Elliott

EMC Test Data

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		-
Emissions Standard(s):	FCC 15.247 / RSS -210	Class:	DTS
Immunity Standard(s):	-	Environment:	-

EMC Test Data - RF Port DTS Measurements

For The

Intel

Model

533-agn MMW

Date of Last Test: 5/8/2008

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen

RSS 210 and FCC 15.247 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 and is for reference purposes.

802.11b

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
24	2412, Chain A	17.5	55.8	3.2	16.8	47.9
24	2437, Chain A	17.4	55.2	3.2	16.5	44.7
24	2462, Chain A	16.5	45.0	3.2	16.6	45.7
25	2412, Chain B	18.4	69.2	3.2	16.7	46.8
24	2437, Chain B	17.3	53.7	3.2	16.7	46.8
25	2462, Chain B	17.5	56.4	3.2	17.7	58.9
22.5	2412, Chain C	17.4	54.6	3.2	16.7	46.8
22.5	2437, Chain C	17.3	54.1	3.2	16.6	45.7
24.5	2462, Chain C	18.5	70.1	3.2	16.7	46.8

802.11g

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
24.5	2412, Chain A	12.2	16.5	3.2	12.9	19.5
27.5	2437, Chain A	15.5	35.2	3.2	16.6	45.7
28	2462, Chain A	15.4	34.8	3.2	15.8	38.0
28.5	2412, Chain B	16.3	42.9	3.2	16.4	43.7
27.5	2437, Chain B	15.5	35.7	3.2	16.7	46.8
26	2462, Chain B	13.7	23.4	3.2	14.5	28.2
22.5	2412, Chain C	11.6	14.4	3.2	12.3	17.0
26.5	2437, Chain C	15.7	36.9	3.2	16.7	46.8
24.5	2462, Chain C	13.0	20.0	3.2	13.5	22.4

802.11a

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
26	5745, Chain A	15.6	36.3	5.0	16.7	46.8
26	5785, Chain A	15.7	37.2	5.0	16.6	45.7
26.5	5825, Chain A	15.8	38.0	5.0	16.7	46.8
25	5745, Chain B	15.9	38.9	5.0	16.6	45.7
25.5	5785, Chain B	15.5	35.5	5.0	16.6	45.7
26	5825, Chain B	15.9	38.9	5.0	16.7	46.8
25.5	5745, Chain C	15.8	38.0	5.0	16.6	45.7
26	5785, Chain C	15.7	37.2	5.0	16.7	46.8
26.5	5825, Chain C	15.9	38.9	5.0	16.7	46.8

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen

802.11n - 20 MHz

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
23.5	2412, Chain A	10.5	11.2	3.2	13.2	20.9
28	2437, Chain A	15.2	32.7	3.2	16.6	45.7
25.5	2462, Chain A	12.2	16.4	3.2	13.9	24.5
23.5	2412, Chain B	10.6	11.5	3.2	12.3	17.0
28	2437, Chain B	15.3	34.2	3.2	16.6	45.7
25.5	2462, Chain B	12.0	15.8	3.2	14.0	25.1
22.5	2412, Chain C	10.9	12.3	3.2	12.8	19.1
27	2437, Chain C	15.5	35.3	3.2	16.7	46.8
24.5	2462, Chain C	12.3	17.1	3.2	14.1	25.7
26	5745, Chain A	15.6	36.3	5.0	16.7	46.8
26	5785, Chain A	15.7	37.2	5.0	16.6	45.7
26.5	5825, Chain A	15.8	38.0	5.0	16.7	46.8
25.5	5745, Chain B	15.9	38.9	5.0	16.8	47.9
25.5	5785, Chain B	15.5	35.5	5.0	16.7	46.8
26	5825, Chain B	15.9	38.9	5.0	16.6	45.7
26	5745, Chain C	15.8	38.0	5.0	16.6	45.7
26	5785, Chain C	15.7	37.2	5.0	16.5	44.7
26.5	5825, Chain C	15.9	38.9	5.0	16.7	46.8

n20 - power levels for Universe Antenna where different from above

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
22	2412, Chain A			3.2	11.4	13.8

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen

n20 2x and 3x Modes

Frequency	Software	Total Power		Average Power (dBm)			
(MHz)	Setting	(dBm) [1]	mW	A	B	C	Total
2412 MHz	26,26,-	16.7	46.8	13.9	14.0		17.0
2437 MHz	26,26,-	16.4	43.4	13.8	13.9		16.9
2462 MHz	26,26,-	15.8	37.7	13.3	13.5		16.4
2412 MHz	24,-,24.5	14.1	25.7	11.1		13.0	15.2
2437 MHz	26,-,25	15.4	35.0	13.8		13.7	16.8
2462 MHz	26.5,-,25.5	15.5	35.5	13.6		13.4	16.5
2412 MHz	-,25,24	15.5	35.2		12.2	12.4	15.3
2437 MHz	-,26,25	16.6	45.8		13.9	13.7	16.8
2462 MHz	-,26.5,25.5	16.3	42.9		13.8	13.6	16.7
2412 MHz	25,25.5,24.5	16.3	42.4	12.0	12.0	12.2	16.8
2437 MHz	26,25.5,25	17.1	51.8	12.7	12.0	12.7	17.3
2462 MHz	26,26,25	16.5	44.7	12.2	12.4	12.1	17.0
5745 MHz	27,26.5,-	15.5	35.7	16.3	16.4		19.4
5785 MHz	27.5,27,-	15.7	37.4	16.5	16.6		19.6
5825 MHz	28,27.5,-	15.8	37.8	16.6	16.5		19.6
5745 MHz	27.5,-,27.5	16.0	39.5	16.5		16.4	19.5
5785 MHz	28,-,28	15.8	37.9	16.3		16.6	19.5
5825 MHz	28.5,-,28.5	15.9	39.0	16.6		16.5	19.6
5745 MHz	-,30.5,31	18.0	62.5		16.5	16.5	19.5
5785 MHz	-,30.5,31	17.8	60.4		16.6	16.6	19.6
5825 MHz	-,31,31.5	18.0	62.6		16.5	16.6	19.6
5745 MHz	31.5,30.5,31	17.4	54.4	16.5	16.5	16.5	21.3
5785 MHz	32,31,31.5	18.0	63.1	16.6	16.6	16.6	21.4
5825 MHz	32.5,31,32	18.0	62.9	16.6	16.5	16.6	21.3

n20 - power levels for Universe Antenna where different from above

Frequency	Software	Total Power		Average Power			
(MHz)	Setting	(dBm) [1]	mW	A	B	C	Total
2412 MHz	24.5,24.5,-			12.5	11.9		15.2

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen

802.11n - 40 MHz, Universe and Ethertronics Antenna

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Average Power (dBm) [3]	Average Power mW
23	2422, Chain A	12.3	16.8	3.2	12.0	15.8
24	2437, Chain A	13.0	19.9	3.2	13.2	20.9
25	2452, Chain A	13.7	23.5	3.2	13.7	23.4
23.5	2422, Chain B	12.8	18.9	3.2	12.6	18.2
24	2437, Chain B	13.0	20.1	3.2	13.2	20.9
25.5	2452, Chain B	14.1	25.7	3.2	14.3	26.9
21	2422, Chain C	11.7	14.9	3.2	11.5	14.1
22.5	2437, Chain C	13.6	22.9	3.2	13.7	23.4
24	2452, Chain C	13.8	23.9	3.2	13.9	24.5
26	5755, Chain A	14.7	29.8	5.0	16.8	47.9
26	5795, Chain A	14.7	29.5	5.0	16.6	45.7
25.5	5755, Chain B	15.0	31.6	5.0	16.8	47.9
25.5	5795, Chain B	14.5	28.2	5.0	16.6	45.7
26	5755, Chain C	14.8	29.9	5.0	16.9	49.0
26	5795, Chain C	14.5	28.2	5.0	16.6	45.7

n40 2x and 3x Modes, Ethertronics Antenna

Frequency (MHz)	Software Setting	Total Power (dBm) [1]	Total Power mW	Average Power A	Average Power B	Average Power C	Average Power Total
2422 MHz	23,23.5,-	14.9	30.7	11.3	11.4		14.4
2437 MHz	28.5,28.5,-	19.3	85.4	16.5	16.5		19.5
2452 MHz	25,23.5,-	15.5	35.3	13.8	14.1		17.0
2422 MHz	24.5,-,22.5	14.5	28.3	12.1		11.8	15.0
2437 MHz	30,-,29	19.7	93.1	16.5		16.5	19.5
2452 MHz	26.5,-,25.5	16.3	42.9	13.9		14.1	17.0
2422 MHz	-,22.5,20	13.0	19.8		11.1	9.9	13.6
2437 MHz	-,28.5,27	19.4	86.5		16.5	16.4	19.5
2452 MHz	-,25.5,24.5	15.9	39.2		13.4	13.6	16.5
2422 MHz	23,23,21.5	14.4	27.3	10.1	10.1	10.0	14.8
2437 MHz	30,30,29	21.1	128.7	16.3	16.4	16.4	21.1
2452 MHz	25,26,25	16.6	46.1	12.8	12.8	12.7	17.5
5755 MHz	28,27,-	17.5	56.4	16.8	16.6		19.7
5795 MHz	28.5,27.5,-	17.9	61.1	16.7	16.5		19.6
5755 MHz	26.5,-,26.5	15.4	34.4	16.6		16.6	19.6
5795 MHz	27.5,-,27	16.1	40.8	16.6		16.7	19.7
5755 MHz	-,26.5,26.5	15.5	35.4		16.8	16.7	19.8
5795 MHz	-,26.5,27	15.3	34.0		16.8	16.8	19.8
5755 MHz	31,30.5,31	18.3	67.9	16.4	16.5	16.6	21.3
5795 MHz	31.5,30.5,31	17.7	58.3	16.5	16.5	16.4	21.2

n40 2x and 3x Modes - power levels for Universe Antenna where different from above

Frequency (MHz)	Software Setting	Total Power (dBm) [1]	Total Power mW	Average Power A	Average Power B	Average Power C	Average Power Total
2422 MHz				11.8		11.8	14.8
2452 MHz				13.4		13.2	16.3
2452 MHz				11.7	11.7	11.6	16.4

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
802.11b 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: 4/1/2008
Test Engineer: Joseph Cadigal
Test Location: FT Lab #1

Config. Used: 1
Config Change: none
EUT Voltage: Power by host DC power supply

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 23 °C
Rel. Humidity: 32 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	18.5dBm(70.1mW)
2	Power spectral Density (PSD)	15.247(d)	Pass	-7.0dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	10.2 MHz
3	99% Bandwidth	RSS GEN	-	13.6 MHz

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

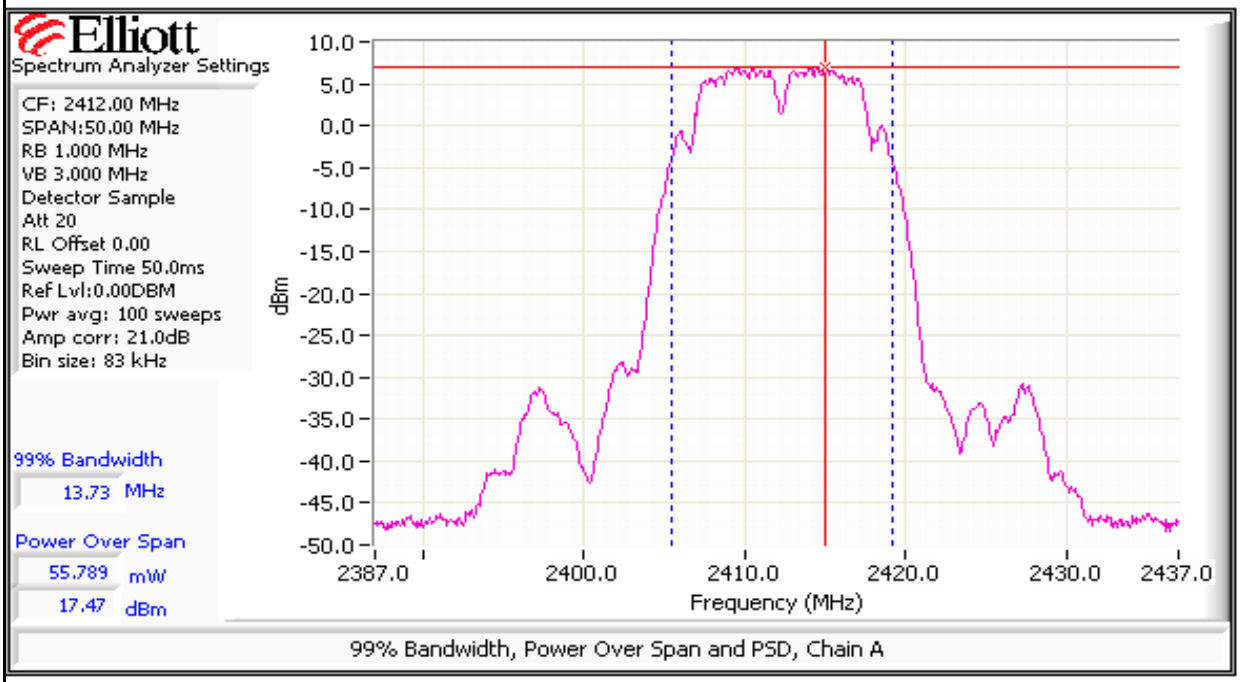
No deviations were made from the requirements of the standard.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power

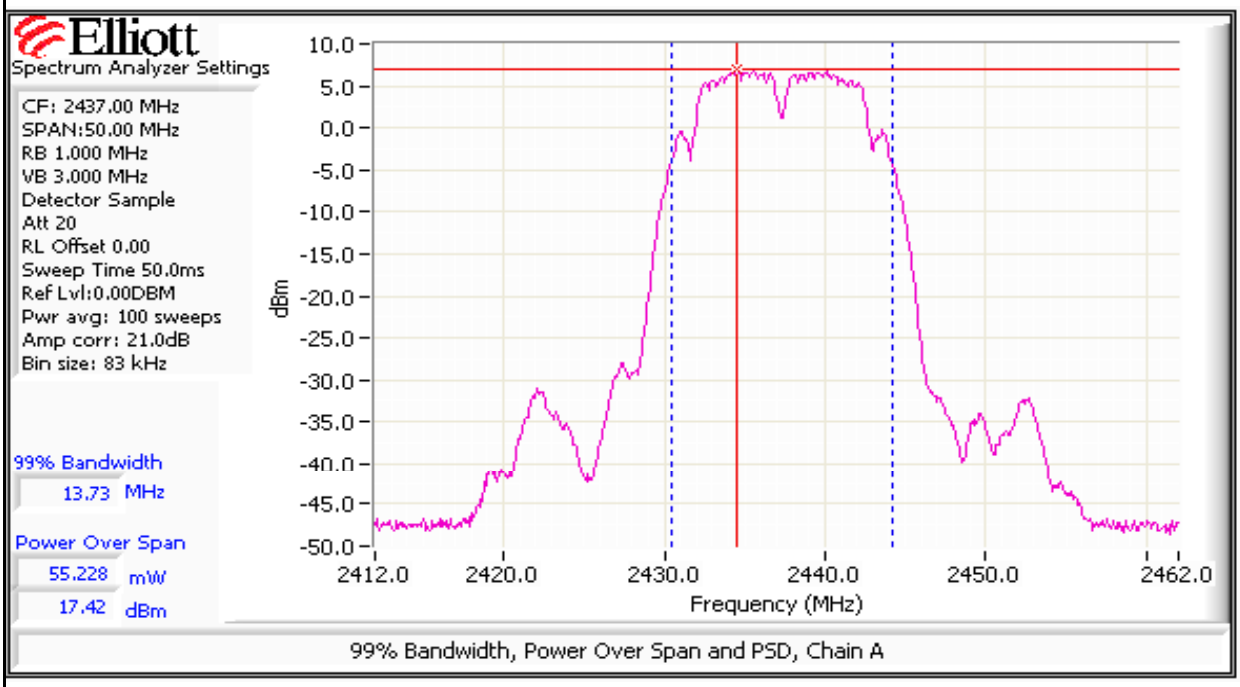
Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
24	2412, Chain A	17.5	55.8	3.2	Pass	20.7	0.117	16.8	47.9
24	2437, Chain A	17.4	55.2	3.2	Pass	20.6	0.115	16.5	44.7
24	2462, Chain A	16.5	45.0	3.2	Pass	19.7	0.094	16.6	45.7
25	2412, Chain B	18.4	69.2	3.2	Pass	21.6	0.145	16.7	46.8
24	2437, Chain B	17.3	53.7	3.2	Pass	20.5	0.112	16.7	46.8
25	2462, Chain B	17.5	56.4	3.2	Pass	20.7	0.118	17.7	58.9
22.5	2412, Chain C	17.4	54.6	3.2	Pass	20.6	0.114	16.7	46.8
22.5	2437, Chain C	17.3	54.1	3.2	Pass	20.5	0.113	16.6	45.7
24.5	2462, Chain C	18.5	70.1	3.2	Pass	21.7	0.147	16.7	46.8

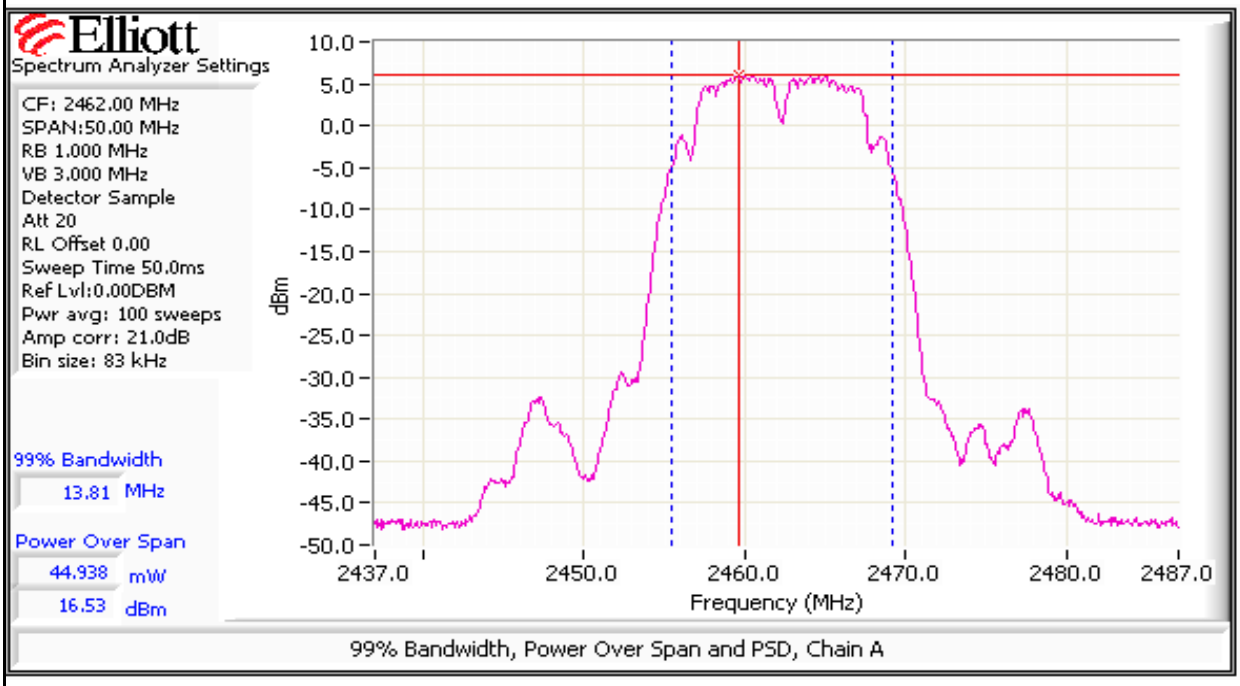
Note 1:	Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50MHz. Spurious limit is -30dBc because this method was used. The output power limit is 30dBm.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	*Power measured using average power sensor and is included for manufacturer's reference only.*



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

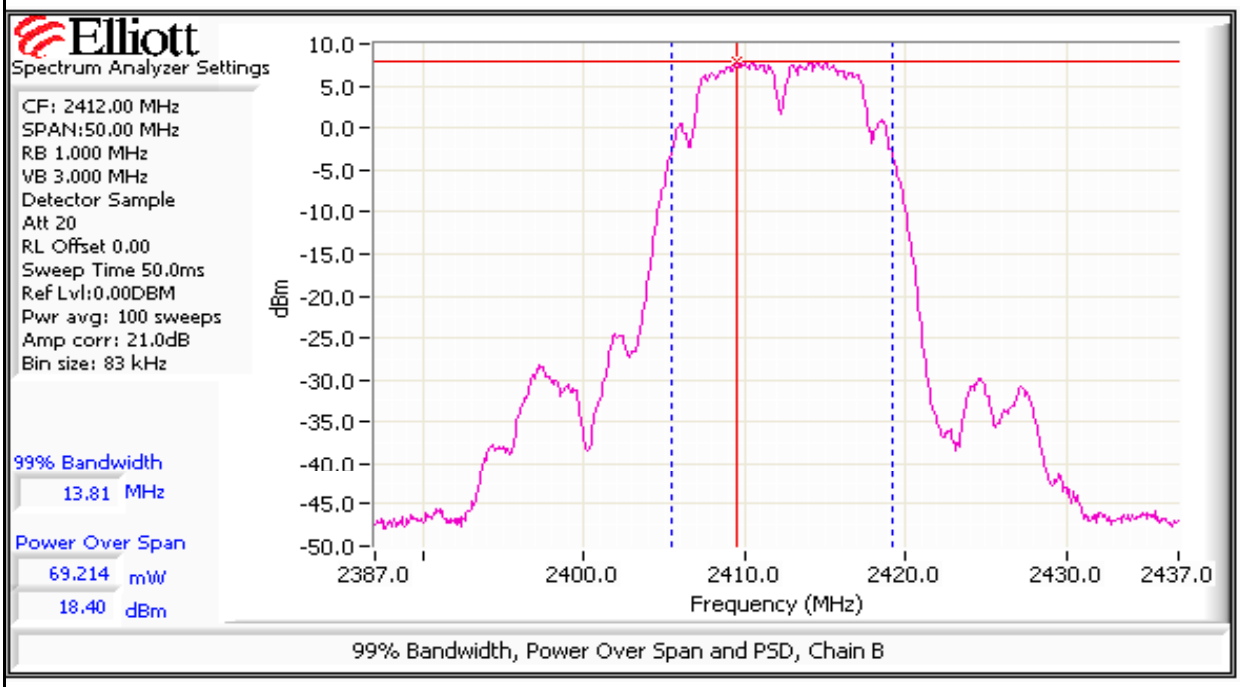
Run #1: Output Power

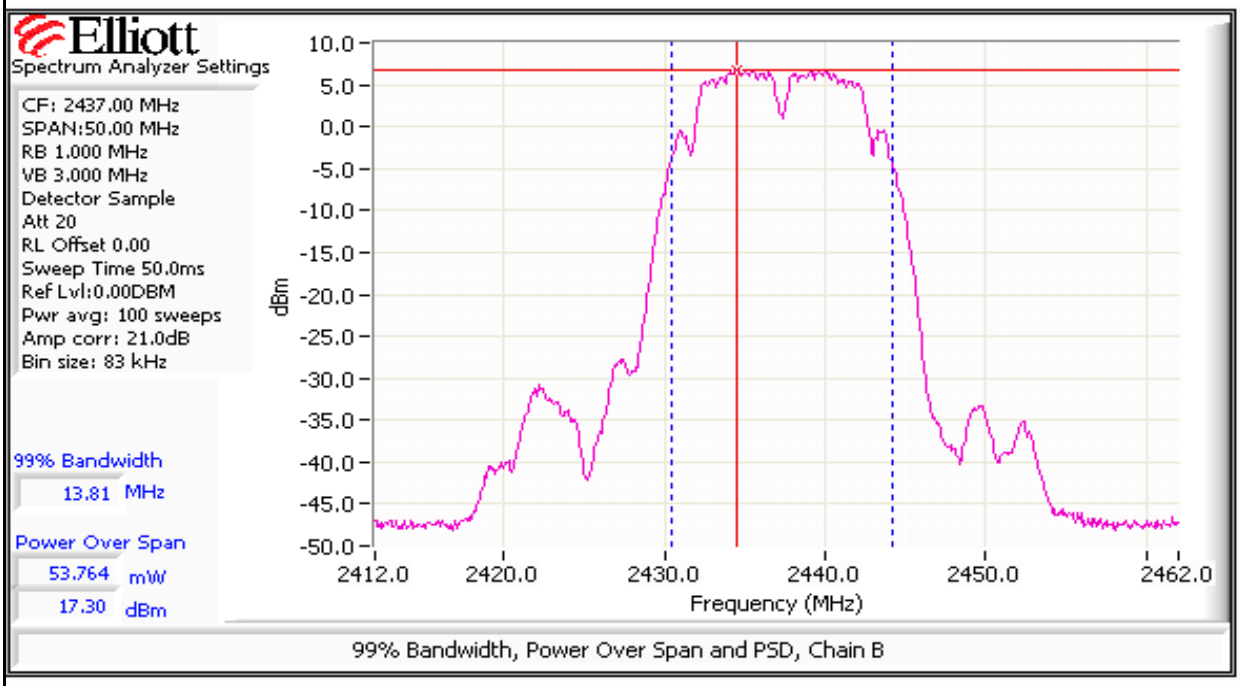




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power





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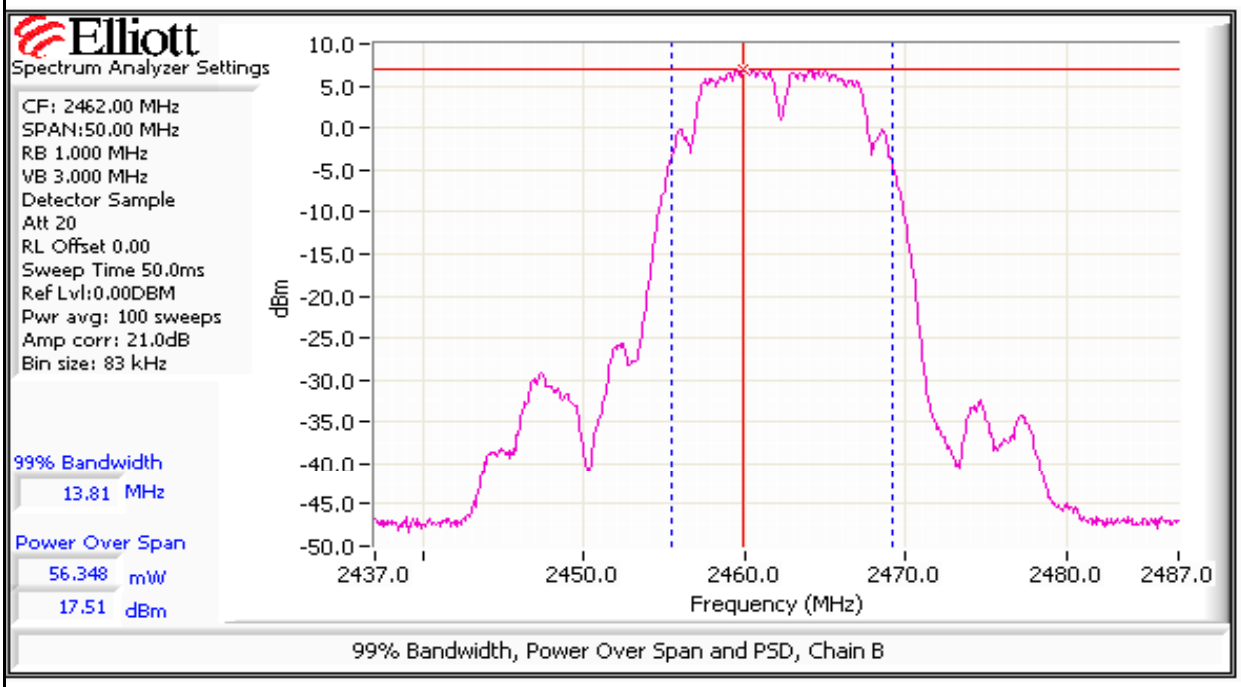
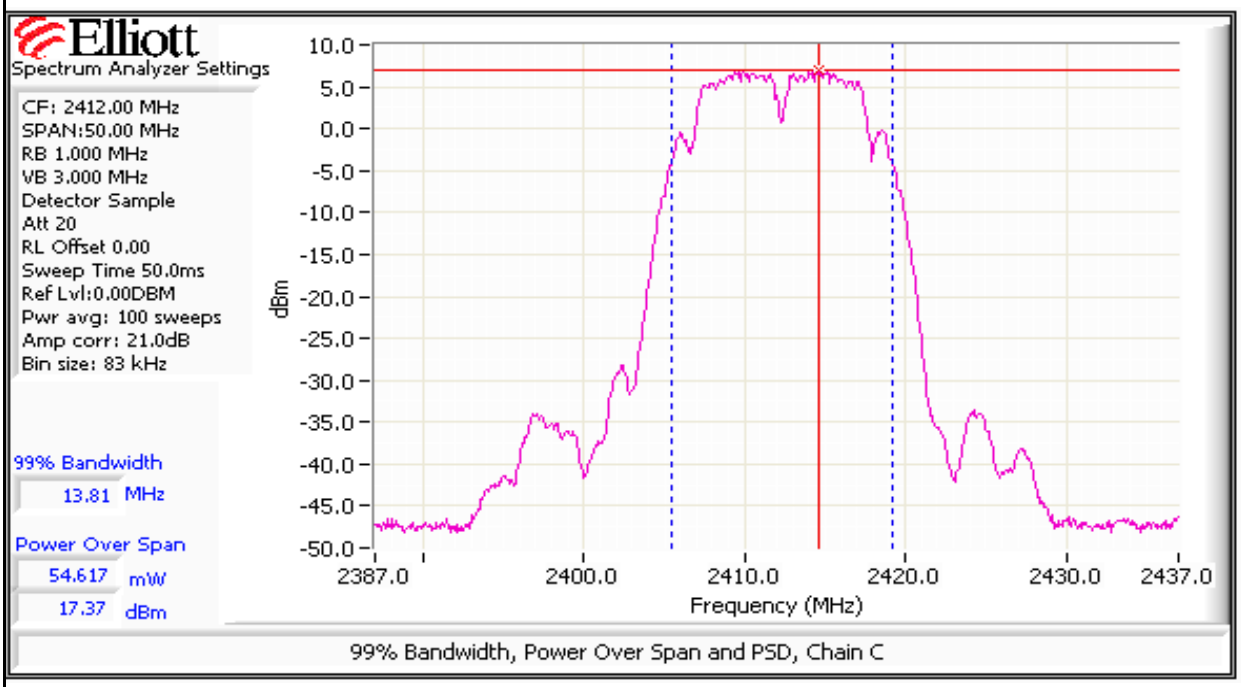
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power



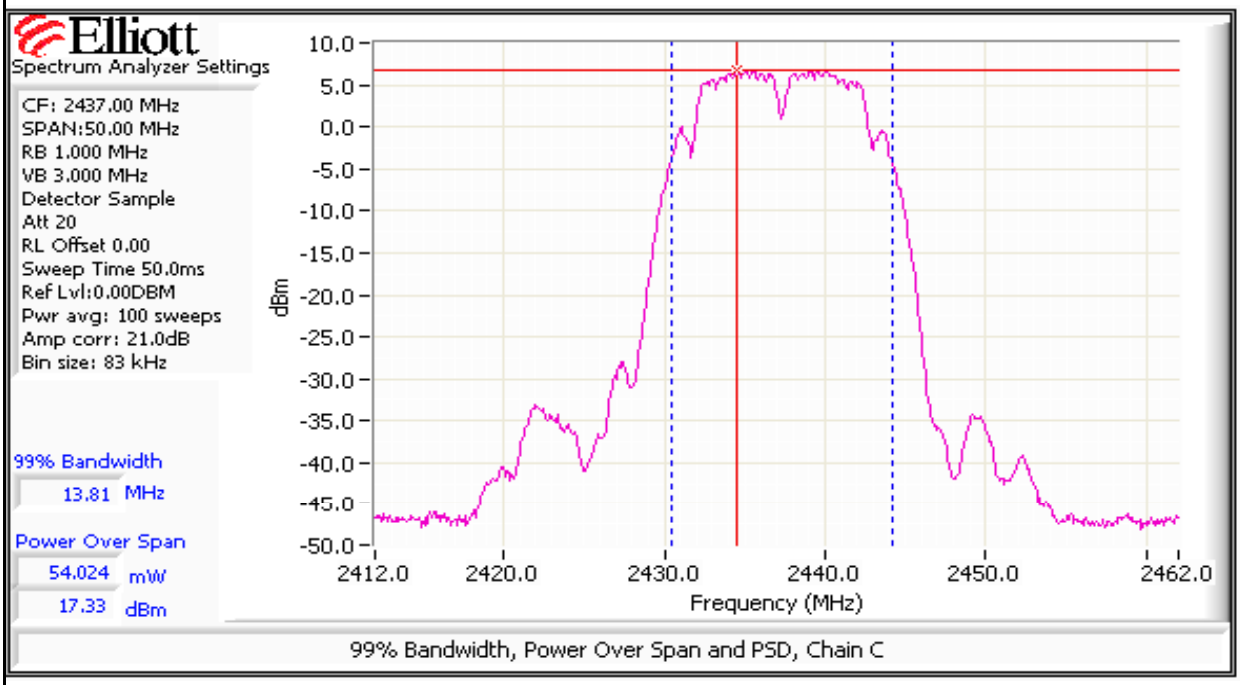
99% Bandwidth, Power Over Span and PSD, Chain B

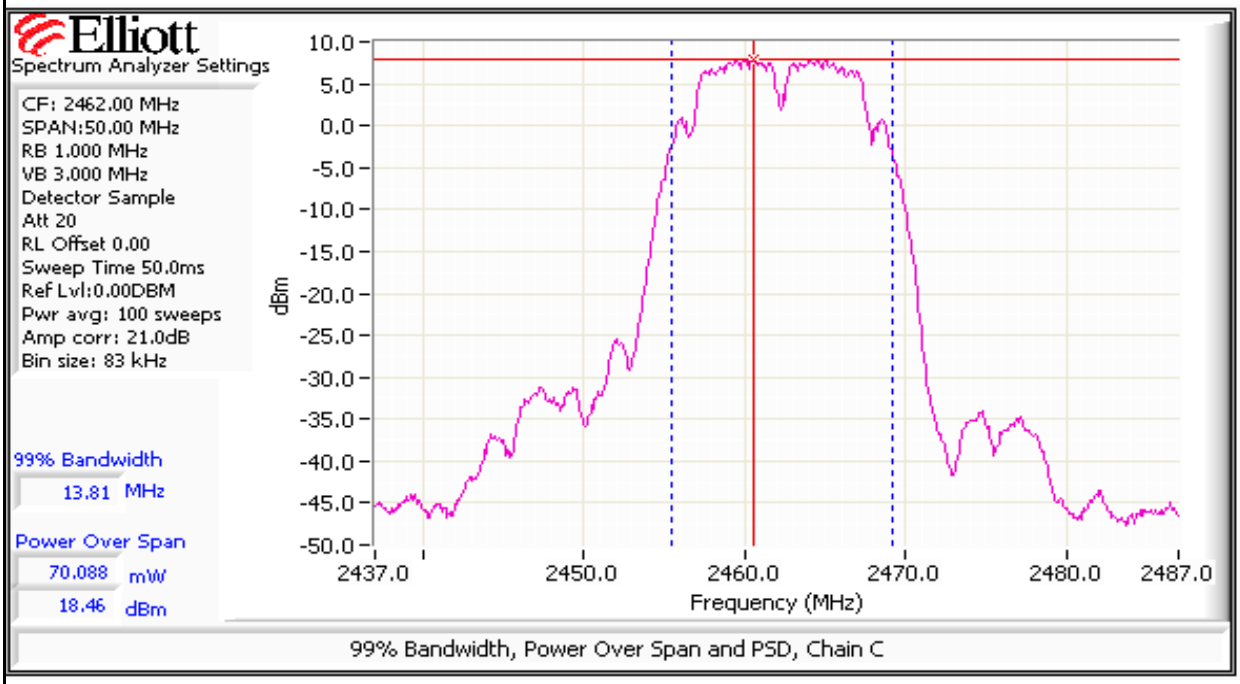


99% Bandwidth, Power Over Span and PSD, Chain C

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power





Client:	Intel	Job Number:	J70796
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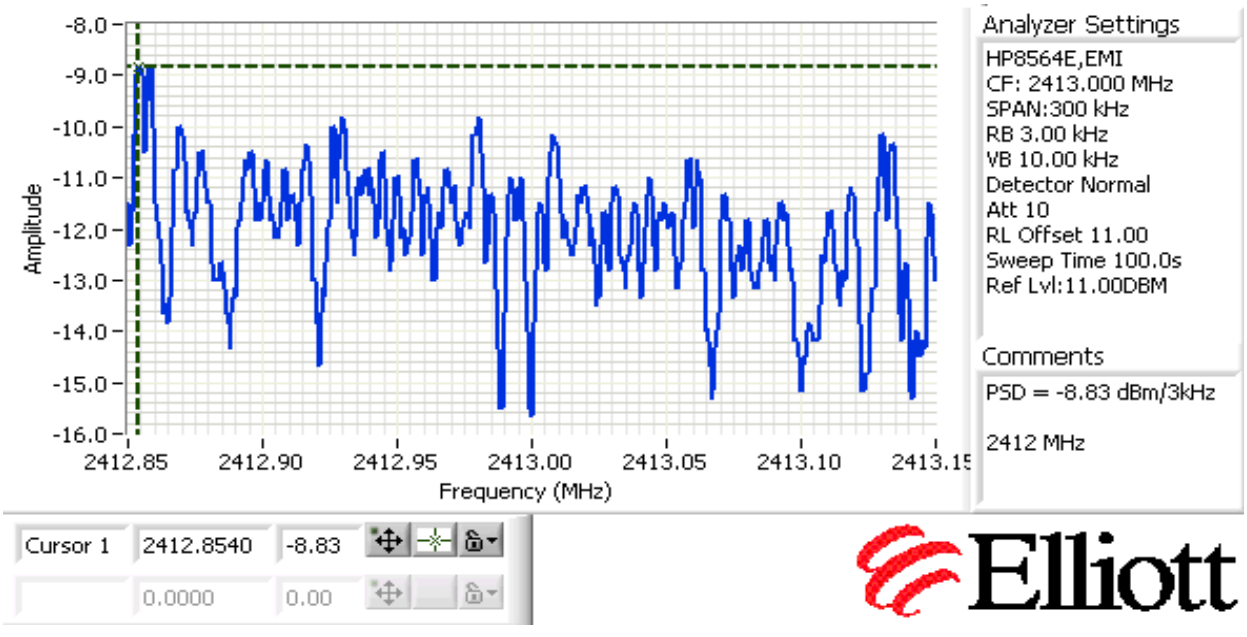
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
24	2412, Chain A	-8.83	8.0	Pass
24	2437, Chain A	-7.00	8.0	Pass
24	2462, Chain A	-7.00	8.0	Pass
25	2412, Chain B	-7.00	8.0	Pass
24	2437, Chain B	-8.00	8.0	Pass
25	2462, Chain B	-7.33	8.0	Pass
22.5	2412, Chain C	-7.50	8.0	Pass
22.5	2437, Chain C	-8.00	8.0	Pass
24.5	2462, Chain C	-7.67	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



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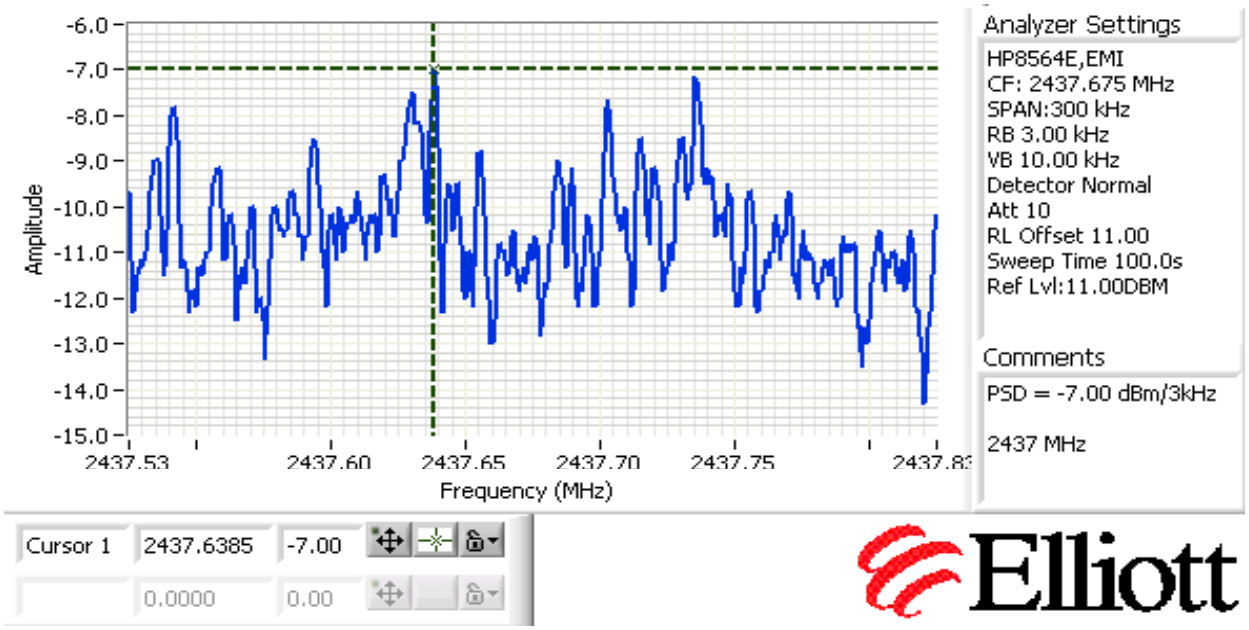
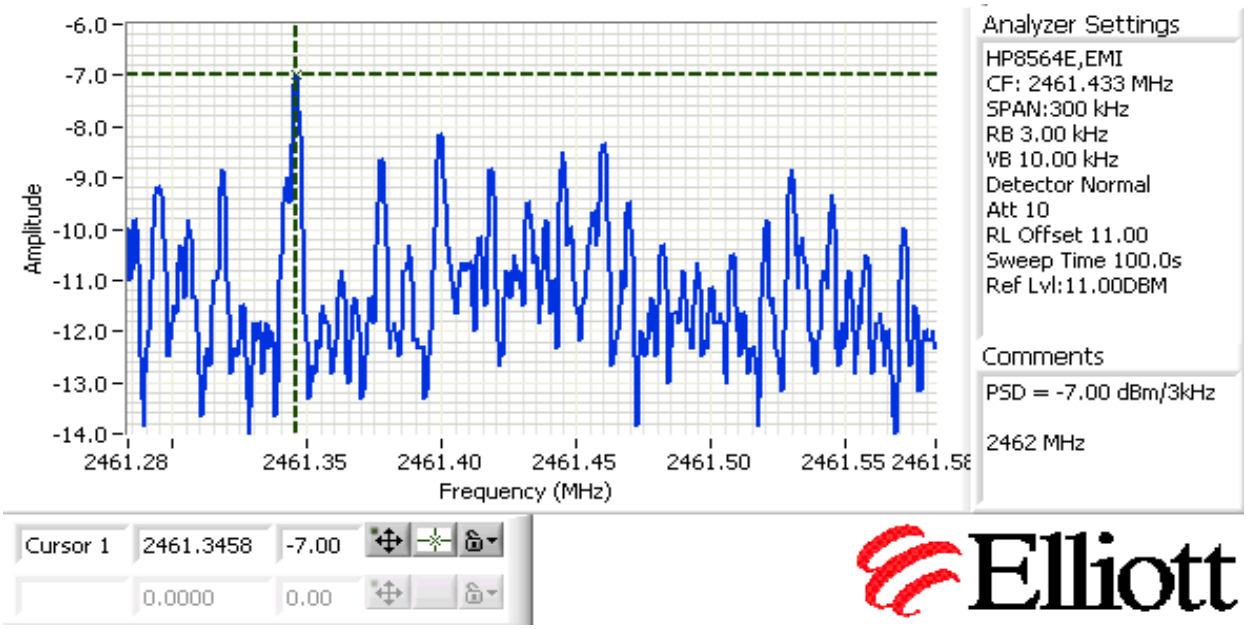
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Continued





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
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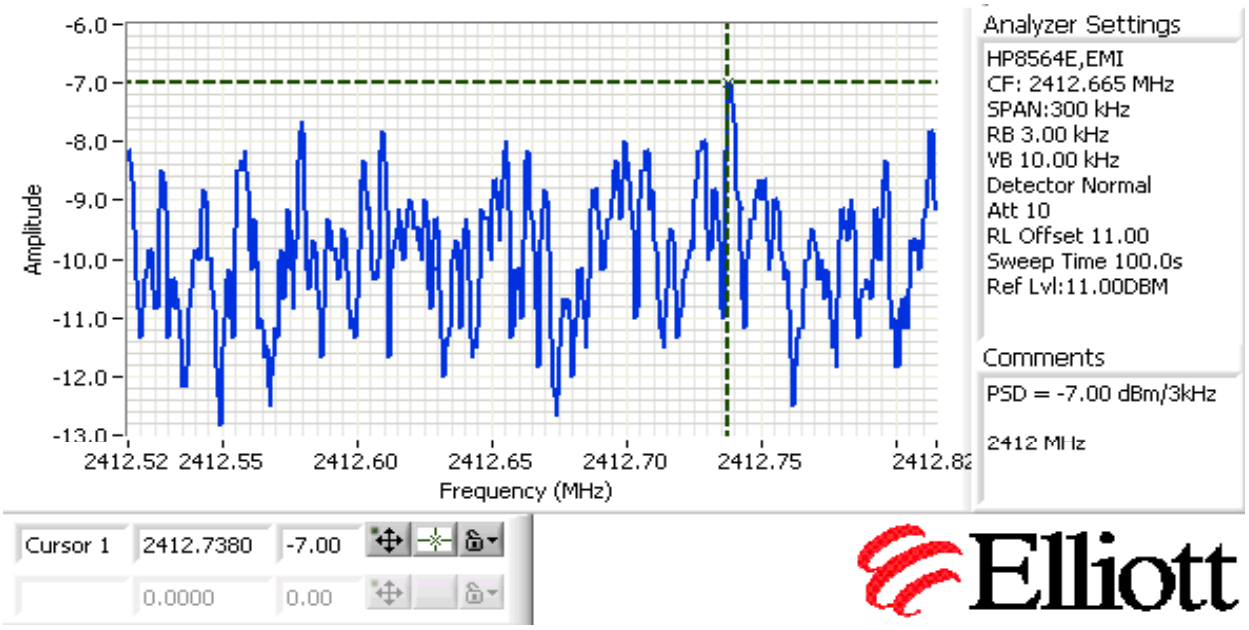
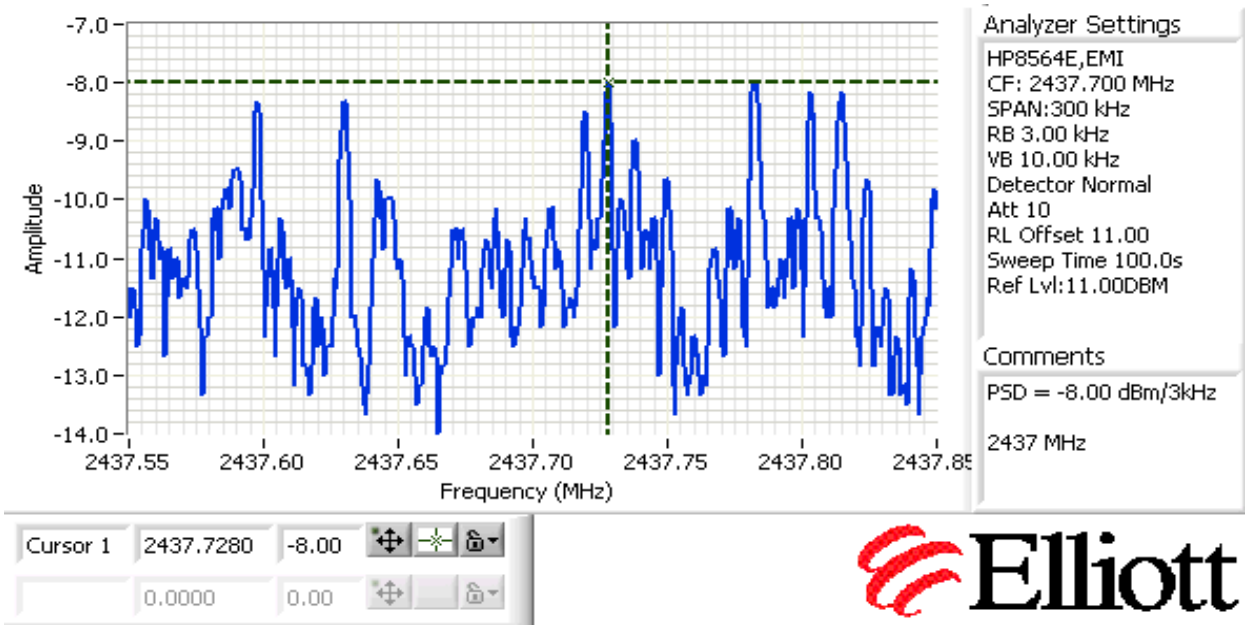
Standard:	FCC 15.247 / RSS -210	Class:	N/A

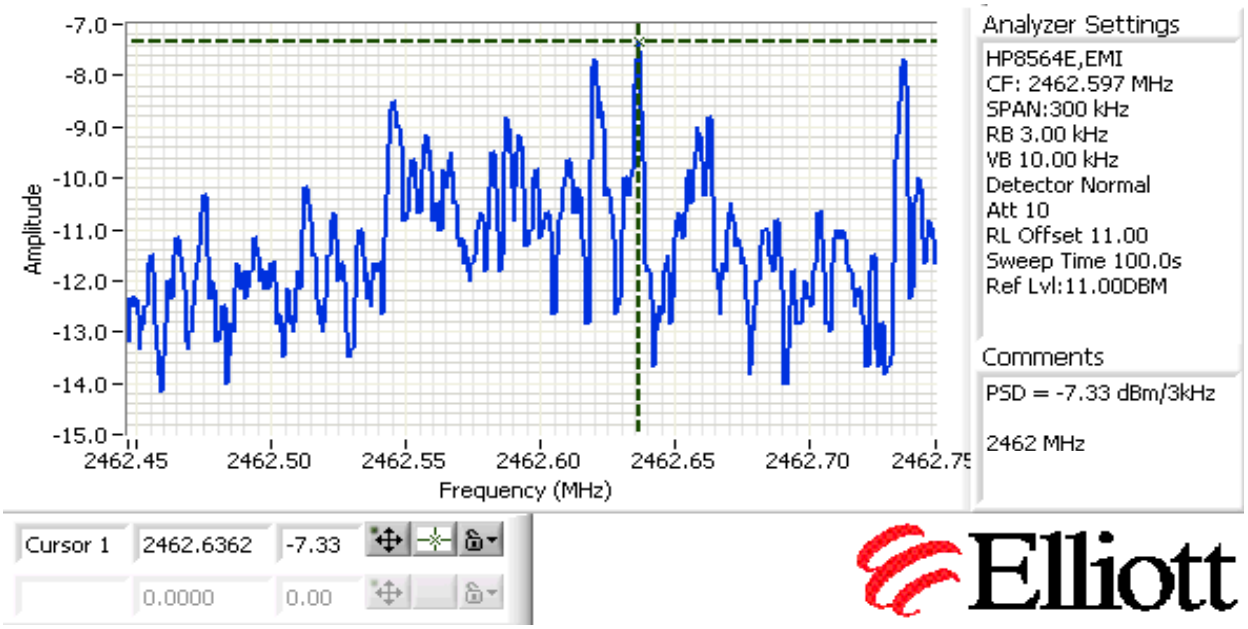
Run #2: Continued

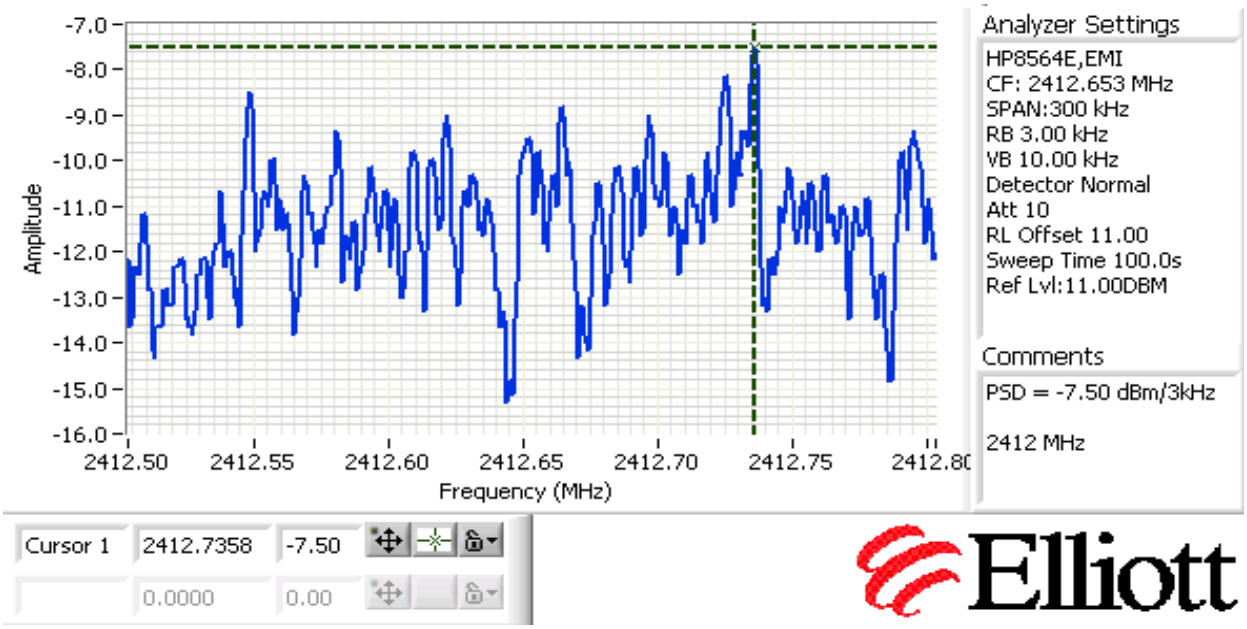




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

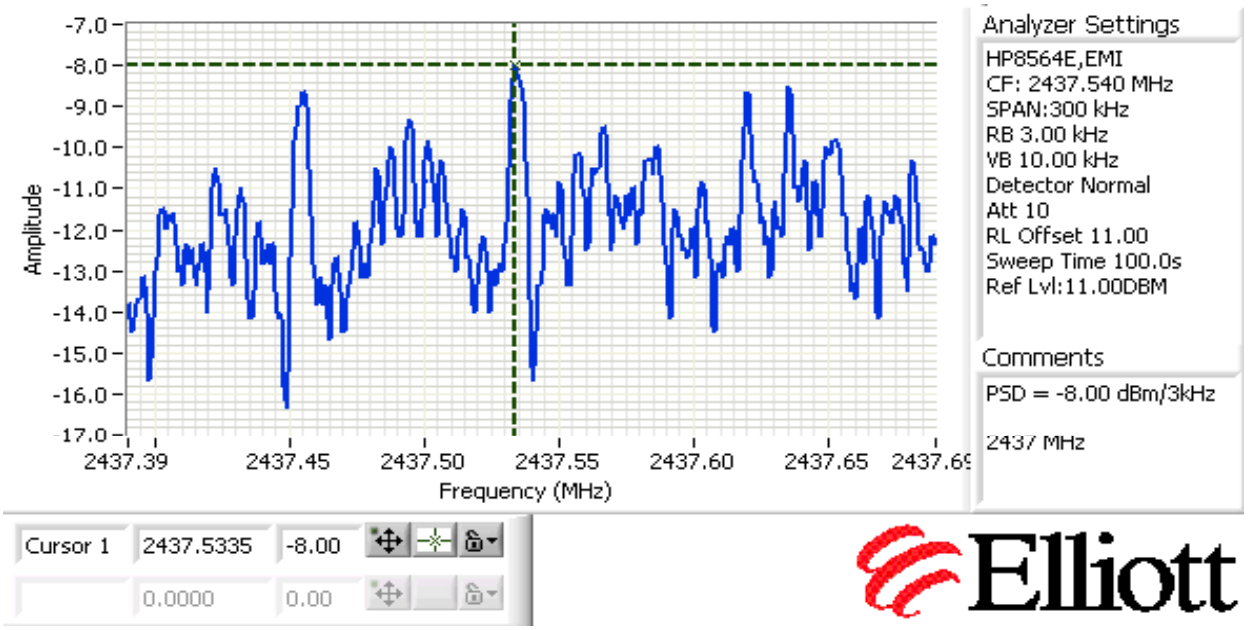
Run #2: Continued

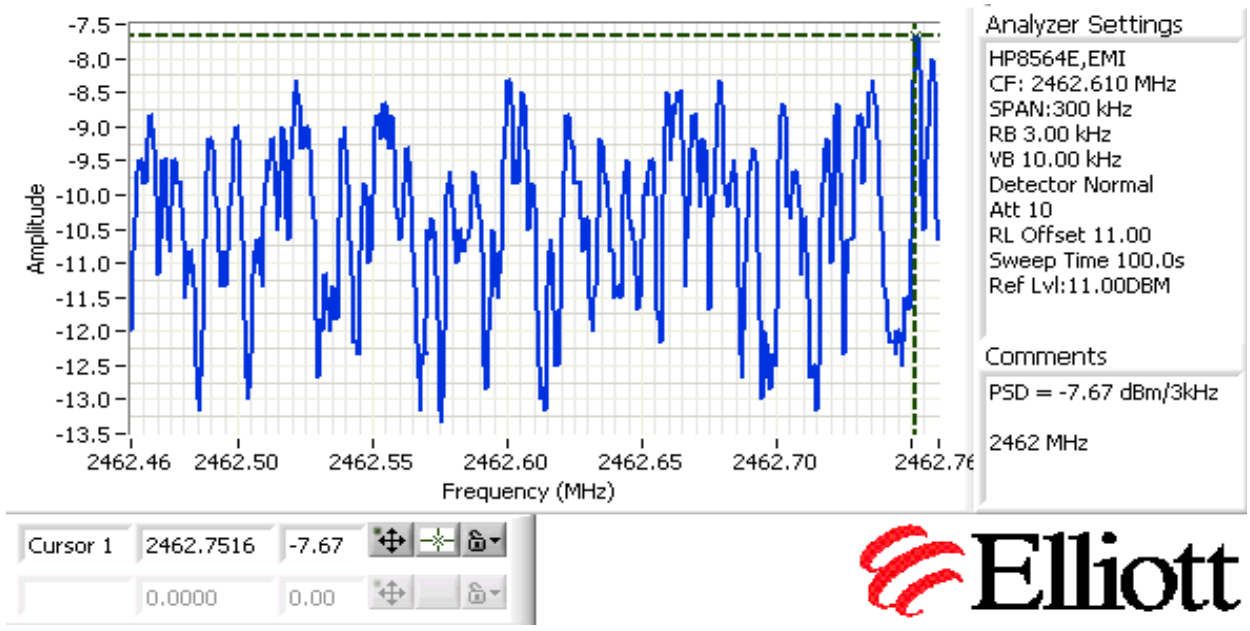




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Continued



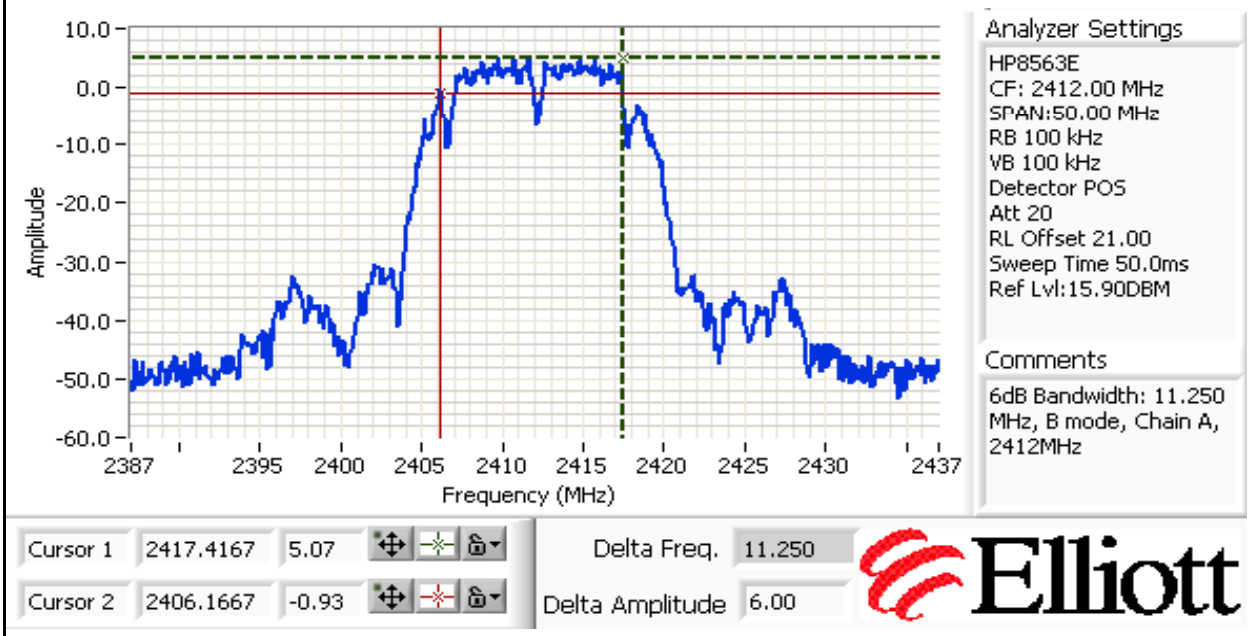


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth

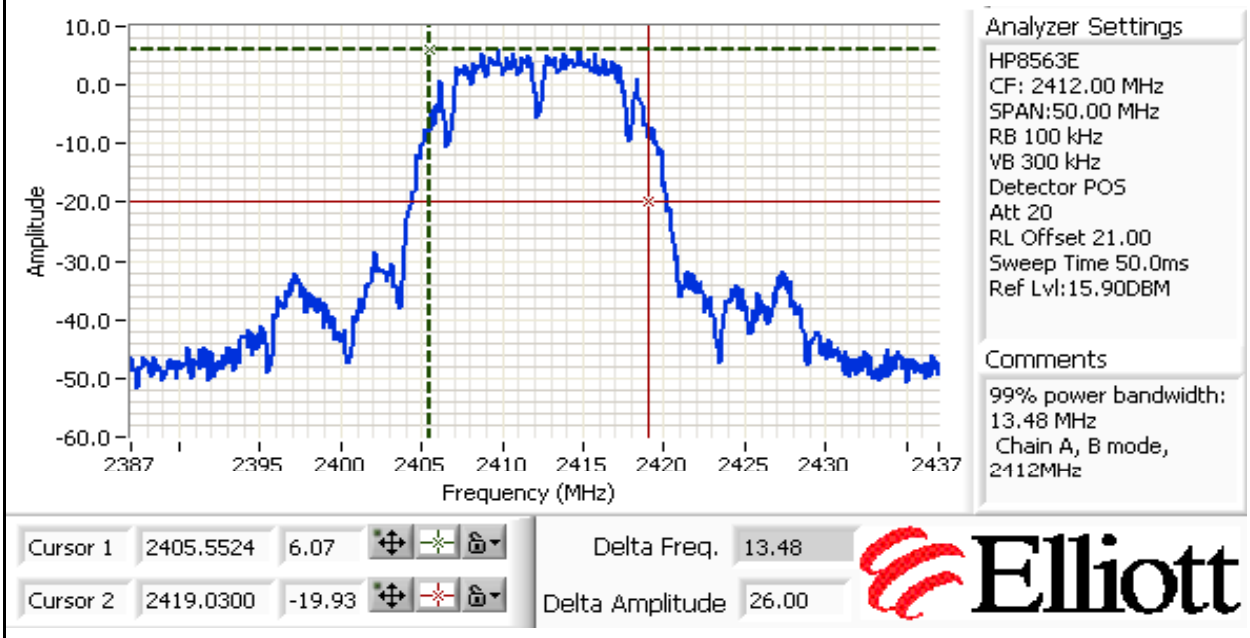
Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
24	2412, Chain A	100kHz	11.25	13.5
24	2437, Chain A	100kHz	10.25	13.4
24	2462, Chain A	100kHz	10.25	13.5
24	2437, Chain B	100kHz	10.17	13.6
22.5	2437, Chain C	100kHz	10.33	13.6

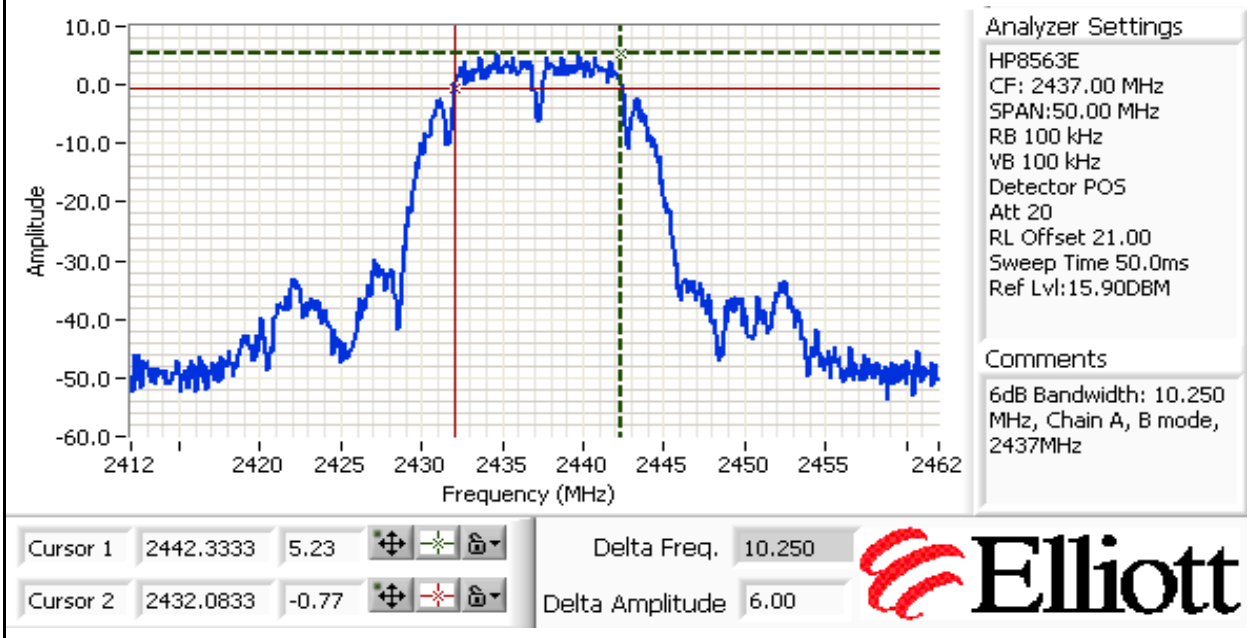
Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB
Note 2:	Center channel of Chains B and C measured to verify no significant difference in signal bandwidth from Chain A.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

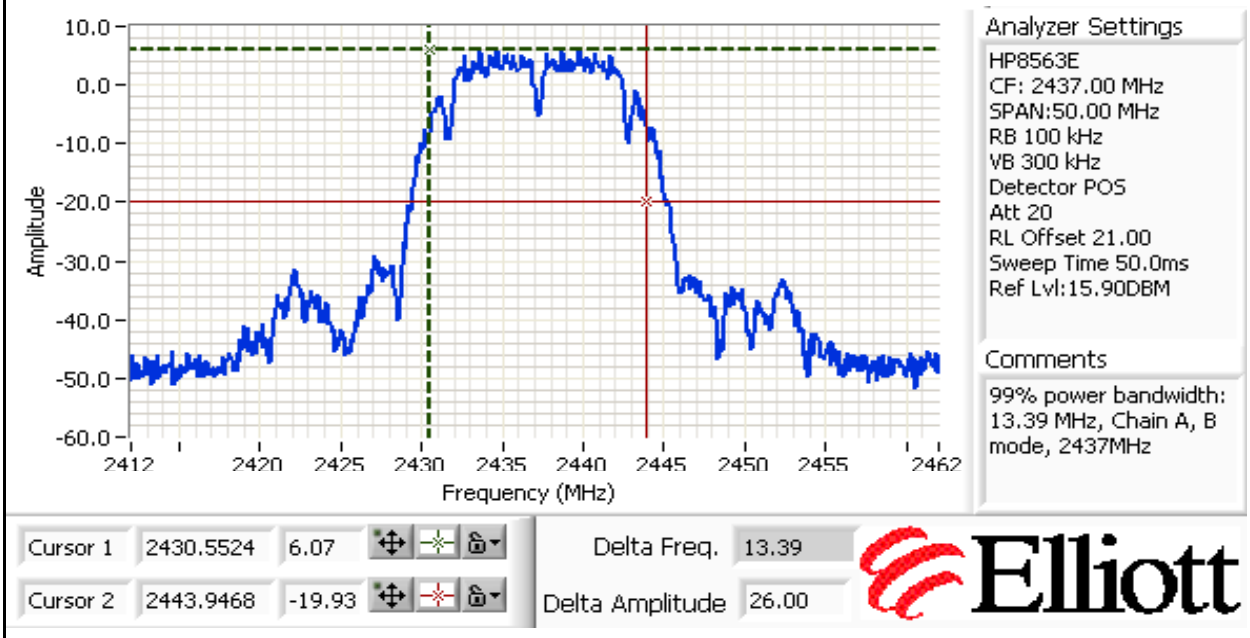
Run #3: Signal Bandwidth

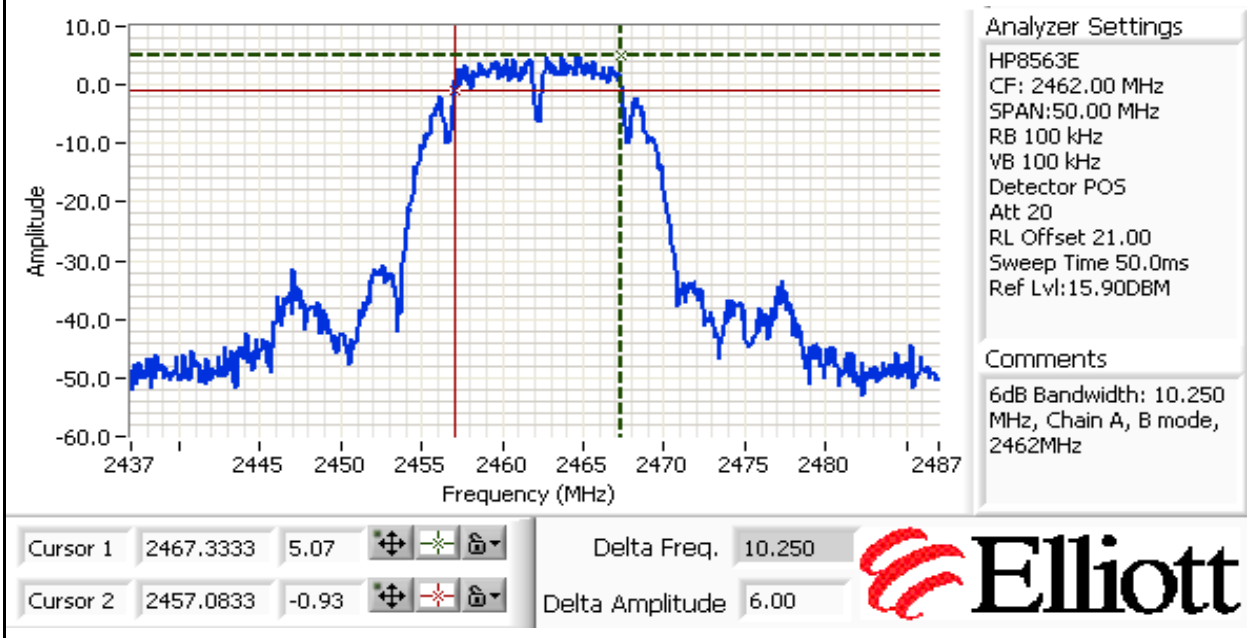




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

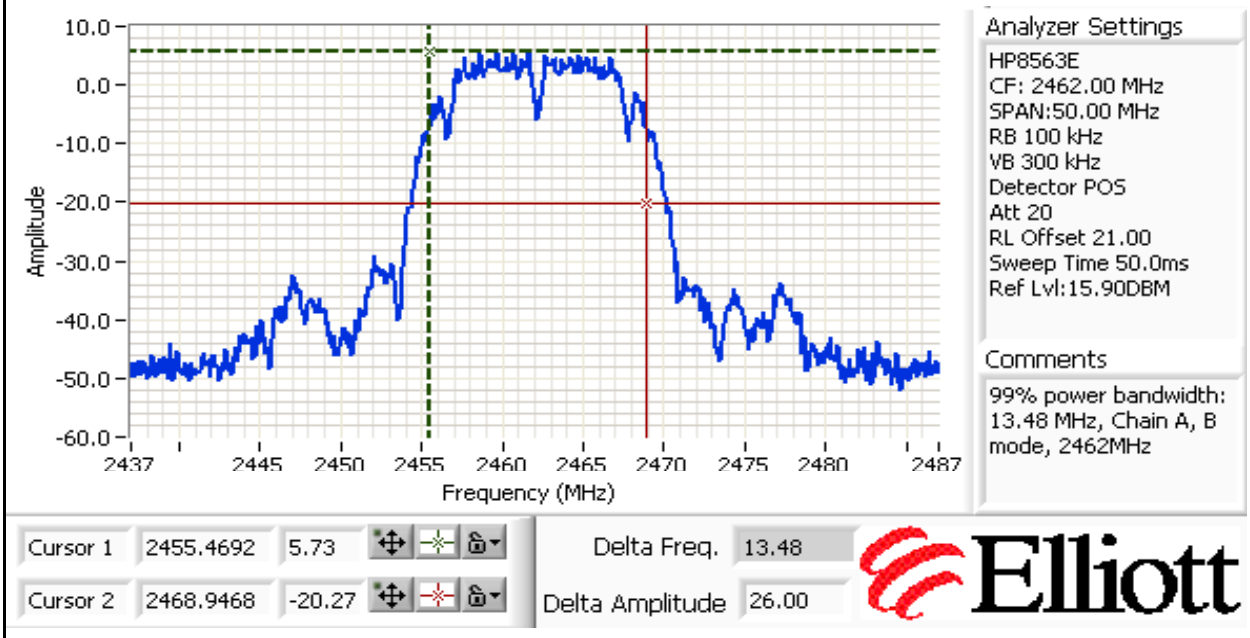
Run #3: Signal Bandwidth

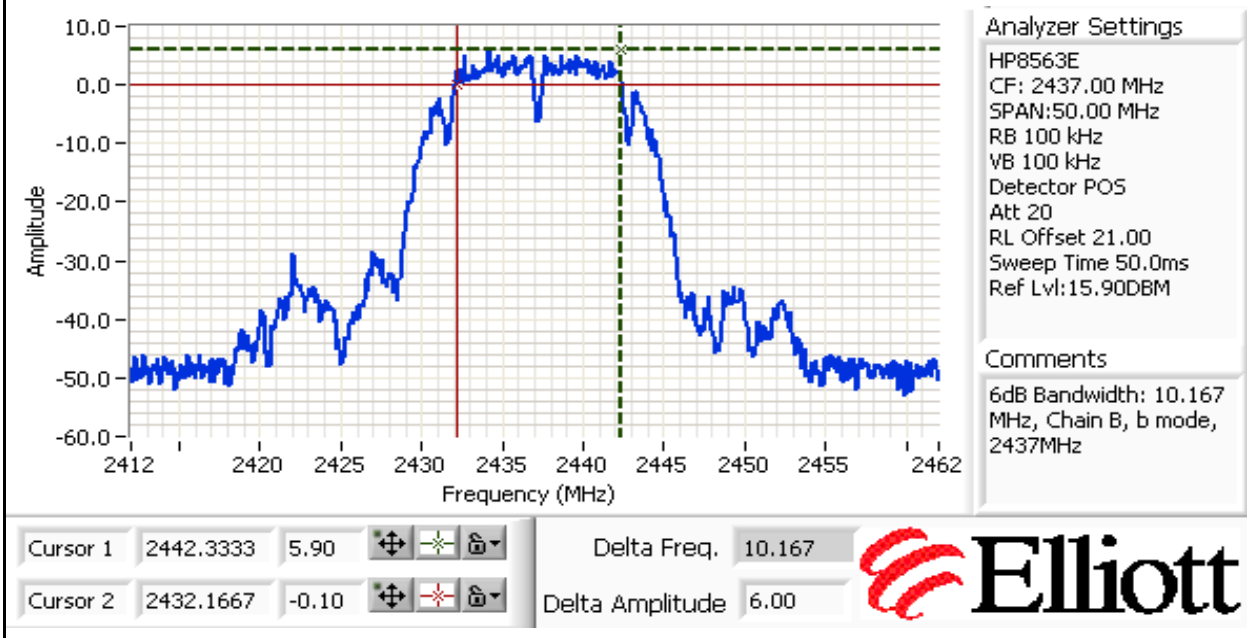




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

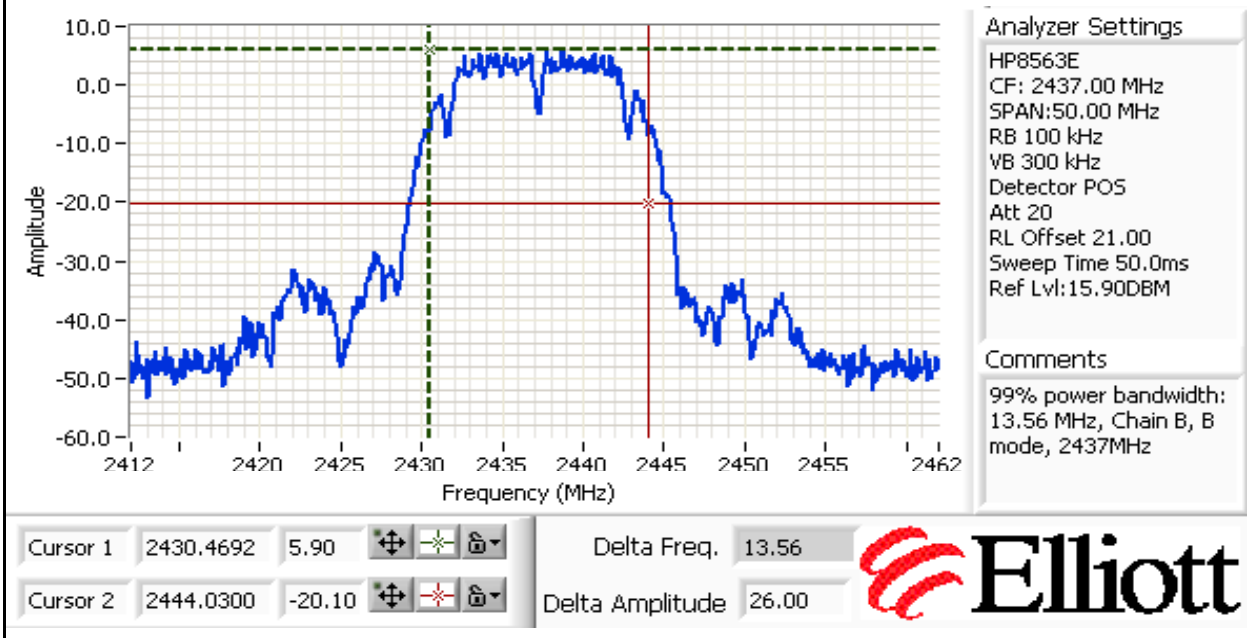
Run #3: Signal Bandwidth

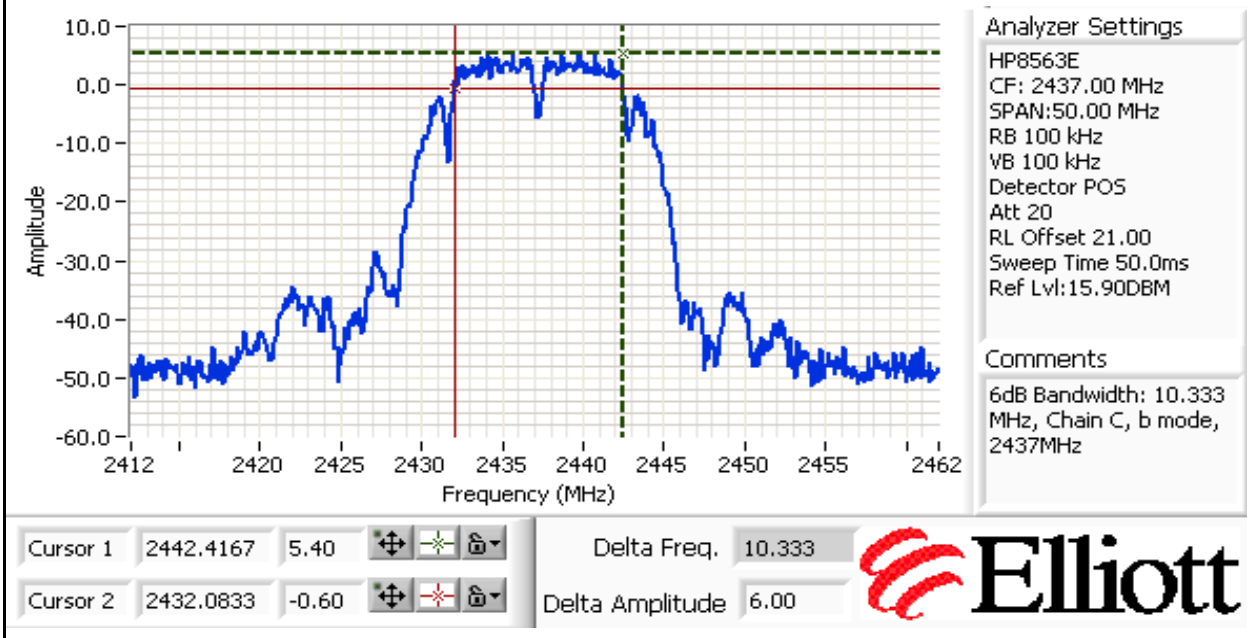




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

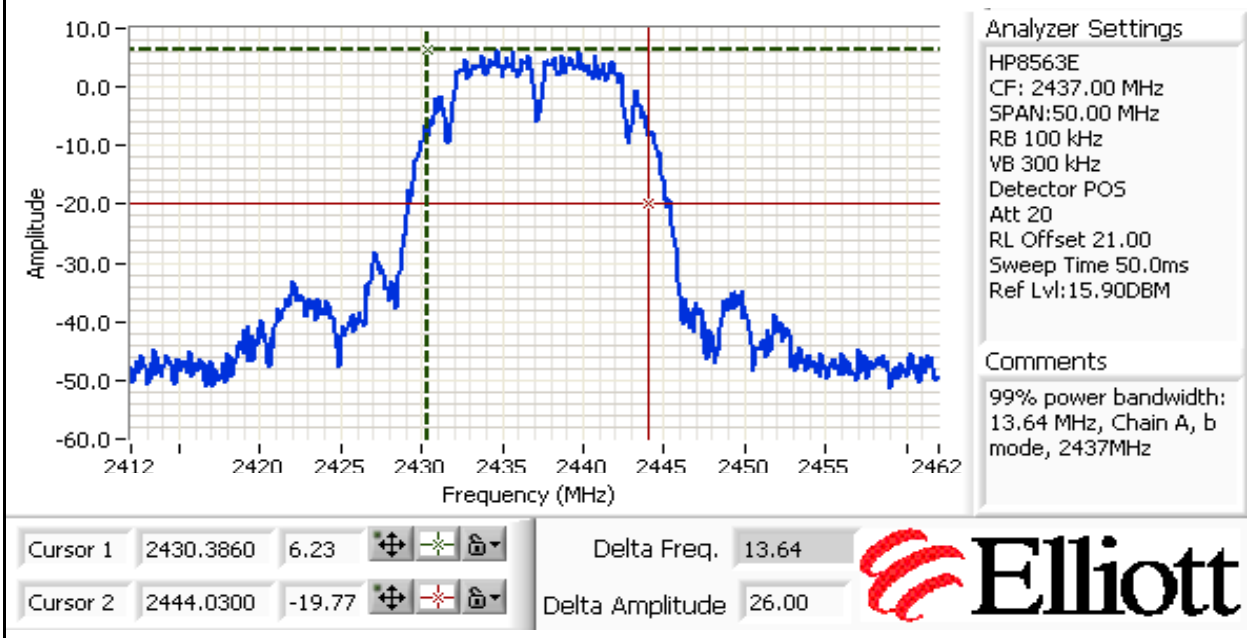
Run #3: Signal Bandwidth





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth



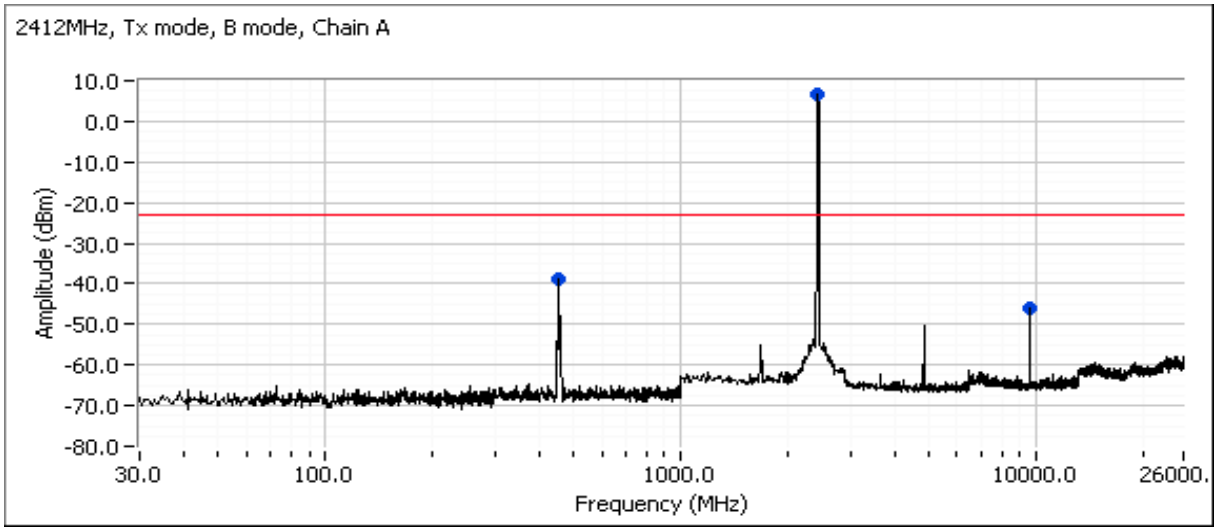
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

All measured using RB = 100kHz, VB = 300kHz.

