Test Report

FCC Part 15.407
Industry Canada RSS210

UNII Devices

Model #: PCG-31113L

SONY Corporation
1-7-1 Konan, Minato-ku,
Tokyo, 108-0075
Japan

FCC ID: AK8PCG31113L
IC ID: 409B-PCG31113L

TEST REPORT #: EMC_SONYE_034_09002_15.407_PCG-31113L_rev1
DATE: 2010-03-16

ilac-MRA

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 2135.01

Bluetooth

Bluetooth Qualification Test Facility (BQTF)

CTIA Authorized Test Lab
LAB CODE 20020328-00

FCC listed
A2LA Accredited

IC recognized #
3462B

***CETECOM* Inc.**
411 Dixon Landing Road ◆ Milpitas, CA 95035 ◆ U.S.A.
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CETECOM Inc. is a Delaware Corporation with Corporation number: 2113686
Board of Directors: Dr. Harald Ansorge, Dr. Klaus Matkey, Hans Peter May

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1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Part 15.407 of the Code of Federal Regulations.

Company	Description	Model #
SONY Corporation	**Personal Computer**	**PCG-31113L**

This report is reviewed by:

2010-03-16	**EMC & Radio**	**Marc Douat (Test Lab Manager)**	
Date	**Section**	**Name**	**Signature**

This report is prepared by:

2010-03-16	**EMC & Radio**	**Satya Radhakrishna (EMC Project Engineer)**	Satya Radhakrishna I am the author of this document
Date	**Section**	**Name**	**Signature**

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

Company Name:	**CETECOM Inc.**
Department:	**EMC**
Address:	**411 Dixon Landing Road Milpitas, CA 95035 U.S.A.**
Telephone:	**+1 (408) 586 6200**
Fax:	**+1 (408) 586 6299**
Responsible Test Lab Manager:	**Marc Douat**
Responsible Project Leader:	**Satya Radhakrishna**
Date of test:	**2009-11-23 to 2009-11-30**

2.2 Identification of the Client

APPLICANT	
Applicant (Company Name)	**SONY Corporation**
Street Address	**1-7-1 Konan, Minato-ku,**
City/Zip Code	**Tokyo, 108-0075**
Country	**Japan**
Contact Person	**Ryui Tatsumi**
Telephone	**+81-263-72-5696**
Fax	**+81-263-72-9755**
e-mail	**Ryui.Tatsumi@jp.sony.com**

2.3 Identification of the Manufacturer

MANUFACTURER (If different from Applicant)	
Applicant (Firm Name):	**Sony EMCS Corporation**
Contact Person:	**Ryui Tatsumi**
Telephone:	**+81-263-72-5696**
Fax:	**+81-263-72-9755**
Address Line 1:	**5432 Toyoshima,**
City:	**Azumino-shi, Nagano**
Postal Code/ Country:	**399-8282, Japan**
e-mail:	**Ryui.Tatsumi@jp.sony.com**

3 Equipment under Test (EUT)

3.1 Specification of the Equipment under Test

EUT	
Marketing Name of EUT (if not same as Model No.):	**PCG-31113L**
Description:	**Personal Computer**
Model No:	**PCG-31113L**
FCC ID:	**AK8PCG31113L**
IC ID:	**409B-PCG31113L**

Frequency Range:	**5180-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz**
Type(s) of Modulation:	**OFDM**
Antenna Type:	**PIFA: 2400-2500 MHz Chain A 0.36 dBi/ Chain B 1.1 dBi Peak Gain** **5150-5350 MHz Chain A 2.44 dBi/ Chain B 0.64 dBi Peak Gain** **5470-5725 MHz Chain A 2.34 dBi/ Chain B 1.86 dBi Peak Gain** **5725-5850 MHz Chain A 2.34 dBi/ Chain B 0.67 dBi Peak Gain**
Max Output Power:	Sub-band 1: 5150-5250MHz 802.11a mode chain A: EIRP: 21.62dBm, (145.08 mW). Conducted: 16.84dBm (48.35mW) 802.11a mode chain B: EIRP: 17.828dBm, (60.65mW). Conducted: 16.84dBm (48.35mW) 802.11n HT20 mode chain A: EIRP: 21.334dBm, (135.96mW). Conducted: 16.84dBm (48.35mW) 802.11n HT20 mode chain B: EIRP: 20.38dBm, (109.14mW). Conducted: 16.84dBm (48.35mW) 802.11n HT40 mode chain A: EIRP: 19.432dBm, (87.74mW). Conducted: 16.89dBm (48.84mW) 802.11n HT40 mode chain B: EIRP: 19.315dBm, (85.41mW). Conducted: 16.89dBm (48.84mW) Sub-band 2: 5250-5350MHz 802.11a mode chain A: EIRP: 21.76dBm, (149.93mW). Conducted: 16.74dBm (47.25mW) 802.11a mode chain B: EIRP: 18.30dBm, (67.64mW). Conducted: 16.64dBm (46.17mW) 802.11n HT20 mode chain A: EIRP: 20.43dBm, (110.41mW). Conducted: 16.84dBm (48.35mW)

	802.11n HT20 mode chain B: EIRP: 20.034dBm, (100.79mW). Conducted: 16.84dBm (48.35mW) 802.11n HT40 mode chain A: EIRP: 18.83dBm, (76.38mW). Conducted: 16.79dBm (47.73mW) 802.11n HT40 mode chain B: EIRP: 18.719dBm, (74.46mW). Conducted: 16.89dBm (48.84mW) Sub-band 1: 5470-5725MHz 802.11a mode chain A: EIRP: 19.71dBm, (93.52mW). Conducted: 16.84dBm (48.35mW) 802.11a mode chain B: EIRP: 18.081dBm, (64.28mW). Conducted: 16.84dBm (48.35mW) 802.11n HT20 mode chain A: EIRP: 20.821dBm, (120.81mW). Conducted: 16.84dBm (48.35mW) 802.11n HT20 mode chain B: EIRP: 20.396dBm, (109.55mW). Conducted: 16.94dBm (49.47mW) 802.11n HT40 mode chain A: EIRP: 18.708dBm, (74.27mW). Conducted: 16.79dBm (47.73mW) 802.11n HT40 mode chain B: EIRP: 18.961dBm, (78.72mW). Conducted: 16.89dBm (48.84mW)

3.2 Identification of the Equipment under Test (EUT)

EUT #	TYPE	MANF.	MODEL	SERIAL #
1	EUT	Sony Corporation	PCG-31113L	DVT 14920 1100004 IMEI: 980004000203030

3.3 Identification of Accessory equipment

AE #	TYPE	MANF.	MODEL	SERIAL #
1	AC/DC ADAPTER	Sony Corporation	VGP-AC19V32	1480955310064148

4 Subject Of Investigation

All testing was performed on the product referred to in Section 3 as EUT. EUT operates in the band 5150-5250MHz, 5250-5350MHz, and 5470-5725MHz in 802.11a, 802.11n 20MHz (HT20) and 802.11n 40MHz (HT40) mode. The EUT has two transmit and two receive antennae.

The device contains the Intel 622ANHMW WLAN module with FCC ID PD9622ANH and IC ID 1000M-622AN. The conducted test data is contained in the test report# INTEL-090602F. Based on the output power values that are reported, radiated testing was performed on the bands and chains with the highest reported values.

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT operating under all operating modes as specified by requirements listed in FCC rules Part 15.407 of Title 47 of the Code of Federal Regulations. The maximization of portable equipment is conducted in accordance with ANSI C63.4

This report replaces report# EMC_SONYE_034_09002_15.407_PCG31113L.

5 Radiated Measurements

5.1 Maximum Peak Output Power § 15.407 (Radiated)

5.1.1 FCC Limits:

Conducted Output Power is defined as the following (reduced if directional gain > 6dBi):

Sub-band 1: 5150-5250MHz: 15.407(a)(1): 50mW or 4dBm + 10log(B),
Sub-band 2: 5250-5350MHz: 15.407(a)(2): 250mW or 11dBm + 10log(B)
Sub-band 3: 5470-5725MHz: 15.407(a)(2): 250mW or 11dBm + 10log(B)

B is the 26–dB emission bandwidth in MHz.

Directional gain=maximum declared antenna gain=2.44 Bi < 6dBi so EIRP limit = Conducted Limit + 6dB

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802.11a Mode

Channel Frequency	Conducted Output Power Limit (dBm)				EIRP Limit (dBm)
	Stated	Calculated chain A	Calculated Chain B	Applicable	
5180	17	18.08	18.04	17	23
5220	17	18.55	18.78	17	23
5240	17	17.71	19.07	17	23
5260	24	25.33	26.07	24	30
5300	24	25.08	26.13	24	30
5320	24	24.68	26.02	24	30
5500	24	25.04	26.25	24	30
5600	24	25.73	26.31	24	30
5700	24	25.38	26.37	24	30

802.11n HT20 Mode

Channel Frequency	Conducted Output Power Limit (dBm)			Applicable	EIRP Limit (dBm)
	Stated	Calculated chain A	Calculated Chain B		
5180	17	18.35	18.71	17	23
5220	17	18.78	18.47	17	23
5240	17	18.62	18.29	17	23
5260	24	25.45	25.52	24	30
5300	24	25.41	25.71	24	30
5320	24	25.55	25.83	24	30
5500	24	25.76	26.06	24	30
5600	24	25.33	26.61	24	30
5700	24	25.64	26.49	24	30

802.11n HT40 Mode

Channel Frequency	Conducted Output Power Limit (dBm)			Applicable	EIRP Limit (dBm)
	Stated	Calculated chain A	Calculated Chain B		
5190	17	20.13	19.74	17	23
5230	17	20.33	19.85	17	23
5270	17	27.13	26.85	17	23
5310	24	27.06	26.97	24	30
5510	24	27.51	27.32	24	30
5590	24	27.32	27.38	24	30
5690	24	27.48	27.38	24	30

5.1.2 IC Limits

Sub-band 1: 5150-5250MHz: RSS-210 A9.2(1): 200 mW or 10dBm + 10 log(B)
Sub-band 2: 5250-5350MHz: RSS-210 A9.2(2): 1W or 17dBm + 10log(B)
Sub-band 3: 5470-5725MHz: RSS-210 A9.2(2): 1W or 17dBm + 10log(B)

B is the 99% emission bandwidth in MHz
802.11a Mode

Channel Frequency	EIRP Limit (mW)				
	Stated	Calculated Chain A	Calculated Chain B	Applicable Chain A	Applicable Chain B
5180	200	166.21	165.56	166.21	165.56
5220	200	185.19	196.60	185.19	196.60
5240	200	152.70	210.26	152.70	200
5260	1000	881.88	1053.80	881.88	1000
5300	1000	833.03	1067.23	833.03	1000
5320	1000	759.76	1040.05	759.76	1000
5500	1000	824.89	1097.37	824.89	1000
5600	1000	968.83	1113.75	968.83	1000
5700	1000	892.95	1127.51	892.95	1000

802.11n HT20 Mode

Channel Frequency	EIRP Limit (mW)				
	Stated	Calculated Chain A	Calculated Chain B	Applicable Chain A	Applicable Chain B
5180	200	177.06	193.33	177.06	193.33
5220	200	195.45	183.01	195.45	183.01
5240	200	188.43	175.36	188.43	175.36
5260	1000	906.31	928.02	906.31	928.02
5300	1000	898.16	968.96	898.16	968.96
5320	1000	928.12	996.48	928.12	996.48
5500	1000	974.37	1050.86	974.37	1000
5600	1000	881.88	1193.02	881.88	1000
5700	1000	947.01	1160.26	947.01	1000

802.11n HT40 Mode

Channel Frequency	EIRP Limit (mW)				
	Stated	Calculated Chain A	Calculated Chain B	Applicable Chain A	Applicable Chain B
5190	200	341.67	375.00	200	200
5230	200	358.33	384.20	200	200
5270	200	1712.39	1621.49	200	200
5310	1000	1684.41	1666.97	1000	1000
5510	1000	1869.01	1803.85	1000	1000
5590	1000	1788.82	1828.70	1000	1000
5690	1000	1858.57	1832.07	1000	1000

5.1.3 **Measurement Results**

EIRP 802.11a MODE chain A:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5180	19.93	98.33	3.07	67.88
	5220	21.62	145.08	1.38	40.11
	5240	21.05	127.44	1.95	25.26
Sub-band 2: 5250-5350MHz	5260	21.76	149.93	8.24	731.95
	5300	21.67	146.82	8.33	686.21
	5320	19.65	92.30	10.35	667.46
Sub-band 3: 5470-5725MHz	5500	19.31	85.37	10.69	739.52
	5600	19.71	93.52	10.29	875.31
	5700	19.22	83.48	10.78	809.47

EIRP 802.11a MODE chain B:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5180	17.603	57.58	5.40	107.98
	5220	17.221	52.74	5.78	143.86
	5240	17.828	60.65	5.17	139.35
Sub-band 2: 5250-5350MHz	5260	18.159	65.45	11.841	934.55
	5300	18.302	67.64	11.698	932.36
	5320	18.127	64.97	11.873	935.03
Sub-band 3: 5470-5725MHz	5500	18.081	64.28	11.919	935.72
	5600	17.816	60.48	12.184	939.52
	5700	17.475	55.91	12.525	944.09

EIRP 802.11n HT20 MODE chain A:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5180	19.784	95.15	3.22	81.91
	5220	20.974	125.14	2.03	70.31
	5240	21.334	135.96	1.67	52.47
Sub-band 2: 5250-5350MHz	5260	19.945	98.74	10.06	807.57
	5300	19.95	98.86	10.05	799.30
	5320	20.43	110.41	9.57	817.71
Sub-band 3: 5470-5725MHz	5500	20.8	120.23	9.20	854.14
	5600	19.712	93.58	10.29	788.30
	5700	20.821	120.81	9.18	826.20

EIRP 802.11n HT20 MODE chain B:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5180	18.973	78.94	4.027	114.39
	5220	20.38	109.14	2.62	73.87
	5240	19.677	92.83	3.323	82.53
Sub-band 2: 5250-5350MHz	5260	20.034	100.79	9.966	827.23
	5300	19.238	83.91	10.762	885.05
	5320	19.596	91.12	10.404	905.36
Sub-band 3: 5470-5725MHz	5500	19.896	97.63	10.104	902.37
	5600	20.396	109.55	9.604	890.45
	5700	19.143	82.09	10.857	917.91

EIRP 802.11n HT40 MODE chain A:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5190	16.833	48.23	6.167	151.77
	5230	19.432	87.74	3.568	112.26
Sub-band 2: 5250-5350MHz	5270	18.83	76.38	11.17	123.62
	5310	16.786	47.71	13.214	952.29
Sub-band 3: 5470-5725MHz	5510	18.708	74.27	11.292	925.73
	5590	18.168	65.58	11.832	934.42

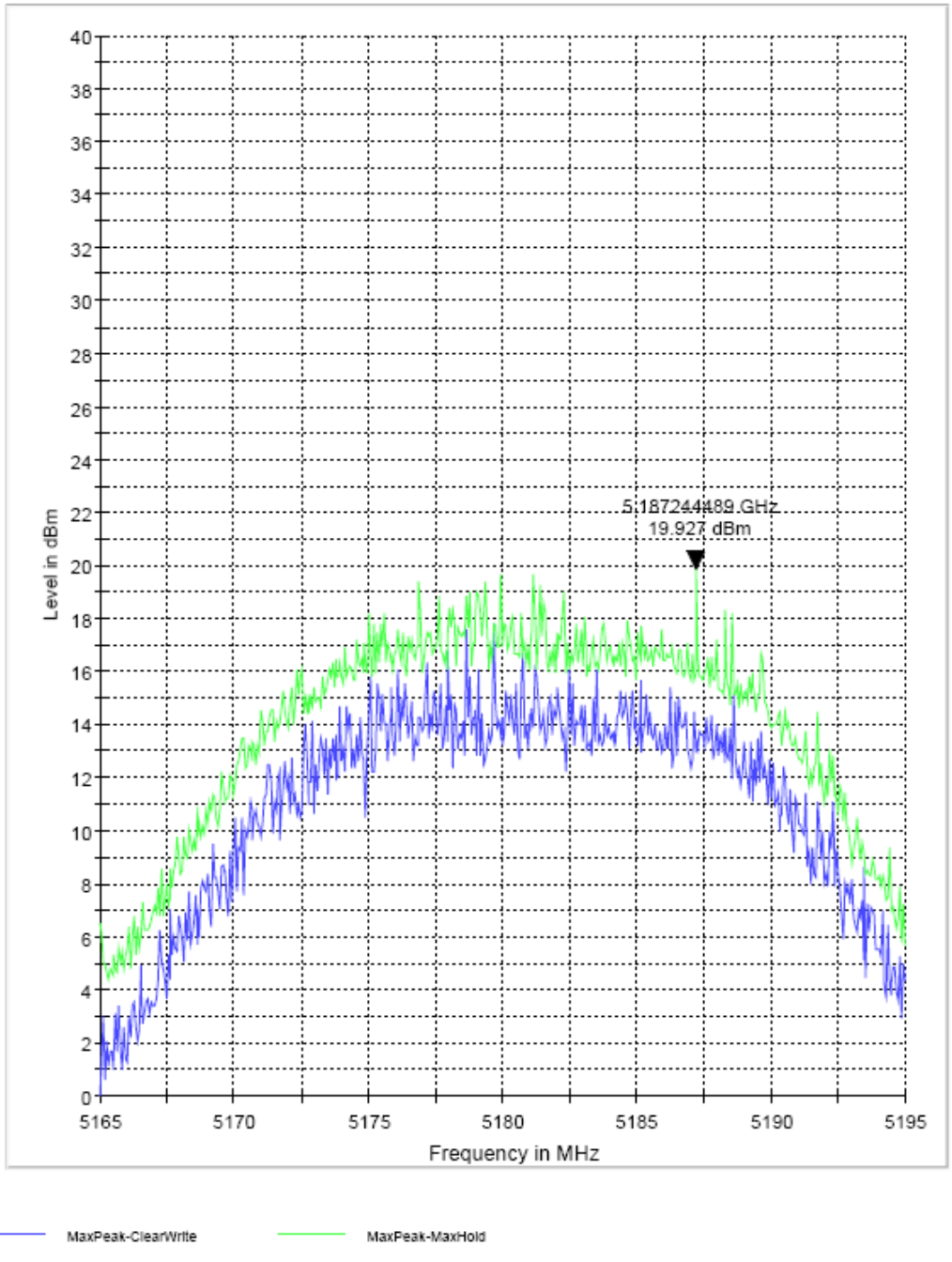
EIRP 802.11n HT40 MODE chain B:

