



EMC Test Data

Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		M. Briggs
Emissions Standard(s):	FCC 15 E / RSS -210 (RF Port)	Class:	NII / LELAN
Immunity Standard(s):	-	Environment:	-

EMC Test Data - RF Port Measurements (U-NII Bands)

For The

Intel

Model

533-agn MMW

Date of Last Test: 5/5/2008

Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
Contact:	Robert Paxman	Account Manager:	D. Eriksen
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

RSS 210 and FCC 15.E Power Measurement Summary

The table below compares the measured output power (measured using the UNII test method) with the power measured using an average power meter (Pavg) and is for reference purposes.

802.11a

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	A:31.5	34.8	17.0	15.1	17.0	0.033	2.7	4.0	5.0	16.7
5180	B:31.5	37.8	17.1	15.8	17.0	0.038	3.4	4.0	8.9	16.5
5180	C:30.5	35.5	17.1	13.3	17.0	0.021	0.7	4.0	5.0	16.5
5200	A:32	37.1	17.1	16.1	17.0	0.041	3.5	4.0	5.0	16.6
5200	B:31	38.0	17.1	16.1	17.0	0.040	3.5	4.0	8.9	16.6
5200	C:31.5	37.6	17.1	14.5	17.0	0.028	2.4	4.0	5.0	16.5
5240	A:31	36.9	17.1	16.5	17.0	0.044	3.9	4.0	5.0	16.6
5240	B:29.5	39.3	17.1	16.1	17.0	0.041	3.5	4.0	8.9	16.5
5240	C:31	37.8	17.1	15.0	17.0	0.032	2.6	4.0	5.0	16.5
5260	A:30.5	37.1	17.1	16.7	24.0	0.047	4.2	11.0	11.0	16.7
5260	B:29	37.0	17.1	16.1	24.0	0.041	3.7	11.0	11.0	16.7
5260	C:30.5	36.8	17.5	16.8	24.0	0.048	6.1	11.0	11.0	16.6
5280	A:29.5	37.3	17.1	16.5	24.0	0.045	3.8	11.0	11.0	16.7
5280	B:28.5	37.1	17.1	16.7	24.0	0.046	3.9	11.0	11.0	16.5
5280	C:30	36.8	17.4	16.3	24.0	0.042	5.4	11.0	11.0	16.5
5320	A:26.5	33.2	17.0	14.7	24.0	0.030	2.0	11.0	11.0	16.5
5320	B:26	30.8	17.1	14.9	24.0	0.031	2.2	11.0	11.0	16.5
5320	C:27.5	25.7	17.3	14.9	24.0	0.031	3.9	11.0	11.0	16.5
5500	A:26	33.1	17.1	16.4	24.0	0.043	3.9	11.0	11.0	16.7
5500	B:26	37.9	17.1	16.2	24.0	0.042	3.5	11.0	11.0	16.5
5500	C:27	35.1	17.5	16.2	24.0	0.042	5.3	11.0	11.0	16.5
5600	A:26.5	34.8	17.0	16.5	24.0	0.044	3.7	11.0	11.0	16.6
5600	B:26	33.7	17.0	16.3	24.0	0.042	3.4	11.0	11.0	16.5
5600	C:26.5	28.8	17.4	16.2	24.0	0.042	5.3	11.0	11.0	16.5
5700	A:26.5	34.0	17.1	16.1	24.0	0.041	3.5	11.0	11.0	16.5
5700	B:26	31.0	17.1	16.2	24.0	0.041	3.4	11.0	11.0	16.7
5700	C:26.5	31.7	17.4	16.2	24.0	0.042	5.2	11.0	11.0	16.5

Power Levels For Universe Antenna (where different from above)

Frequency (MHz)	Chain	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	C:29.5									15.9

Client:	Intel	Job Number:	J70976
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Contact:	Robert Paxman	Account Manager:	D. Eriksen
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

802.11n20MHz

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	A:32	36.9	18.1	13.7	17.0	0.023	1.0	4.0	5.0	16.6
5180	B:30.5	37.7	18.2	13.8	17.0	0.024	1.1	4.0	5.0	16.5
5180	C:31	42.5	18.2	14.2	17.0	0.026	1.6	4.0	5.0	16.7
5200	A:31	39.1	18.1	13.6	17.0	0.023	0.9	4.0	5.0	16.5
5200	B:30	40.8	18.1	14.1	17.0	0.026	1.4	4.0	5.0	16.5
5200	C:30	37.0	18.1	13.9	17.0	0.024	1.1	4.0	5.0	16.5
5240	A:29.5	30.0	18.1	13.6	17.0	0.023	1.1	4.0	5.0	16.5
5240	B:28.5	33.3	18.1	14.1	17.0	0.026	1.4	4.0	5.0	16.5
5240	C:30	41.3	18.1	14.8	17.0	0.030	2.2	4.0	5.0	16.5
5260	A:29.5	37.4	18.1	14.3	24.0	0.027	1.6	11.0	11.0	16.5
5260	B:28	35.3	18.1	14.3	24.0	0.027	1.6	11.0	11.0	16.5
5260	C:30	36.8	18.1	15.2	24.0	0.033	2.5	11.0	11.0	16.5
5280	A:28	31.3	18.1	13.5	24.0	0.022	0.8	11.0	11.0	16.5
5280	B:27.5	40.4	18.1	14.6	24.0	0.029	2.1	11.0	11.0	16.5
5280	C:28	27.5	18.1	14.2	24.0	0.026	1.3	11.0	11.0	16.5
5320	A:27	31.8	18.2	13.9	24.0	0.025	1.3	11.0	11.0	16.7
5320	B:26	33.5	18.2	14.5	24.0	0.028	1.9	11.0	11.0	16.6
5320	C:28	28.1	18.2	14.9	24.0	0.031	2.2	11.0	11.0	16.6
5500	A:25	27.5	18.2	13.3	24.0	0.021	0.6	11.0	11.0	16.6
5500	B:25	31.4	18.2	14.3	24.0	0.027	1.5	11.0	11.0	16.6
5500	C:26	26.9	18.2	14.5	24.0	0.028	1.8	11.0	11.0	16.7
5600	A:25.5	22.3	18.1	13.3	24.0	0.021	0.5	11.0	11.0	16.5
5600	B:25	23.4	18.1	13.7	24.0	0.023	0.9	11.0	11.0	16.5
5600	C:25.5	23.6	18.1	13.6	24.0	0.023	0.7	11.0	11.0	16.5
5700	A:26	30.6	18.3	13.7	24.0	0.023	0.7	11.0	11.0	16.5
5700	B:26.5	35.9	18.3	15.5	24.0	0.035	2.7	11.0	11.0	16.5
5700	C:26.5	28.3	18.2	15.0	24.0	0.032	2.1	11.0	11.0	16.5

Power Levels For Universe Antenna (where different from above)

Frequency (MHz)	Chain	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	A:29.0									16.1
5180	C:29.5									16.1
5320	C:27.0									16.1

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Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

802.11n20MHz - 2x and 3x Modes

Frequency (MHz)	Software Setting	Measured Output Power				Pavg			
		A	B	C	Total	A	B	C	Total
5180	28.5, 27.5	11.2	11.3		14.2	13.5	13.7		16.6
5180	29.0, 28.5	12.4		12.4	15.4	13.5		13.6	16.6
5180	28.5, 29.0		11.5	11.9	14.7		13.6	13.5	16.6
5180	30.5/30/30.5	10.9	11.2	11.7	16.0	12.0	12.0	12.2	16.8
5200	31.0, 31.0	13.3	13.7		16.5	14.2	14.8		17.5
5200	30, 29.5	13.1		13.6	16.4	14.7		14.8	17.8
5200	30.0, 30.5		13.4	13.5	16.4		14.7	14.7	17.7
5200	30.5/29.5/30	11.7	12.0	11.4	16.5	12.7	12.9	12.8	17.6
5240	28.5, 27.0	13.8	13.2		16.5	15.0	14.7		17.9
5240	28.5, 28.5	13.7		13.3	16.5	14.7		14.8	17.8
5240	29.0, 29.0		13.7	13.0	16.4		15.2	14.3	17.8
5240	30/29/29.5	11.5	11.6	11.2	16.2	13.2	13.5	13.1	18.0
5260	30.0, 29.0	16.0	15.4		18.7	16.5	16.5		19.5
5260	29.5, 30	15.1		14.5	17.8	16.3		16.3	19.3
5260	29.5, 30.5		14.8	14.5	17.7		16.2	16.0	19.1
5260	33/32/33	15.4	15.6	15.7	20.4	16.6	16.7	16.6	21.4
5280	29, 30	14.4		14.8	17.6	16.3		16.5	19.4
5300	28.5, 27.5	15.1	15.4		18.3	16.5	16.5		19.5
5300	28.5, 30.0		15.3	14.6	18.0		16.4	16.2	19.3
5300	31.5/30.5/32	15.2	14.7	14.4	19.5	16.3	16.4	16.4	21.1
5320	25.5, 24.5	12.1	12.0		15.1	13.5	13.5		16.5
5320	25.5, 26	12.0		11.7	14.9	13.6		13.5	16.6
5320	24.5, 26.0		11.3	11.4	14.4		13.6	13.5	16.6
5320	27/26/27	11.2	11.3	10.3	15.7	12.2	12.2	12.0	16.9
5500	23.5, 23.5	12.1	12.4		15.2	13.6	13.5		16.6
5500	24.0, 24.5	12.0		11.7	14.8	13.7		13.5	16.6
5500	23.5, 24.5		11.5	11.1	14.3		13.6	13.5	16.6
5500	25.5/25.5/26	11.6	11.2	11.3	16.2	12.0	12.2	12.1	16.9
5600	26.0, 25.5	15.5	14.1		17.9	16.5	16.5		19.5
5600	26.5, 26.5	14.2		14.1	17.2	16.6		16.6	19.6
5600	27.0, 27.0		14.7	14.4	17.5		16.4	16.3	19.4
5600	28.5/27.5/28.5	13.8	13.5	13.6	18.4	15.5	15.5	15.5	20.3
5700	27.0, 26.0	15.8	15.7		18.8	16.5	16.5		19.5
5700	27, 26.5	14.3		14.0	17.2	16.6		16.6	19.6
5700	27.0, 27.5		14.6	14.3	17.5		16.4	16.4	19.4
5700	31/30.5/30.5	15.5	15.8	15.7	20.5	16.5	16.6	16.5	21.3

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Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

802.11n40MHz

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5190	A:29	43.2	36.3	11.4	17.0	0.014	-3.6	4.0	5.0	15.3
5190	B:27.5	41.7	36.3	11.2	17.0	0.013	-3.8	4.0	5.0	14.3
5190	C:27	43.0	36.3	9.9	17.0	0.010	-4.8	4.0	8.9	13.5
5230	A:29	65.0	36.3	12.5	17.0	0.018	-2.4	4.0	5.0	16.5
5230	B:28	60.8	36.3	12.9	17.0	0.020	-2.0	4.0	5.0	16.5
5230	C:29	60.8	36.3	12.3	17.0	0.017	-2.5	4.0	8.9	16.5
5270	A:28	63.7	36.3	13.0	24.0	0.020	-2.0	11.0	11.0	16.5
5270	B:27.5	66.8	36.3	13.7	24.0	0.023	-1.1	11.0	11.0	16.5
5270	C:28.5	64.2	36.4	13.4	24.0	0.022	-1.7	11.0	11.0	16.5
5310	A:26	46.0	36.4	12.5	24.0	0.018	-2.1	11.0	11.0	16.6
5310	B:24	42.0	36.3	11.4	24.0	0.014	-3.5	11.0	11.0	14.2
5310	C:26	42.8	36.3	11.7	24.0	0.015	-3.3	11.0	11.0	14.6
5510	A:24.5	48.0	36.4	13.1	24.0	0.020	-2.3	11.0	11.0	16.3
5510	B:24	46.0	36.4	12.7	24.0	0.019	-2.7	11.0	11.0	15.4
5510	C:26	63.5	36.4	13.4	24.0	0.022	-1.6	11.0	11.0	16.5
5590	A:24.5	44.5	36.4	12.8	24.0	0.019	-2.6	11.0	11.0	16.5
5590	B:24.5	52.5	36.4	13.0	24.0	0.020	-2.3	11.0	11.0	16.5
5590	C:25.5	47.5	36.4	13.2	24.0	0.021	-2.2	11.0	11.0	16.5
5670	A:24.5	46.0	36.4	12.8	24.0	0.019	-2.7	11.0	11.0	16.5
5670	B:24.5	43.5	36.4	13.7	24.0	0.024	-1.7	11.0	11.0	16.5
5670	C:25	46.0	36.4	13.2	24.0	0.021	-1.4	11.0	11.0	16.5

Power Levels For Universe Antenna (where different from above)

Frequency (MHz)	Chain	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Pavg
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5190	A:27									14.5
5310	A:23.5									15.0
5310	C:26									13.7

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802.11n40MHz - 2x and 3x Modes

Frequency (MHz)	Software Setting	Measured Output Power				Pavg			
		A	B	C	Total	A	B	C	Total
5190	28.5, 28	12.5	13.0		15.8	13.8	14.4		17.1
5190	29, 28.5	12.5		12.7	15.6	13.7		14.1	16.9
5190	27.5/27.5		11.0	10.1	13.6		14.0	13.9	17.0
5190	29.5/29.5/28.5	9.0	9.1	8.3	13.6	12.0	12.5	12.0	16.9
5230	27, 27	12.5	13.3		15.9	13.5	13.5		16.5
5230	30.5/30	13.6		13.5	16.6	13.5		13.5	16.5
5230	29.5/30.5		13.8	13.4	16.6		16.5	16.5	19.5
5230	31.5/31.0/ 31.5	11.5	11.7	11.3	16.3	12.0	12.0	12.0	16.8
5270	26, 25.5	12.5	12.7		15.6	13.5	13.5		16.5
5270	33.5/34	16.4		16.4	19.4	13.5		13.5	16.5
5270	27.5/29		13.6	13.2	16.4		16.4	16.4	19.4
5270	32/30.5/32	13.1	13.3	13.2	18.0	16.5	16.4	16.6	21.3
5310	25, 24	12.4	12.3		15.3	13.4	13.5		16.5
5310	25.5, 26	11.1		10.9	14.0	13.4		13.5	16.5
5310	23.5/25.5		9.9	10.2	13.0		13.4	13.6	16.5
5310	26/25/27	8.7	8.4	9.1	13.5	12.0	12.0	12.5	16.9
5510	23.5, 23	12.7	12.4		15.6	14.4	14.5		17.5
5510	23.5, 23.5	10.6		10.2	13.4	13.5		13.5	16.5
5510	23/23.5		10.2	10.3	13.3		14.0	13.8	16.9
5510	25/24.5/25.5	8.7	8.9	9.1	13.7	12.4	12.5	12.4	17.2
5590	23.5, 23	12.6	12.5		15.5	13.5	13.5		16.5
5590	29/29	15.5		15.2	18.4	16.5		16.5	19.5
5590	24.5/25		11.5	11.7	14.6		15.5	15.5	18.5
5590	28/27.5/28.5	11.4	11.5	12.0	16.4	15.1	15.2	15.3	20.0
5670	23.5, 23	12.4	12.6		15.5	13.5	13.5		16.5
5670	31/30.5	16.1		16.0	19.1	16.5		16.5	19.5
5670	25.5/25.5		13.2	12.5	15.9		16.2	16.1	19.2
5670	29.5/28.5/29.5	12.9	12.1	12.5	17.3	16.2	16.1	16.2	20.9

Power Levels For Universe Antenna (where lower than above)

Frequency (MHz)	Software Setting	Measured Output Power				Pavg			
		A	B	C	Total	A	B	C	Total
5190	26, -,27.5					12.7		13.2	16.0
5190	-,23.5,23.5						10.5	10.4	13.5
5190	24.5,25.5,26.5					8.8	9.1	9.5	13.9
5310	-,22.5,23.5						12.3	12.1	15.2

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**RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain A, 802.11a Legacy Mode
Power, PSD, Peak Excursion, Bandwidth and Spurious Emissions**

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/10/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions: Temperature: 19.1 °C
 Rel. Humidity: 38 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	16.5 dBm(44mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	16.7 dBm(47mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	16.5 dBm(44mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	3.9 dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	4.2 dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	3.9 dBm/MHz
1	26dB Bandwidth	15.407	-	37.1 MHz
1	99% Bandwidth	RSS 210	-	17.1 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	10.8 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

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Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	31.5	34.8	17.0	15.1	17.0	0.033	2.7	4.0	5.0	Pass
5200	32.0	37.1	17.1	16.1	17.0	0.041	3.5	4.0	5.0	Pass
5240	31.0	36.9	17.1	16.5	17.0	0.044	3.9	4.0	5.0	Pass
5260	30.5	37.1	17.1	16.7	24.0	0.047	4.2	11.0	11.0	Pass
5280	29.5	37.3	17.1	16.5	24.0	0.045	3.8	11.0	11.0	Pass
5320	26.5	33.2	17.0	14.7	24.0	0.030	2.0	11.0	11.0	Pass
5500	26.0	33.1	17.1	16.4	24.0	0.043	3.9	11.0	11.0	Pass
5600	26.5	34.8	17.0	16.5	24.0	0.044	3.7	11.0	11.0	Pass
5700	26.5	34.0	17.1	16.1	24.0	0.041	3.5	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below):
 RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration

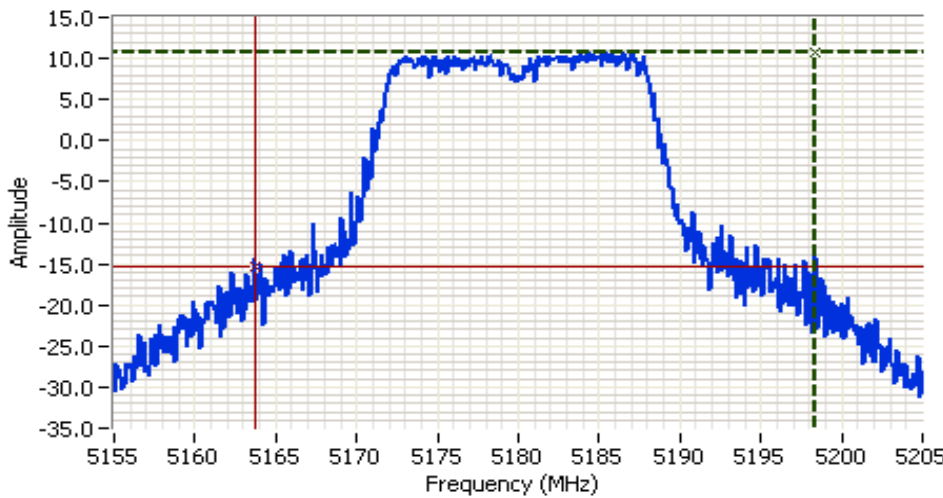
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

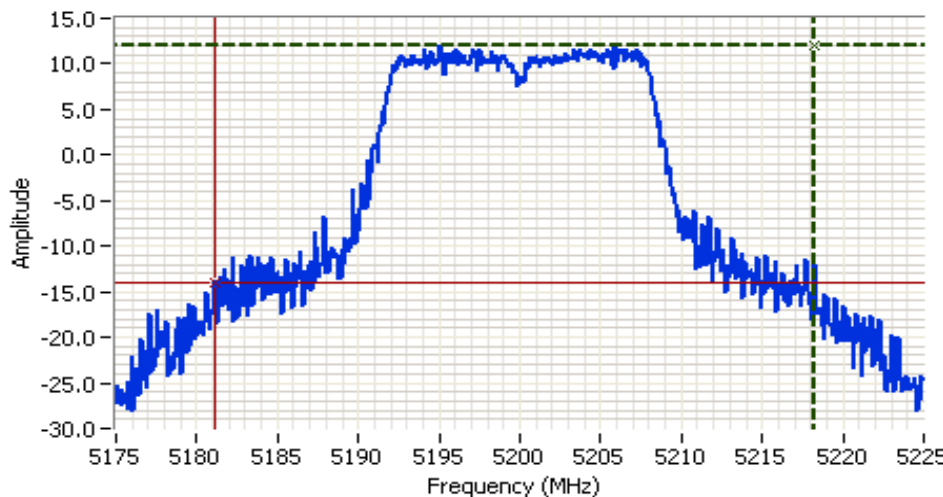


Analyzer Settings
 HP8564E,EMI
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 34.75 MHz
 Chain A, Legacy

Cursor 1	5198.4167	10.67	
Cursor 2	5163.6667	-15.33	

Delta Freq. 34.75
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.08 MHz
 Chain A, Legacy

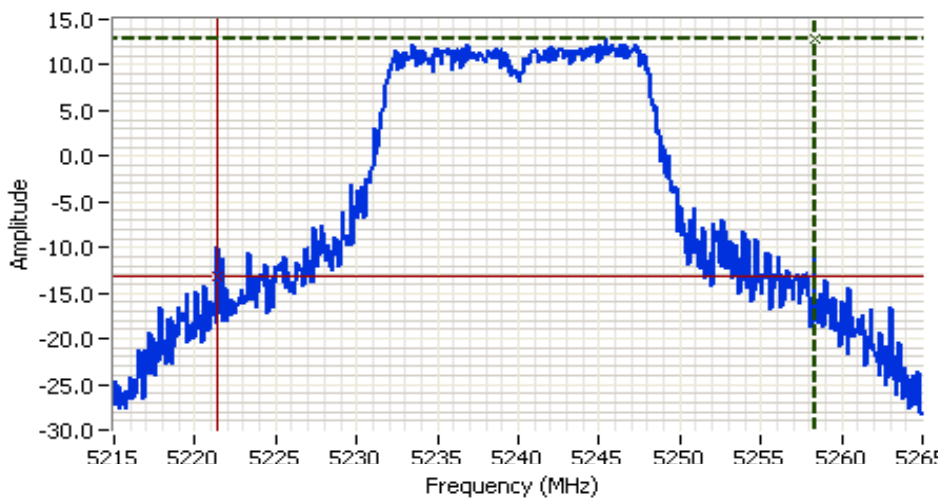
Cursor 1	5218.2500	12.00	
Cursor 2	5181.1667	-14.00	

Delta Freq. 37.08
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

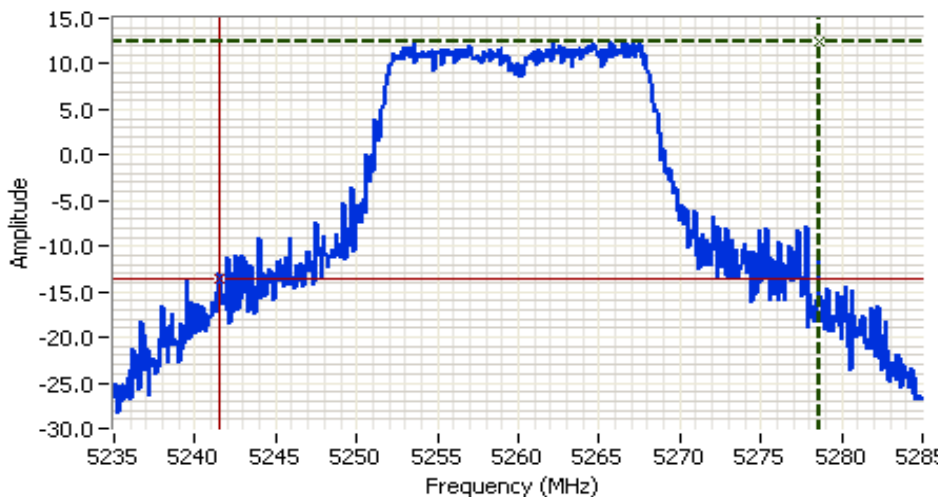


Analyzer Settings
 HP8564E,EMI
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 36.92 MHz
 Chain A, Legacy

Cursor 1	5258.3333	12.83	
Cursor 2	5221.4167	-13.17	

Delta Freq. 36.92
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.08 MHz
 Chain A, Legacy

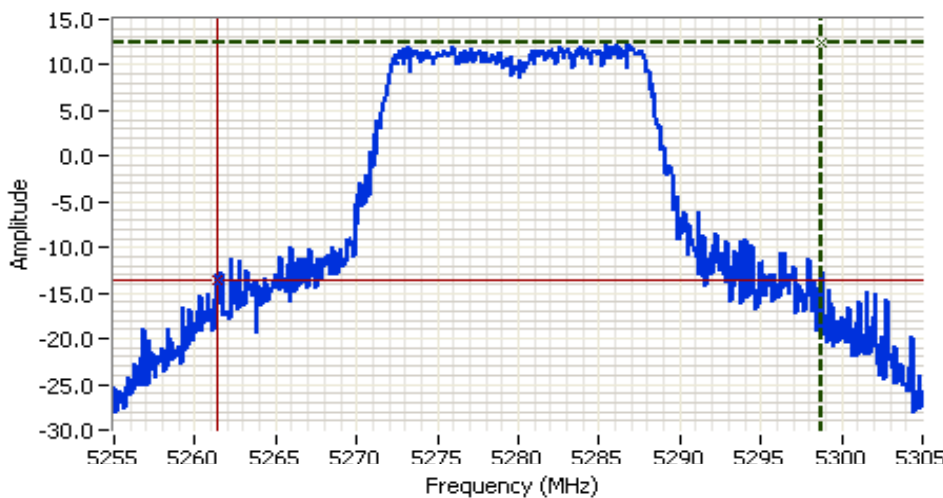
Cursor 1	5278.5833	12.50	
Cursor 2	5241.5000	-13.50	

Delta Freq. 37.08
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

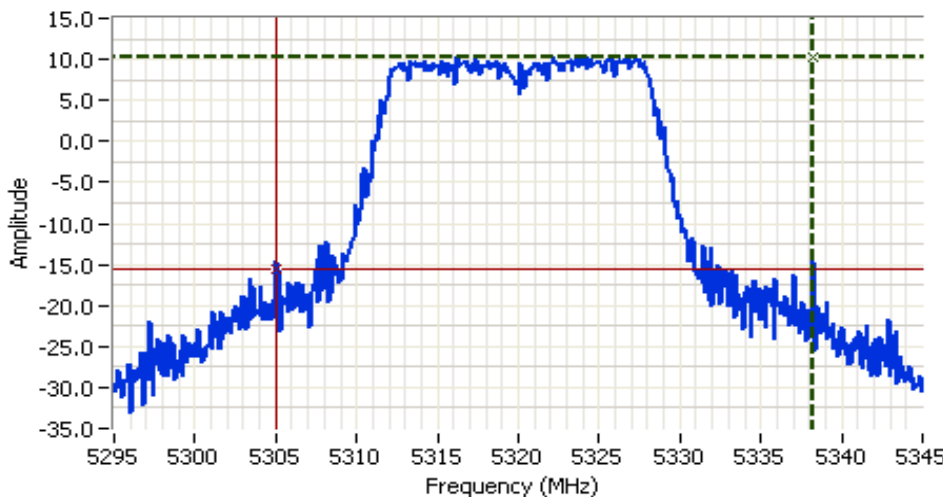


Analyzer Settings
 HP8564E,EMI
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.33 MHz
 Chain A, Legacy

Cursor 1	5298.7500	12.50	
Cursor 2	5261.4167	-13.50	

Delta Freq. 37.33
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 33.17 MHz
 Chain A, Legacy

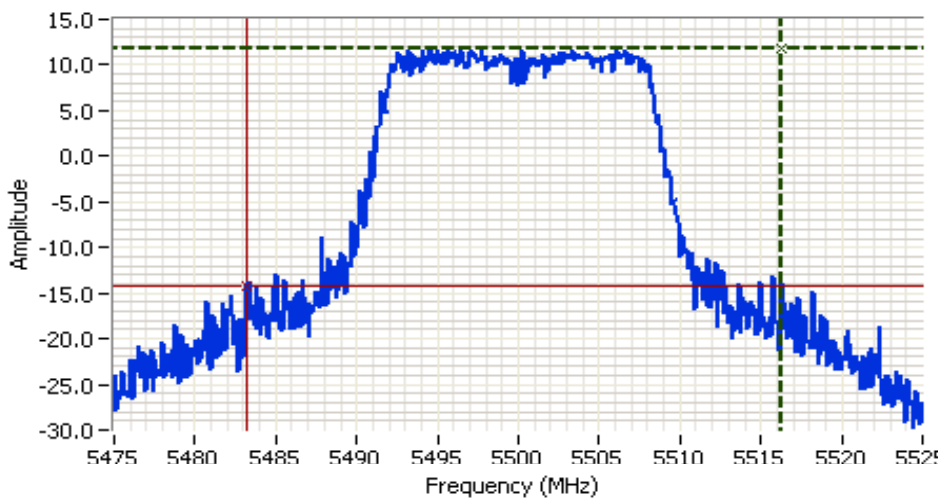
Cursor 1	5338.2500	10.33	
Cursor 2	5305.0833	-15.67	

Delta Freq. 33.17
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

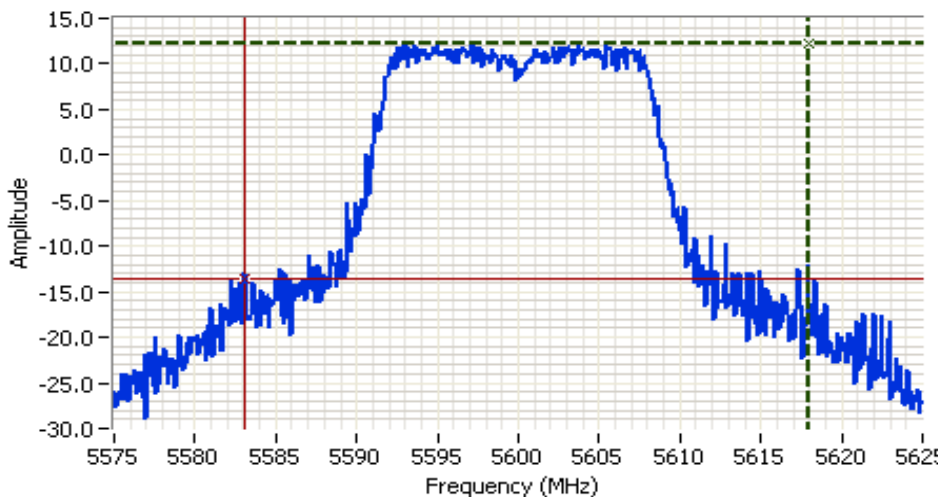
HP8564E,EMI
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 33.08 MHz
 Chain A, Legacy

Cursor 1	5516.3333	11.83	
Cursor 2	5483.2500	-14.17	

Delta Freq. 33.08
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 34.83 MHz
 Chain A, Legacy

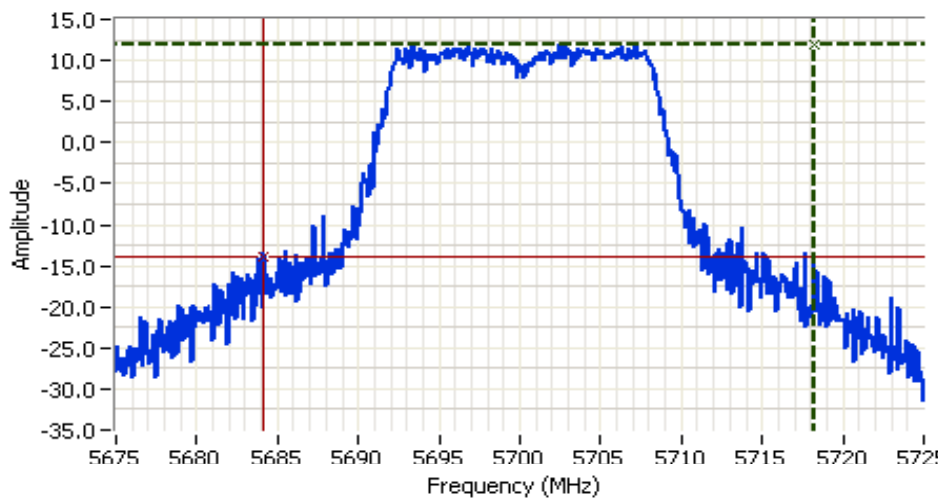
Cursor 1	5617.9167	12.33	
Cursor 2	5583.0833	-13.67	

Delta Freq. 34.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

- HP8564E,EMI
- CF: 5700.00 MHz
- SPAN:50.00 MHz
- RB 1.000 MHz
- VB 3.000 MHz
- Detector POS
- Att 20
- RL Offset 11.00
- Sweep Time 50.0ms
- Ref Lvl:21.00DBM

Comments

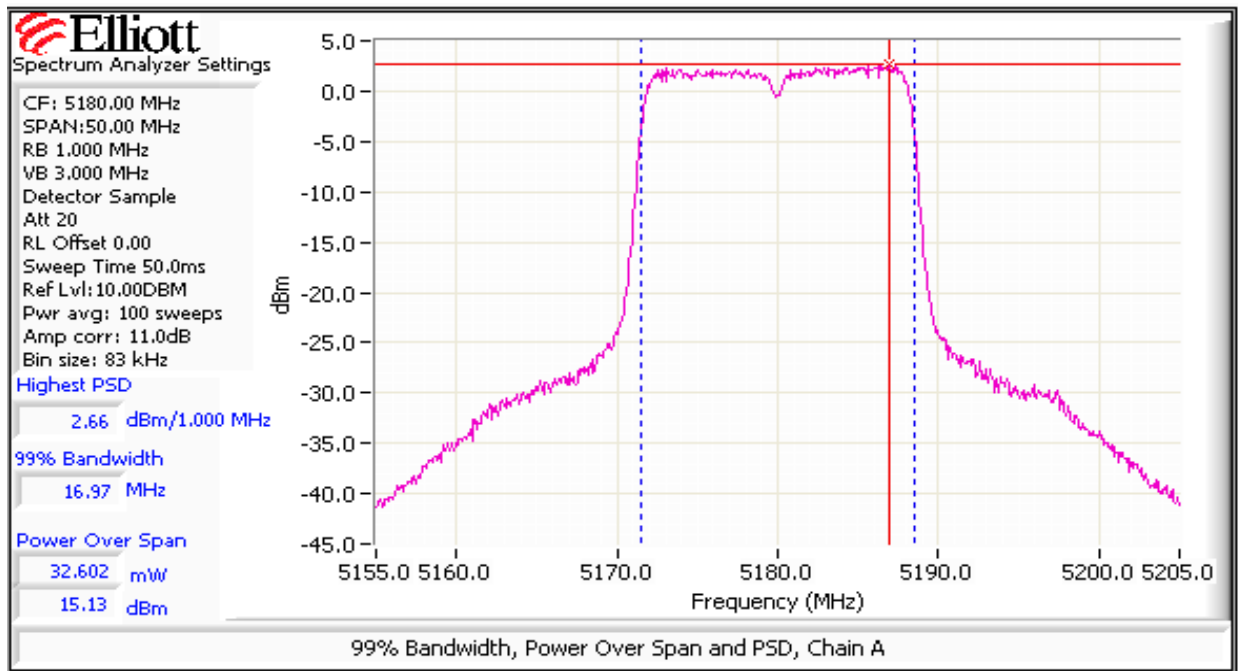
- 26dB Bandwidth: 34.00 MHz
- Chain A, Legacy

Cursor 1 5718.1667 12.00

Cursor 2 5684.1667 -14.00

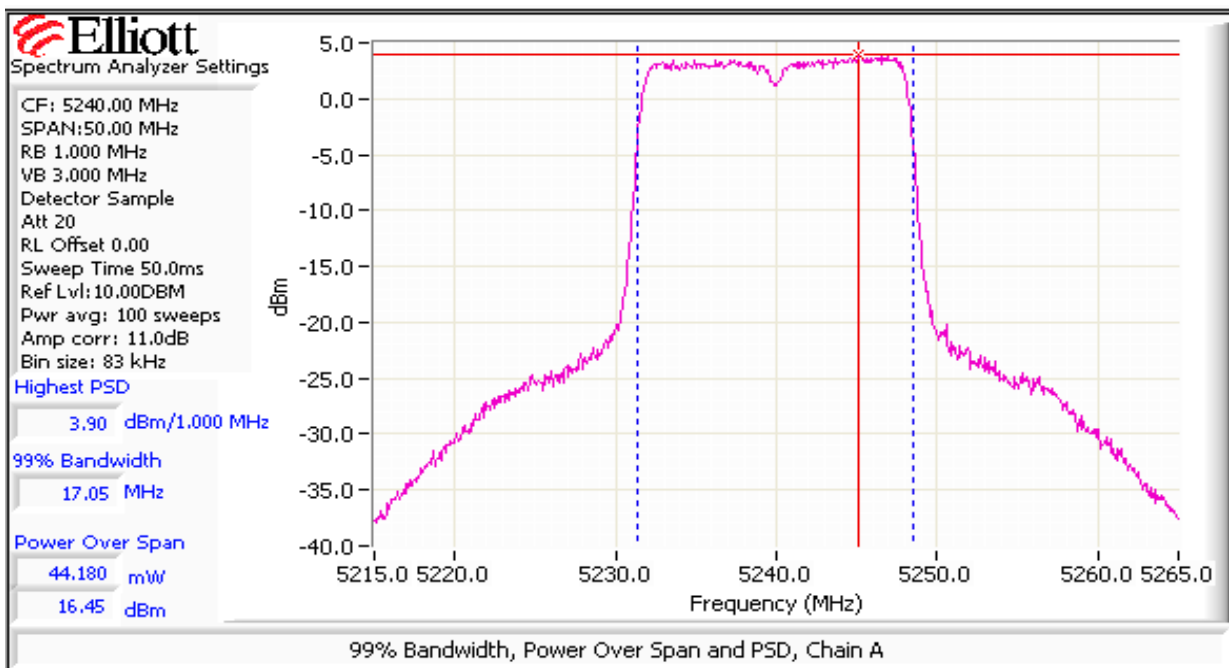
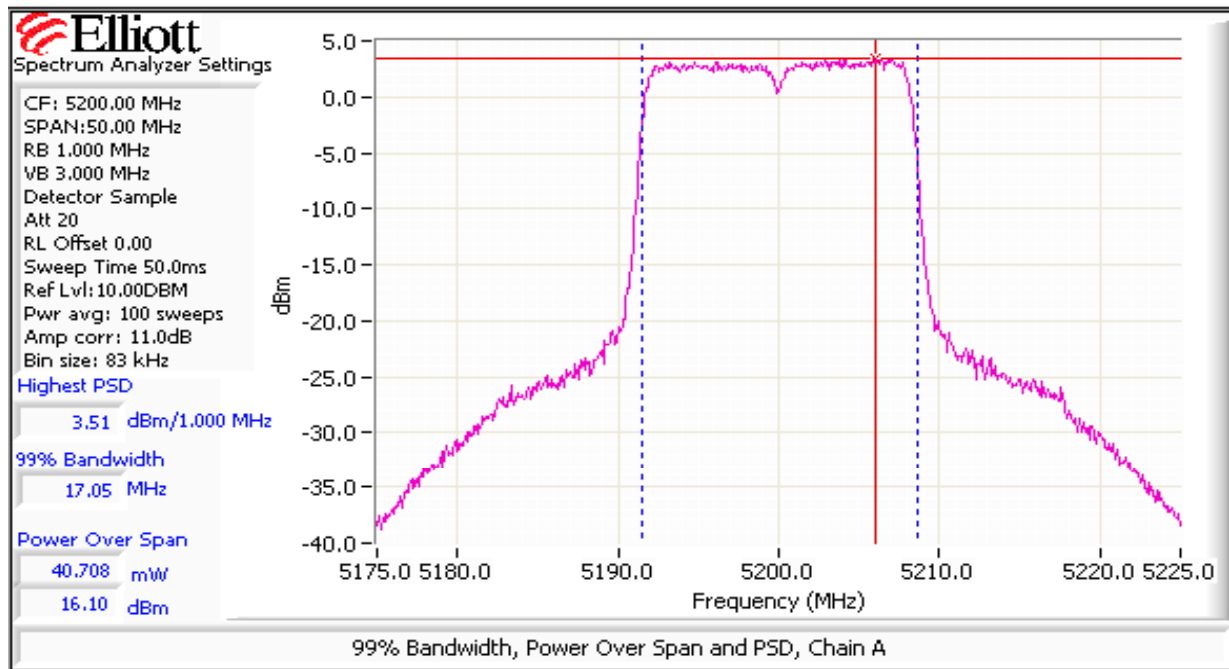
Delta Freq. 34.00

Delta Amplitude 26.00



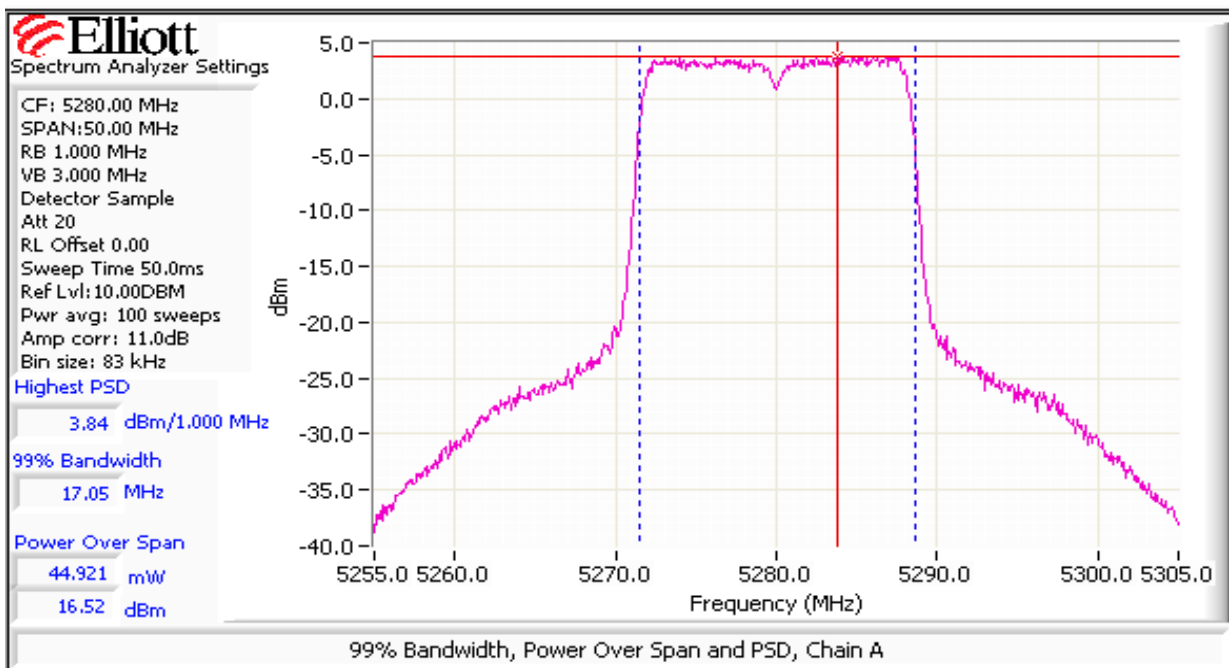
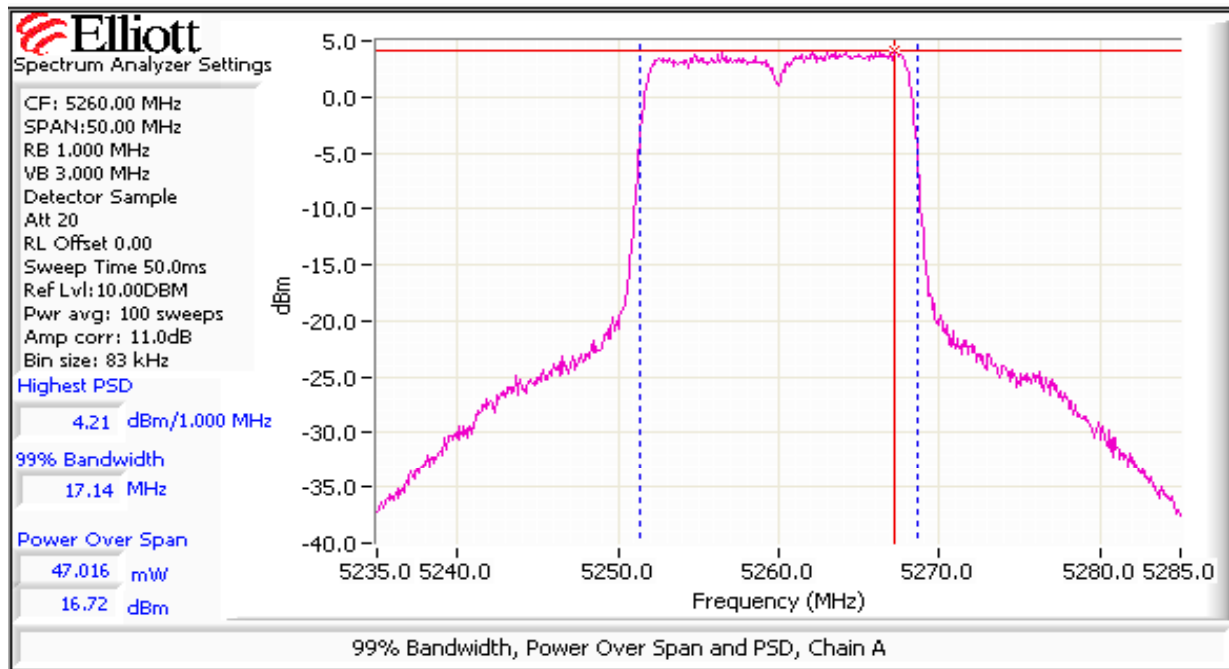
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



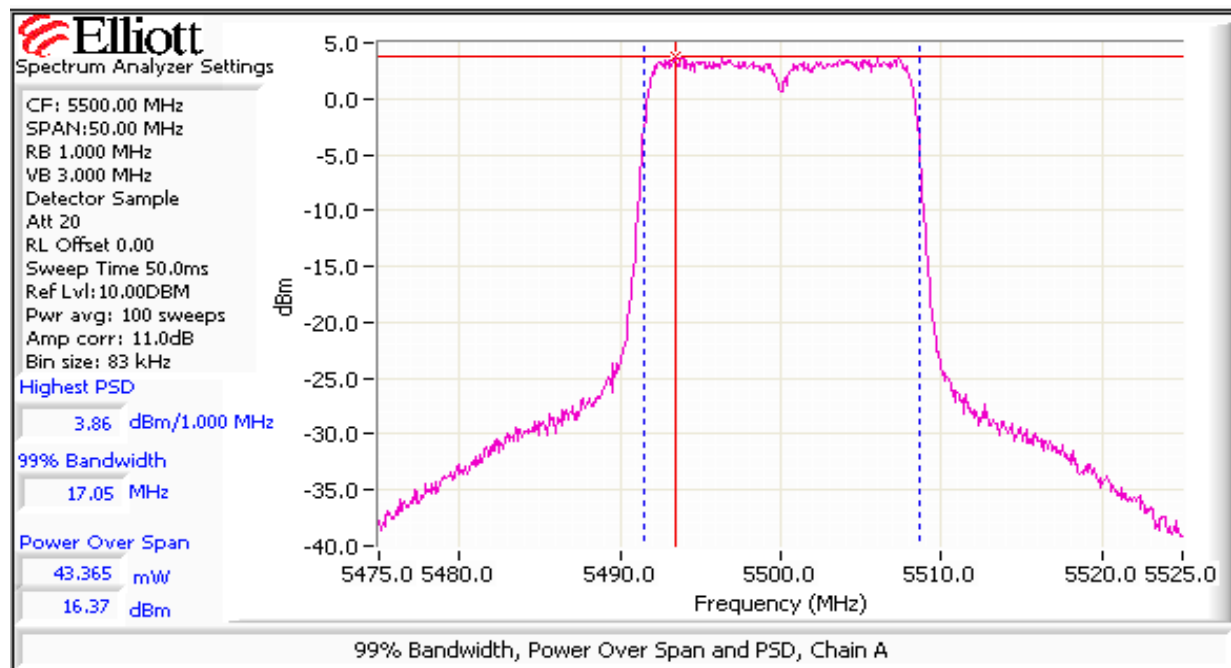
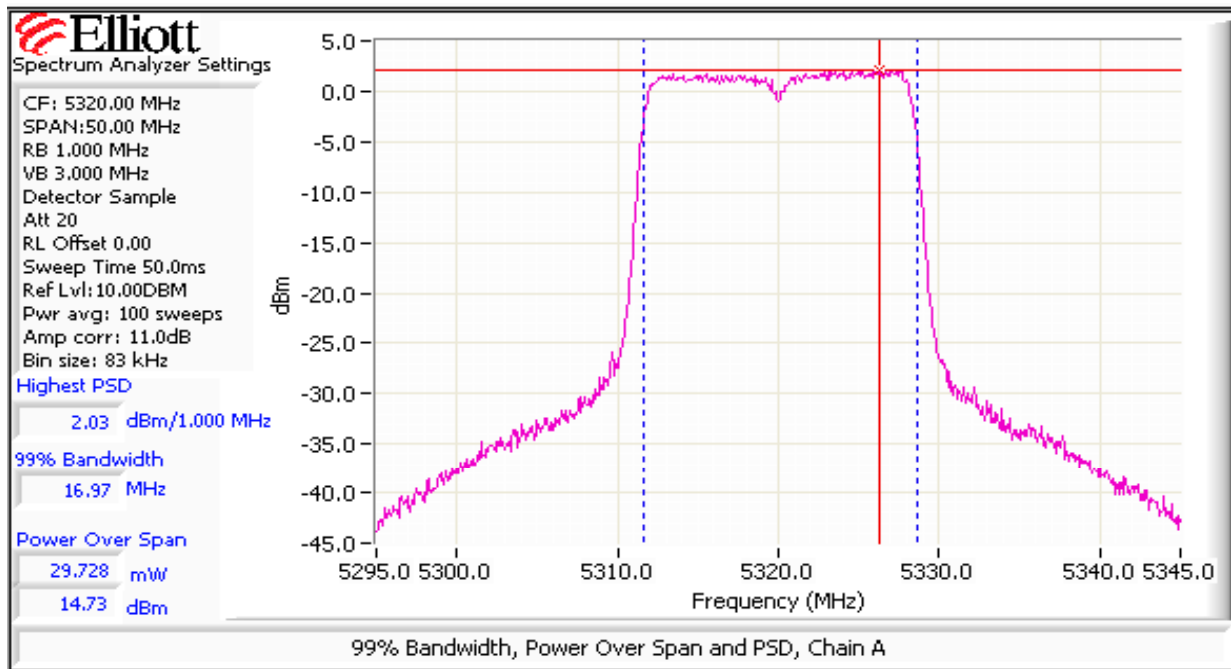
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



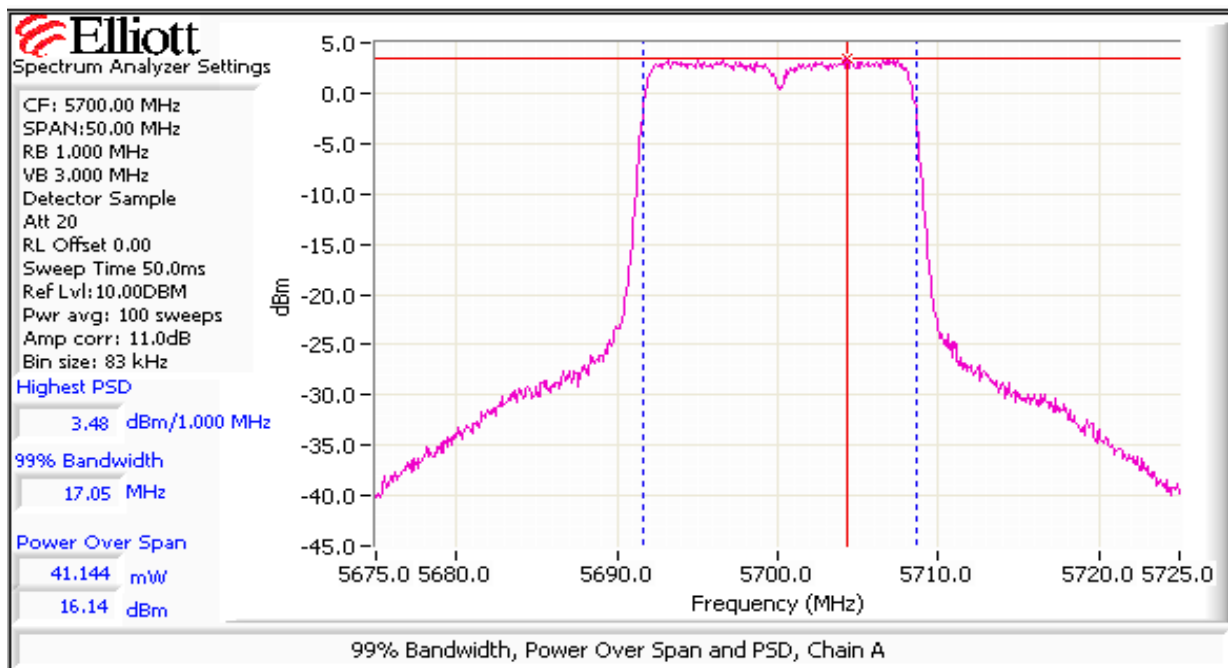
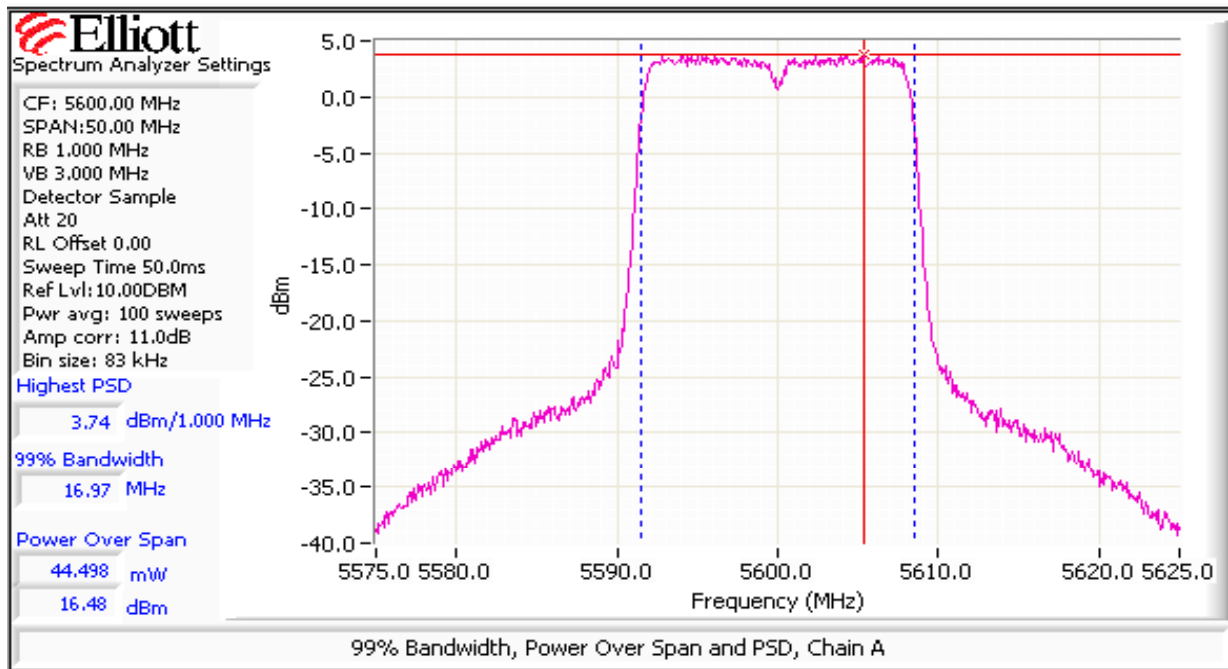
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.5	13.0	5260	10.1	13.0	5500	10.1	13.0			
5200	10.5	13.0	5280	10.6	13.0	5600	10.8	13.0			
5240	10.7	13.0	5320	10.1	13.0	5700	10.6	13.0			

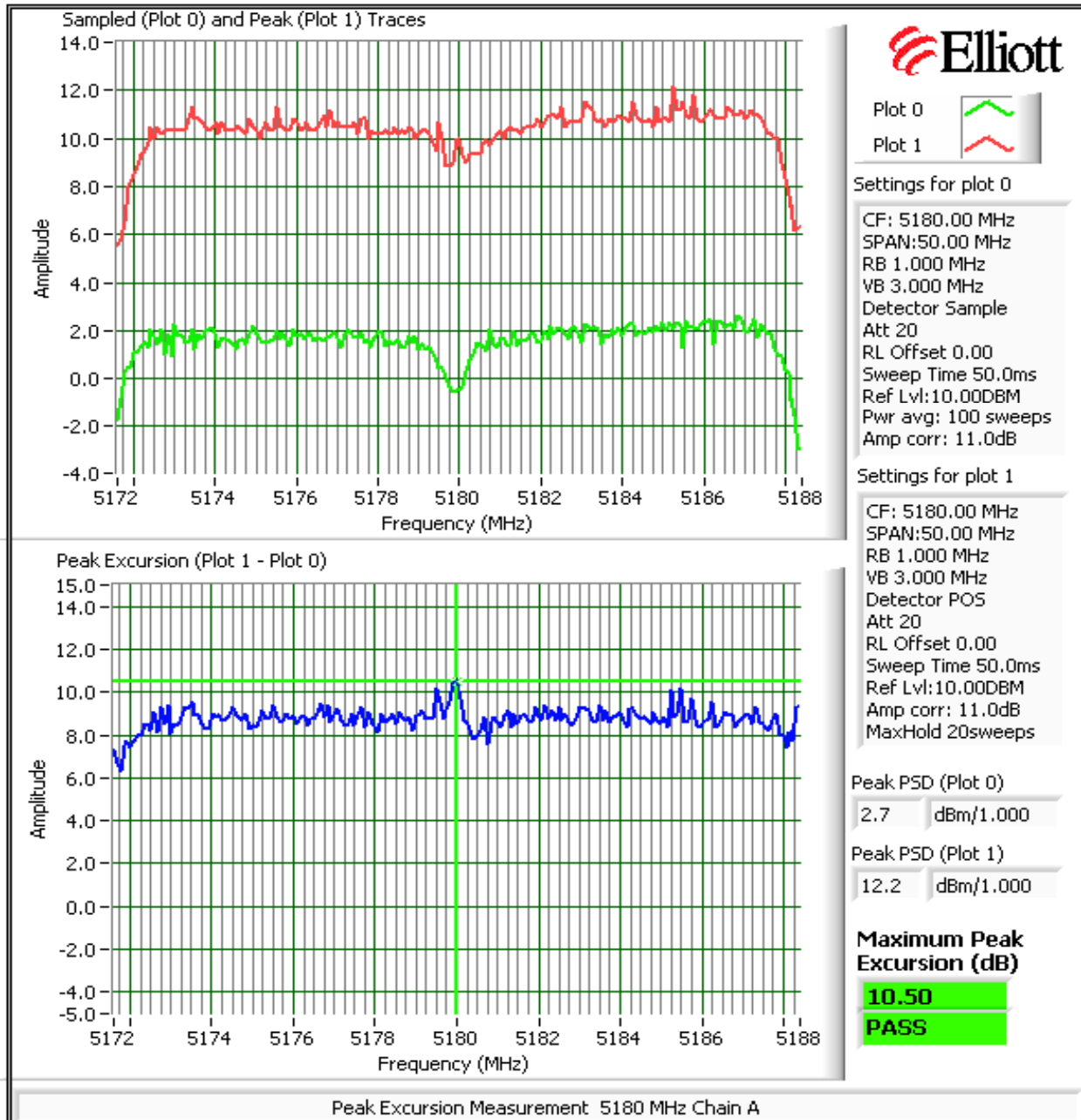
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

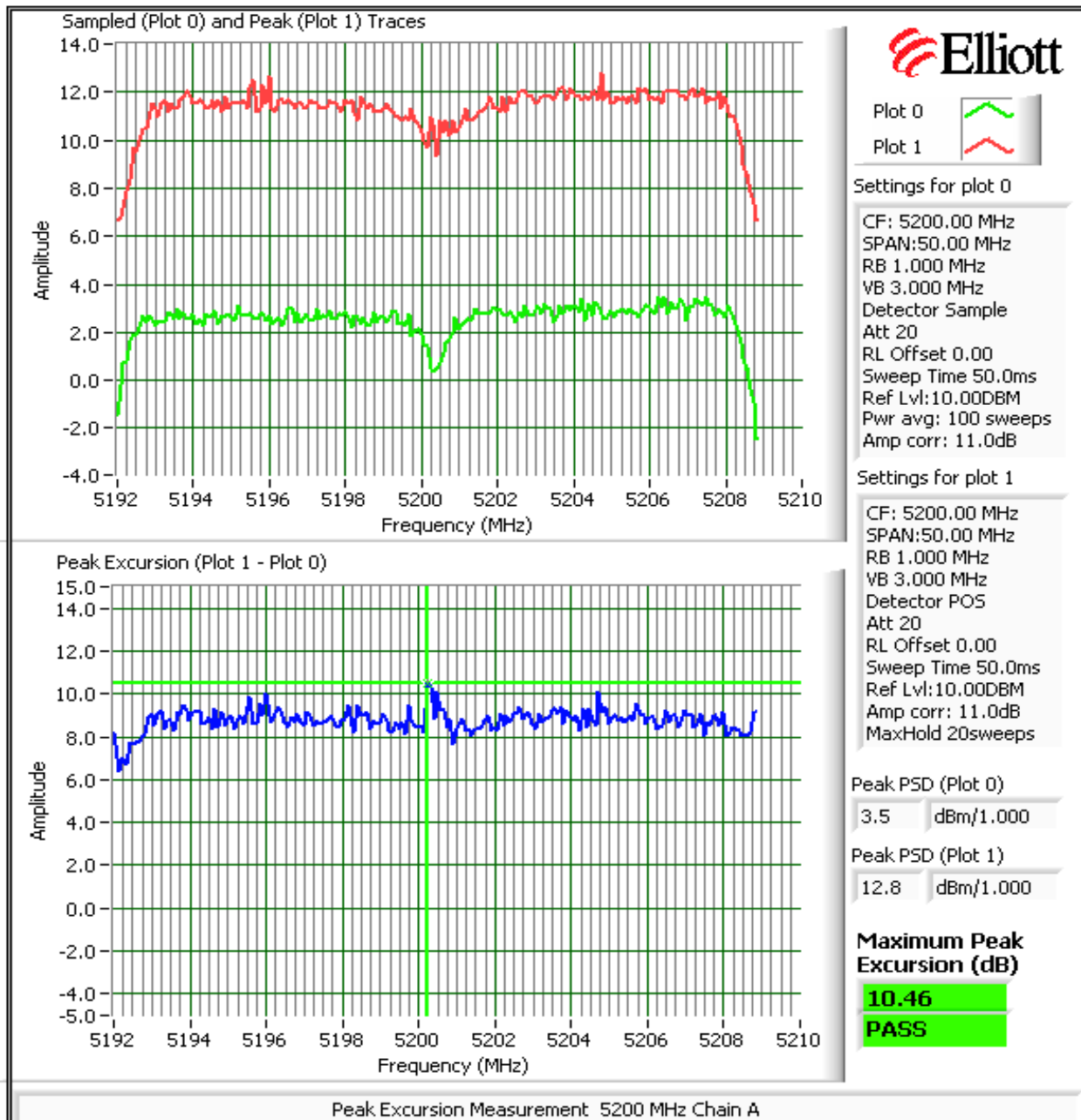
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



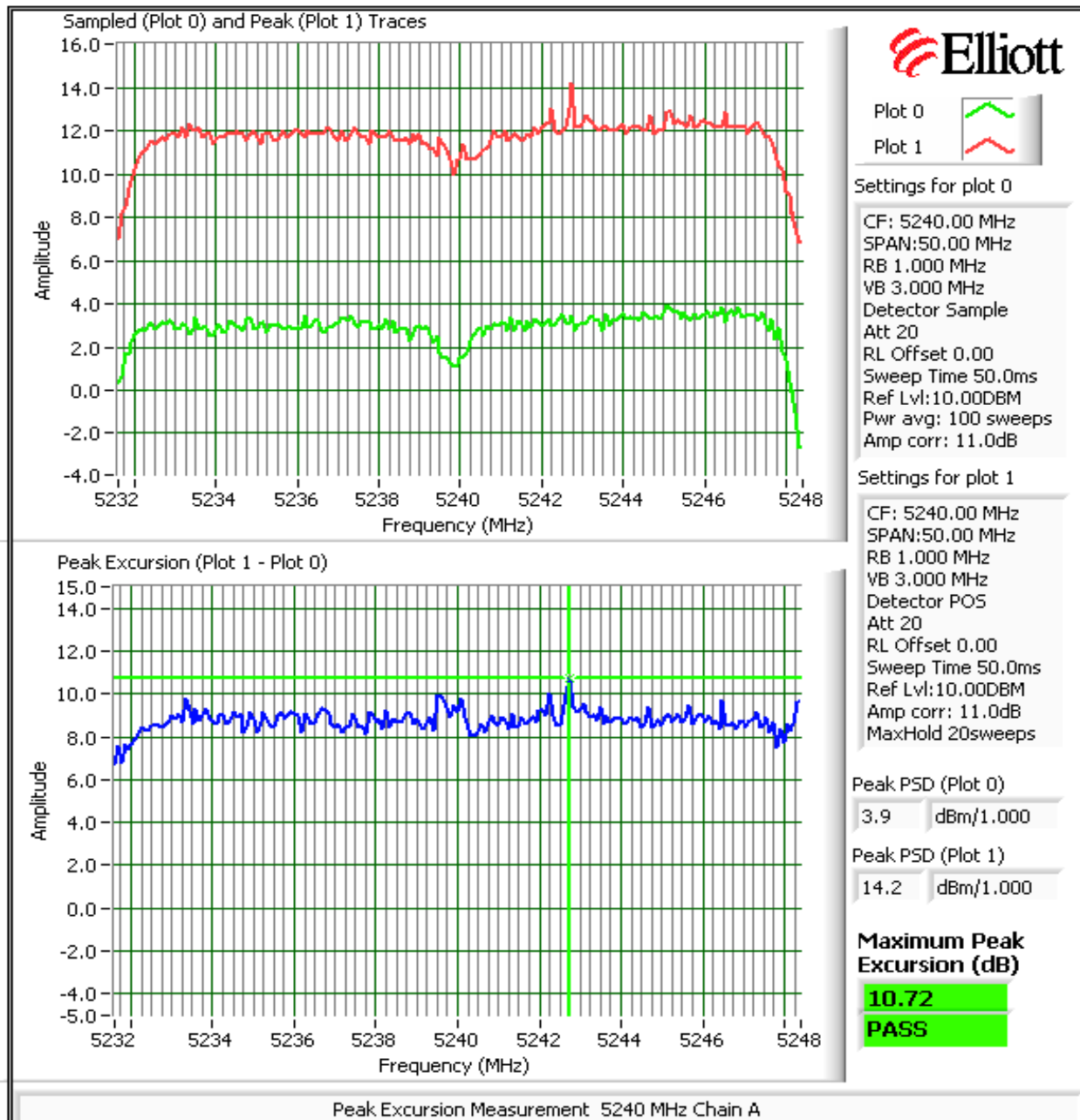
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



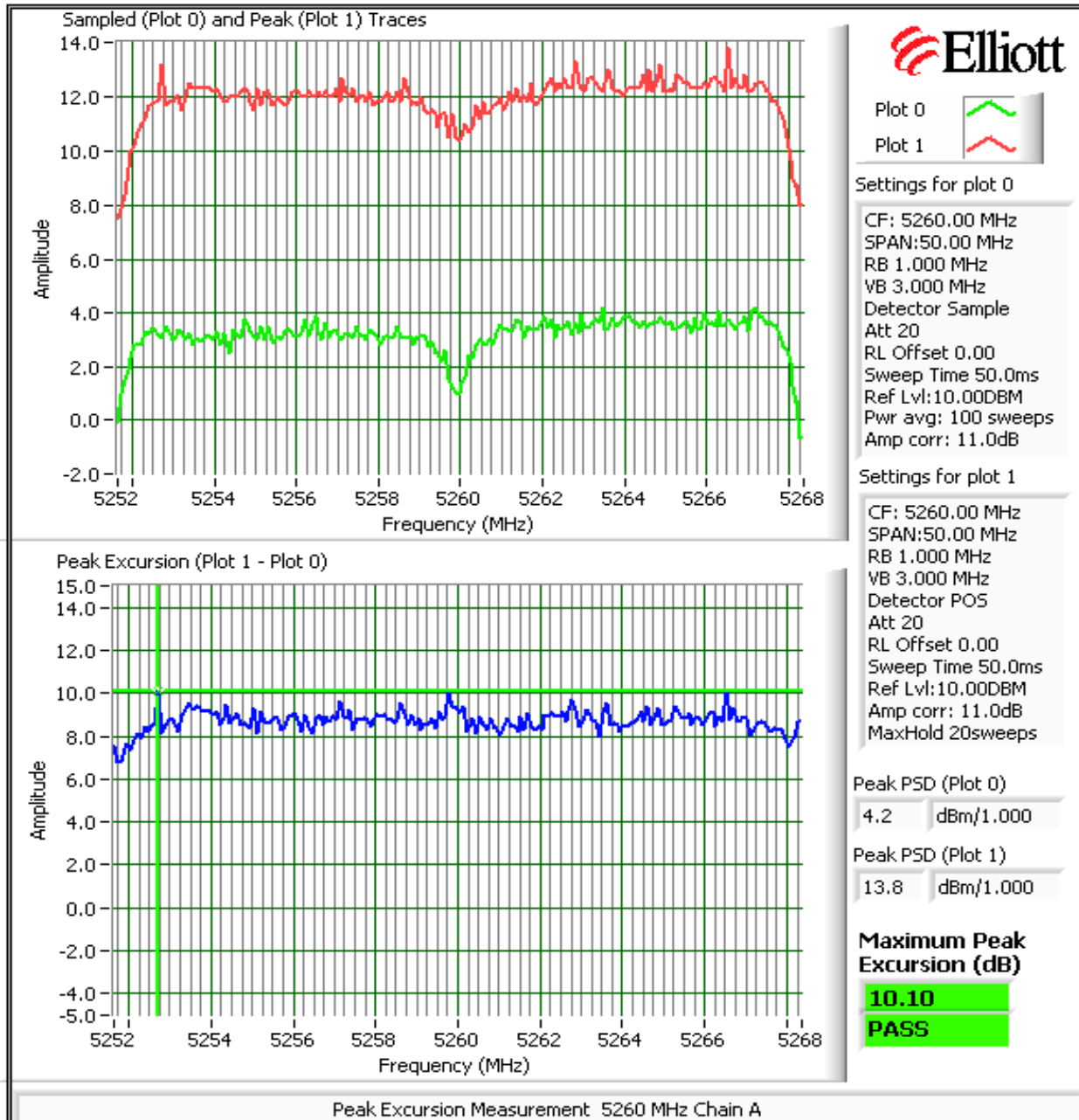
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



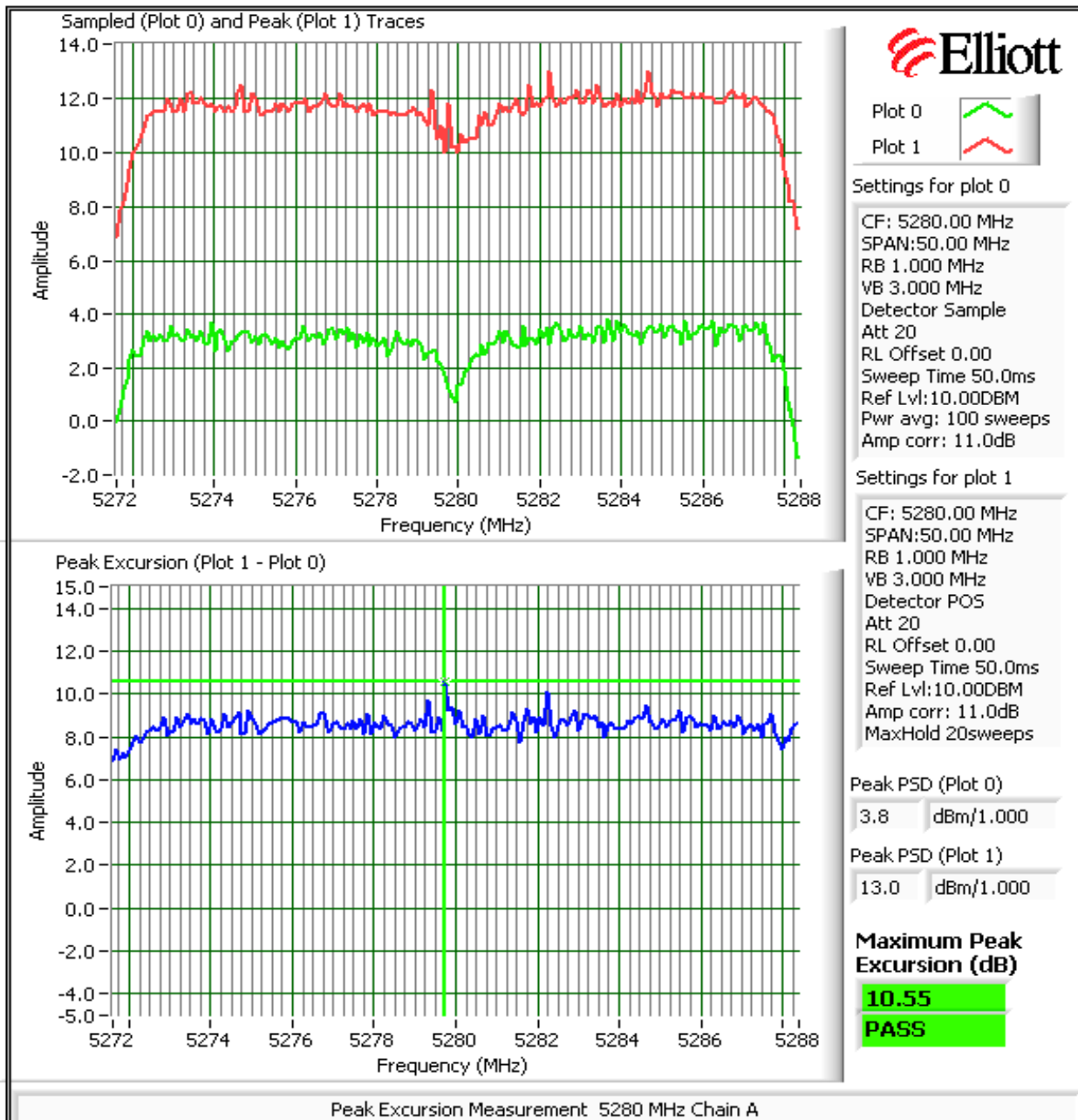
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



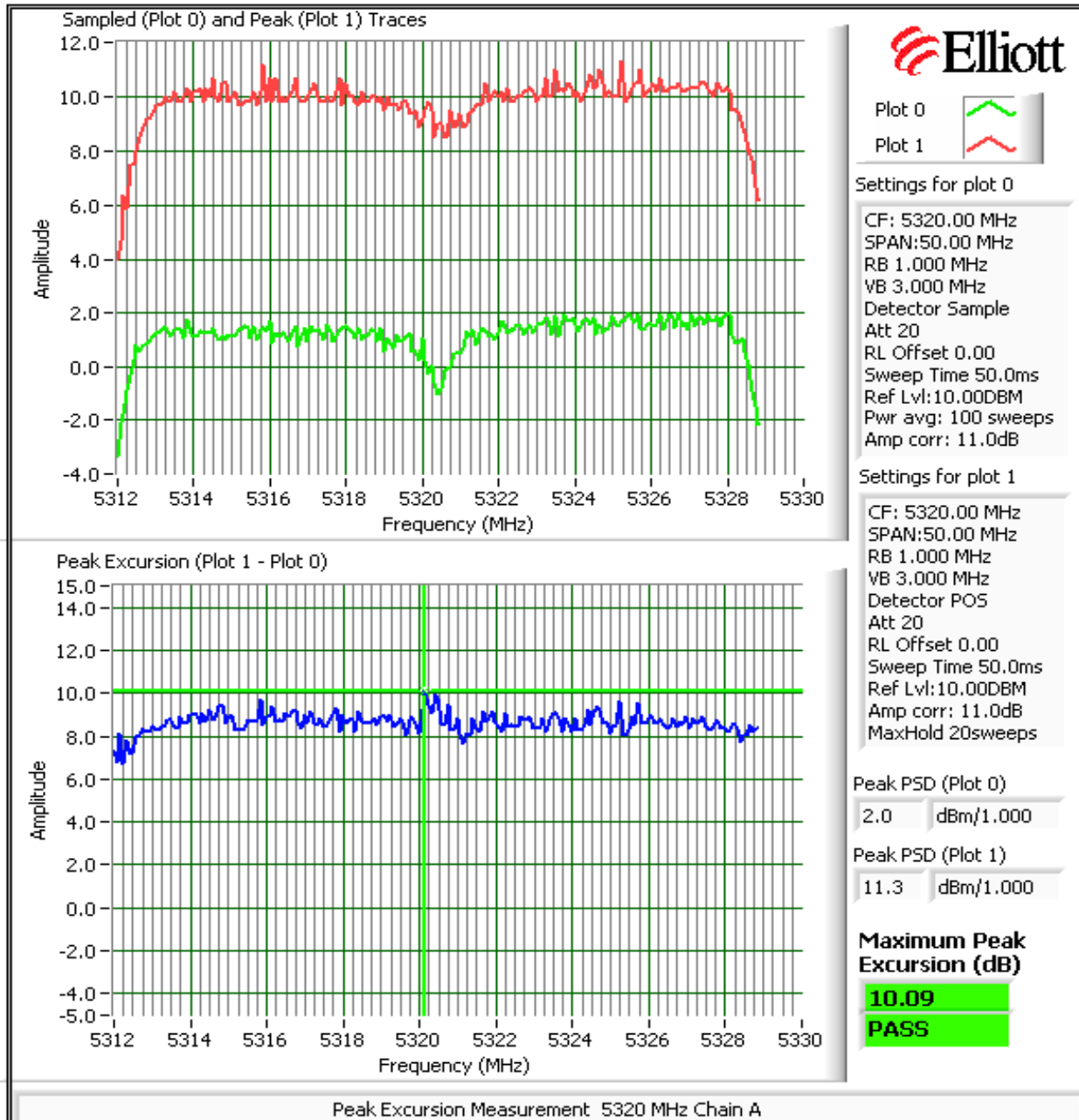
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



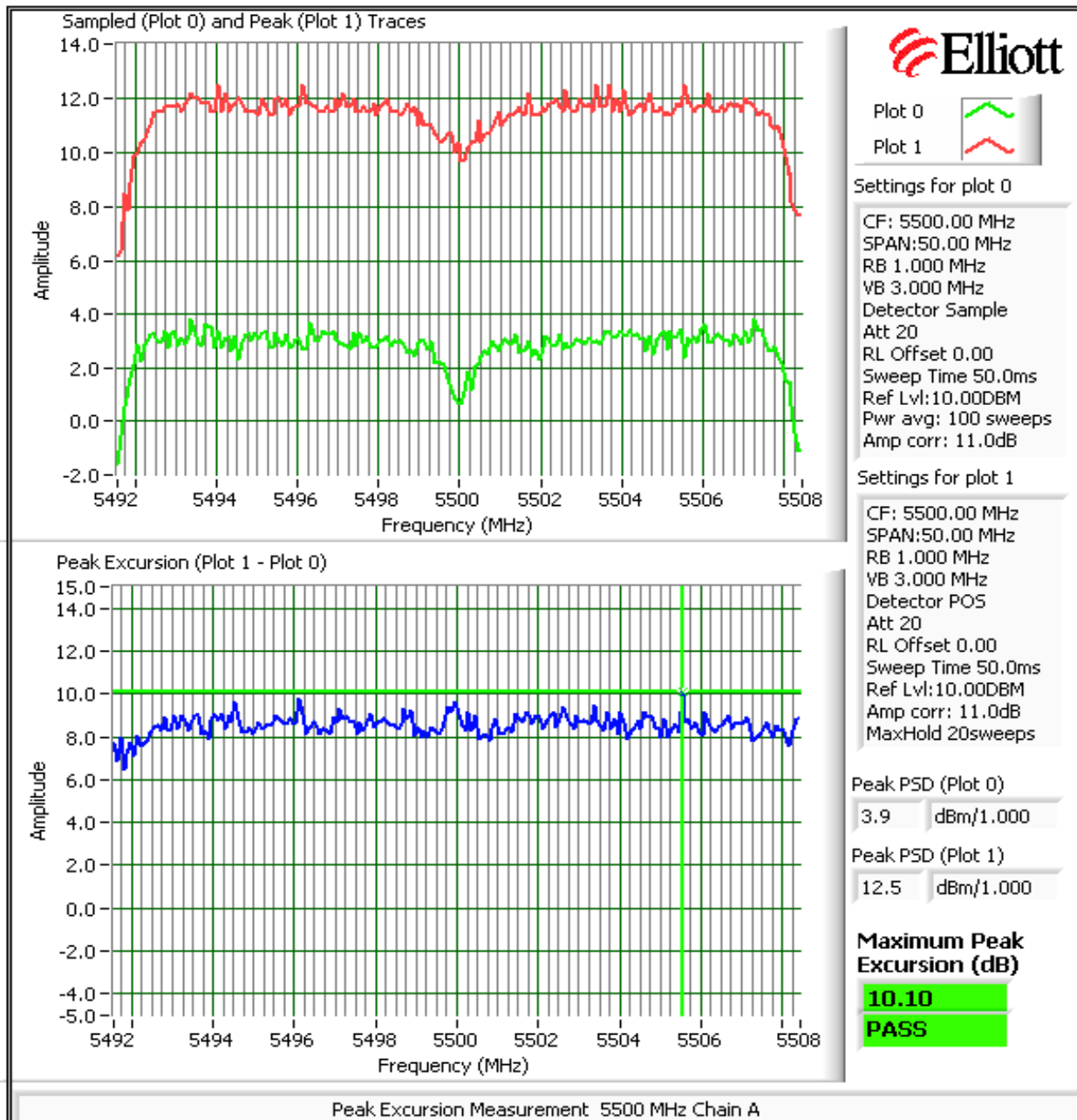
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



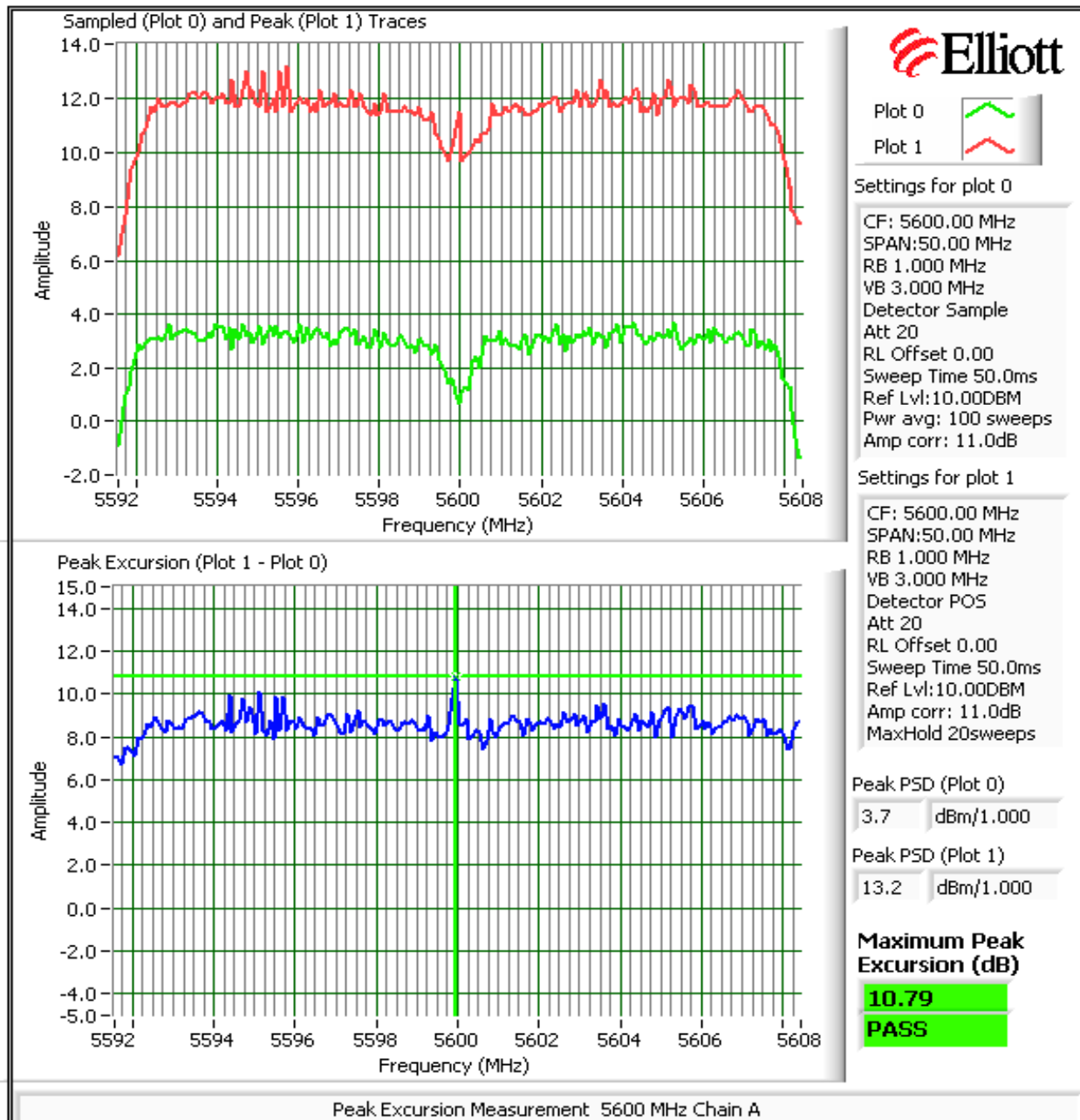
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



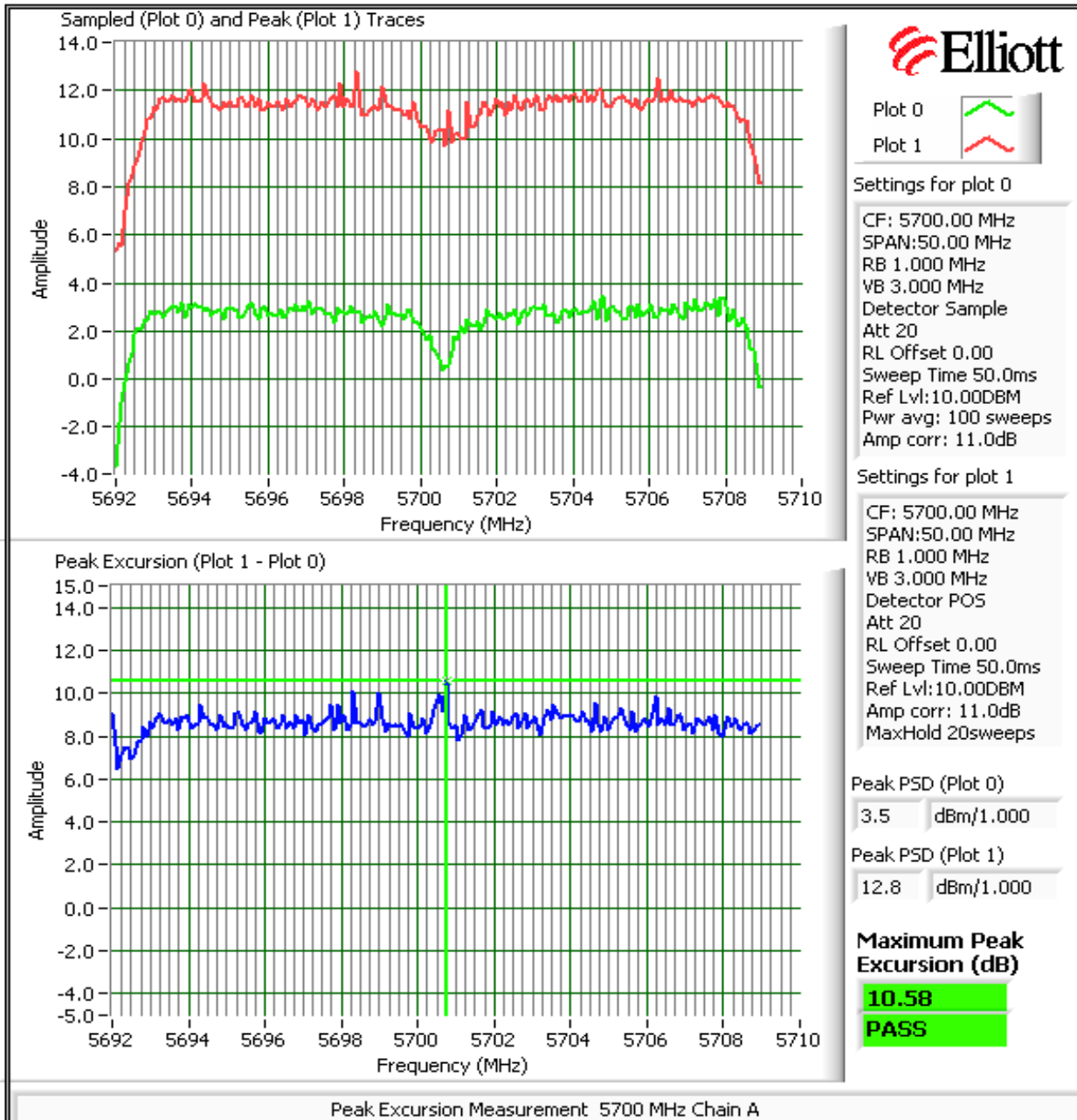
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

**RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain B, 802.11a Legacy Mode
Power, PSD, Peak Excursion, Bandwidth and Spurious Emissions**

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/10/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:
 Temperature: 20.8 °C
 Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	16.1 dBm(41mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	16.7 dBm(46mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	16.3 dBm(43mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	3.5 dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	3.9 dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	3.5 dBm/MHz
1	26dB Bandwidth	15.407	-	39.3 MHz
1	99% Bandwidth	RSS 210	-	17.1 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	11.1 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.



EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	31.5	37.8	17.1	15.8	17.0	0.038	3.4	4.0	5.0	Pass
5200	31.0	38.0	17.1	16.1	17.0	0.040	3.5	4.0	5.0	Pass
5240	29.5	39.3	17.1	16.1	17.0	0.041	3.5	4.0	5.0	Pass
5260	29.0	37.0	17.1	16.1	24.0	0.041	3.7	11.0	11.0	Pass
5280	28.5	37.1	17.1	16.7	24.0	0.046	3.9	11.0	11.0	Pass
5320	26.0	30.8	17.1	14.9	24.0	0.031	2.2	11.0	11.0	Pass
5500	26.0	37.9	17.1	16.2	24.0	0.042	3.5	11.0	11.0	Pass
5600	26.0	33.7	17.0	16.3	24.0	0.042	3.4	11.0	11.0	Pass
5700	26.0	31.0	17.1	16.2	24.0	0.041	3.4	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below):
 RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration

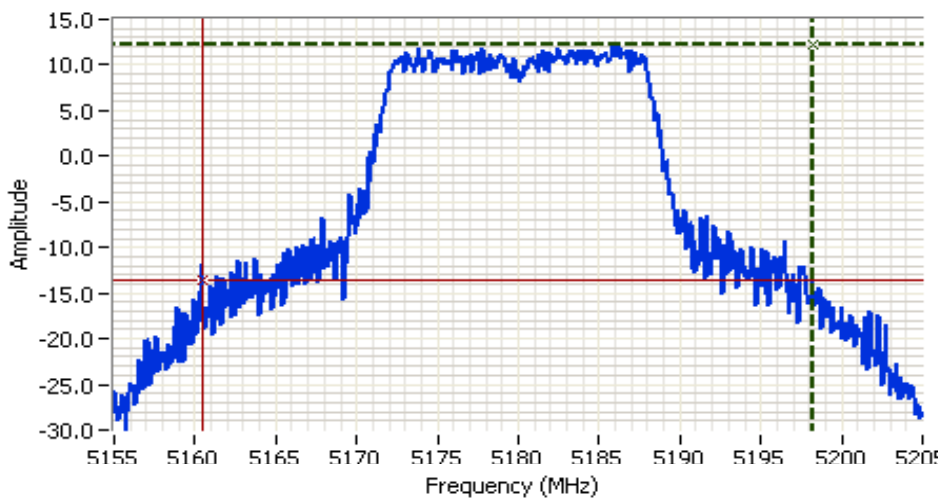
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

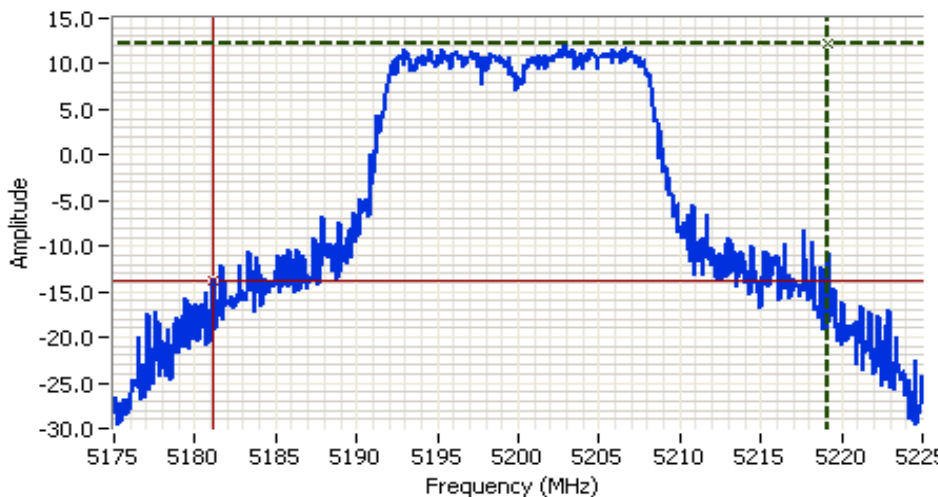


Analyzer Settings
 HP8564E,EMI
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.75 MHz
 Chain B, Legacy

Cursor 1	5198.1667	12.33	
Cursor 2	5160.4167	-13.67	

Delta Freq. 37.75
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 38.00 MHz
 Chain B, Legacy

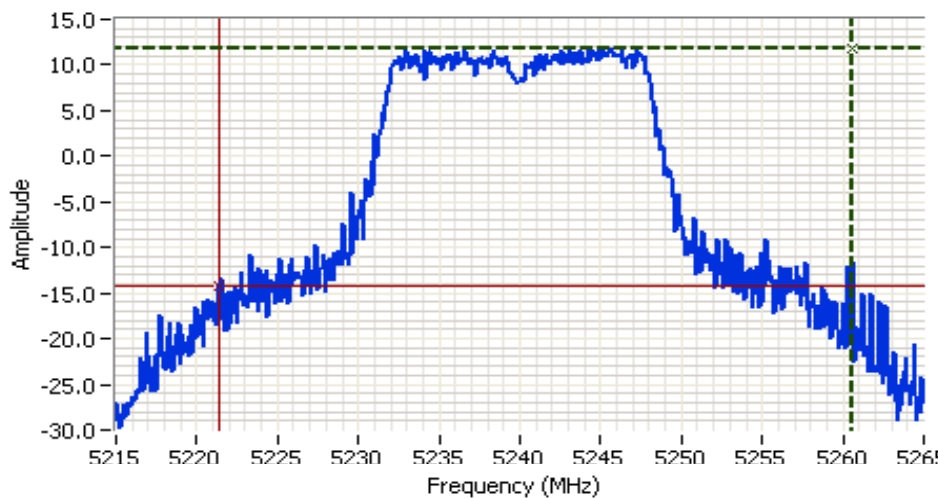
Cursor 1	5219.1667	12.17	
Cursor 2	5181.1667	-13.83	

Delta Freq. 38.00
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

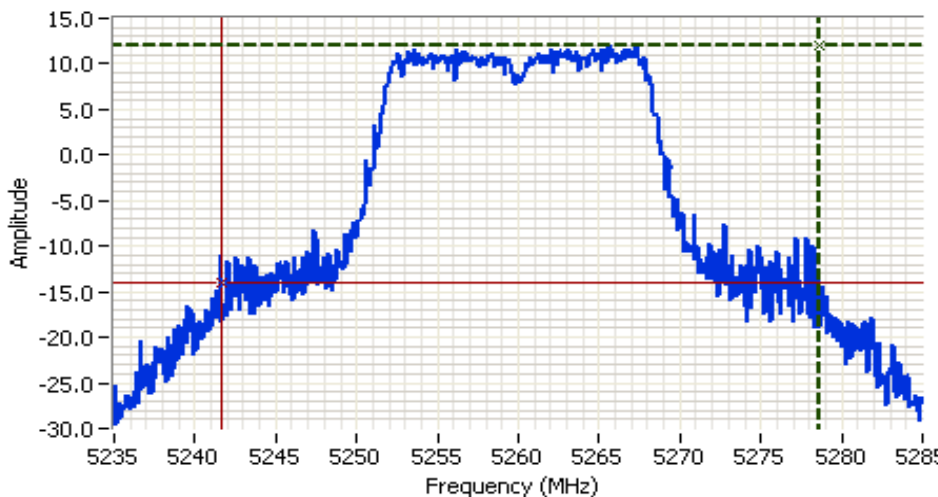


Analyzer Settings
 HP8564E,EMI
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 39.25 MHz
 Chain B, Legacy

Cursor 1	5260.5833	11.83	
Cursor 2	5221.3333	-14.17	

Delta Freq. 39.25
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.00 MHz
 Chain B, Legacy

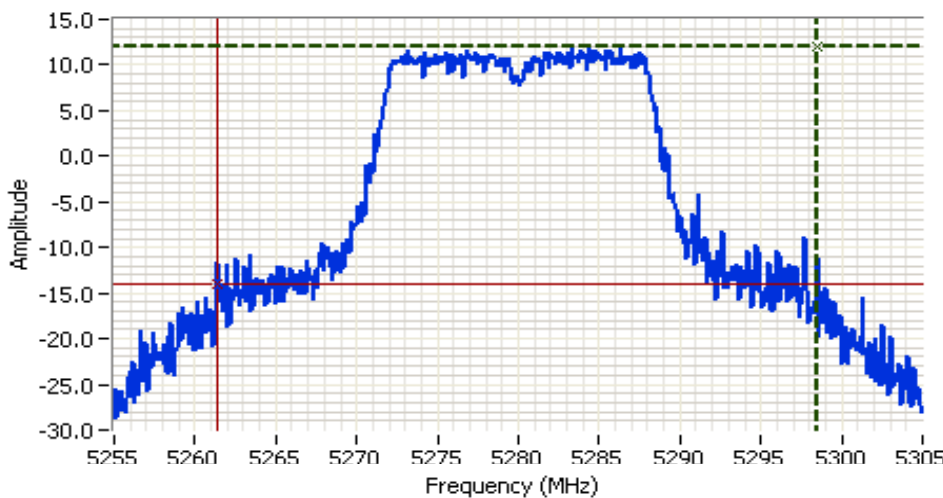
Cursor 1	5278.5833	12.00	
Cursor 2	5241.5833	-14.00	

Delta Freq. 37.00
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

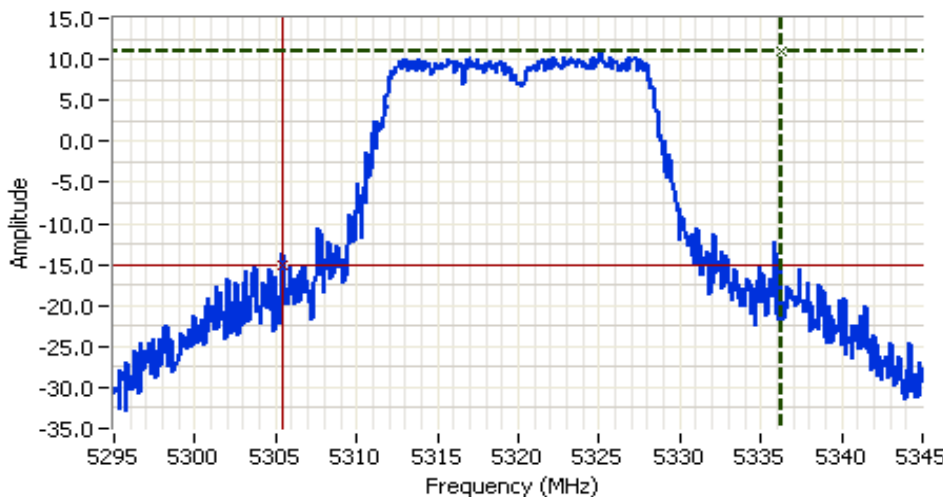
HP8564E,EMI
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 37.08 MHz
 Chain B, Legacy

Cursor 1	5298.5000	12.00	
Cursor 2	5261.4167	-14.00	

Delta Freq. 37.08
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 30.83 MHz
 Chain B, Legacy

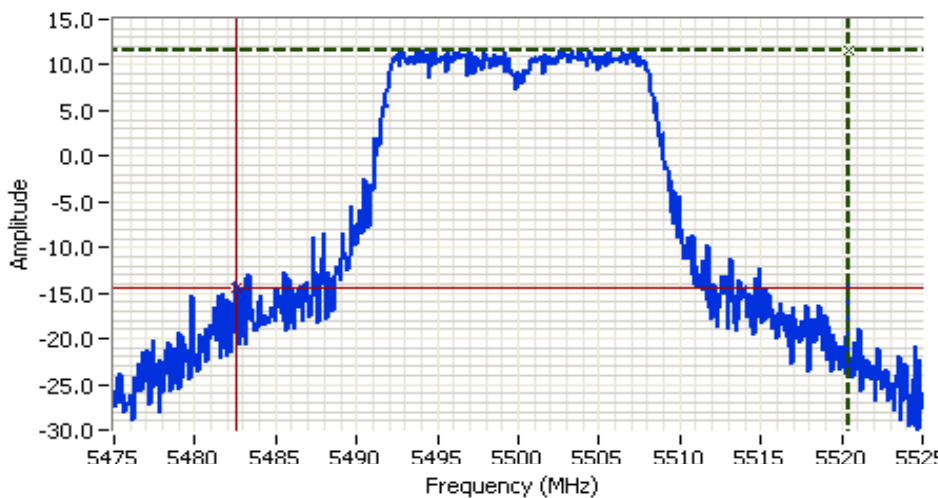
Cursor 1	5336.2500	11.00	
Cursor 2	5305.4167	-15.00	

Delta Freq. 30.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

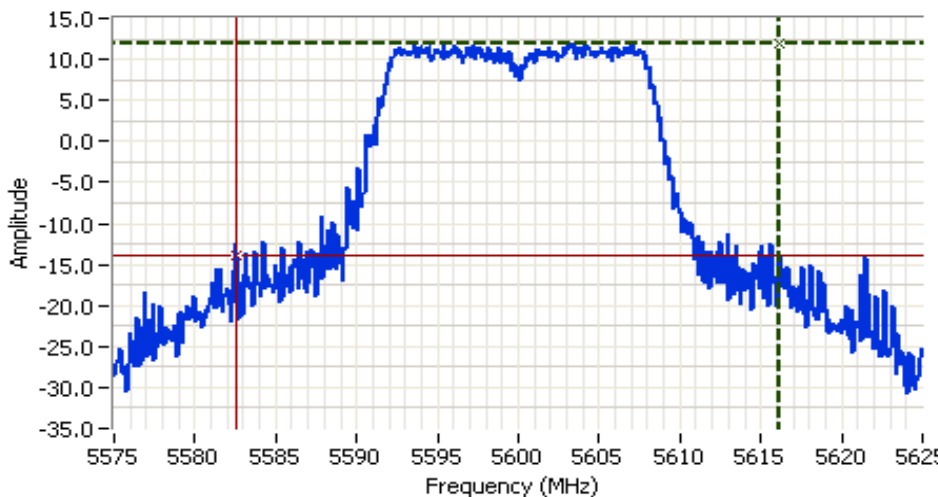


Analyzer Settings
 HP8564E,EMI
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.92 MHz
 Chain B, Legacy

Cursor 1	5520.4167	11.67	
Cursor 2	5482.5000	-14.33	

Delta Freq. 37.92
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 33.67 MHz
 Chain B, Legacy

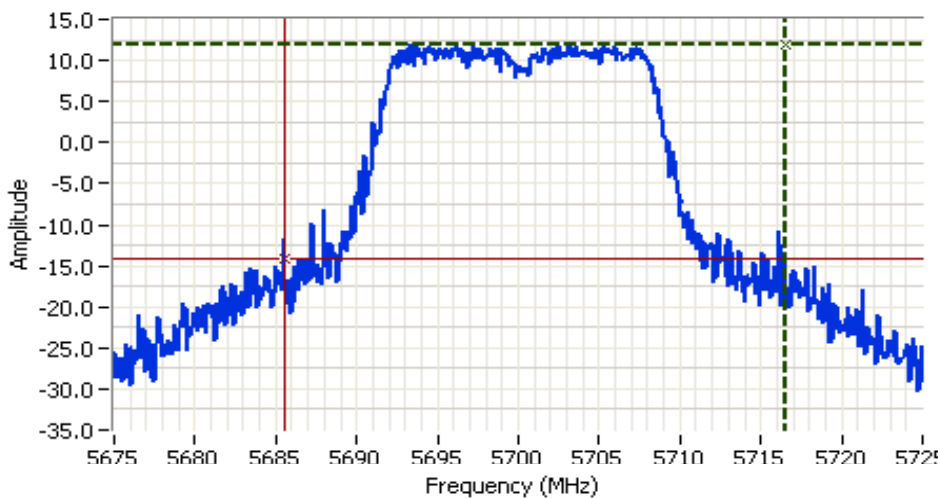
Cursor 1	5616.1667	12.00	
Cursor 2	5582.5000	-14.00	