Frequency (MHz)	Limit	Result
2412, Chain A	-30dBc	Pass
2437, Chain A	-30dBc	Pass
2462, Chain A	-30dBc	Pass
2412, Chain B	-30dBc	Pass
2437, Chain B	-30dBc	Pass
2462, Chain B	-30dBc	Pass
2412, Chain C	-30dBc	Pass
2437, Chain C	-30dBc	Pass
2462, Chain C	-30dBc	Pass

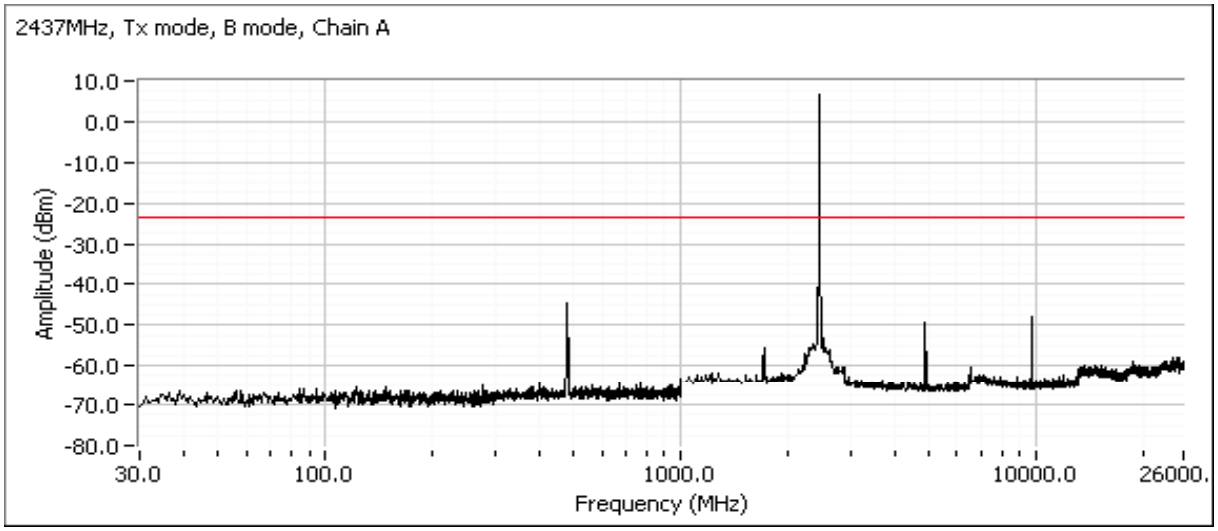
Plots for low channel, Chain A power setting(s) = 24



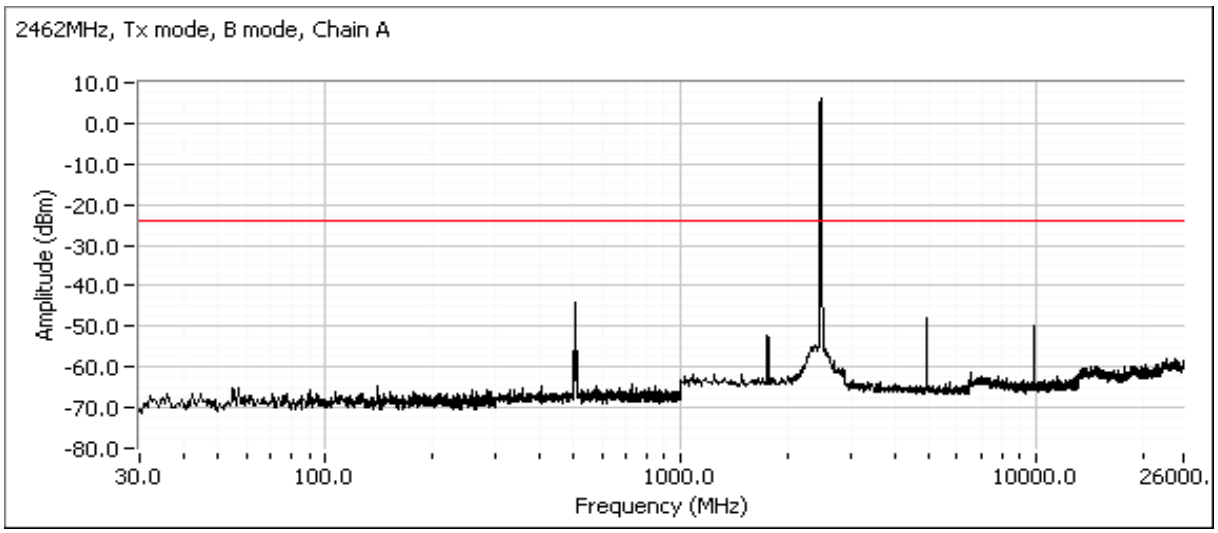
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for center channel, Chain A power setting(s) = 24



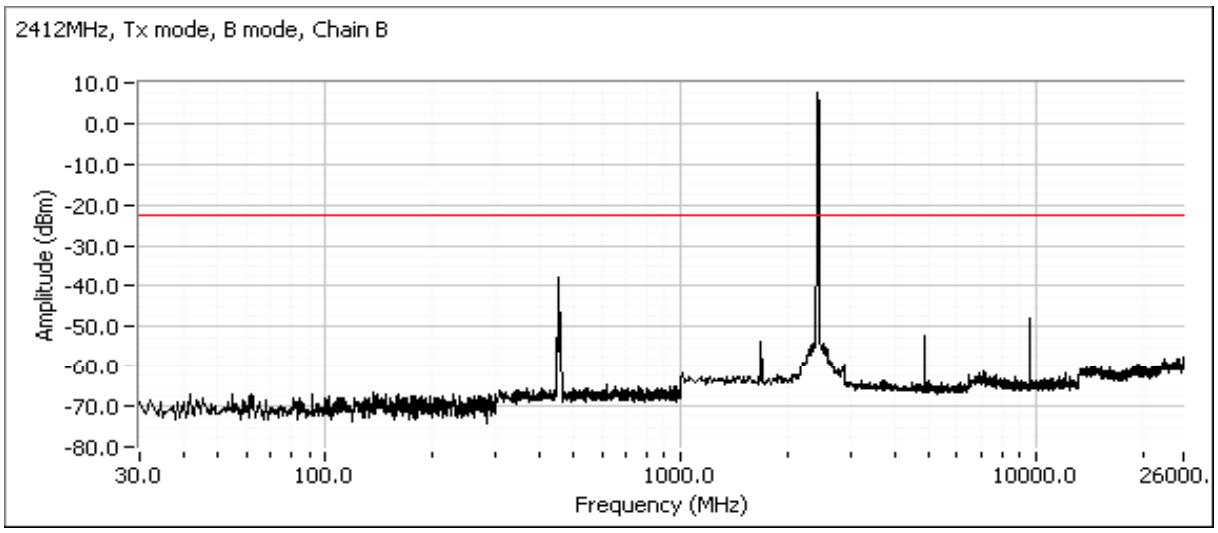
Plots for high channel, Chain A power setting(s) = 24



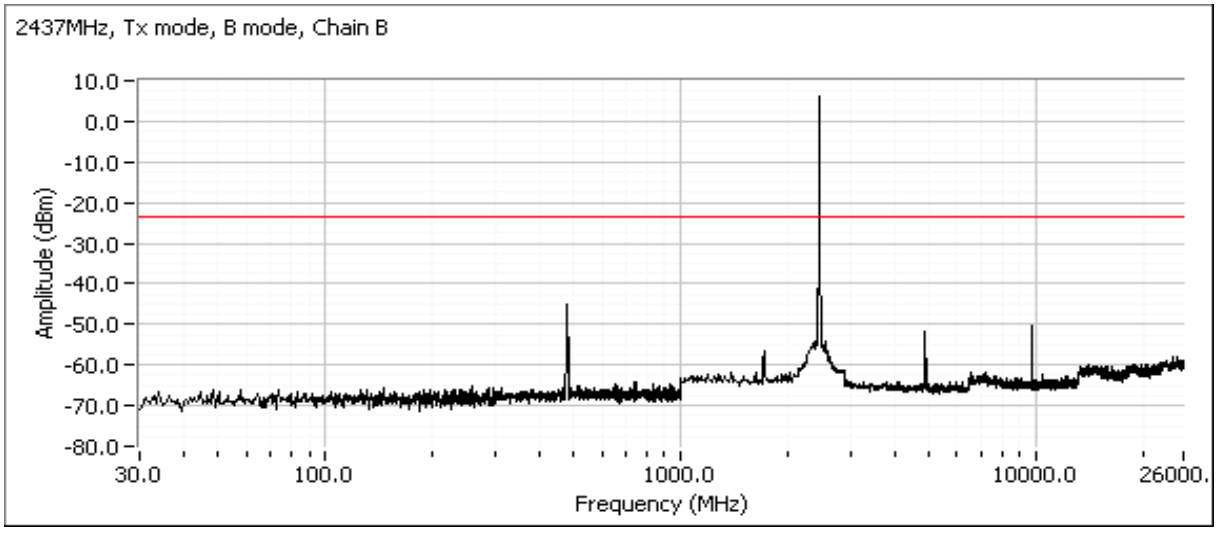
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for low channel, Chain B power setting(s) = 25



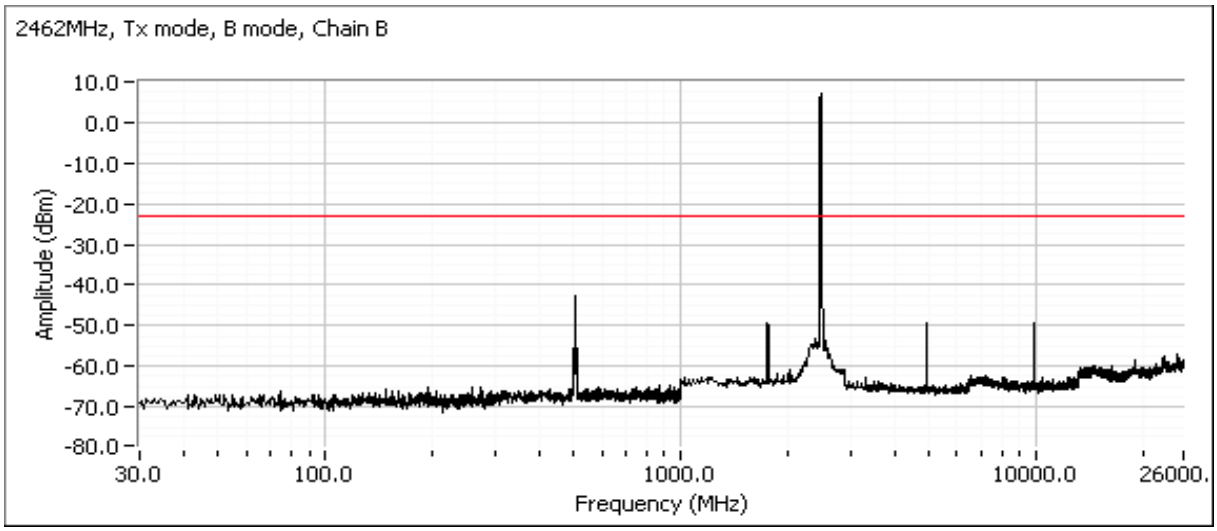
Plots for center channel, Chain B power setting(s) = 24



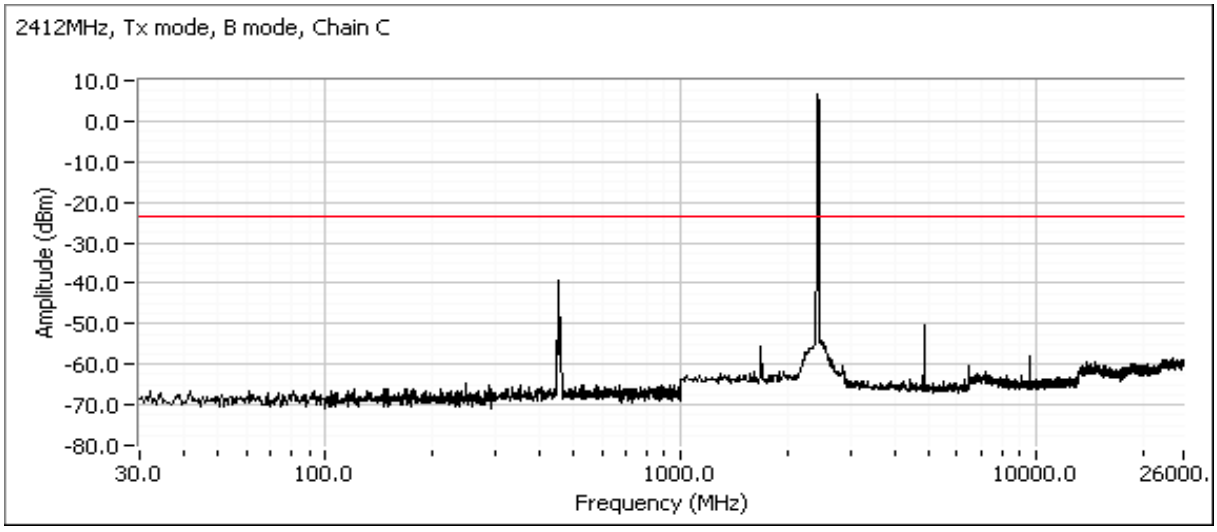
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain B power setting(s) = 25



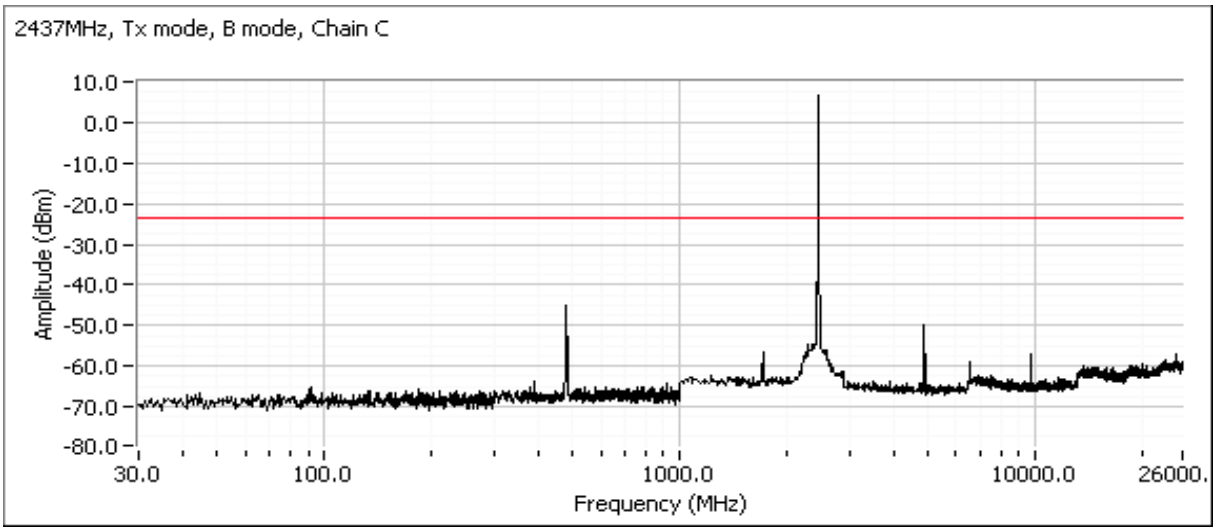
Plots for low channel, Chain C power setting(s) = 22.5



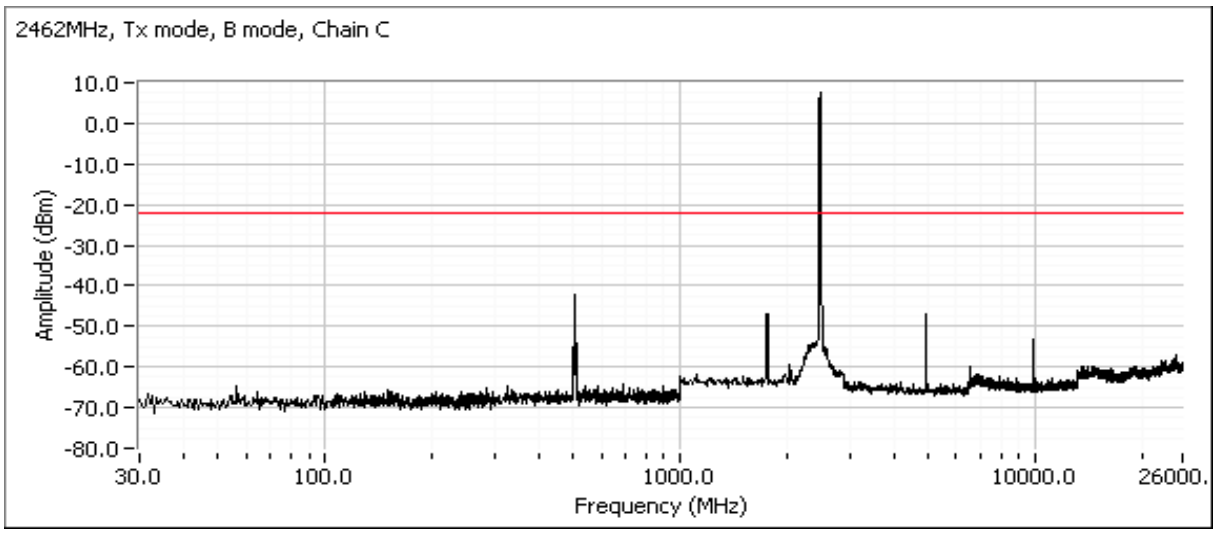
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for center channel, Chain C power setting(s) = 22.5



Plots for high channel, Chain C power setting(s) = 24.5



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
802.11g 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: 4/3/2008
Test Engineer: Suhaila Khushzad
Test Location: FT Lab # 1

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

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 19.1 °C
Rel. Humidity: 40 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	16.3dBm(42.9mW)
2	Power spectral Density (PSD)	15.247(d)	Pass	-7.0 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	16.6 MHz
3	99% Bandwidth	RSS GEN	-	17.2 MHz
4	Antenna Conducted - Out of Band Spurious	15.247(b)		All emissions below the -30dBc limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

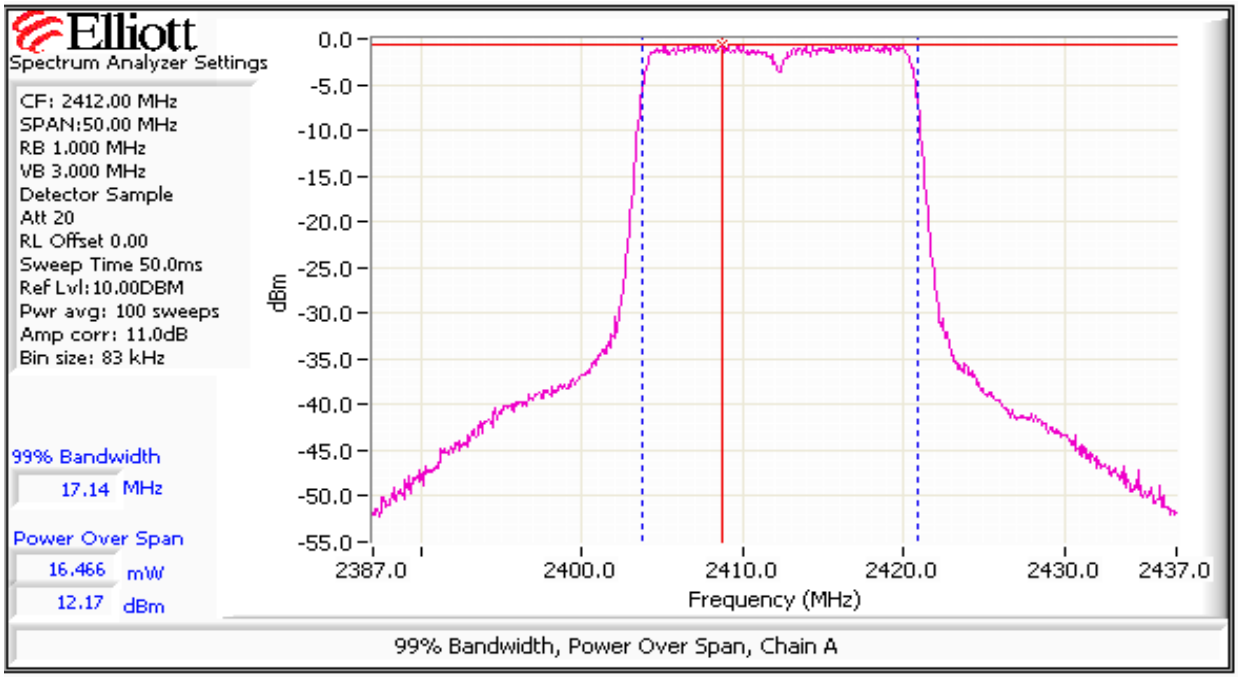
No deviations were made from the requirements of the standard.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power

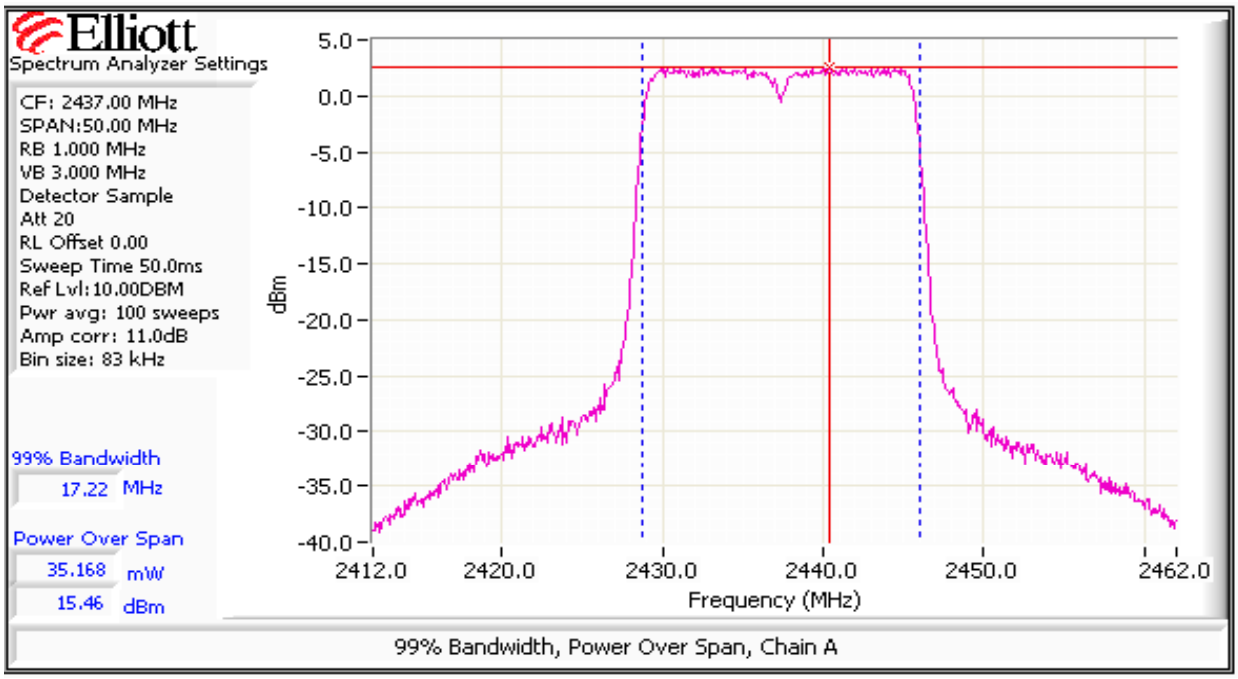
Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
24.5	2412, Chain A	12.2	16.5	3.2	Pass	15.4	0.034	12.9	19.5
27.5	2437, Chain A	15.5	35.2	3.2	Pass	18.7	0.073	16.6	45.7
28	2462, Chain A	15.4	34.8	3.2	Pass	18.6	0.073	15.8	38.0
28.5	2412, Chain B	16.3	42.9	3.2	Pass	19.5	0.090	16.4	43.7
27.5	2437, Chain B	15.5	35.7	3.2	Pass	18.7	0.075	16.7	46.8
26	2462, Chain B	13.7	23.4	3.2	Pass	16.9	0.049	14.5	28.2
22.5	2412, Chain C	11.6	14.4	3.2	Pass	14.8	0.030	12.3	17.0
26.5	2437, Chain C	15.7	36.9	3.2	Pass	18.9	0.077	16.7	46.8
24.5	2462, Chain C	13.0	20.0	3.2	Pass	16.2	0.042	13.5	22.4

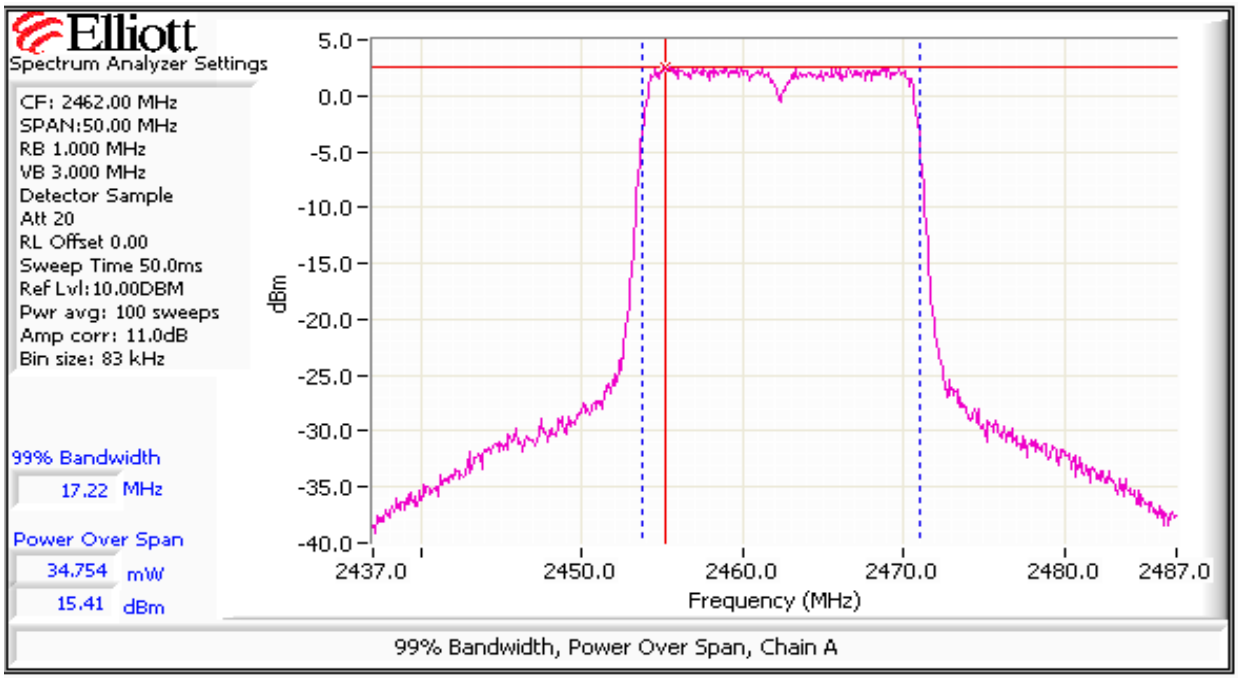
Note 1:	Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz. Spurious limit is -30dBc because this method was used. The output power limit is 30dBm.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power sensor and is included for manufacturer's reference only.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

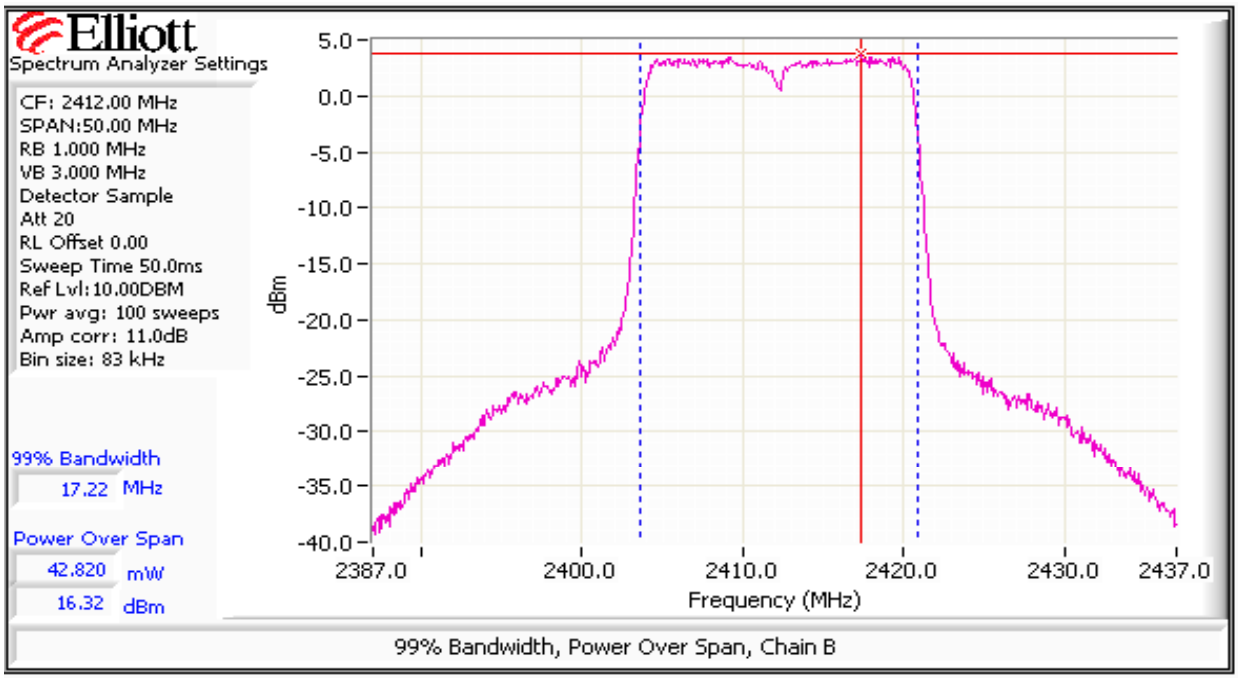
Run #1: Output Power

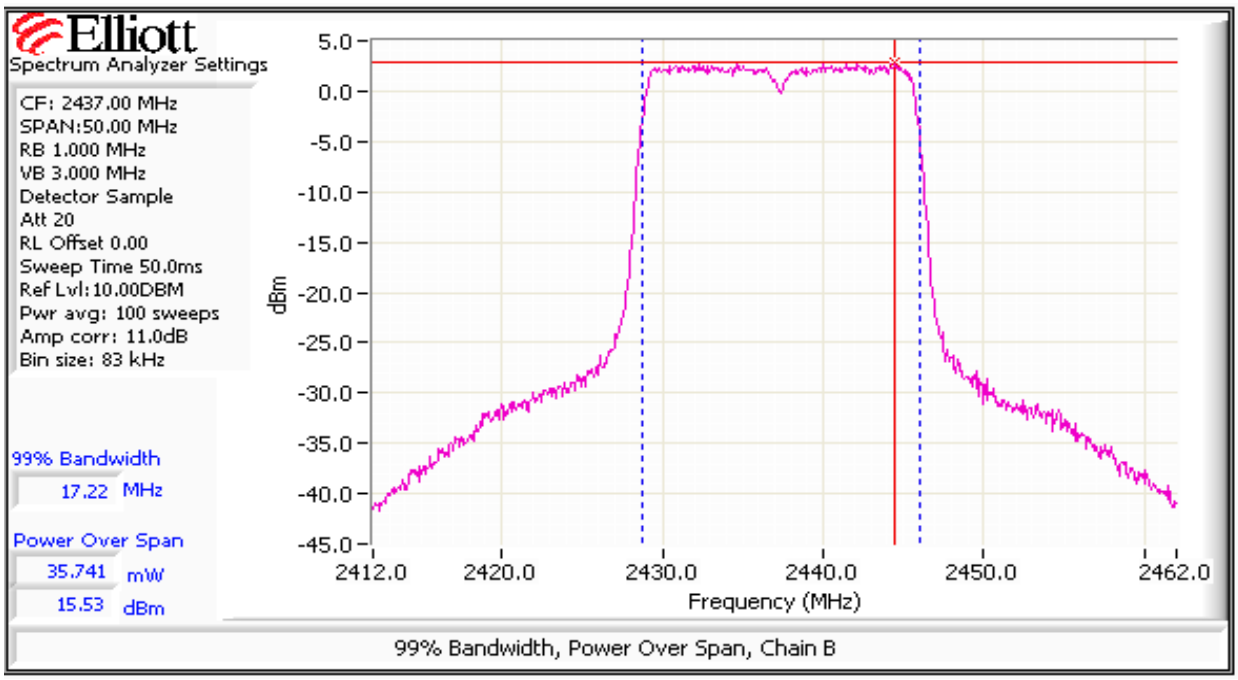




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

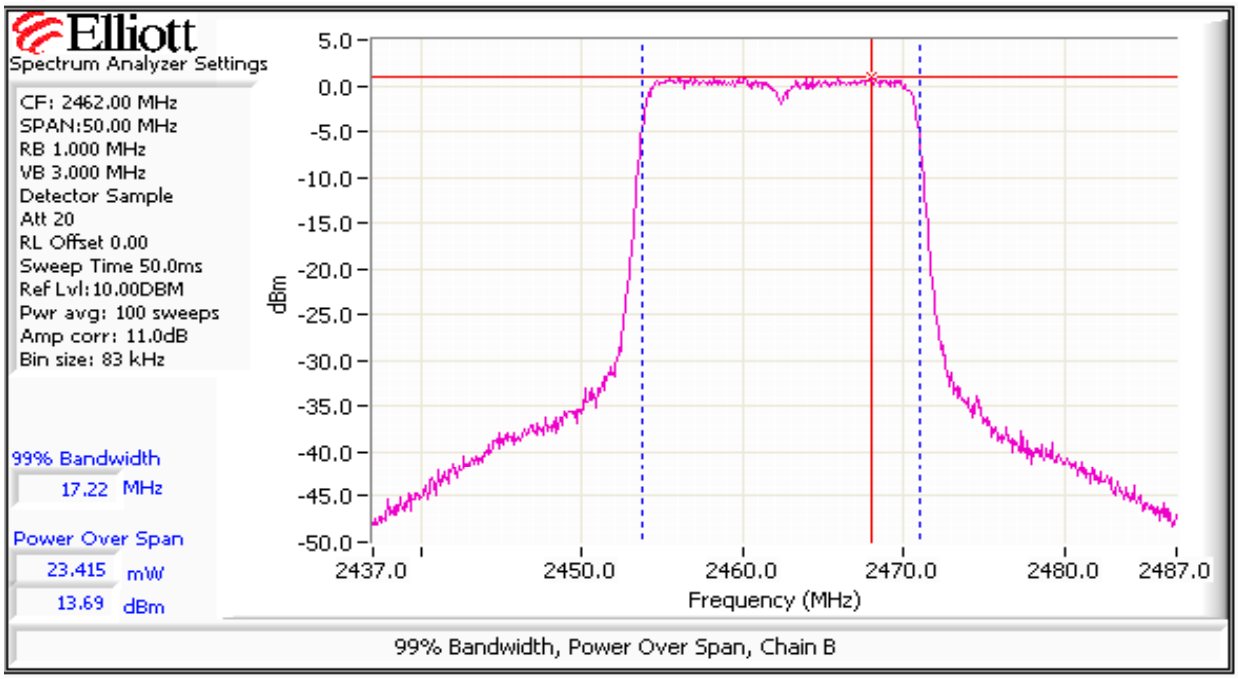
Run #1: Output Power

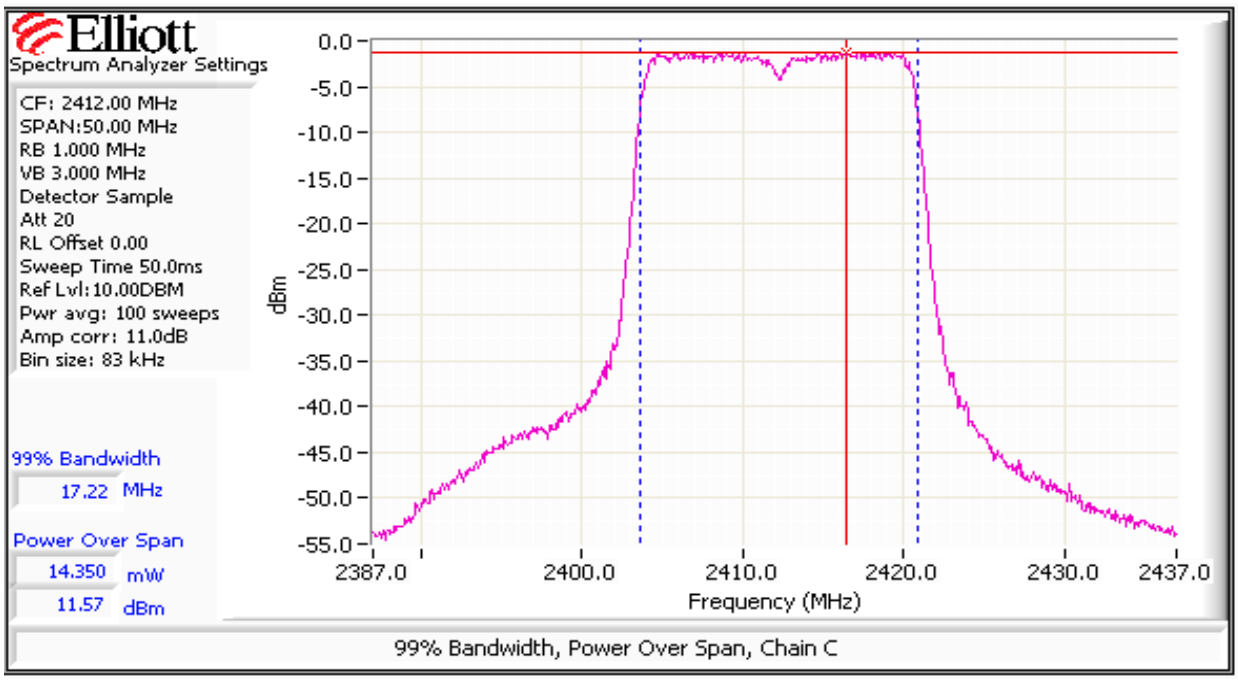




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

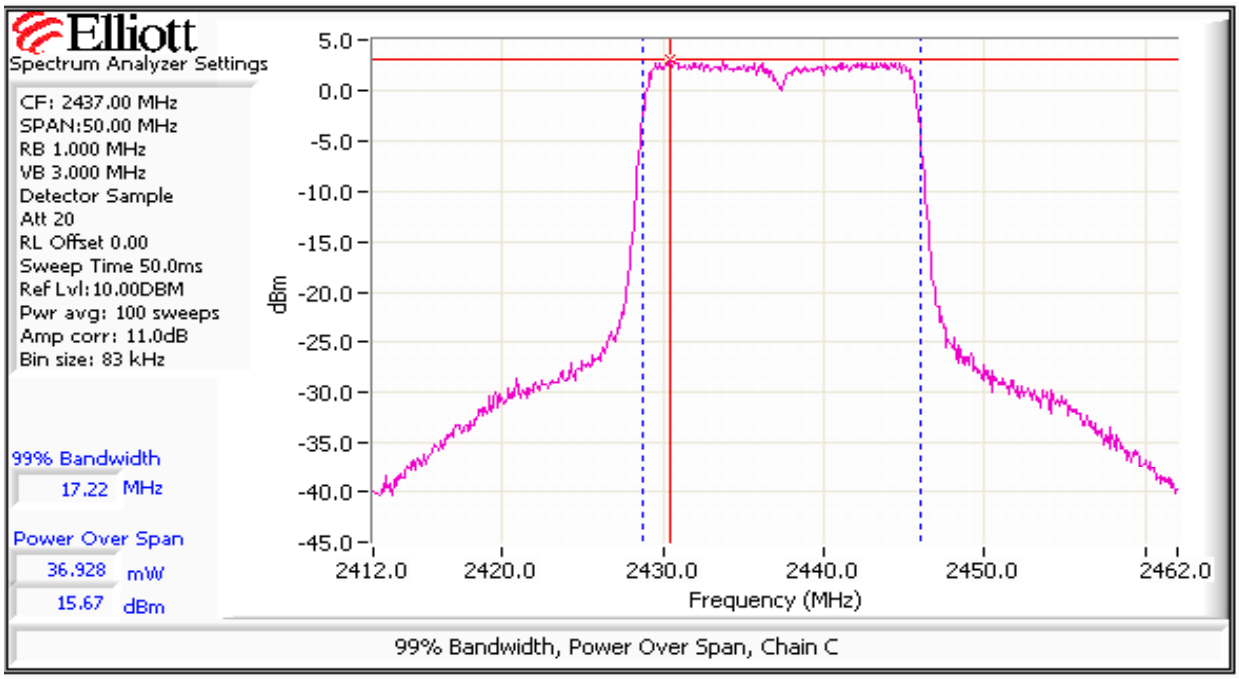
Run #1: Output Power

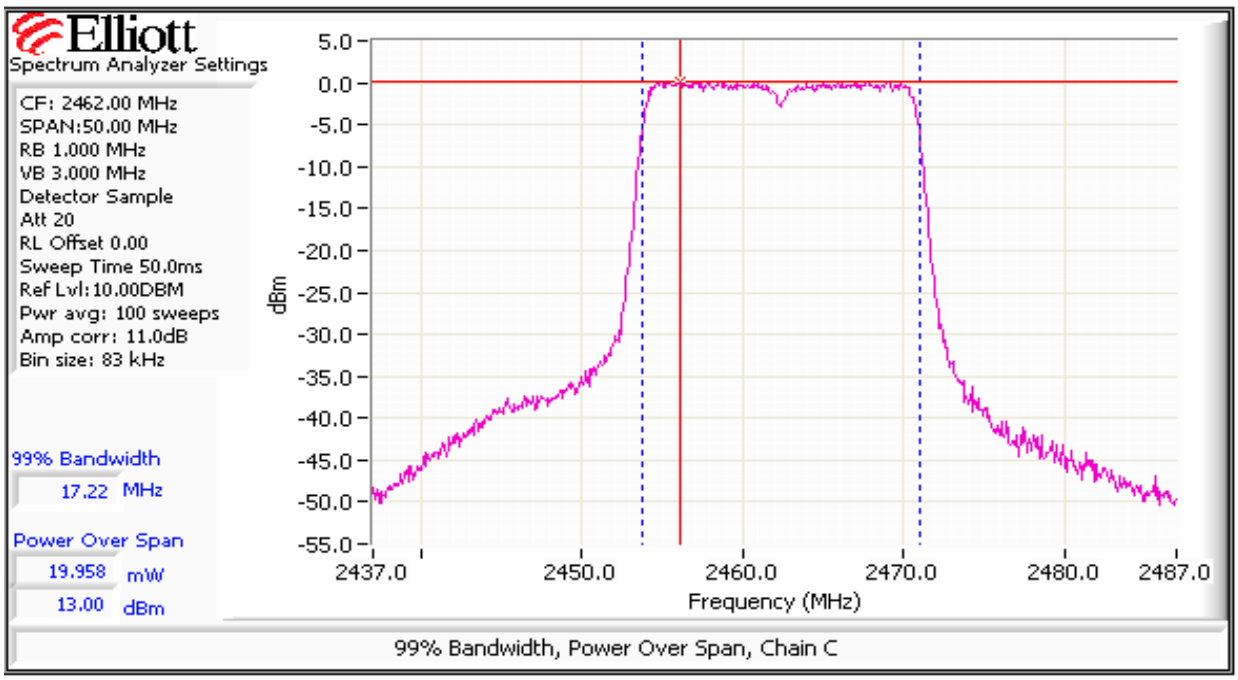




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power



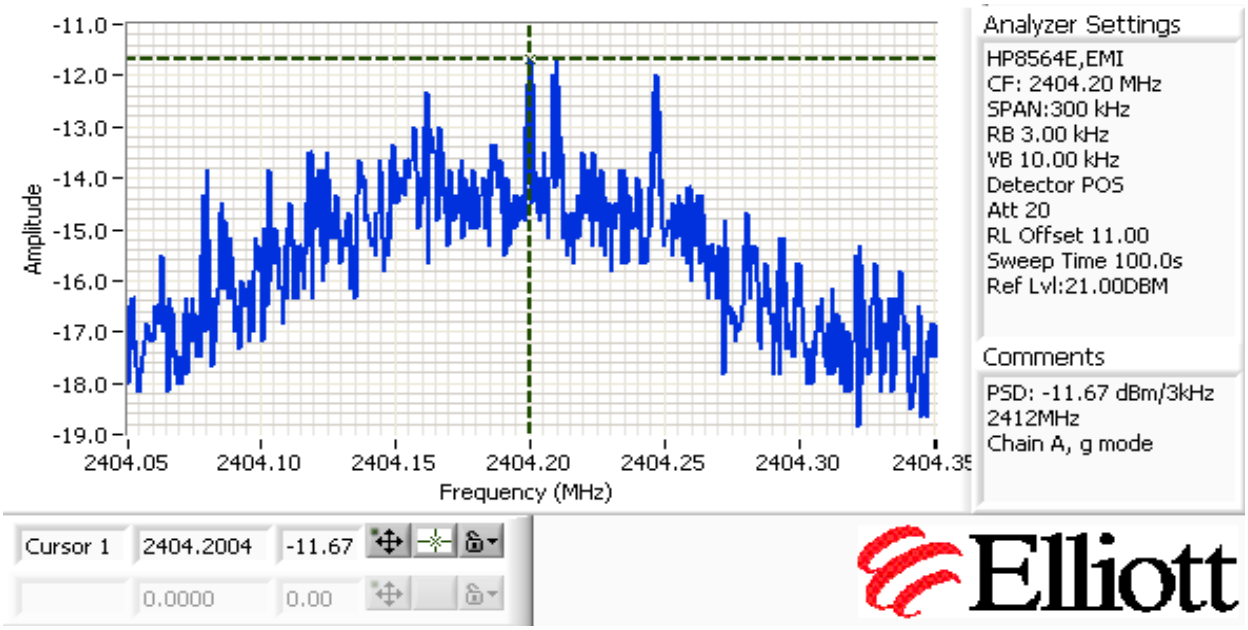


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density

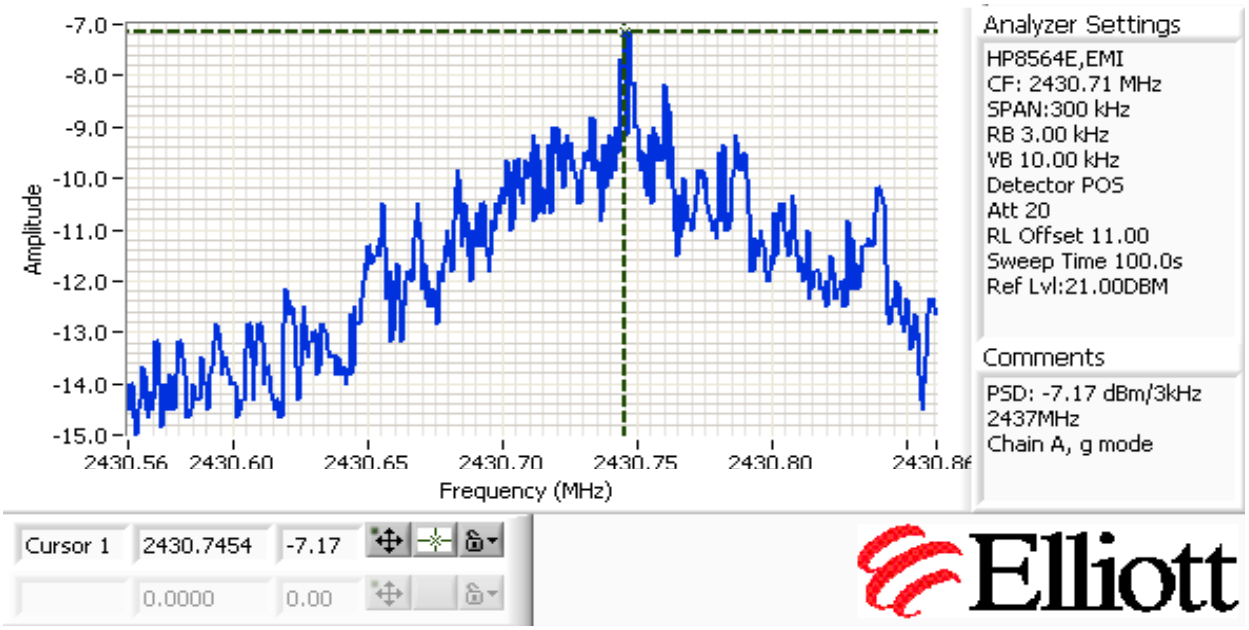
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
24.5	2412, Chain A	-11.7	8.0	Pass
27.5	2437, Chain A	-7.2	8.0	Pass
28	2462, Chain A	-7.0	8.0	Pass
28.5	2412, Chain B	-7.3	8.0	Pass
27.5	2437, Chain B	-7.5	8.0	Pass
26	2462, Chain B	-9.8	8.0	Pass
22.5	2412, Chain C	-11.5	8.0	Pass
26.5	2437, Chain C	-7.7	8.0	Pass
24.5	2462, Chain C	-11.2	8.0	Pass

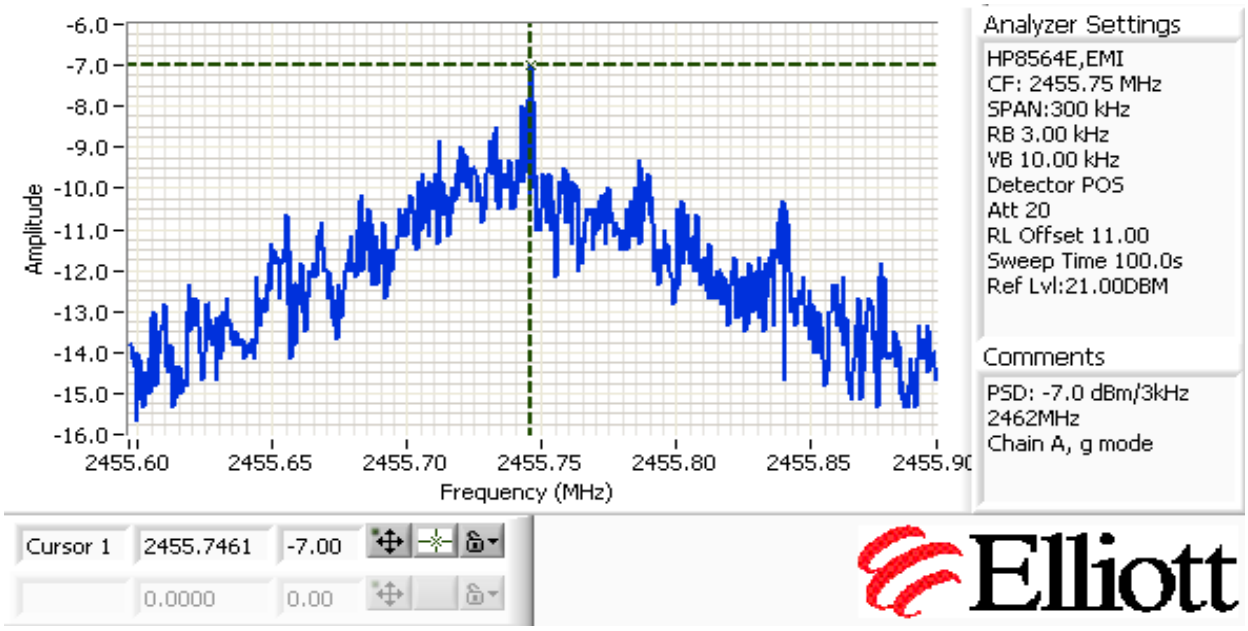
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

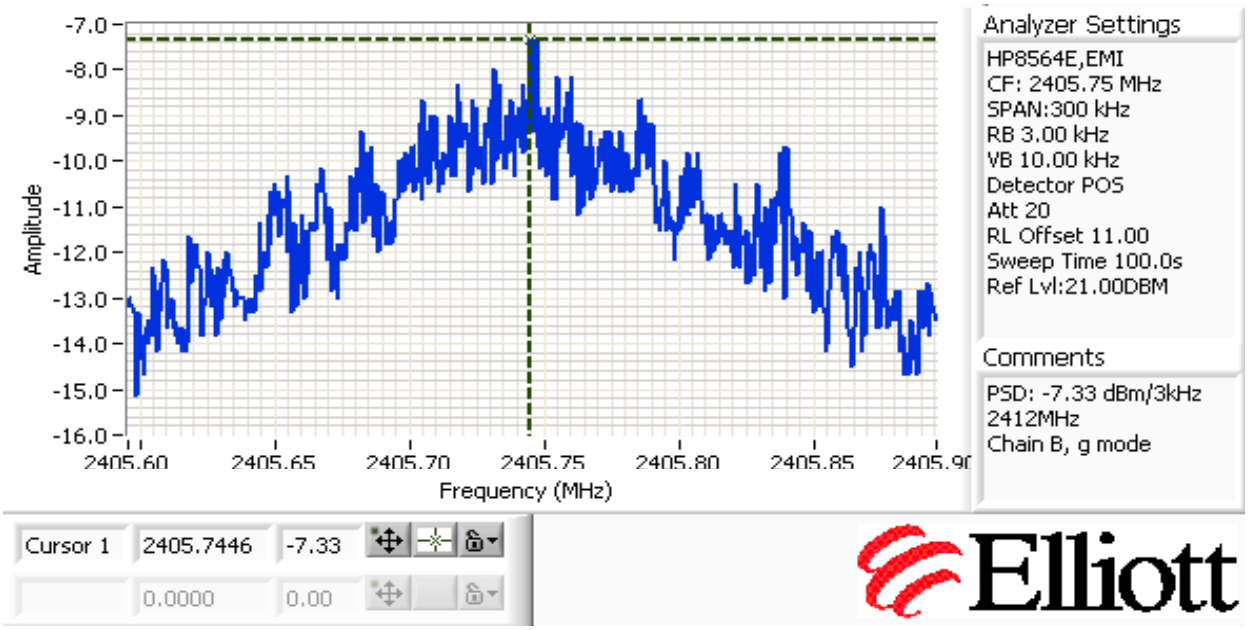
Run #2: Power spectral Density

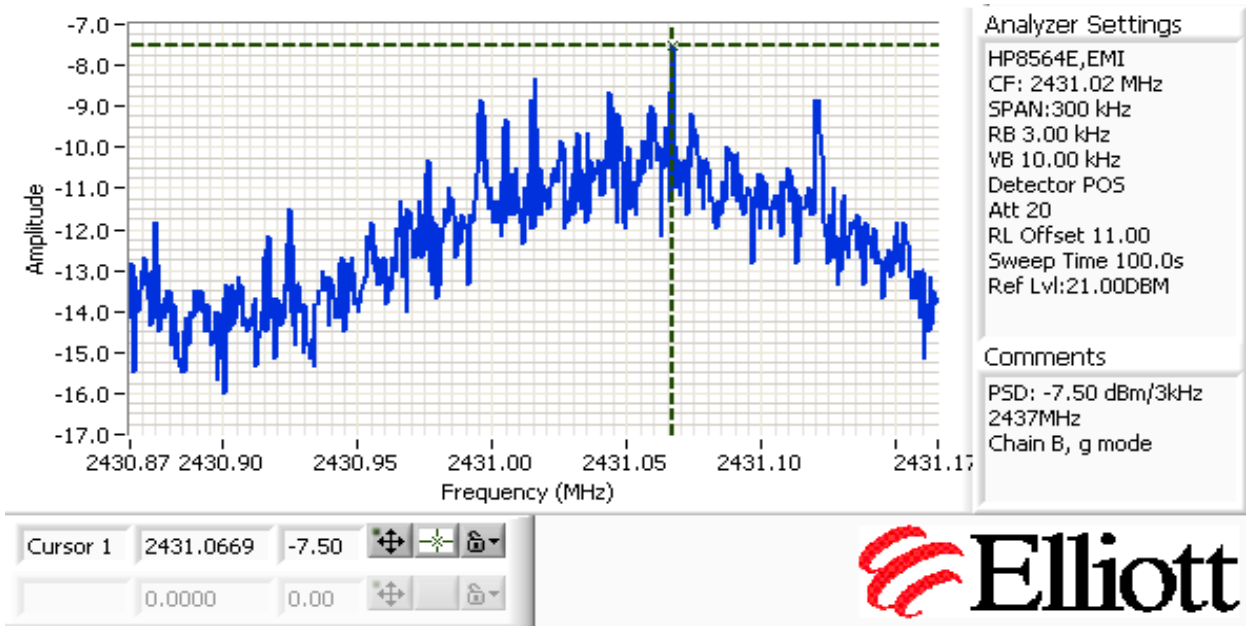




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

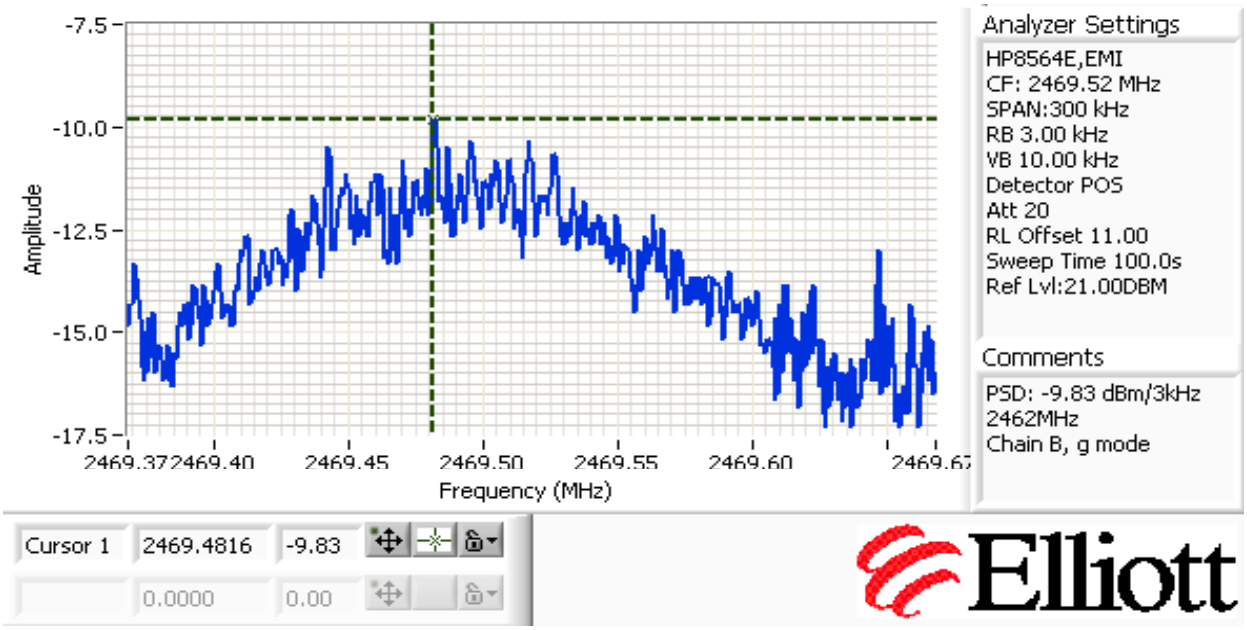
Run #2: Power spectral Density

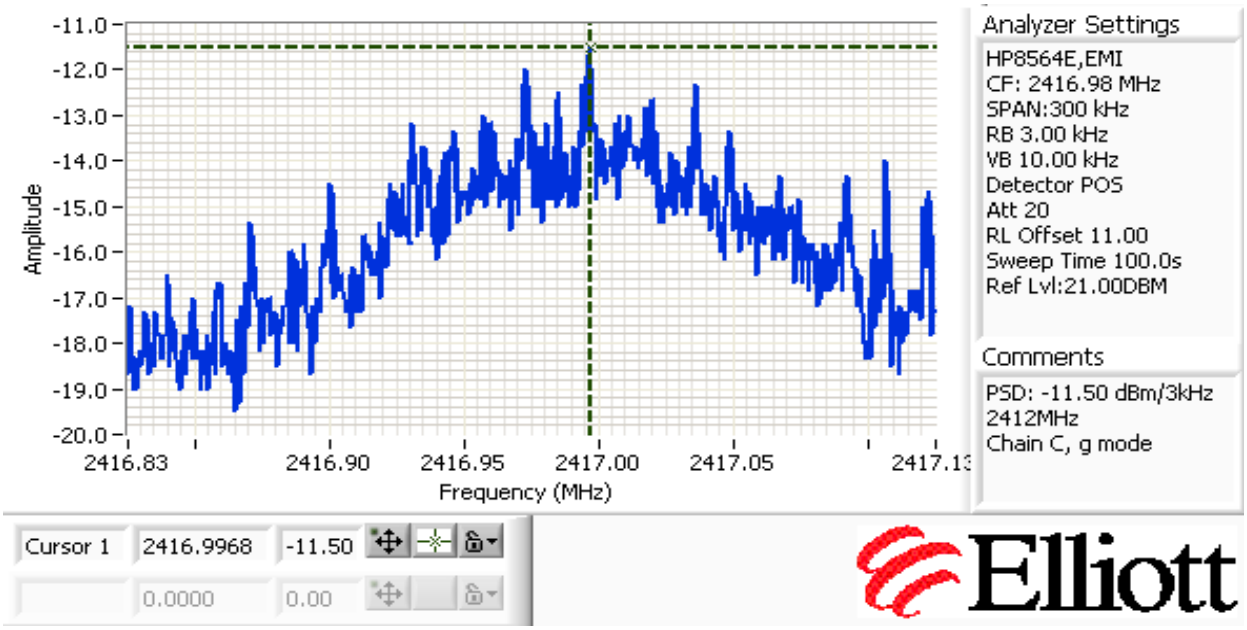




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

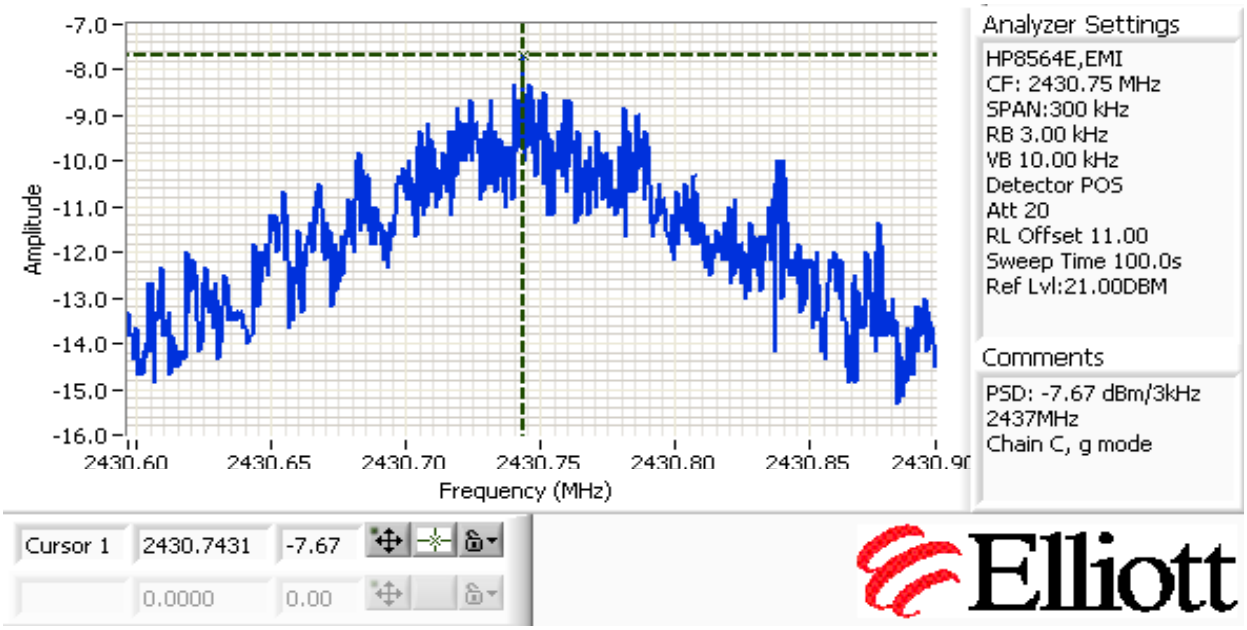
Run #2: Power spectral Density

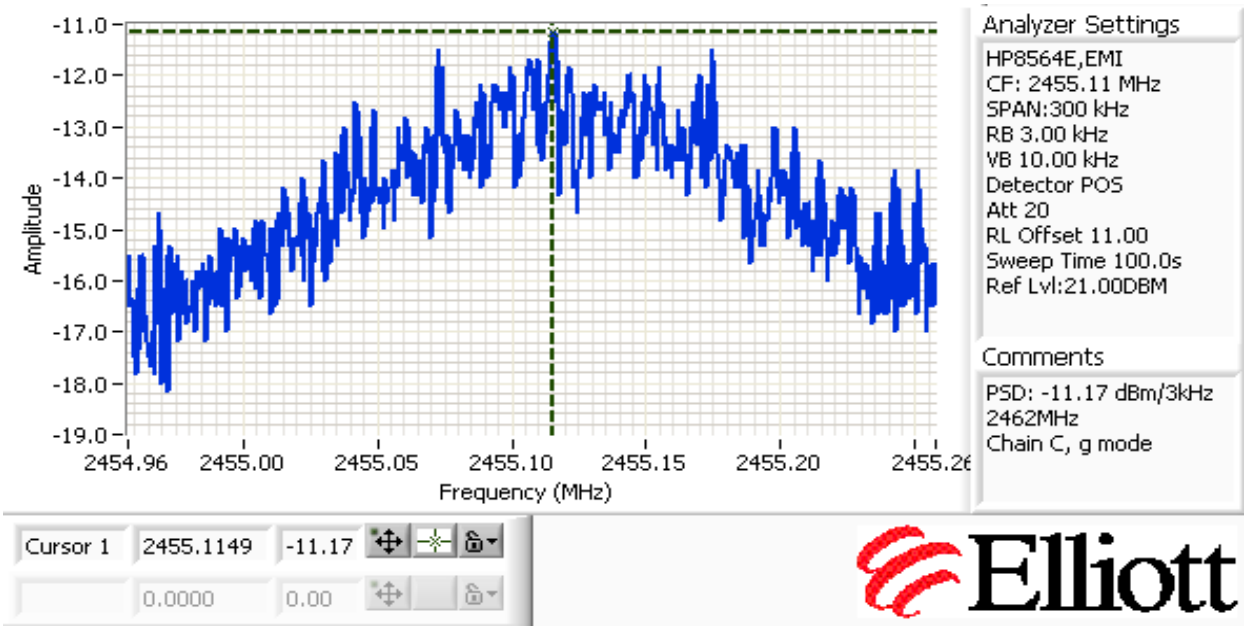




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density



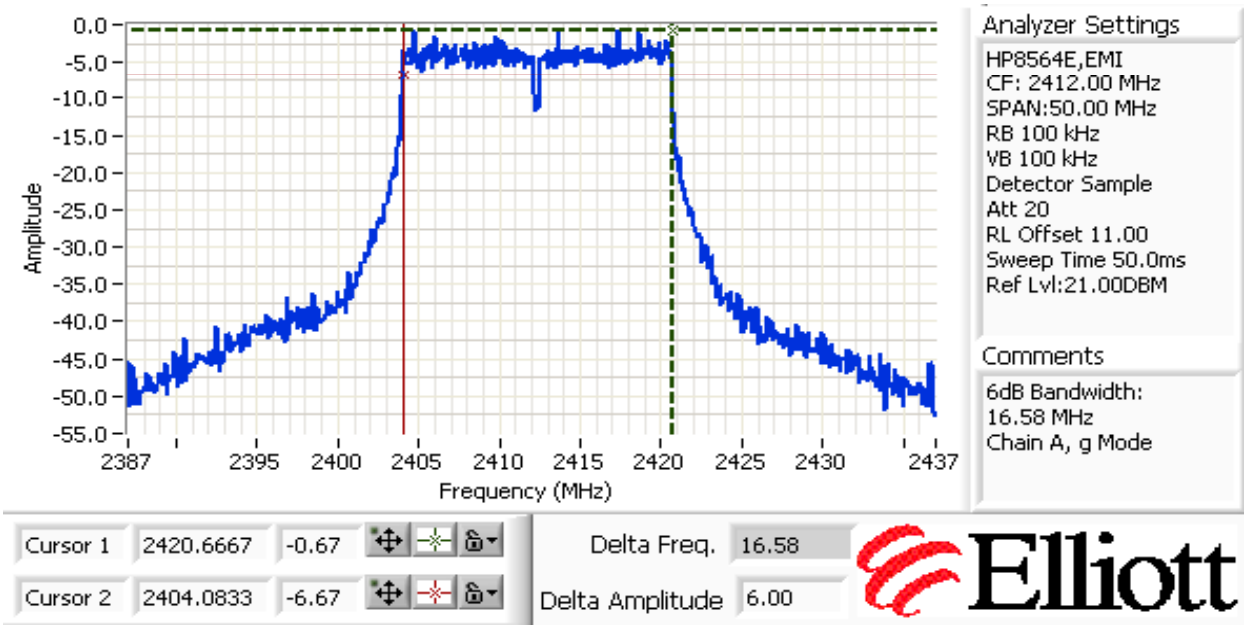


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth

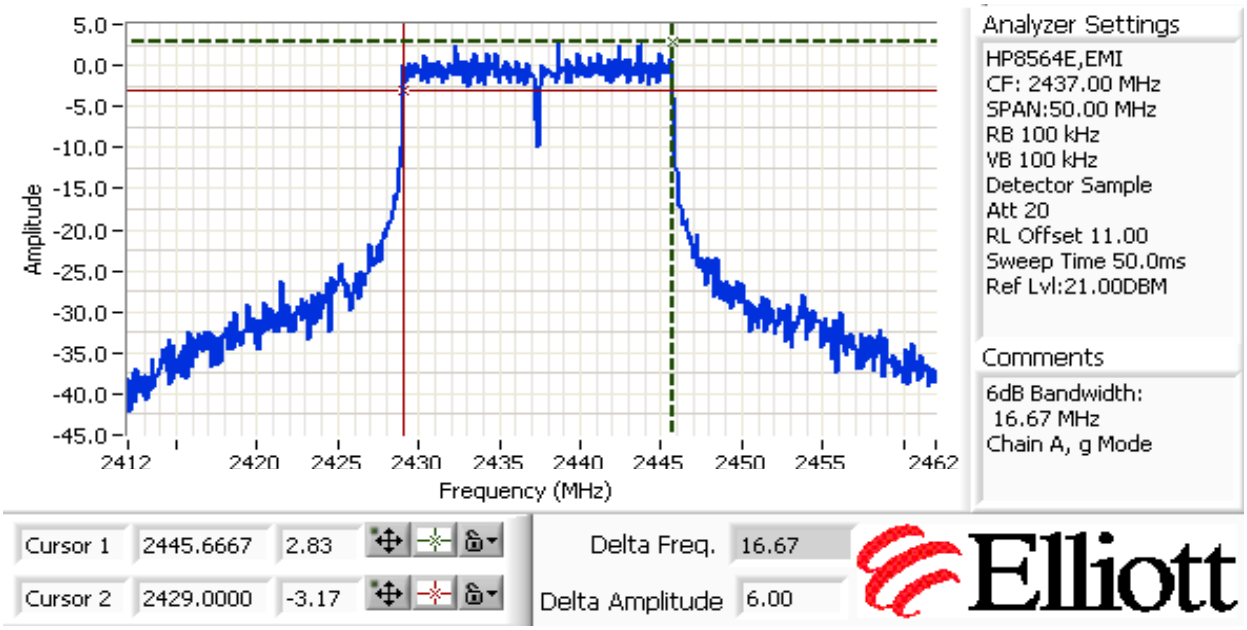
Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
24.5	2412, Chain A	100kHz	16.6	17.14
27.5	2437, Chain A	100kHz	16.7	17.22
28.0	2462, Chain A	100kHz	16.7	17.22
27.5	2437, Chain B	100kHz	16.6	17.22
26.5	2437, Chain C	100kHz	16.6	17.22

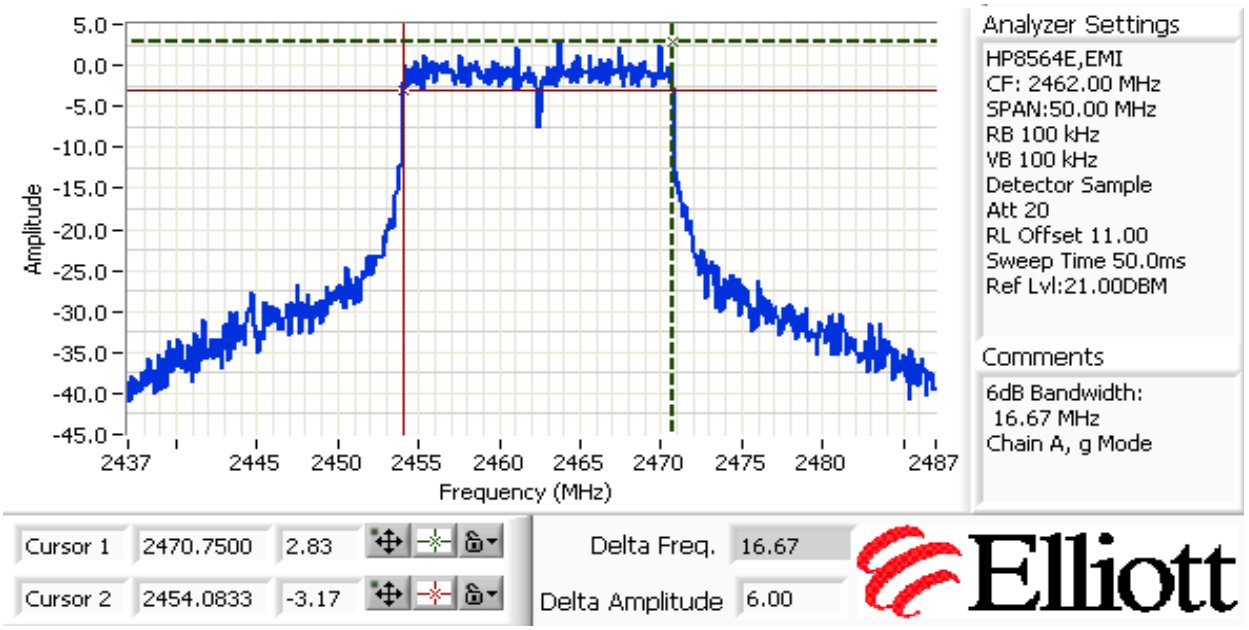
Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB
Note 2:	Center channel of Chains B and C measured to verify no significant difference in signal bandwidth from Chain A.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

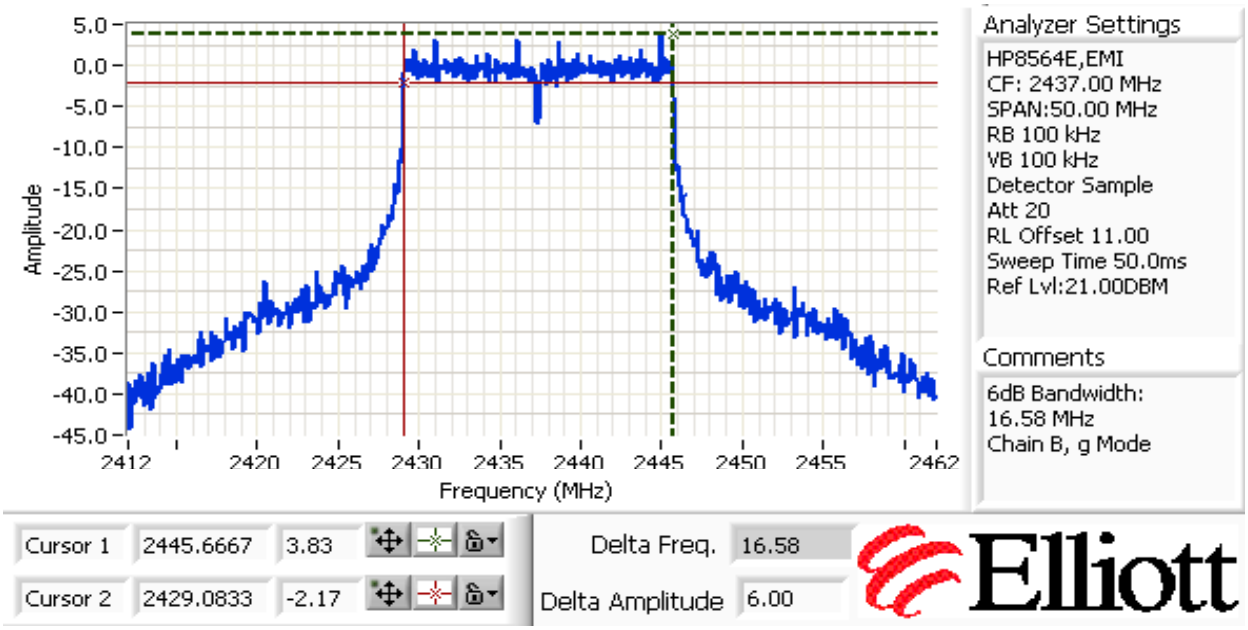
Run #3: Signal Bandwidth

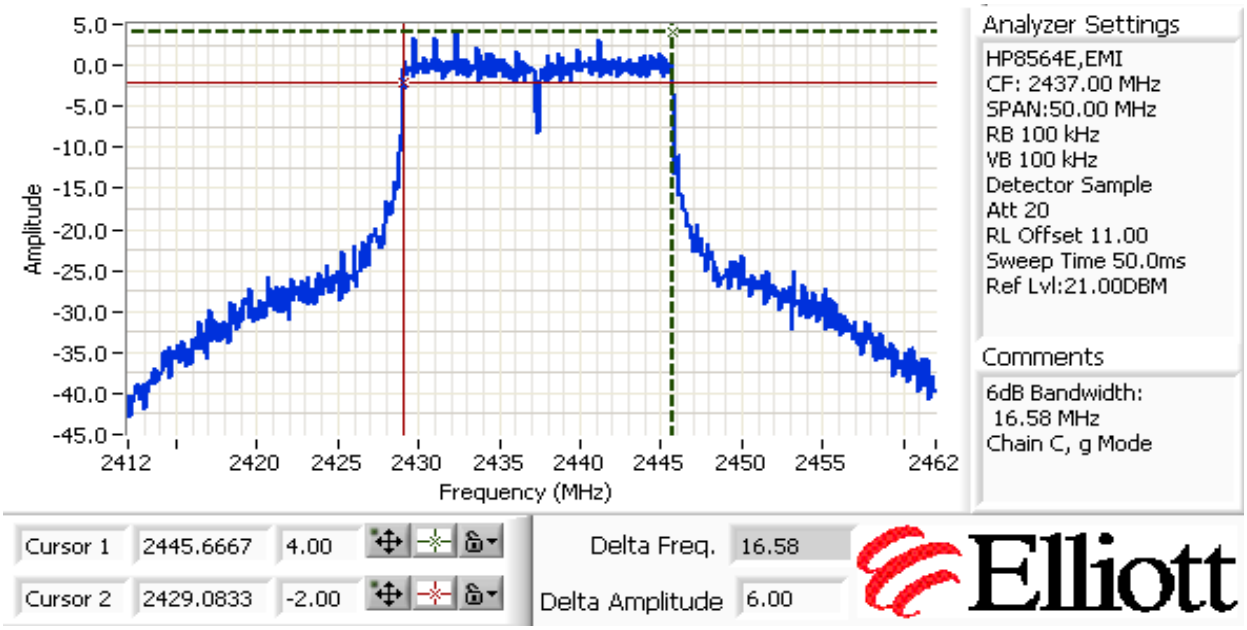




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth





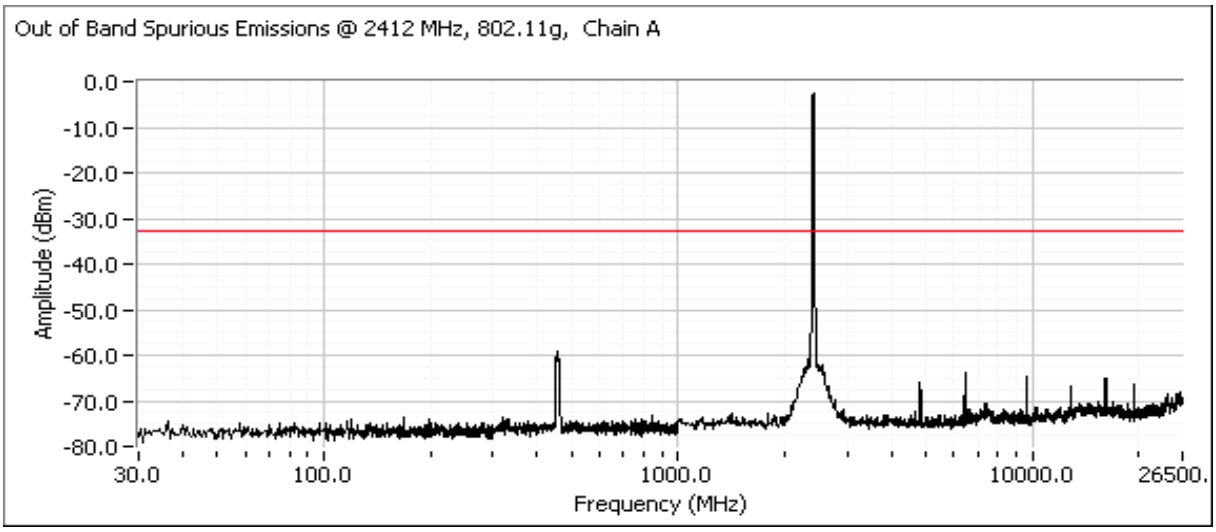
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

All measured using RB = 100kHz, VB = 300kHz.

