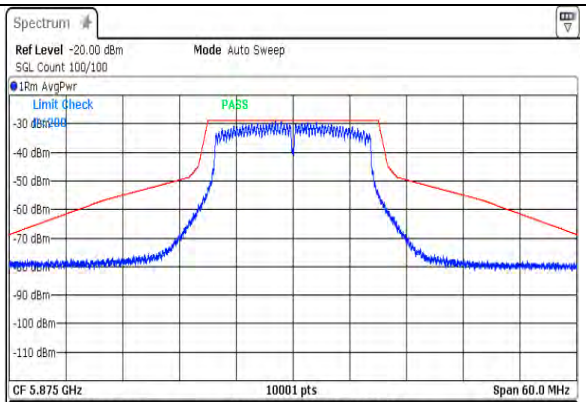
Ch175 Tx3



Spectrum Emission Mask Standard: 802.11p 20MHz Class B
Peak Power -27.06 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84528 GHz	-77.44 dBm	-50.38 dB	-10.71 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86382 GHz	-64.93 dBm	-37.87 dB	-17.71 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86458 GHz	-60.62 dBm	-33.56 dB	-15.89 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86500 GHz	-59.58 dBm	-32.52 dB	-16.57 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88491 GHz	-57.78 dBm	-30.72 dB	-16.12 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88501 GHz	-58.29 dBm	-31.23 dB	-15.20 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88606 GHz	-63.99 dBm	-36.93 dB	-16.87 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90470 GHz	-77.97 dBm	-50.91 dB	-11.28 dB

Ch175 Tx4

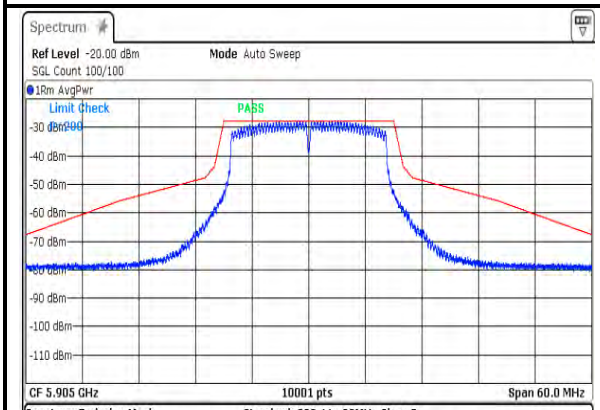


Spectrum Emission Mask Standard: 802.11p 20MHz Class B
Peak Power -28.77 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.84505 GHz	-78.11 dBm	-49.35 dB	-9.40 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.86396 GHz	-64.18 dBm	-35.41 dB	-15.37 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.86498 GHz	-58.25 dBm	-29.49 dB	-13.43 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.86501 GHz	-59.22 dBm	-30.45 dB	-14.60 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.88497 GHz	-59.81 dBm	-31.04 dB	-15.57 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.88515 GHz	-60.68 dBm	-31.91 dB	-15.30 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.88617 GHz	-65.57 dBm	-36.81 dB	-16.66 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.90477 GHz	-78.73 dBm	-49.96 dB	-10.23 dB

5905MHz 20MHz 6Mbps

Ch181 Tx1

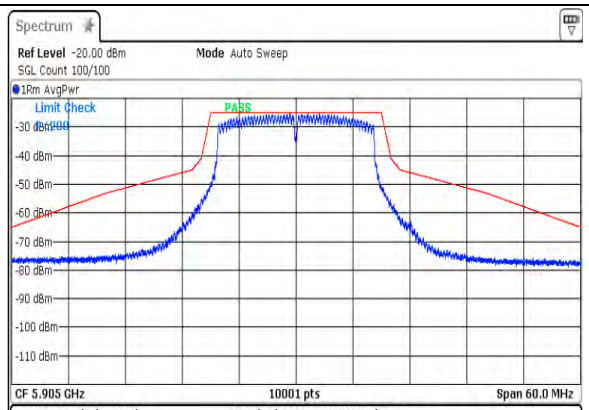


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -27.74 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87501 GHz	-77.98 dBm	-50.24 dB	-10.25 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89378 GHz	-63.75 dBm	-36.01 dB	-15.82 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89499 GHz	-57.74 dBm	-30.00 dB	-13.96 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89502 GHz	-58.40 dBm	-30.66 dB	-14.91 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91499 GHz	-58.29 dBm	-30.55 dB	-14.70 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91536 GHz	-58.94 dBm	-31.21 dB	-13.75 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91619 GHz	-64.20 dBm	-36.46 dB	-16.29 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93476 GHz	-78.26 dBm	-50.53 dB	-10.81 dB

Ch181 Tx2

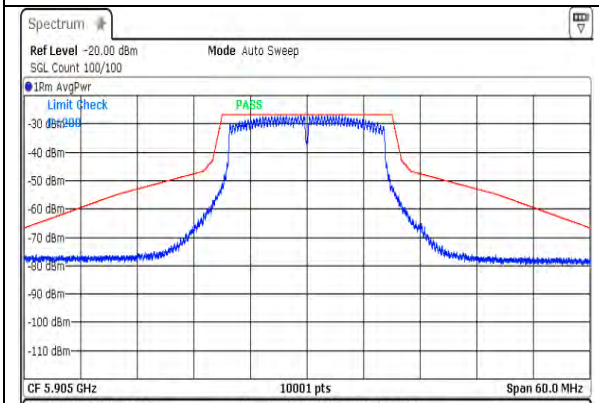


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -25.04 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87523 GHz	-75.84 dBm	-50.80 dB	-11.07 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89398 GHz	-60.26 dBm	-35.22 dB	-15.20 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89435 GHz	-58.00 dBm	-32.96 dB	-14.37 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89503 GHz	-54.96 dBm	-29.92 dB	-14.35 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91497 GHz	-55.47 dBm	-30.43 dB	-14.87 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91532 GHz	-56.95 dBm	-31.91 dB	-14.64 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91621 GHz	-62.09 dBm	-37.05 dB	-16.86 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93469 GHz	-76.80 dBm	-51.76 dB	-12.13 dB

Ch181 Tx3

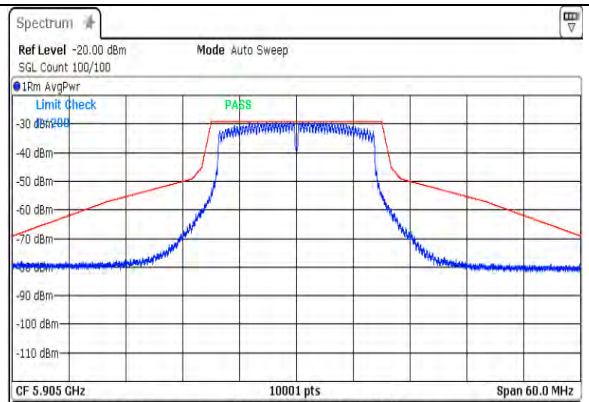


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -26.71 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87515 GHz	-76.57 dBm	-49.85 dB	-10.03 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89376 GHz	-63.06 dBm	-36.34 dB	-16.13 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89500 GHz	-57.13 dBm	-30.41 dB	-14.40 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89500 GHz	-57.02 dBm	-30.30 dB	-14.35 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91497 GHz	-57.80 dBm	-31.08 dB	-15.61 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91539 GHz	-59.55 dBm	-32.83 dB	-15.26 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91617 GHz	-63.74 dBm	-37.02 dB	-16.87 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93468 GHz	-77.55 dBm	-50.83 dB	-11.21 dB

Ch181 Tx4



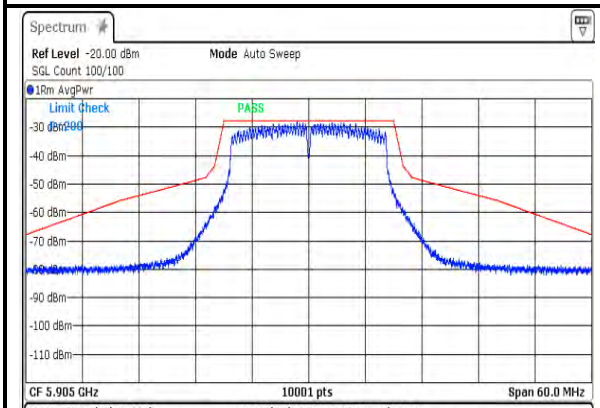
Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -29.16 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87517 GHz	-78.69 dBm	-49.53 dB	-9.72 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89372 GHz	-64.86 dBm	-35.70 dB	-15.44 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89437 GHz	-61.44 dBm	-32.28 dB	-13.76 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89505 GHz	-59.56 dBm	-30.40 dB	-15.22 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91499 GHz	-59.76 dBm	-30.59 dB	-14.74 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91533 GHz	-61.21 dBm	-32.05 dB	-14.71 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91602 GHz	-65.71 dBm	-36.55 dB	-16.53 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93491 GHz	-78.99 dBm	-49.82 dB	-9.93 dB

5905MHz 20MHz 54Mbps

Ch181 Tx1

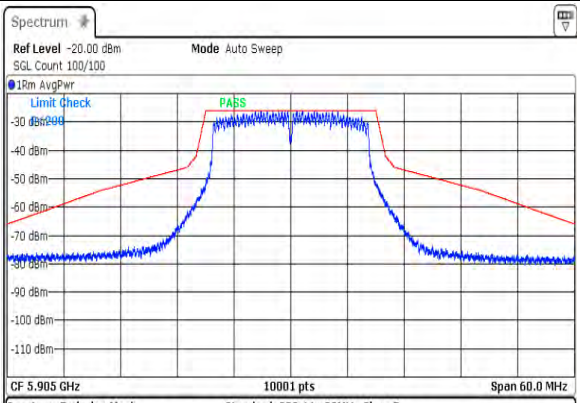


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -27.85 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87501 GHz	-79.20 dBm	-51.36 dB	-11.37 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89397 GHz	-64.08 dBm	-36.23 dB	-16.21 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89497 GHz	-58.00 dBm	-30.15 dB	-14.04 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89500 GHz	-58.45 dBm	-30.60 dB	-14.65 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91499 GHz	-59.25 dBm	-31.41 dB	-15.55 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91521 GHz	-59.42 dBm	-31.57 dB	-14.71 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91617 GHz	-63.67 dBm	-35.82 dB	-15.67 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93500 GHz	-79.73 dBm	-51.88 dB	-11.88 dB

Ch181 Tx2

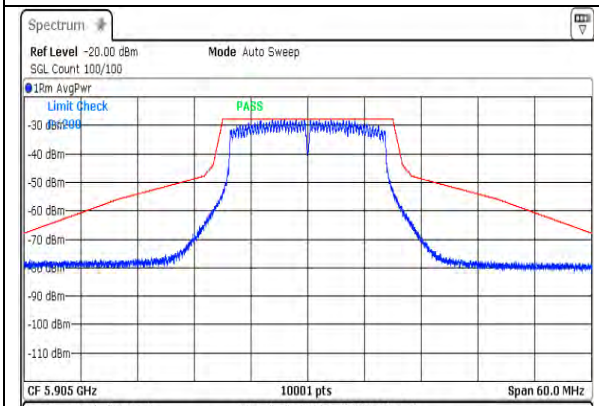


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -26.06 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87500 GHz	-76.75 dBm	-50.69 dB	-10.69 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89393 GHz	-62.94 dBm	-36.88 dB	-16.82 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89498 GHz	-57.71 dBm	-31.65 dB	-15.59 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89502 GHz	-57.73 dBm	-31.67 dB	-16.01 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91498 GHz	-57.97 dBm	-31.91 dB	-16.15 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91517 GHz	-58.31 dBm	-32.25 dB	-15.57 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91620 GHz	-63.24 dBm	-37.18 dB	-17.00 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93500 GHz	-77.62 dBm	-51.56 dB	-11.56 dB

Ch181 Tx3

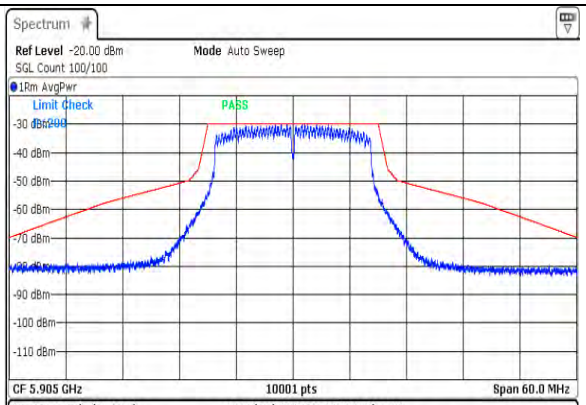


Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -27.90 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87512 GHz	-77.85 dBm	-49.95 dB	-10.10 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89389 GHz	-65.26 dBm	-37.36 dB	-17.27 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89480 GHz	-60.27 dBm	-32.37 dB	-15.57 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89502 GHz	-59.43 dBm	-31.54 dB	-15.78 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91499 GHz	-59.62 dBm	-31.73 dB	-15.87 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91502 GHz	-59.44 dBm	-31.54 dB	-15.46 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91614 GHz	-64.87 dBm	-36.98 dB	-16.86 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93467 GHz	-78.74 dBm	-50.85 dB	-11.24 dB