Delta Freq. 33.67
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

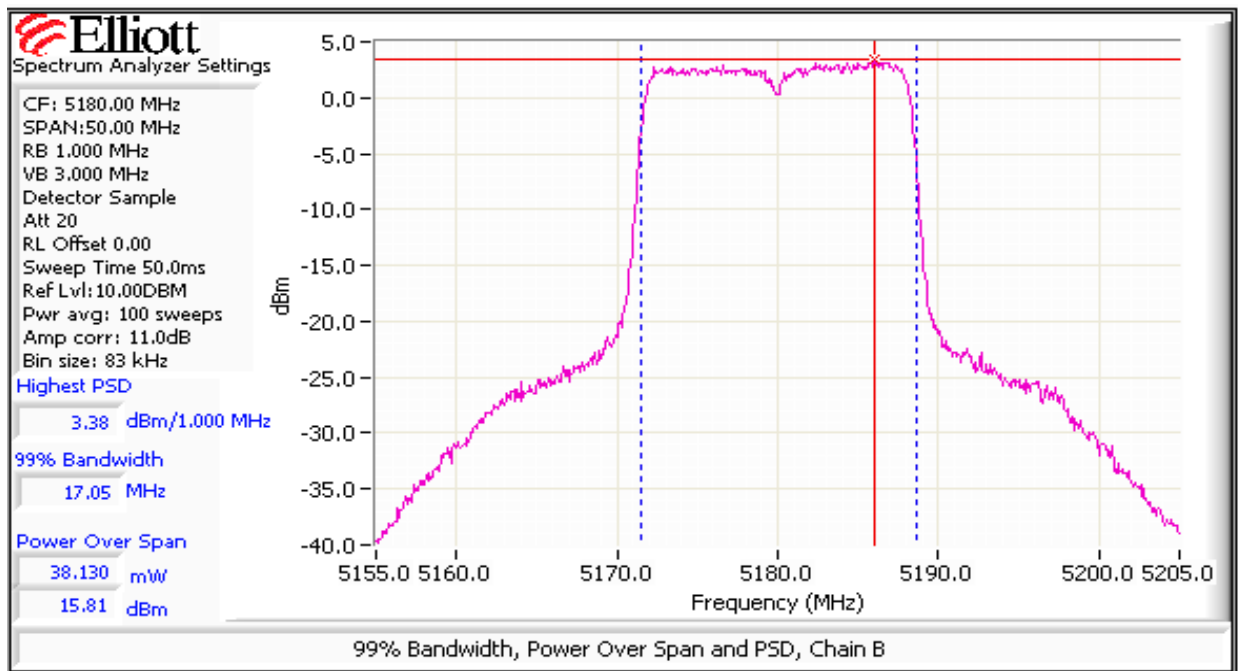
HP8564E,EMI
 CF: 5700.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 31.00 MHz
 Chain B, Legacy

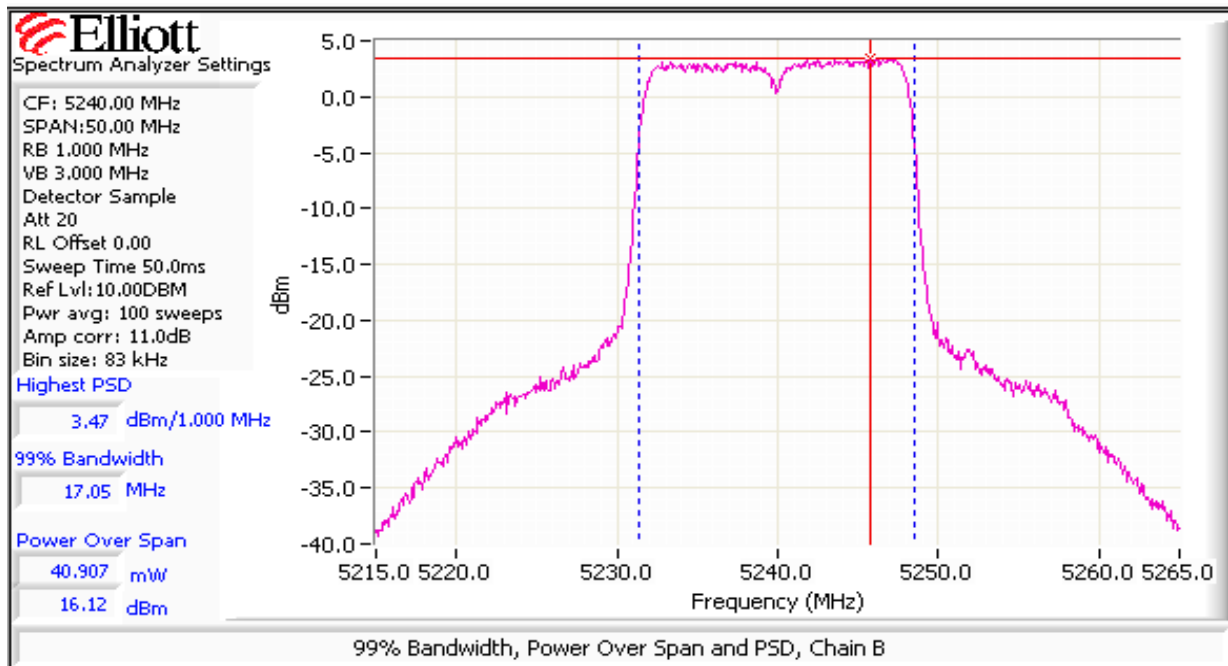
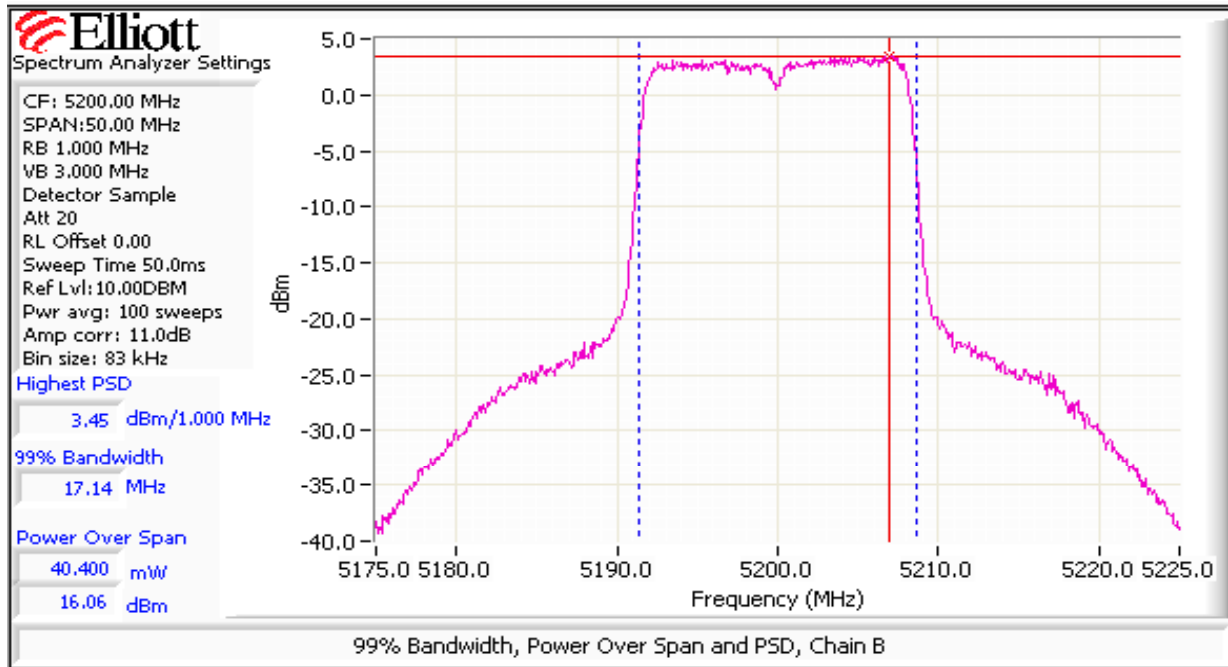
Cursor 1 5716.5000 11.83 ⊕ ⊖ 🔒 Delta Freq. 31.00

Cursor 2 5685.5000 -14.17 ⊕ ⊖ 🔒 Delta Amplitude 26.00



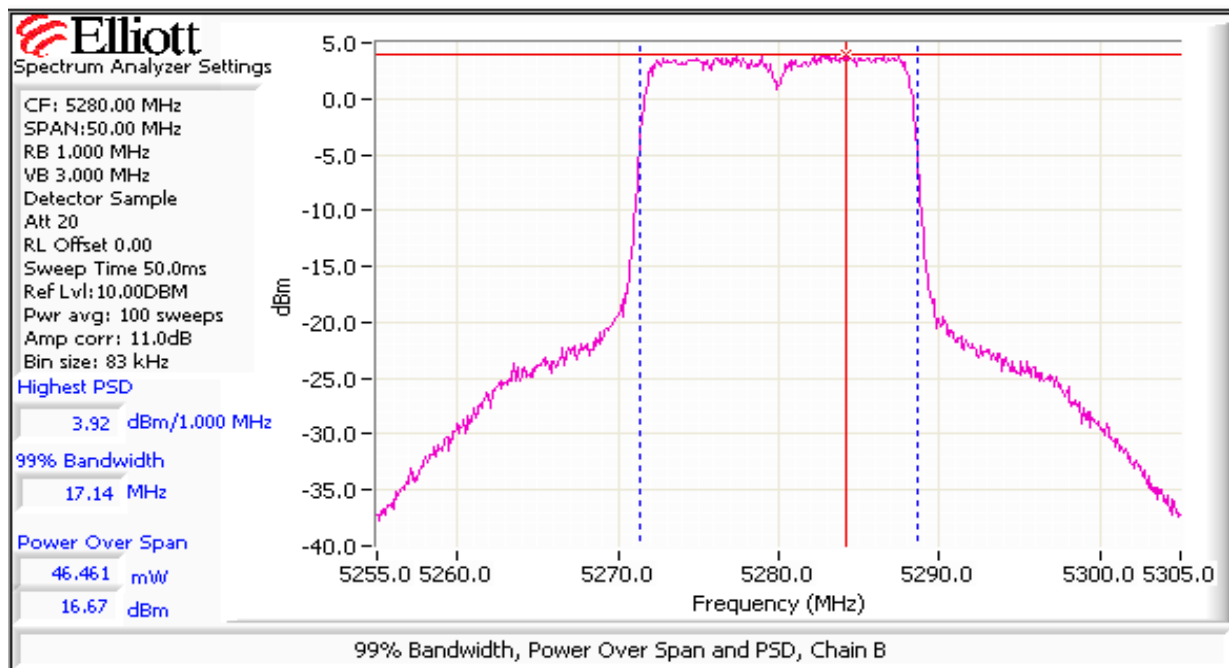
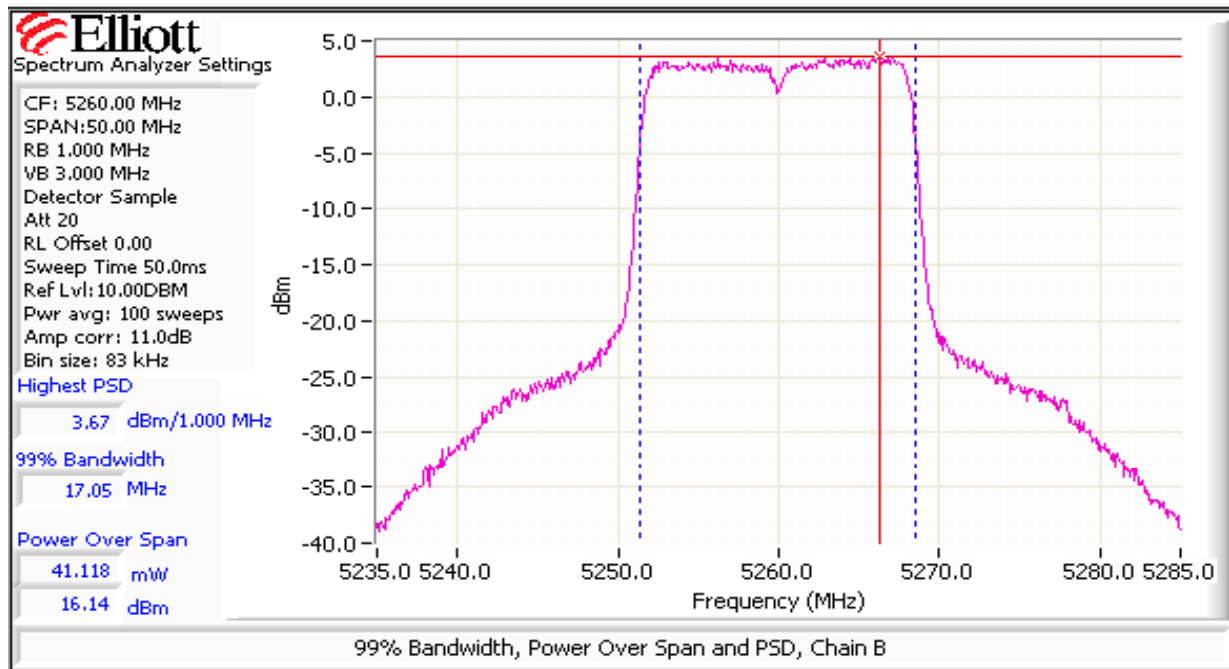
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



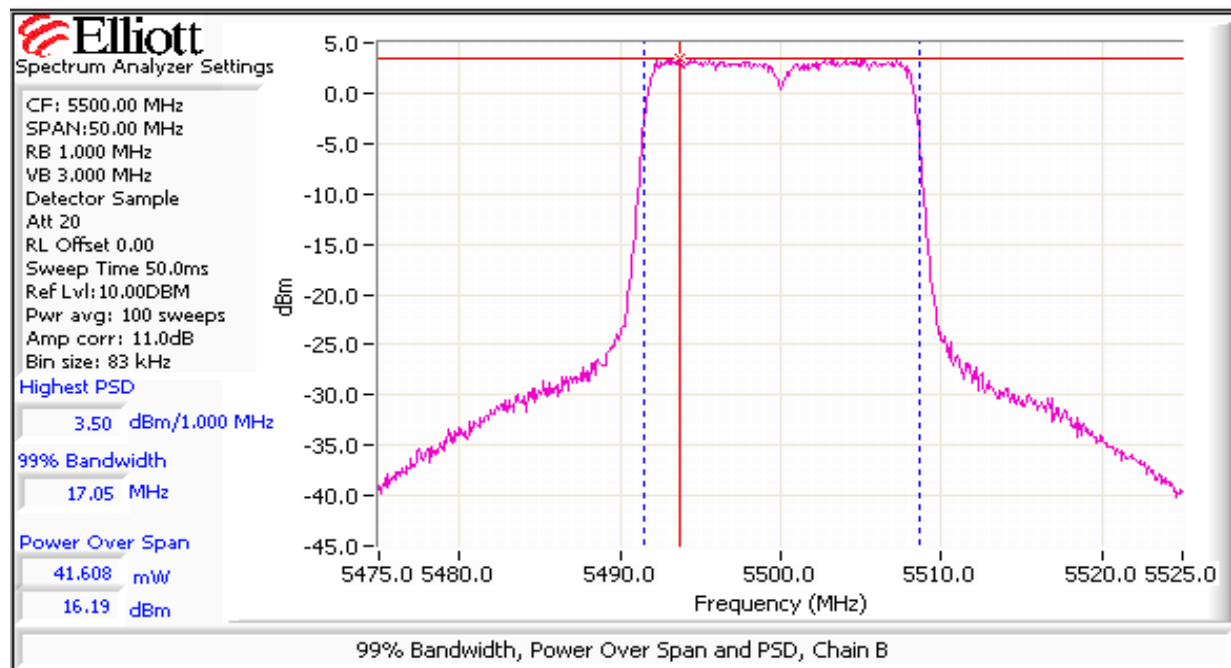
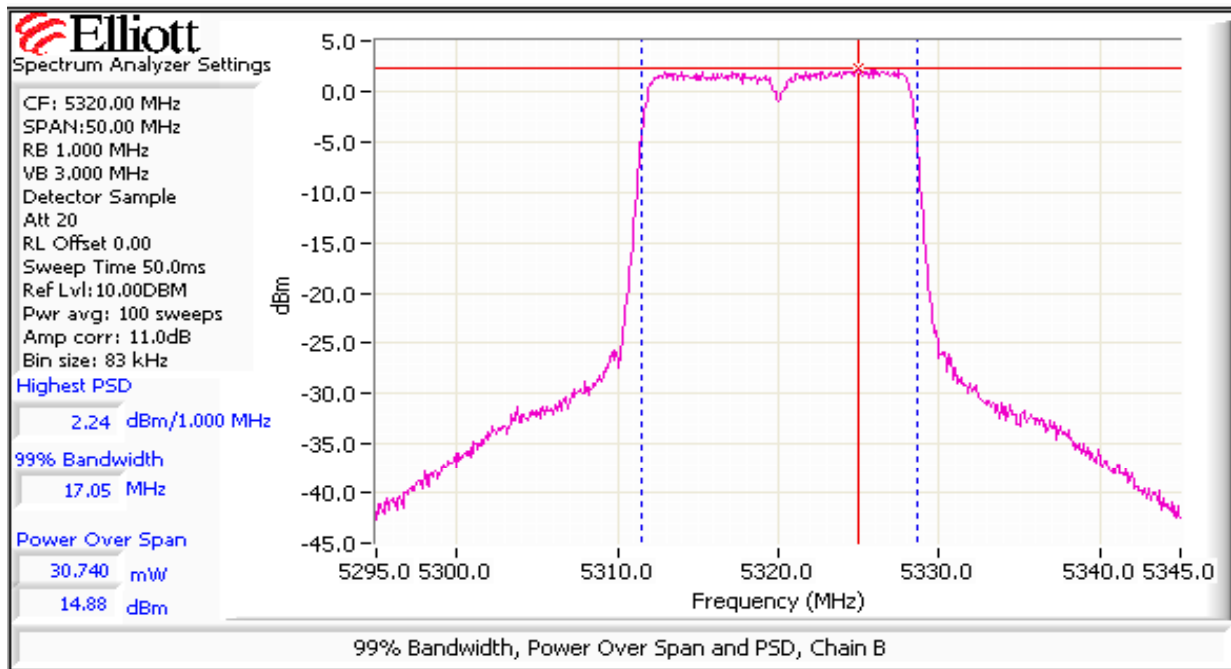
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



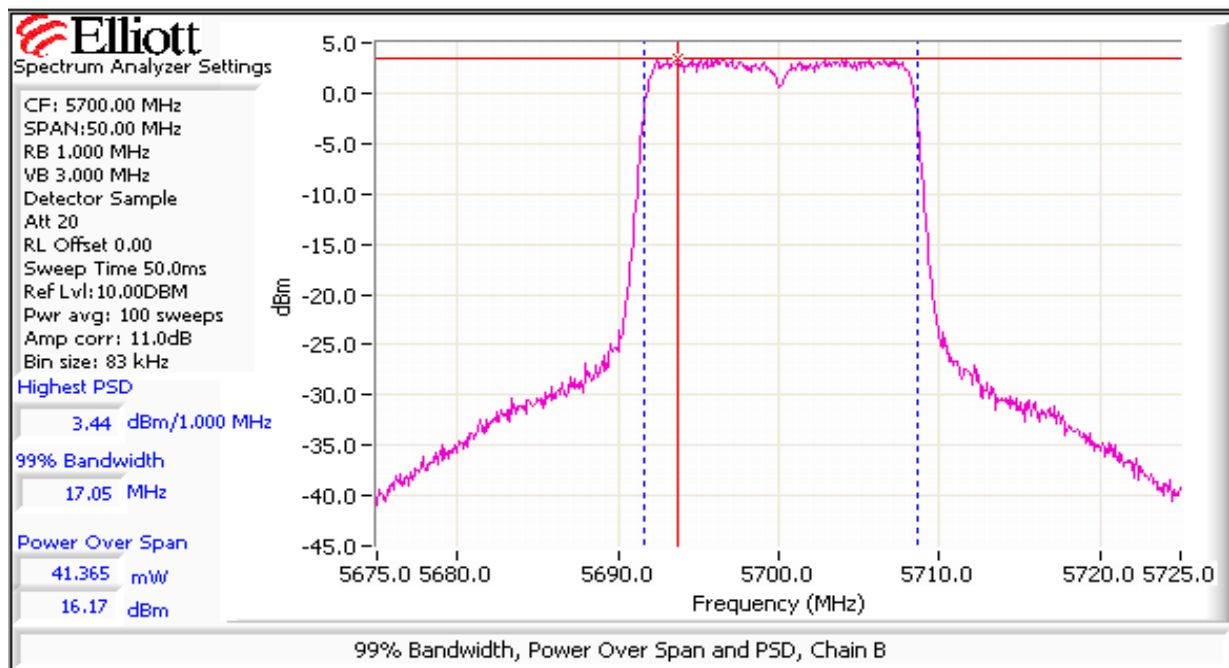
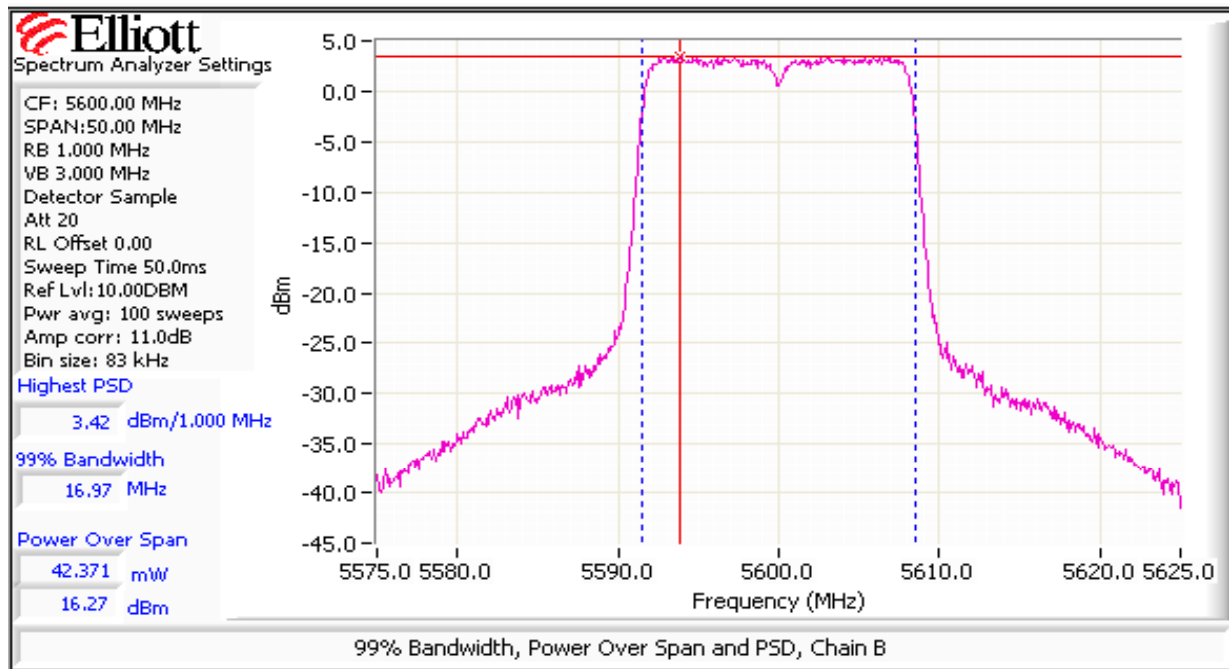
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.3	13.0	5260	10.7	13.0	5500	10.6	13.0			
5200	10.3	13.0	5280	9.9	13.0	5600	11.1	13.0			
5240	10.3	13.0	5320	10.3	13.0	5700	10.4	13.0			

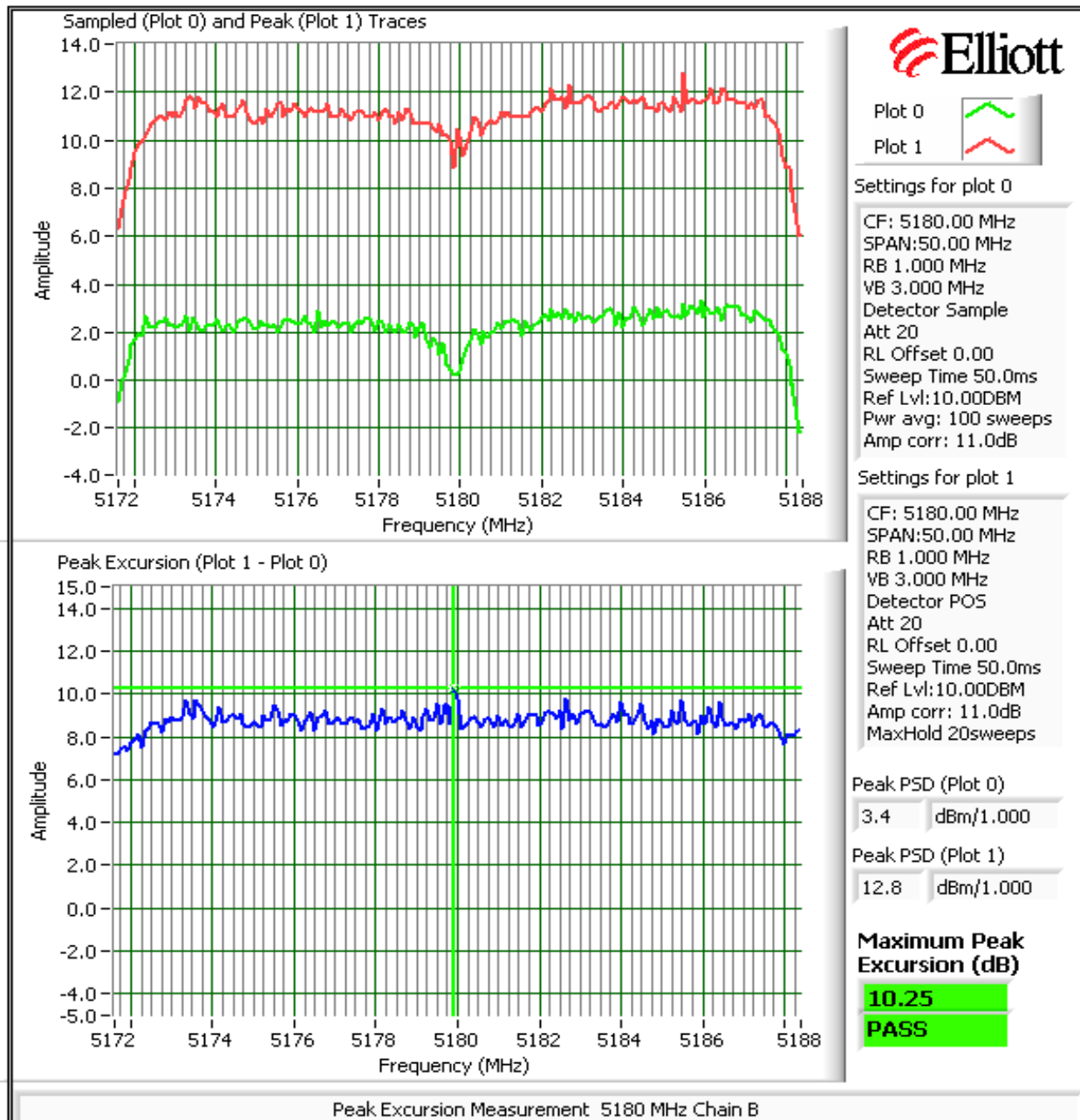
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

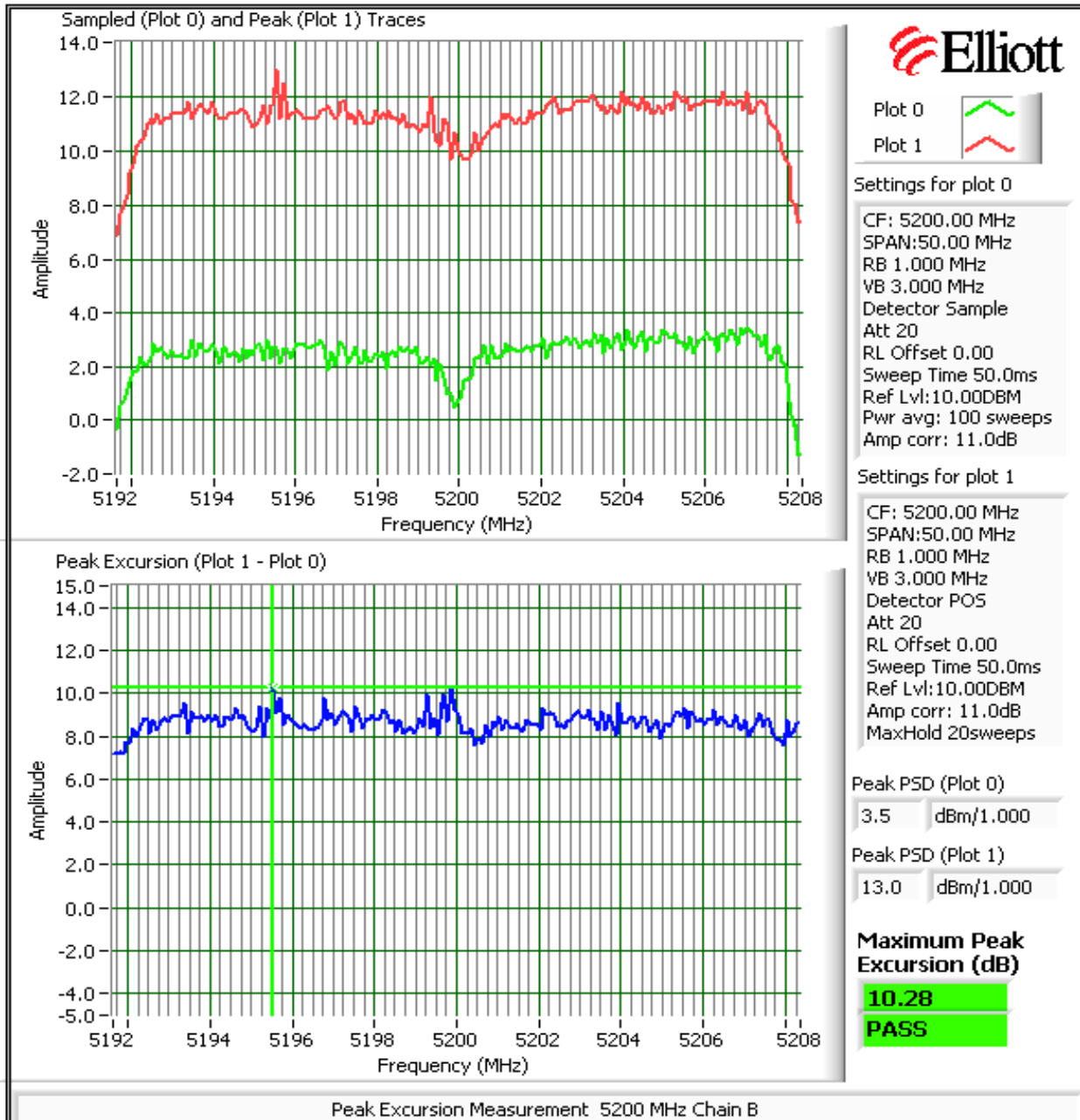
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



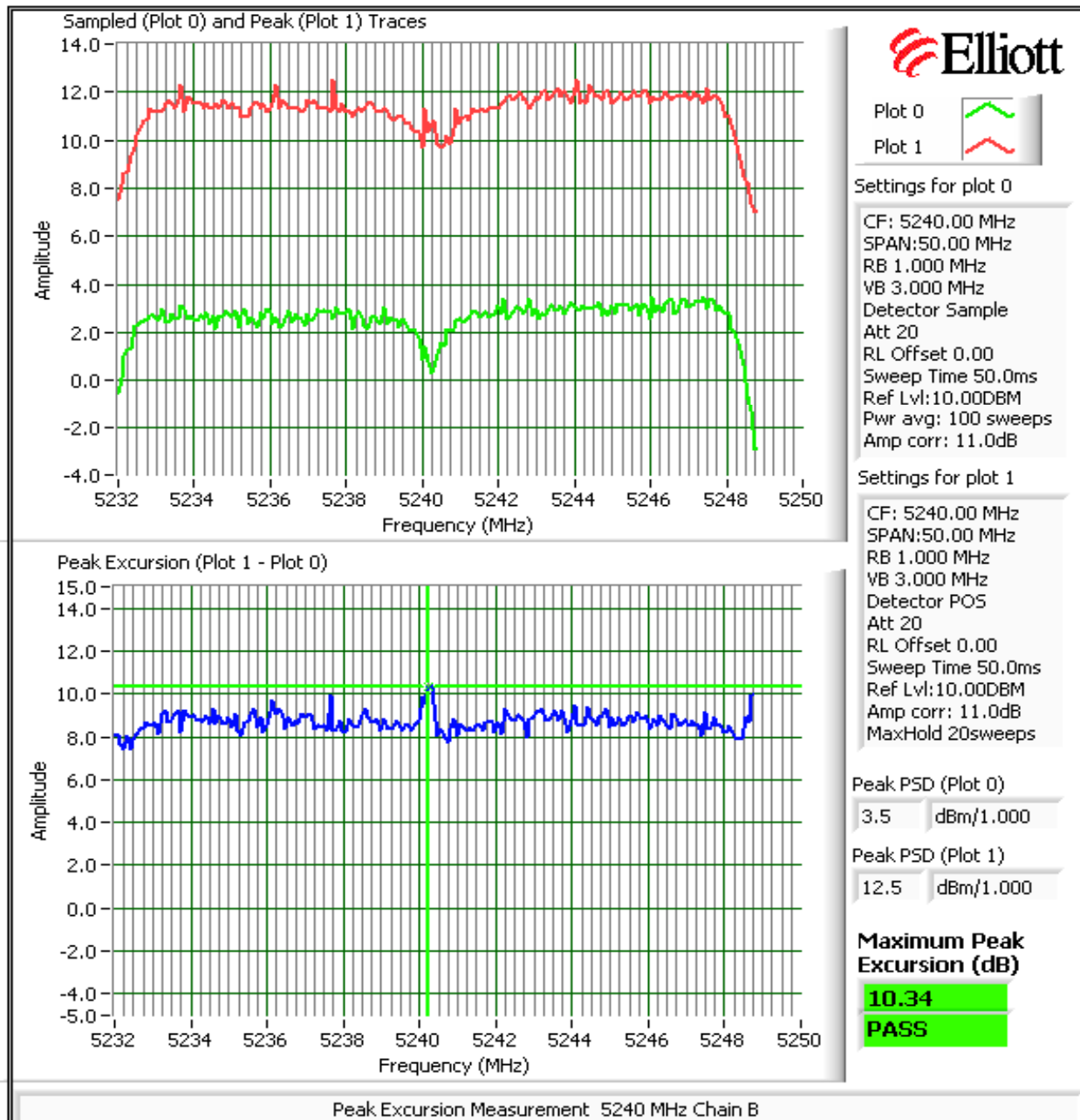
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



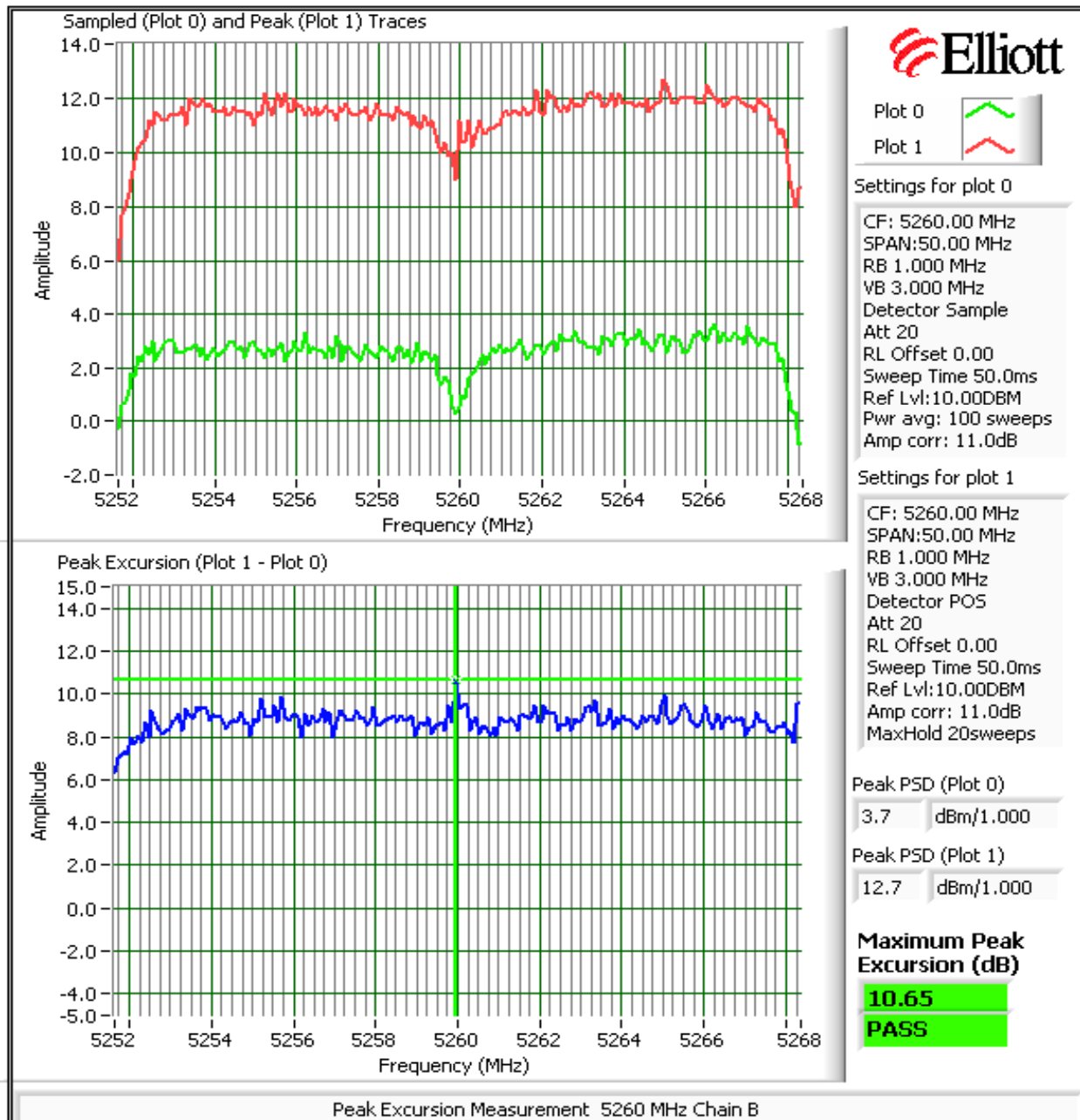
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



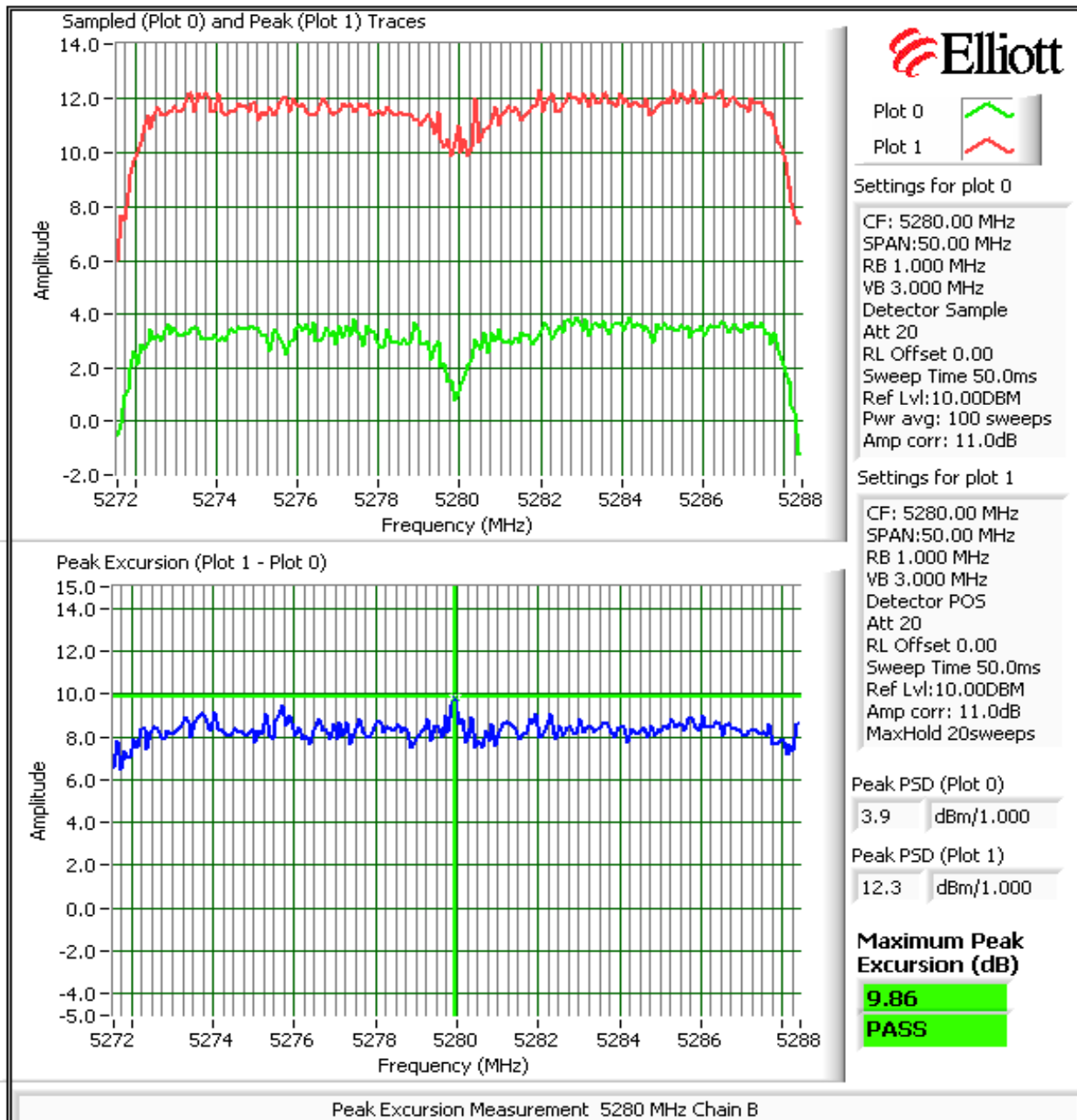
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



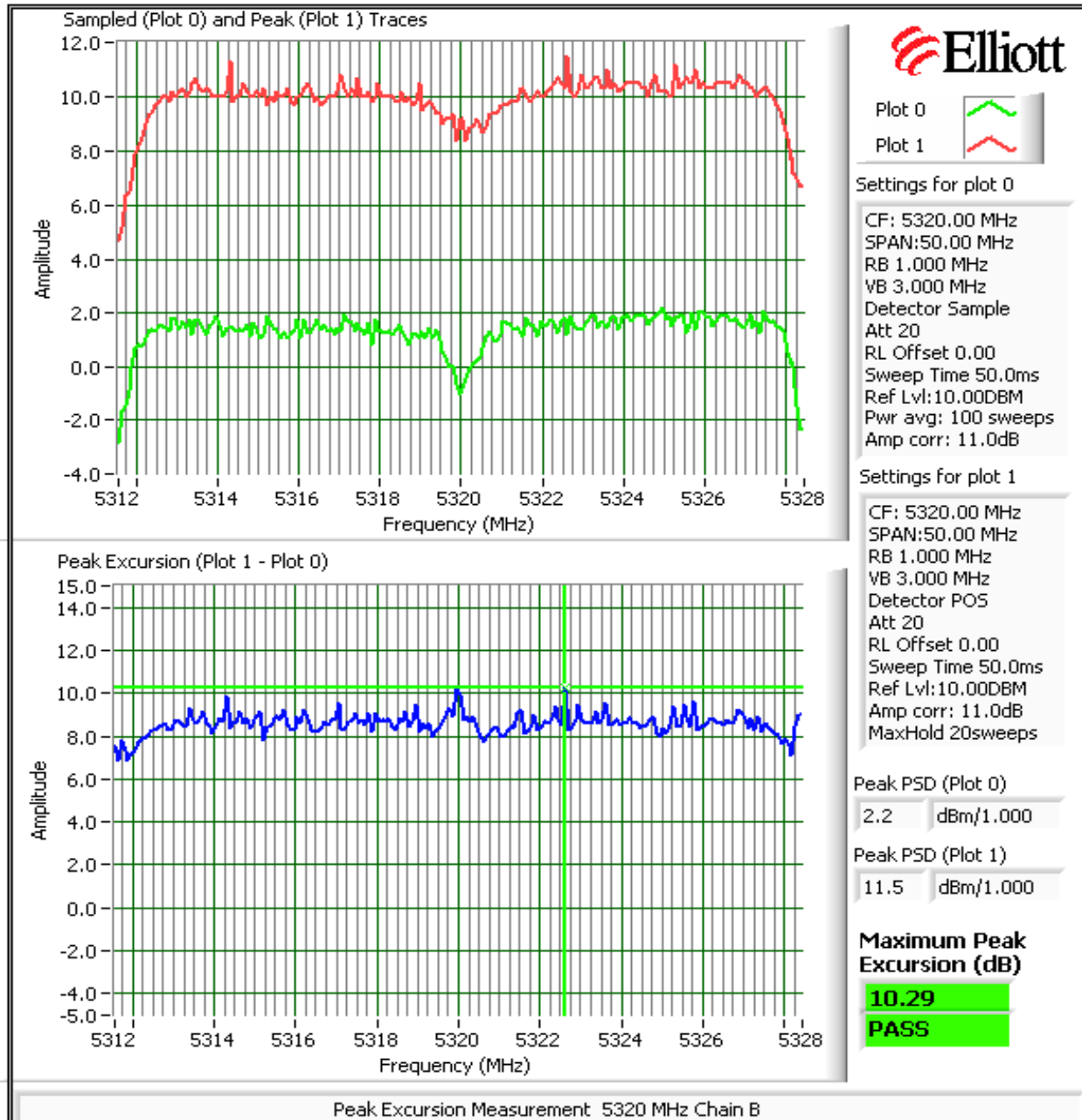
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



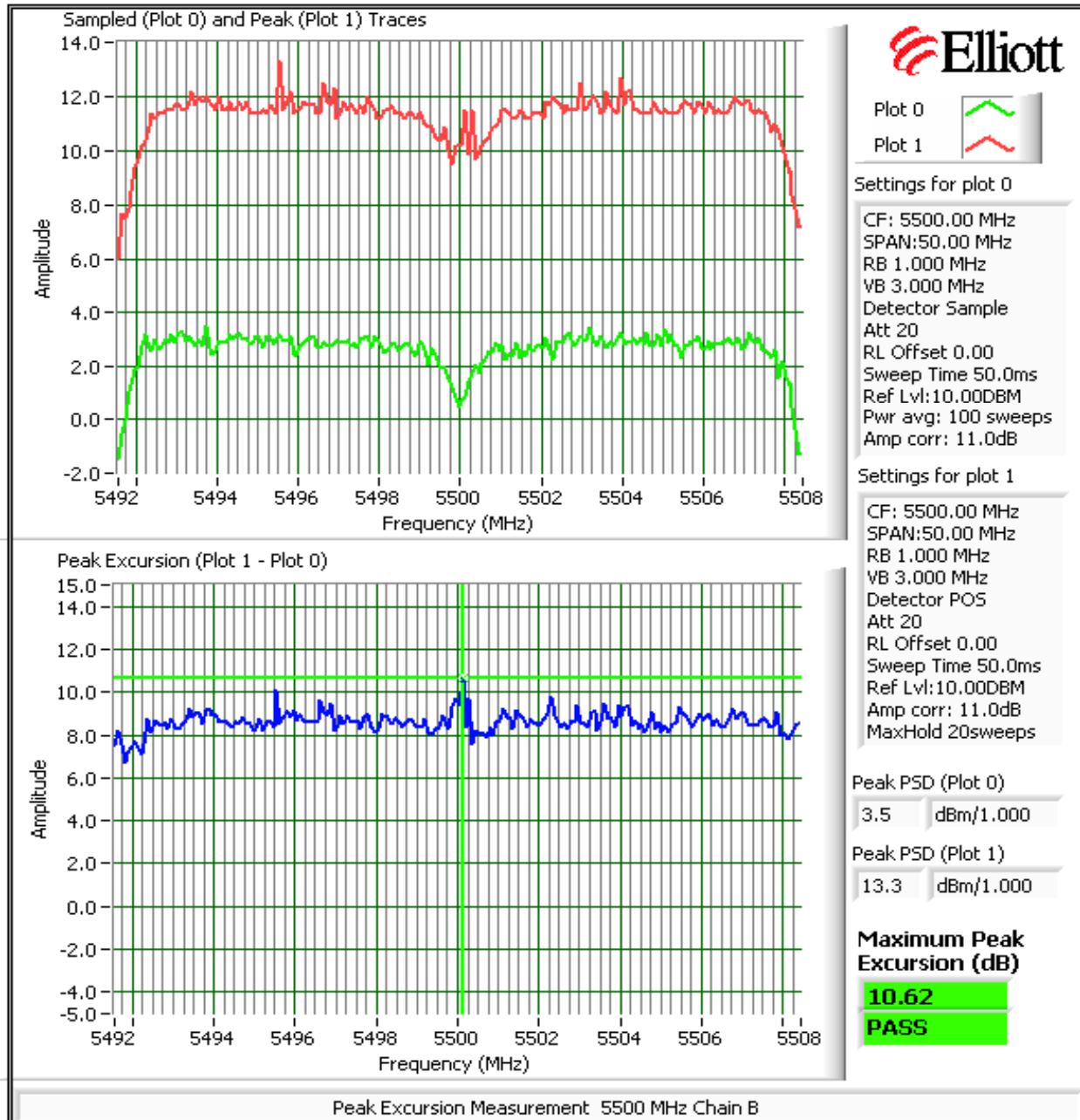
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



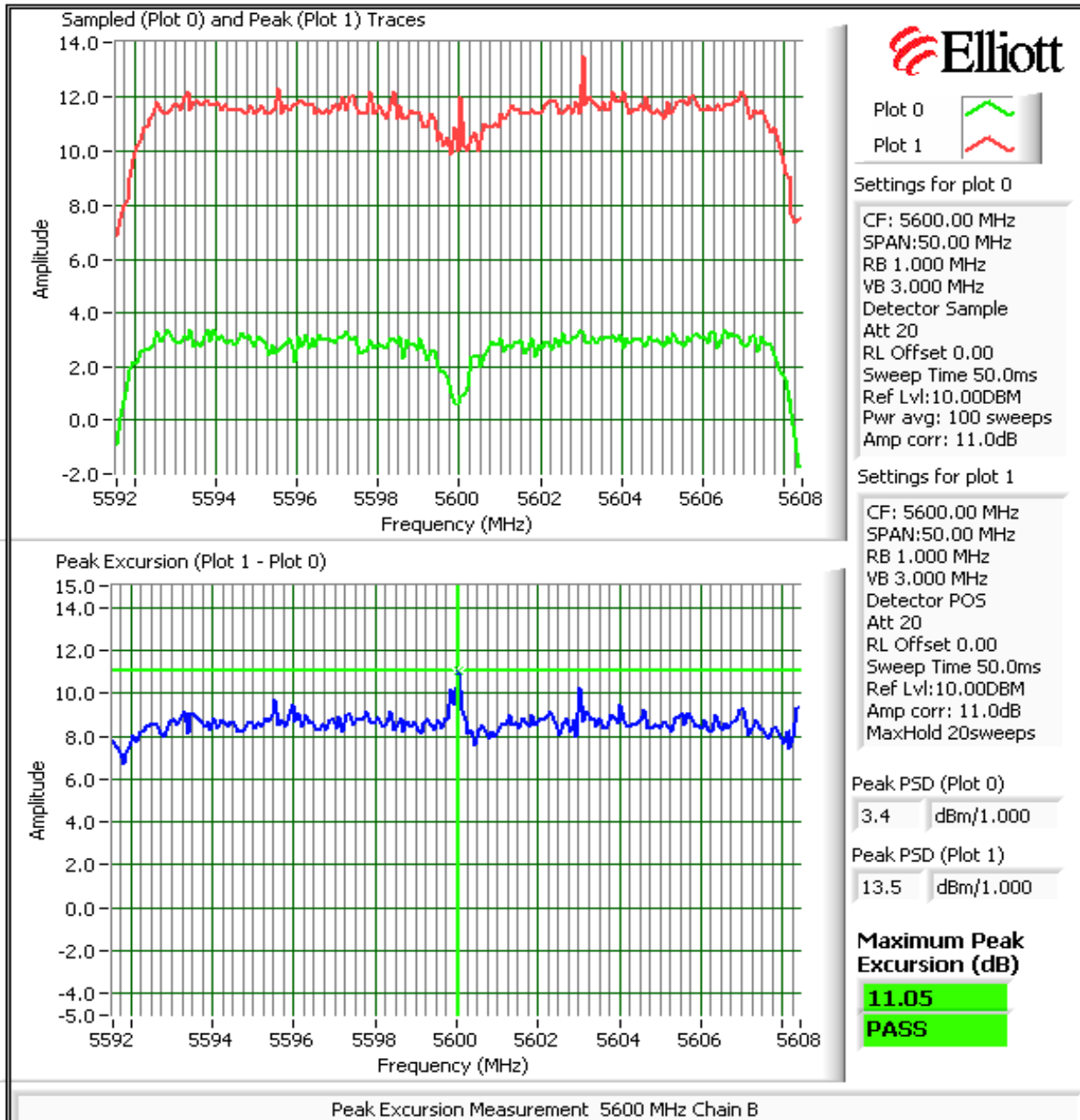
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



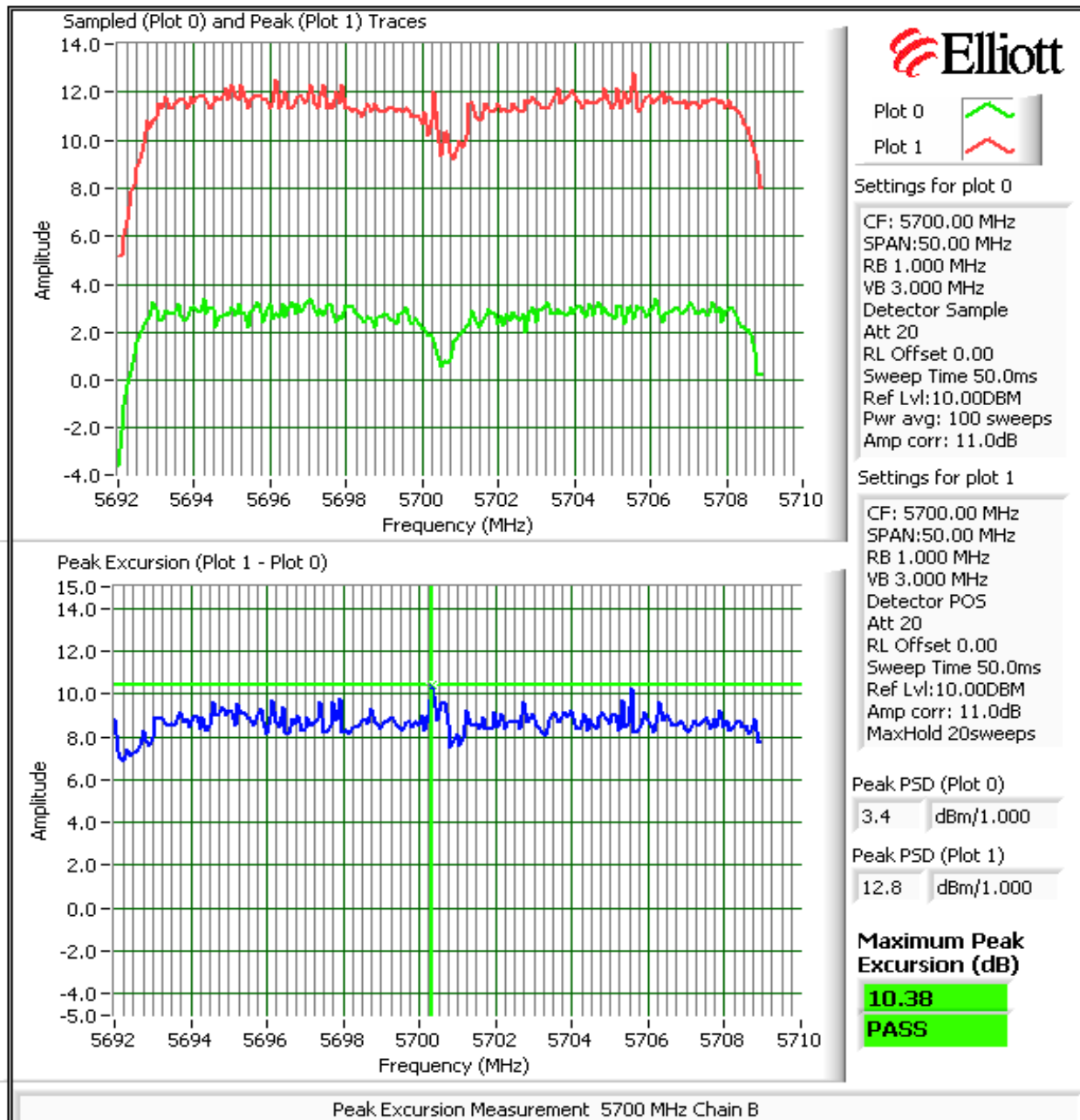
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement





EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	30.5	35.5	17.1	13.3	17.0	0.021	0.7	4.0	5.0	Pass
5200	31.5	37.6	17.1	14.5	17.0	0.028	2.4	4.0	5.0	Pass
5240	31.0	37.8	17.1	15.0	17.0	0.032	2.6	4.0	5.0	Pass
5260	30.5	36.8	17.5	16.8	24.0	0.048	6.1	11.0	11.0	Pass
5280	30.0	36.8	17.4	16.3	24.0	0.042	5.4	11.0	11.0	Pass
5320	27.5	25.7	17.3	14.9	24.0	0.031	3.9	11.0	11.0	Pass
5500	27.0	35.1	17.5	16.2	24.0	0.042	5.3	11.0	11.0	Pass
5600	26.5	28.8	17.4	16.2	24.0	0.042	5.3	11.0	11.0	Pass
5700	26.5	31.7	17.4	16.2	24.0	0.042	5.2	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below):
 RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration

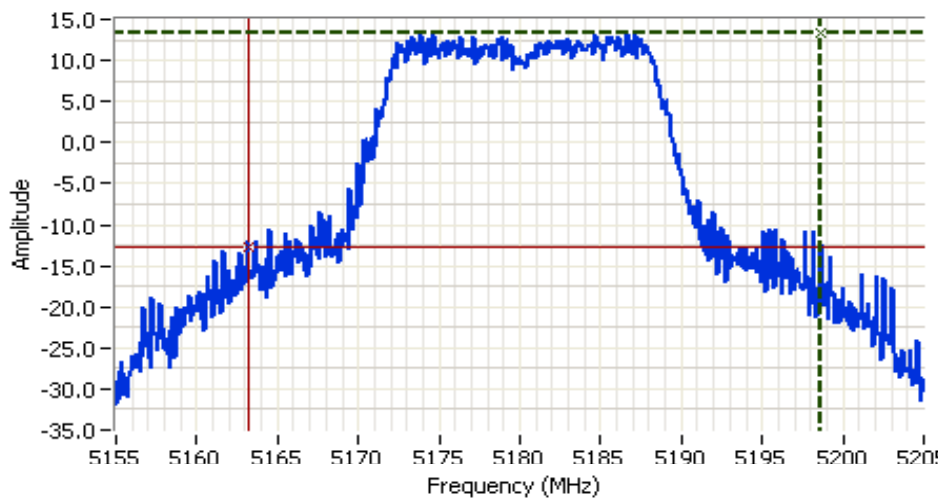
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

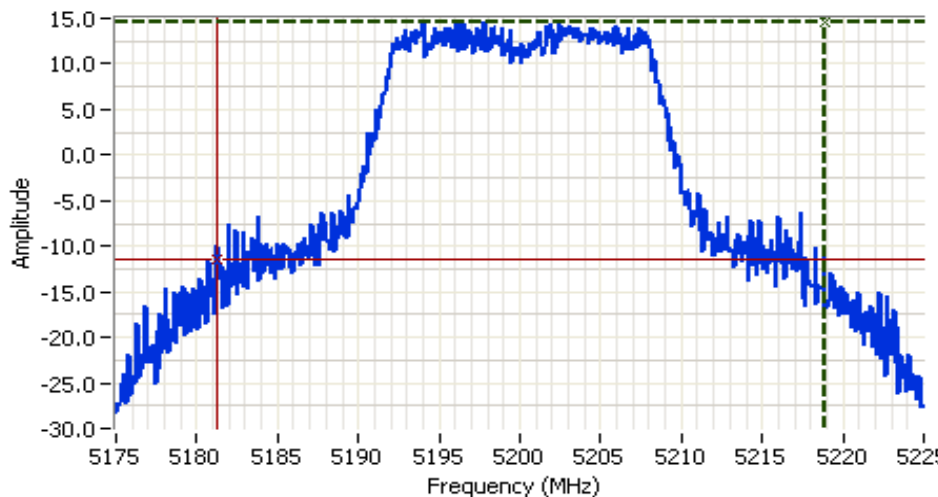


Analyzer Settings
 HP8563E
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments
 26dB Bandwidth:
 35.50 MHz
 Chain C, Legacy

Cursor 1	5198.6667	13.33	
Cursor 2	5163.1667	-12.67	

Delta Freq. 35.50
 Delta Amplitude 26.00



Analyzer Settings
 HP8563E
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments
 26dB Bandwidth:
 37.58 MHz
 Chain C, Legacy

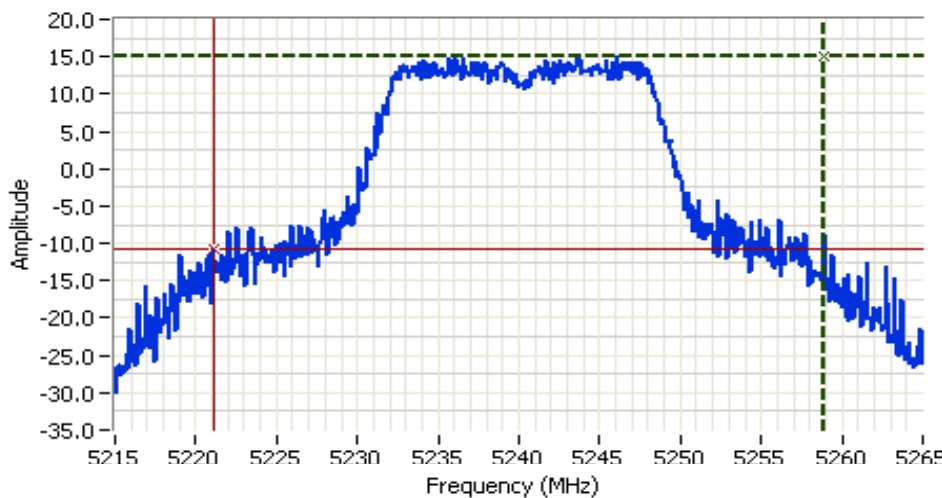
Cursor 1	5218.8333	14.50	
Cursor 2	5181.2500	-11.50	

Delta Freq. 37.58
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

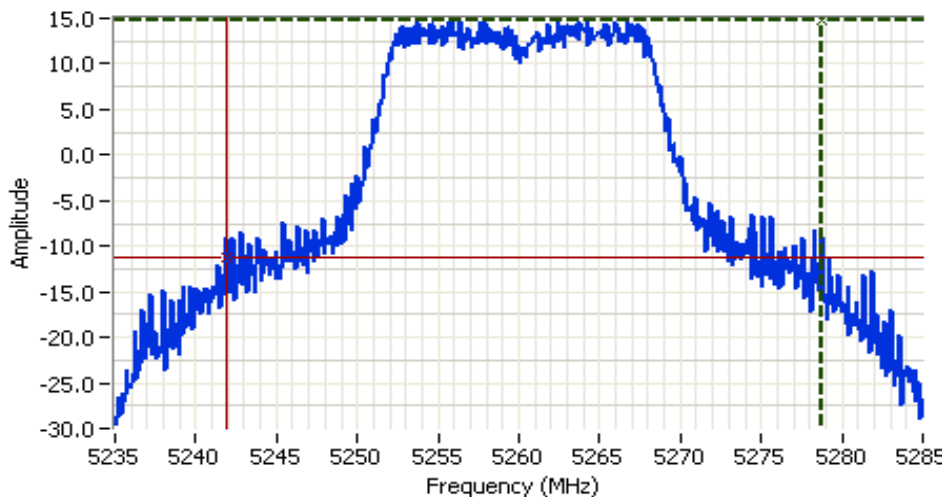


Analyzer Settings
 HP8563E
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments
 26dB Bandwidth:
 37.83 MHz
 Chain C, Legacy

Cursor 1	5258.9167	15.17	
Cursor 2	5221.0833	-10.83	

Delta Freq. 37.83
 Delta Amplitude 26.00



Analyzer Settings
 HP8563E
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments
 26dB Bandwidth:
 36.83 MHz
 Chain C, Legacy

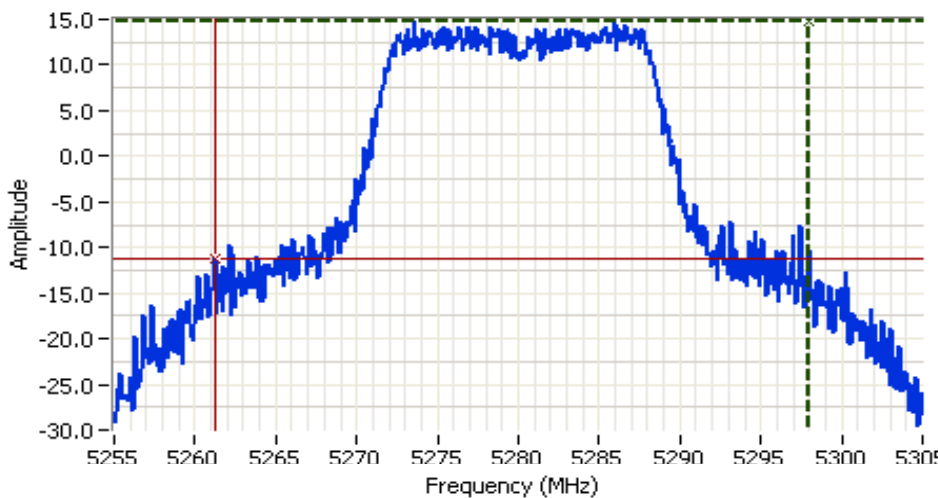
Cursor 1	5278.7500	14.83	
Cursor 2	5241.9167	-11.17	

Delta Freq. 36.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

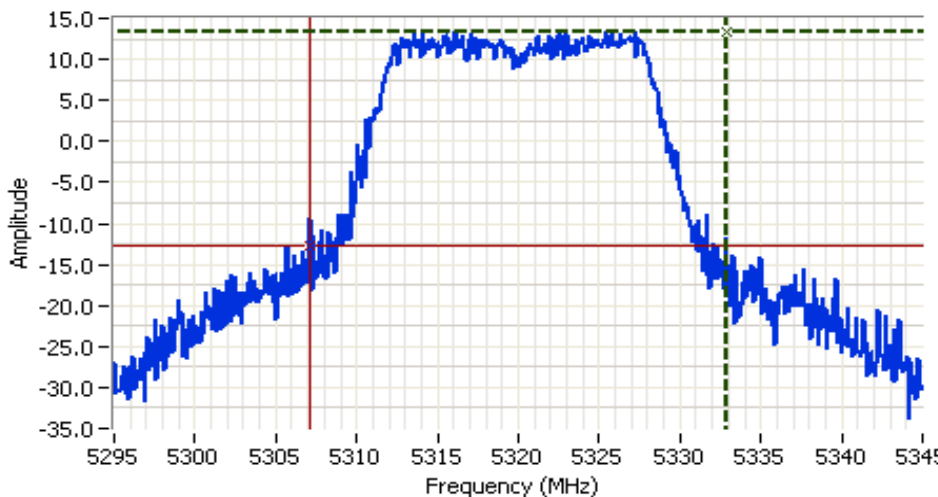
HP8563E
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments

26dB Bandwidth:
 36.75 MHz
 Chain C, Legacy

Cursor 1	5298.0000	14.83	
Cursor 2	5261.2500	-11.17	

Delta Freq. 36.75
 Delta Amplitude 26.00



Analyzer Settings

HP8563E
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments

26dB Bandwidth:
 25.67 MHz
 Chain C, Legacy

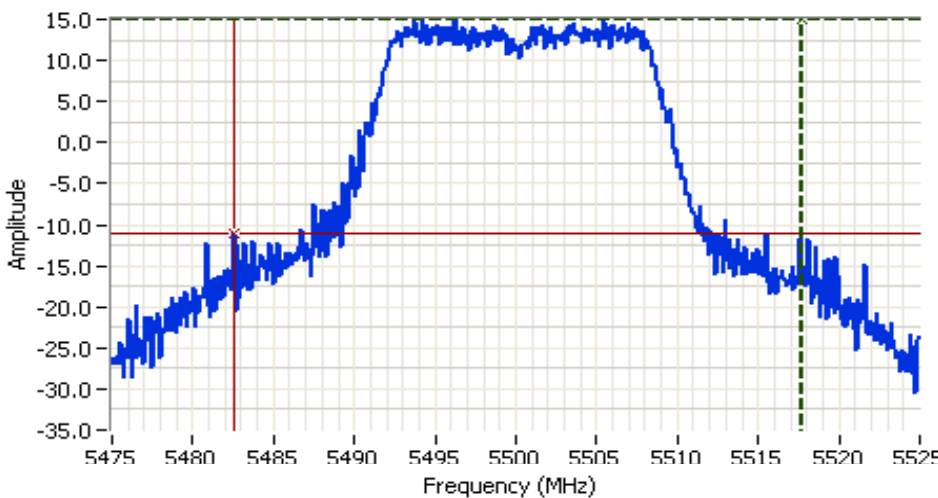
Cursor 1	5332.8333	13.33	
Cursor 2	5307.1667	-12.67	

Delta Freq. 25.67
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8563E
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

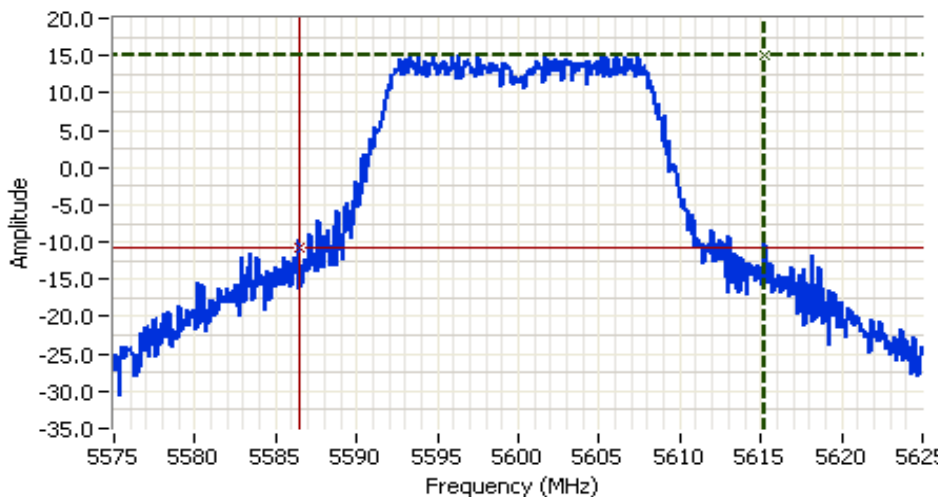
Comments
 26dB Bandwidth:
 35.08 MHz
 Chain C, Legacy

Cursor 1 5517.6667 15.00

Cursor 2 5482.5833 -11.00

Delta Freq. 35.08

Delta Amplitude 26.00



Analyzer Settings
 HP8563E
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:20.00DBM

Comments
 26dB Bandwidth:
 28.83 MHz
 Chain C, Legacy

Cursor 1 5615.2500 15.17

Cursor 2 5586.4167 -10.83

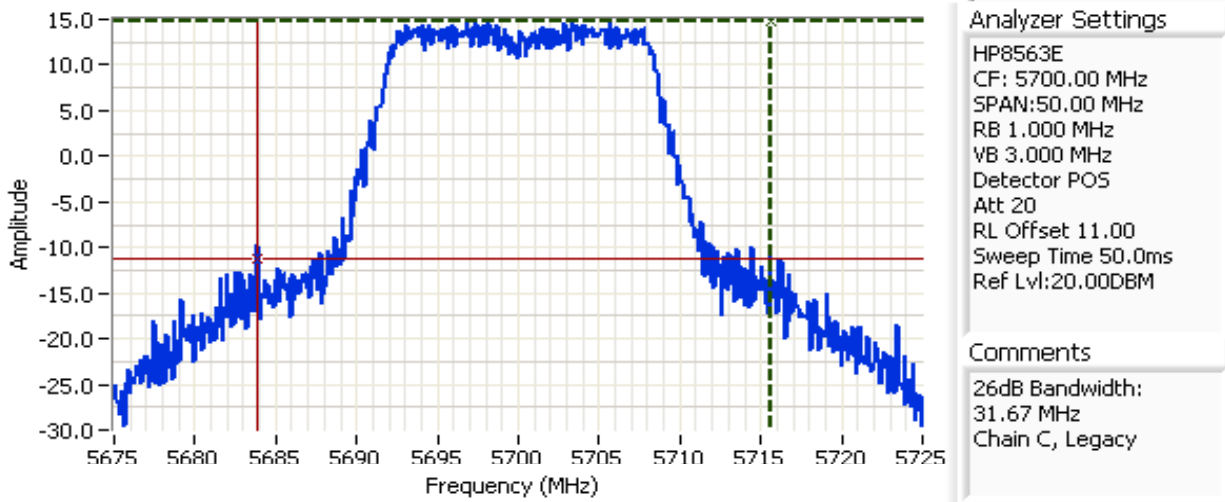
Delta Freq. 28.83

Delta Amplitude 26.00



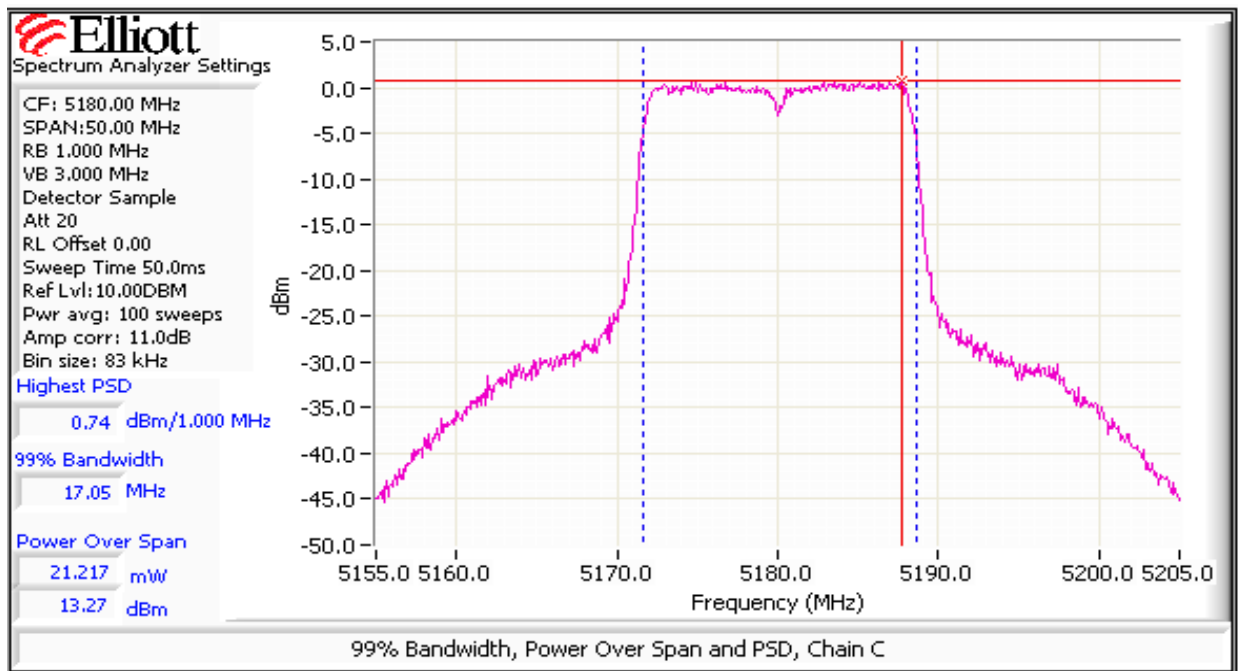
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



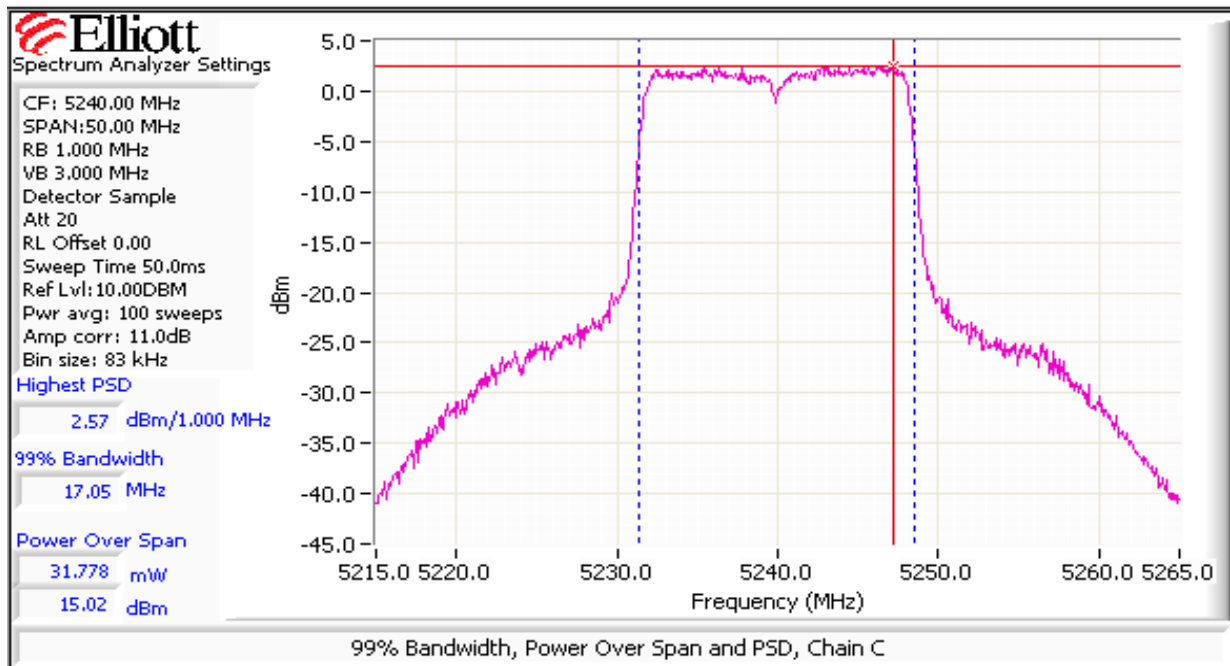
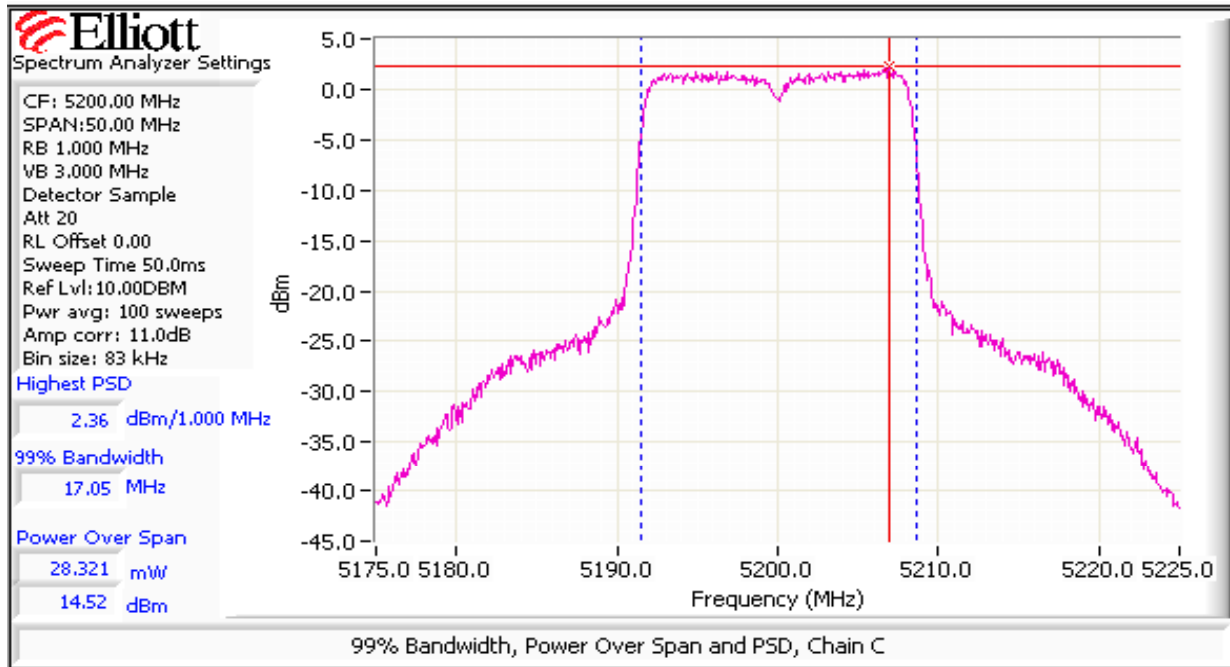
Cursor 1 5715.5833 14.83 Delta Freq. 31.67

Cursor 2 5683.9167 -11.17 Delta Amplitude 26.00



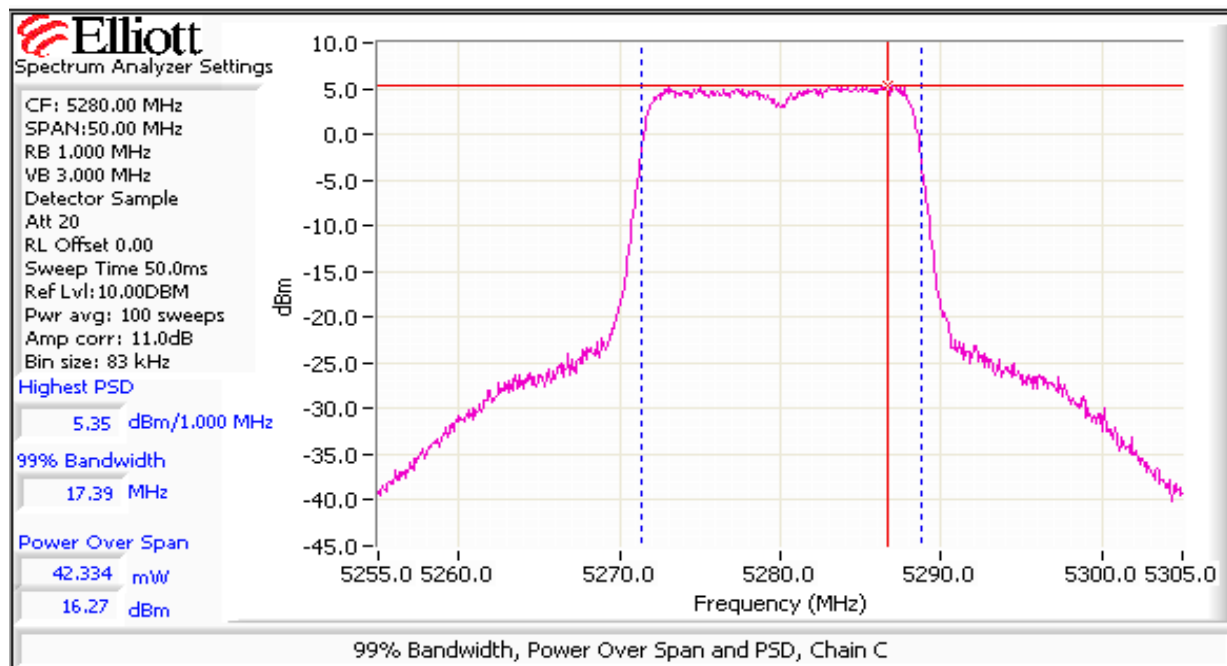
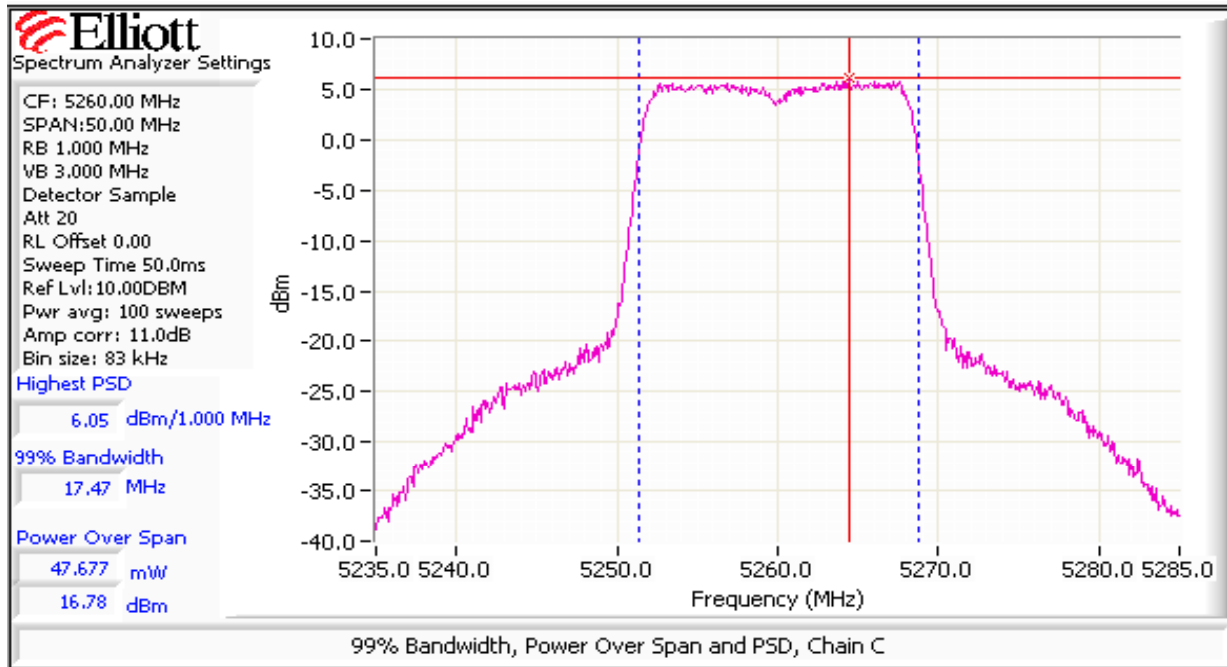
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



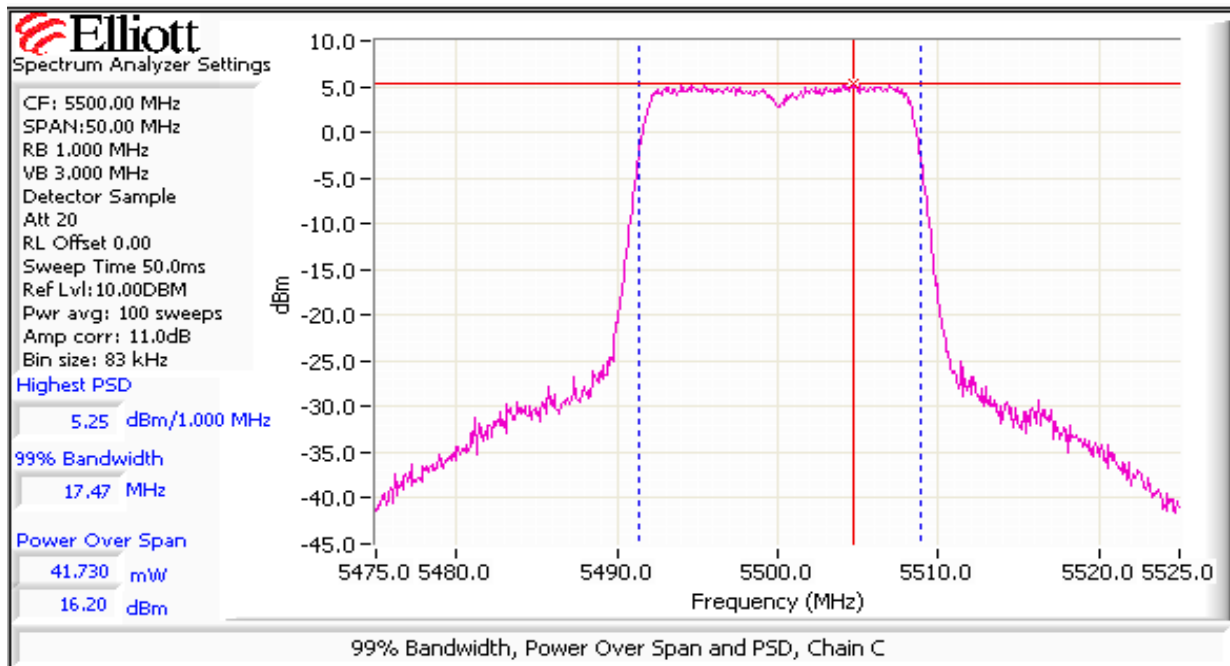
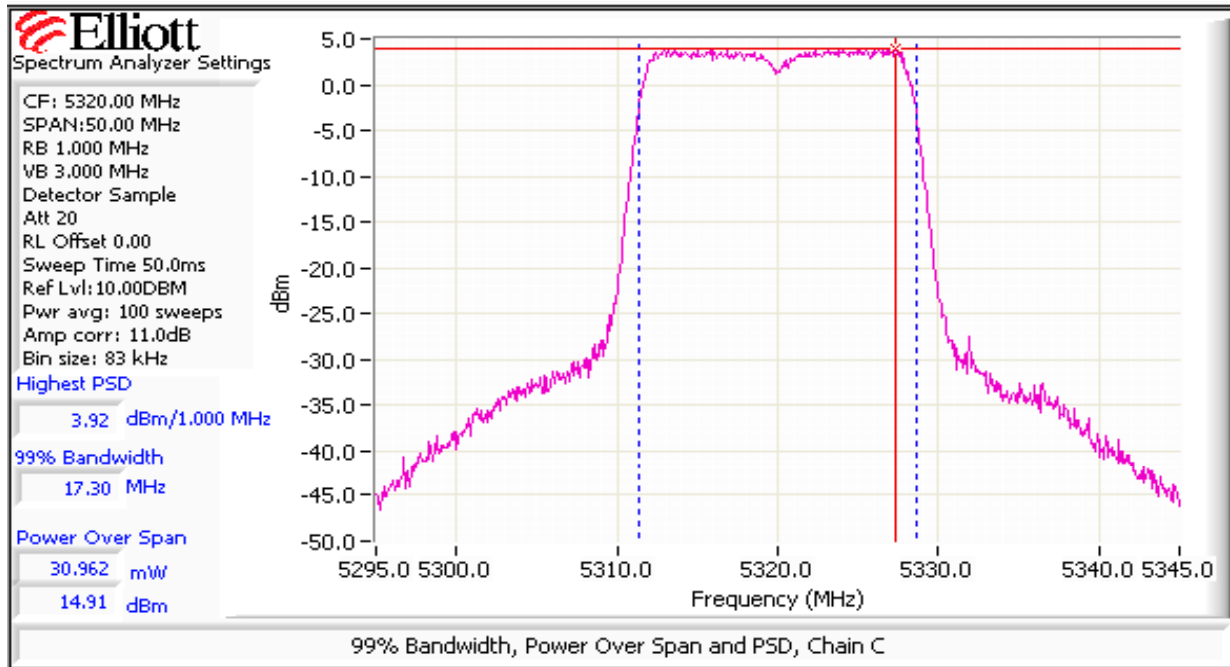
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



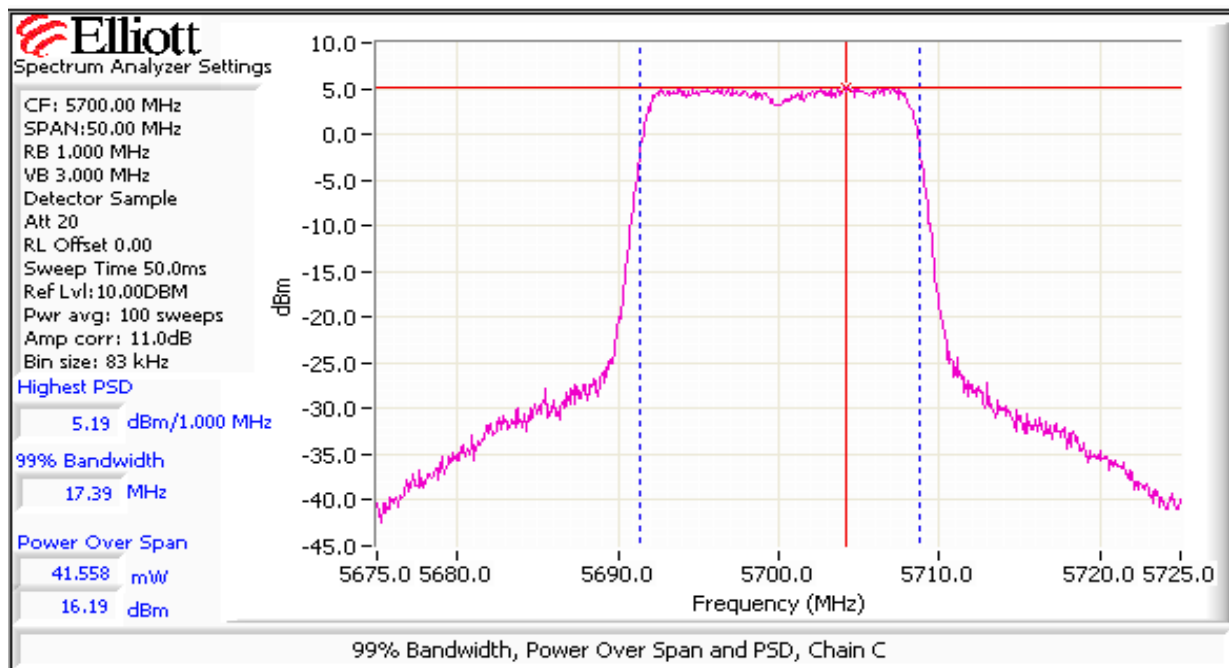
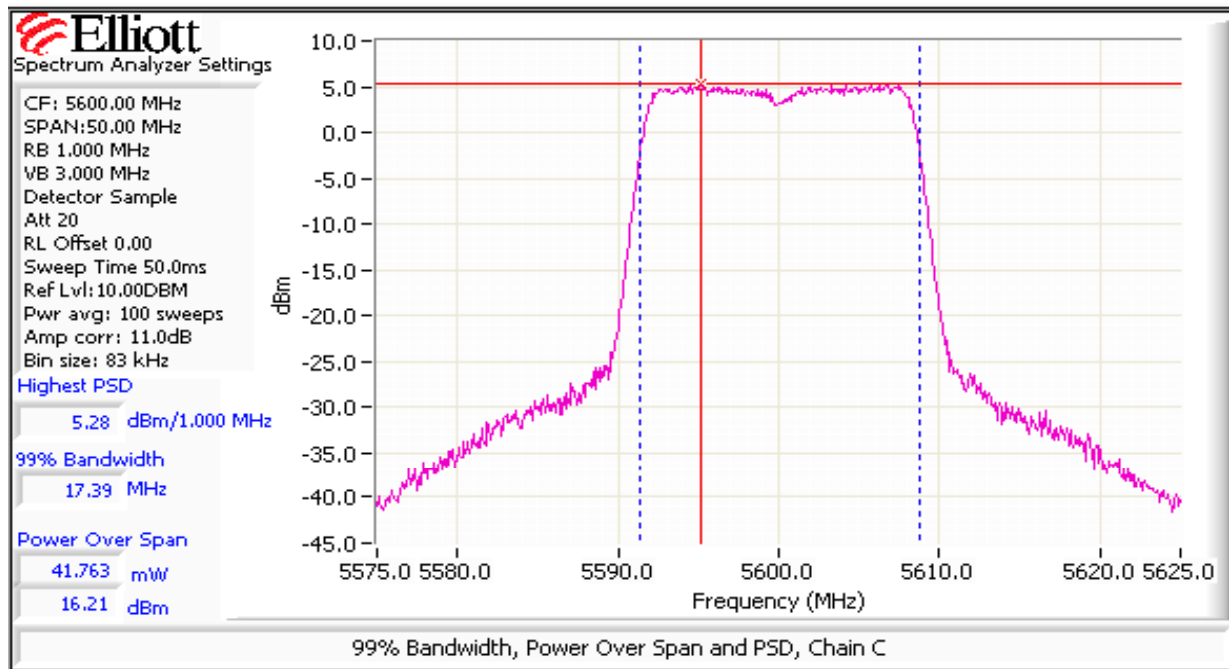
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)		
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.4	13.0	5260	10.1	13.0	5500	10.9	13.0
5200	10.2	13.0	5280	10.6	13.0	5600	10.3	13.0
5240	10.1	13.0	5320	10.3	13.0	5700	10.9	13.0

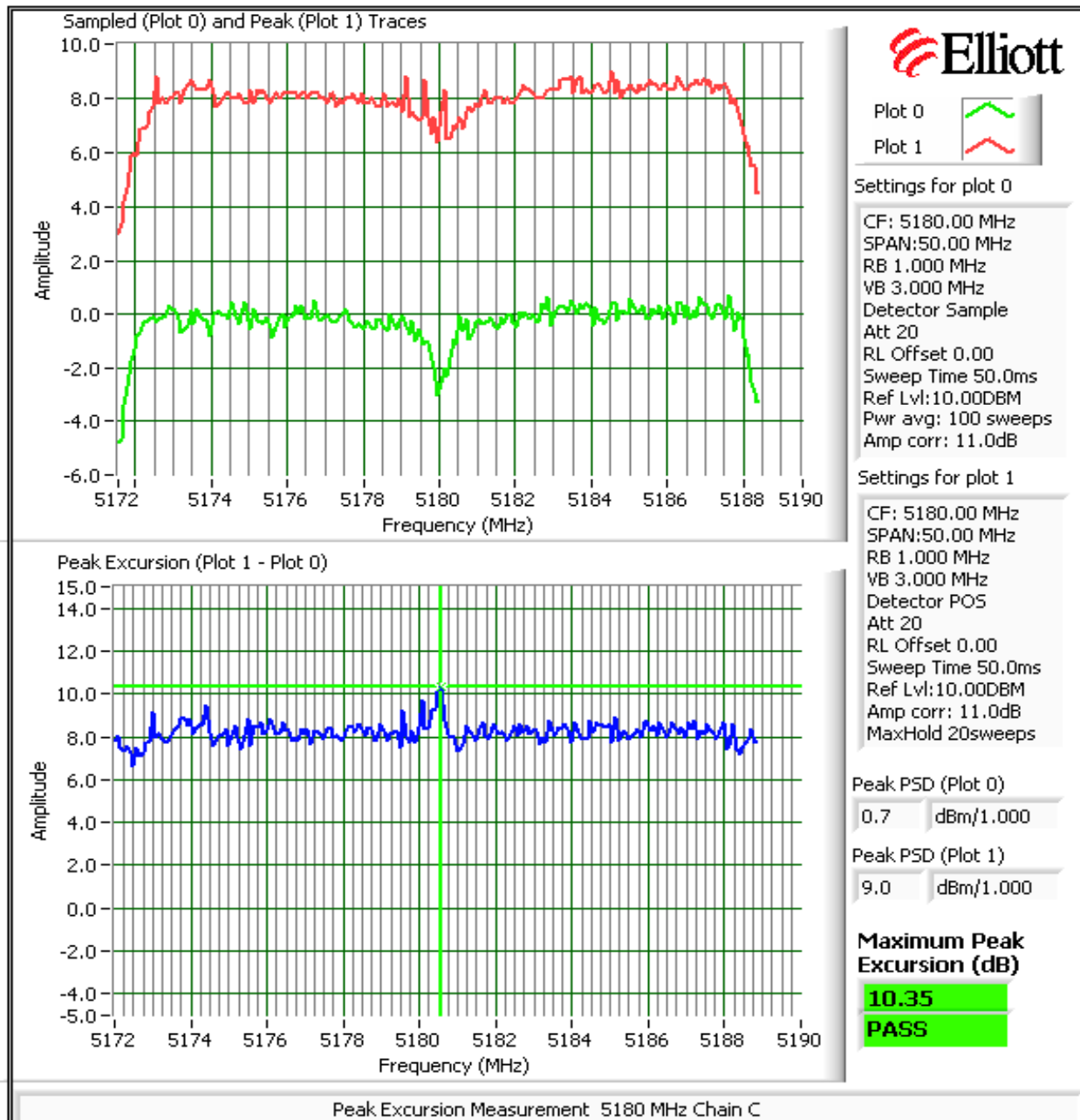
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

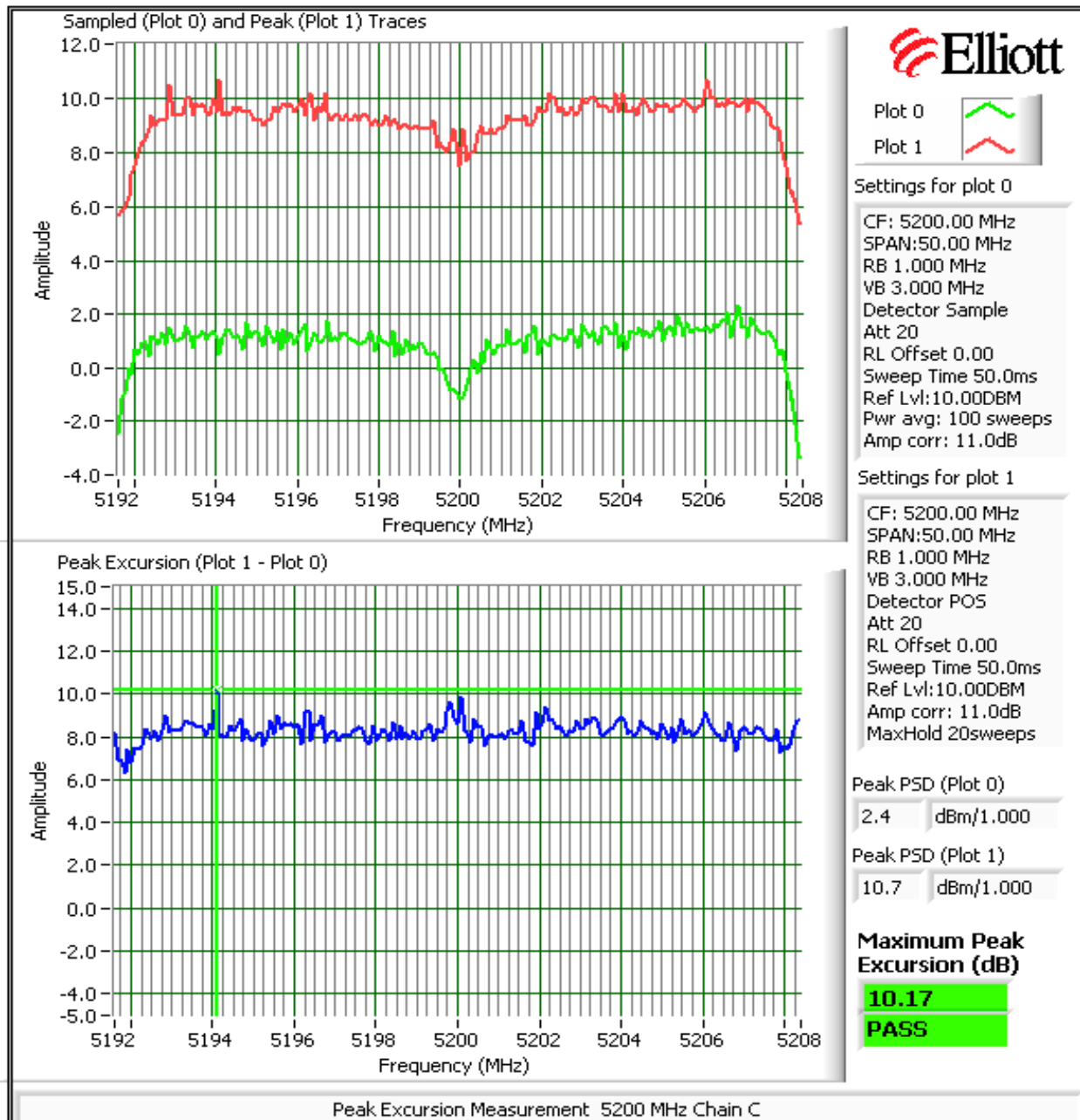
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



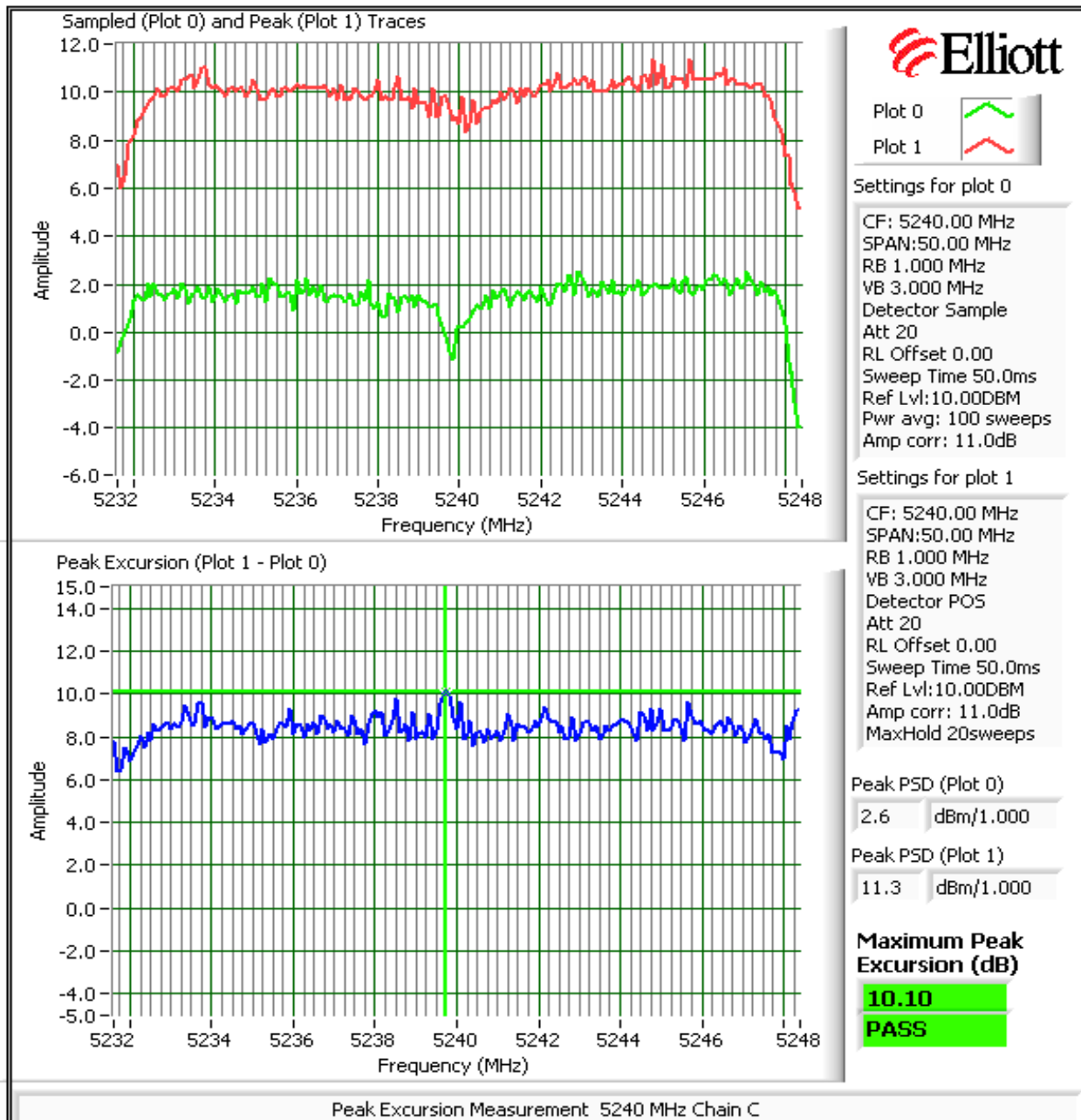
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Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