Frequency (MHz)	Limit	Result
2412, Chain A	-30dBc	Pass
2437, Chain A	-30dBc	Pass
2462, Chain A	-30dBc	Pass
2412, Chain B	-30dBc	Pass
2437, Chain B	-30dBc	Pass
2462, Chain B	-30dBc	Pass
2412, Chain C	-30dBc	Pass
2437, Chain C	-30dBc	Pass
2462, Chain C	-30dBc	Pass

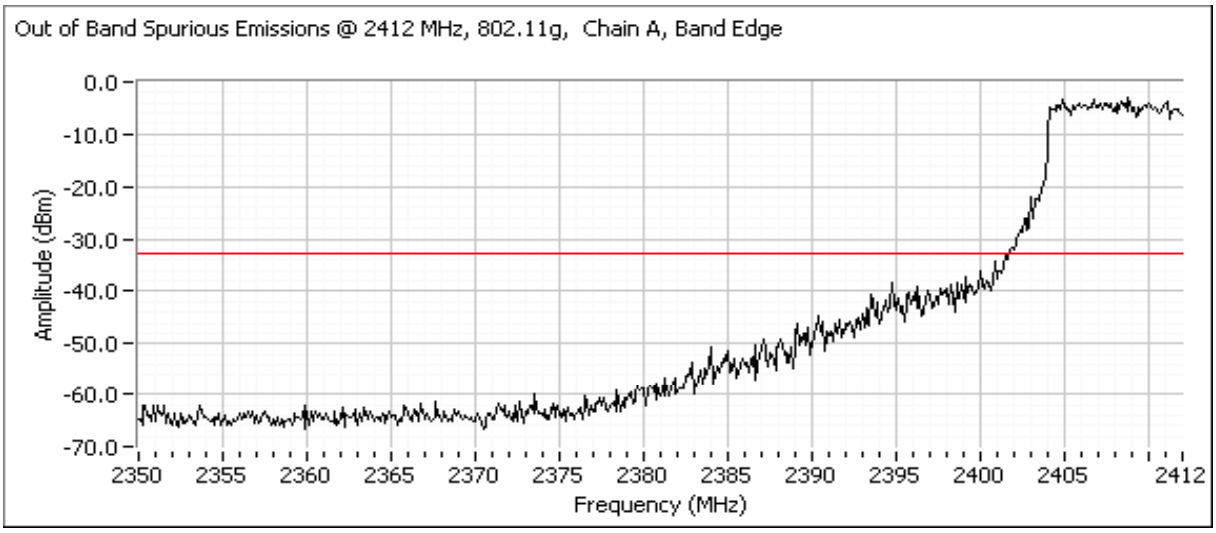
Plots for low channel, Chain A power setting(s) = 24.5



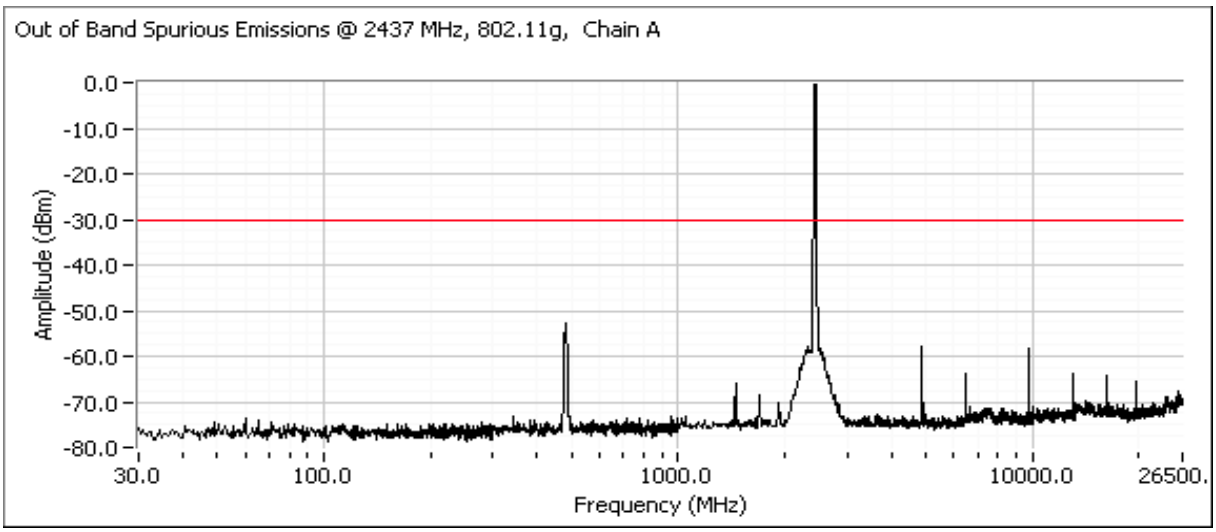
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



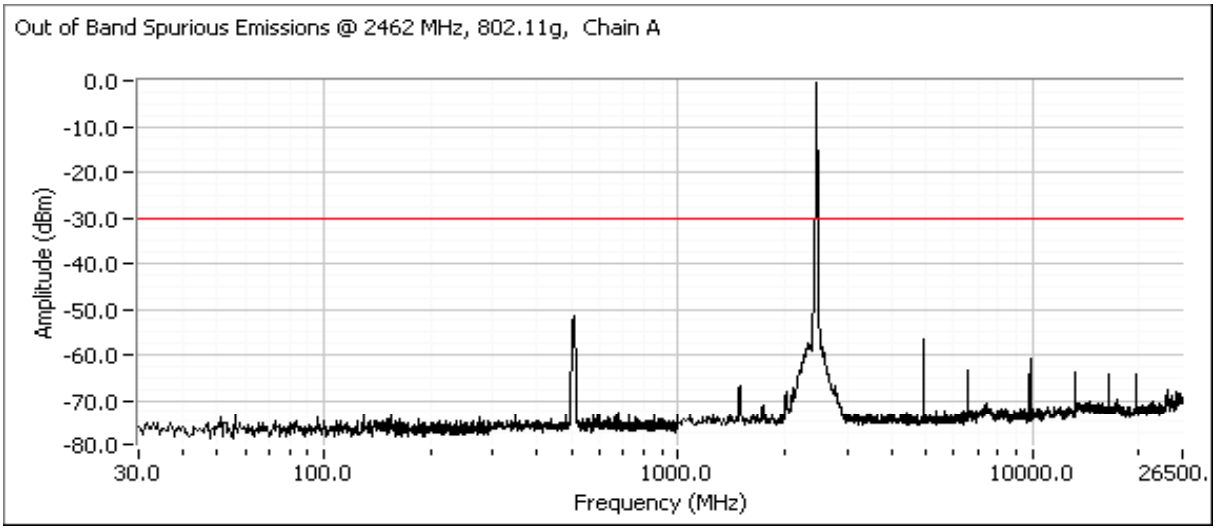
Plots for center channel, Chain A power setting(s) = 27.5



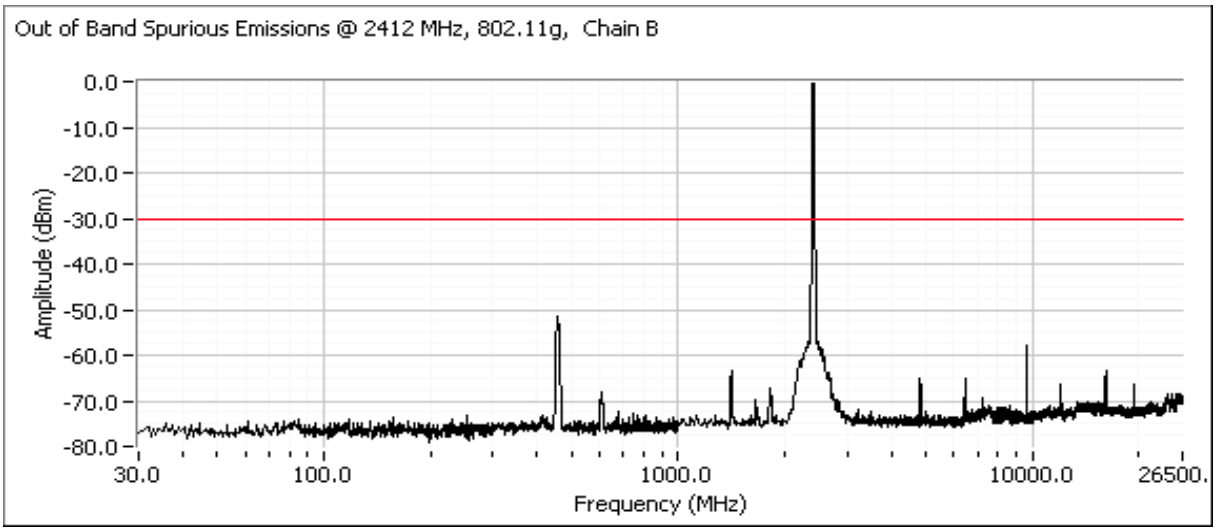
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain A power setting(s) = 28



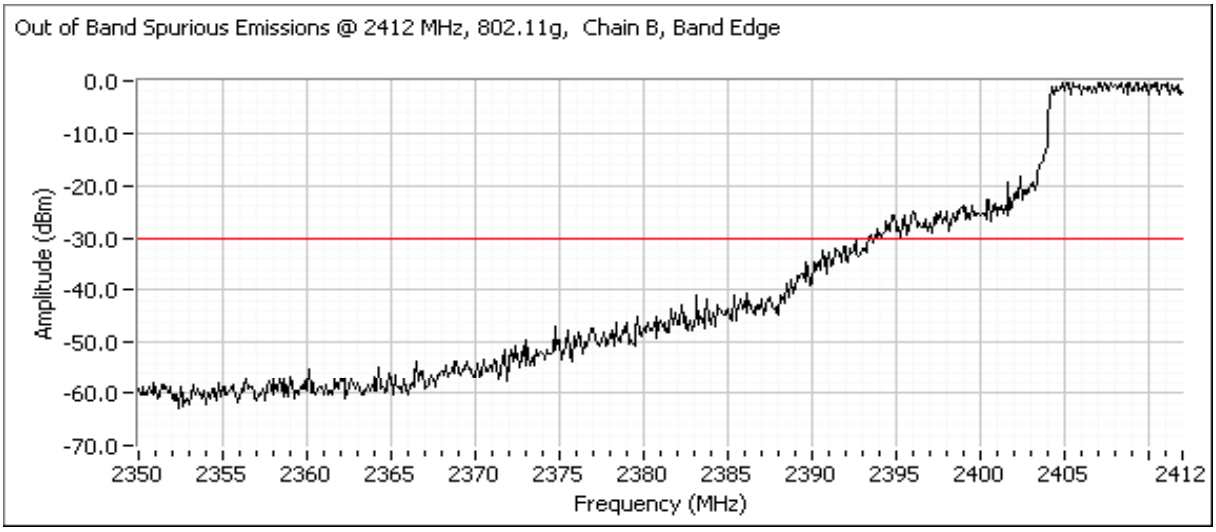
Plots for low channel, Chain B power setting(s) = 28.5



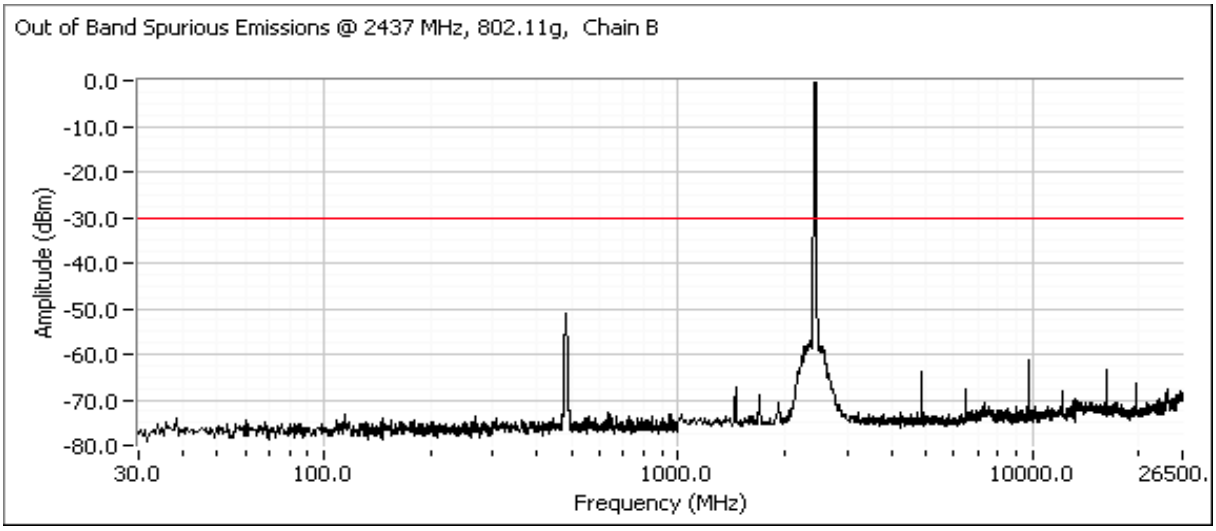
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



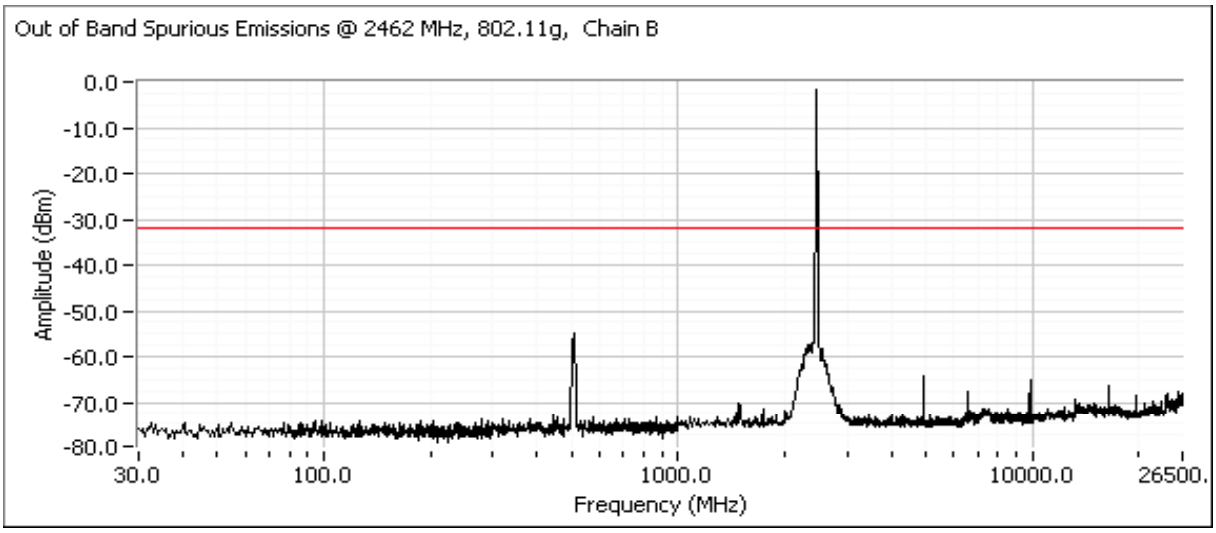
Plots for center channel, Chain B power setting(s) = 27.5



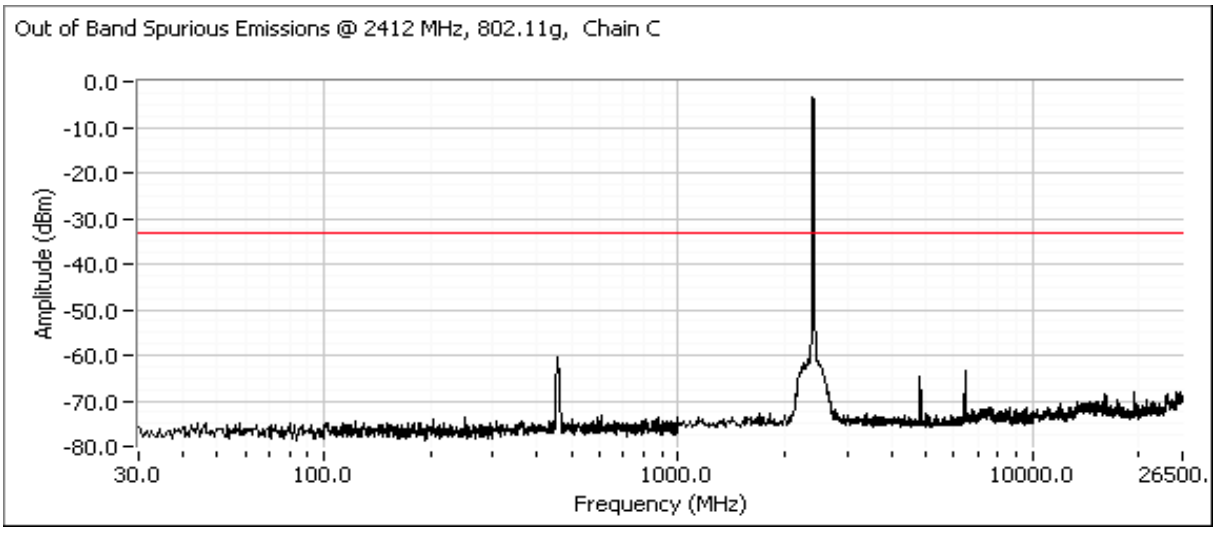
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain B power setting(s) = 26



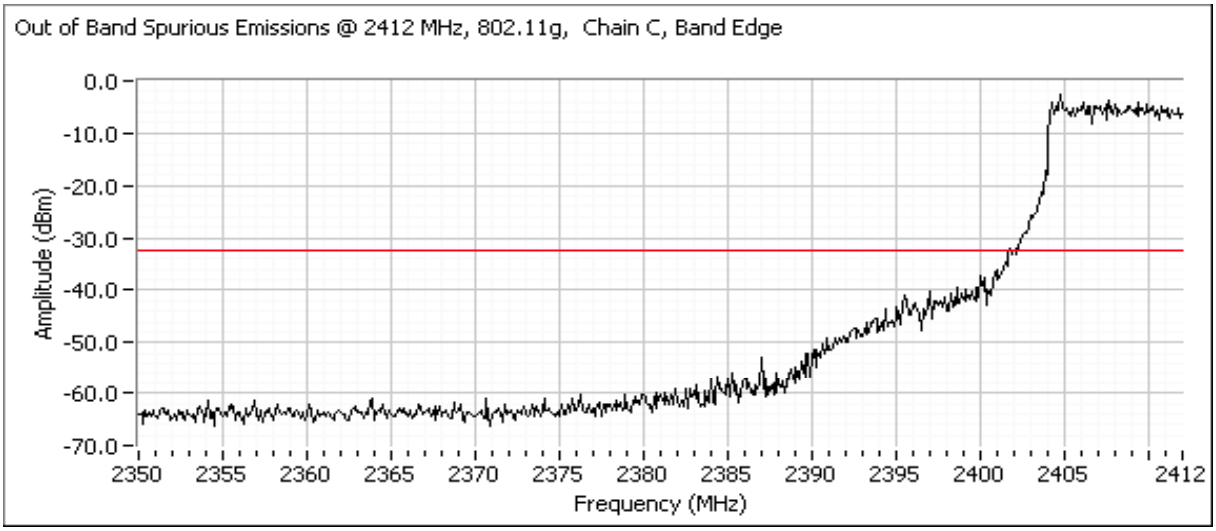
Plots for low channel, Chain C power setting(s) = 22.5



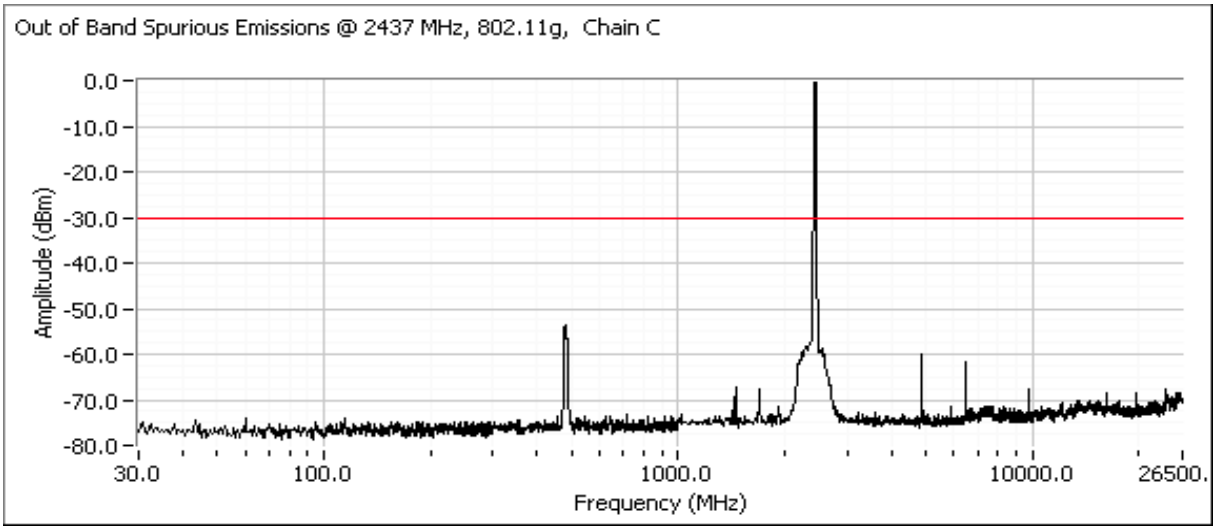
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



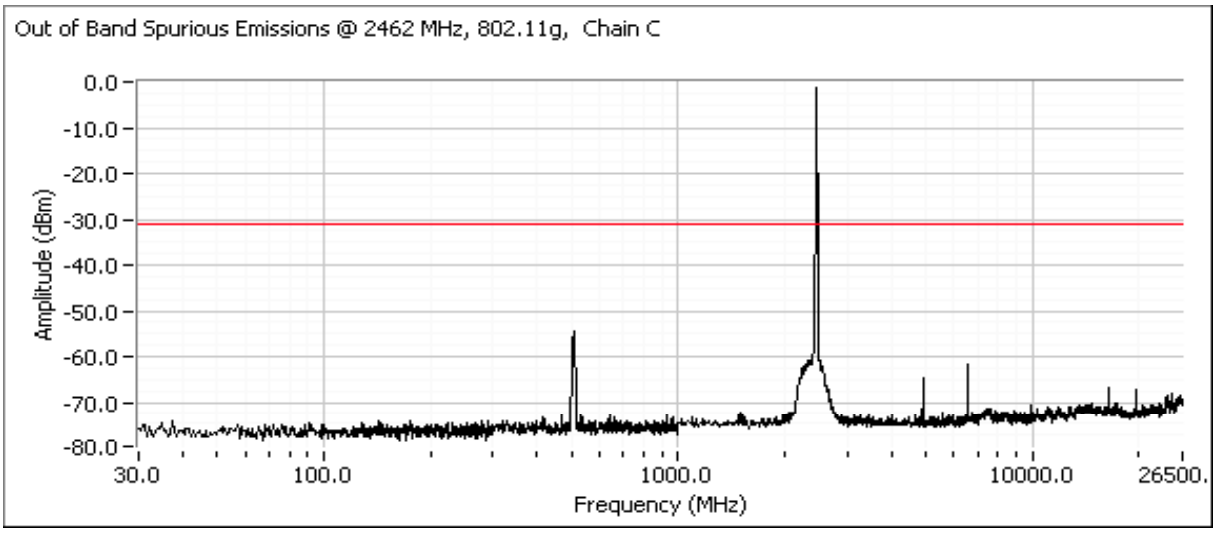
Plots for center channel, Chain C power setting(s) = 26.5



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain C power setting(s) = 24.5



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
802.11n 20MHz single chain 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: 4/3&4/2008
Test Engineer: Suhaila Khushzad
Test Location: FT Lab # 1

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

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 22.9 °C
Rel. Humidity: 40 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	15.5dBm(35.3mW)
2	Power spectral Density (PSD)	15.247(d)	Pass	-7.5 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	17.8 MHz
3	99% Bandwidth	RSS GEN	-	18.5 MHz
4	Antenna Conducted - Out of Band Spurious	15.247(b)	Pass	All emissions below the -30dBc limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

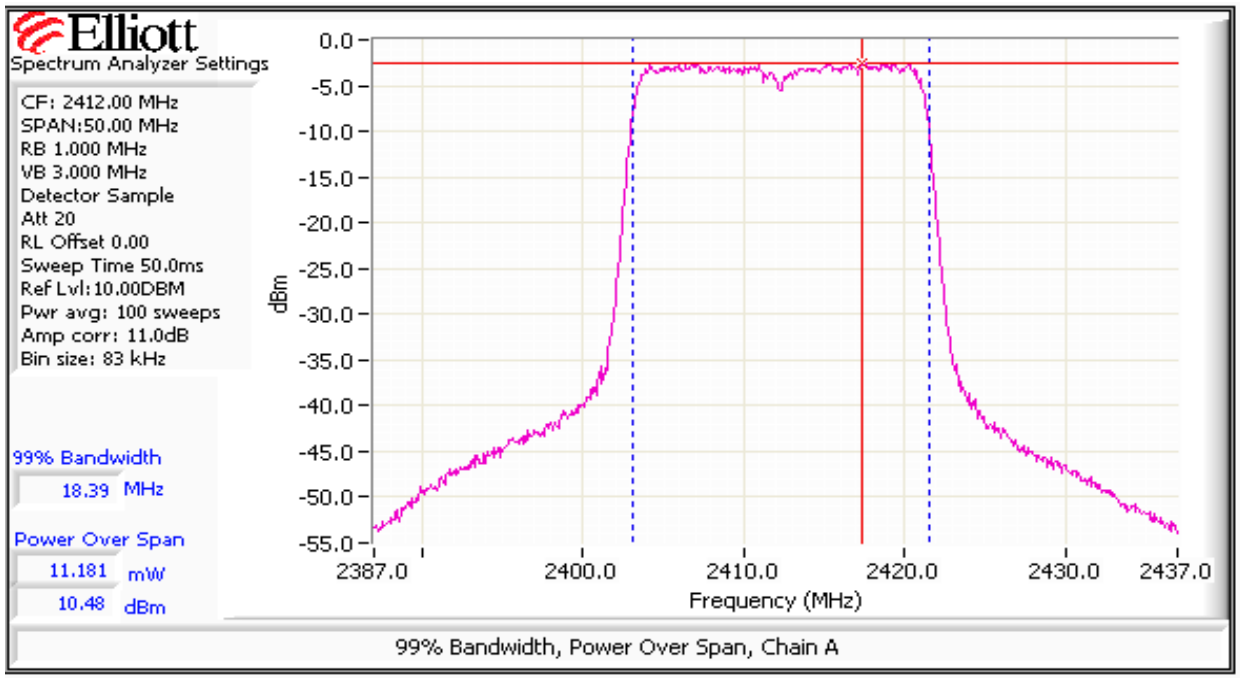
No deviations were made from the requirements of the standard.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power

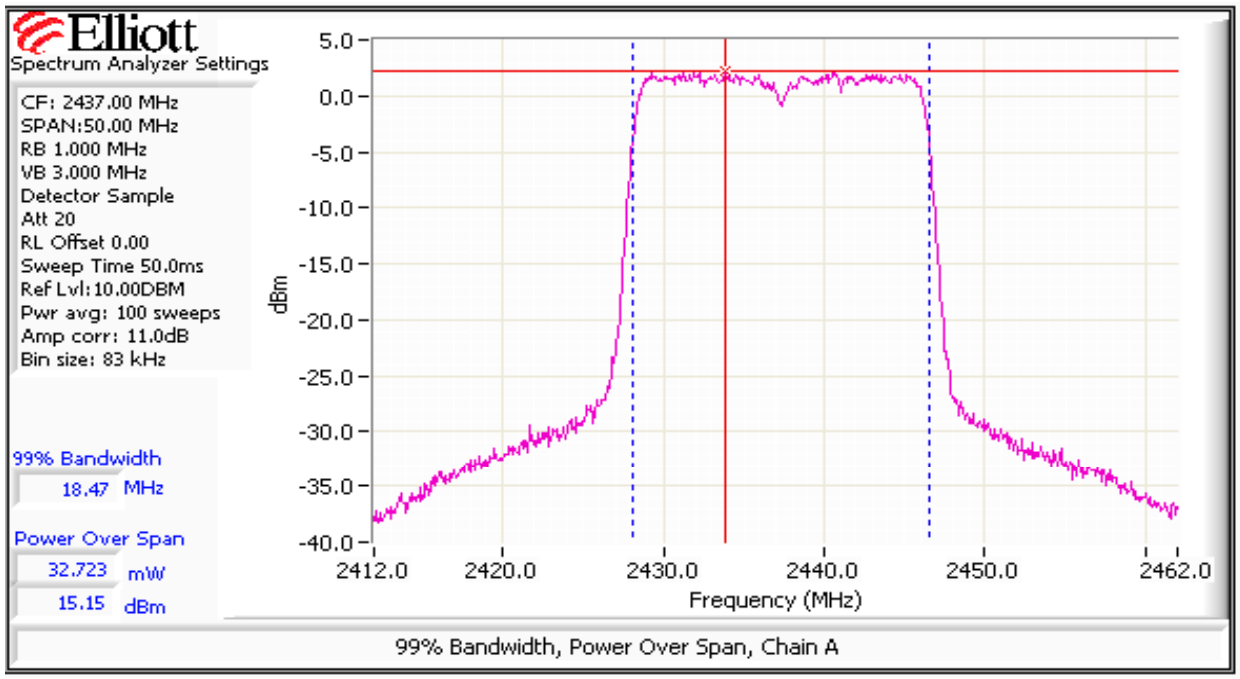
Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
23.5	2412, Chain A	10.5	11.2	3.2	Pass	13.7	0.023	13.2	20.9
28	2437, Chain A	15.2	32.7	3.2	Pass	18.4	0.068	16.6	45.7
25.5	2462, Chain A	12.2	16.4	3.2	Pass	15.4	0.034	13.9	24.5
23.5	2412, Chain B	10.6	11.5	3.2	Pass	13.8	0.024	12.3	17.0
28	2437, Chain B	15.3	34.2	3.2	Pass	18.5	0.071	16.6	45.7
25.5	2462, Chain B	12.0	15.8	3.2	Pass	15.2	0.033	14.0	25.1
22.5	2412, Chain C	10.9	12.3	3.2	Pass	14.1	0.026	12.8	19.1
27	2437, Chain C	15.5	35.3	3.2	Pass	18.7	0.074	16.7	46.8
24.5	2462, Chain C	12.3	17.1	3.2	Pass	15.5	0.036	14.1	25.7

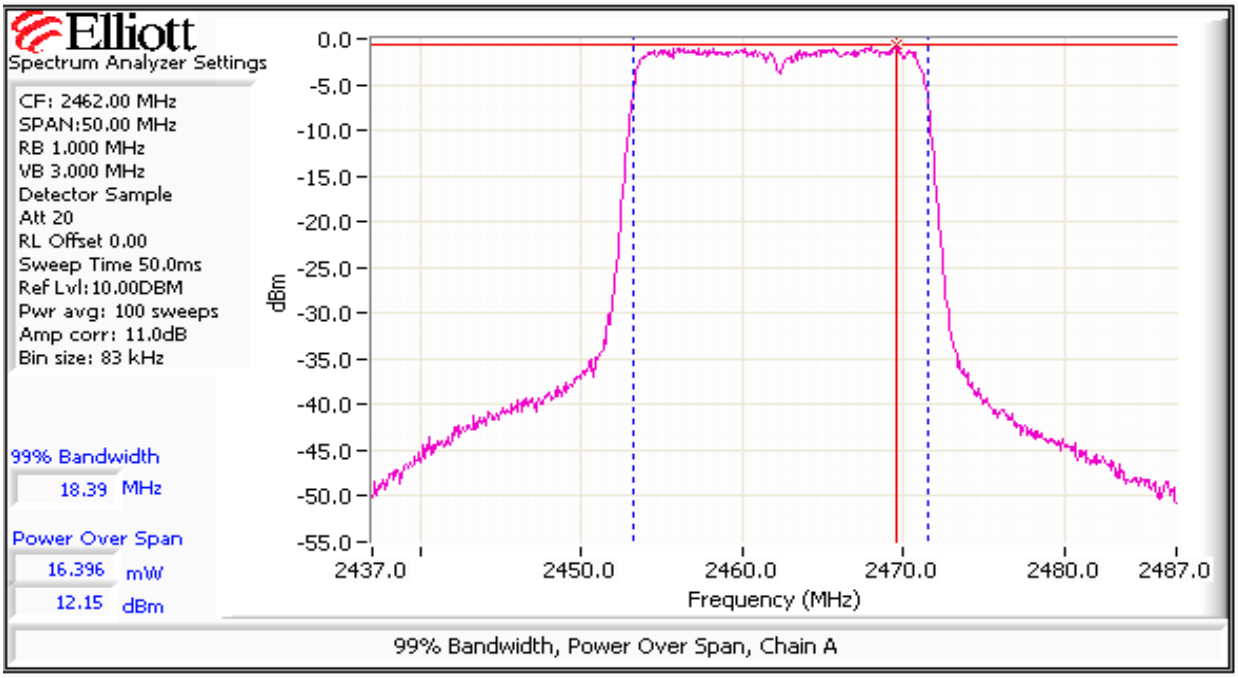
Note 1:	Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz. Spurious limit is -30dBc because this method was used. The output power limit is 30dBm.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power sensor and is included for manufacturer's reference only.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

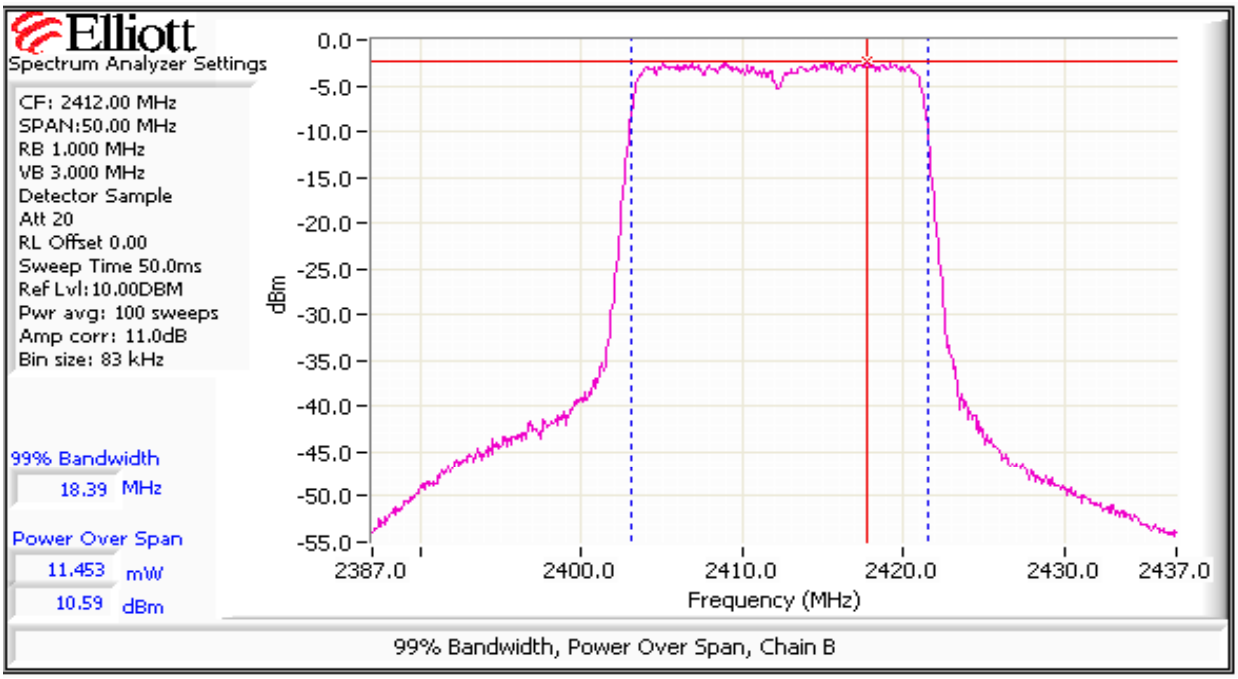
Run #1: Output Power

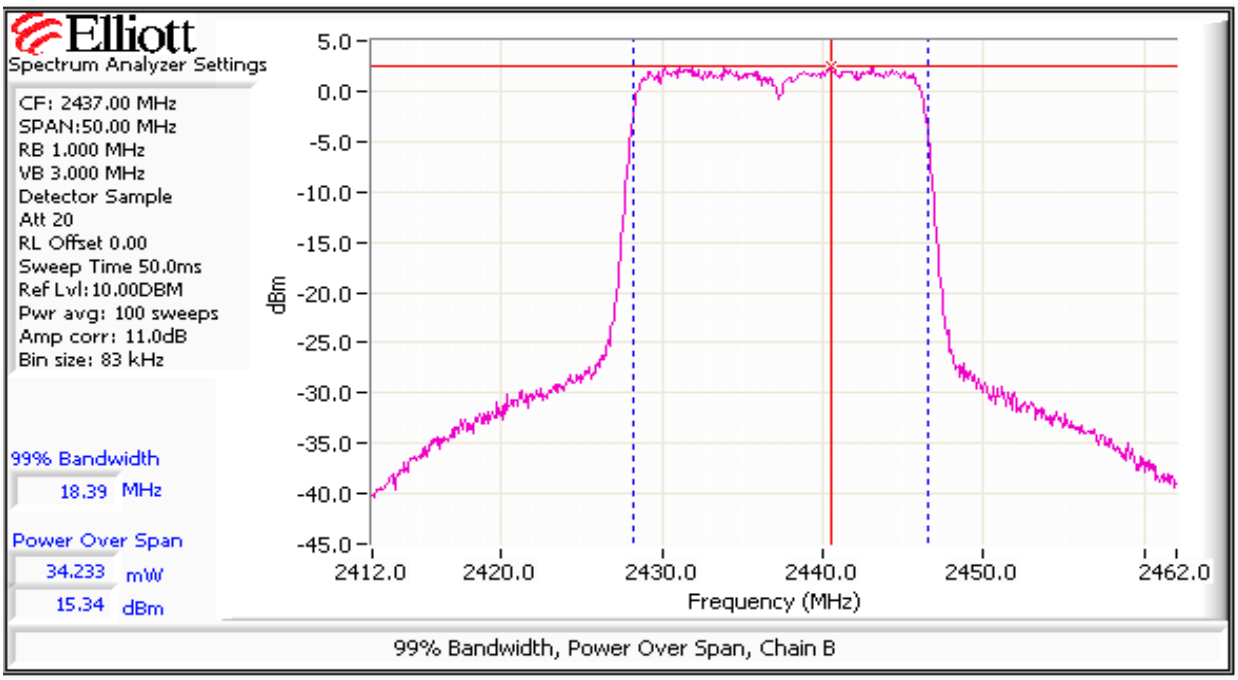




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

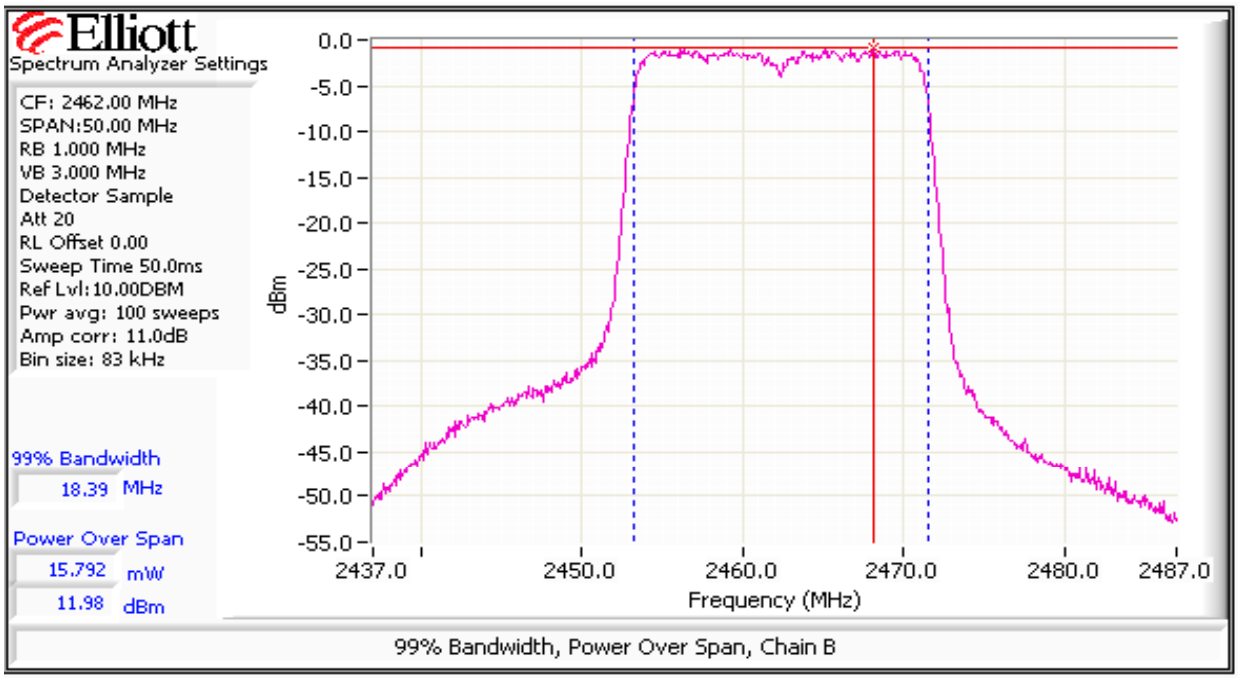
Run #1: Output Power

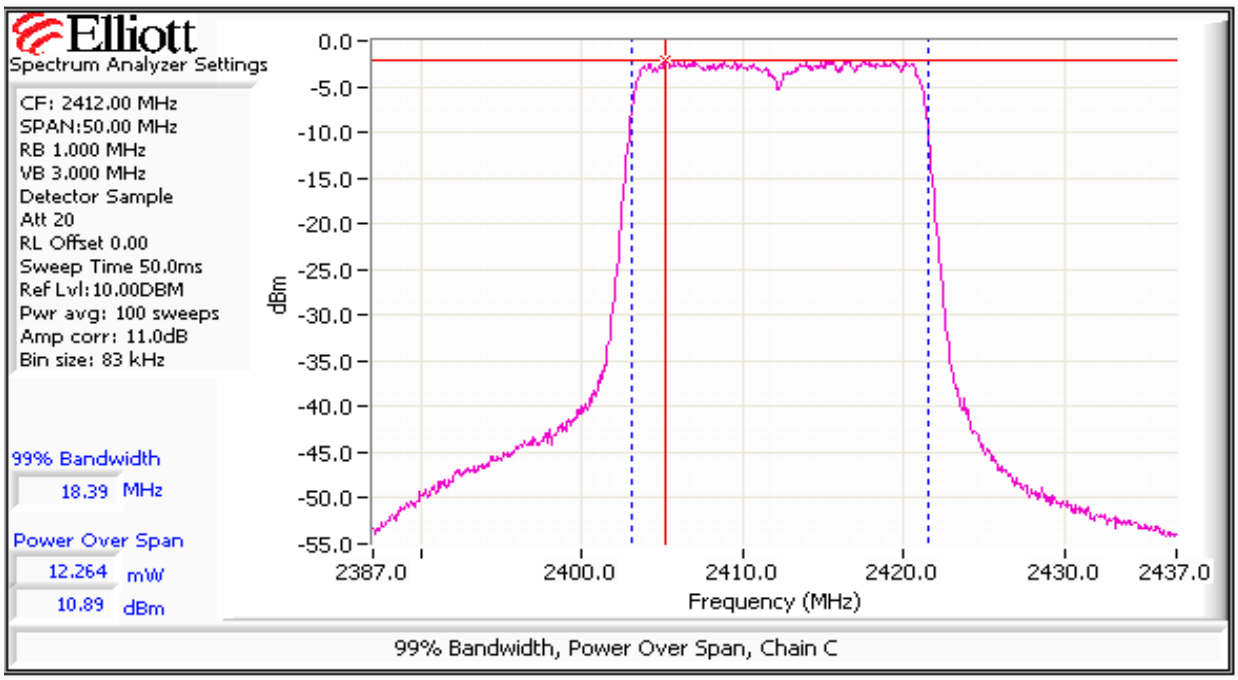




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
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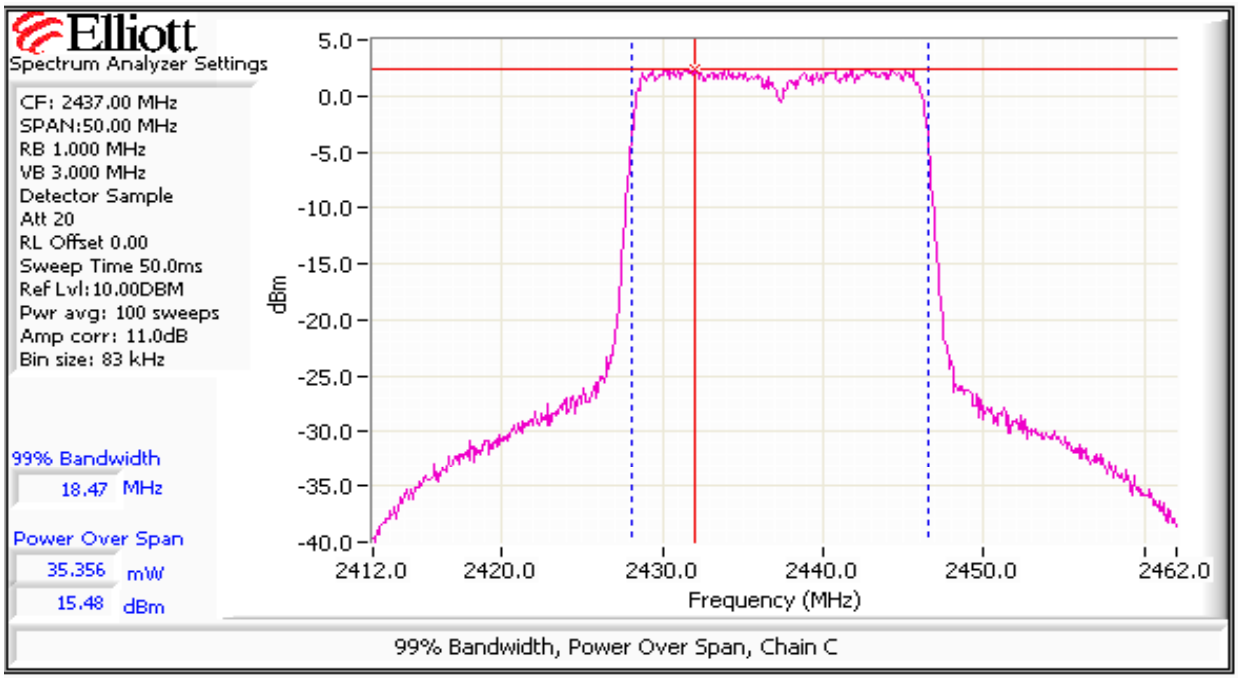
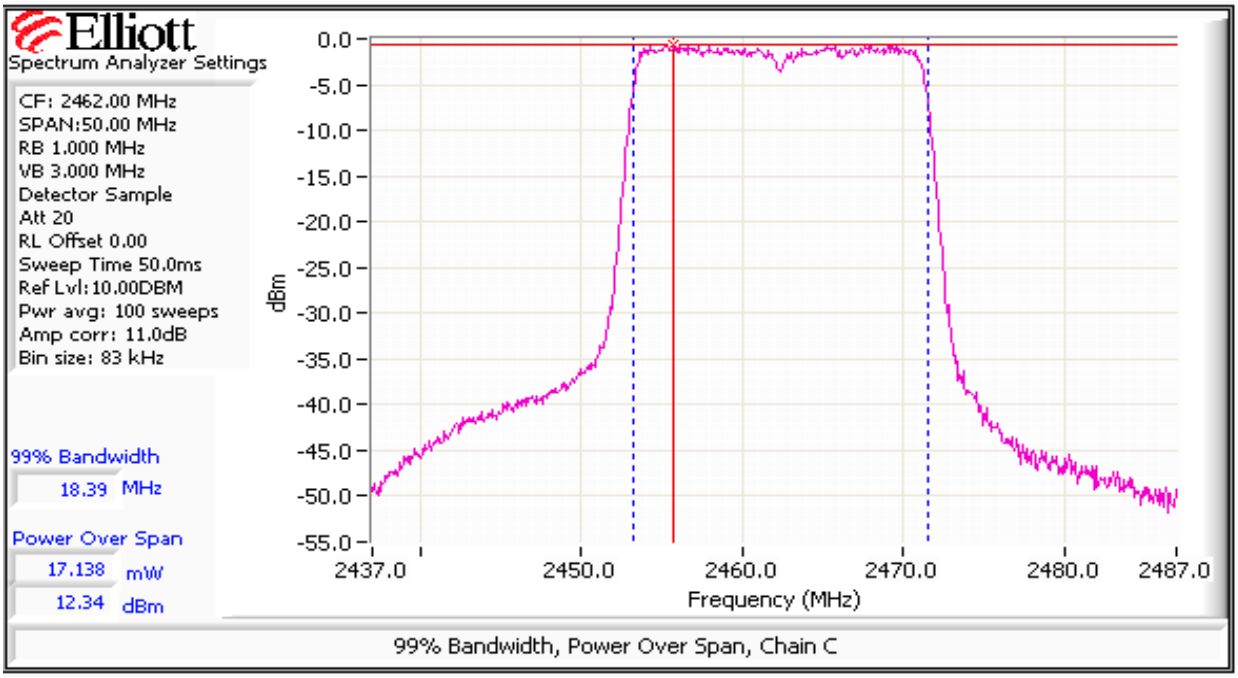
Run #1: Output Power



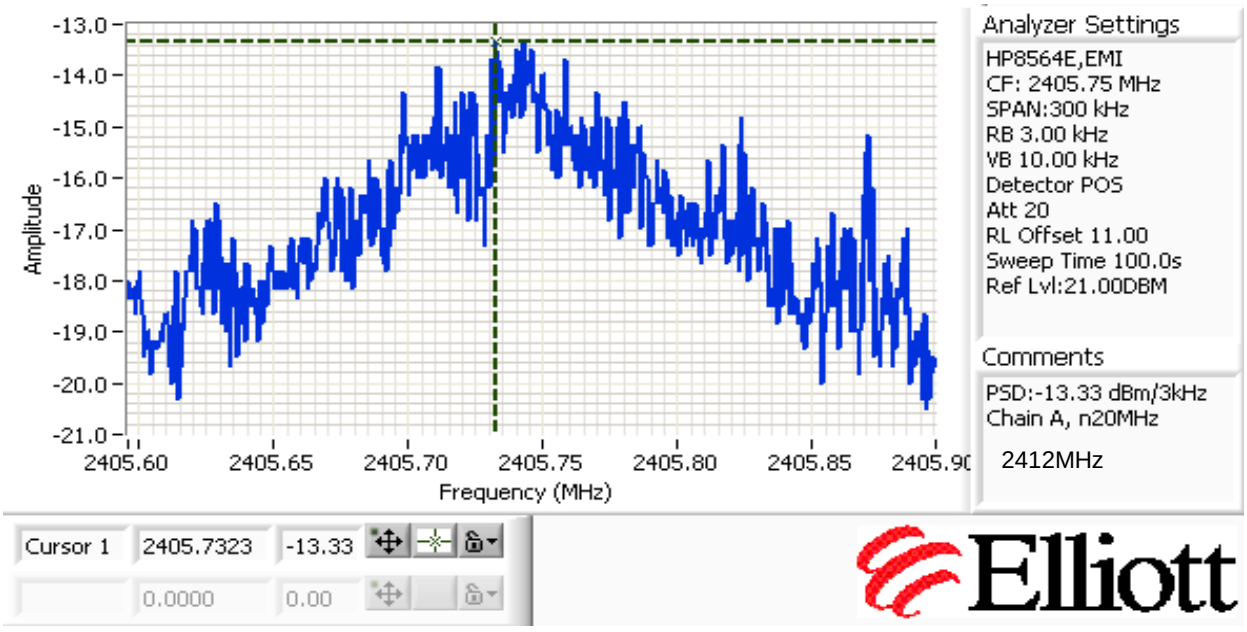


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density

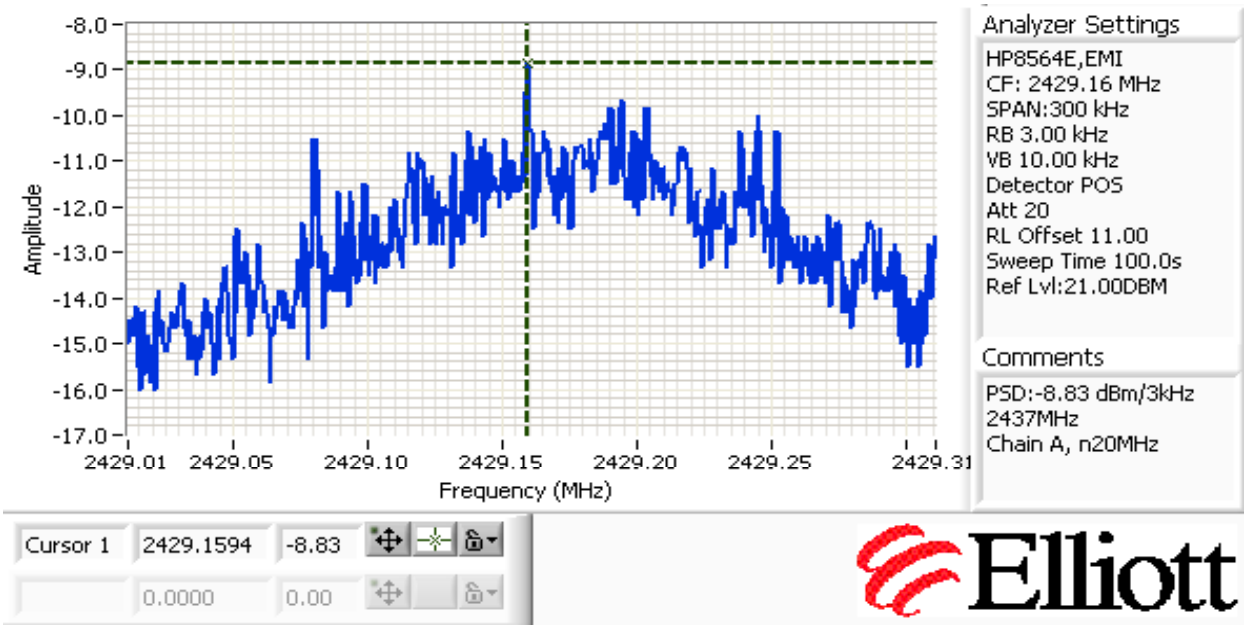
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
23.5	2412, Chain A	-13.3	8.0	Pass
28	2437, Chain A	-8.8	8.0	Pass
25.5	2462, Chain A	-10.8	8.0	Pass
23.5	2412, Chain B	-13.2	8.0	Pass
28	2437, Chain B	-7.5	8.0	Pass
25.5	2462, Chain B	-11.2	8.0	Pass
22.5	2412, Chain C	-11.3	8.0	Pass
27	2437, Chain C	-7.5	8.0	Pass
24.5	2462, Chain C	-12.2	8.0	Pass

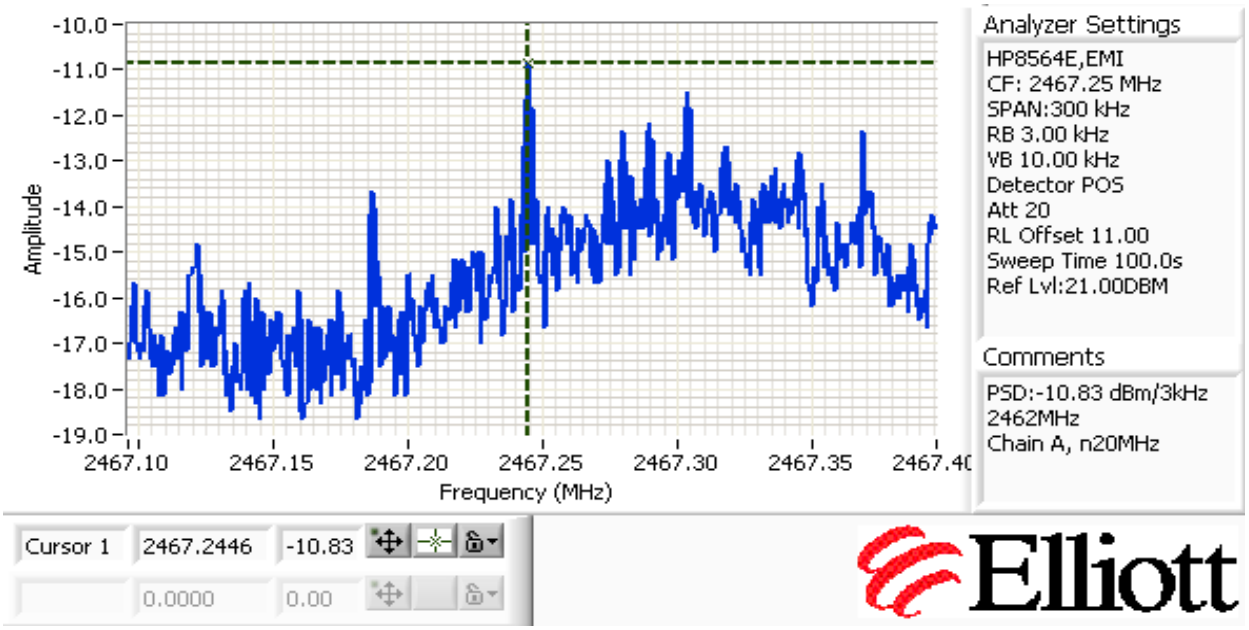
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

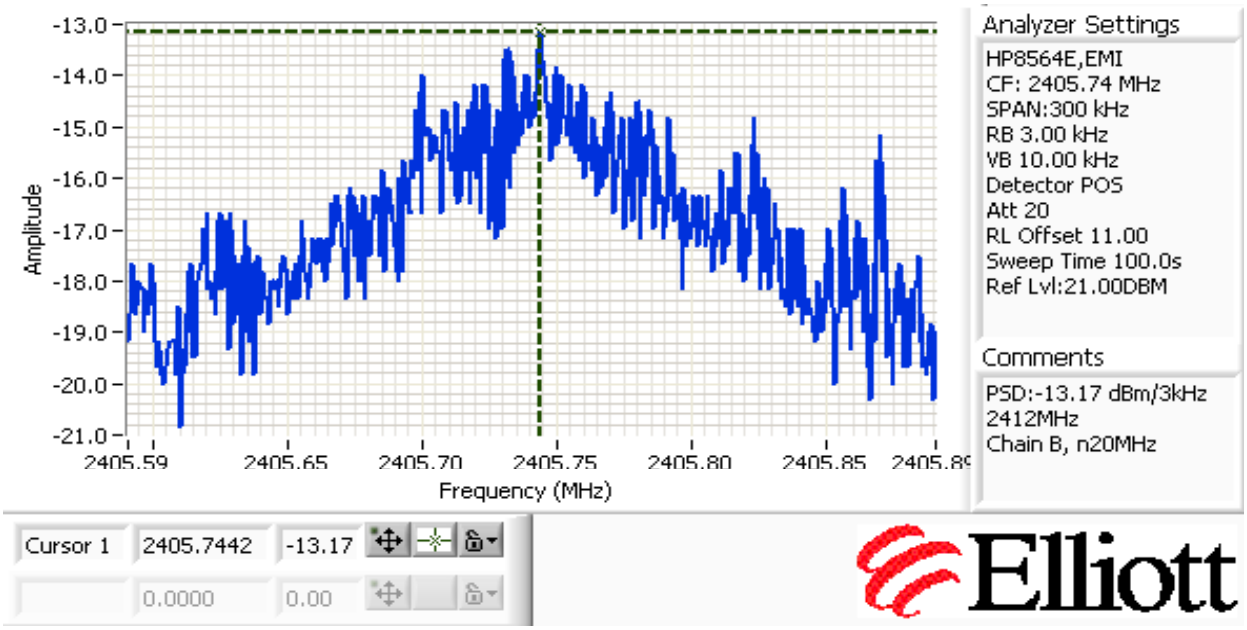
Run #2: Power spectral Density

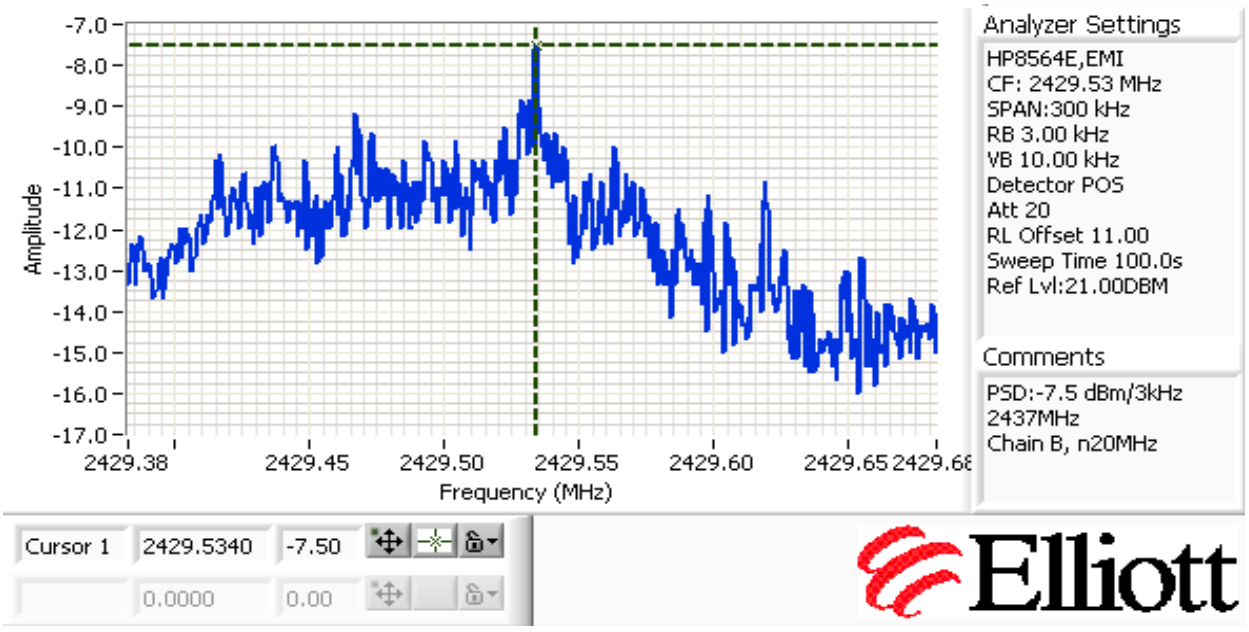




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

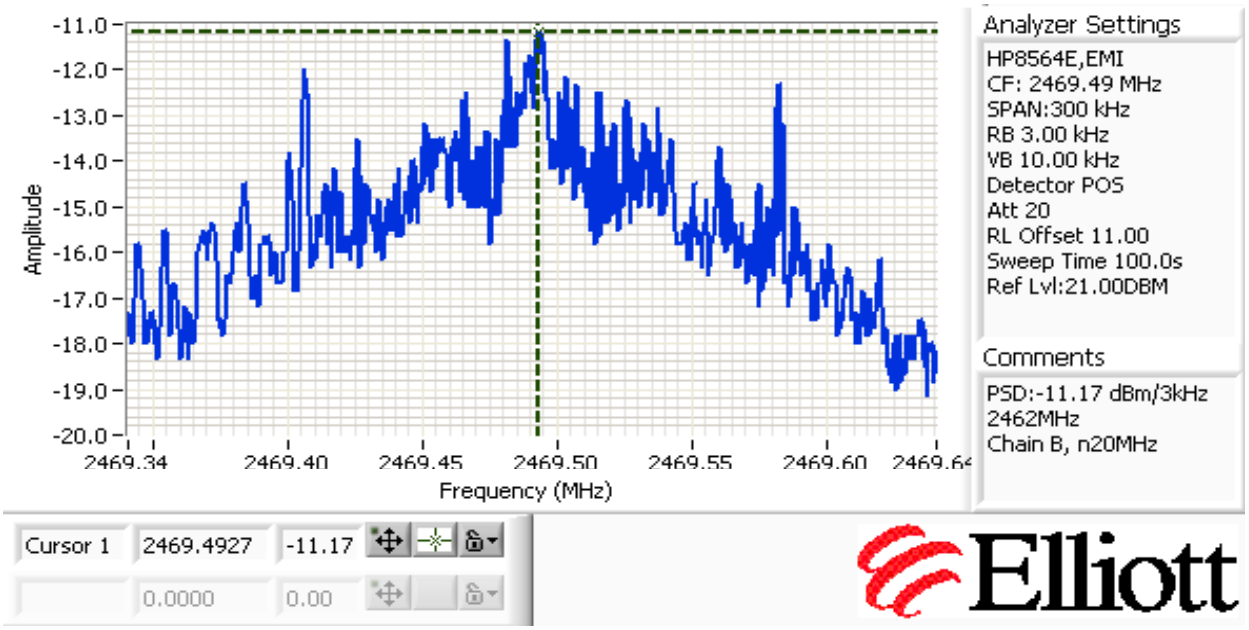
Run #2: Power spectral Density

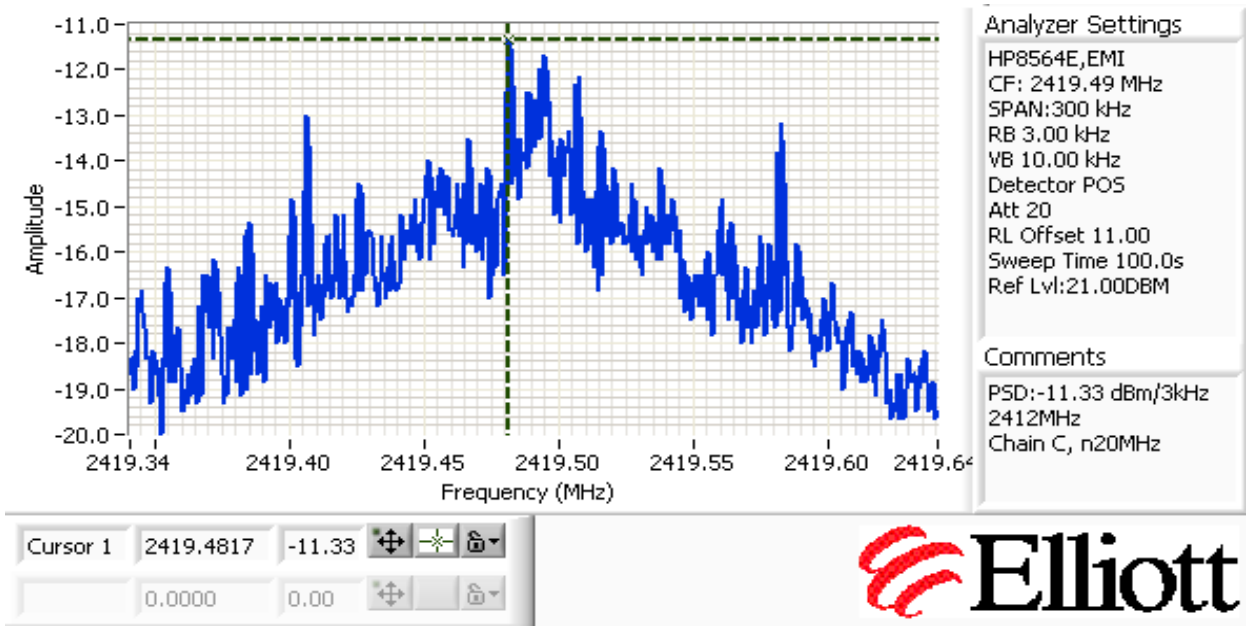




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

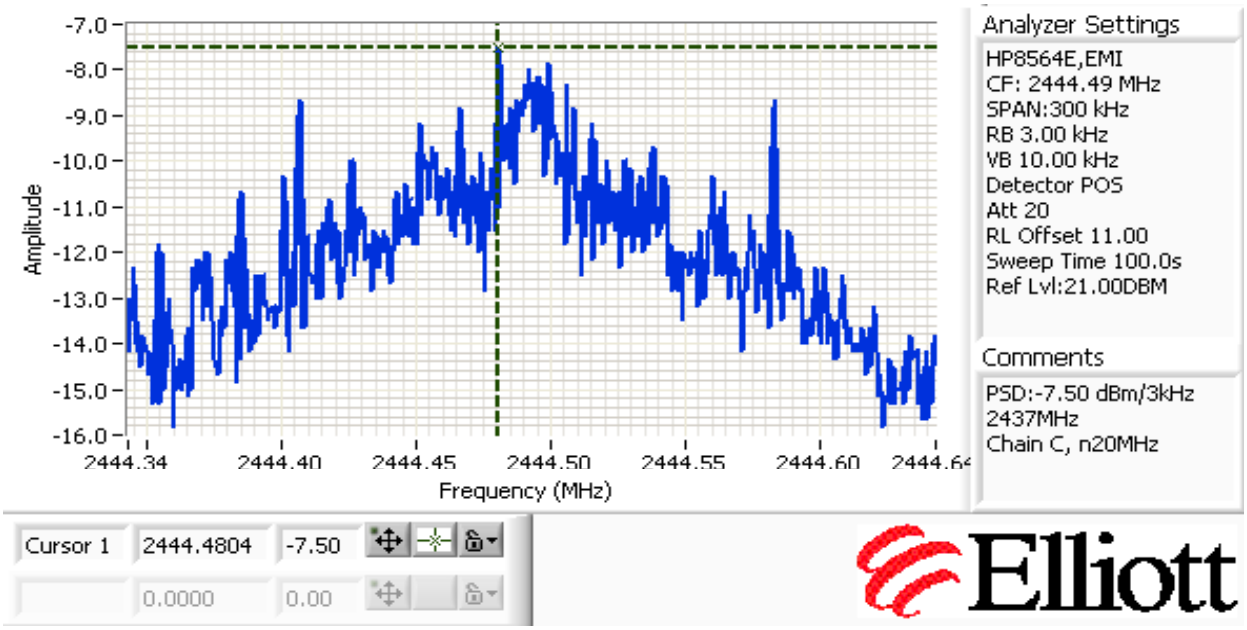
Run #2: Power spectral Density

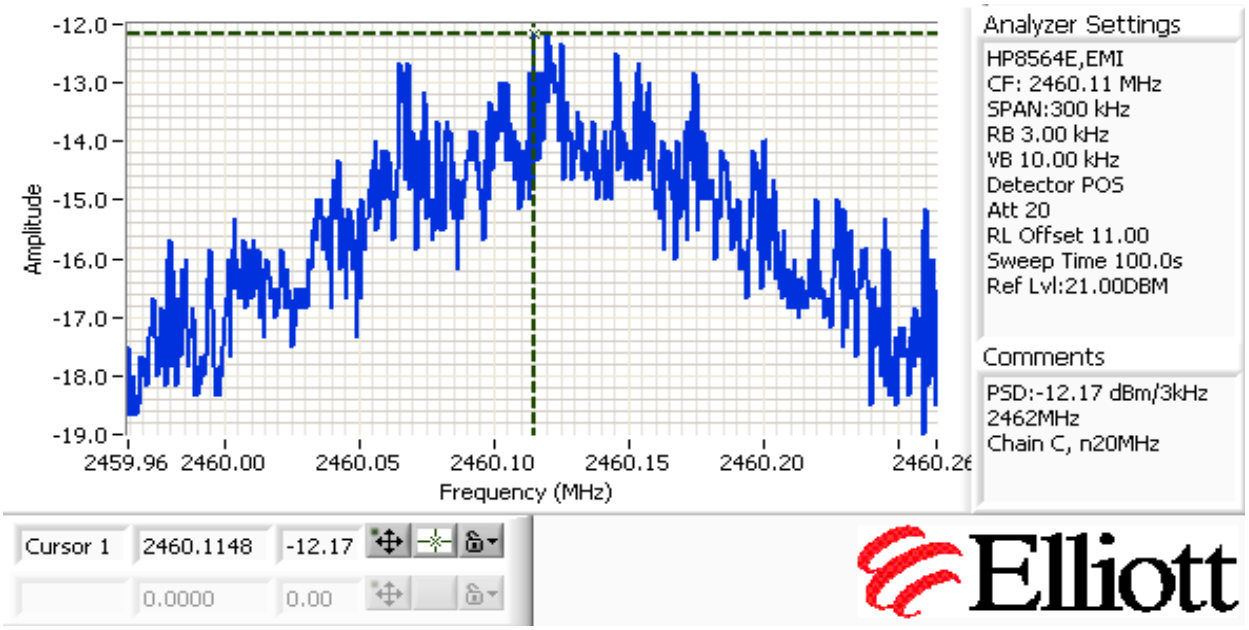




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density



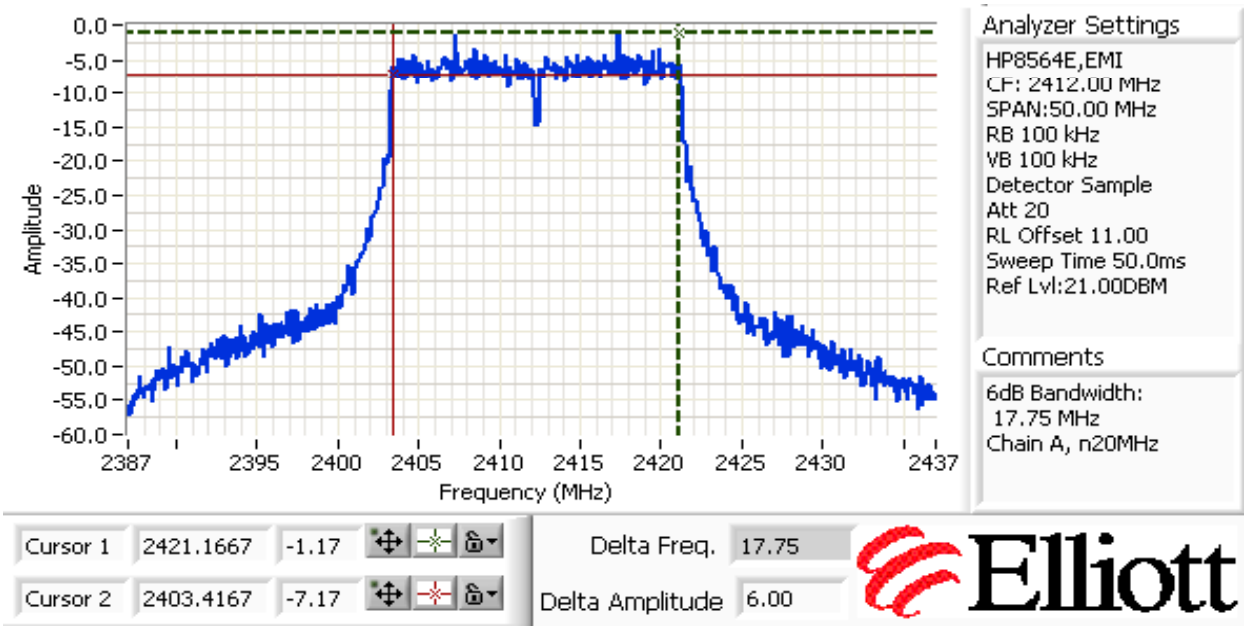


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth

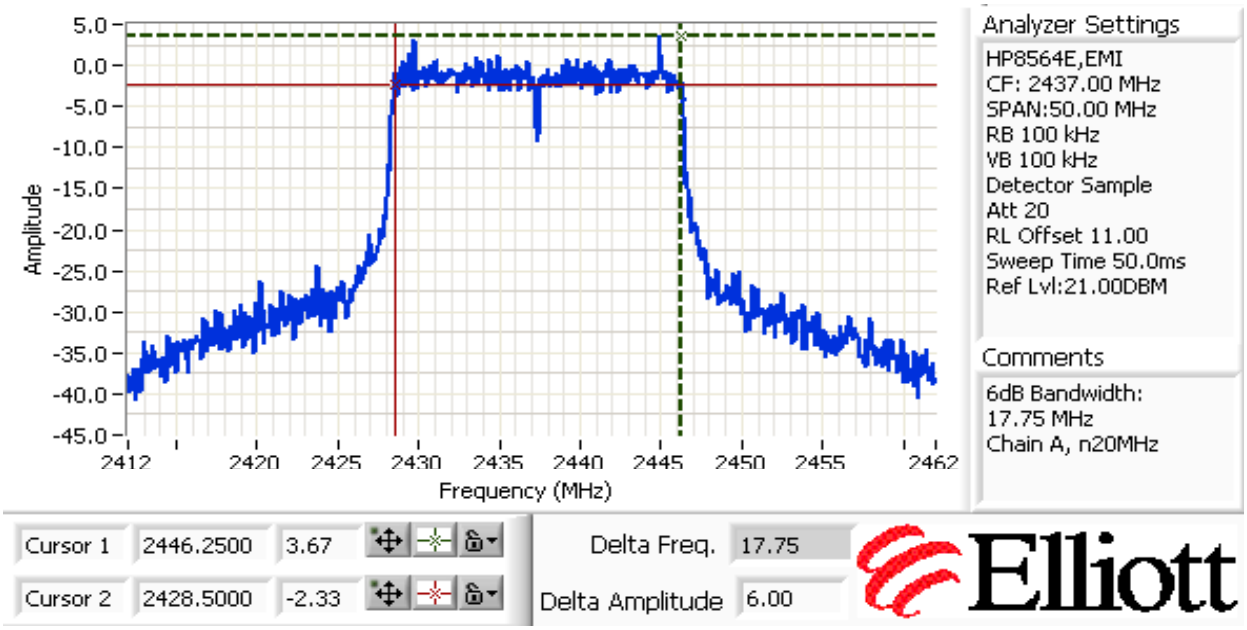
Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
23.5	2412, Chain A	100kHz	17.8	18.4
28	2437, Chain A	100kHz	17.8	18.5
25.5	2462, Chain A	100kHz	17.8	18.4
28	2437, Chain B	100kHz	17.8	18.4
27	2437, Chain C	100kHz	17.8	18.5

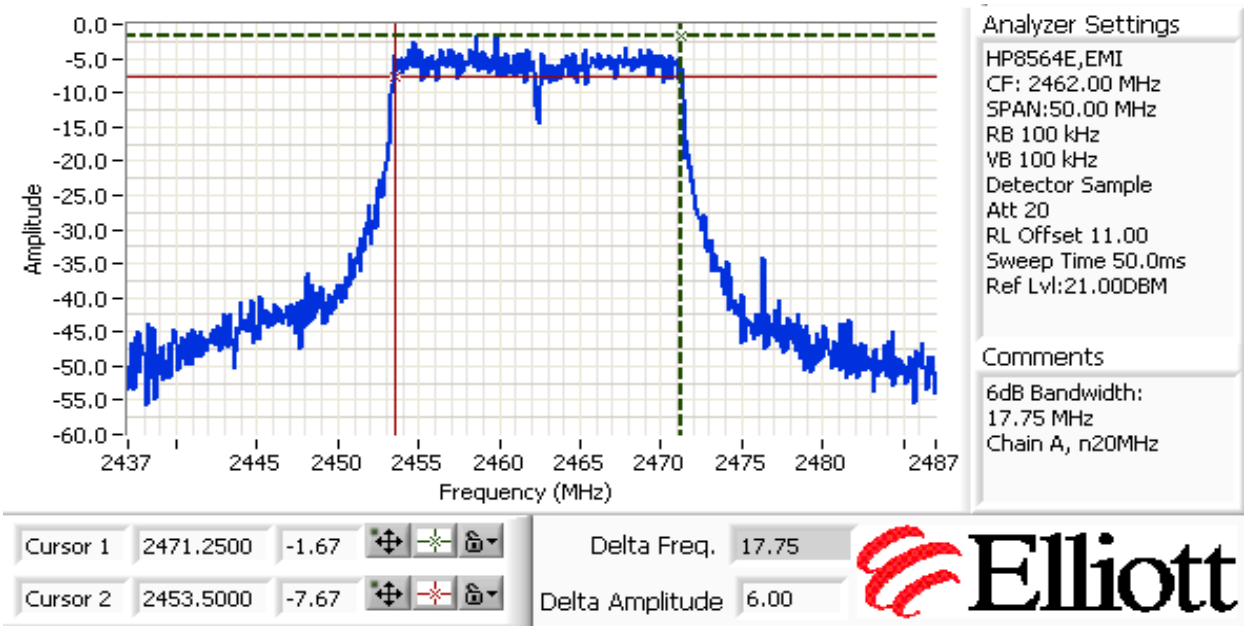
Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB
Note 2:	Center channel of Chains B and C measured to verify no significant difference in signal bandwidth from Chain A.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

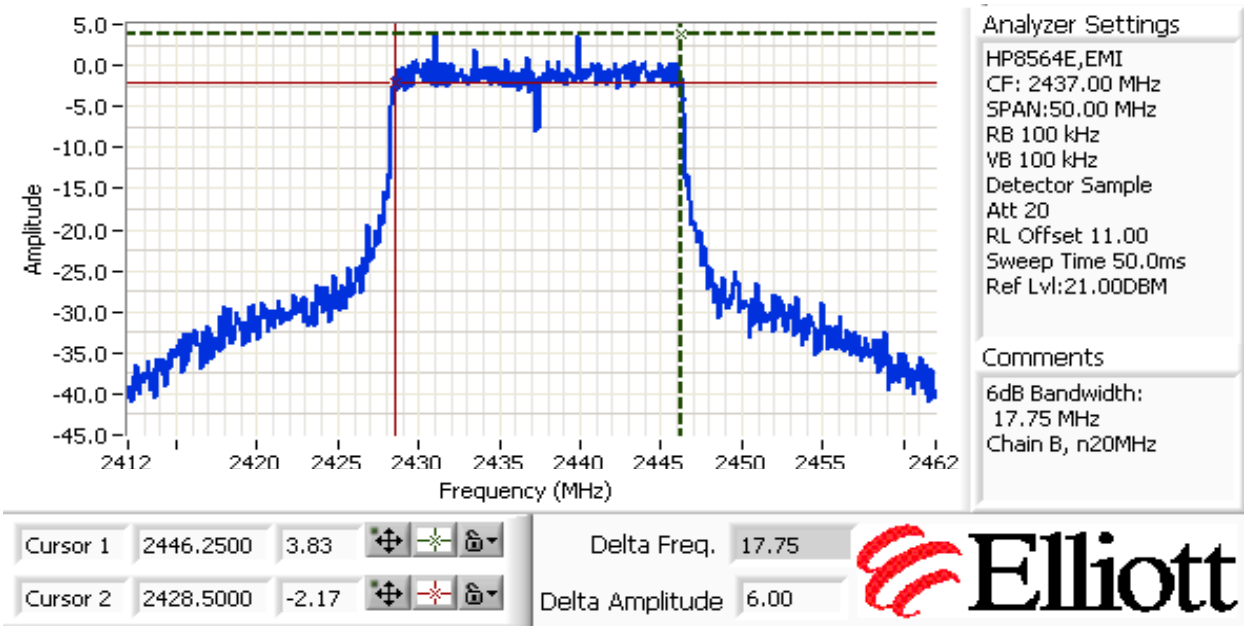
Run #3: Signal Bandwidth

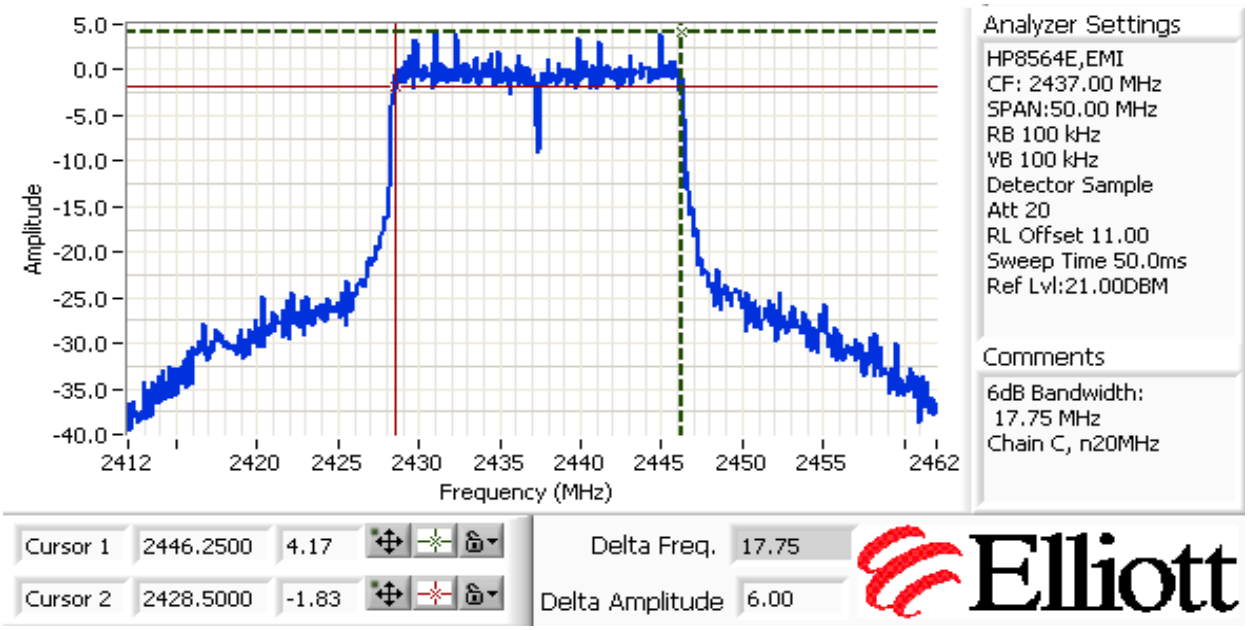




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

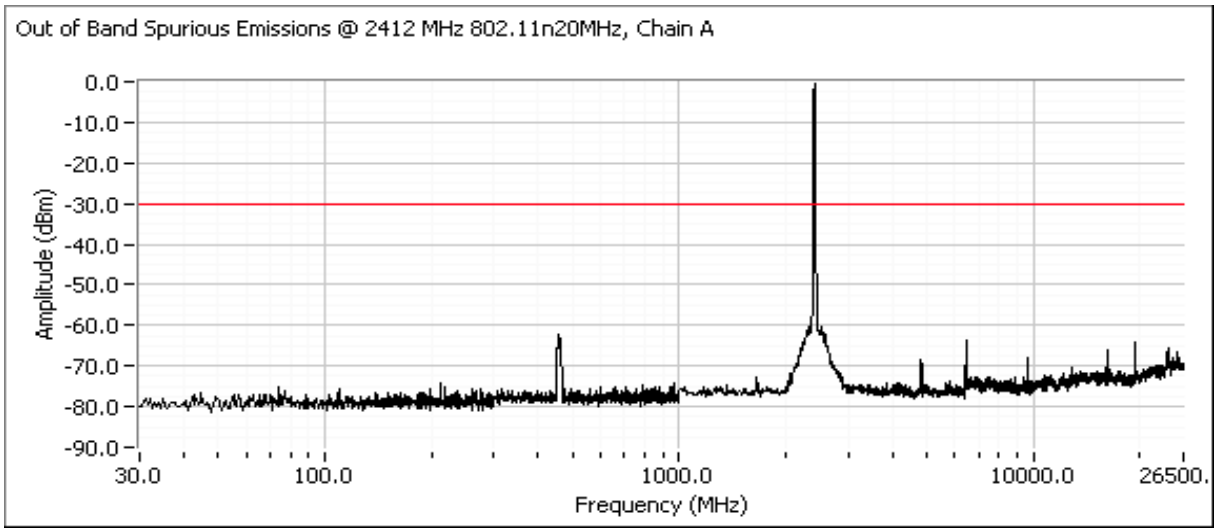
Run #4: Out of Band Spurious Emissions

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

All measured using RB = 100kHz, VB = 300kHz.