TEST CONDITIONS T_{nom}(23)°C, V_{nom}VDC	Channel Frequency	EIRP (dBm)	EIRP (mW)	FCC Margin (dBm)	IC Margin (mW)
Sub-band 1: 5150-5250MHz	5190	16.967	49.74	3.323	150.26
	5230	19.315	85.41	2.966	114.59
Sub-band 2: 5250-5350MHz	5270	18.719	74.46	11.281	125.54
	5310	17.716	59.10	12.284	940.90
Sub-band 3: 5470-5725MHz	5510	18.203	66.11	11.797	933.89
	5590	18.961	78.72	11.039	921.28

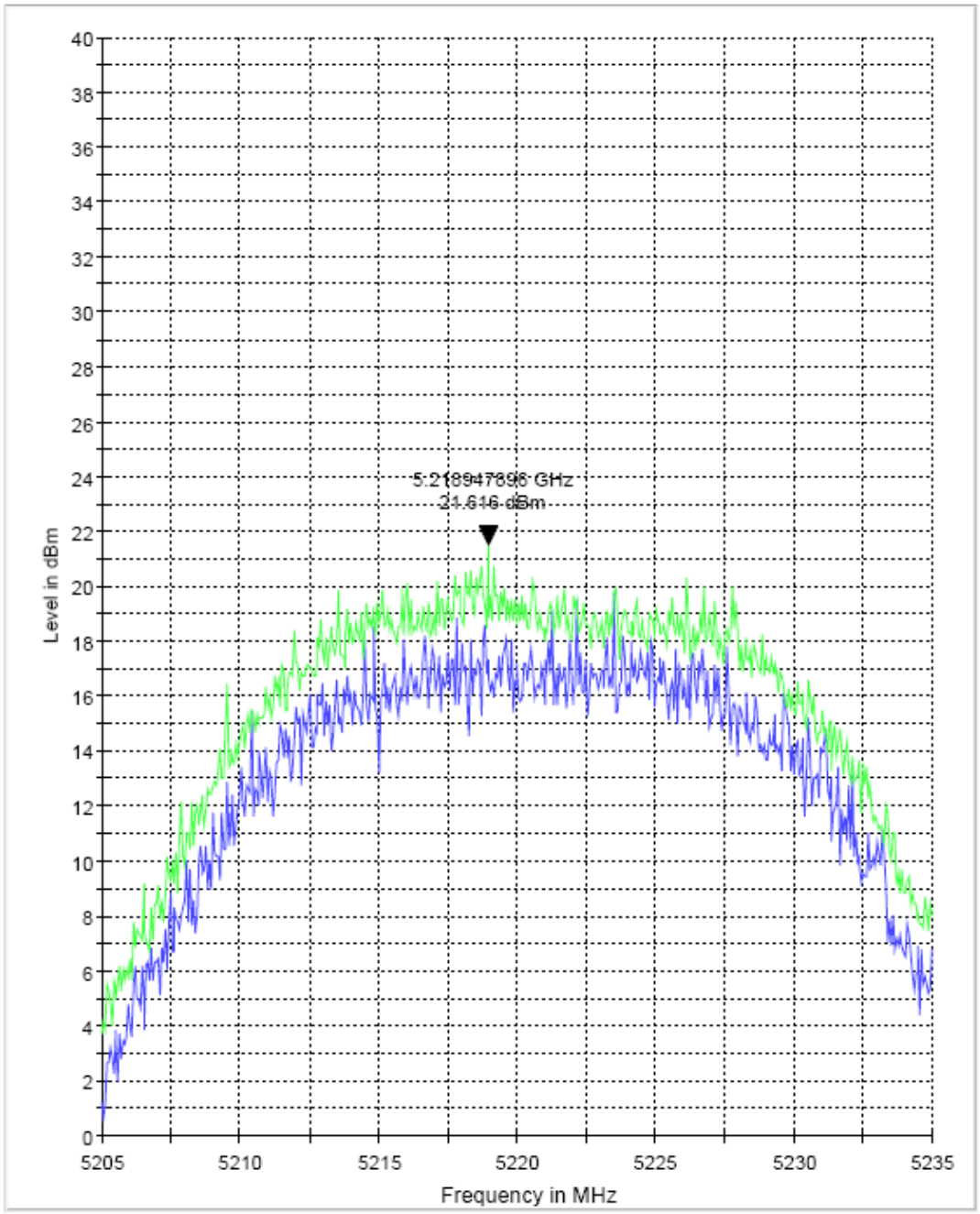
5.1.4 **Measurement results**

5.1.5 **802.11a mode chain A**

EIRP 5180 MHz



EIRP 5220 MHz



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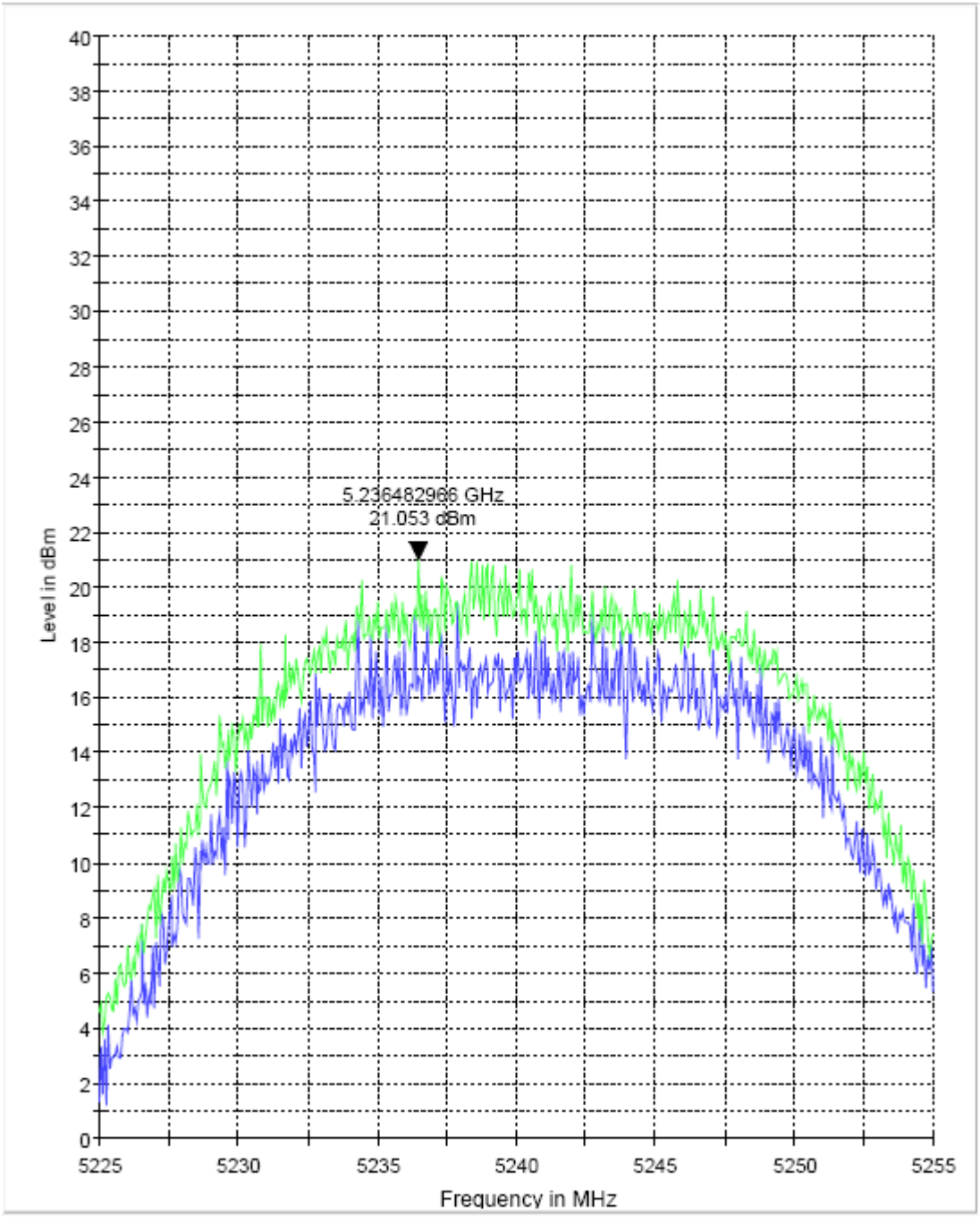
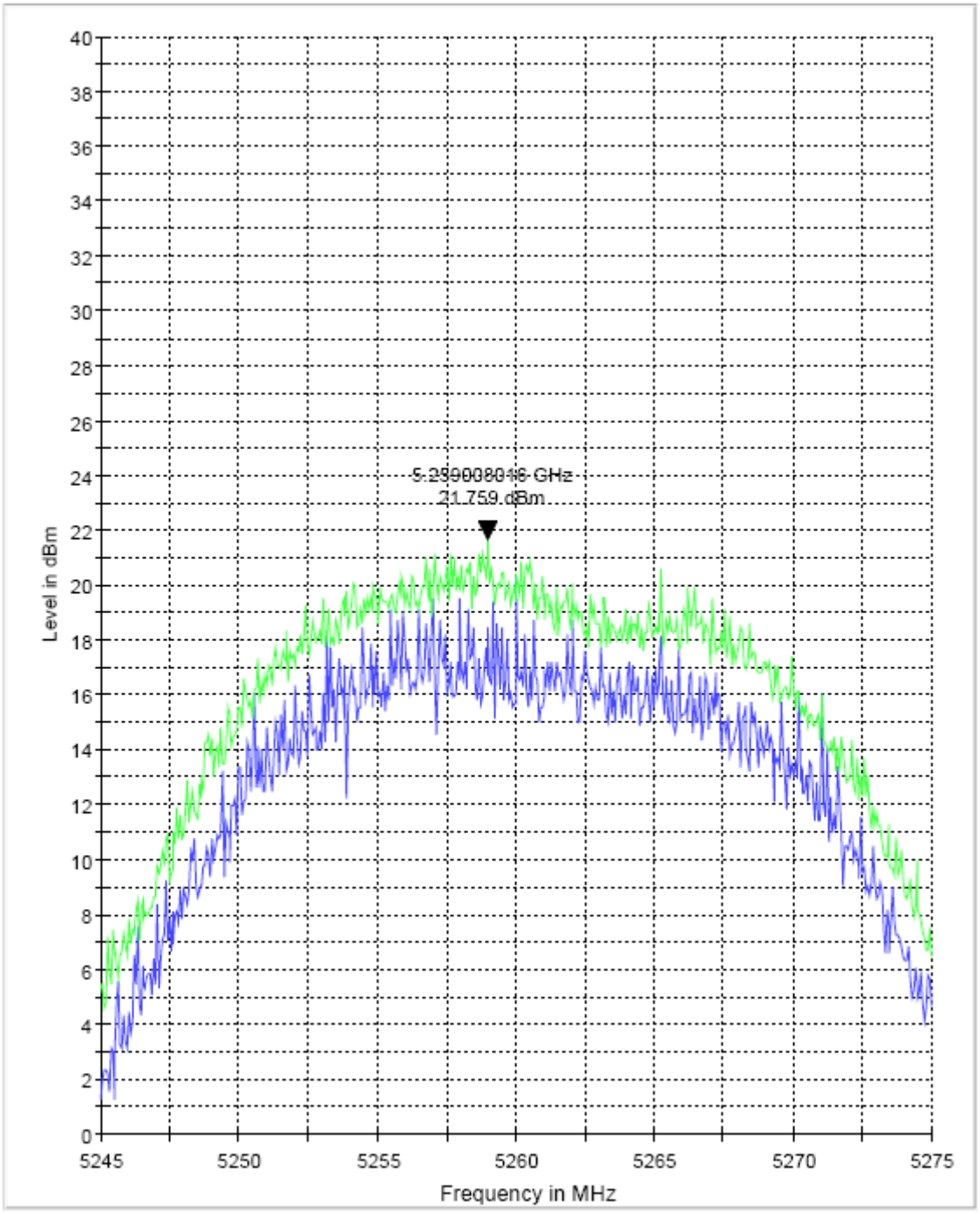
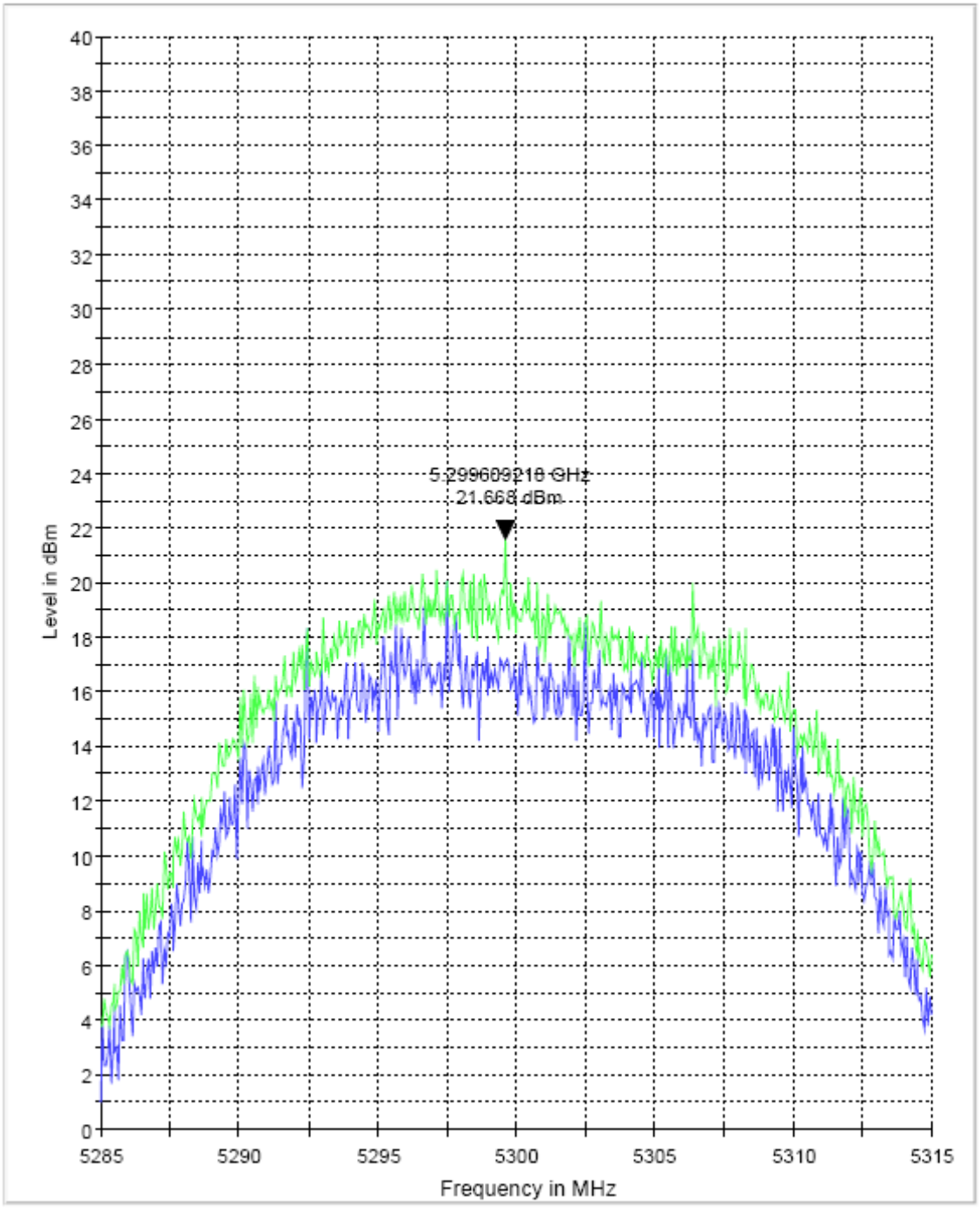