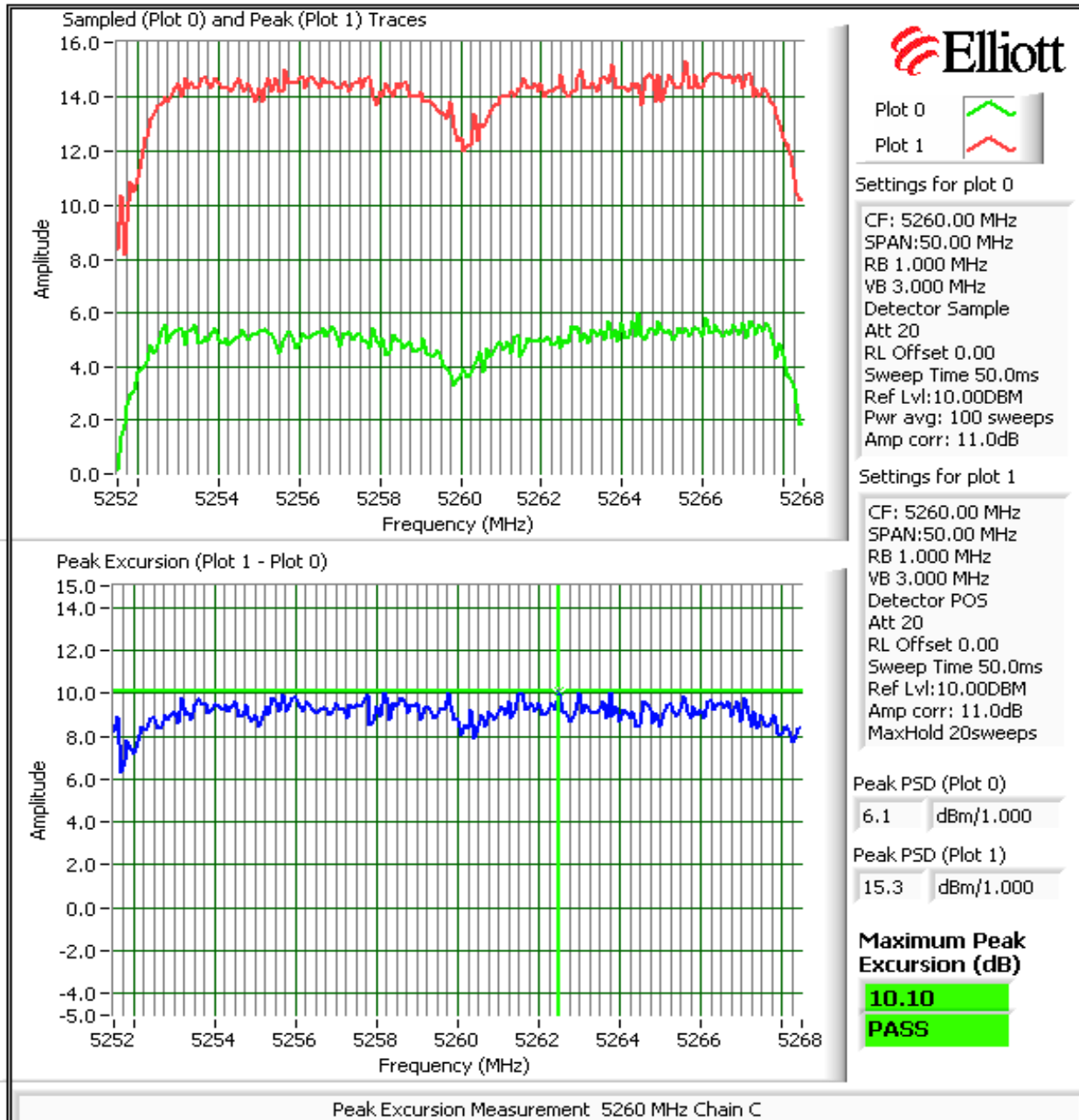
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



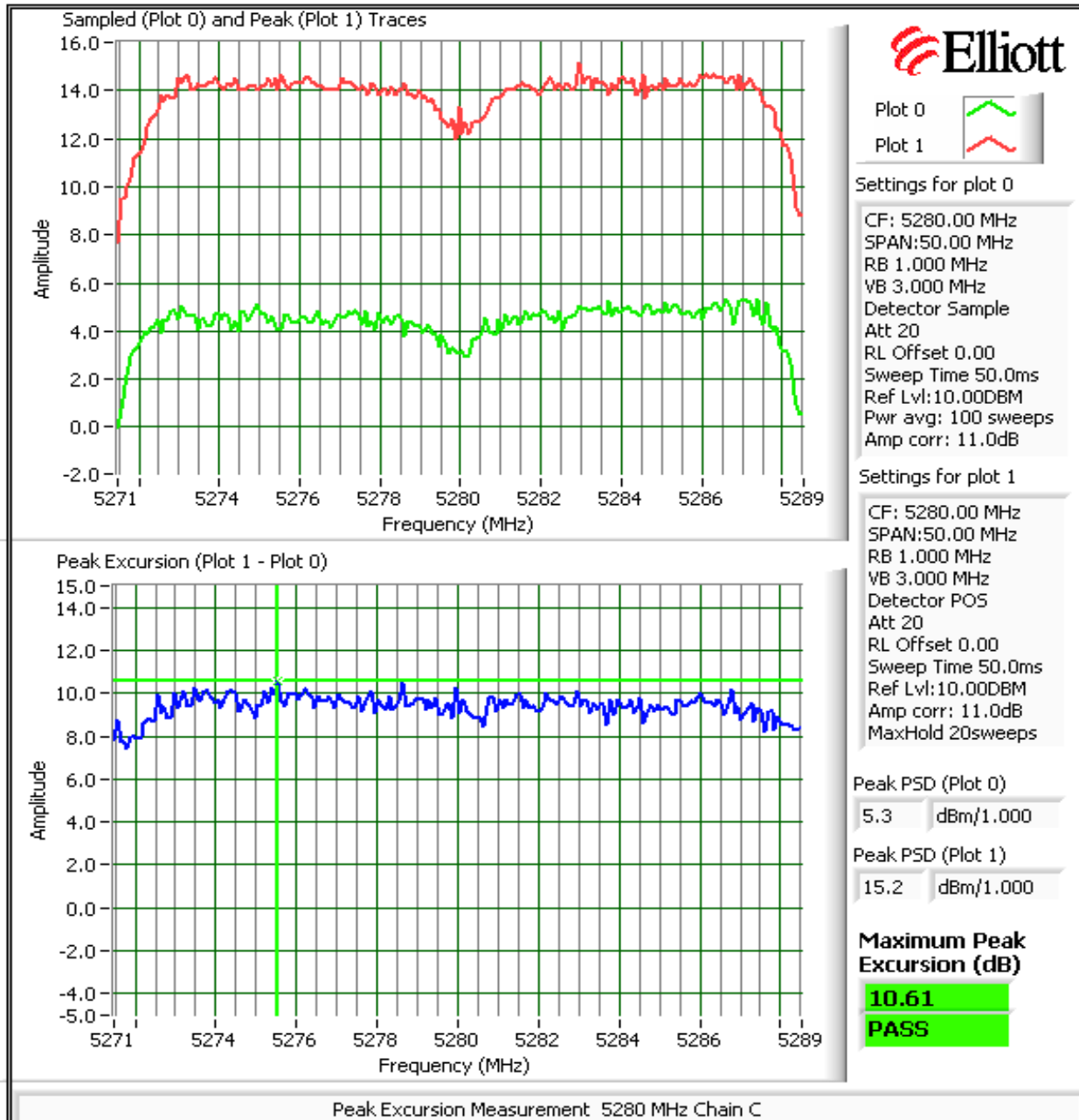
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



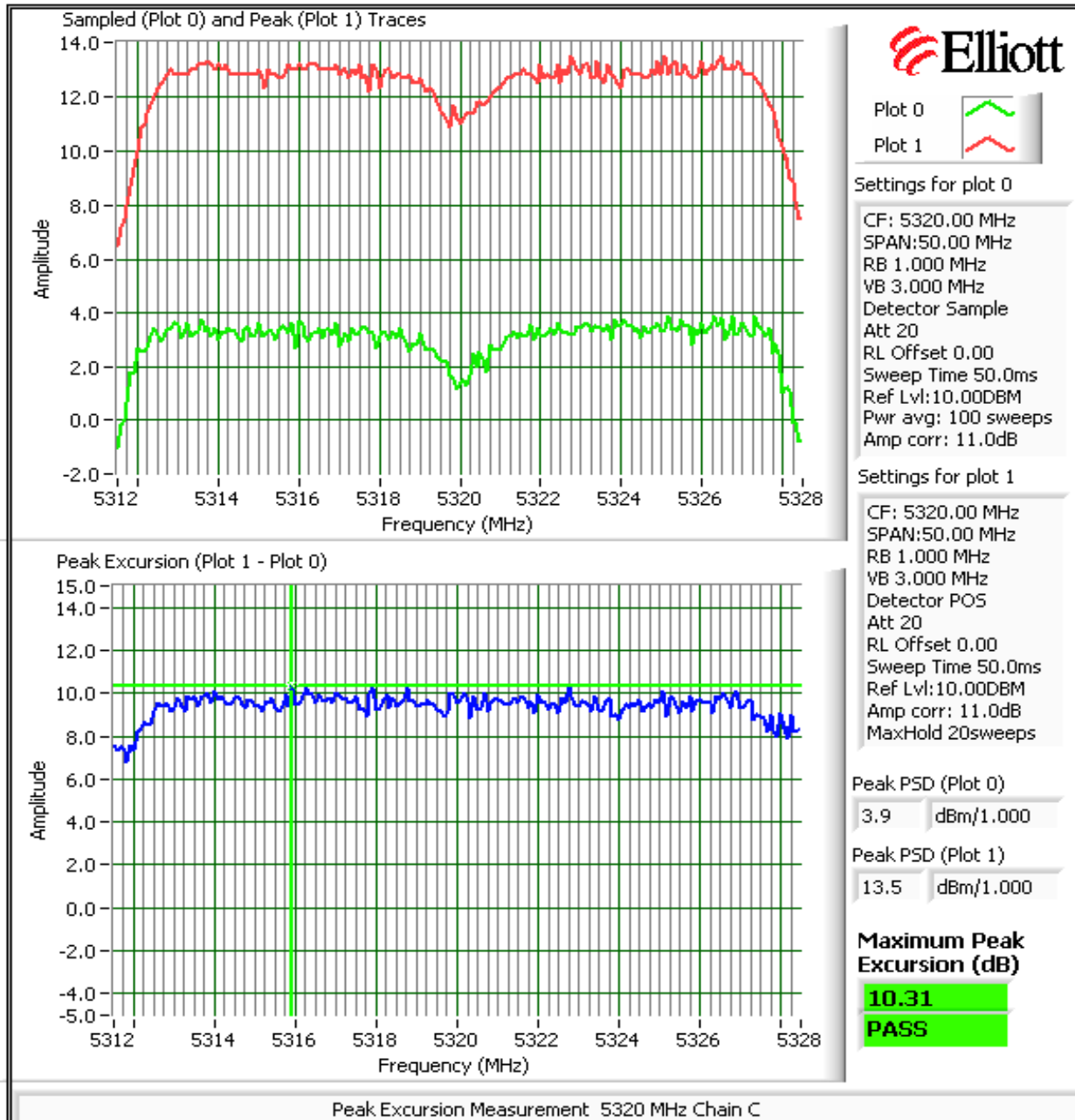
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Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



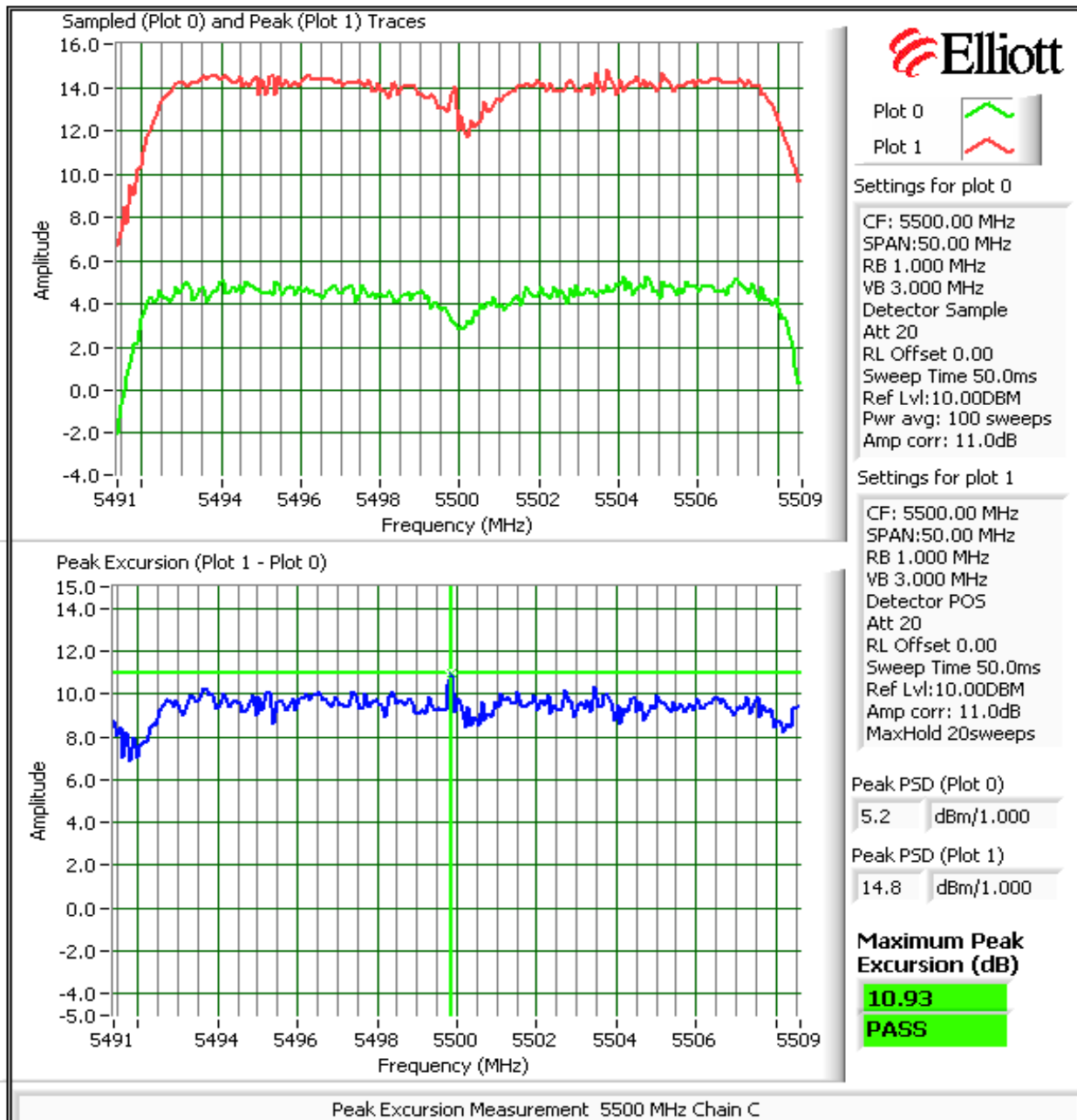
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Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



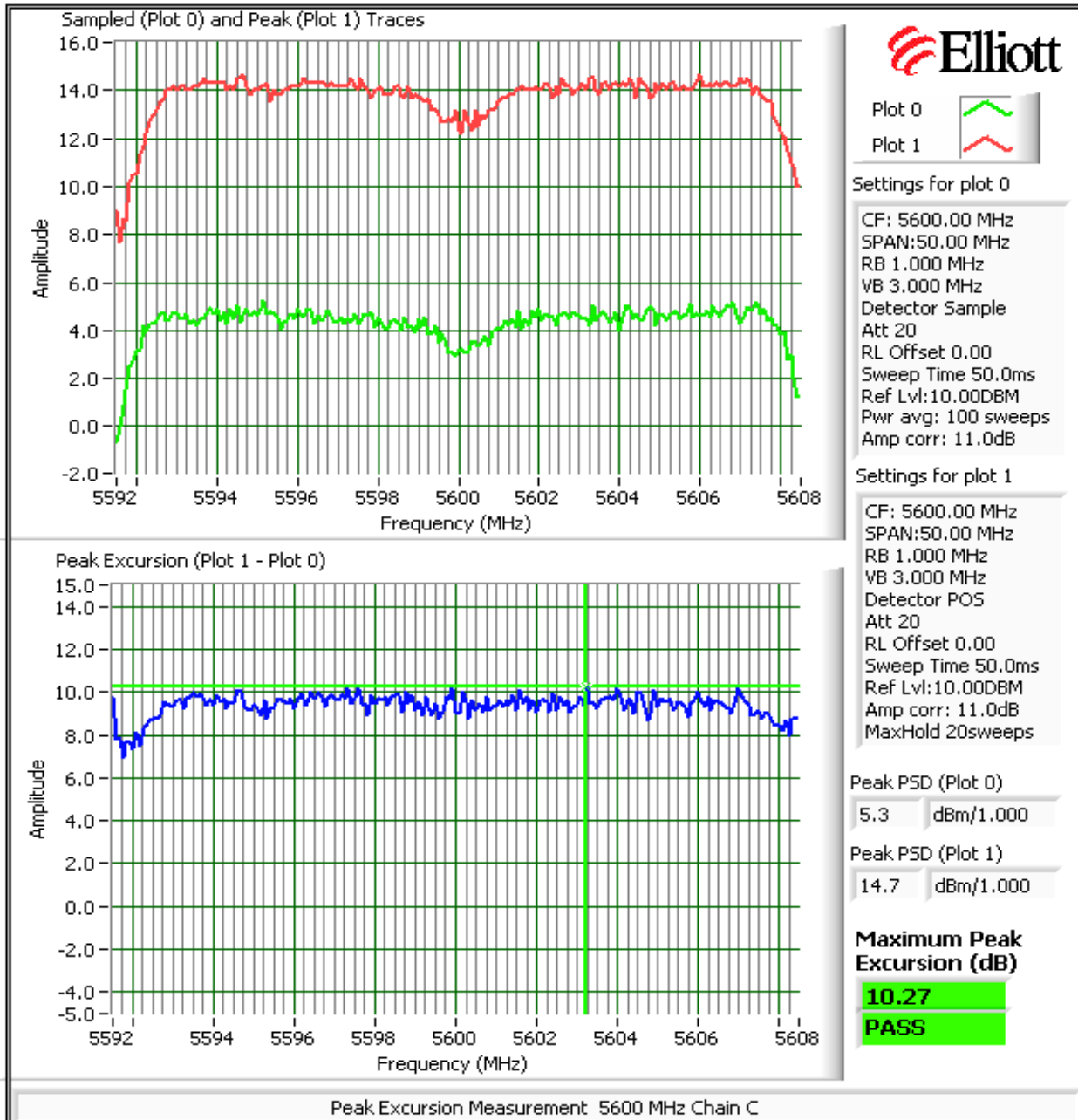
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



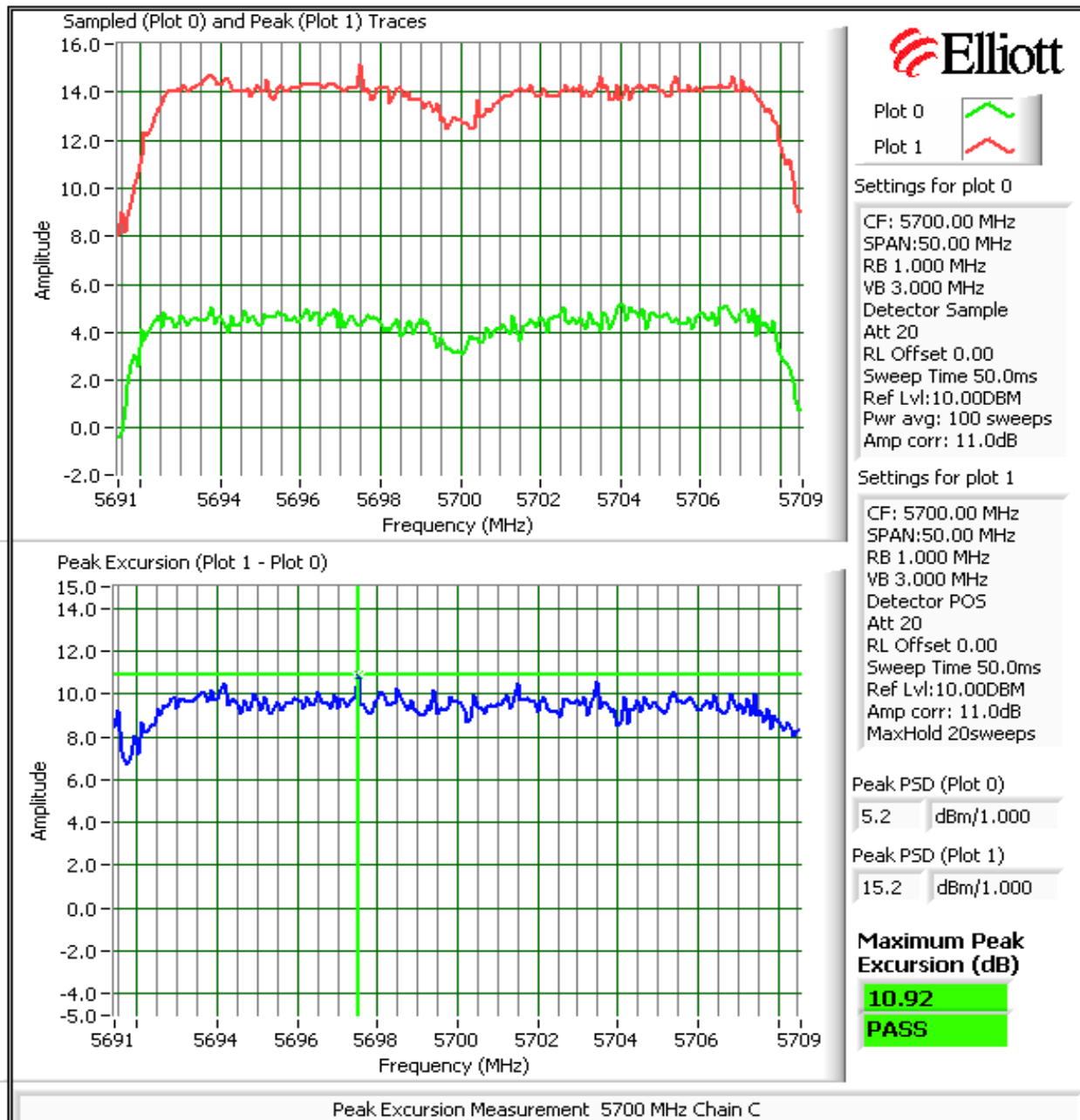
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements
Spurious Emissions - MIMO Modes (802.11a legacy mode)

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/15/2008	Config. Used: 1
Test Engineer: Suhaila Khushzad	Config Change: None
Test Location: FT Lab # 1	EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature:	18	°C
Rel. Humidity:	35	%

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Antenna Conducted - Out of Band Spurious, 802.11a legacy	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

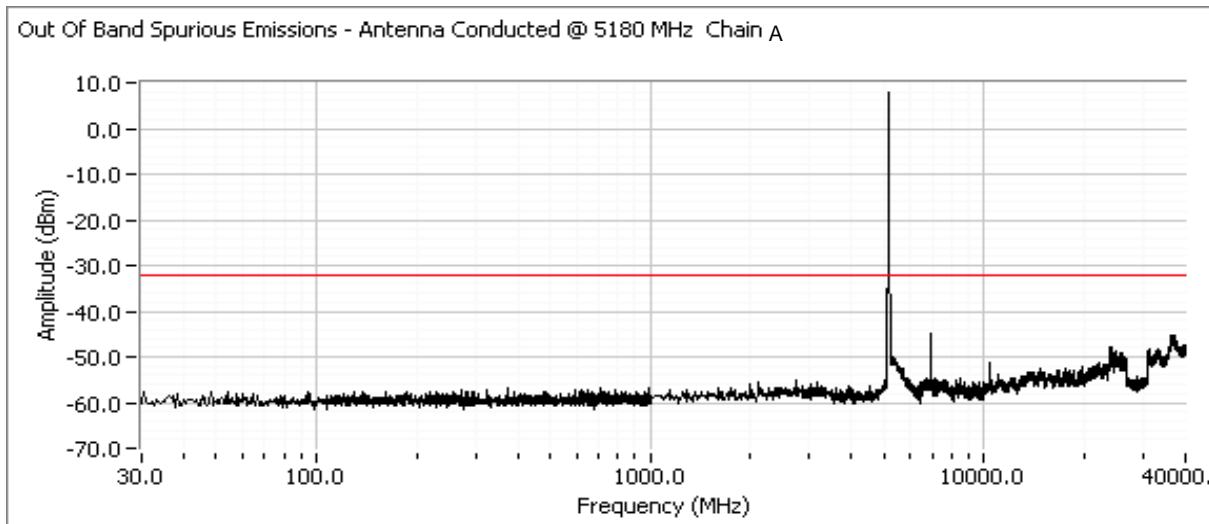
Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

The limit of -27dBm has been corrected to account for the gain of the antenna.

Maximum Antenna Gain: 5.0 dBi
 Spurious Limit: -27.0 dBm/MHz eirp
 Limit Used On Plots ^{Note 1}: -32.0 dBm/MHz

- Note 1: The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain). Radiated field strength measurements for signals more than 50MHz from the bands that are close to the limit are made to determine compliance as the antenna gain is not known at these frequencies.
- Note 2: All spurious signals below 1GHz are measured during digital device radiated emissions test.
- Note 3: Signals that fall in the restricted bands of 15.205 are subject to the limit of 15.209.

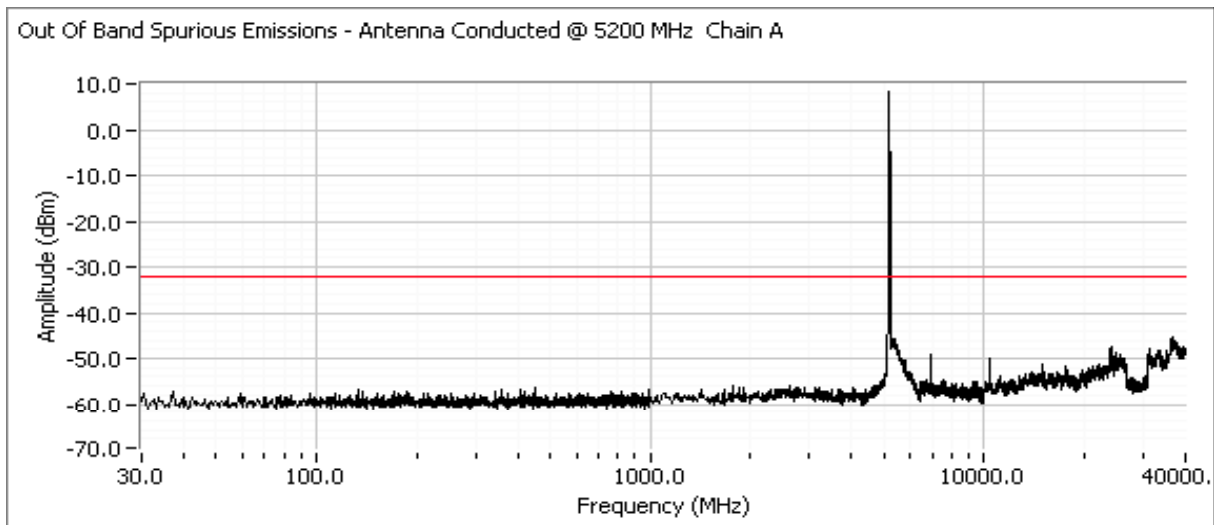
Low Channel, Chain A, 5180 MHz



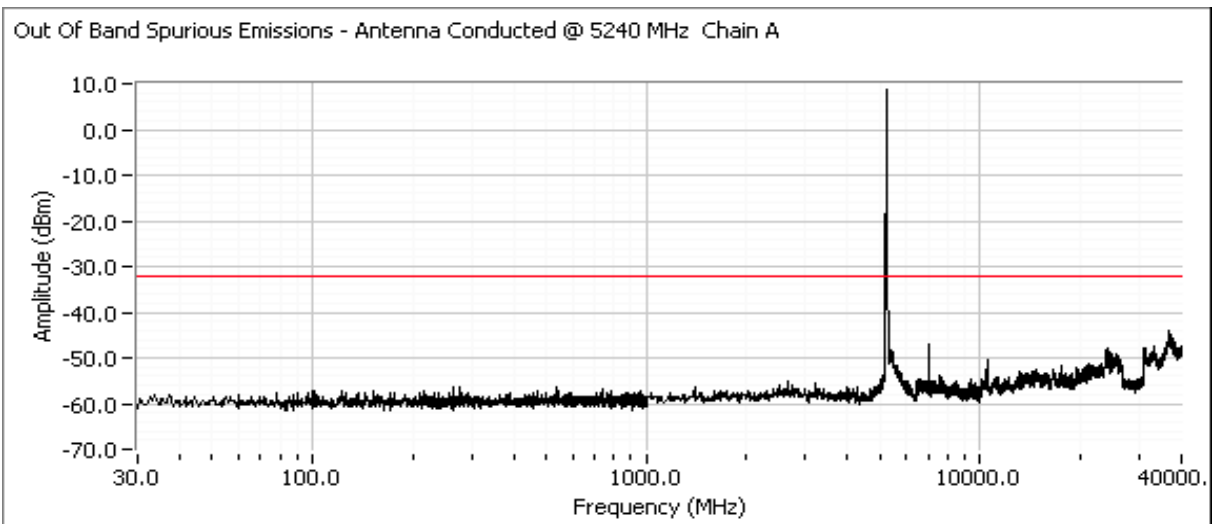
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain A, 5200 MHz



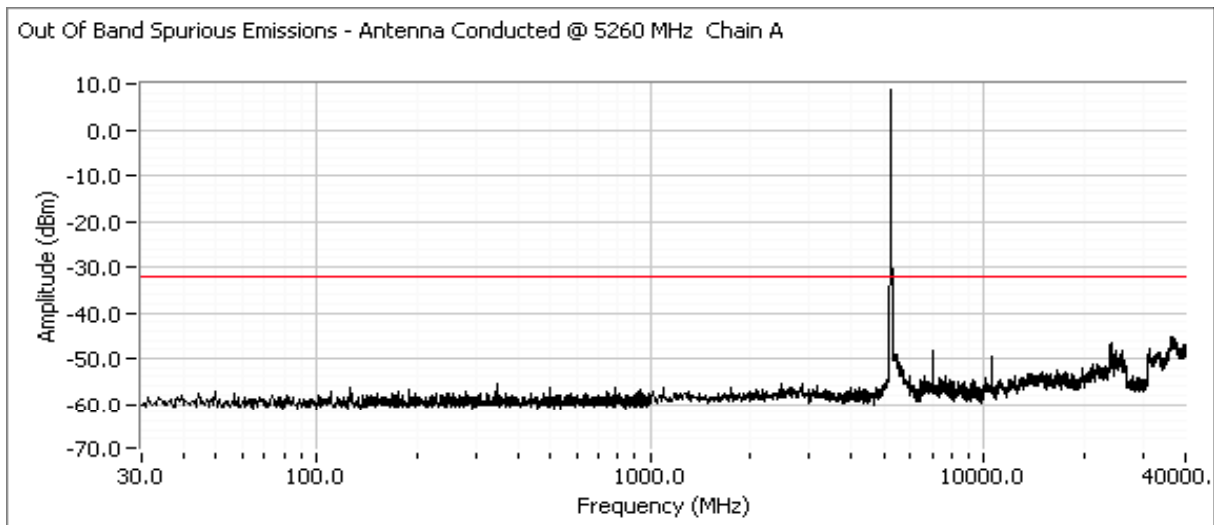
High Channel, Chain A, 5240 MHz



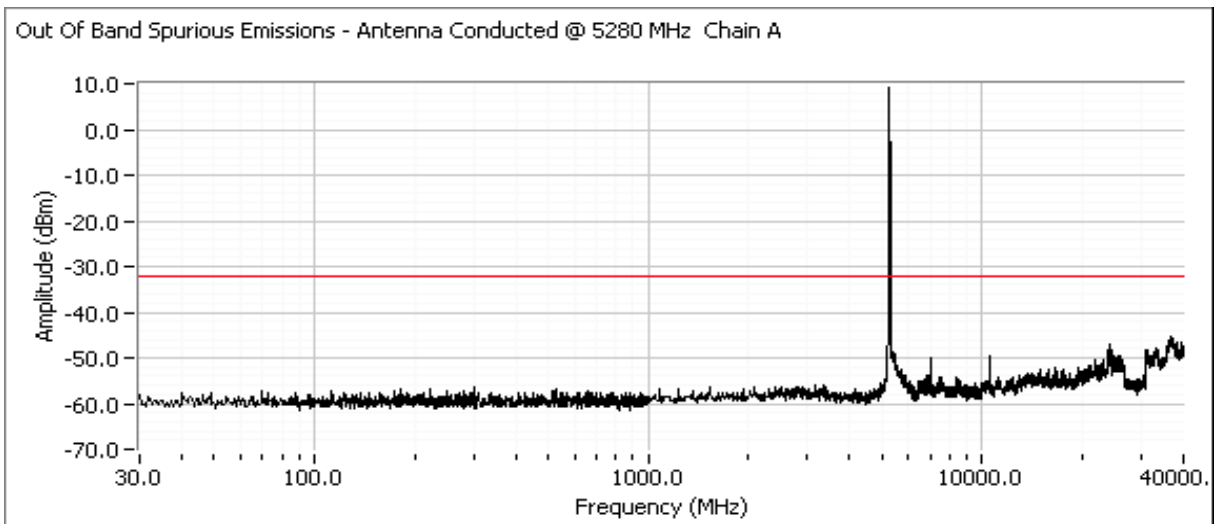
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain A, 5260 MHz



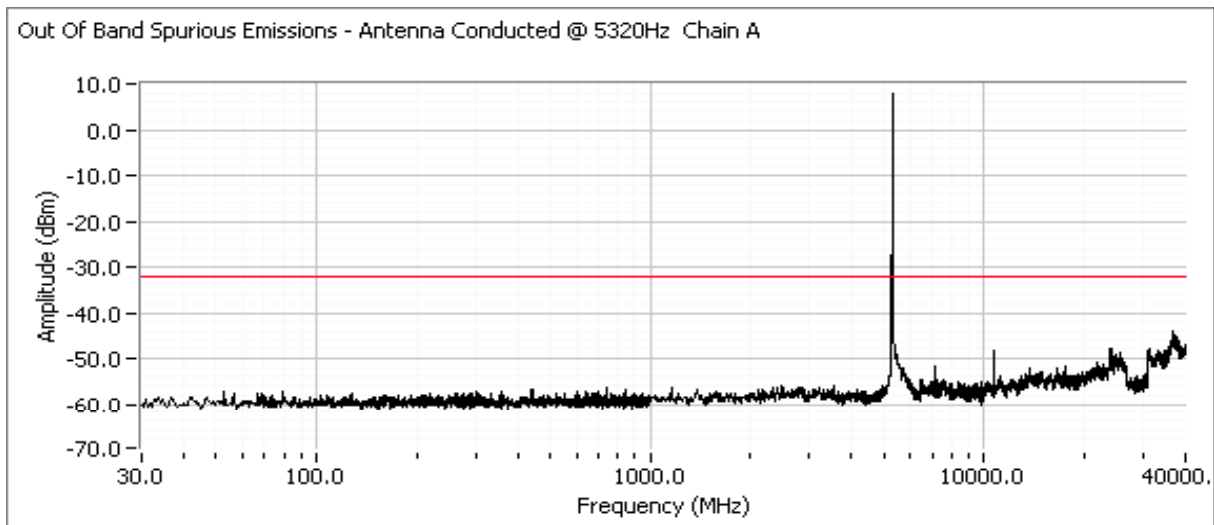
Center Channel, Chain A, 5280 MHz



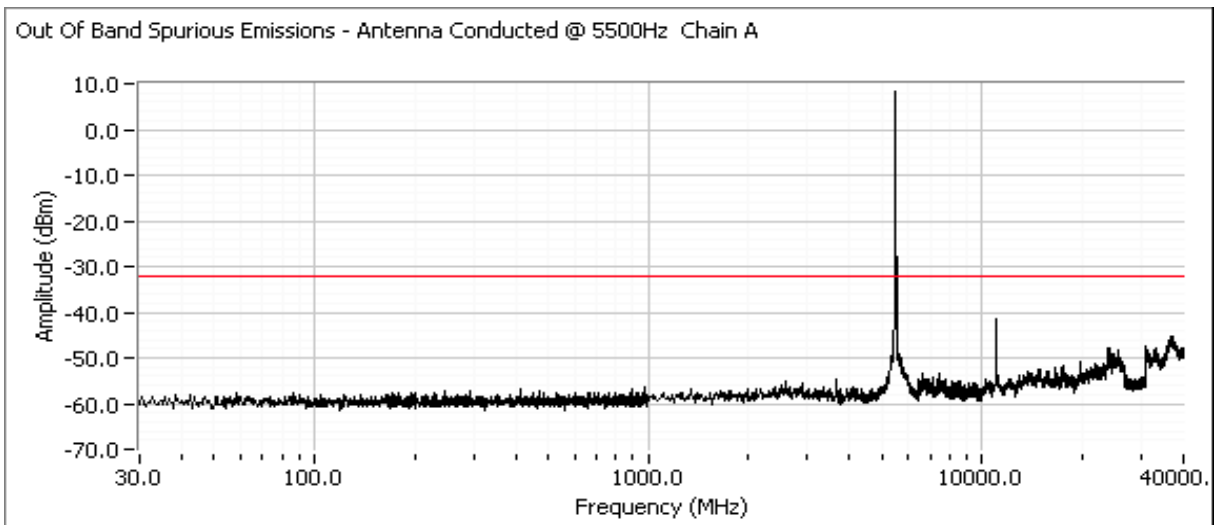
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain A, 5320 MHz



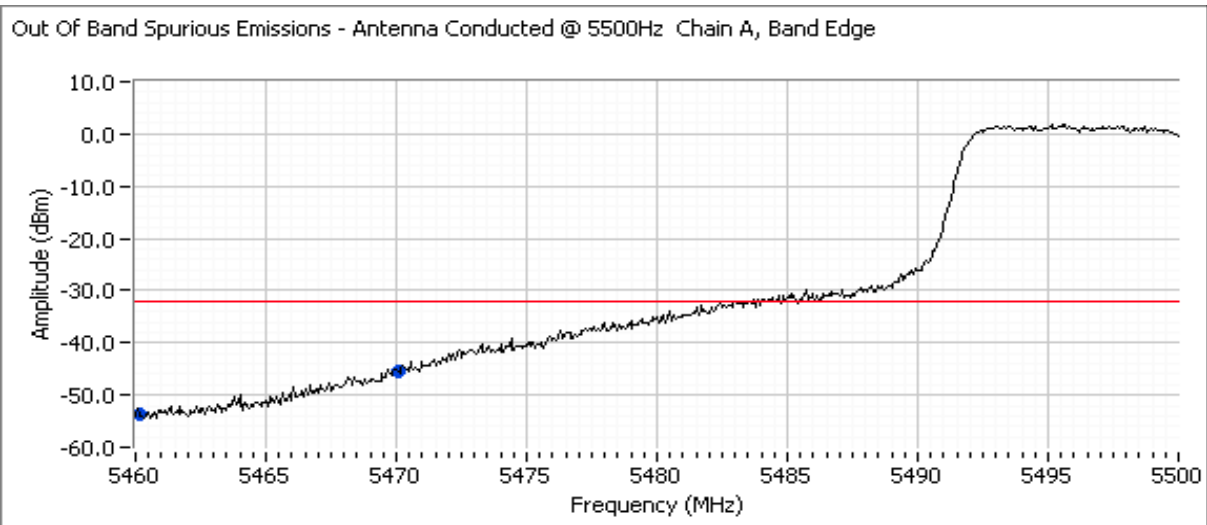
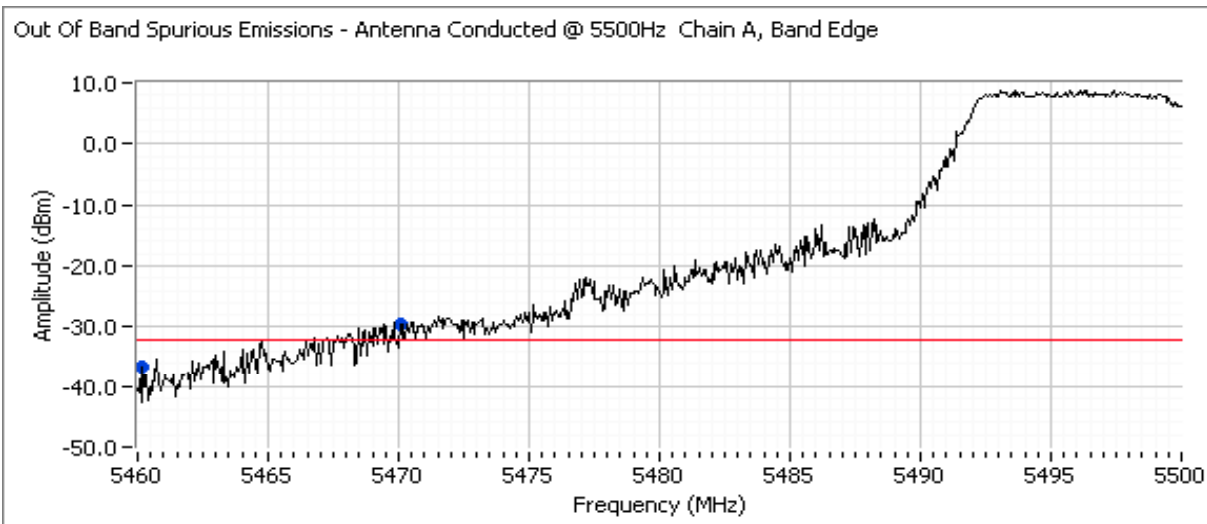
Low Channel, Chain A, 5500 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain A, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.

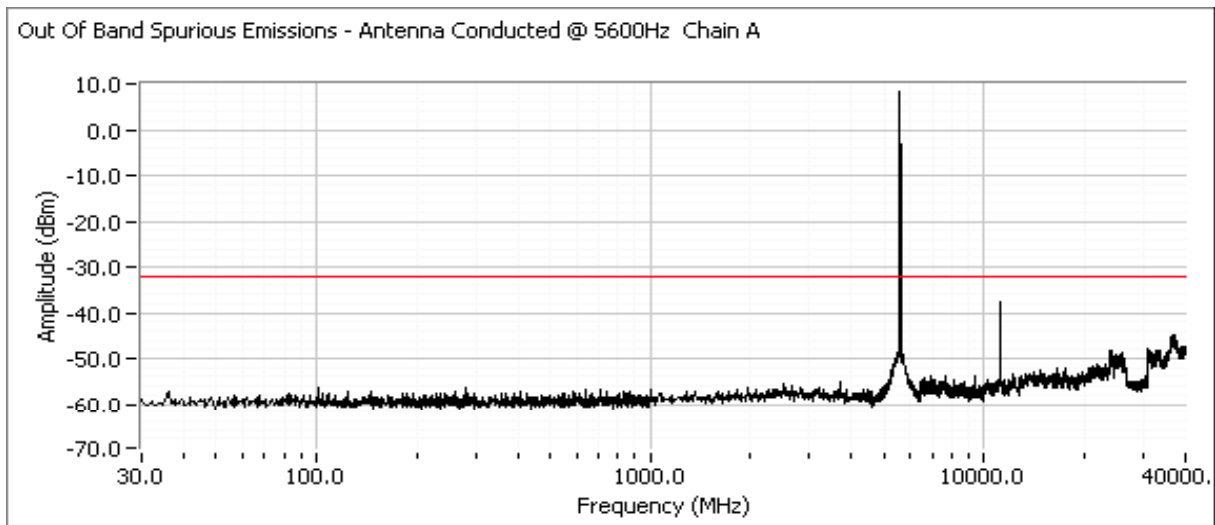


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
5470.070	-29.7	-	-12.0	-17.7	Peak			
5470.070	-45.5	-	-32.0	-13.5	Avg			
5460.130	-36.5	-	-32.0	-4.5	Peak			
5460.130	-53.5	-	-32.0	-21.5	Avg			

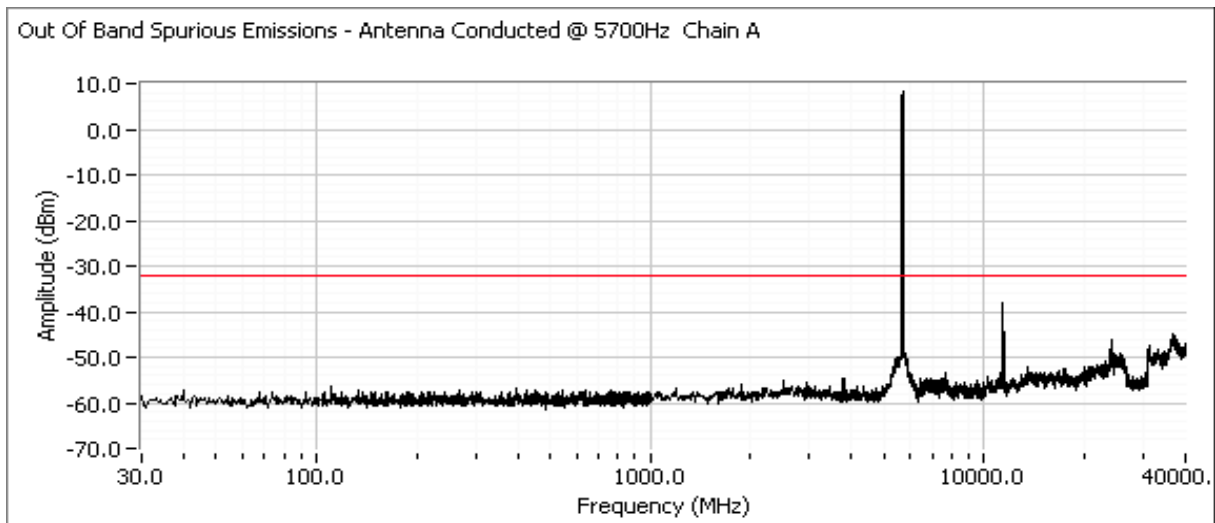
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain A, 5600 MHz



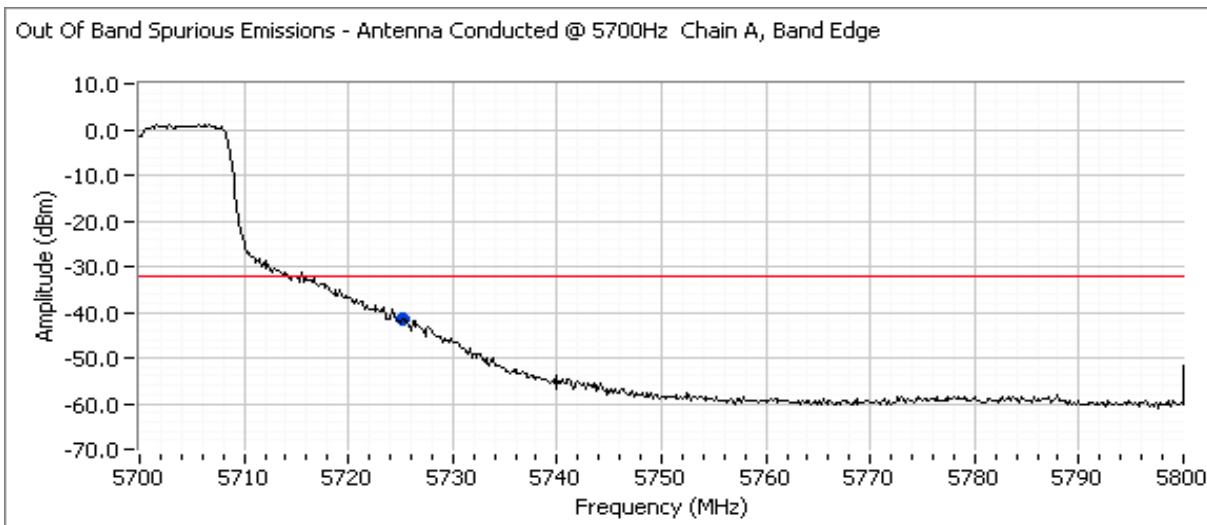
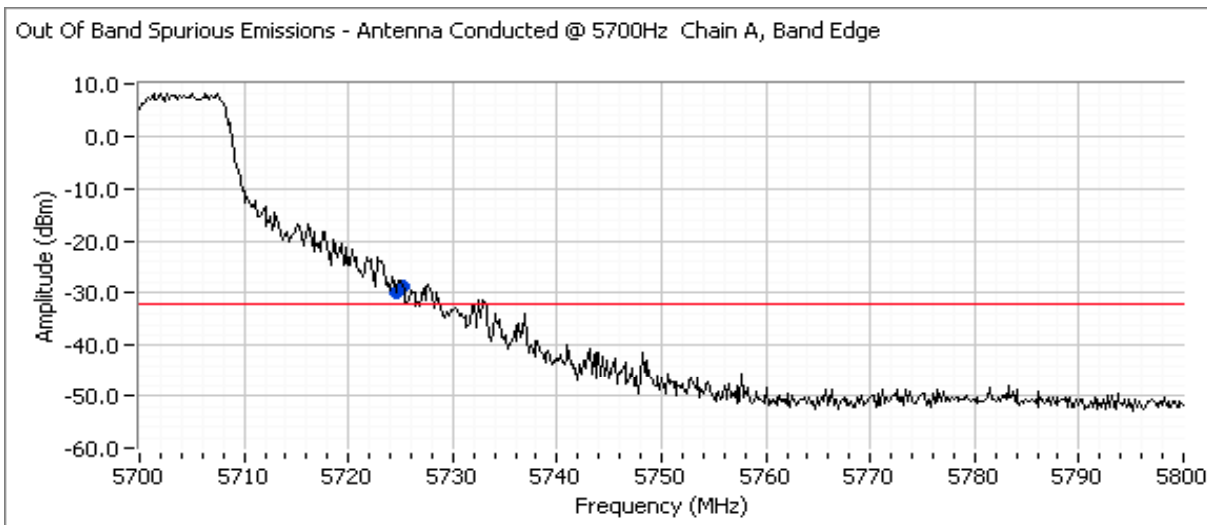
High Channel, Chain A, 5700 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain A, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.

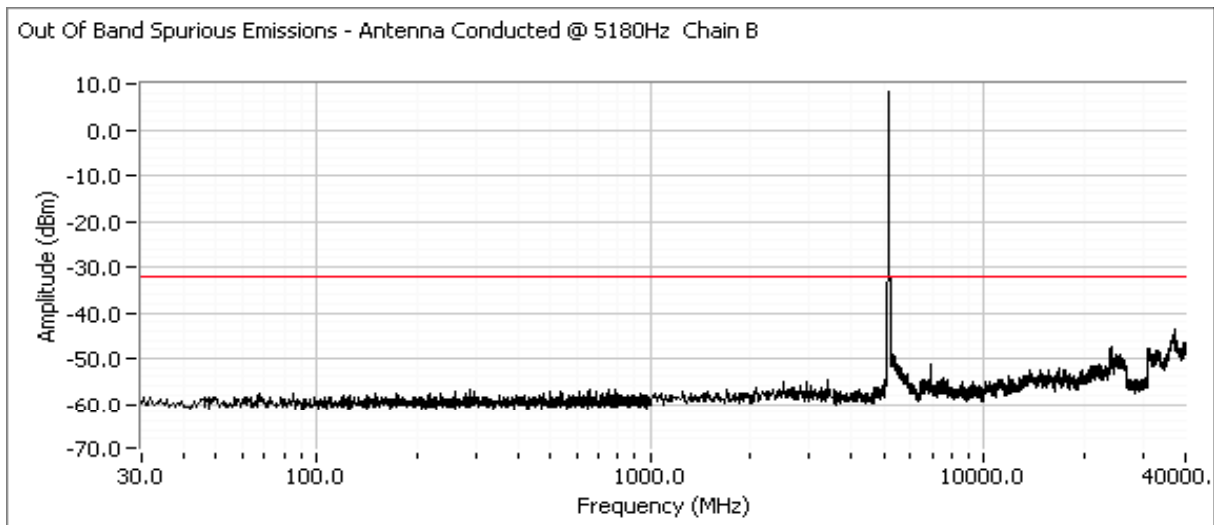


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
5725.170	-28.7	-	-12.0	-16.7	Peak			
5725.170	-41.3	-	-32.0	-9.3	Avg			

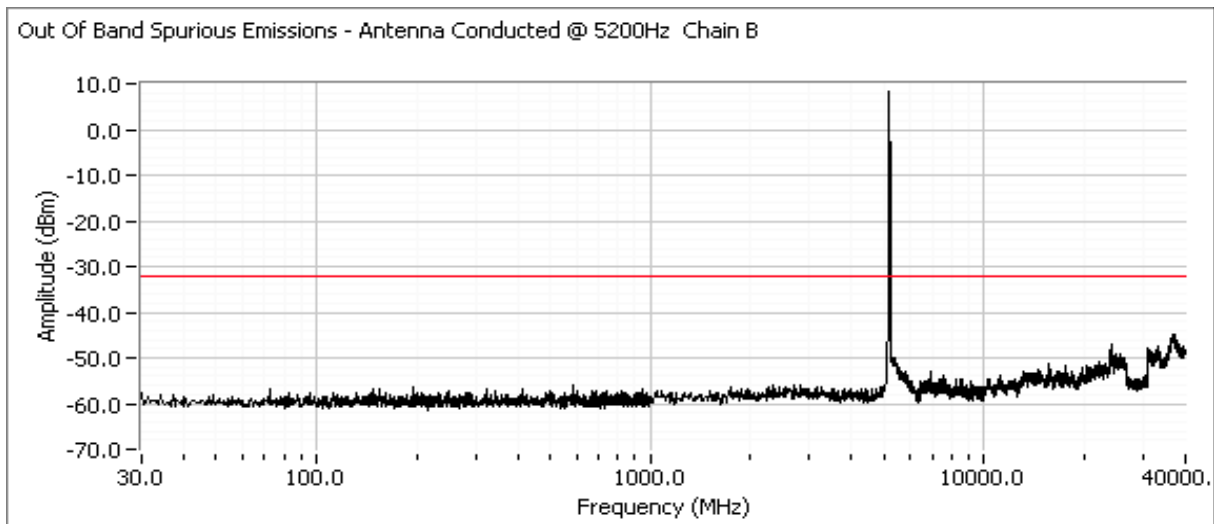
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain B, 5180 MHz



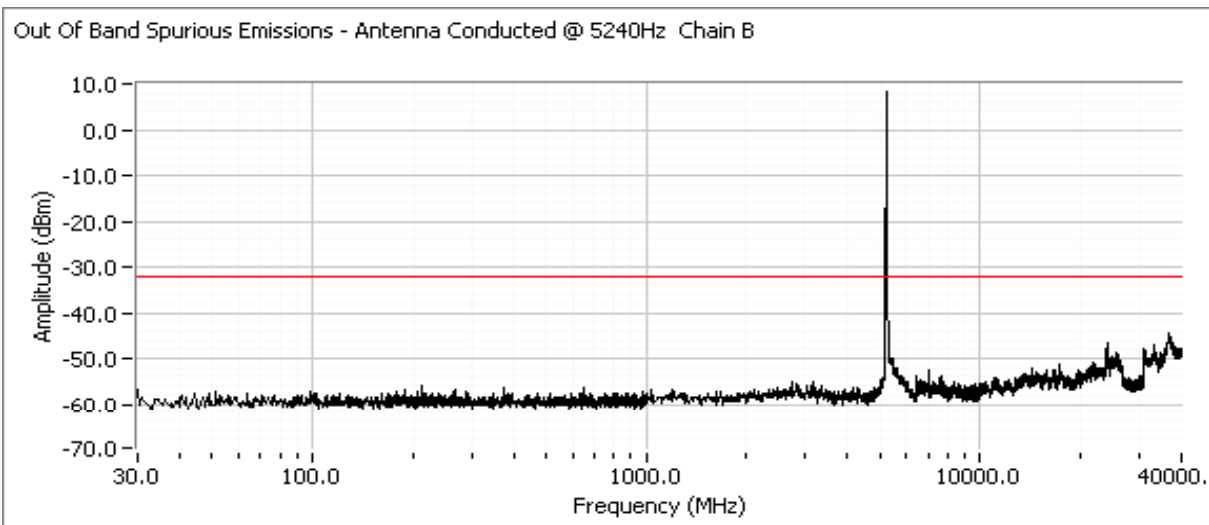
Center Channel, Chain B, 5200 MHz



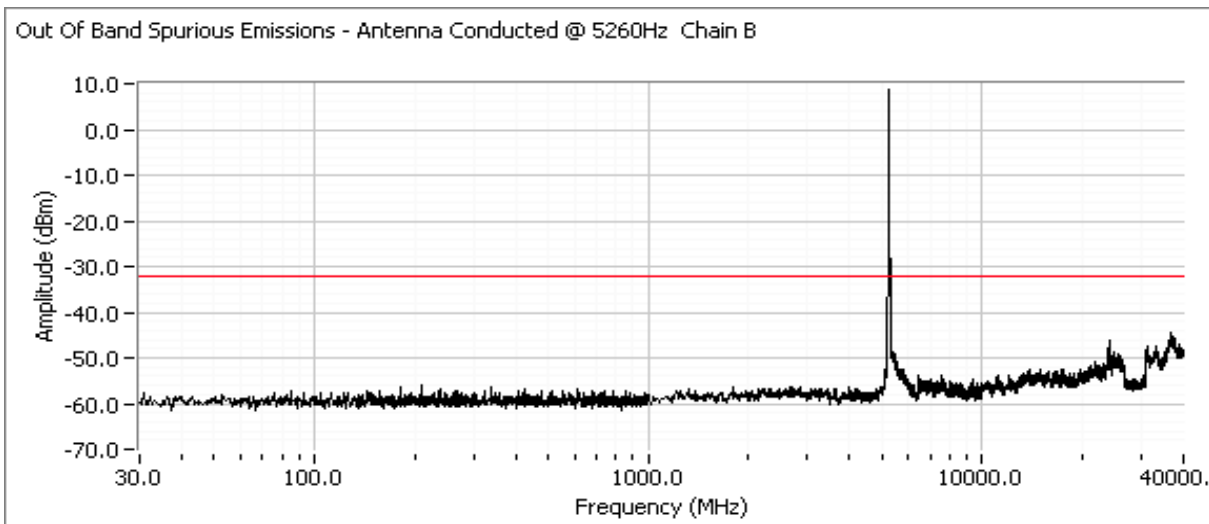
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain B, 5240 MHz



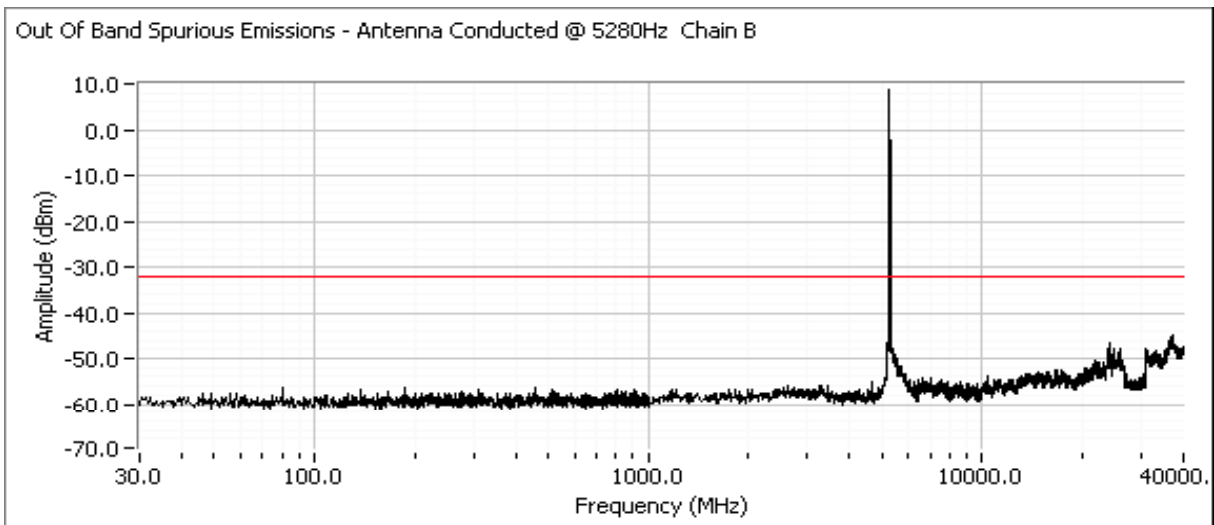
Low Channel, Chain B, 5260 MHz



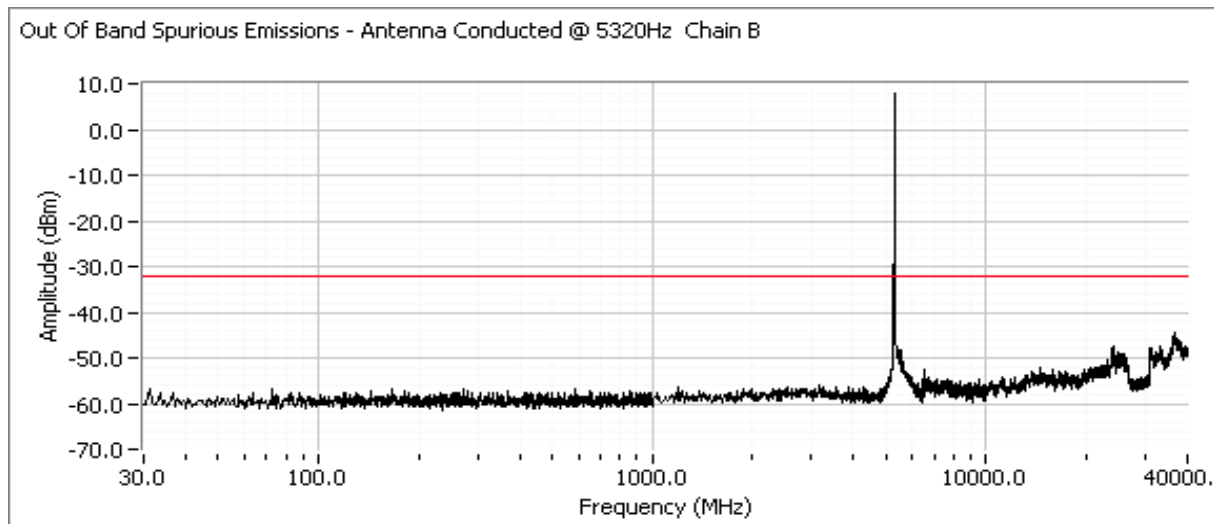
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain B, 5280 MHz



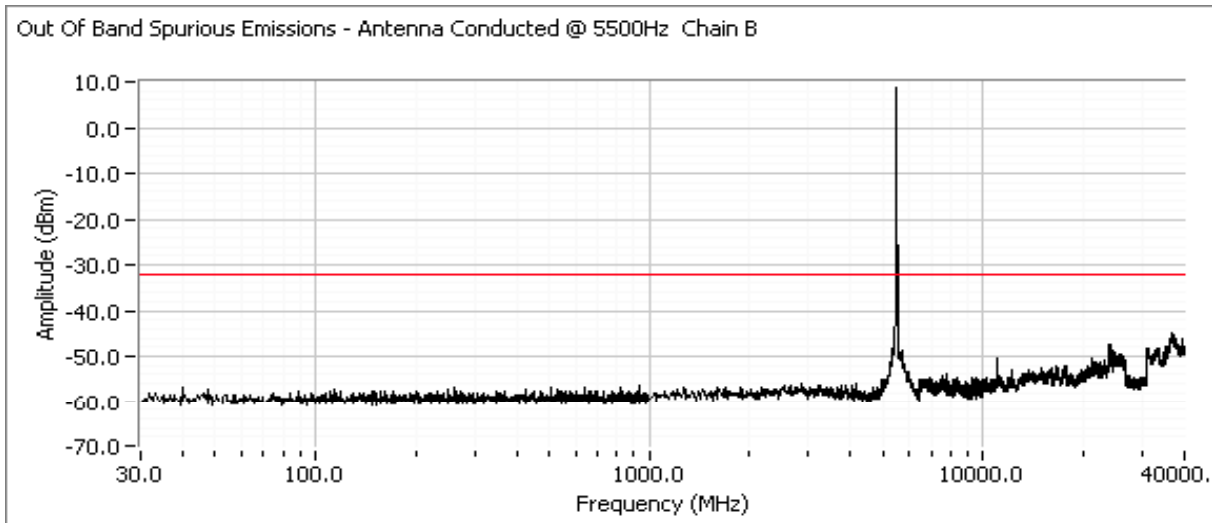
High Channel, Chain B, 5320 MHz



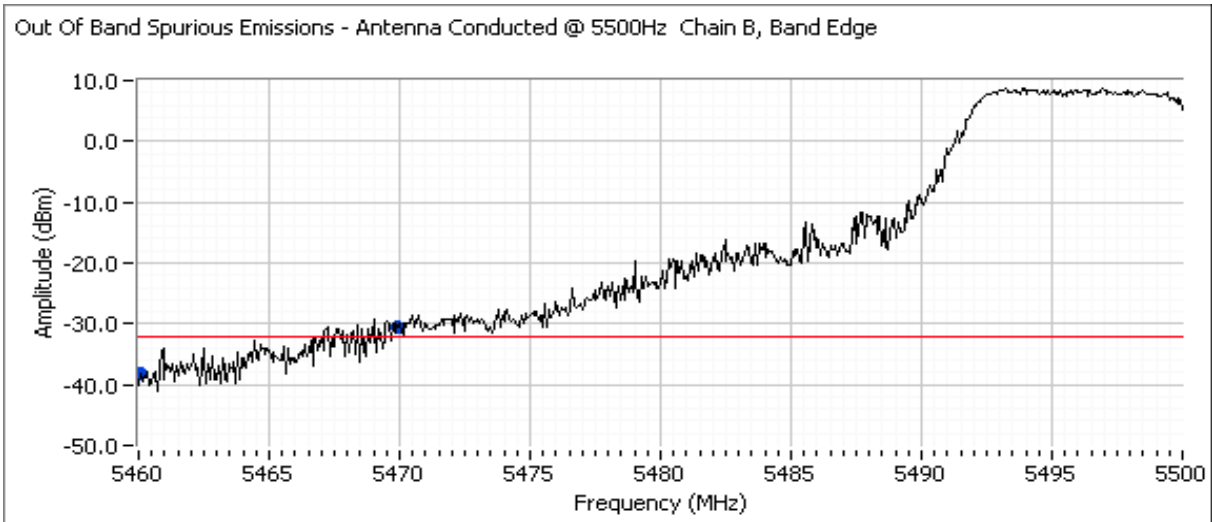
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain B, 5500 MHz



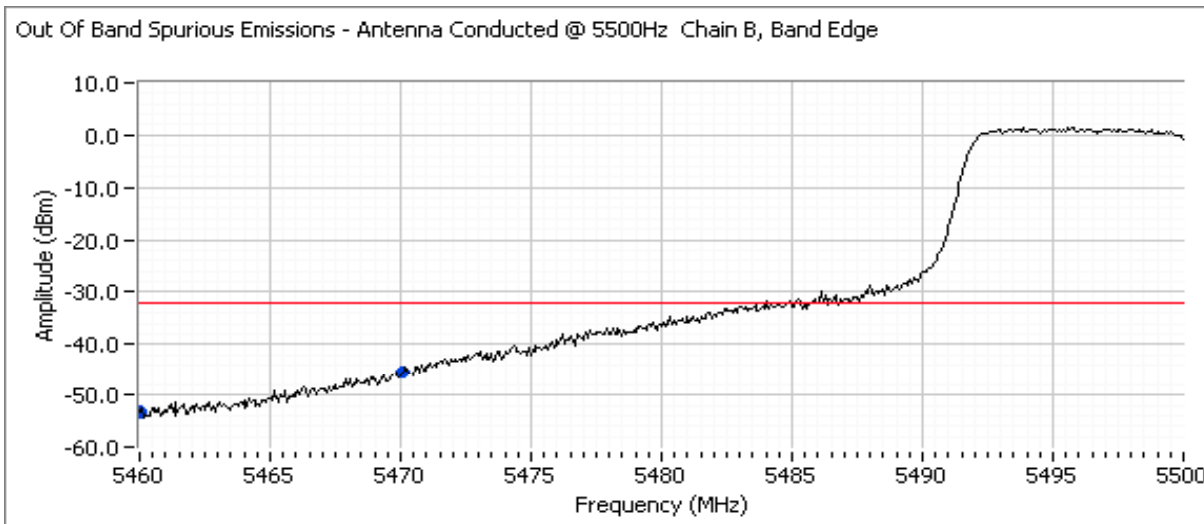
Low Channel, Chain B, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain B, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.

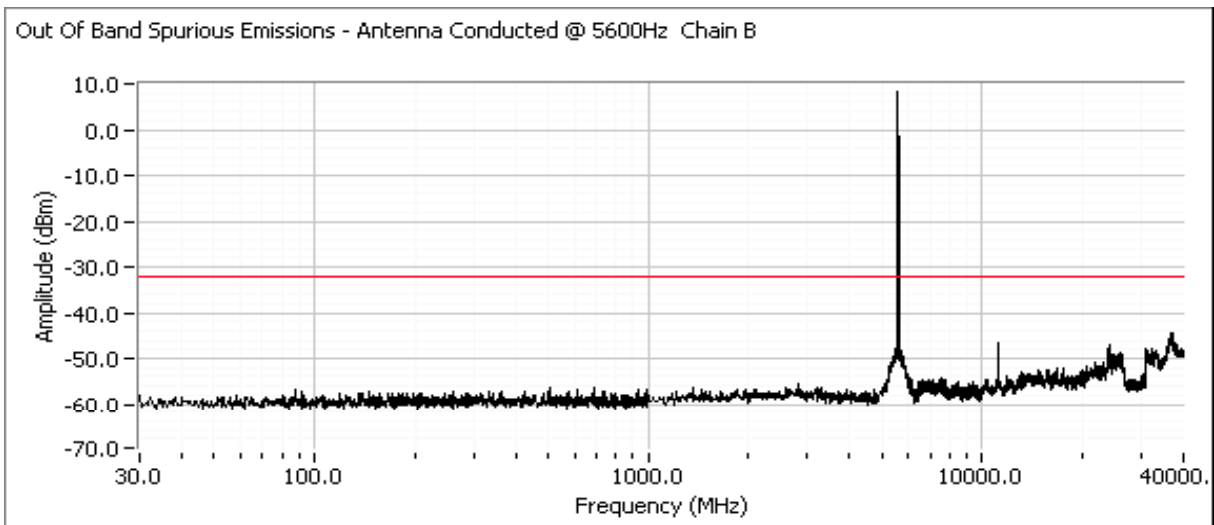


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5460.000	-53.2	-	-32.0	-21.2	Avg			
5470.000	-45.5	-	-32.0	-13.5	Avg			
5460.070	-38.2	-	-12.0	-26.2	Peak			
5470.000	-30.5	-	-12.0	-18.5	Peak			

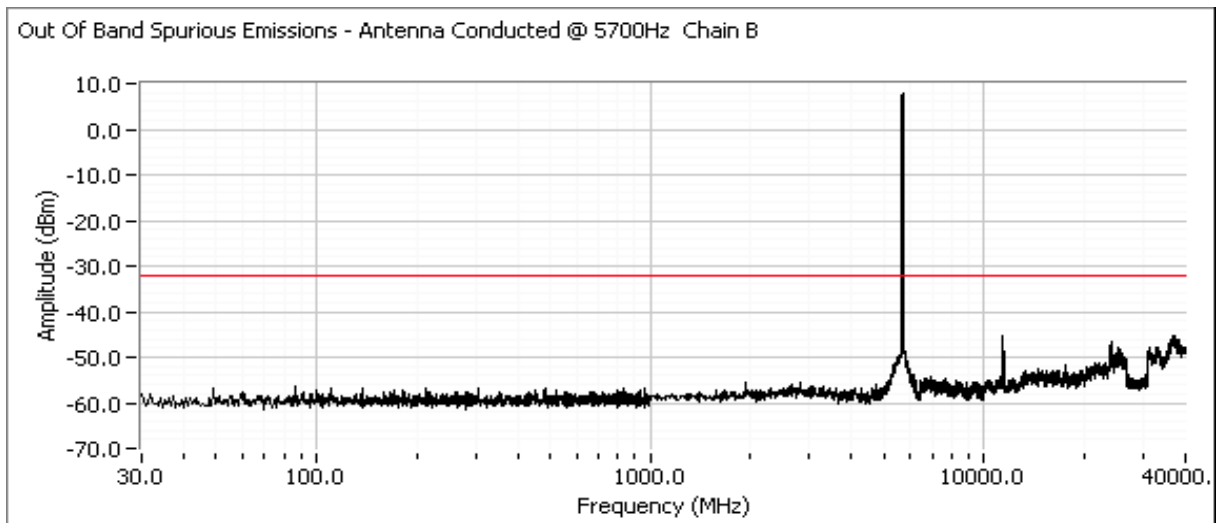
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain B, 5600 MHz



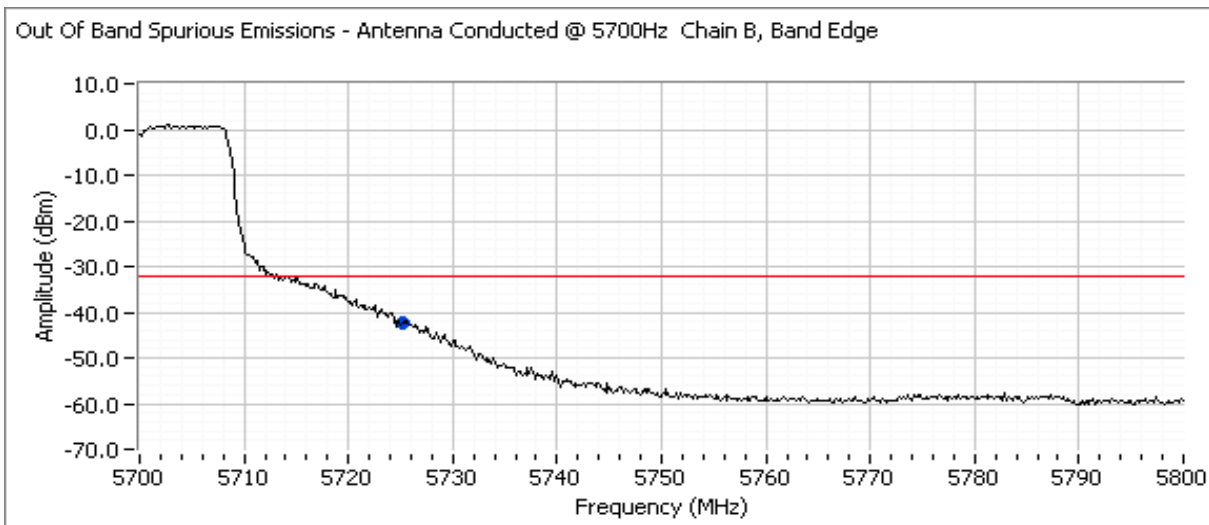
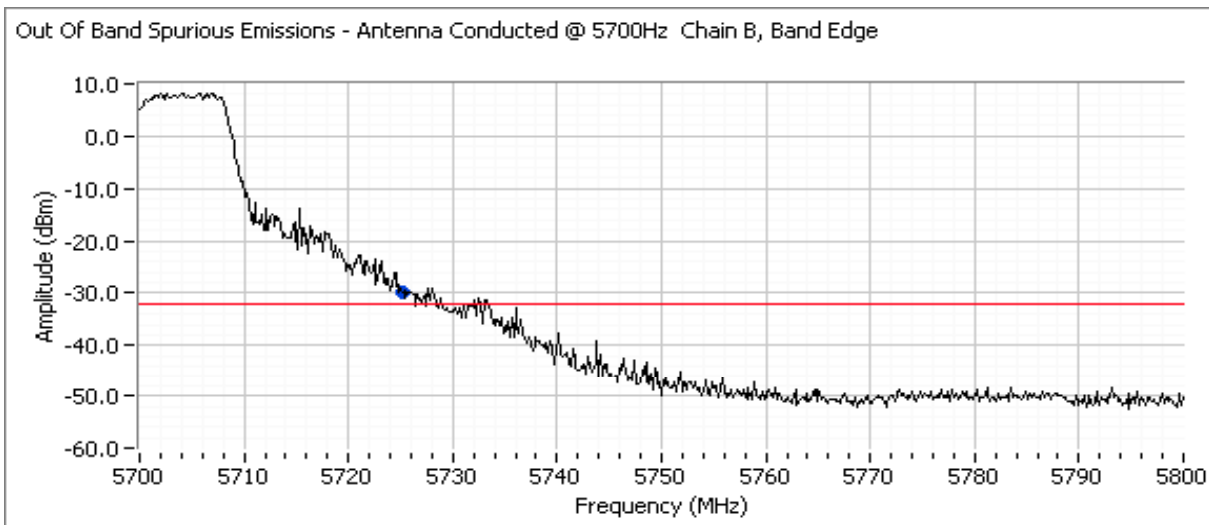
High Channel, Chain B, 5700 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain B, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.

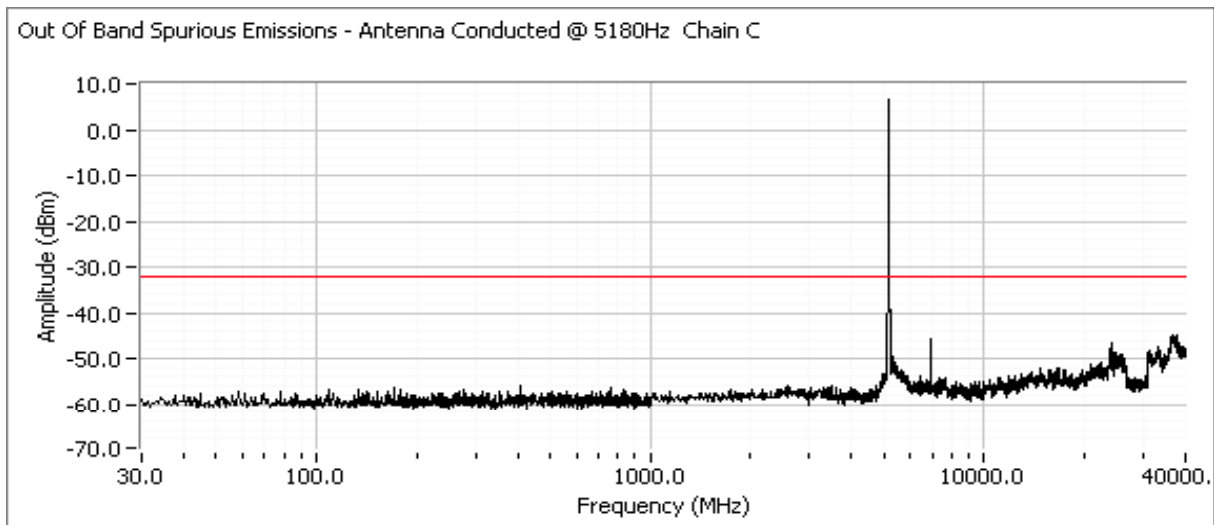


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
5725.17	-42.5	-	-32.0	-10.5	Avg			
5725.17	-29.7	-	-12.0	-17.7	Peak			

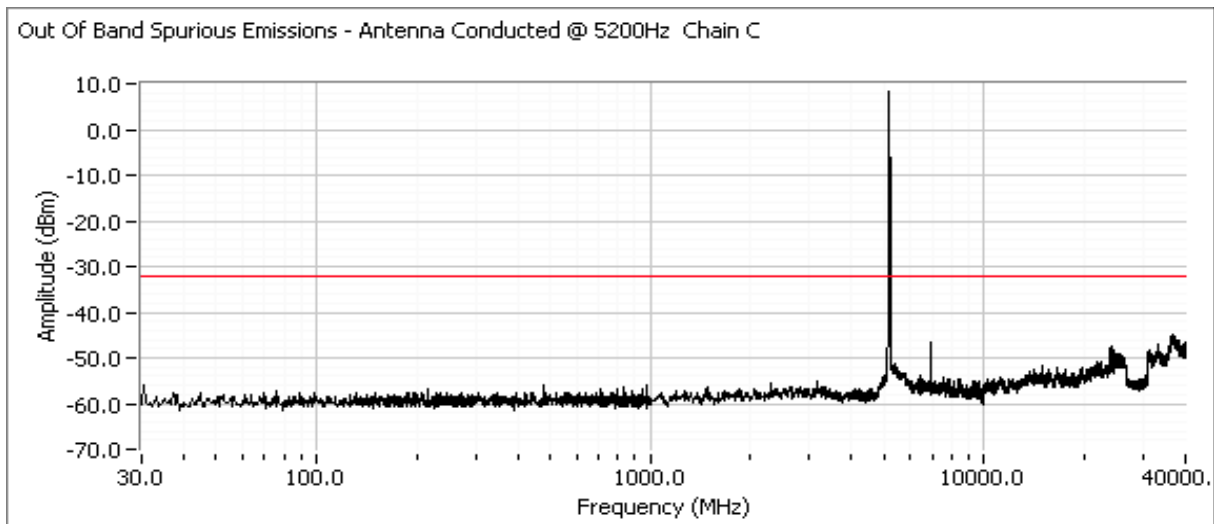
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain C, 5180 MHz



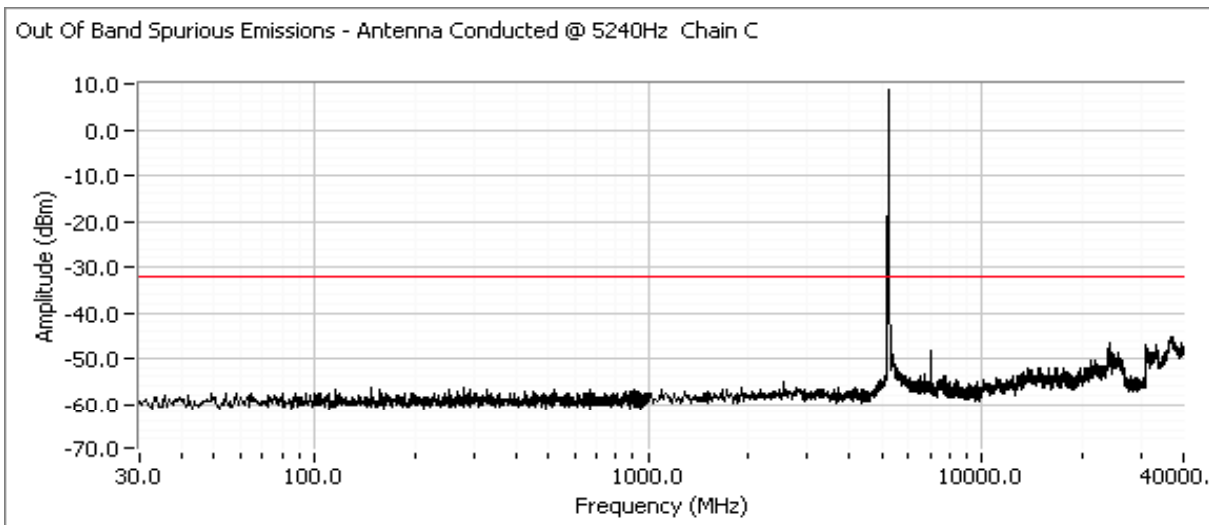
Center Channel, Chain C, 5200 MHz



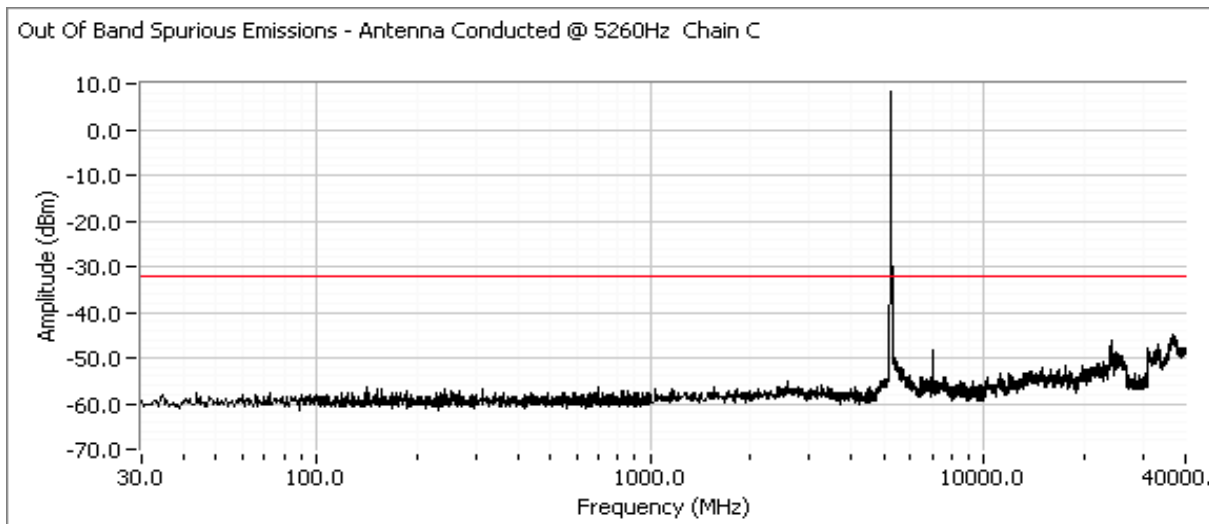
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain C, 5240 MHz



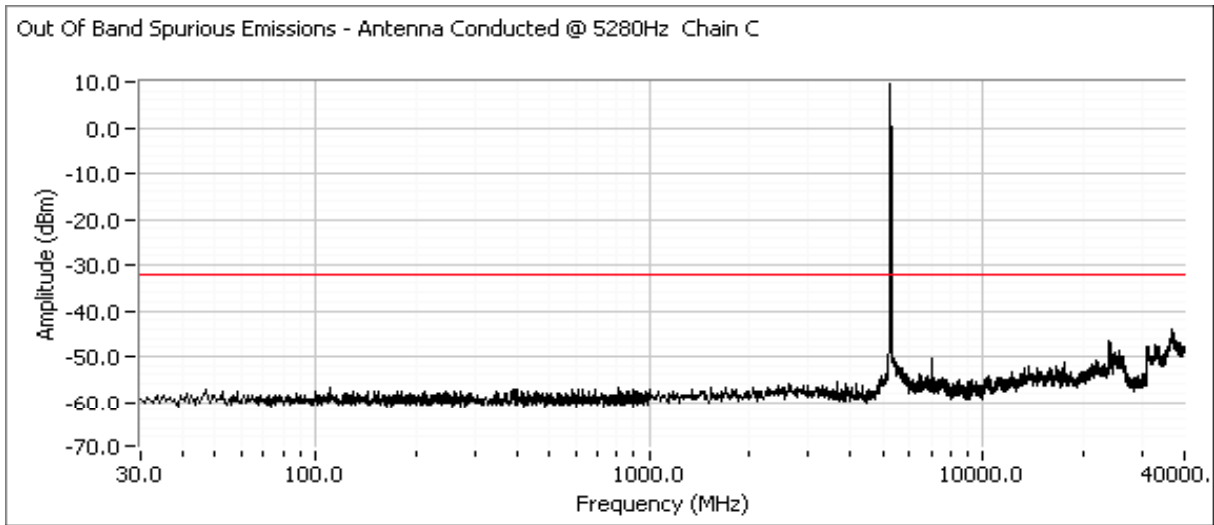
Low Channel, Chain C, 5260 MHz



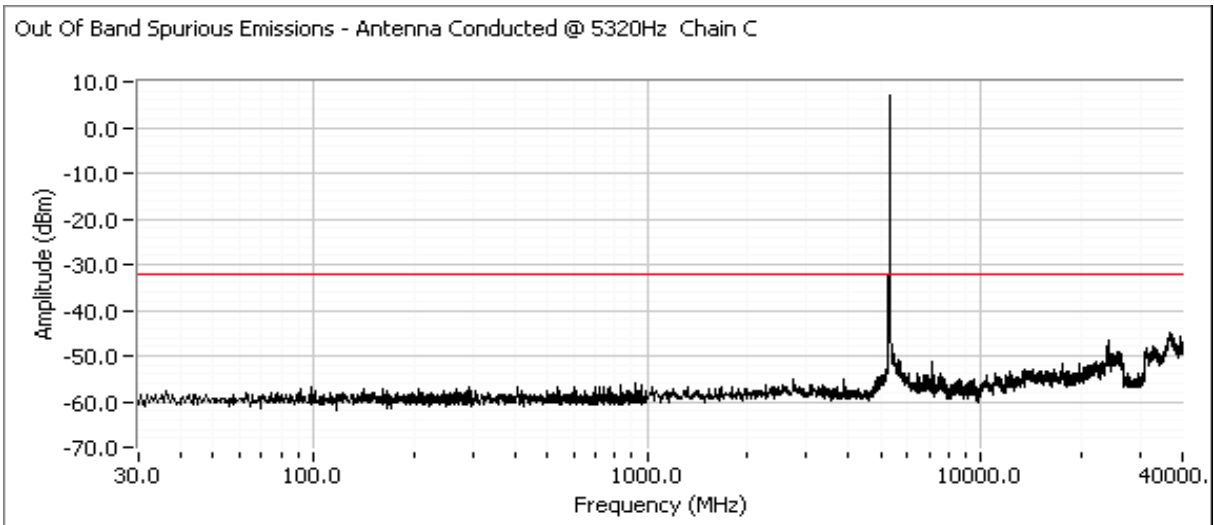
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain C, 5280 MHz



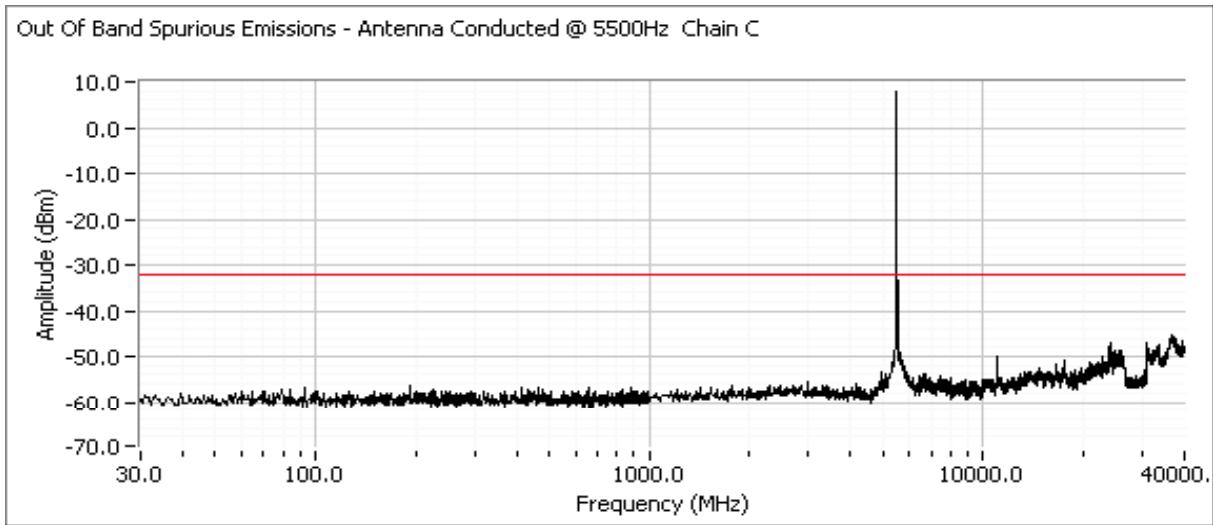
High Channel, Chain C, 5320 MHz



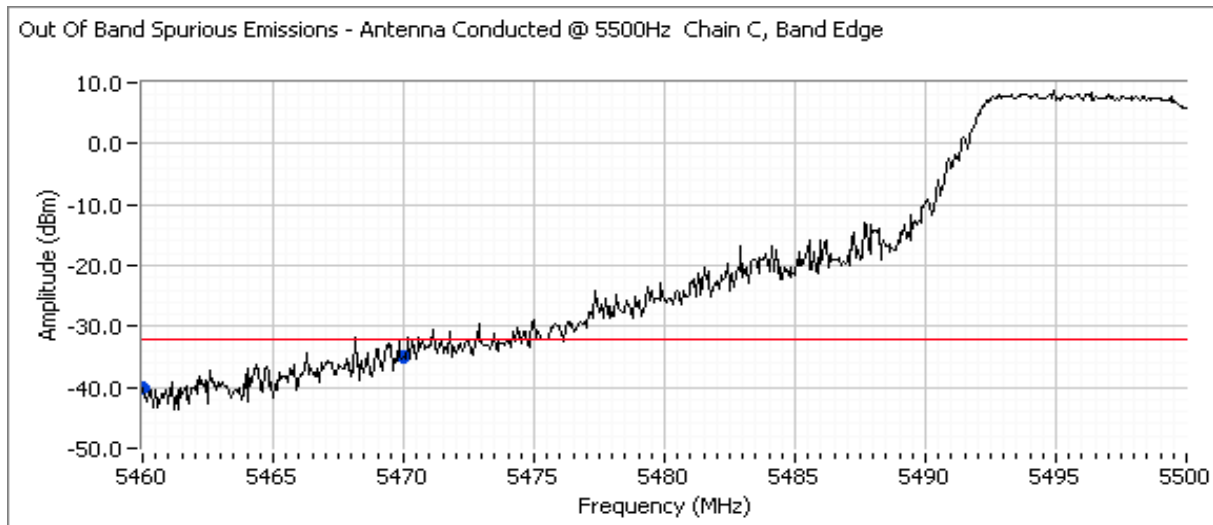
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain C, 5500 MHz



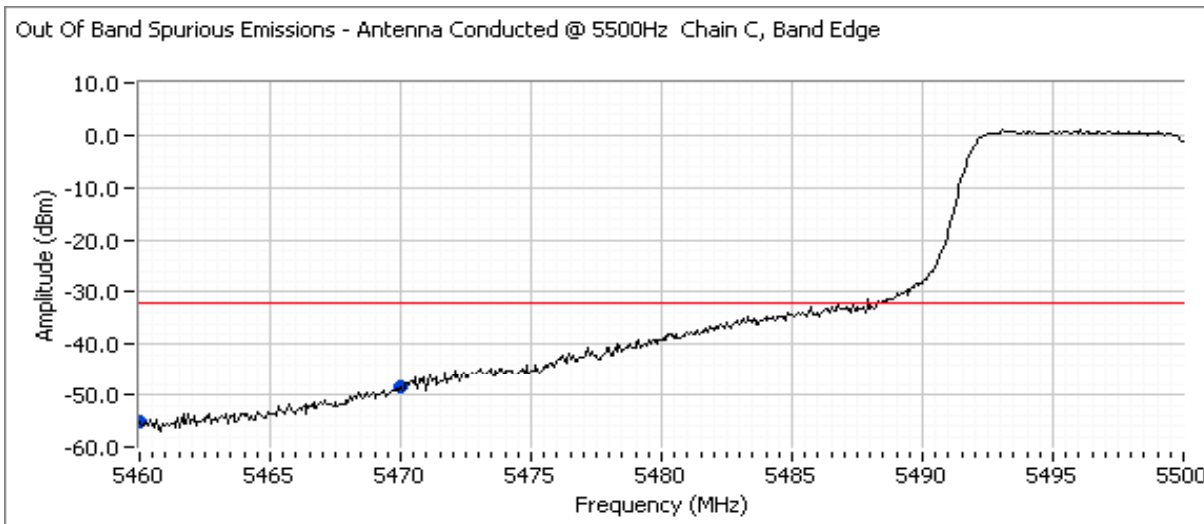
Low Channel, Chain C, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Low Channel, Chain C, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.

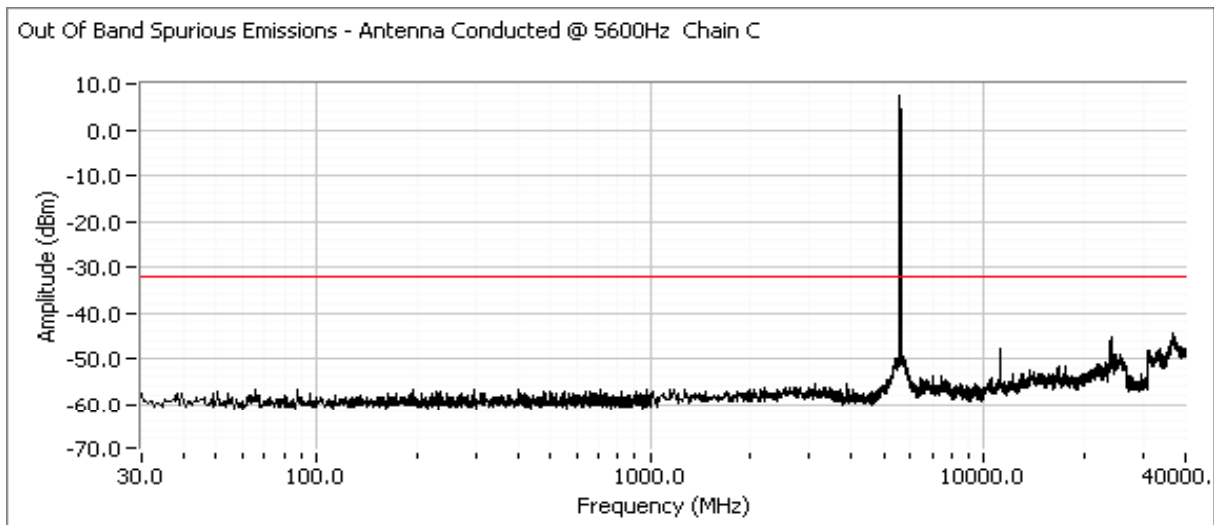


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5460.00	-55.2	-	-32.0	-23.2	Avg			
5470.00	-48.3	-	-32.0	-16.3	Avg			
5460.00	-40.2	-	-12.0	-28.2	Peak			
5470.00	-35.0	-	-12.0	-23.0	Peak			

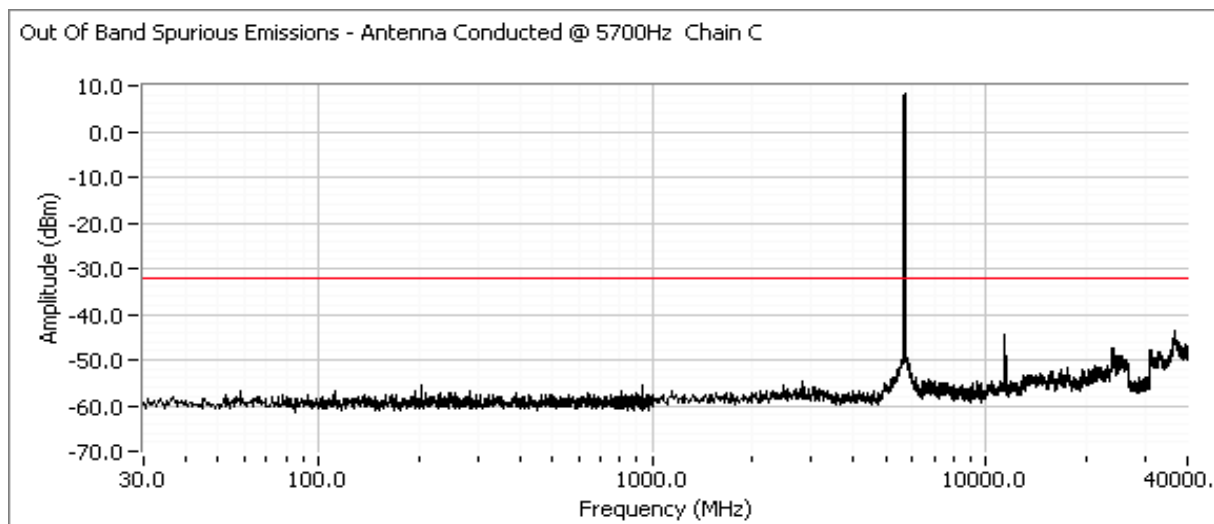
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

Center Channel, Chain C, 5600 MHz



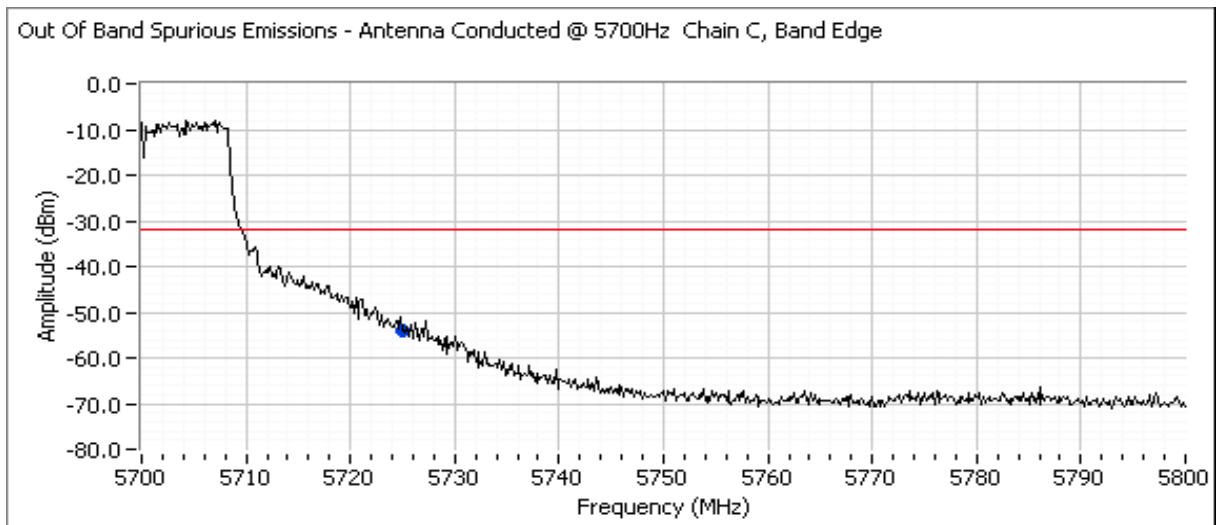
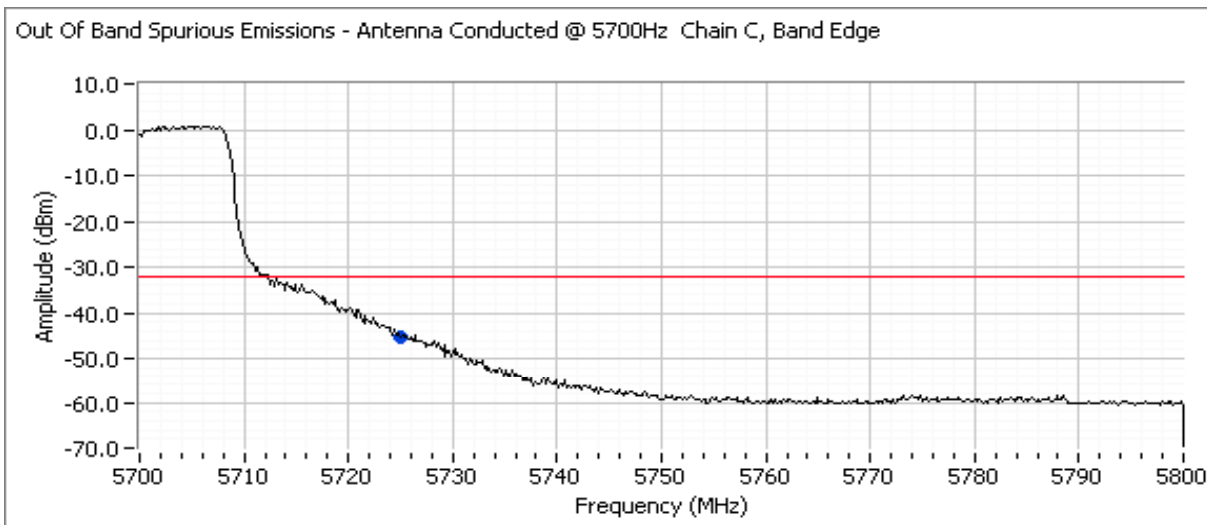
High Channel, Chain C, 5700 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 802.11a

High Channel, Chain C, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
5725.00	-54.0	-	-32.0	-22.0	Avg			
5725.00	-45.5	-	-12.0	-33.5	Peak			

Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

**RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain A, 802.11n 20 MHz mode
Power, PSD, Peak Excursion, Bandwidth and Spurious Emissions**

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/15/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions: Temperature: 23 °C
 Rel. Humidity: 34 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	13.7 dBm(23mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	14.3 dBm(27mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	13.7 dBm(23mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	1.1 dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	1.6 dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	0.7 dBm/MHz
1	26dB Bandwidth	15.407	-	39.1 MHz
1	99% Bandwidth	RSS 210	-	18.3 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	11.5 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.



EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): **5**

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	32.0	36.9	18.1	13.7	17.0	0.023	1.0	4.0	5.0	Pass
5200	31.0	39.1	18.1	13.6	17.0	0.023	0.9	4.0	5.0	Pass
5240	29.5	30.0	18.1	13.6	17.0	0.023	1.1	4.0	5.0	Pass
5260	29.5	37.4	18.1	14.3	24.0	0.027	1.6	11.0	11.0	Pass
5280	28.0	31.3	18.1	13.5	24.0	0.022	0.8	11.0	11.0	Pass
5320	27.0	31.8	18.2	13.9	24.0	0.025	1.3	11.0	11.0	Pass
5500	25.0	27.5	18.2	13.3	24.0	0.021	0.6	11.0	11.0	Pass
5600	25.5	22.3	18.1	13.3	24.0	0.021	0.5	11.0	11.0	Pass
5700	26.0	30.6	18.3	13.7	24.0	0.023	0.7	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz

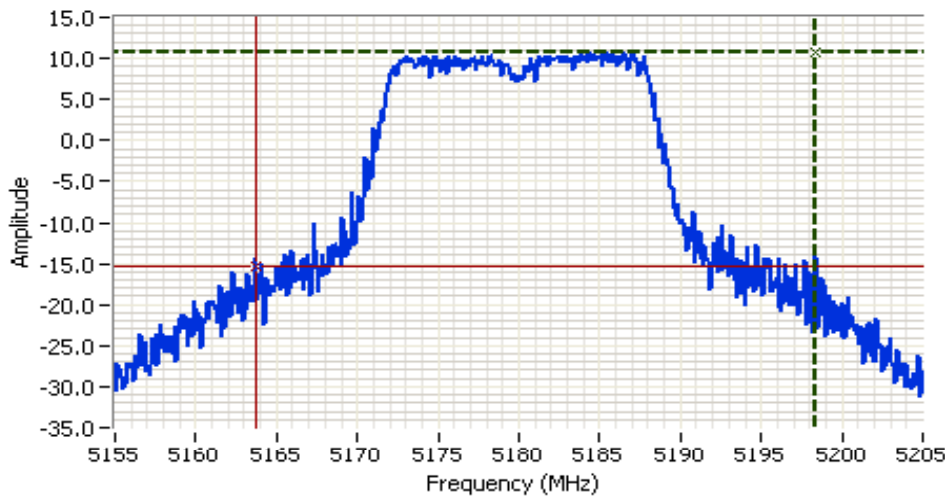
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

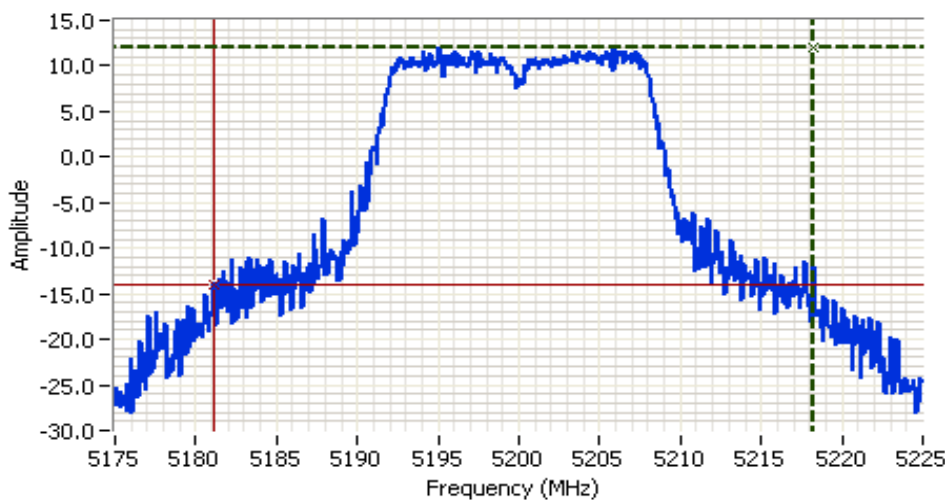
Comments
 26dB Bandwidth:
 34.75 MHz
 Chain A, Legacy

Cursor 1 5198.4167 10.67

Cursor 2 5163.6667 -15.33

Delta Freq. 34.75

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.08 MHz
 Chain A, Legacy

Cursor 1 5218.2500 12.00

Cursor 2 5181.1667 -14.00

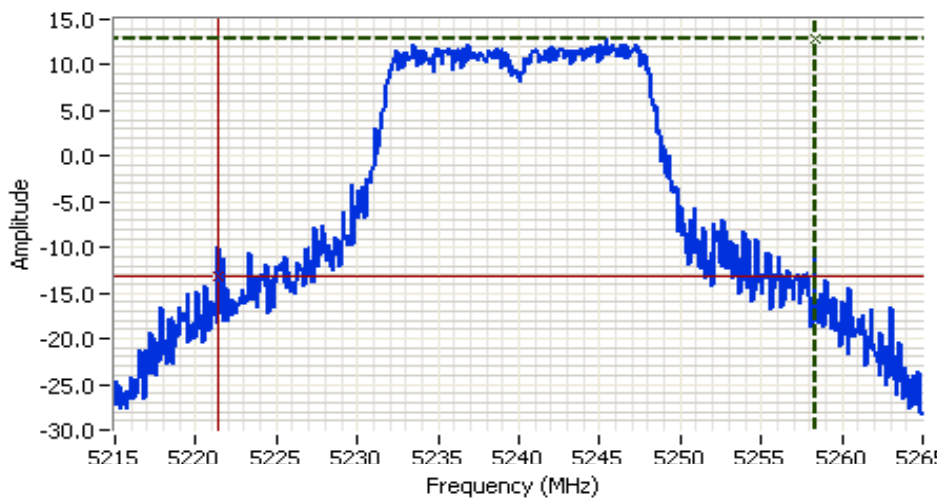
Delta Freq. 37.08

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

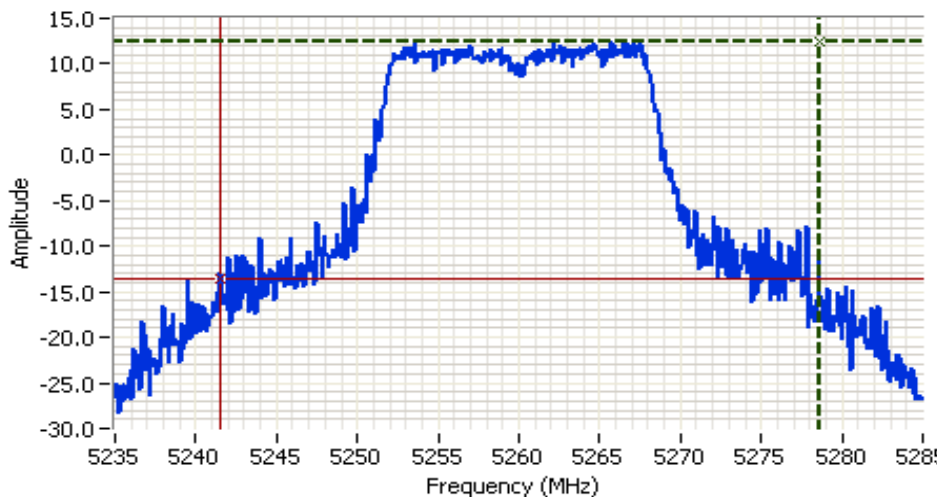


Analyzer Settings
 HP8564E,EMI
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 36.92 MHz
 Chain A, Legacy

Cursor 1	5258.3333	12.83	
Cursor 2	5221.4167	-13.17	

Delta Freq. 36.92
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.08 MHz
 Chain A, Legacy

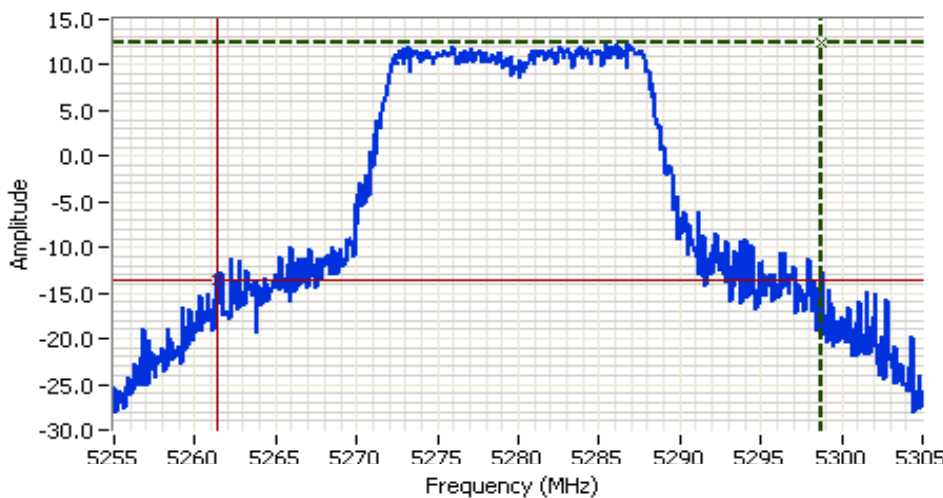
Cursor 1	5278.5833	12.50	
Cursor 2	5241.5000	-13.50	

Delta Freq. 37.08
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

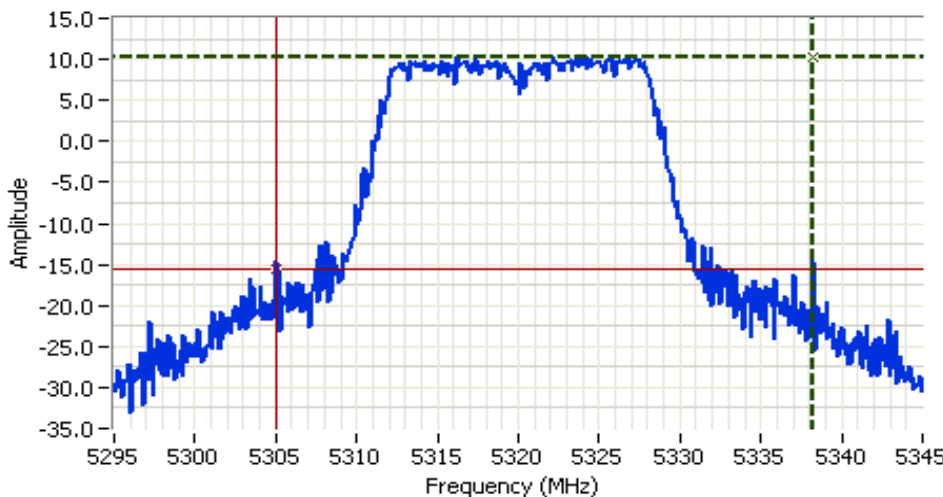


Analyzer Settings
 HP8564E,EMI
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.33 MHz
 Chain A, Legacy

Cursor 1	5298.7500	12.50	
Cursor 2	5261.4167	-13.50	

Delta Freq. 37.33
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 33.17 MHz
 Chain A, Legacy

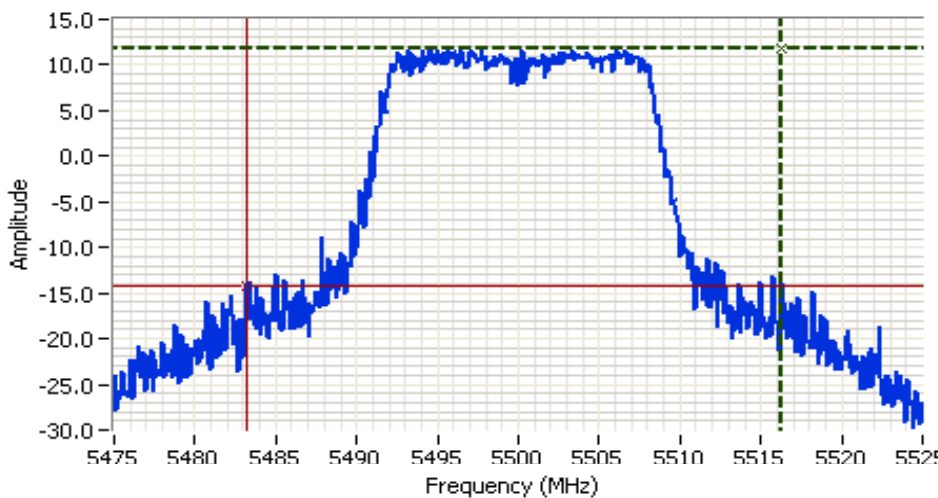
Cursor 1	5338.2500	10.33	
Cursor 2	5305.0833	-15.67	

Delta Freq. 33.17
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

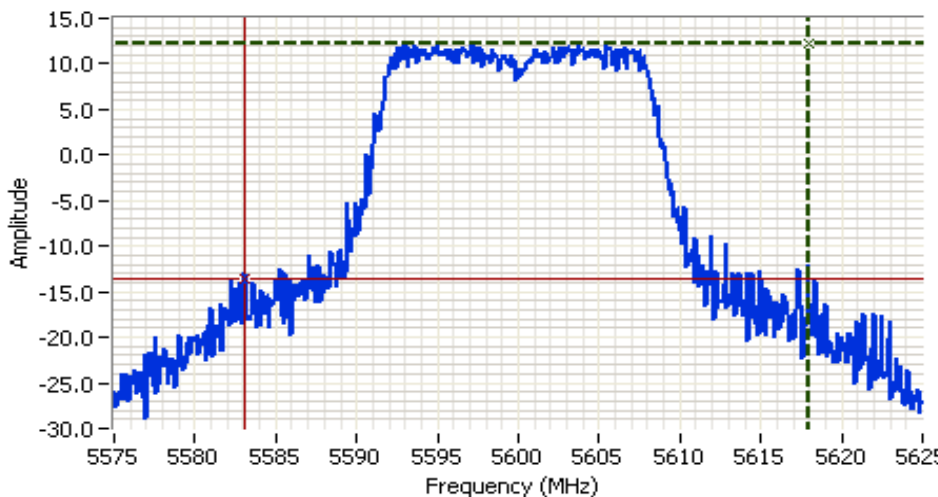


Analyzer Settings
 HP8564E,EMI
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 33.08 MHz
 Chain A, Legacy

Cursor 1	5516.3333	11.83	
Cursor 2	5483.2500	-14.17	

Delta Freq. 33.08
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 34.83 MHz
 Chain A, Legacy

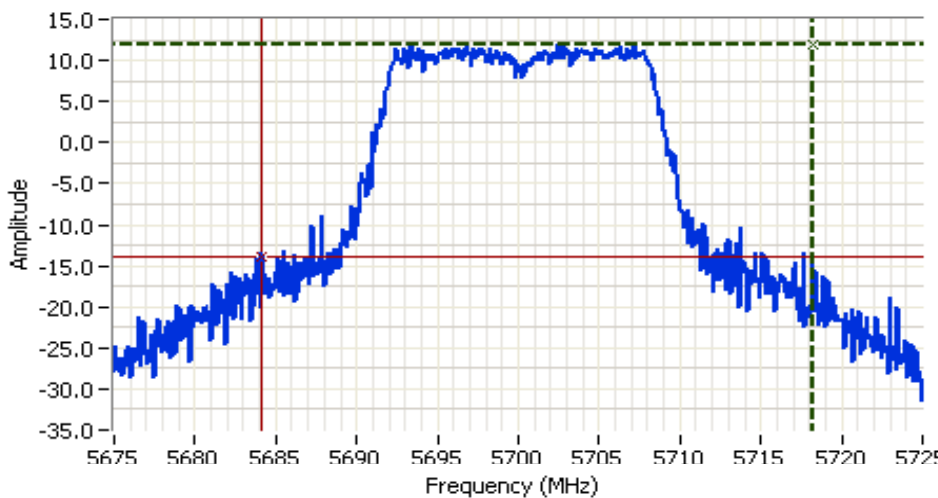
Cursor 1	5617.9167	12.33	
Cursor 2	5583.0833	-13.67	

Delta Freq. 34.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

- HP8564E,EMI
- CF: 5700.00 MHz
- SPAN:50.00 MHz
- RB 1.000 MHz
- VB 3.000 MHz
- Detector POS
- Att 20
- RL Offset 11.00
- Sweep Time 50.0ms
- Ref Lvl:21.00DBM

Comments

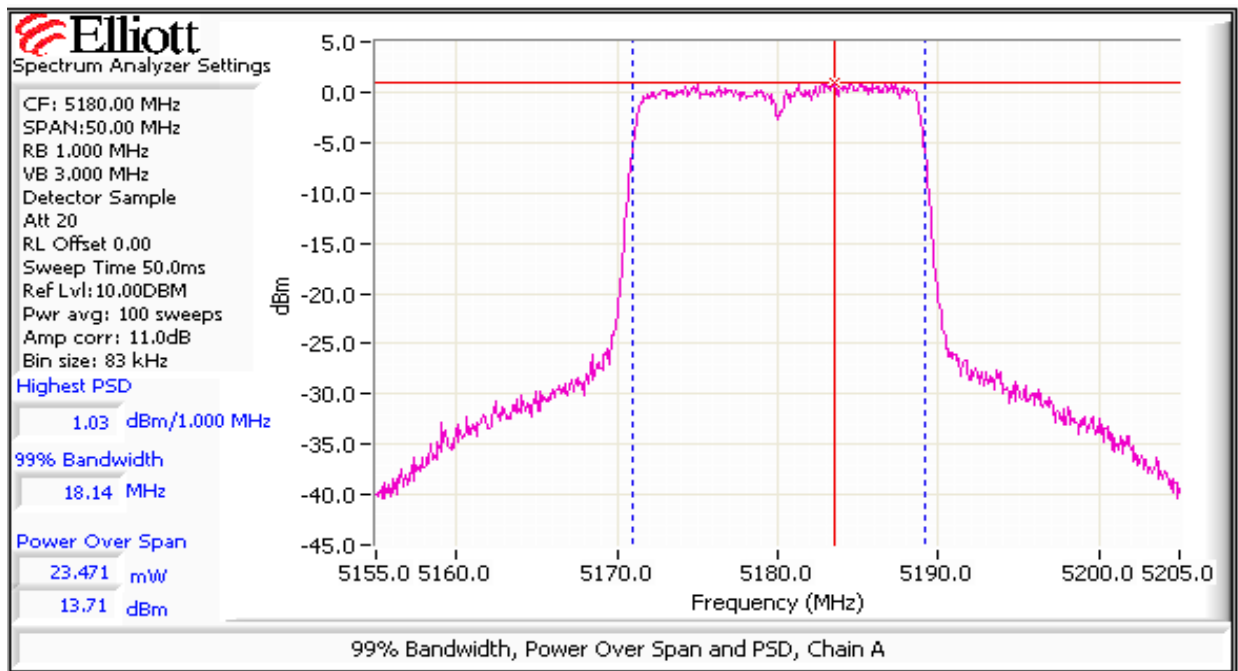
- 26dB Bandwidth: 34.00 MHz
- Chain A, Legacy

Cursor 1 5718.1667 12.00

Cursor 2 5684.1667 -14.00

Delta Freq. 34.00

Delta Amplitude 26.00



Elliott
Spectrum Analyzer Settings

- CF: 5180.00 MHz
- SPAN:50.00 MHz
- RB 1.000 MHz
- VB 3.000 MHz
- Detector Sample
- Att 20
- RL Offset 0.00
- Sweep Time 50.0ms
- Ref Lvl:10.00DBM
- Pwr avg: 100 sweeps
- Amp corr: 11.0dB
- Bin size: 83 kHz

Highest PSD

- 1.03 dBm/1.000 MHz

99% Bandwidth

- 18.14 MHz

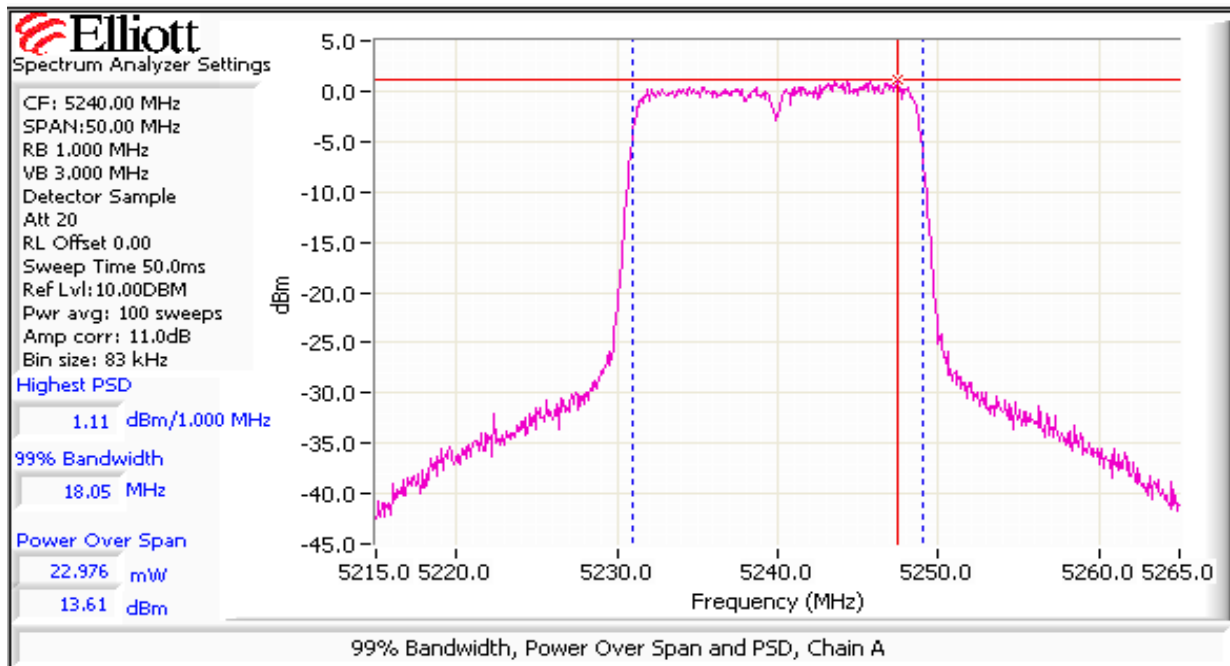
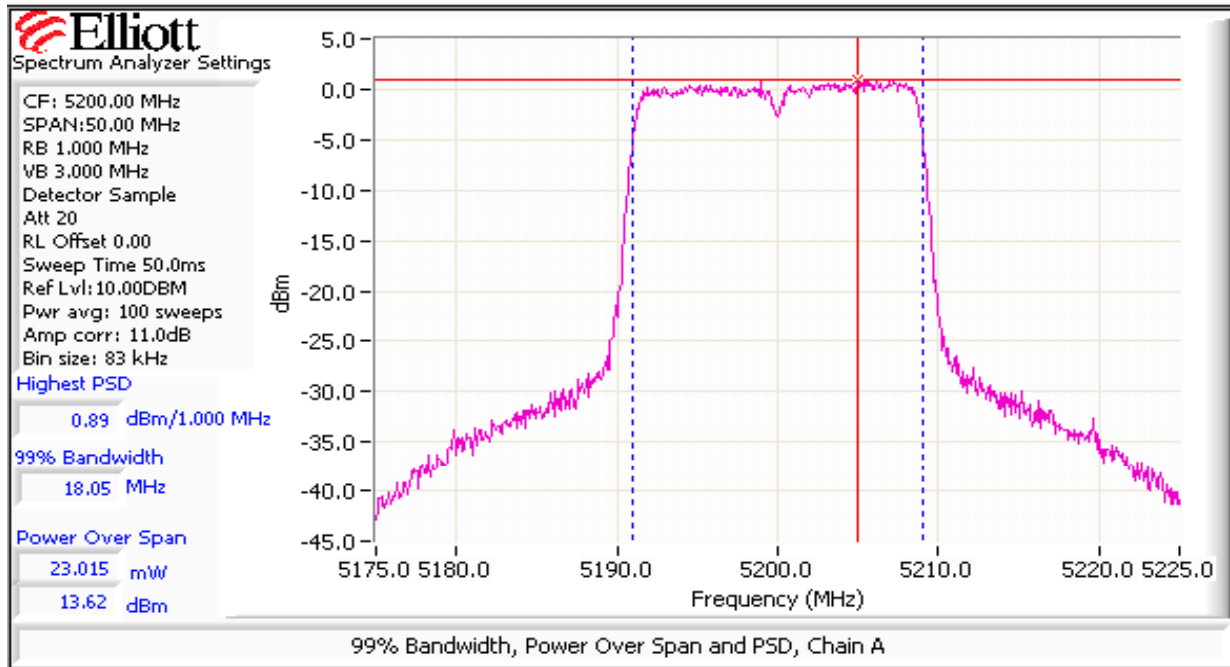
Power Over Span

- 23.471 mW
- 13.71 dBm

99% Bandwidth, Power Over Span and PSD, Chain A

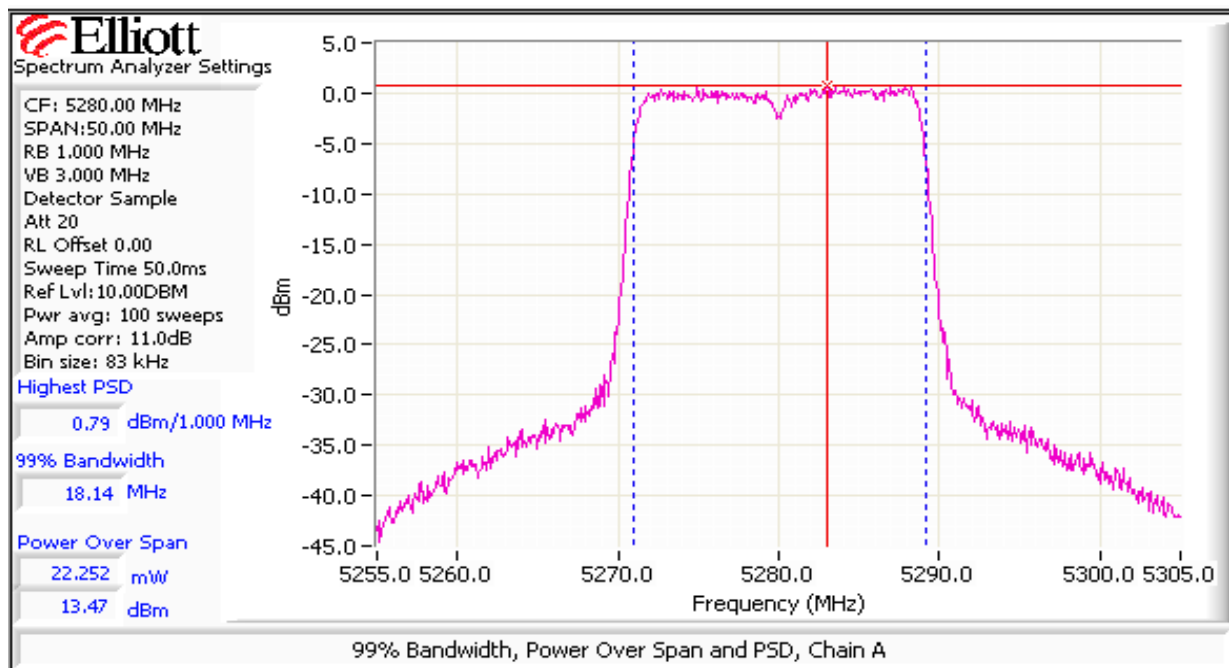
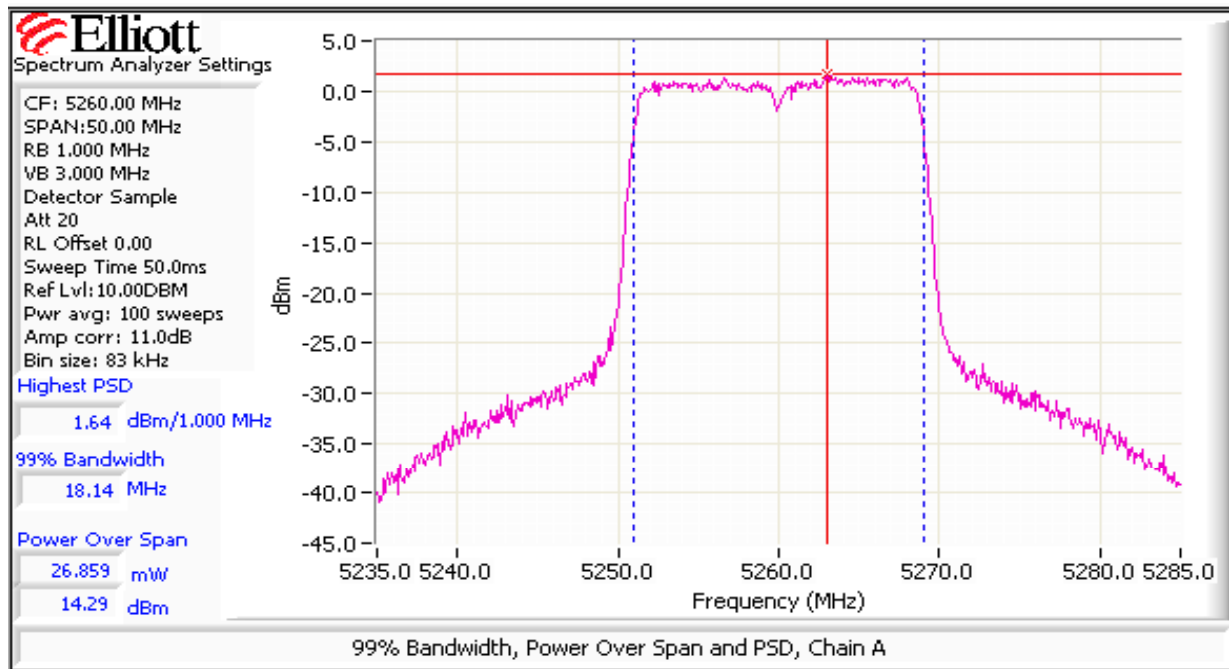
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



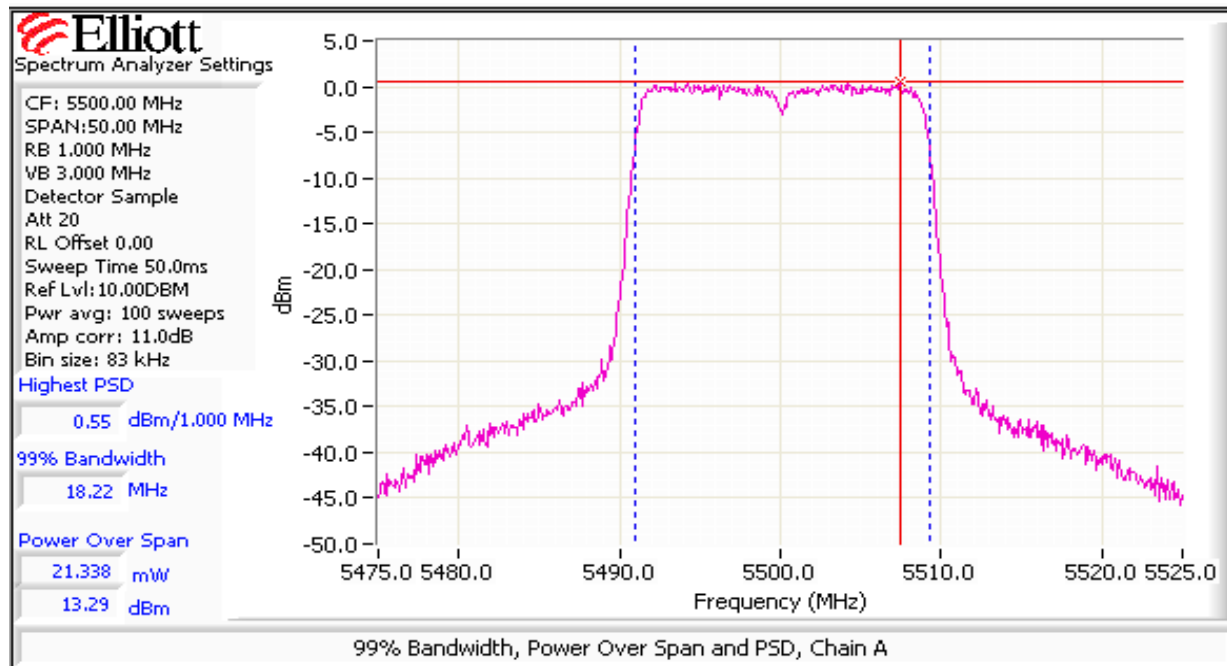
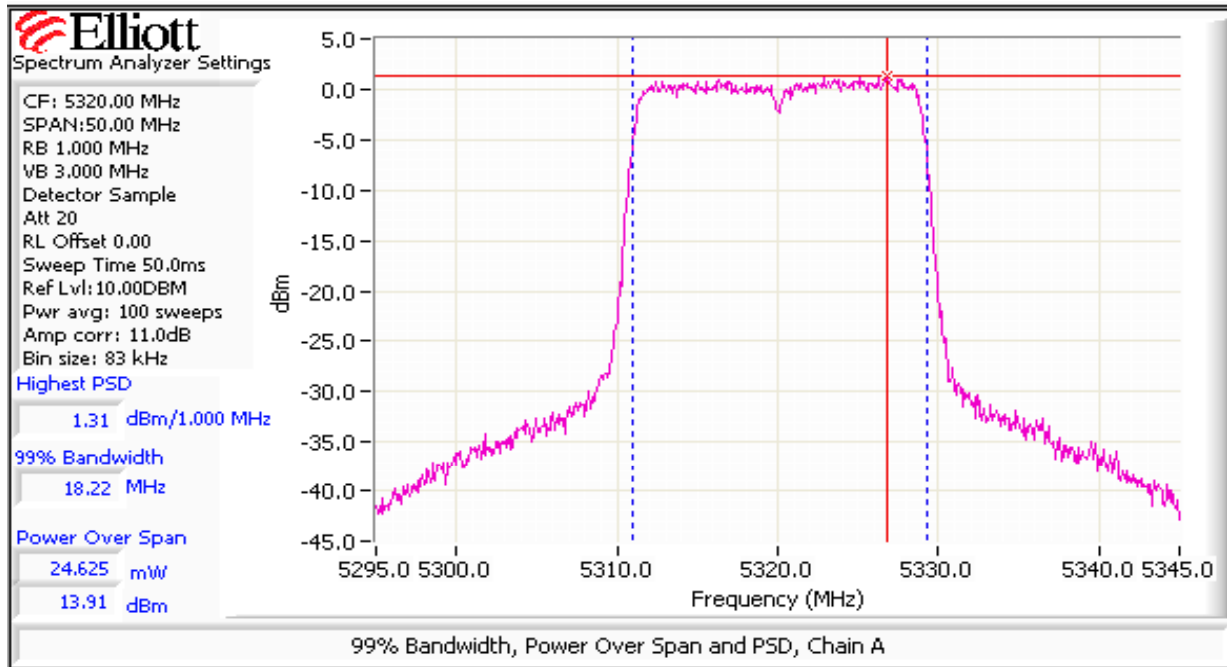
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



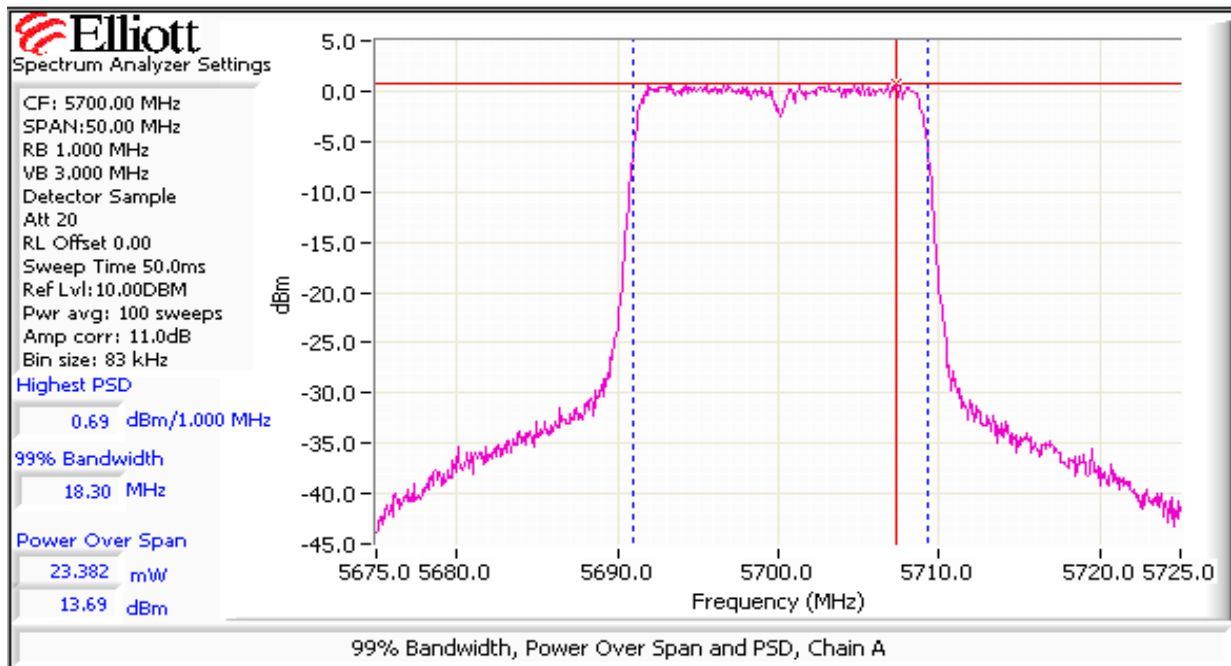
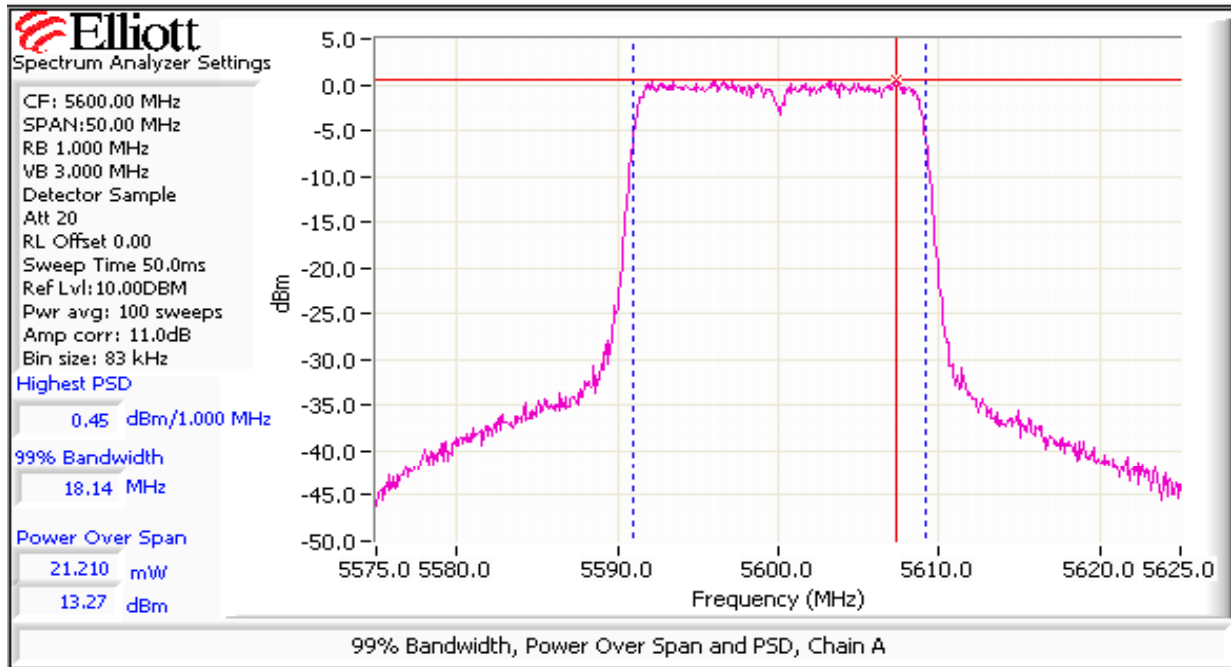
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.7	13.0	5260	10.0	13.0	5500	11.5	13.0			
5200	10.1	13.0	5280	10.0	13.0	5600	11.1	13.0			
5240	10.7	13.0	5320	11.2	13.0	5700	10.5	13.0			

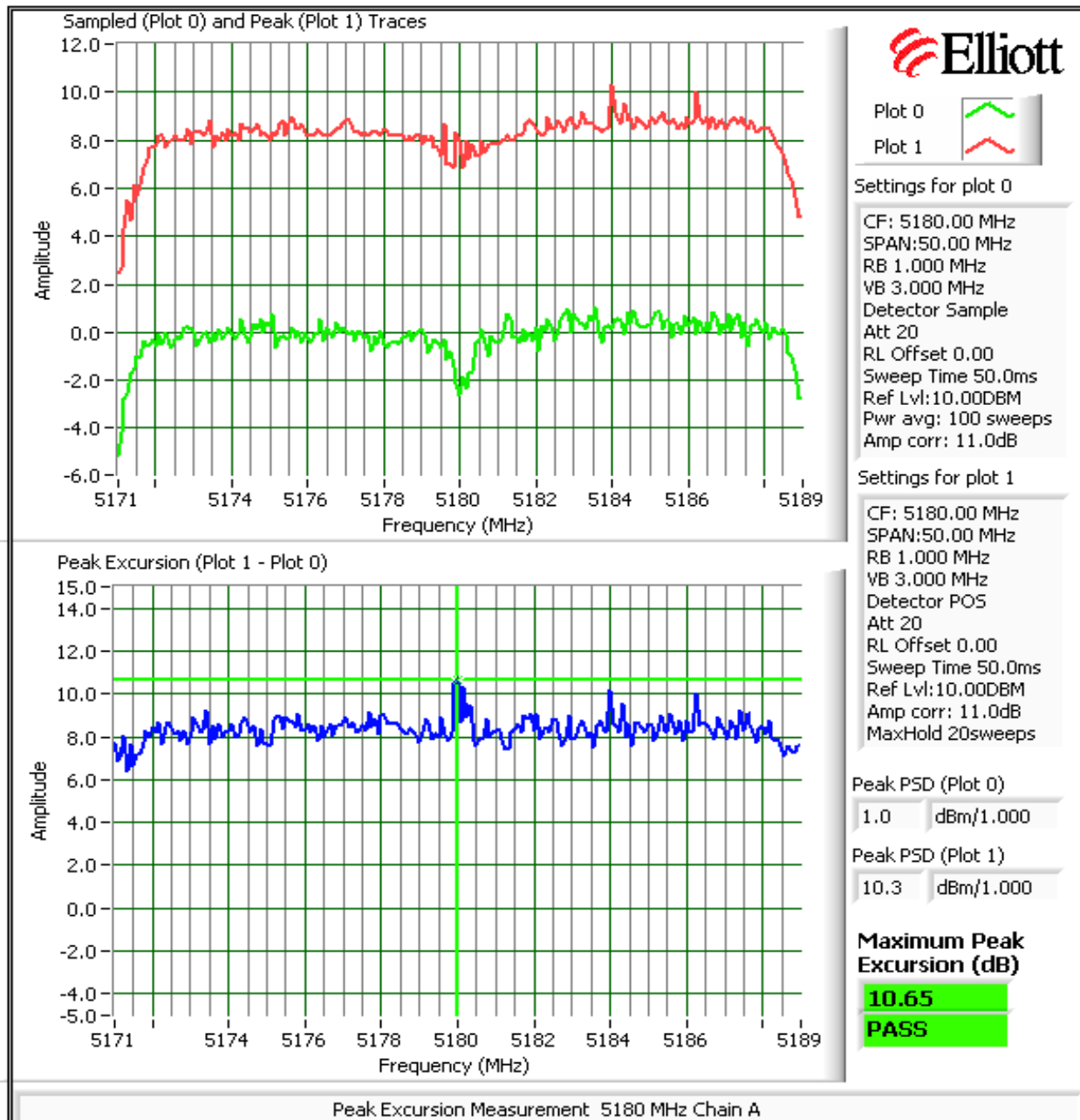
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

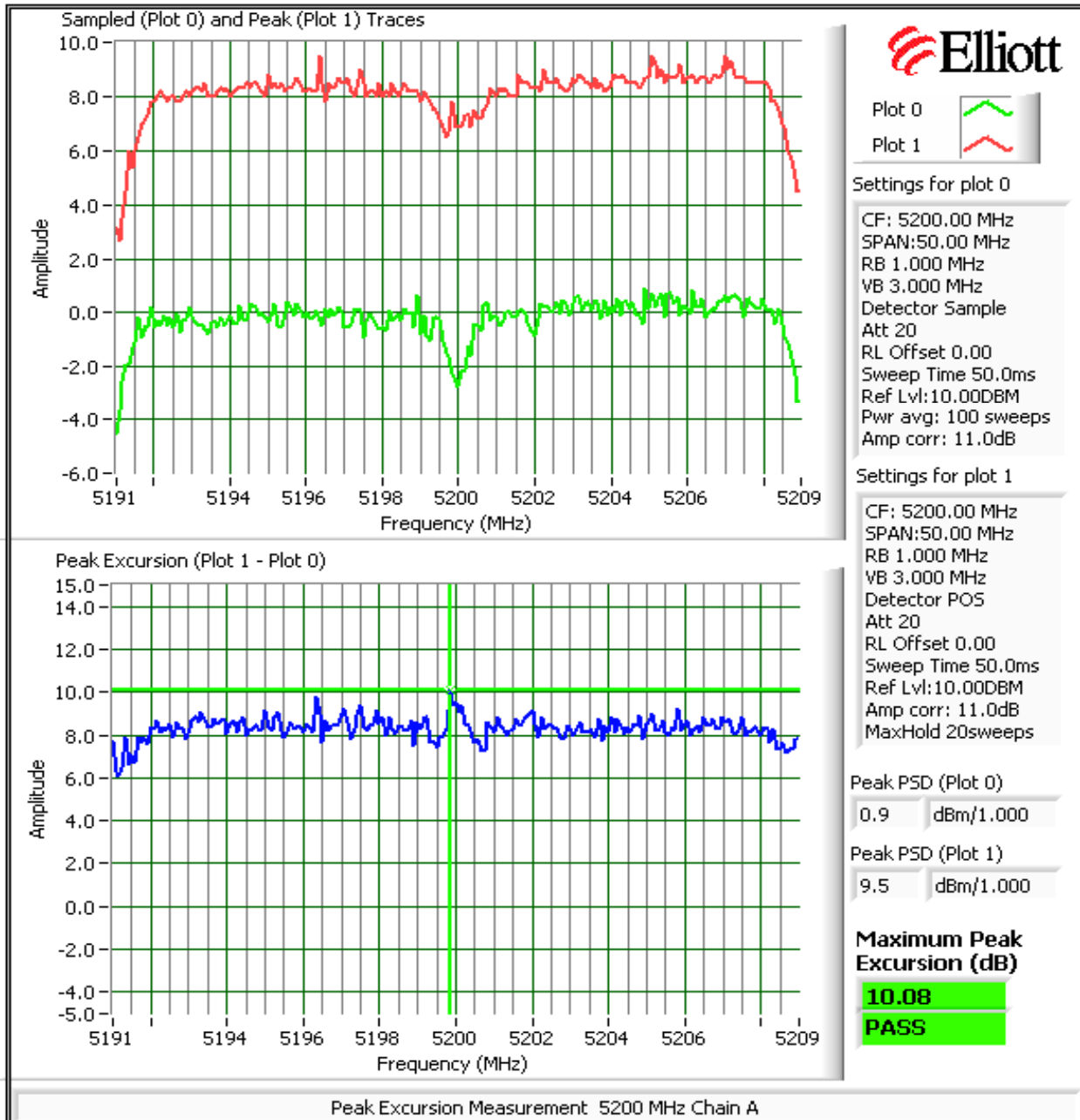
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



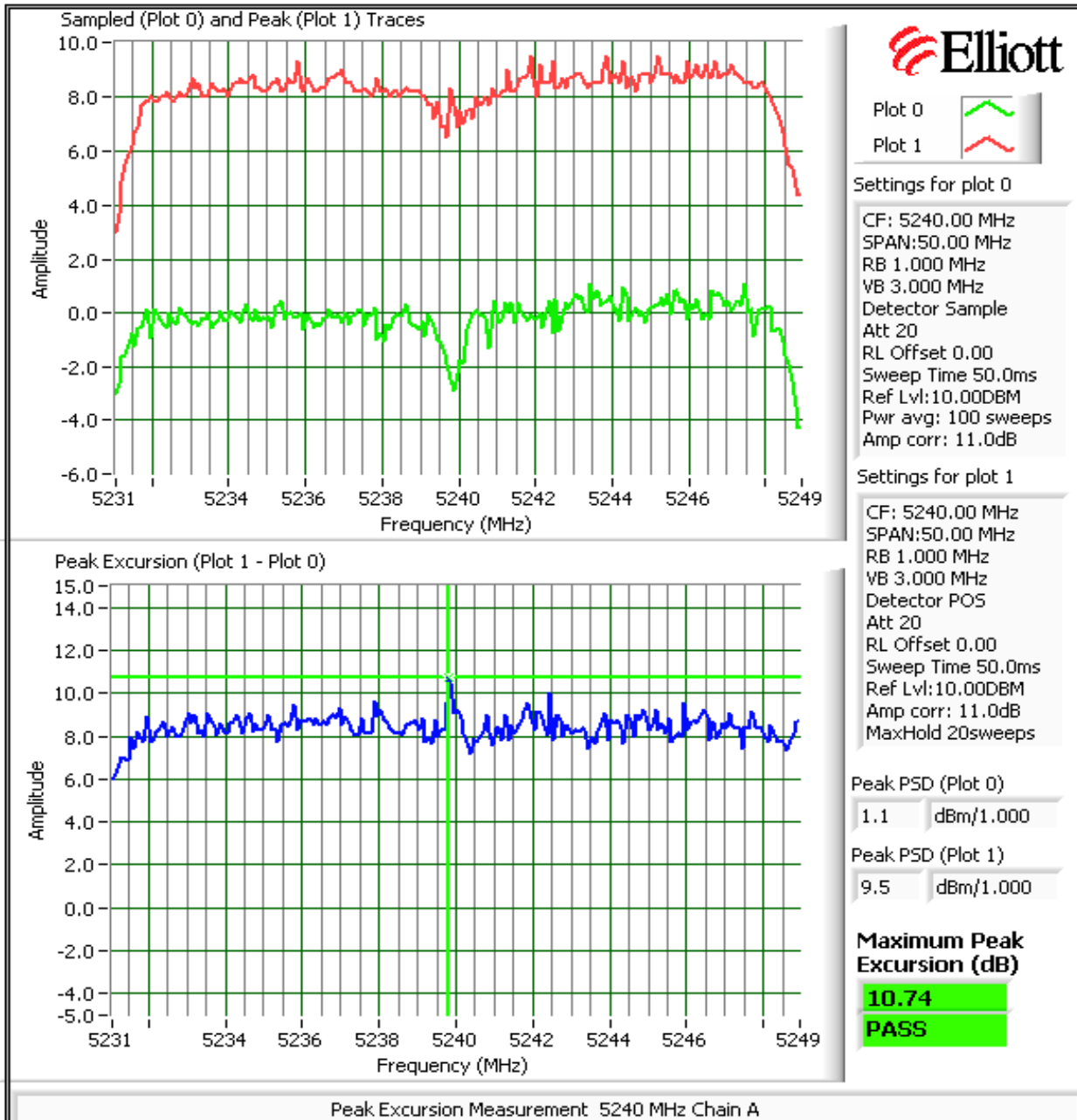
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



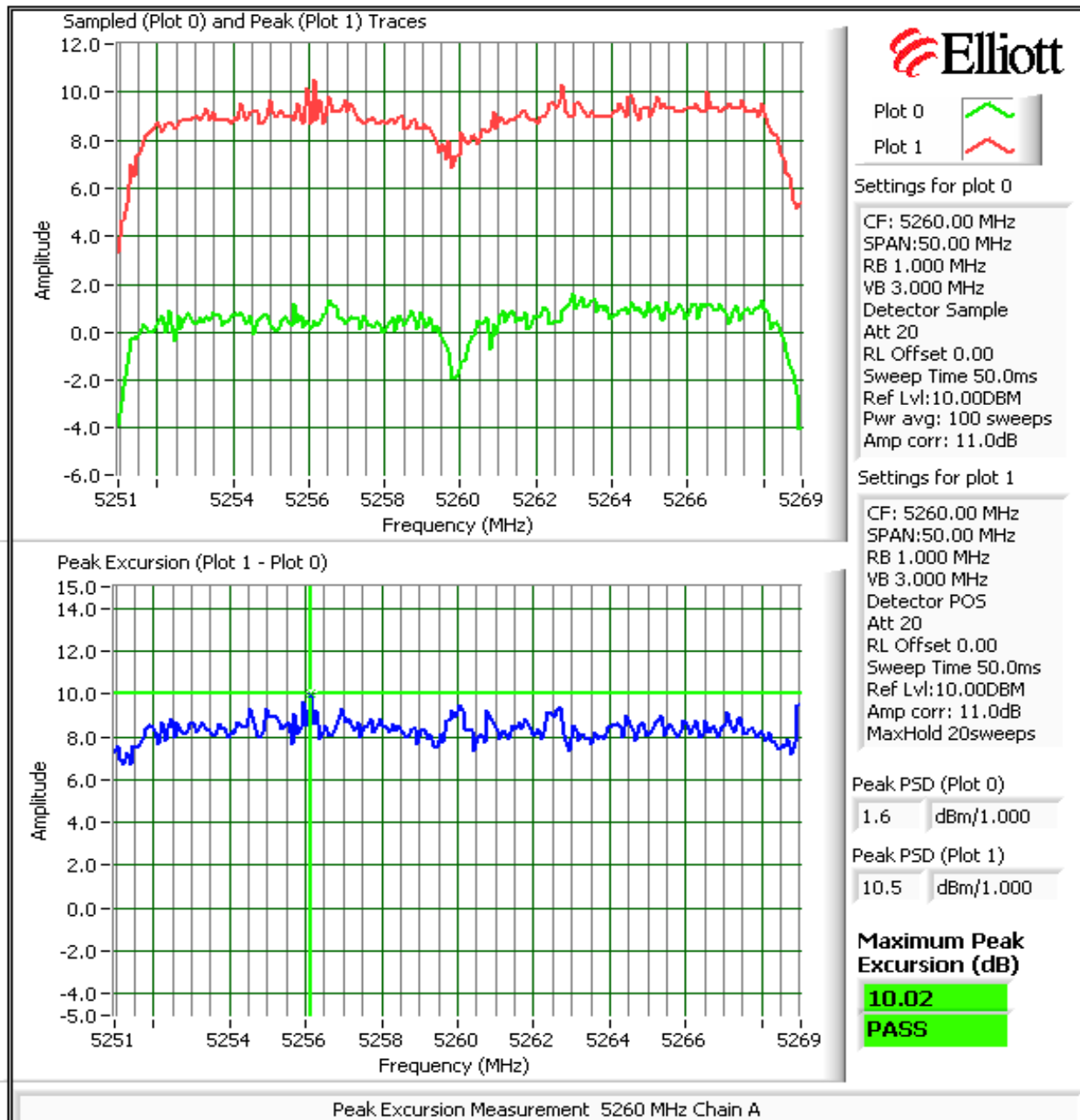
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



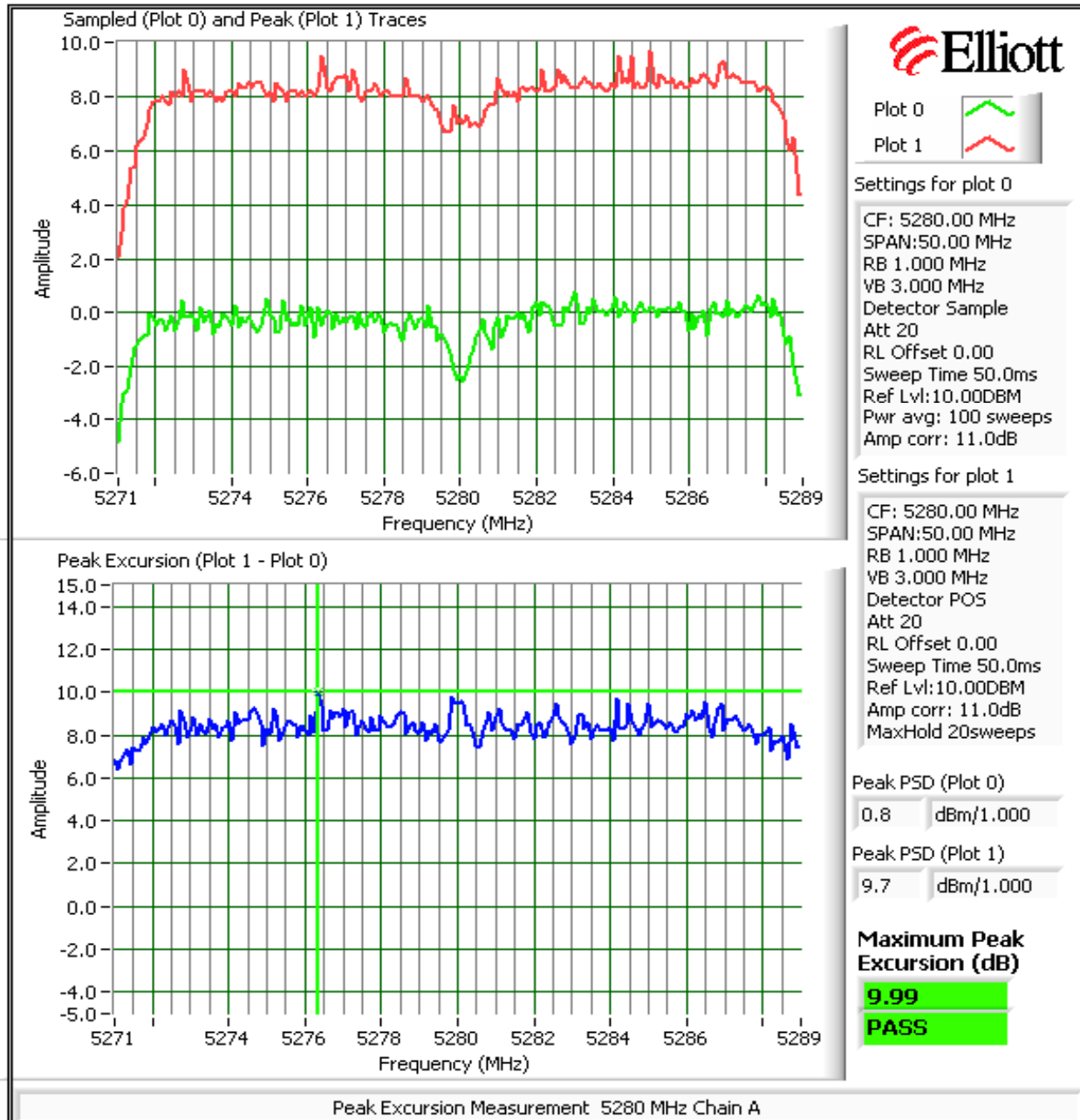
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



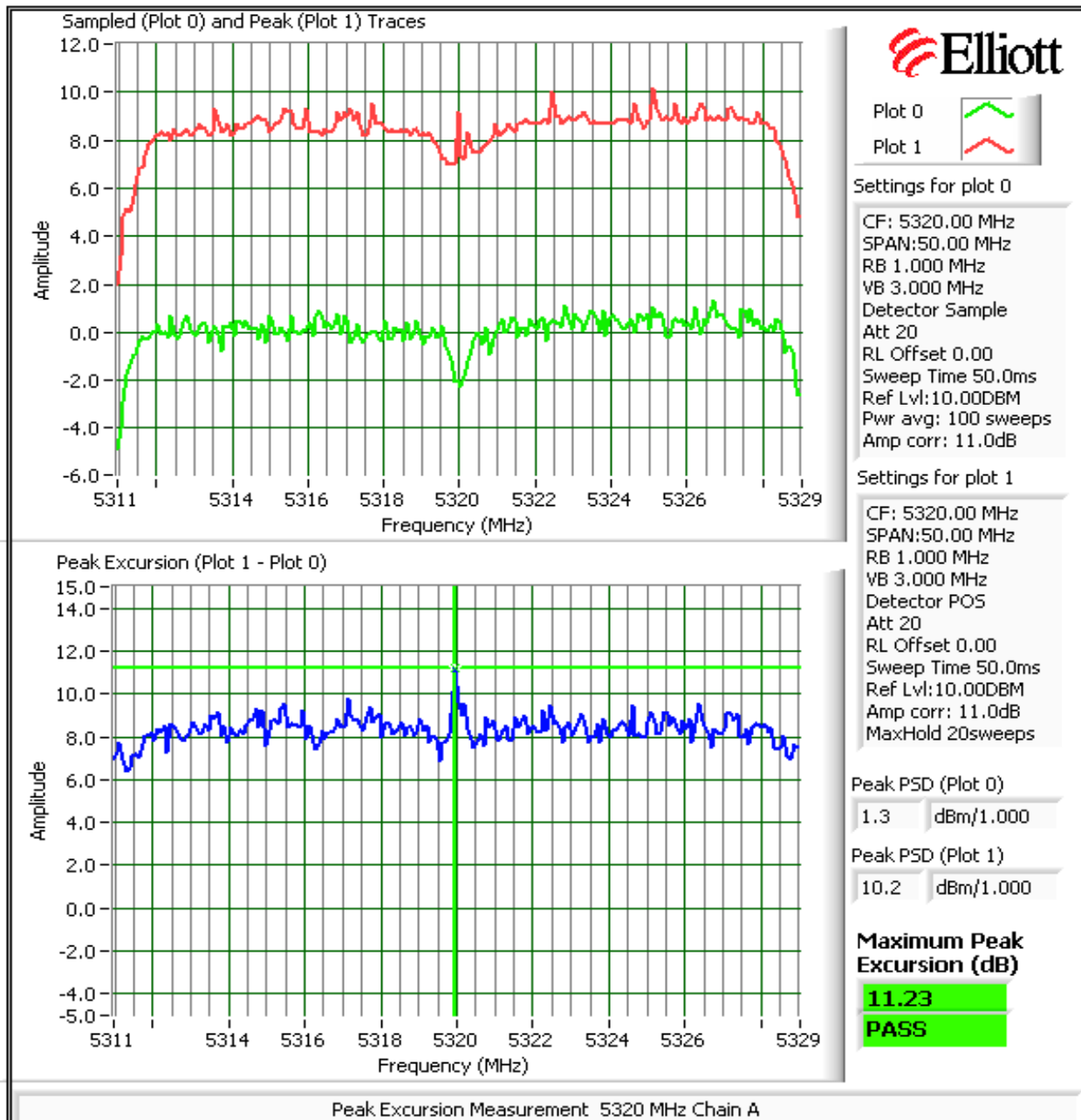
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



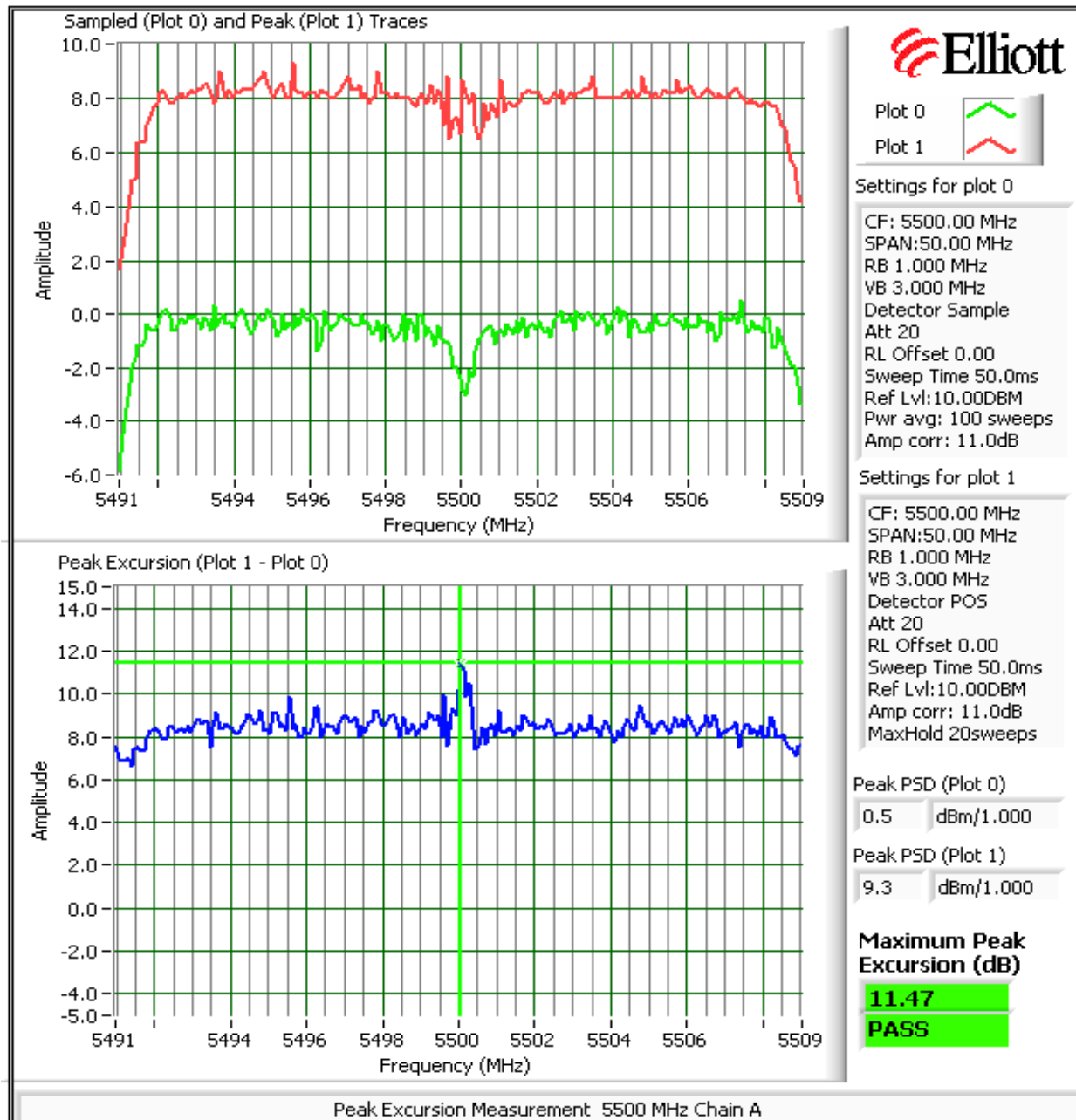
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



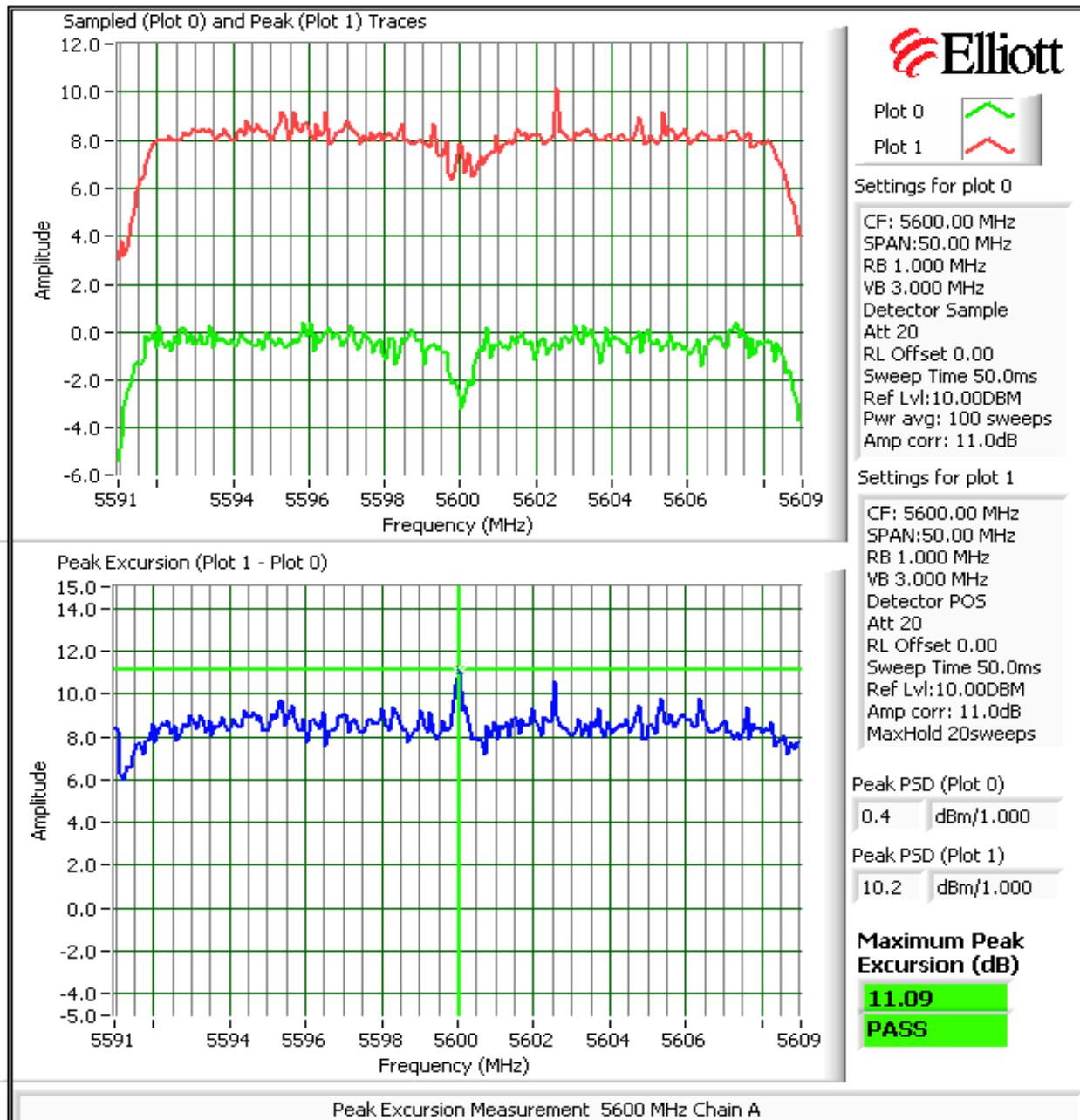
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



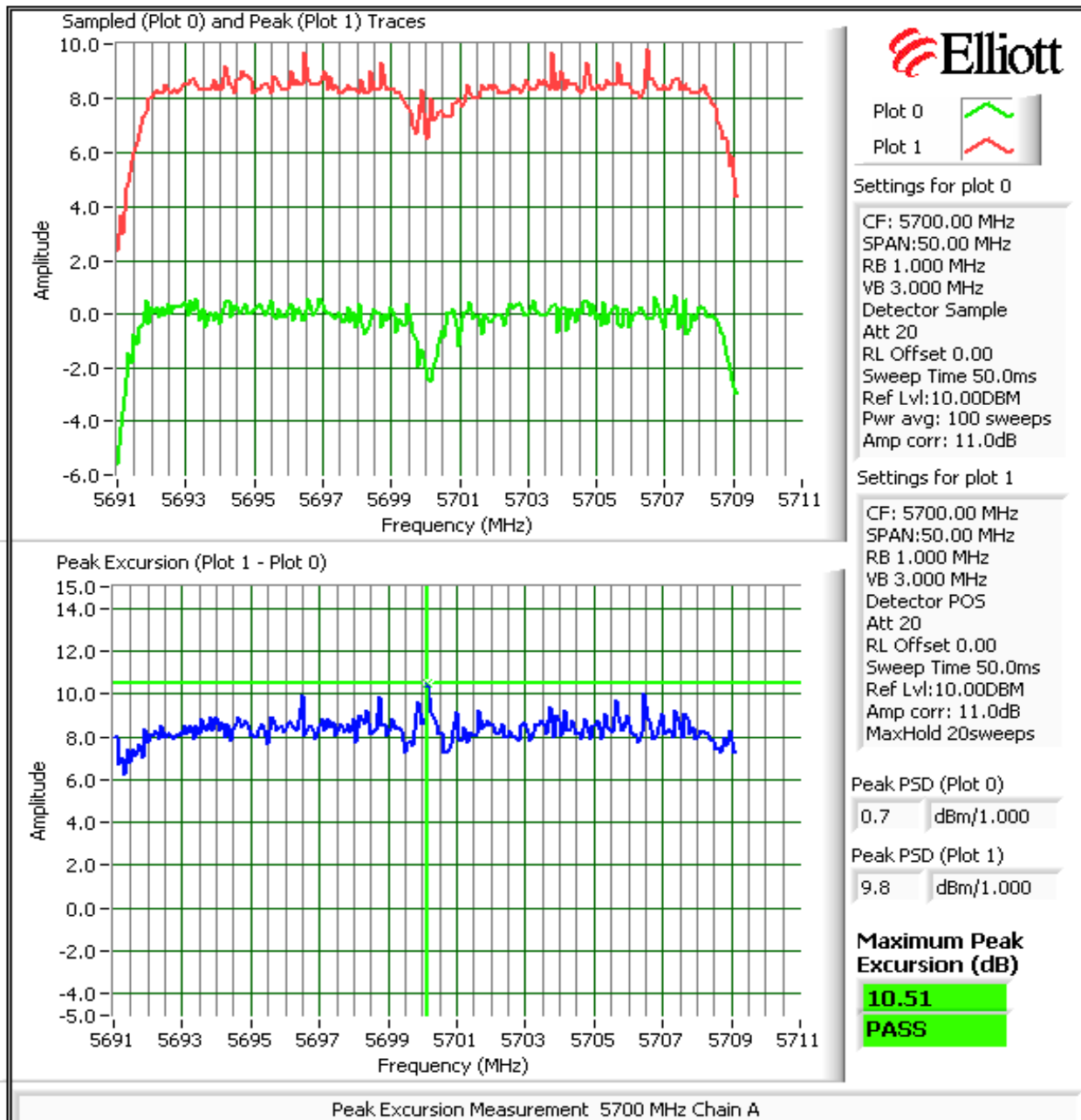
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain B, 802.11n 20 MHz mode
Power, PSD, Peak Excursion, Bandwidth and Spurious Emissions

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/16/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions: Temperature: 19.9 °C
 Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	14.1 dBm(26mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	14.6 dBm(29mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	15.5 dBm(35mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	1.4 dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	2.1 dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	2.7 dBm/MHz
1	26dB Bandwidth	15.407	-	40.8 MHz
1	99% Bandwidth	RSS 210	-	18.3 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	11.7 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.



EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	30.5	37.7	18.2	13.8	17.0	0.024	1.1	4.0	5.0	Pass
5200	30.0	40.8	18.1	14.1	17.0	0.026	1.4	4.0	5.0	Pass
5240	28.5	33.3	18.1	14.1	17.0	0.026	1.4	4.0	5.0	Pass
5260	28.0	35.3	18.1	14.3	24.0	0.027	1.6	11.0	11.0	Pass
5280	27.5	40.4	18.1	14.6	24.0	0.029	2.1	11.0	11.0	Pass
5320	26.0	33.5	18.2	14.5	24.0	0.028	1.9	11.0	11.0	Pass
5500	25.0	31.4	18.2	14.3	24.0	0.027	1.5	11.0	11.0	Pass
5600	25.0	23.4	18.1	13.7	24.0	0.023	0.9	11.0	11.0	Pass
5700	26.5	35.9	18.3	15.5	24.0	0.035	2.7	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz

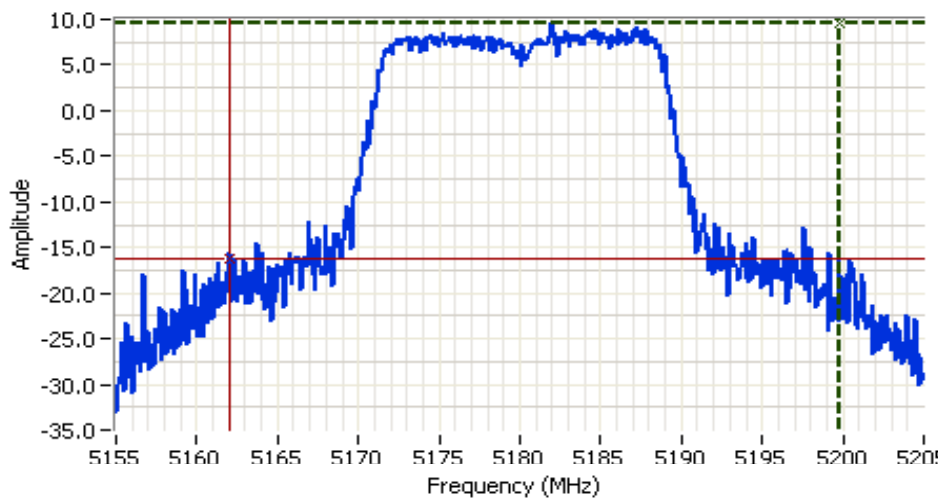
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

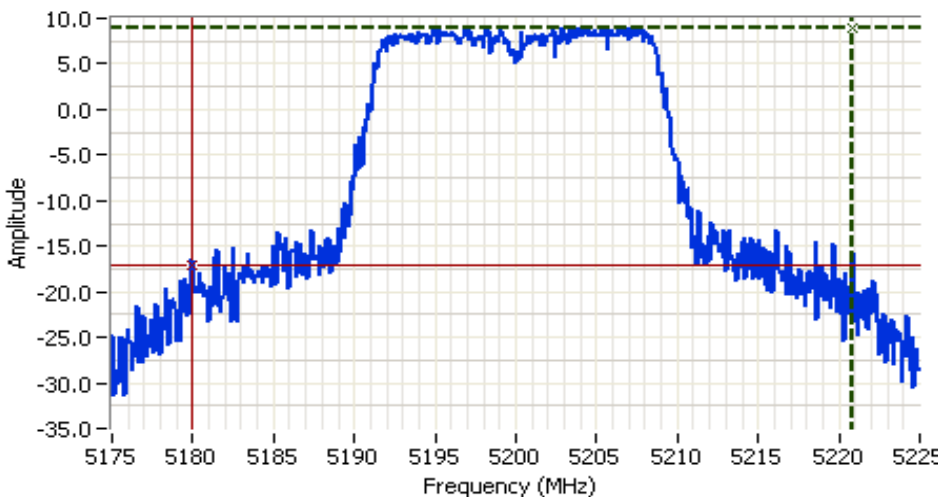
HP8564E,EMI
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 37.67 MHz
 Chain B, n20MHz

Cursor 1	5199.7500	9.67	
Cursor 2	5162.0833	-16.33	

Delta Freq. 37.67
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 40.83 MHz
 Chain B, n20MHz

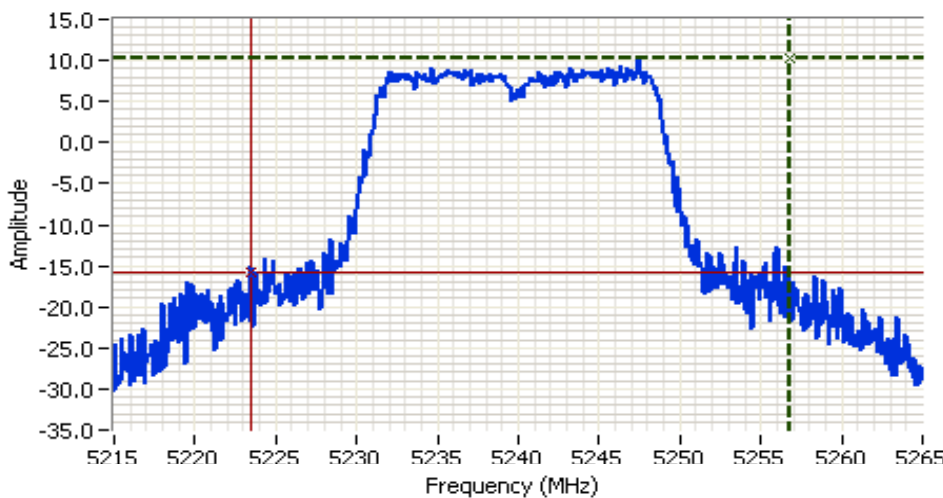
Cursor 1	5220.8333	9.00	
Cursor 2	5180.0000	-17.00	

Delta Freq. 40.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

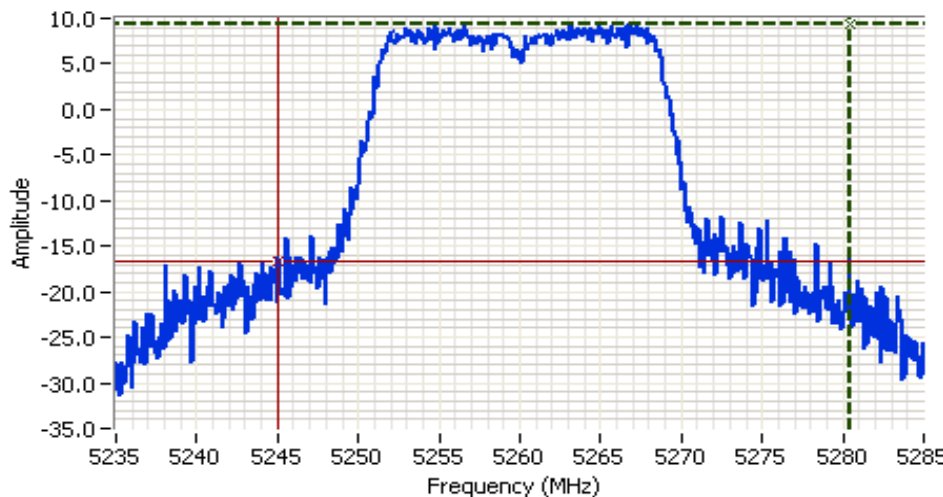
Comments
 26dB Bandwidth:
 33.25 MHz
 Chain B, n20MHz

Cursor 1 5256.7500 10.17

Cursor 2 5223.5000 -15.83

Delta Freq. 33.25

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 35.33 MHz
 Chain B, n20MHz

Cursor 1 5280.4167 9.33

Cursor 2 5245.0833 -16.67

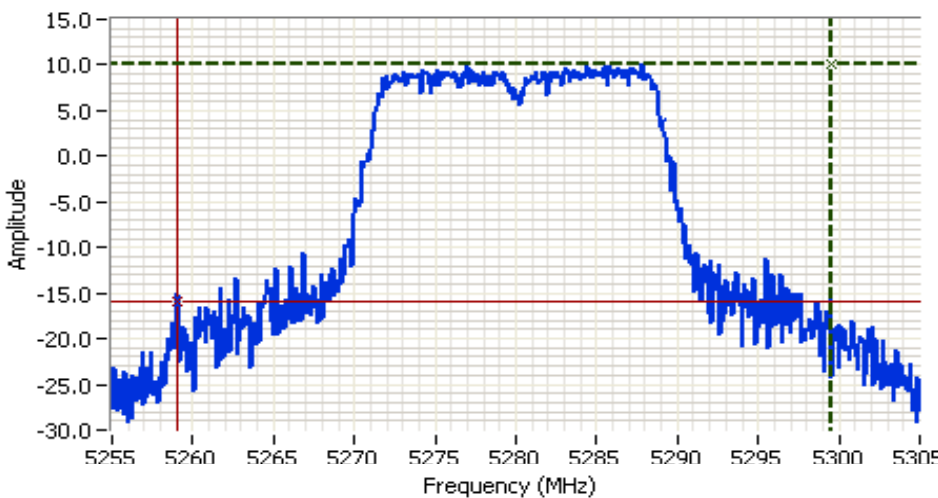
Delta Freq. 35.33

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

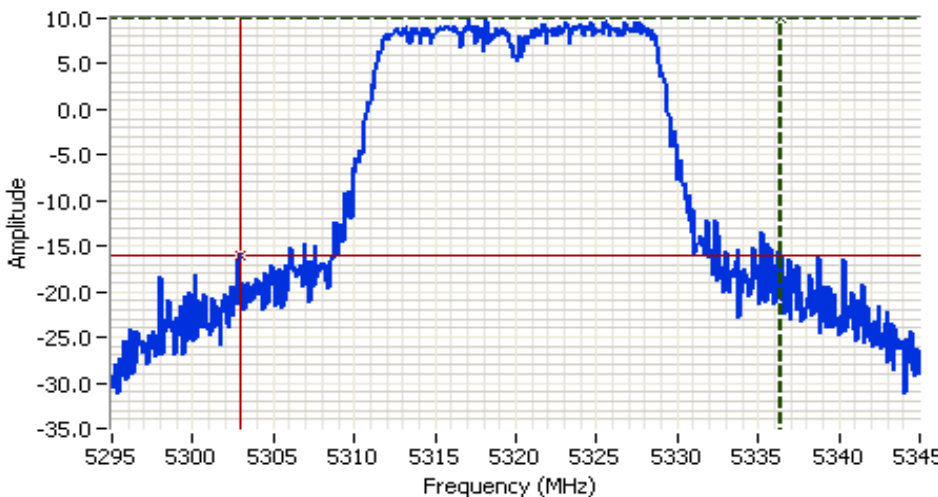


Analyzer Settings
 HP8564E,EMI
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 40.42 MHz
 Chain B, n20MHz

Cursor 1	5299.5000	10.17	
Cursor 2	5259.0833	-15.83	

Delta Freq. 40.42
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 33.50 MHz
 Chain B, n20MHz

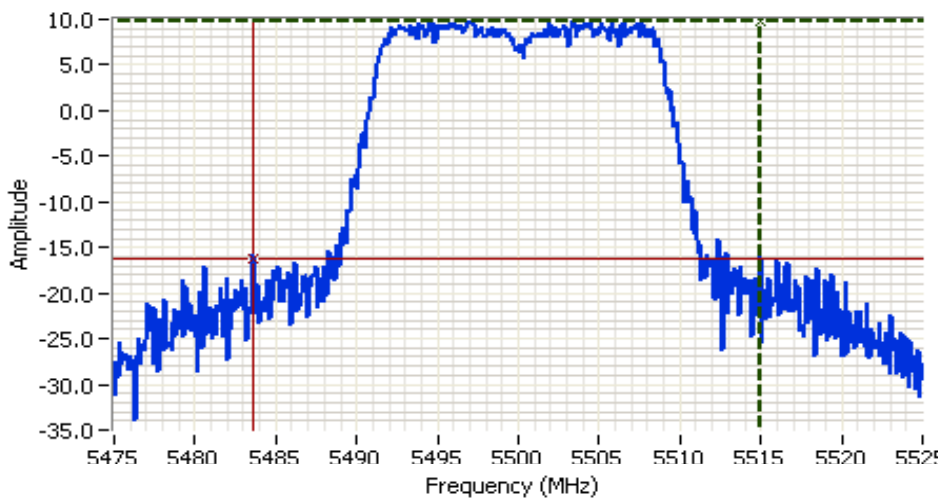
Cursor 1	5336.4167	10.00	
Cursor 2	5302.9167	-16.00	

Delta Freq. 33.50
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

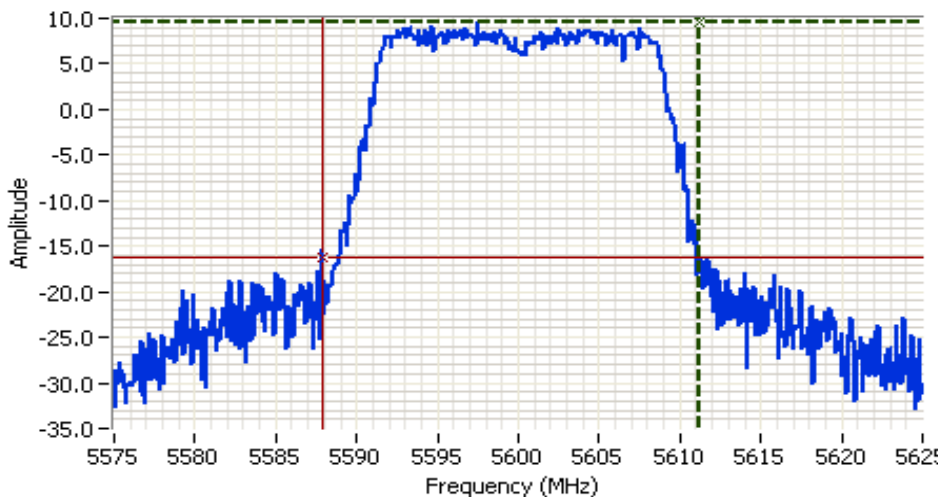


Analyzer Settings
 HP8564E,EMI
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 31.42 MHz
 Chain B, n20MHz

Cursor 1	5515.0000	9.83	⊕ ⊖ 🔒
Cursor 2	5483.5833	-16.17	⊕ ⊖ 🔒

Delta Freq. 31.42
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 23.42 MHz
 Chain B, n20MHz

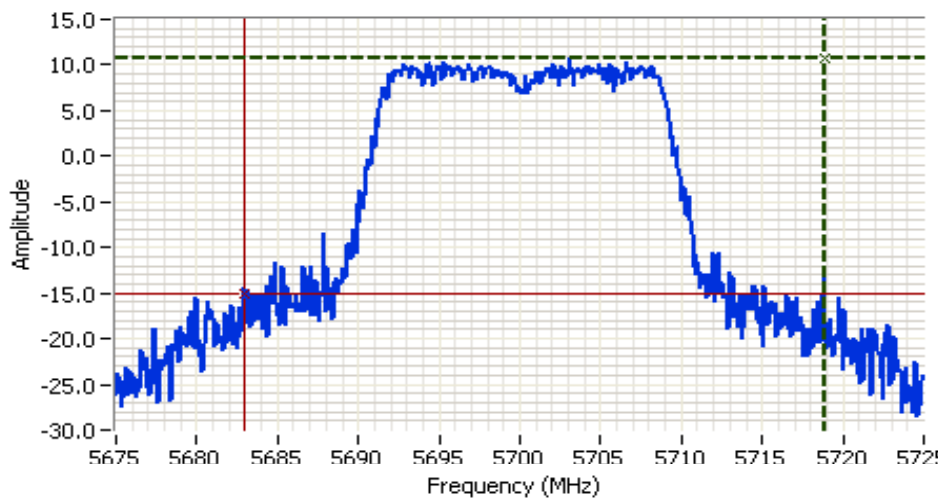
Cursor 1	5611.2500	9.67	⊕ ⊖ 🔒
Cursor 2	5587.8333	-16.33	⊕ ⊖ 🔒

Delta Freq. 23.42
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



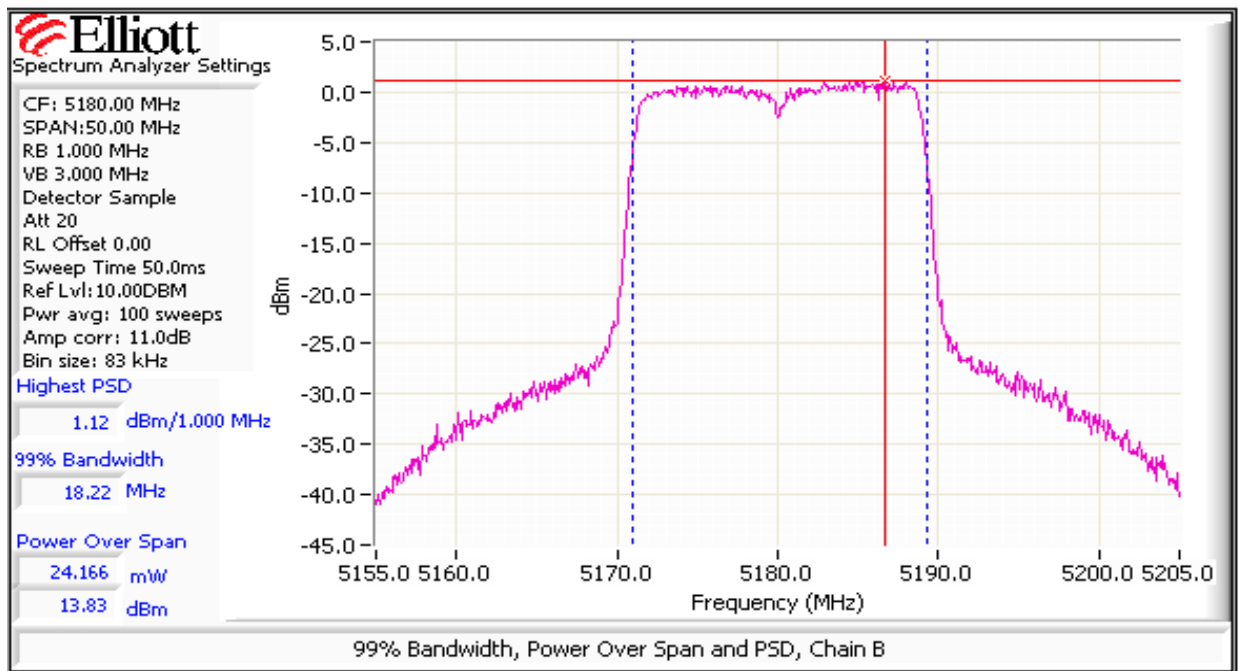
Analyzer Settings

HP8564E,EMI
 CF: 5700.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

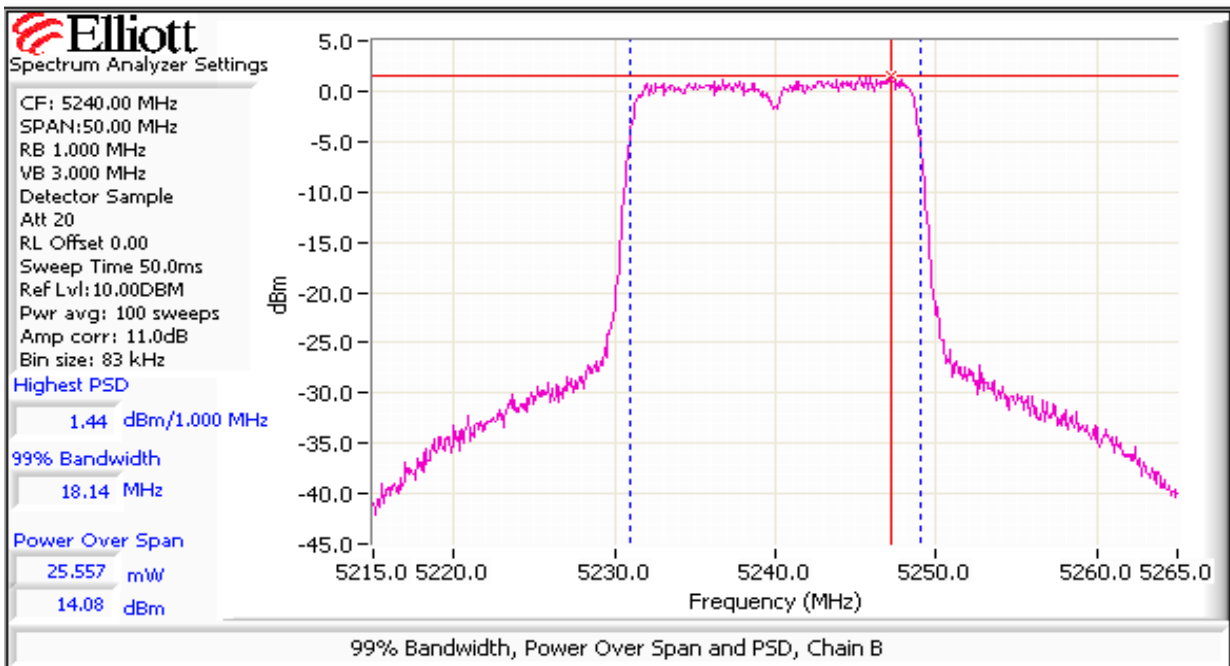
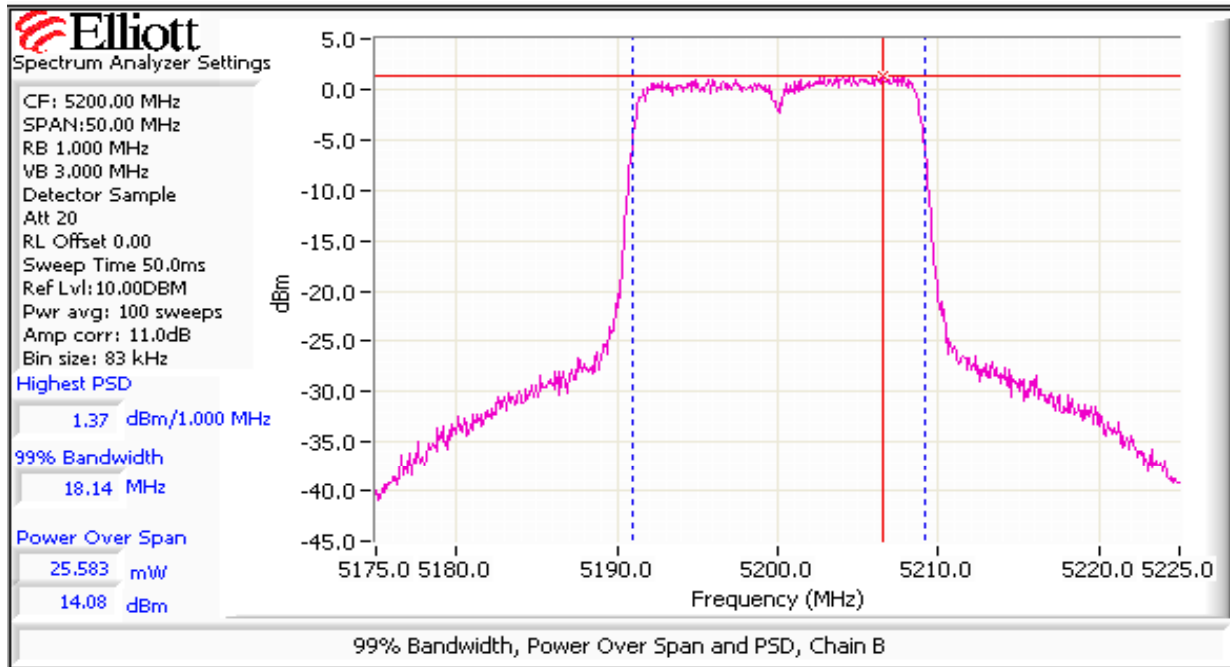
26dB Bandwidth:
 35.92 MHz
 Chain B, n20MHz

Cursor 1	5718.8333	10.83		Delta Freq.	35.92
Cursor 2	5682.9167	-15.17		Delta Amplitude	26.00



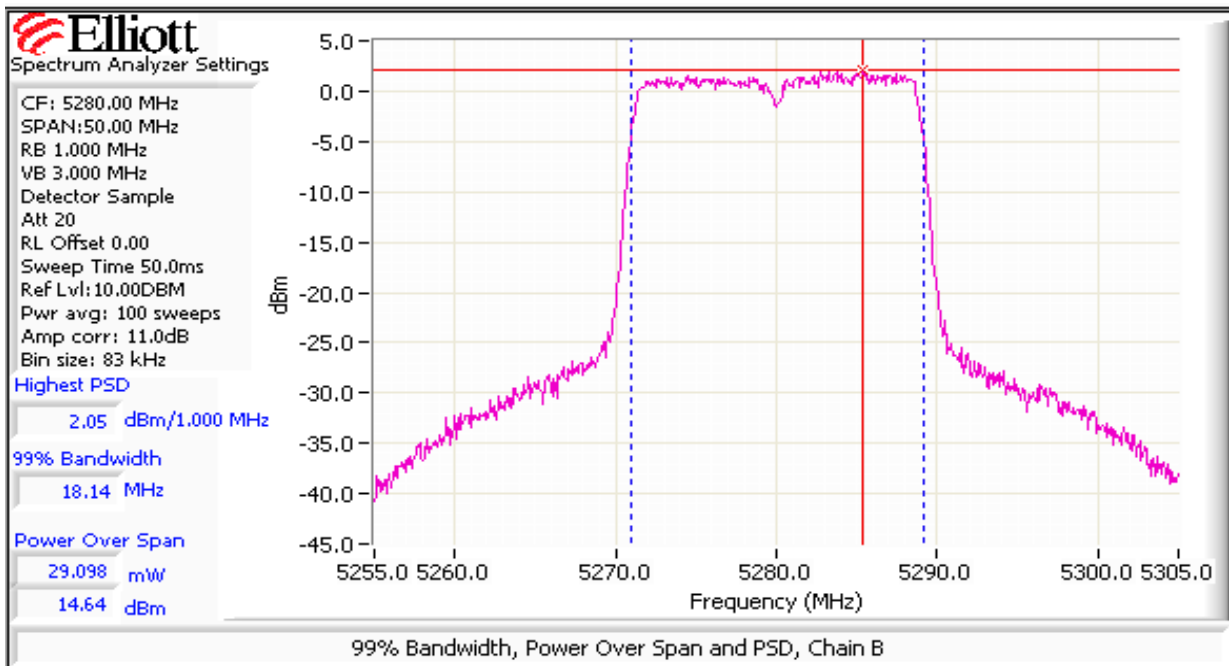
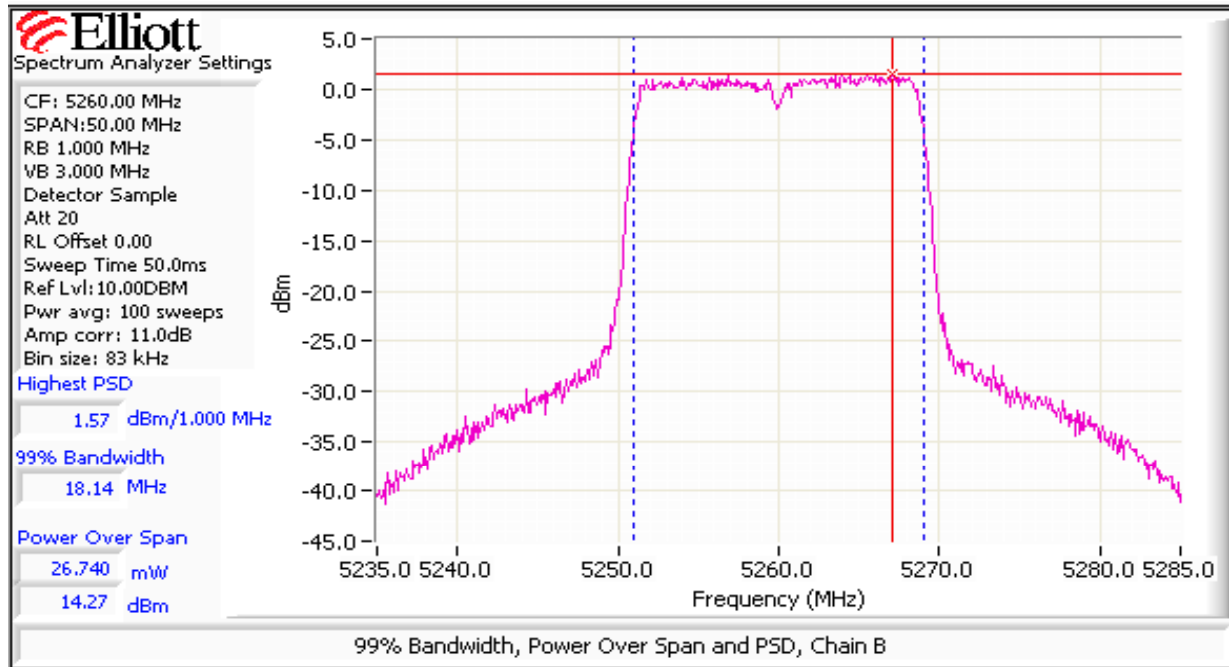
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



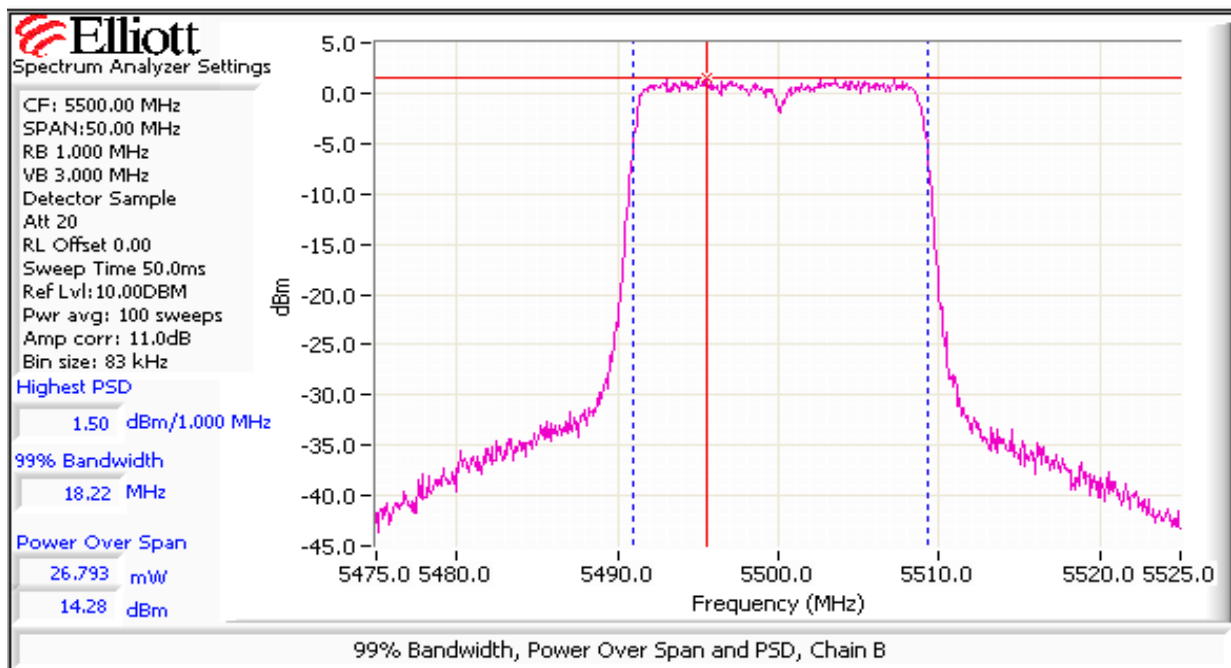
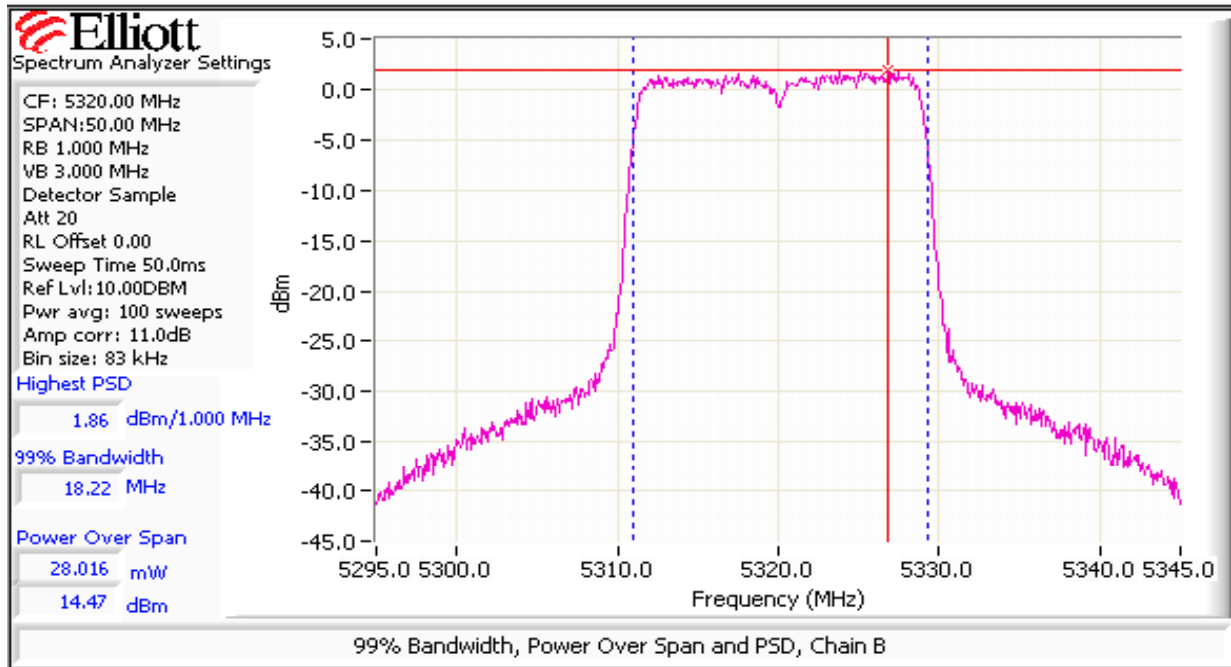
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