Ch181 Tx4



Spectrum Emission Mask Standard: 802.11p 20MHz Class B

Peak Power -29.83 dBm RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-30.000 MHz	-20.000 MHz	100.000 kHz	5.87512 GHz	-79.77 dBm	-49.94 dB	-10.09 dB
-20.000 MHz	-11.000 MHz	100.000 kHz	5.89374 GHz	-65.73 dBm	-35.90 dB	-15.67 dB
-11.000 MHz	-10.000 MHz	100.000 kHz	5.89480 GHz	-61.08 dBm	-31.25 dB	-14.45 dB
-10.000 MHz	-9.000 MHz	100.000 kHz	5.89502 GHz	-60.56 dBm	-30.73 dB	-14.97 dB
9.000 MHz	10.000 MHz	100.000 kHz	5.91500 GHz	-61.08 dBm	-31.25 dB	-15.30 dB
10.000 MHz	11.000 MHz	100.000 kHz	5.91511 GHz	-61.46 dBm	-31.63 dB	-15.18 dB
11.000 MHz	20.000 MHz	100.000 kHz	5.91615 GHz	-66.57 dBm	-36.74 dB	-16.60 dB
20.000 MHz	30.000 MHz	100.000 kHz	5.93486 GHz	-80.59 dBm	-50.76 dB	-10.92 dB

Occupied Bandwidth 99%

Measurement Method: ANSI C63.26-2015 Section 5.4.4

10MHz

Frequency (MHz)	Data Rate (Mbps)	TX1A (MHz)	TX1B (MHz)	TX2A (MHz)	TX2B (MHz)
5860 MHz	3	8.197	8.169	8.151	8.203
	27	8.187	8.257	8.255	**8.273**
5890 MHz	3	8.177	8.157	8.165	8.191
	27	8.181	8.251	**8.283**	8.259
5920 MHz	3	8.183	8.153	8.157	8.181
	27	8.181	8.263	**8.269**	8.255

20MHz

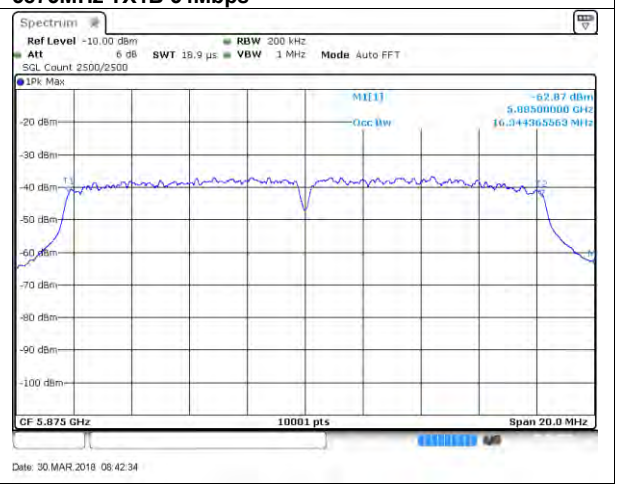
Frequency (MHz)	Data Rate (Mbps)	TX1A (MHz)	TX1B (MHz)	TX2A (MHz)	TX2B (MHz)
5875 MHz	6	16.196	16.242	16.232	16.216
	54	16.316	**16.344**	16.322	16.328
5905 MHz	6	16.214	16.230	16.236	16.214
	54	16.202	16.304	16.332	**16.340**

5860MHz TX2B 27Mbps

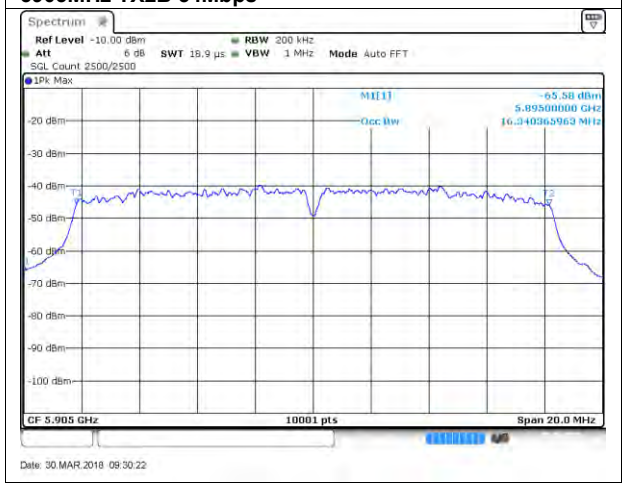
5890MHz TX2A 27Mbps

5920MHz TX2A 27Mbps

5875MHz TX1B 54Mbps



5905MHz TX2B 54Mbps



Conducted Spurious Emissions

Measurement Method: ANSI C63.26-2015 Section 5.7

Mode	Result
5860MHz 10MHz 9Mbps TX1A, TX1B, TX2A, TX2B	Pass
5890MHz 10MHz 6Mbps TX1A, TX1B, TX2A, TX2B	Pass
5920MHz 10MHz 9Mbps TX1A, TX1B, TX2A, TX2B	Pass
5875MHz 20MHz 36Mbps TX1A, TX1B, TX2A, TX2B	Pass
5905MHz 20MHz 9Mbps TX1A, TX1B, TX2A, TX2B	Pass

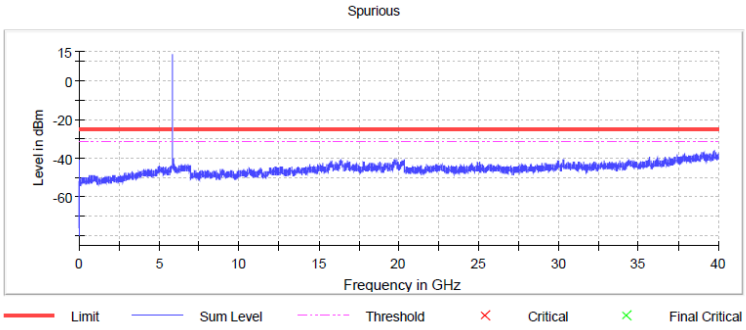
See plots on following pages

5860MHz 10MHz 9Mbps TX1A

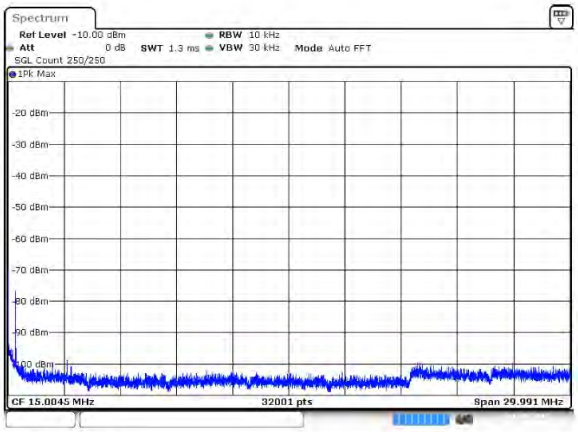
9kHz-40GHz combined

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5849.512984	-33.0	8.0	-25.0
5848.888941	-34.9	9.9	-25.0
5848.264898	-35.6	10.6	-25.0
39716.571357	-36.3	11.3	-25.0
5847.640855	-36.4	11.4	-25.0
5847.016812	-36.6	11.6	-25.0
39042.842411	-36.7	11.7	-25.0
38979.094403	-36.9	11.9	-25.0
39834.067685	-36.9	11.9	-25.0
39802.818662	-37.0	12.0	-25.0
39029.092841	-37.0	12.0	-25.0
39023.468017	-37.0	12.0	-25.0
39845.317334	-37.1	12.1	-25.0
5845.768726	-37.1	12.1	-25.0
39715.946377	-37.1	12.1	-25.0

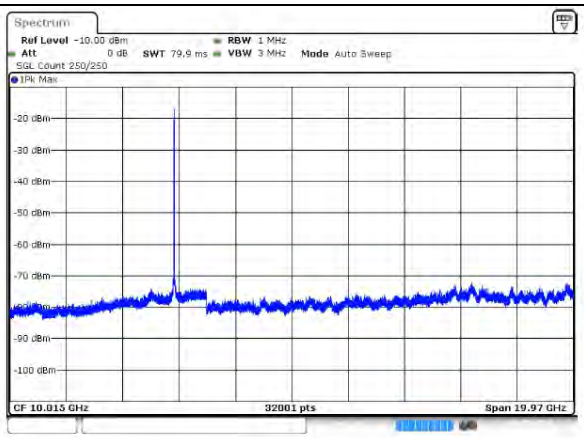


9kHz-30MHz



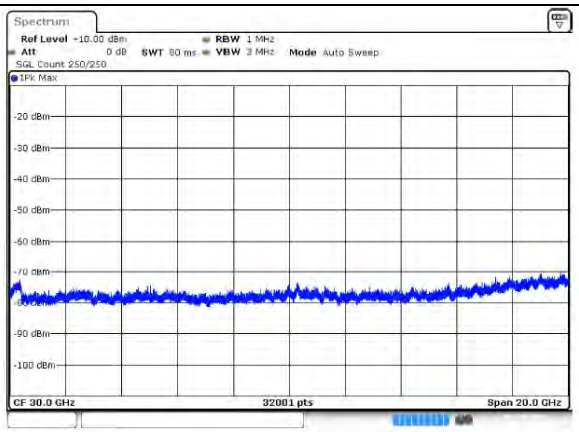
Date: 9.APR.2018 12:00:42

30MHz-20GHz



Date: 9.APR.2018 12:01:57

20GHz-40GHz



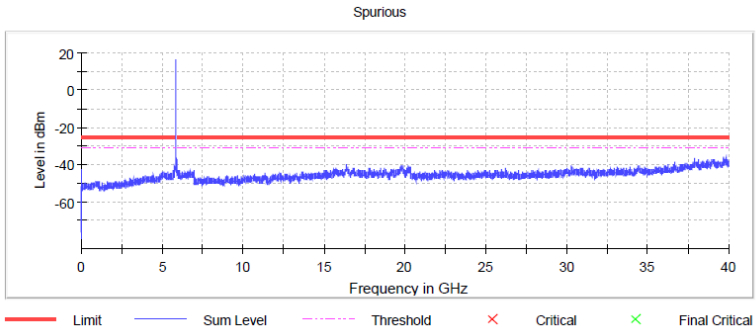
Date: 9.APR.2018 12:03:07

5860MHz 10MHz 9Mbps TX1B

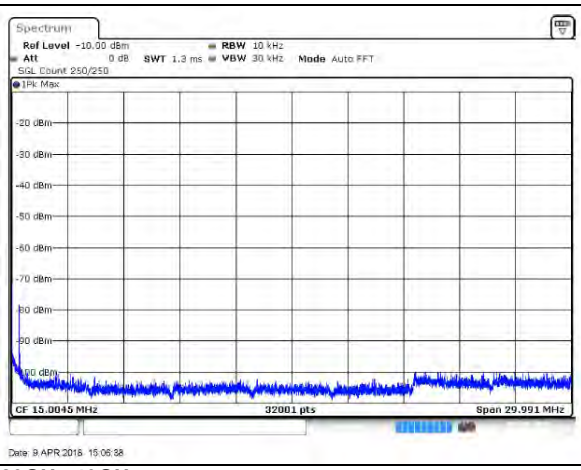
9kHz-40GHz combined

Pre Measurements

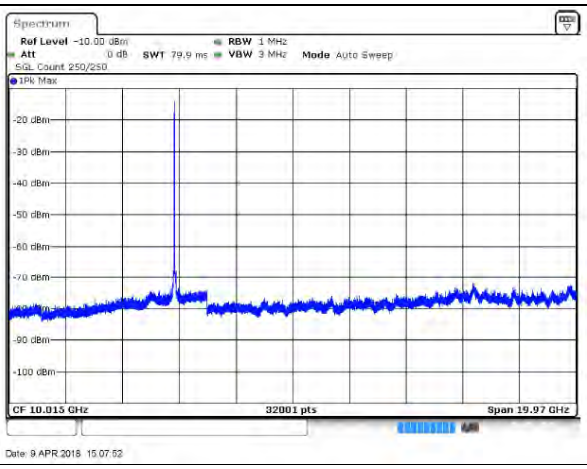
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5844.520640	-33.3	8.3	-25.0
5843.896597	-33.4	8.4	-25.0
5842.024468	-36.0	11.0	-25.0
39704.071748	-36.1	11.1	-25.0
39654.073310	-36.4	11.4	-25.0
5834.535952	-36.5	11.5	-25.0
39797.193838	-36.5	11.5	-25.0
39714.071435	-36.5	11.5	-25.0
39810.943408	-36.7	11.7	-25.0
37883.503641	-36.8	11.8	-25.0
39707.196650	-36.8	11.8	-25.0
39929.064717	-36.8	11.8	-25.0
5838.904253	-36.8	11.8	-25.0
39775.944502	-36.8	11.8	-25.0
38690.353426	-36.8	11.8	-25.0



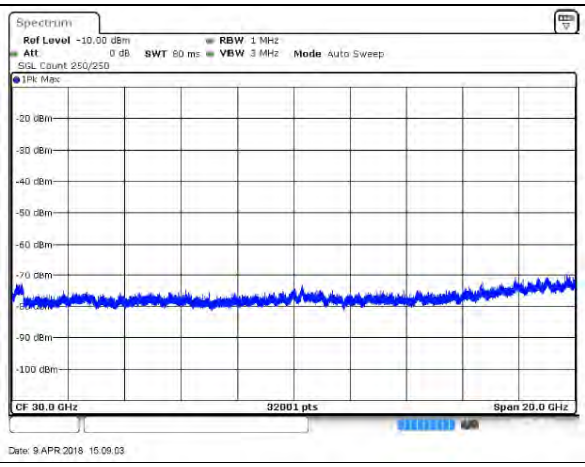
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