Frequency (MHz)	Limit	Result
2412, Chain A	-30dBc	Pass
2437, Chain A	-30dBc	Pass
2462, Chain A	-30dBc	Pass
2412, Chain B	-30dBc	Pass
2437, Chain B	-30dBc	Pass
2462, Chain B	-30dBc	Pass
2412, Chain C	-30dBc	Pass
2437, Chain C	-30dBc	Pass
2462, Chain C	-30dBc	Pass

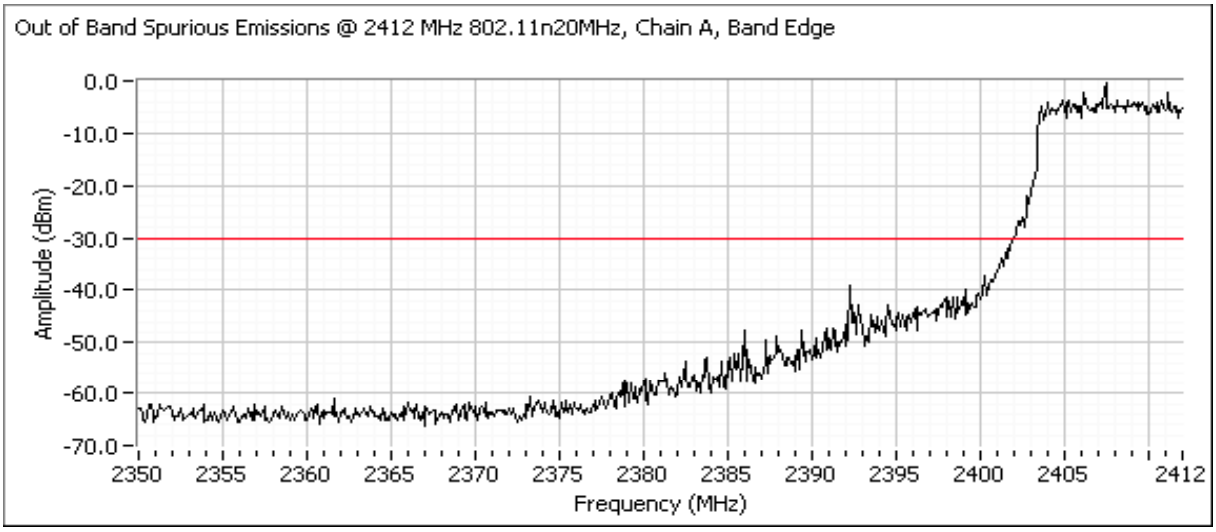
Plots for low channel, Chain A power setting(s) = 23.5



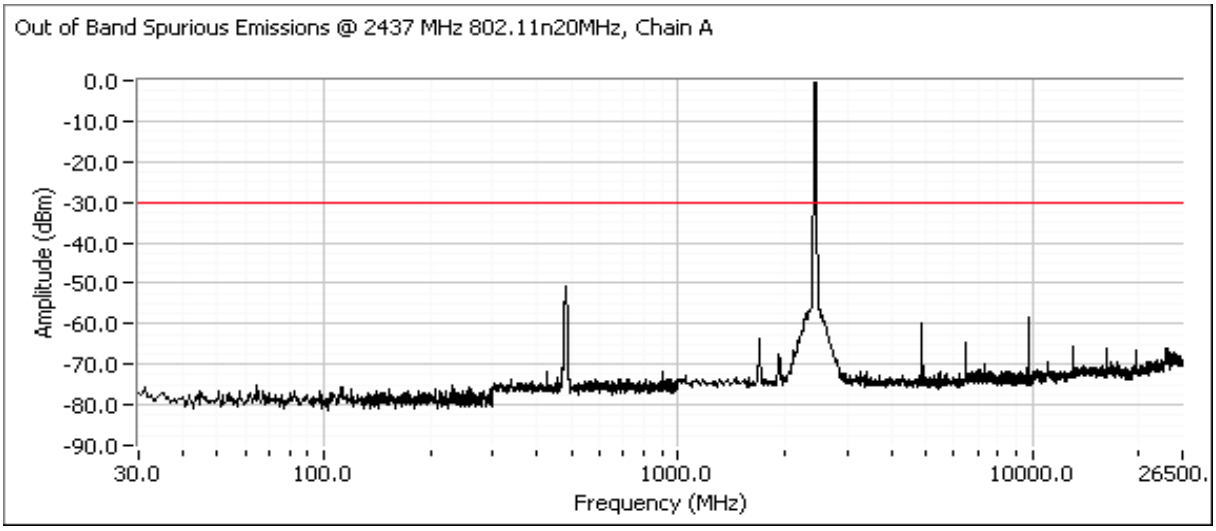
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



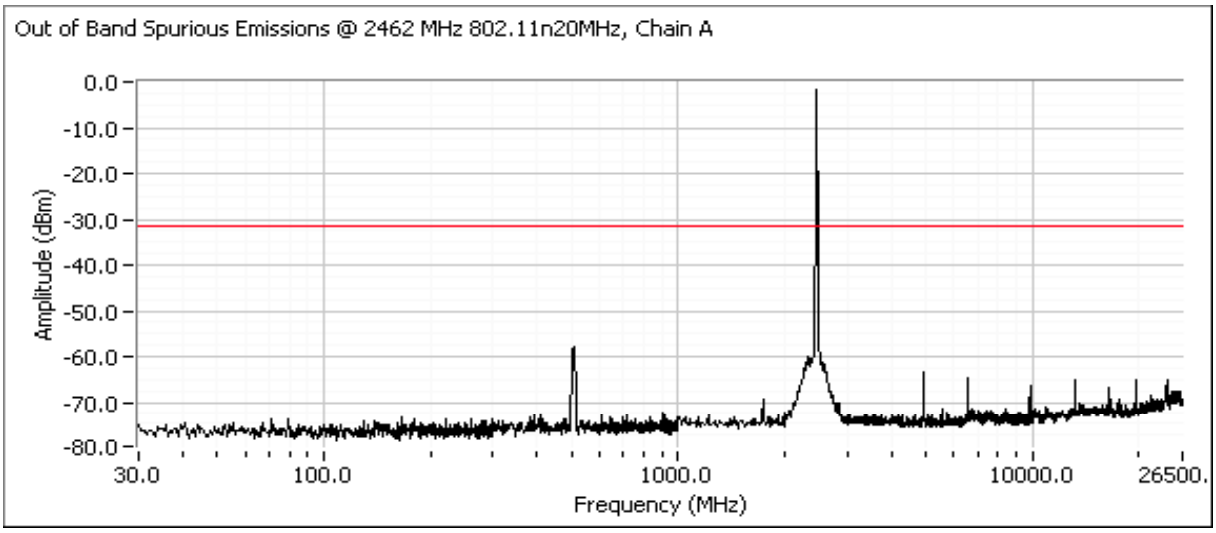
Plots for center channel, Chain A power setting(s) = 28



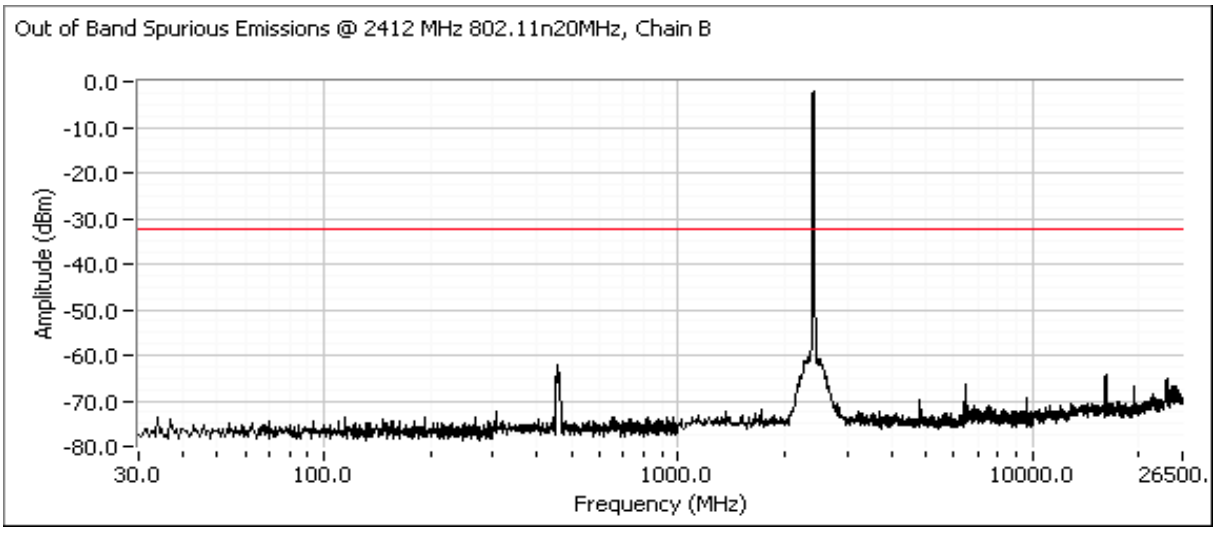
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain A power setting(s) = 25.5



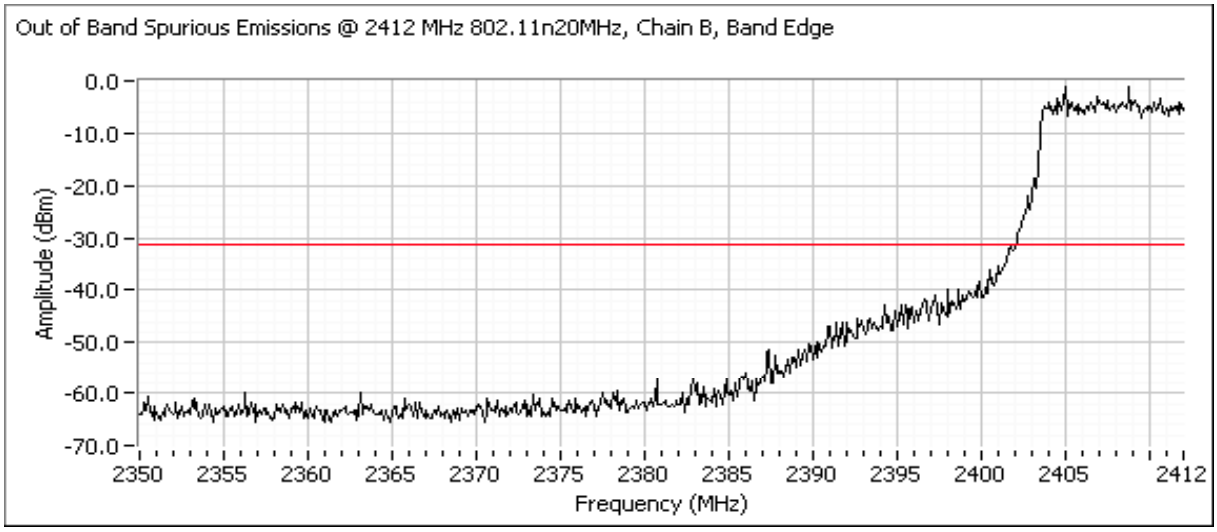
Plots for low channel, Chain B power setting(s) = 23.5



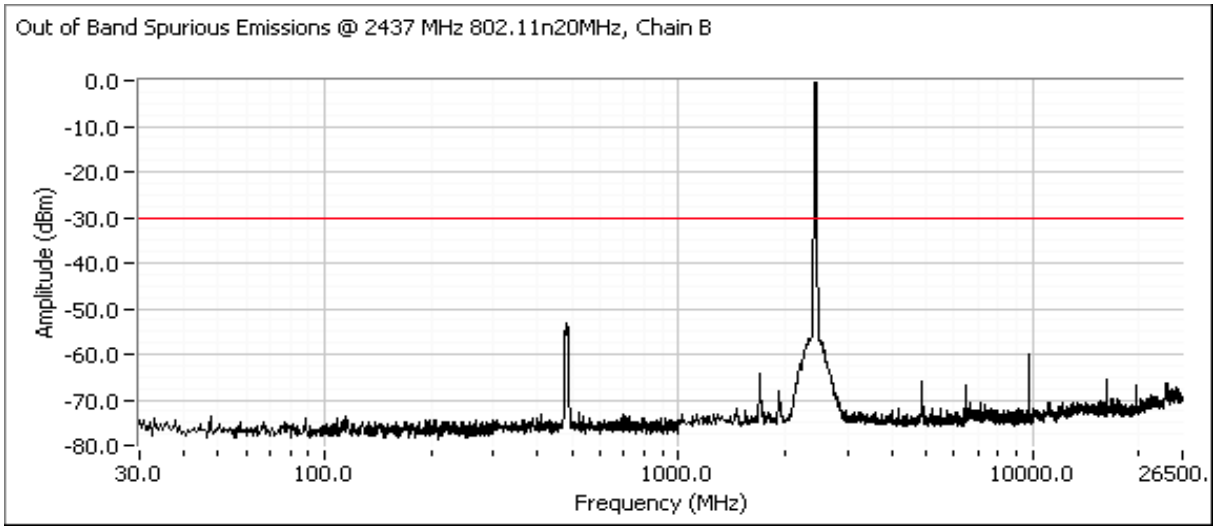
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



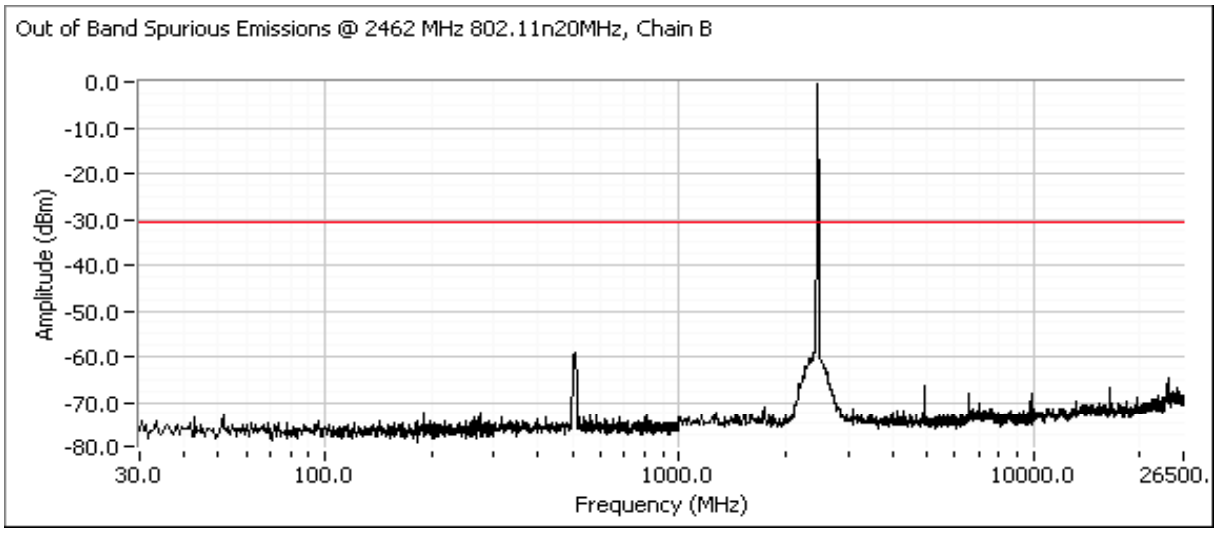
Plots for center channel, Chain B power setting(s) = 28



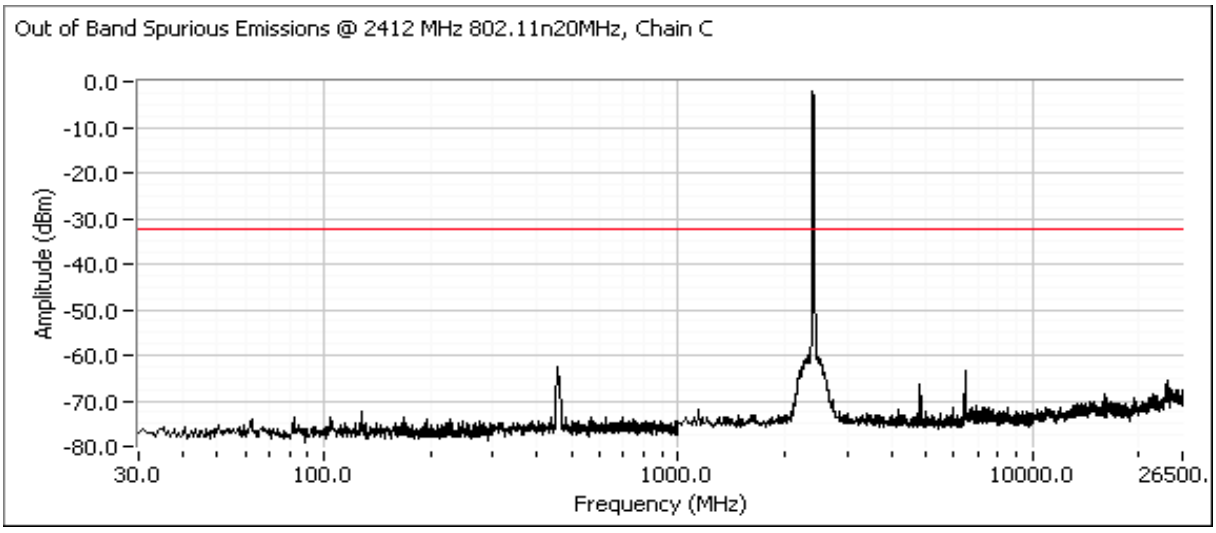
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain B power setting(s) = 25.5



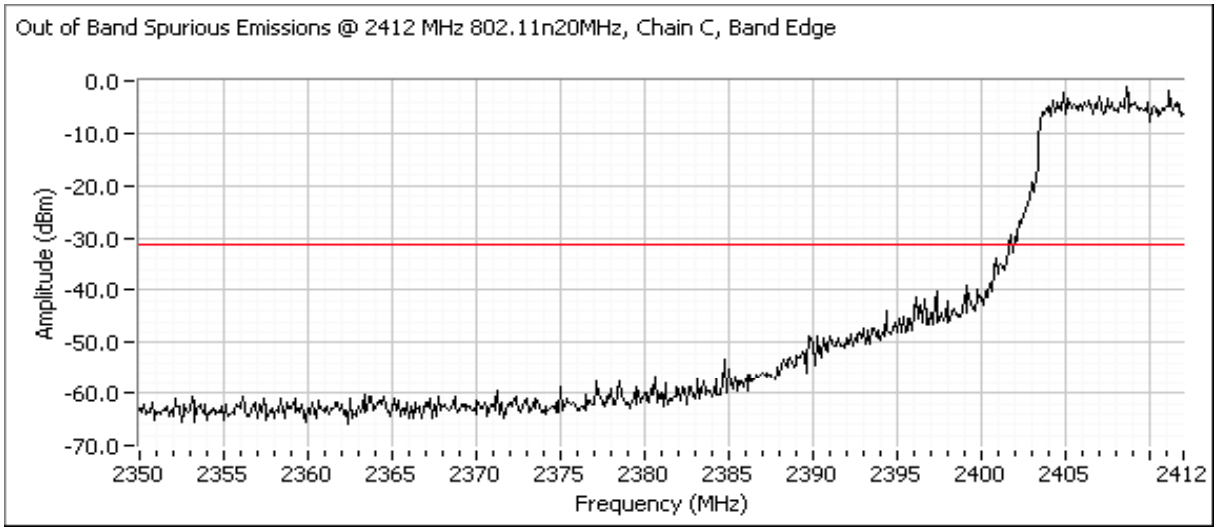
Plots for low channel, Chain C power setting(s) = 22.5



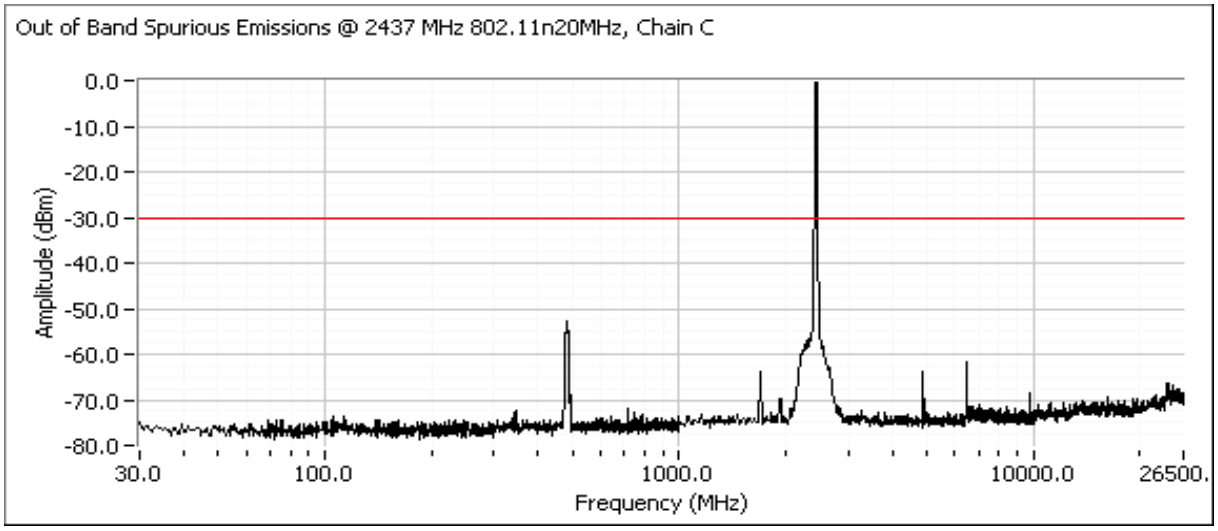
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



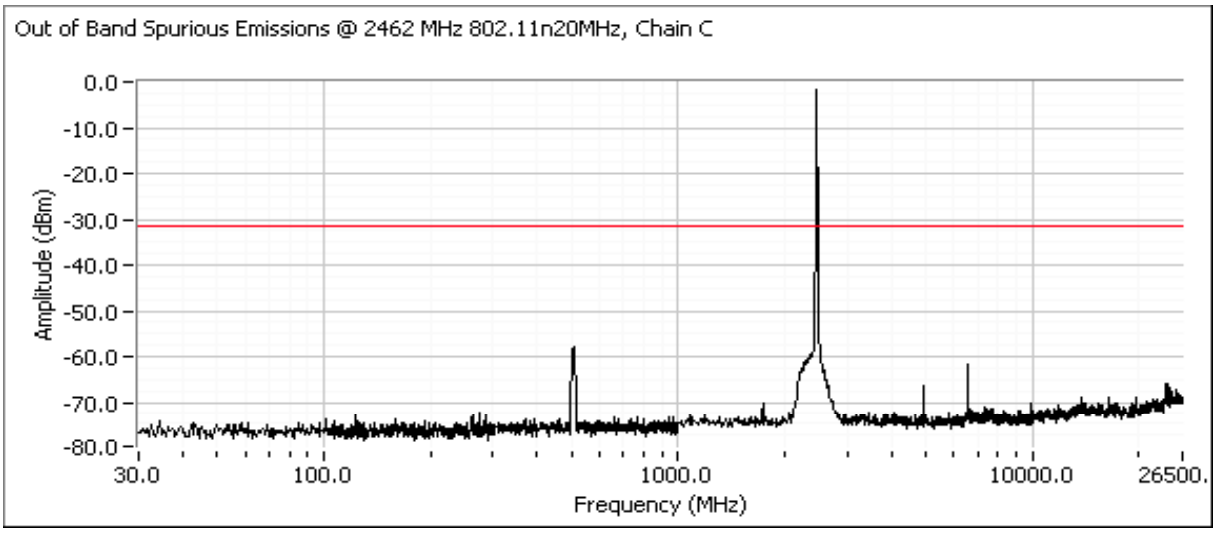
Plots for center channel, Chain C power setting(s) = 27



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain C power setting(s) = 24.5



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
802.11n 40MHz single chain 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: 4/4/2008
Test Engineer: Suhaila Khushzad
Test Location: FT Lab # 1

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

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 20.4 °C
Rel. Humidity: 39 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	14.1dBm(25.7mW)
2	Power spectral Density (PSD)	15.247(d)	Pass	-10.7 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	36 MHz
3	99% Bandwidth	RSS GEN	-	36.8 MHz
4	Antenna Conducted - Out of Band Spurious	15.247(b)	Pass	All emissions below the -30dBc limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

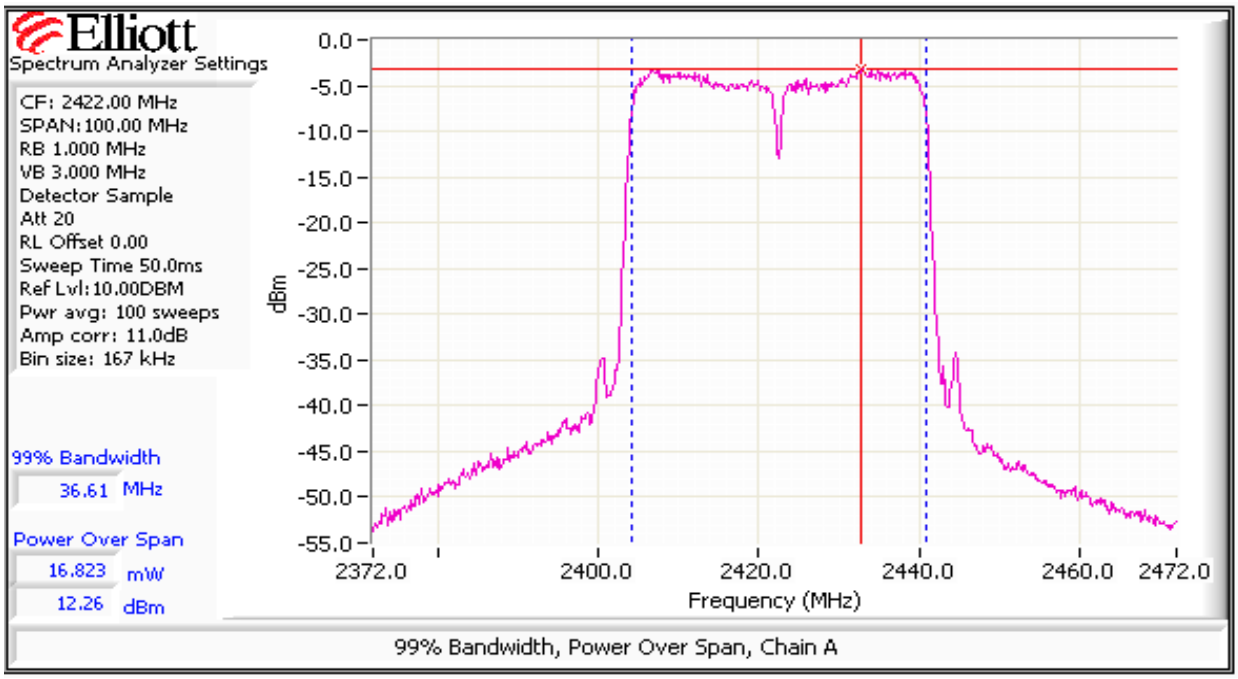
No deviations were made from the requirements of the standard.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power

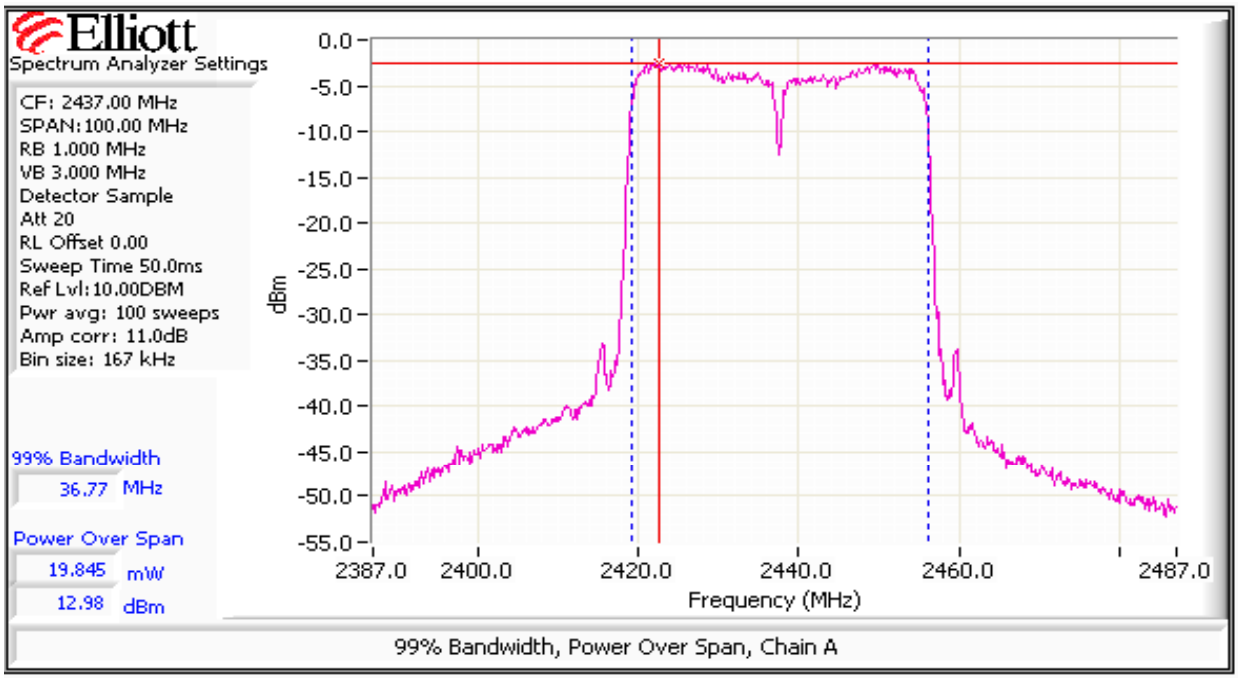
Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP W	Output Power (dBm) [3]	Output Power mW
23	2422, Chain A	12.3	16.8	3.2	Pass	15.5	0.035	12.0	15.8
24	2437, Chain A	13.0	19.9	3.2	Pass	16.2	0.041	13.2	20.9
25	2452, Chain A	13.7	23.5	3.2	Pass	16.9	0.049	13.7	23.4
23.5	2422, Chain B	12.8	18.9	3.2	Pass	16.0	0.039	12.6	18.2
24	2437, Chain B	13.0	20.1	3.2	Pass	16.2	0.042	13.2	20.9
25.5	2452, Chain B	14.1	25.7	3.2	Pass	17.3	0.054	14.3	26.9
21	2422, Chain C	11.7	14.9	3.2	Pass	14.9	0.031	11.5	14.1
22.5	2437, Chain C	13.6	22.9	3.2	Pass	16.8	0.048	13.7	23.4
24	2452, Chain C	13.8	23.9	3.2	Pass	17.0	0.050	13.9	24.5

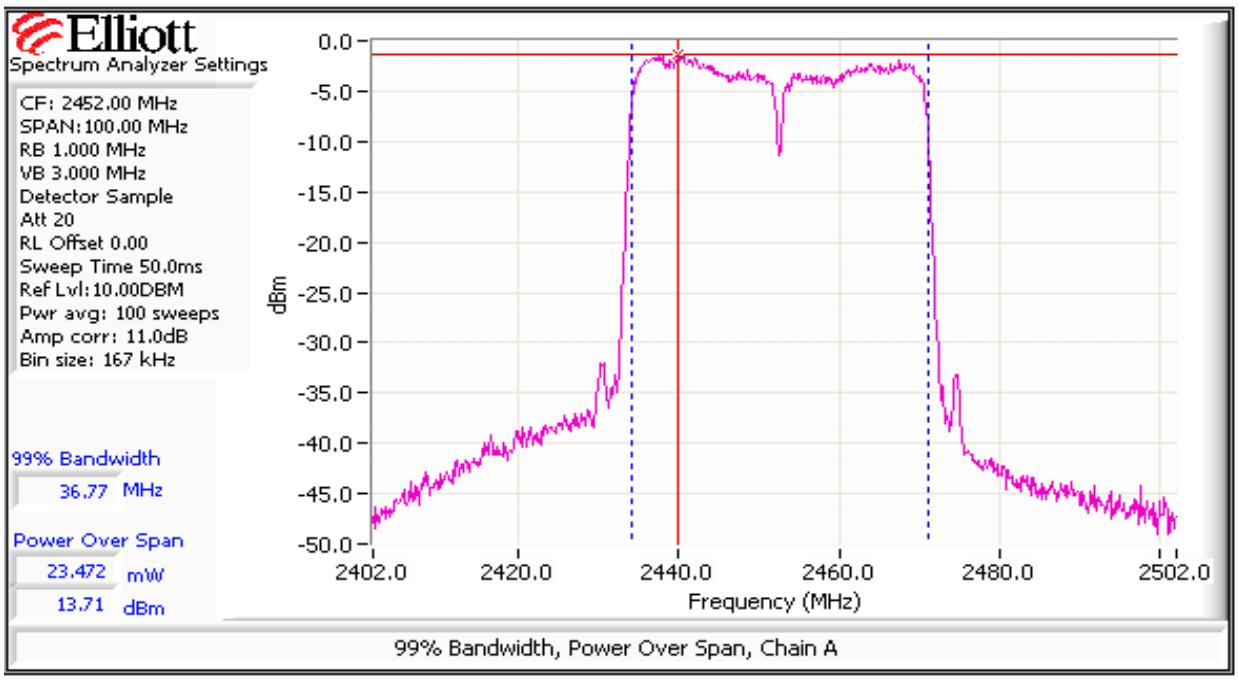
Note 1:	Output power measured using a spectrum analyzer (see plots below): RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 100 MHz. Spurious limit is -30dBc because this method was used. The output power limit is 30dBm.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power sensor and is included for manufacturer's reference only.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

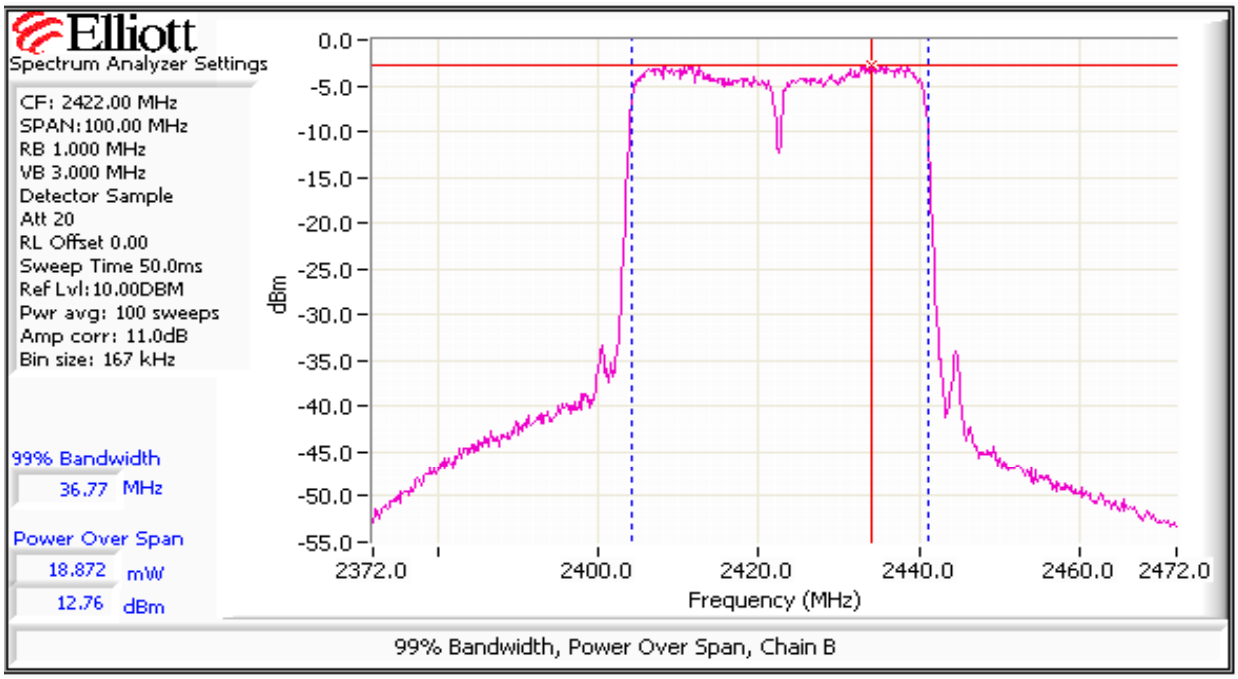
Run #1: Output Power

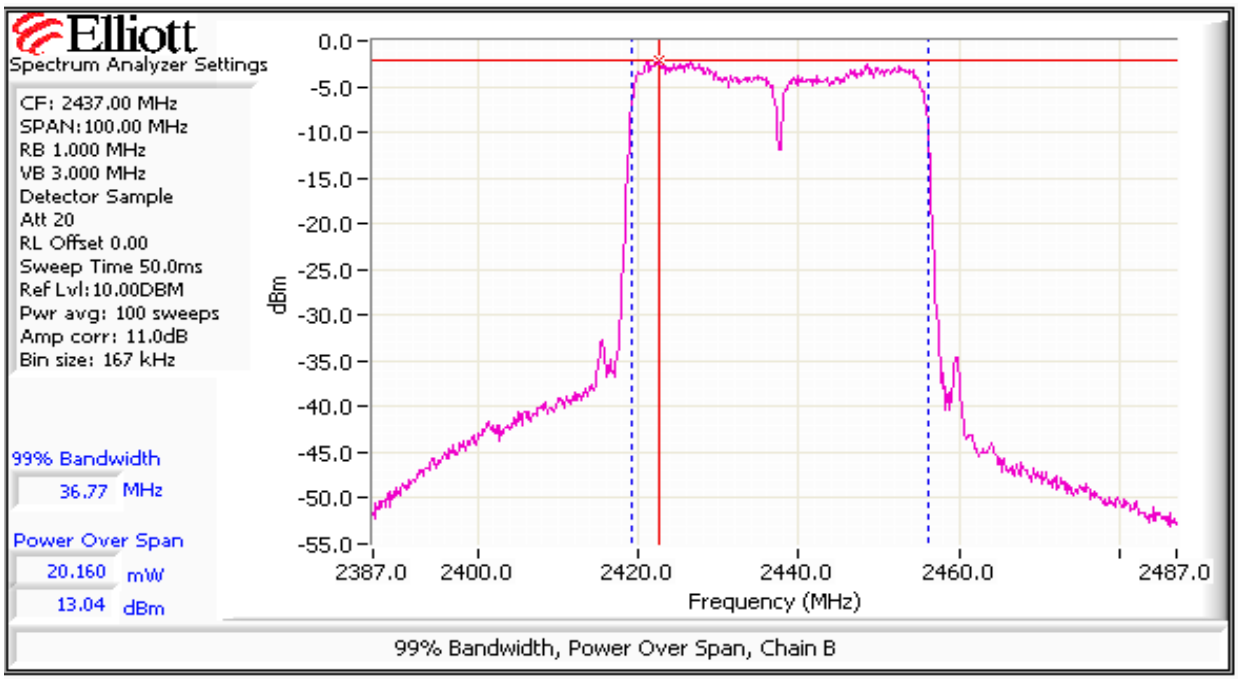




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

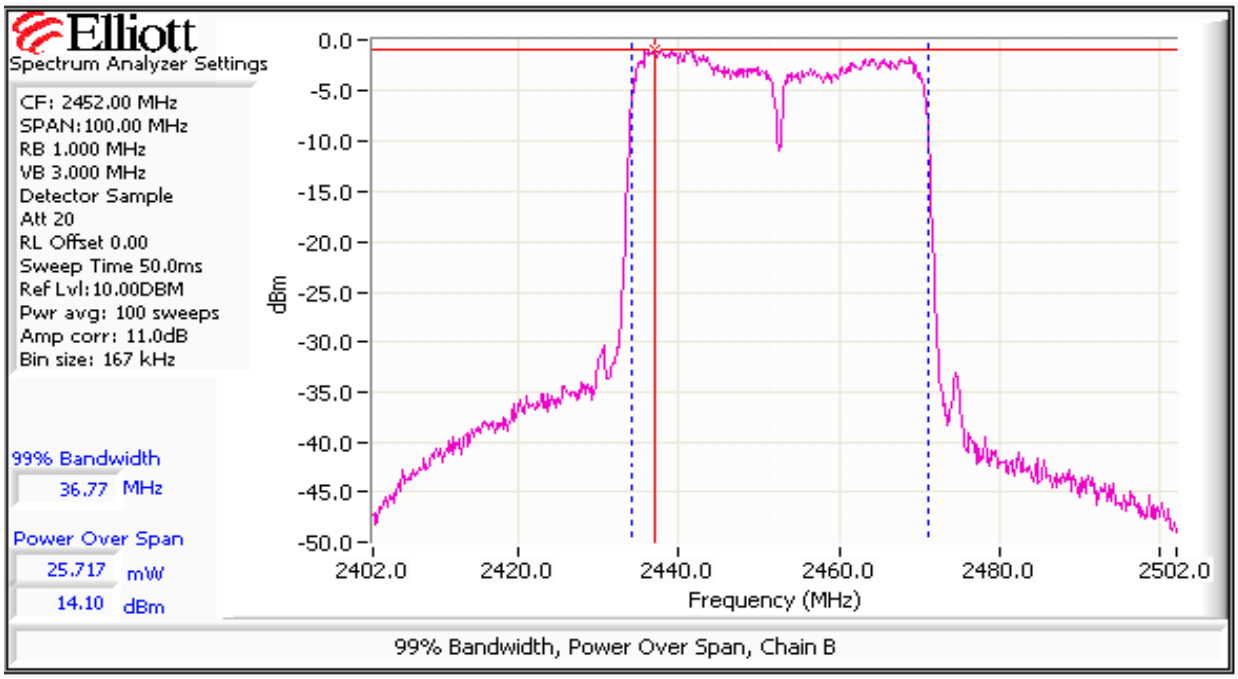
Run #1: Output Power

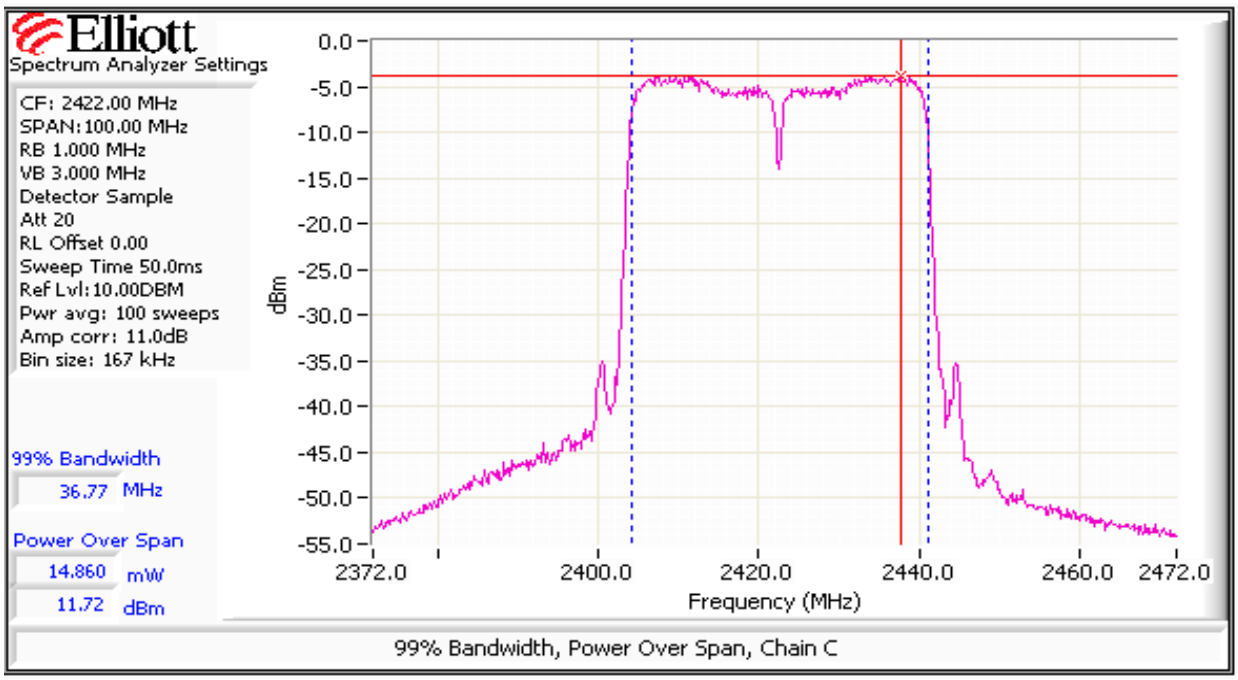




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

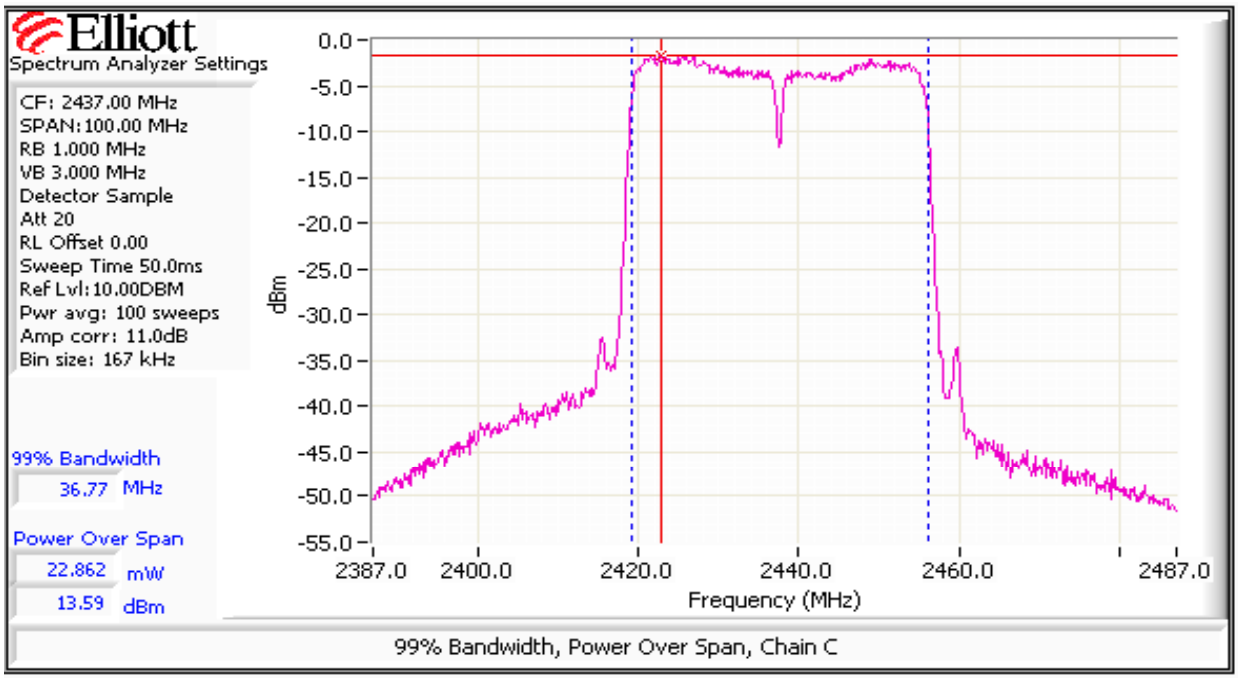
Run #1: Output Power

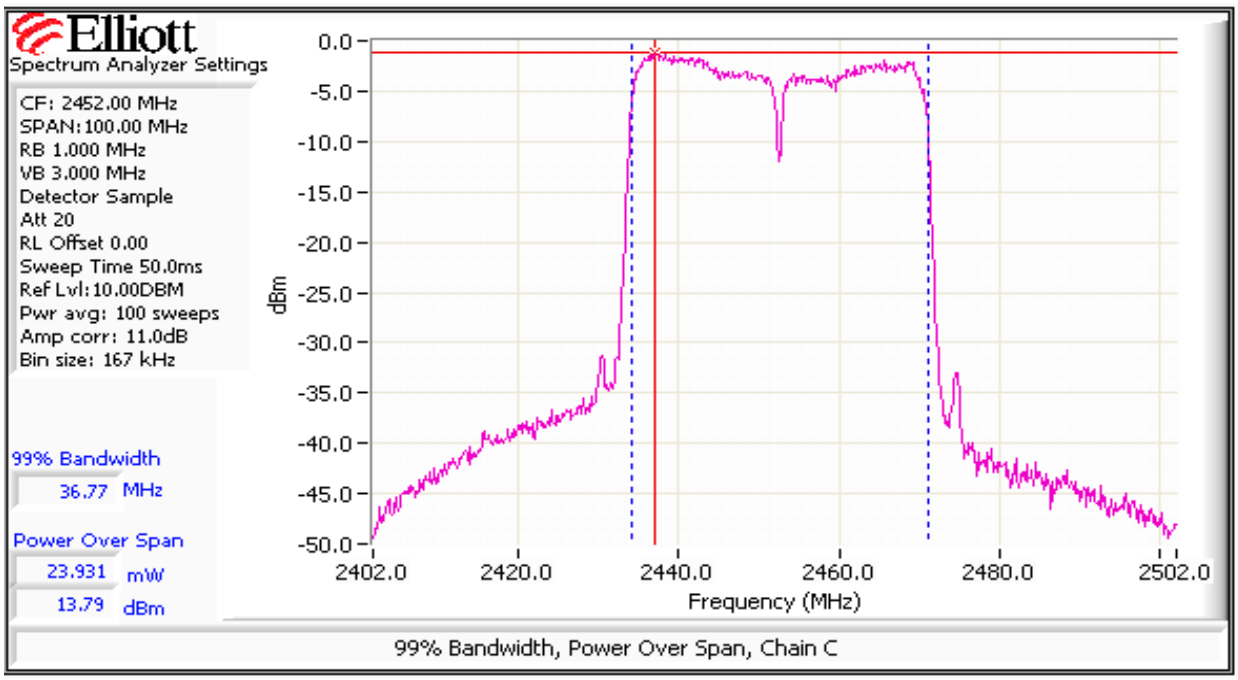




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power



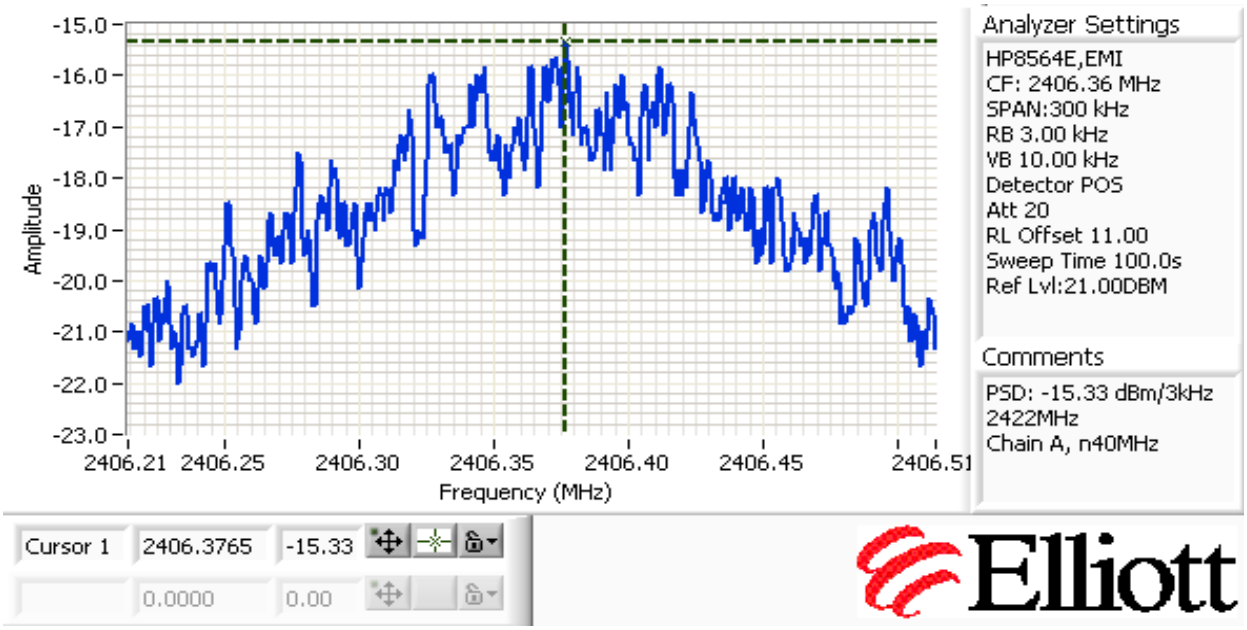


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density

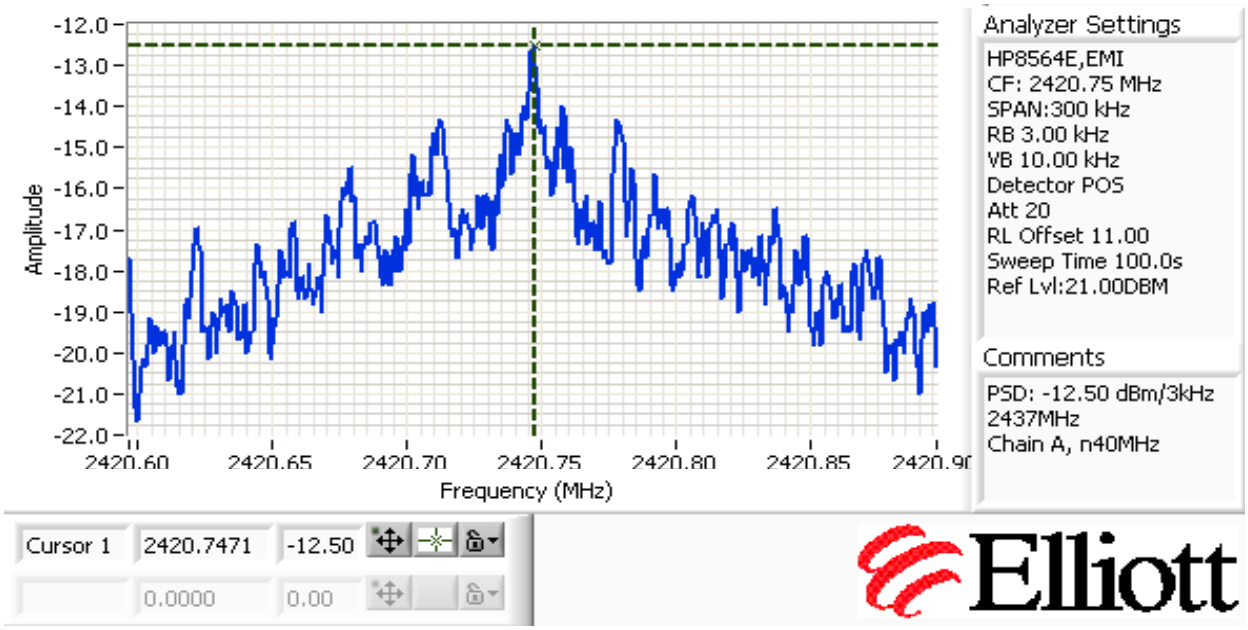
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
23	2422, Chain A	-15.3	8.0	Pass
24	2437, Chain A	-12.5	8.0	Pass
25	2452, Chain A	-11.8	8.0	Pass
23.5	2422, Chain B	-13.8	8.0	Pass
24	2437, Chain B	-14.5	8.0	Pass
25.5	2452, Chain B	-10.7	8.0	Pass
21	2422, Chain C	-15.3	8.0	Pass
22.5	2437, Chain C	-15.2	8.0	Pass
24	2452, Chain C	-11.5	8.0	Pass

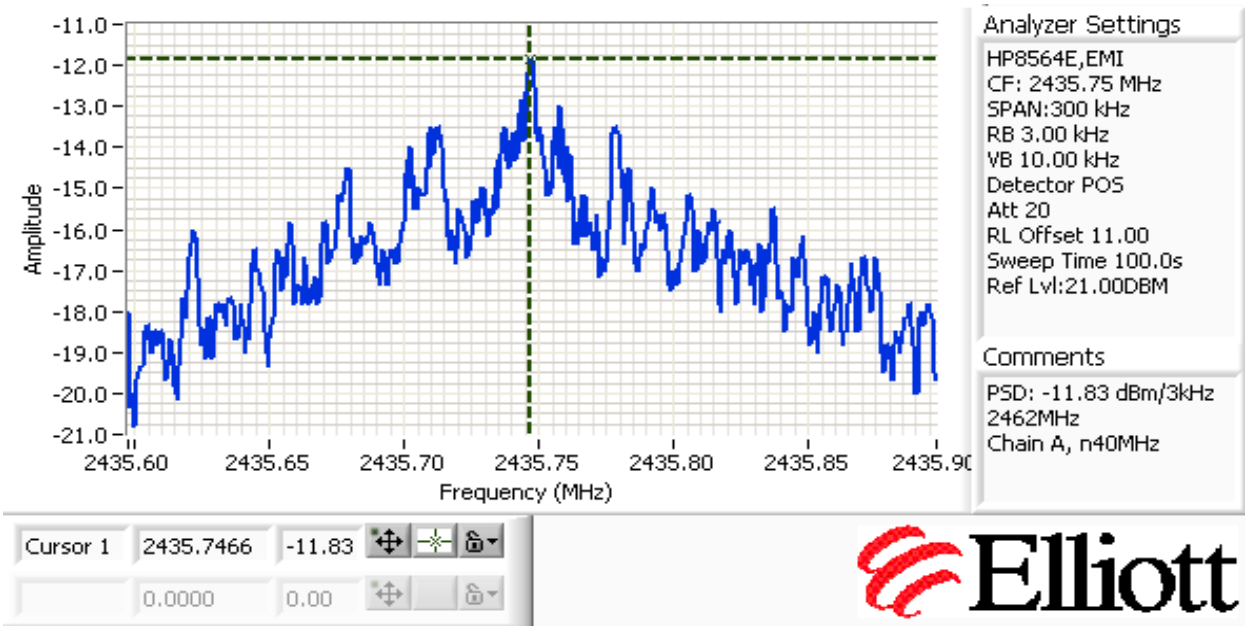
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

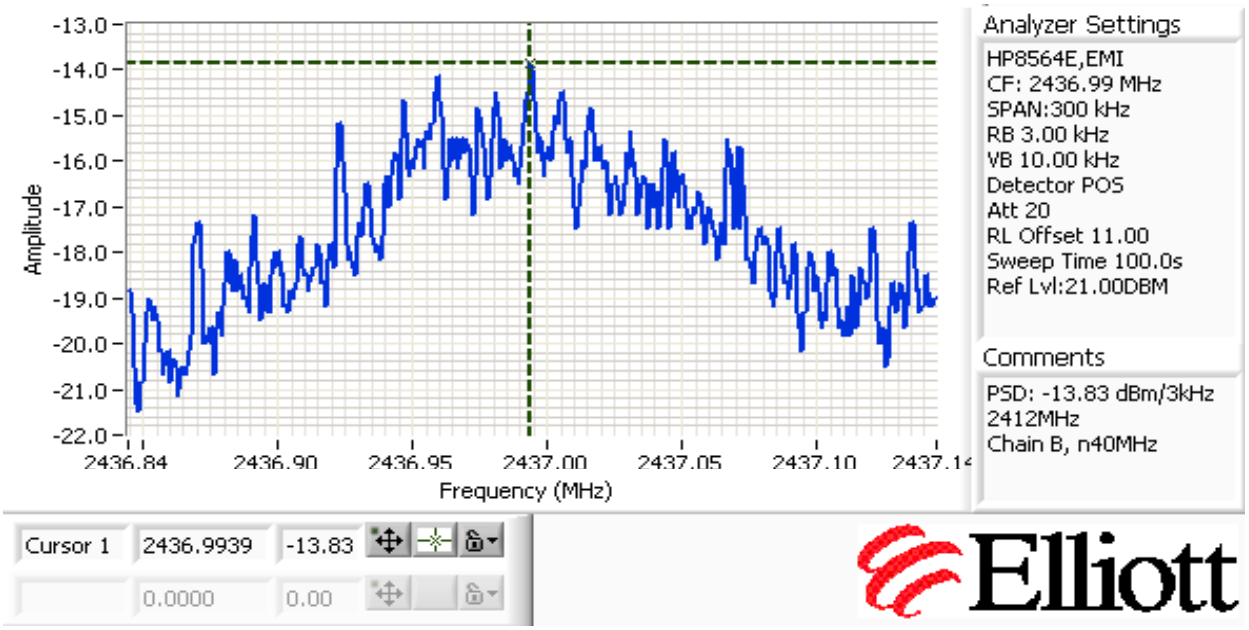
Run #2: Power spectral Density

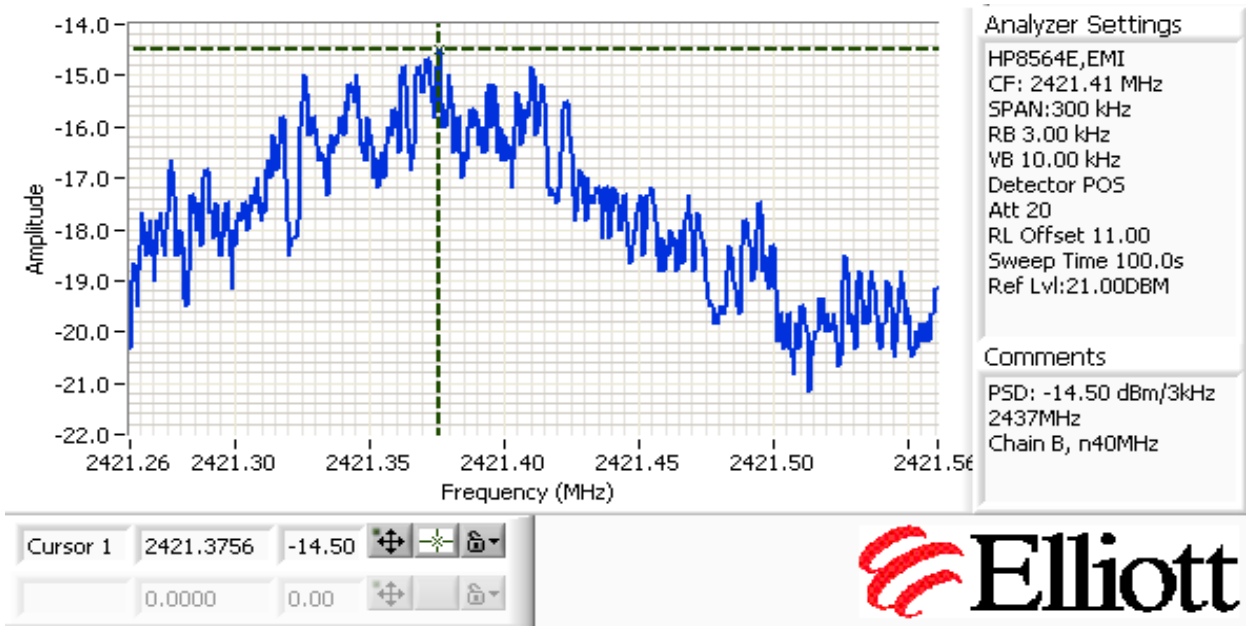




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

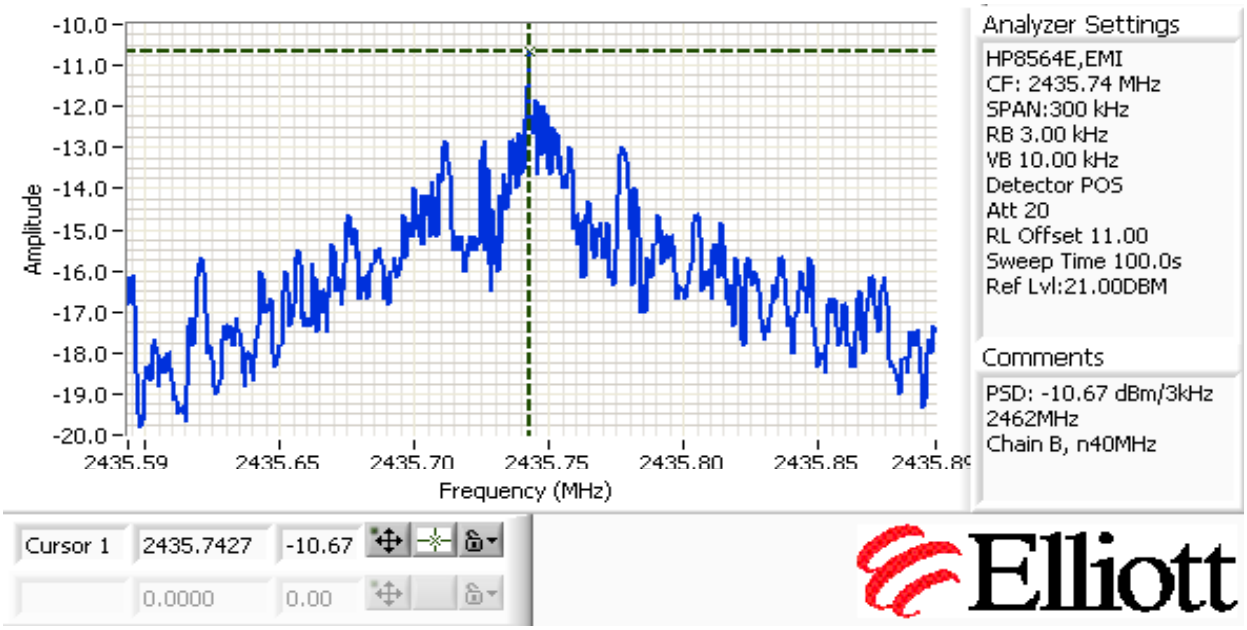
Run #2: Power spectral Density

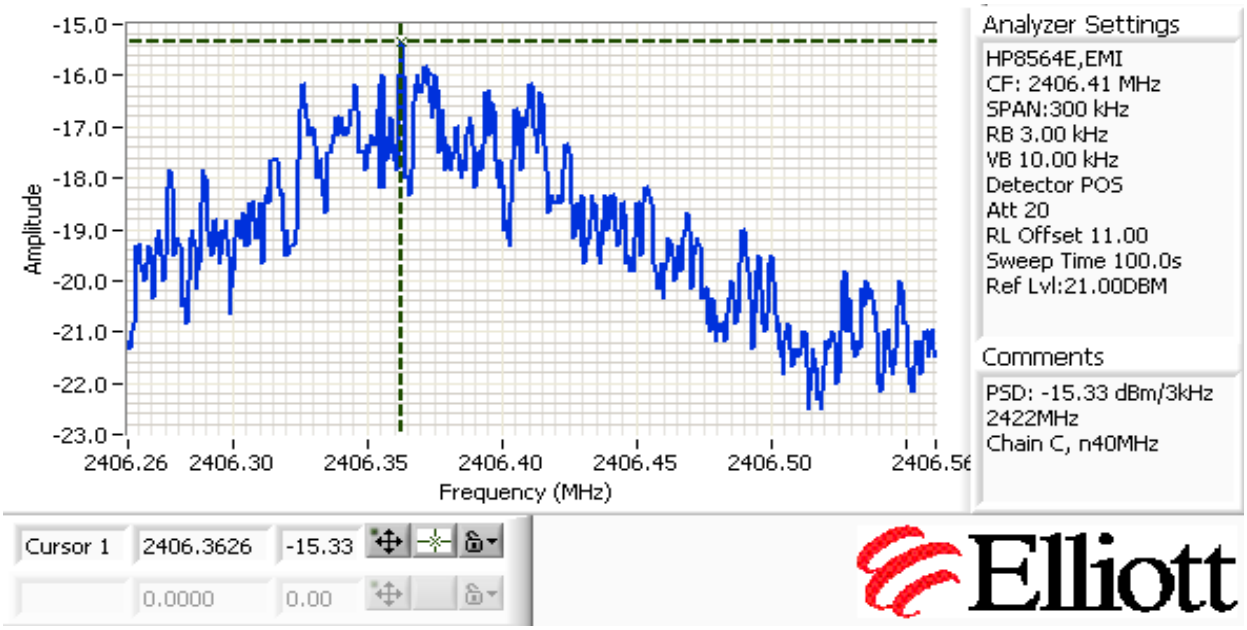




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

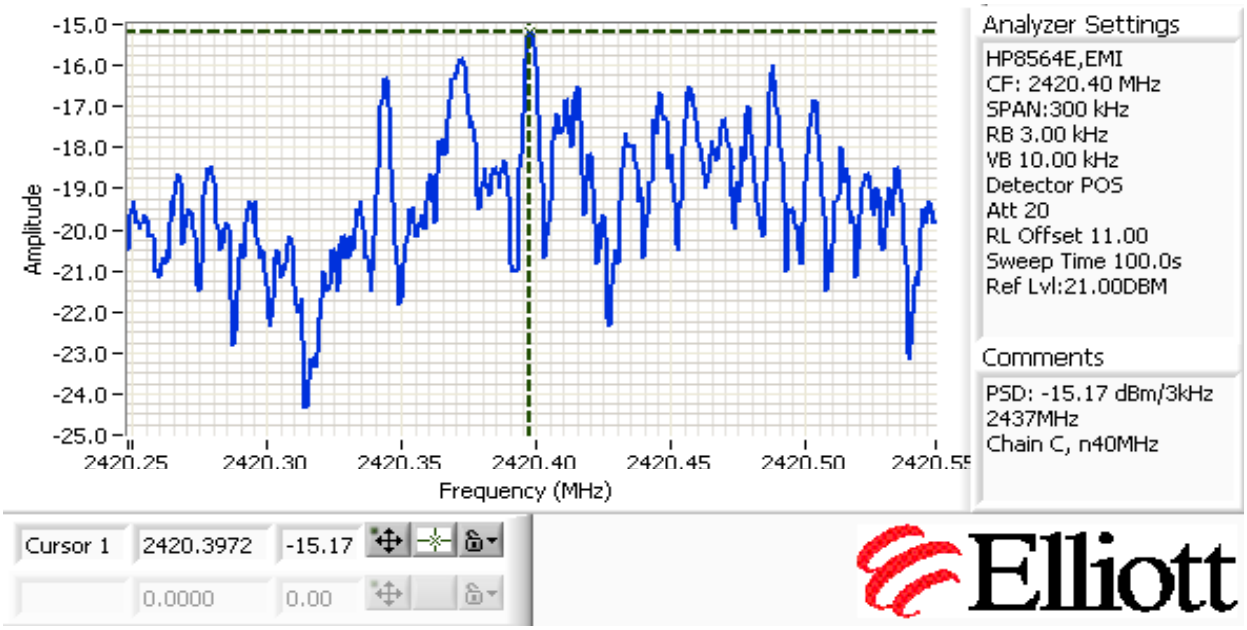
Run #2: Power spectral Density

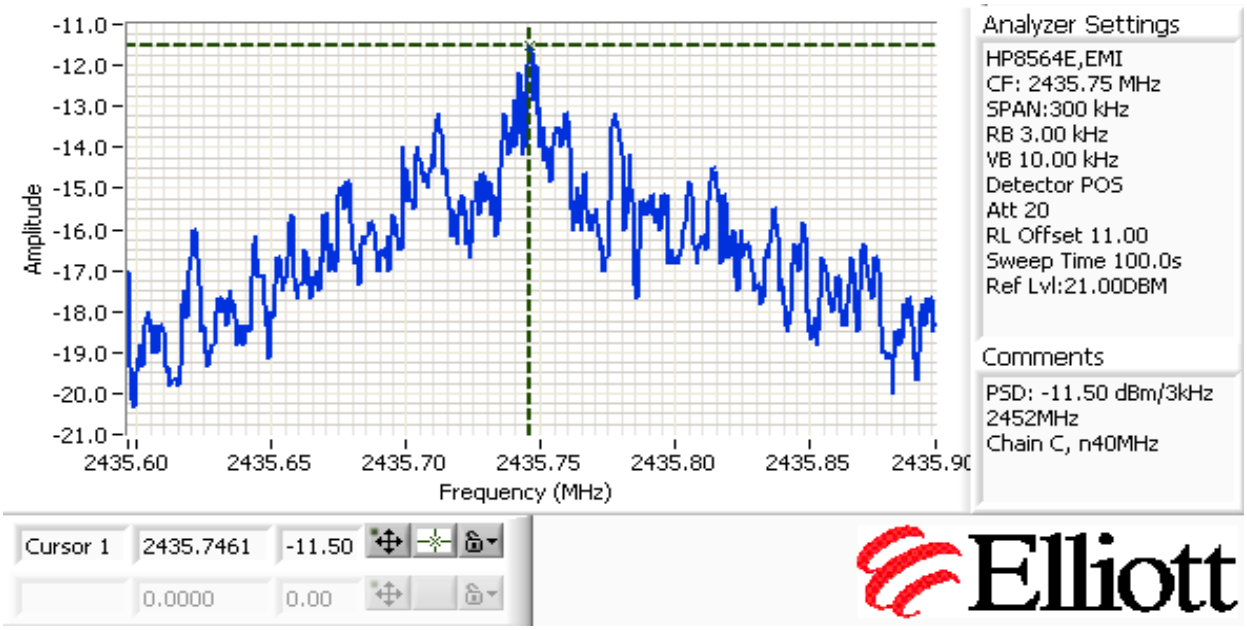




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density



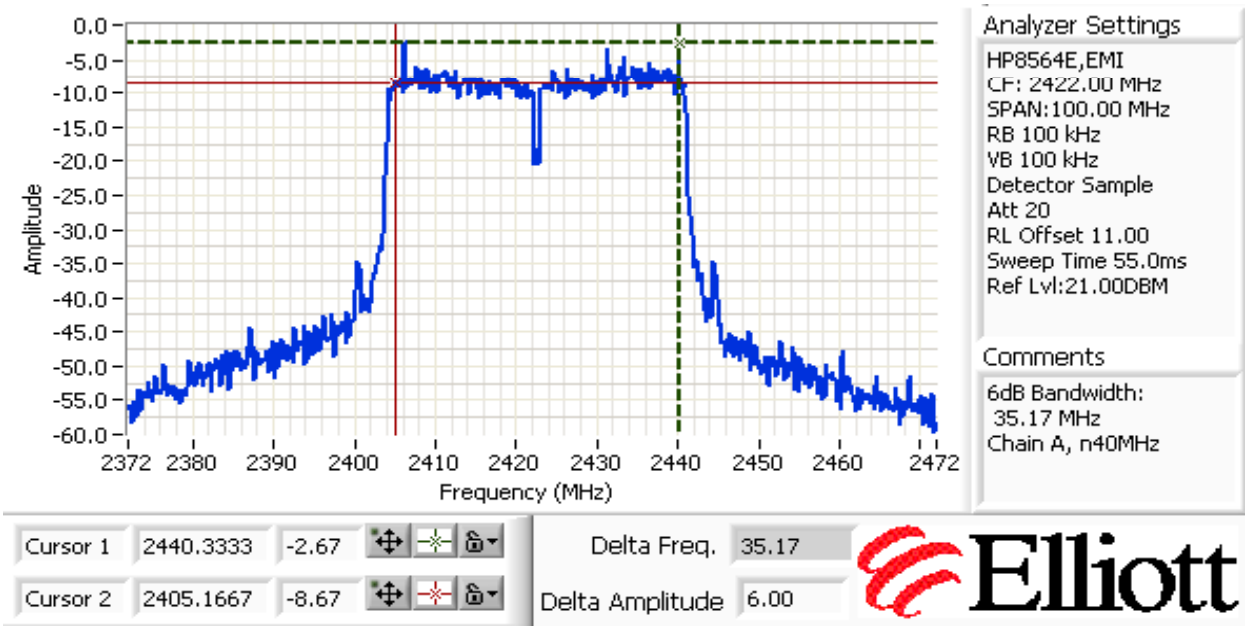


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth

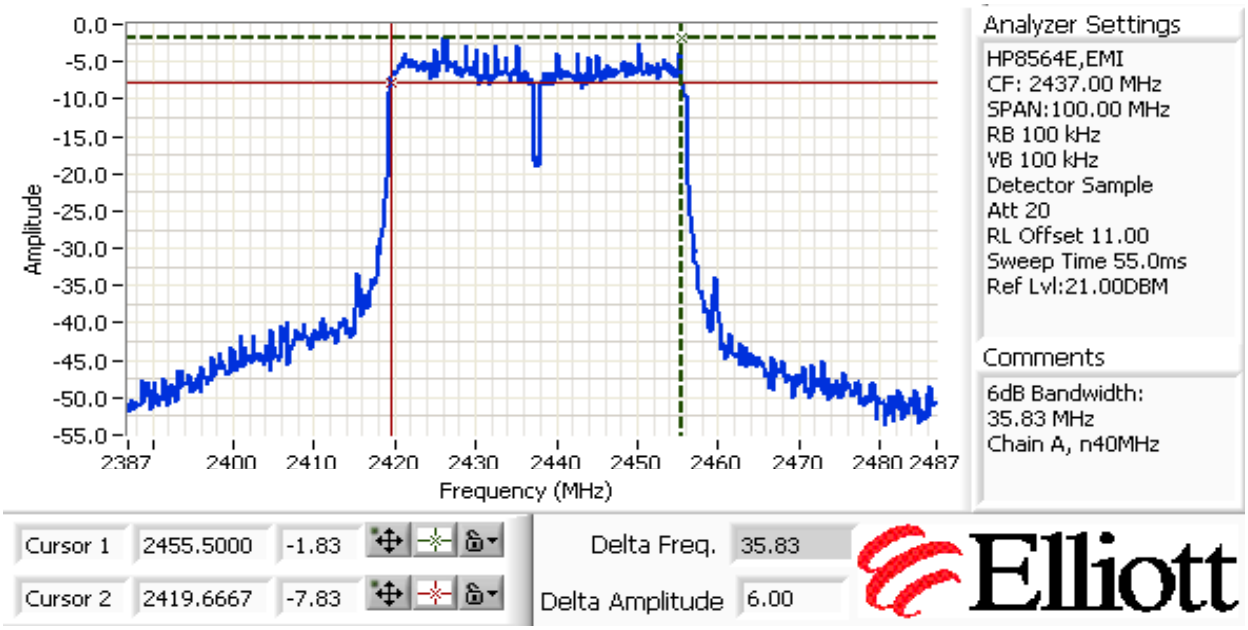
Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
23	2422, Chain A	100kHz	35.17	36.6
24	2437, Chain A	100kHz	35.83	36.8
25	2452, Chain A	100kHz	35.67	36.8
24	2437, Chain B	100kHz	36	36.8
22.5	2437, Chain C	100kHz	35.83	36.8