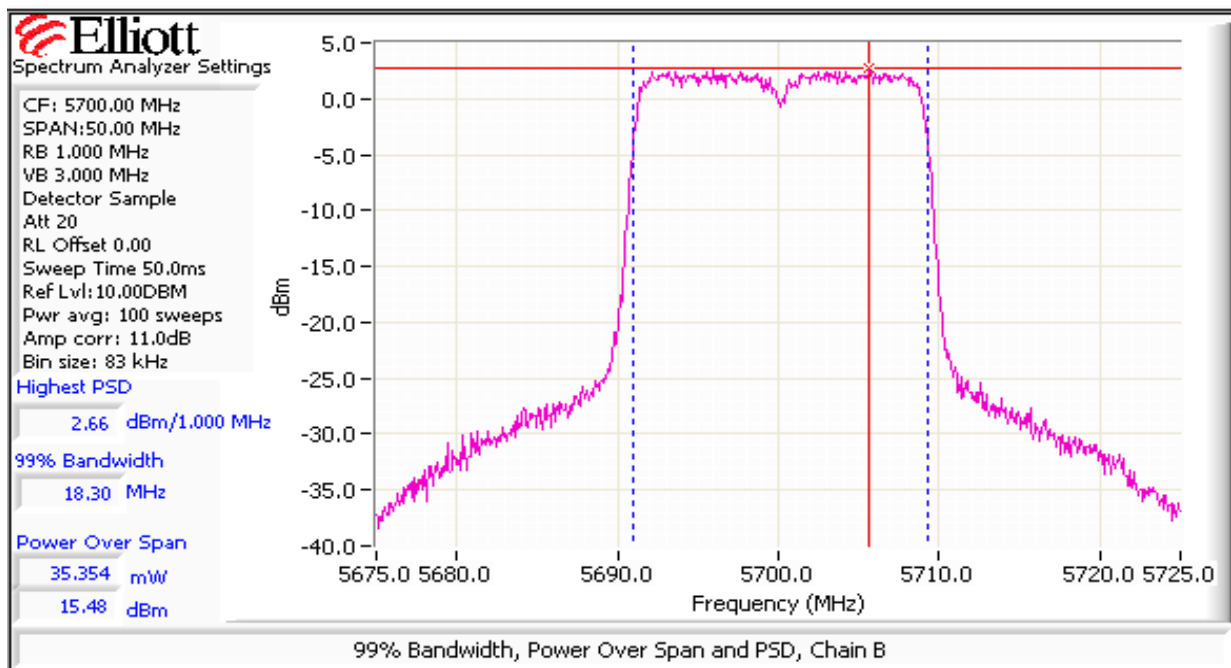
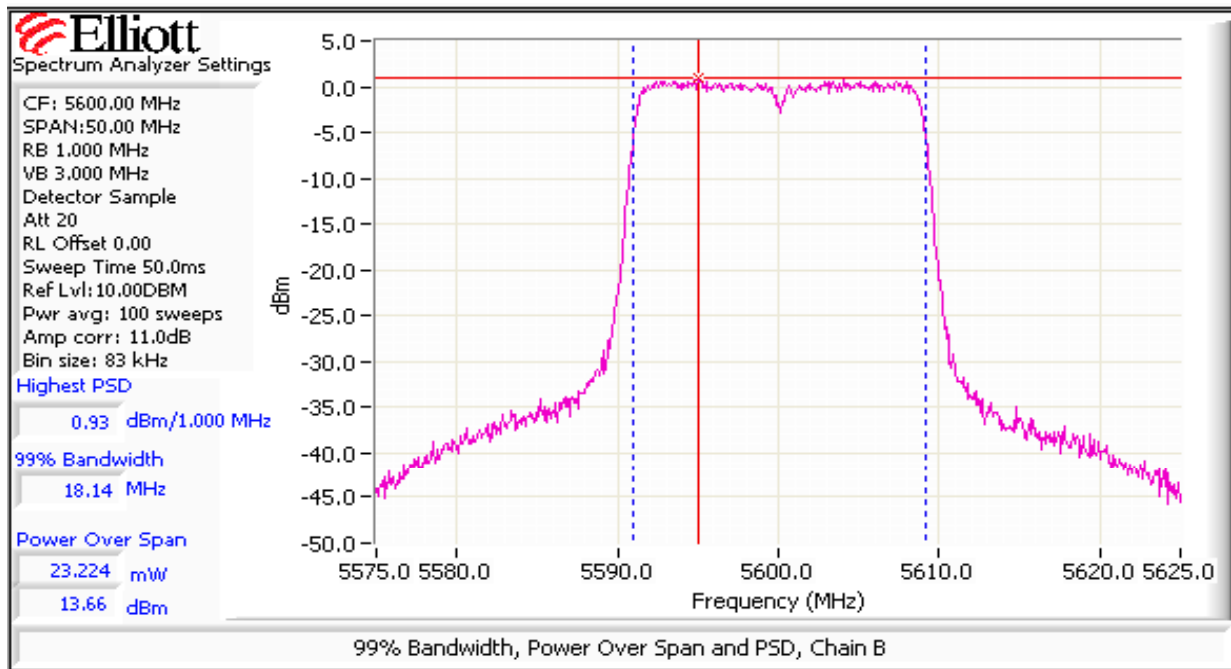
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Peak Excursion(dB)			Peak Excursion(dB)			Peak Excursion(dB)		
Freq (MHz)	Value	Limit	Freq (MHz)	Value	Limit	Freq (MHz)	Value	Limit
5180	11.7	13.0	5260	10.2	13.0	5500	10.5	13.0
5200	11.1	13.0	5280	9.9	13.0	5600	10.9	13.0
5240	11.1	13.0	5320	10.5	13.0	5700	10.4	13.0

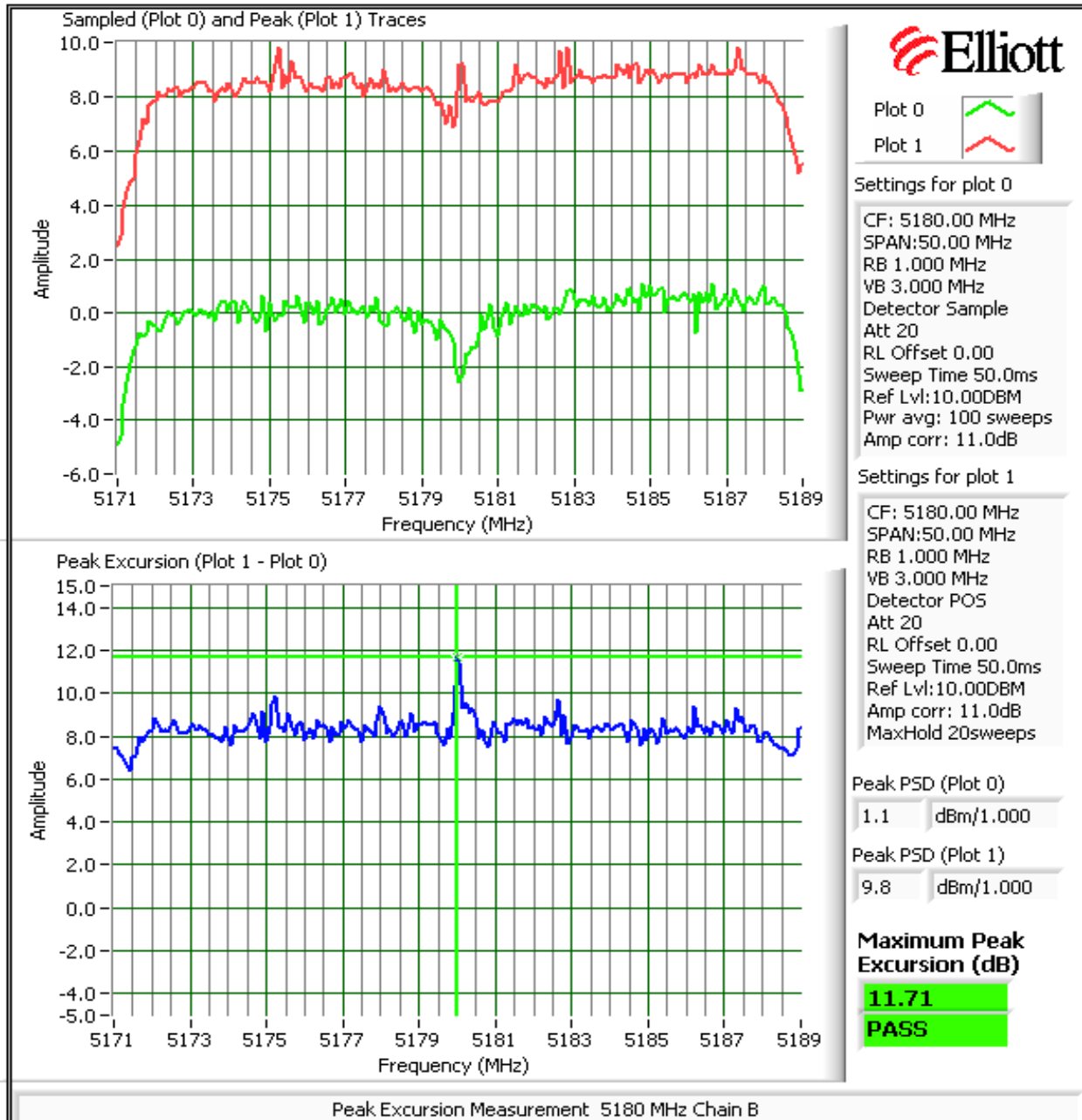
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

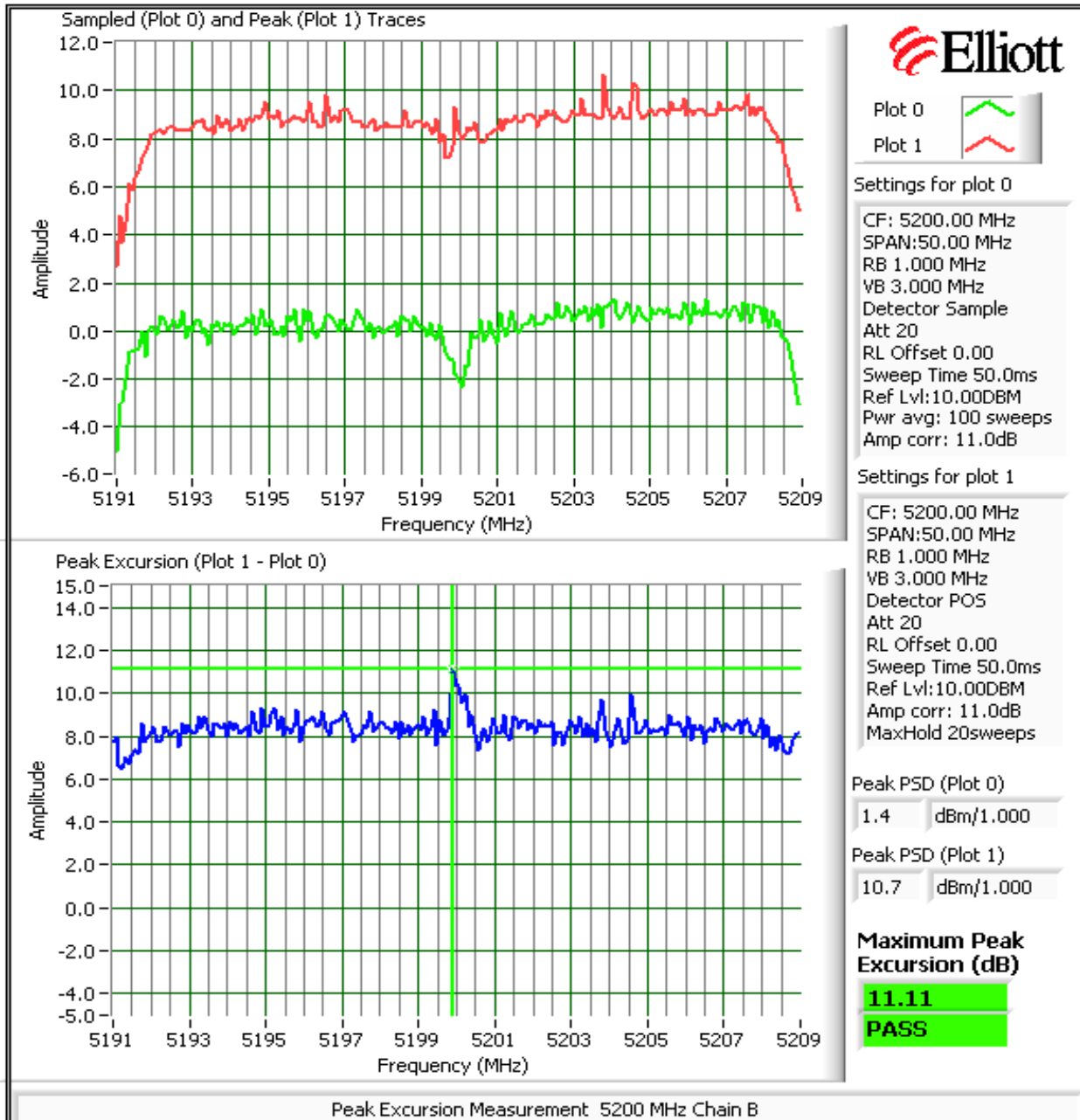
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



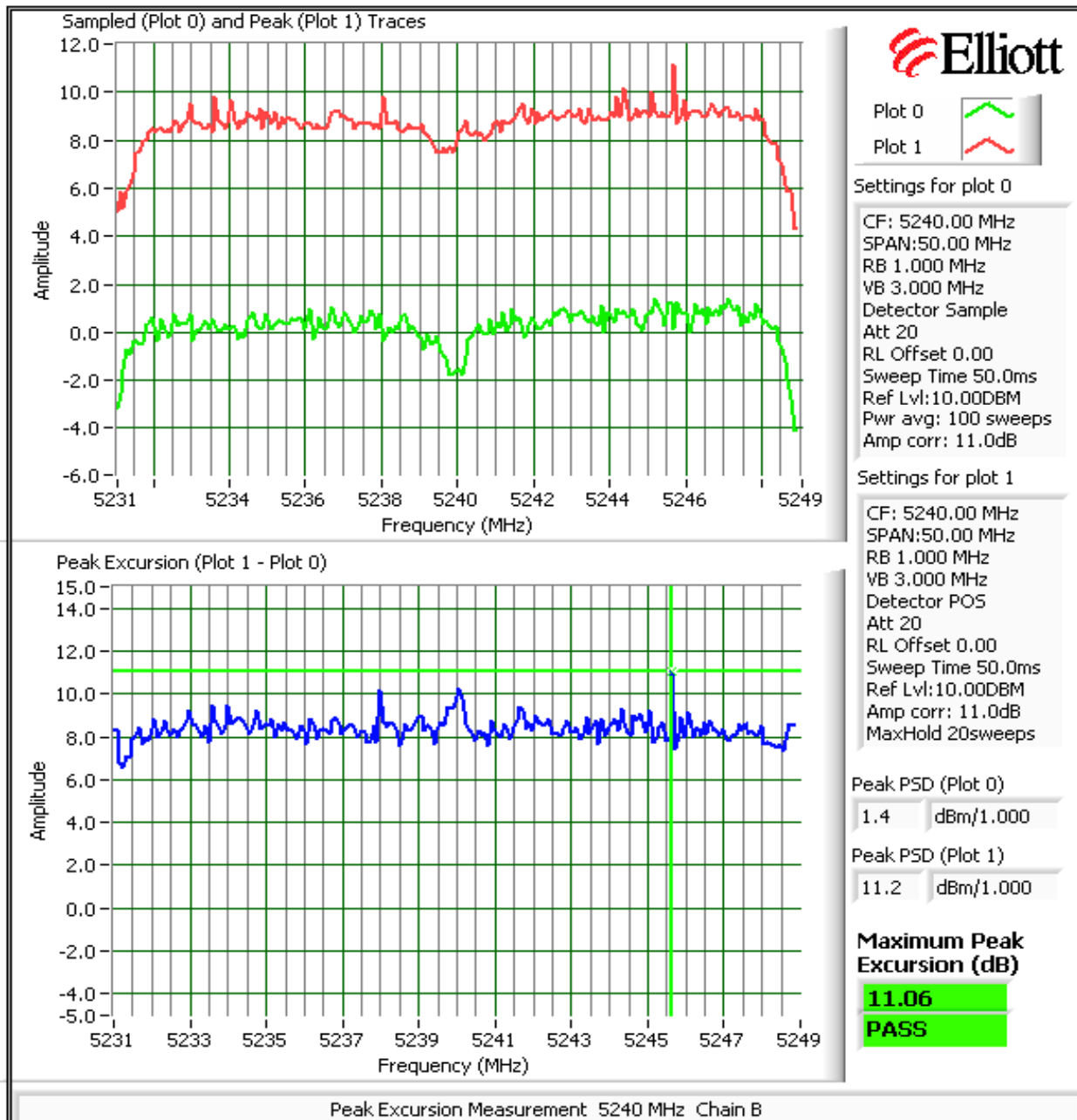
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



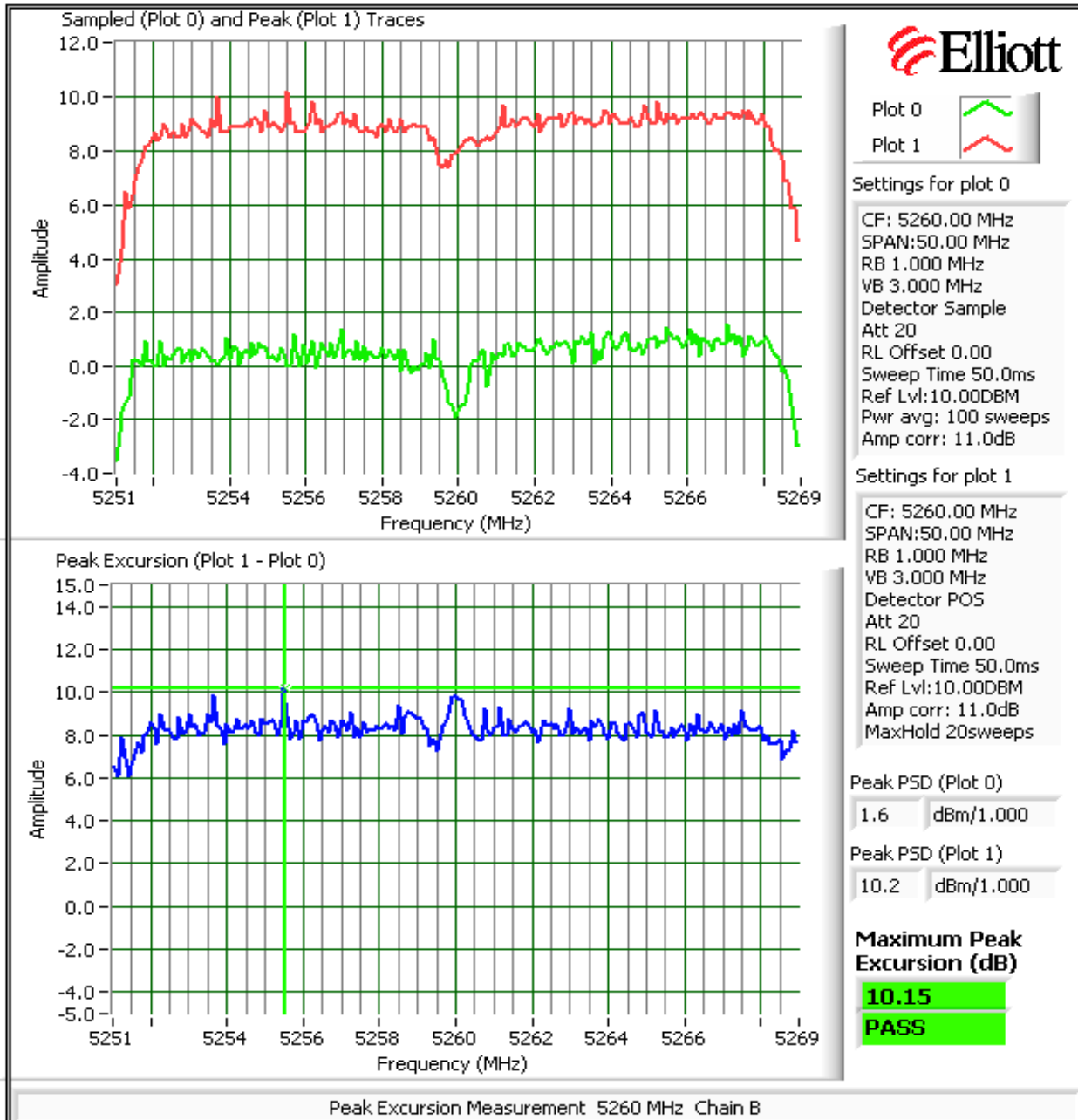
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



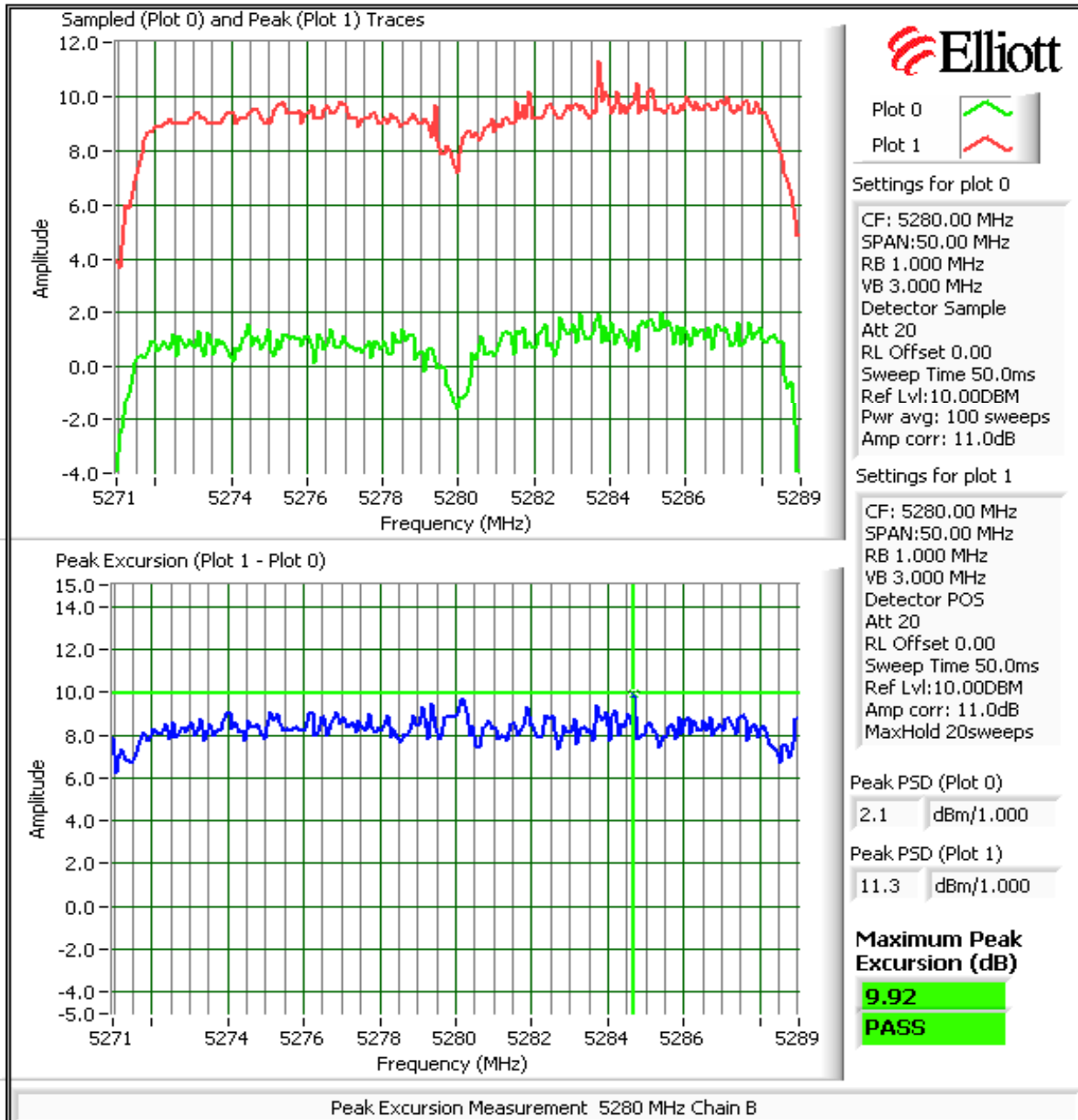
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



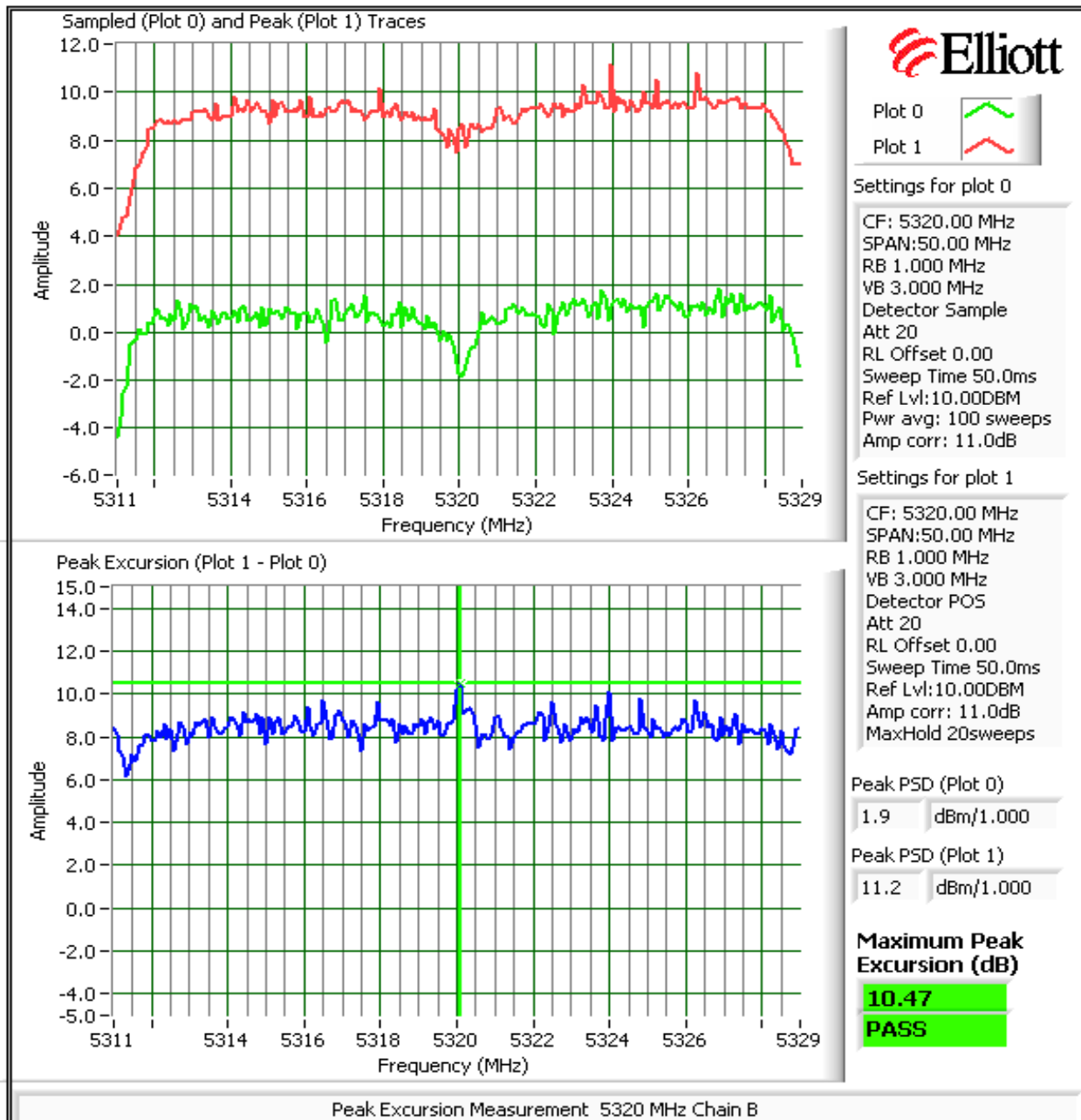
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



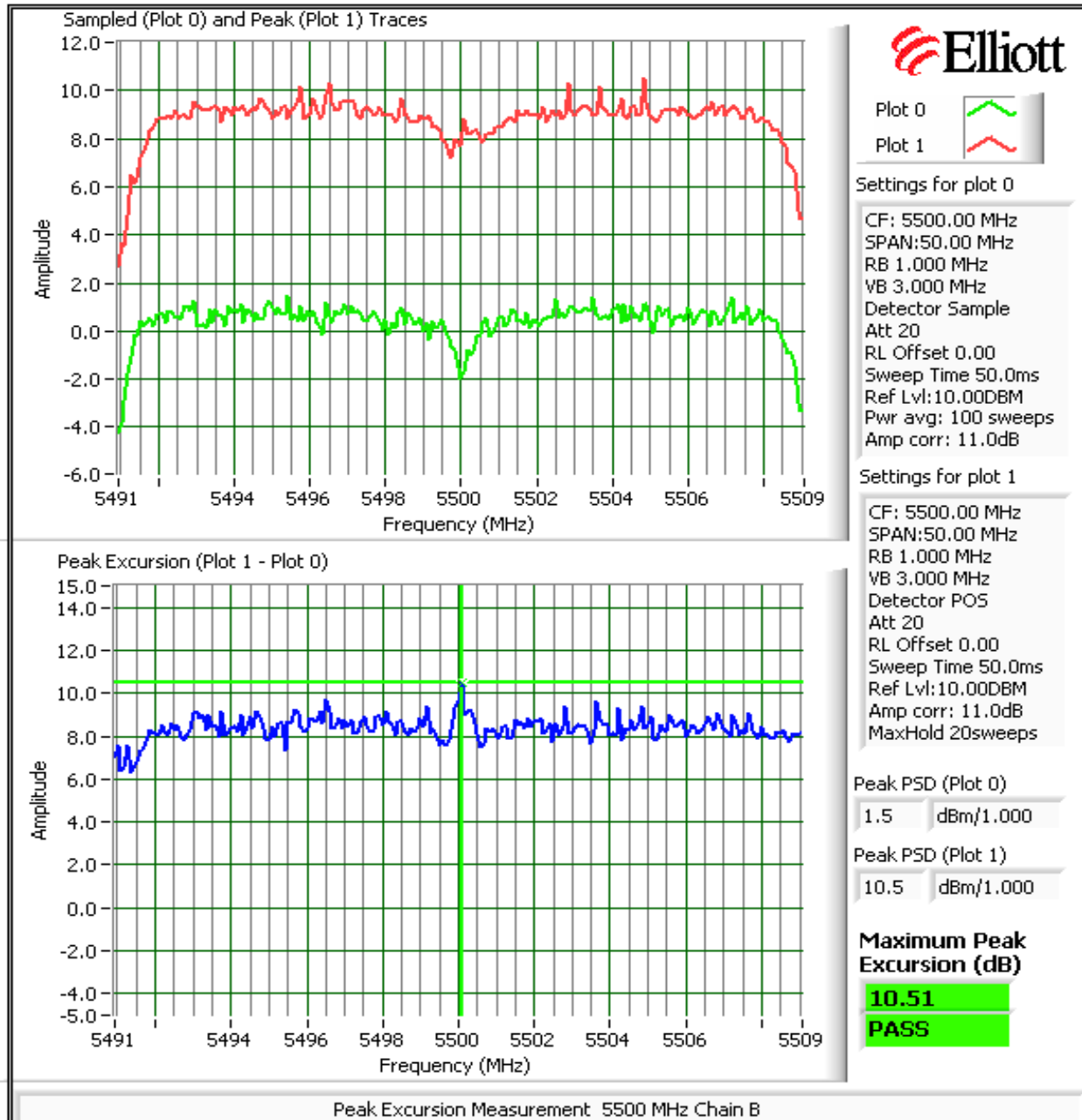
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



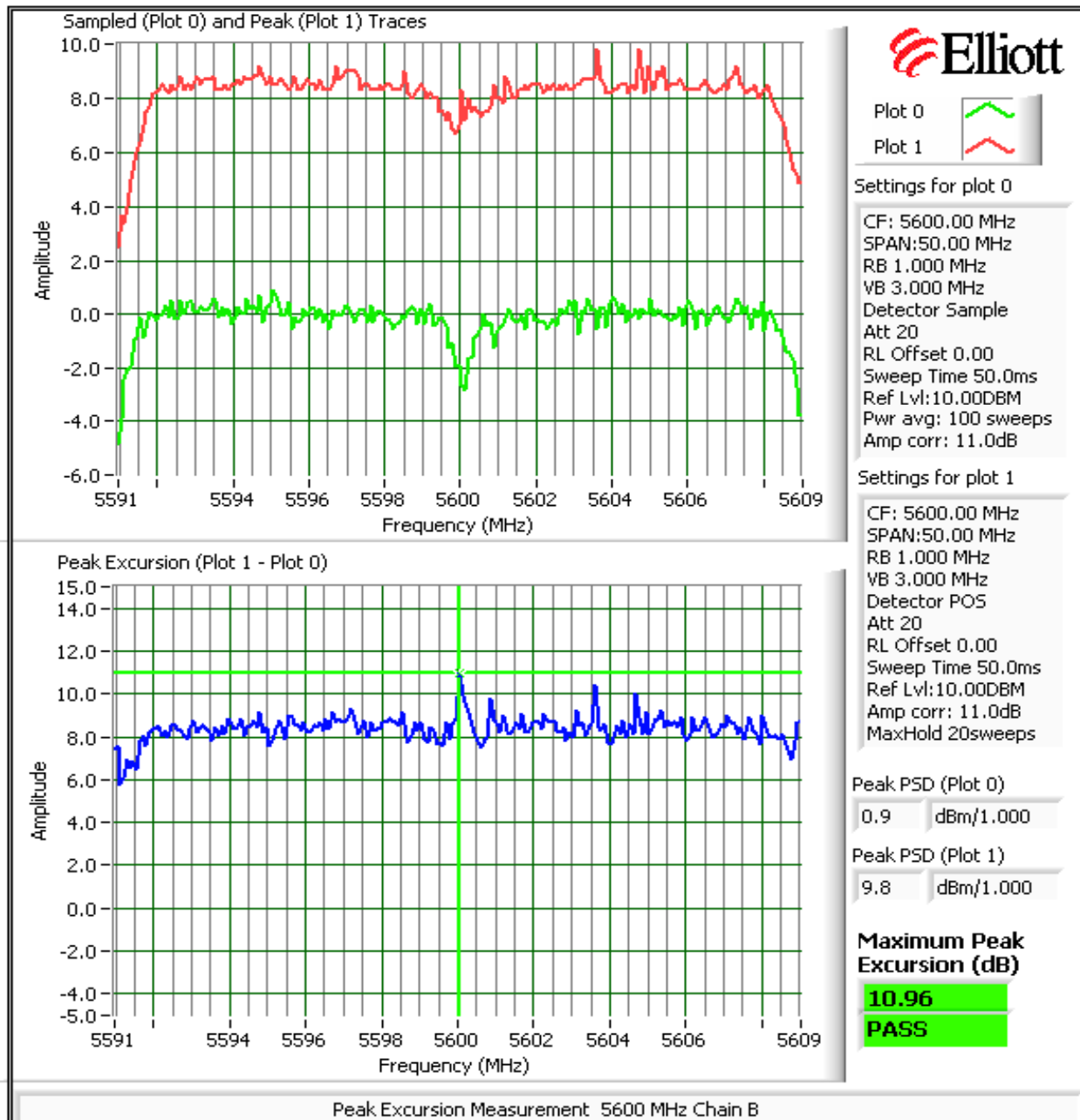
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



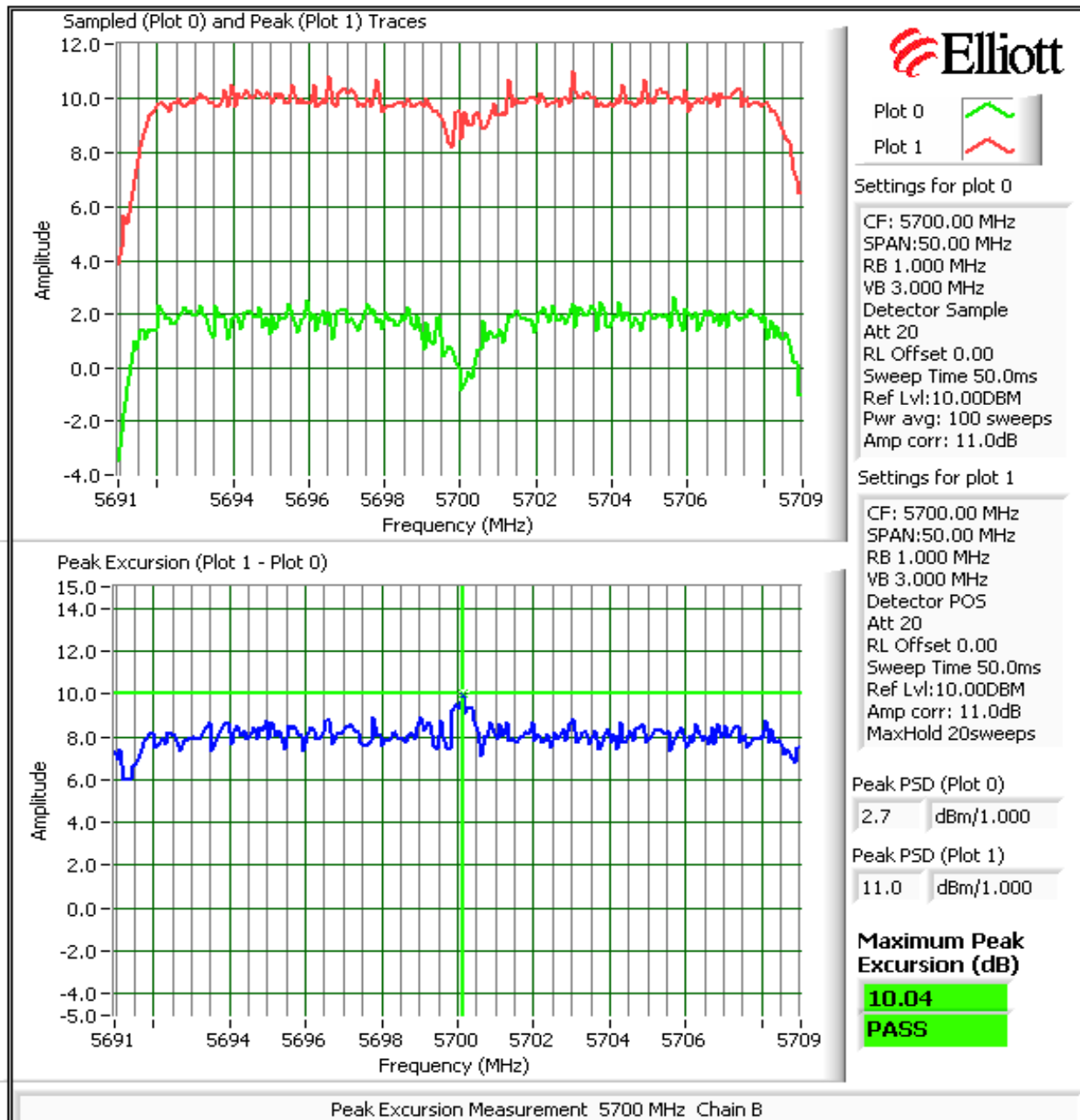
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5180	31.0	42.5	18.2	14.2	17.0	0.026	1.6	4.0	5.0	Pass
5200	30.0	37.0	18.1	13.9	17.0	0.024	1.1	4.0	5.0	Pass
5240	30.0	41.3	18.1	14.8	17.0	0.030	2.2	4.0	5.0	Pass
5260	30.0	36.8	18.1	15.2	24.0	0.033	2.5	11.0	11.0	Pass
5280	28.0	27.5	18.1	14.2	24.0	0.026	1.3	11.0	11.0	Pass
5320	28.0	28.1	18.2	14.9	24.0	0.031	2.2	11.0	11.0	Pass
5500	26.0	26.9	18.2	14.5	24.0	0.028	1.8	11.0	11.0	Pass
5600	25.5	23.6	18.1	13.6	24.0	0.023	0.7	11.0	11.0	Pass
5700	26.5	28.3	18.2	15.0	24.0	0.032	2.1	11.0	11.0	Pass

Note 1: Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz

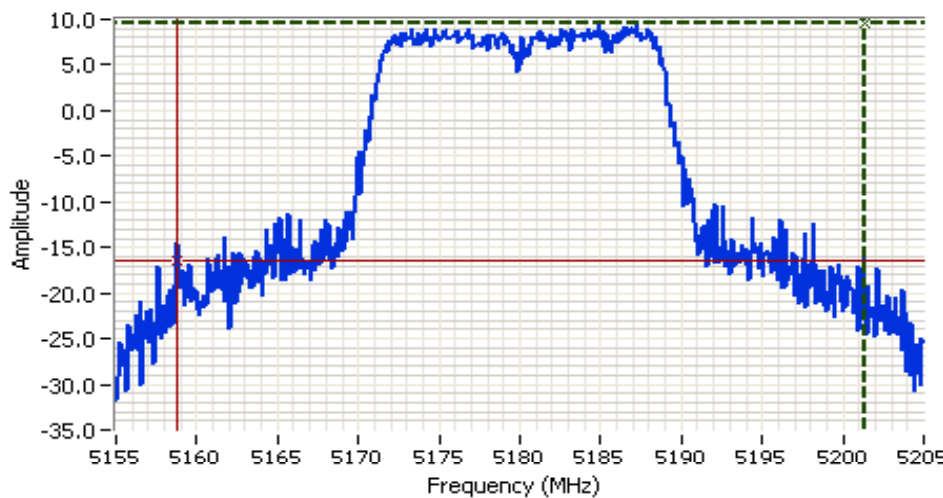
Note 2: Measured using the same analyzer settings used for output power.

Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.

Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5180.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

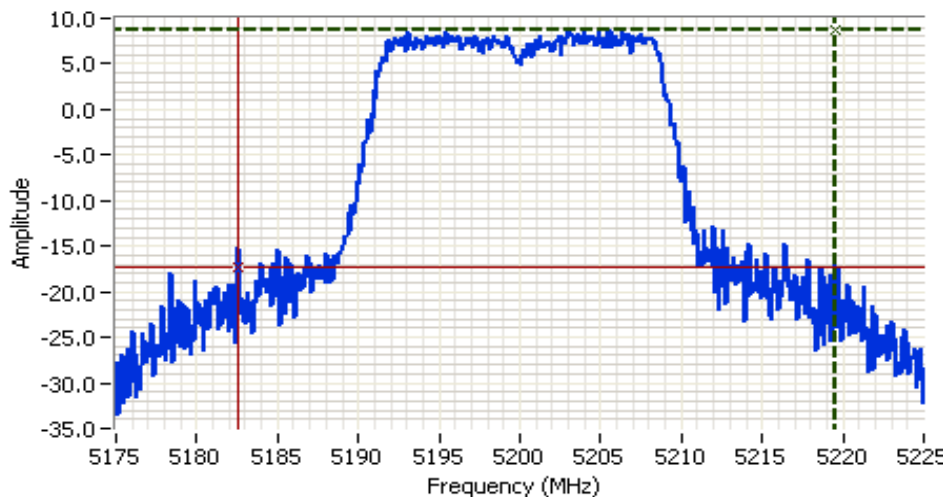
Comments
 26dB Bandwidth:
 42.50 MHz
 Chain C, n20MHz

Cursor 1 5201.3333 9.50

Cursor 2 5158.8333 -16.50

Delta Freq. 42.50

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5200.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 37.00 MHz
 Chain C, n20MHz

Cursor 1 5219.5833 8.67

Cursor 2 5182.5833 -17.33

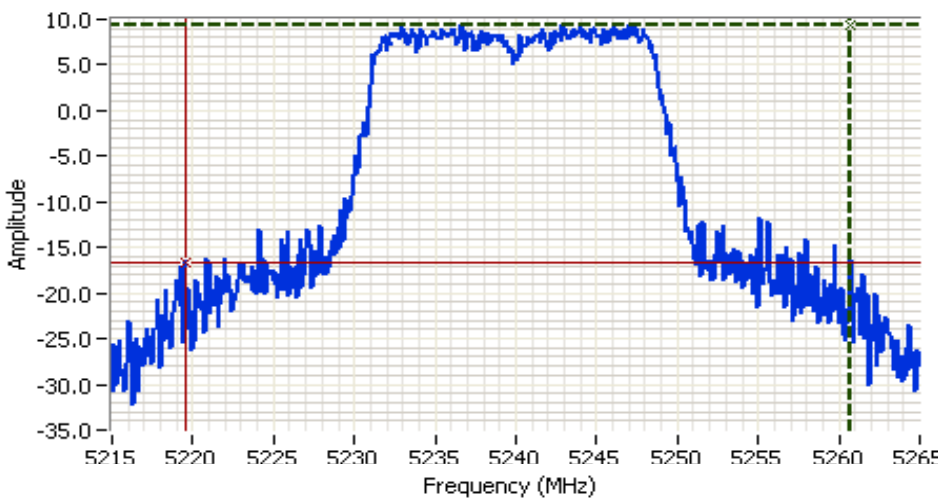
Delta Freq. 37.00

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5240.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

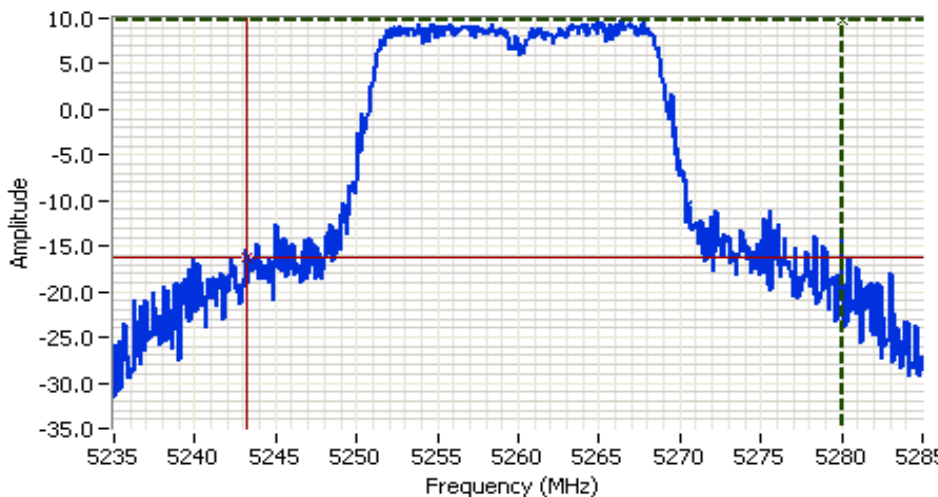
Comments
 26dB Bandwidth:
 41.25 MHz
 Chain C, n20MHz

Cursor 1 5260.7500 9.33

Cursor 2 5219.5000 -16.67

Delta Freq. 41.25

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5260.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 36.83 MHz
 Chain C, n20MHz

Cursor 1 5280.0000 9.83

Cursor 2 5243.1667 -16.17

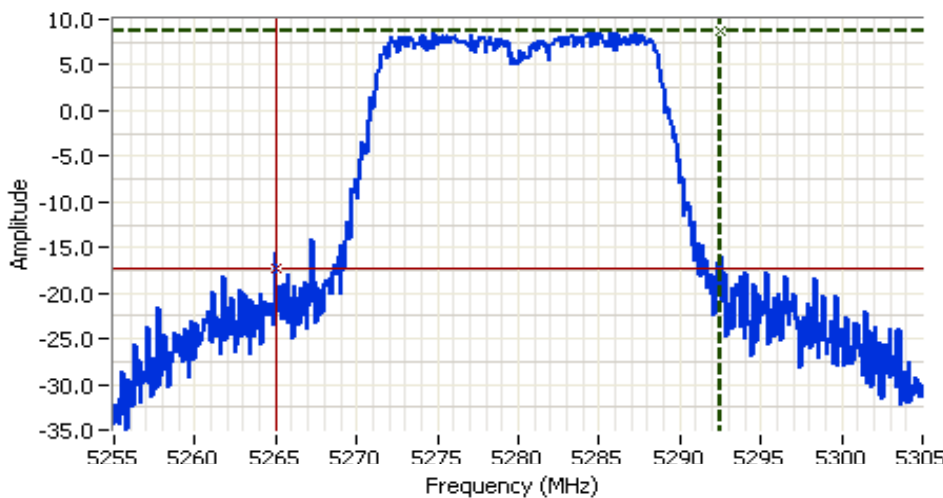
Delta Freq. 36.83

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

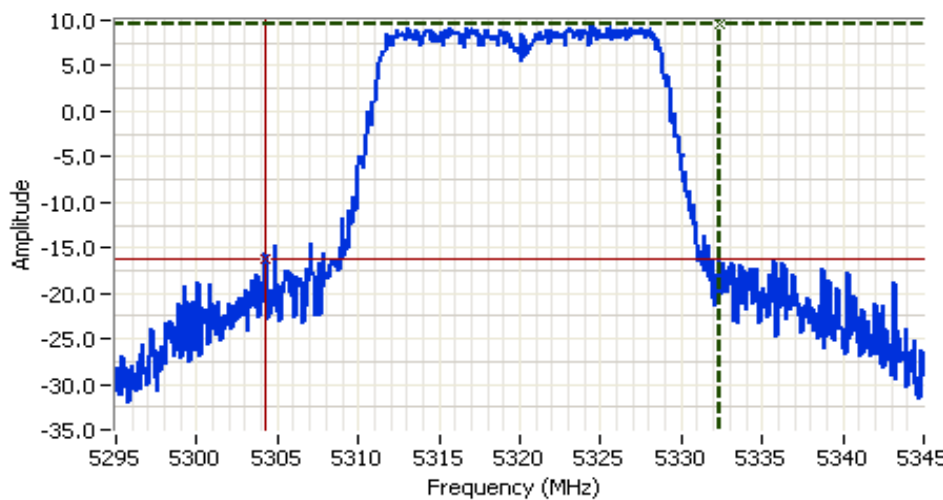
HP8564E,EMI
 CF: 5280.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 27.50 MHz
 Chain C, n20MHz

Cursor 1	5292.5000	8.67	
Cursor 2	5265.0000	-17.33	

Delta Freq. 27.50
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5320.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 28.08 MHz
 Chain C, n20MHz

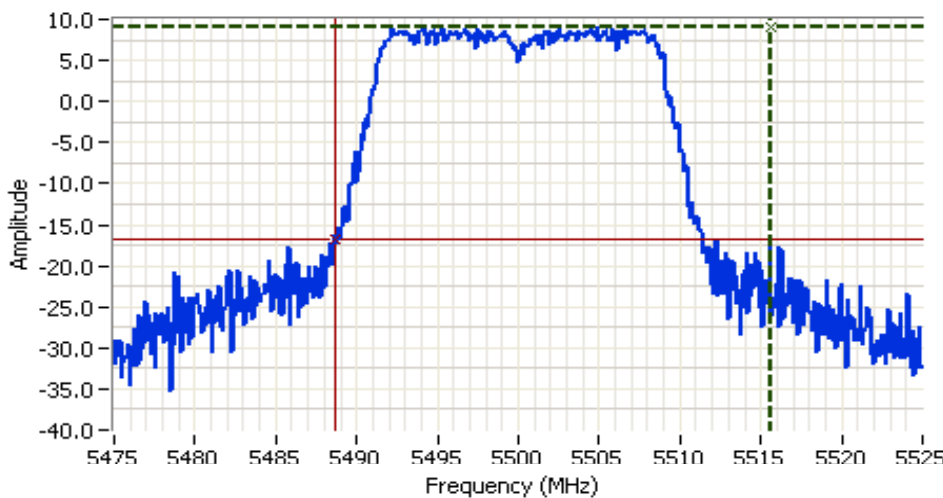
Cursor 1	5332.3333	9.67	
Cursor 2	5304.2500	-16.33	

Delta Freq. 28.08
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

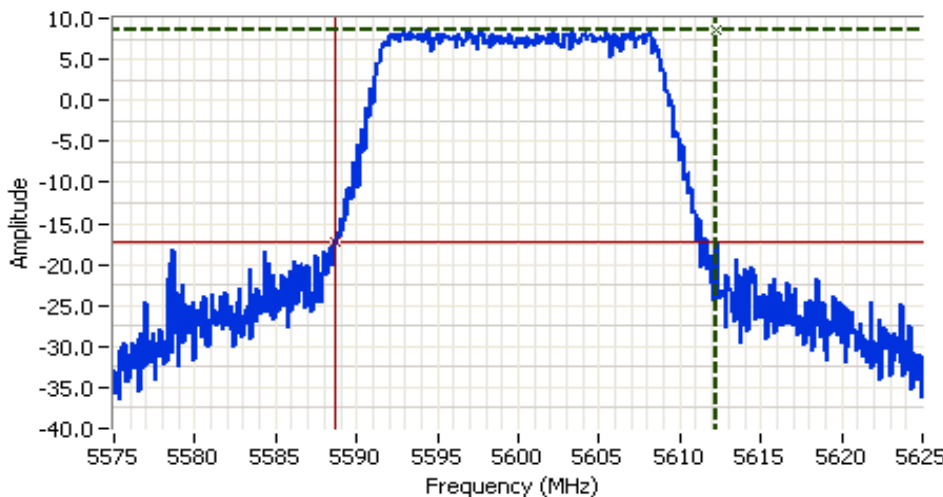


Analyzer Settings
 HP8564E,EMI
 CF: 5500.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 26.92 MHz
 Chain C, n20MHz

Cursor 1	5515.5833	9.17	⊕ ⊖ 🔒
Cursor 2	5488.6667	-16.83	⊕ ⊖ 🔒

Delta Freq. 26.92
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5600.00 MHz
 SPAN:50.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 23.58 MHz
 Chain C, n20MHz

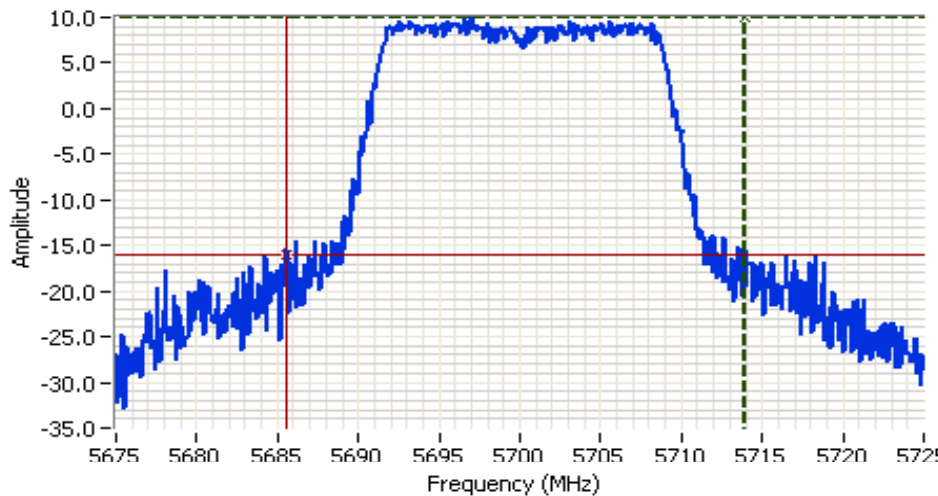
Cursor 1	5612.2500	8.67	⊕ ⊖ 🔒
Cursor 2	5588.6667	-17.33	⊕ ⊖ 🔒

Delta Freq. 23.58
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

- HP8564E, EMI
- CF: 5700.00 MHz
- SPAN: 50.00 MHz
- RB 1.000 MHz
- VB 3.000 MHz
- Detector POS
- Att 20
- RL Offset 11.00
- Sweep Time 50.0ms
- Ref Lvl: 21.00DBM

Comments

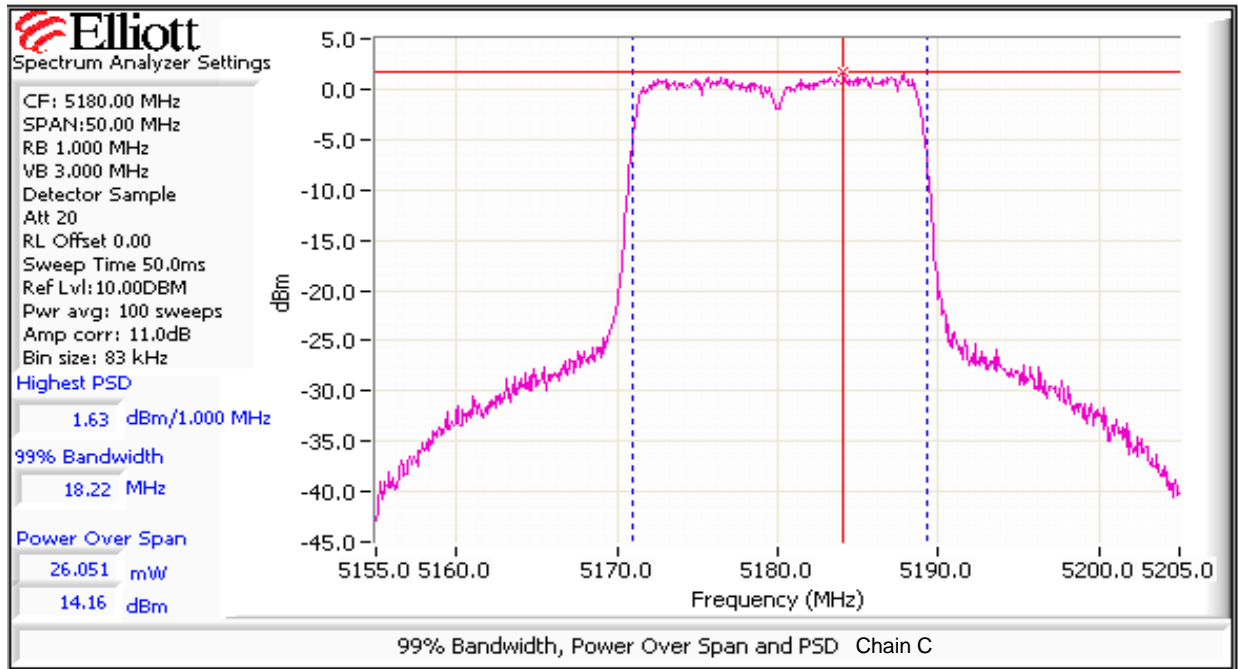
- 26dB Bandwidth: 28.33 MHz
- Chain C, n20MHz

Cursor 1 5713.9167 10.00

Cursor 2 5685.5833 -16.00

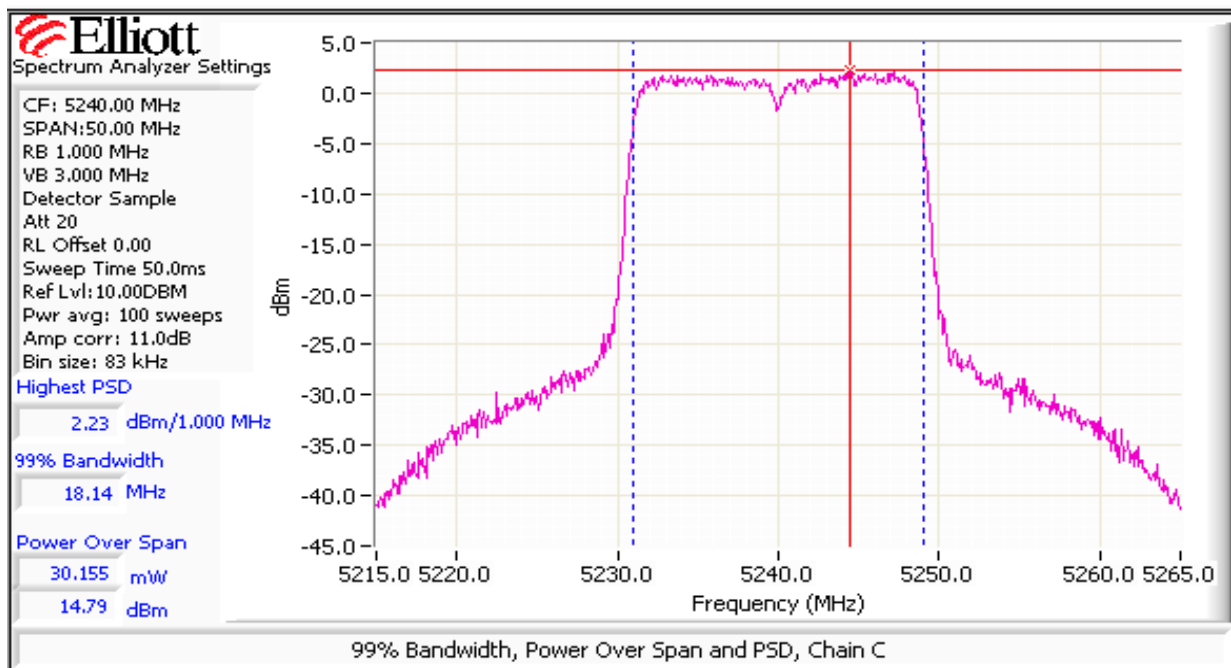
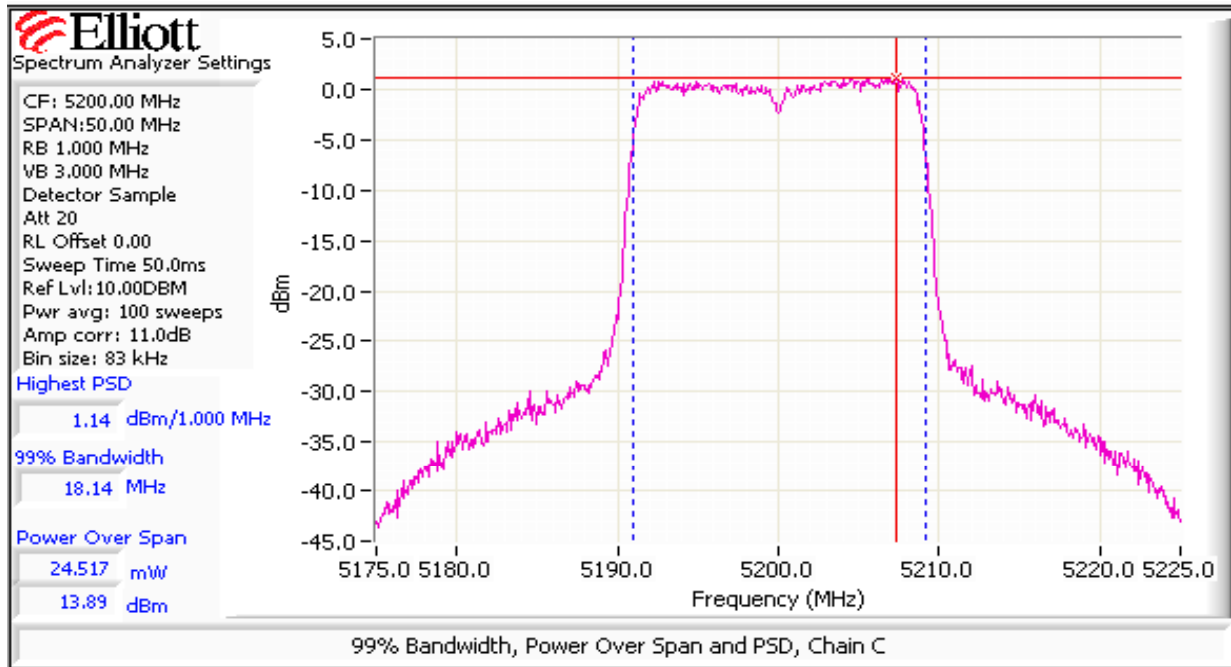
Delta Freq. 28.33

Delta Amplitude 26.00



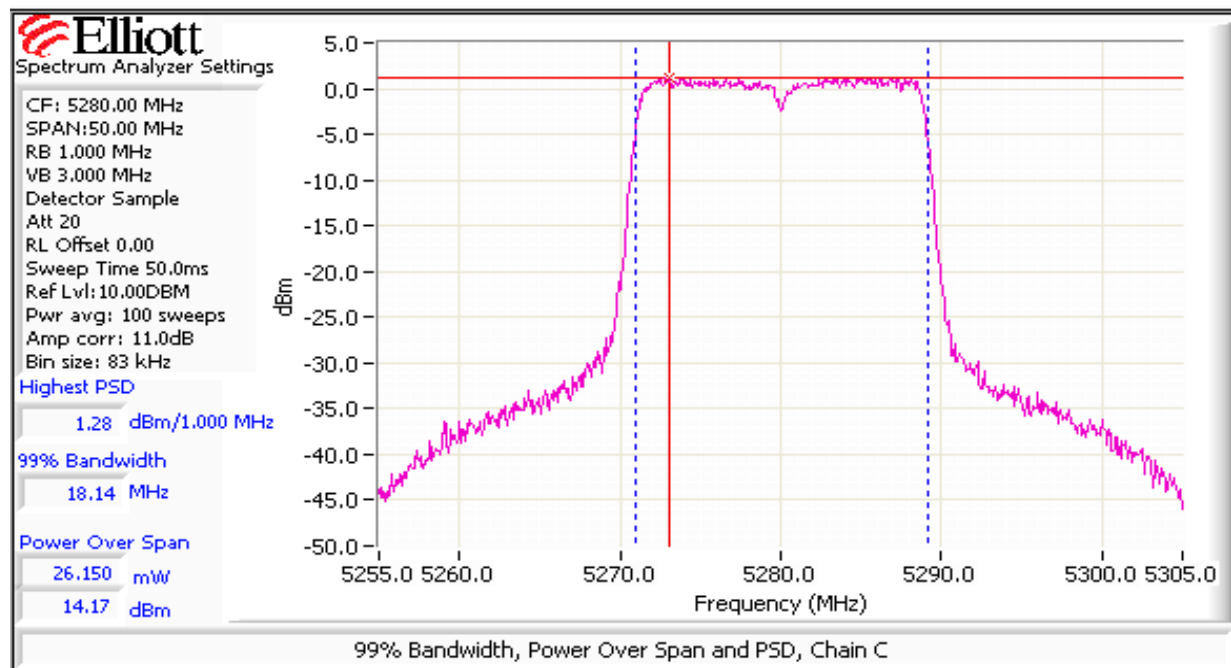
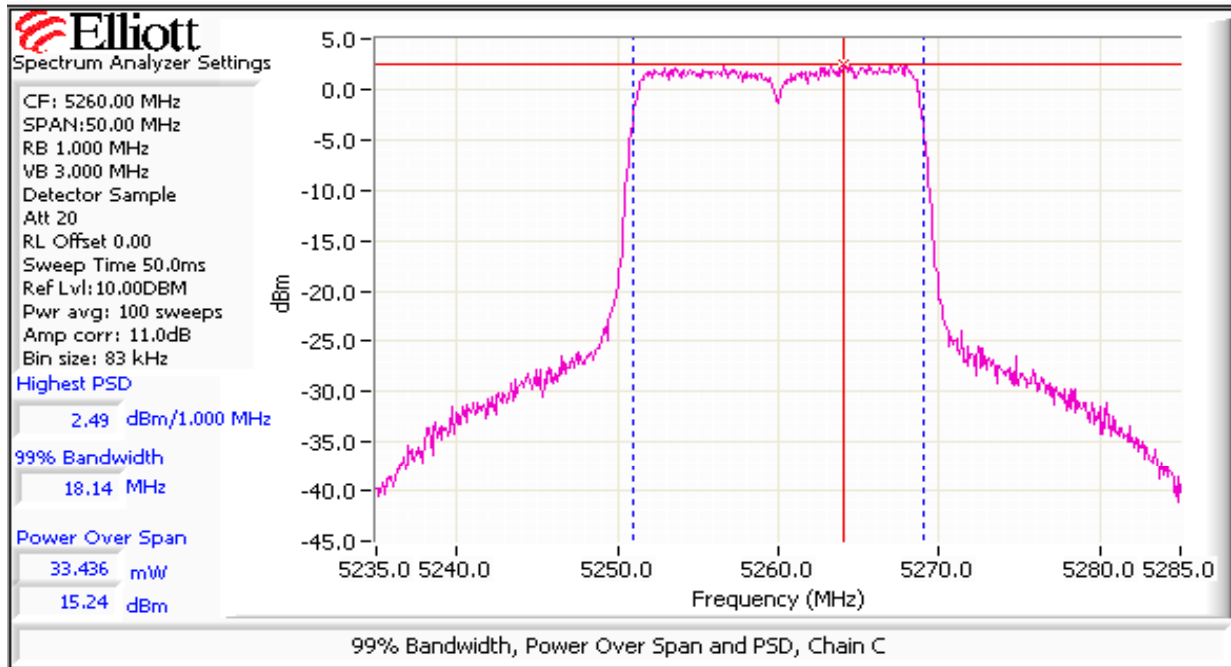
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



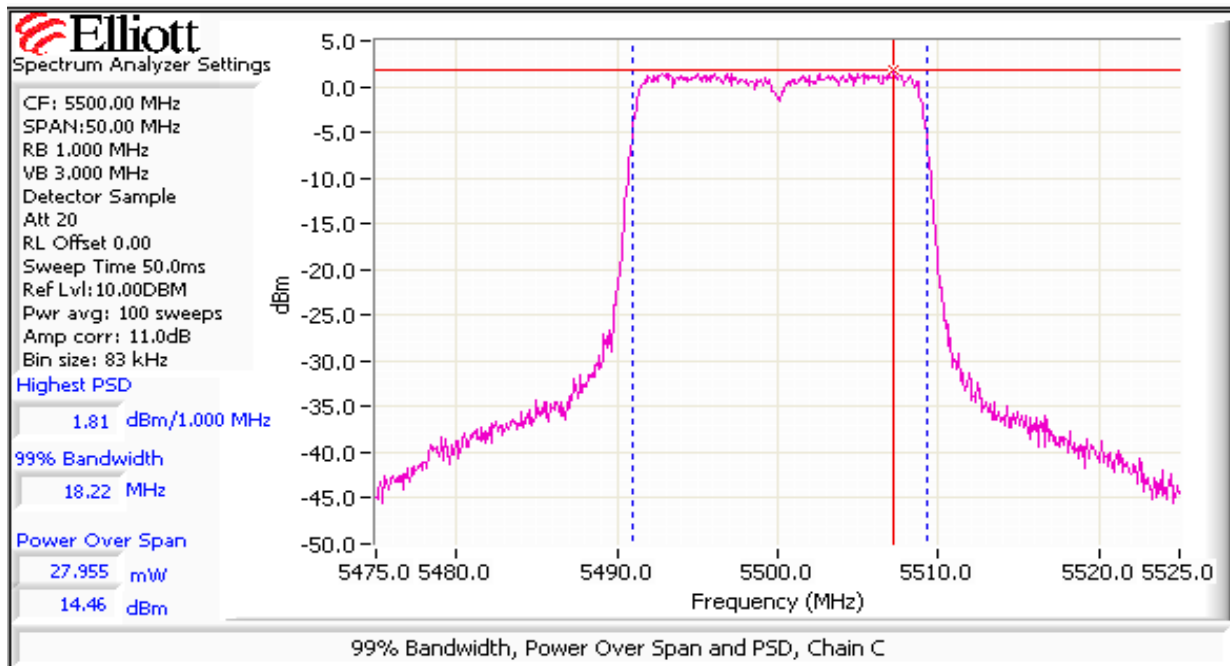
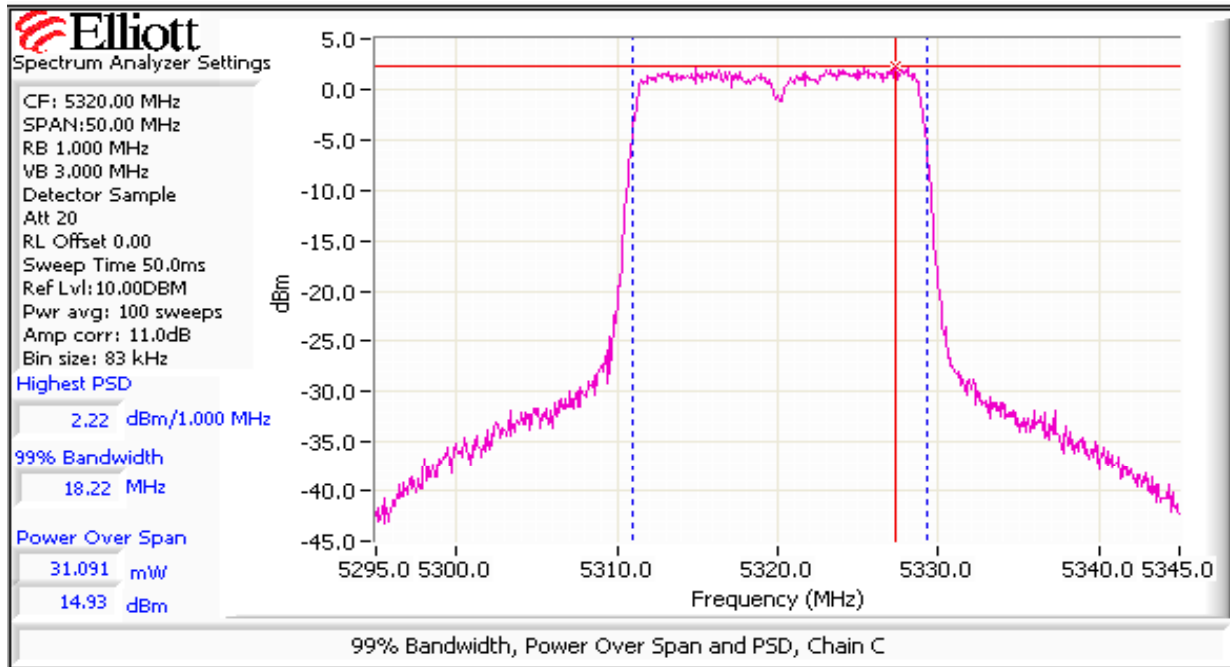
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



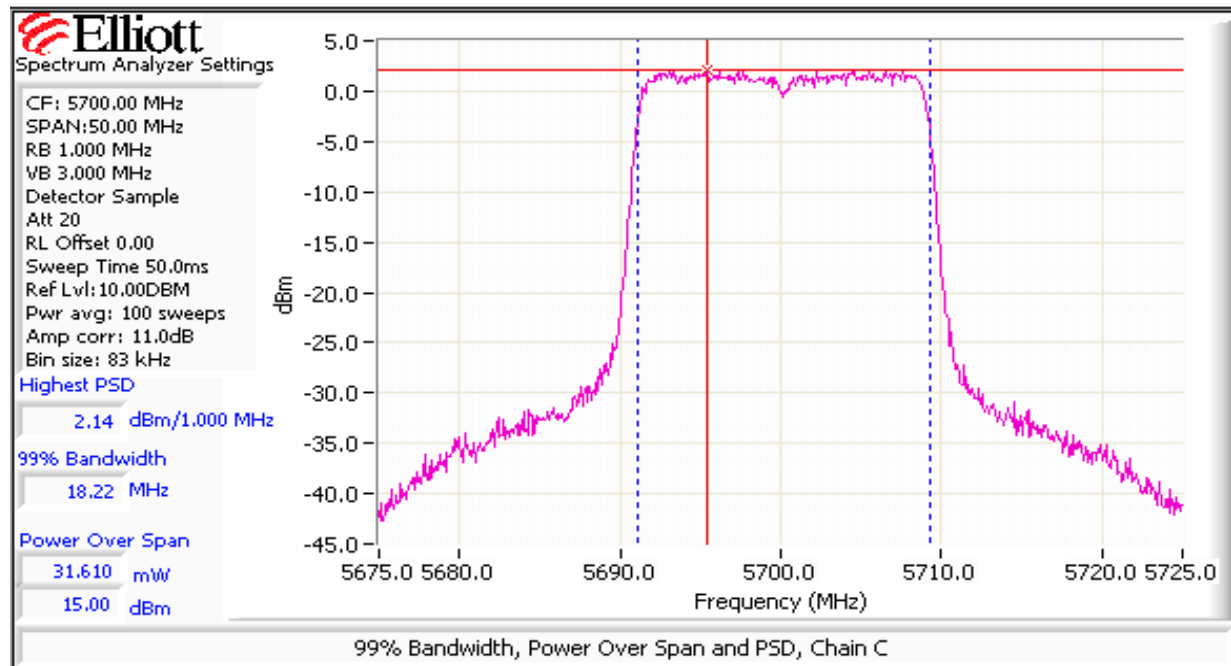
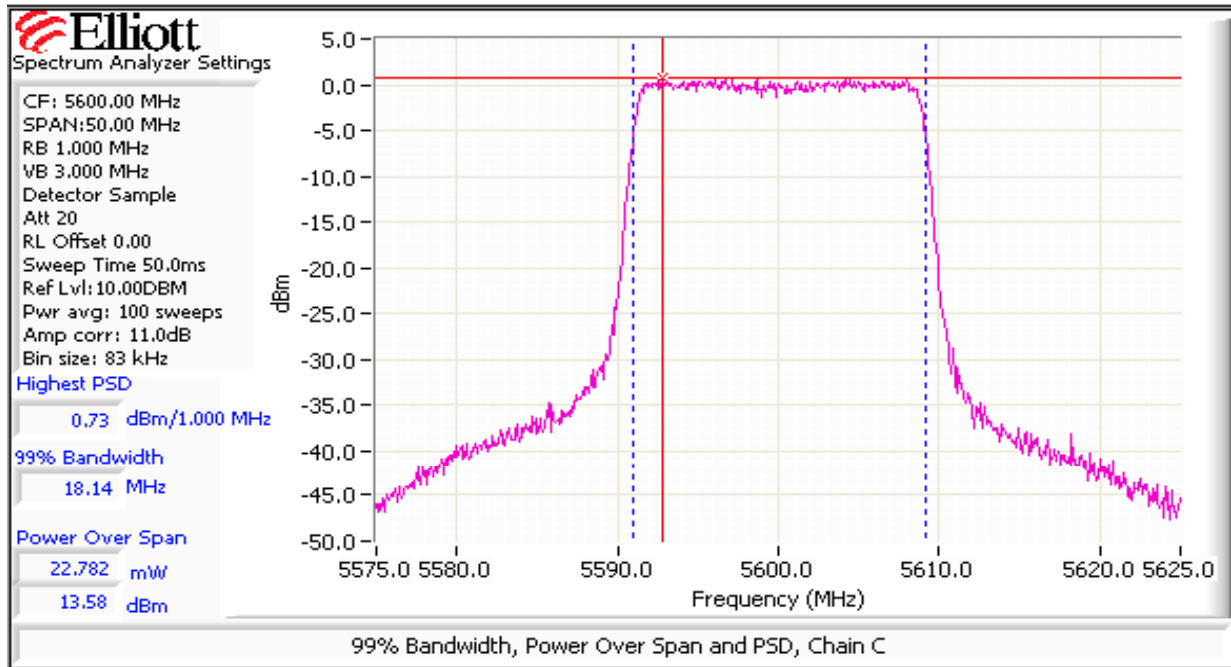
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client:	Intel	Job Number:	J70976
Model:	533-agn MMW	T-Log Number:	T71055
		Account Manager:	D. Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15 E / RSS -210 (RF Port)	Class:	N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	9.9	13.0	5260	10.8	13.0	5500	9.8	13.0			
5200	10.2	13.0	5280	10.4	13.0	5600	9.9	13.0			
5240	10.3	13.0	5320	10.6	13.0	5700	9.7	13.0			

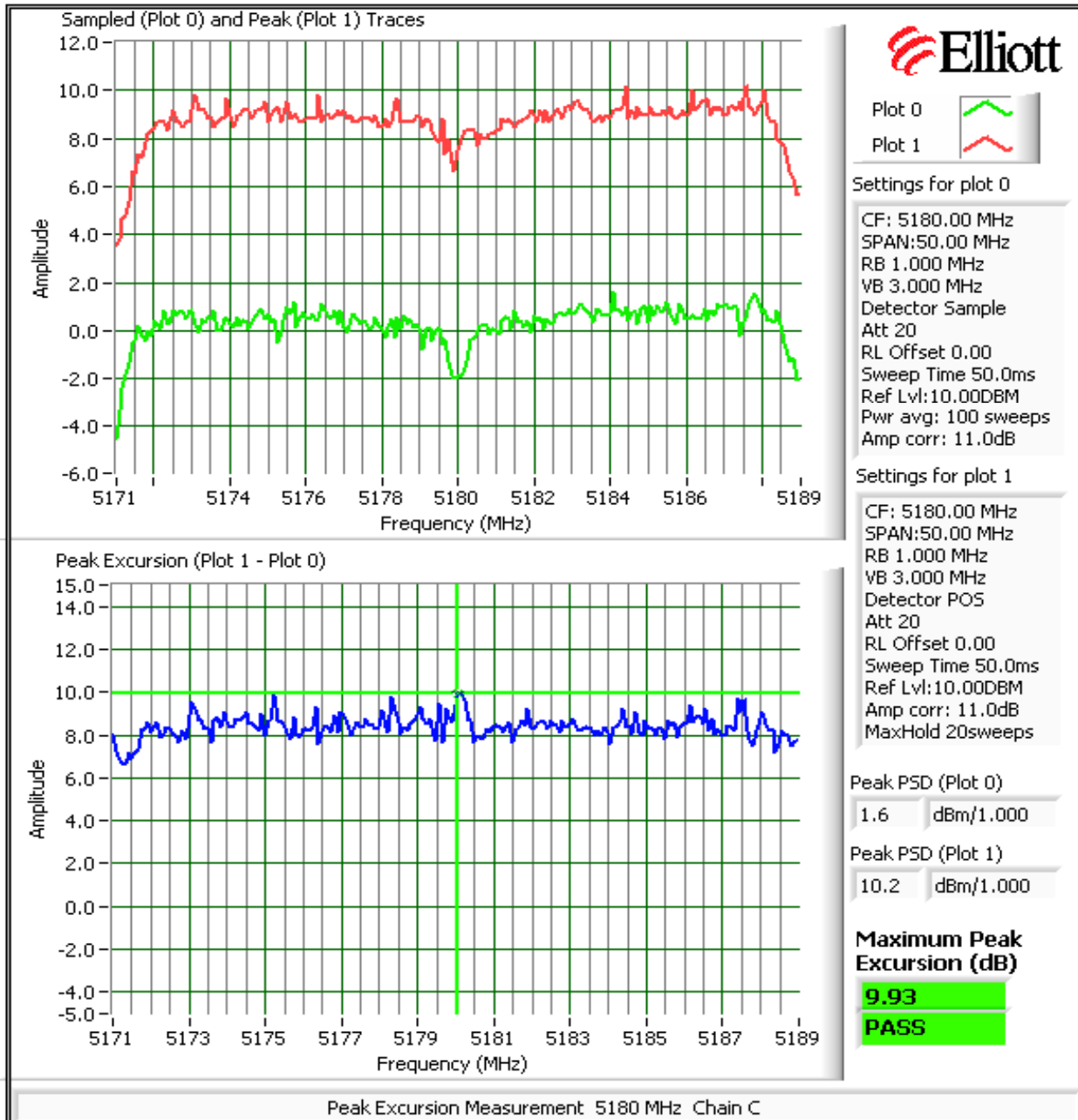
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

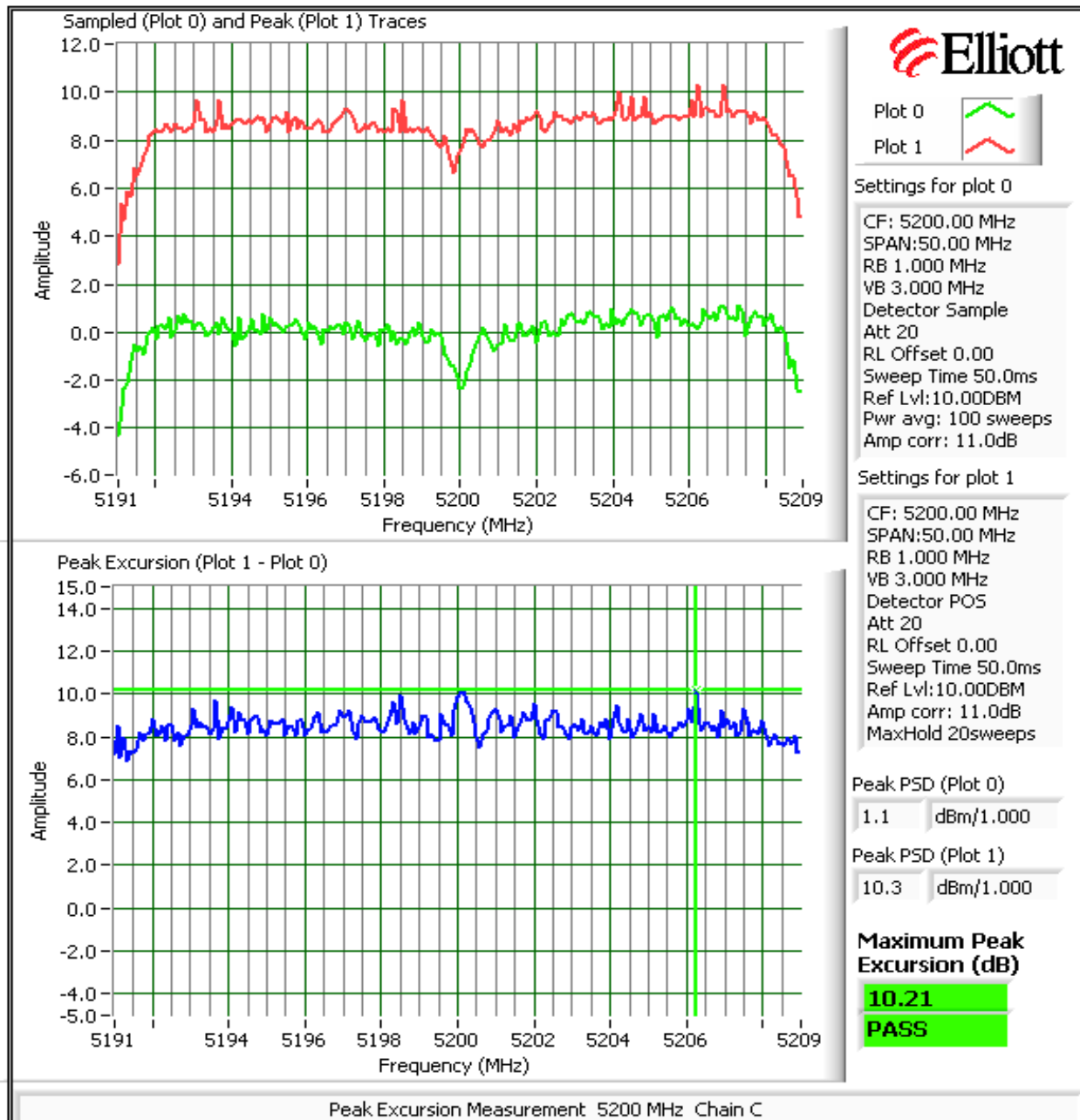
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



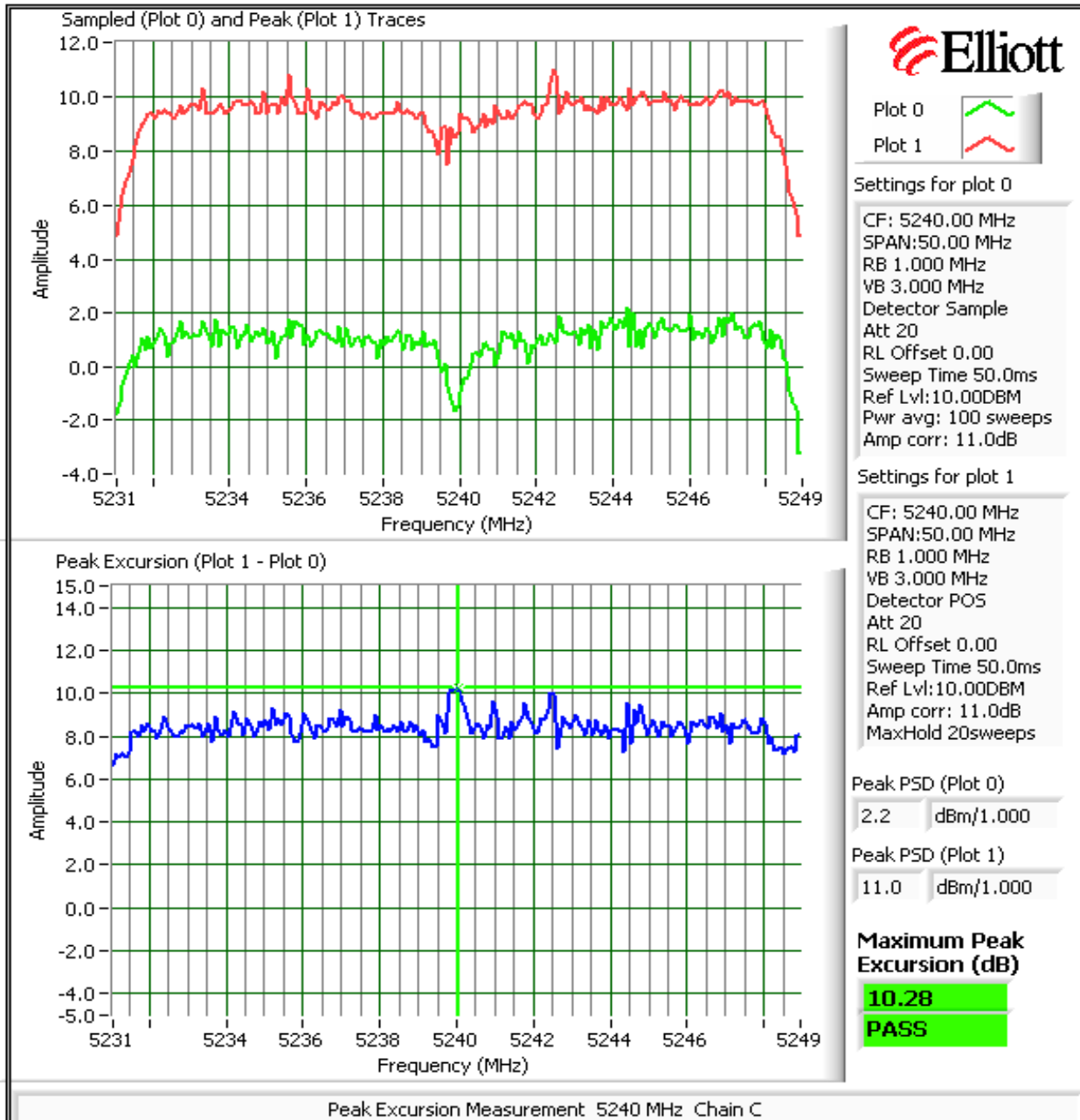
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



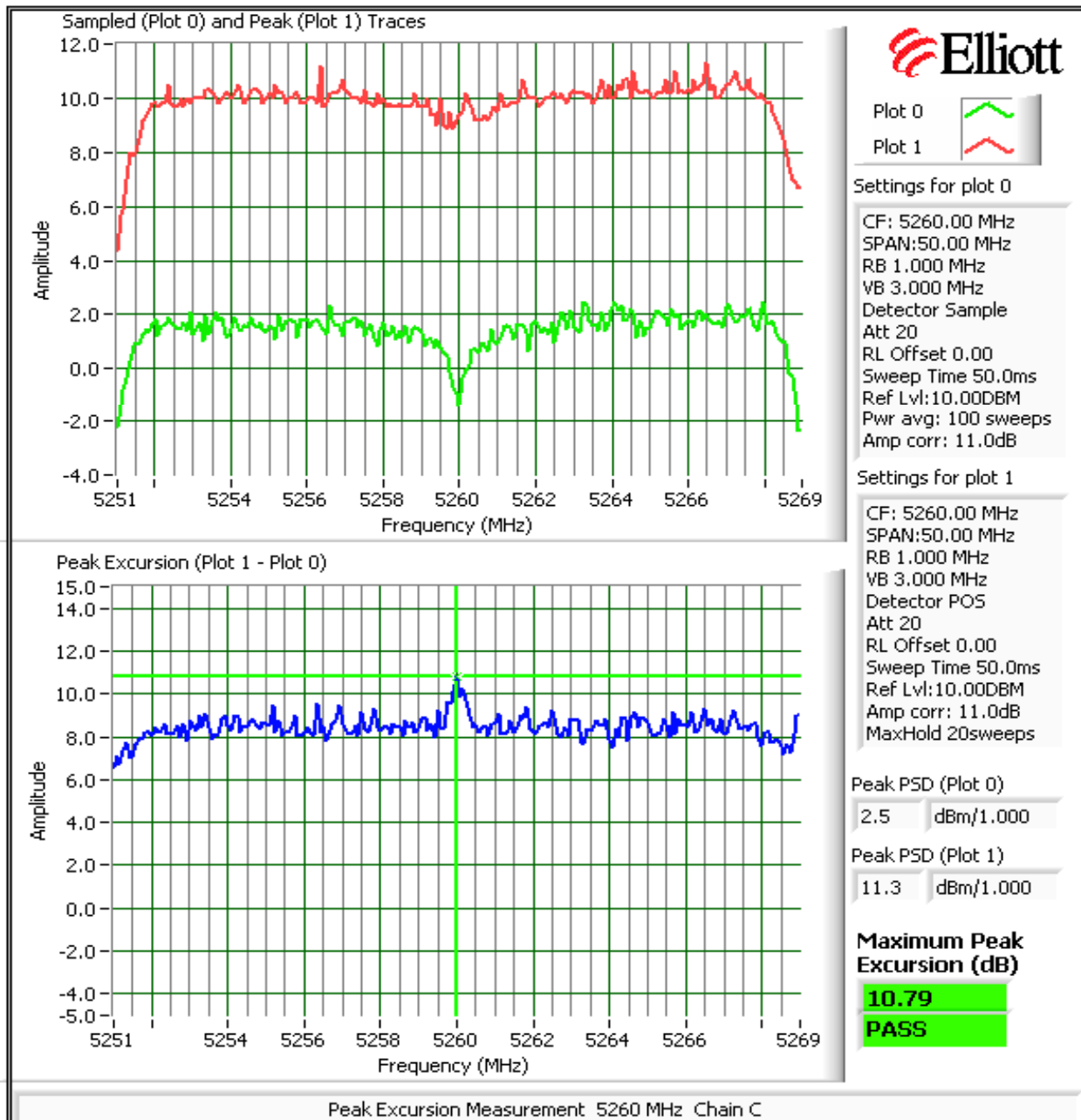
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



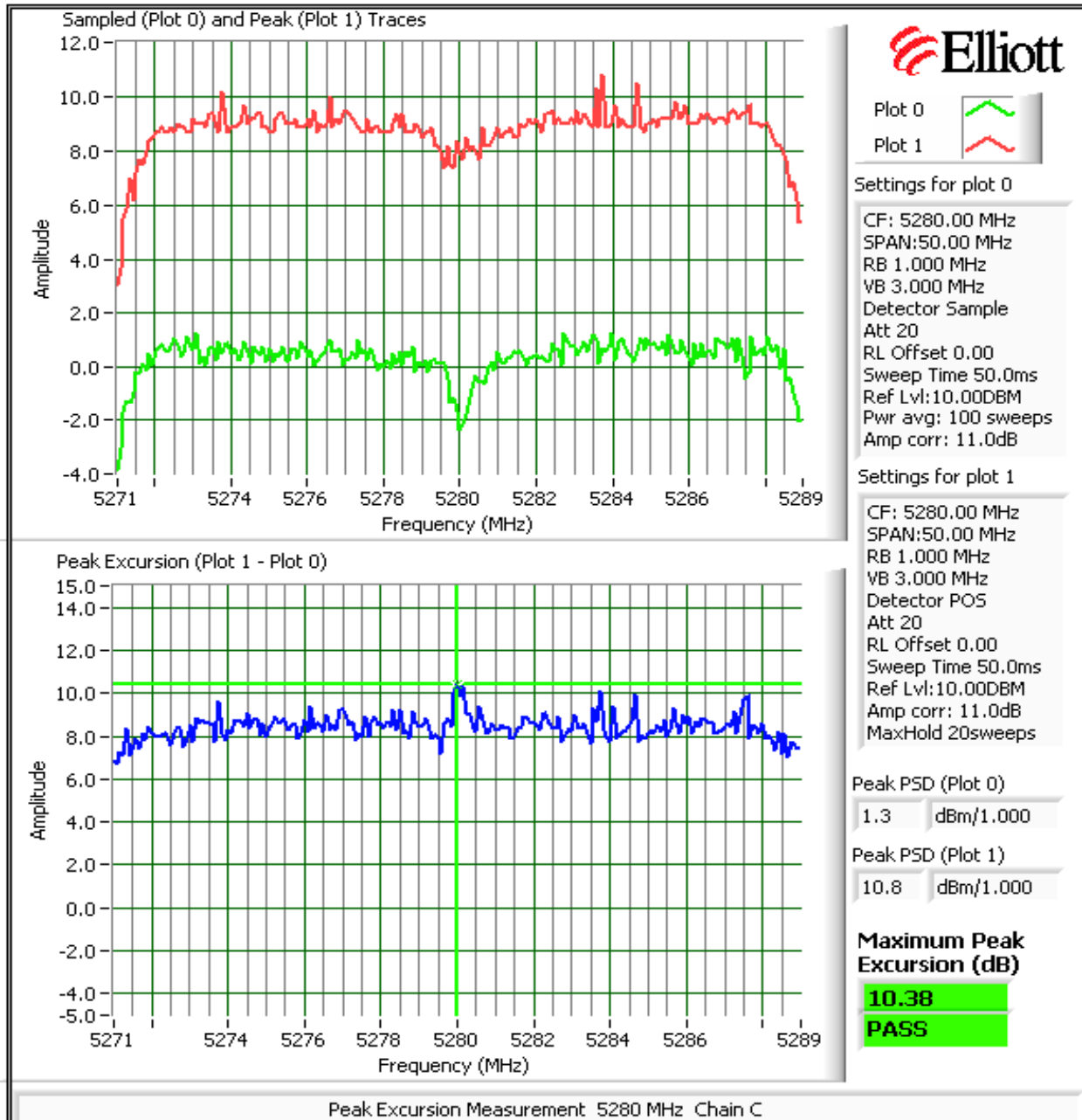
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



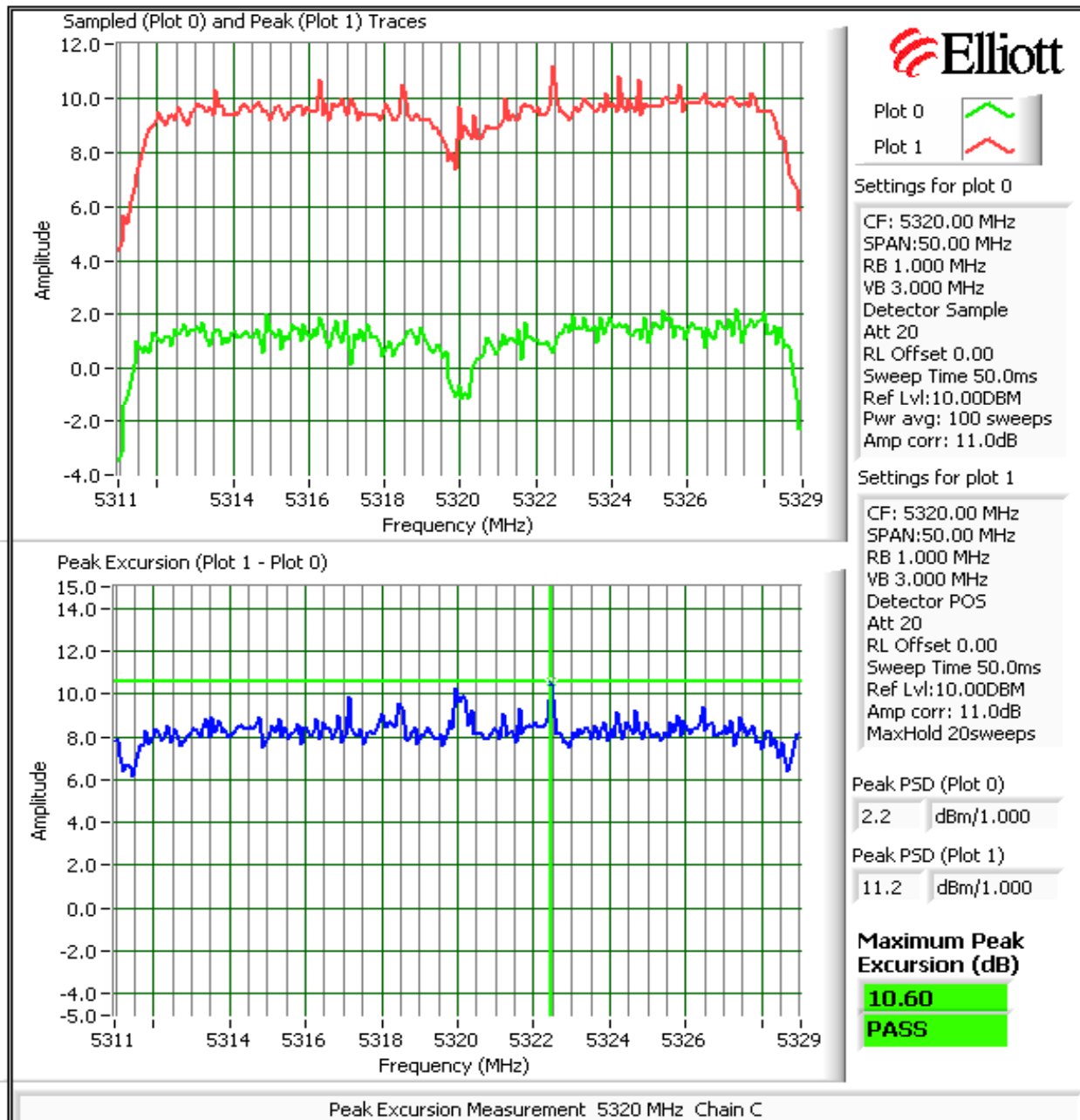
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



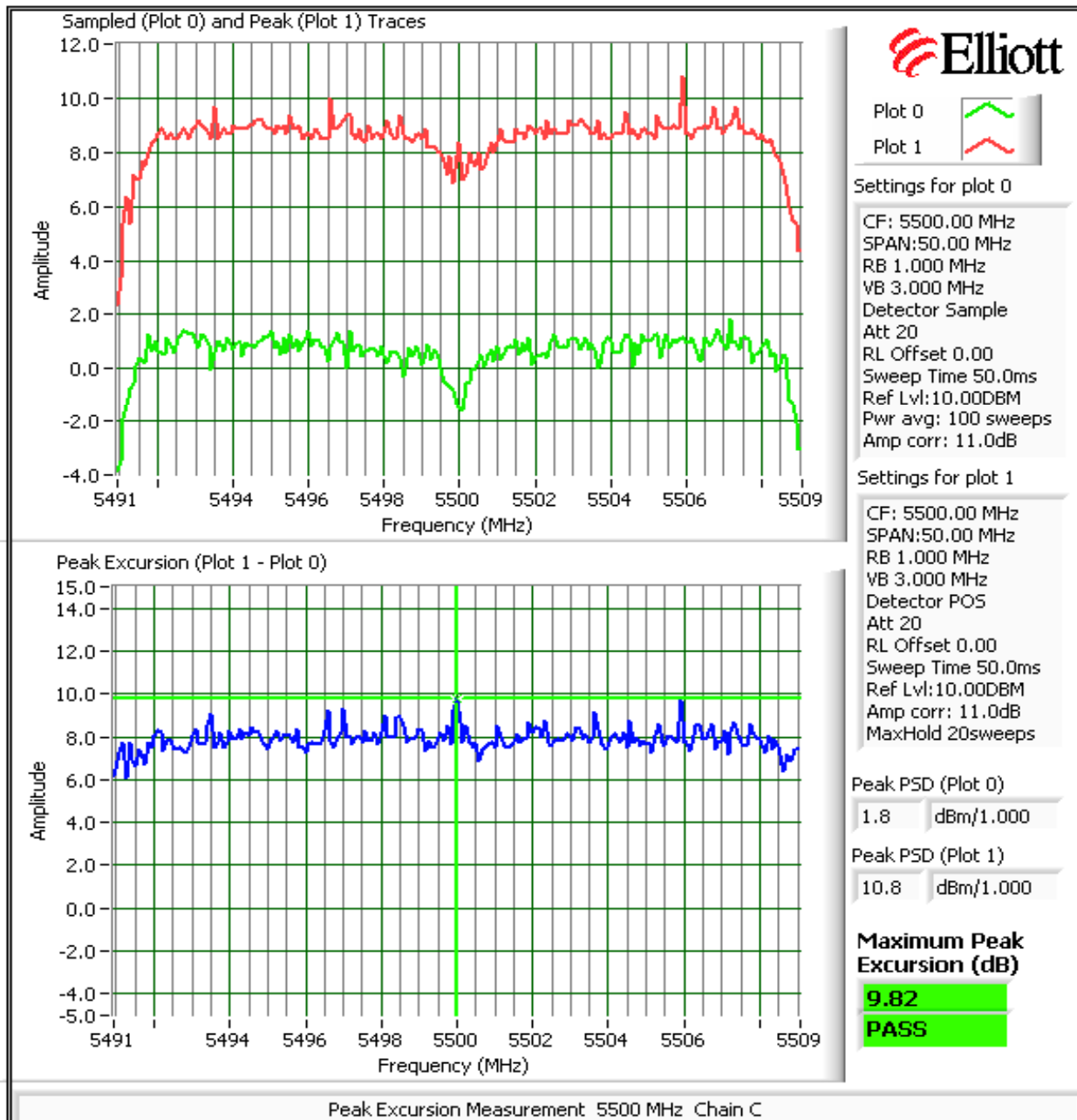
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



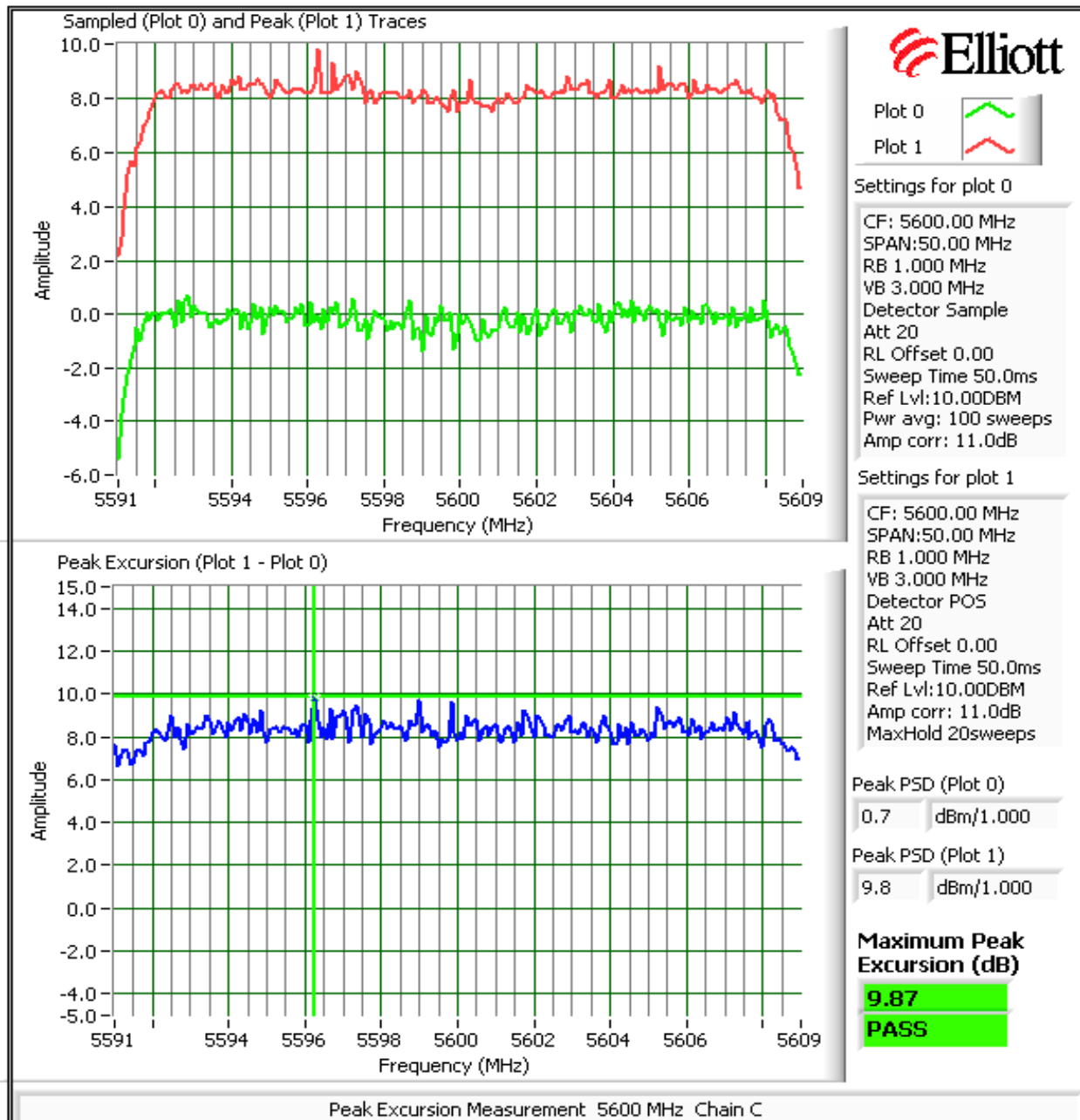
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



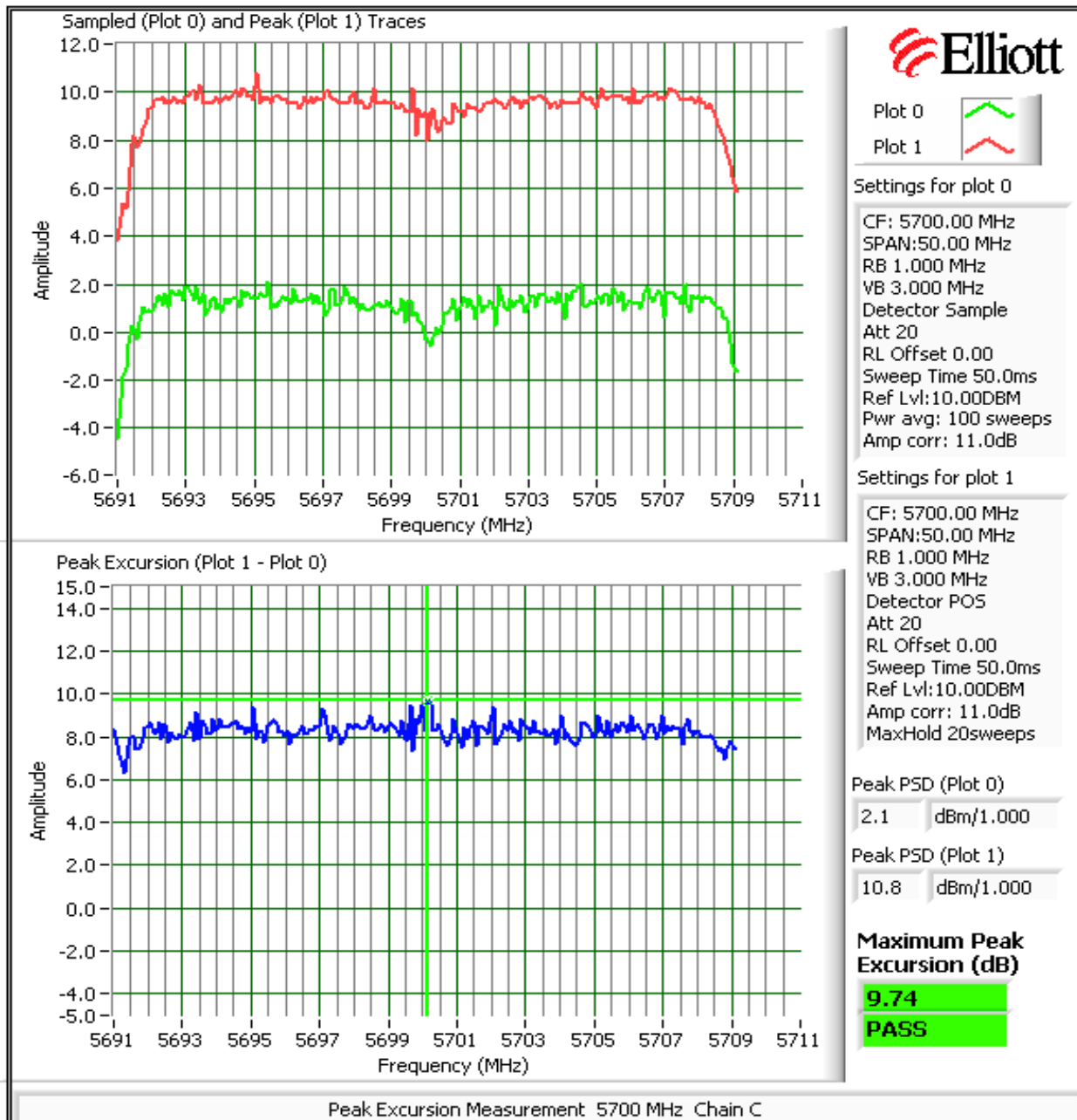
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements
Spurious Emissions - MIMO Modes (802.11n - 20 MHz bandwidth)

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/16/2008	Config. Used: 1
Test Engineer: Suhaila Khushzad	Config Change: None
Test Location: FT Lab # 1	EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature:	22 °C
Rel. Humidity:	37 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Antenna Conducted - Out of Band Spurious, 802.11n-20MHz	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

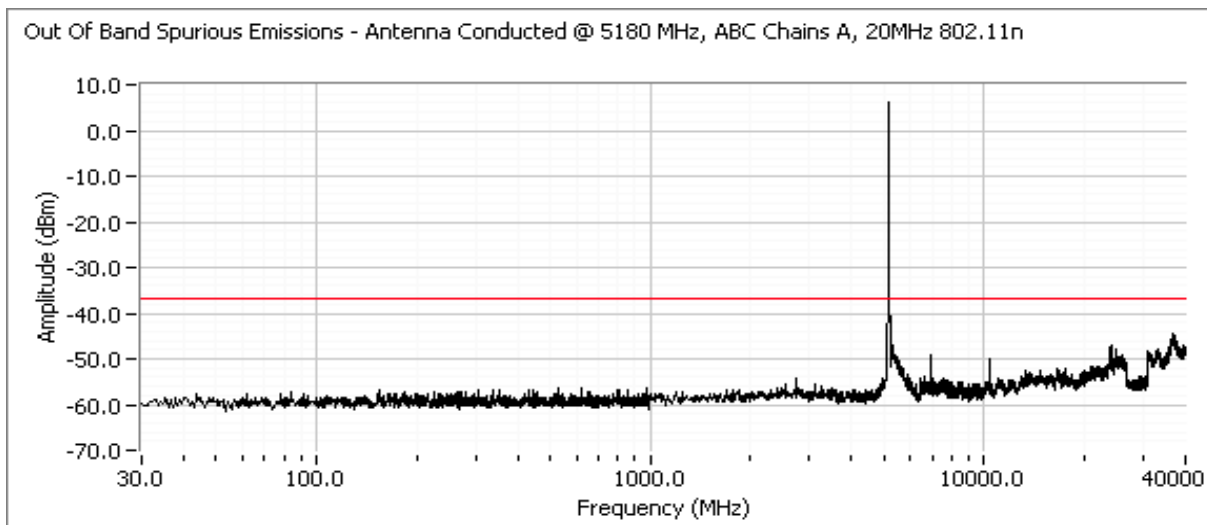
	Chain 1	Chain 2	Chain 3	Coherent	Effective ⁵
Antenna Gain (dBi):	5	5	5	No	5.0

MIMO Devices: Antenna gain used is the effective gain calculated in the power section of this data sheet. The plots were obtained on each of the individual chains separately. The limit of -27dBm has been corrected to account for a maximum of all 3 chains transmitting simultaneously by reducing the limit by a factor of $10\log(3)$ dB. The power setting on each chain was set to the power setting for single chain operation which is higher than the power settings for both dual- and triple-chain operation.