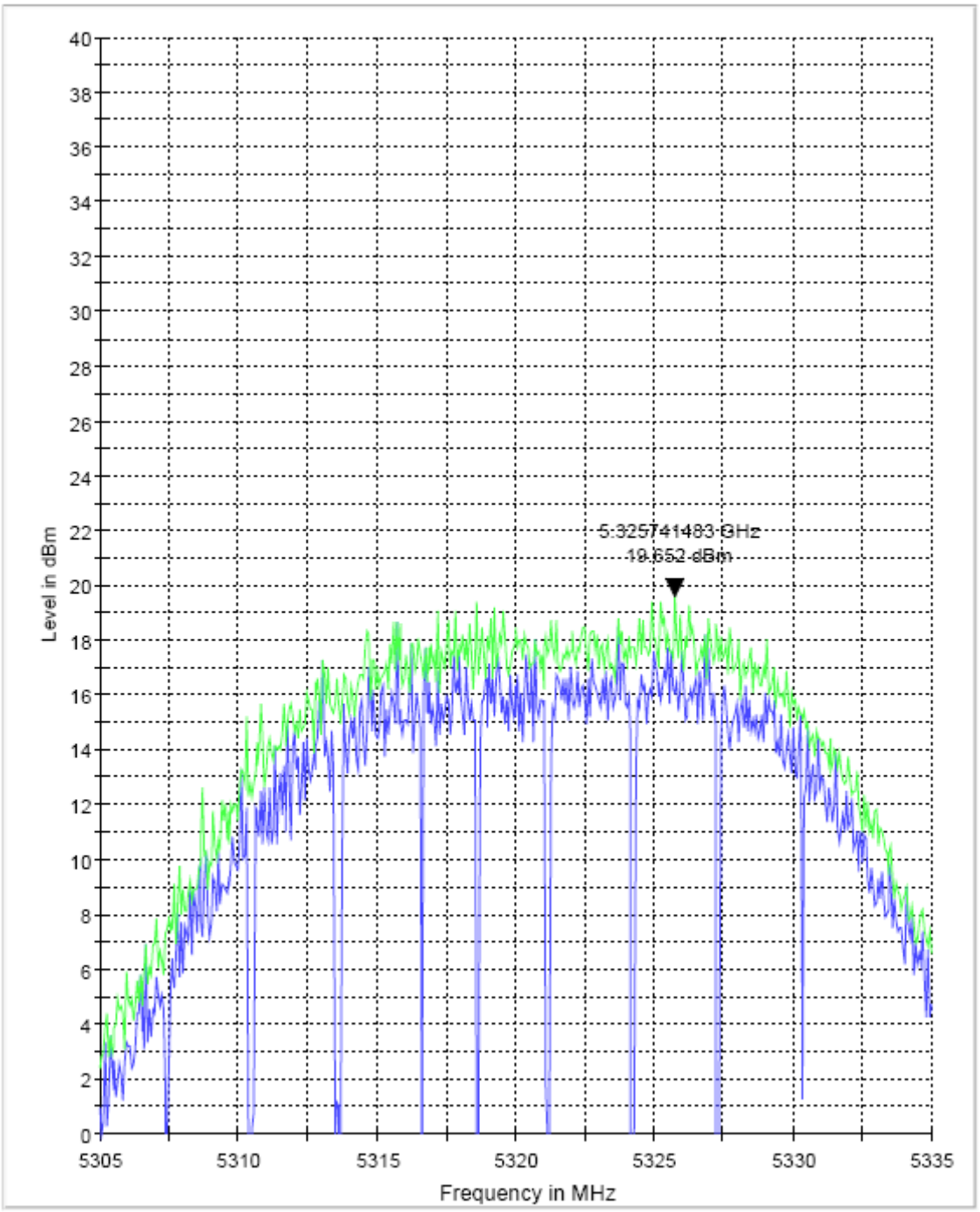
EIRP 5260 MHz



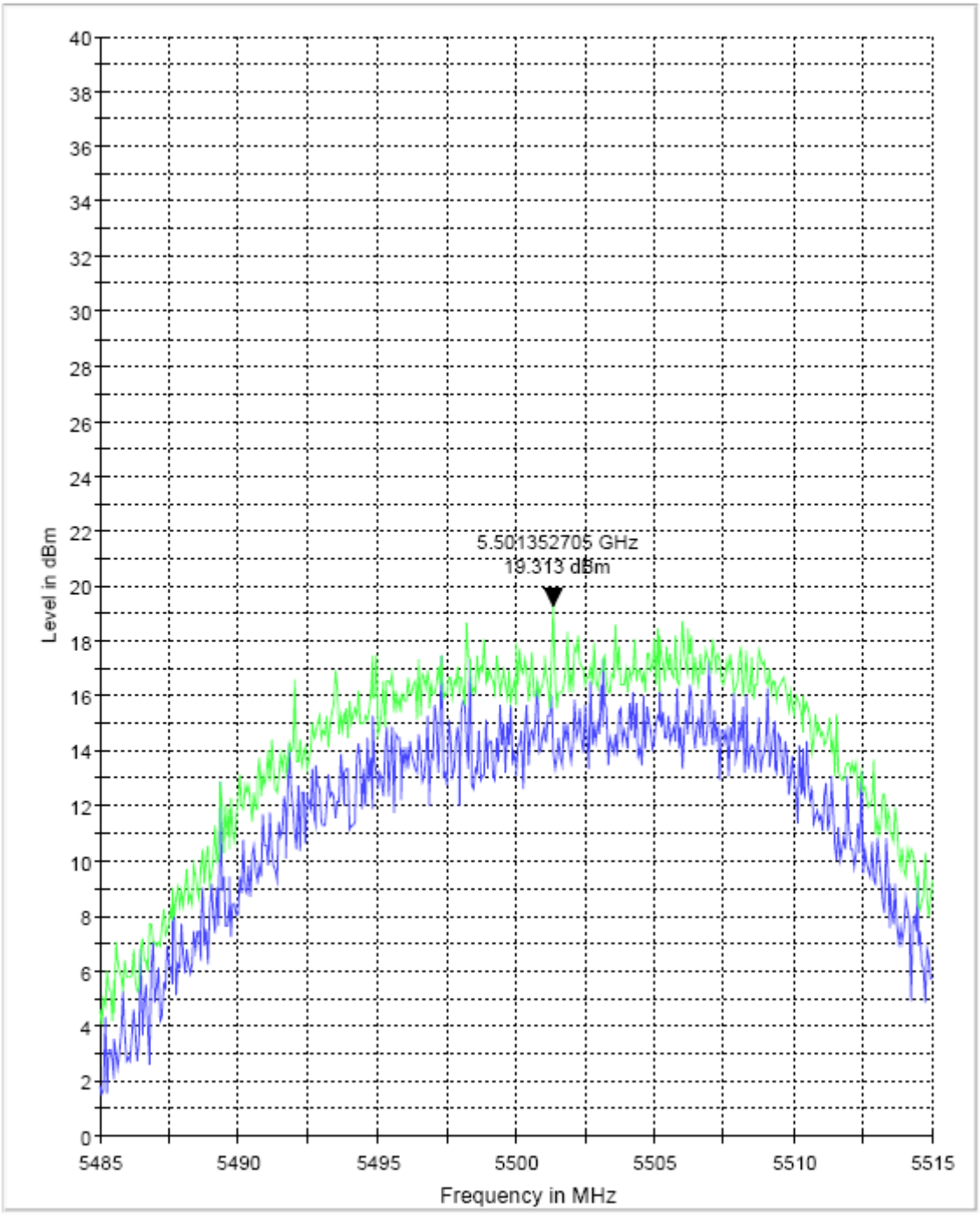
EIRP 5300 MHz



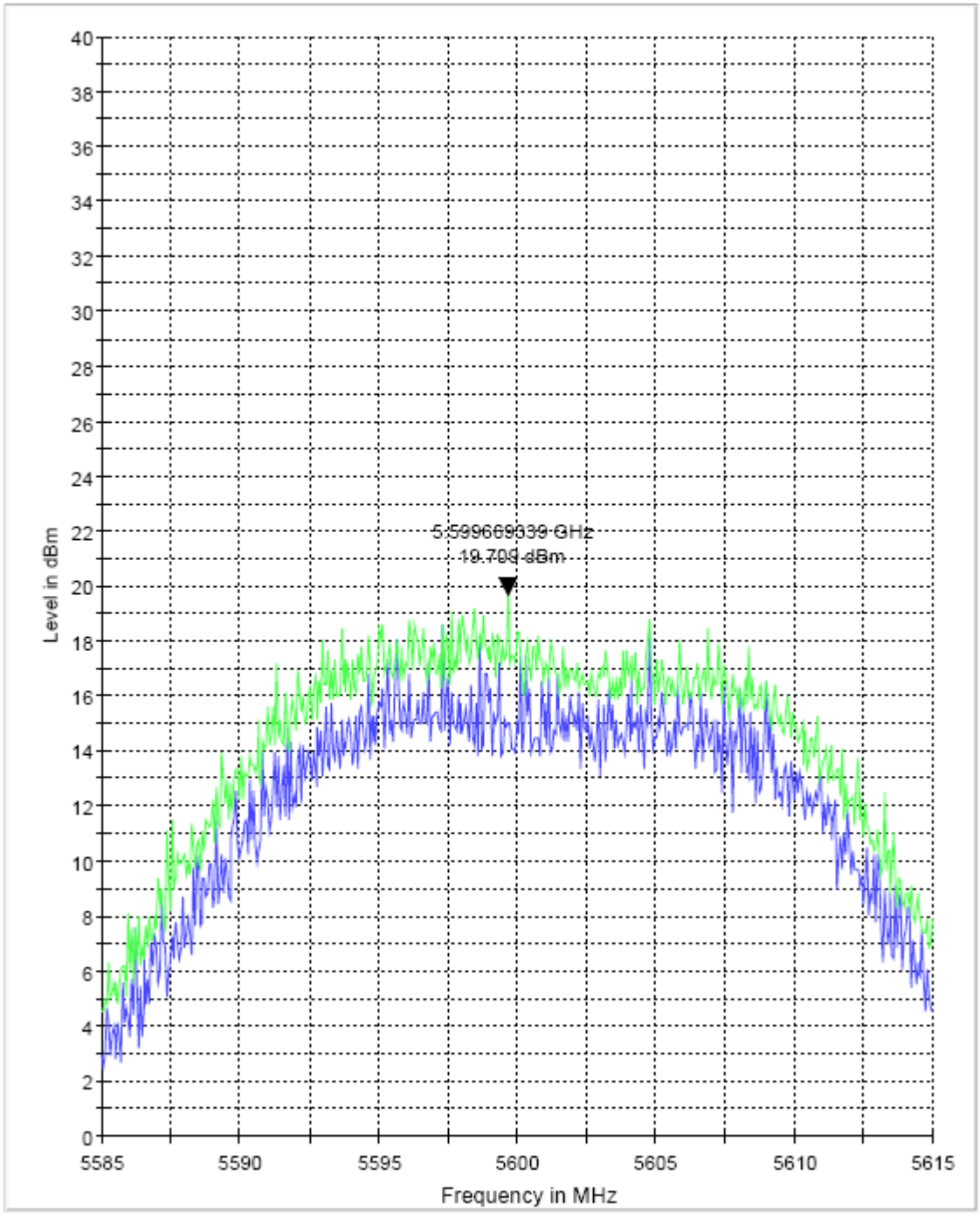
EIRP 5320 MHz



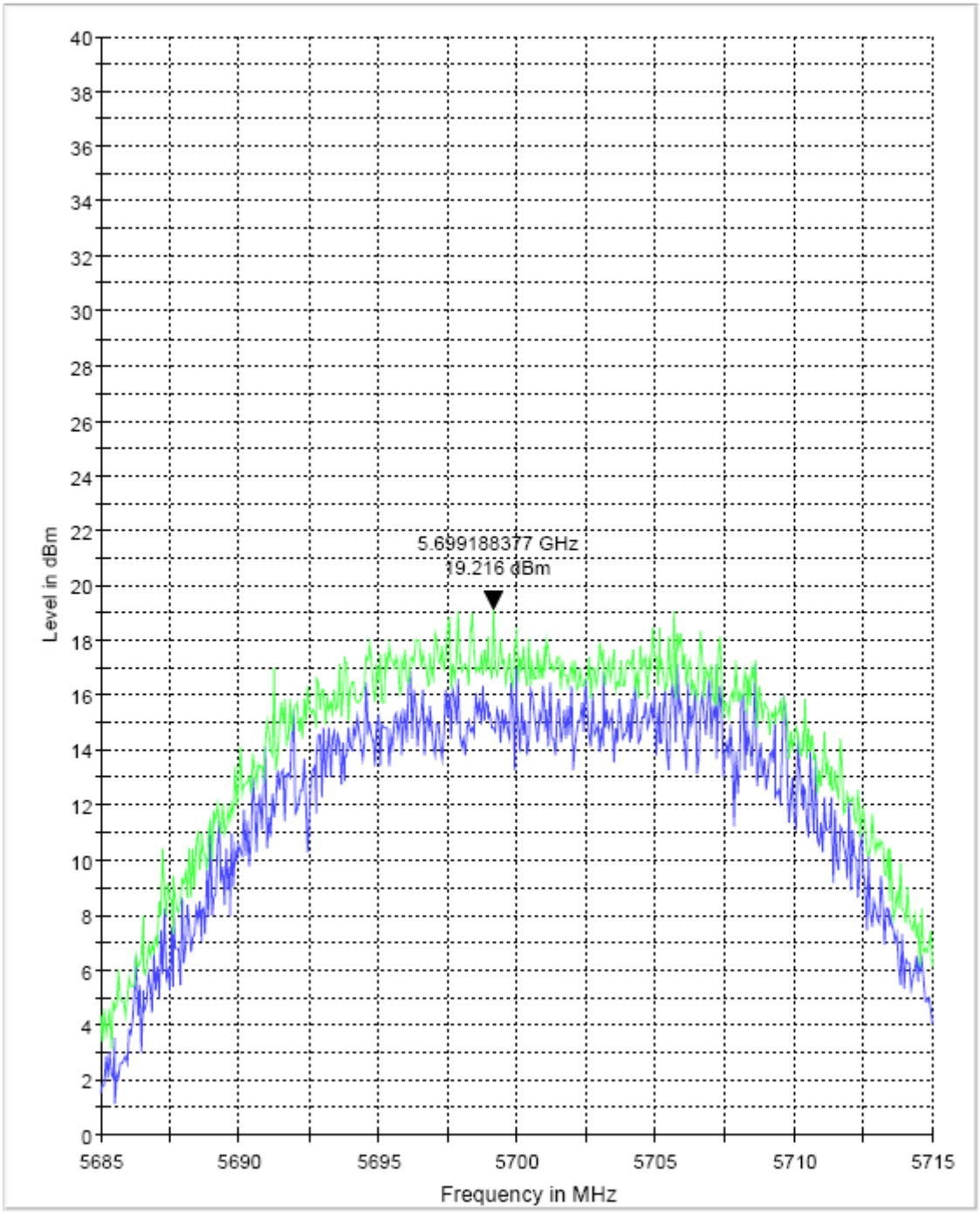
EIRP 5500 MHz



EIRP 5600 MHz