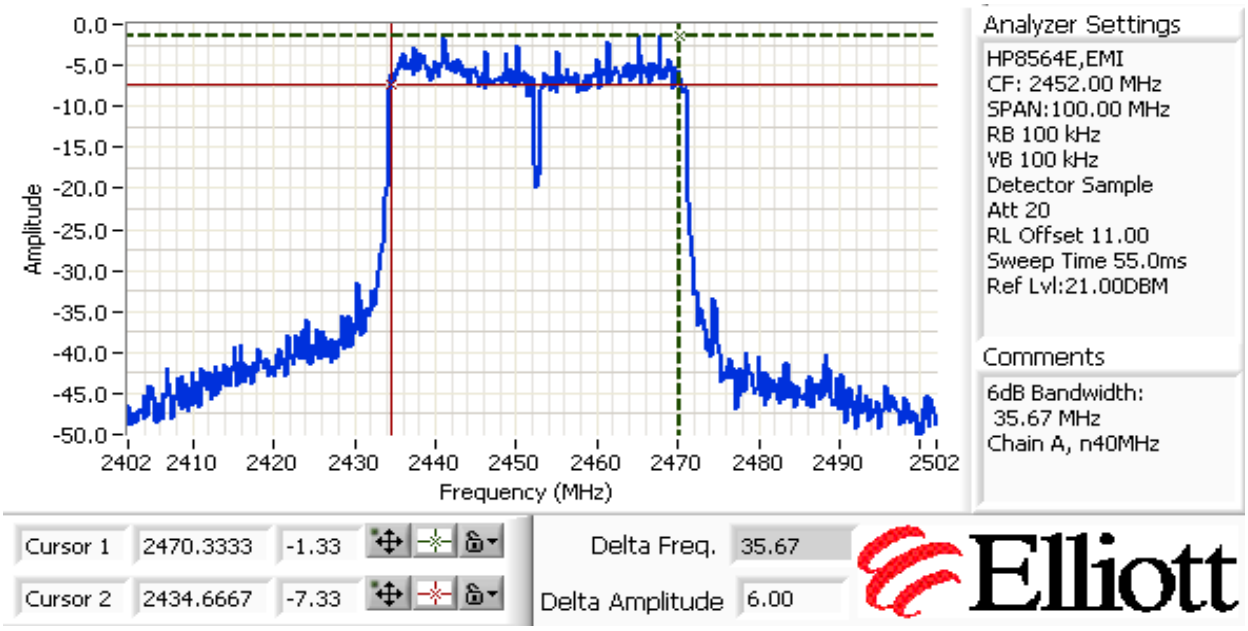
Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB
Note 2:	Center channel of Chains B and C measured to verify no significant difference in signal bandwidth from Chain A.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

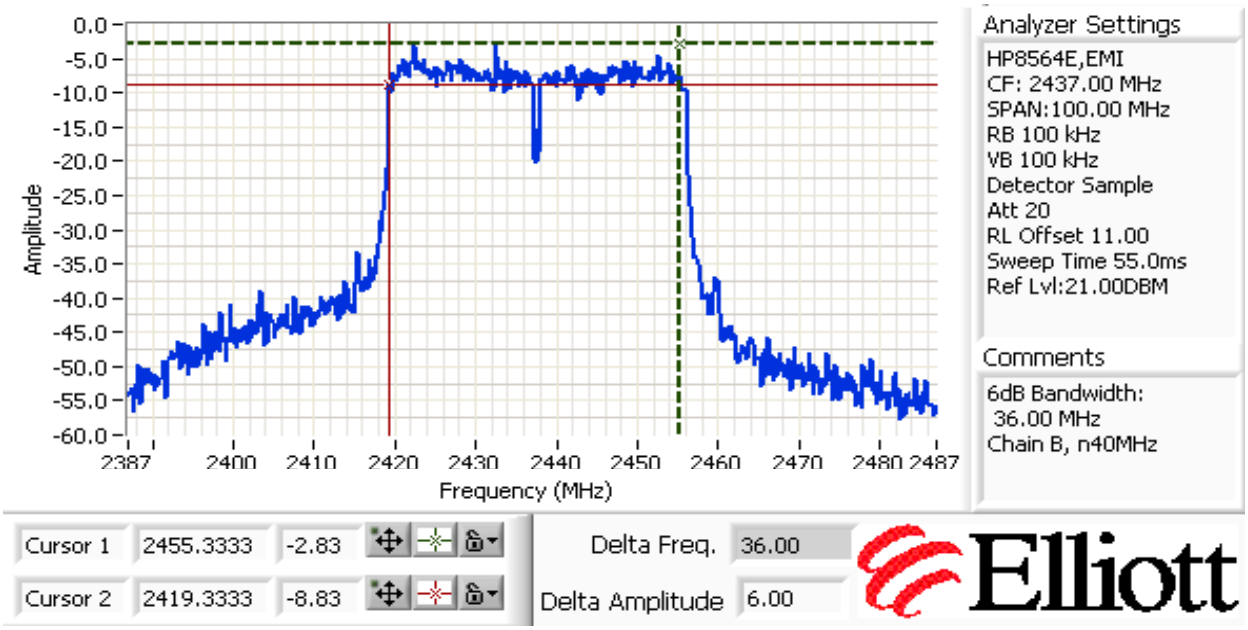
Run #3: Signal Bandwidth

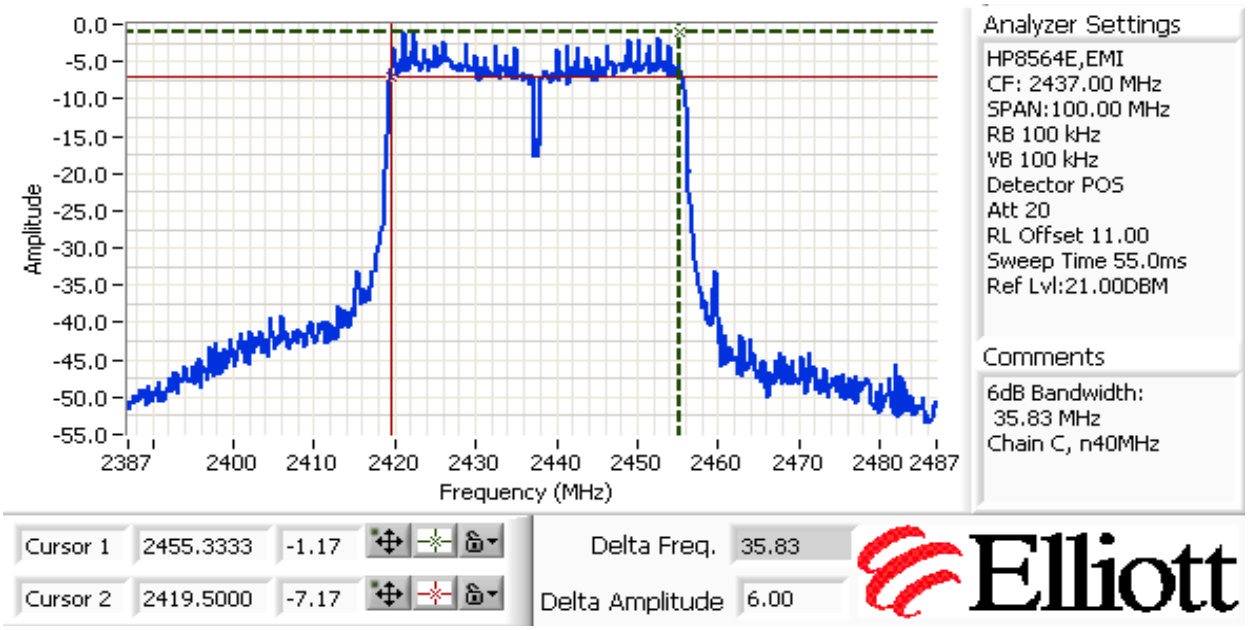




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Signal Bandwidth





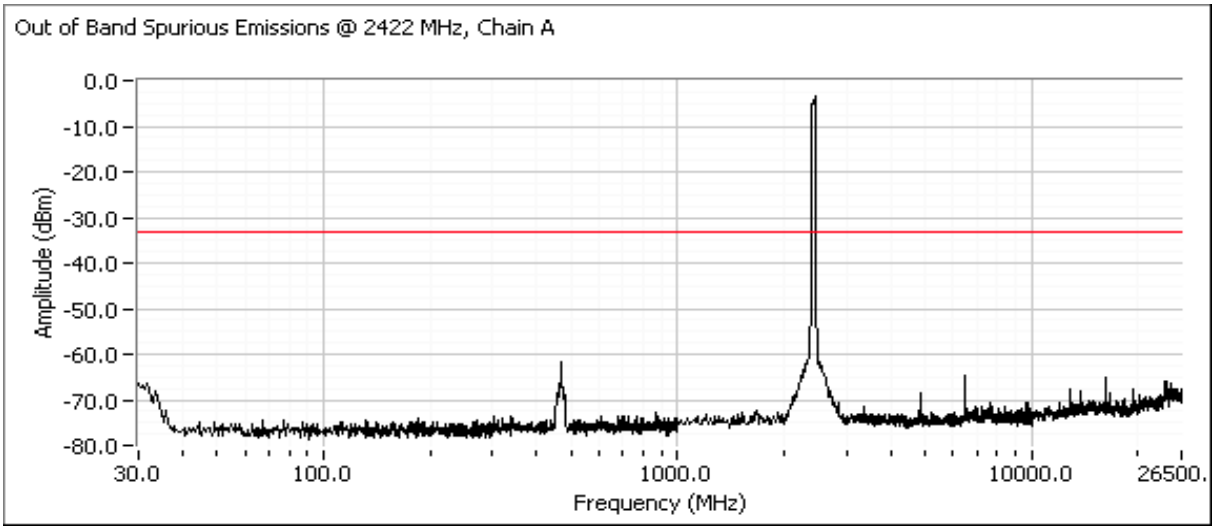
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

All measured using RB = 100kHz, VB = 300kHz.

Frequency (MHz)	Limit	Result
2422, Chain A	-30dBc	Pass
2437, Chain A	-30dBc	Pass
2452, Chain A	-30dBc	Pass
2422, Chain B	-30dBc	Pass
2437, Chain B	-30dBc	Pass
2452, Chain B	-30dBc	Pass
2422, Chain C	-30dBc	Pass
2437, Chain C	-30dBc	Pass
2452, Chain C	-30dBc	Pass

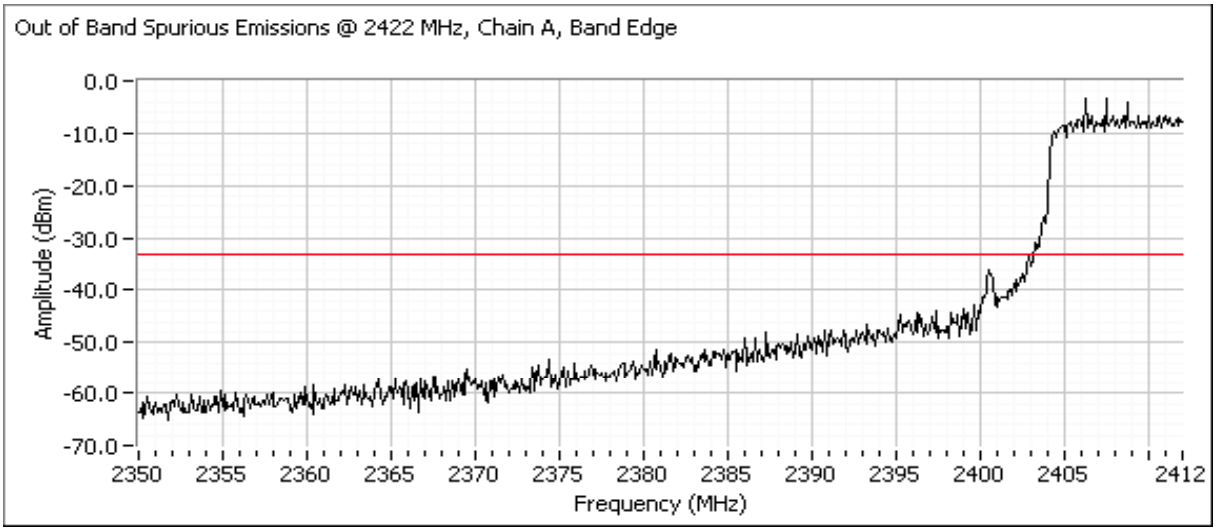
Plots for low channel, Chain A power setting(s) = 23



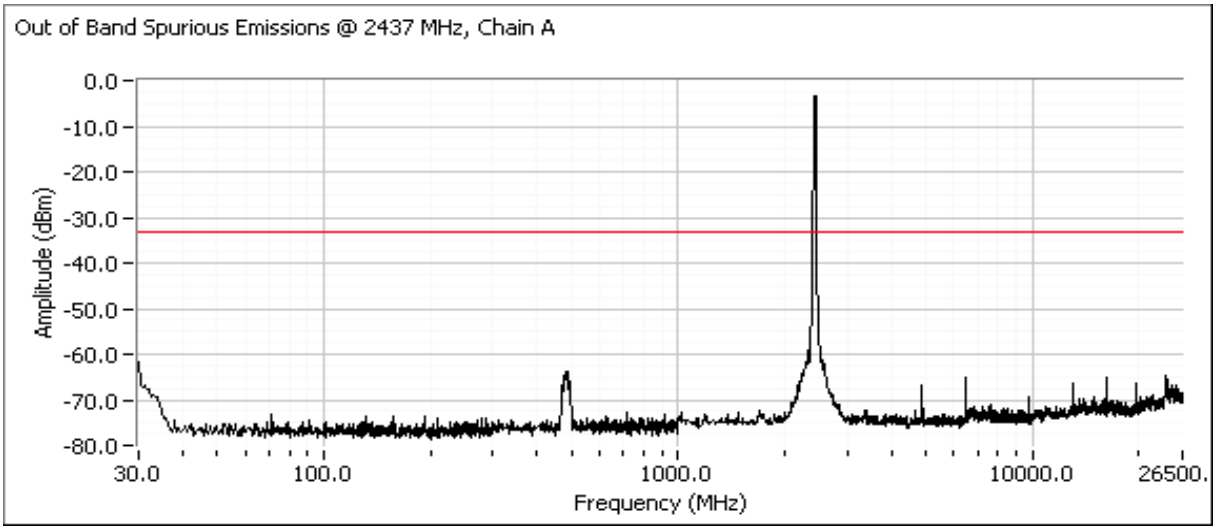
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



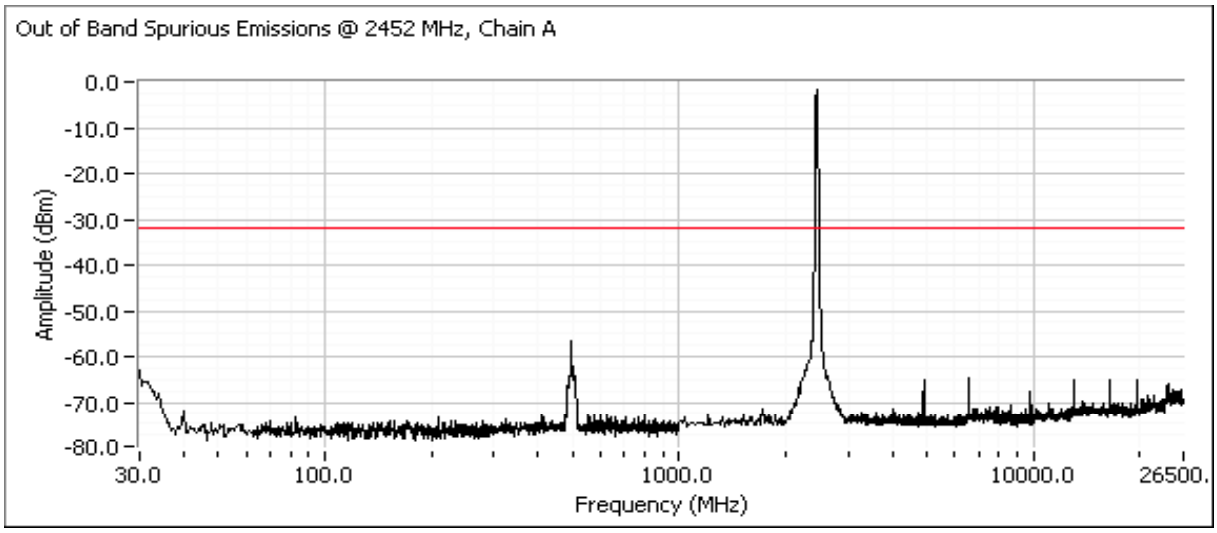
Plots for center channel, Chain A power setting(s) = 24



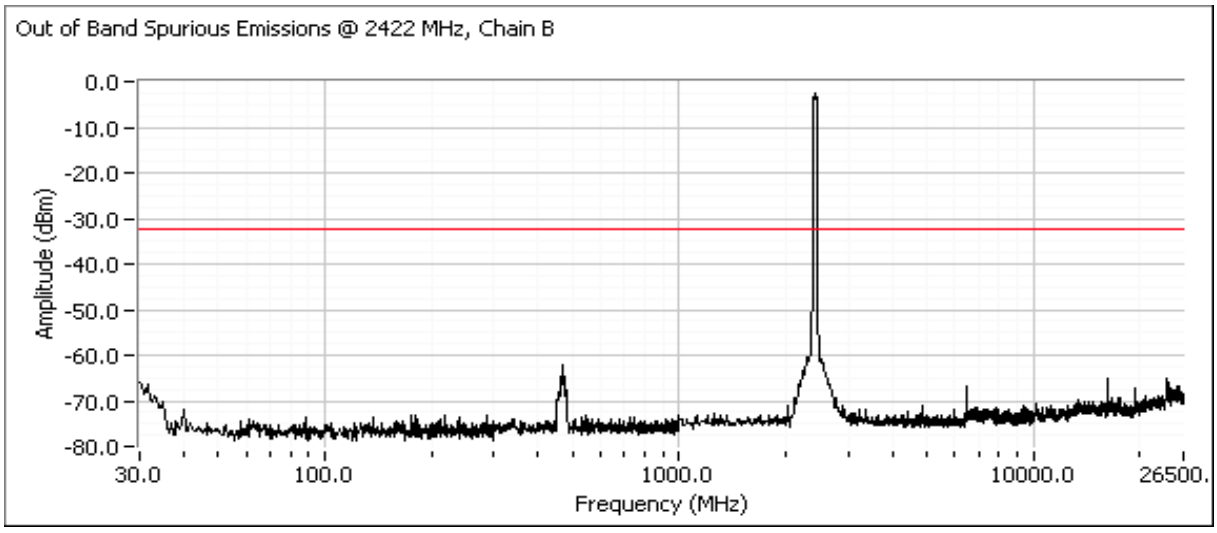
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain A power setting(s) = 25



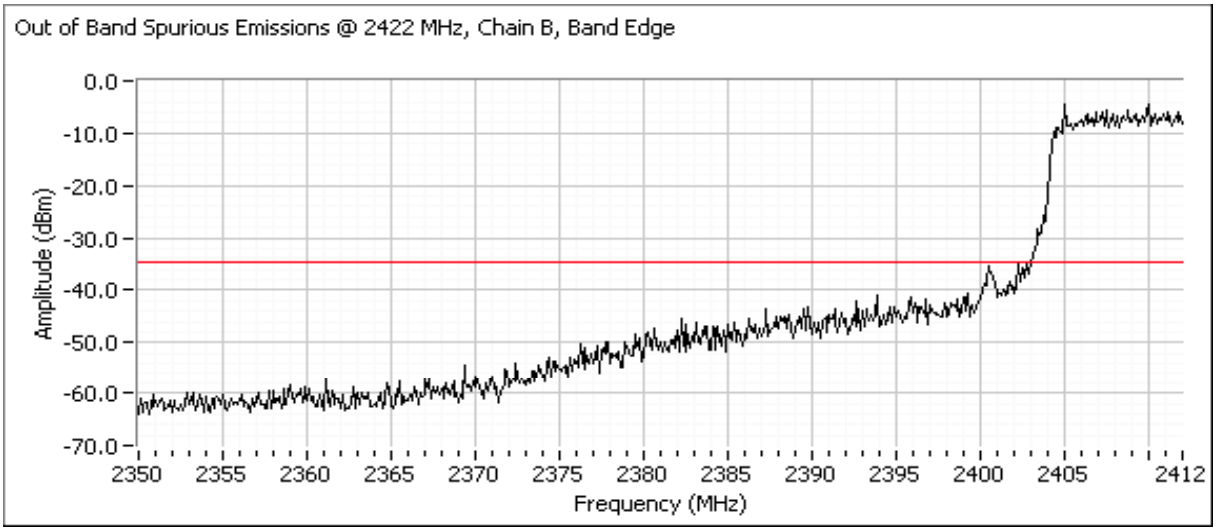
Plots for low channel, Chain B power setting(s) = 23.5



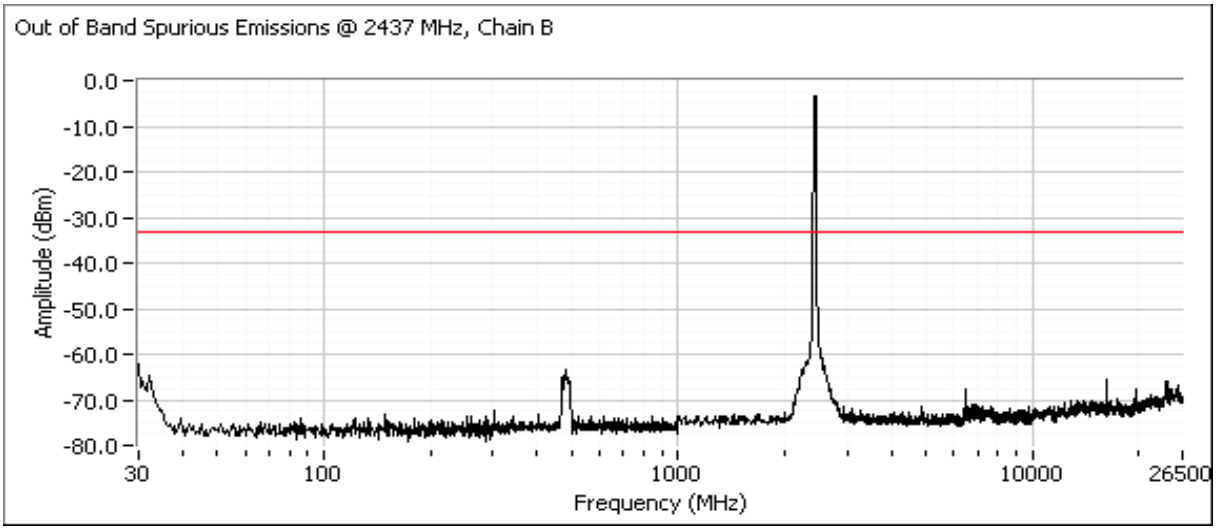
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



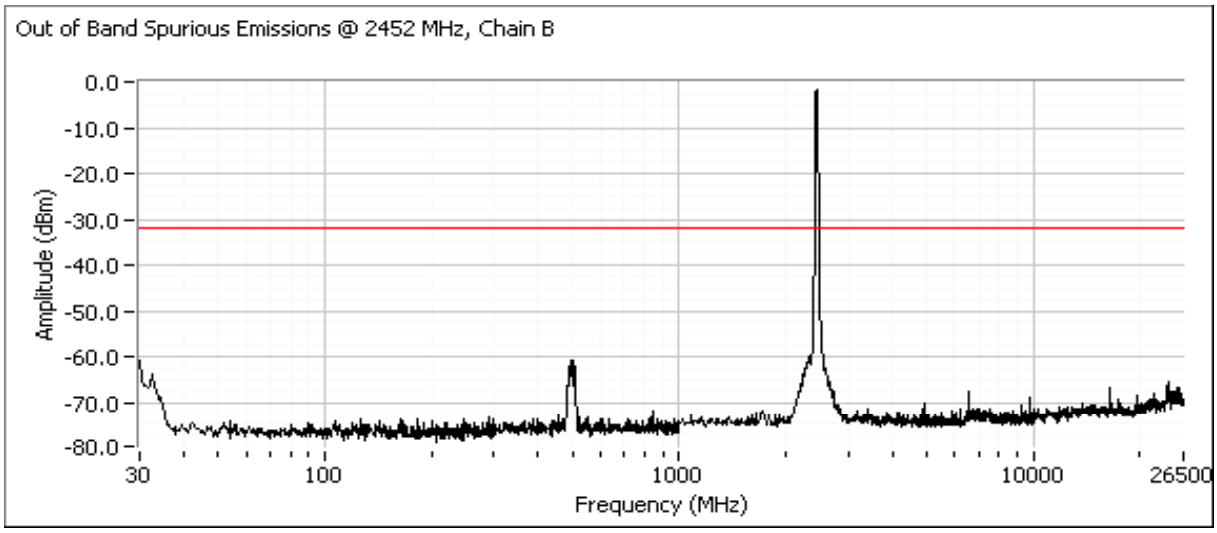
Plots for center channel, Chain B power setting(s) = 24



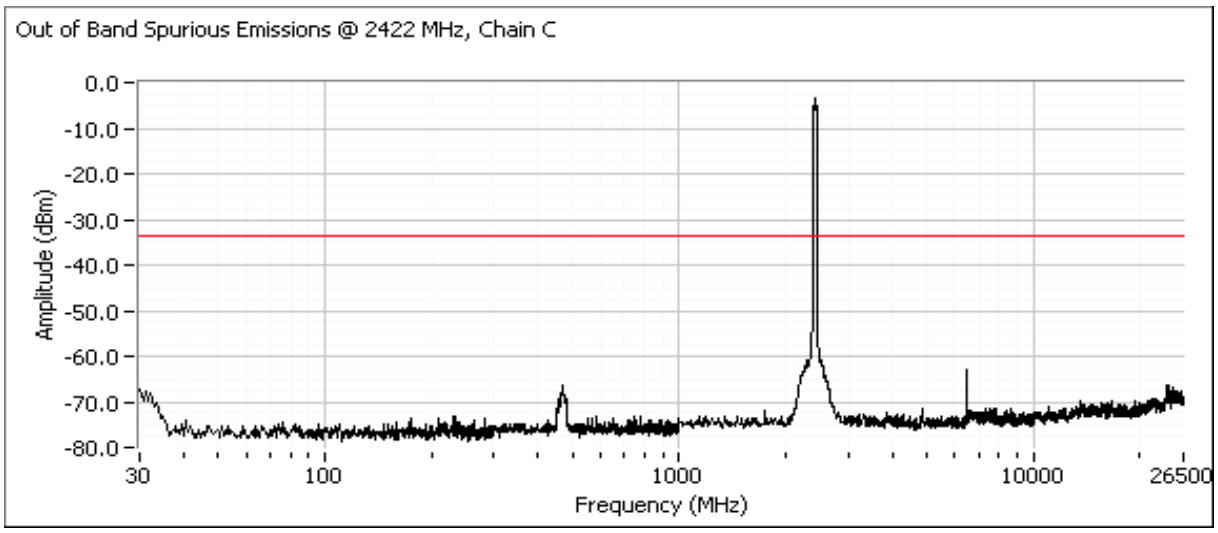
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain B power setting(s) = 25



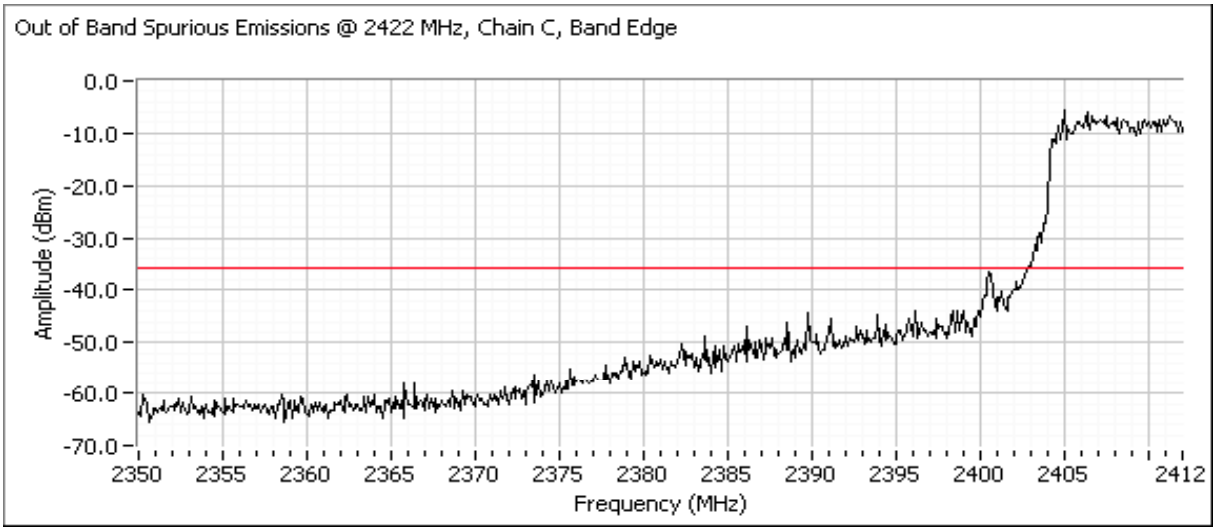
Plots for low channel, Chain C power setting(s) = 21



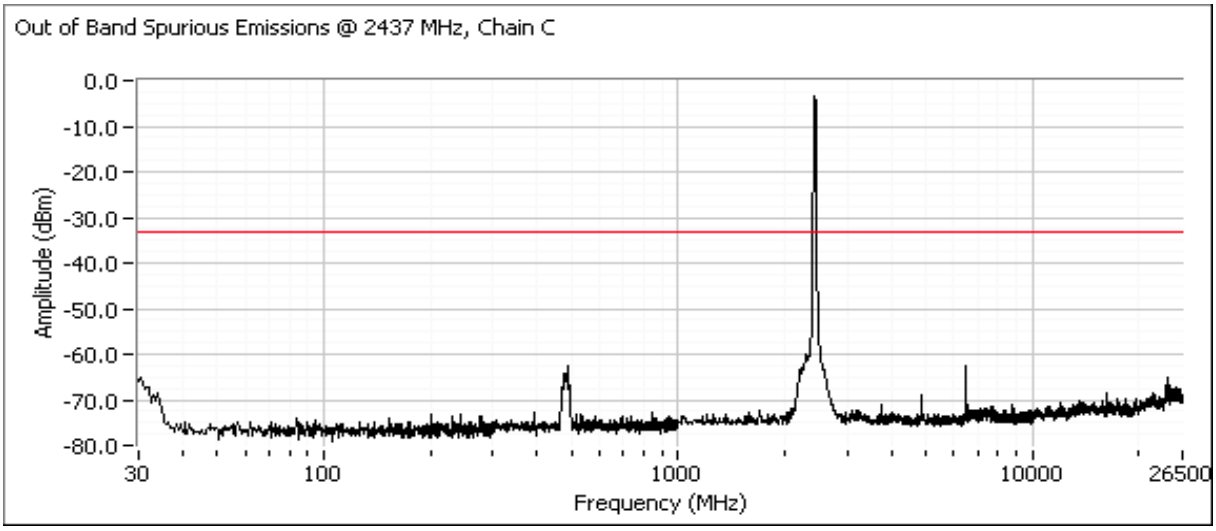
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



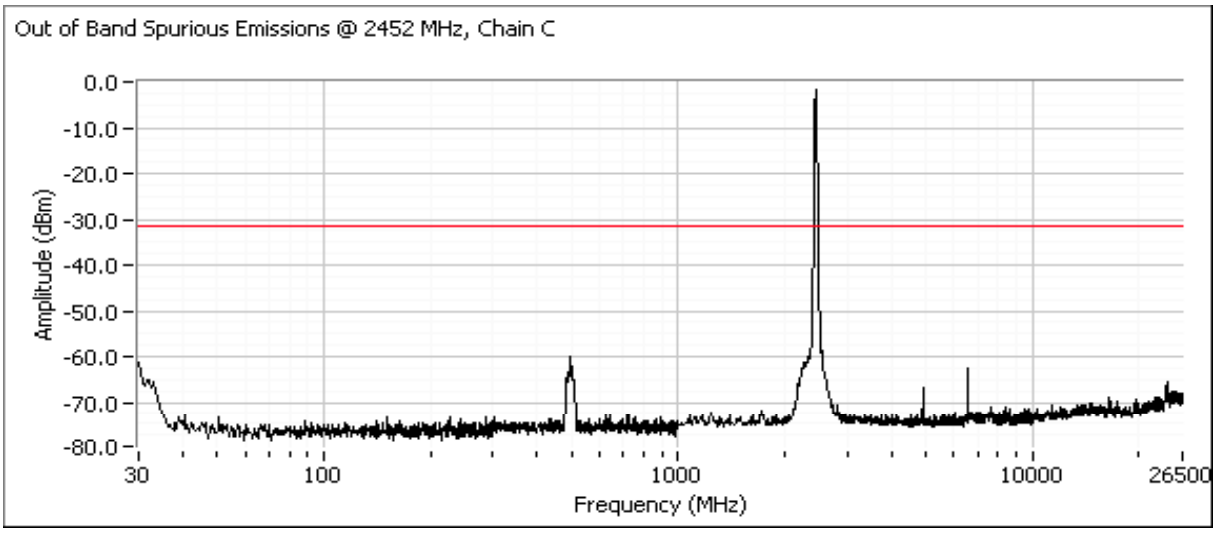
Plots for center channel, Chain C power setting(s) = 22.5



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Out of Band Spurious Emissions

Plots for high channel, Chain C power setting(s) = 24



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
MIMO and Smart Antenna Systems, 2400 - 2483.5MHz
Power, PSD, Bandwidth and Spurious Emissions - 802.11n 20MHz

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

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

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on each chain separately.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 22.3 °C
Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	16.7 dBm(47mW)
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-6.4 dBm/3kHz
3	Output Power Chain A + C	15.247(b)	Pass	15.5 dBm(35mW)
4	PSD Chain A + C	15.247(d)	Pass	-7.7 dBm/3kHz
5	Output Power Chain B + C	15.247(b)	Pass	16.6 dBm(46mW)
6	PSD Chain B + C	15.247(d)	Pass	-6.1 dBm/3kHz
7	Output Power Chain A+B+C	15.247(b)	Pass	17.1 dBm(52mW)
8	PSD Chain A+B+C	15.247(d)	Pass	-7.3 dBm/3kHz
-	6dB Bandwidth	15.247(a)		Covered by single-chain measurements
-	99% Bandwidth	RSS GEN	-	
-	Spurious emissions	15.247(b)		

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:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power - Dual Chain (A + B)

Operating Mode: 802.11n 20MHz

Transmitted signal on chain is coherent ? no

2412 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	26.0	-					
Output Power (dBm) Note 1	13.42	13.95			16.7 dBm	0.047 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	16.62	17.15			19.9 dBm	0.098 W		

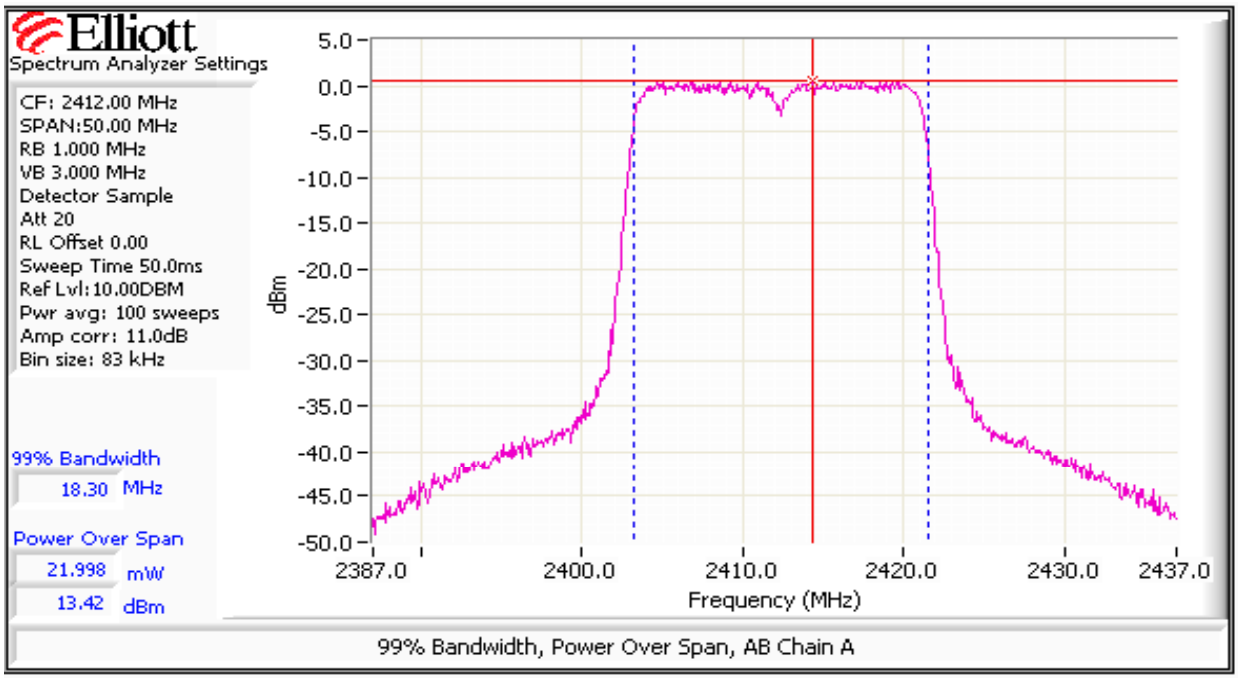
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	26.0	-					
Output Power (dBm) Note 1	13.11	13.6			16.4 dBm	0.043 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	16.31	16.8			19.6 dBm	0.091 W		

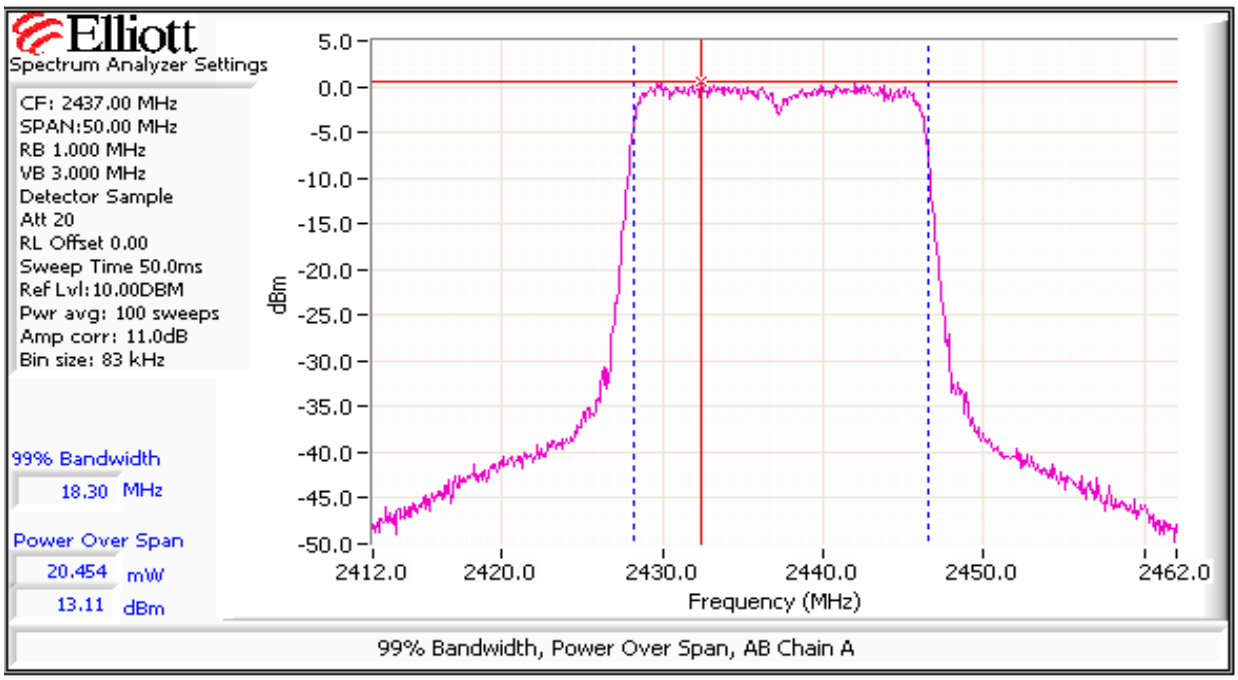
2462 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	26.0	-					
Output Power (dBm) Note 1	12.7	12.81			15.8 dBm	0.038 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	15.9	16.01			19.0 dBm	0.079 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power - Dual Chain (A + B)





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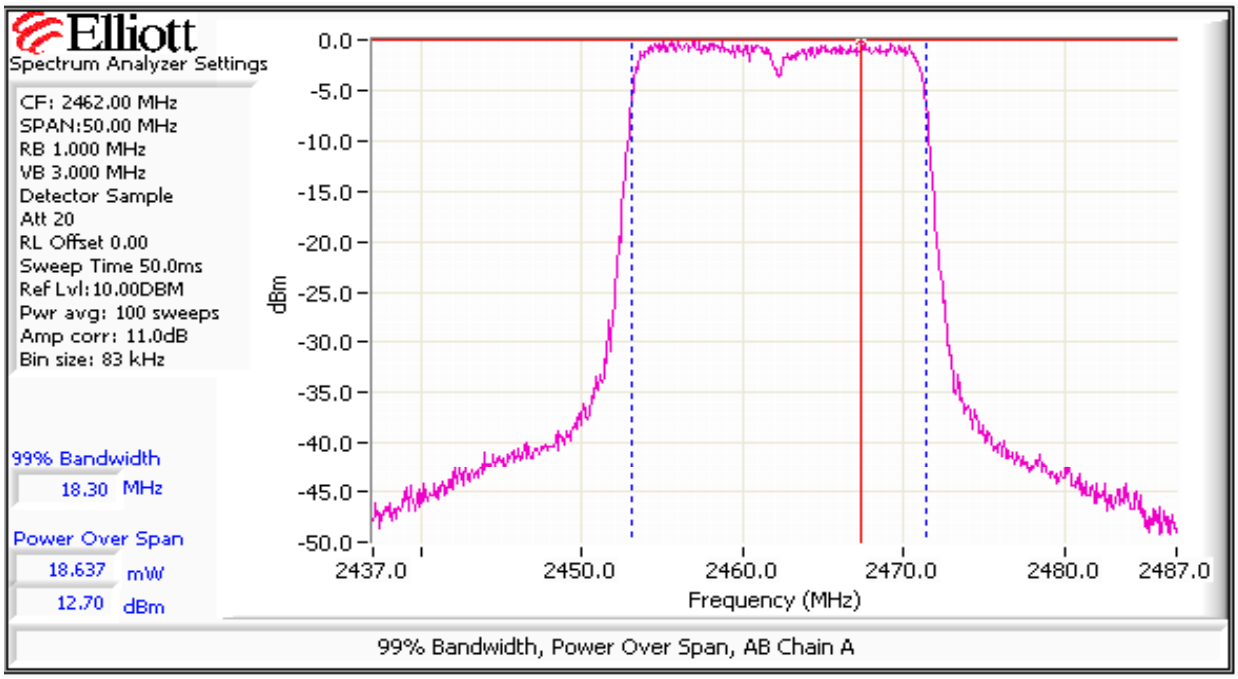
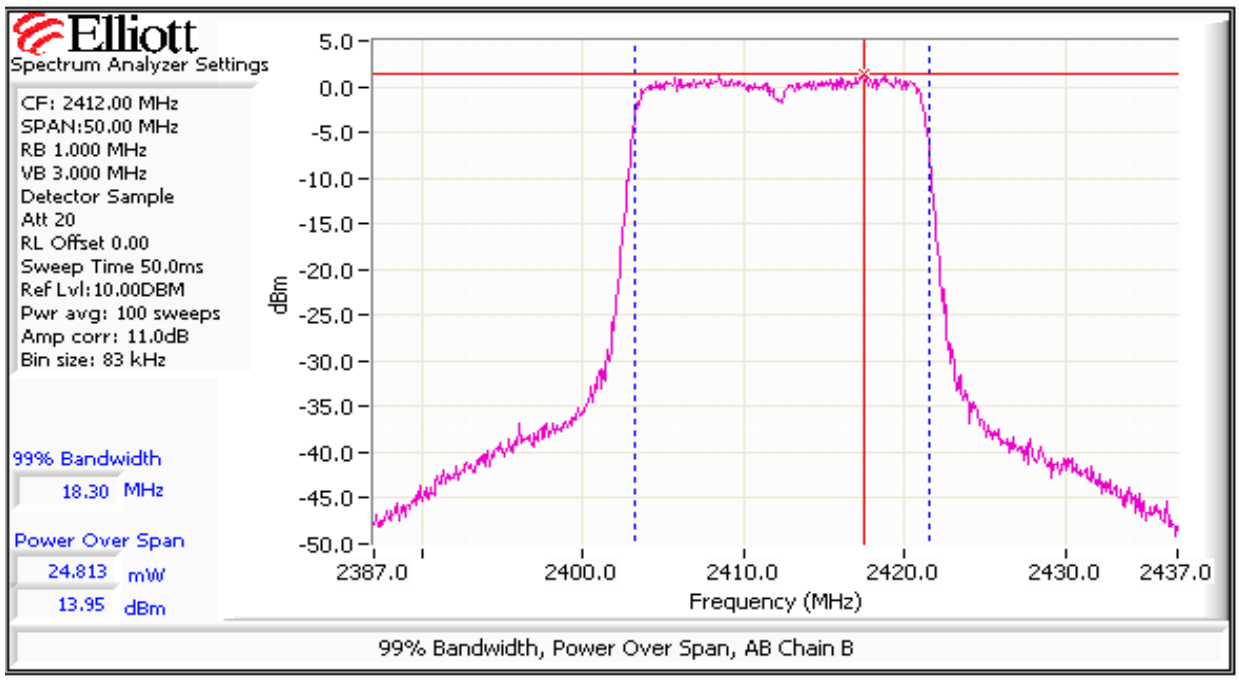
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

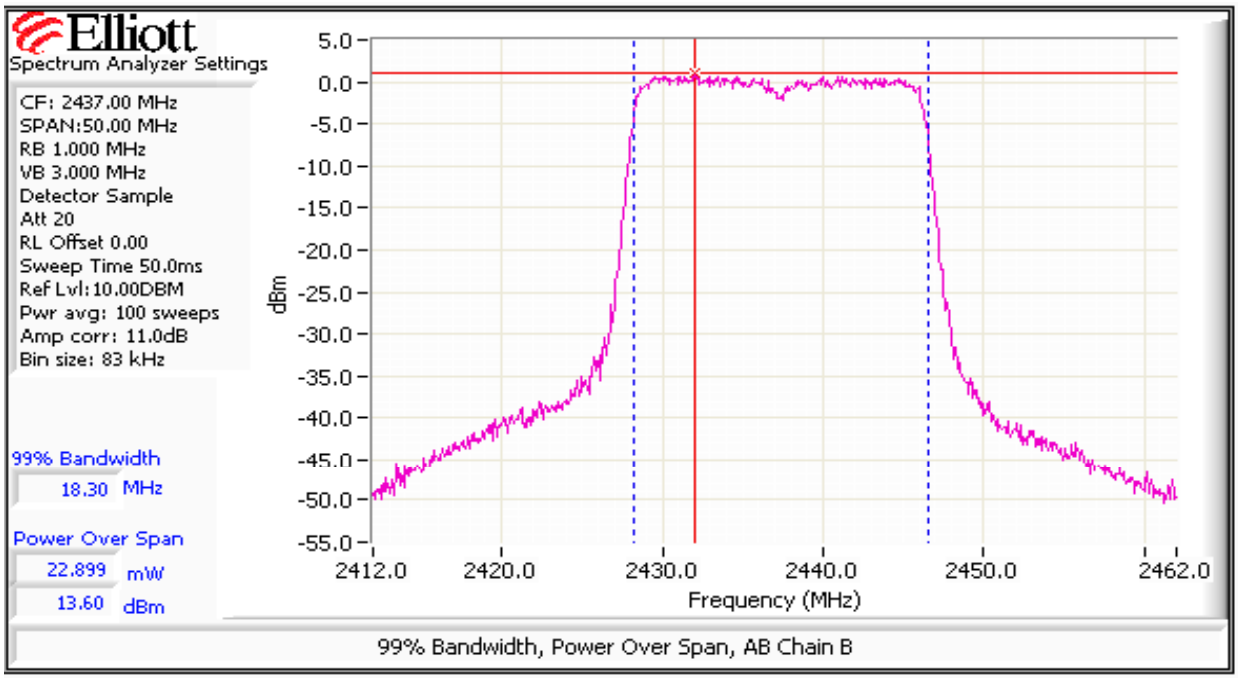
Run #1: Output Power - Dual Chain (A + B)

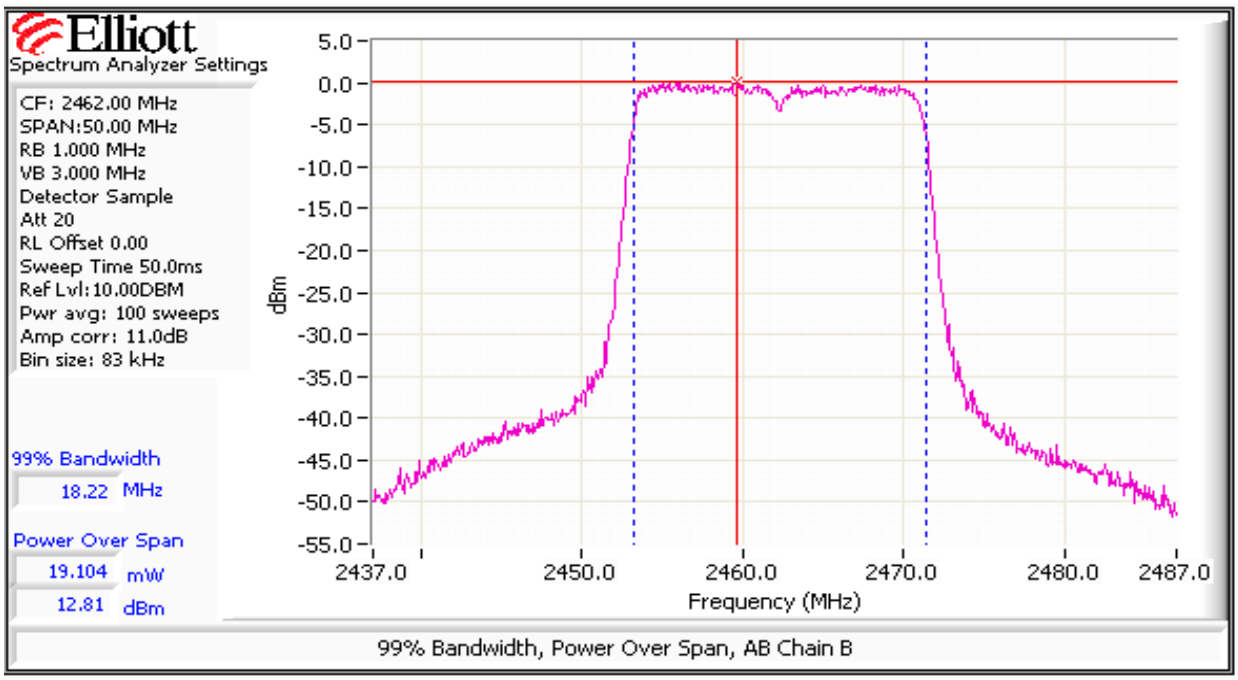




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power - Dual Chain (A + B)





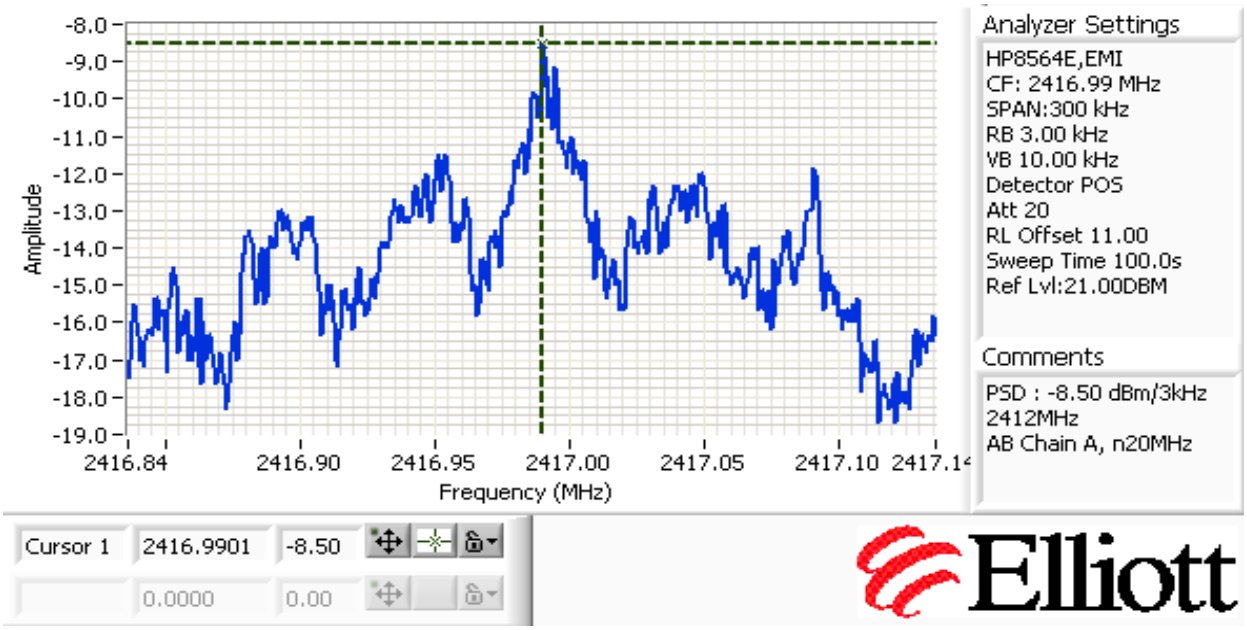
Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density - Chain A + B

Date of Test: 4/8/2008
Test Engineer: Suhaila Khushzad
Test Location: FT Lab #1

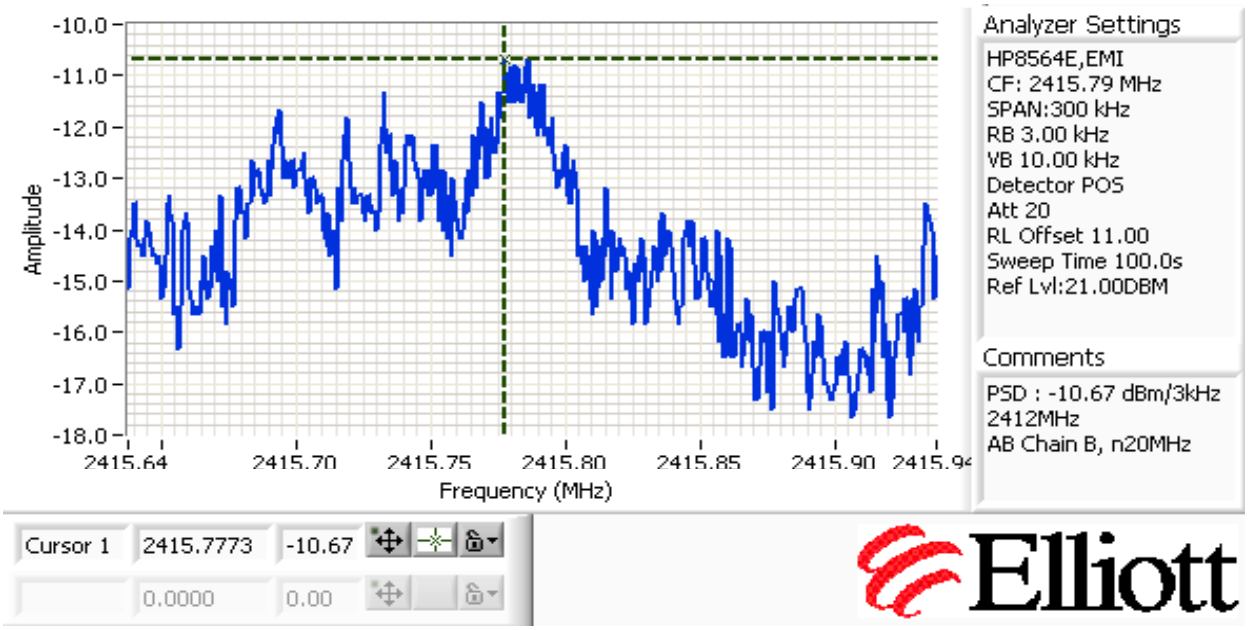
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1 Chain A	Chain B	Chain C	Chain 4	Total	Limit dBm/3kHz	Result
26, 26	2412	-8.5	-10.7			-6.4	8.0	Pass
26, 26	2437	-10.3	-10.8			-7.6	8.0	Pass
26, 26	2462	-10.3	-10.7			-7.5	8.0	Pass

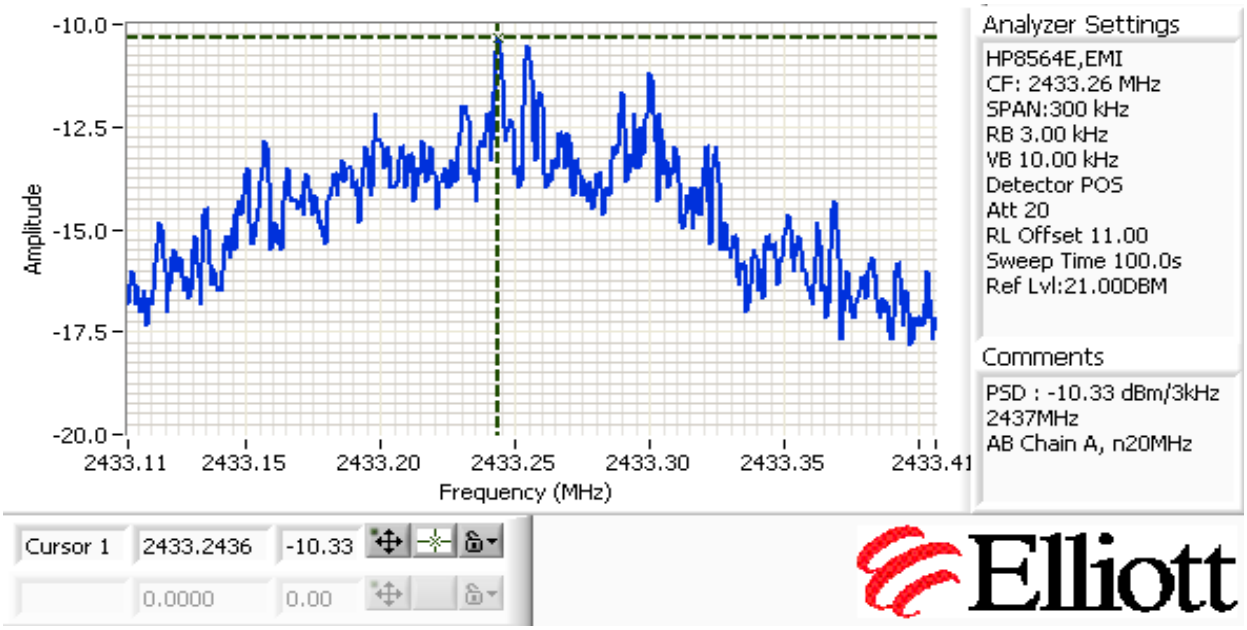
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

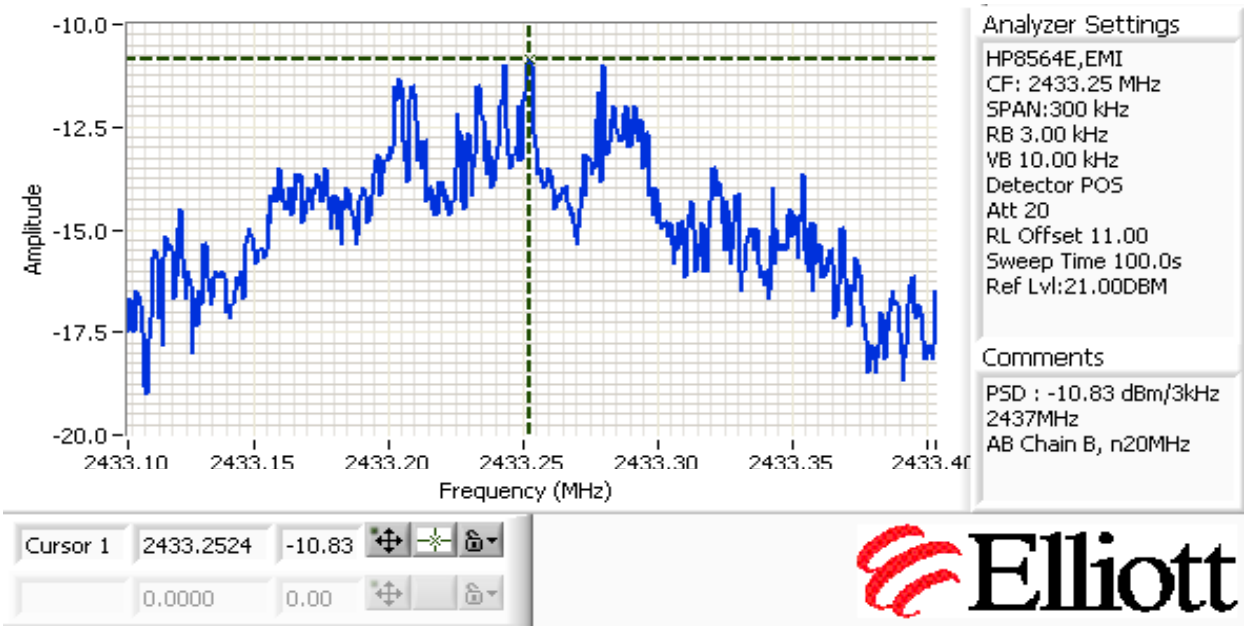
Run #2: Power spectral Density - Chain A + B

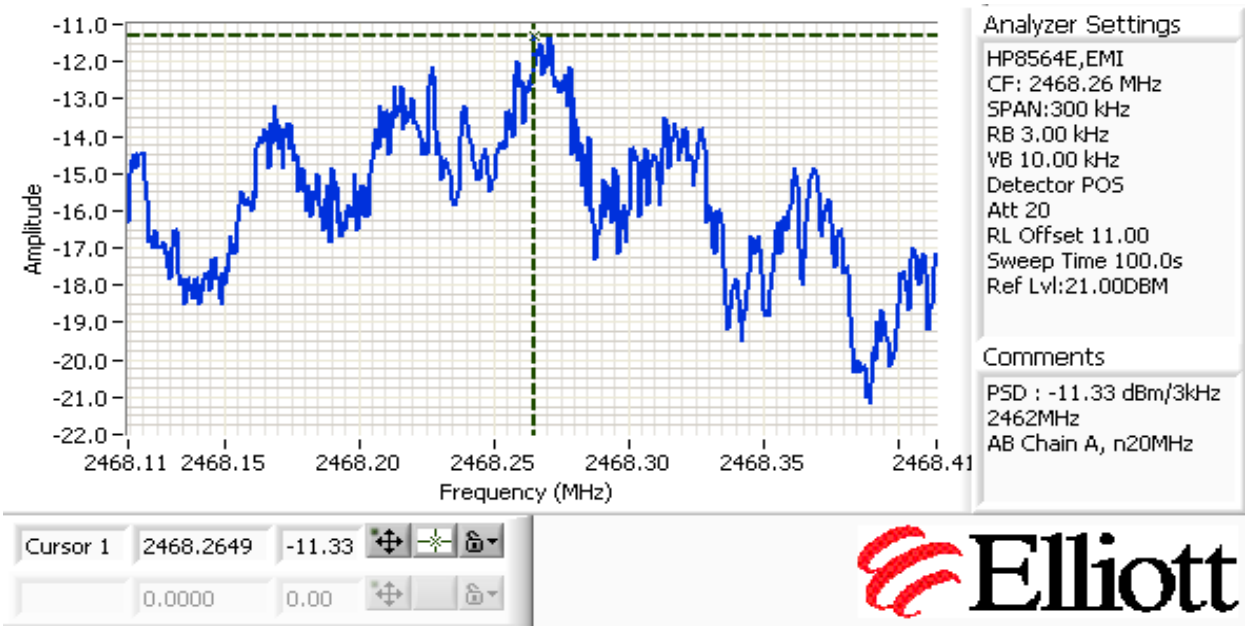




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

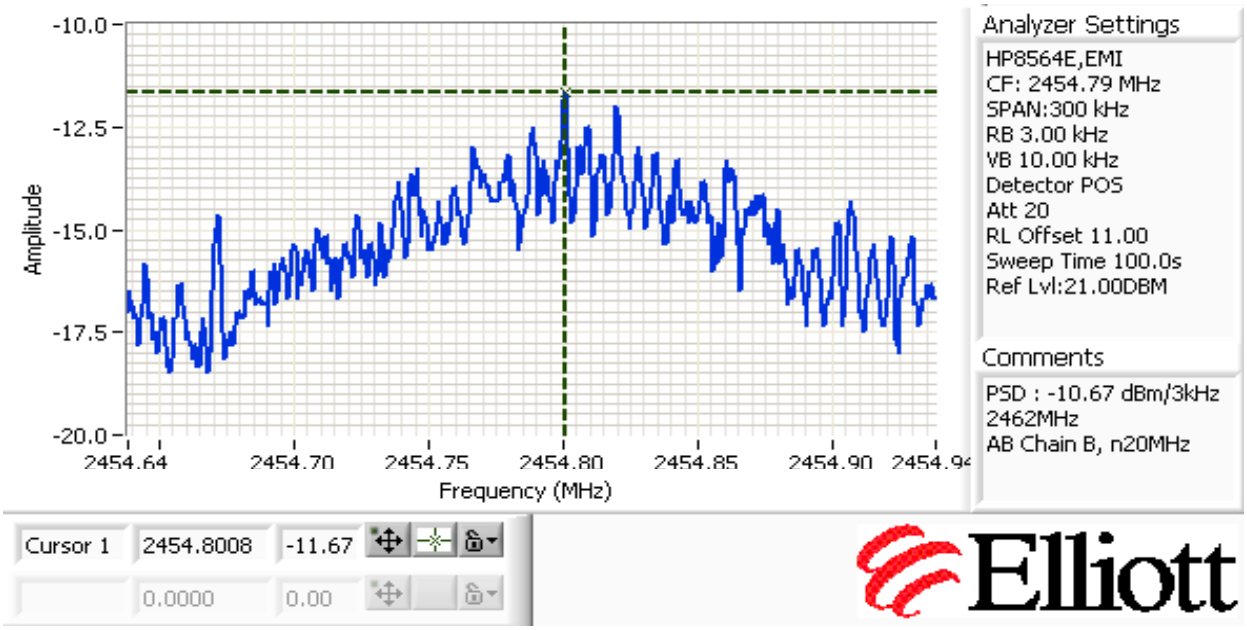
Run #2: Power spectral Density - Chain A + B





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density - Chain A + B



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Output Power - Dual Chain A + C

Operating Mode: 802.11n 20MHz

Transmitted signal on chain is coherent ? No

2412 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	24.0	-	24.5					
Output Power (dBm) Note 1	10.08		11.9		14.1 dBm	0.026 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	13.28		15.1		17.3 dBm	0.054 W		

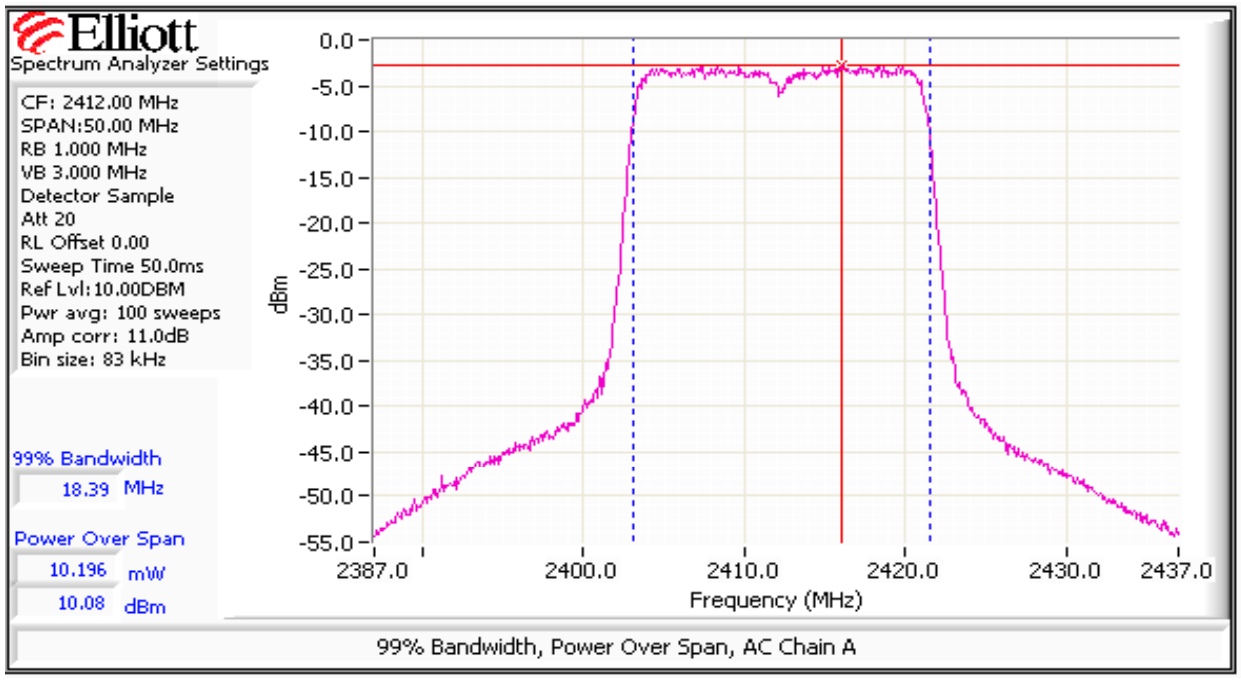
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	-	25.0					
Output Power (dBm) Note 1	12.42		12.45		15.4 dBm	0.035 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	15.62		15.65		18.6 dBm	0.073 W		

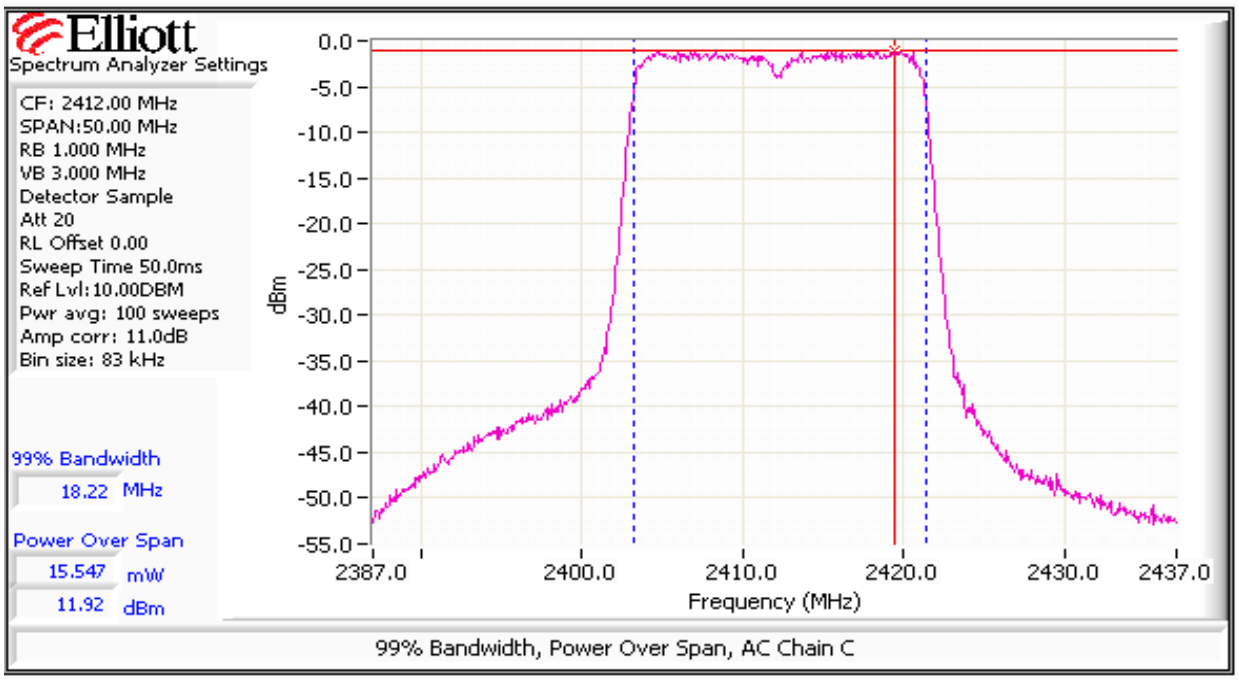
2462 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.5	-	25.5					
Output Power (dBm) Note 1	12.6		12.37		15.5 dBm	0.035 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	15.8		15.57		18.7 dBm	0.074 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