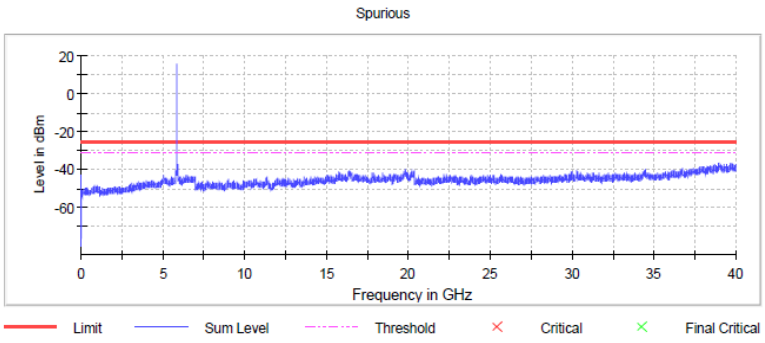


5860MHz 10MHz 9Mbps TX2A

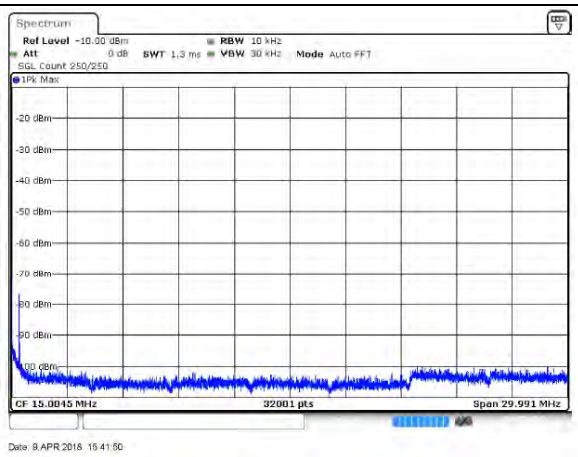
9kHz-40GHz combined

Pre Measurements

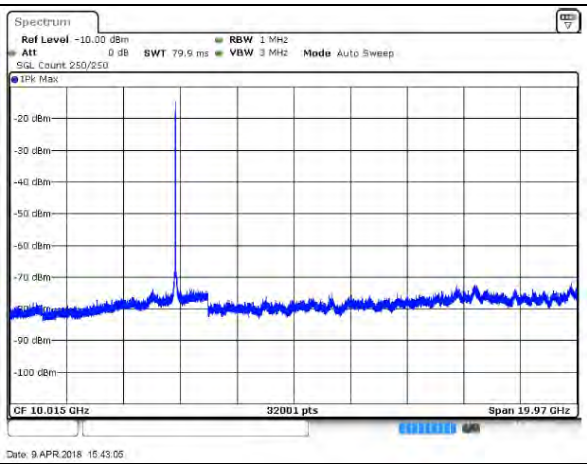
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5839.528296	-35.8	10.8	-25.0
5843.272554	-35.9	10.9	-25.0
5844.520640	-36.1	11.1	-25.0
39755.320146	-36.2	11.2	-25.0
39690.947158	-36.3	11.3	-25.0
38975.344520	-36.6	11.6	-25.0
5840.152339	-37.0	12.0	-25.0
39983.438018	-37.0	12.0	-25.0
39457.204462	-37.0	12.0	-25.0
39795.318896	-37.0	12.0	-25.0
39066.591669	-37.1	12.1	-25.0
39047.842255	-37.2	12.2	-25.0
38711.602762	-37.2	12.2	-25.0
38704.727977	-37.3	12.3	-25.0
39712.821474	-37.3	12.3	-25.0



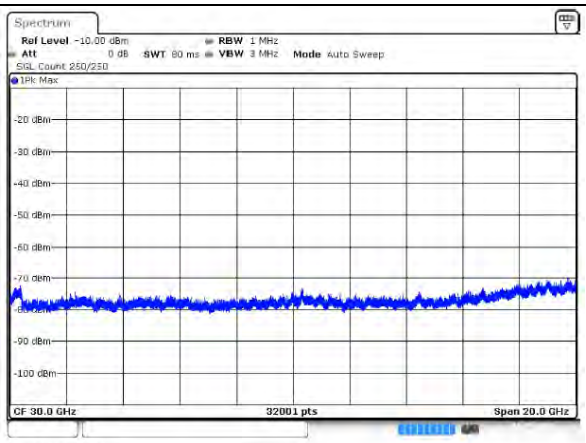
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

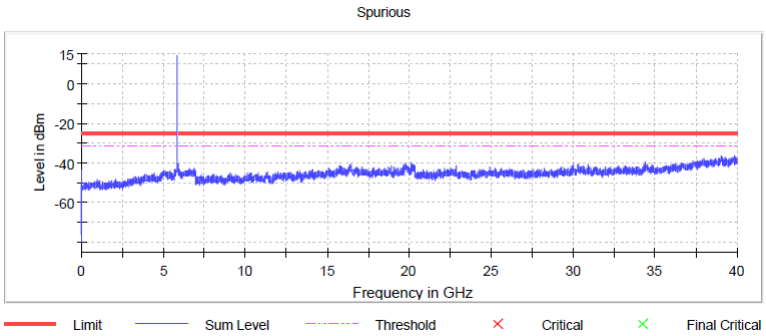


5860MHz 10MHz 9Mbps TX2B

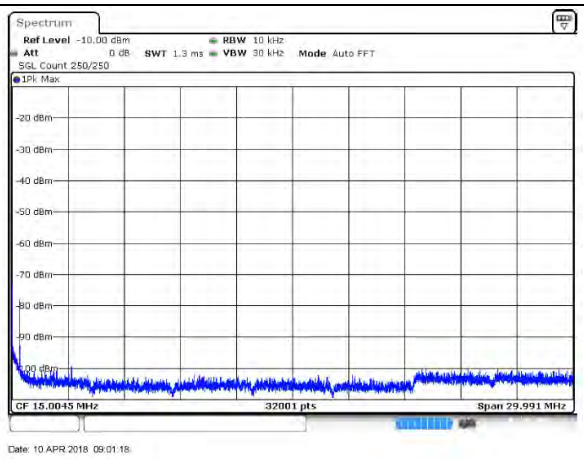
9kHz-40GHz combined

Pre Measurements

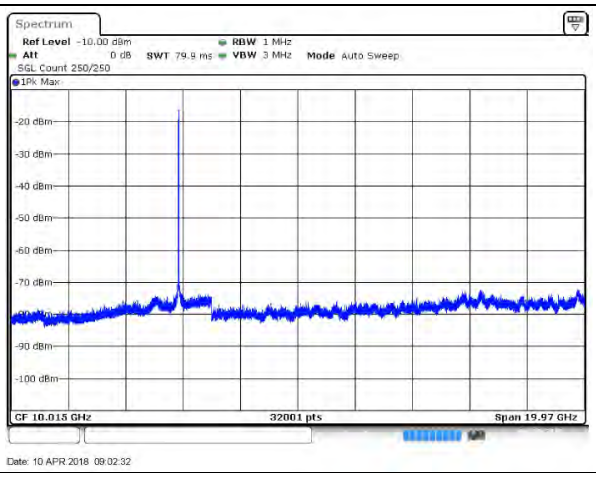
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39044.092372	-36.2	11.2	-25.0
39824.692978	-36.2	11.2	-25.0
39825.317959	-36.3	11.3	-25.0
5843.272554	-36.6	11.6	-25.0
39075.341396	-36.8	11.8	-25.0
39952.188994	-36.8	11.8	-25.0
39039.092528	-36.9	11.9	-25.0
39755.320146	-36.9	11.9	-25.0
39014.718290	-36.9	11.9	-25.0
39813.443330	-37.0	12.0	-25.0
39095.340771	-37.0	12.0	-25.0
39834.067685	-37.1	12.1	-25.0
39279.085029	-37.1	12.1	-25.0
39023.468017	-37.2	12.2	-25.0
39030.342802	-37.2	12.2	-25.0



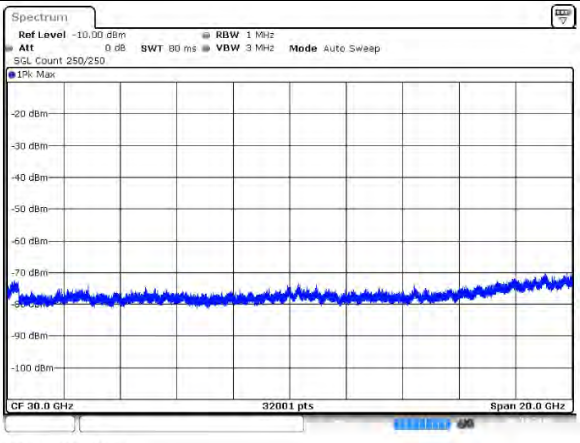
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

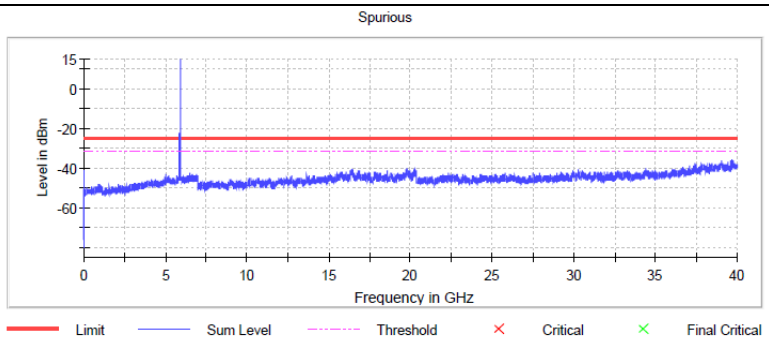


5890MHz 10MHz 6Mbps TX1A

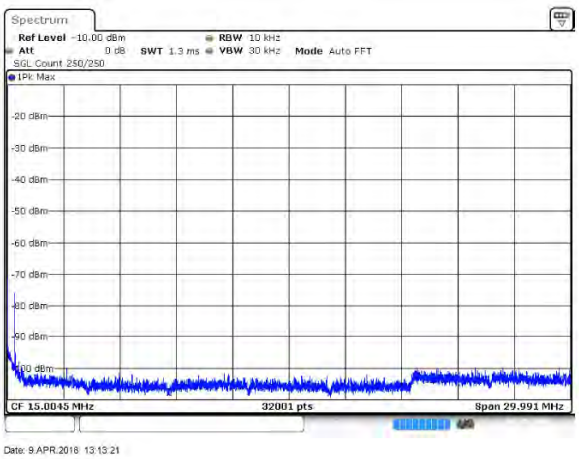
9kHz-40GHz combined

Pre Measurements

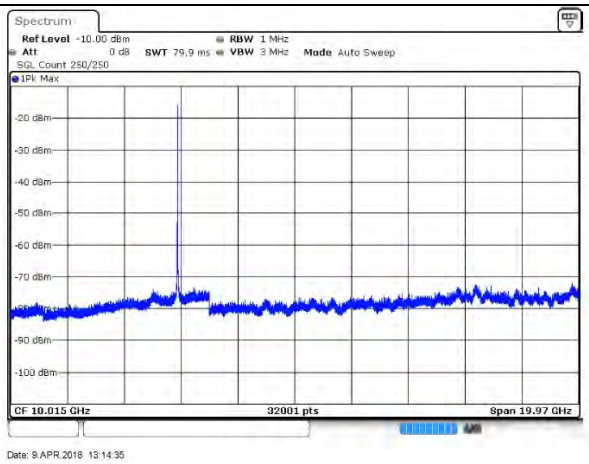
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39702.821787	-35.8	10.8	-25.0
39055.967001	-36.4	11.4	-25.0
39632.823974	-36.4	11.4	-25.0
39056.591982	-36.4	11.4	-25.0
39758.445049	-36.5	11.5	-25.0
39657.198213	-36.7	11.7	-25.0
39048.467235	-36.9	11.9	-25.0
39398.456298	-37.1	12.1	-25.0
39014.093310	-37.1	12.1	-25.0
39397.831318	-37.1	12.1	-25.0
39764.069873	-37.2	12.2	-25.0
39041.592450	-37.2	12.2	-25.0
38985.969188	-37.3	12.3	-25.0
39040.967470	-37.3	12.3	-25.0
39720.946220	-37.3	12.3	-25.0



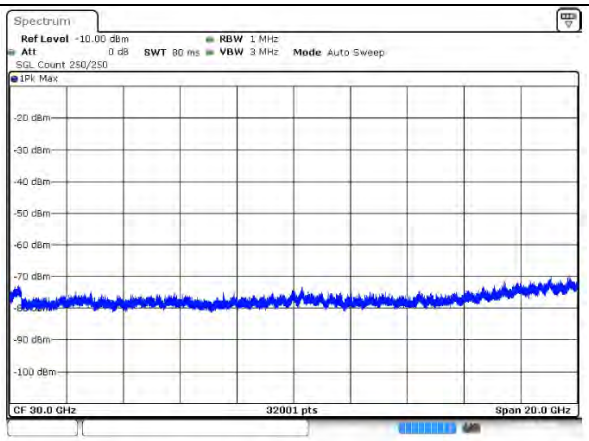
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