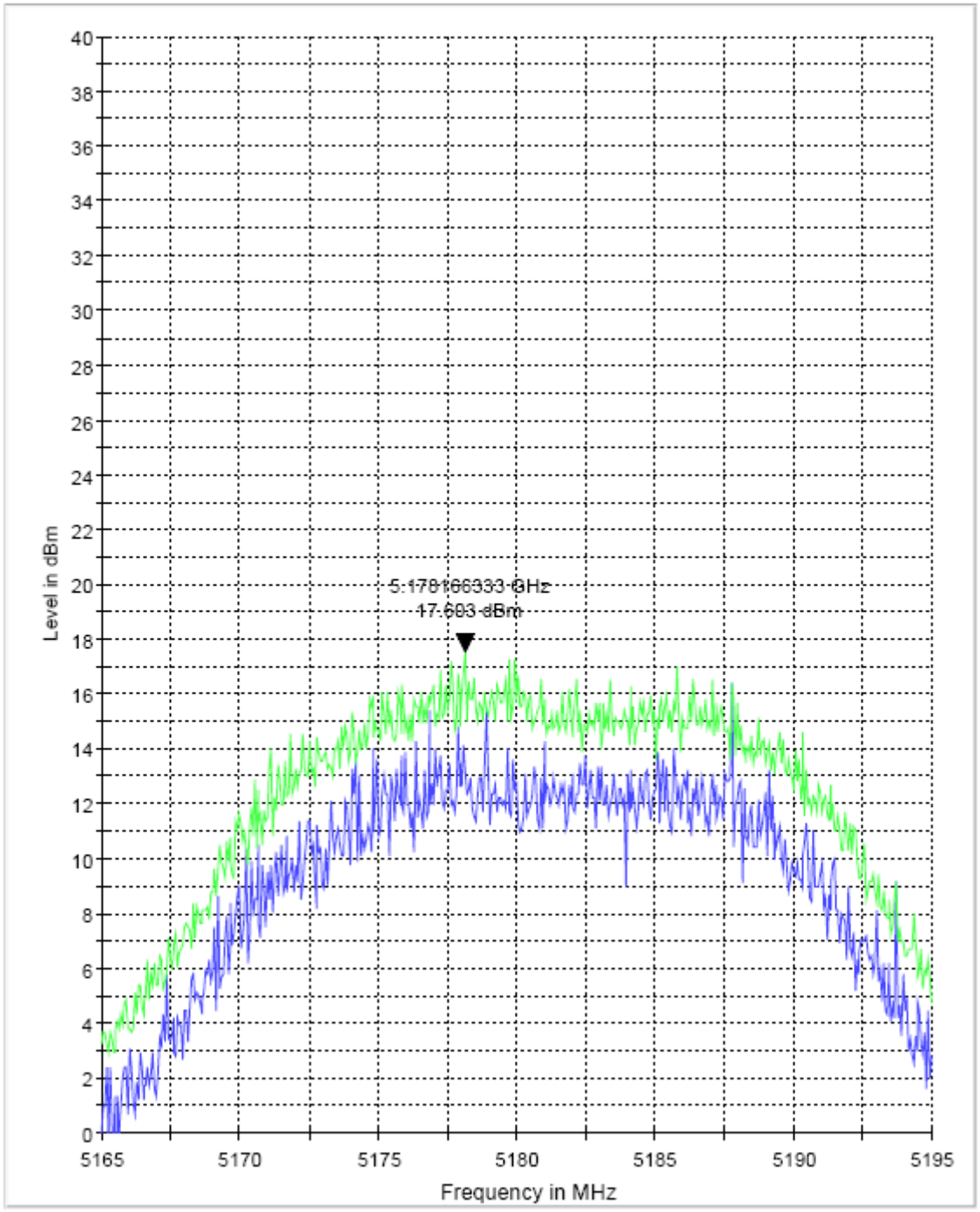


EIRP 5700 MHz

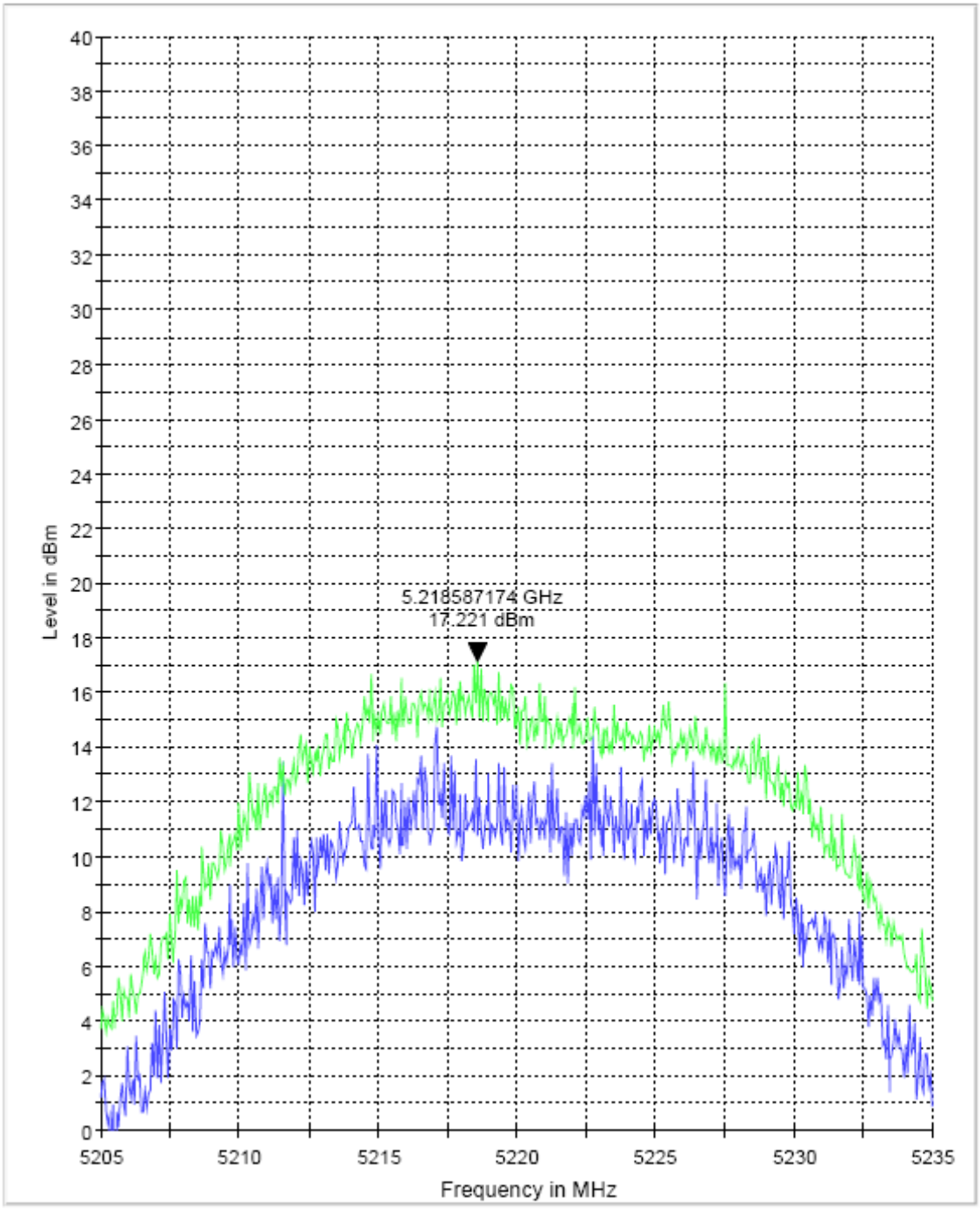


5.1.6 **802.11a mode chain B**

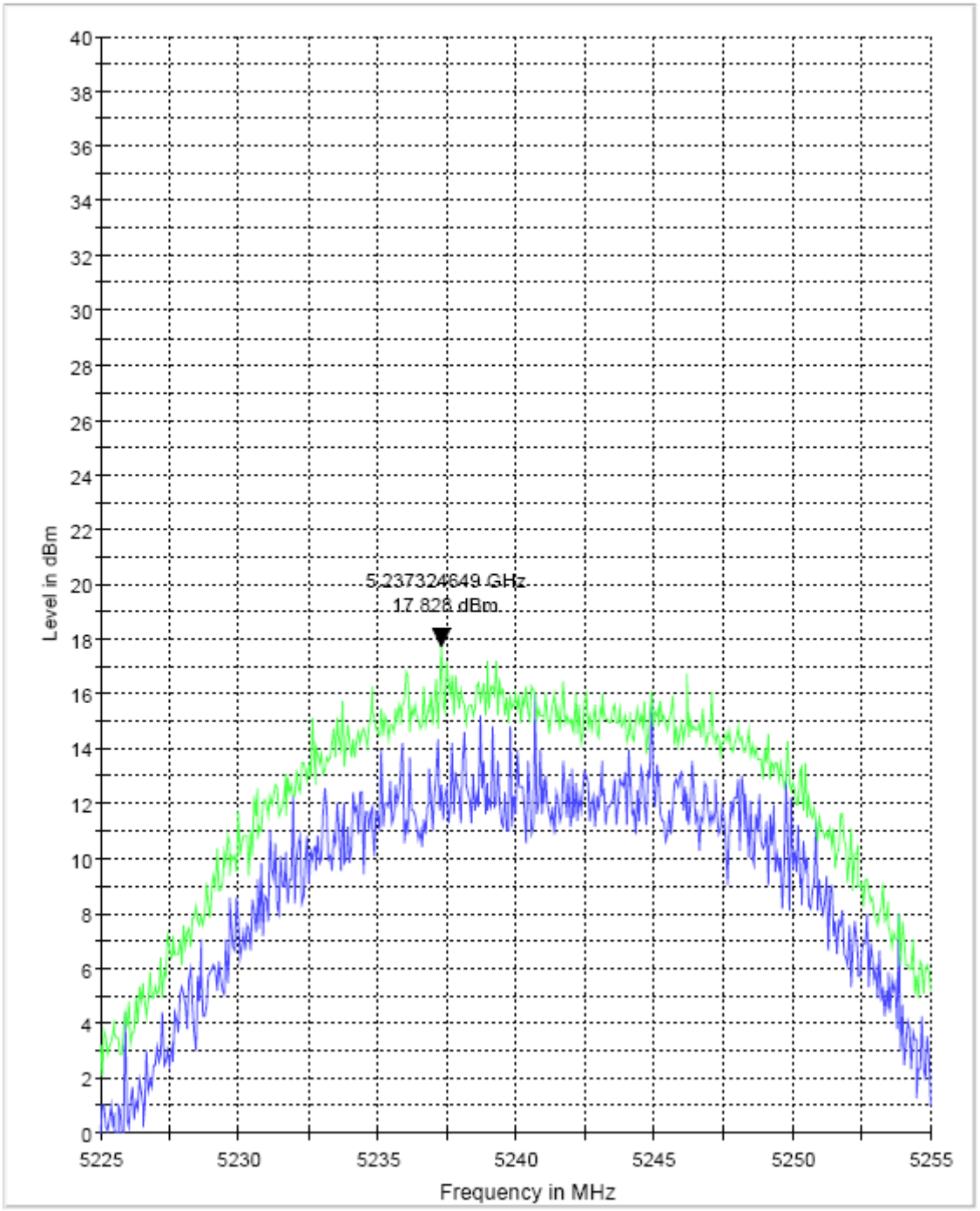
EIRP 5180 MHz



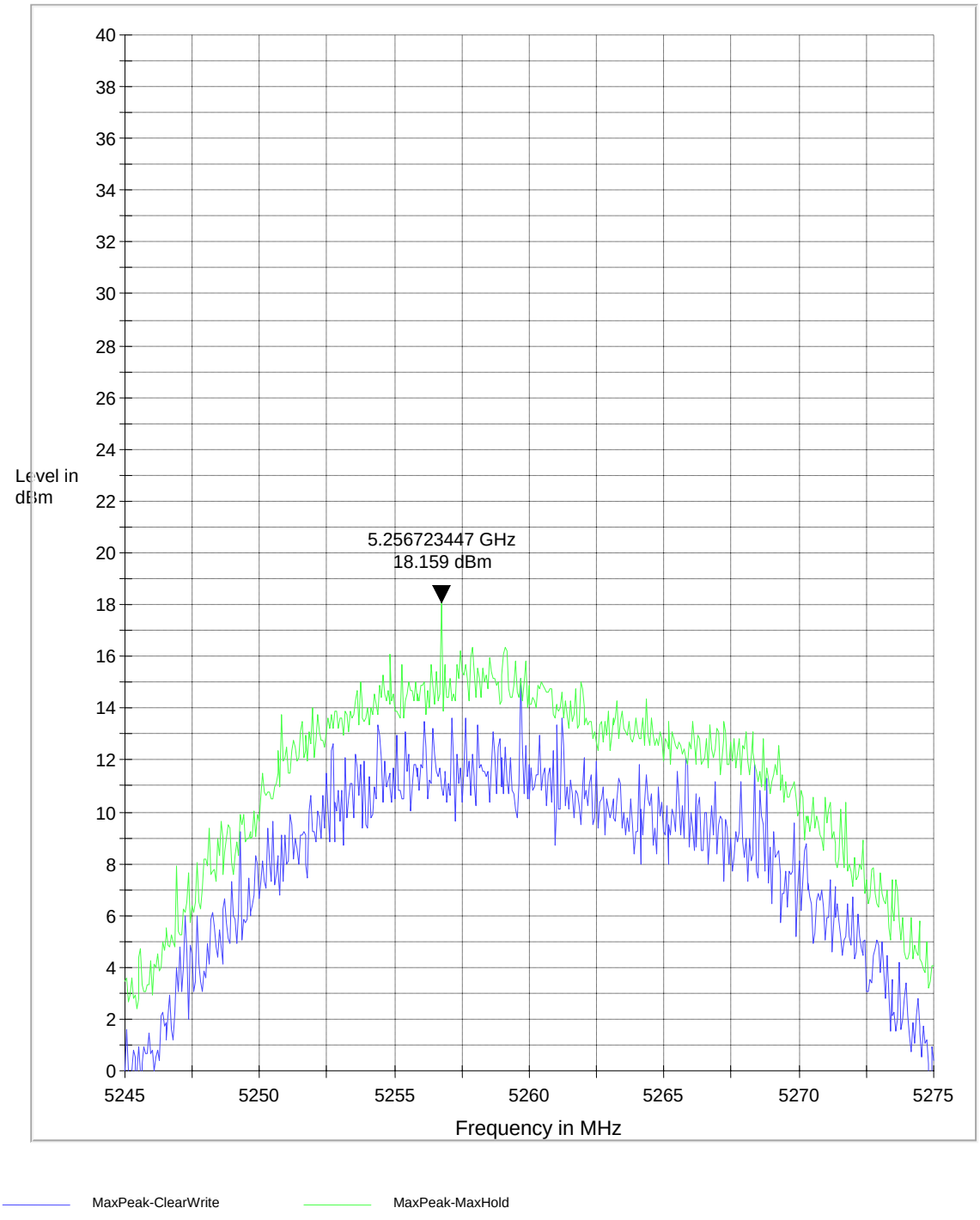
EIRP 5220 MHz