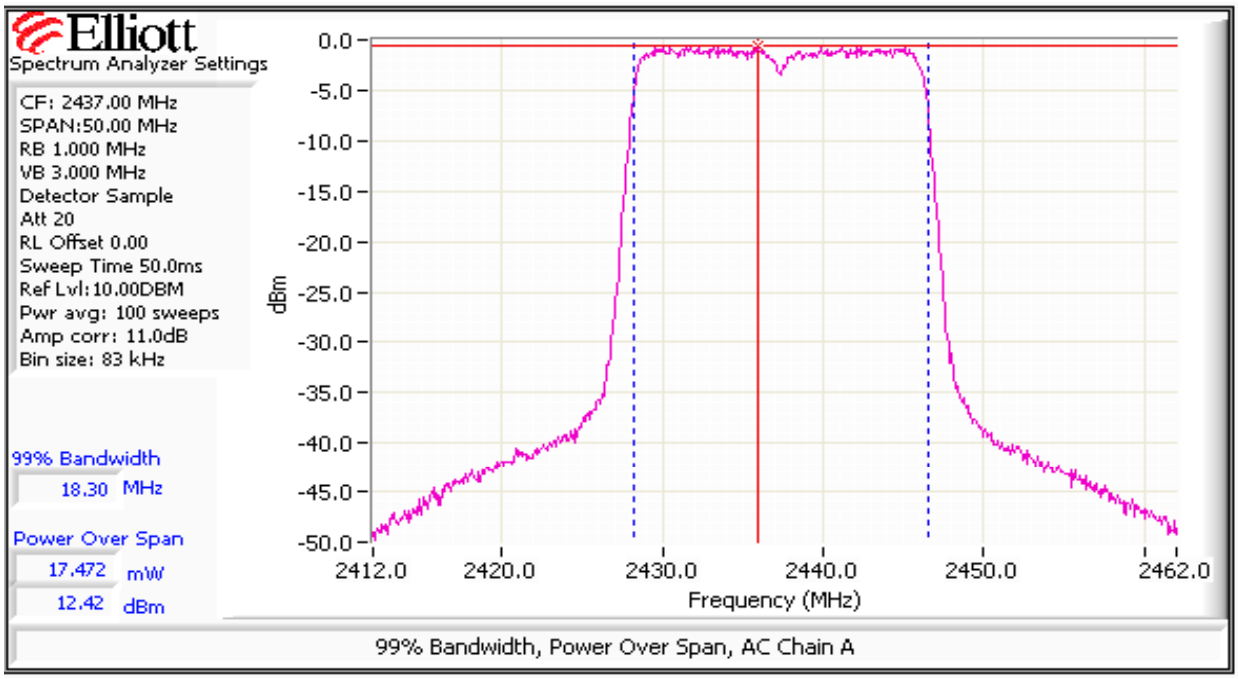
Run #3: Output Power - Dual Chain A + C

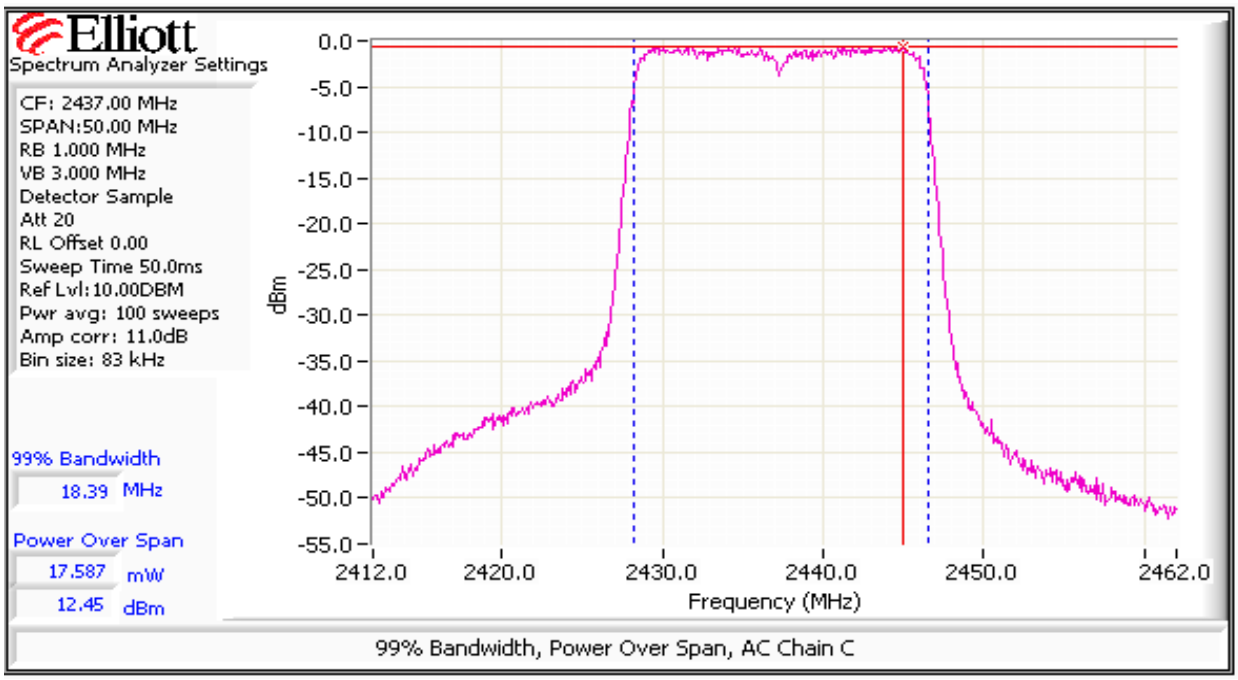




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

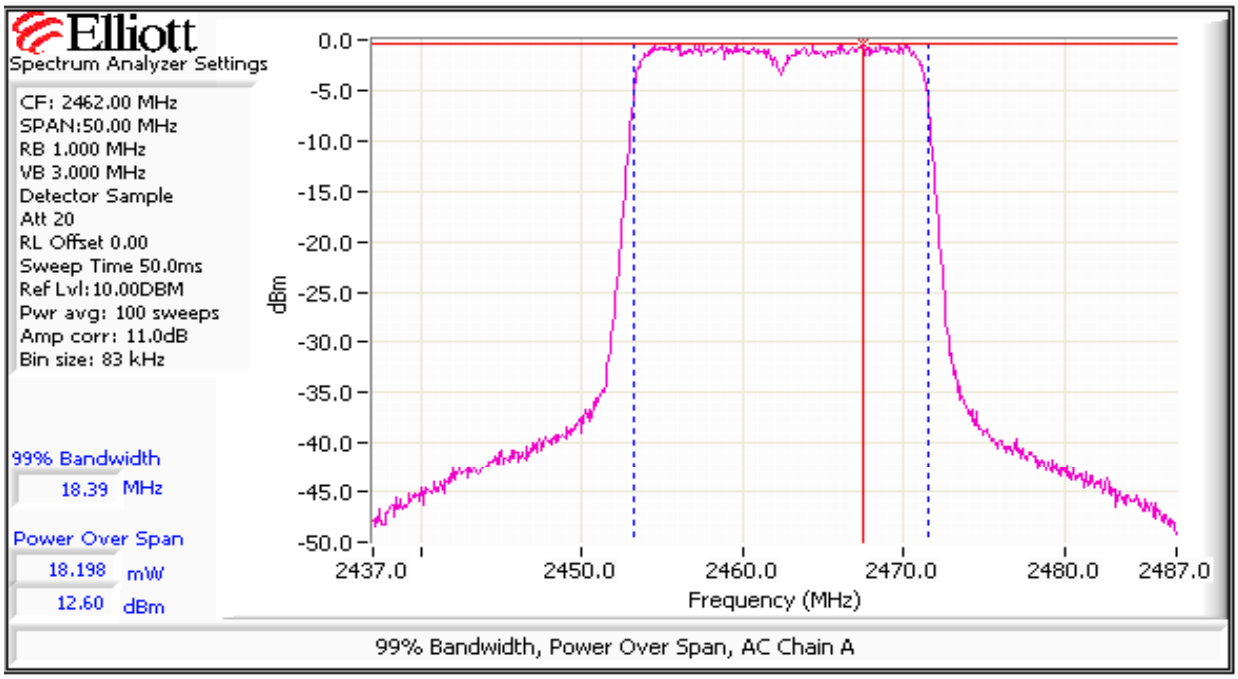
Run #3: Output Power - Dual Chain A + C

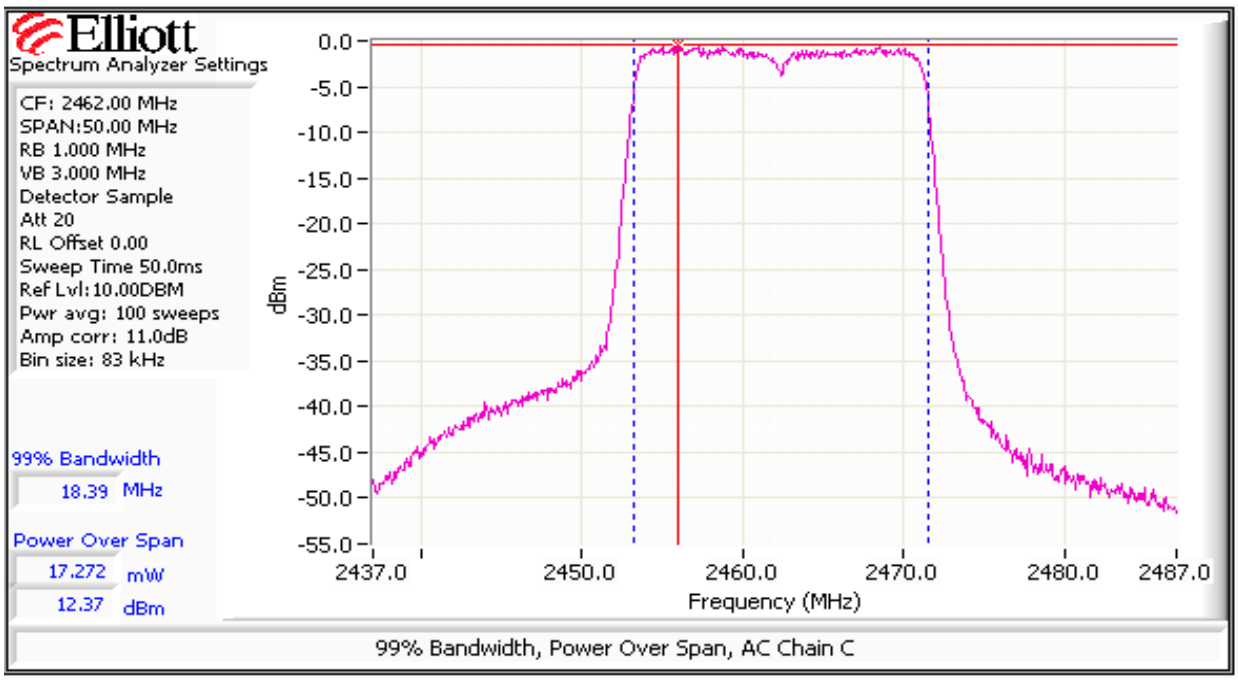




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Output Power - Dual Chain A + C



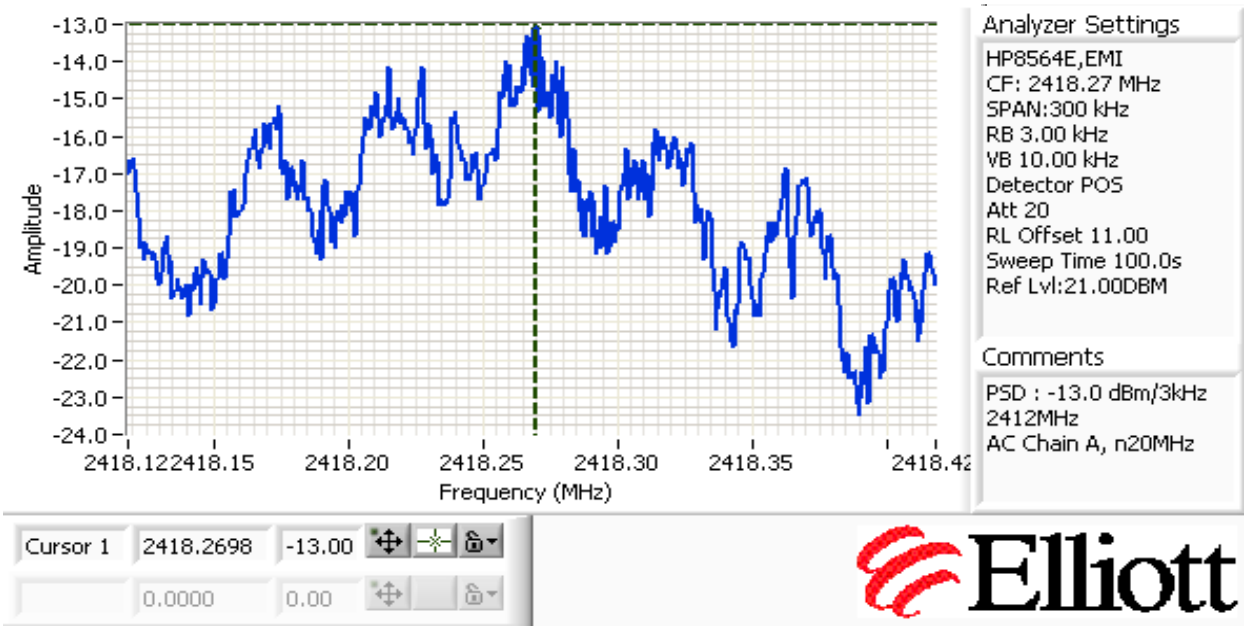


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Power spectral Density - Chain A + C

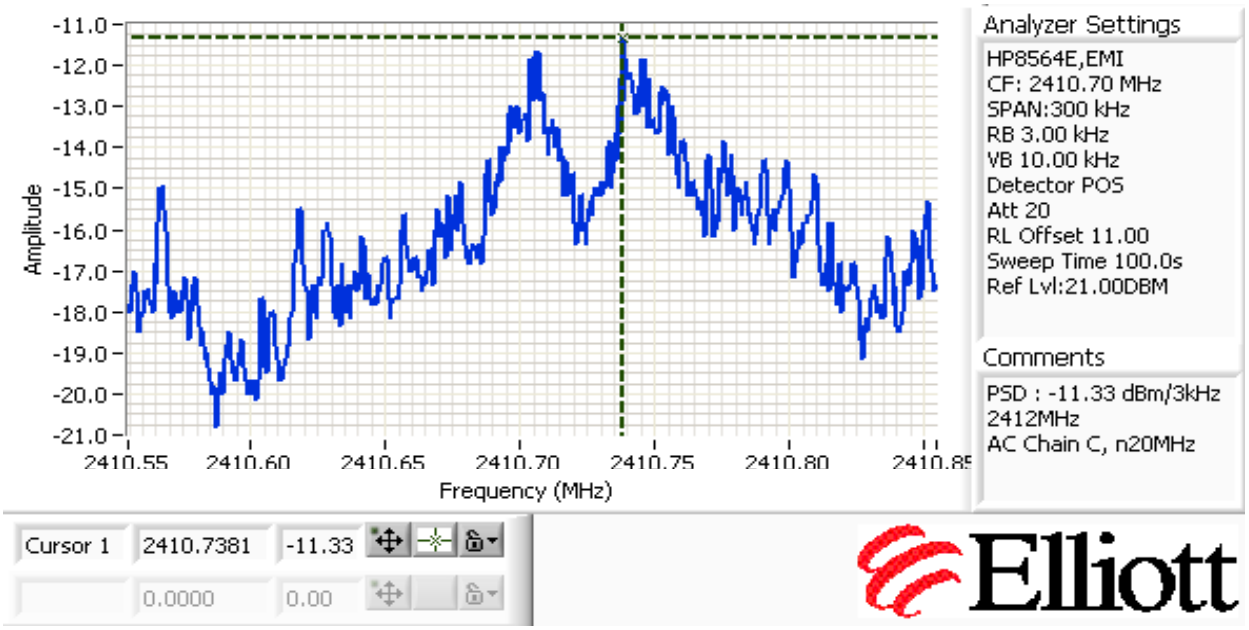
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
24, 24.5	2412	-13.0		-11.3		-9.1	8.0	Pass
26, 25	2437	-10.5		-10.8		-7.7	8.0	Pass
26.5, 25.5	2462	-11.3		-10.5		-7.9	8.0	Pass

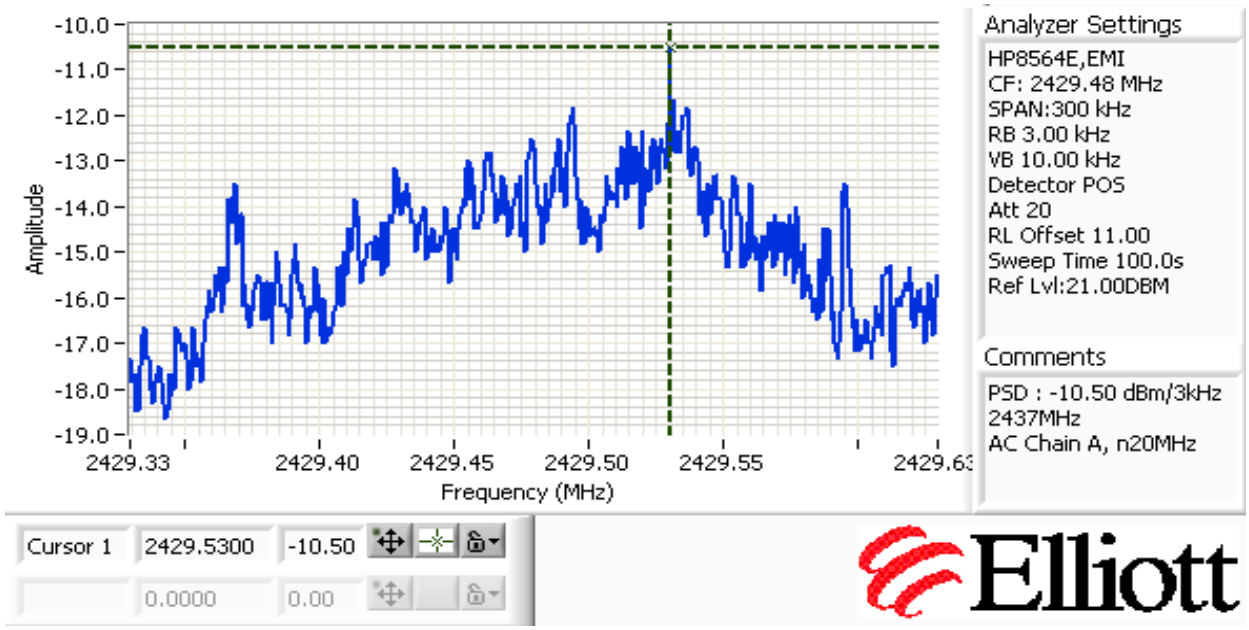
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

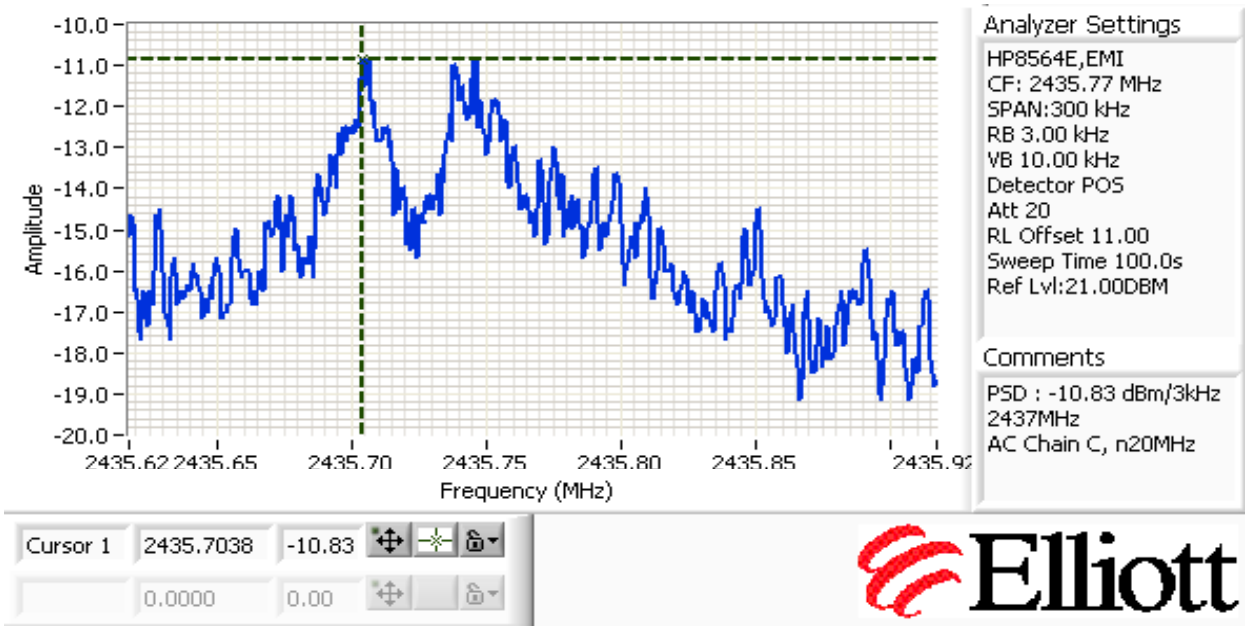
Run #4: Power spectral Density - Chain A + C

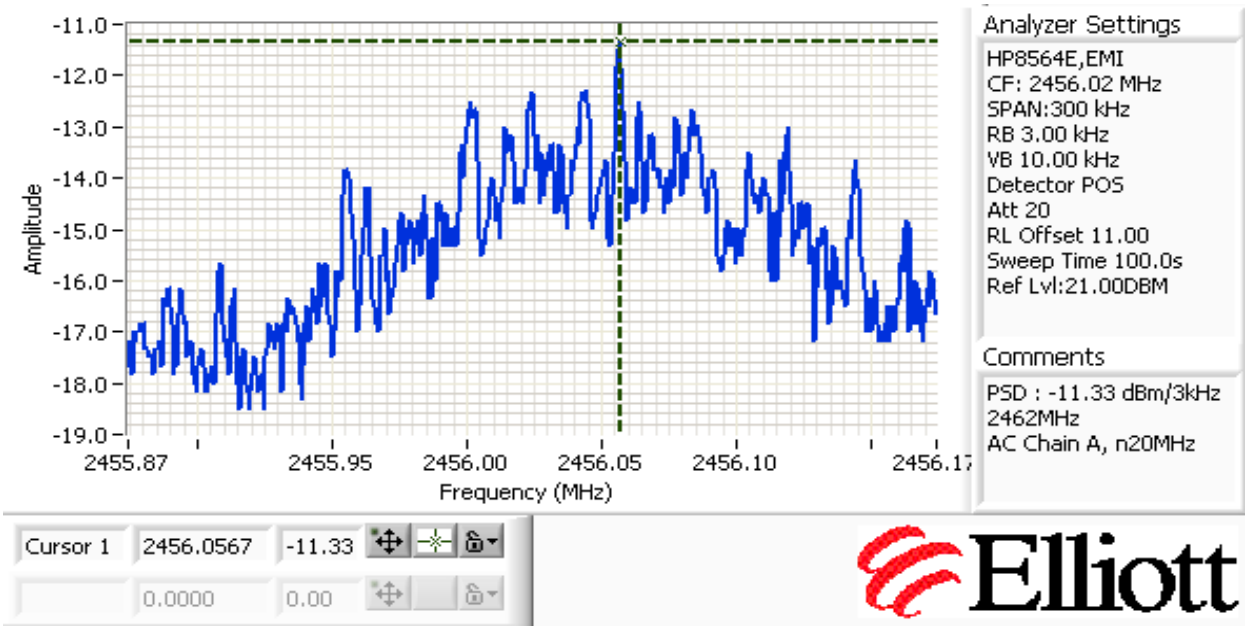




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

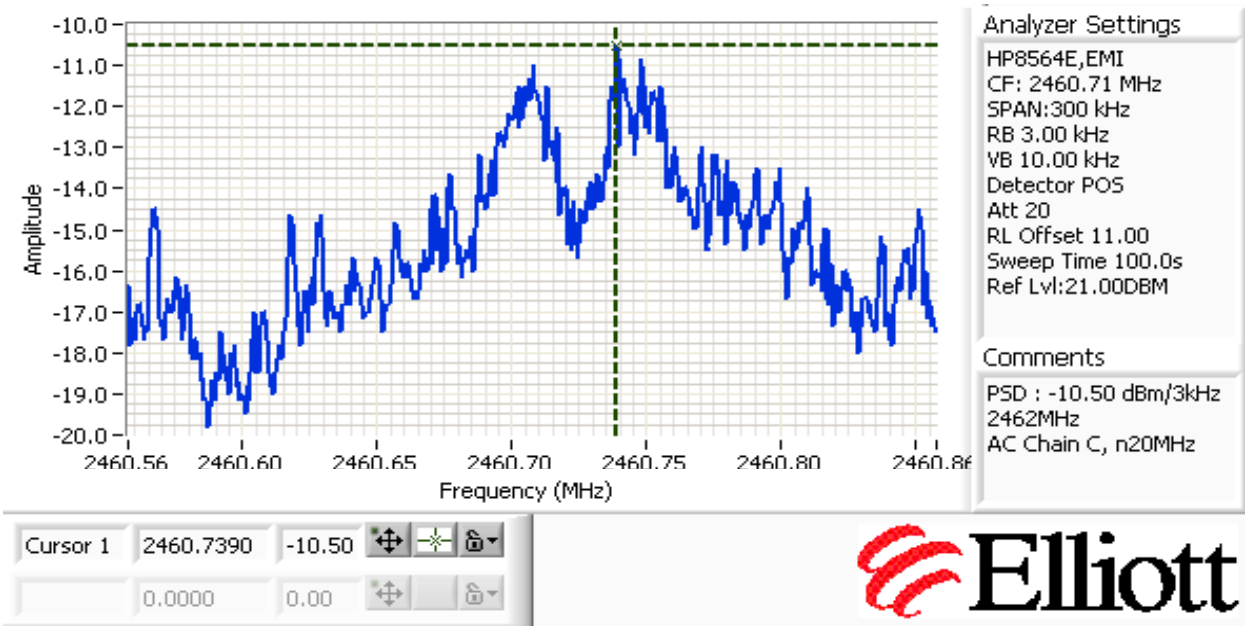
Run #4: Power spectral Density - Chain A + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Power spectral Density - Chain A + C



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Dual Chain (B + C)

Date of Test: 4/9/2008
Test Engineer: Suhaila Khushzad & John Caizzi
Test Location: FT Lab #1

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

Operating Mode: 802.11n 20MHz
Transmitted signal on chain is coherent ? No

2412 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	-	25.0	24.0					
Output Power (dBm) Note 1		12.29	12.61		15.5 dBm	0.035 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		15.49	15.81		18.7 dBm	0.074 W		

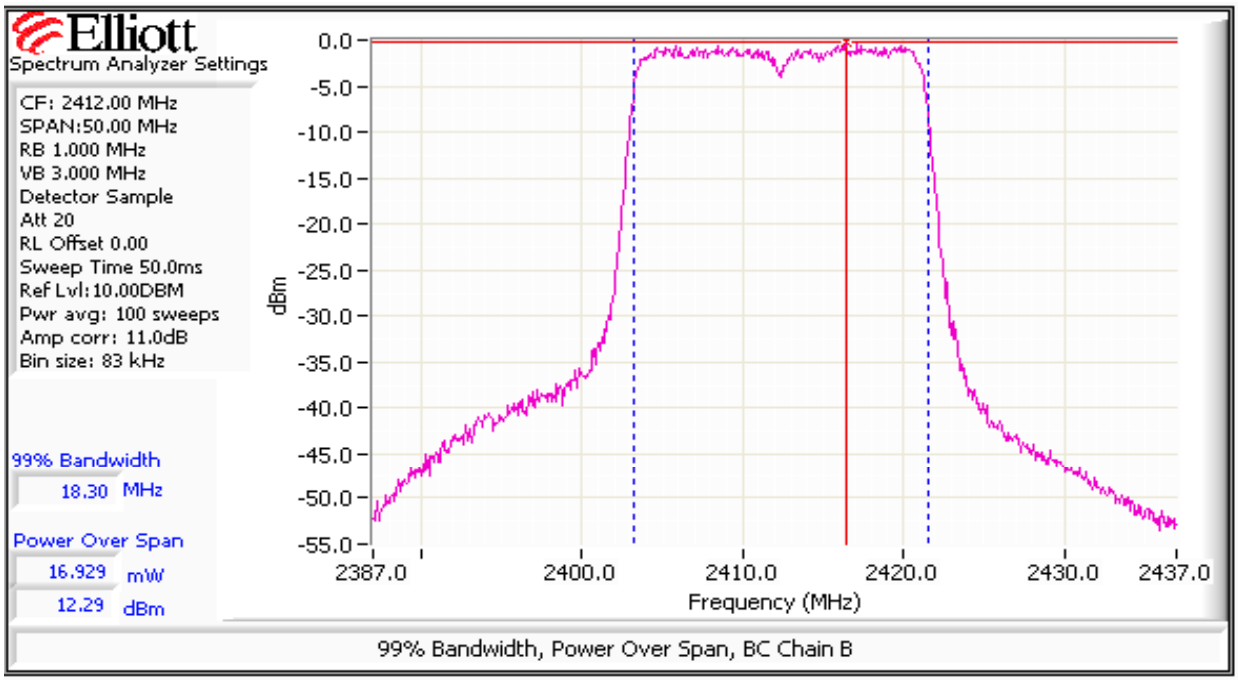
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	-	26.0	25.0					
Output Power (dBm) Note 1		13.77	13.42		16.6 dBm	0.046 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		16.97	16.62		19.8 dBm	0.096 W		

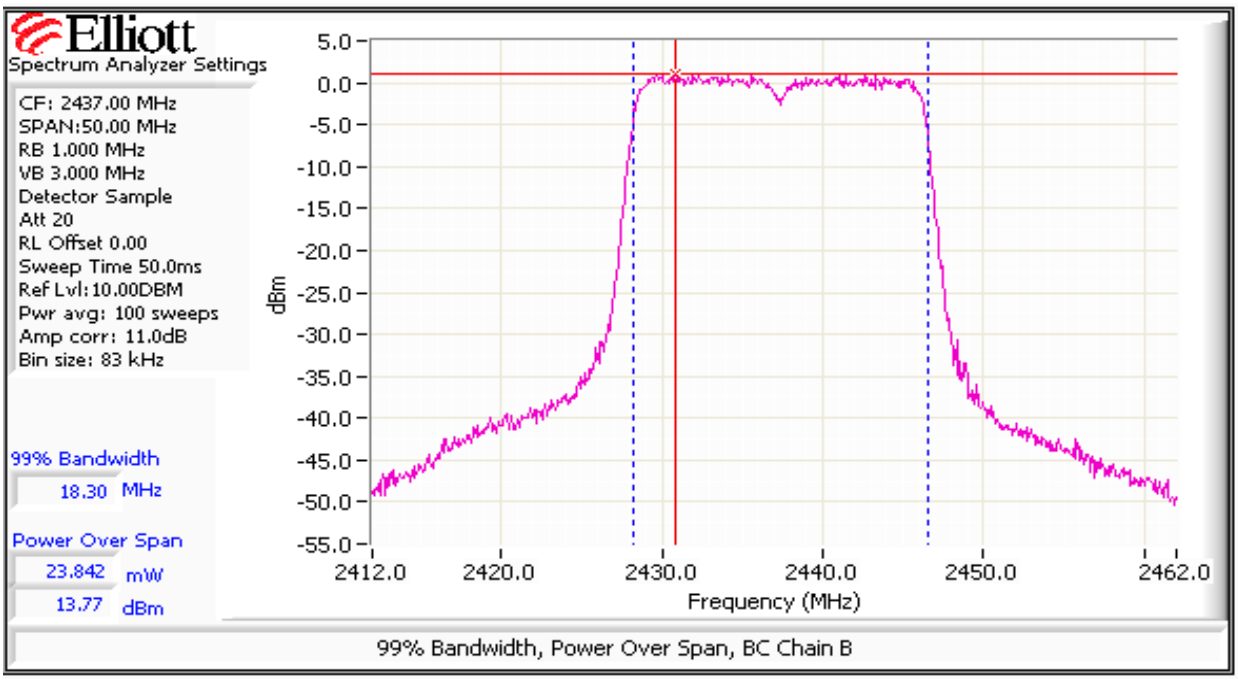
2462 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	-	26.5	25.5					
Output Power (dBm) Note 1		13.47	13.15		16.3 dBm	0.043 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		16.67	16.35		19.5 dBm	0.090 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

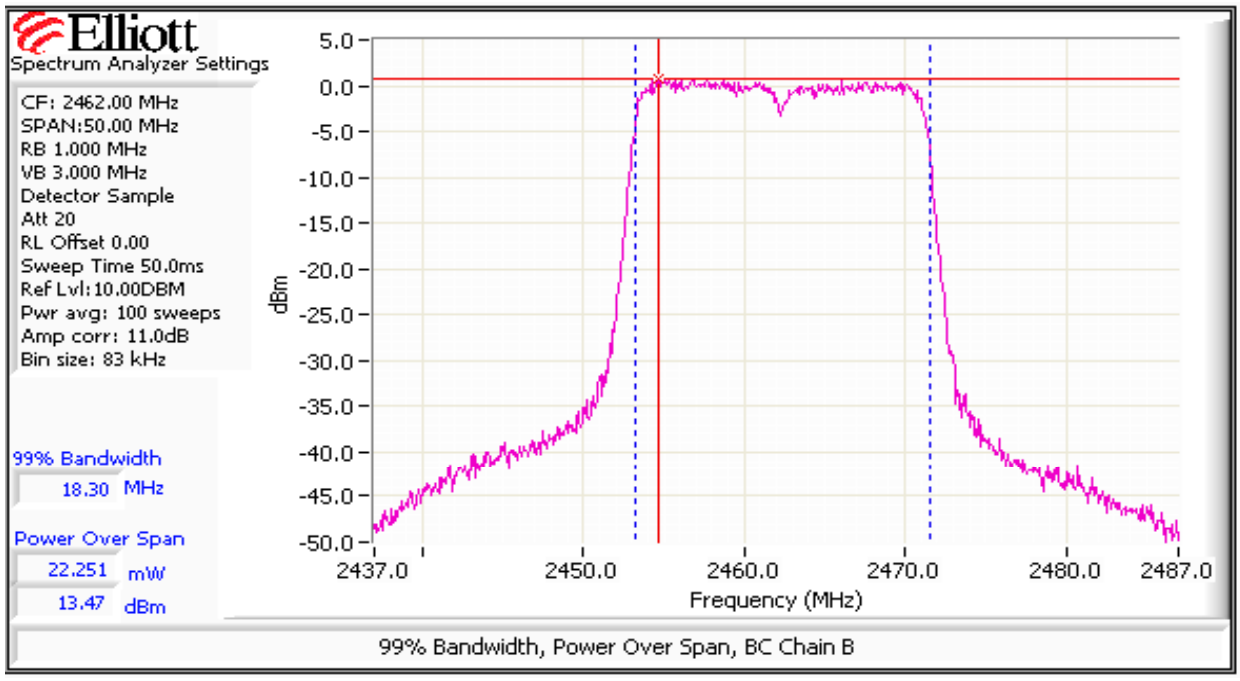
Run #5: Output Power - Dual Chain (B + C)

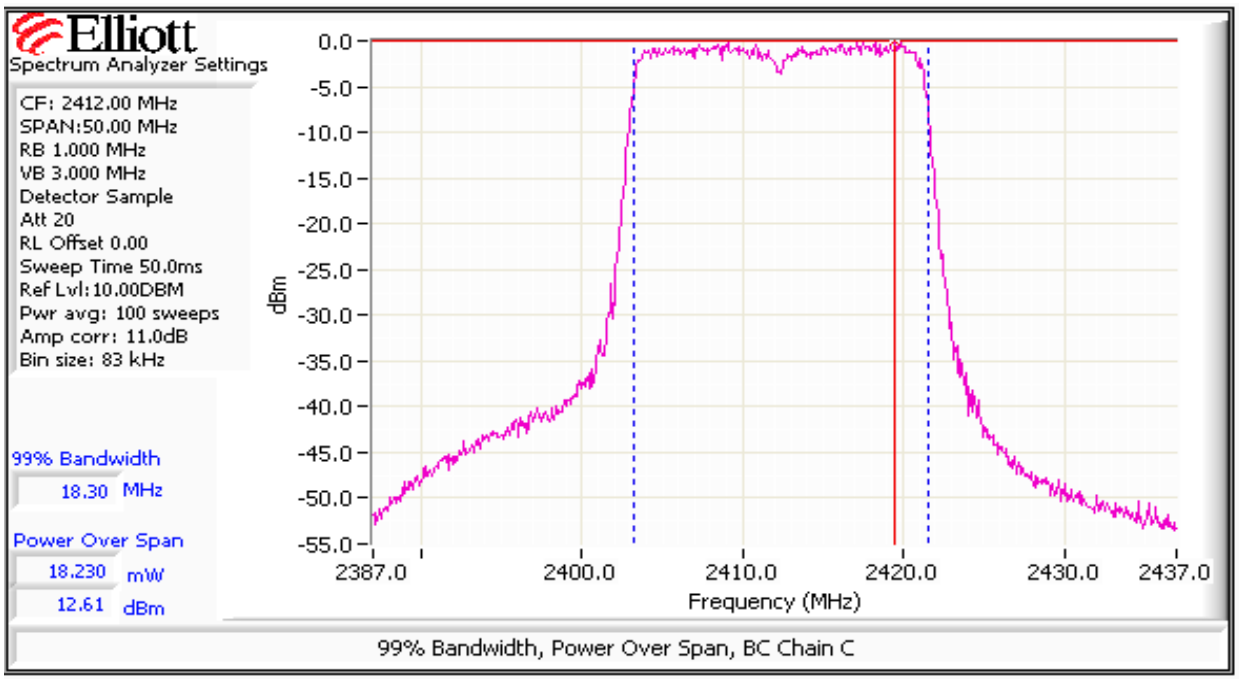




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

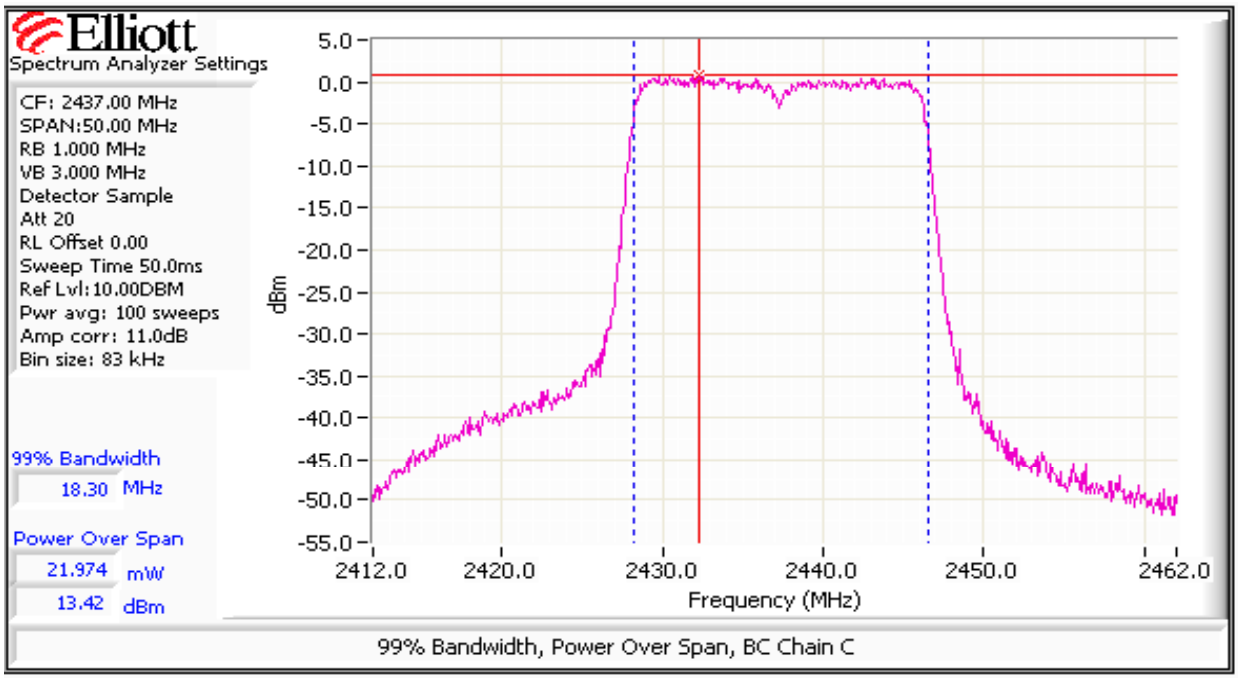
Run #5: Output Power - Dual Chain (B + C)

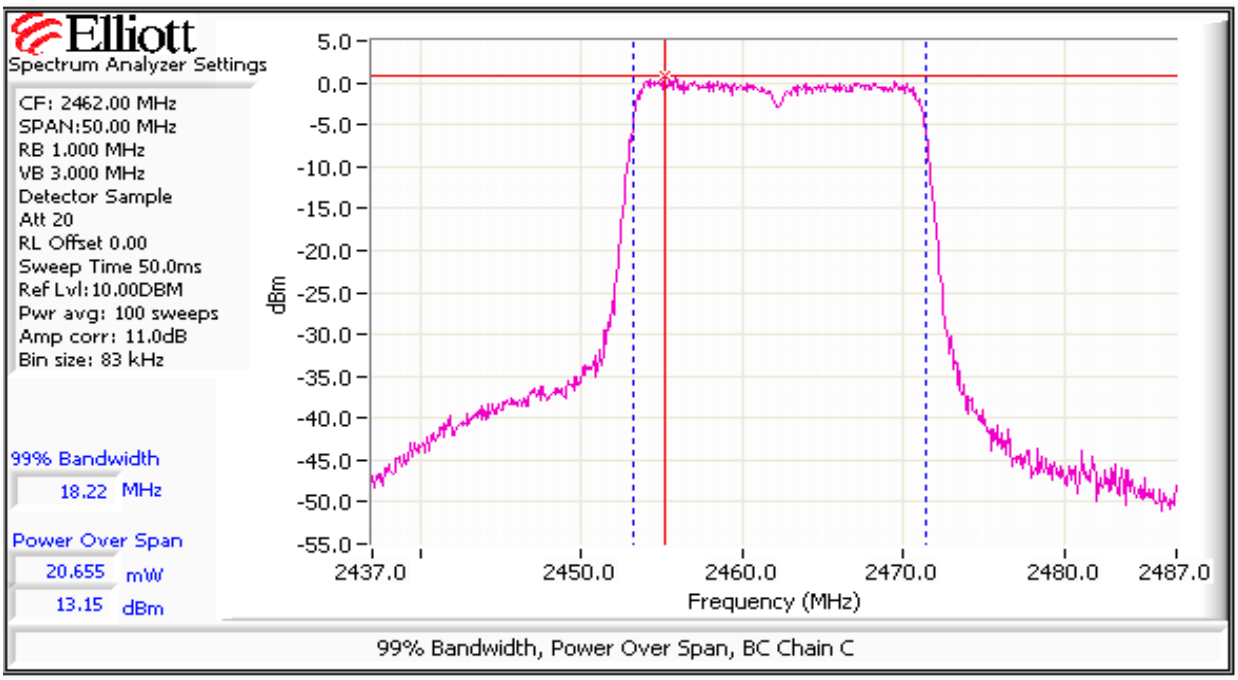




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Dual Chain (B + C)



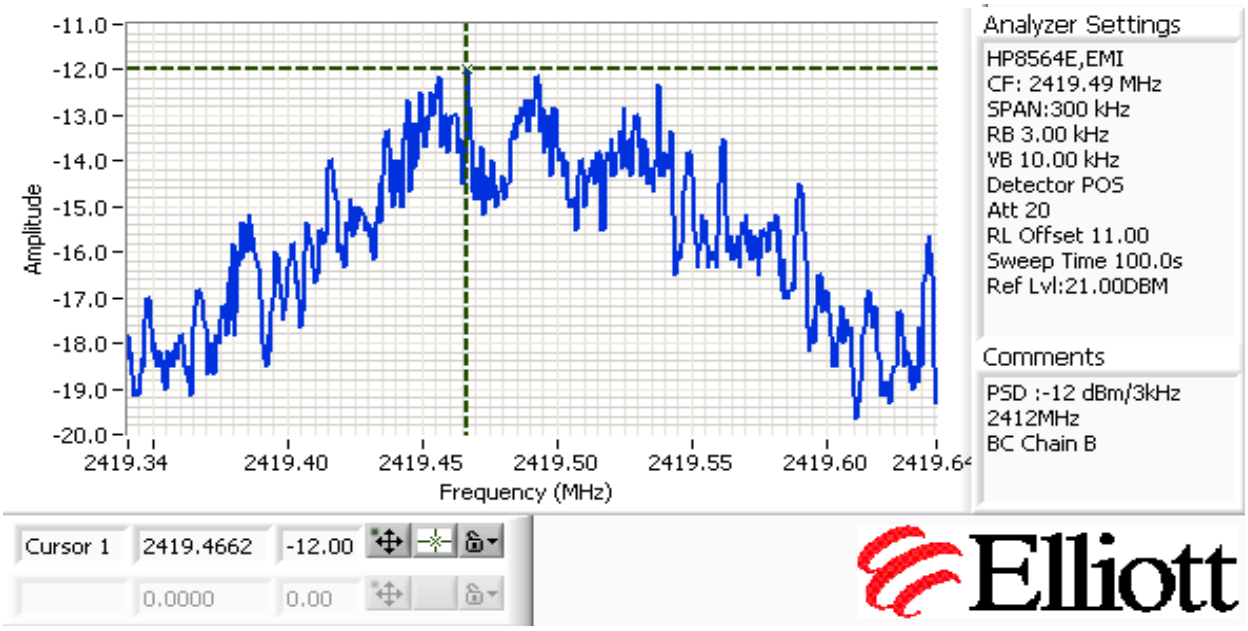


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #6: Power spectral Density - Chain B + C

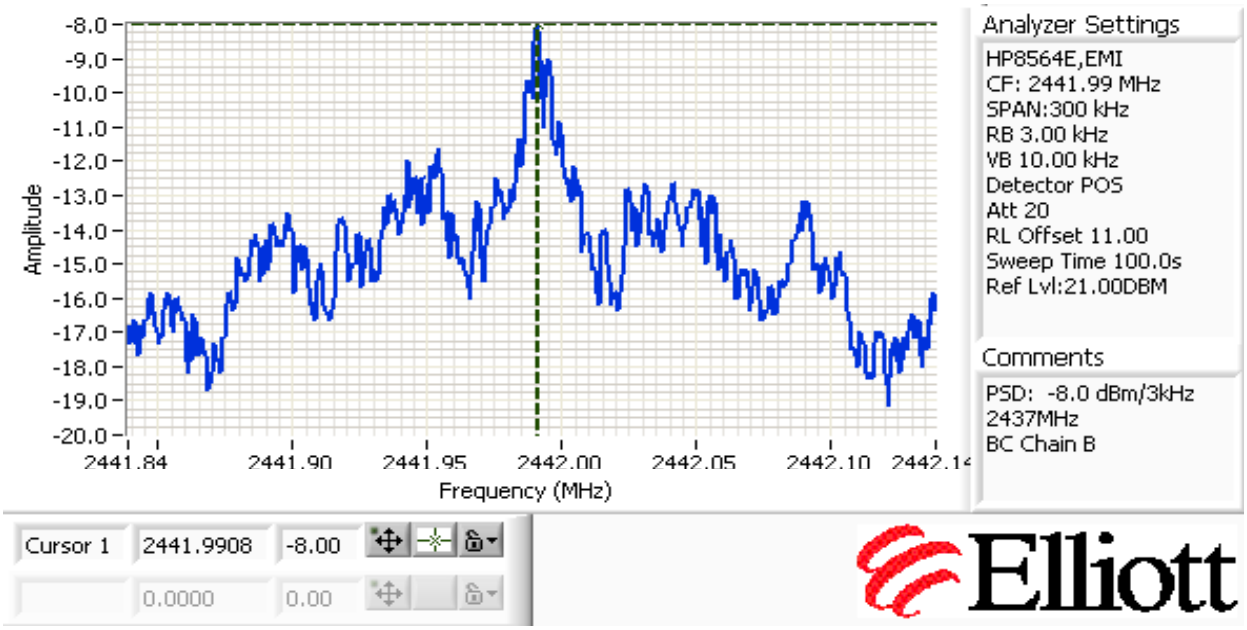
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
25, 24	2412		-12.0	-10.8		-8.4	8.0	Pass
26, 25	2437		-8.0	-10.5		-6.1	8.0	Pass
26.5, 25.5	2462		-11.8	-10.2		-7.9	8.0	Pass

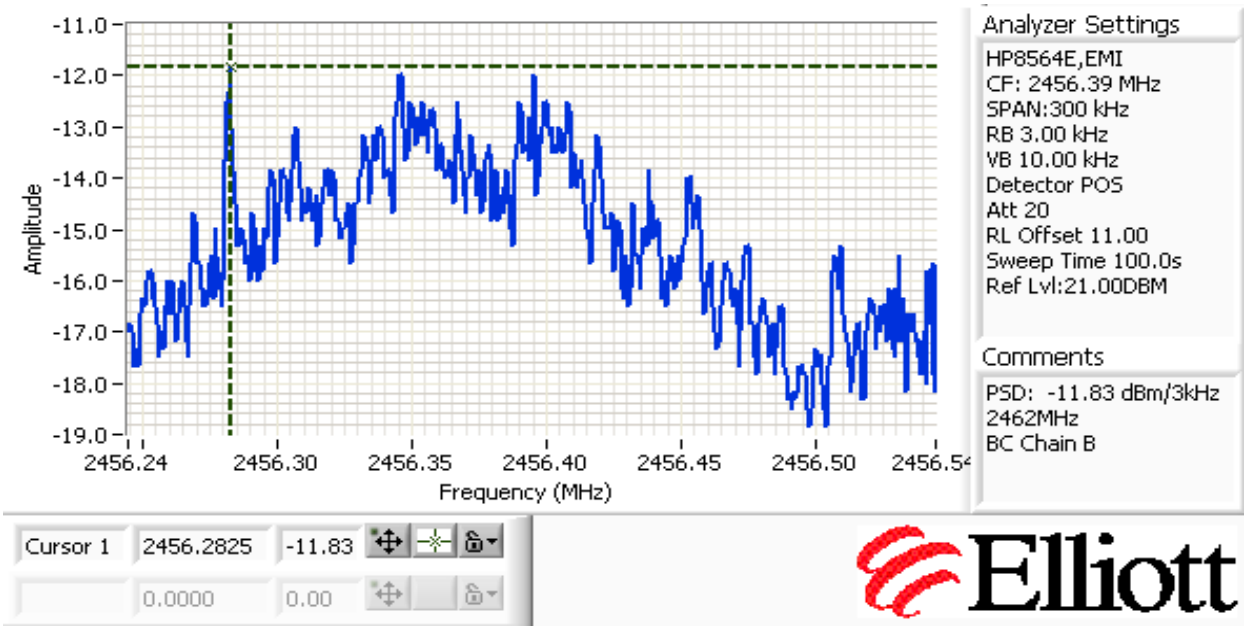
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

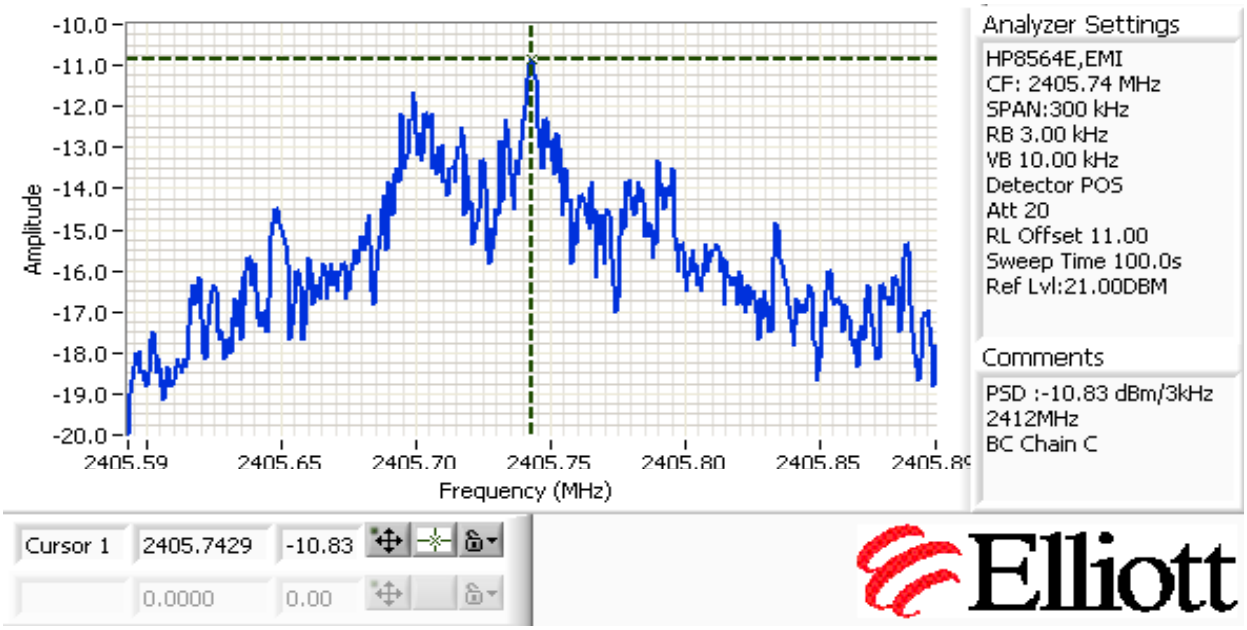
Run #6: Power spectral Density - Chain B + C

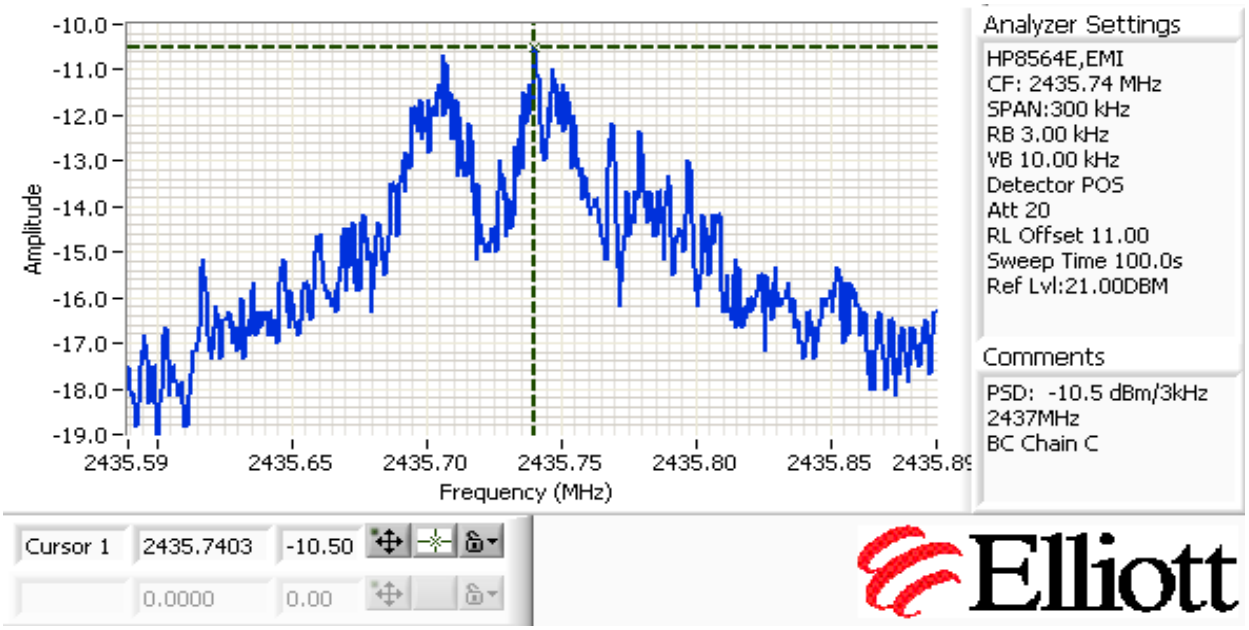




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

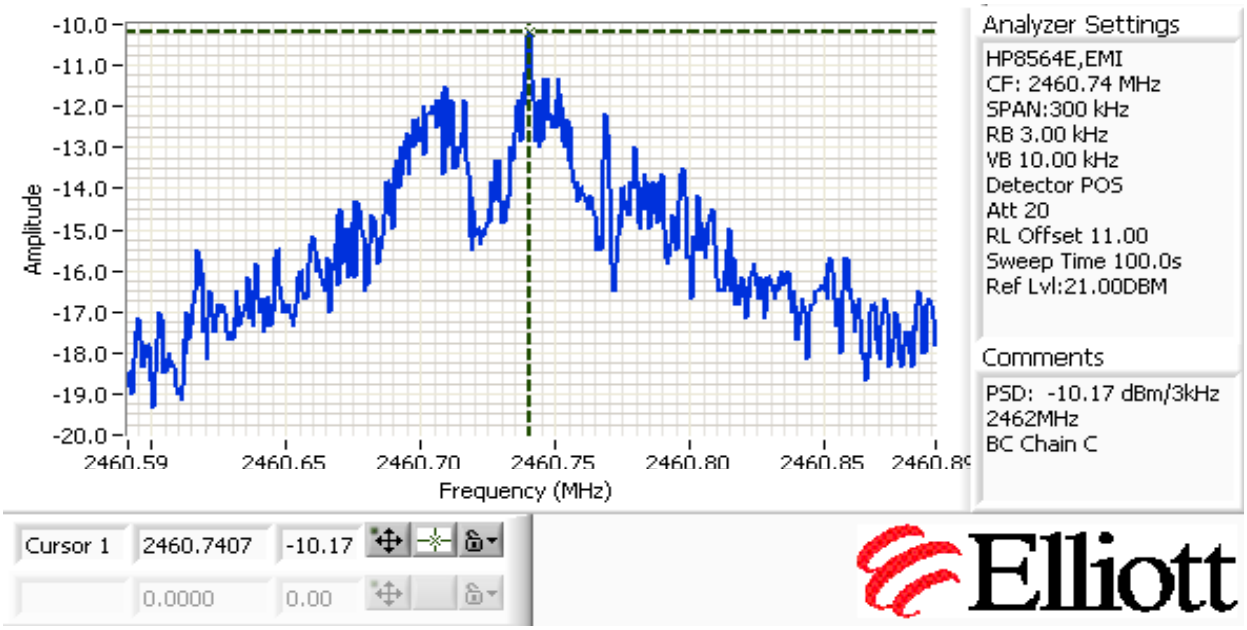
Run #6: Power spectral Density - Chain B + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #6: Power spectral Density - Chain B + C



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Three Chains (A + B + C)

Operating Mode: 802.11n 20MHz

Transmitted signal on chain is coherent ? No

2412 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	25.0	25.5	24.5					
Output Power (dBm) Note 1	11.25	11.28	11.95		16.3 dBm	0.042 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	14.45	14.48	15.15		19.5 dBm	0.089 W		

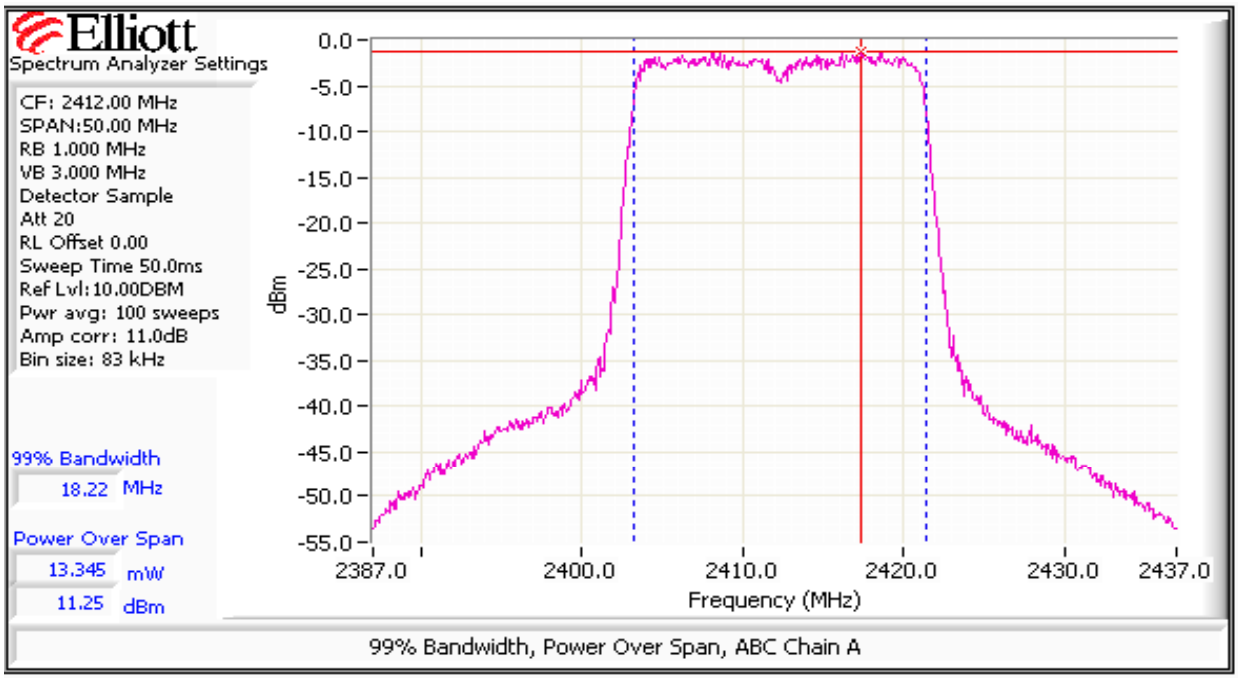
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	25.5	25.0					
Output Power (dBm) Note 1	12.77	11.77	12.51		17.1 dBm	0.052 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	15.97	14.97	15.71		20.3 dBm	0.108 W		

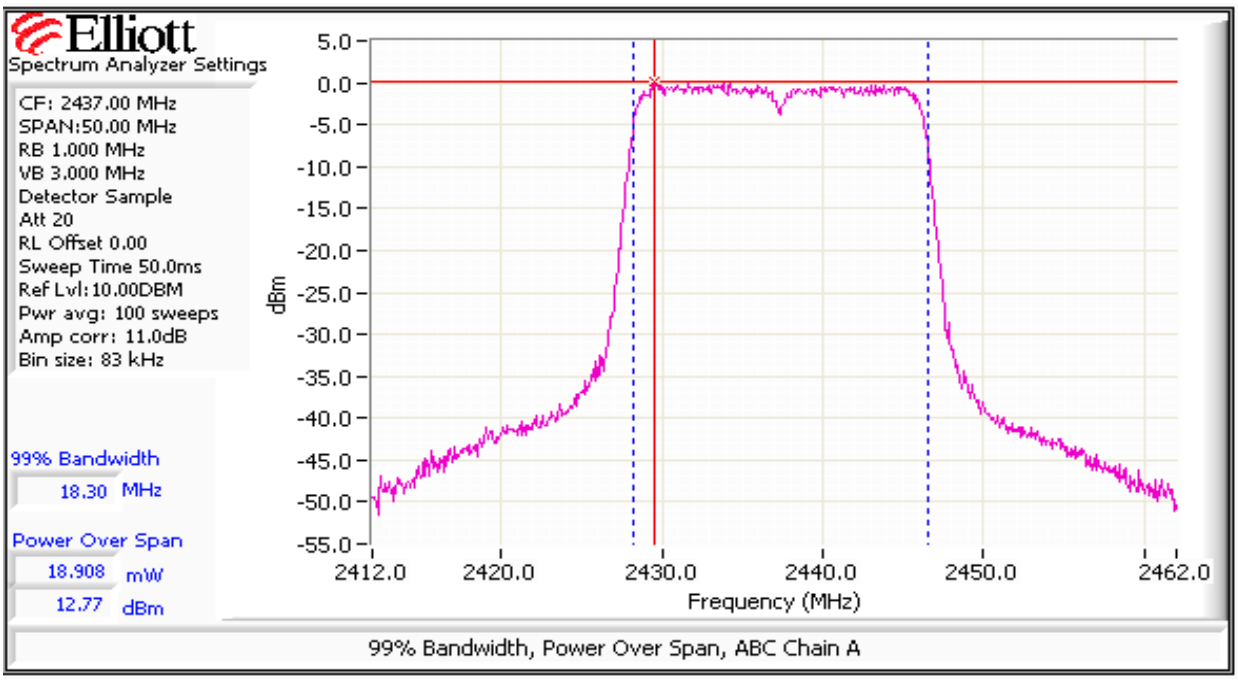
2462 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.0	26.0	25.0					
Output Power (dBm) Note 1	11.77	11.88	11.53		16.5 dBm	0.045 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	14.97	15.08	14.73		19.7 dBm	0.093 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

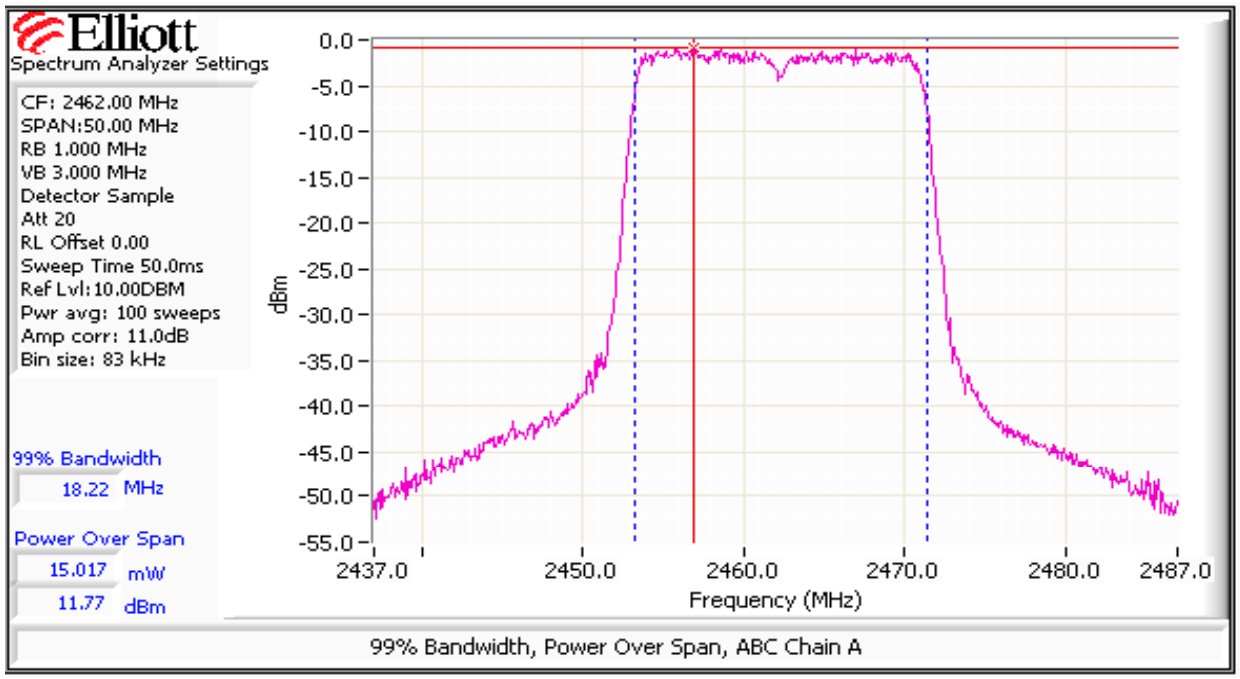
Run #5: Output Power - Three Chains (A + B + C)

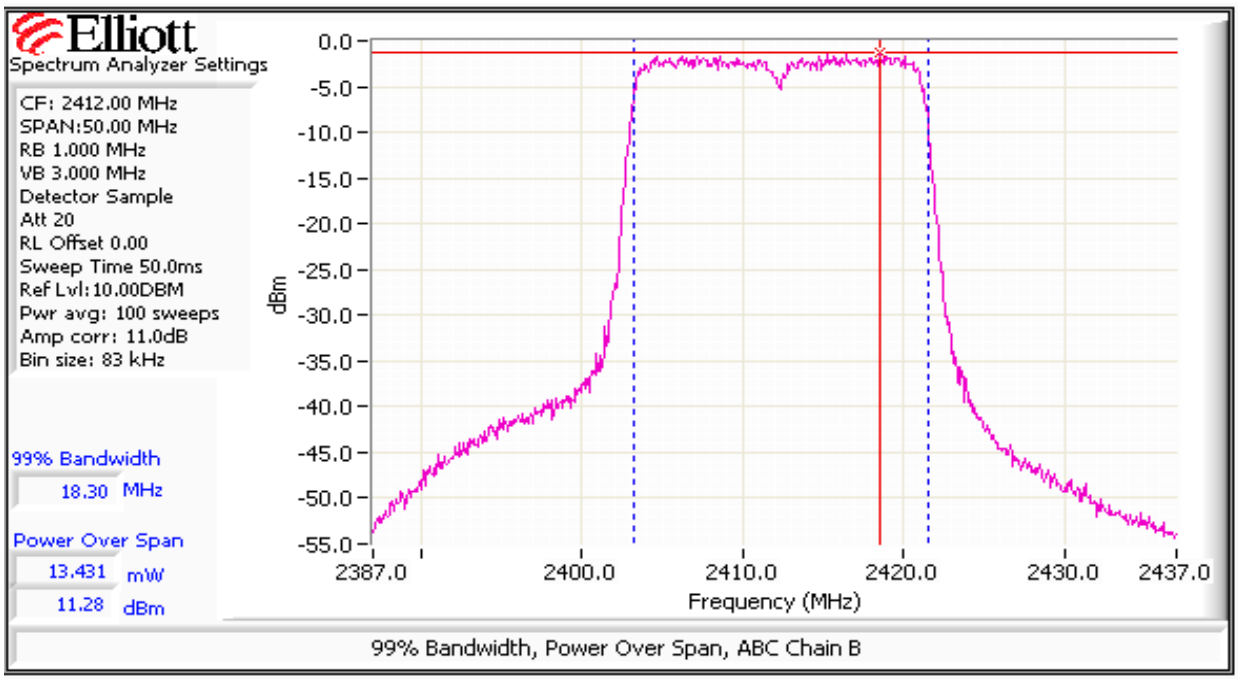




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

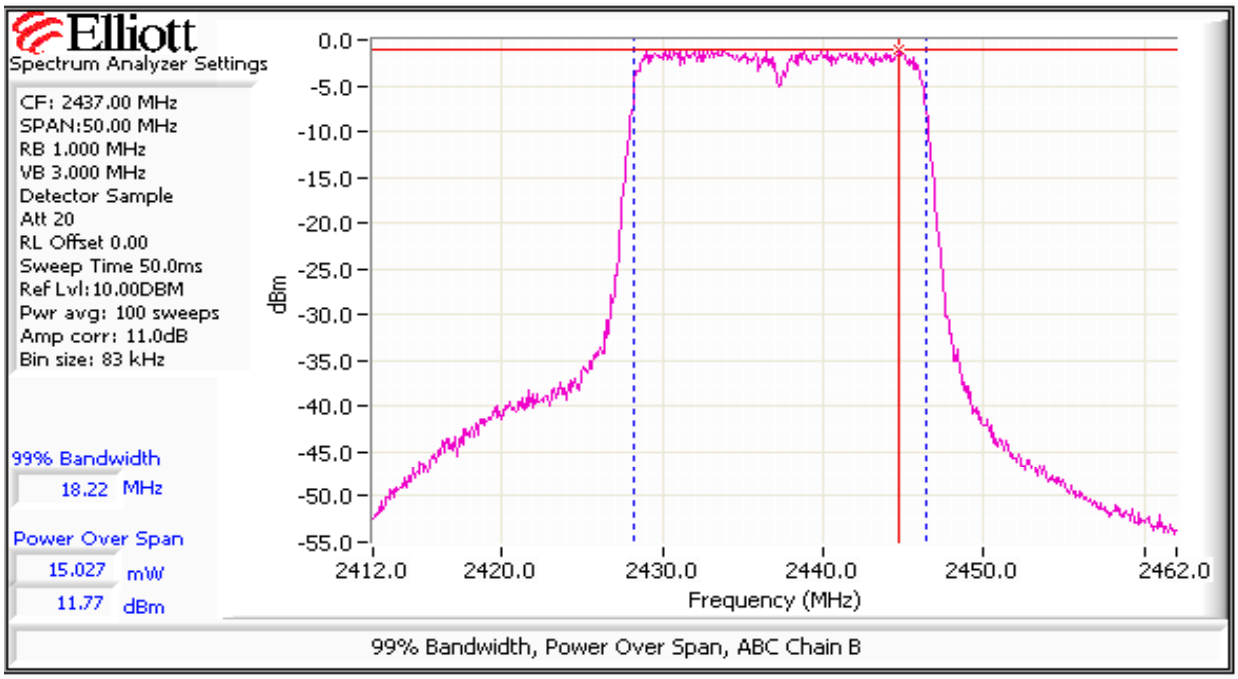
Run #5: Output Power - Three Chains (A + B + C)

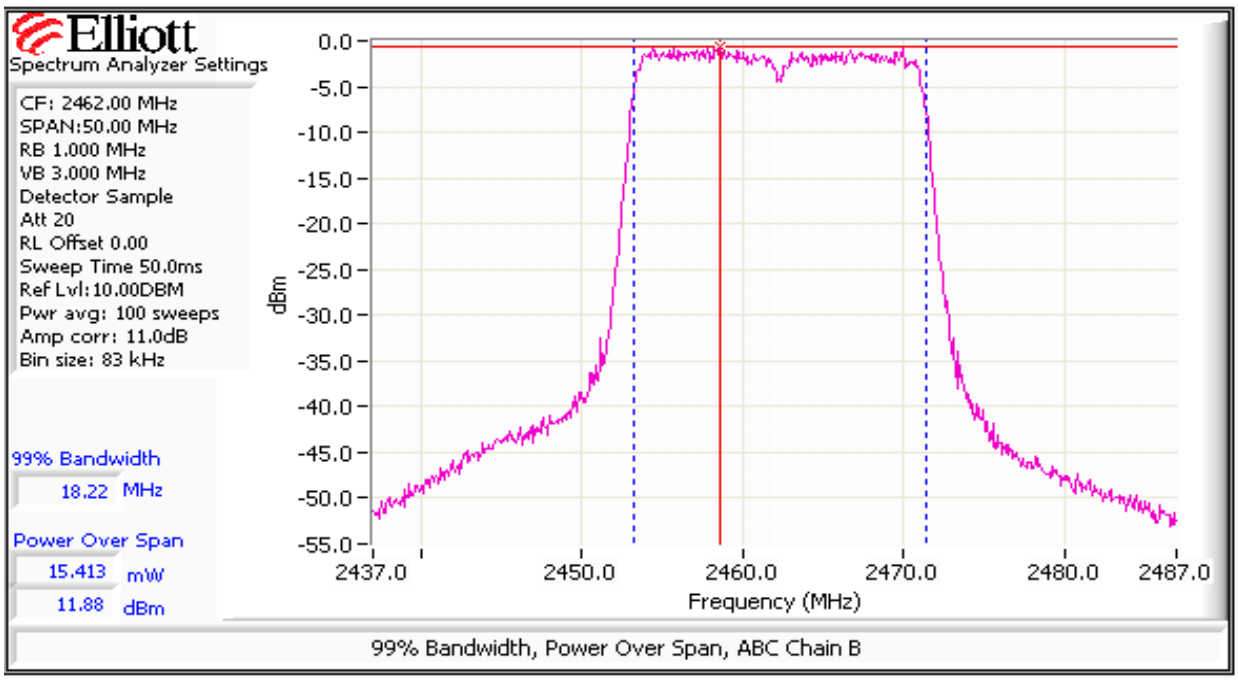




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

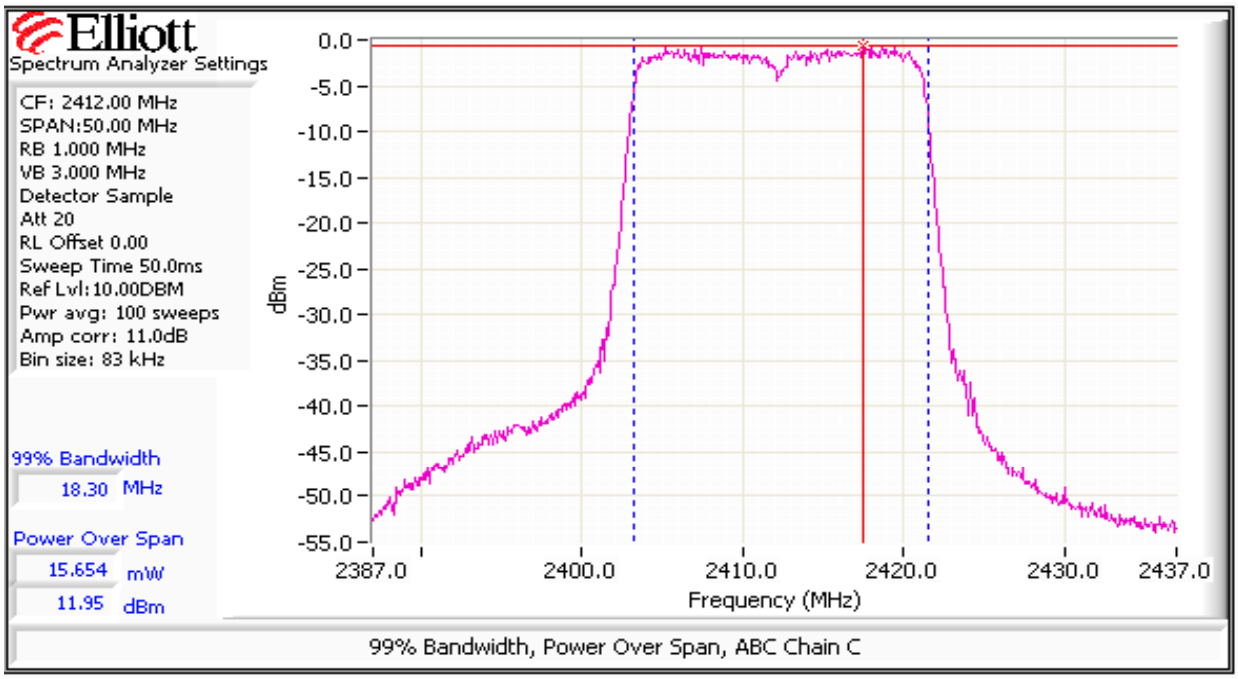
Run #5: Output Power - Three Chains (A + B + C)

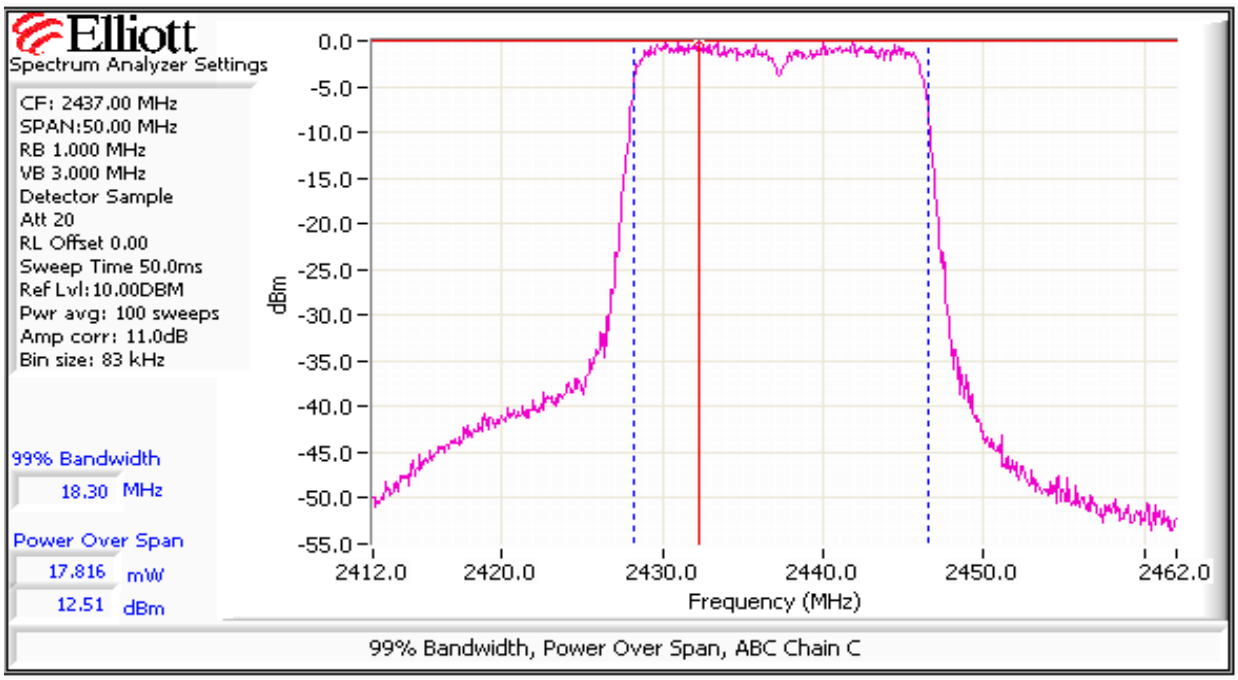




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

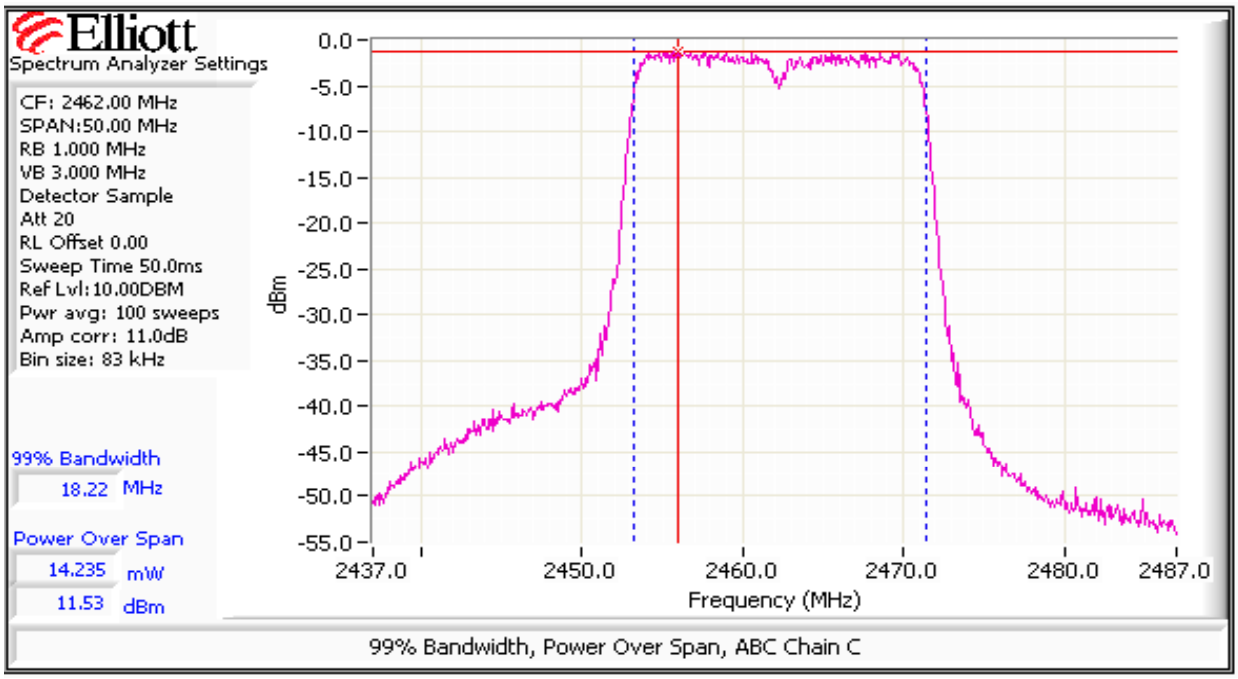
Run #5: Output Power - Three Chains (A + B + C)





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Three Chains (A + B + C)

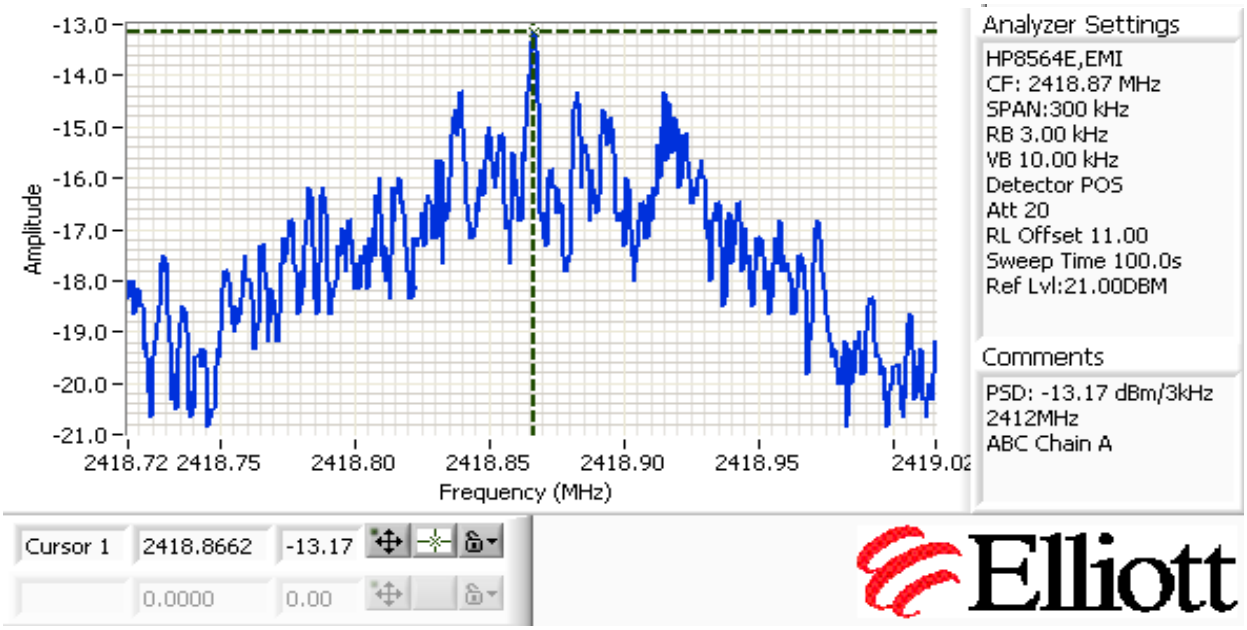


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #6: Power spectral Density - Chain A + B + C