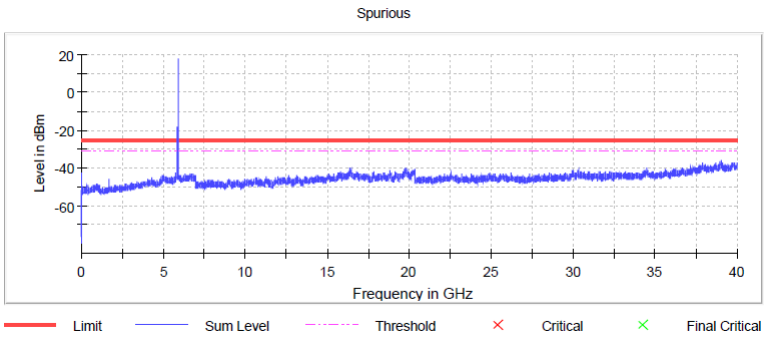


5890MHz 10MHz 6Mbps TX1B

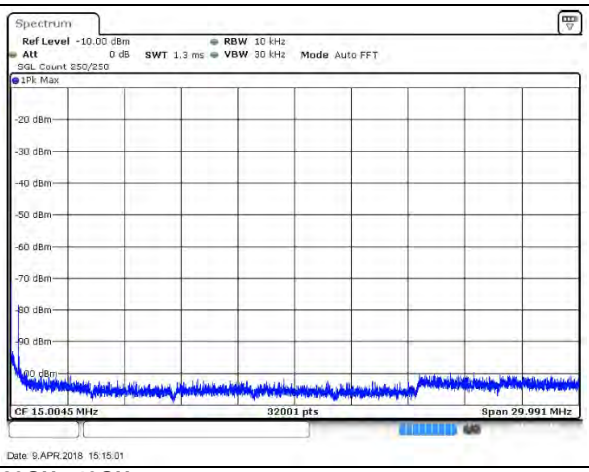
9kHz-40GHz combined

Pre Measurements

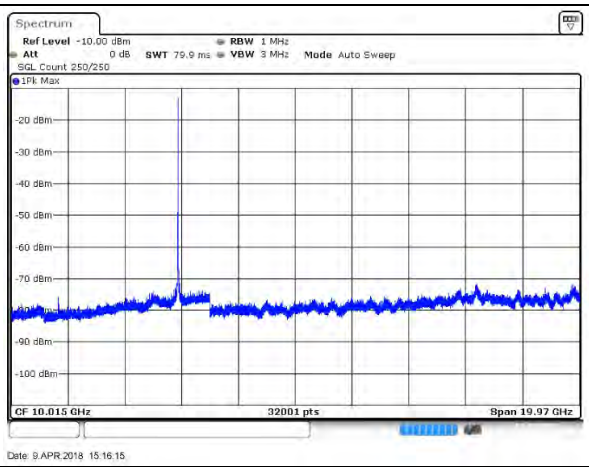
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39006.593544	-36.0	11.0	-25.0
38984.094247	-36.4	11.4	-25.0
39024.717978	-36.6	11.6	-25.0
39032.842724	-36.8	11.8	-25.0
39012.843349	-36.9	11.9	-25.0
38697.228212	-36.9	11.9	-25.0
39021.593075	-37.0	12.0	-25.0
37884.128621	-37.0	12.0	-25.0
39832.817724	-37.1	12.1	-25.0
38698.478173	-37.1	12.1	-25.0
39712.821474	-37.3	12.3	-25.0
39025.967939	-37.3	12.3	-25.0
39026.592919	-37.3	12.3	-25.0
39994.687666	-37.3	12.3	-25.0
39769.694697	-37.3	12.3	-25.0



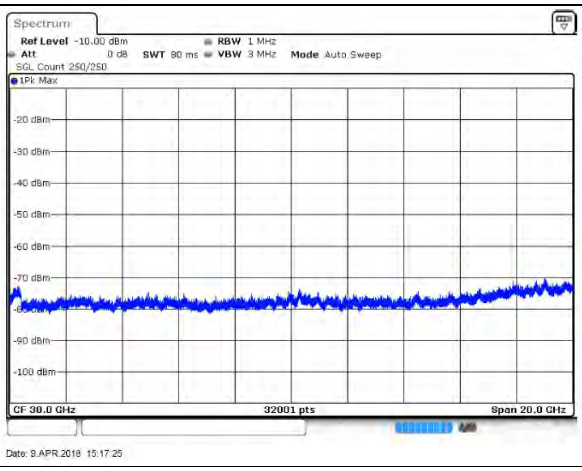
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

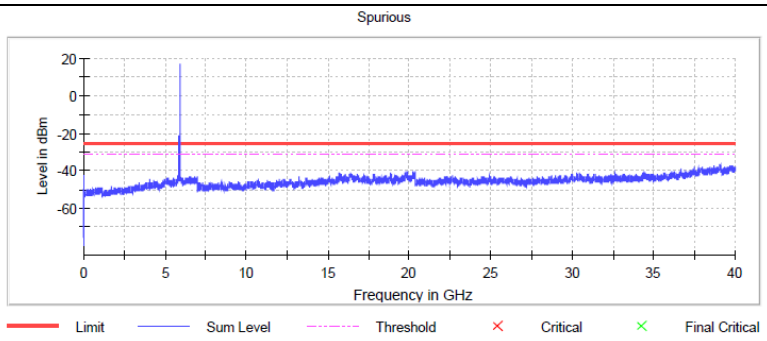


5890MHz 10MHz 6Mbps TX2A

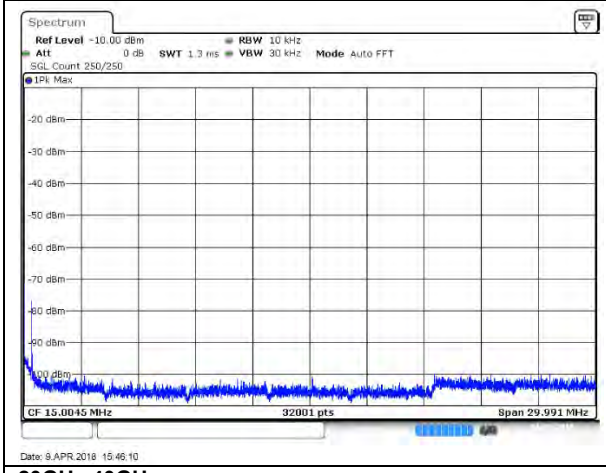
9kHz-40GHz combined

Pre Measurements

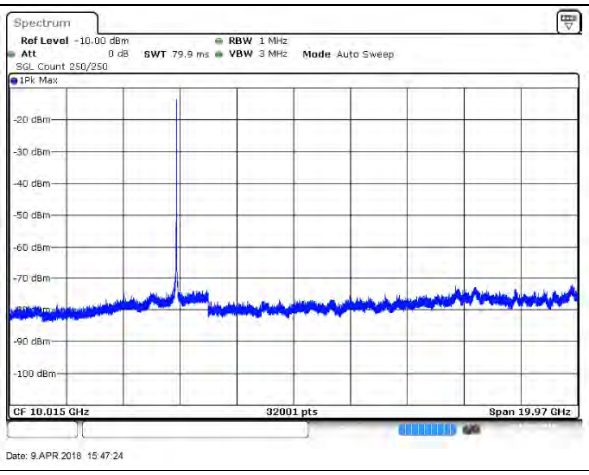
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39009.093466	-36.6	11.6	-25.0
39025.342958	-36.6	11.6	-25.0
38692.853348	-36.8	11.8	-25.0
39067.216649	-37.1	12.1	-25.0
39084.716103	-37.1	12.1	-25.0
39009.718446	-37.1	12.1	-25.0
39019.093153	-37.1	12.1	-25.0
39649.698447	-37.1	12.1	-25.0
39037.842567	-37.1	12.1	-25.0
39085.341083	-37.2	12.2	-25.0
39062.216806	-37.3	12.3	-25.0
39039.717509	-37.3	12.3	-25.0
39810.943408	-37.3	12.3	-25.0
39036.592606	-37.3	12.3	-25.0
39798.443799	-37.4	12.4	-25.0



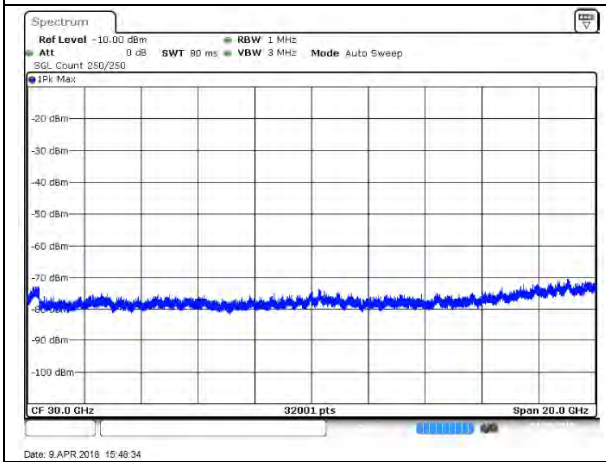
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

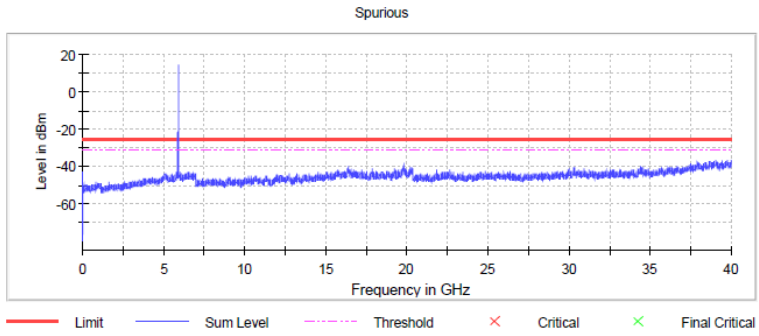


5890MHz 10MHz 6Mbps TX2B

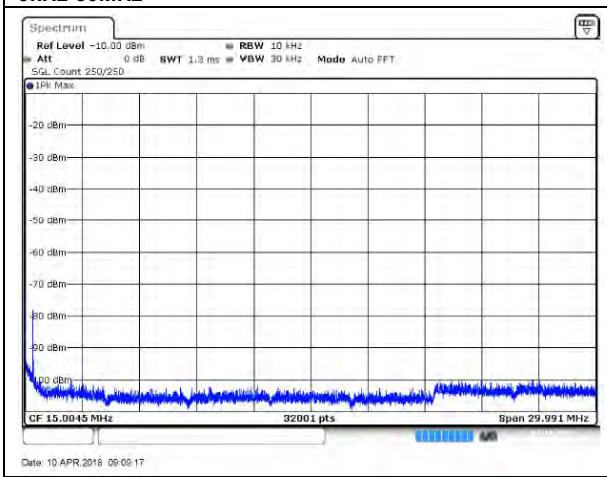
9kHz-40GHz combined

Pre Measurements

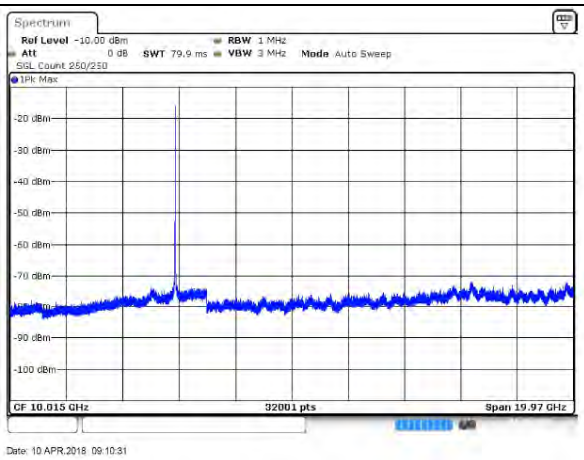
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
38994.093935	-36.2	11.2	-25.0
39757.195088	-36.3	11.3	-25.0
39974.063311	-36.7	11.7	-25.0
39030.967782	-36.8	11.8	-25.0
39976.563232	-36.9	11.9	-25.0
38925.346083	-36.9	11.9	-25.0
39765.319834	-36.9	11.9	-25.0
39679.697509	-36.9	11.9	-25.0
39053.467079	-37.1	12.1	-25.0
39037.842567	-37.1	12.1	-25.0
37928.502234	-37.2	12.2	-25.0
39711.571513	-37.2	12.2	-25.0
38652.229618	-37.2	12.2	-25.0
39757.820068	-37.2	12.2	-25.0
38680.353739	-37.3	12.3	-25.0



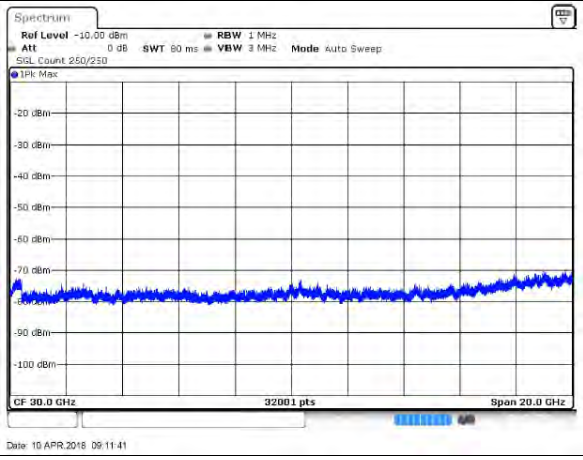
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