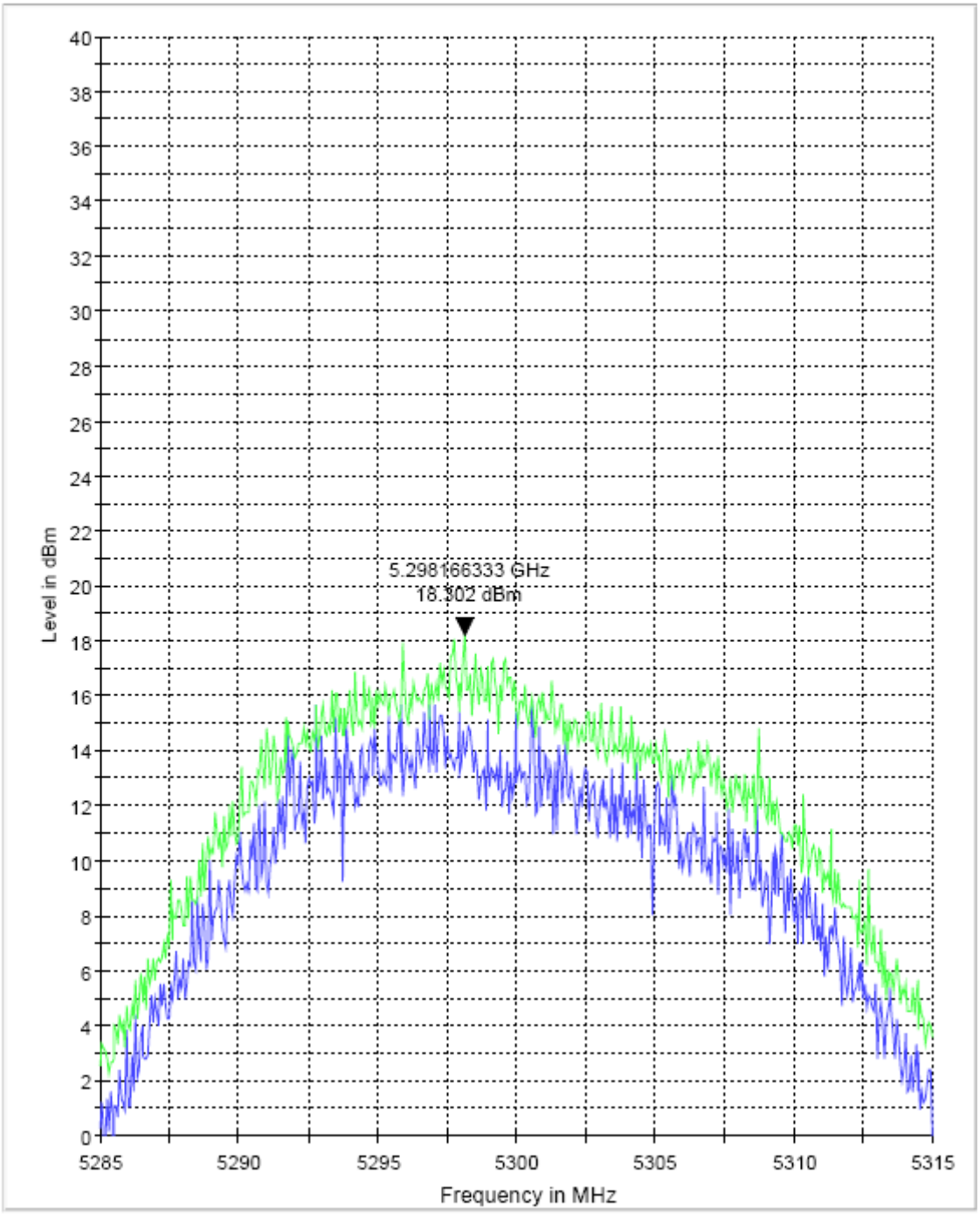
EIRP 5240 MHz



EIRP 5260 MHz



EIRP 5300 MHz



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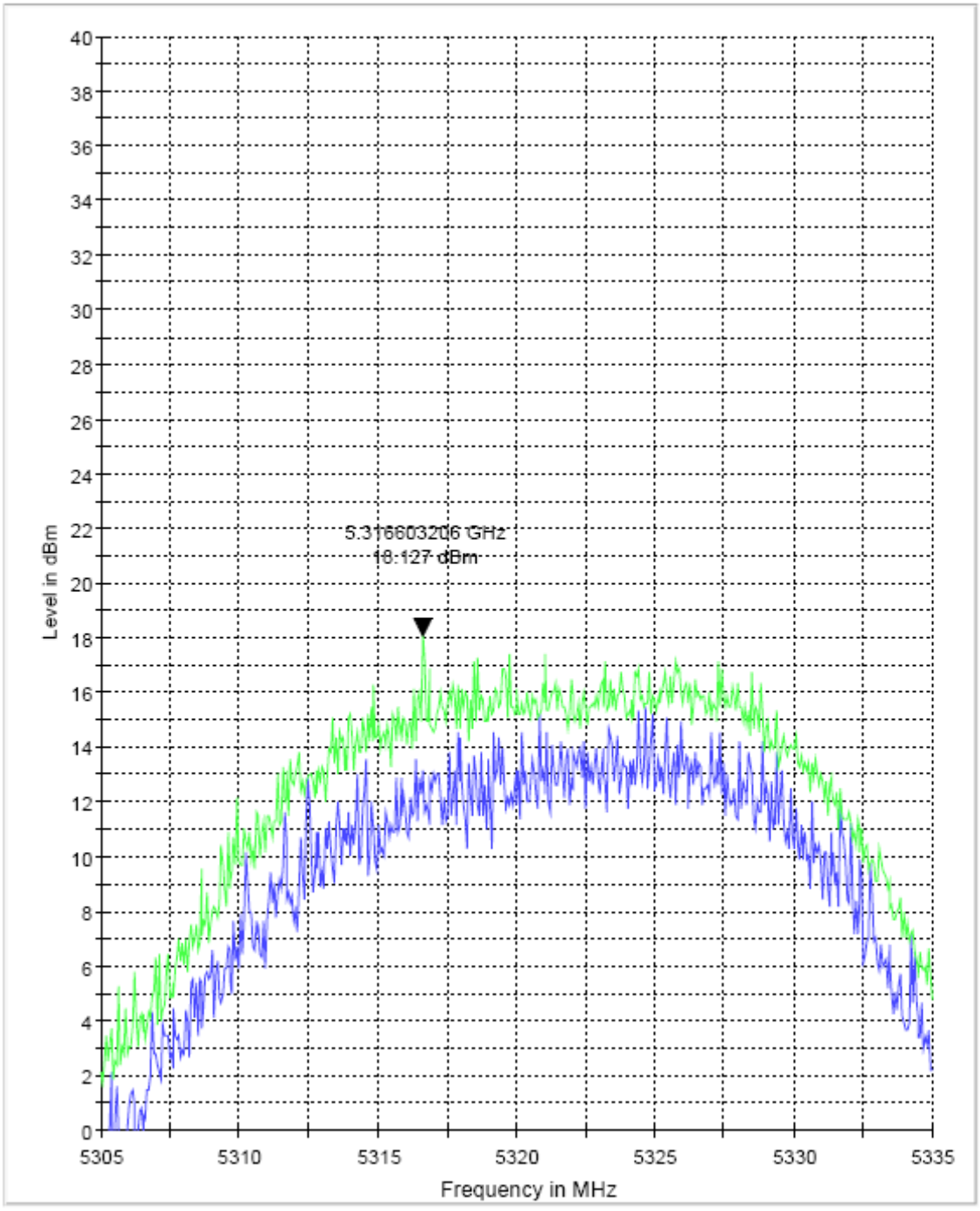
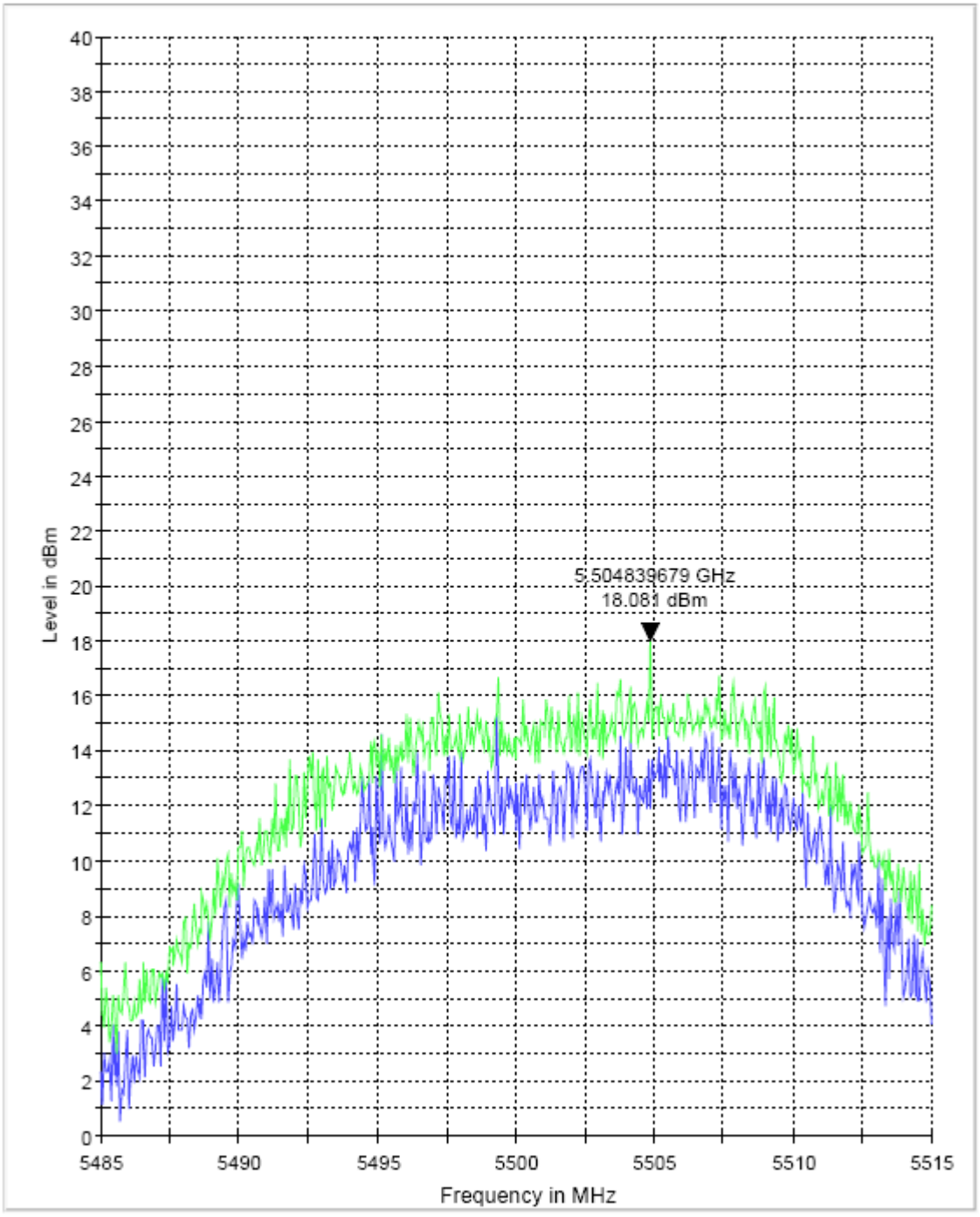
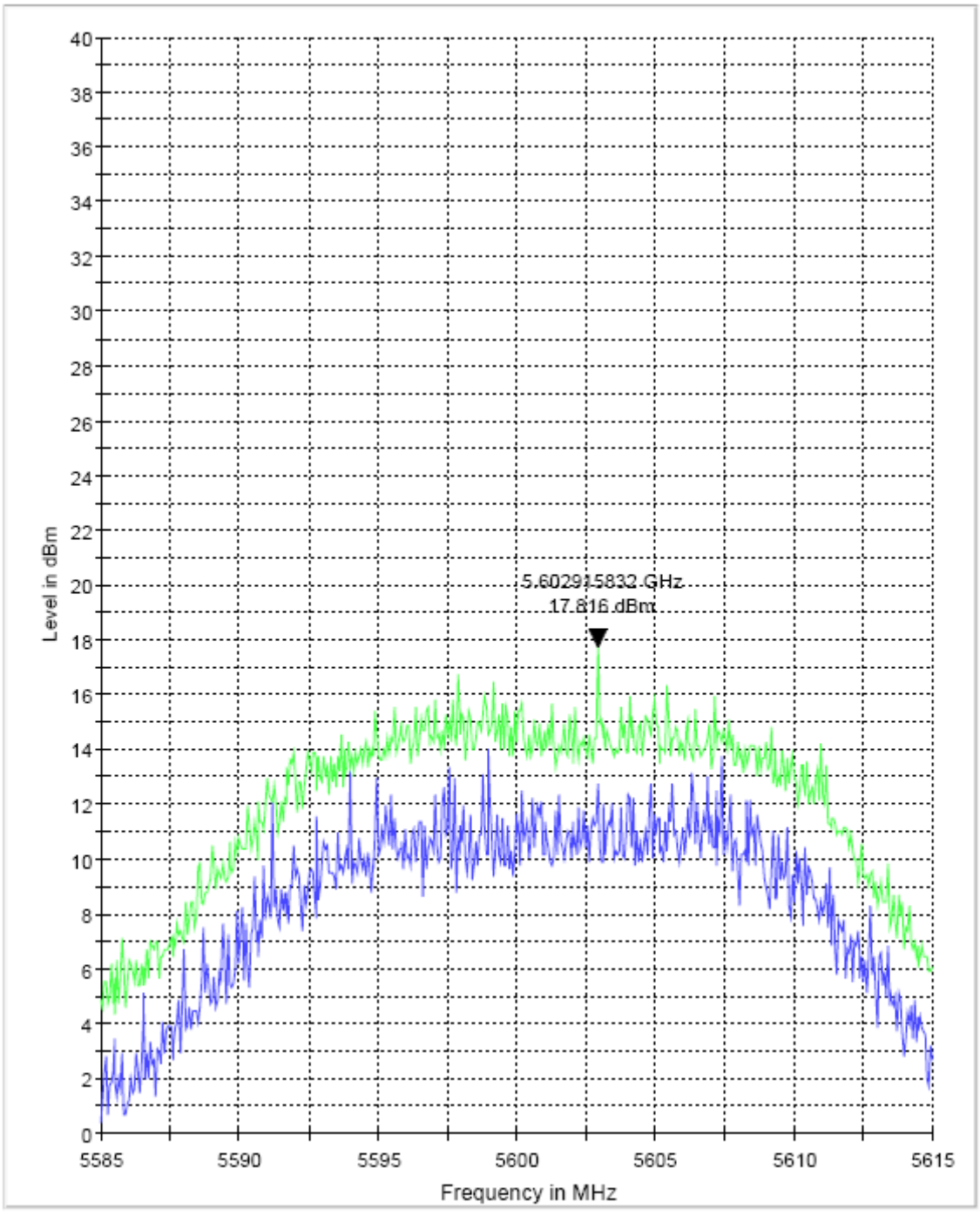