Maximum Antenna Gain: 5.0 dBi
 Spurious Limit: -27.0 dBm/MHz eirp
 Correction for 3 chains transmitting: 4.8 dBm/MHz eirp
 Limit Used On Plots ^{Note 1}: -36.8 dBm/MHz

- Note 1: The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain) plus the total number of chains transmitting simultaneously. Radiated field strength measurements for signals more than 50MHz from the bands that are close to the limit are made to determine compliance as the antenna gain is not known at these frequencies.
- Note 2: All spurious signals below 1GHz are measured during digital device radiated emissions test.
- Note 3: Signals that fall in the restricted bands of 15.205 are subject to the limit of 15.209.

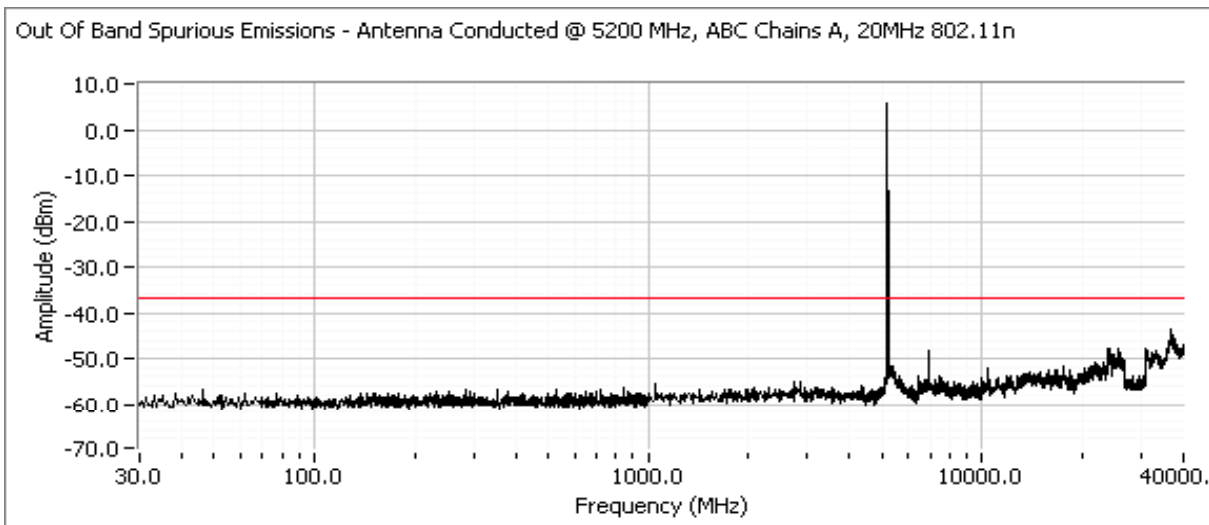
Low Channel, Chain A, 5180 MHz



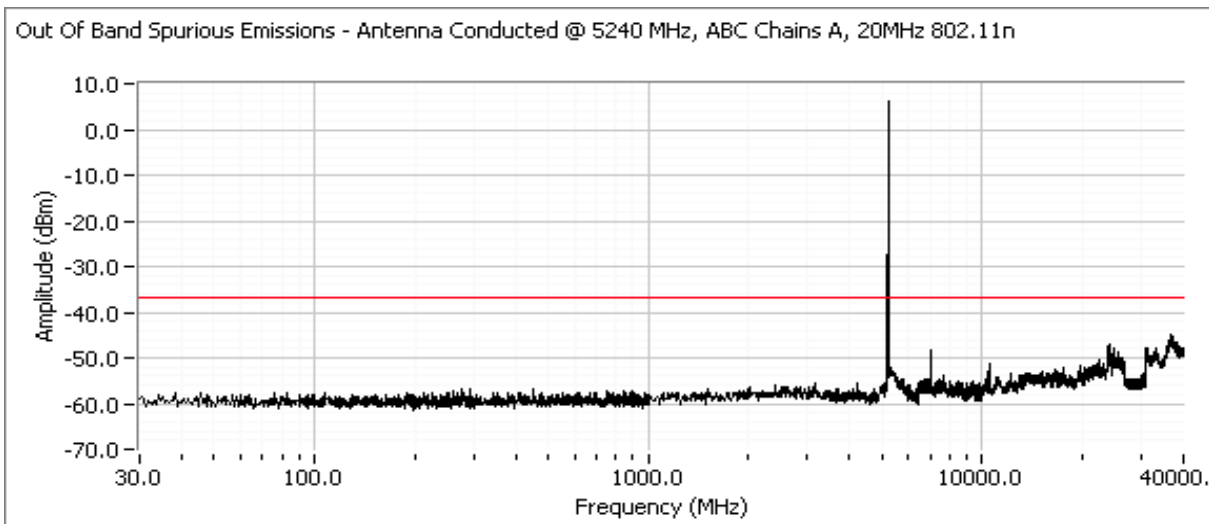
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Center Channel, Chain A, 5200 MHz



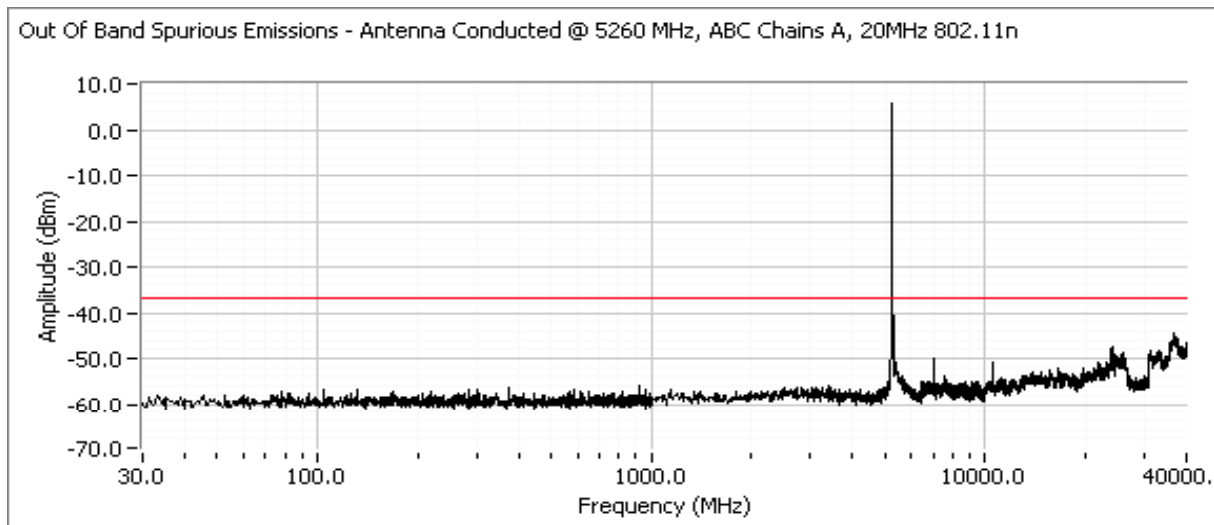
High Channel, Chain A, 5240 MHz



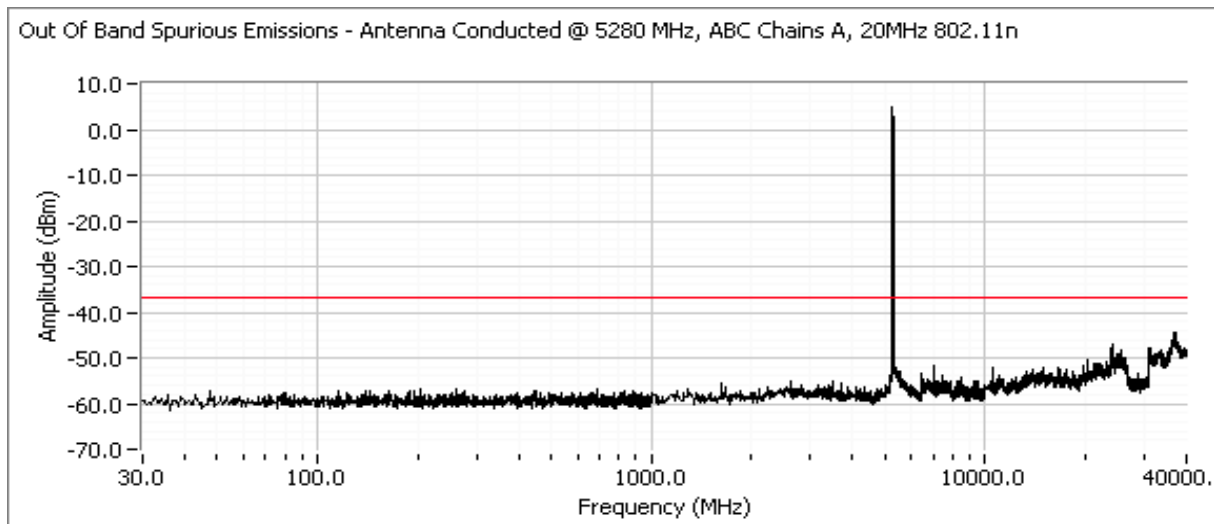
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Low Channel, Chain A, 5260 MHz



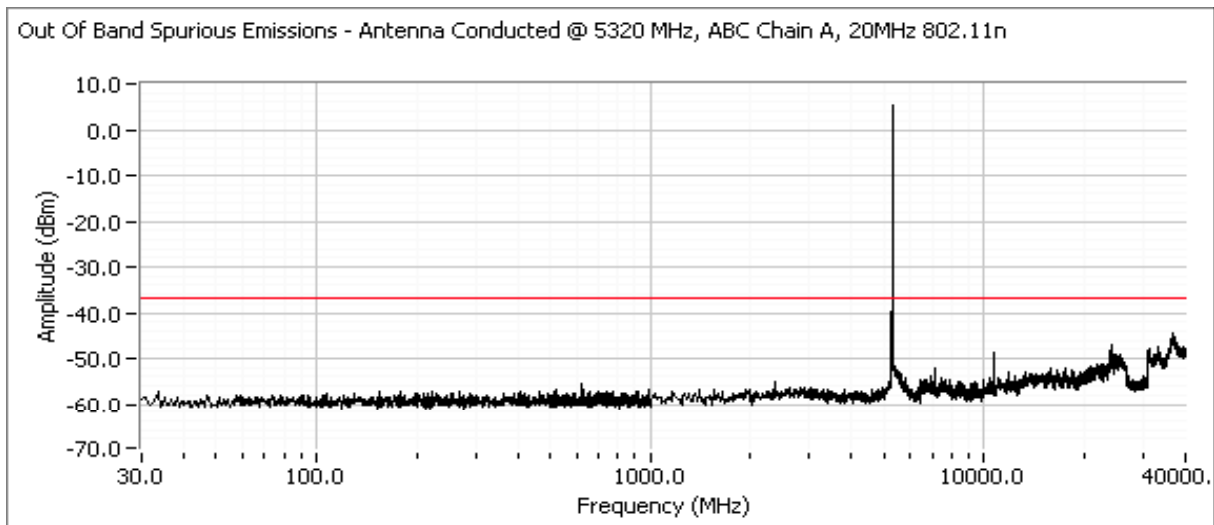
Center Channel, Chain A, 5280 MHz



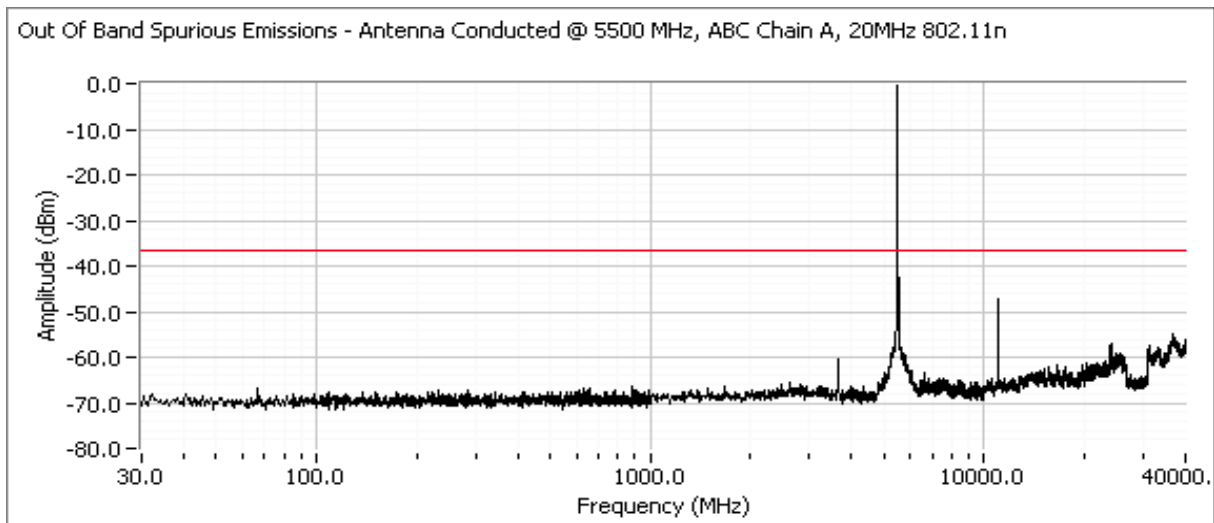
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain A, 5320 MHz



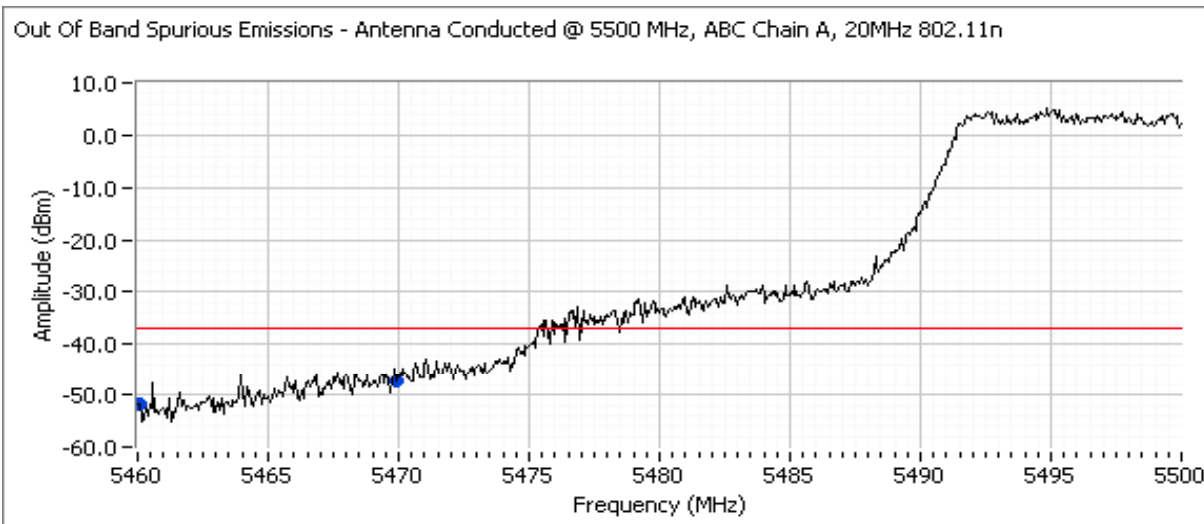
Low Channel, Chain A, 5500 MHz



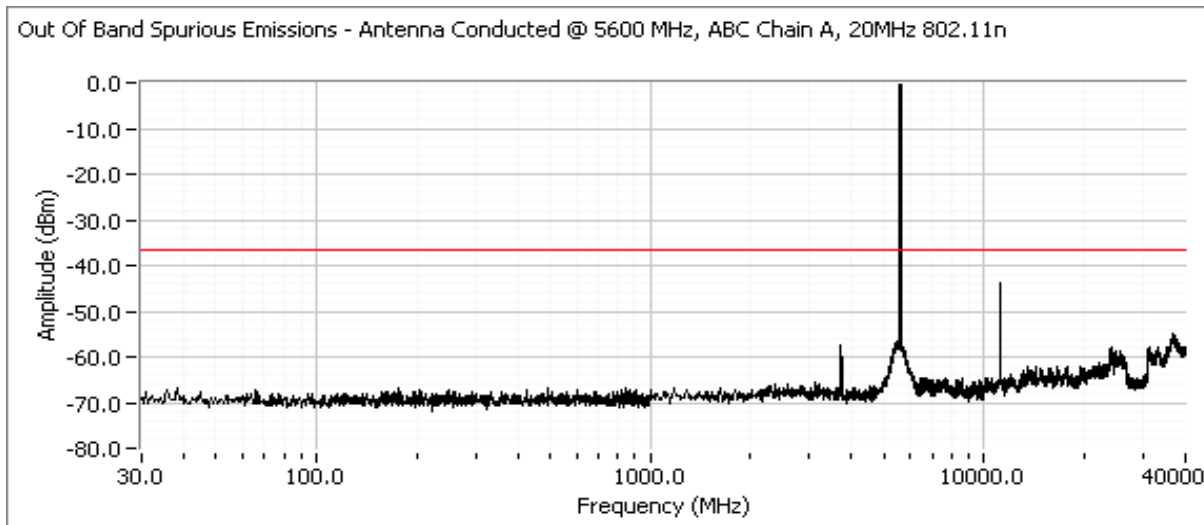
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Low Channel, Chain A, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



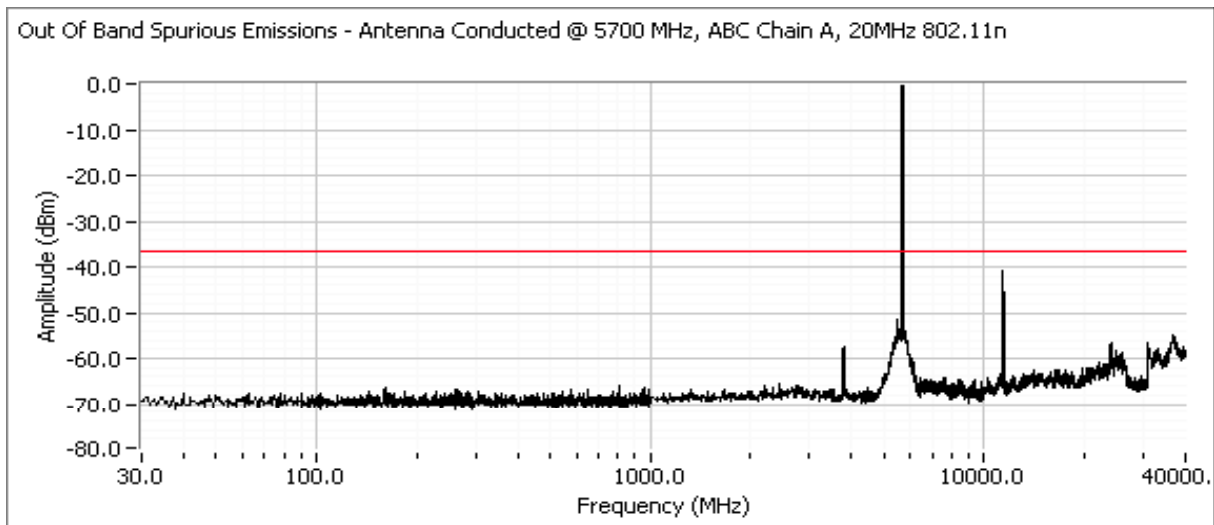
Center Channel, Chain A, 5600 MHz



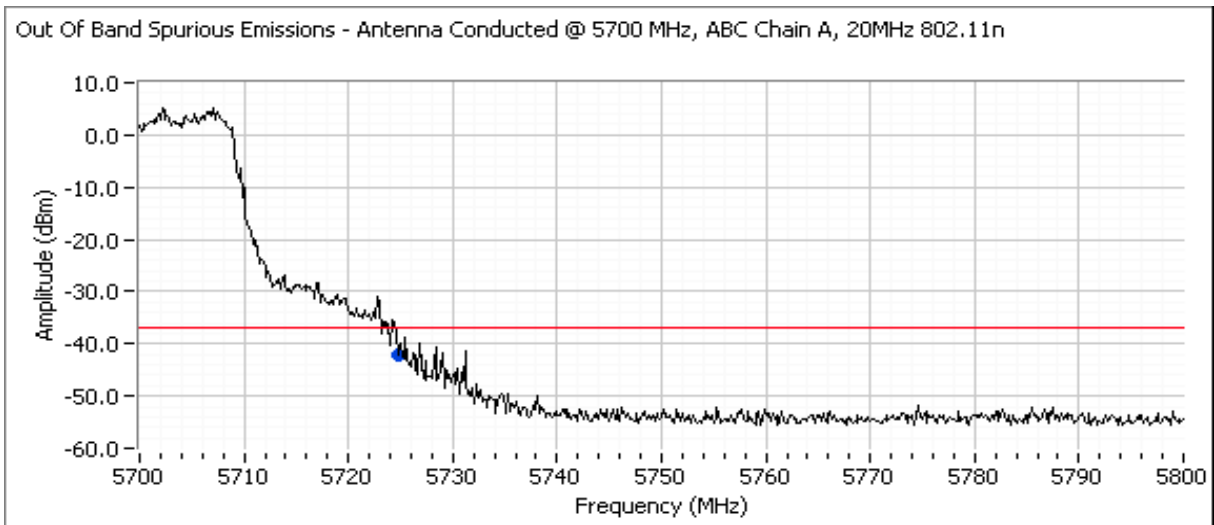
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain A, 5700 MHz



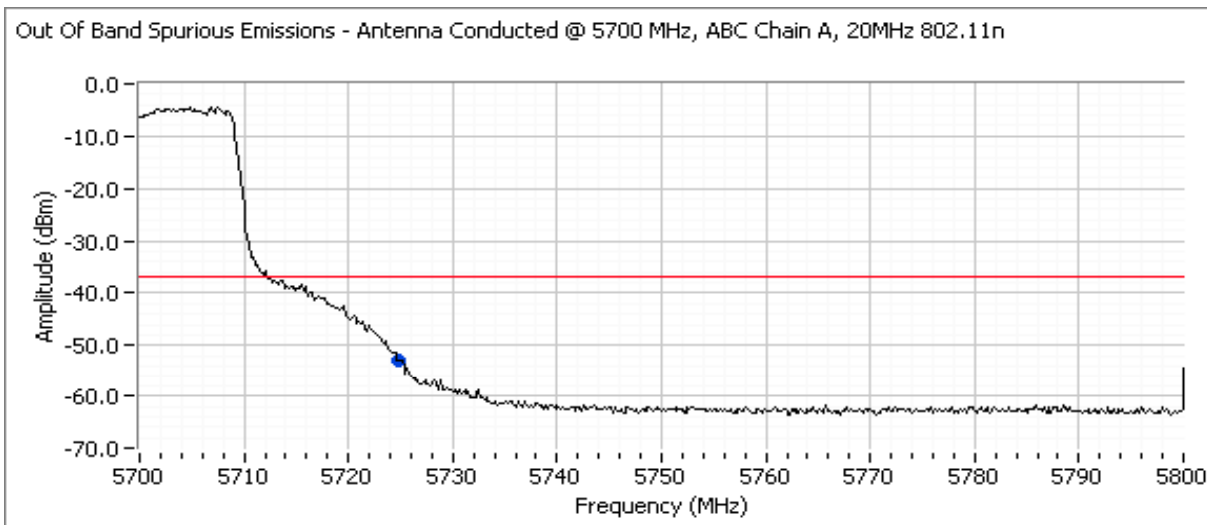
High Channel, Chain A, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



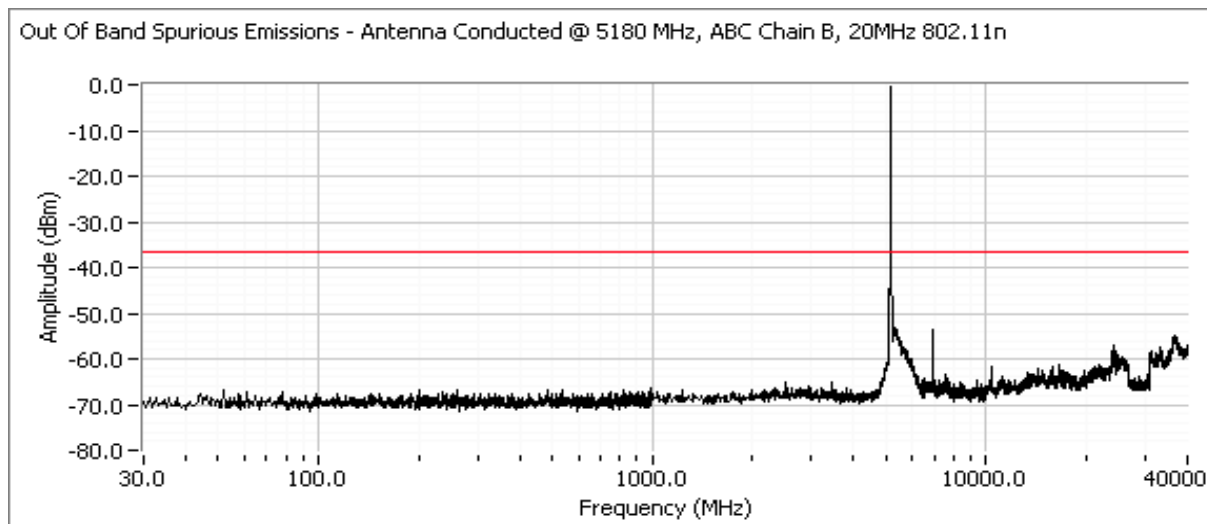
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain A, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



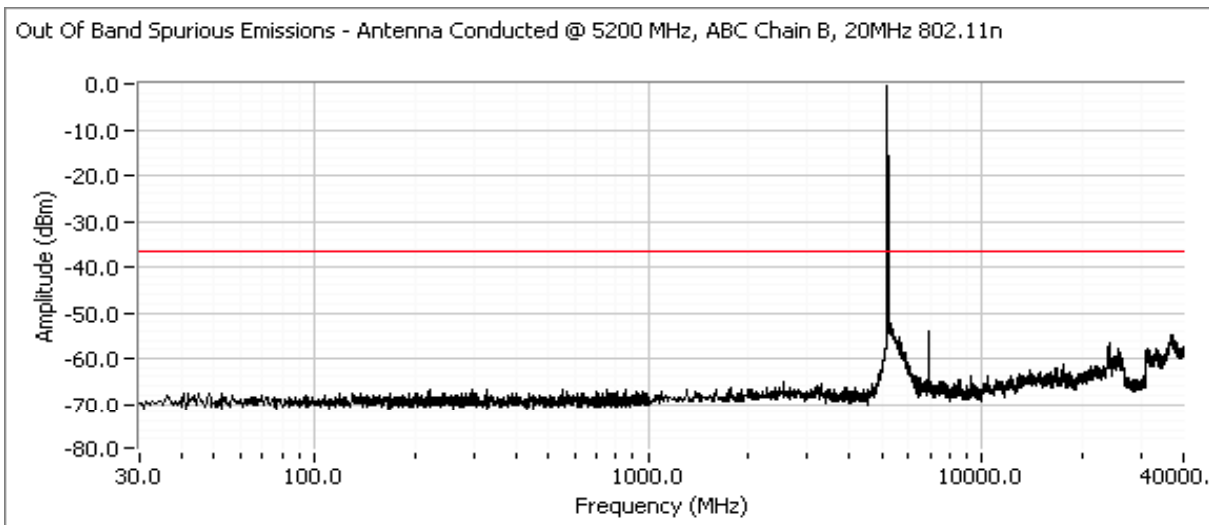
Low Channel, Chain B, 5180 MHz



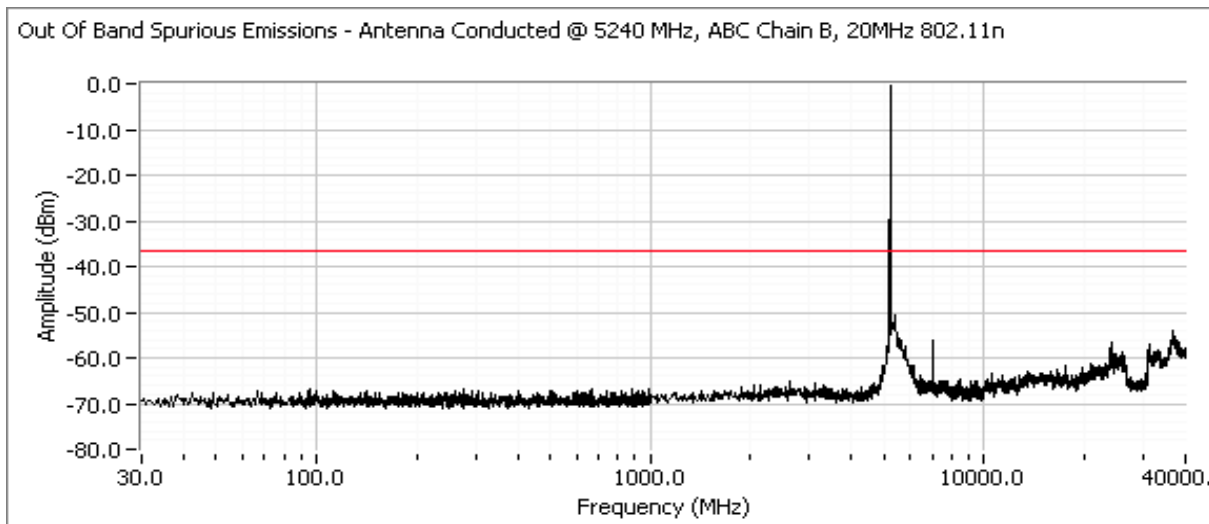
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Center Channel, Chain B, 5200 MHz



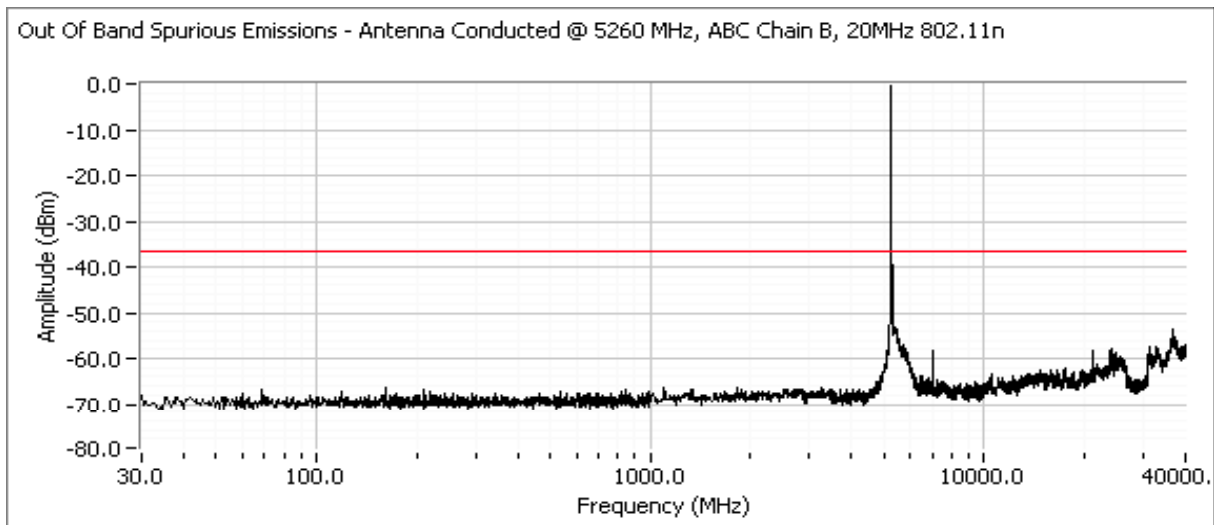
High Channel, Chain B, 5240 MHz



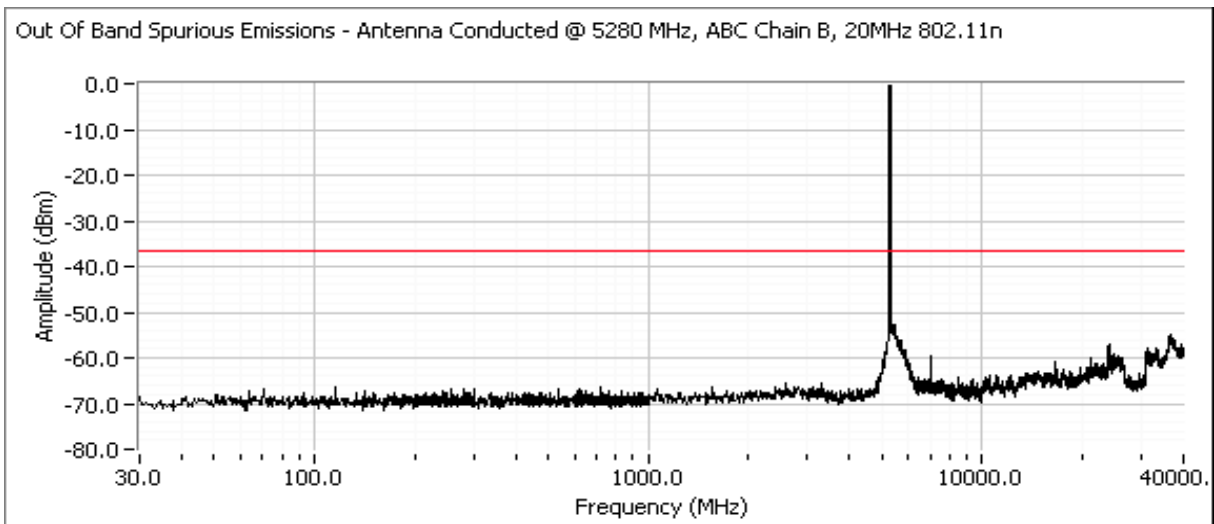
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Low Channel, Chain B, 5260 MHz



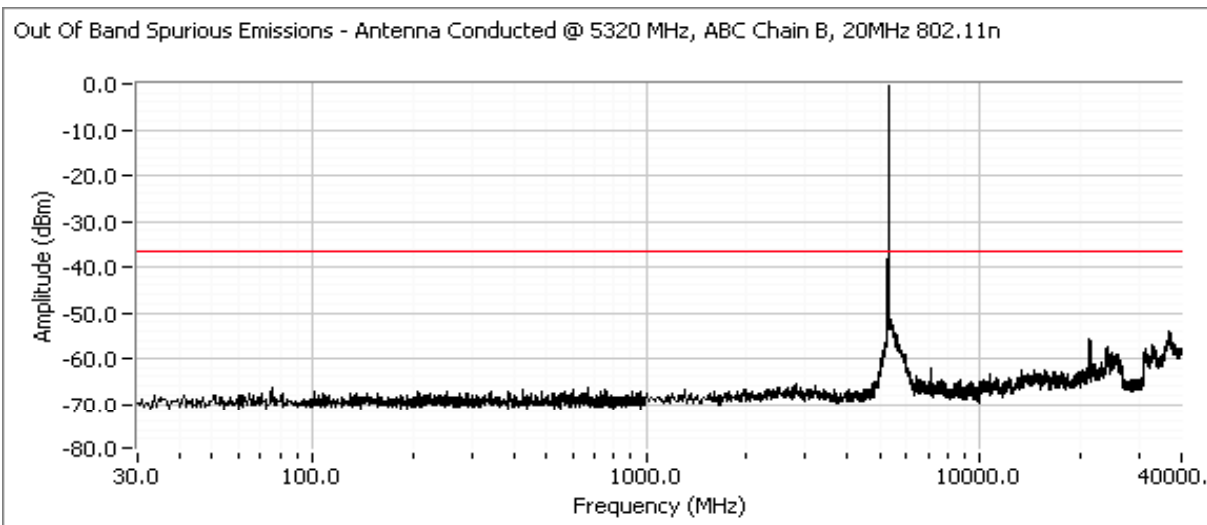
Center Channel, Chain B, 5280 MHz



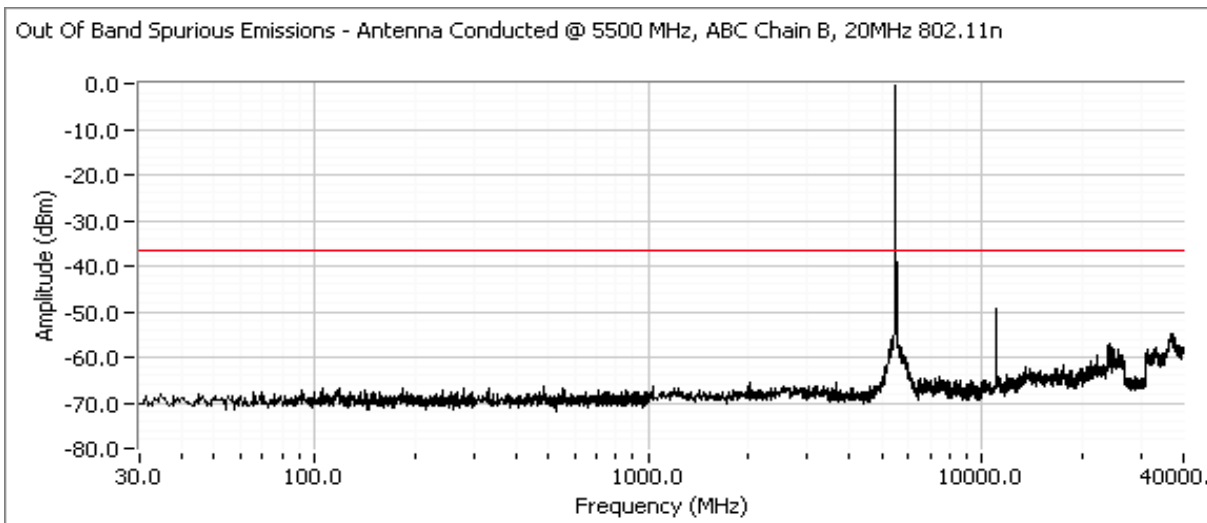
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain B, 5320 MHz



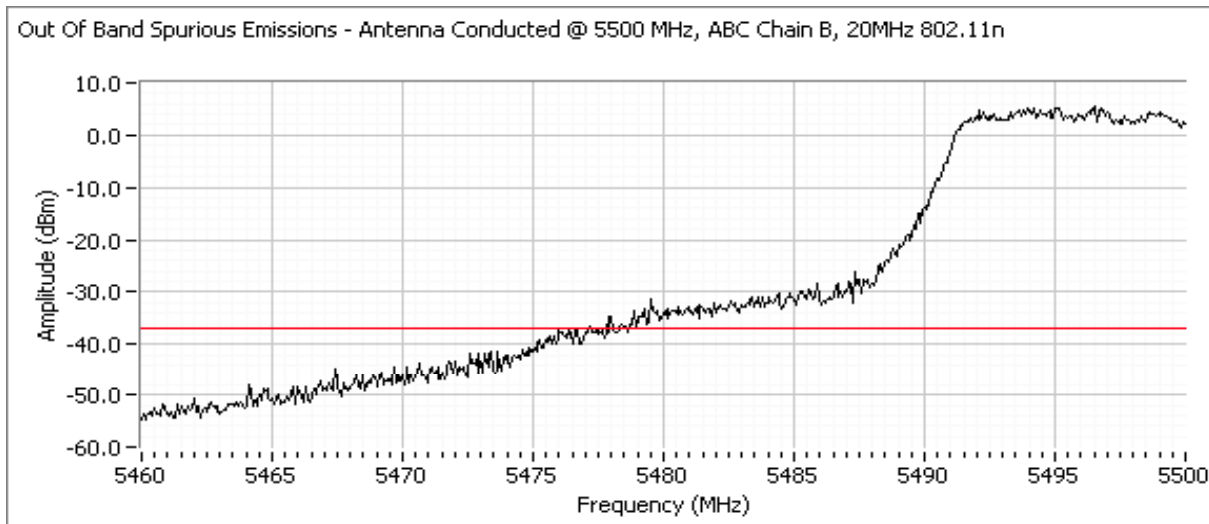
Low Channel, Chain B, 5500 MHz



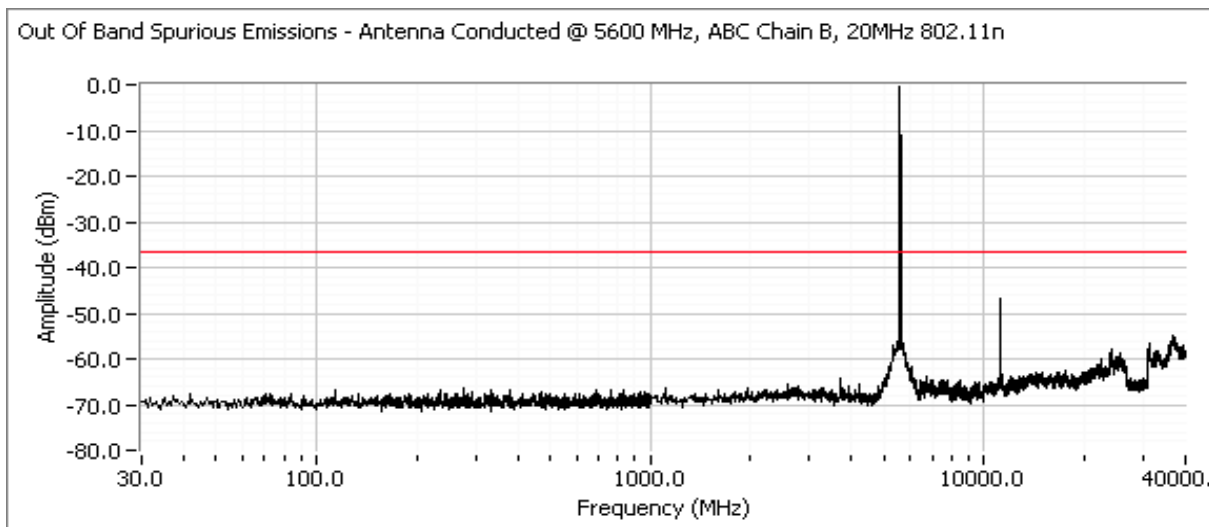
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Low Channel, Chain B, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



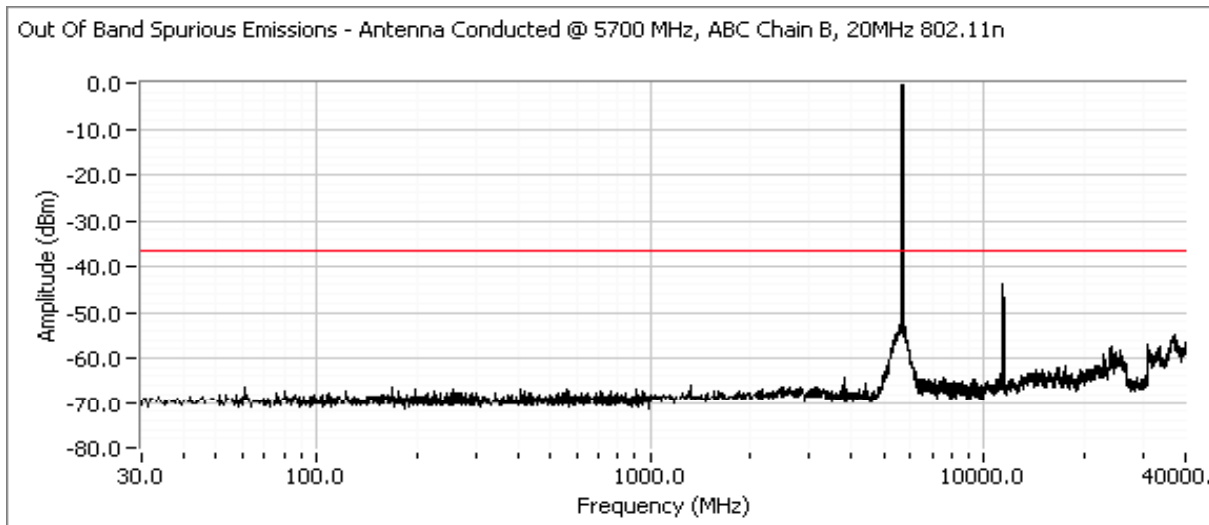
Center Channel, Chain B, 5600 MHz



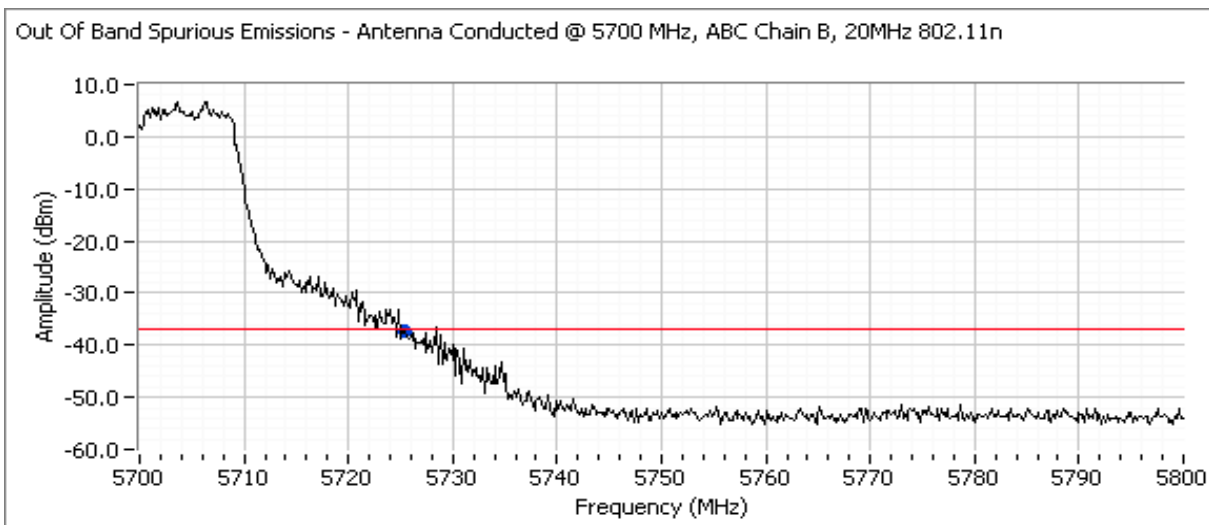
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain B, 5700 MHz



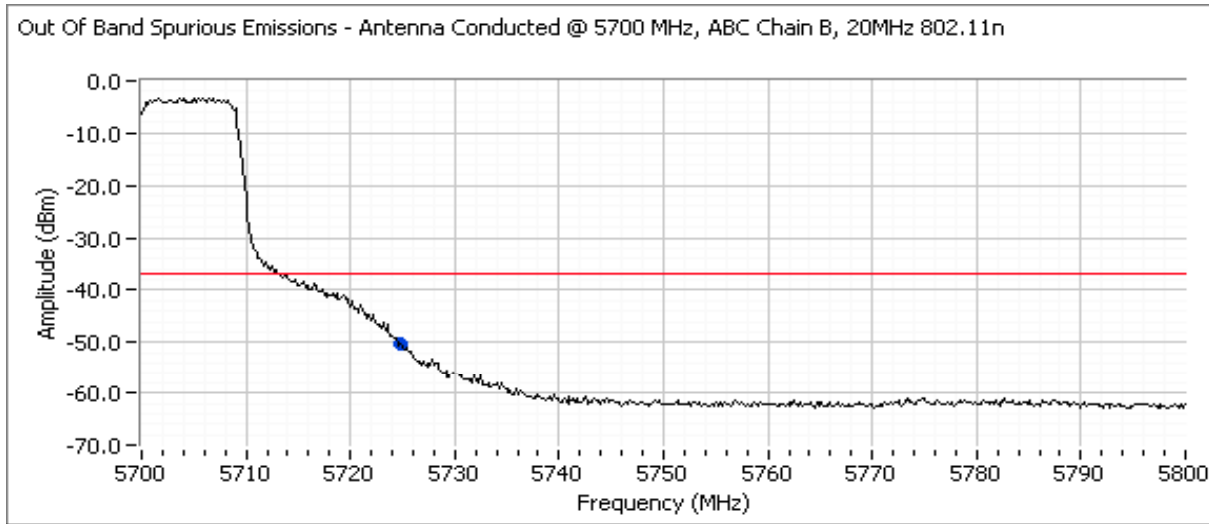
High Channel, Chain B, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain B, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



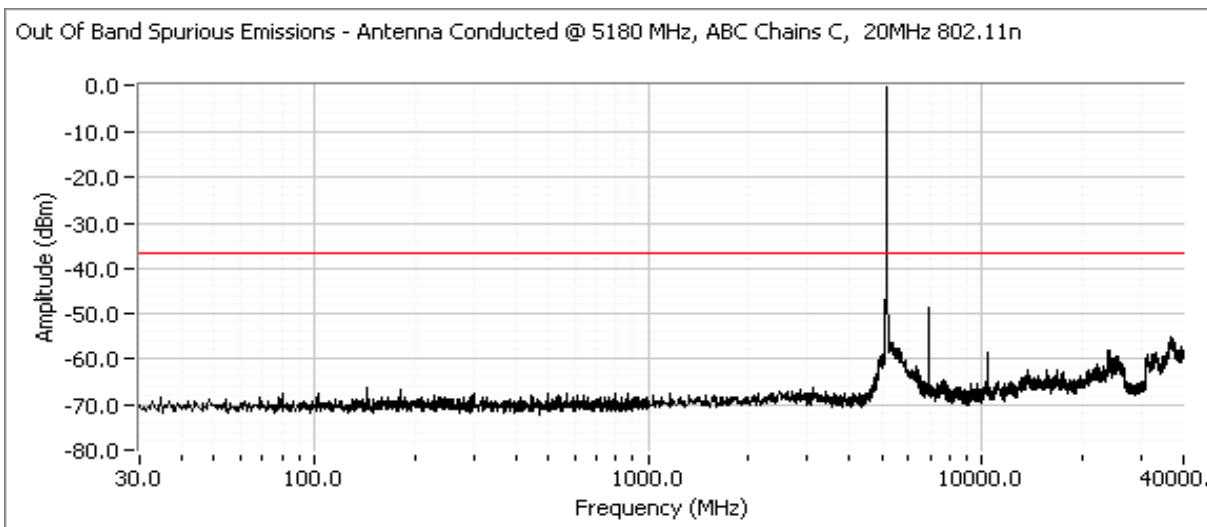
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBm/MHz	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5725.000	-38.0	-	-16.8	-21.2	Peak			
5725.000	-50.3	-	-36.8	-13.5	Avg			

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

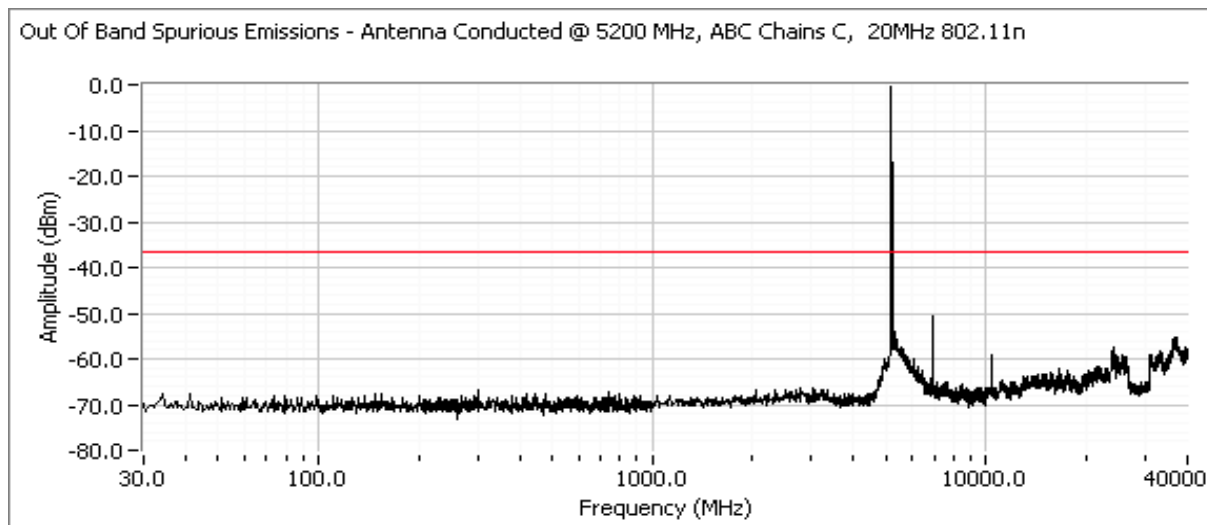
Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Date of Test: 4/17/2008	Config. Used: 1
Test Engineer: Suhaila Khushzad	Config Change: None
Test Location: FT Lab # 1	EUT Voltage: Powered From Host System(3.3DC V)

Low Channel, Chain C, 5180 MHz



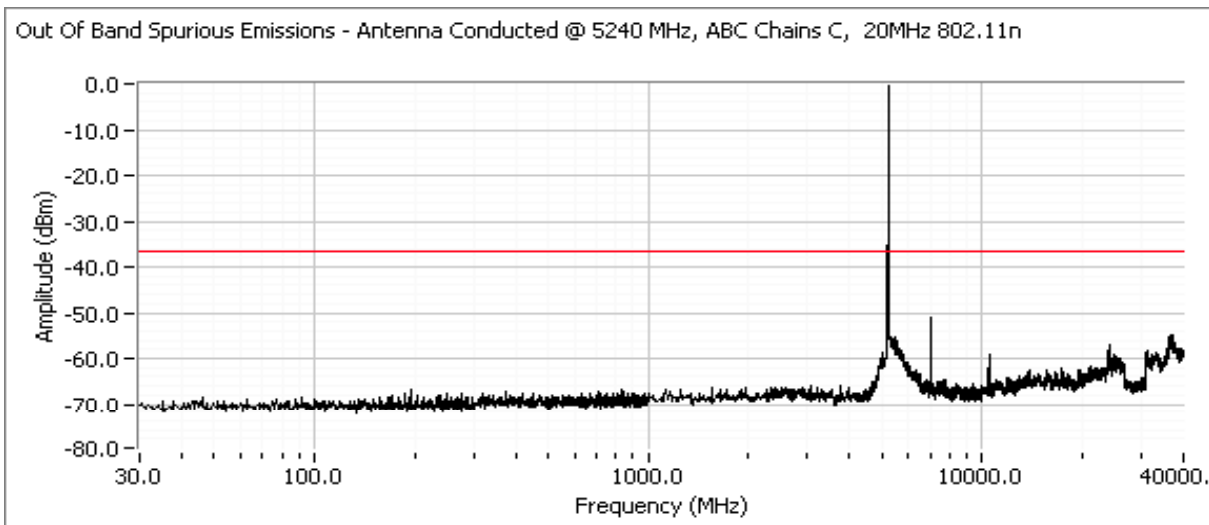
Center Channel, Chain C, 5200 MHz



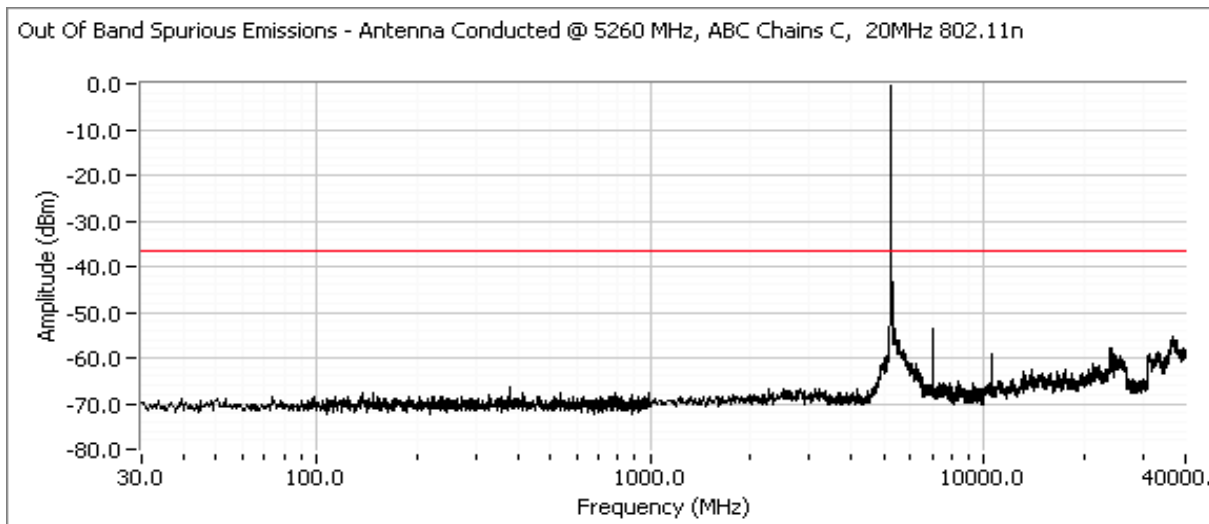
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain C, 5240 MHz



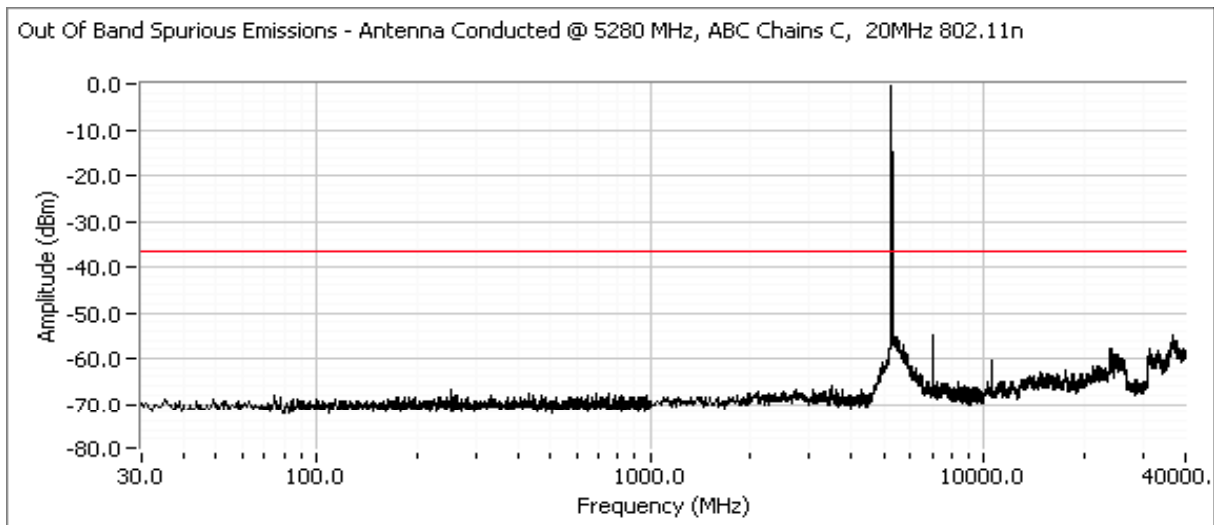
Low Channel, Chain C, 5260 MHz



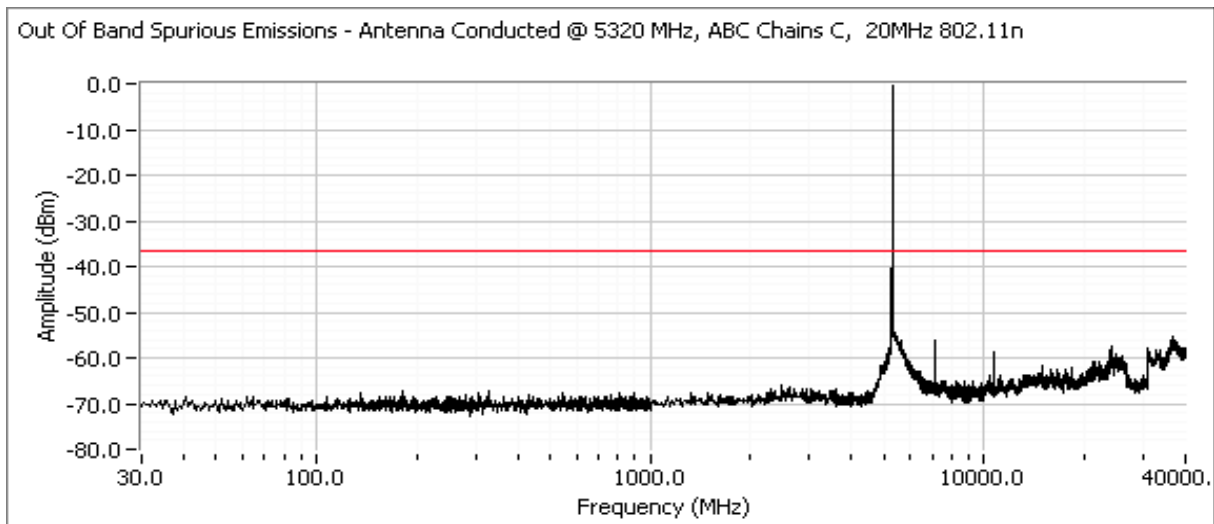
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Center Channel, Chain C, 5280 MHz



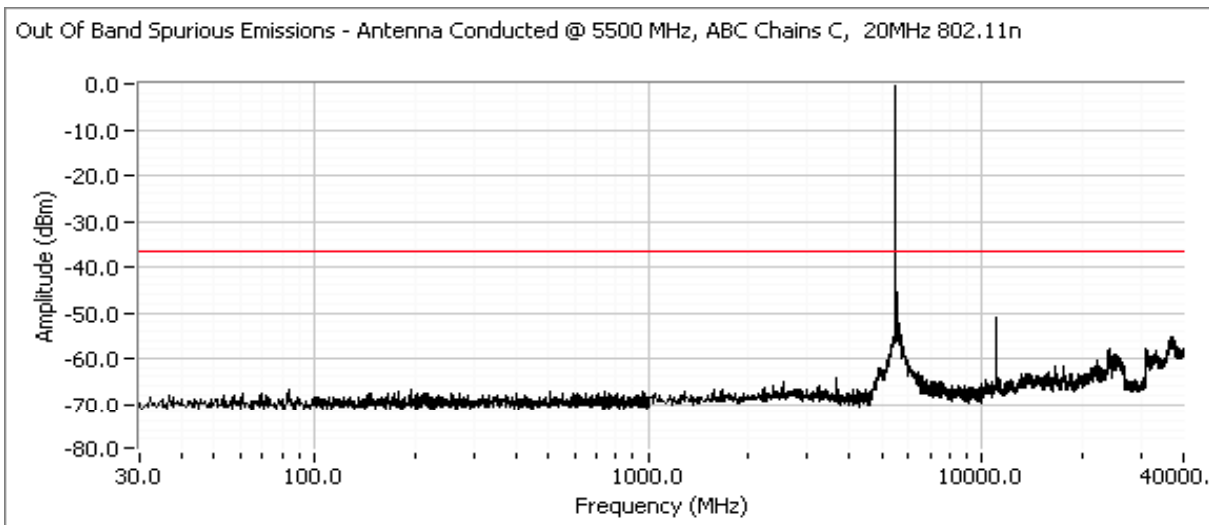
High Channel, Chain C, 5320 MHz



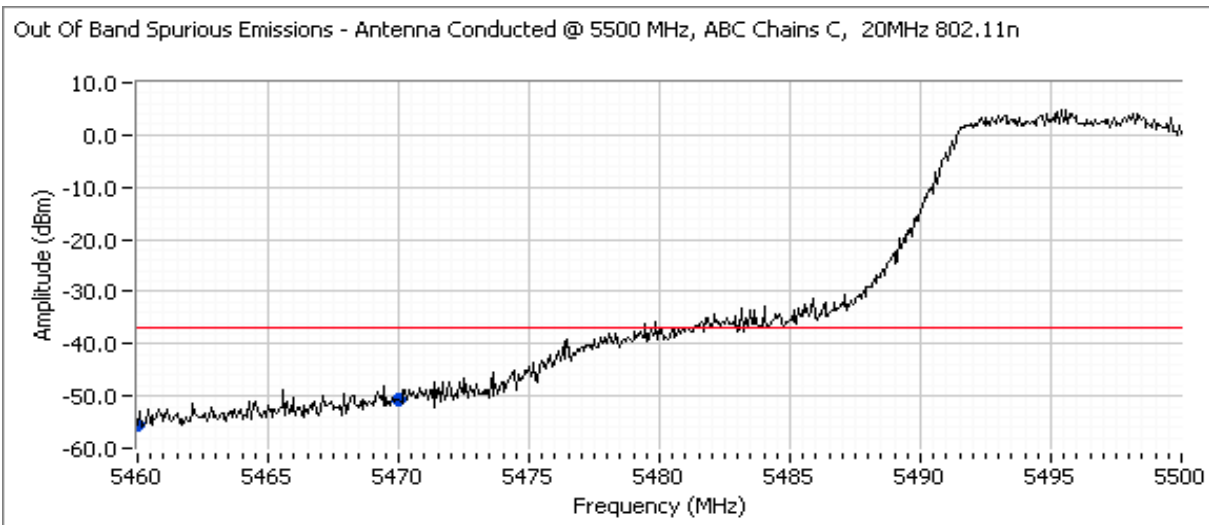
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Low Channel, Chain C, 5500 MHz



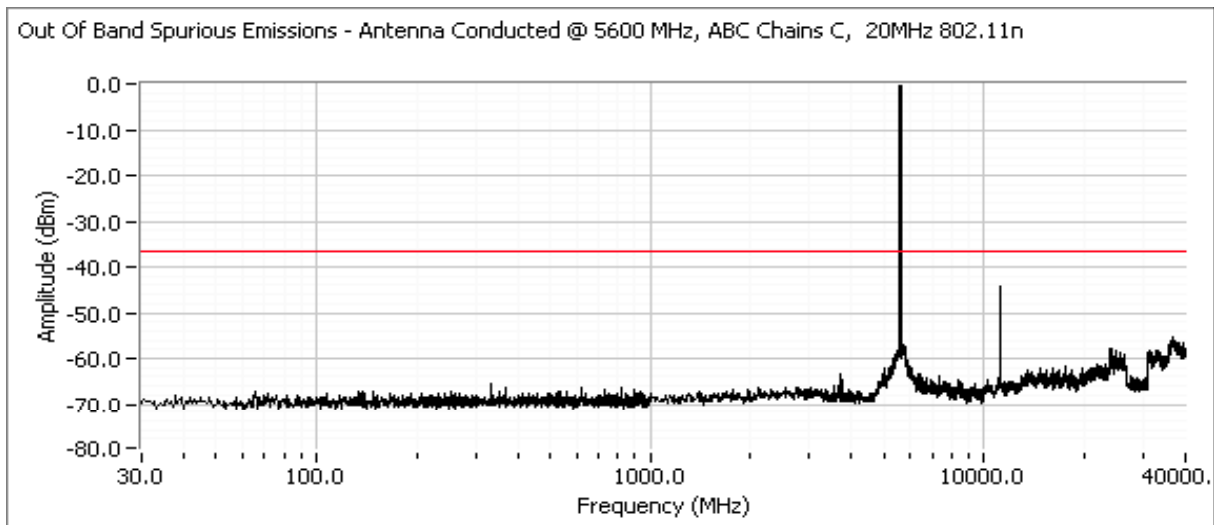
Low Channel, Chain C, 5500 MHz - includes a second plot from 5460 - 5500 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



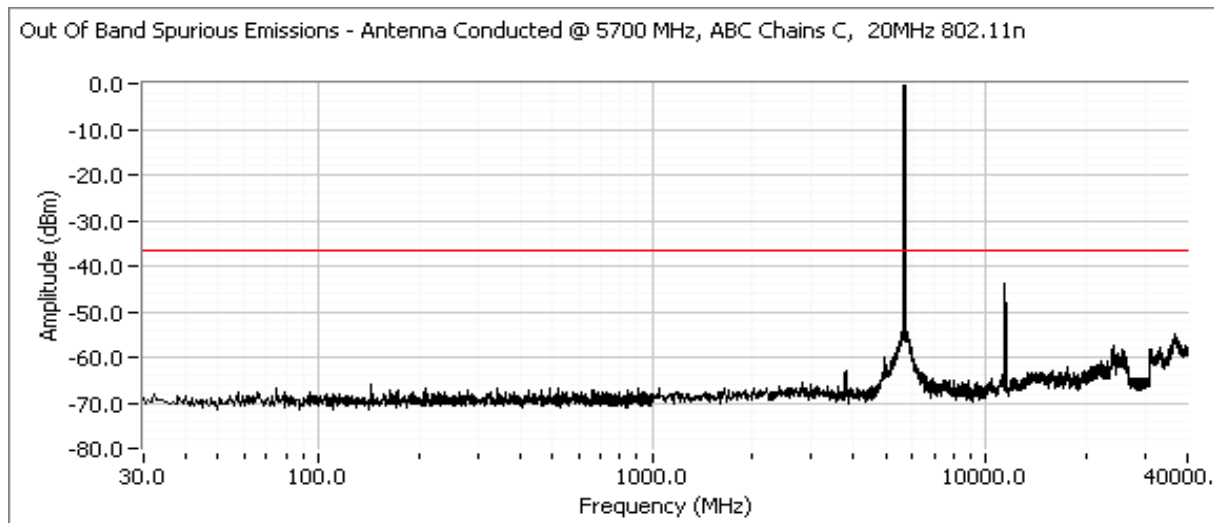
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

Center Channel, Chain C, 5600 MHz



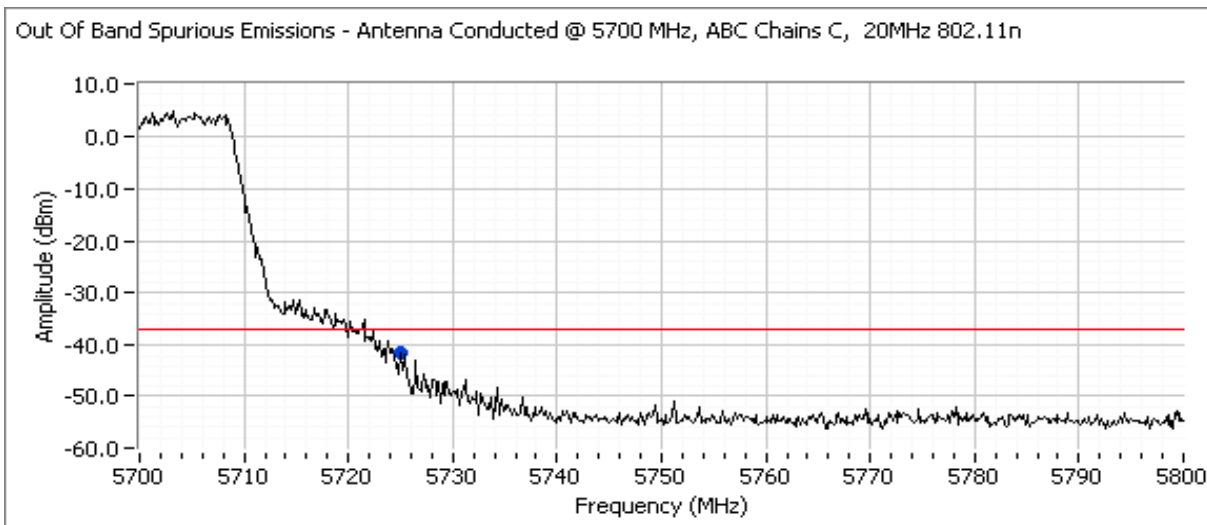
High Channel, Chain C, 5700 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 20MHz 802.11n

High Channel, Chain C, 5700 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.





EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

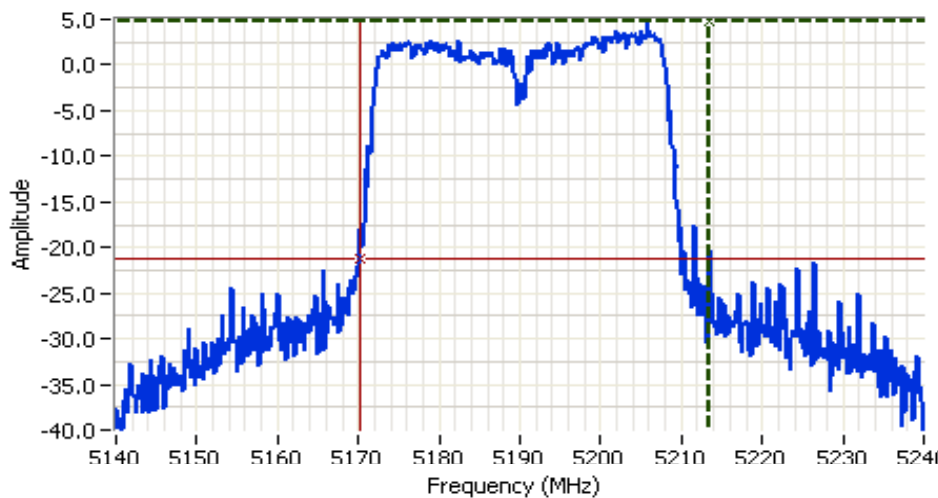
Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5190	29.0	43.2	36.3	11.4	17.0	0.014	-3.6	4.0	5.0	Pass
5230	29.0	65.0	36.3	12.5	17.0	0.018	-2.4	4.0	5.0	Pass
5270	28.0	63.7	36.3	13.0	24.0	0.020	-2.0	11.0	11.0	Pass
5310	26.0	46.0	36.4	12.5	24.0	0.018	-2.1	11.0	11.0	Pass
5510	24.5	48.0	36.4	13.1	24.0	0.020	-2.3	11.0	11.0	Pass
5590	24.5	44.5	36.4	12.8	24.0	0.019	-2.6	11.0	11.0	Pass
5670	24.5	46.0	36.4	12.8	24.0	0.019	-2.7	11.0	11.0	Pass

- Note 1: RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power
- Note 2: Measured using the same analyzer settings used for output power.
- Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
- Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

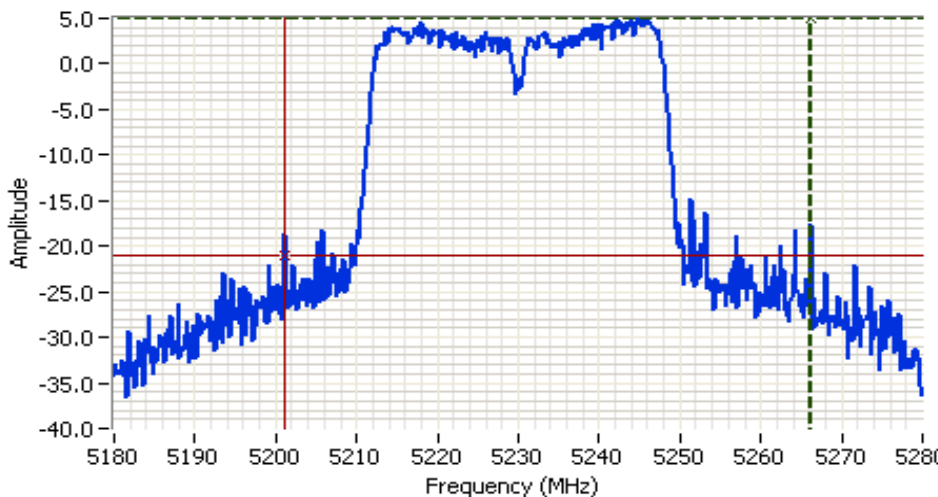


Analyzer Settings
 HP8564E,EMI
 CF: 5190.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 43.17 MHz
 Chain A, n40MHz

Cursor 1	5213.5000	4.83	
Cursor 2	5170.3333	-21.17	

Delta Freq. 43.17
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5230.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 65.00 MHz
 Chain A, n40MHz

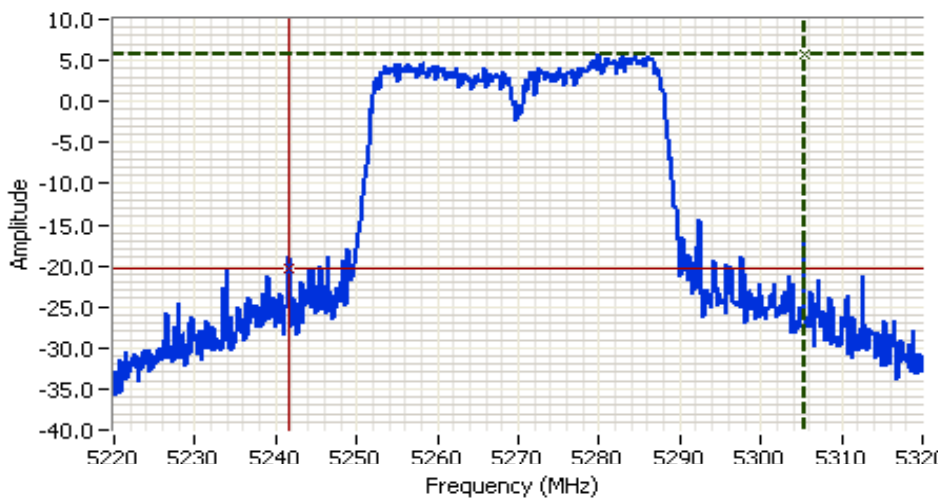
Cursor 1	5266.1667	5.00	
Cursor 2	5201.1667	-21.00	

Delta Freq. 65.00
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

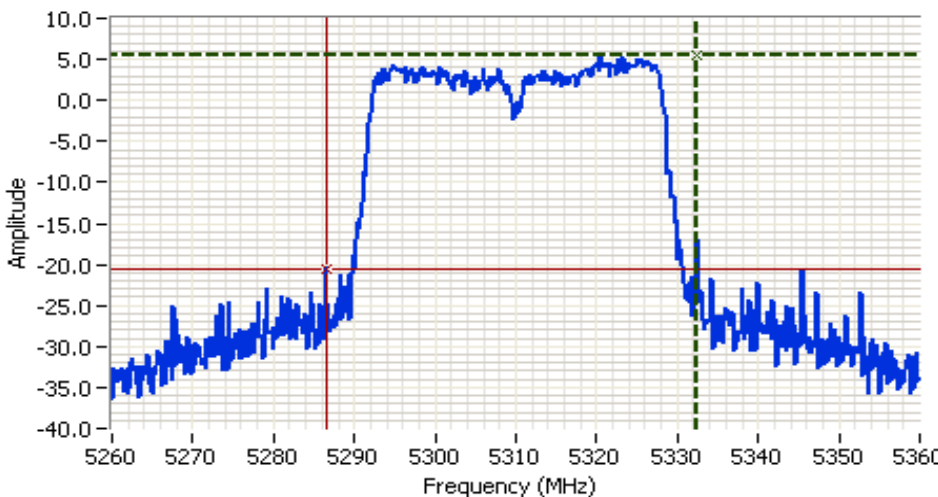


Analyzer Settings
 HP8564E,EMI
 CF: 5270.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 63.67 MHz
 Chain A, n40MHz

Cursor 1	5305.3333	5.67	
Cursor 2	5241.6667	-20.33	

Delta Freq. 63.67
 Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5310.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 46.00 MHz
 Chain A, n40MHz

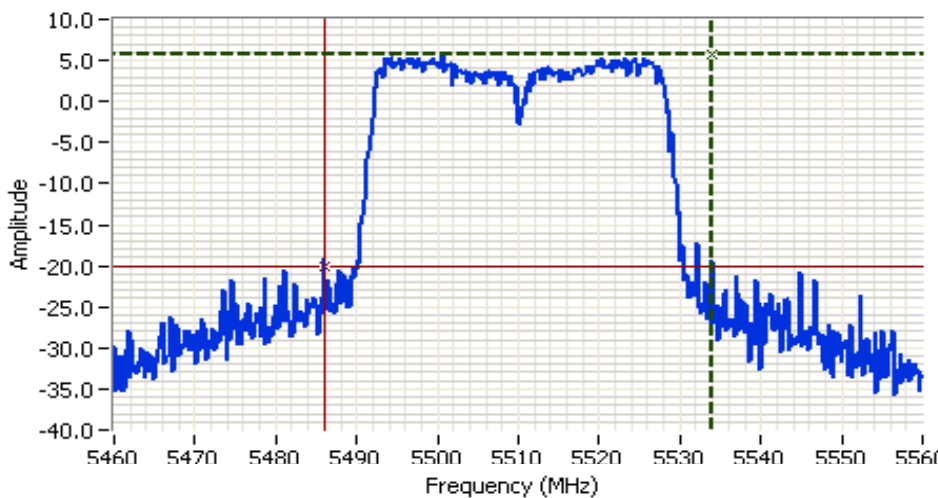
Cursor 1	5332.5000	5.50	
Cursor 2	5286.5000	-20.50	

Delta Freq. 46.00
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

HP8564E,EMI
 CF: 5510.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

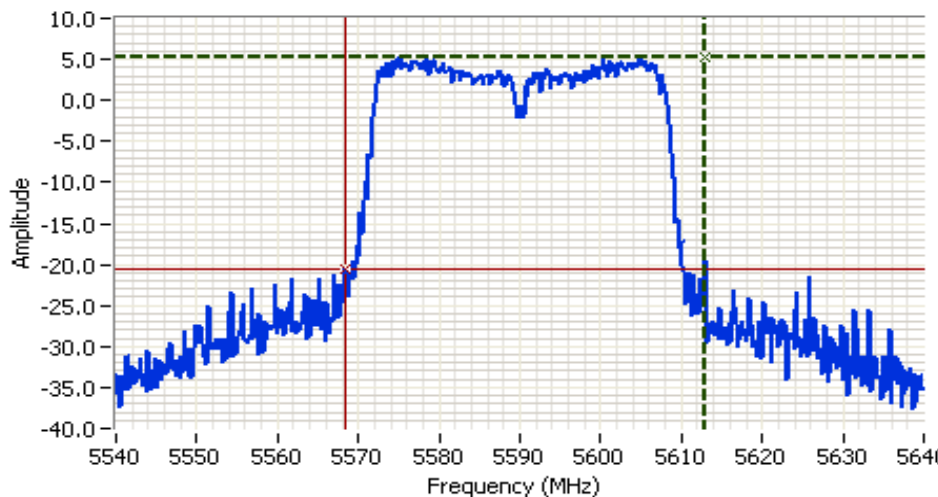
26dB Bandwidth:
 48.00 MHz
 Chain A, n40MHz

Cursor 1 5534.0000 5.83

Cursor 2 5486.0000 -20.17

Delta Freq. 48.00

Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5590.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 44.50 MHz
 Chain A, n40MHz

Cursor 1 5613.0000 5.33

Cursor 2 5568.5000 -20.67

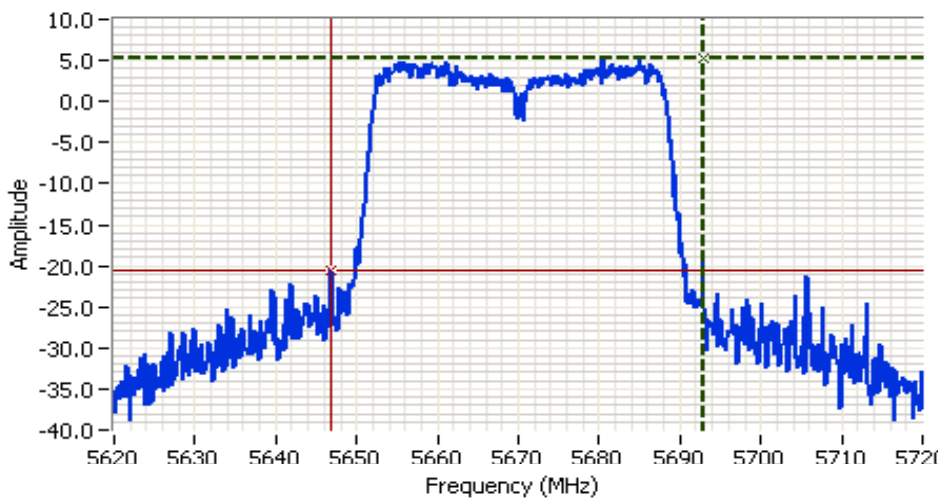
Delta Freq. 44.50

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

HP8564E,EMI
 CF: 5670.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

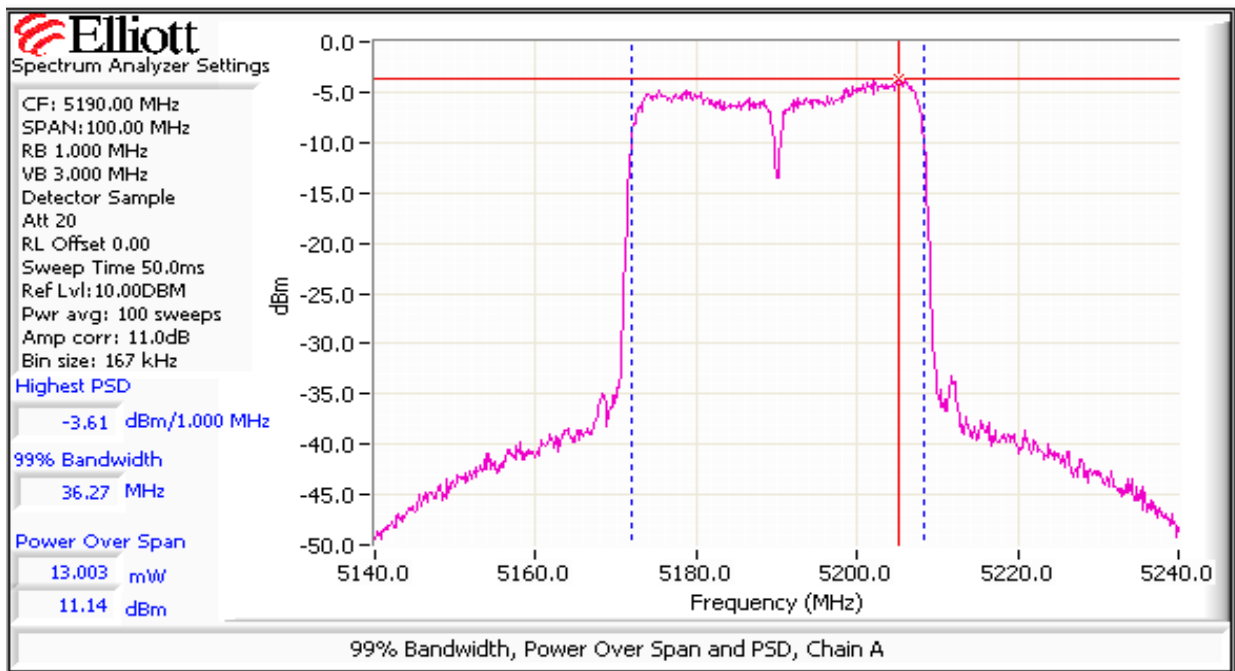
26dB Bandwidth:
 46.00 MHz
 Chain A, n40MHz

Cursor 1 5692.8333 5.33

Cursor 2 5646.8333 -20.67

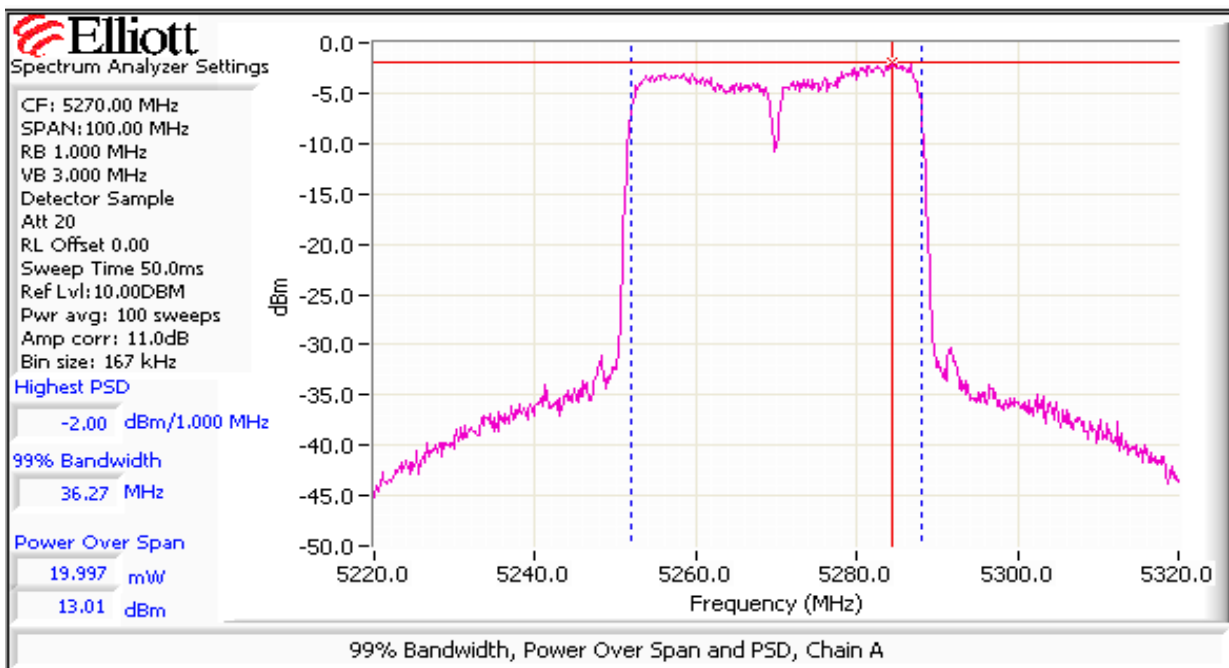
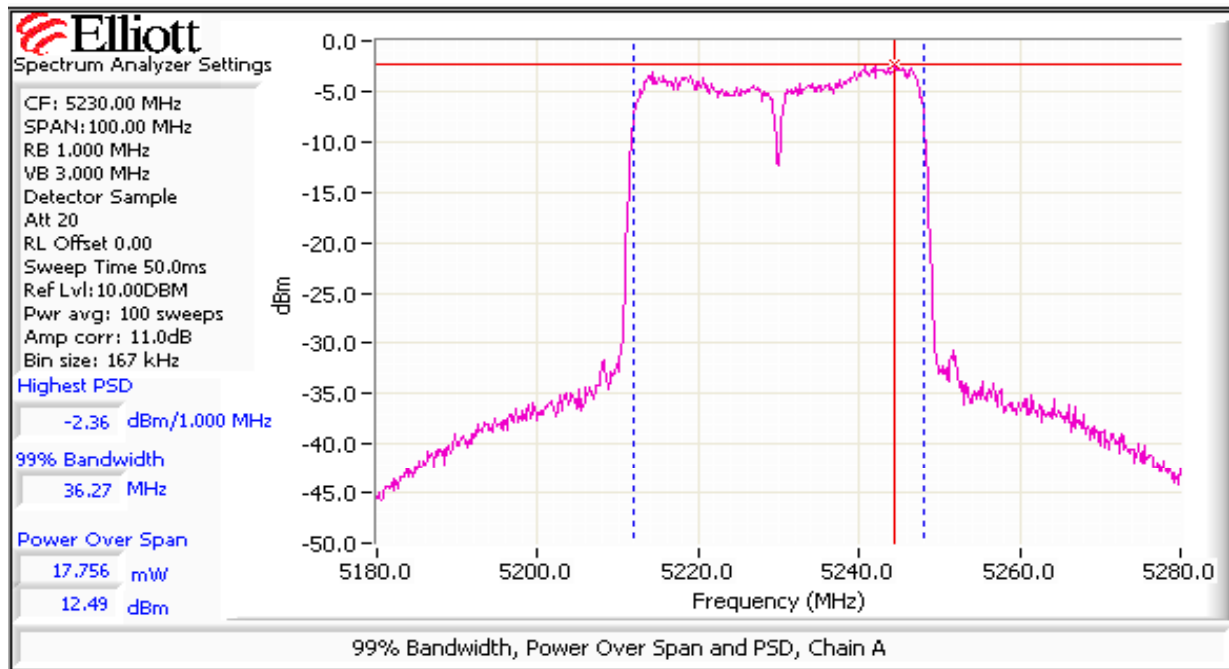
Delta Freq. 46.00

Delta Amplitude 26.00



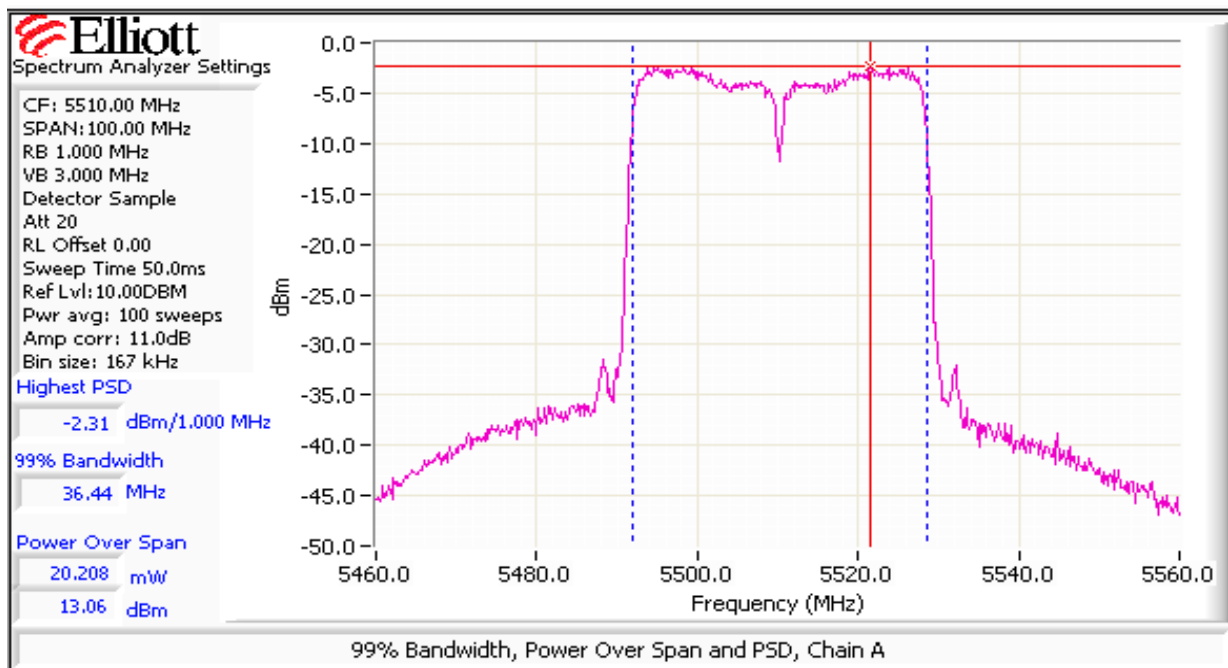
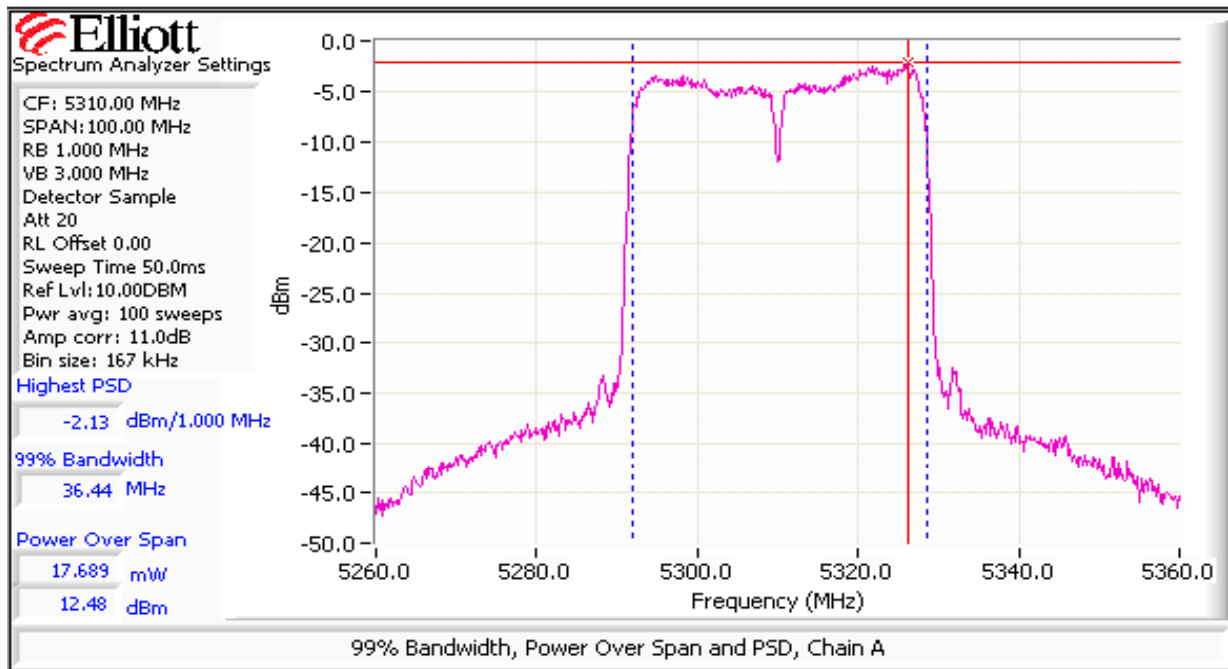
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