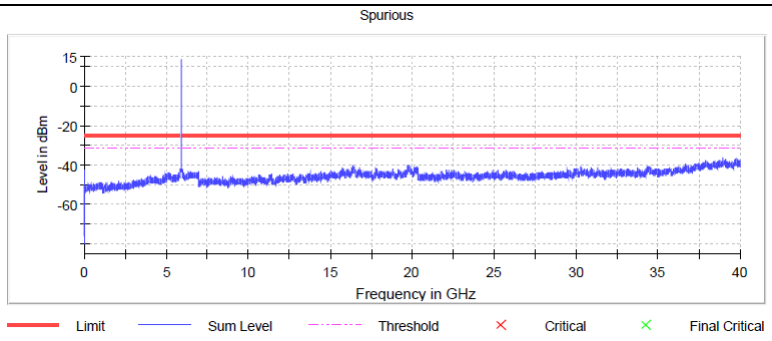


5920MHz 10MHz 9Mbps TX1A

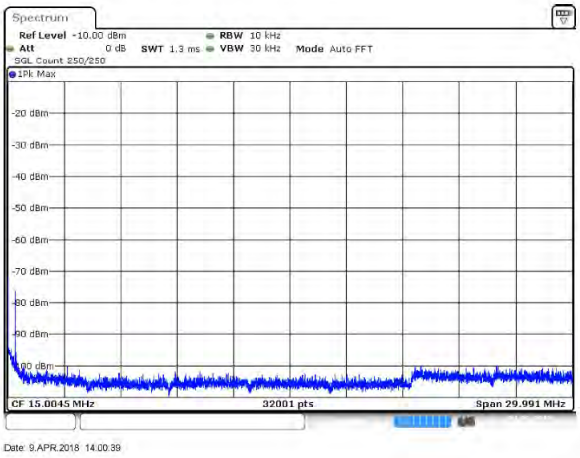
9kHz-40GHz combined

Pre Measurements

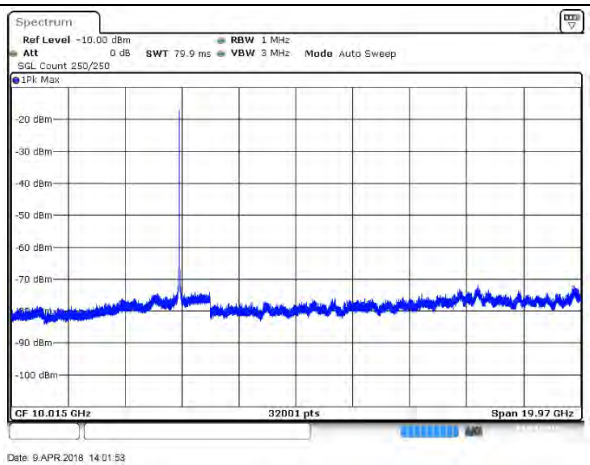
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5930.014531	-31.1	6.1	-25.0
5930.638574	-31.4	6.4	-25.0
5931.262617	-33.2	8.2	-25.0
5931.886660	-33.4	8.4	-25.0
5932.510703	-34.4	9.4	-25.0
5933.134746	-36.2	11.2	-25.0
38961.594950	-36.4	11.4	-25.0
5933.758789	-36.4	11.4	-25.0
39071.591513	-36.7	11.7	-25.0
39840.942471	-36.8	11.8	-25.0
39716.571357	-37.1	12.1	-25.0
39707.196650	-37.2	12.2	-25.0
39030.967782	-37.2	12.2	-25.0
38990.969032	-37.2	12.2	-25.0
39715.946377	-37.3	12.3	-25.0



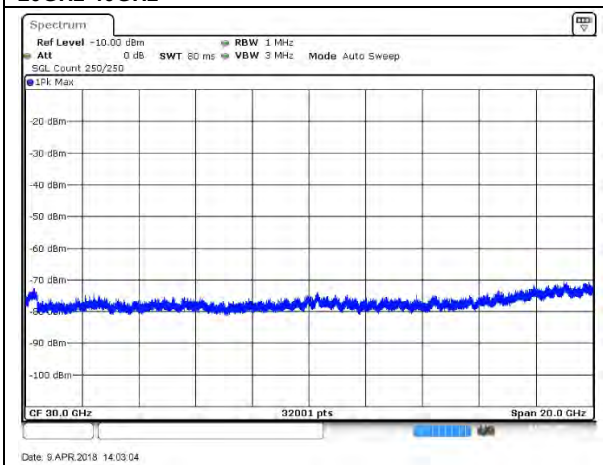
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz



5920MHz 10MHz 9Mbps TX1B

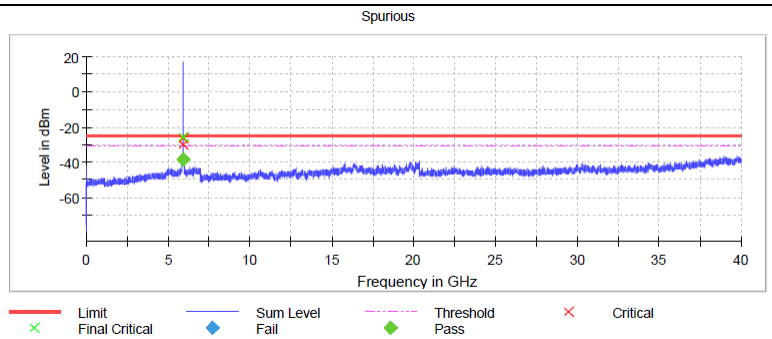
9kHz-40GHz combined

Pre Measurements

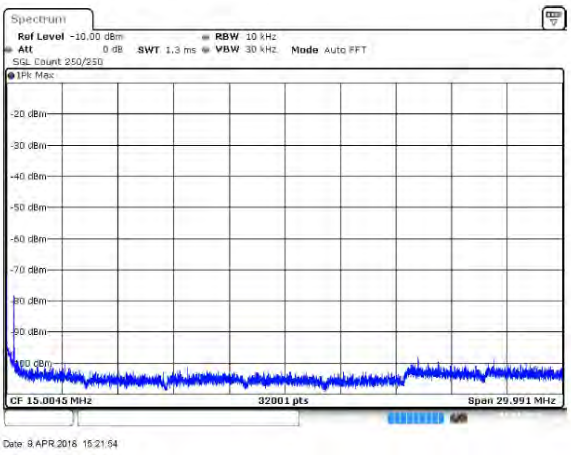
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5930.014531	-25.7	0.7	-25.0
5930.638574	-26.7	1.7	-25.0
5931.262617	-29.7	4.7	-25.0
5931.886660	-31.7	6.7	-25.0
5932.510703	-33.0	8.0	-25.0
5933.134746	-34.7	9.7	-25.0
5933.758789	-34.8	9.8	-25.0
5935.006875	-35.2	10.2	-25.0
5934.382832	-35.4	10.4	-25.0
5937.503047	-35.7	10.7	-25.0
5935.630918	-36.0	11.0	-25.0
5936.254961	-36.2	11.2	-25.0
38965.969813	-36.3	11.3	-25.0
5938.127090	-36.6	11.6	-25.0
39787.194150	-36.7	11.7	-25.0

Final measurements

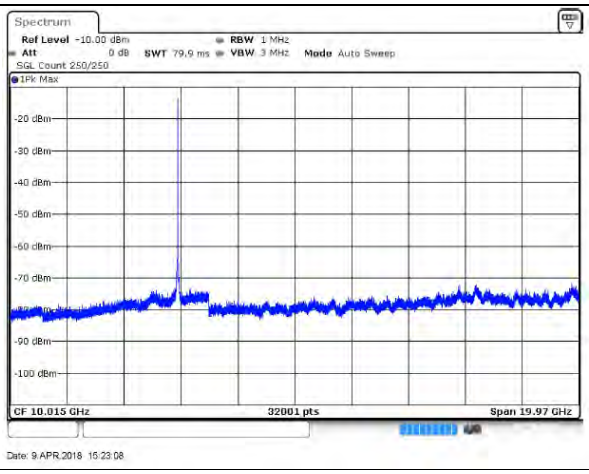
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
5930.014531	-25.7	-38.2	-25.0	13.2	PASS



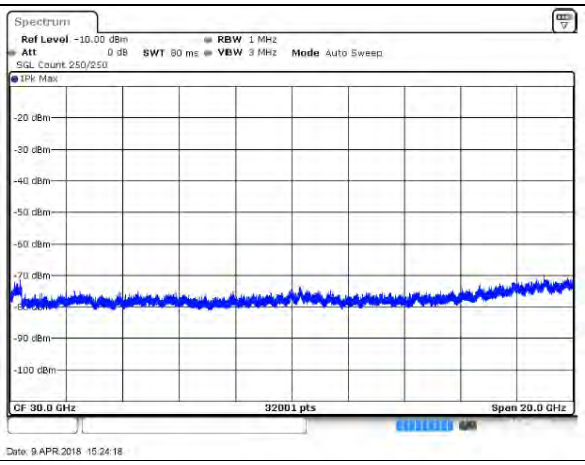
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

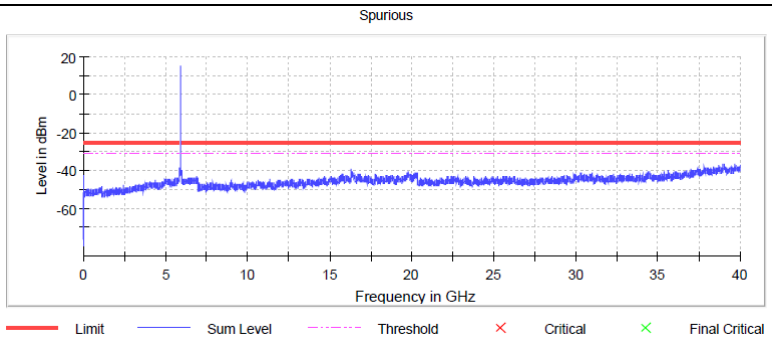


5920MHz 10MHz 9Mbps TX2A

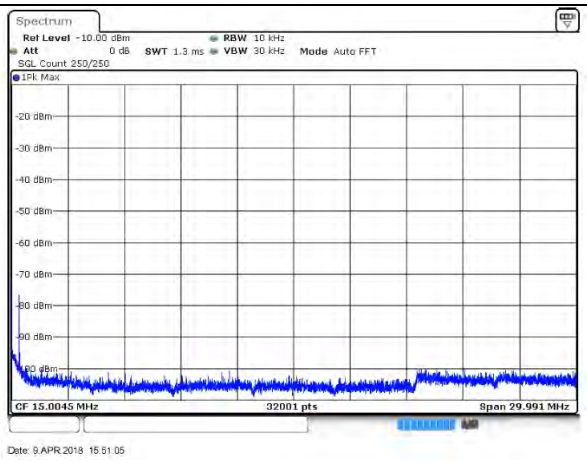
9kHz-40GHz combined

Pre Measurements

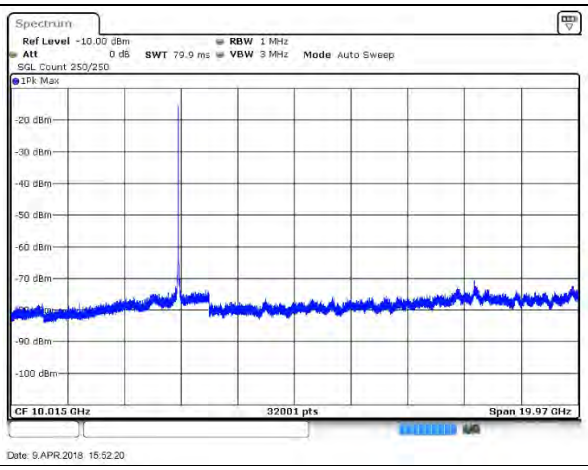
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5930.014531	-32.6	7.6	-25.0
5931.262617	-33.2	8.2	-25.0
5930.638574	-33.6	8.6	-25.0
5931.886660	-34.0	9.0	-25.0
5932.510703	-34.1	9.1	-25.0
5933.758789	-34.4	9.4	-25.0
5933.134746	-34.6	9.6	-25.0
5935.630918	-35.4	10.4	-25.0
5934.382832	-35.5	10.5	-25.0
5935.006875	-36.1	11.1	-25.0
39649.073466	-36.2	11.2	-25.0
5936.254961	-36.3	11.3	-25.0
38952.220243	-36.4	11.4	-25.0
39031.592763	-36.7	11.7	-25.0
39732.195869	-36.8	11.8	-25.0



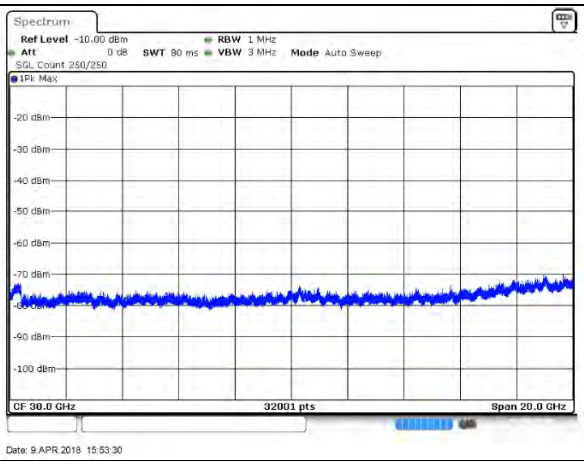
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