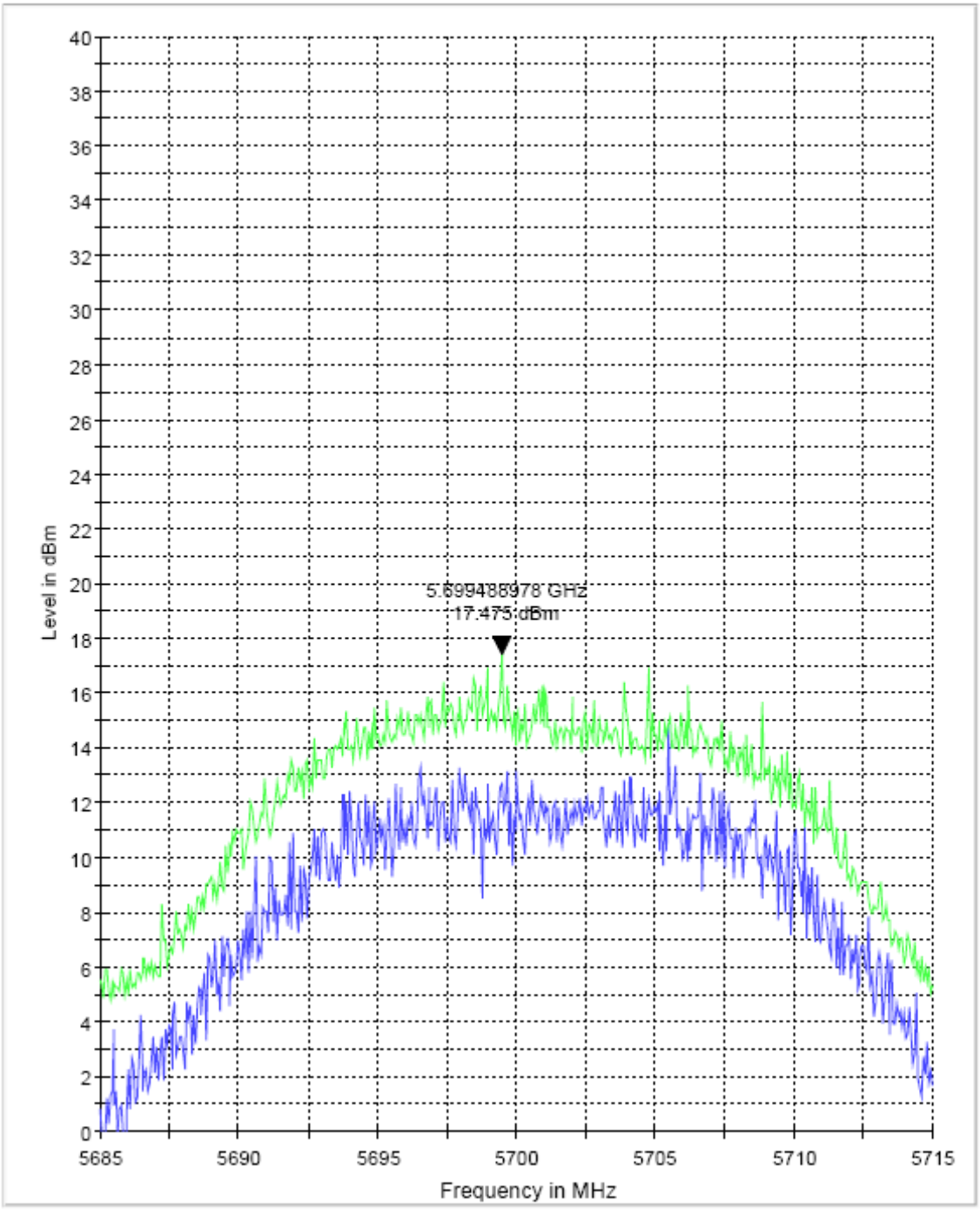
EIRP 5500 MHz



EIRP 5600 MHz

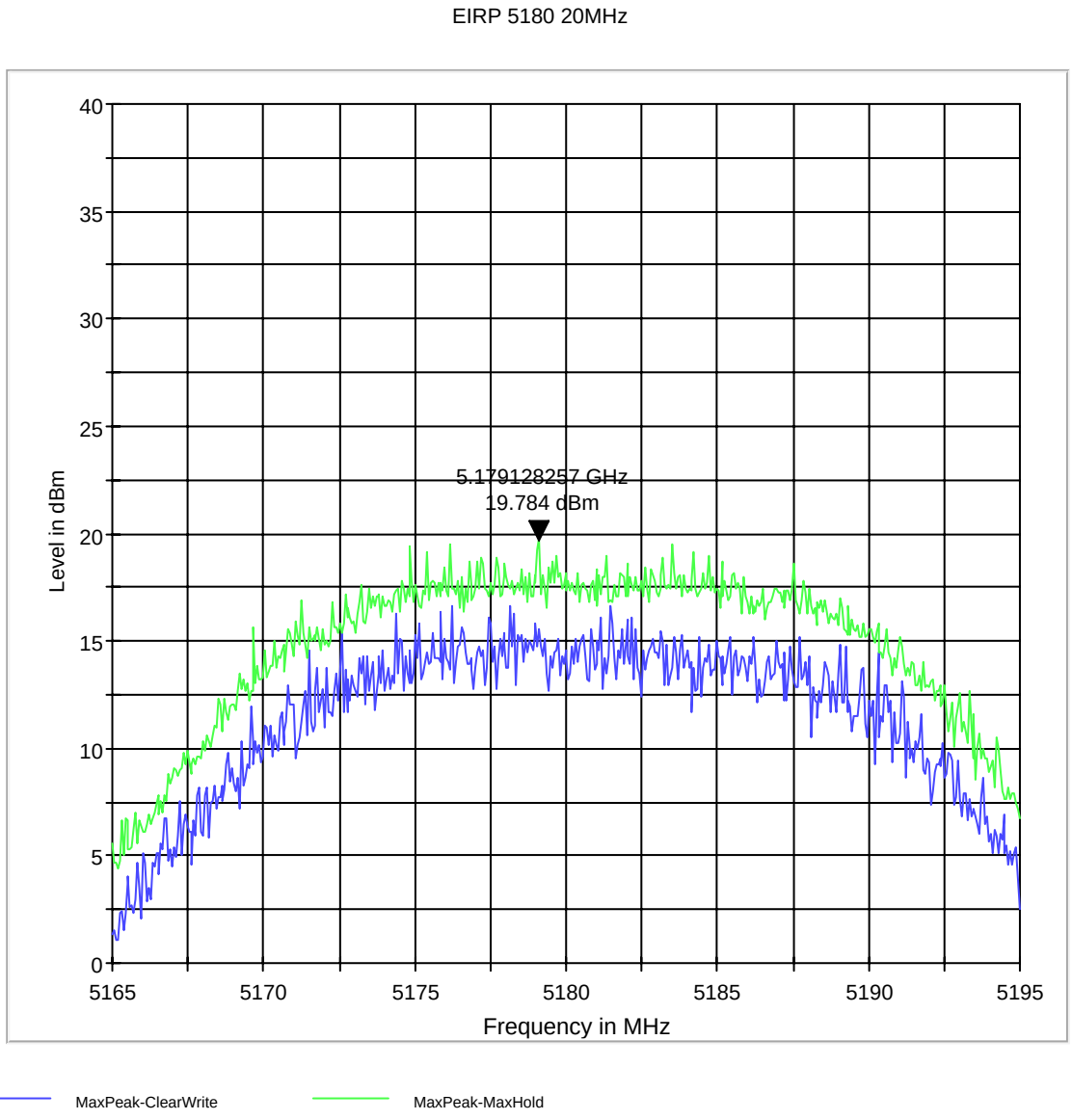


EIRP 5700 MHz

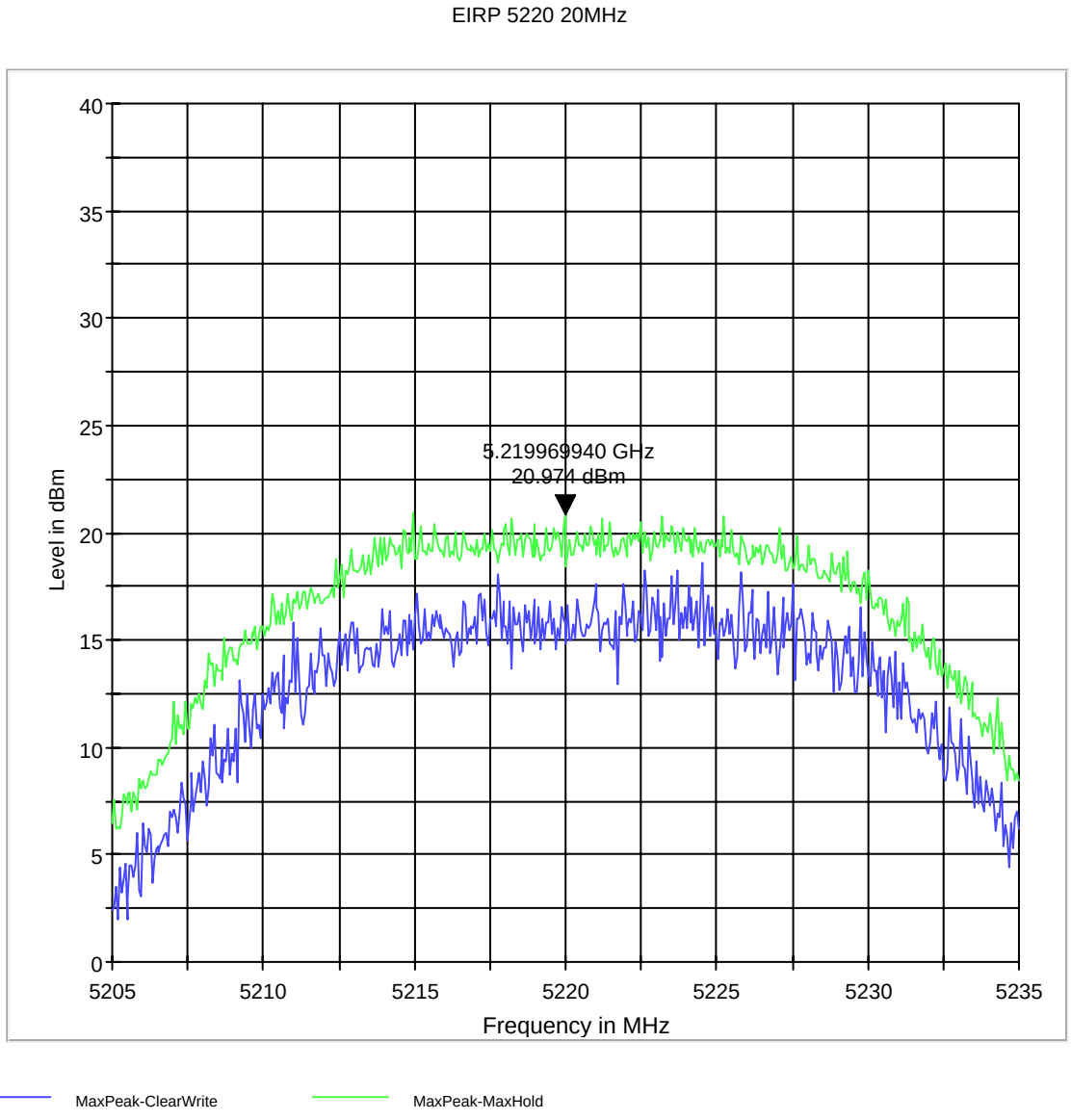


5.1.7 **802.11n HT20 mode chain A**

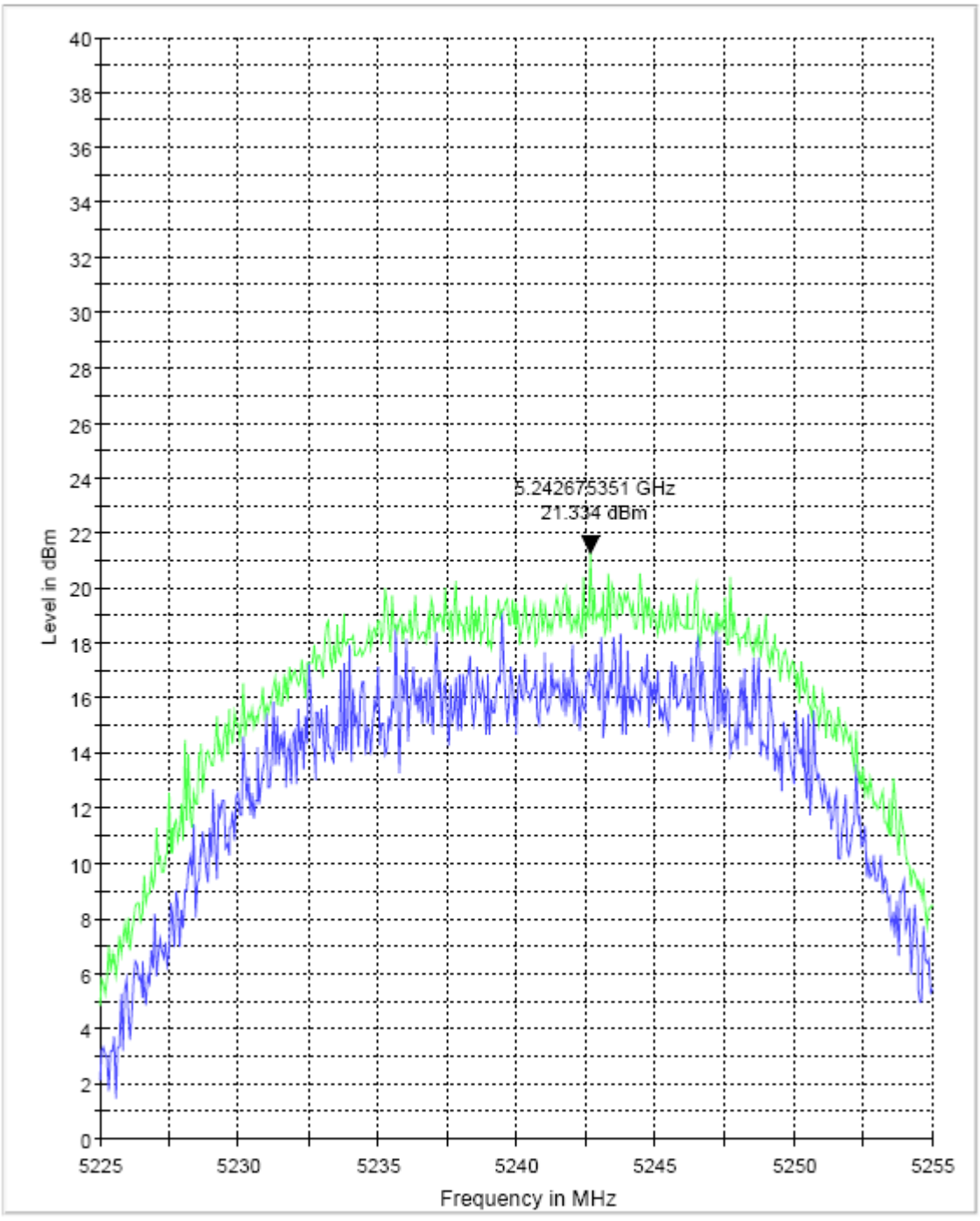
EIRP 5180 MHz



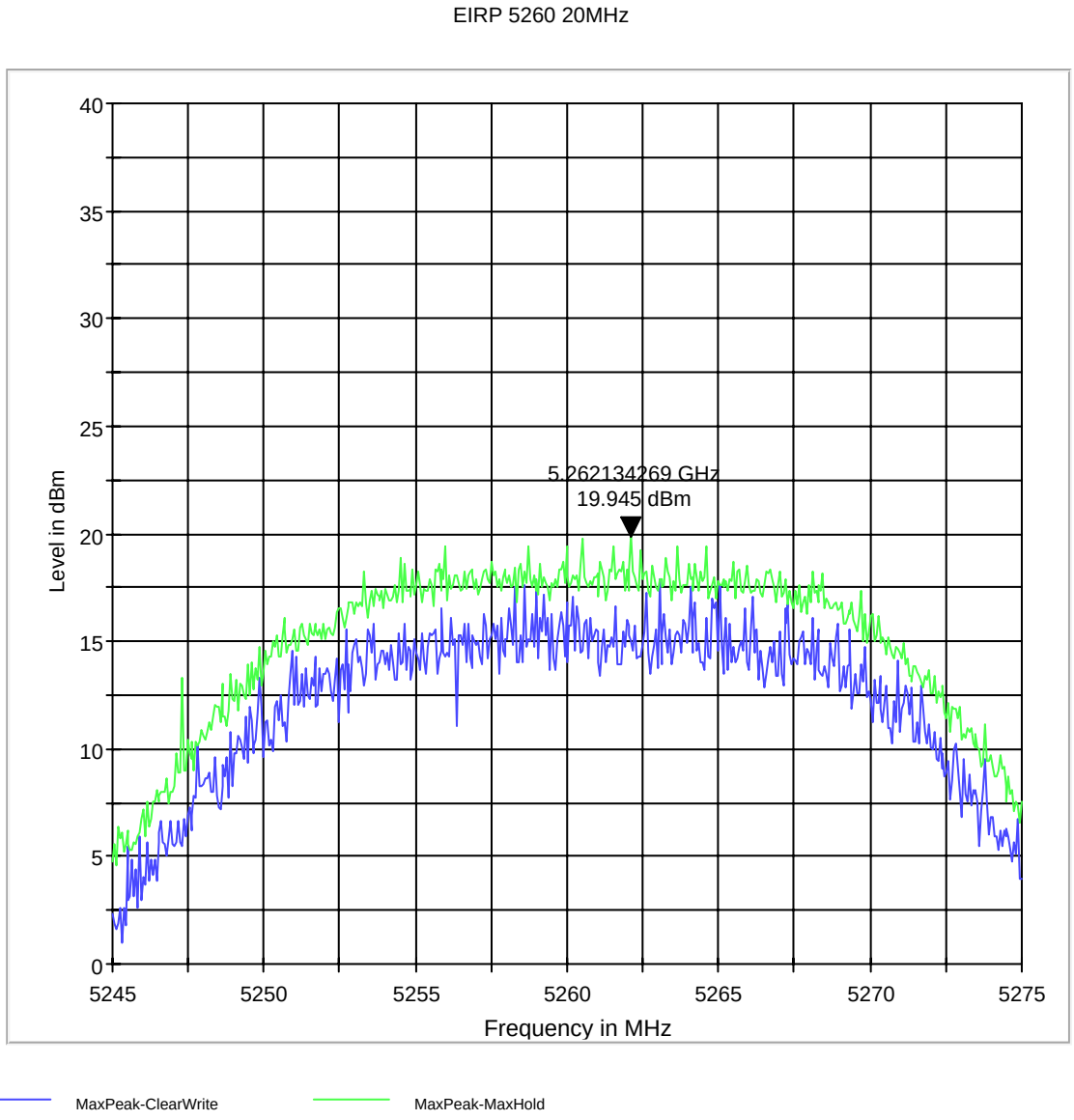
EIRP 5220 MHz



EIRP 5240 MHz

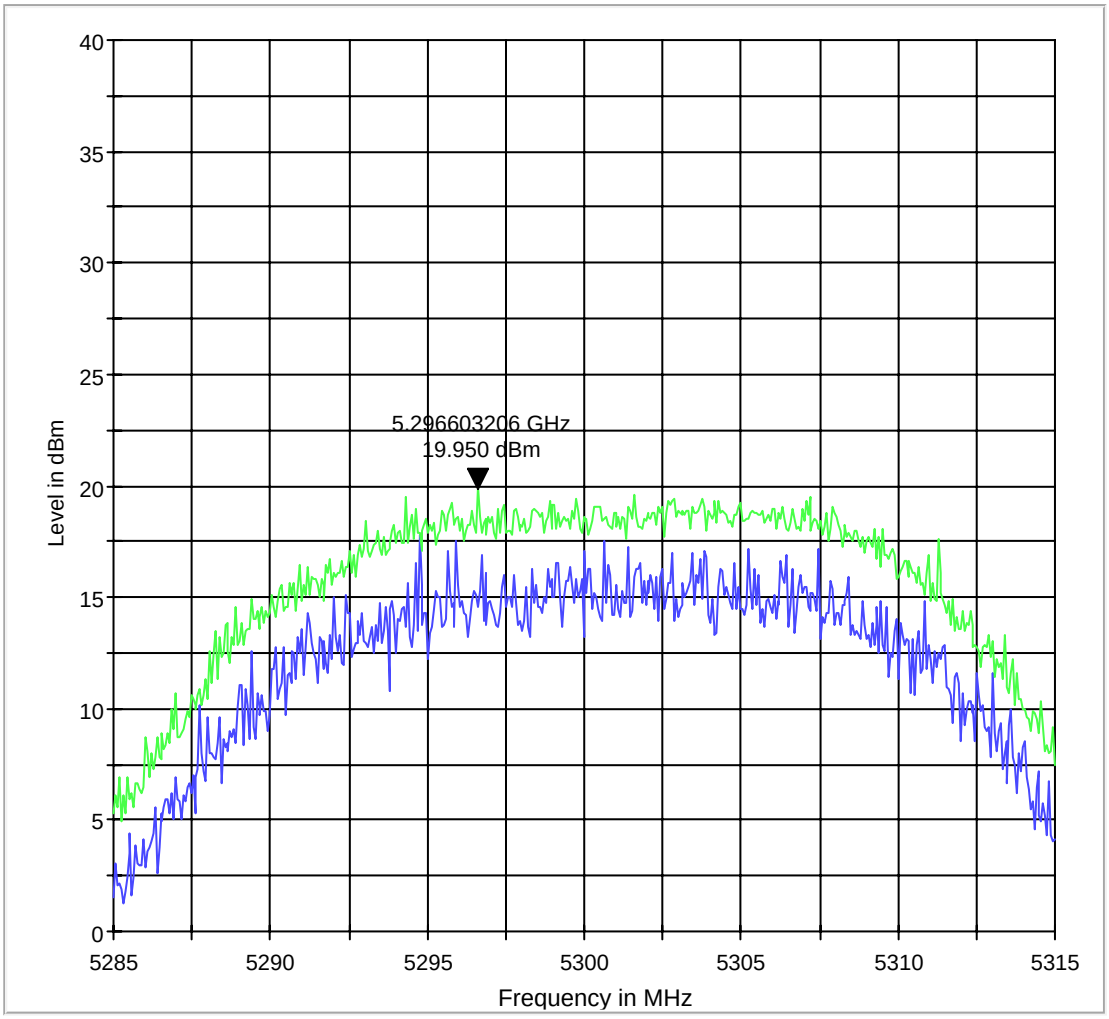