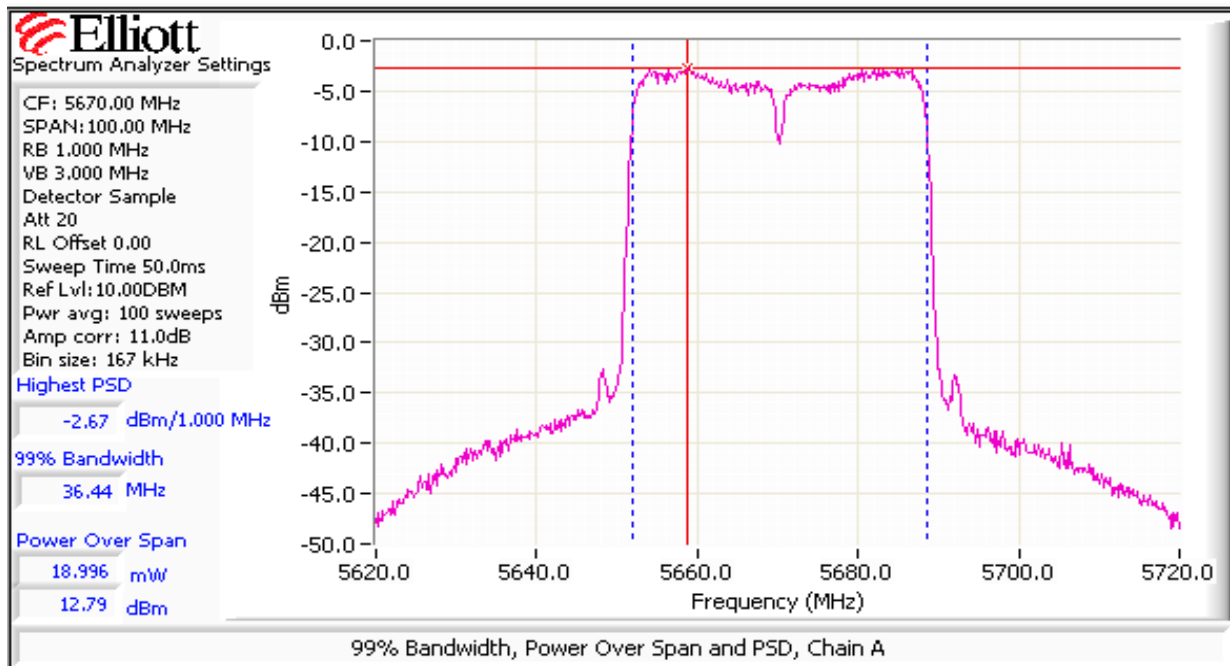
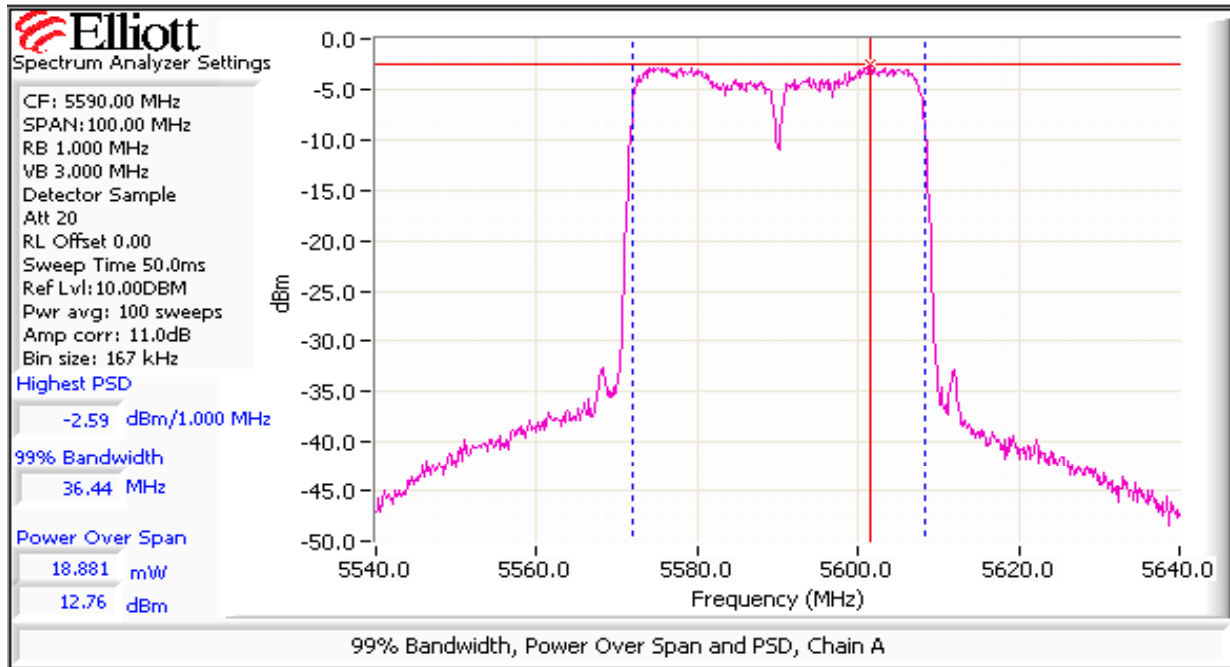
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value
5190	12.1	13.0	5510	12.1	13.0		
5230	12.0	13.0	5590	11.2	13.0		
5270	11.0	13.0	5670	10.9	13.0		
5310	11.7	13.0					

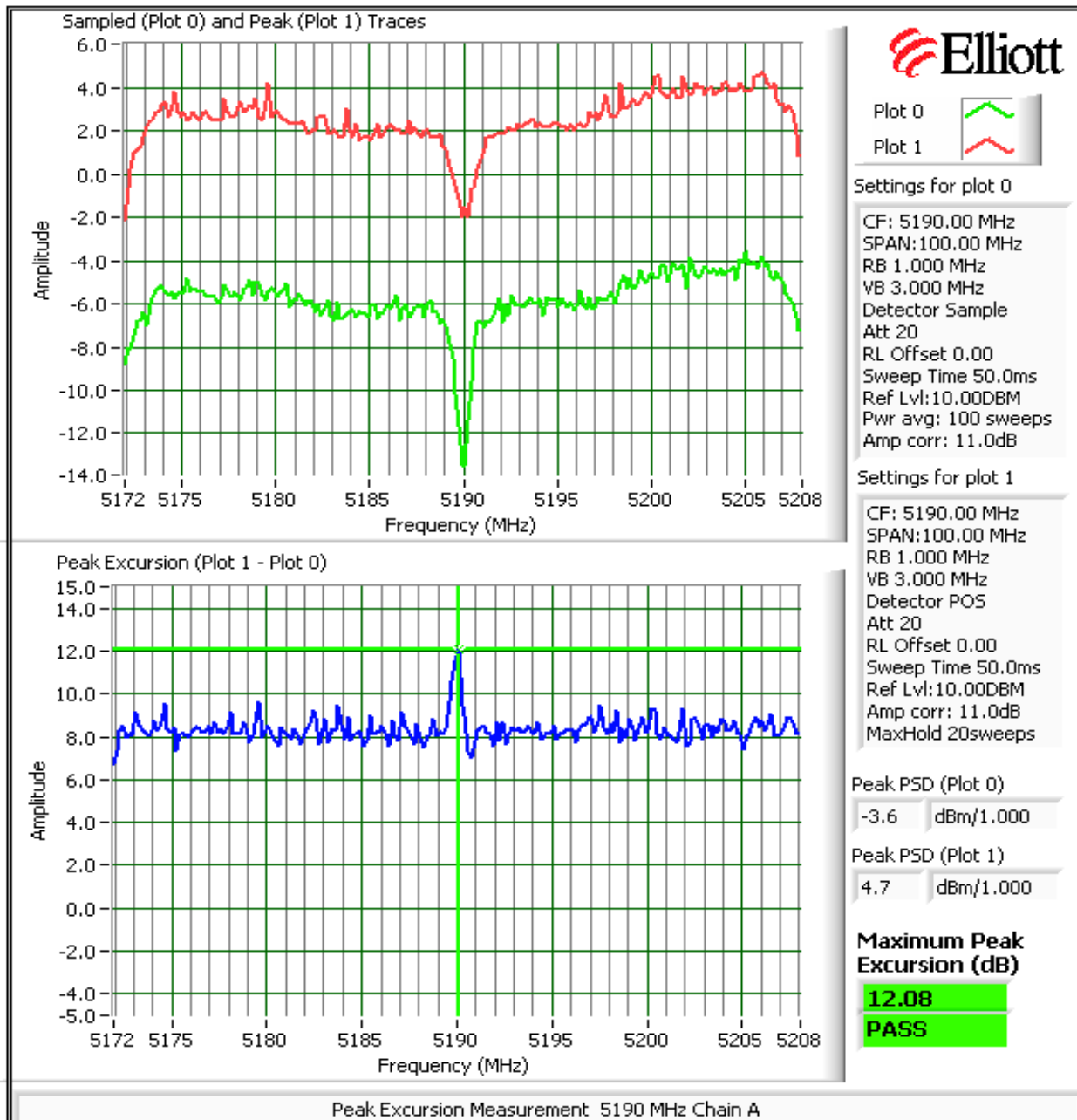
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

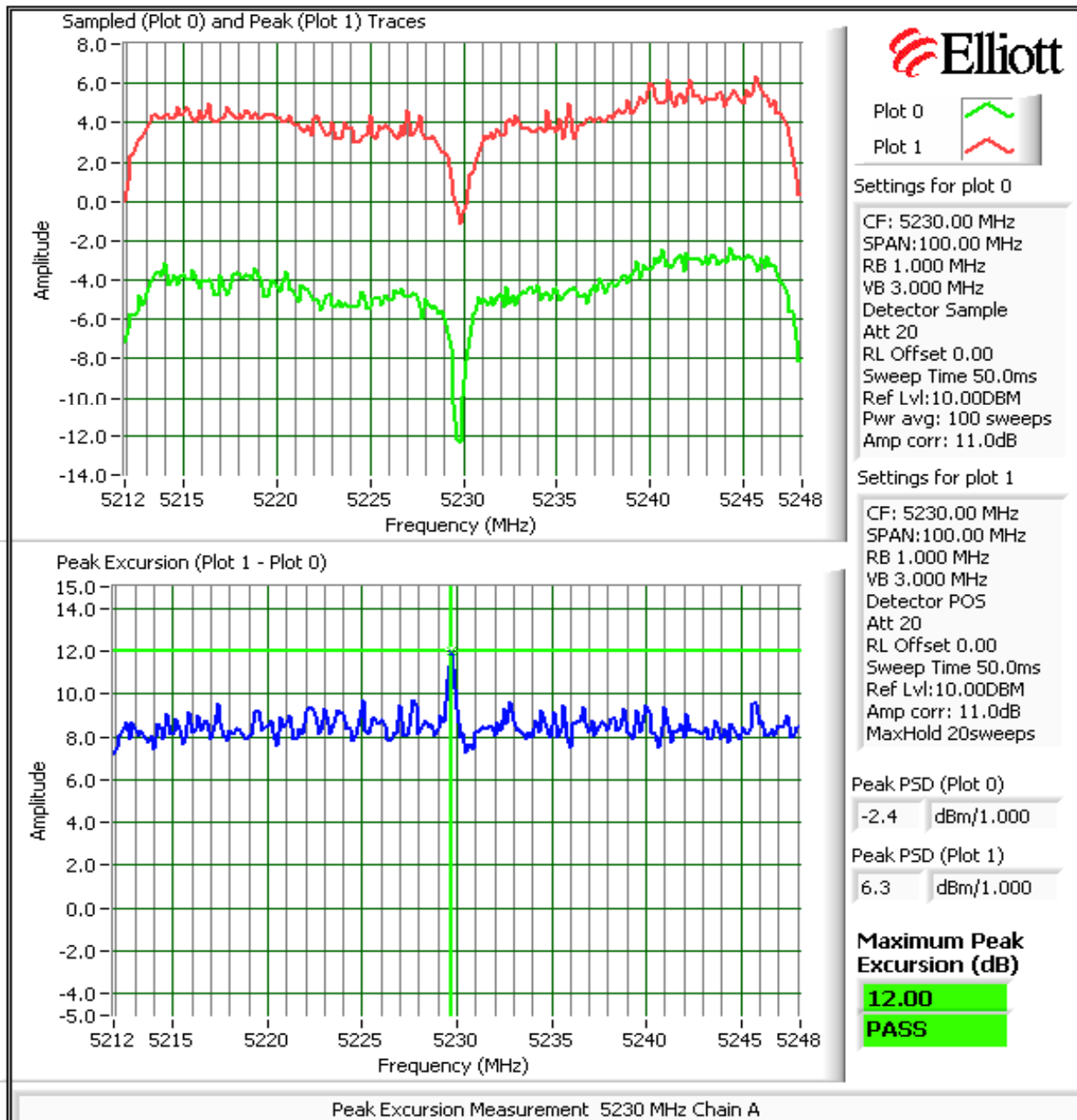
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



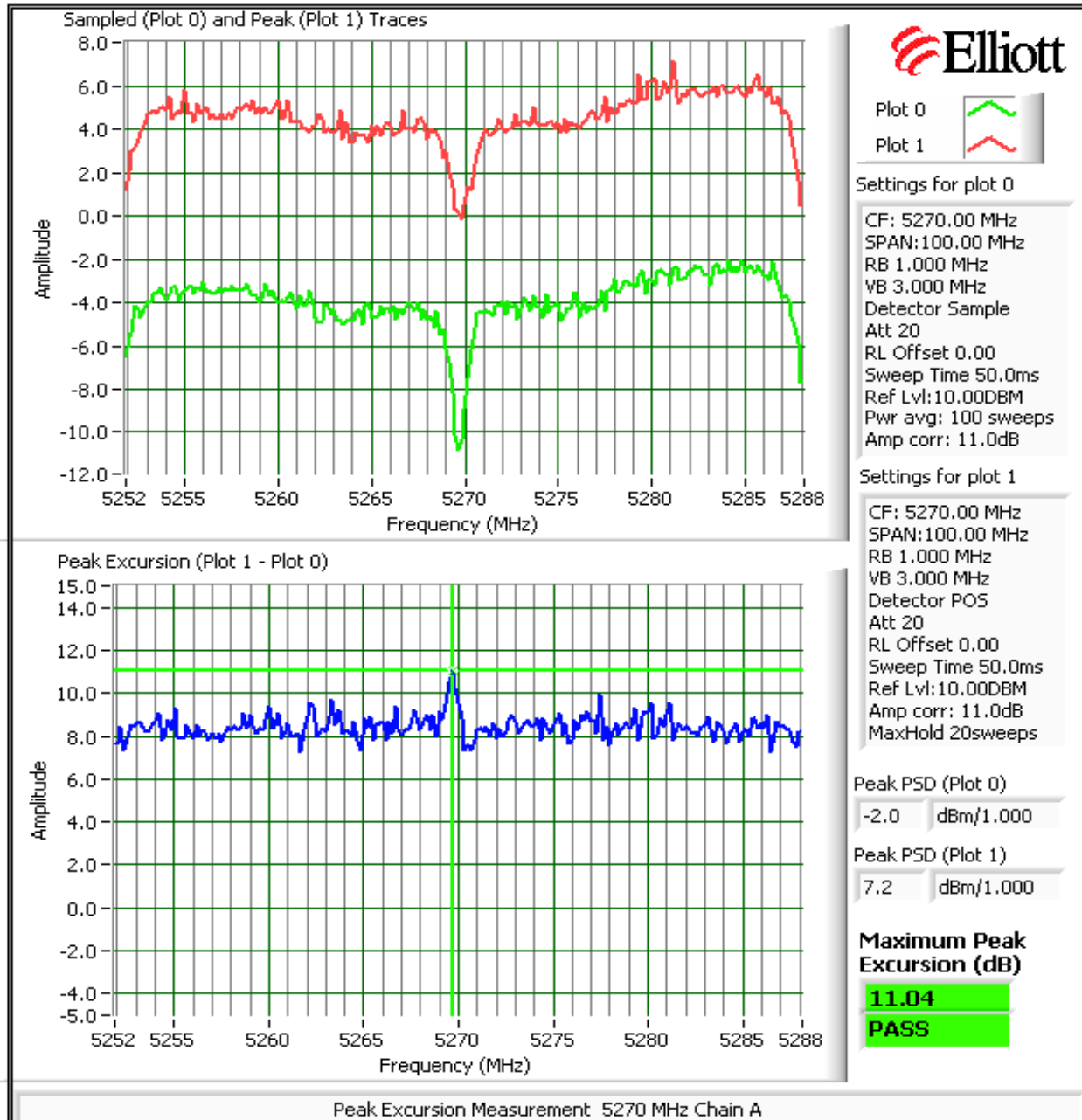
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



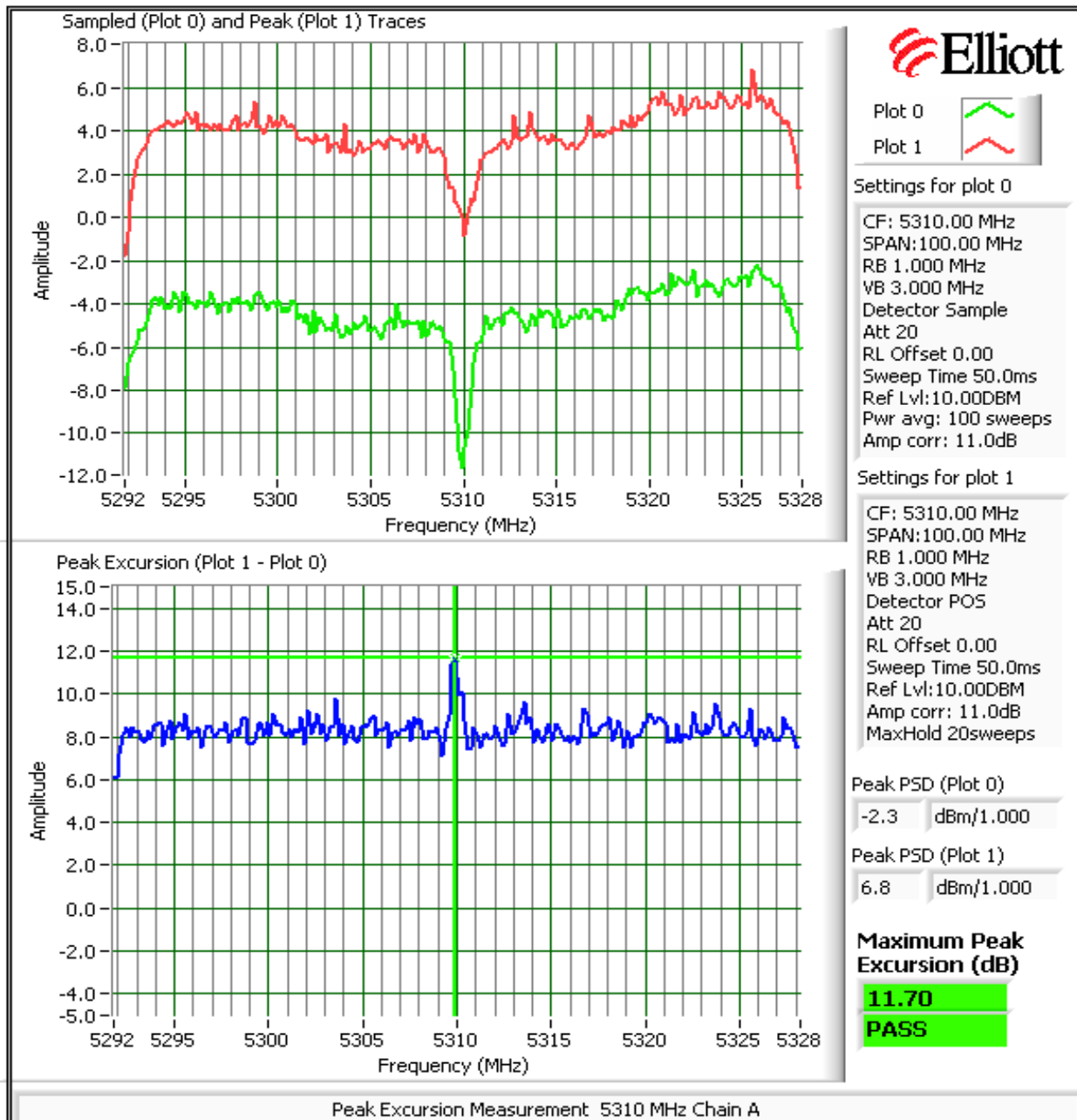
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



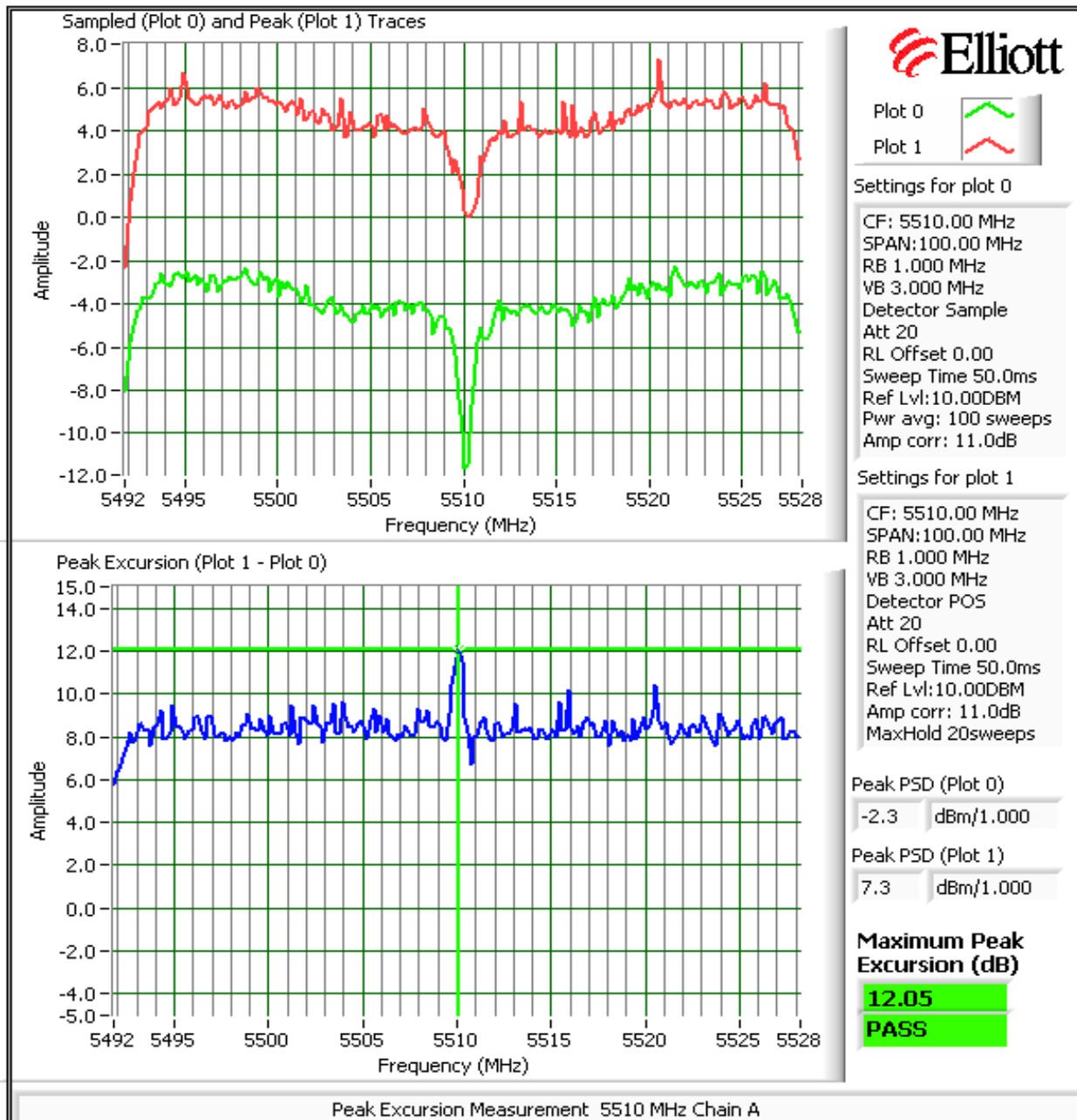
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



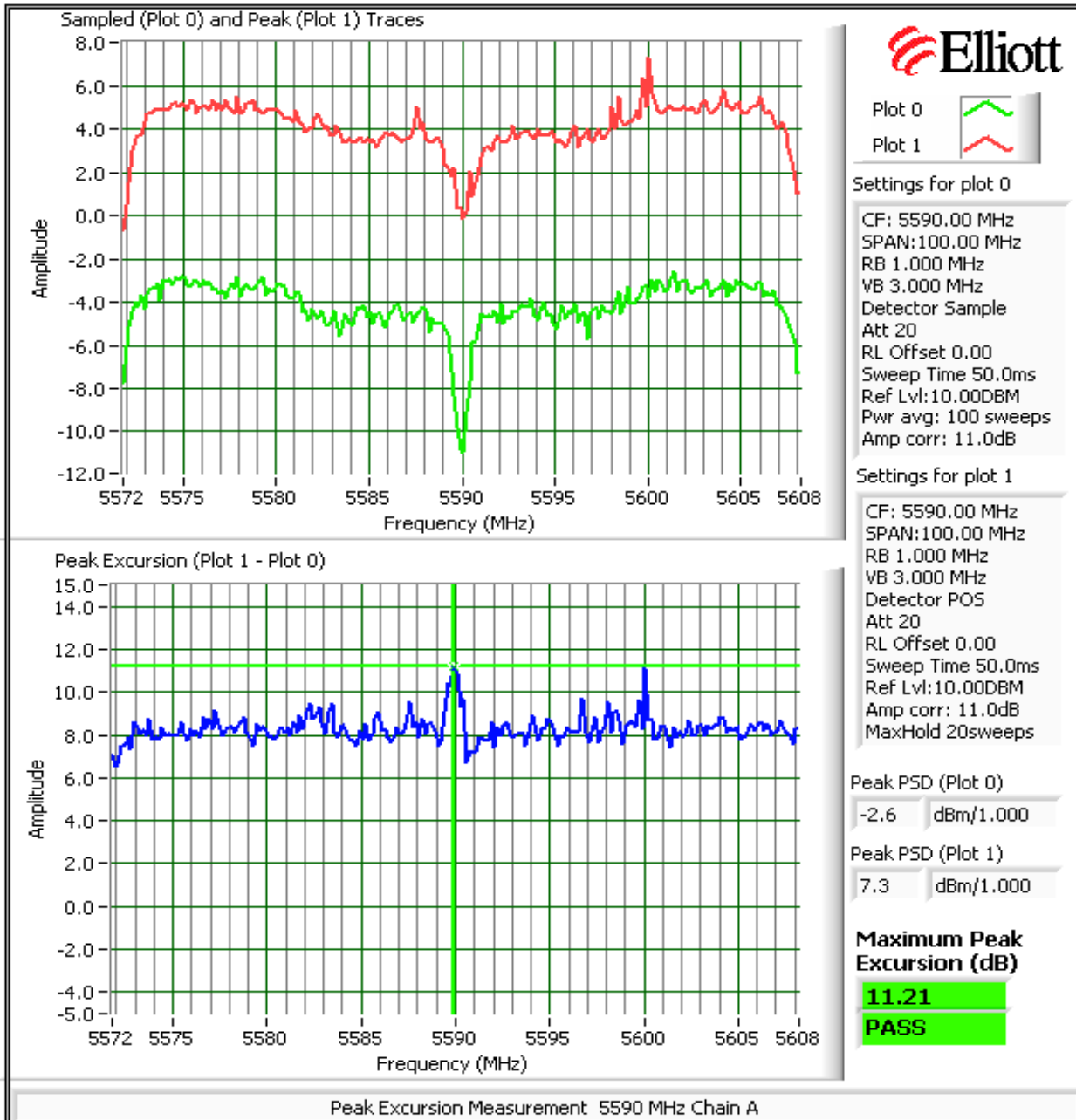
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



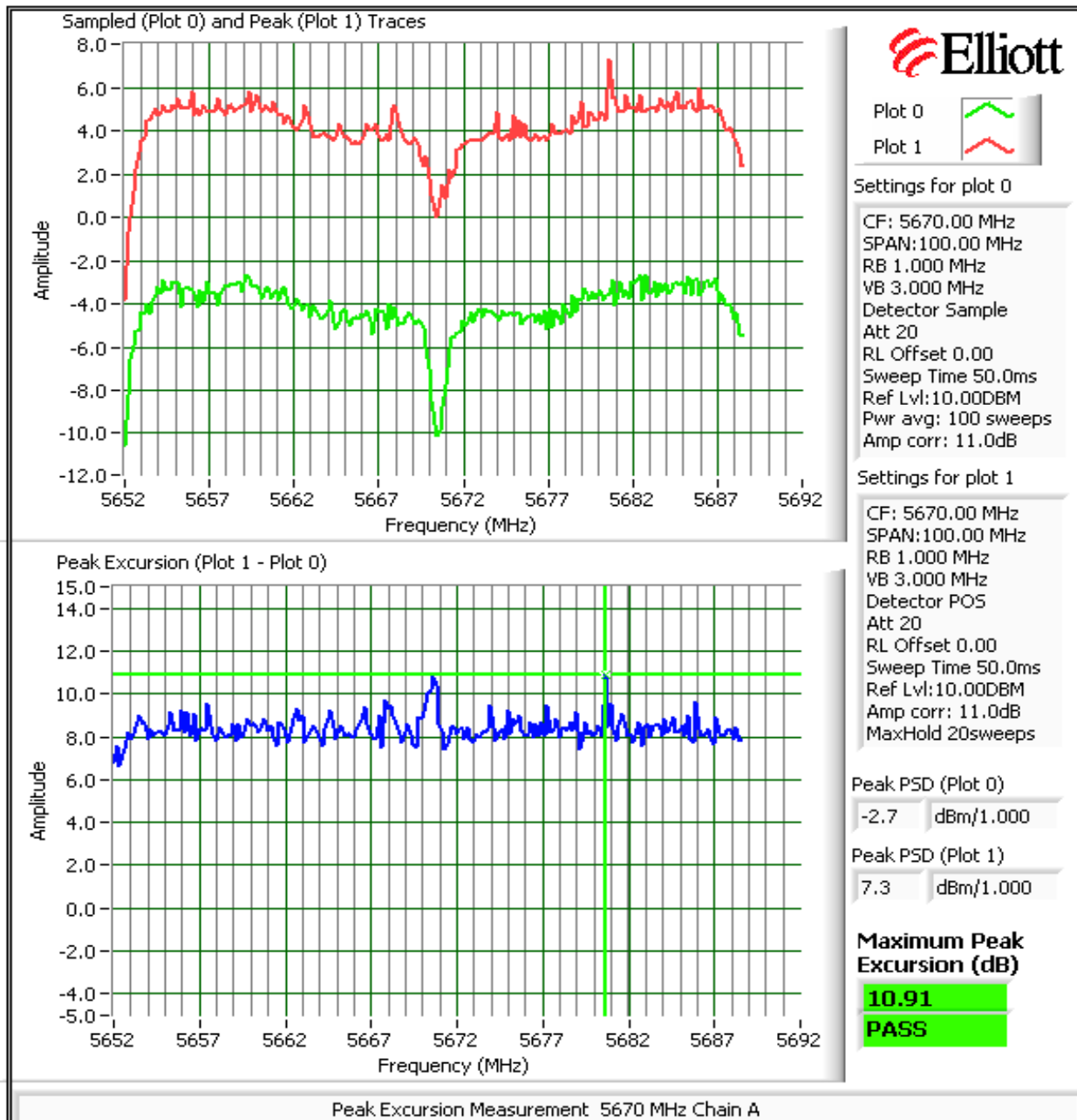
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

**RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain B, 802.11n 40 MHz mode
Power. PSD. Peak Excursion. Bandwidth and Spurious Emissions**

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/17/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions: Temperature: 23 °C
 Rel. Humidity: 35 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	13.9 dBm(20mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	13.7 dBm(23mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	13.7 dBm(24mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	- 2dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	-1.1dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	-1.7dBm/MHz
1	26dB Bandwidth	15.407	-	66.8 MHz
1	99% Bandwidth	RSS 210	-	36.4 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	12.9 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.



EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

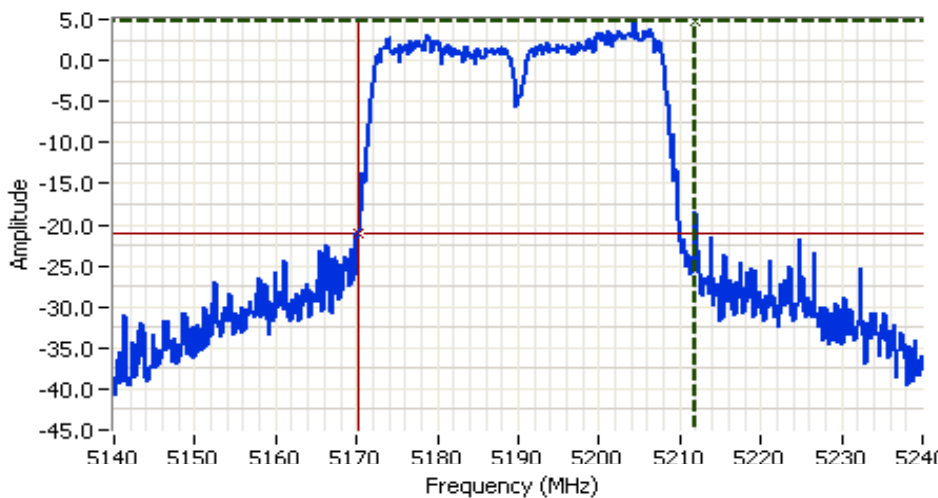
Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5190	27.5	41.7	36.3	11.2	17.0	0.013	-3.8	4.0	5.0	Pass
5230	28.0	60.8	36.3	12.9	17.0	0.020	-2.0	4.0	5.0	Pass
5270	27.5	66.8	36.3	13.7	24.0	0.023	-1.1	11.0	11.0	Pass
5310	24.0	42.0	36.3	11.4	24.0	0.014	-3.5	11.0	11.0	Pass
5510	24.0	46.0	36.4	12.7	24.0	0.019	-2.7	11.0	11.0	Pass
5590	24.5	52.5	36.4	13.0	24.0	0.020	-2.3	11.0	11.0	Pass
5670	24.5	43.5	36.4	13.7	24.0	0.024	-1.7	11.0	11.0	Pass

- Note 1: RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power
- Note 2: Measured using the same analyzer settings used for output power.
- Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
- Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

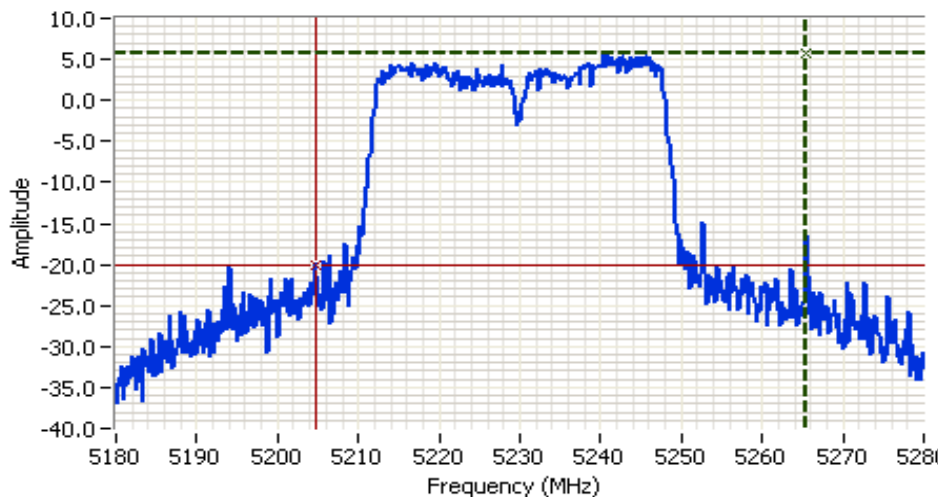
HP8564E,EMI
 CF: 5190.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 41.67 MHz
 Chain B, n40MHz

Cursor 1	5212.0000	4.83	
Cursor 2	5170.3333	-21.17	

Delta Freq. 41.67
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5230.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 60.83 MHz
 Chain B, n40MHz

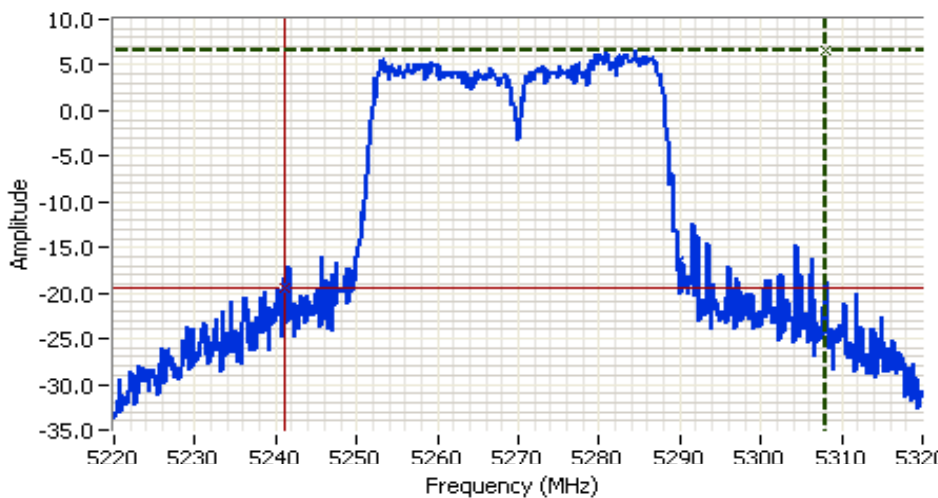
Cursor 1	5265.5000	5.83	
Cursor 2	5204.6667	-20.17	

Delta Freq. 60.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

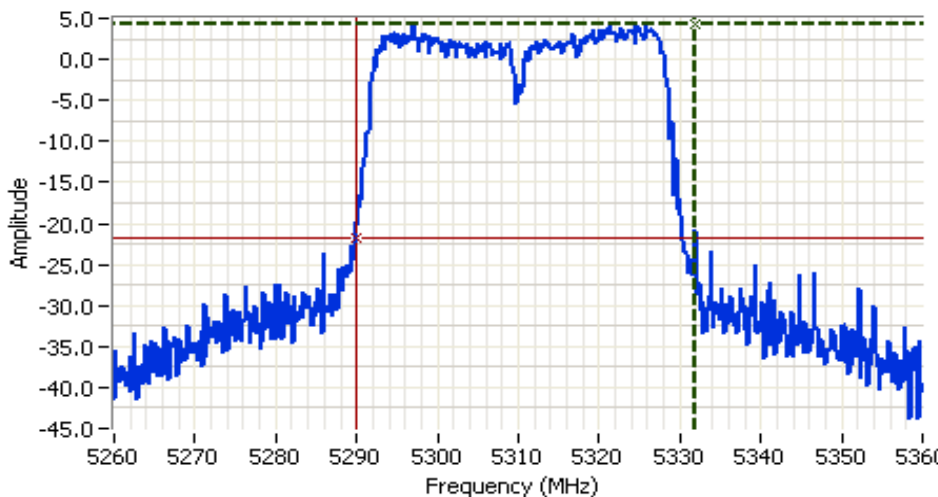
HP8564E,EMI
 CF: 5270.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 66.83 MHz
 Chain B, n40MHz

Cursor 1	5308.0000	6.50	
Cursor 2	5241.1667	-19.50	

Delta Freq. 66.83
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5310.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 42.00 MHz
 Chain B, n40MHz

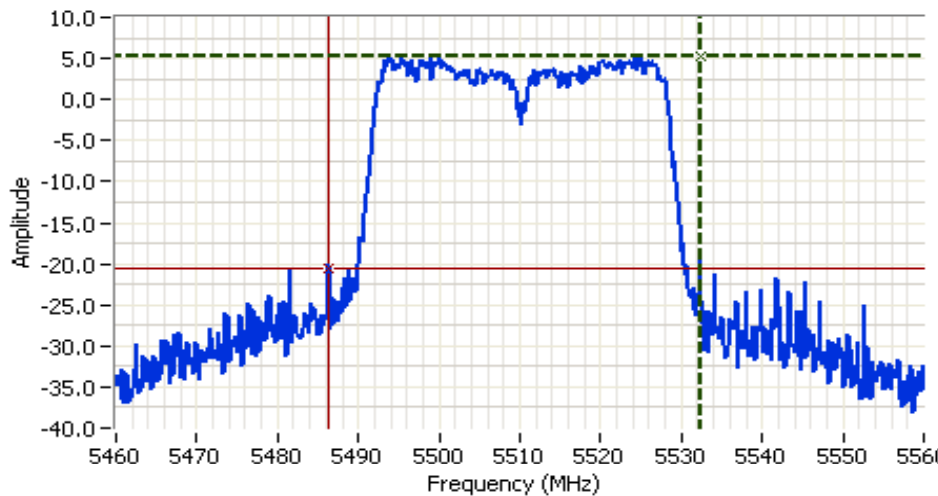
Cursor 1	5332.0000	4.33	
Cursor 2	5290.0000	-21.67	

Delta Freq. 42.00
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5510.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

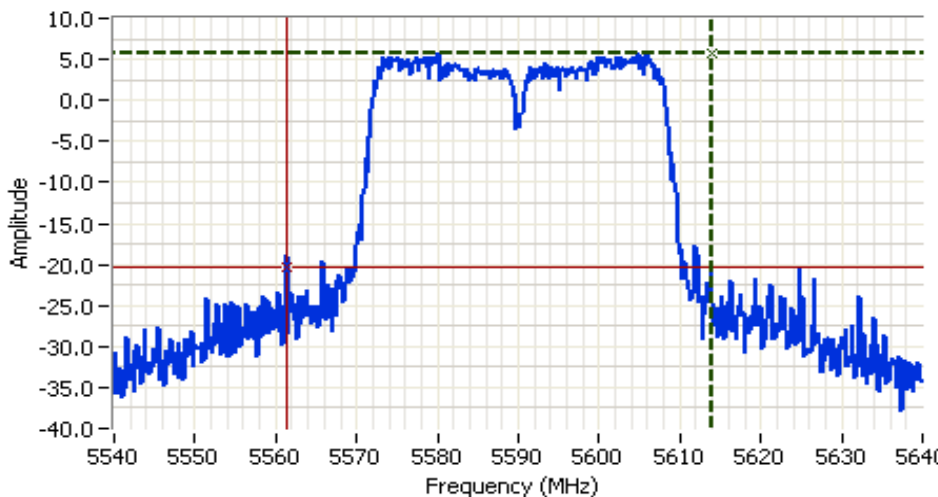
Comments
 26dB Bandwidth:
 46.00 MHz
 Chain B, n40MHz

Cursor 1 5532.3333 5.33

Cursor 2 5486.3333 -20.67

Delta Freq. 46.00

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5590.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 52.50 MHz
 Chain B, n40MHz

Cursor 1 5613.8333 5.67

Cursor 2 5561.3333 -20.33

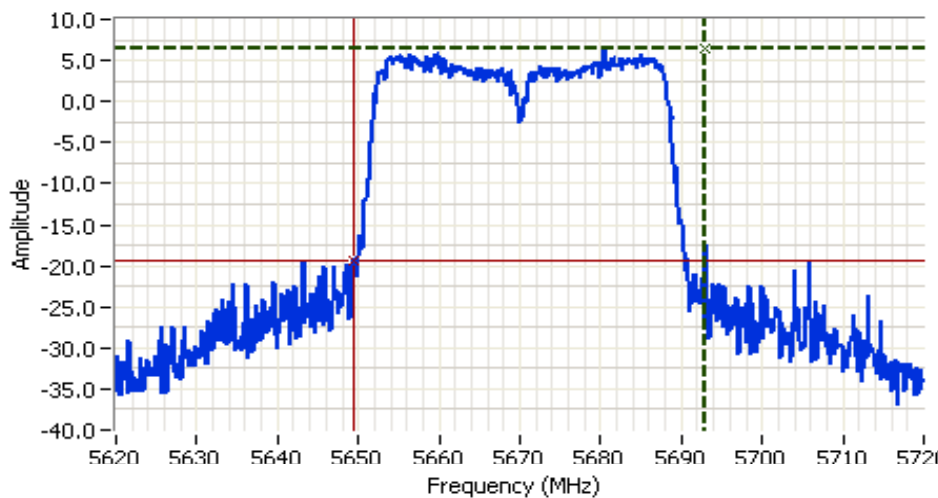
Delta Freq. 52.50

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

HP8564E,EMI
 CF: 5670.00 MHz
 SPAN: 100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl: 21.00DBM

Comments

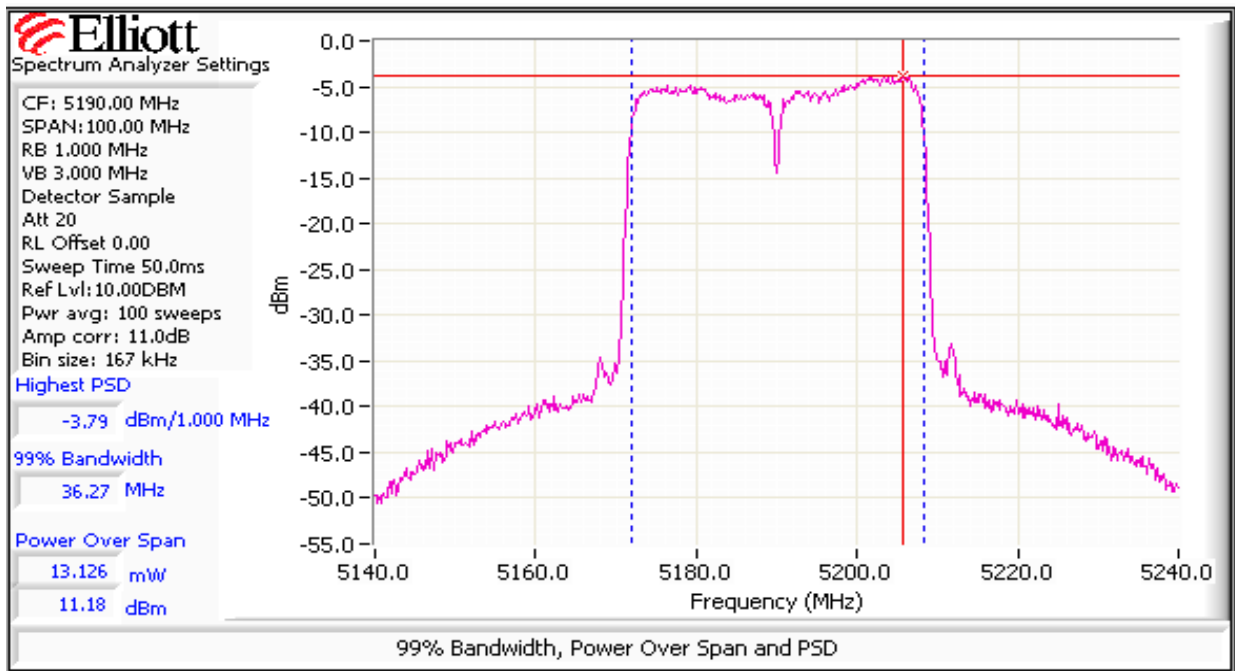
26dB Bandwidth:
 43.50 MHz
 Chain B, n40MHz

Cursor 1 5693.0000 6.50

Cursor 2 5649.5000 -19.50

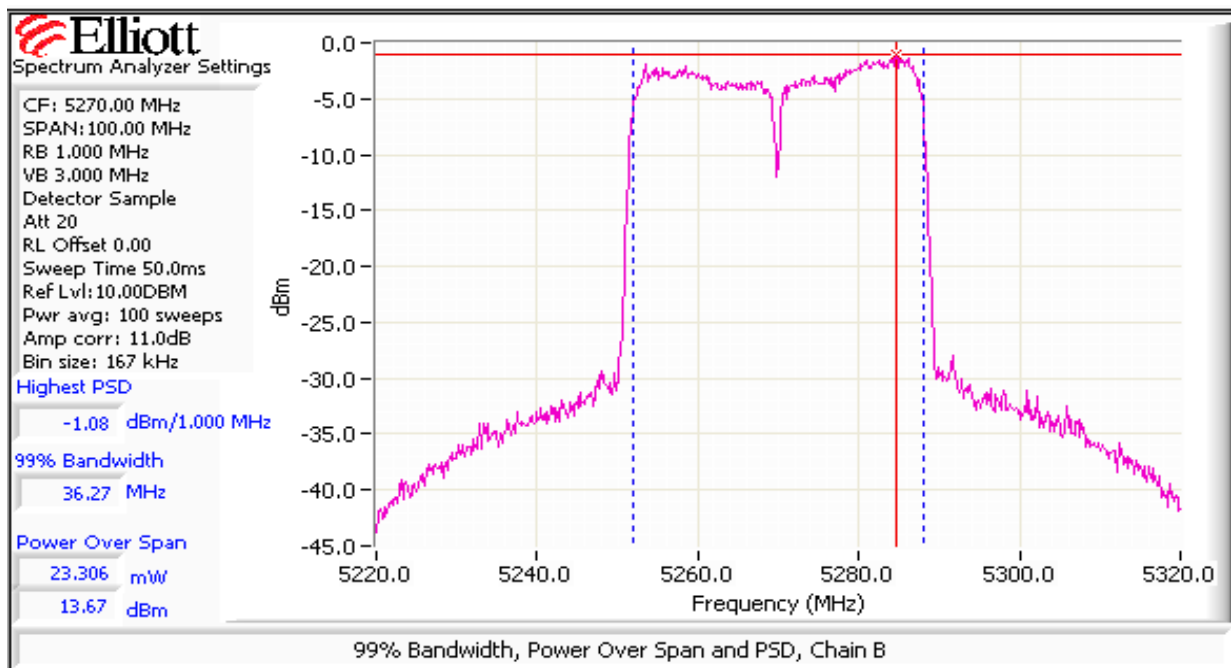
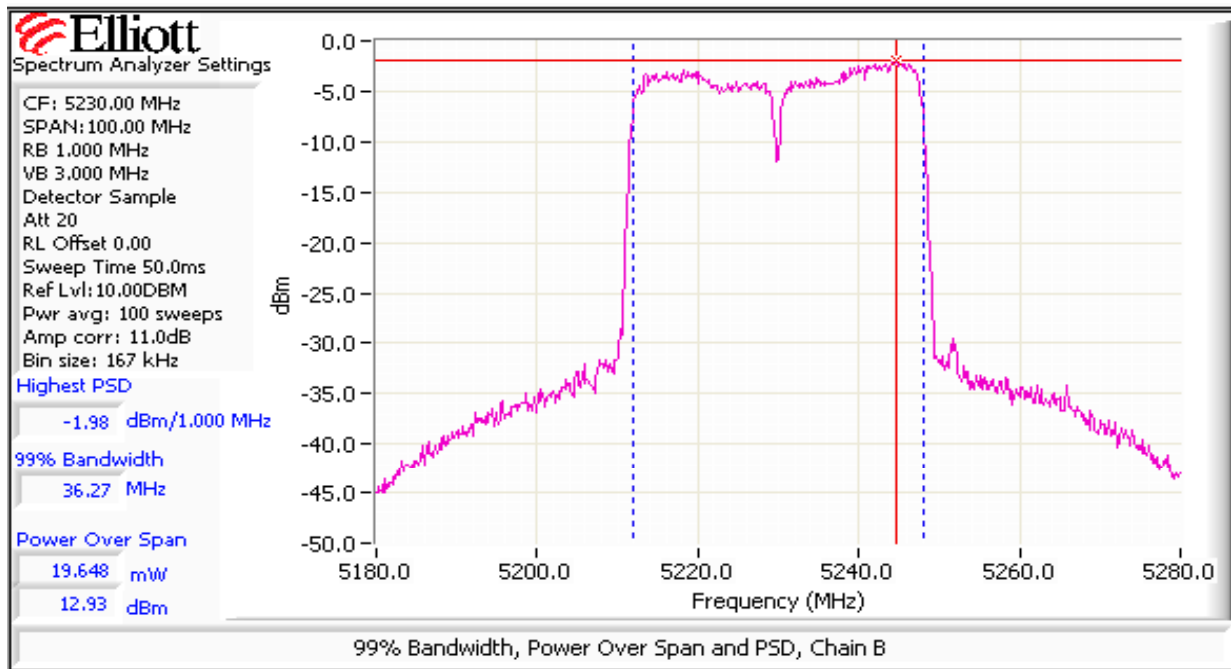
Delta Freq. 43.50

Delta Amplitude 26.00



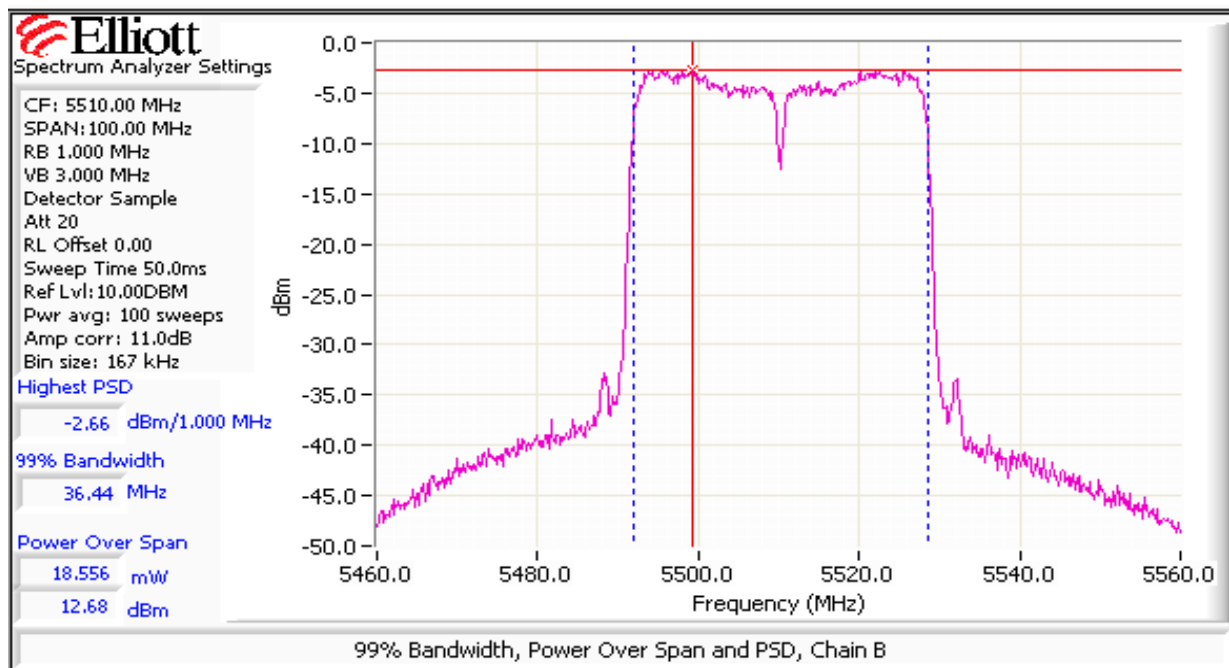
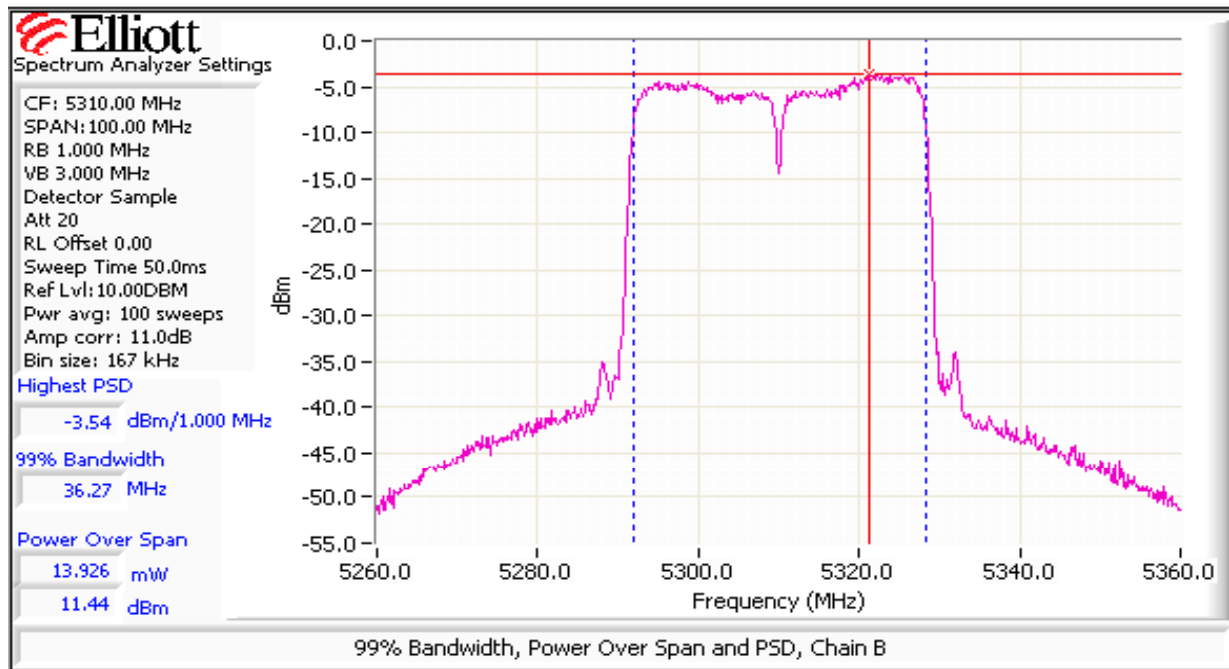
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



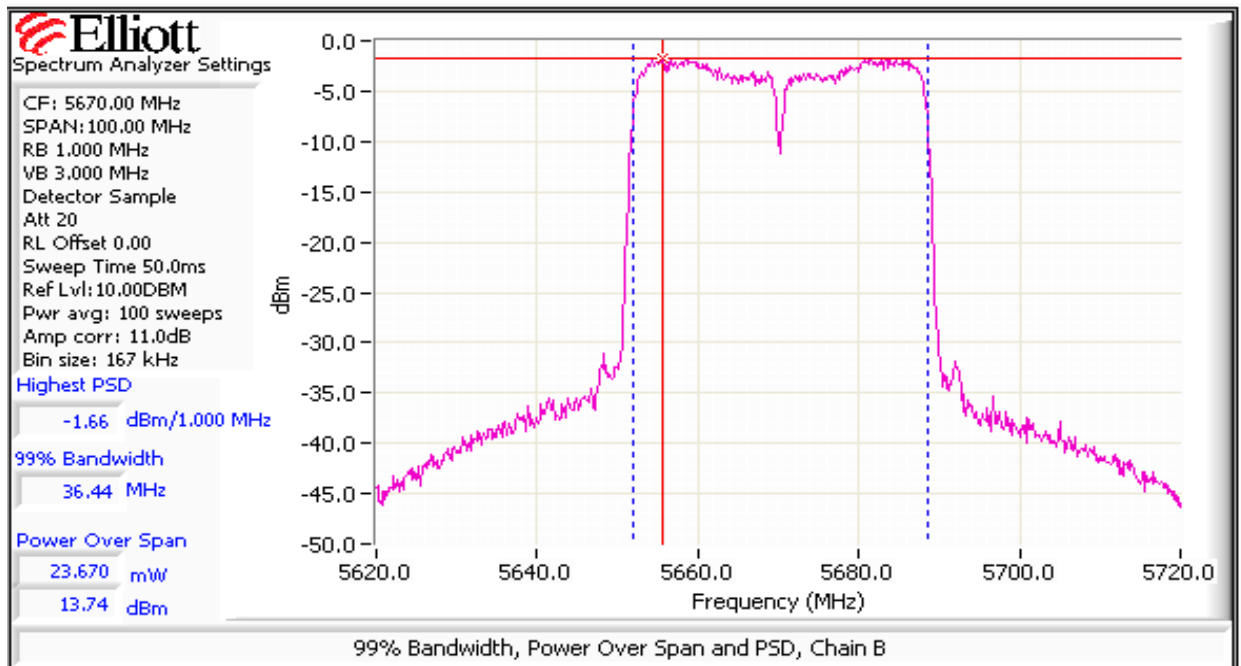
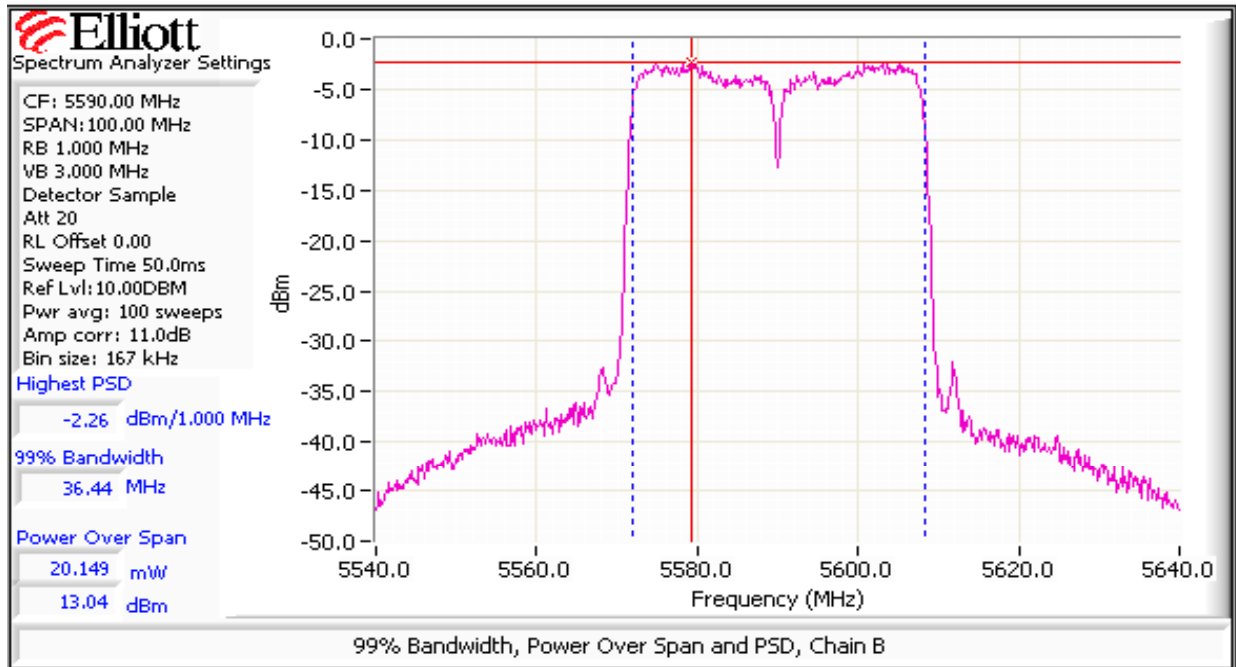
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value
5190	12.2	13.0	5510	12.0	13.0		
5230	11.3	13.0	5590	11.8	13.0		
5270	11.9	13.0	5670	12.5	13.0		
5310	12.9	13.0					

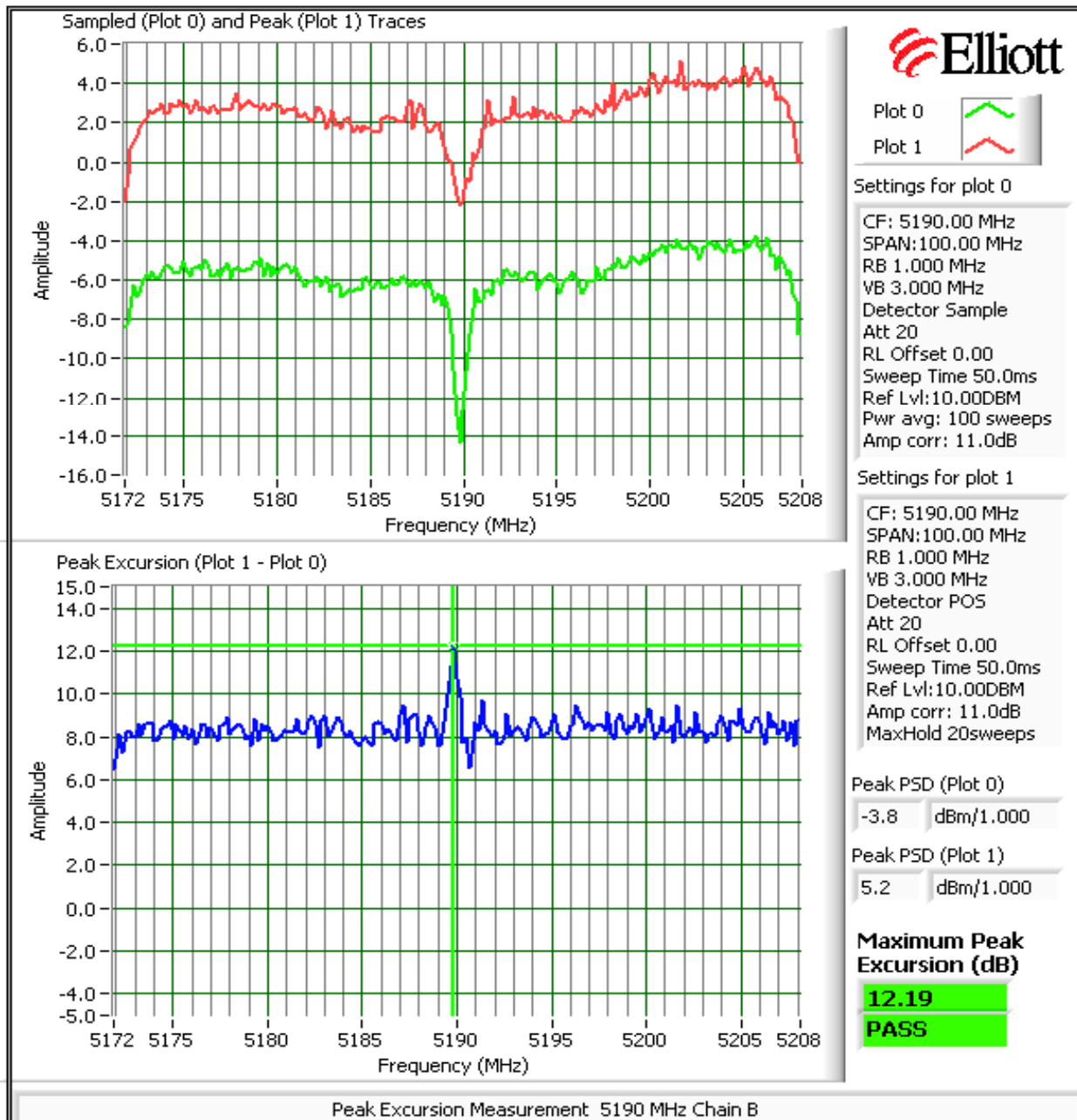
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

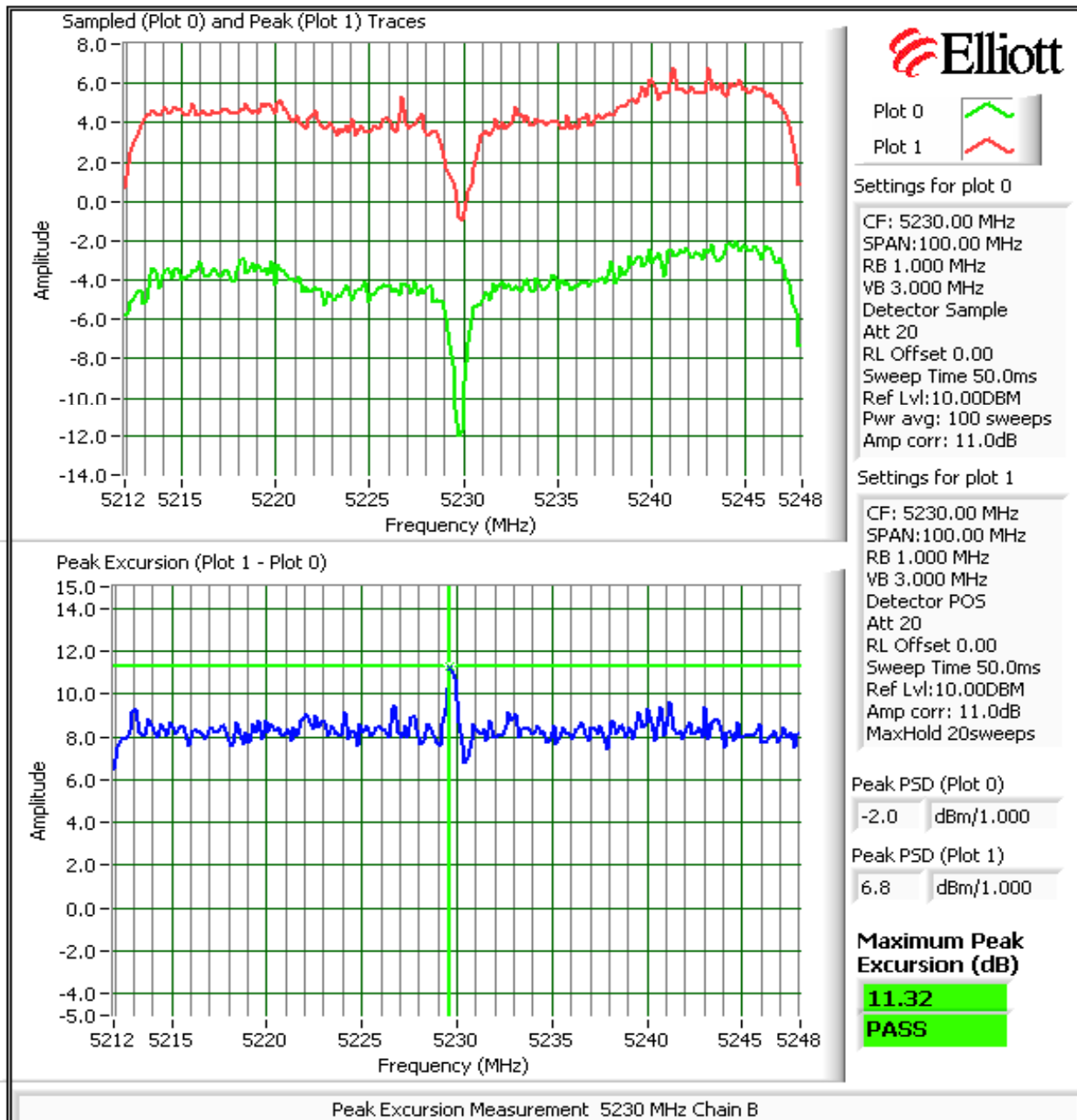
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



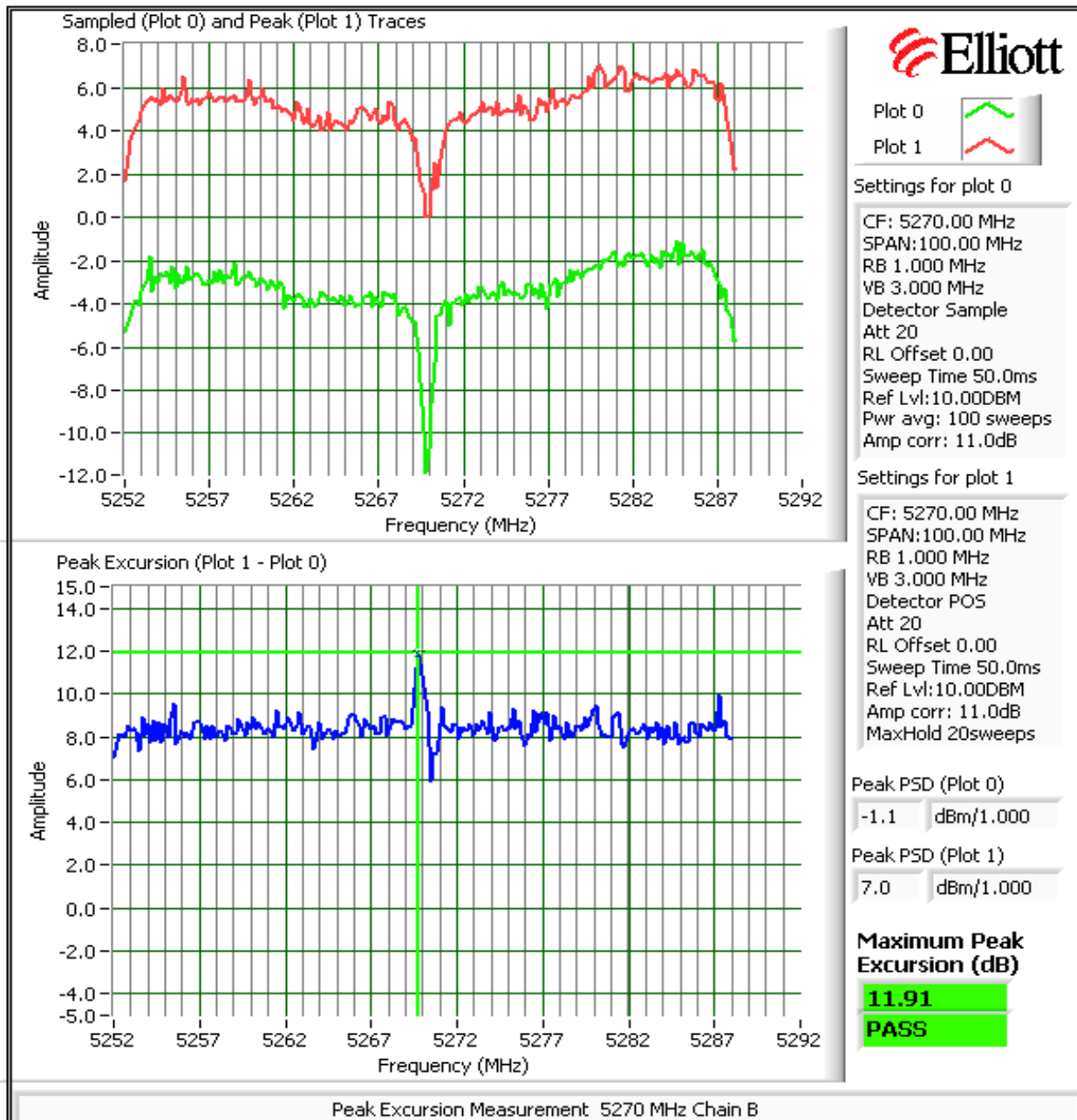
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



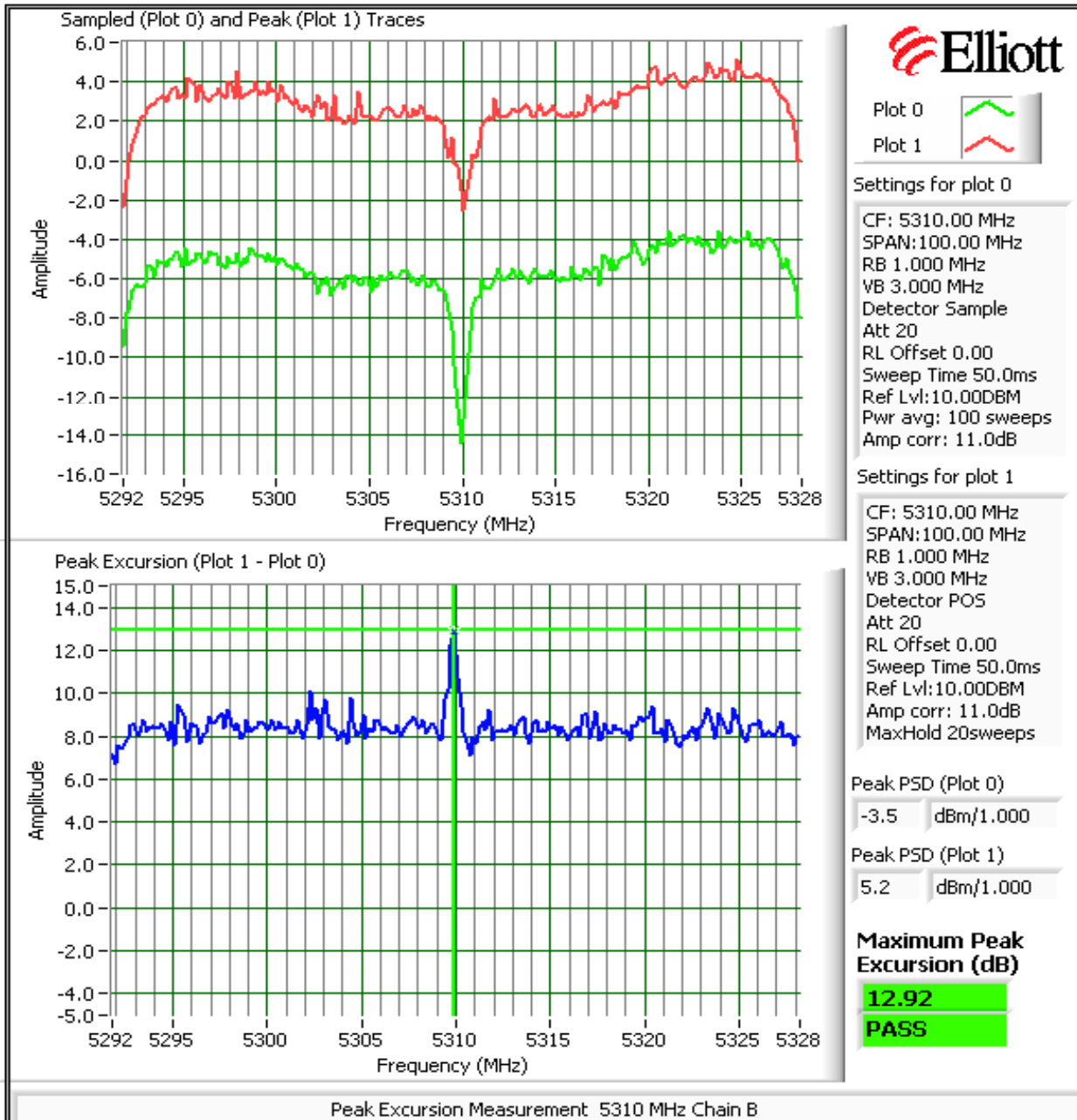
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



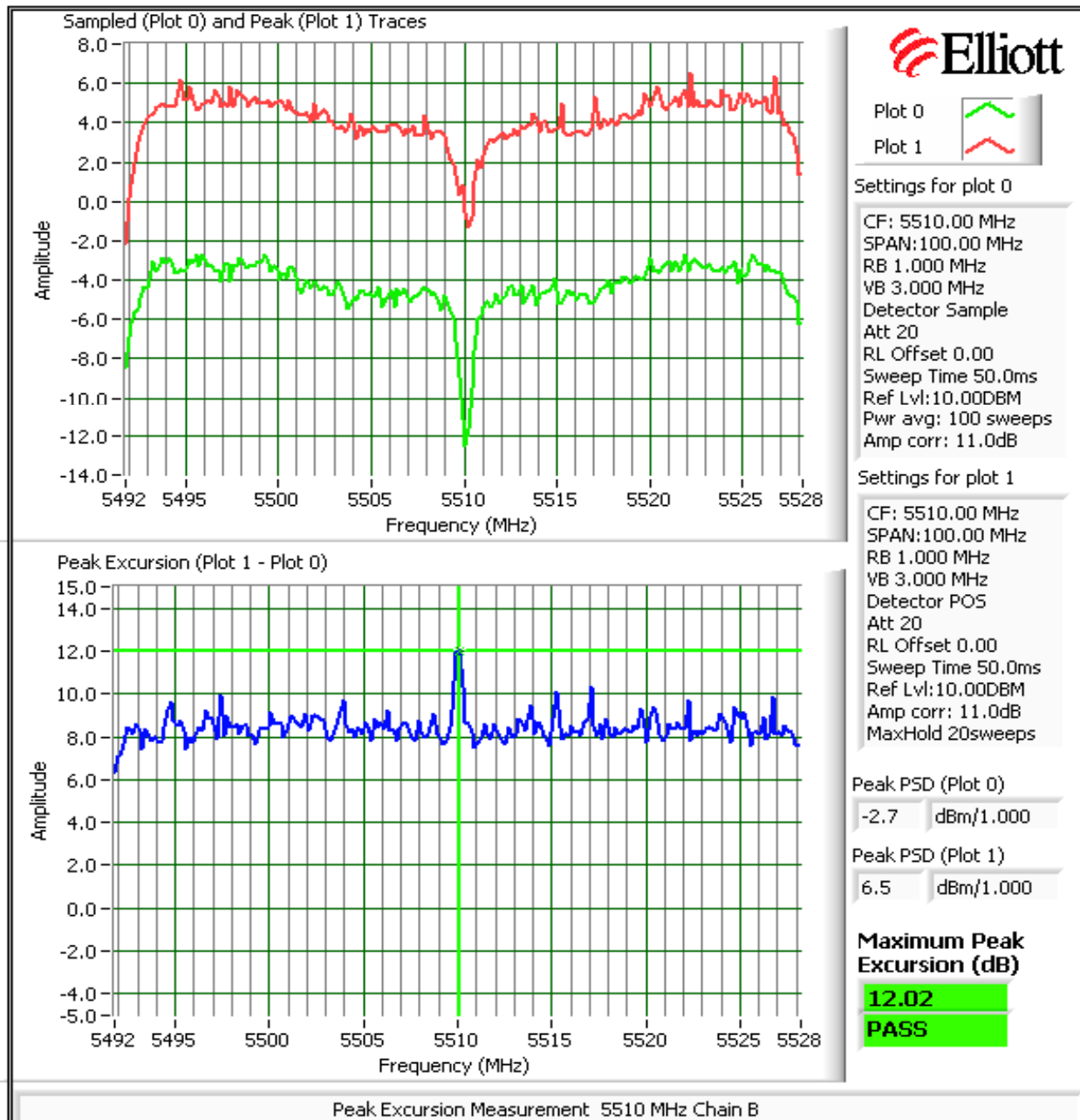
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



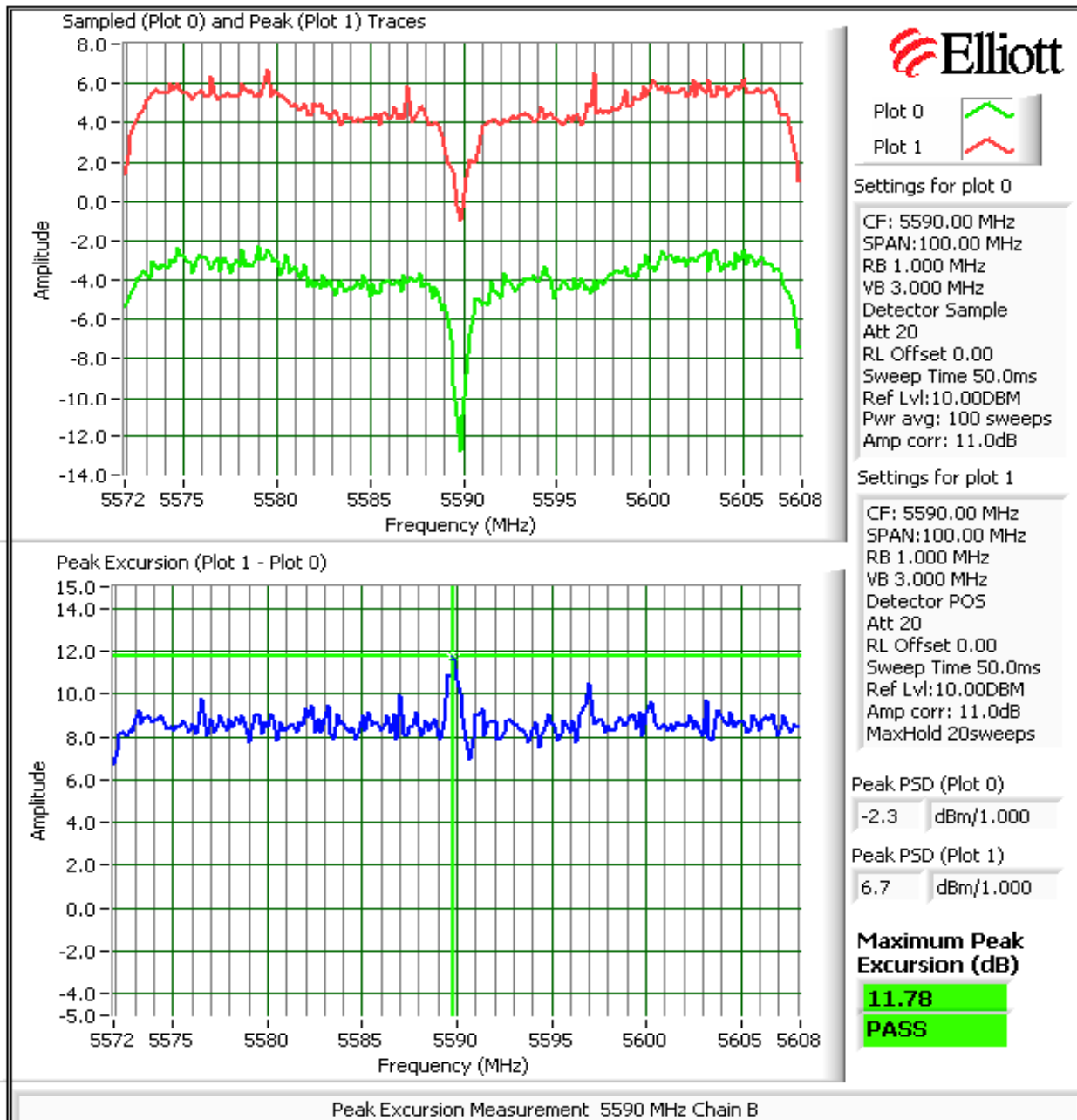
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



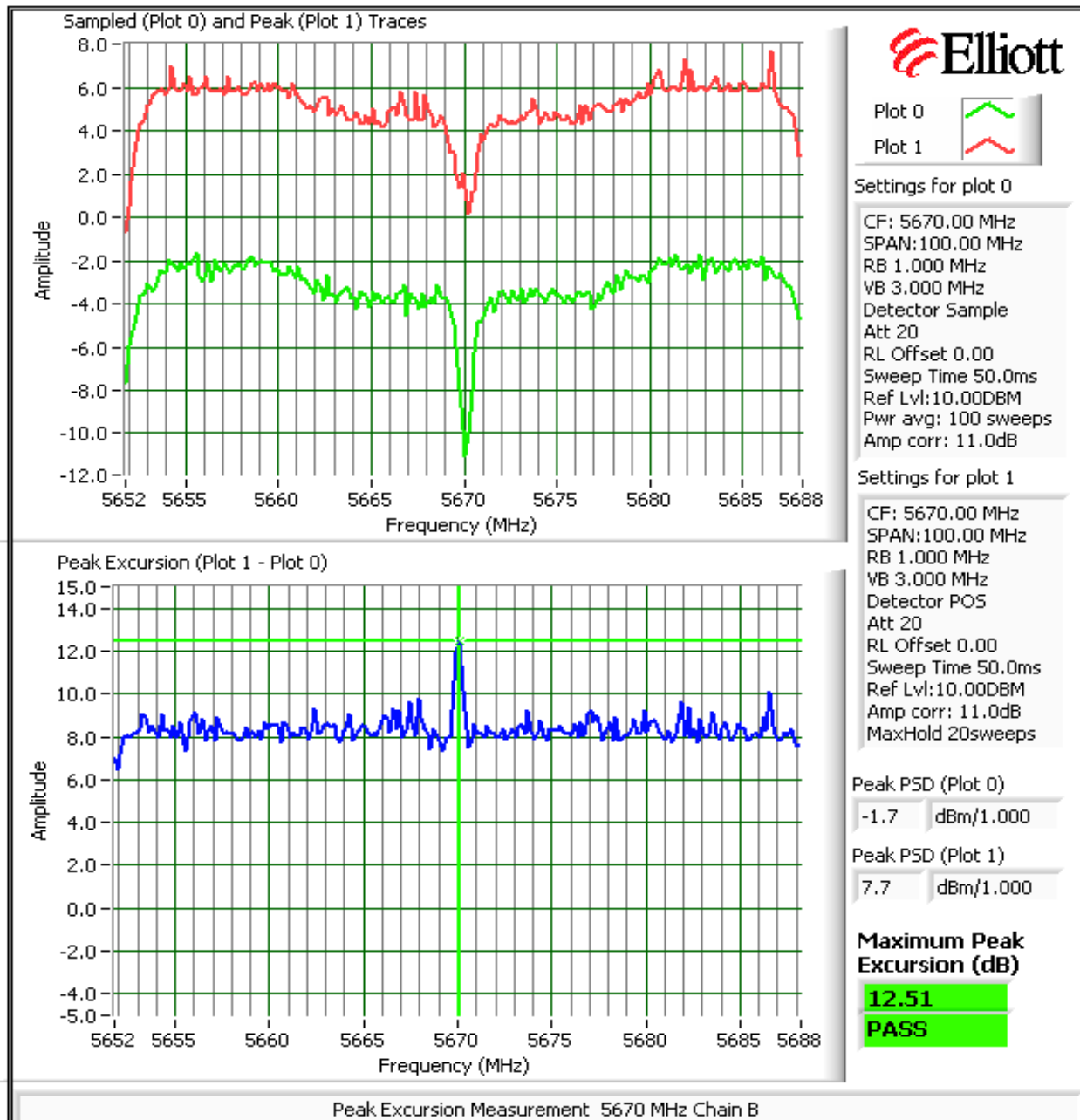
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

**RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements - Chain C, 802.11n 40 MHz mode
Power. PSD. Peak Excursion. Bandwidth and Spurious Emissions**

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/17/2008
 Test Engineer: Suhaila Khushzad
 Test Location: FT Lab # 1

Config. Used: 1
 Config Change: None
 EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions: Temperature: 22.4 °C
 Rel. Humidity: 34 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	12.3 dBm(17mW)
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	13.4 dBm(22mW)
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	13.4 dBm(22mW)
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	-2.5 dBm/MHz
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	-1.7dBm/MHz
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	-1.4dBm/MHz
1	26dB Bandwidth	15.407	-	64.2 MHz
1	99% Bandwidth	RSS 210	-	36.4 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	12.6 dB

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.