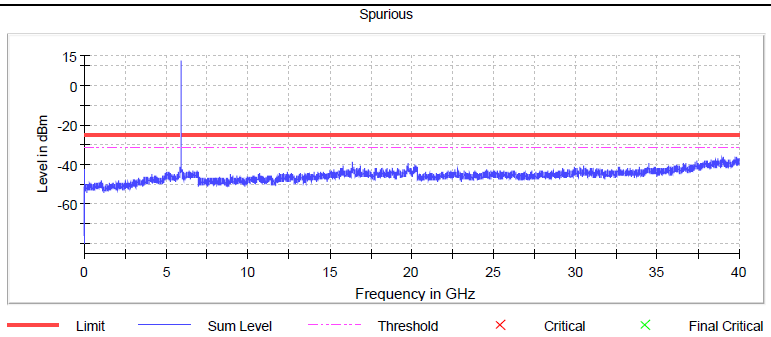


5920MHz 10MHz 9Mbps TX2B

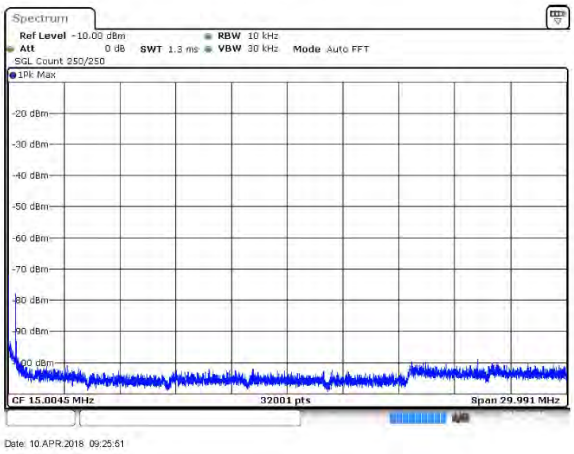
9kHz-40GHz combined

Pre Measurements

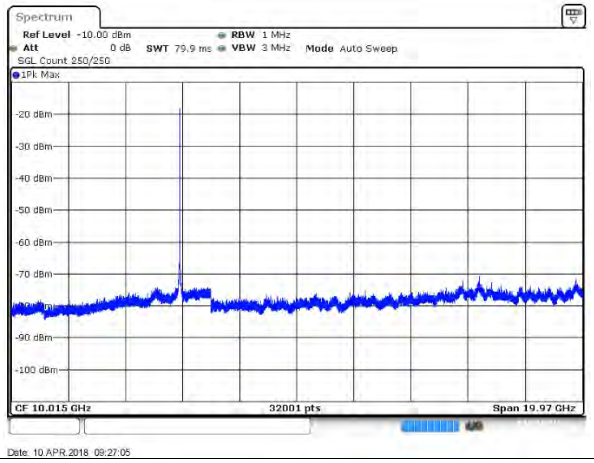
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5930.638574	-32.8	7.8	-25.0
5930.014531	-33.0	8.0	-25.0
5931.262617	-34.8	9.8	-25.0
5931.886660	-35.4	10.4	-25.0
39757.195088	-36.1	11.1	-25.0
39064.091747	-36.3	11.3	-25.0
39821.568076	-36.5	11.5	-25.0
38985.344208	-36.6	11.6	-25.0
38940.970595	-36.7	11.7	-25.0
38990.969032	-36.8	11.8	-25.0
39986.562920	-36.8	11.8	-25.0
39957.813818	-36.9	11.9	-25.0
38674.103934	-37.0	12.0	-25.0
38697.228212	-37.0	12.0	-25.0
38670.979032	-37.1	12.1	-25.0



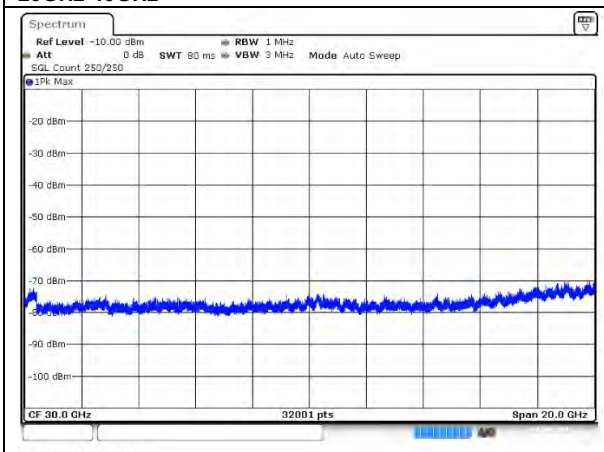
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

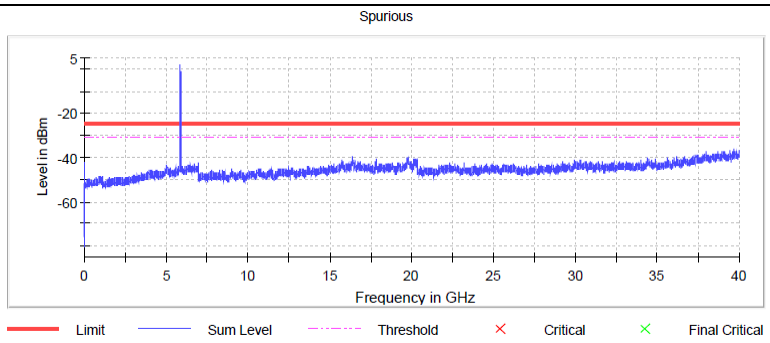


5875MHz 20MHz 36Mbps TX1A

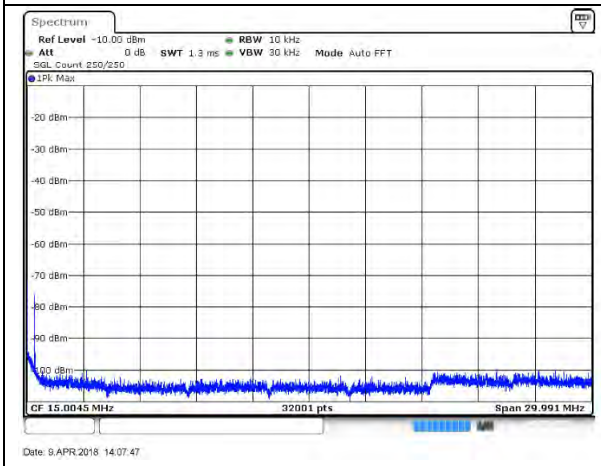
9kHz-40GHz combined

Pre Measurements

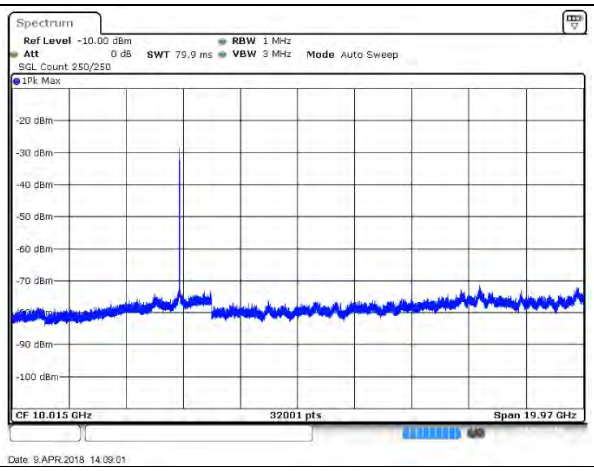
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39713.446455	-36.0	11.0	-25.0
39437.830068	-36.5	11.5	-25.0
39988.437861	-36.6	11.6	-25.0
39769.694697	-36.9	11.9	-25.0
39005.968563	-37.0	12.0	-25.0
37961.001219	-37.0	12.0	-25.0
39663.448017	-37.0	12.0	-25.0
38717.227587	-37.0	12.0	-25.0
38978.469423	-37.1	12.1	-25.0
39797.818818	-37.1	12.1	-25.0
38936.595731	-37.2	12.2	-25.0
39774.694541	-37.2	12.2	-25.0
39026.592919	-37.3	12.3	-25.0
39600.324990	-37.3	12.3	-25.0
38662.229305	-37.3	12.3	-25.0



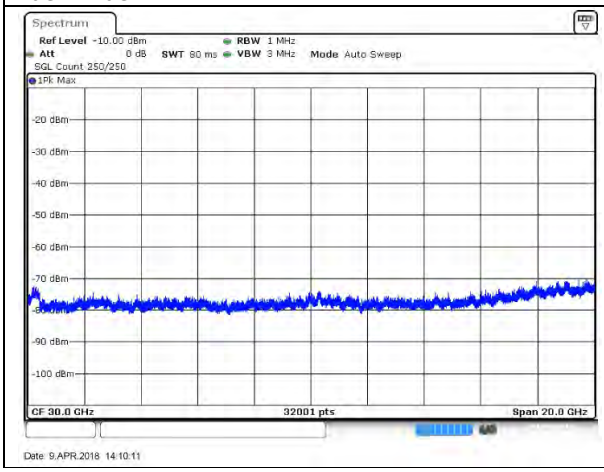
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

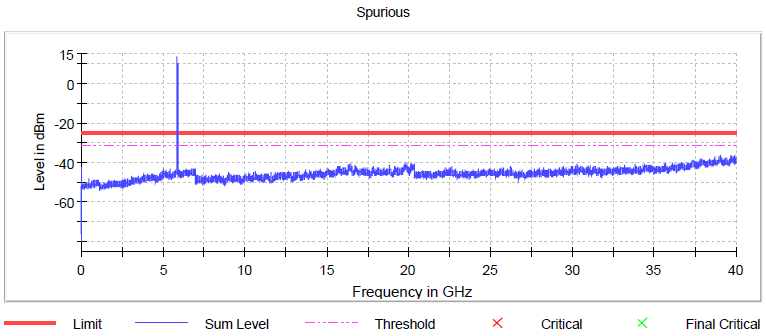


5875MHz 20MHz 36Mbps TX1B

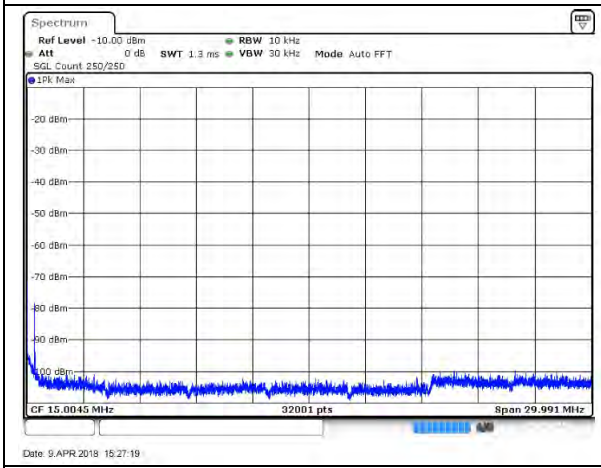
9kHz-40GHz combined

Pre Measurements

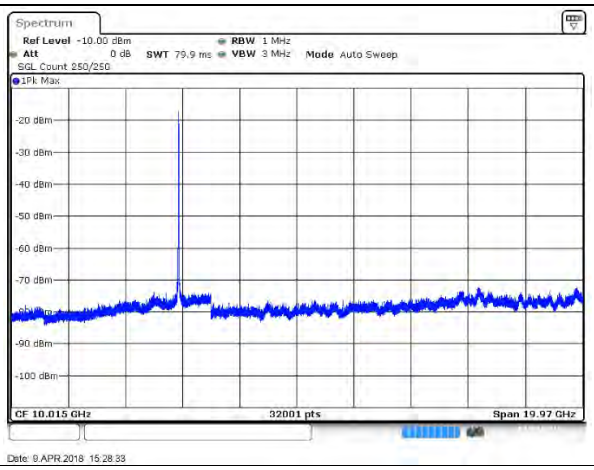
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39902.190557	-36.1	11.1	-25.0
39700.321865	-36.1	11.1	-25.0
39922.189932	-36.4	11.4	-25.0
39017.218212	-36.5	11.5	-25.0
39026.592919	-36.6	11.6	-25.0
39836.567607	-36.7	11.7	-25.0
39680.947470	-36.7	11.7	-25.0
39760.944970	-36.8	11.8	-25.0
39730.945908	-36.8	11.8	-25.0
39006.593544	-36.8	11.8	-25.0
39882.191182	-36.9	11.9	-25.0
38983.469267	-37.0	12.0	-25.0
39745.320459	-37.0	12.0	-25.0
39710.946533	-37.1	12.1	-25.0
39001.593700	-37.1	12.1	-25.0



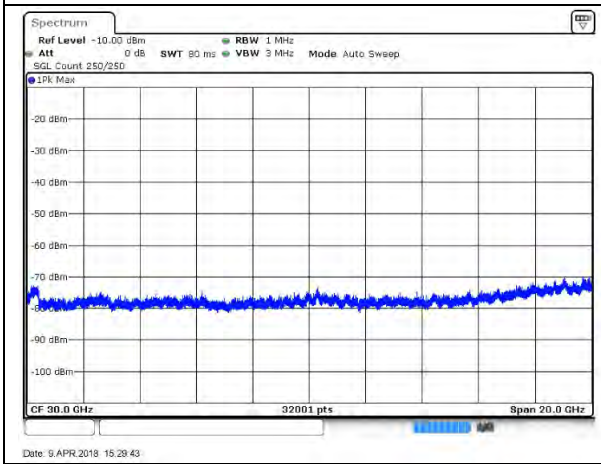
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