EIRP 5260 MHz



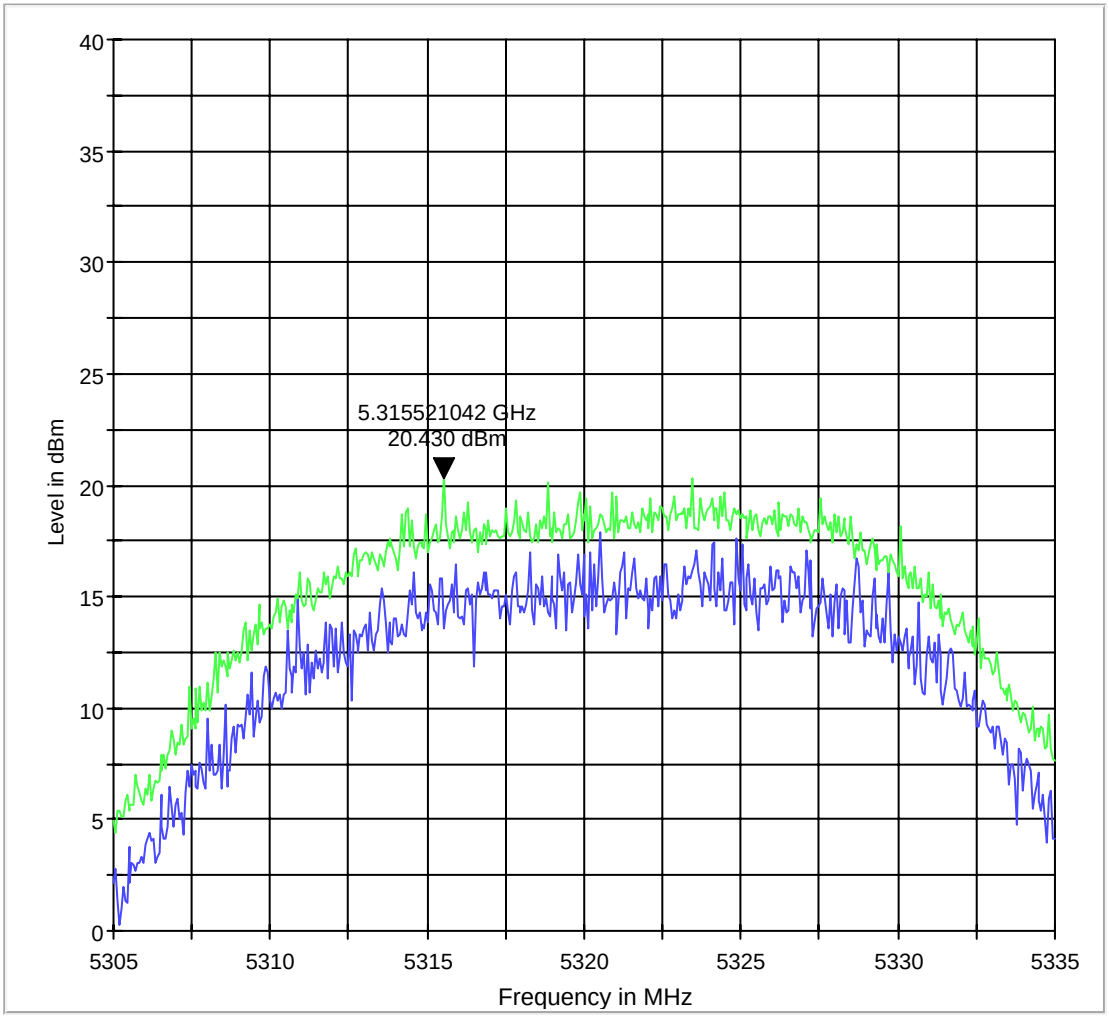
EIRP 5300 MHz

EIRP 5300 20MHz



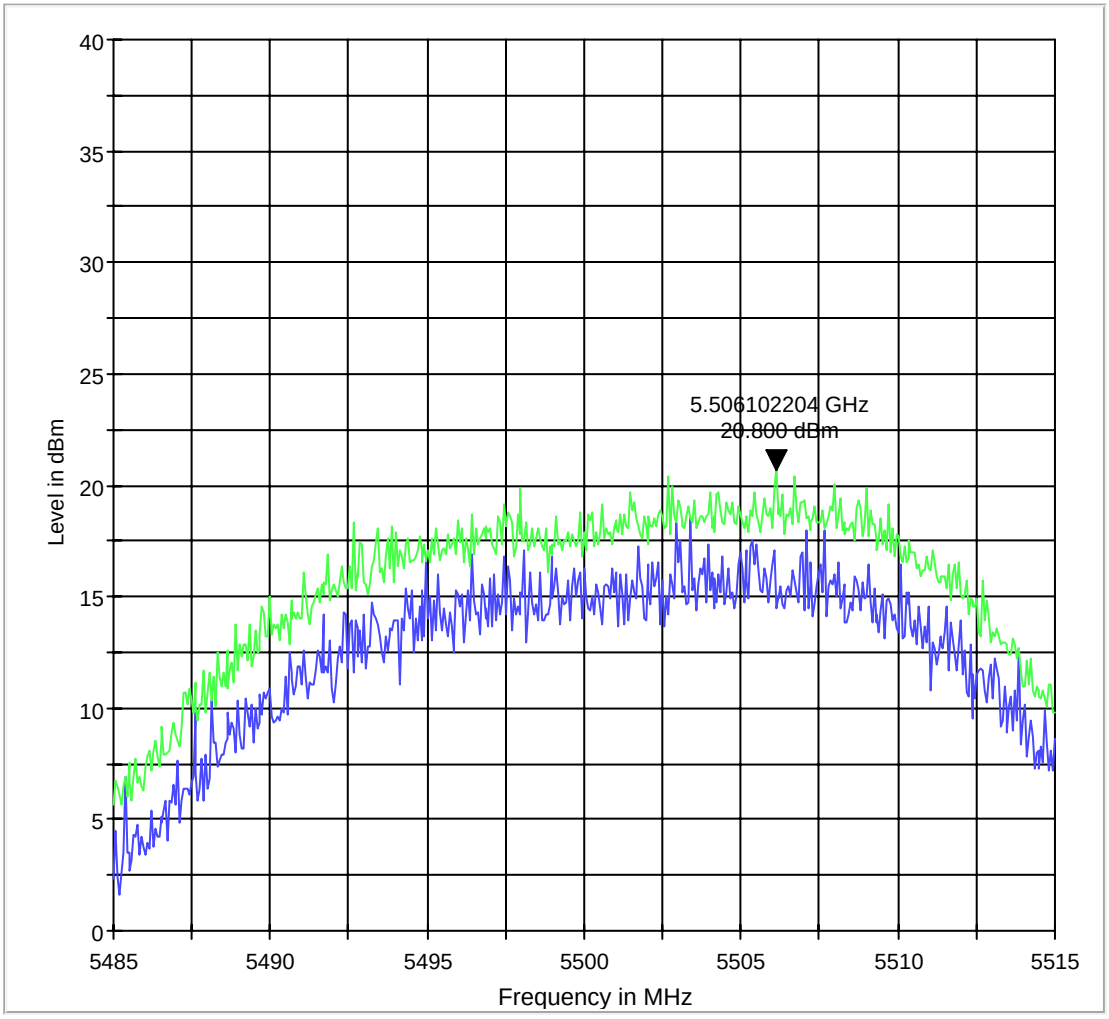
EIRP 5320 MHz

EIRP 5320 20MHz



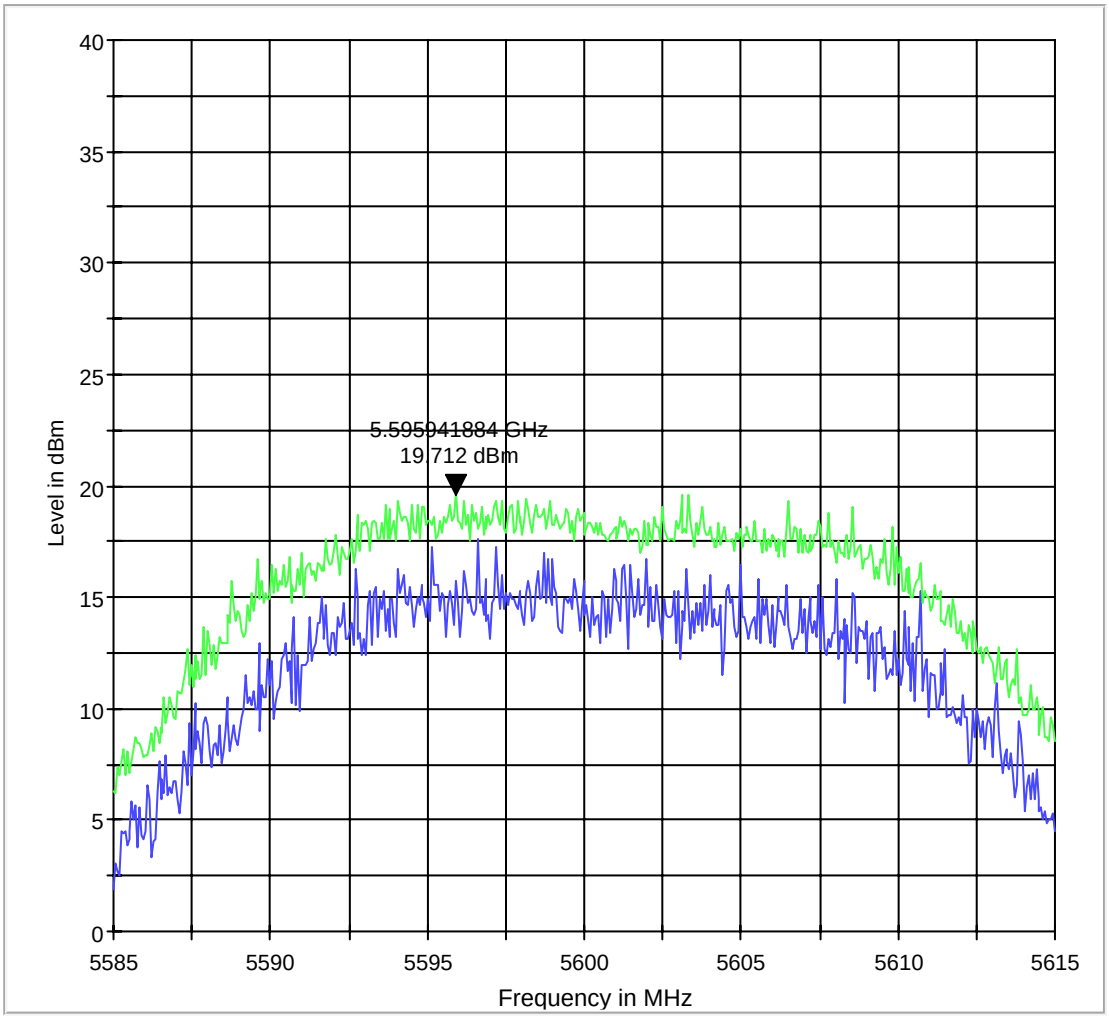
EIRP 5500 MHz

EIRP 5500 20MHz



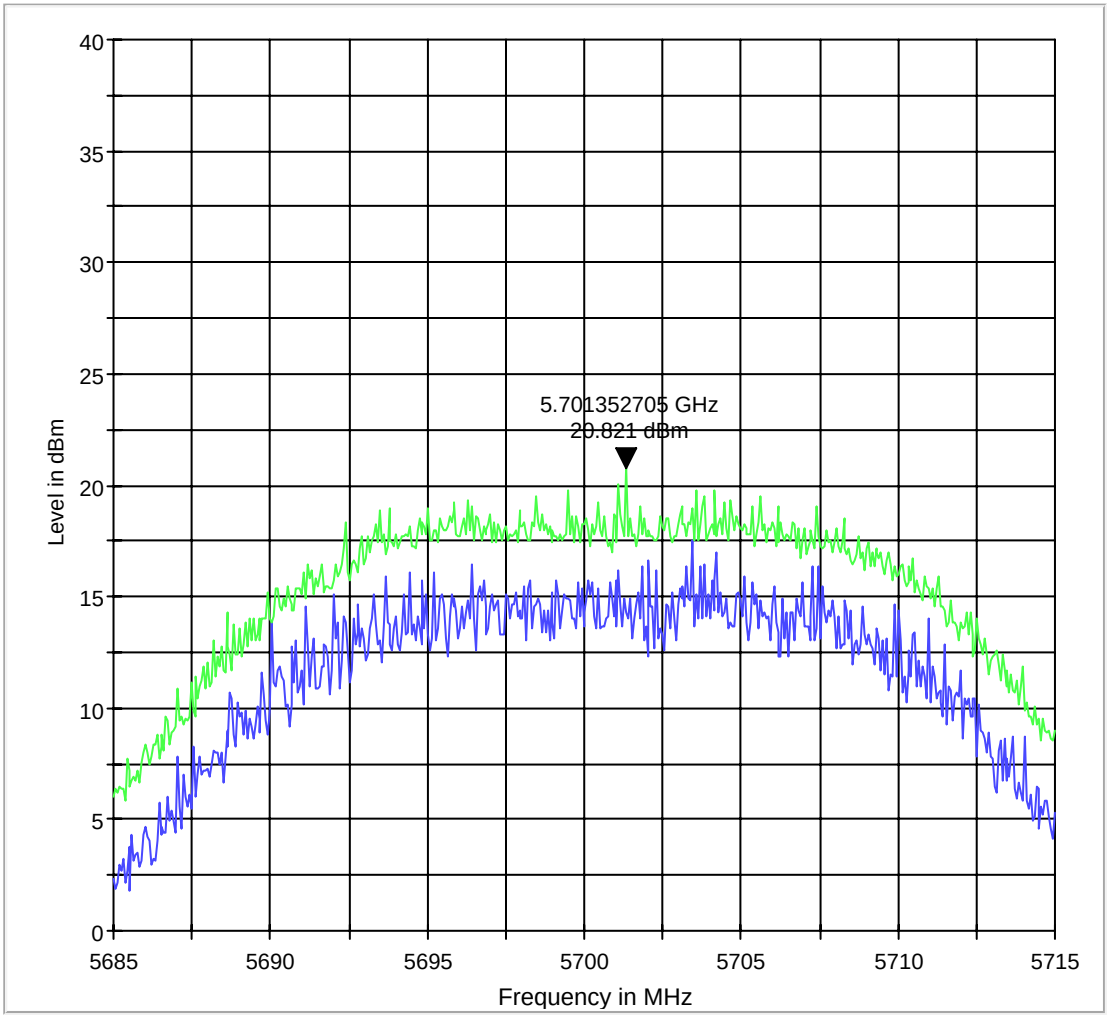
EIRP 5600 MHz

EIRP 5600 20MHz



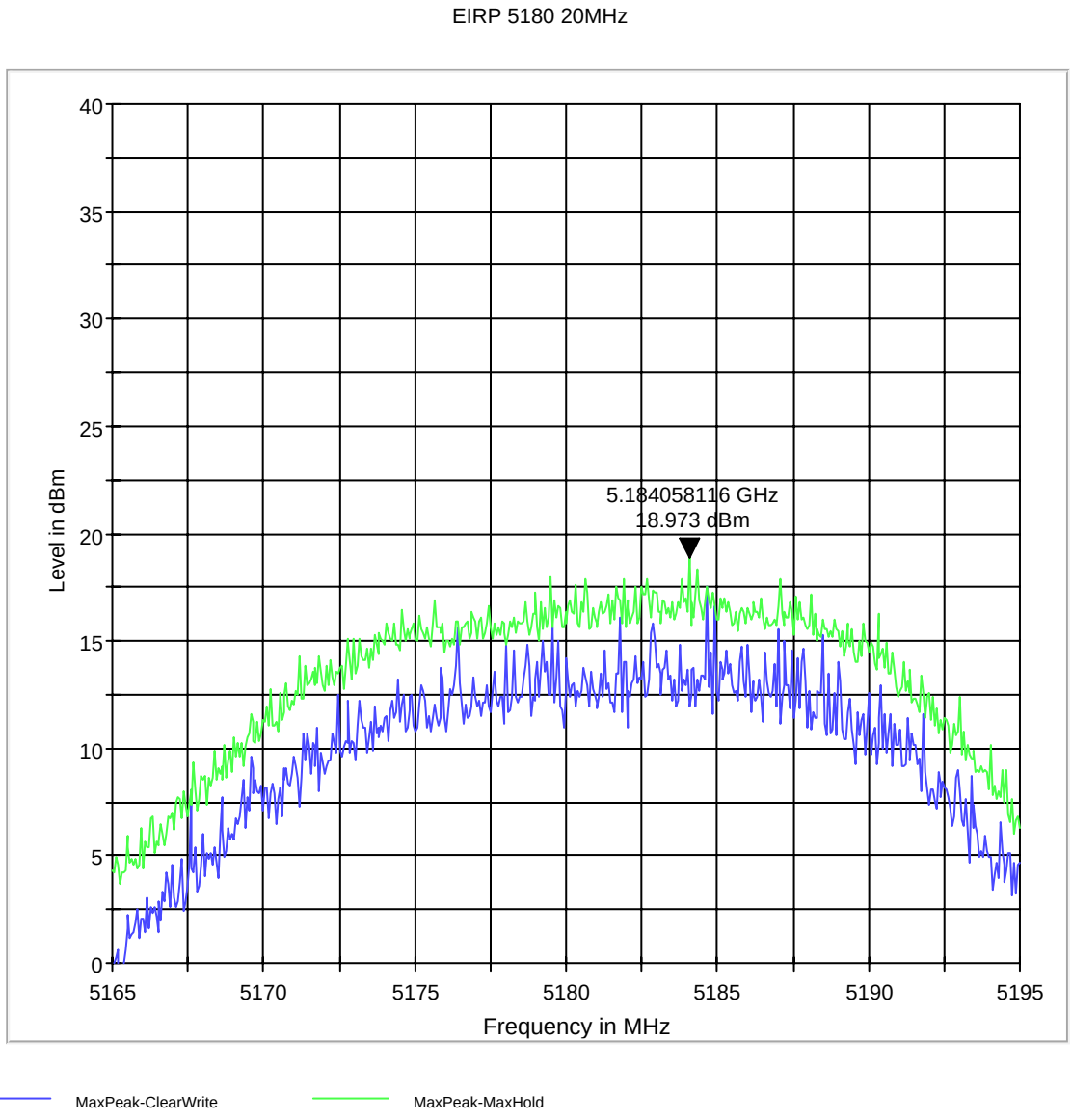