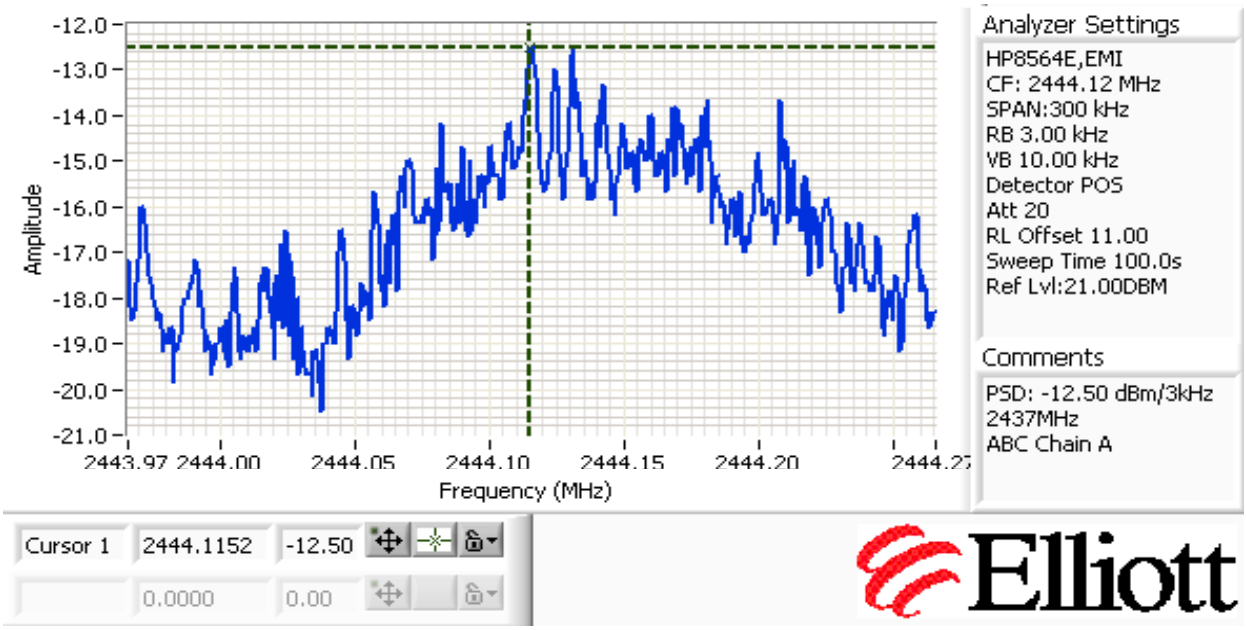
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
25,25.5,24.5	2412	-13.2	-13.5	-11.8		-8.0	8.0	Pass
26,25.5,25	2437	-12.5	-11.8	-11.8		-7.3	8.0	Pass
26,26,25	2462	-12.0	-12.0	-13.5		-7.7	8.0	Pass

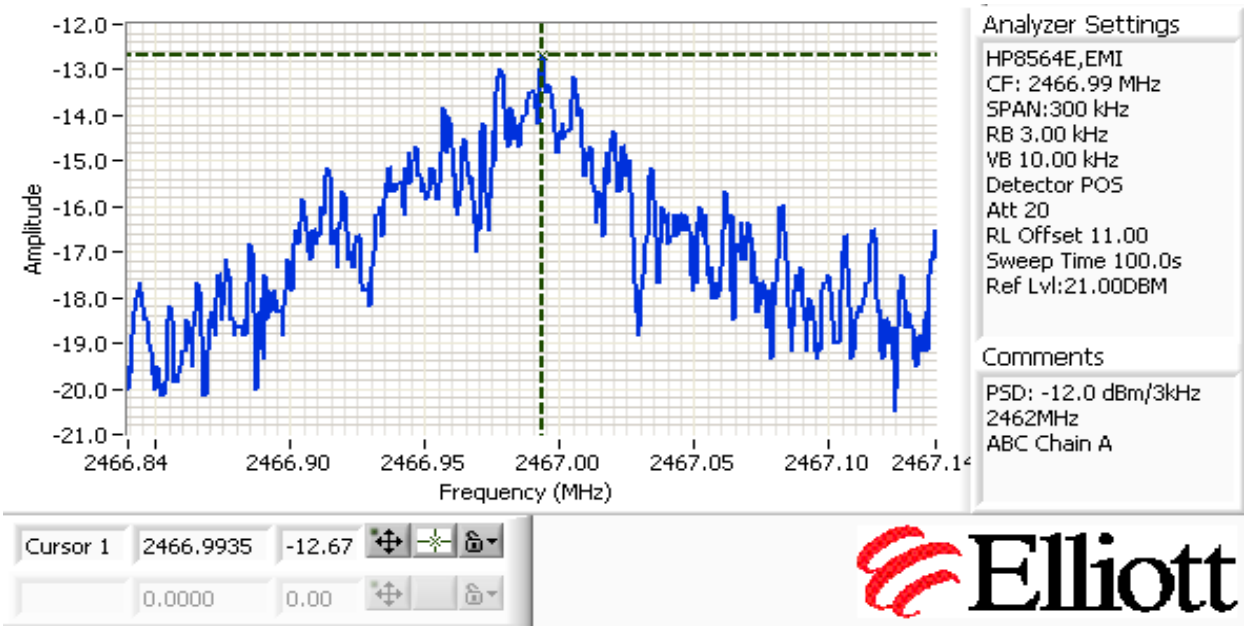
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

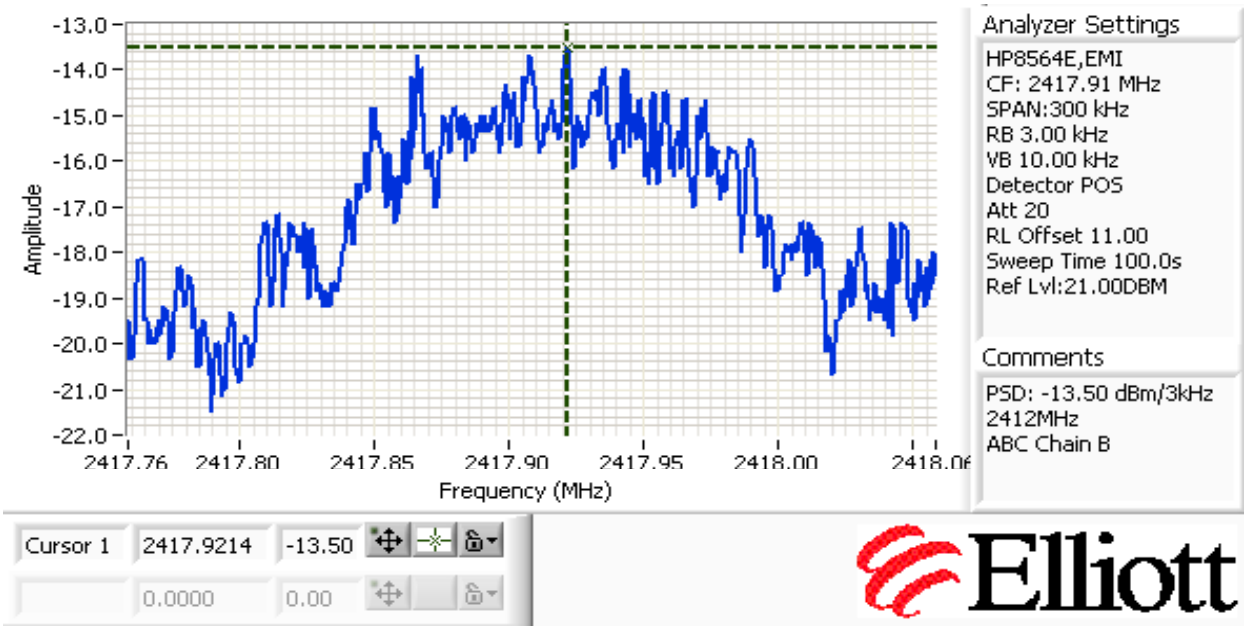
Run #6: Power spectral Density - Chain A + B + C

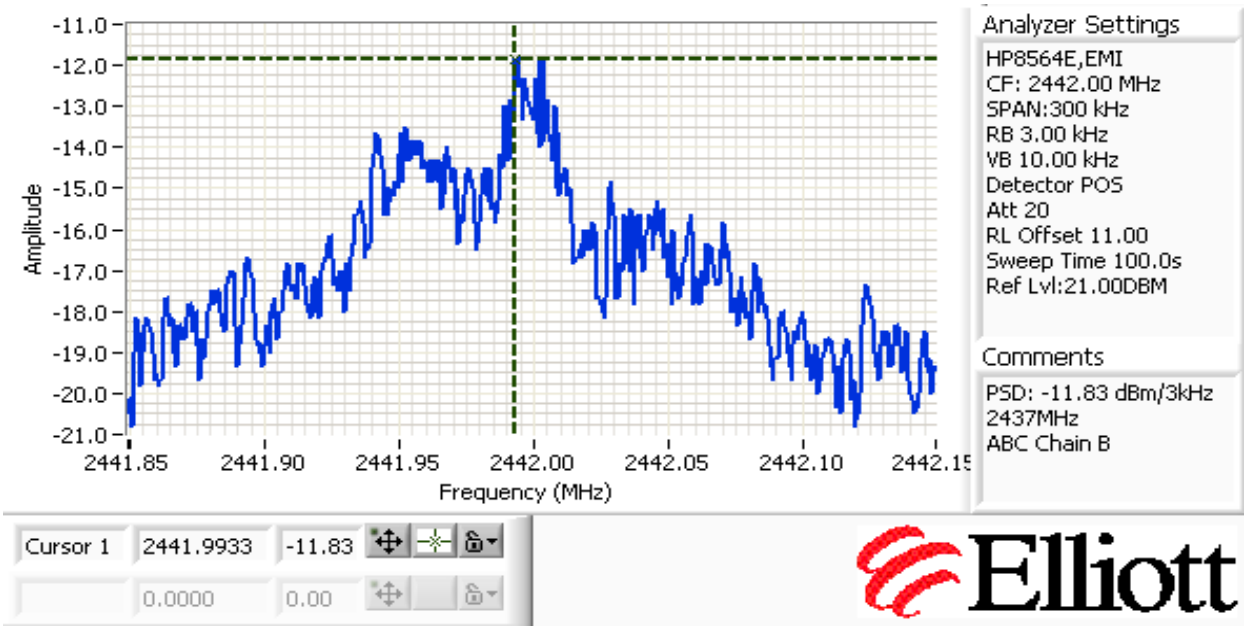




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

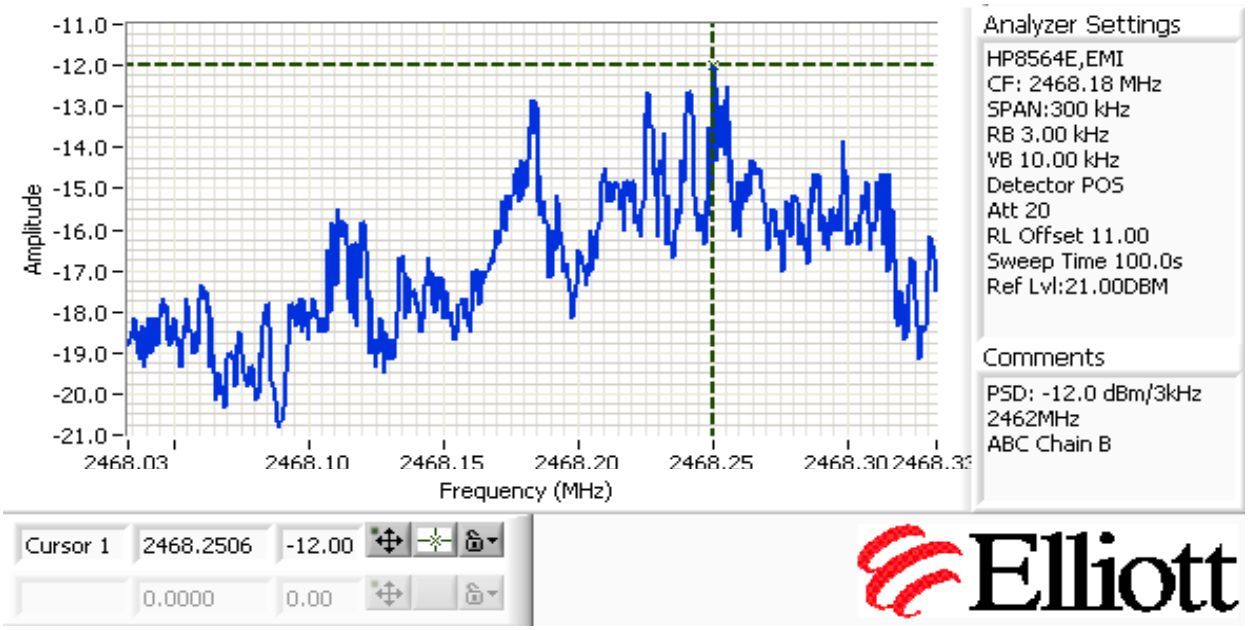
Run #6: Power spectral Density - Chain A + B + C

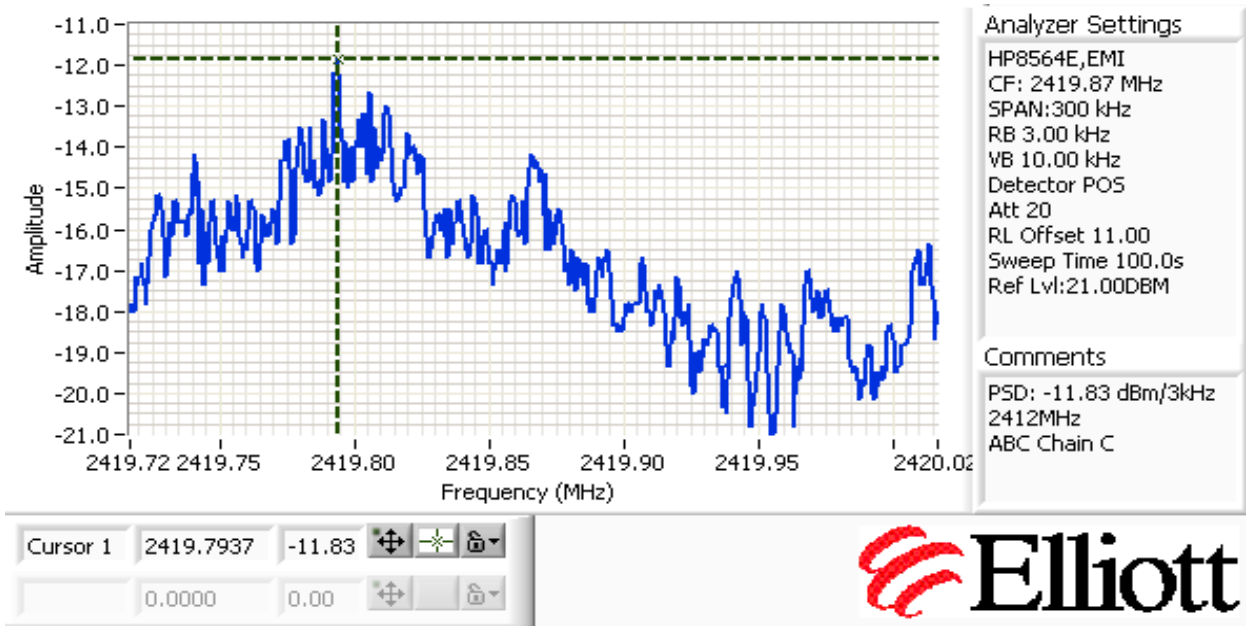




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

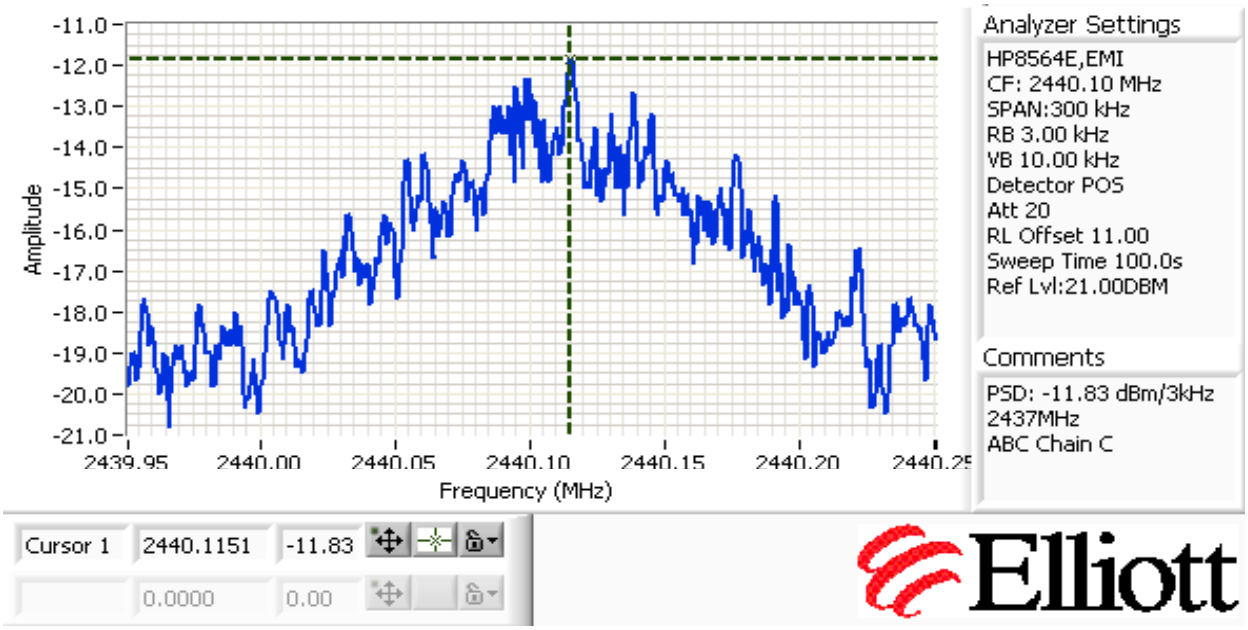
Run #6: Power spectral Density - Chain A + B + C

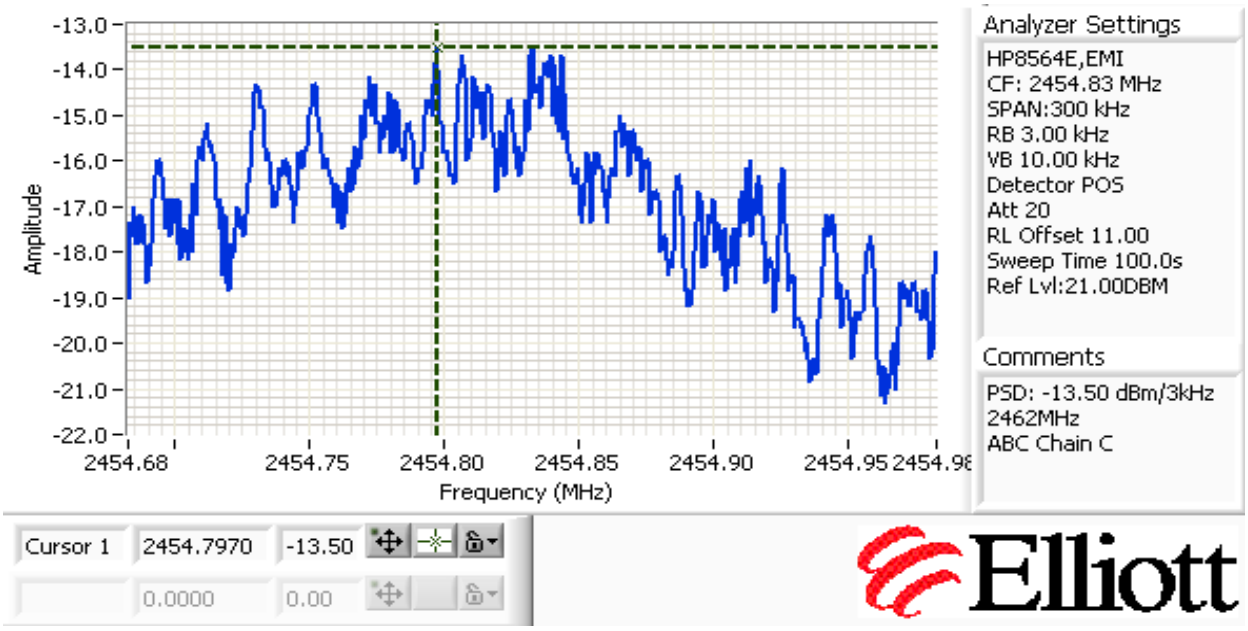




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #6: Power spectral Density - Chain A + B + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
MIMO and Smart Antenna Systems, 2400 - 2483.5MHz
Power, PSD, Bandwidth and Spurious Emissions - 802.11n 40MHz

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: 4/7/2008
Test Engineer: Joseph Cadigal
Test Location: FT Lab #1

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

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on each chain separately. All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 20.7 °C
Rel. Humidity: 34 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	19.3 dBm
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-11.7 dBm/3 kHz (-19.7 dB)
3	Output Power Chain A + C	15.247(b)	Pass	19.7dBm
4	PSD Chain A + C	15.247(d)	Pass	-6.4 dBm/3 kHz (-14.4 dB)
5	Output Power Chain B + C	15.247(b)	Pass	22.4 dBm
6	PSD Chain B + C	15.247(d)	Pass	-7.6 dBm/3 kHz (-15.6 dB)
7	Output Power Chain A+B+C	15.247(b)	Pass	21.1dBm (129mW)
8	PSD Chain A+B+C	15.247(d)	Pass	-6.0 dBm/3 kHz (-14.0 dB)
-	6dB Bandwidth	15.247(a)		Covered by single-chain measurements
-	99% Bandwidth	RSS GEN	-	
-	Spurious emissions	15.247(b)		

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:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power - Dual Chain (A + B)

Operating Mode: 802.11n 40MHz

Transmitted signal on chain is coherent ? no

2422 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	23.0	23.5						
Output Power (dBm) Note 1	10.78	12.73			14.9 dBm	0.031 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	13.98	15.93			18.1 dBm	0.064 W		

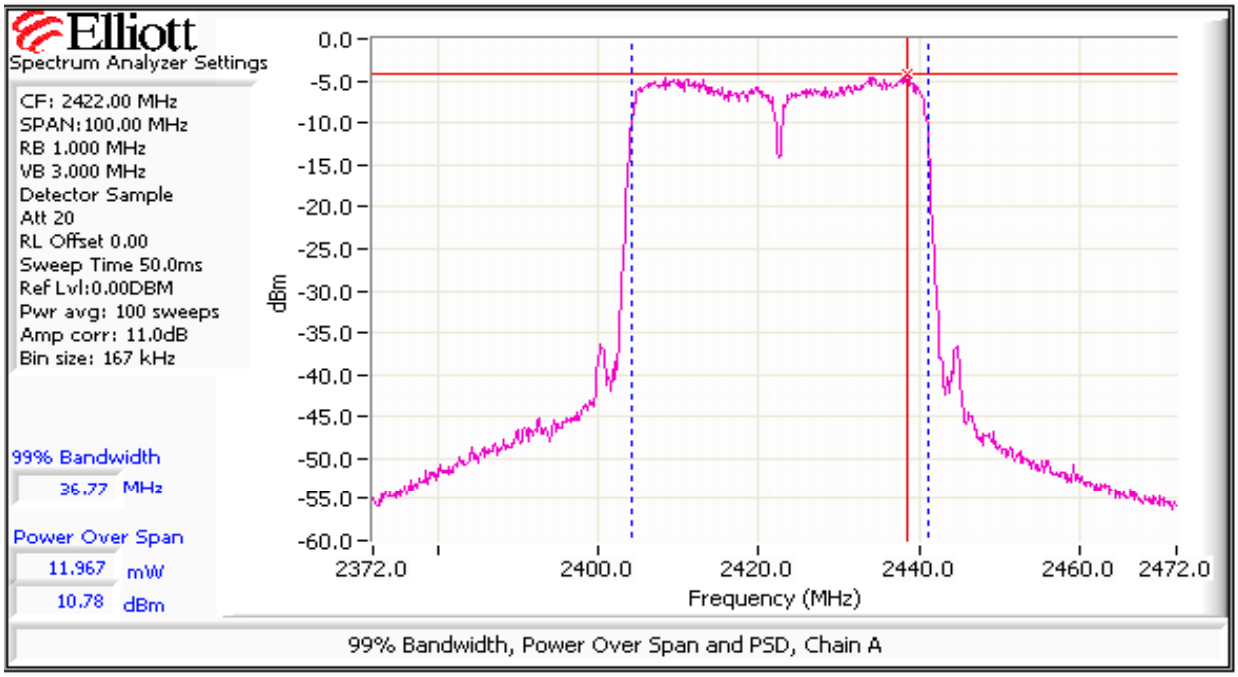
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	28.5	28.5						
Output Power (dBm) Note 1	16.32	16.29			19.3 dBm	0.085 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	19.52	19.49			22.5 dBm	0.178 W		

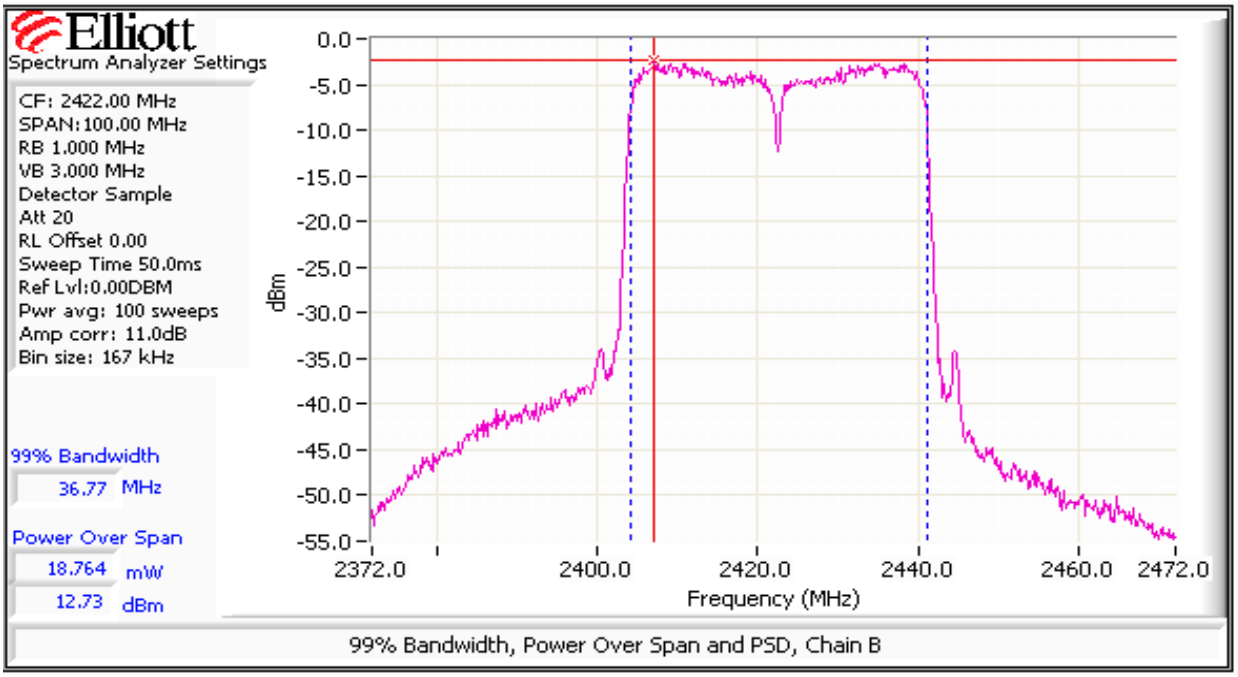
2452 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	25.0	23.5						
Output Power (dBm) Note 1	12.73	12.18			15.5 dBm	0.035 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2				3.2 dBi	Pass	
eirp (dBm) Note 2	15.93	15.38			18.7 dBm	0.074 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 100 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

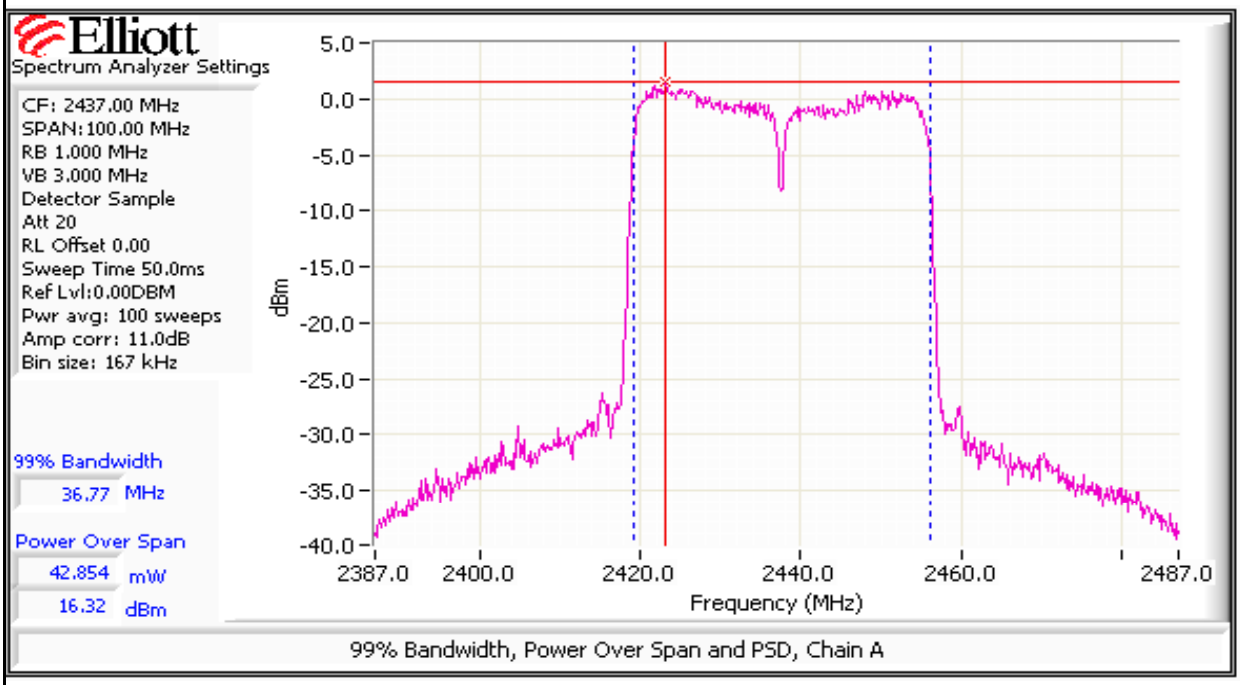
Run #1: Output Power - Dual Chain (A + B)

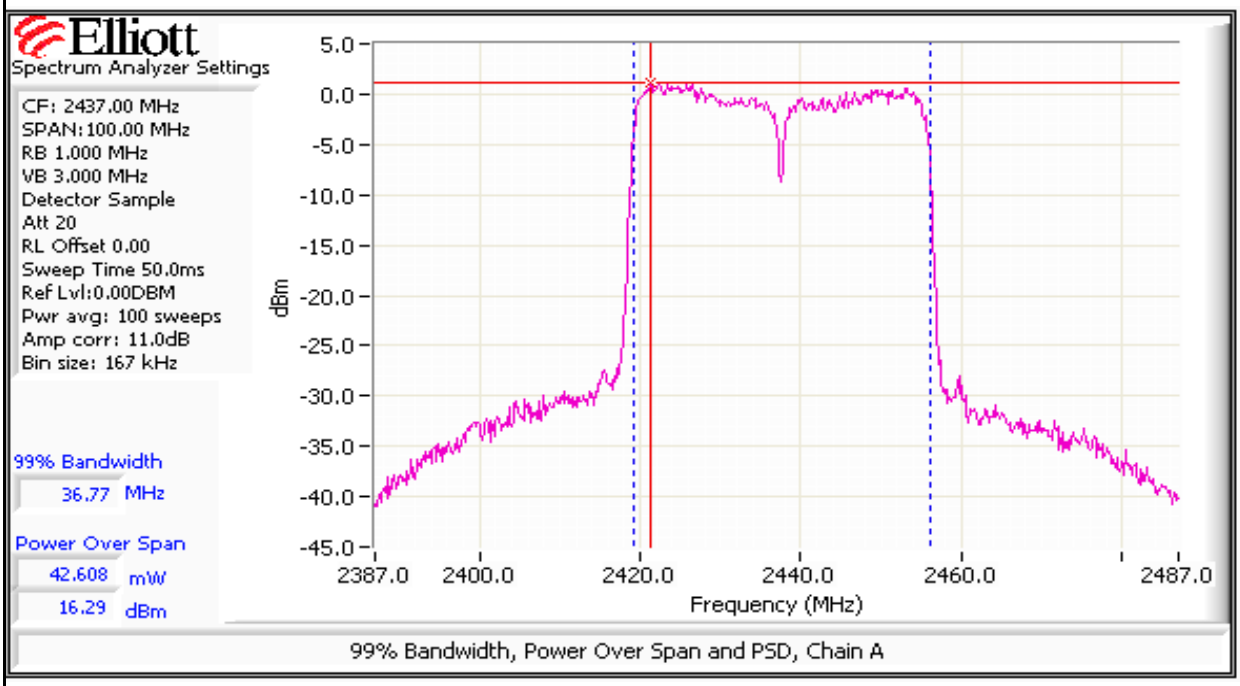




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

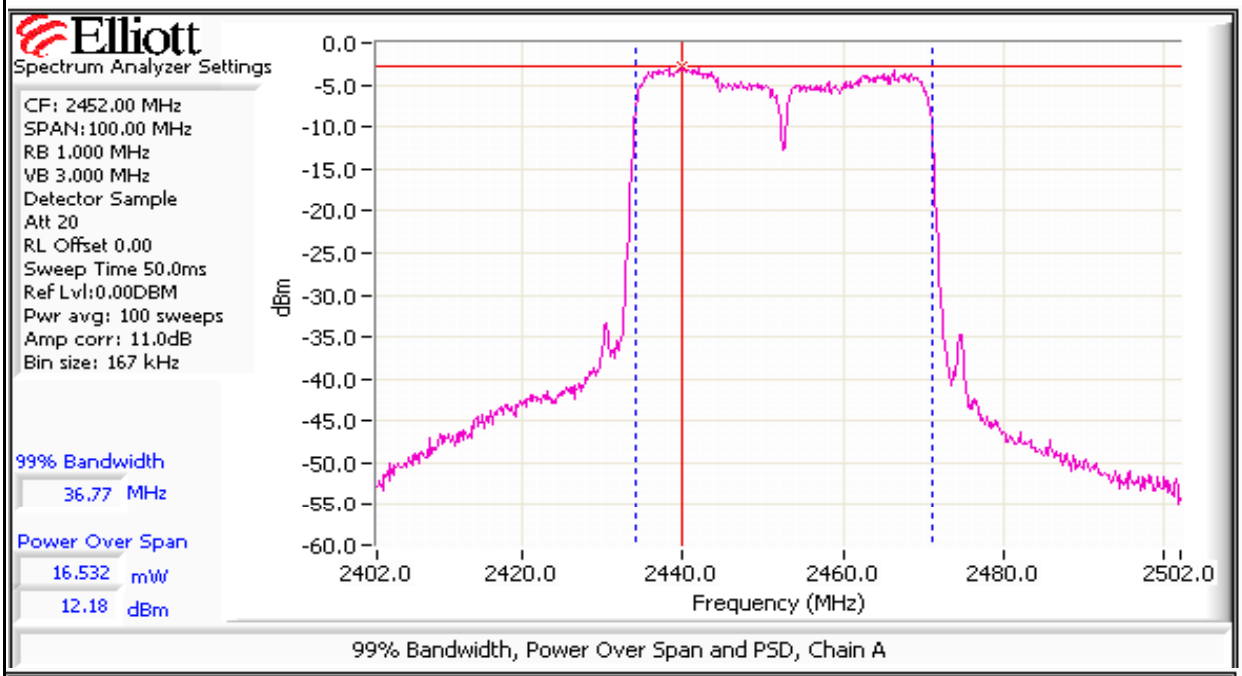
Run #1: Output Power - Dual Chain (A + B)



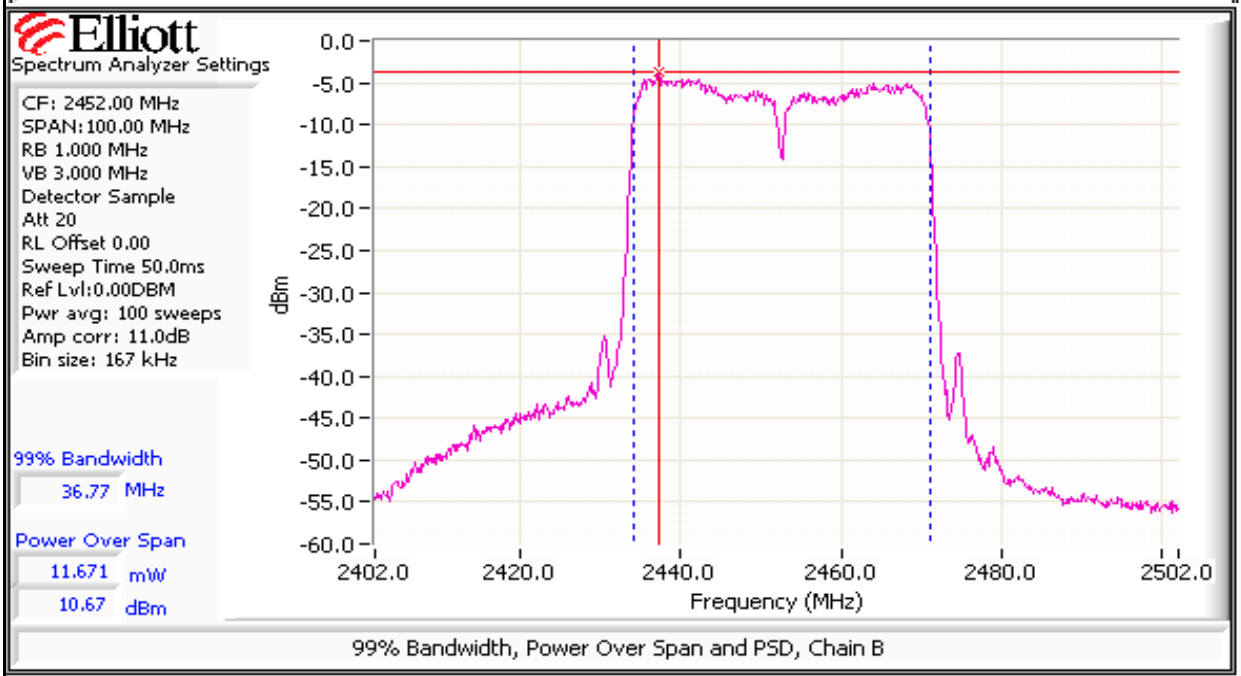


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #1: Output Power - Dual Chain (A + B)



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



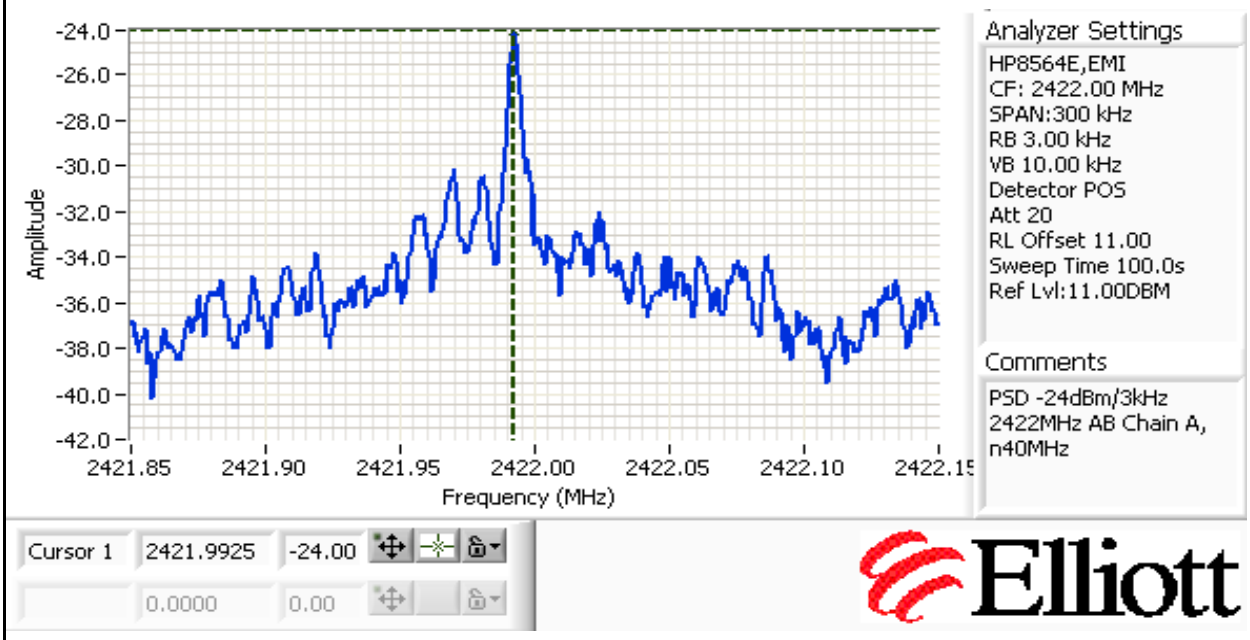
99% Bandwidth, Power Over Span and PSD, Chain B

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density - Chain A + B

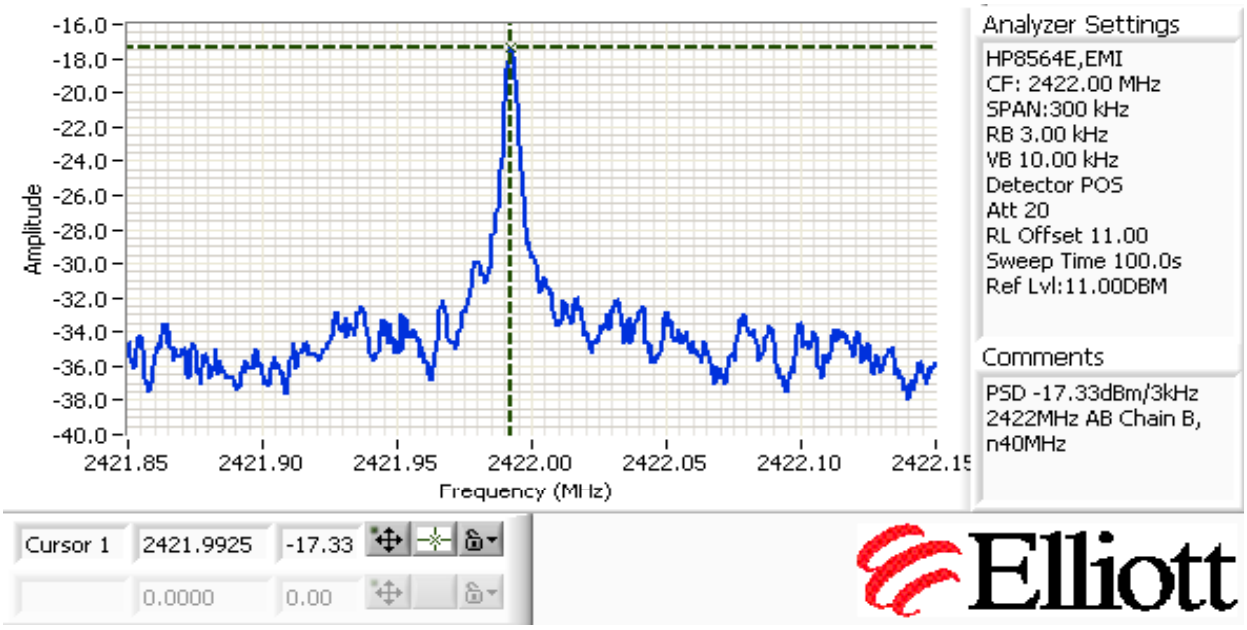
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1 Chain A	Chain B	Chain C	Chain 4	Total	Limit dBm/3kHz	Result
23,23.5	2422	-24.0	-17.3			-16.5	8.0	Pass
28.5,28.5	2437	-19.3	-12.5			-11.7	8.0	Pass
25,23.5	2452	-23.2	-23.3			-20.2	8.0	Pass

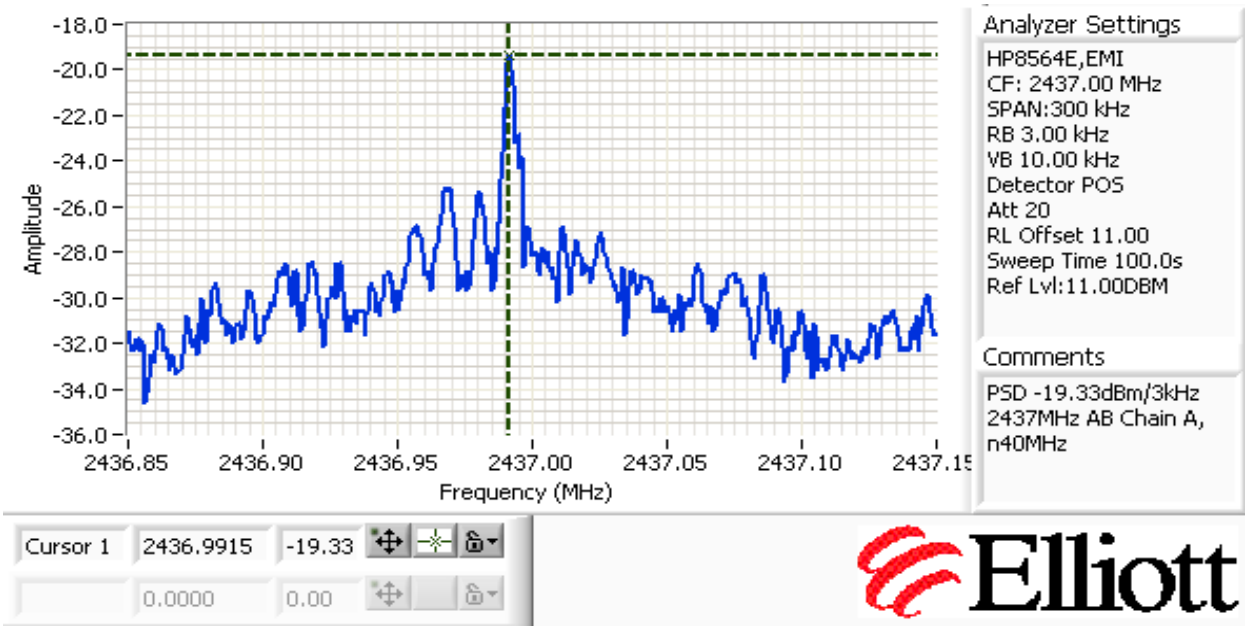
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

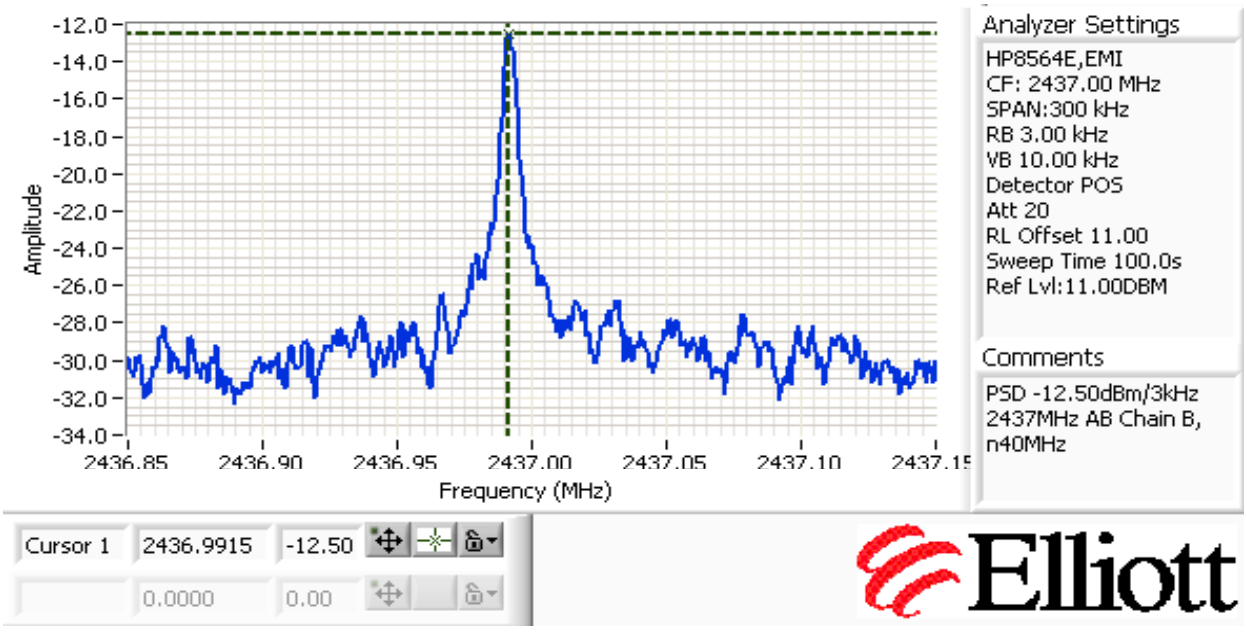
Run #2: Power spectral Density - Chain A + B

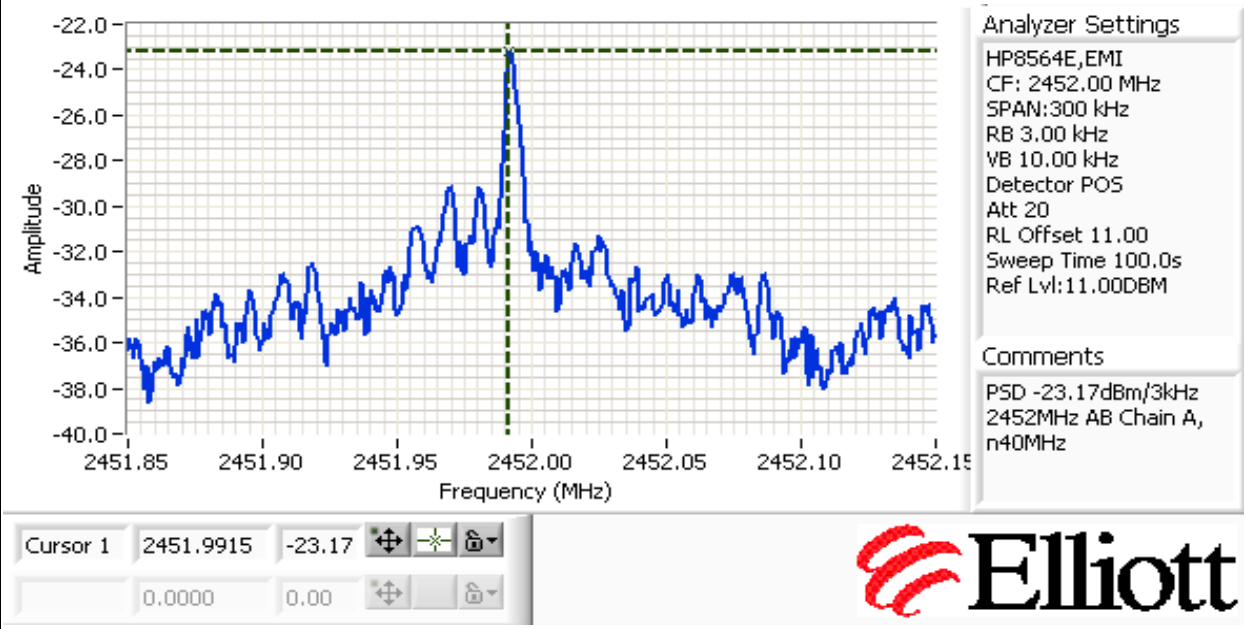




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

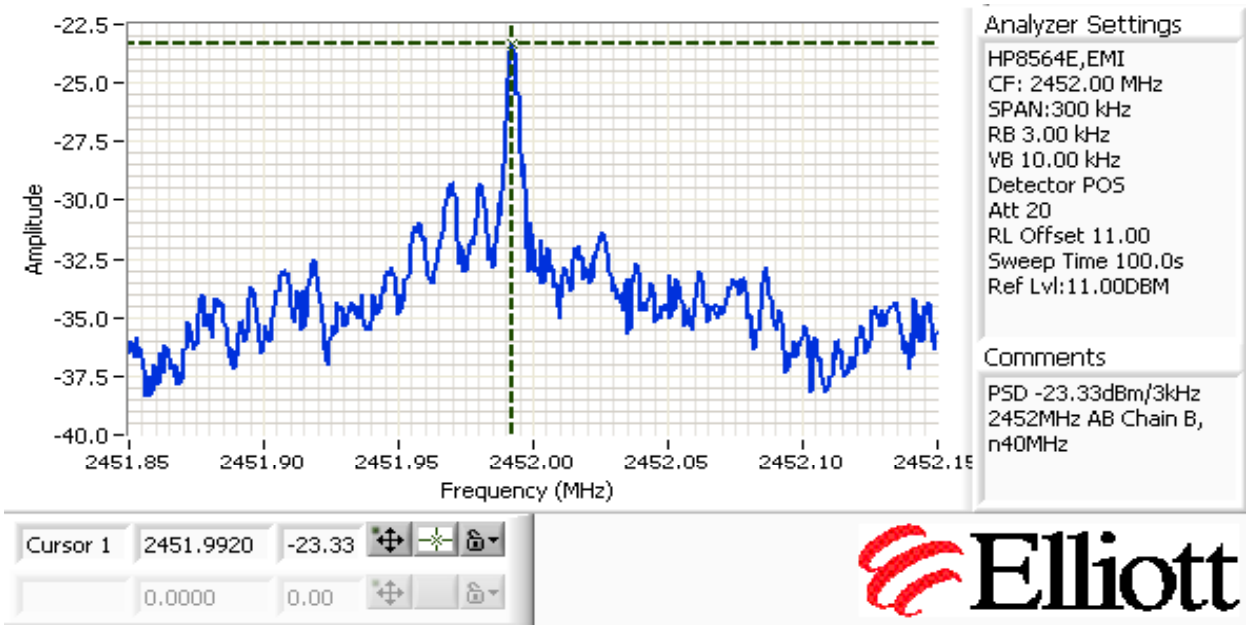
Run #2: Power spectral Density - Chain A + B





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #2: Power spectral Density - Chain A + B



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Output Power - Dual Chain A + C

Date of Test: 5/5/2008
Test Engineer: Mehran Birgani
Test Location: FT Lab #1

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

Operating Mode: 802.11n 40MHz
Transmitted signal on chain is coherent ? No

2422 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	24.5		22.5					
Output Power (dBm) Note 1	11.4		11.6		14.5 dBm	0.028 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	14.6		14.8		17.7 dBm	0.059 W		

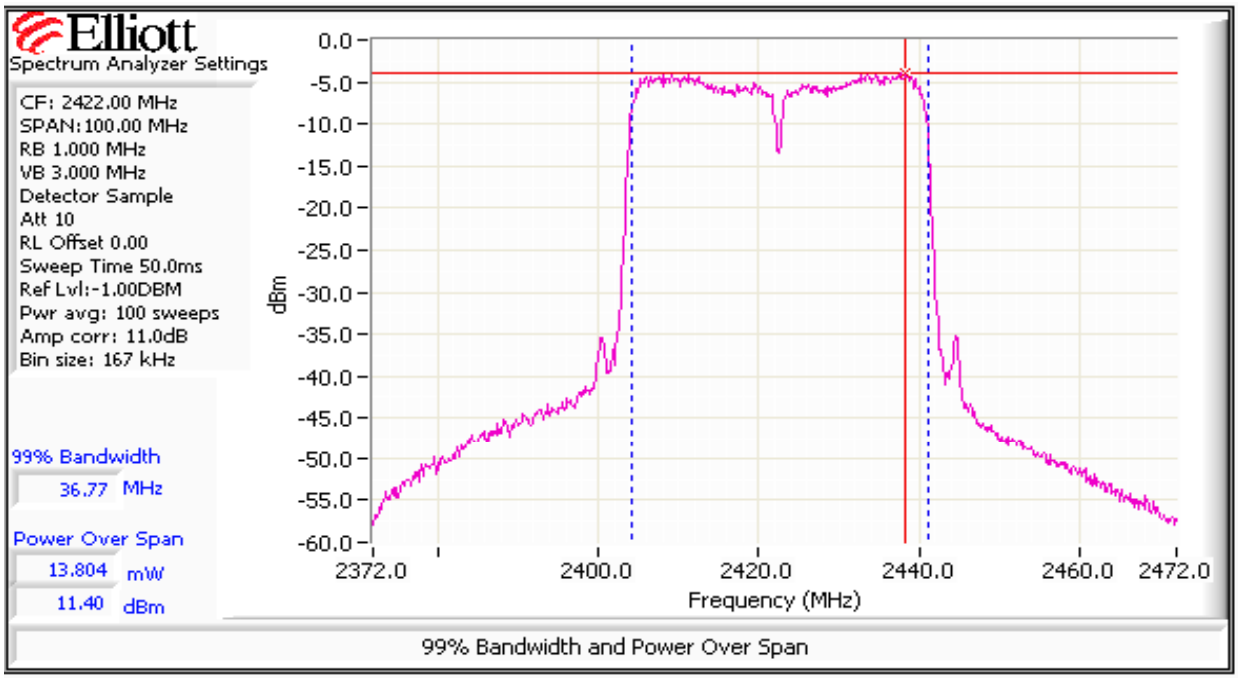
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	30.0		29.0					
Output Power (dBm) Note 1	16.5		16.85		19.7 dBm	0.093 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	19.7		20.05		22.9 dBm	0.194 W		

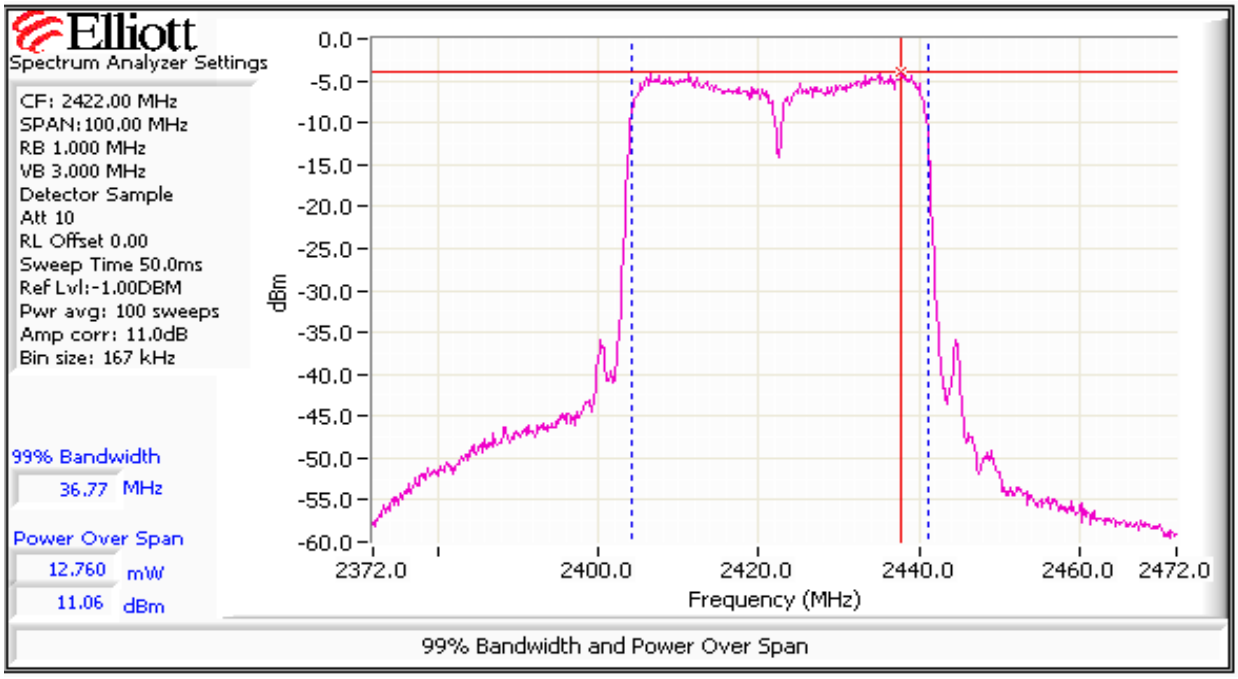
2452 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	26.5		25.5					
Output Power (dBm) Note 1	13.4		13.3		16.3 dBm	0.043 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2		3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	16.58		16.45		19.5 dBm	0.090 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 100 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

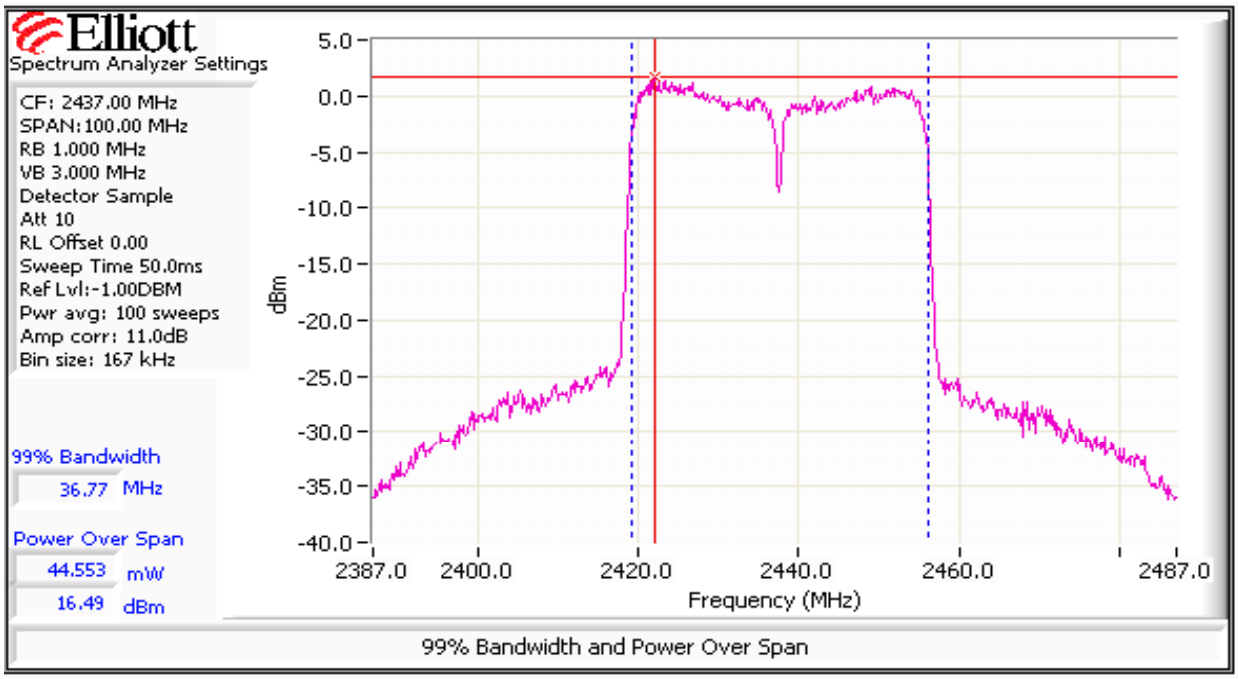
Run #3: Output Power - Dual Chain A + C

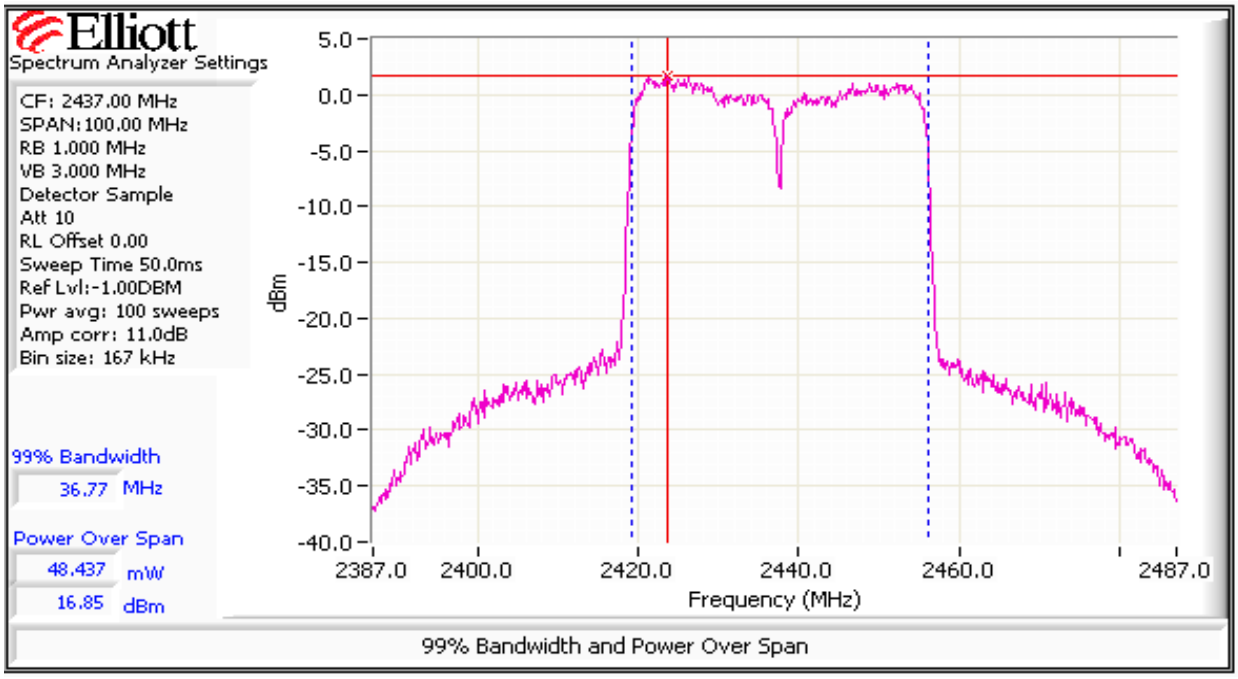




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

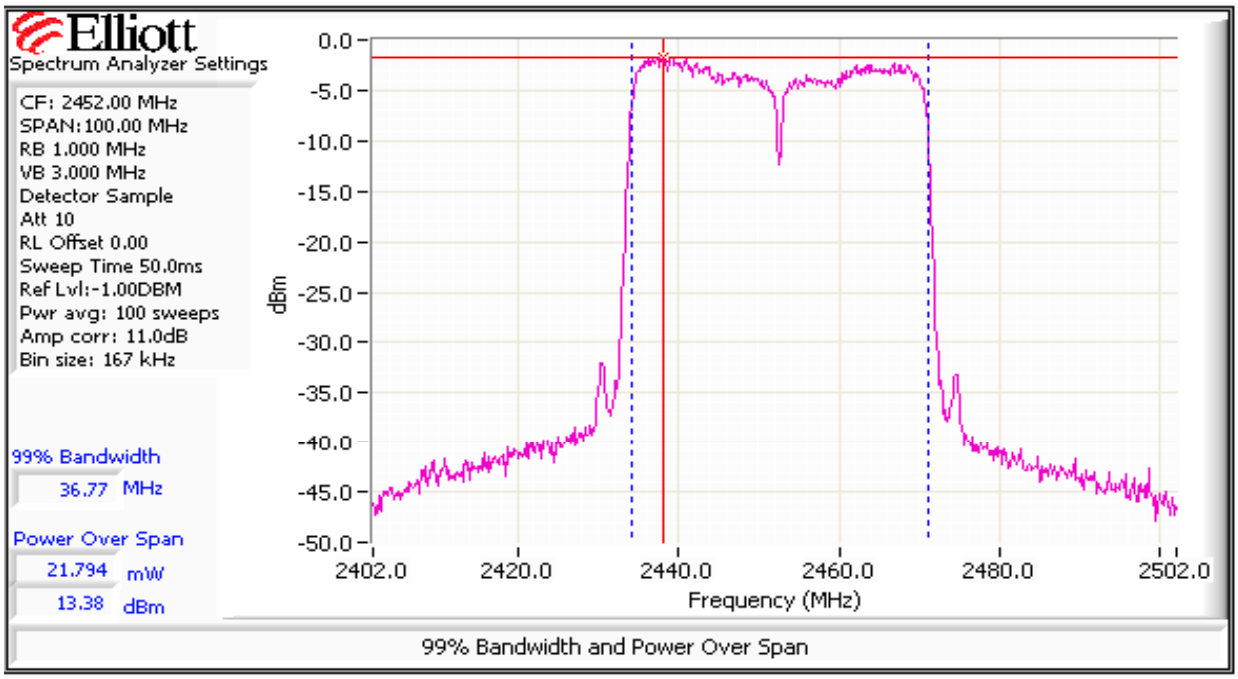
Run #3: Output Power - Dual Chain A + C

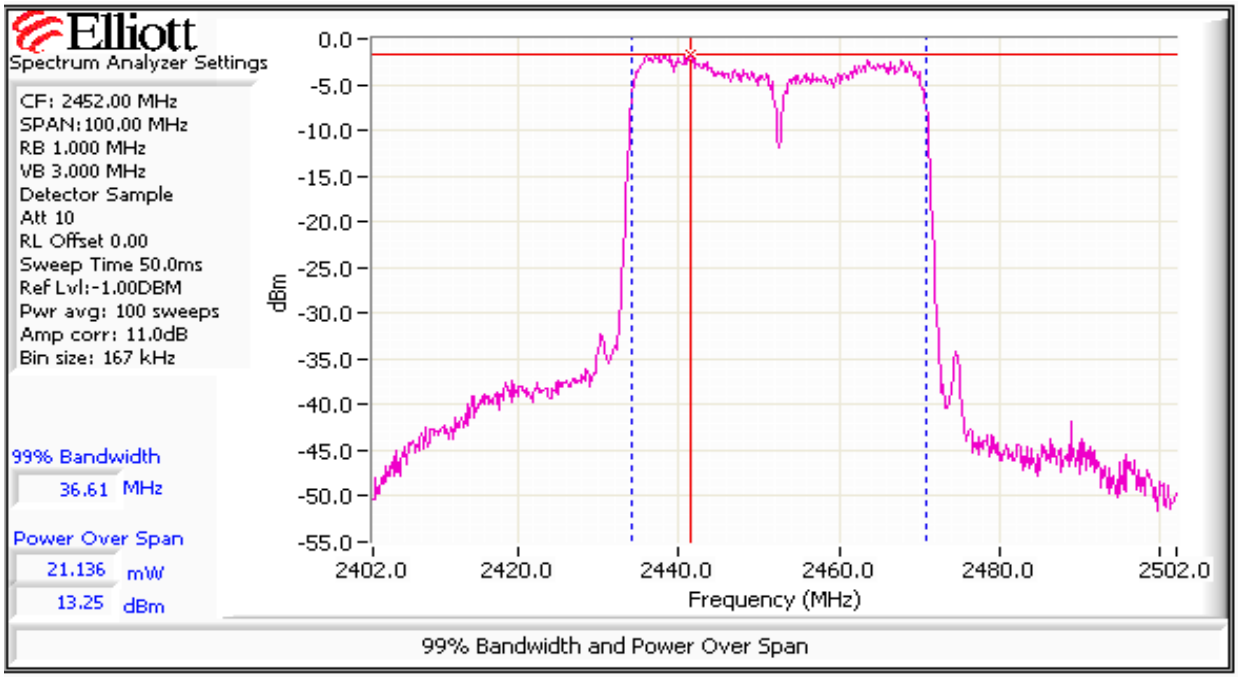




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #3: Output Power - Dual Chain A + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Power spectral Density - Chain A + C

Date of Test: 5/6/2008
Test Engineer: John Caizzi
Test Location: FT Lab #1

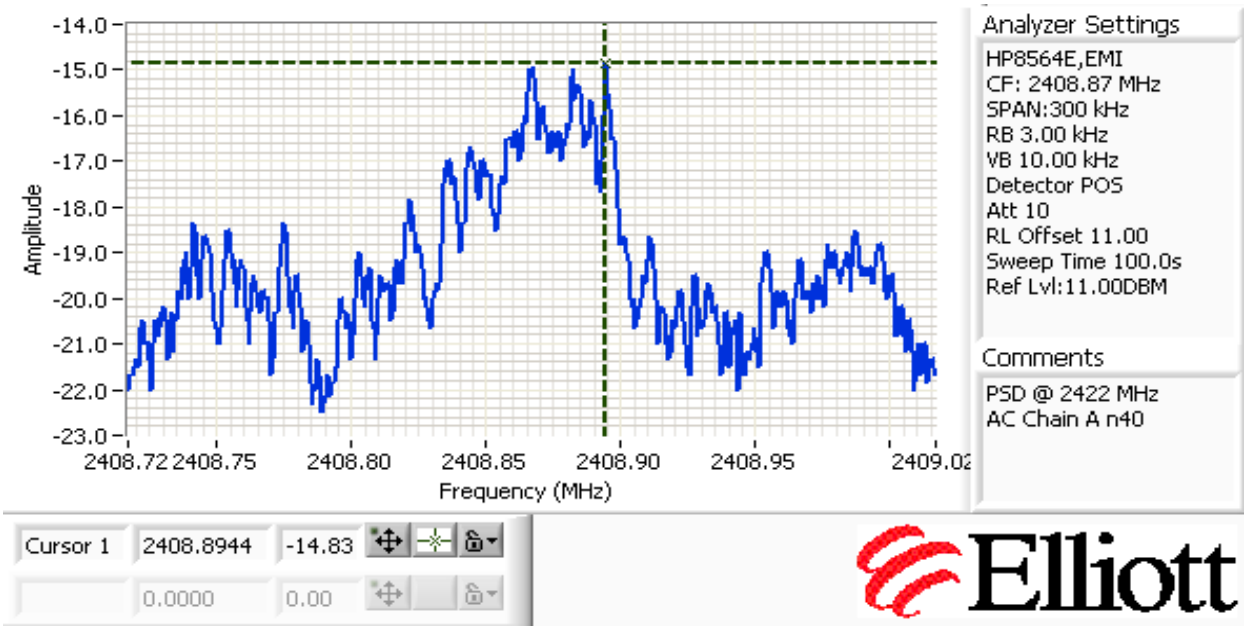
Config. Used: 1
Config Change: None
EUT Voltage: Powered From Host System(3.3V DC)

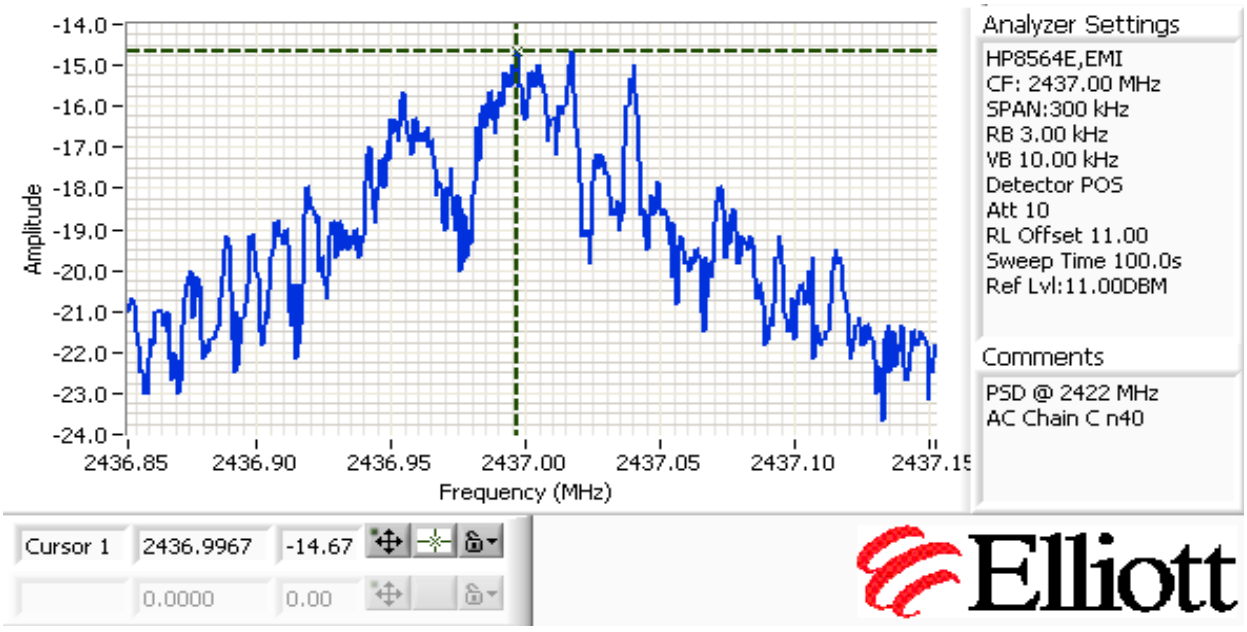
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
24.5/22.5	2422	-14.8		-14.7		-11.7	8.0	Pass
30.0/29.0	2437	-9.8		-9.0		-6.4	8.0	Pass
26.5/25.5	2452	-13.0		-12.2		-9.6	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

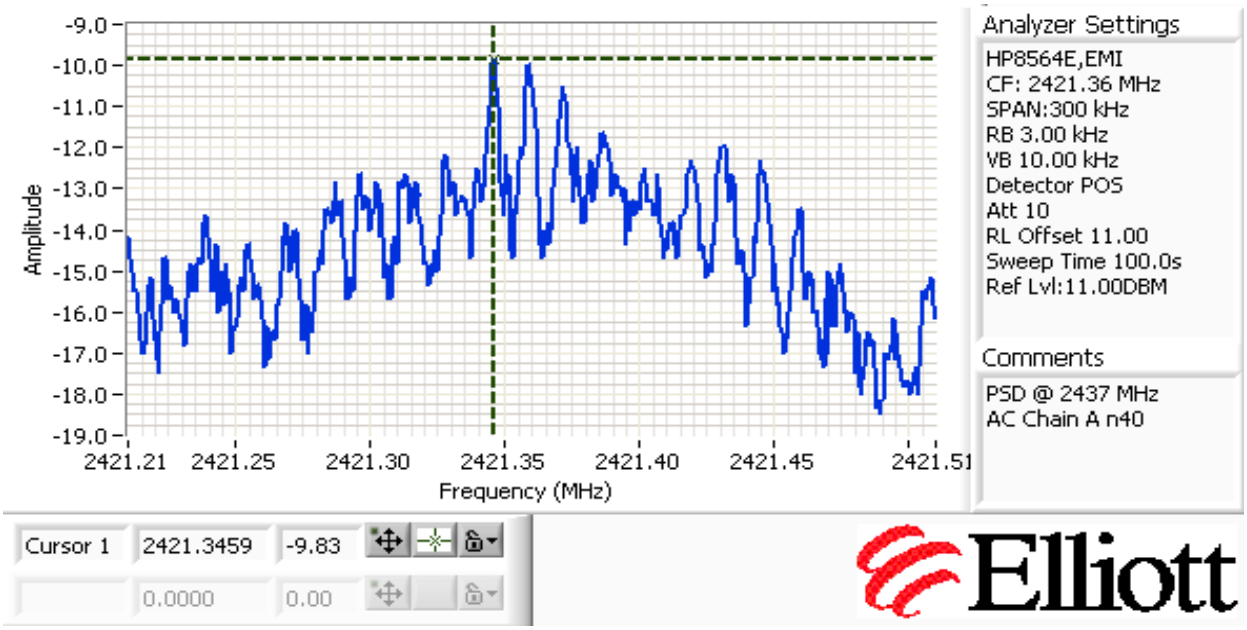
Run #4: Power spectral Density - Chain A + C