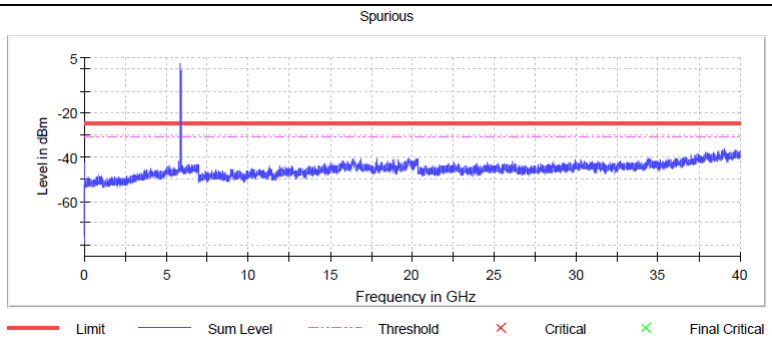


5875MHz 20MHz 36Mbps TX2A

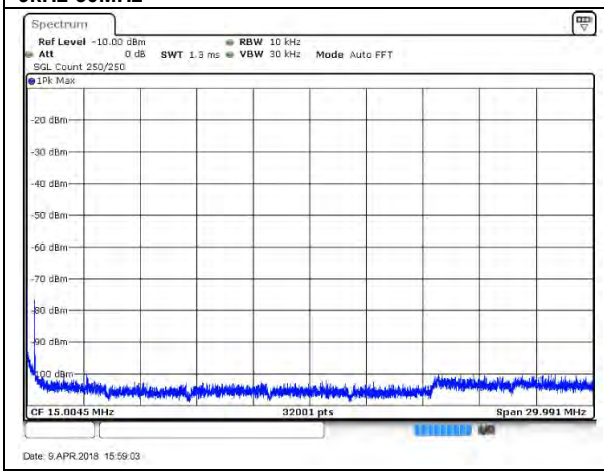
9kHz-40GHz combined

Pre Measurements

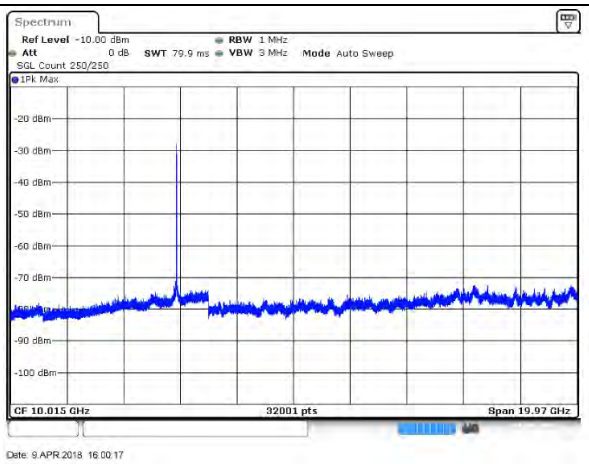
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39015.968251	-36.2	11.2	-25.0
39722.821162	-36.5	11.5	-25.0
39772.194619	-36.5	11.5	-25.0
38937.845692	-36.7	11.7	-25.0
38979.719384	-36.8	11.8	-25.0
39714.071435	-36.8	11.8	-25.0
39065.341708	-36.8	11.8	-25.0
39740.320615	-36.9	11.9	-25.0
39094.090810	-37.0	12.0	-25.0
38925.971063	-37.0	12.0	-25.0
39036.592606	-37.1	12.1	-25.0
39965.313584	-37.1	12.1	-25.0
39965.938564	-37.1	12.1	-25.0
39767.194775	-37.1	12.1	-25.0
38667.229149	-37.1	12.1	-25.0



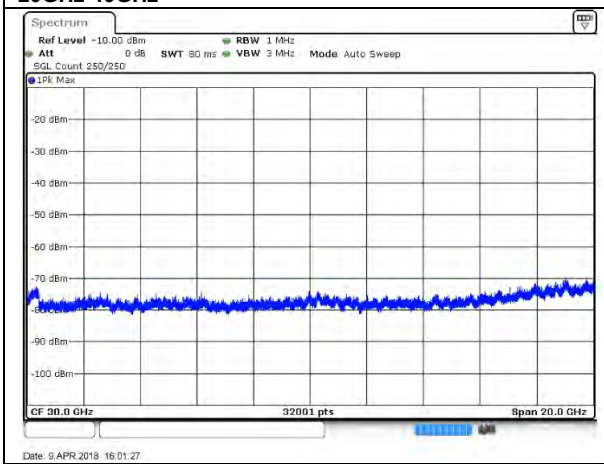
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

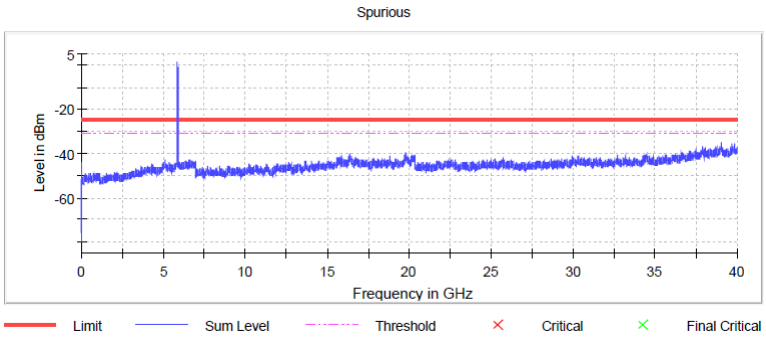


5875MHz 20MHz 36Mbps TX2B

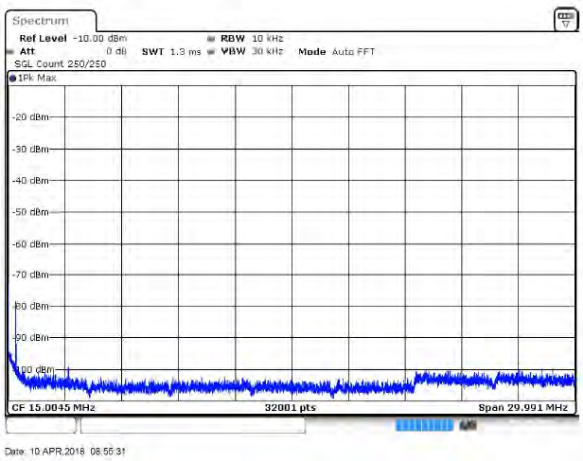
9kHz-40GHz combined

Pre Measurements

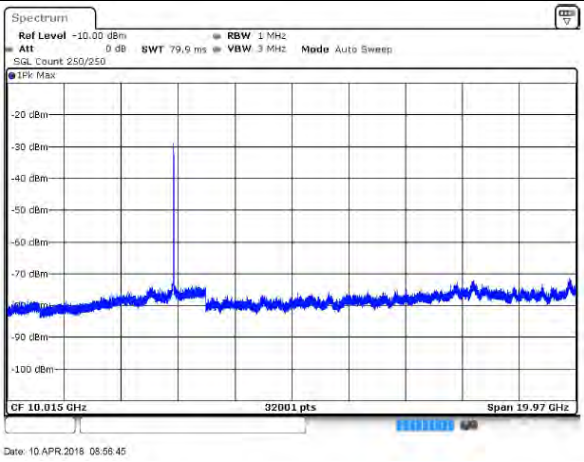
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39038.467548	-35.1	10.1	-25.0
39713.446455	-35.5	10.5	-25.0
39810.943408	-35.7	10.7	-25.0
38994.093935	-36.2	11.2	-25.0
37854.129558	-36.4	11.4	-25.0
37886.003562	-36.4	11.4	-25.0
38989.719071	-36.5	11.5	-25.0
39754.070185	-36.6	11.6	-25.0
39757.195088	-36.6	11.6	-25.0
39754.695166	-36.6	11.6	-25.0
38693.478329	-36.7	11.7	-25.0
39719.071279	-36.7	11.7	-25.0
39851.567139	-36.7	11.7	-25.0
39018.468173	-36.8	11.8	-25.0
39002.218681	-36.8	11.8	-25.0



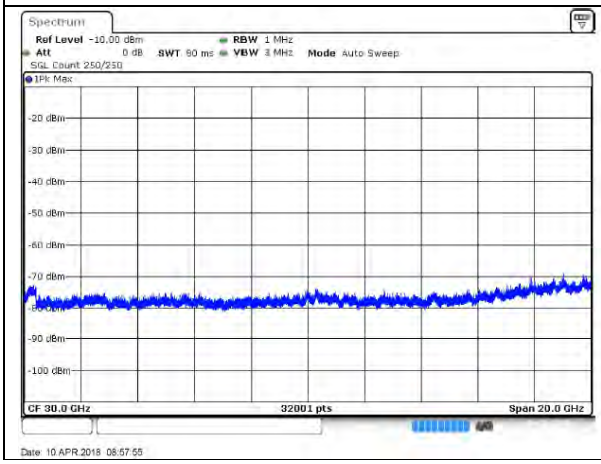
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

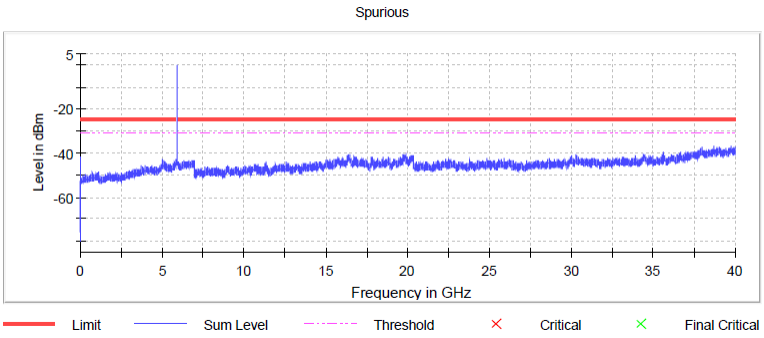


5905MHz 20MHz 9Mbps TX1A

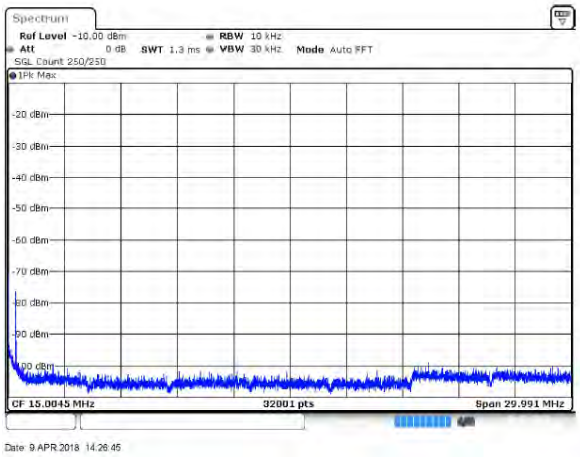
9kHz-40GHz combined

Pre Measurements

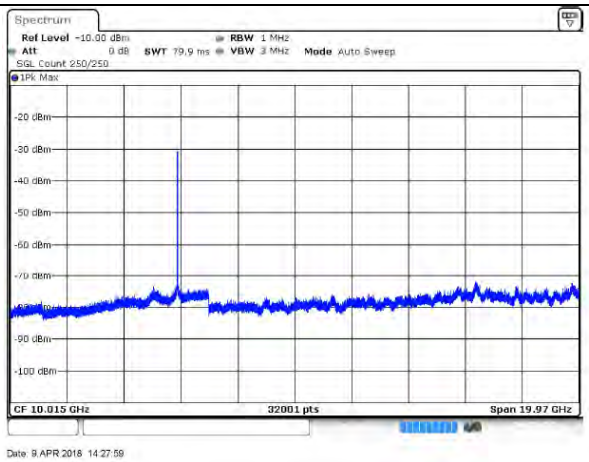
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
38681.603700	-36.5	11.5	-25.0
39775.319521	-36.8	11.8	-25.0
39728.445986	-37.0	12.0	-25.0
39002.843661	-37.1	12.1	-25.0
39738.445674	-37.2	12.2	-25.0
39969.063467	-37.2	12.2	-25.0
39018.468173	-37.3	12.3	-25.0
39762.194931	-37.3	12.3	-25.0
39047.217274	-37.3	12.3	-25.0
39718.446299	-37.3	12.3	-25.0
38697.853192	-37.4	12.4	-25.0
39719.071279	-37.4	12.4	-25.0
37999.750008	-37.4	12.4	-25.0
39012.218368	-37.4	12.4	-25.0
39032.842724	-37.5	12.5	-25.0



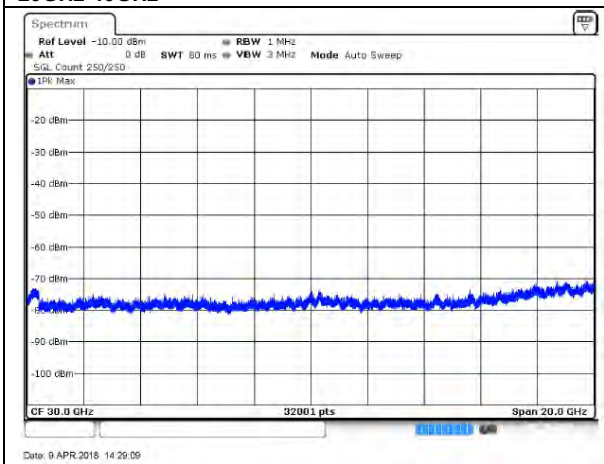
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