EMC Test Data

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density

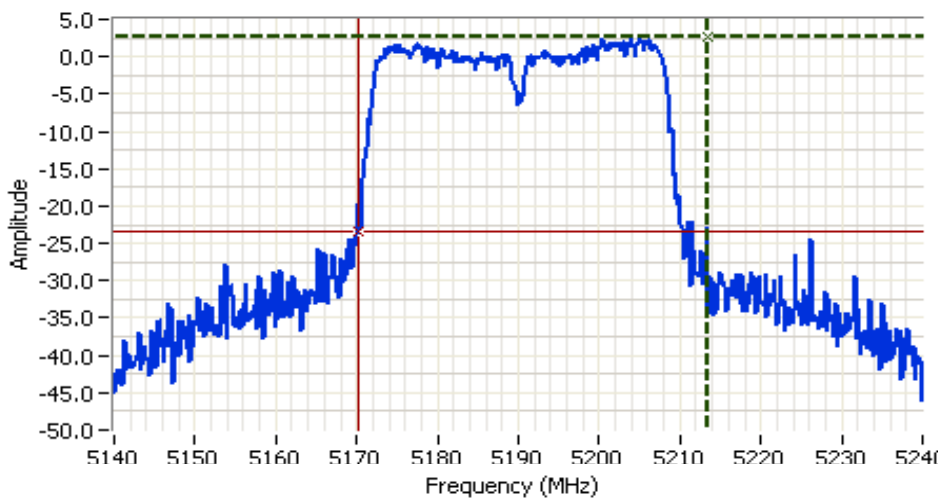
Antenna Gain (dBi): 5

Frequency (MHz)	Software Setting	Bandwidth		Output Power ¹ dBm		Power (Watts)	PSD ² dBm/MHz			Result
		26dB	99% ⁴	Measured	Limit		Measured	FCC Limit	RSS Limit ³	
5190	27.0	43.0	36.3	9.9	17.0	0.010	-4.8	4.0	5.0	Pass
5230	29.0	60.8	36.3	12.3	17.0	0.017	-2.5	4.0	5.0	Pass
5270	28.5	64.2	36.4	13.4	24.0	0.022	-1.7	11.0	11.0	Pass
5310	26.0	42.8	36.3	11.7	24.0	0.015	-3.3	11.0	11.0	Pass
5510	26.0	63.5	36.4	13.4	24.0	0.022	-1.6	11.0	11.0	Pass
5590	25.5	47.5	36.4	13.2	24.0	0.021	-2.2	11.0	11.0	Pass
5670	25.0	46.0	36.4	13.2	24.0	0.021	-1.4	11.0	11.0	Pass

- Note 1: RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power
- Note 2: Measured using the same analyzer settings used for output power.
- Note 3: For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
- Note 4: 99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

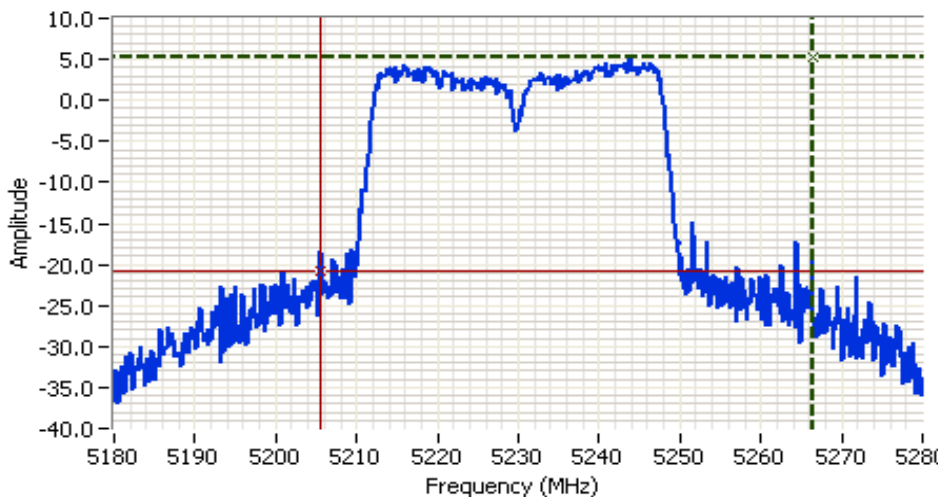
HP8564E,EMI
 CF: 5190.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 43.00 MHz
 Chain C,n40MHz

Cursor 1	5213.3333	2.67	
Cursor 2	5170.3333	-23.33	

Delta Freq. 43.00
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5230.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 60.83 MHz
 Chain C,n40MHz

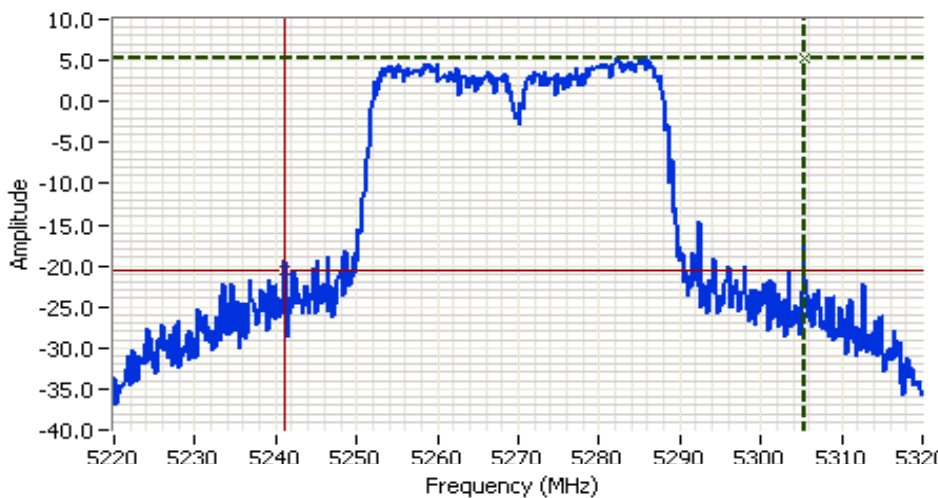
Cursor 1	5266.3333	5.17	
Cursor 2	5205.5000	-20.83	

Delta Freq. 60.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

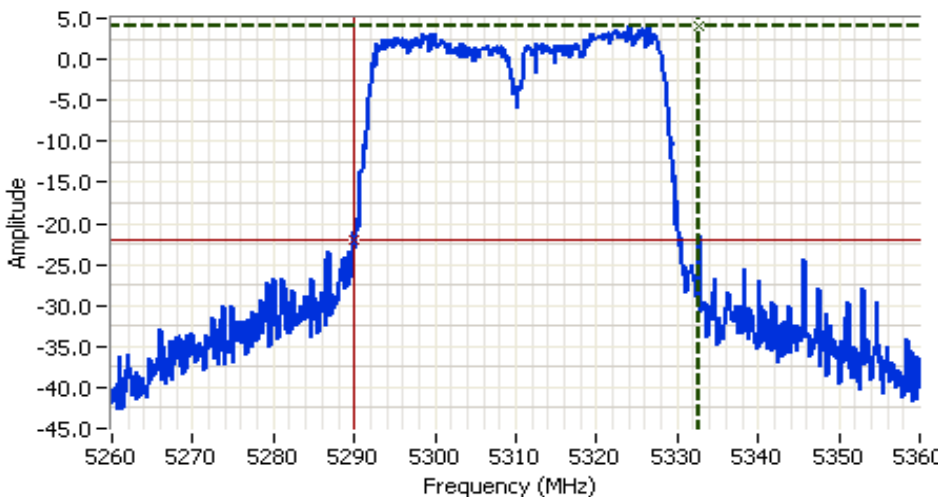
HP8564E,EMI
 CF: 5270.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 64.17 MHz
 Chain C,n40MHz

Cursor 1 5305.3333 5.33
 Cursor 2 5241.1667 -20.67

Delta Freq. 64.17
 Delta Amplitude 26.00



Analyzer Settings

HP8564E,EMI
 CF: 5310.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments

26dB Bandwidth:
 42.83 MHz
 Chain C,n40MHz

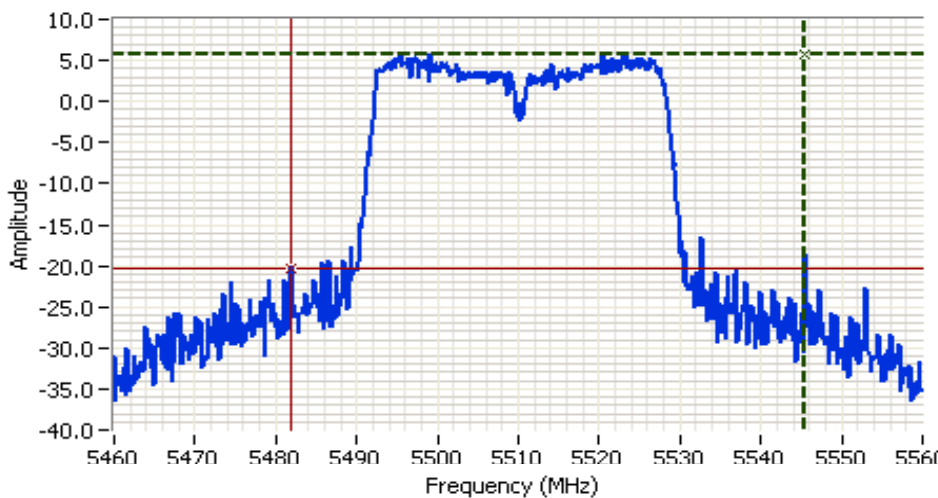
Cursor 1 5332.6667 4.00
 Cursor 2 5289.8333 -22.00

Delta Freq. 42.83
 Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings
 HP8564E,EMI
 CF: 5510.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

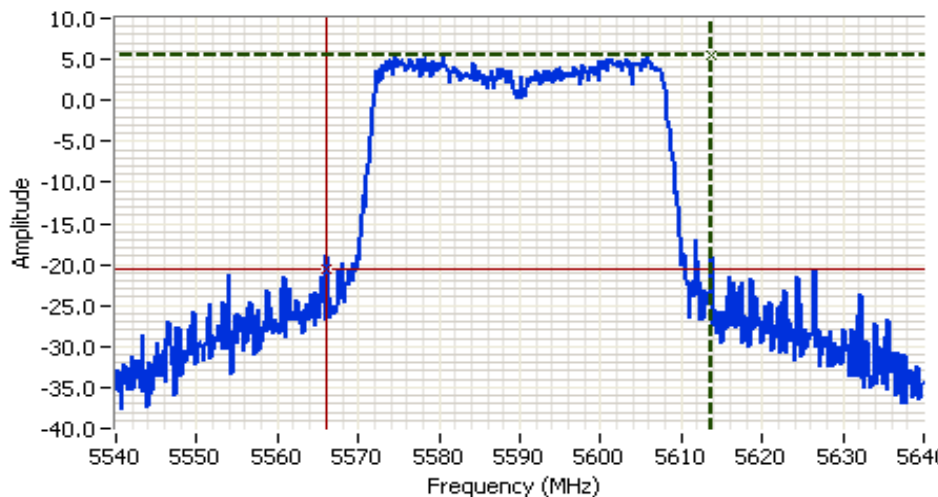
Comments
 26dB Bandwidth:
 63.50 MHz
 Chain C,n40MHz

Cursor 1 5545.5000 5.67

Cursor 2 5482.0000 -20.33

Delta Freq. 63.50

Delta Amplitude 26.00



Analyzer Settings
 HP8564E,EMI
 CF: 5590.00 MHz
 SPAN:100.00 MHz
 RB 1.000 MHz
 VB 3.000 MHz
 Detector POS
 Att 20
 RL Offset 11.00
 Sweep Time 50.0ms
 Ref Lvl:21.00DBM

Comments
 26dB Bandwidth:
 47.50 MHz
 Chain C,n40MHz

Cursor 1 5613.6667 5.50

Cursor 2 5566.1667 -20.50

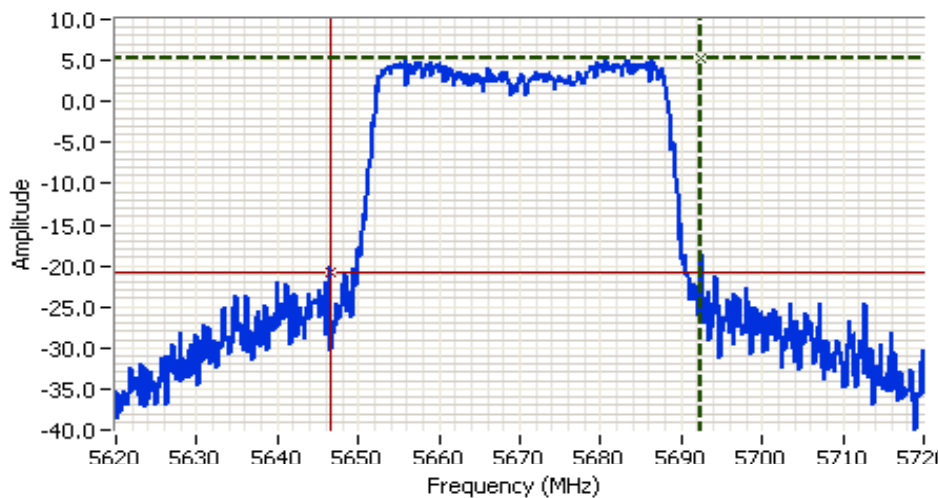
Delta Freq. 47.50

Delta Amplitude 26.00



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Analyzer Settings

- HP8564E,EMI
- CF: 5670.00 MHz
- SPAN: 100.00 MHz
- RB 1.000 MHz
- VB 3.000 MHz
- Detector POS
- Att 20
- RL Offset 11.00
- Sweep Time 50.0ms
- Ref Lvl: 21.00DBM

Comments

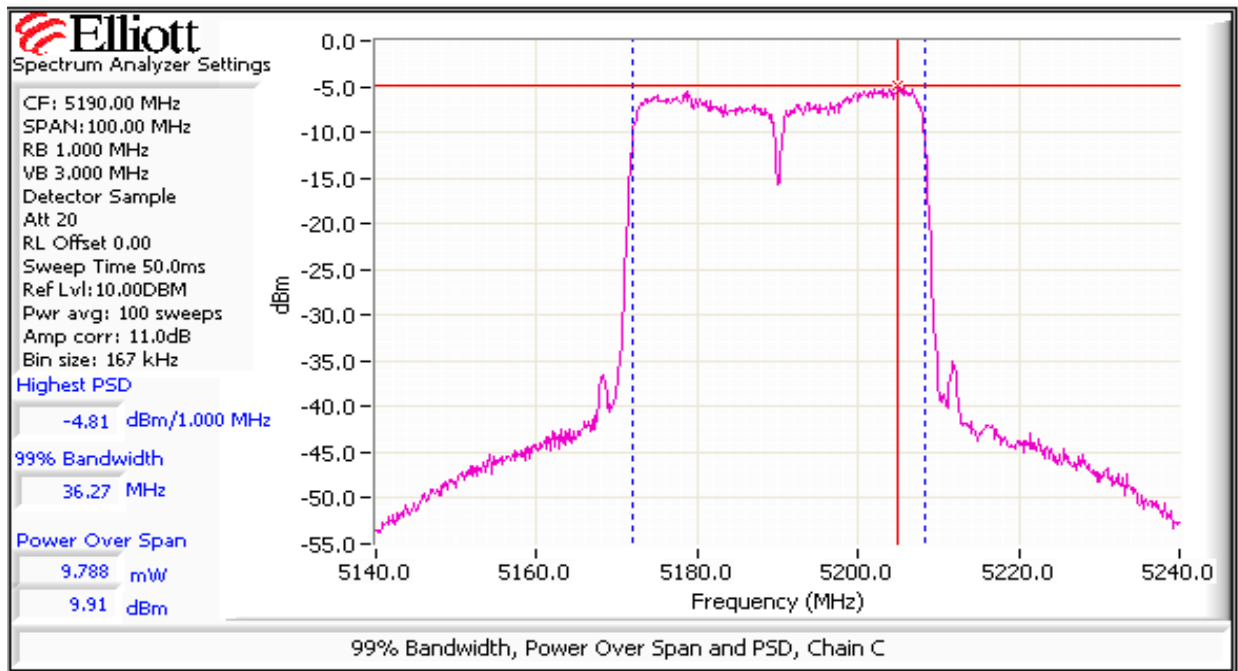
- 26dB Bandwidth: 46.00 MHz
- Chain C, n40MHz

Cursor 1 5692.5000 5.17

Cursor 2 5646.5000 -20.83

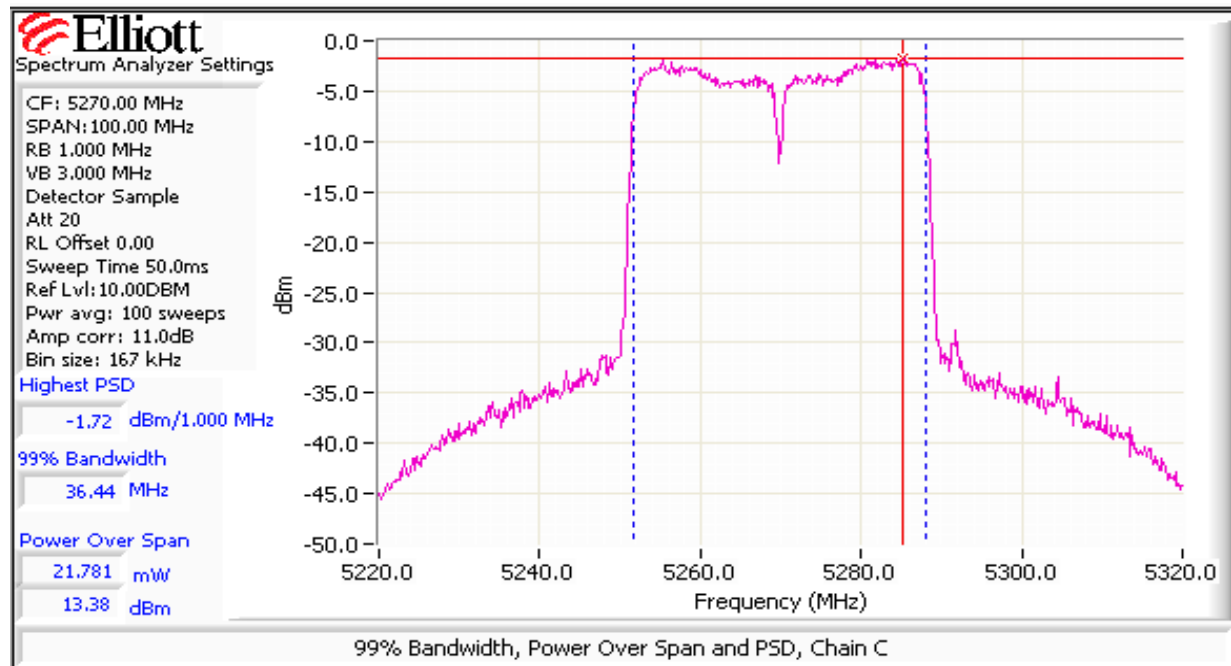
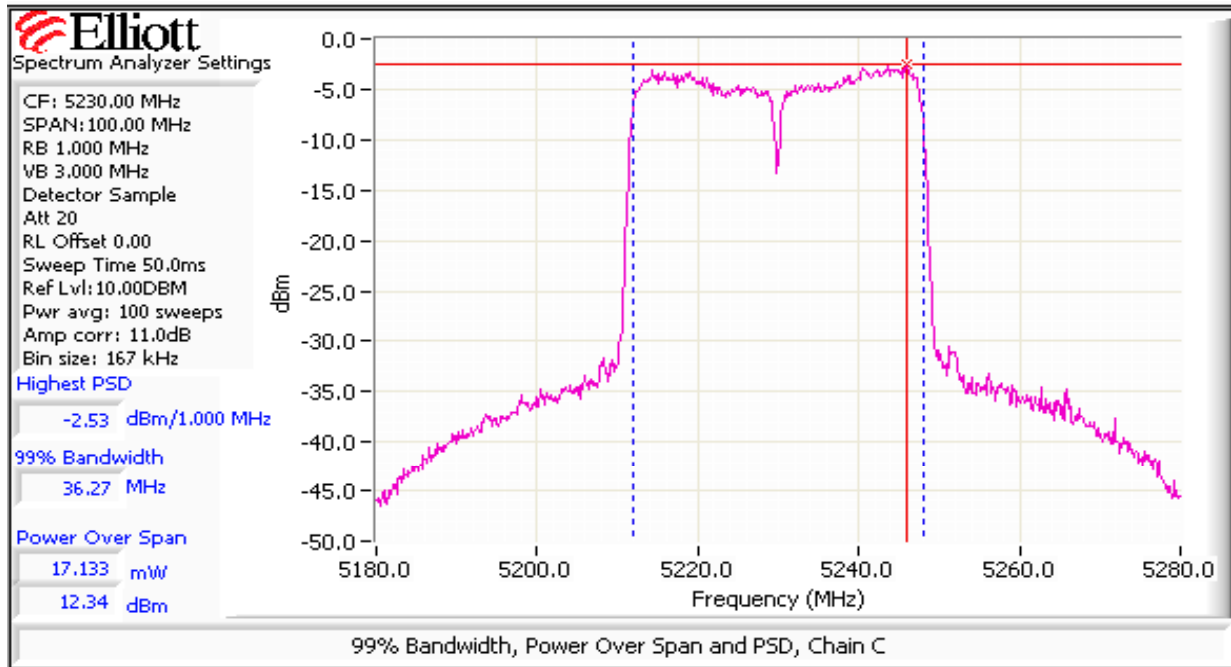
Delta Freq. 46.00

Delta Amplitude 26.00



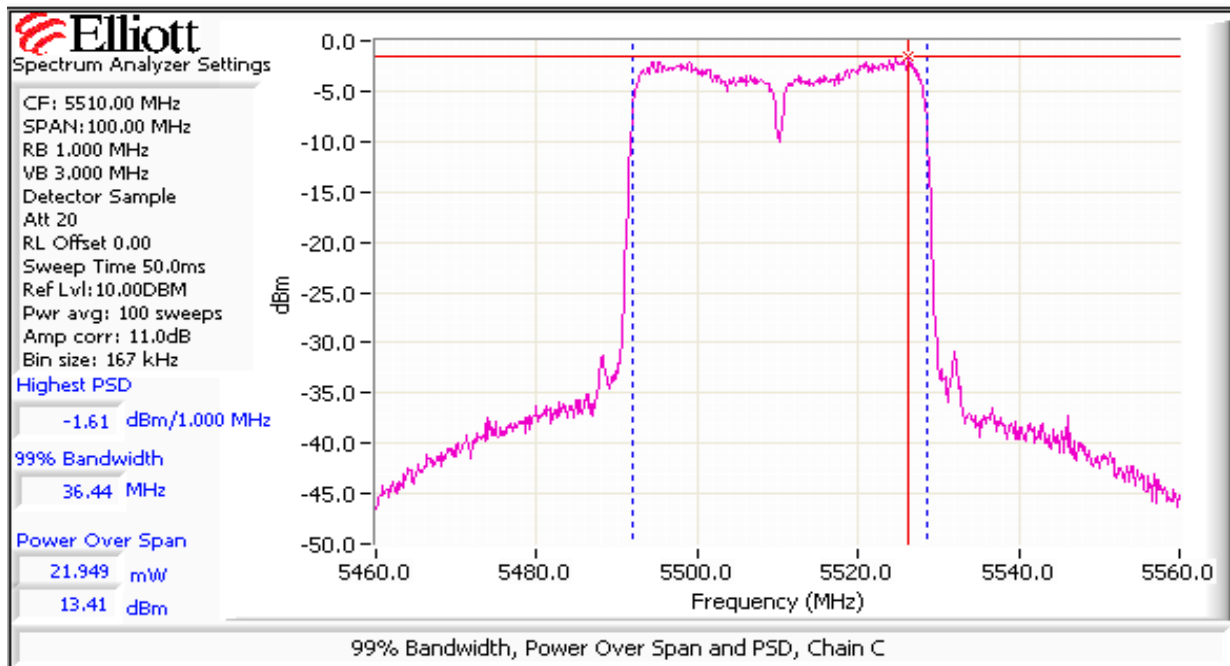
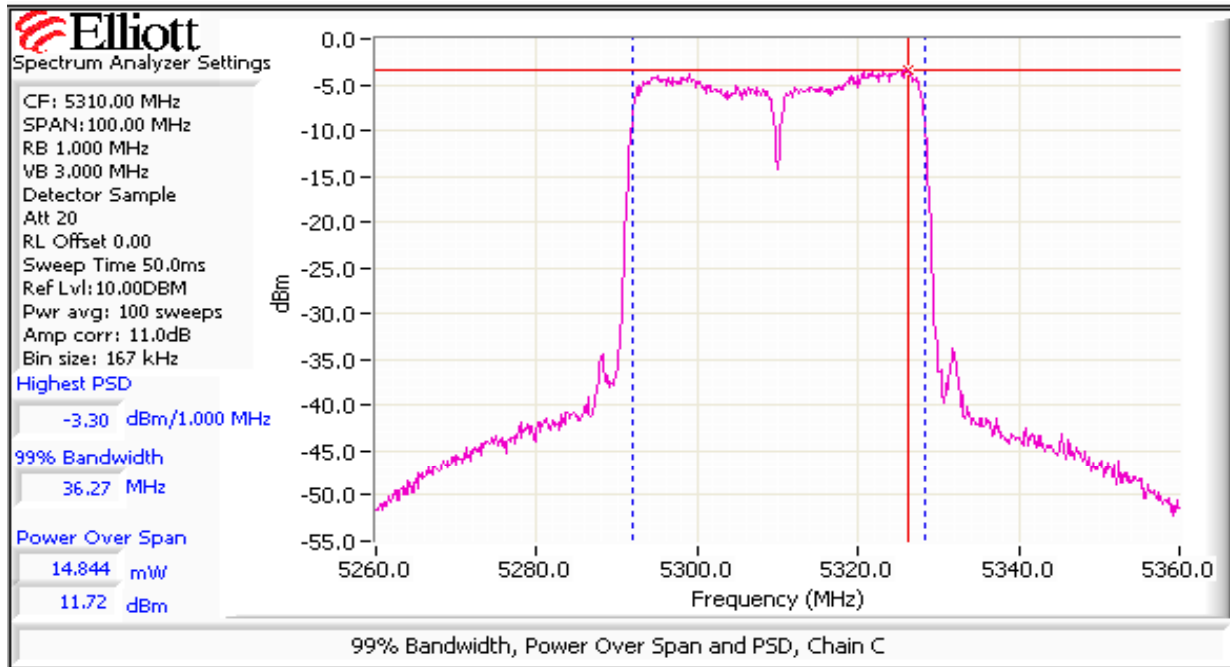
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



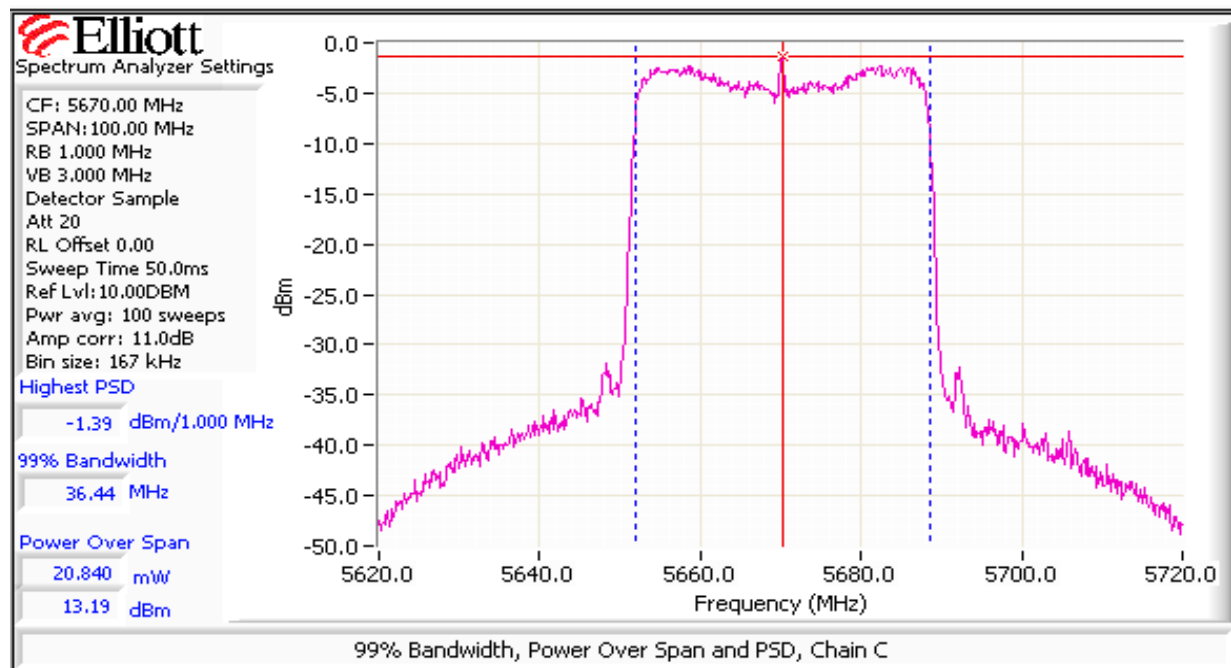
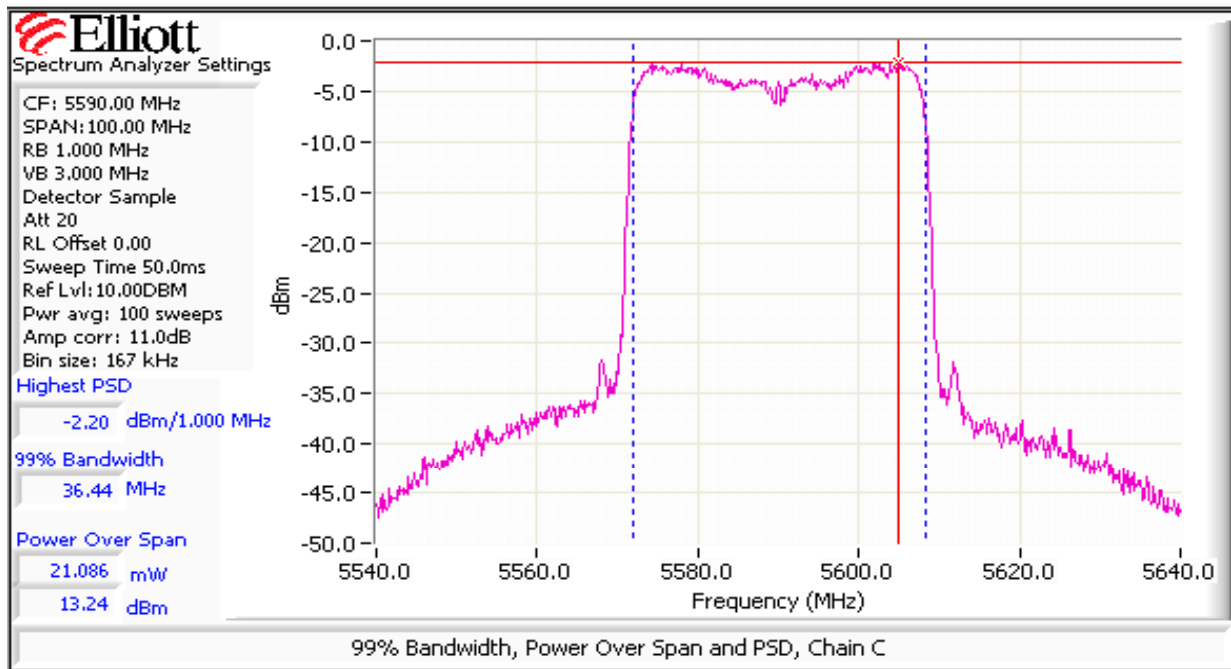
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Bandwidth, Output Power and Power spectral Density



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement

Device meets the requirement for the peak excursion

Freq		Peak Excursion(dB)		Freq		Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value
5190	12.6	13.0	5510	11.1	13.0		
5230	12.5	13.0	5590	10.4	13.0		
5270	12.4	13.0	5670	9.8	13.0		
5310	12.6	13.0					

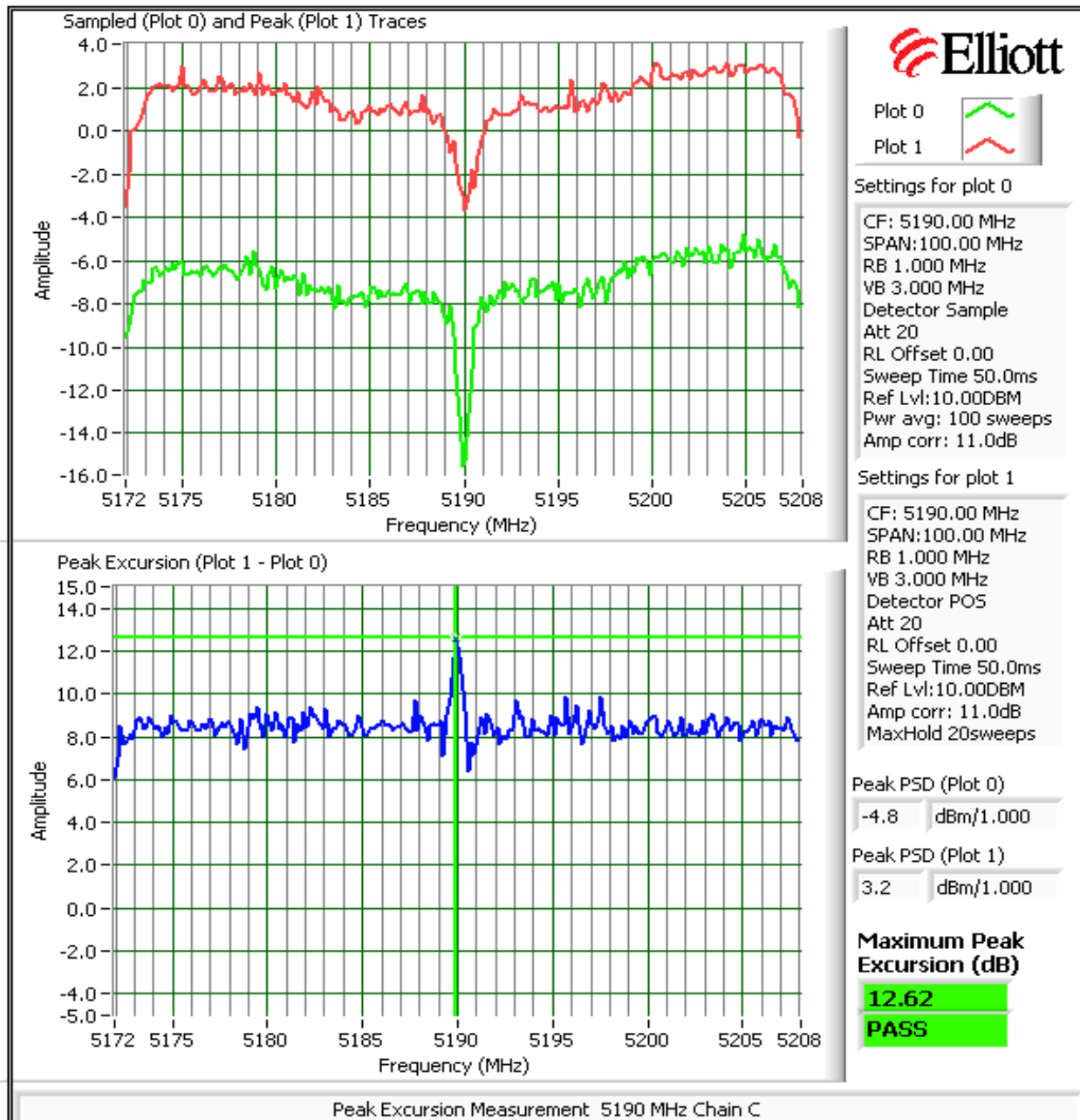
Plots Showing Peak Excursion

Trace A: RBW = VBW = 3MHz, Peak hold

Trace B: RBW = 1 MHz, VBW = 3MHz, Integrated average power

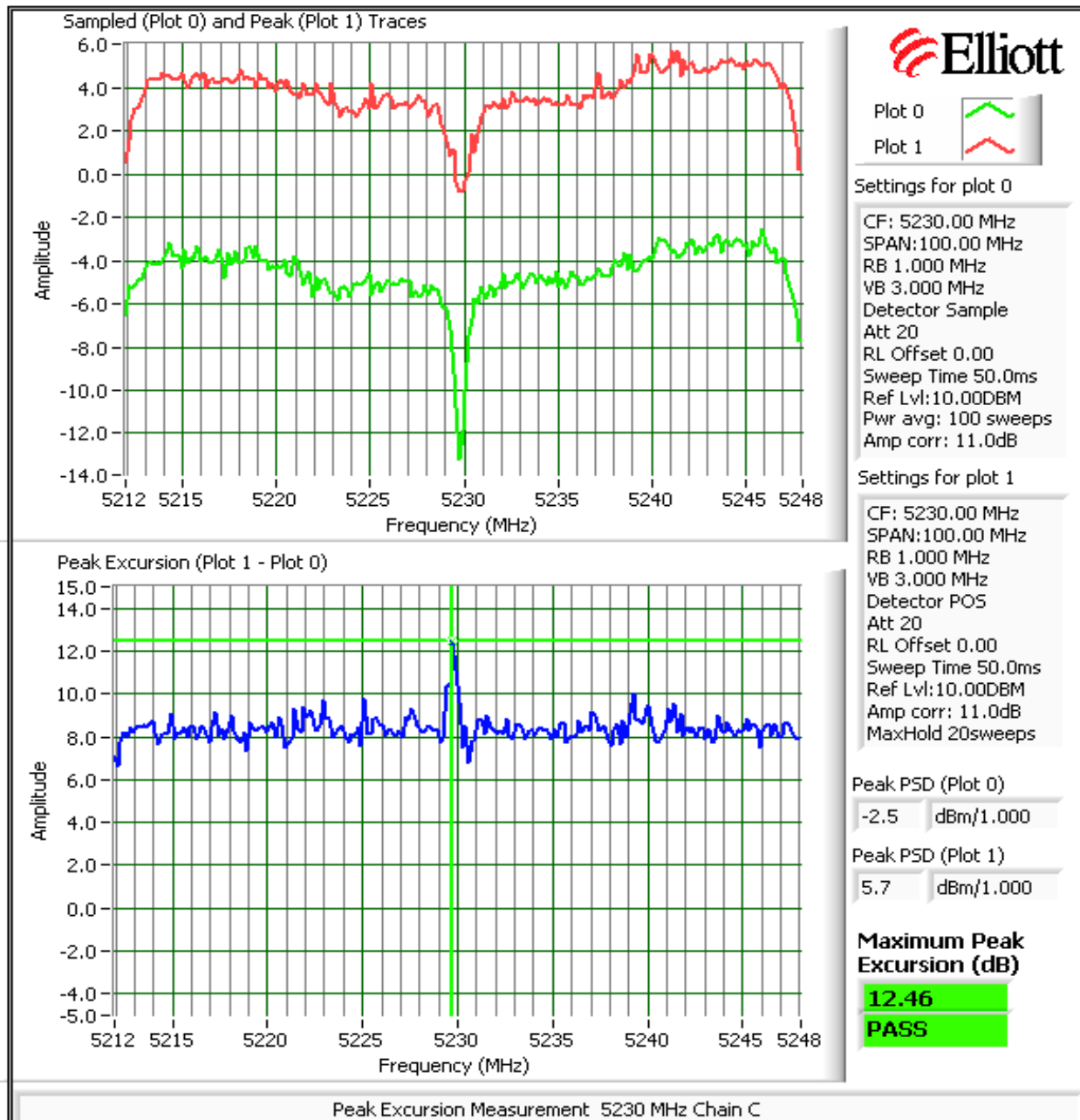
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



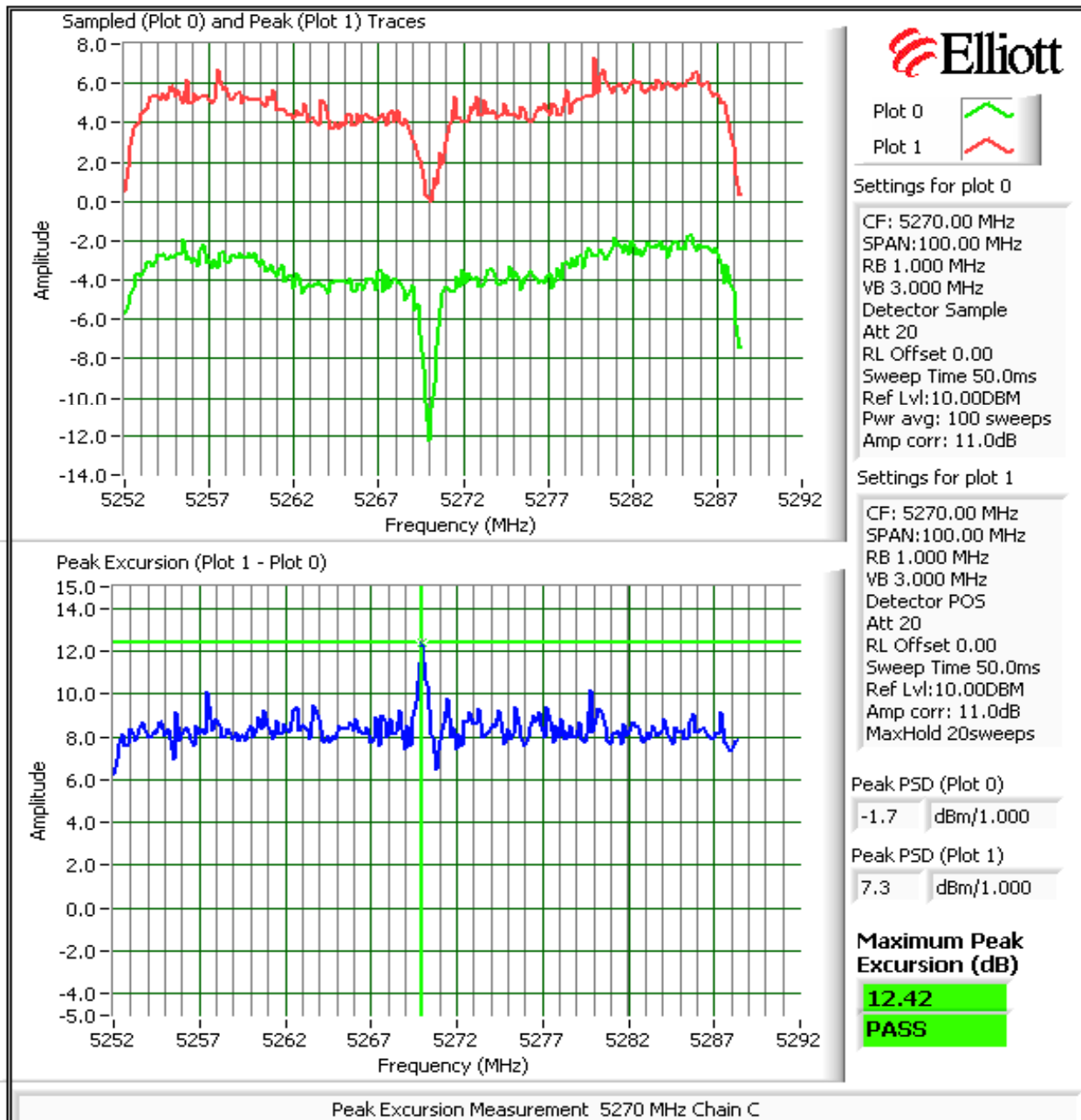
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



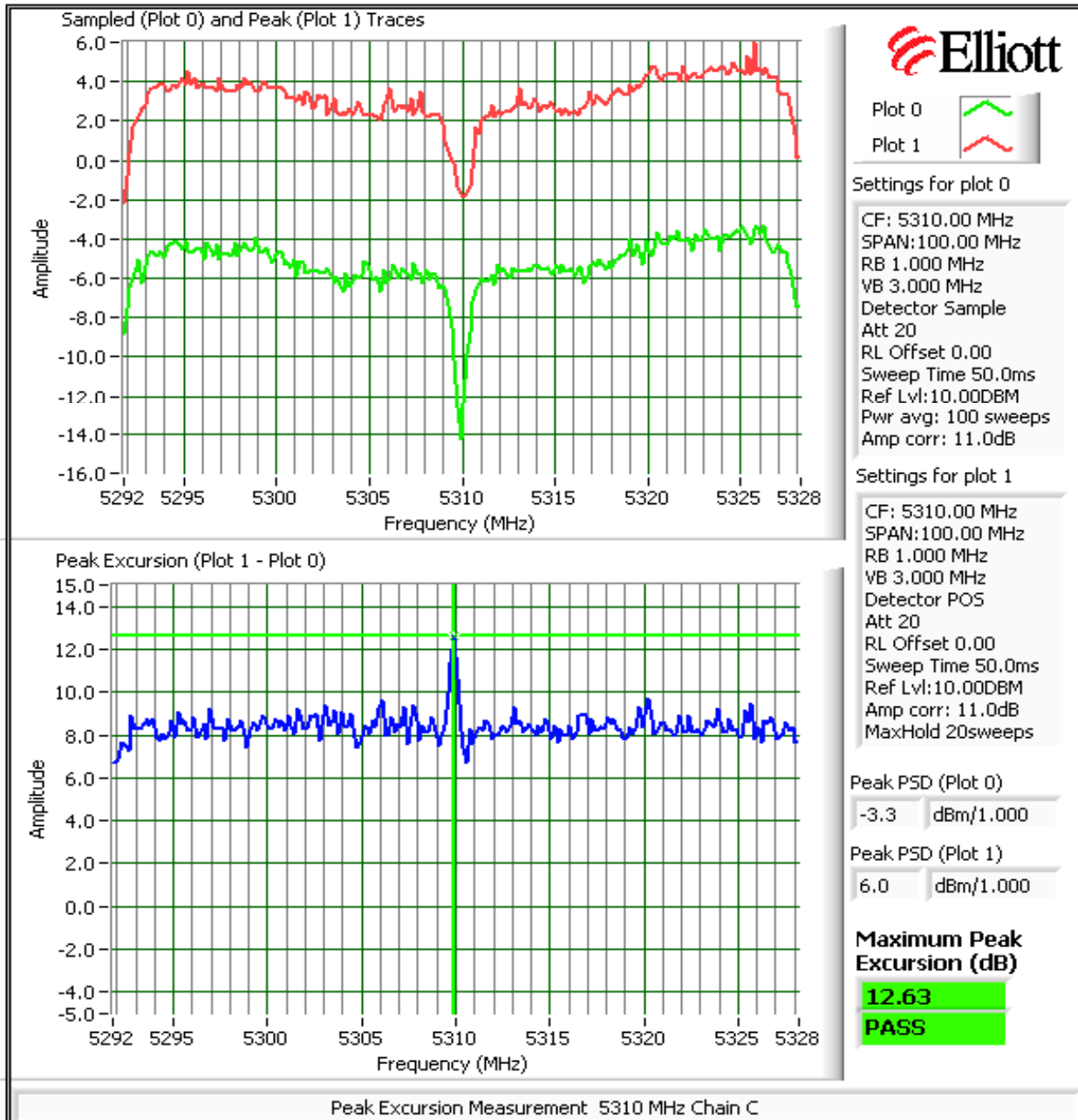
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



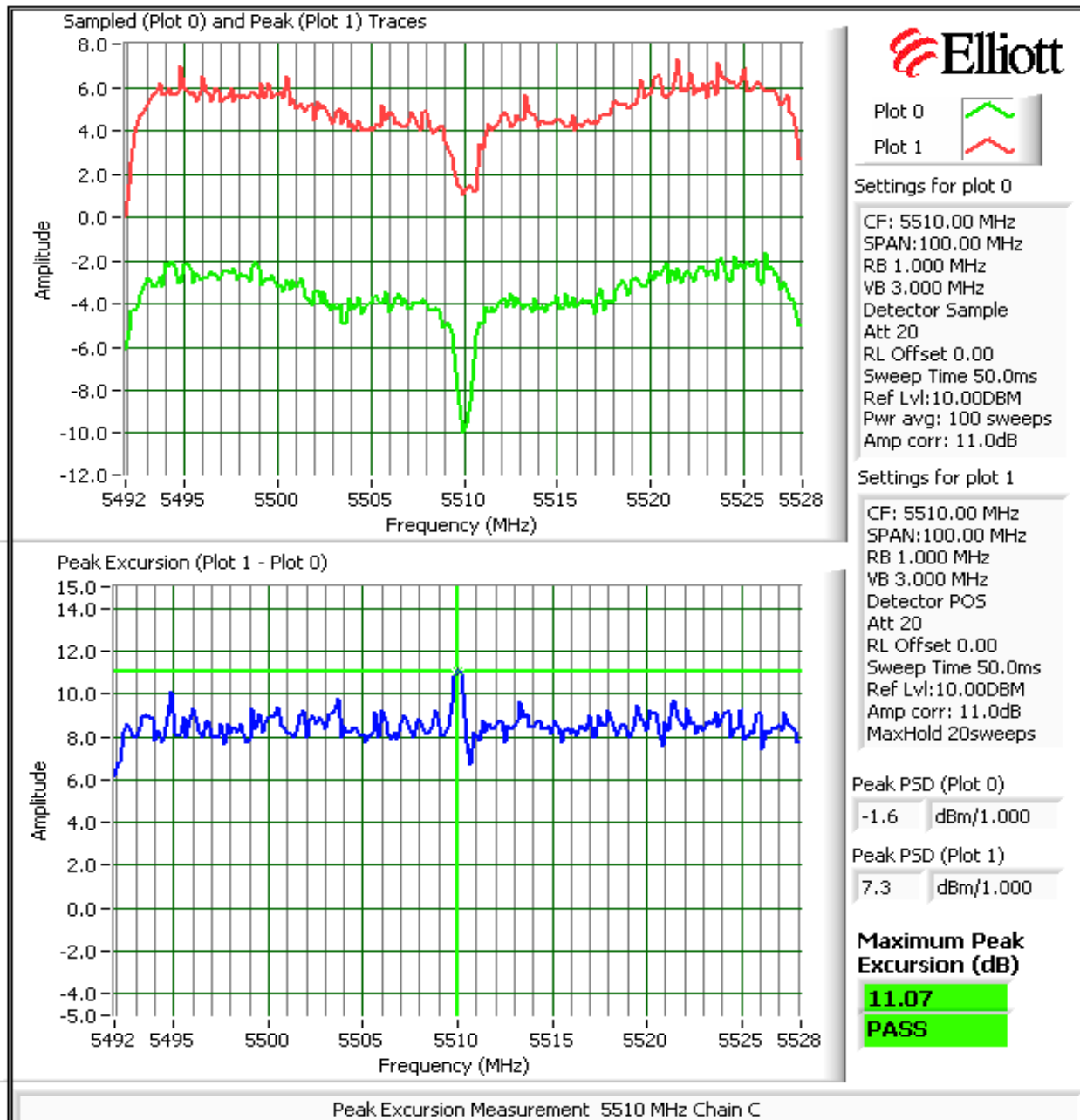
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



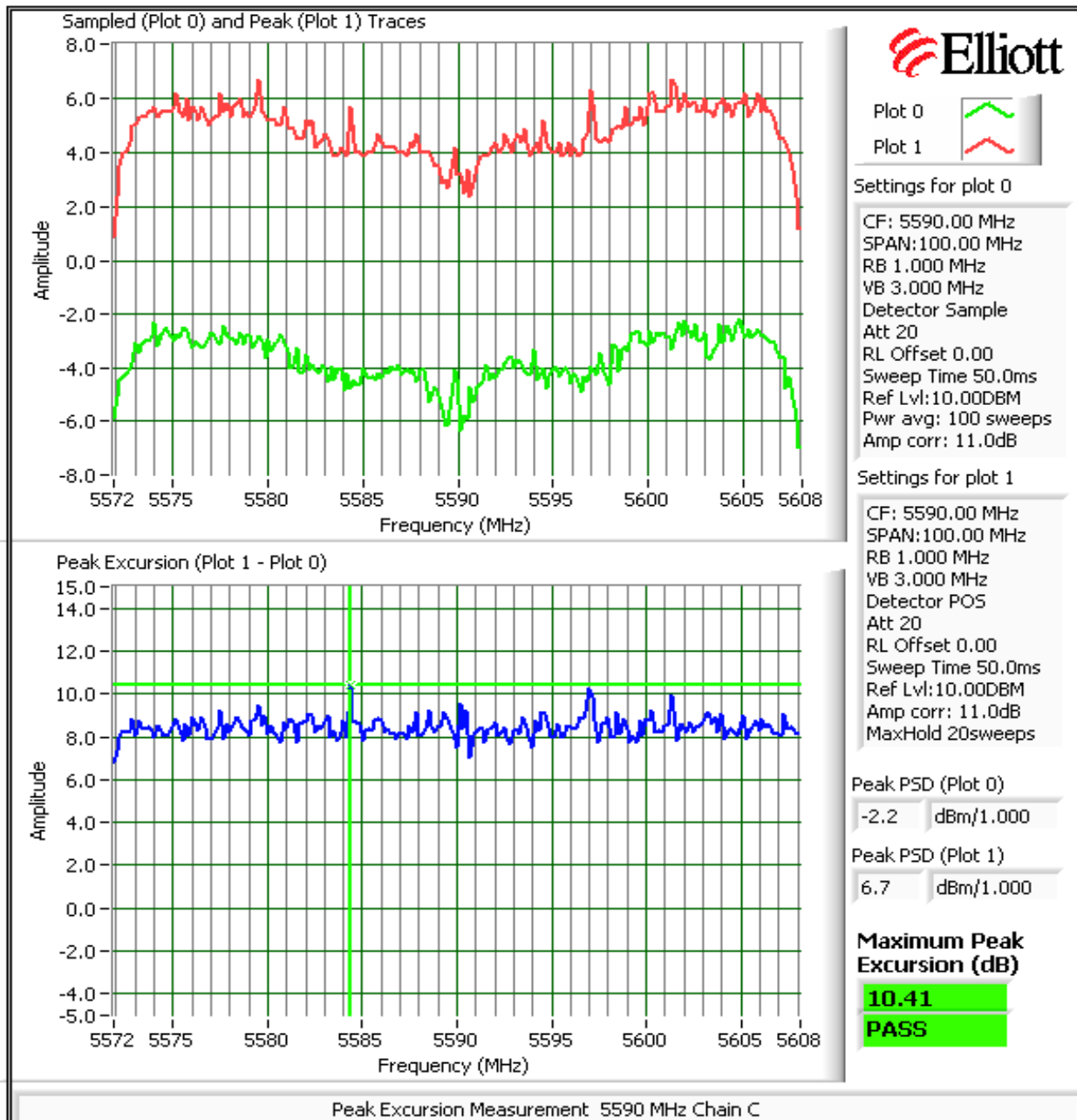
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



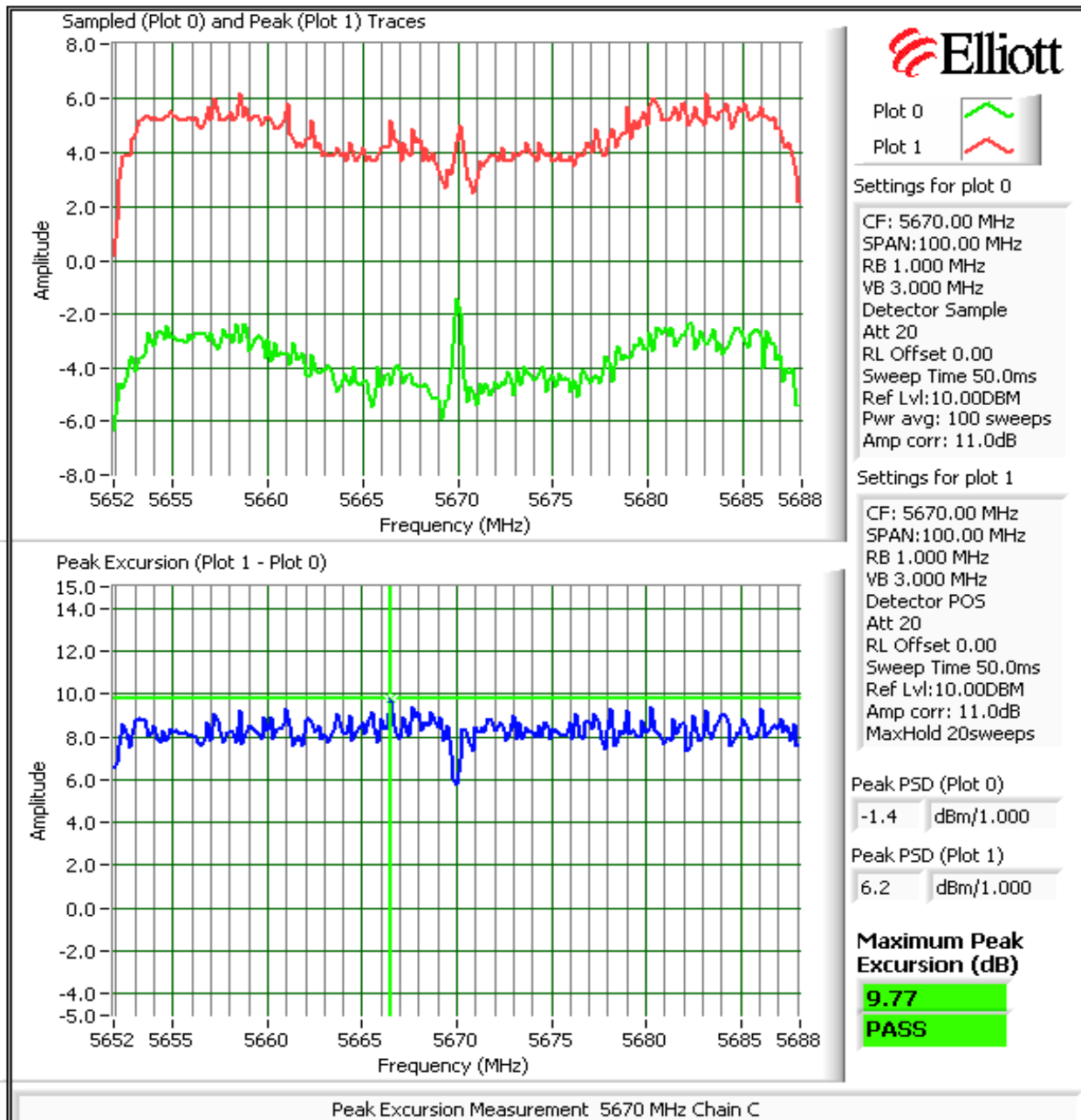
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #2: Peak Excursion Measurement



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements
Spurious Emissions - MIMO Modes (802.11n - 40 MHz bandwidth)

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/17/2008	Config. Used: 1
Test Engineer: Suhaila Khushzad	Config Change: None
Test Location: FT Lab # 1	EUT Voltage: Powered From Host System(3.3DC V)

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature:	22.9 °C
Rel. Humidity:	34 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Antenna Conducted - Out of Band Spurious, 802.11n-40MHz	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

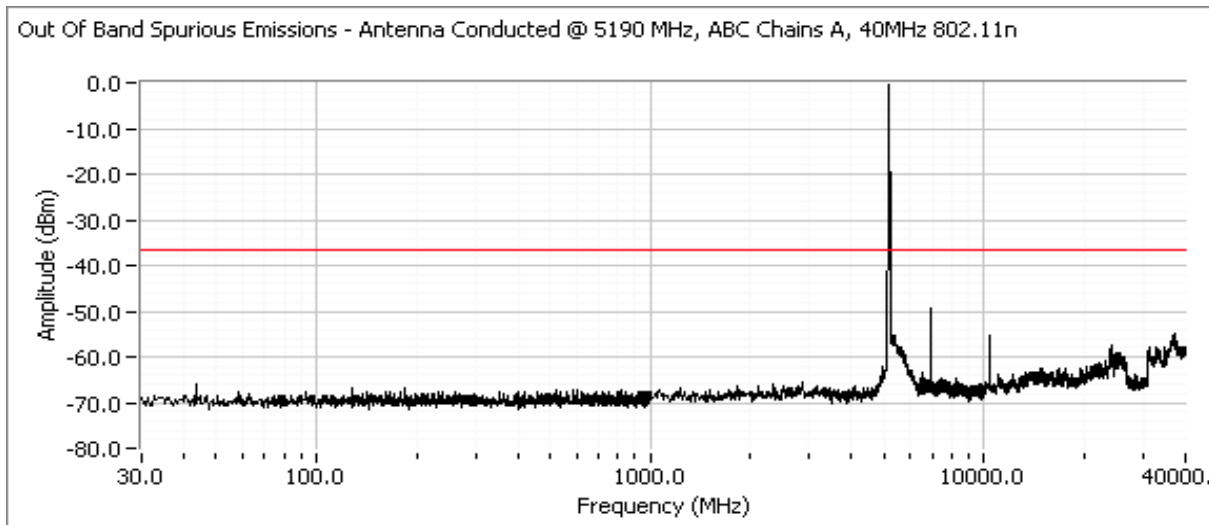
	Chain 1	Chain 2	Chain 3	Coherent	Effective ⁵
Antenna Gain (dBi):	5	5	5	No	5.0

MIMO Devices: Antenna gain used is the effective gain calculated in the power section of this data sheet. The plots were obtained on each of the individual chains separately. The limit of -27dBm has been corrected to account for a maximum of all 3 chains transmitting simultaneously by reducing the limit by a factor of $10\log(3)$ dB. The power setting on each chain was set to the power setting for single chain operation which is higher than the power settings for both dual- and triple-chain operation.

Maximum Antenna Gain: 5.0 dBi
 Spurious Limit: -27.0 dBm/MHz eirp
 Correction for 3 chains transmitting: 4.8 dBm/MHz eirp
 Limit Used On Plots ^{Note 1}: -36.8 dBm/MHz

- Note 1: The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain) plus the total number of chains transmitting simultaneously. Radiated field strength measurements for signals more than 50MHz from the bands that are close to the limit are made to determine compliance as the antenna gain is not known at these frequencies.
- Note 2: All spurious signals below 1GHz are measured during digital device radiated emissions test.
- Note 3: Signals that fall in the restricted bands of 15.205 are subject to the limit of 15.209.

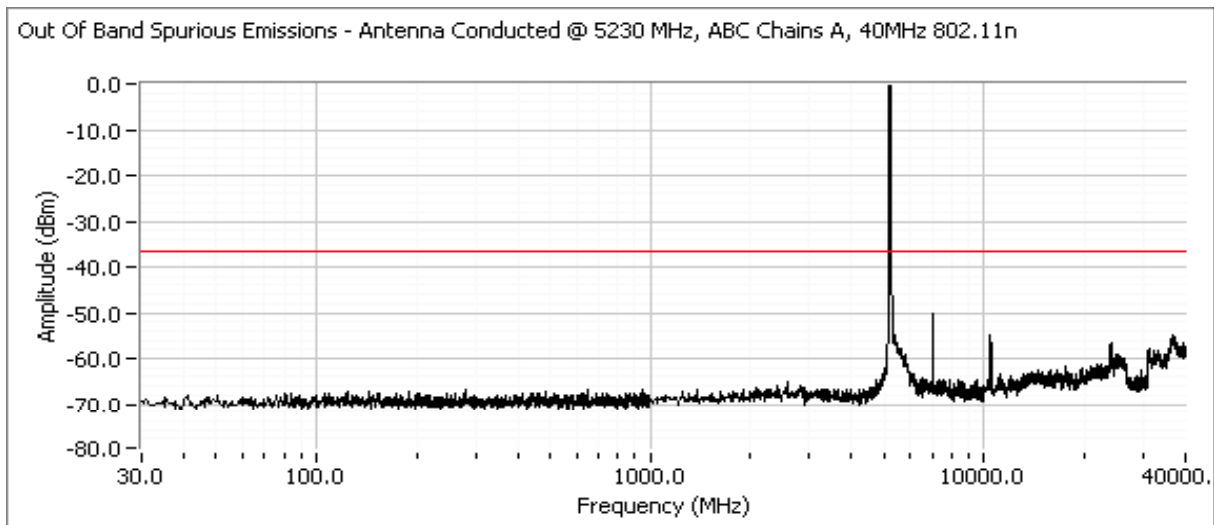
Low Channel, Chain A, 5190 MHz



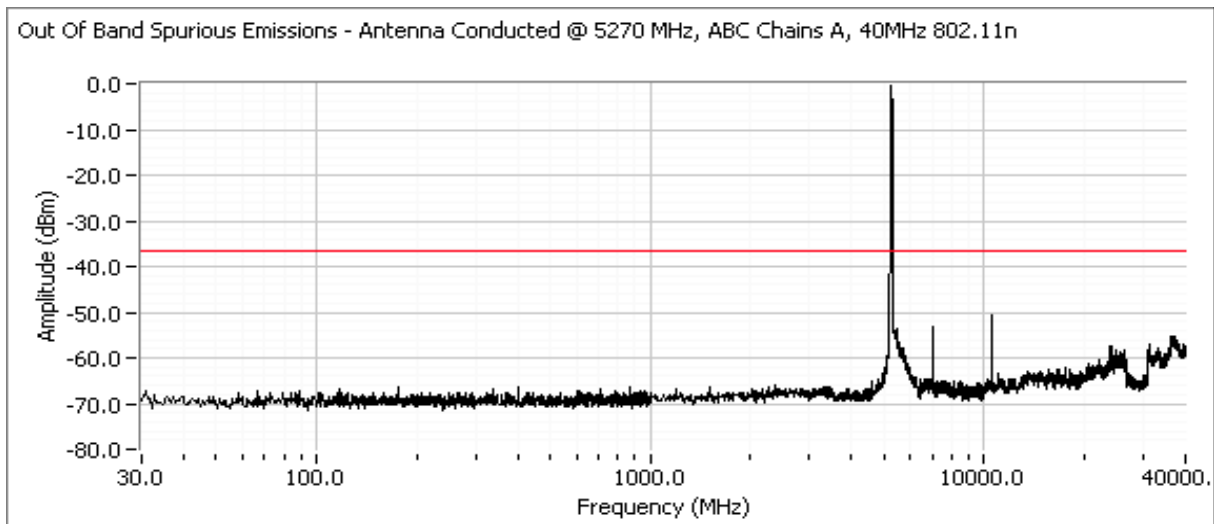
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain A, 5230 MHz



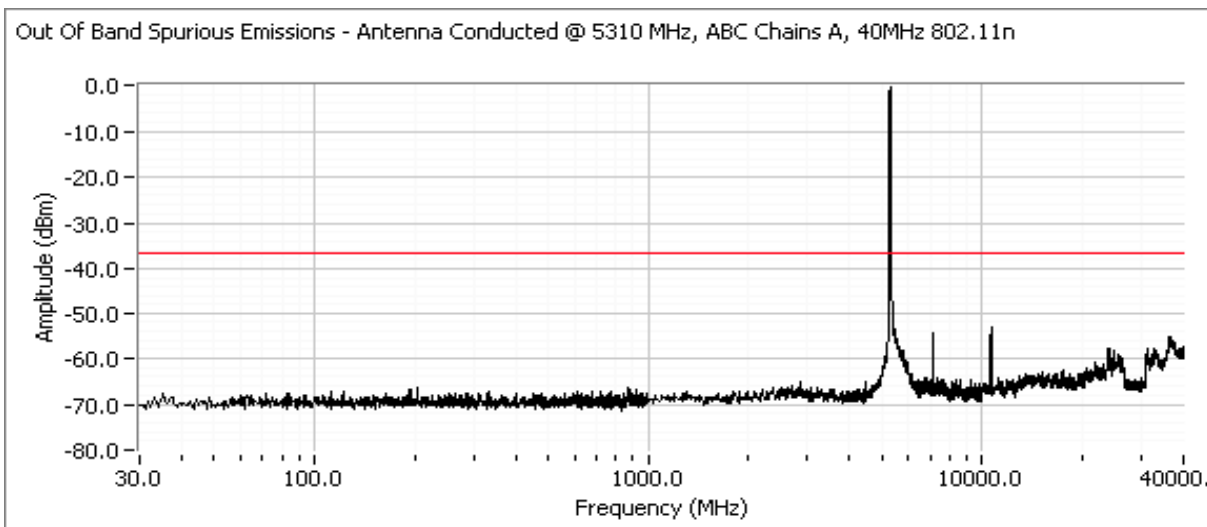
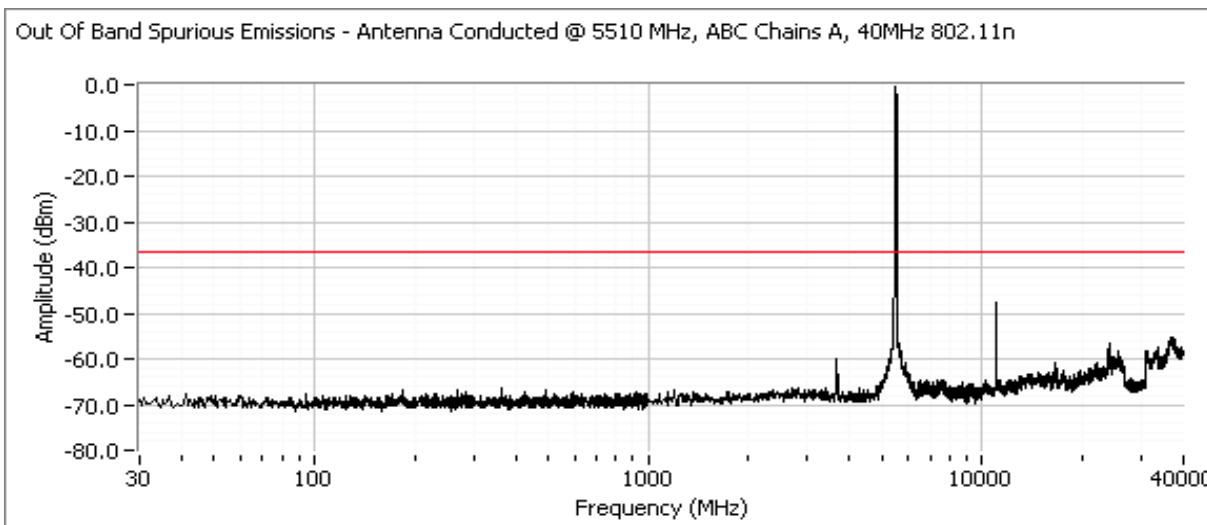
Low Channel, Chain A, 5270 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

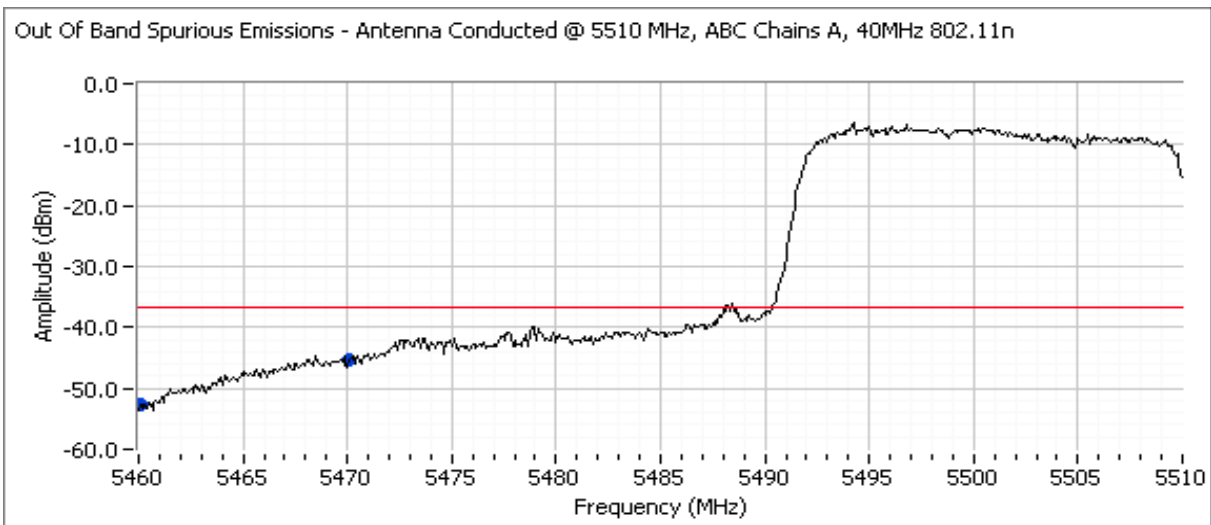
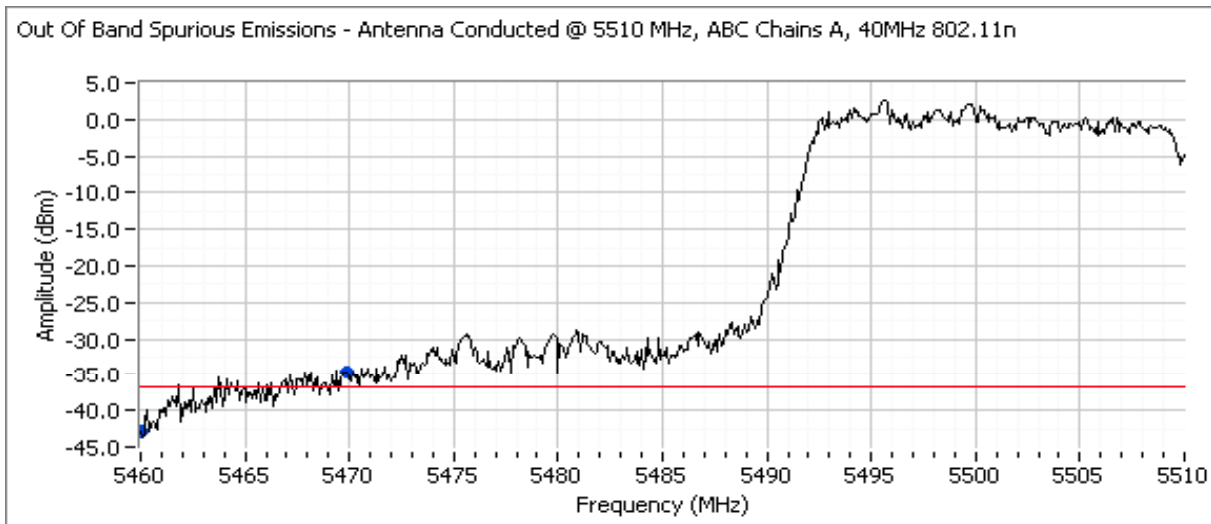
Date of Test: 4/18/2008
 Test Engineer: Suhaila Khushzad & John Caizzi
 Test Location: FT Lab # 1

High Channel, Chain A, 5310 MHz

Low Channel, Chain A, 5510 MHz


Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

Low Channel, Chain A, 5510 MHz - includes a second plot from 5460 - 5510 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.

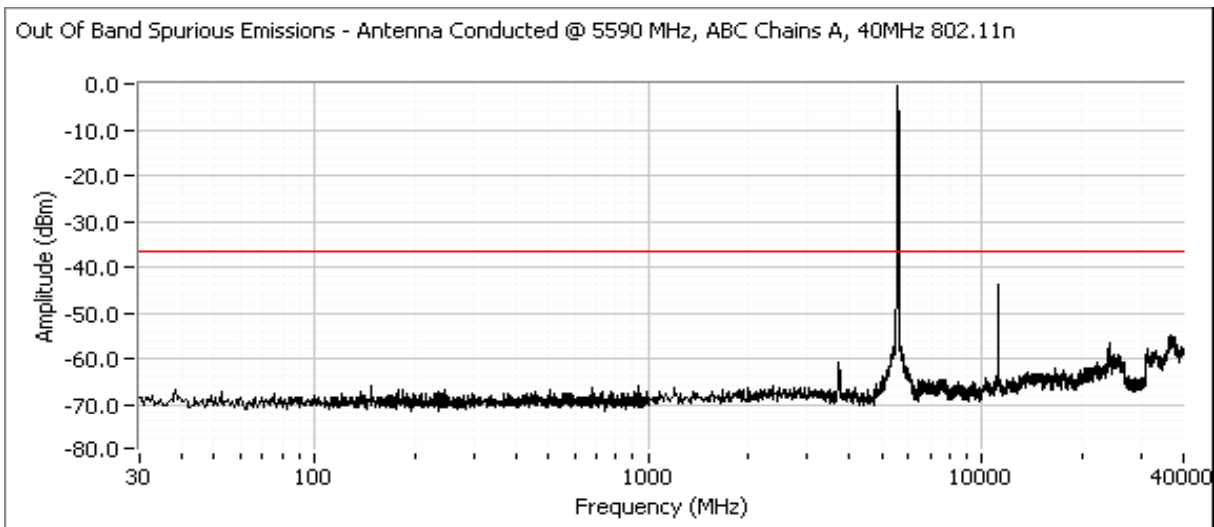


Frequency MHz	Level dBm/MHz	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
5460.000	-42.8	-	-16.8	-26.0	Peak			
5460.000	-52.8	-	-36.8	-16.0	Avg			
5470.000	-34.7	-	-16.8	-17.9	Peak			
5470.000	-45.2	-	-36.8	-8.4	Avg			

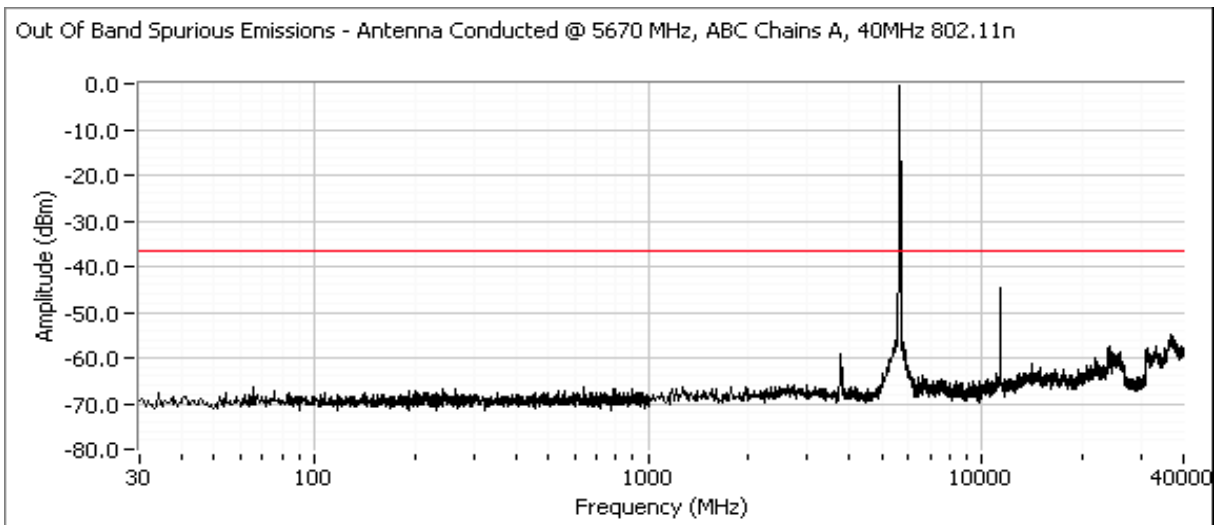
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

Center Channel, Chain A, 5590 MHz



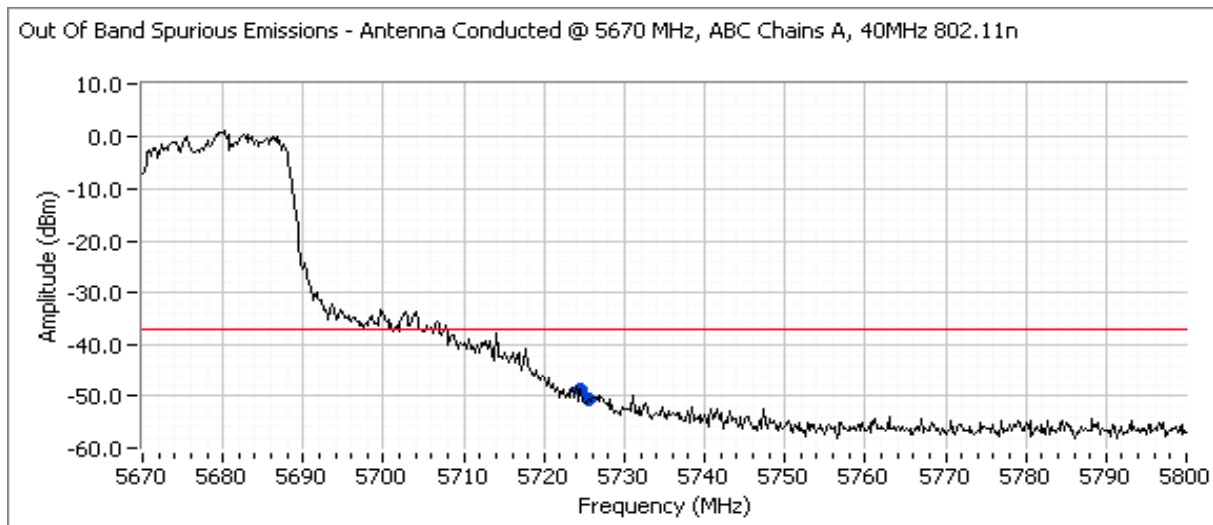
High Channel, Chain A, 5670 MHz



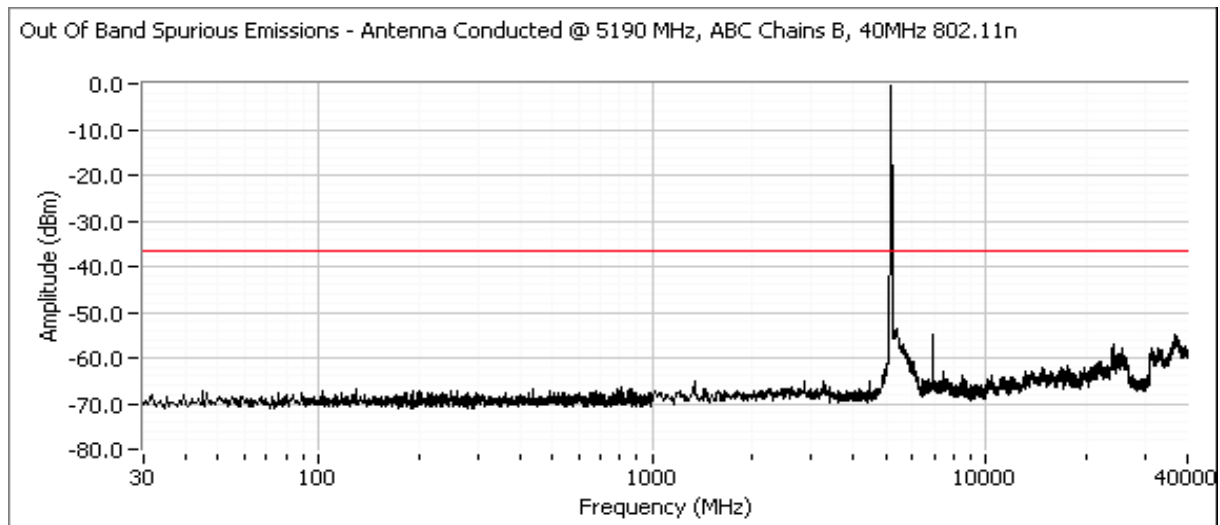
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain A, 5670 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



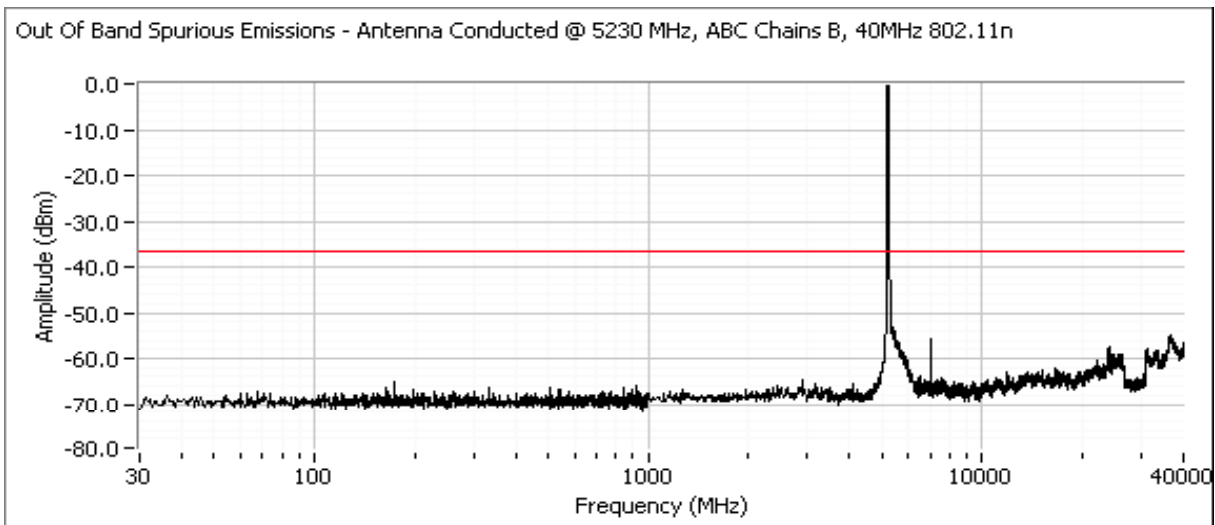
Low Channel, Chain B, 5190 MHz



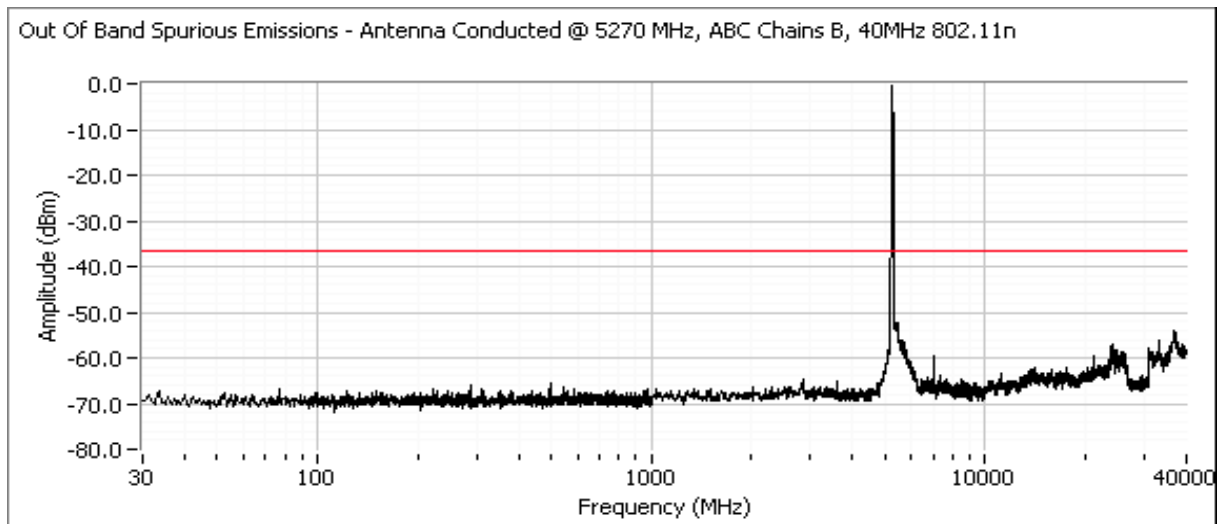
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain B, 5230 MHz



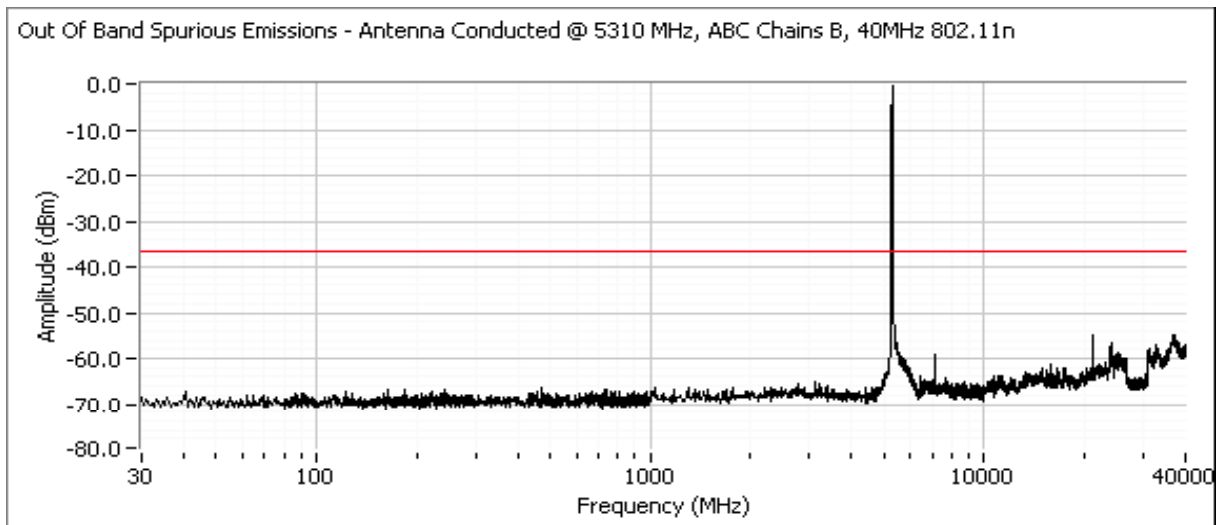
Low Channel, Chain B, 5270 MHz



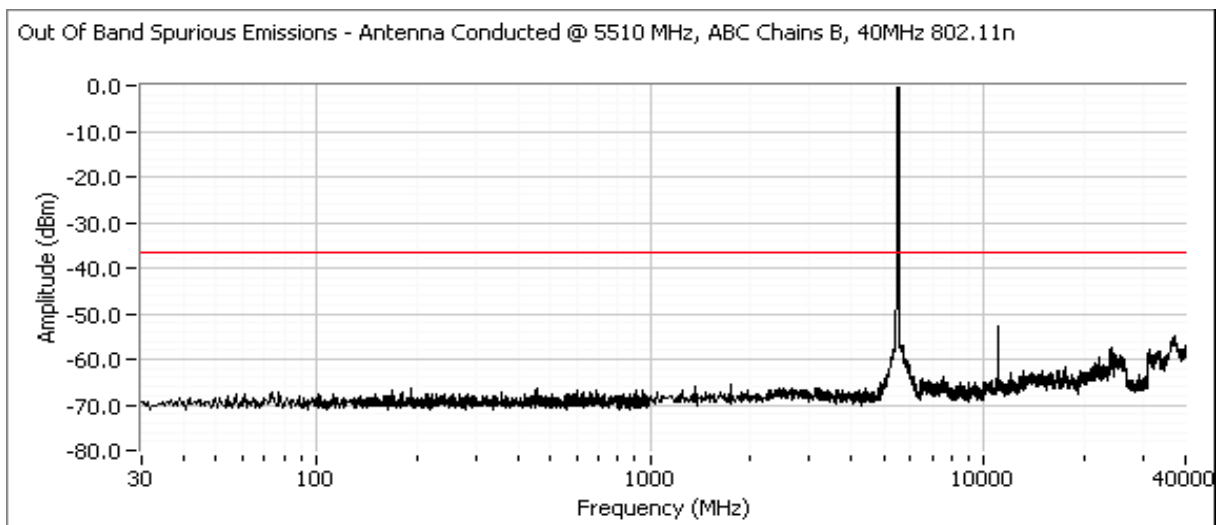
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain B, 5310 MHz



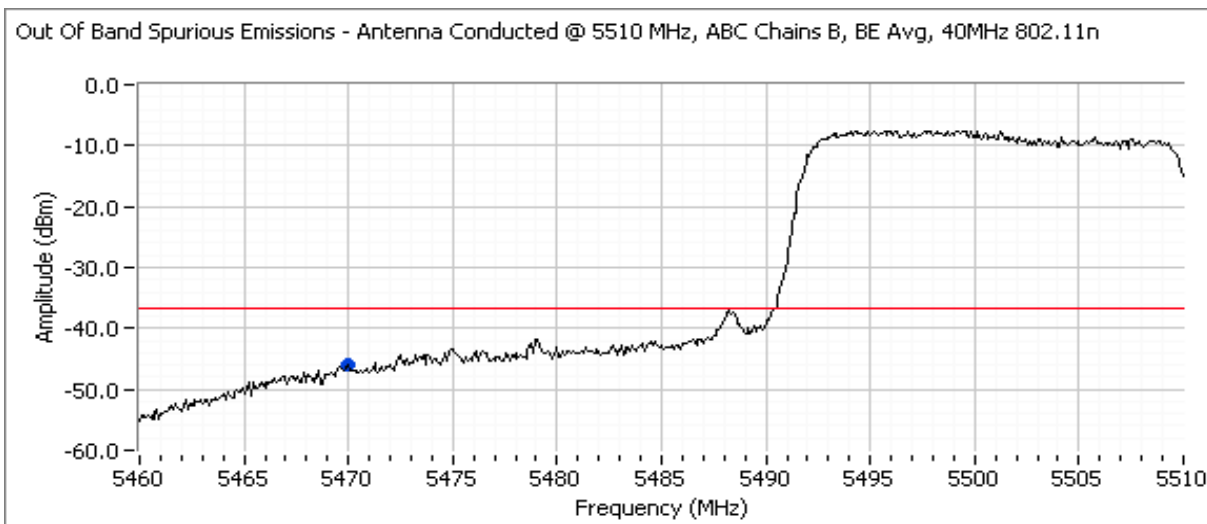
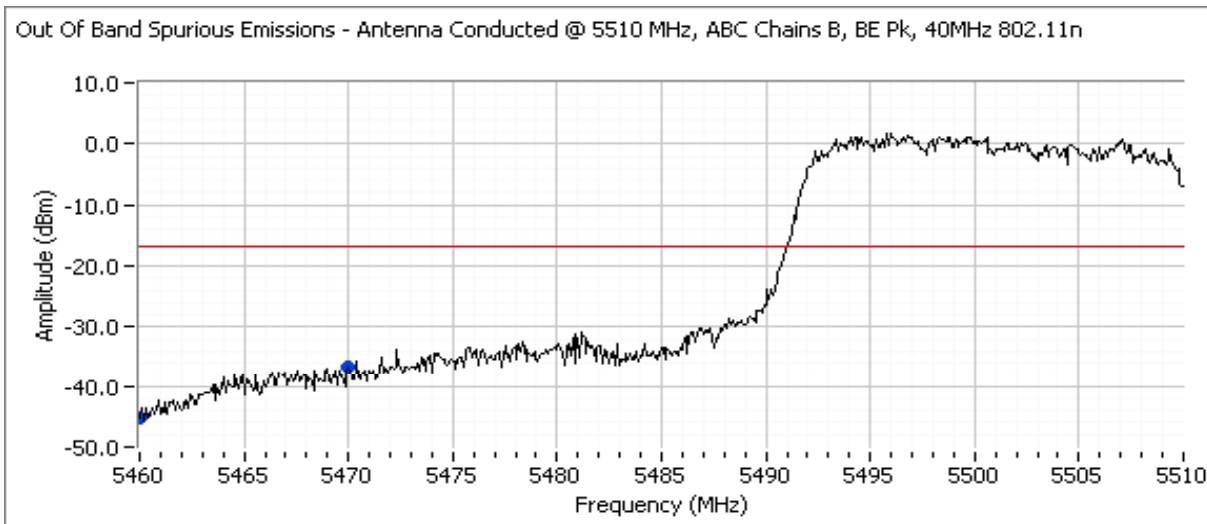
Low Channel, Chain B, 5510 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

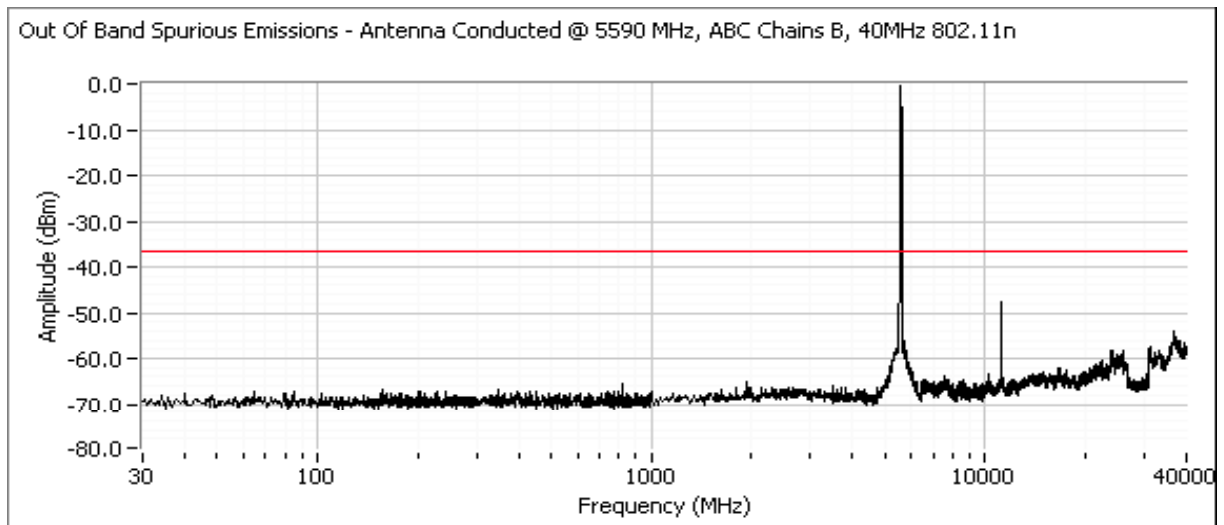
Low Channel, Chain B, 5510 MHz - includes a second plot from 5460 - 5510 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



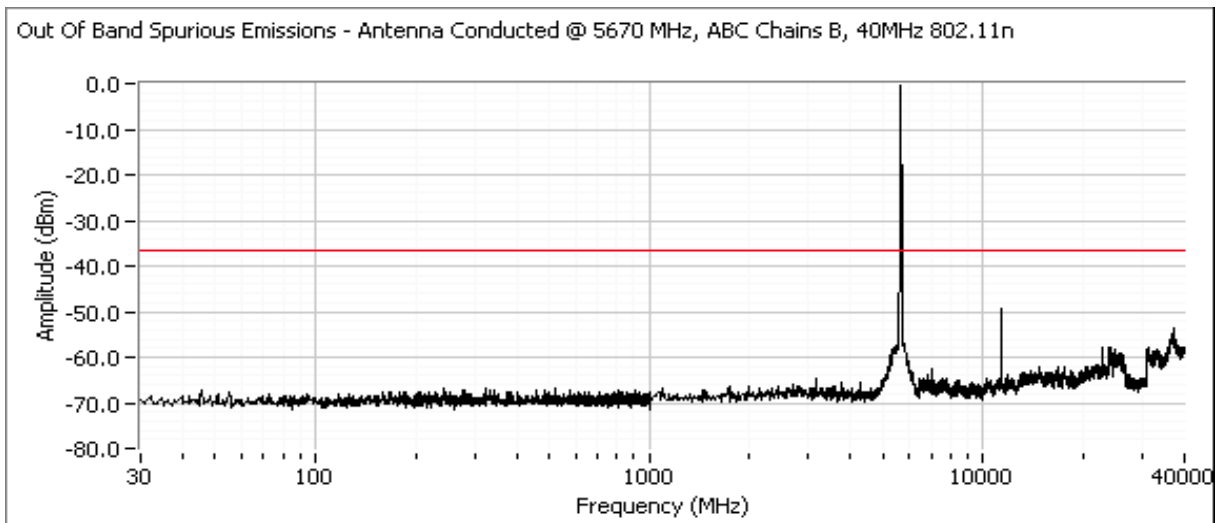
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

Center Channel, Chain B, 5590 MHz



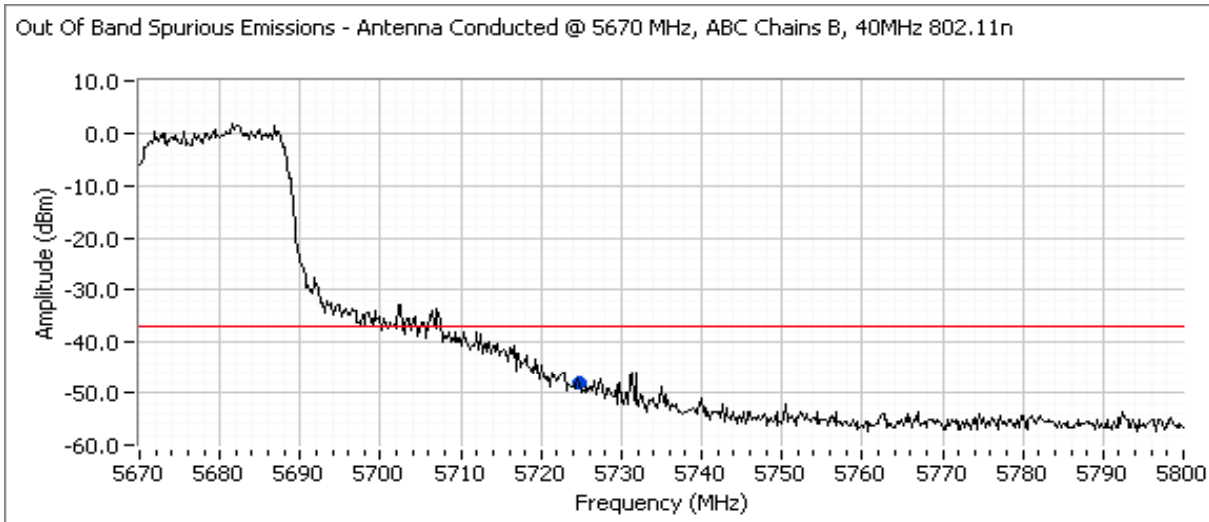
High Channel, Chain B, 5670 MHz



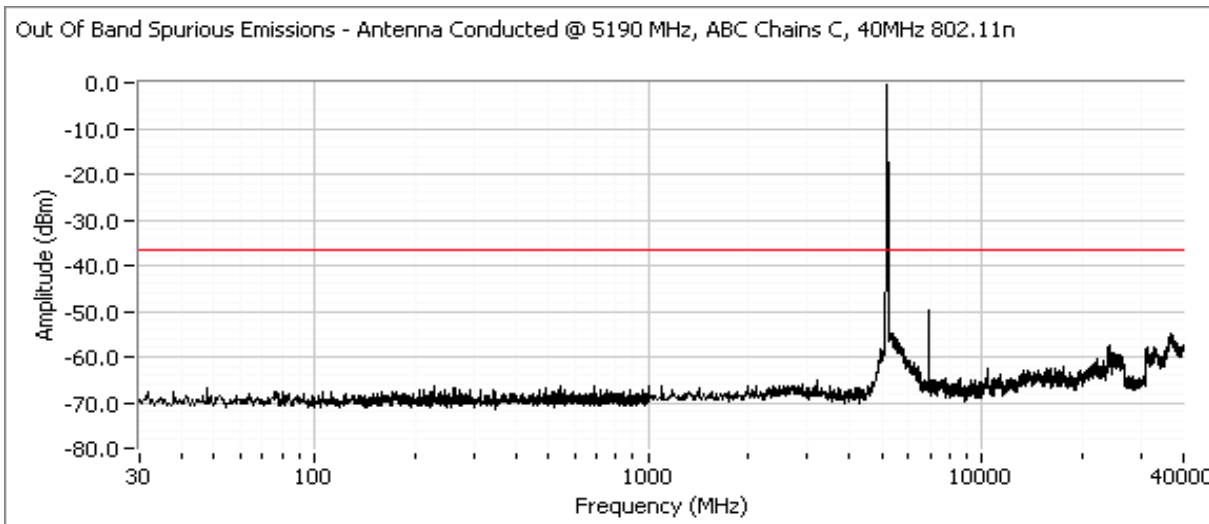
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain B, 5670 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.



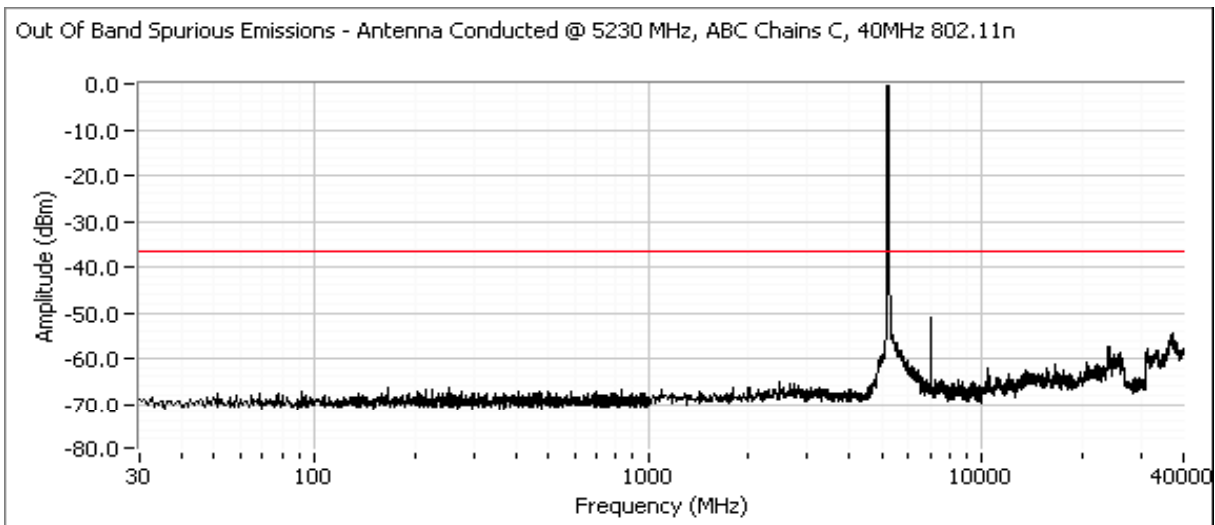
Low Channel, Chain C, 5190 MHz



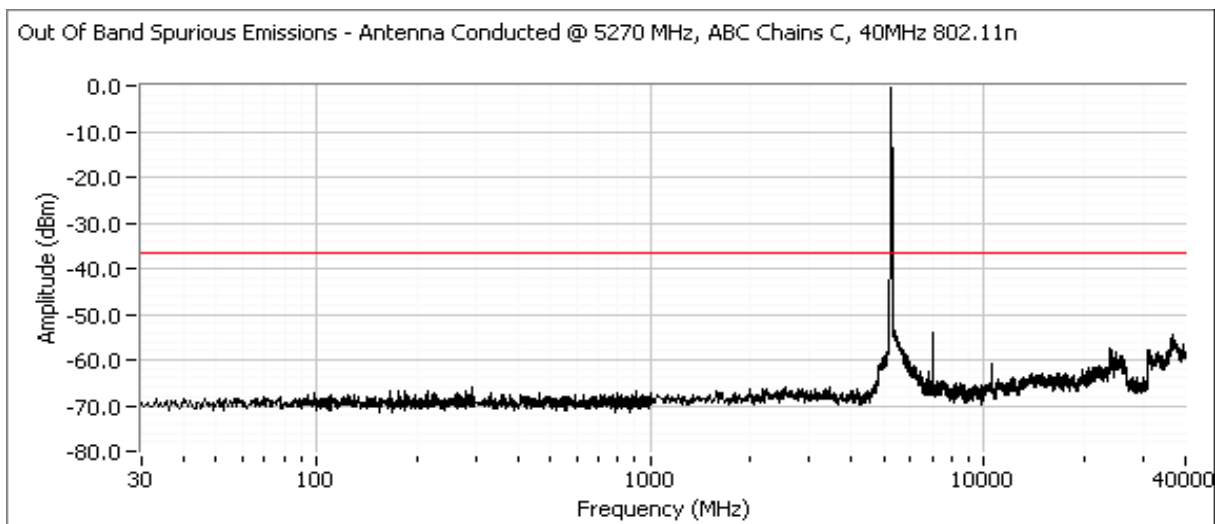
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain C, 5230 MHz



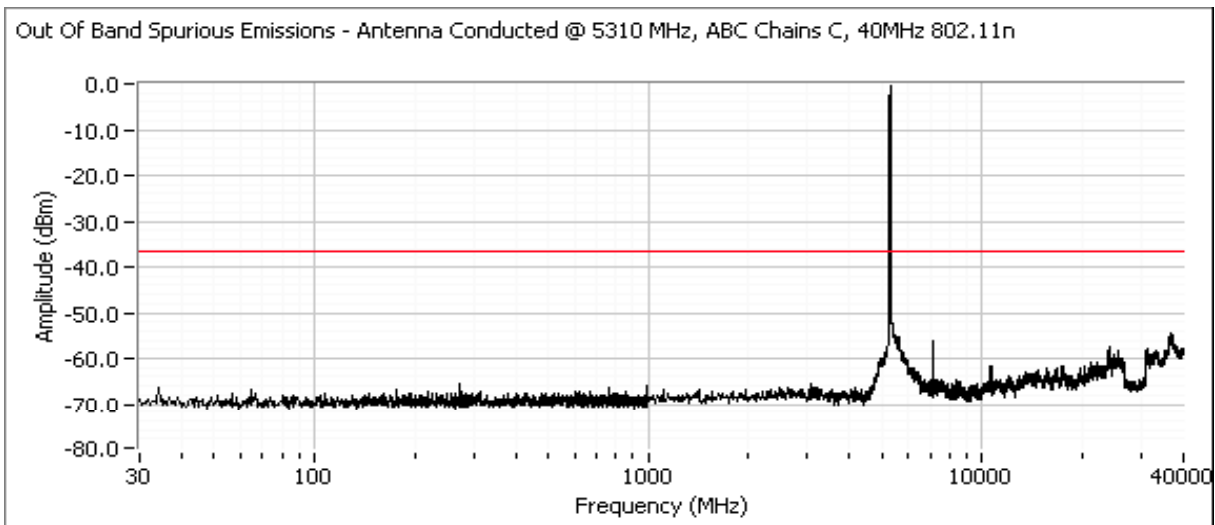
Low Channel, Chain C, 5270 MHz



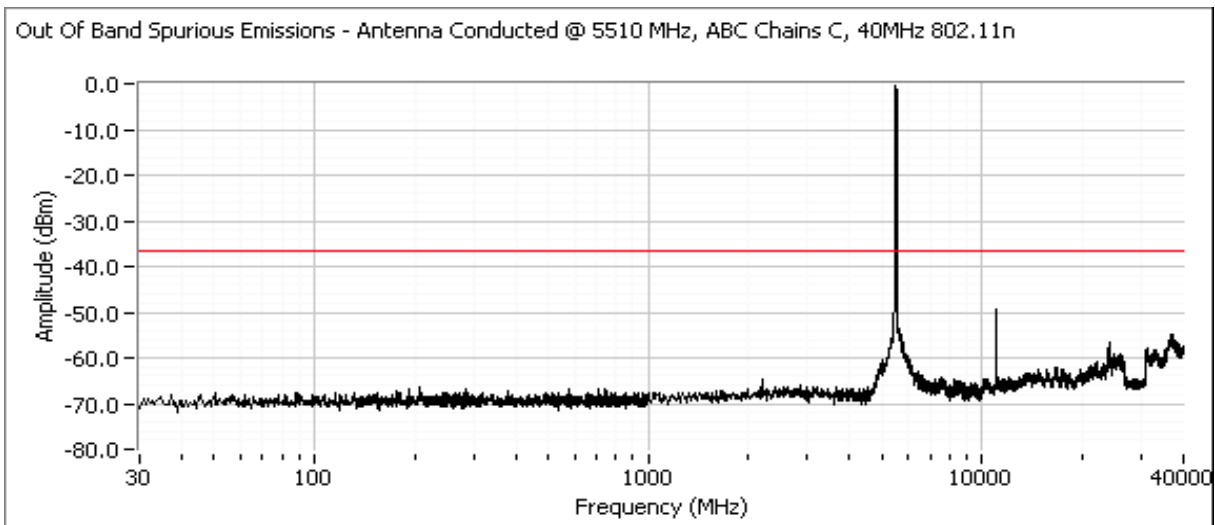
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain C, 5310 MHz



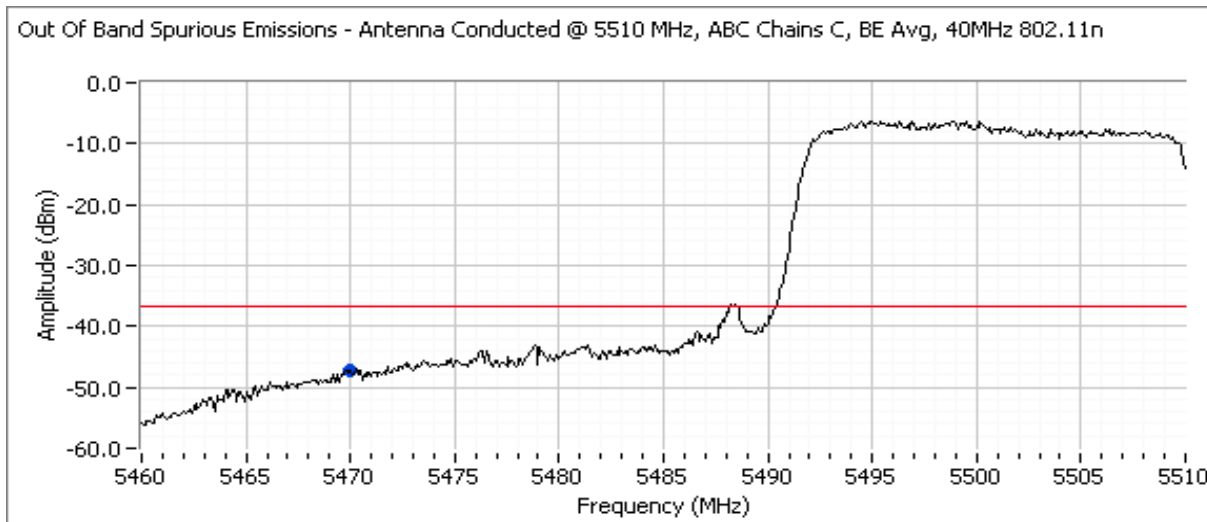
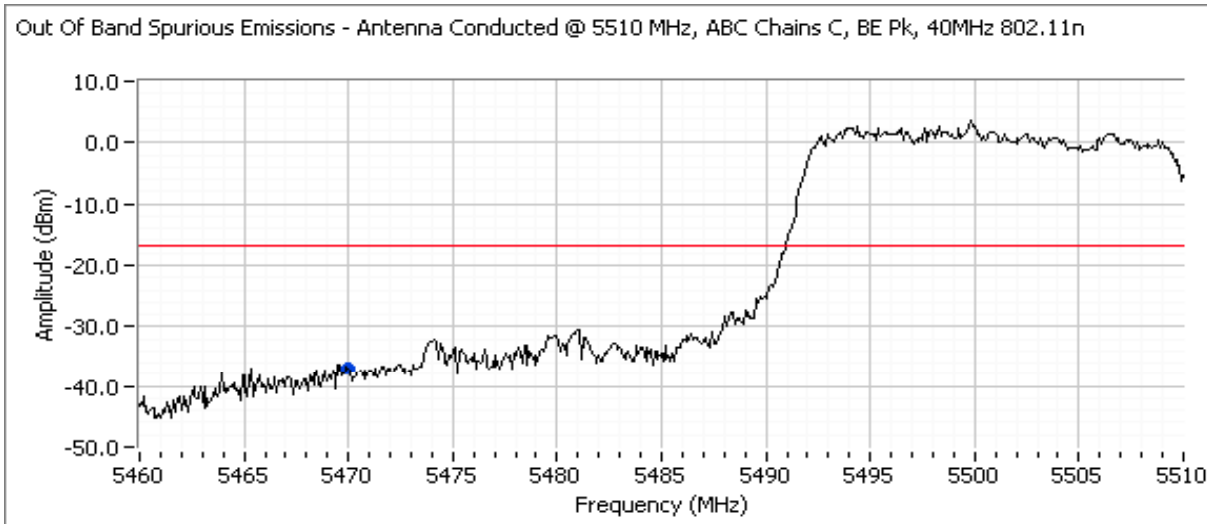
Low Channel, Chain C, 5510 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

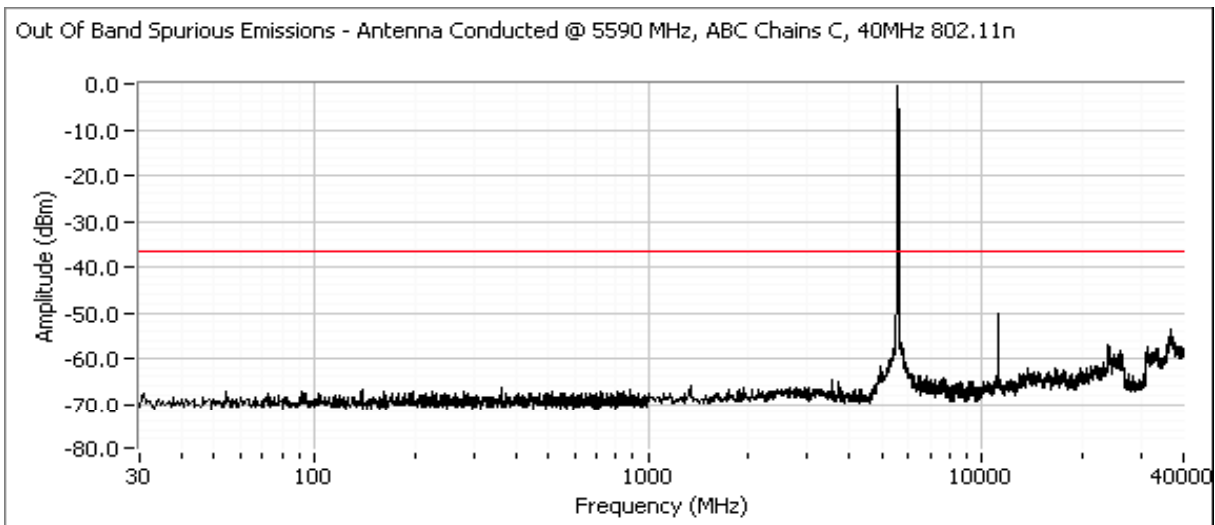
Low Channel, Chain C, 5510 MHz - includes a second plot from 5460 - 5510 MHz, showing compliance with the limit from 5460 - 5470 MHz. Compliance at the 5460 MHz restricted band edge is demonstrated via radiated measurements.



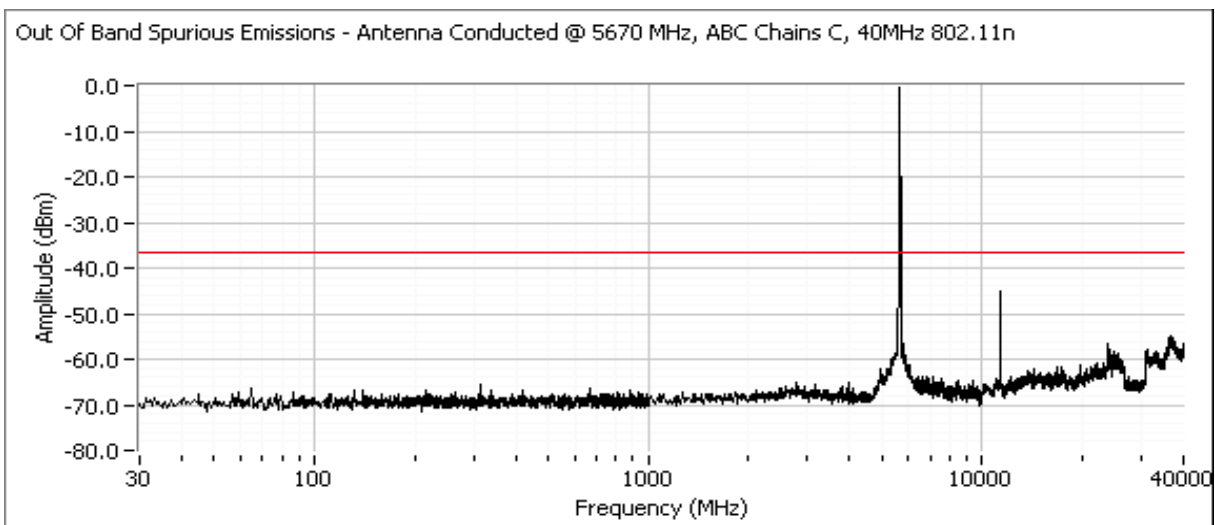
Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
Contact: Robert Paxman	Account Manager: D. Eriksen
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

Center Channel, Chain C, 5590 MHz



High Channel, Chain C, 5670 MHz



Client: Intel	Job Number: J70976
Model: 533-agn MMW	T-Log Number: T71055
	Account Manager: D. Eriksen
Contact: Robert Paxman	
Standard: FCC 15 E / RSS -210 (RF Port)	Class: N/A

Run #1: Out Of Band Spurious Emissions - Antenna Conducted, Chains A, B and C 40MHz 802.11n

High Channel, Chain C, 5670 MHz - includes a second plot from 5700 - 5800 MHz, showing compliance with the limit immediately above the 5725 MHz band edge.