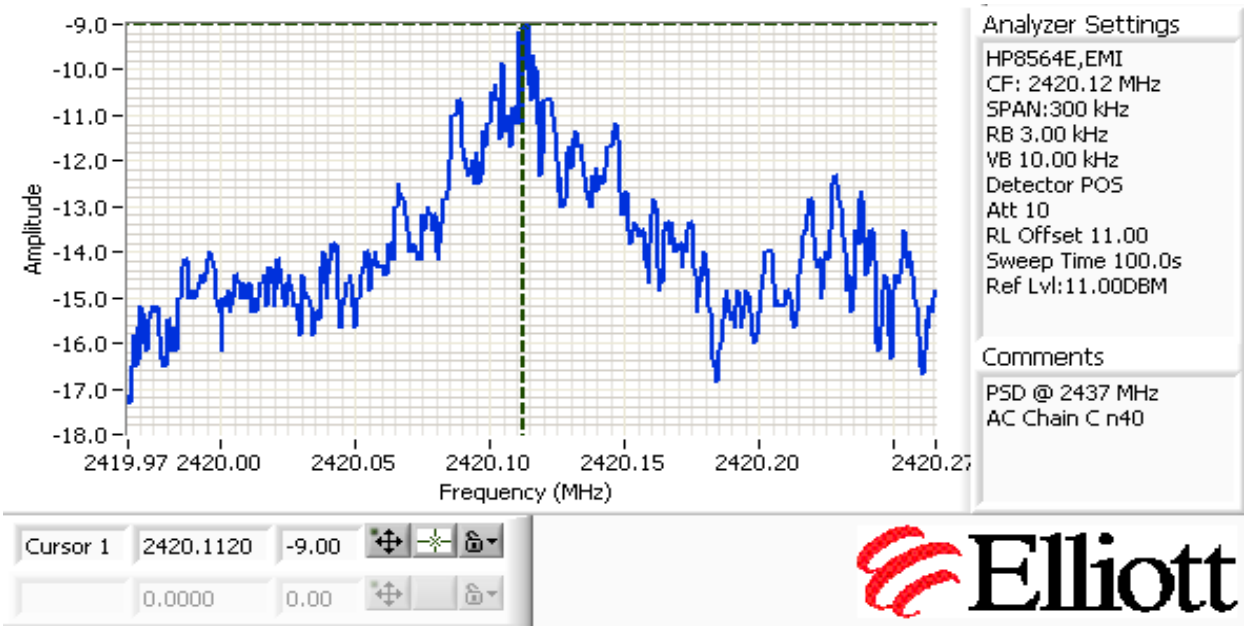




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

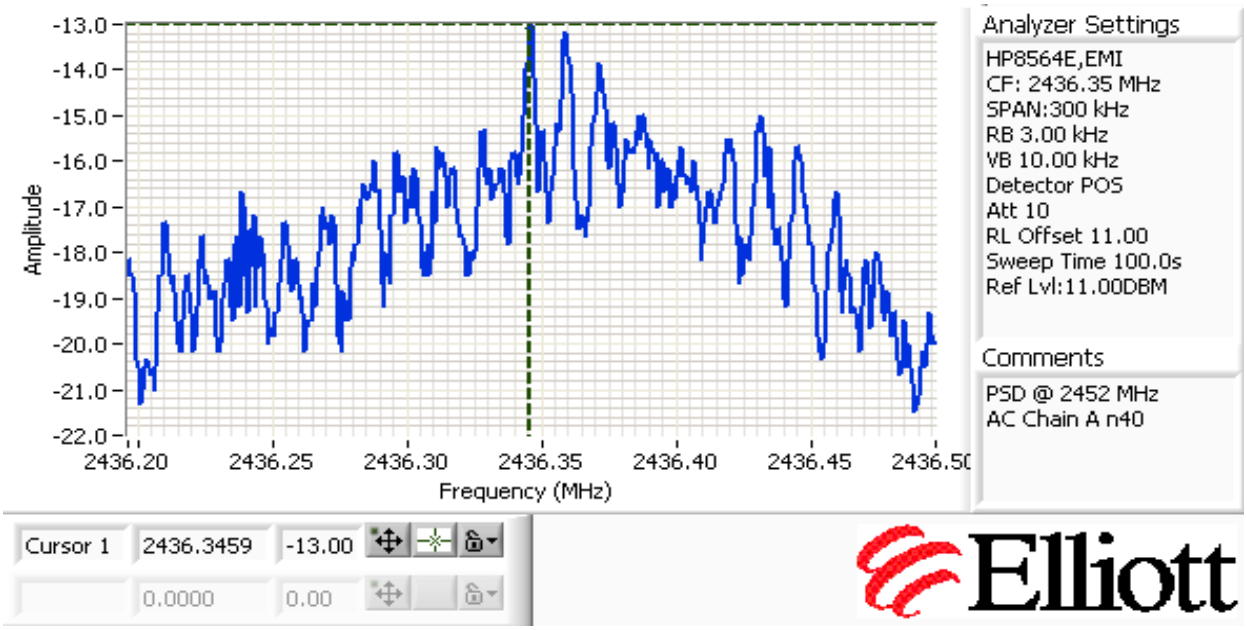
Run #4: Power spectral Density - Chain A + C

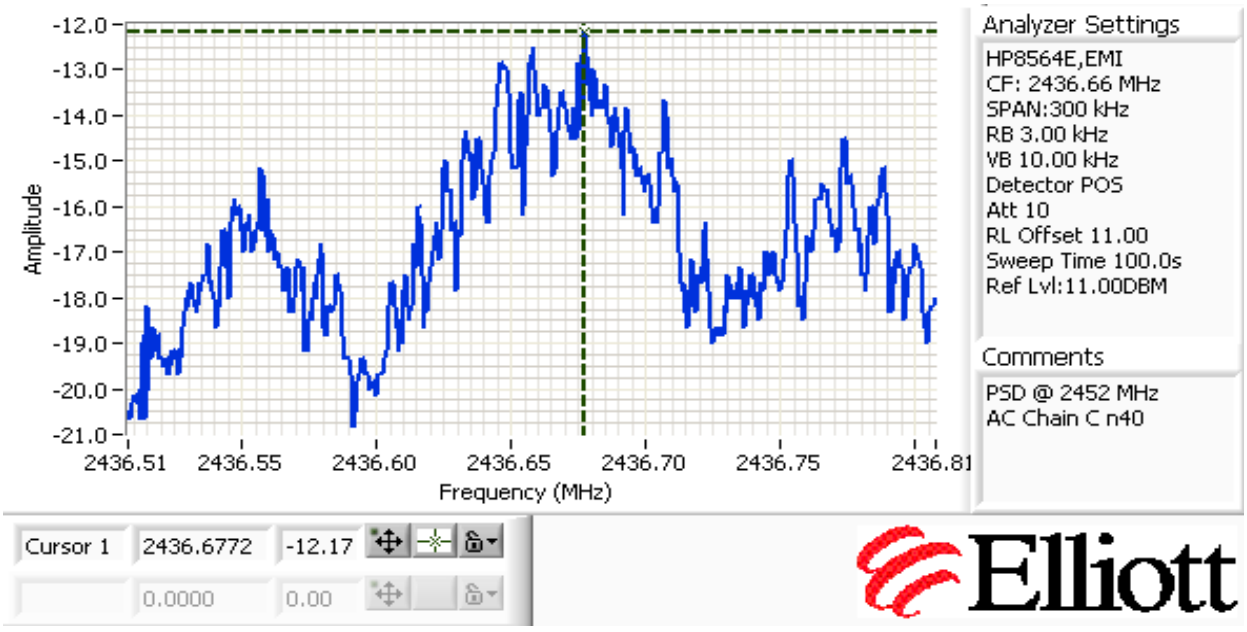




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #4: Power spectral Density - Chain A + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Dual Chain (B + C)

Operating Mode: 802.11n 40MHz

Transmitted signal on chain is coherent ? No

2422 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3		22.5	20.0					
Output Power (dBm) Note 1		10.51	9.34		13.0 dBm	0.020 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		13.71	12.54		16.2 dBm	0.041 W		

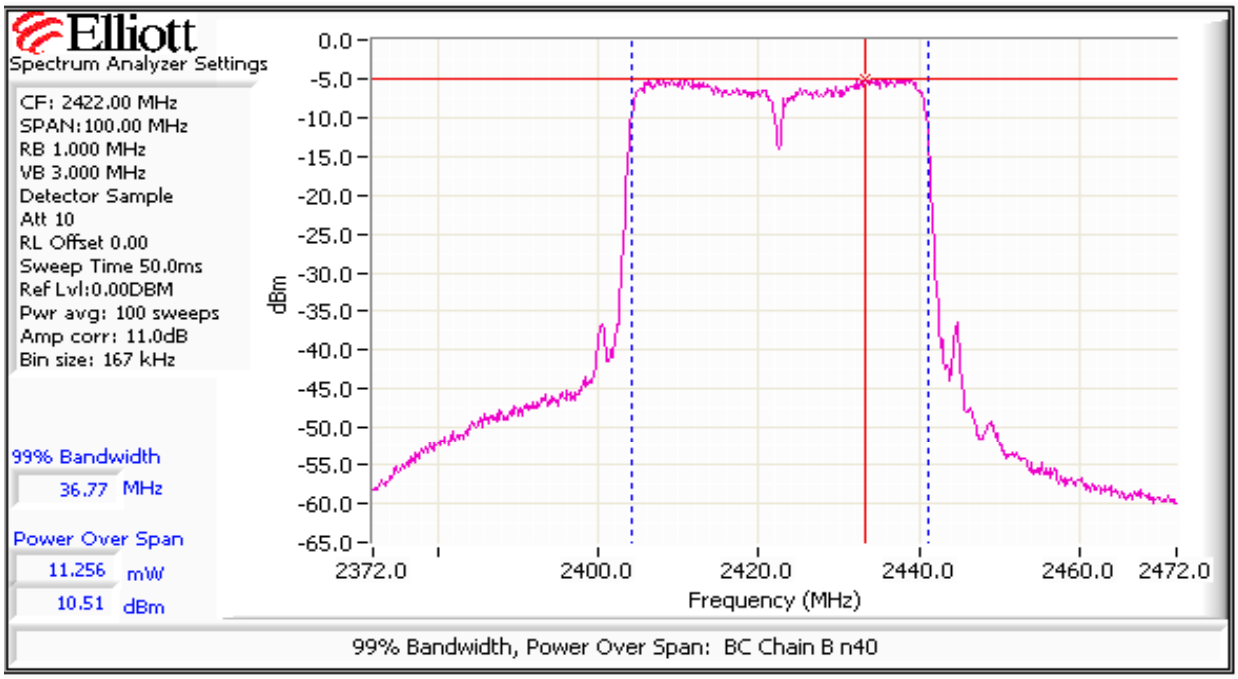
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3		28.5	27.0					
Output Power (dBm) Note 1		16.62	16.08		19.4 dBm	0.086 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		19.82	19.28		22.6 dBm	0.181 W		

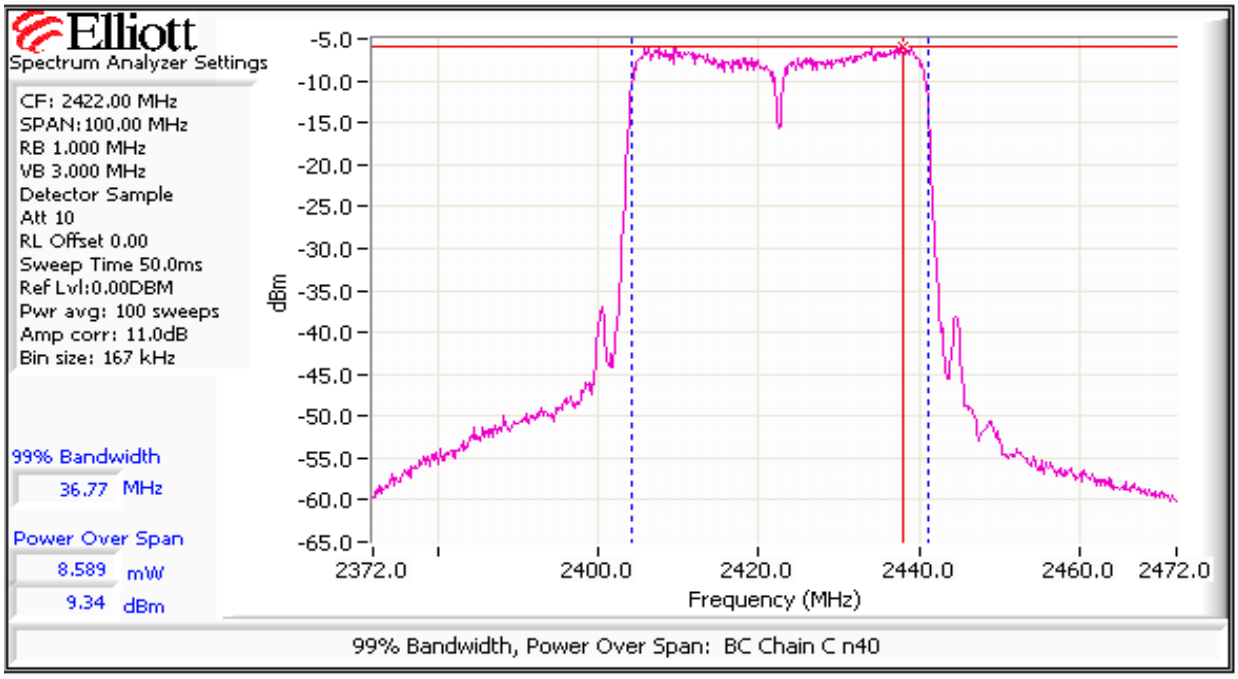
2452 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3		25.5	24.5					
Output Power (dBm) Note 1		12.81	13.03		15.9 dBm	0.039 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2		3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2		16.01	16.23		19.1 dBm	0.082 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 100 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

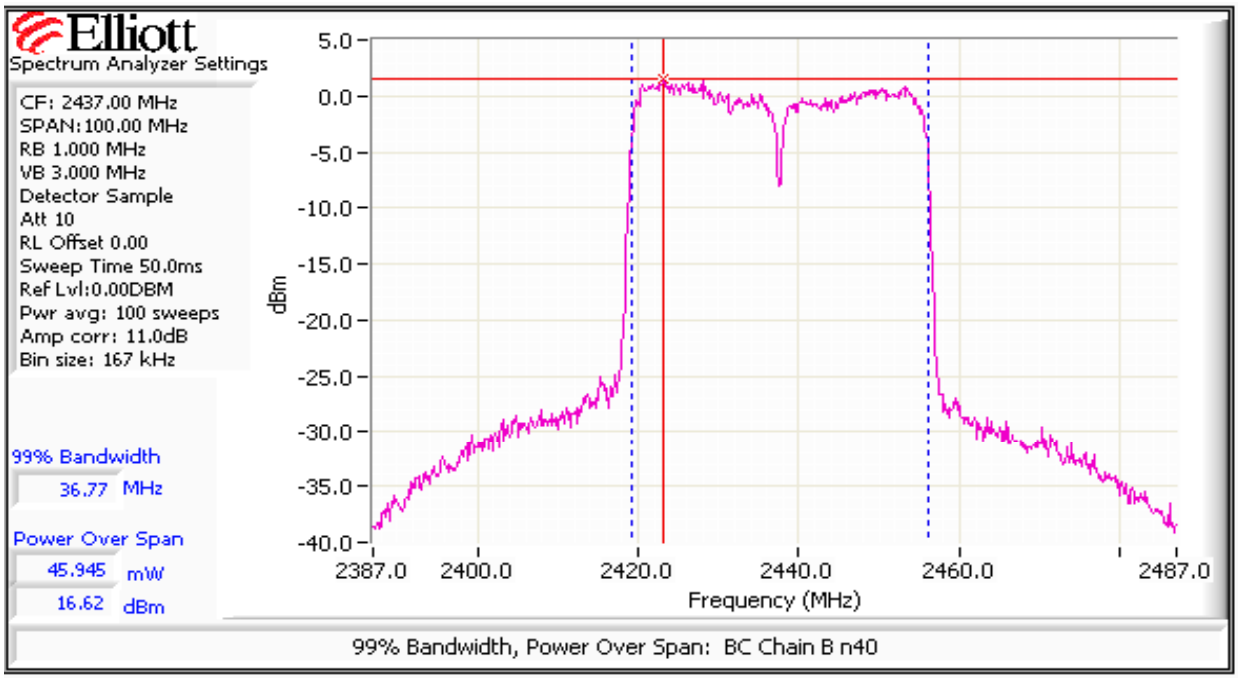
Run #5: Output Power - Dual Chain (B + C)

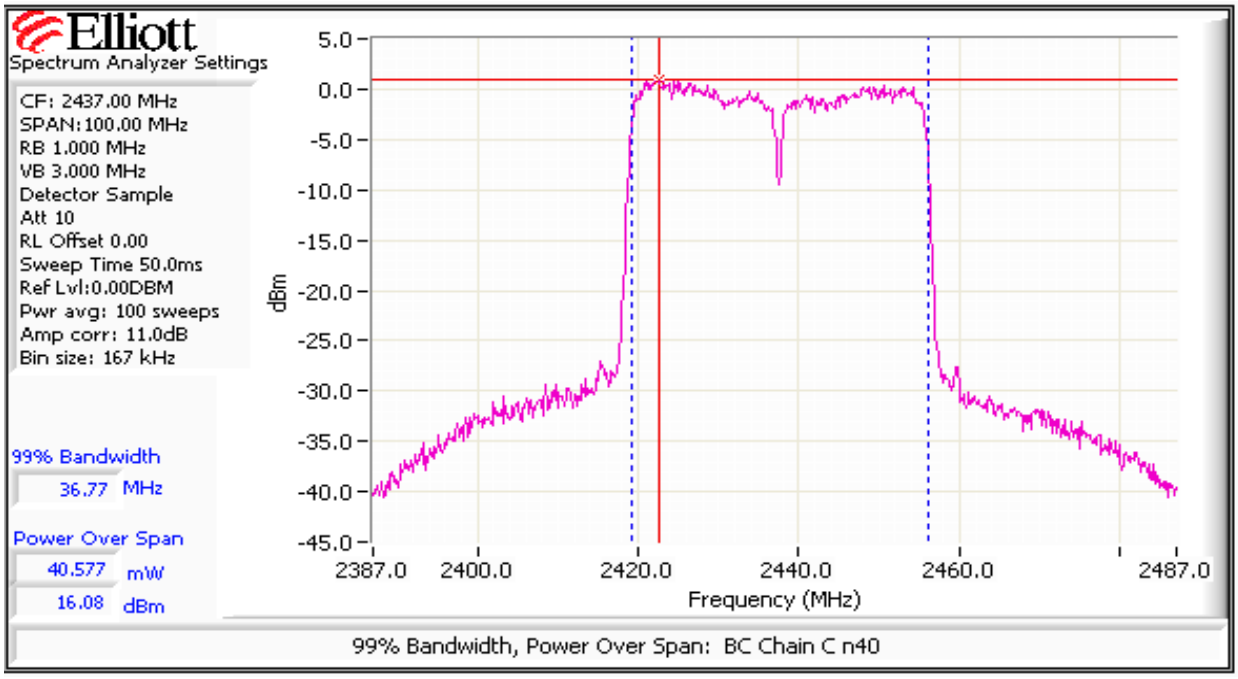




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

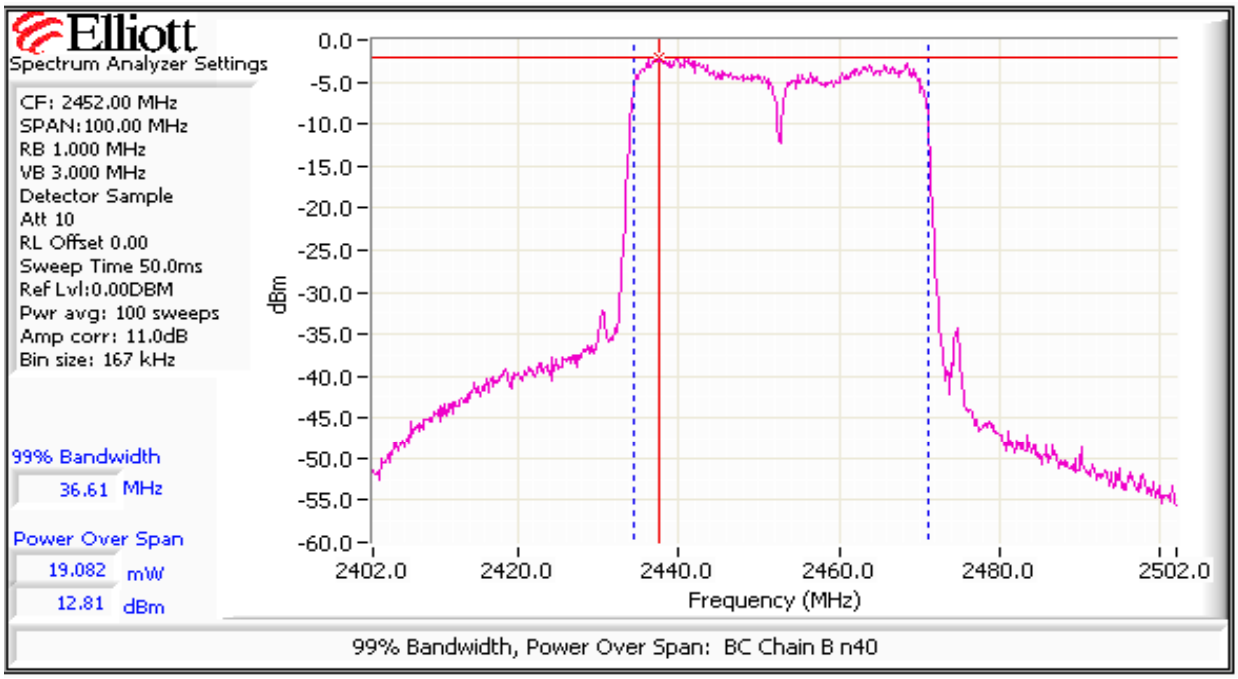
Run #5: Output Power - Dual Chain (B + C)

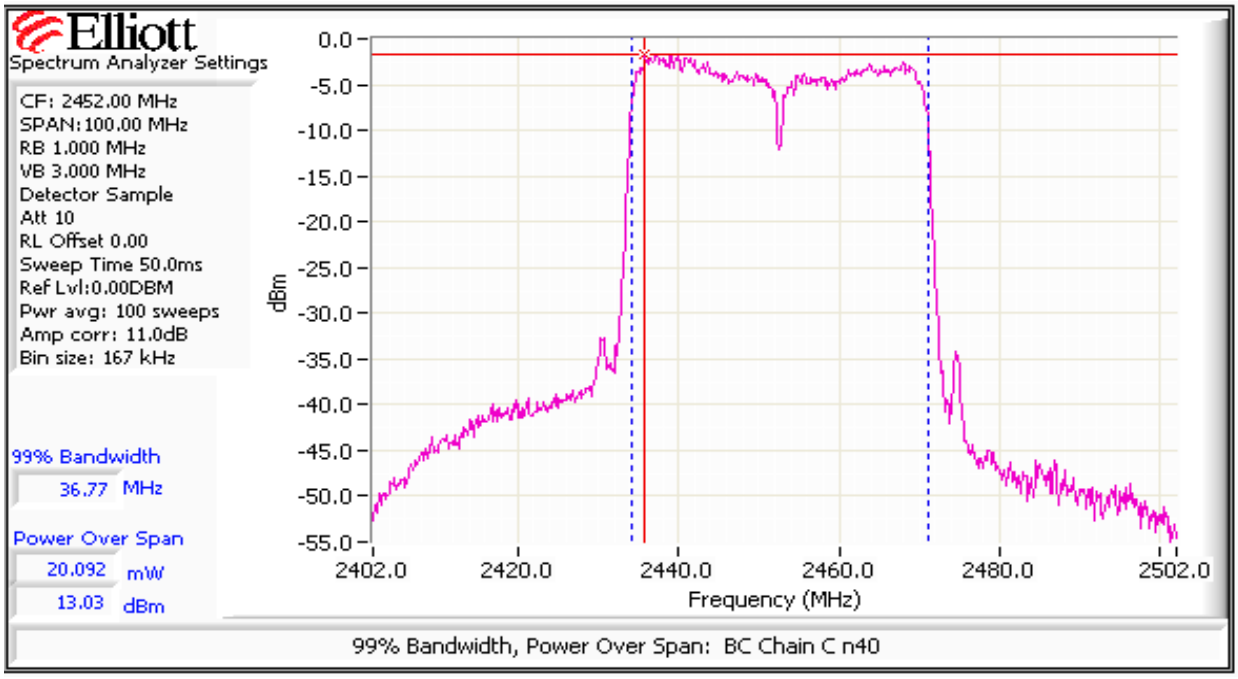




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #5: Output Power - Dual Chain (B + C)





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

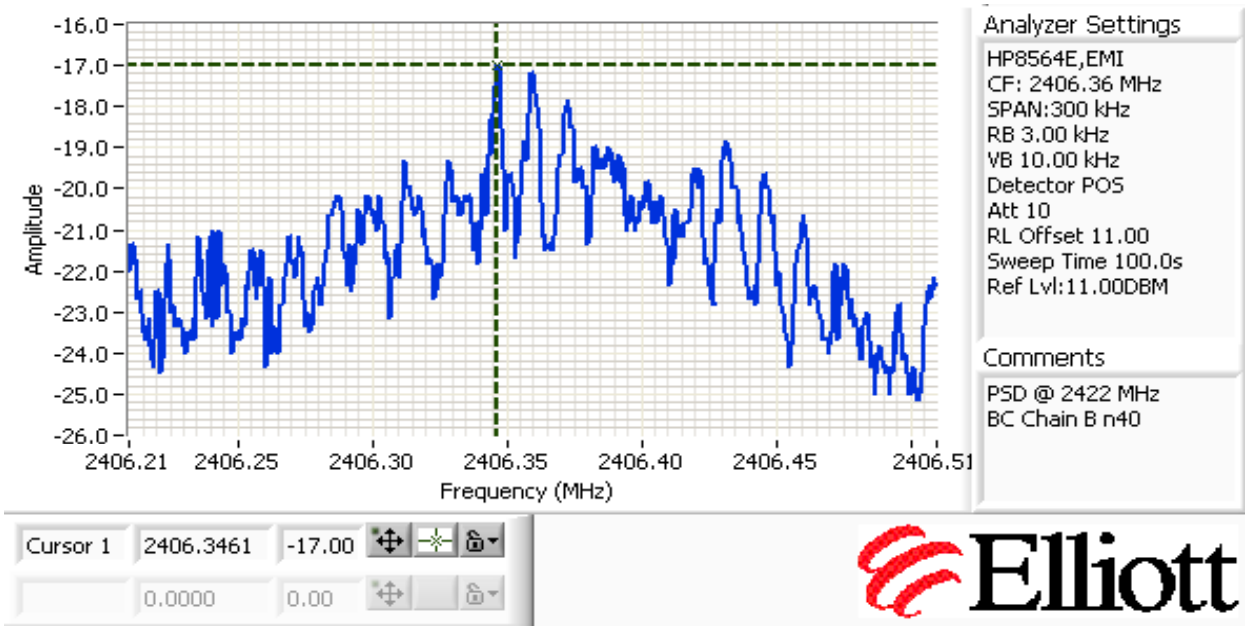
Run #6: Power spectral Density - Chain B + C

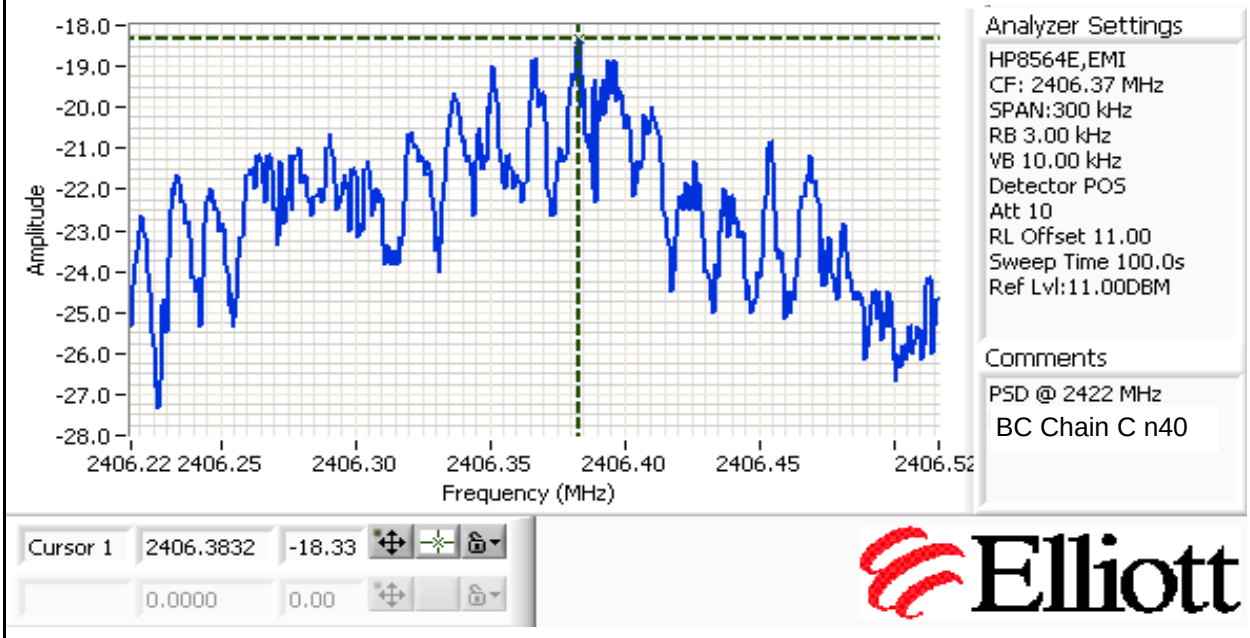
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
22.5, 20.0	2422		-17.0	-18.3		-14.6	8.0	Pass
28.5, 27.0	2437		-10.5	-10.7		-7.6	8.0	Pass
25.5, 24.5	2452		-14.2	-13.2		-10.6	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

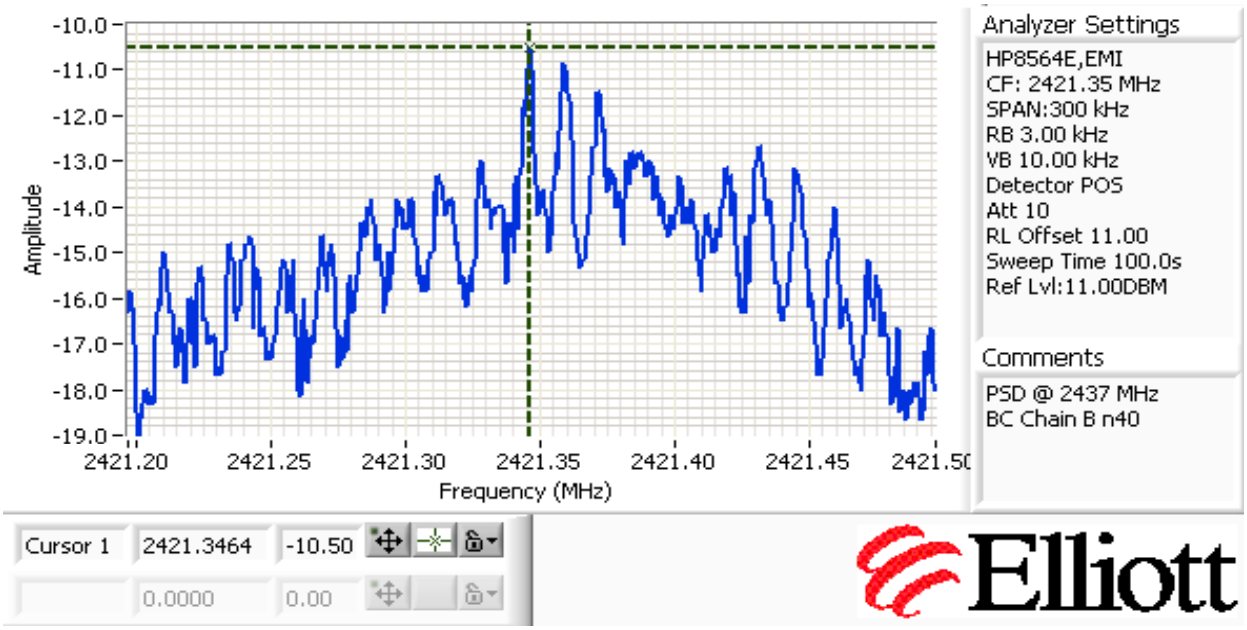
Run #6: Power spectral Density - Chain B + C

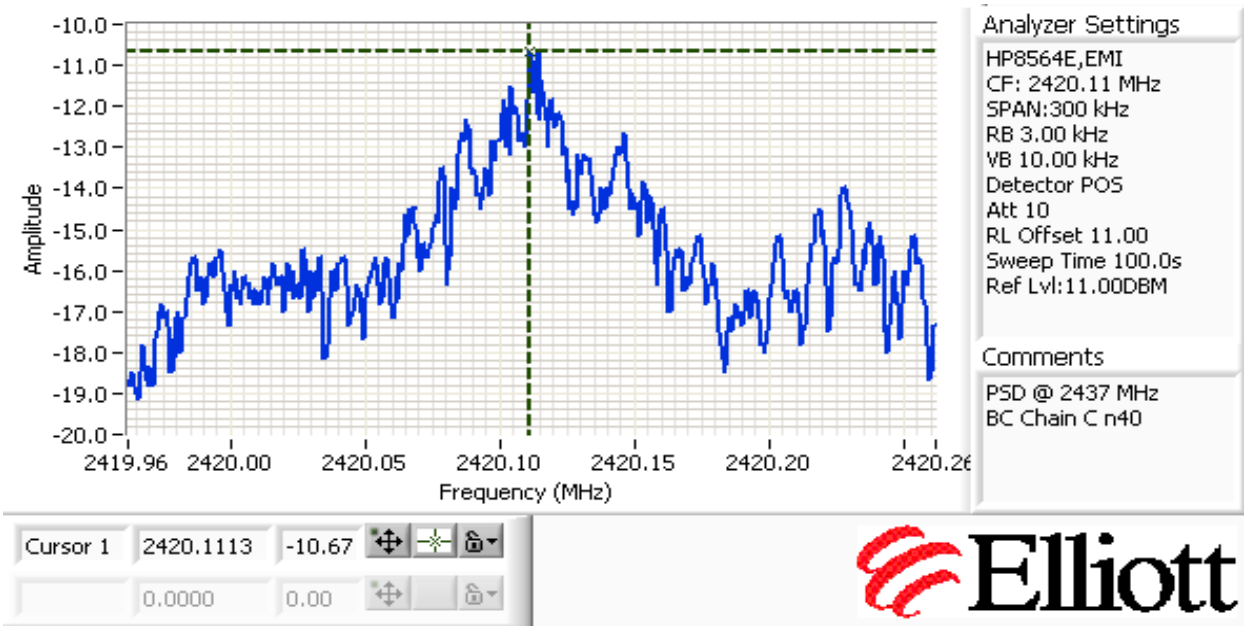




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

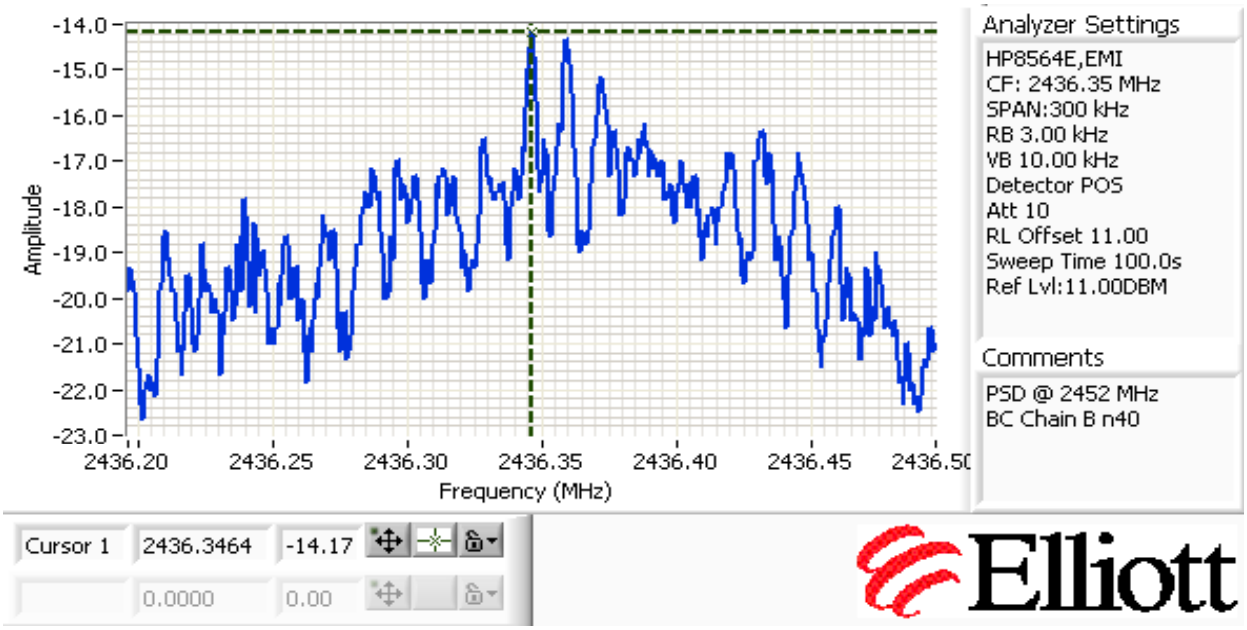
Run #6: Power spectral Density - Chain B + C

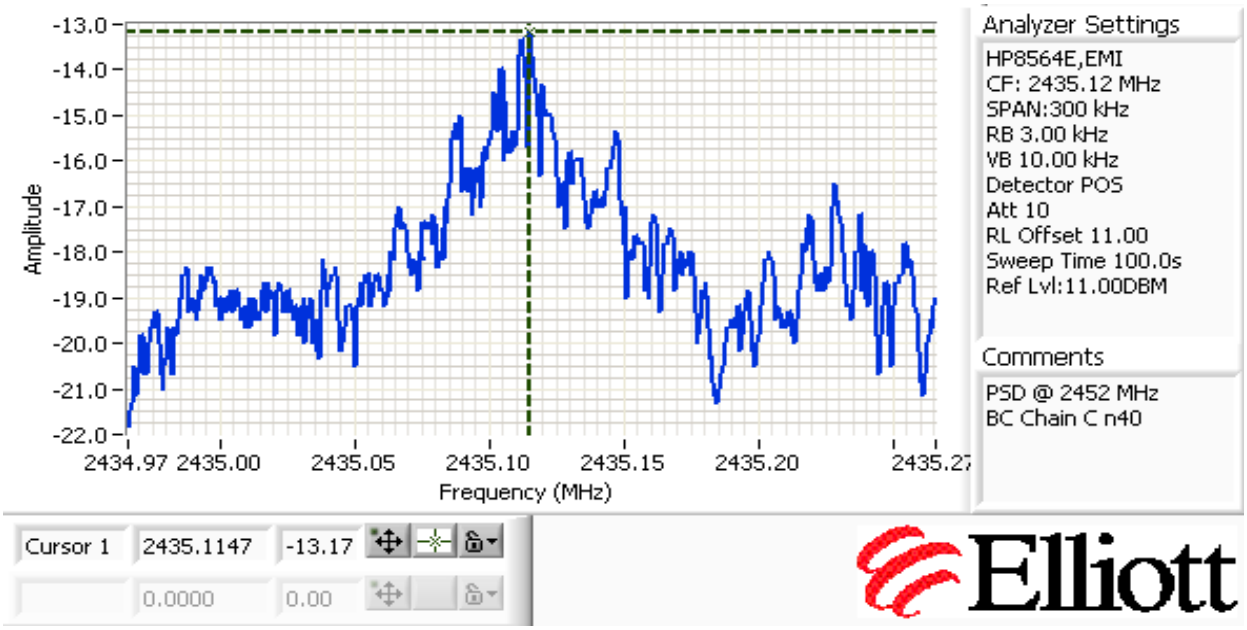




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #6: Power spectral Density - Chain B + C





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #7: Output Power - Three Chains (A + B + C)

Date of Test: 5/7/2008
Test Engineer: John Caizzi
Test Location: FT Lab #1

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

Operating Mode: 802.11n 20MHz
Transmitted signal on chain is coherent ? No

2422 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	23.0	23.0	21.5					
Output Power (dBm) Note 1	10.0	9.5	9.3		14.4 dBm	0.027 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	13.2	12.7	12.5		17.6 dBm	0.057 W		

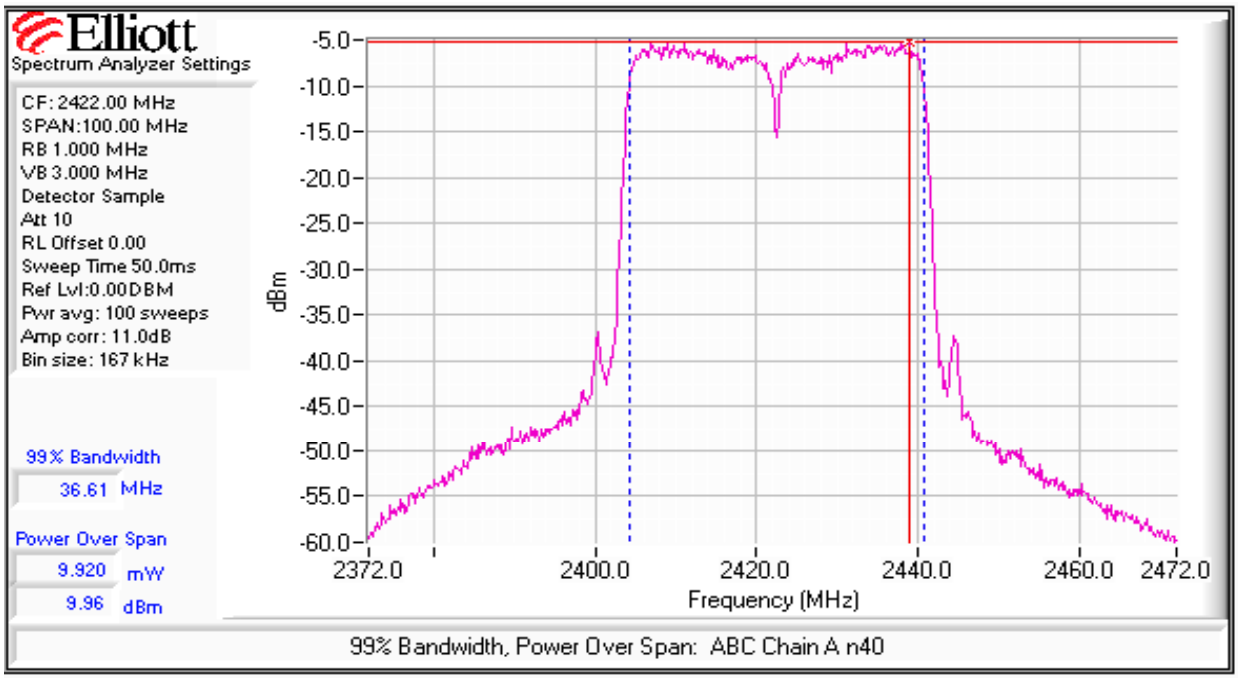
2437 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	30.0	30.0	29.0					
Output Power (dBm) Note 1	16.4	16.2	16.4		21.1 dBm	0.129 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	19.6	19.4	19.6		24.3 dBm	0.269 W		

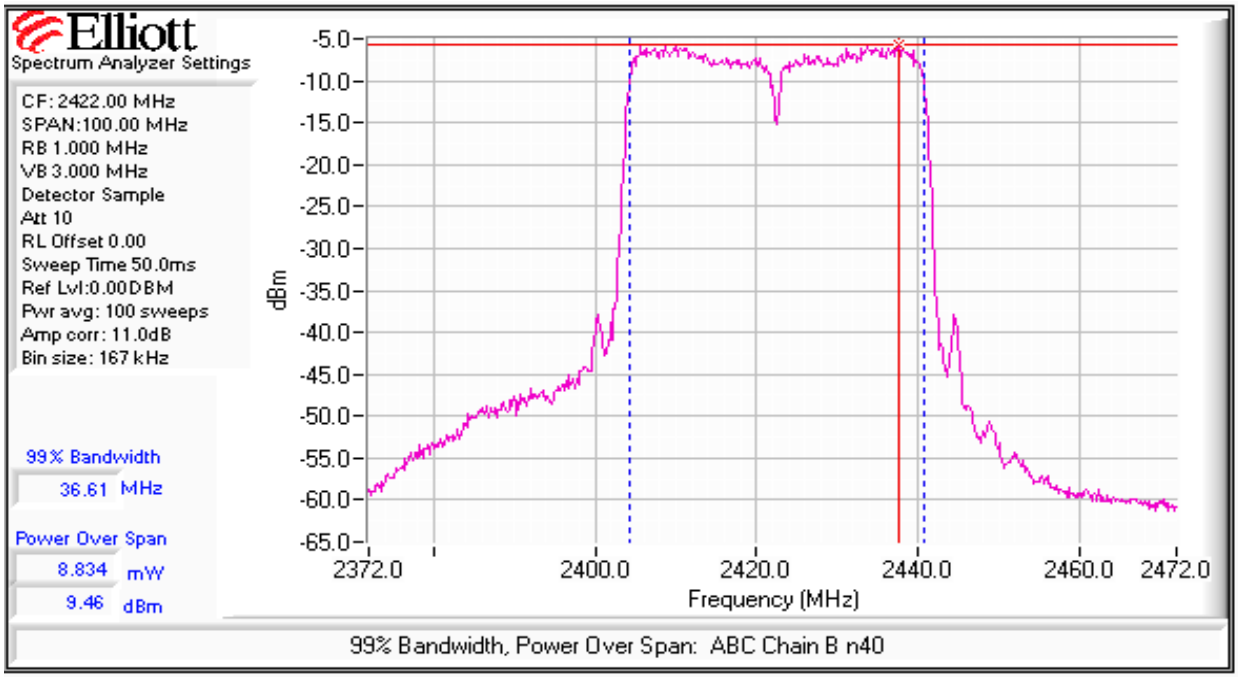
2452 MHz	Chain A	Chain B	Chain C	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	25.0	26.0	25.0					
Output Power (dBm) Note 1	10.9	12.5	12.1		16.6 dBm	0.046 W	30.0 dBm	1.000 W
Antenna Gain (dBi) Note 2	3.2	3.2	3.2			3.2 dBi	Pass	
eirp (dBm) Note 2	14.1	15.7	15.3		19.8 dBm	0.096 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 100 MHz (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes -30dBc.
Note 2:	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals the eirp divide by the sum of the power on each chain.

Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

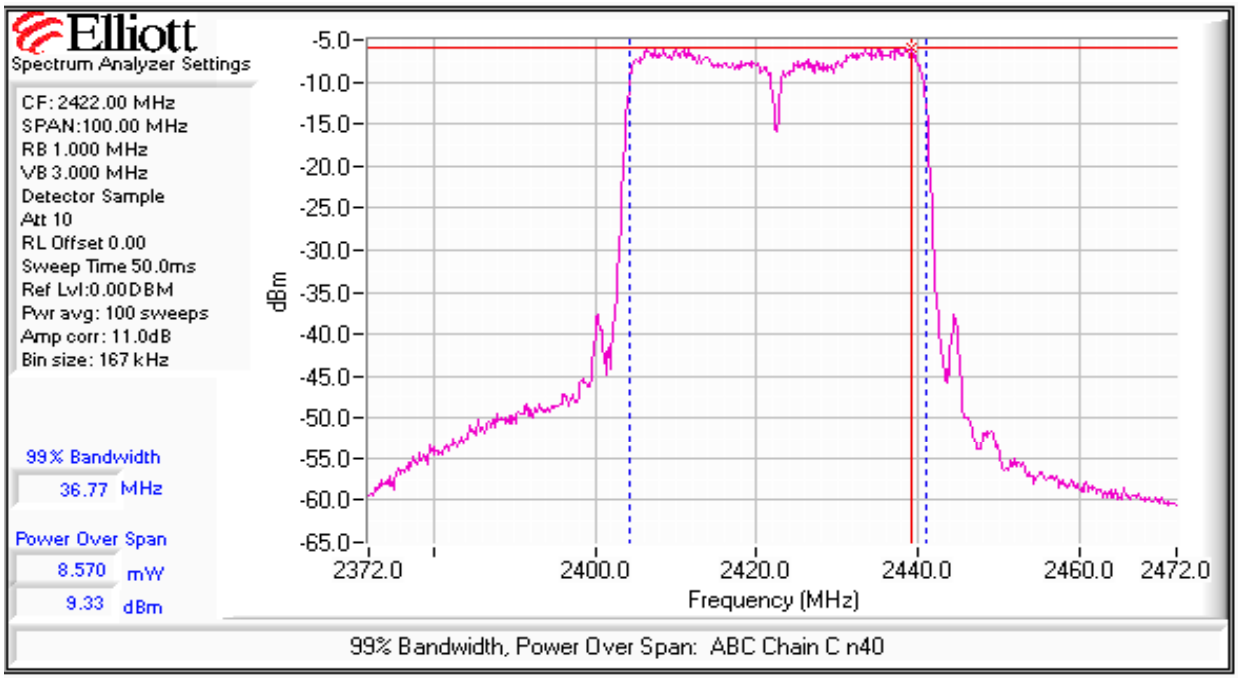
Run #7: Output Power - Three Chains (A + B + C)

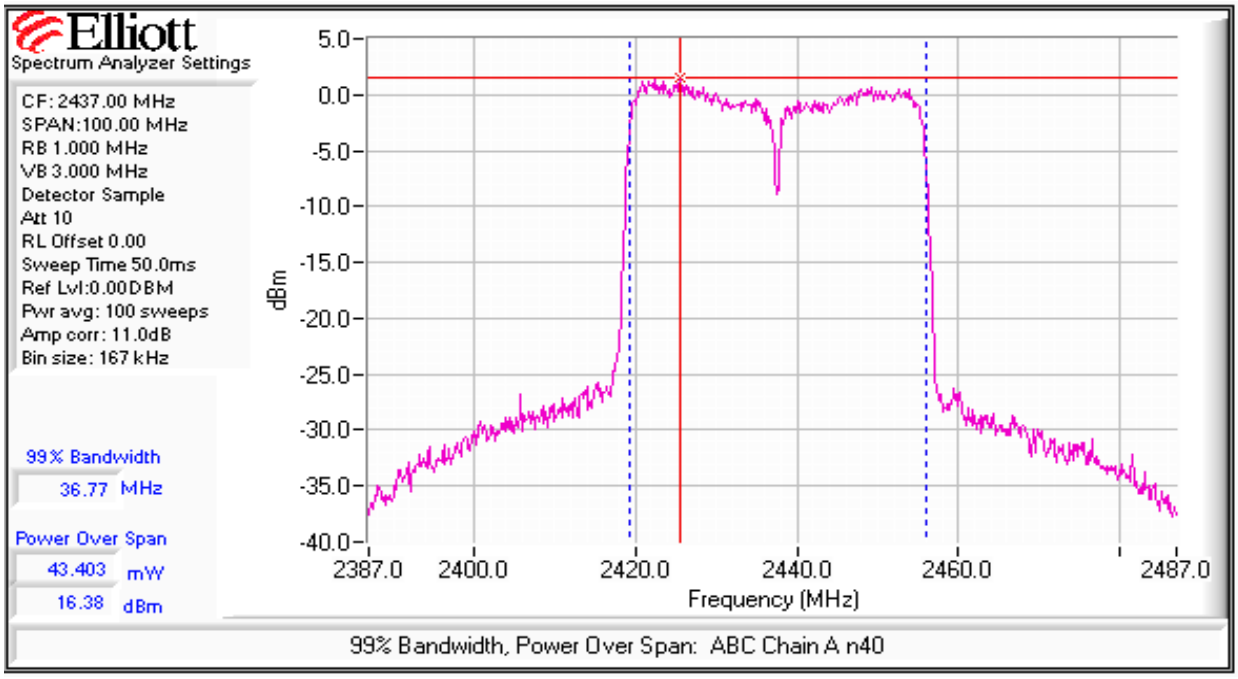




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

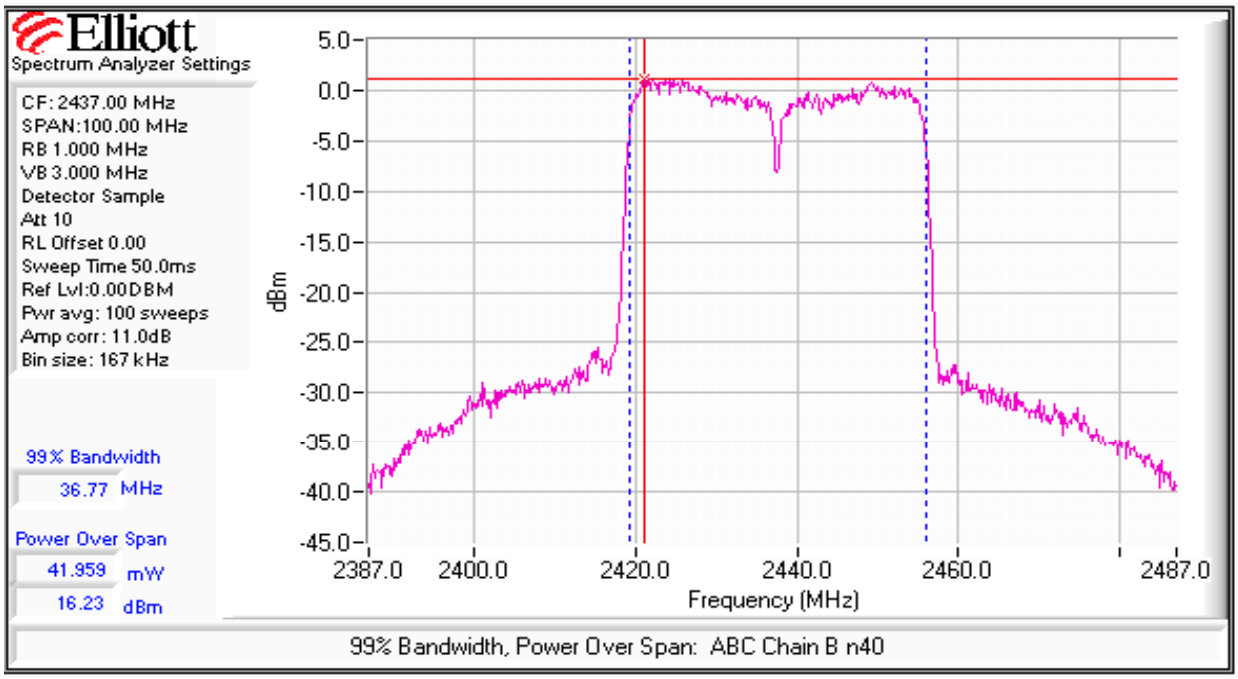
Run #7: Output Power - Three Chains (A + B + C)

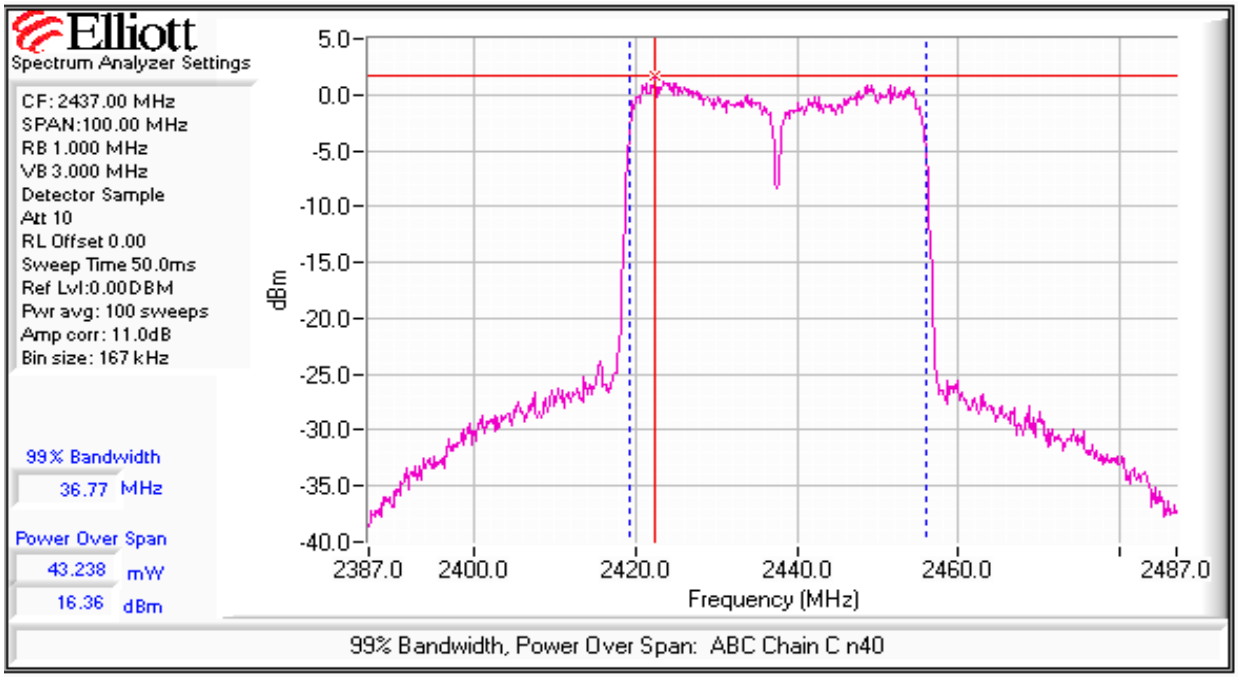




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

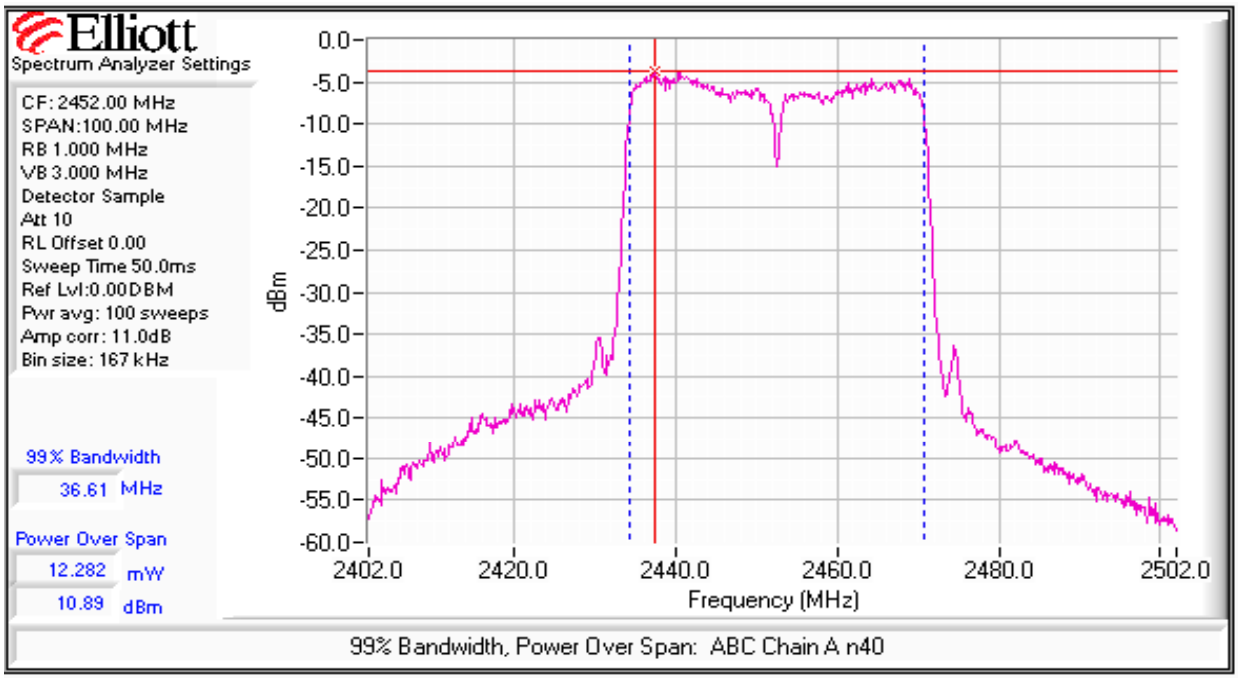
Run #7: Output Power - Three Chains (A + B + C)

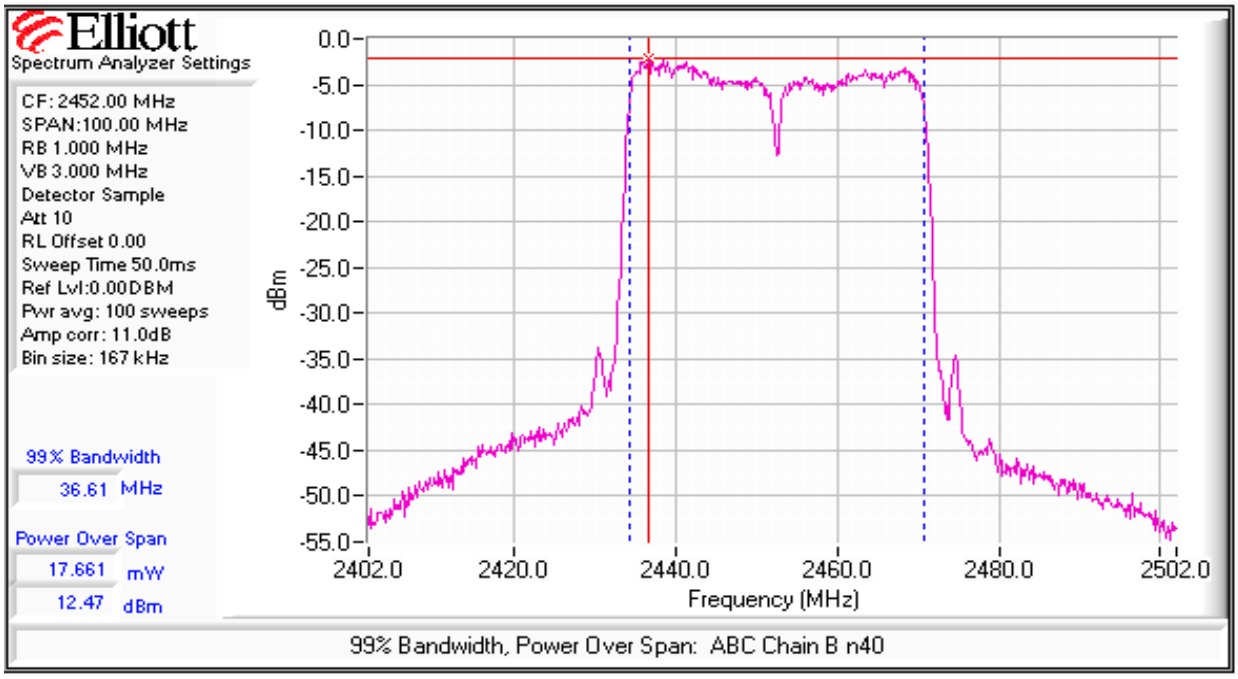




Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

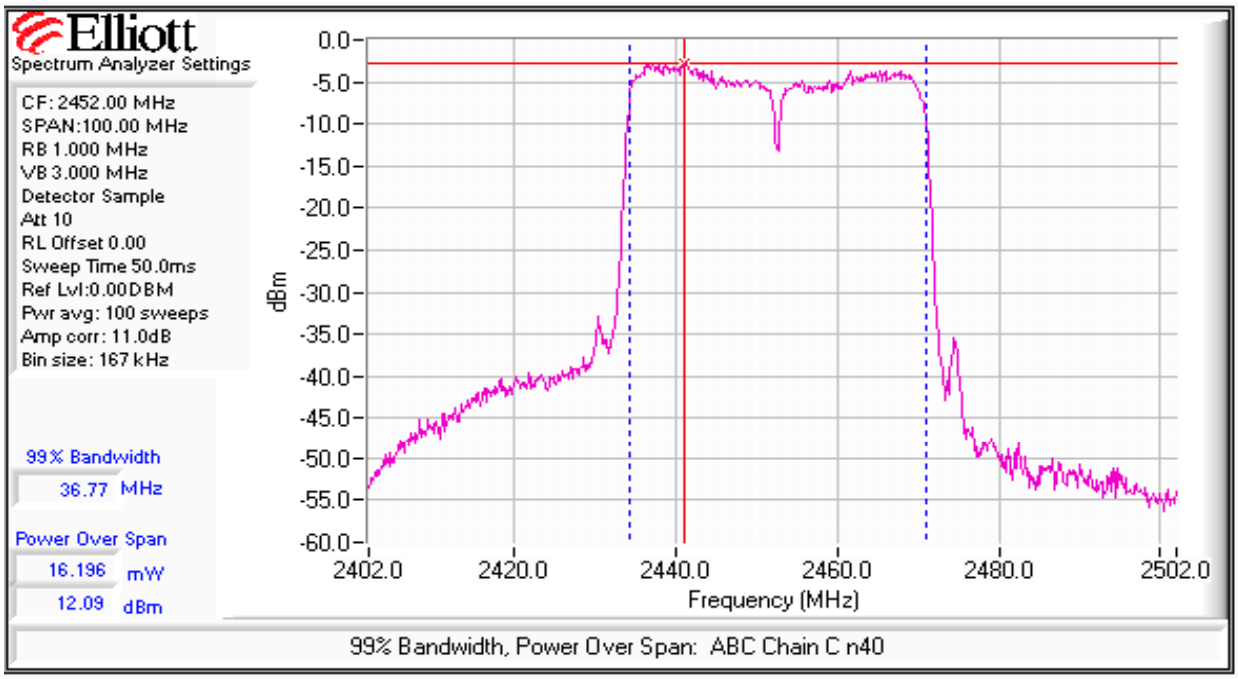
Run #7: Output Power - Three Chains (A + B + C)





Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #7: Output Power - Three Chains (A + B + C)

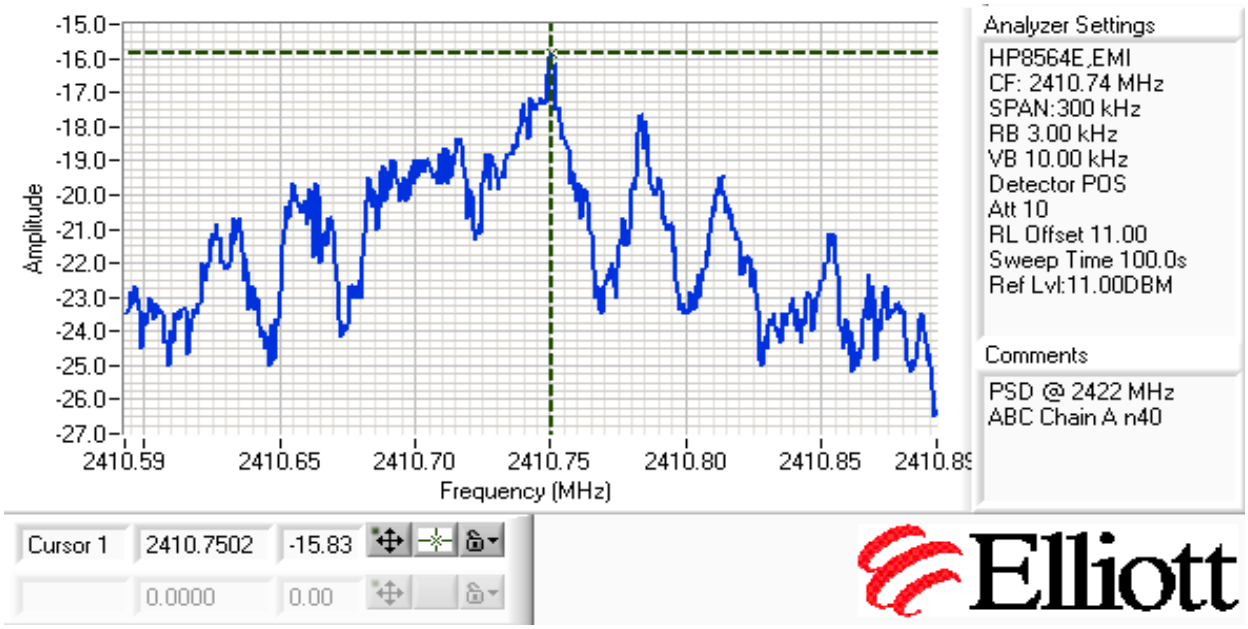


Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #8: Power spectral Density - Chain A + B + C

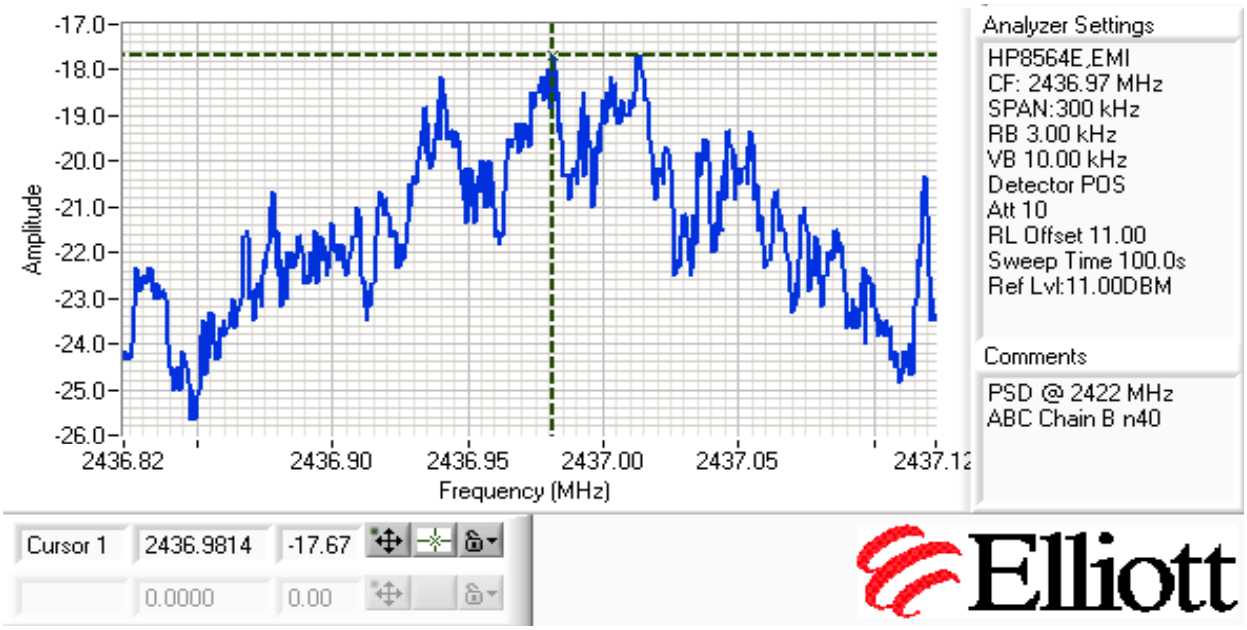
Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1					Limit dBm/3kHz	Result
		Chain A	Chain B	Chain C	Chain 4	Total		
23/23/21.5	2422	-15.8	-17.7	-18.3		-12.4	8.0	Pass
30/30/29	2437	-11.7	-11.2	-9.7		-6.0	8.0	Pass
25/26/25	2452	-16.2	-12.8	-13.8		-9.3	8.0	Pass

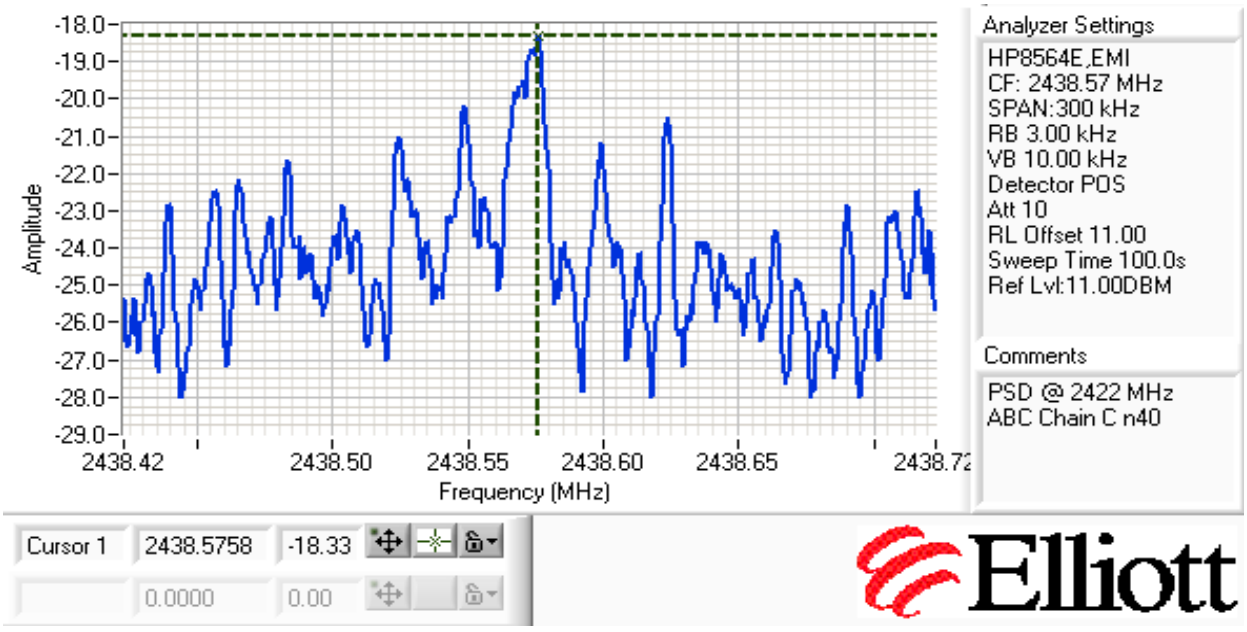
Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.
Note 2:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for Chain A, power setting y for Chain B.



Client:	Intel	Job Number:	J70796
Model:	533-agn MMW	T-Log Number:	T71053
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #8: Power spectral Density - Chain A + B + C





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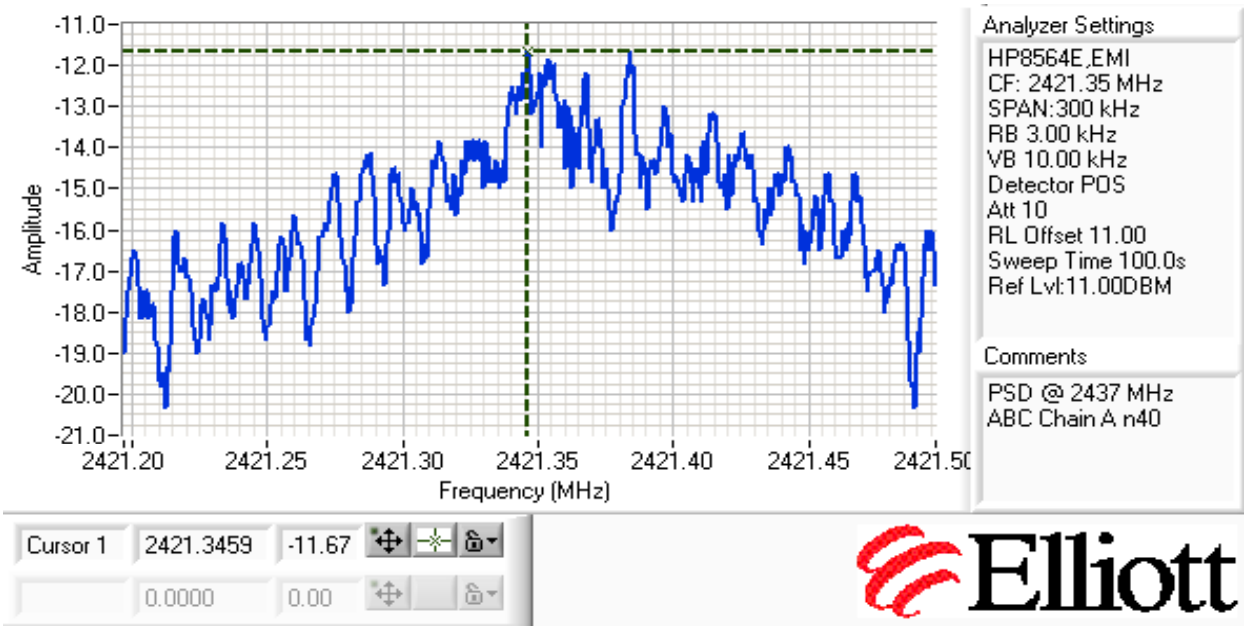
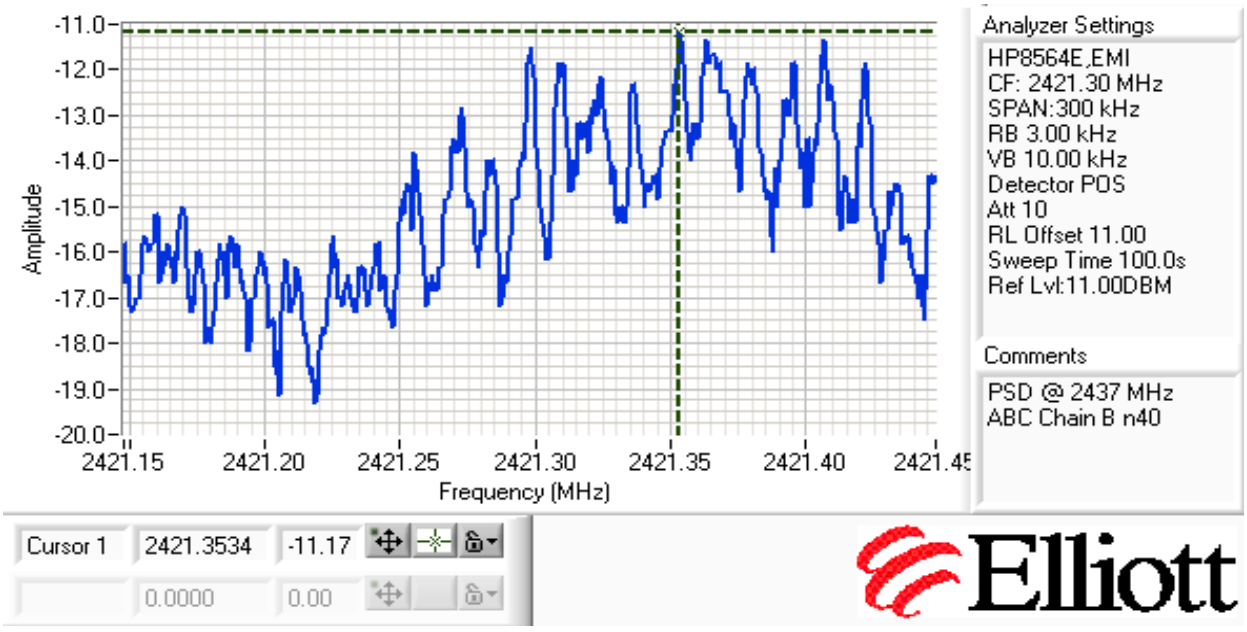
		Account Manager:	Dean Eriksen
Contact:	Robert Paxman		
Standard:	FCC 15.247 / RSS -210	Class:	N/A

Run #8: Power spectral Density - Chain A + B + C





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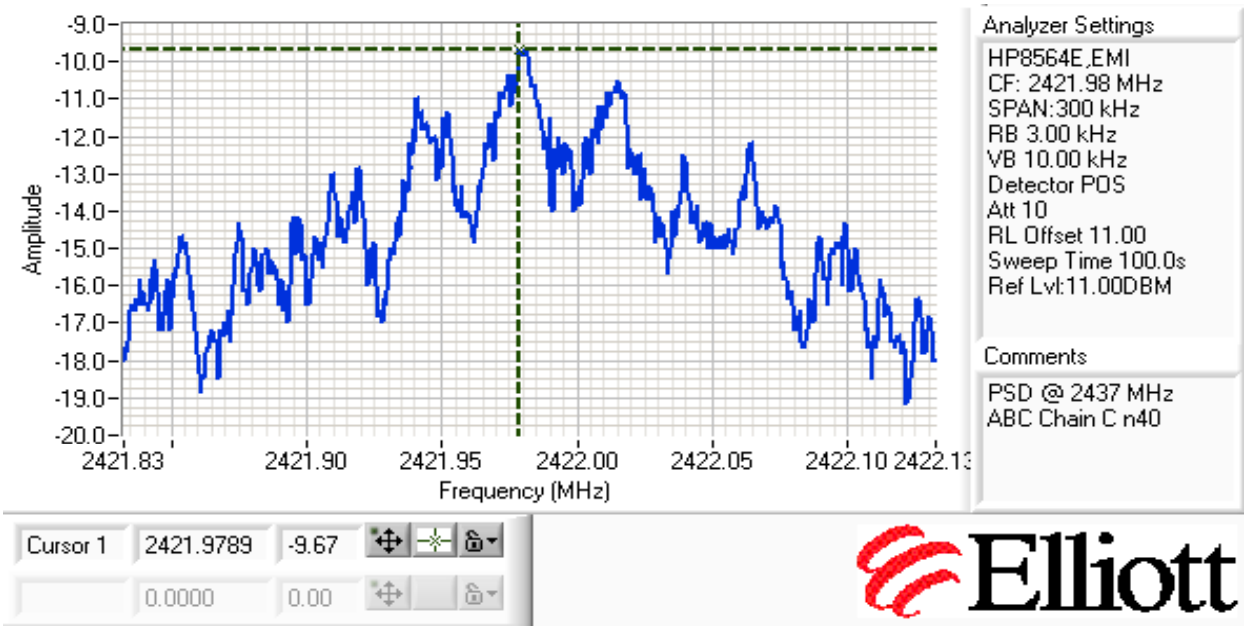
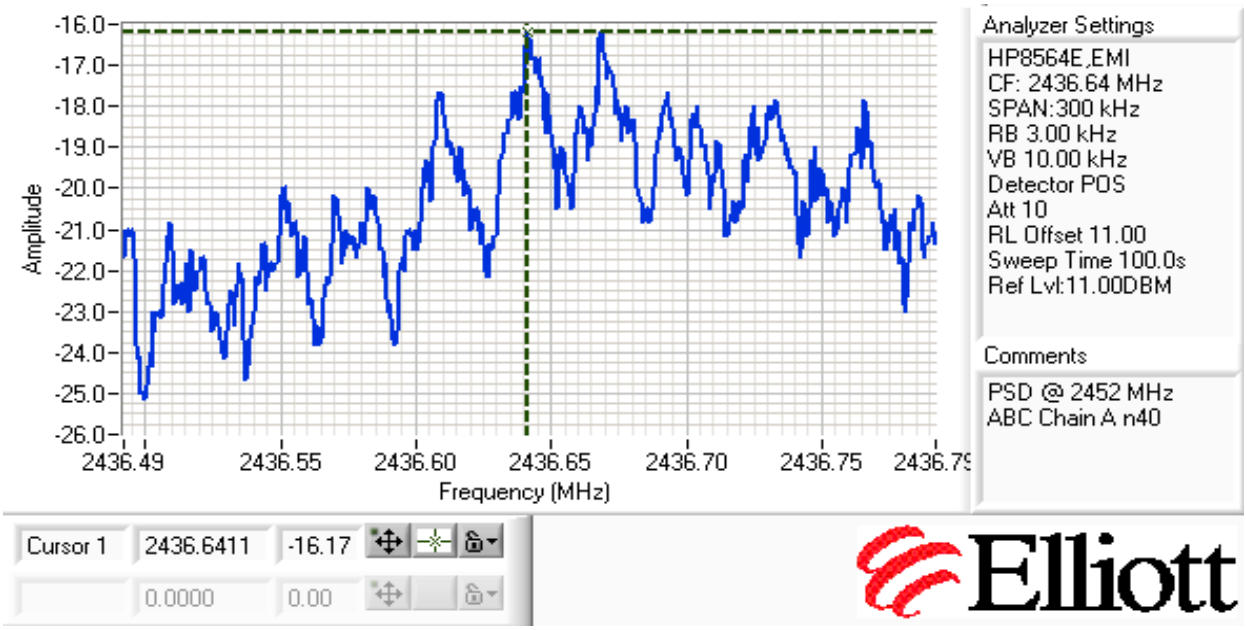
Run #8: Power spectral Density - Chain A + B + C





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Run #8: Power spectral Density - Chain A + B + C