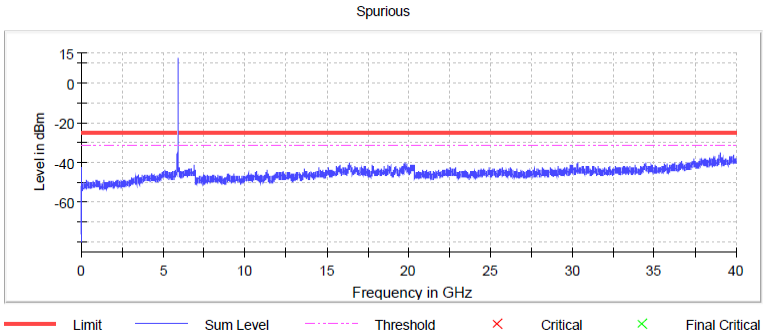


5905MHz 20MHz 9Mbps TX1B

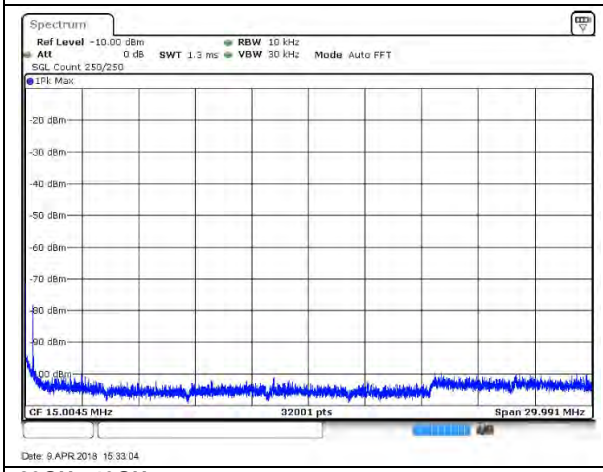
9kHz-40GHz combined

Pre Measurements

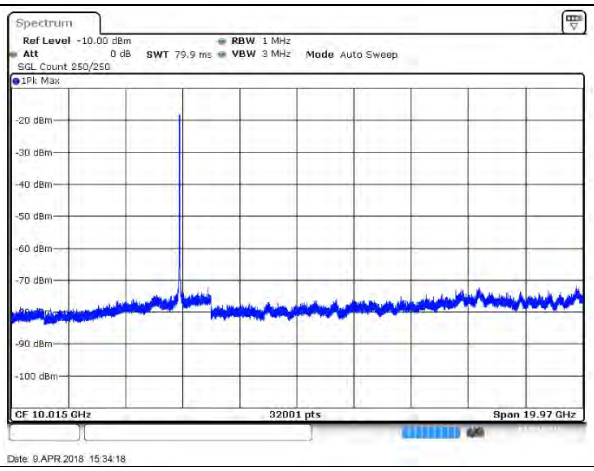
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5930.638574	-34.5	9.5	-25.0
39027.217899	-35.1	10.1	-25.0
38981.594325	-35.9	10.9	-25.0
39804.068623	-36.4	11.4	-25.0
39852.817099	-36.5	11.5	-25.0
5932.510703	-36.5	11.5	-25.0
39006.593544	-36.6	11.6	-25.0
38979.719384	-36.7	11.7	-25.0
39757.195088	-36.8	11.8	-25.0
38682.853661	-36.8	11.8	-25.0
39632.198994	-36.8	11.8	-25.0
5931.262617	-36.8	11.8	-25.0
39732.195869	-36.8	11.8	-25.0
39712.821474	-36.9	11.9	-25.0
38987.844130	-37.0	12.0	-25.0



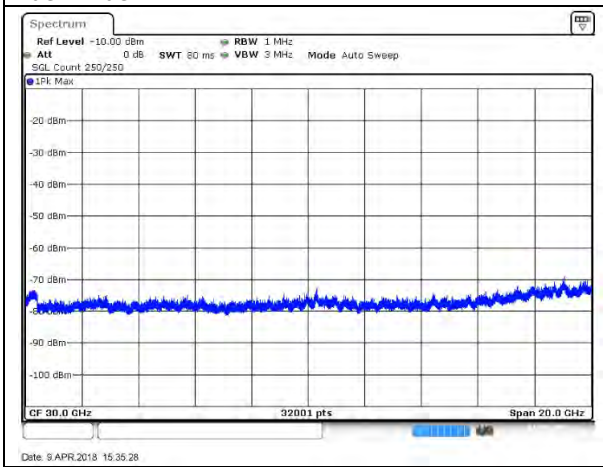
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

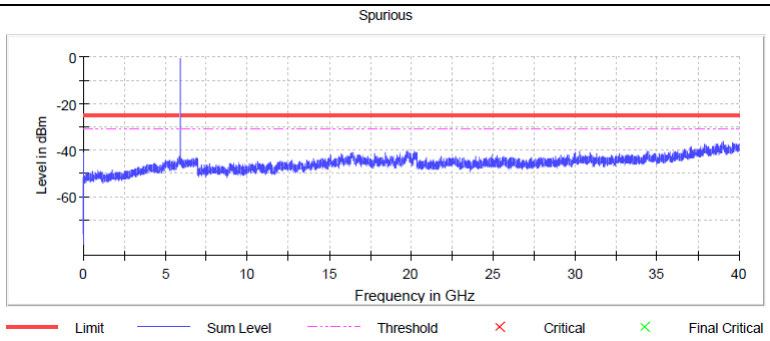


5905MHz 20MHz 9Mbps TX2A

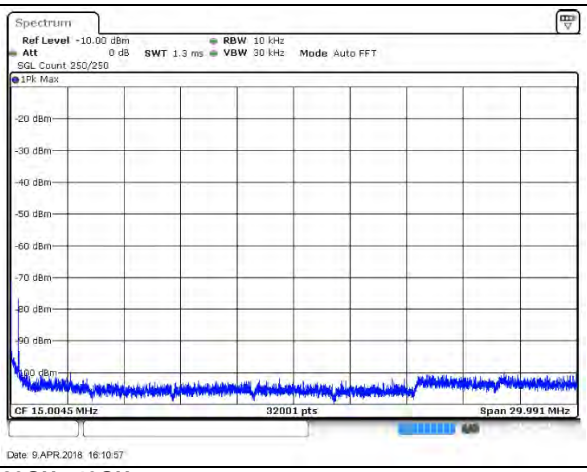
9kHz-40GHz combined

Pre Measurements

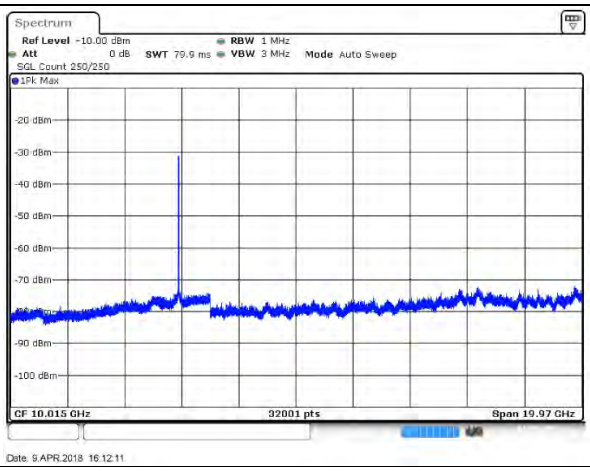
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39010.968407	-36.3	11.3	-25.0
38935.345770	-36.7	11.7	-25.0
38935.970751	-36.7	11.7	-25.0
39624.699228	-36.9	11.9	-25.0
39685.947314	-37.0	12.0	-25.0
39737.195713	-37.0	12.0	-25.0
39815.318271	-37.0	12.0	-25.0
39714.071435	-37.1	12.1	-25.0
39029.717821	-37.1	12.1	-25.0
39047.842255	-37.1	12.1	-25.0
38698.478173	-37.1	12.1	-25.0
39795.943877	-37.1	12.1	-25.0
38697.853192	-37.1	12.1	-25.0
39020.968095	-37.2	12.2	-25.0
39714.696416	-37.2	12.2	-25.0



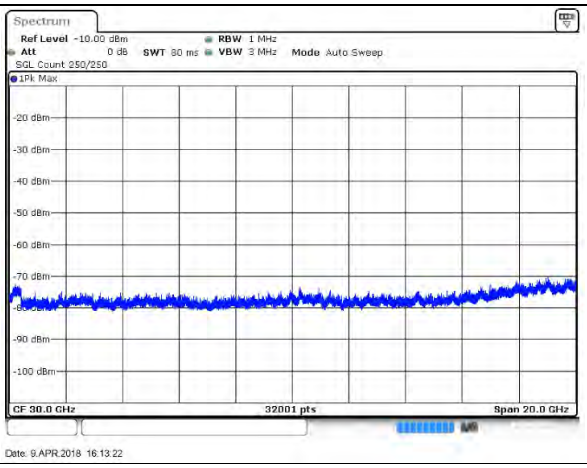
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz

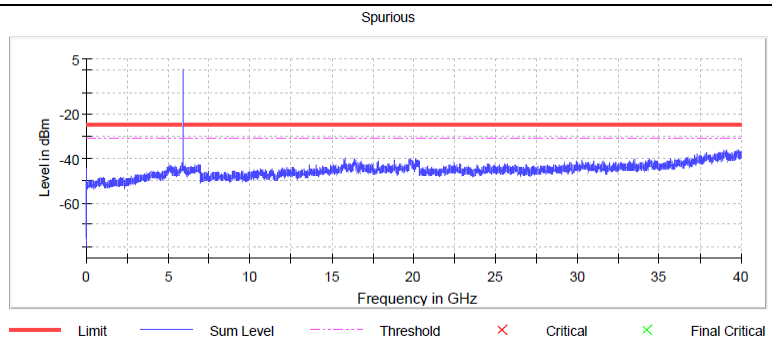


5905MHz 20MHz 9Mbps TX2B

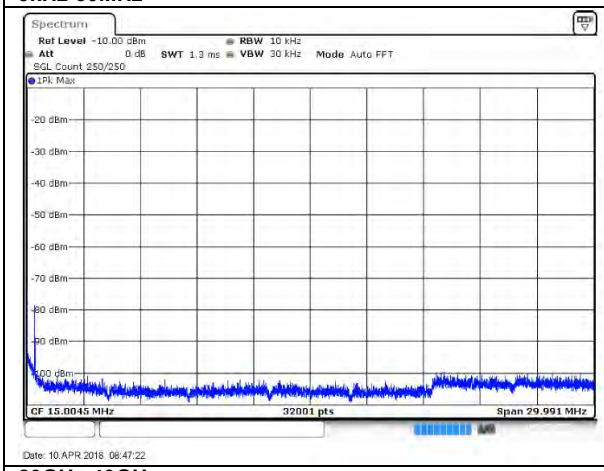
9kHz-40GHz combined

Pre Measurements

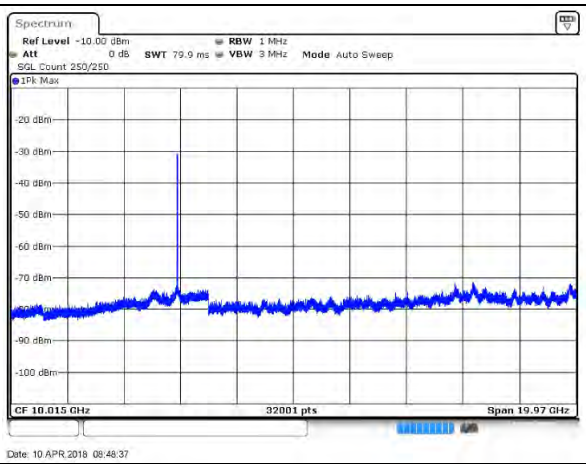
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
39720.321240	-36.0	11.0	-25.0
39800.943721	-36.1	11.1	-25.0
39085.341083	-36.3	11.3	-25.0
38948.470360	-36.3	11.3	-25.0
39020.968095	-36.3	11.3	-25.0
39047.217274	-36.4	11.4	-25.0
39793.443955	-36.4	11.4	-25.0
39994.062686	-36.6	11.6	-25.0
39734.695791	-36.7	11.7	-25.0
39624.699228	-36.7	11.7	-25.0
39779.694385	-36.7	11.7	-25.0
38974.719540	-36.7	11.7	-25.0
39054.717040	-36.7	11.7	-25.0
39664.697978	-36.7	11.7	-25.0
39715.321396	-36.8	11.8	-25.0



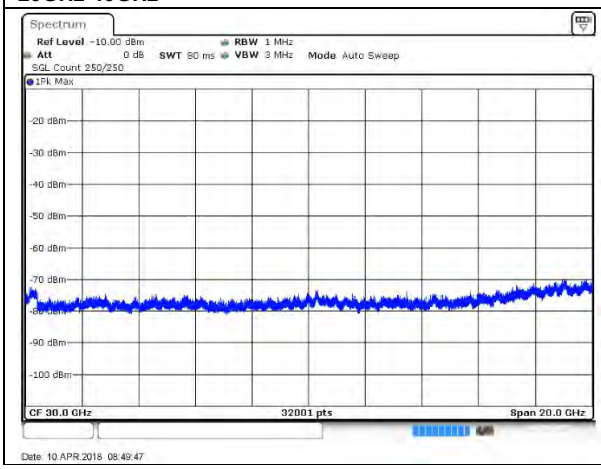
9kHz-30MHz



30MHz-20GHz



20GHz-40GHz



Frequency Stability

Measurement Method: ANSI C63.26-2015 Section 5.6

Port: TX2A

Channel: 5890 MHz

At Nominal Voltage (120VAC)				
Temperature (°C)	Measured Frequency (MHz)	Frequency Drift (MHz)	Frequency Drift (ppm)	Limit (ppm)
-40	5.889939156	8.549E-06	1.451460224	±10
-30	5.889926757	-3.85E-06	-0.65365796	±10
-20	5.889920058	-1.0549E-05	-1.7910228	±10
-10	5.889912559	-1.8048E-05	-3.06421267	±10
0	5.889916358	-1.4249E-05	-2.41921356	±10
10	5.889912159	-1.8448E-05	-3.13212519	±10
20	5.889930607	Reference	Reference	±10
30	5.889937556	6.949E-06	1.179810165	±10
40	5.889941006	1.0399E-05	1.765555606	±10
50	5.889977302	4.6695E-05	7.927937206	±10

At Nominal Temperature 20°C				
Voltage (VAC)	Measured Frequency (MHz)	Frequency Drift (MHz)	Frequency Drift (ppm)	Limit (ppm)
100	5.889926607	-4E-06	-0.67912515	±10
120	5.889930607	Reference	Reference	±10
240	5.889928357	-2.25E-06	-0.3820079	±10