EIRP 5700 MHz

EIRP 5700 20MHz



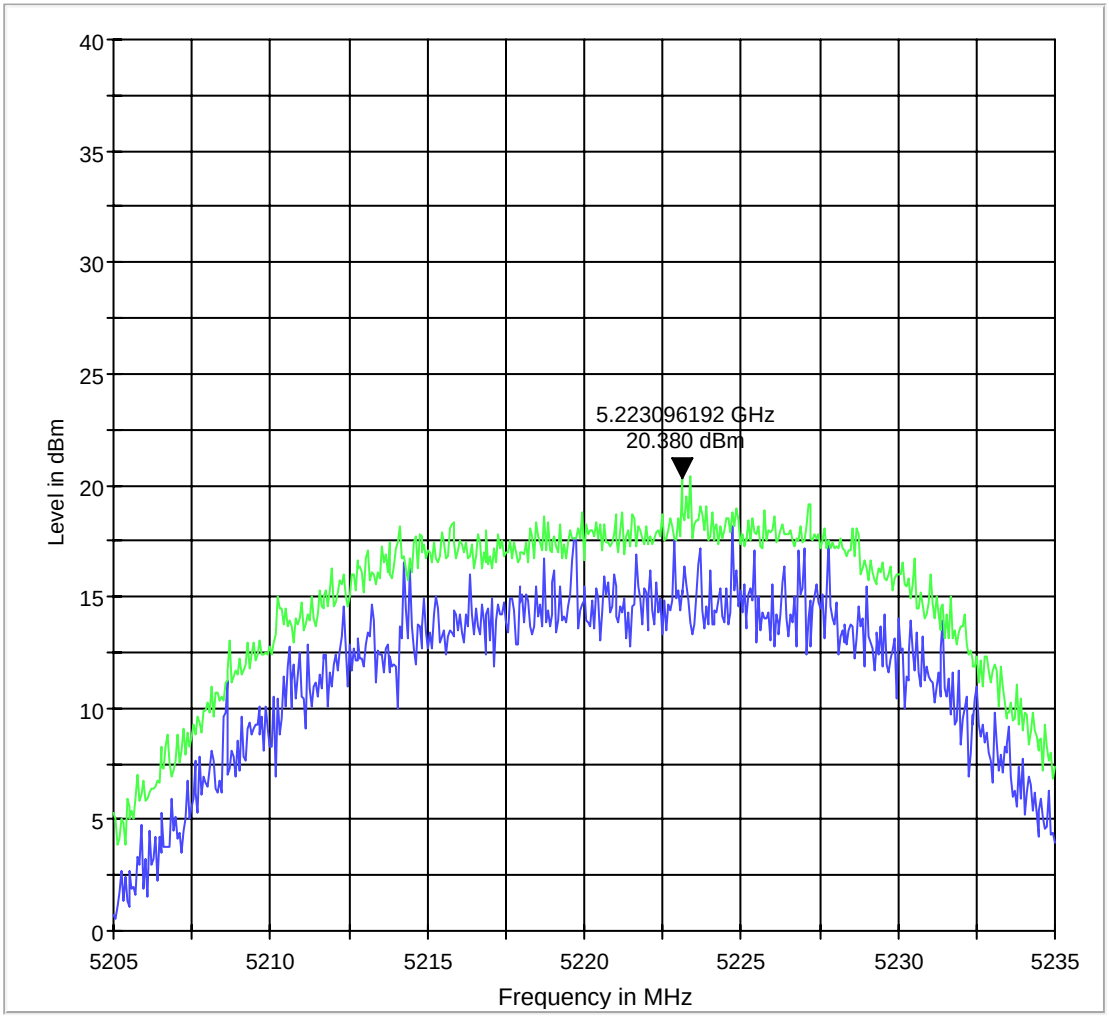
5.1.8 **802.11n HT20 mode chain B**

EIRP 5180 MHz



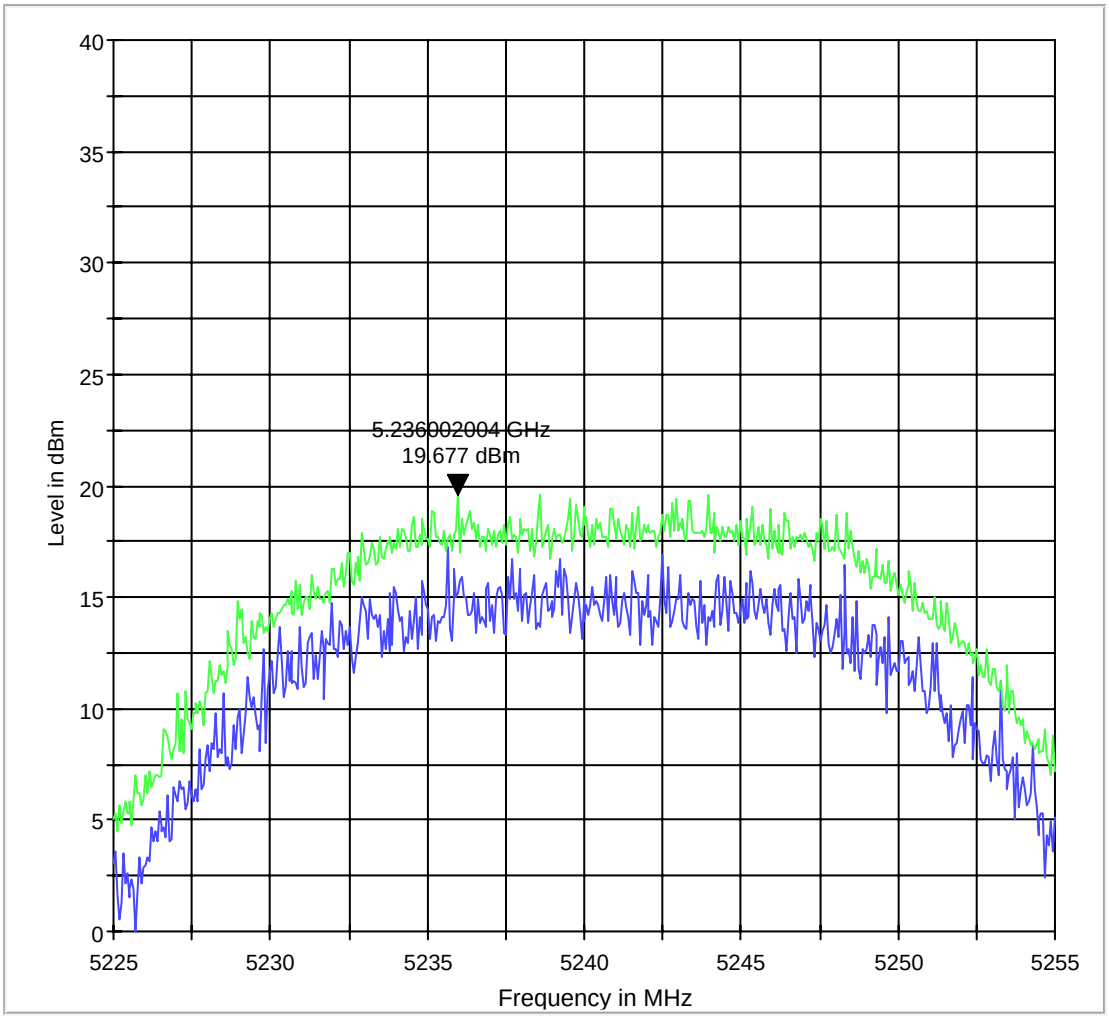
EIRP 5220 MHz

EIRP 5220 20MHz



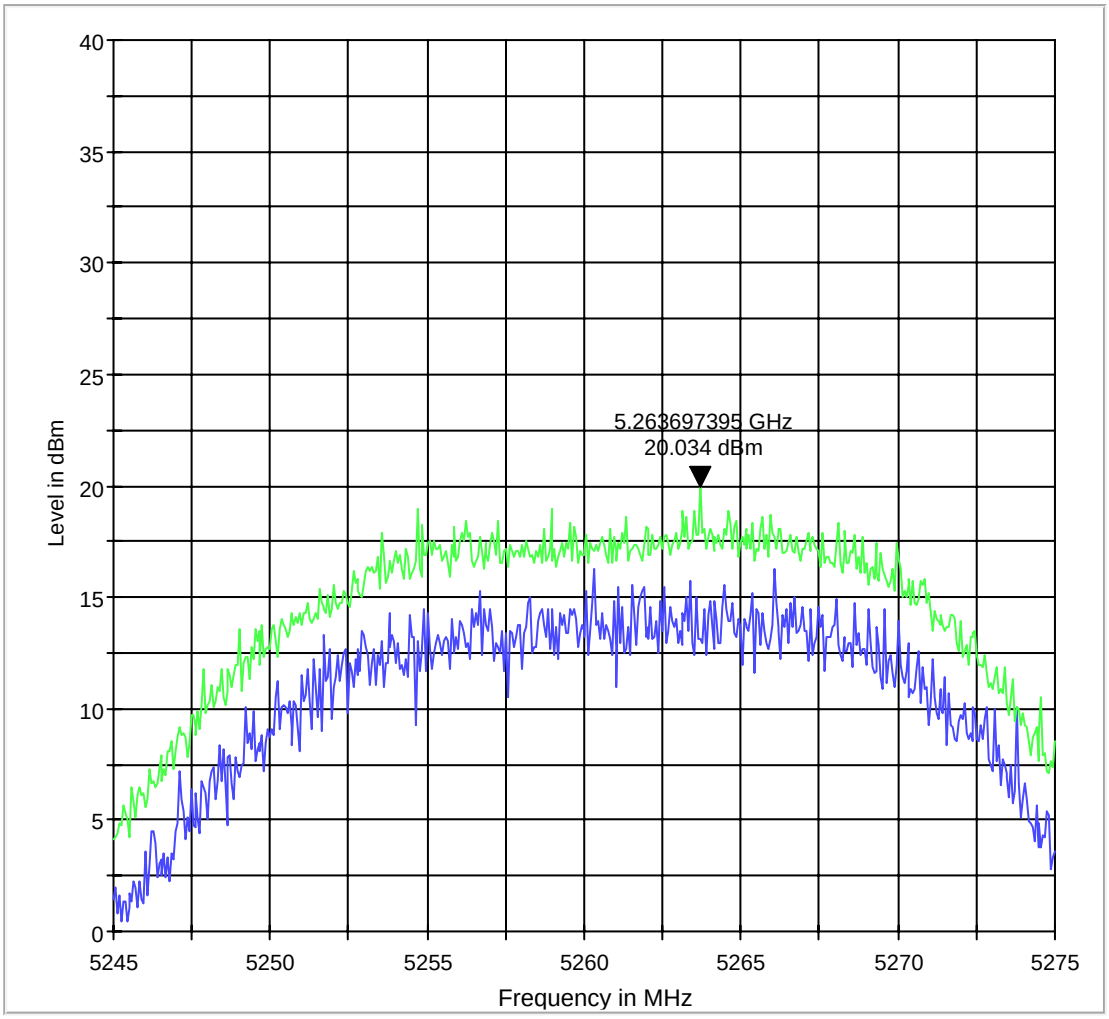
EIRP 5240 MHz

EIRP 5240 20MHz



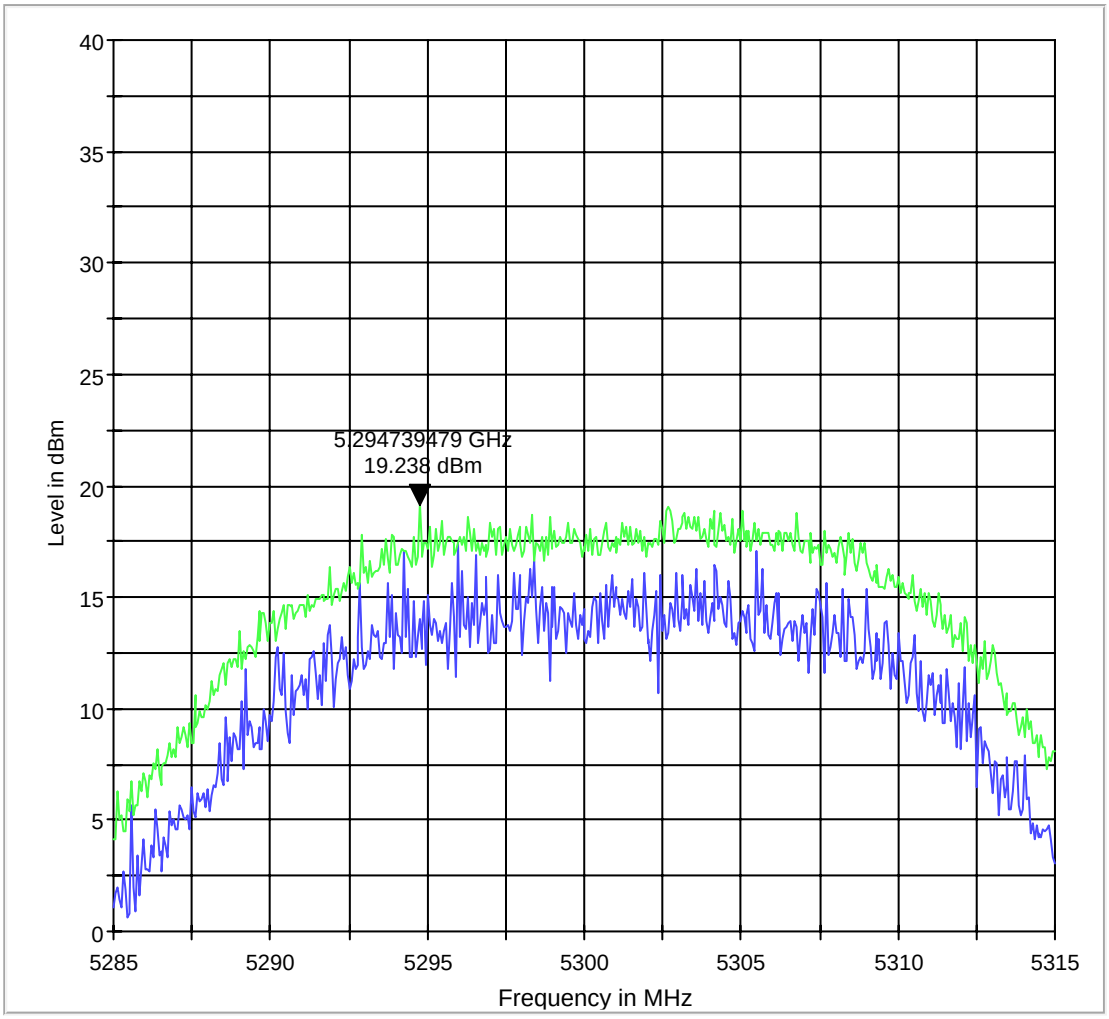
EIRP 5260 MHz

EIRP 5260 20MHz

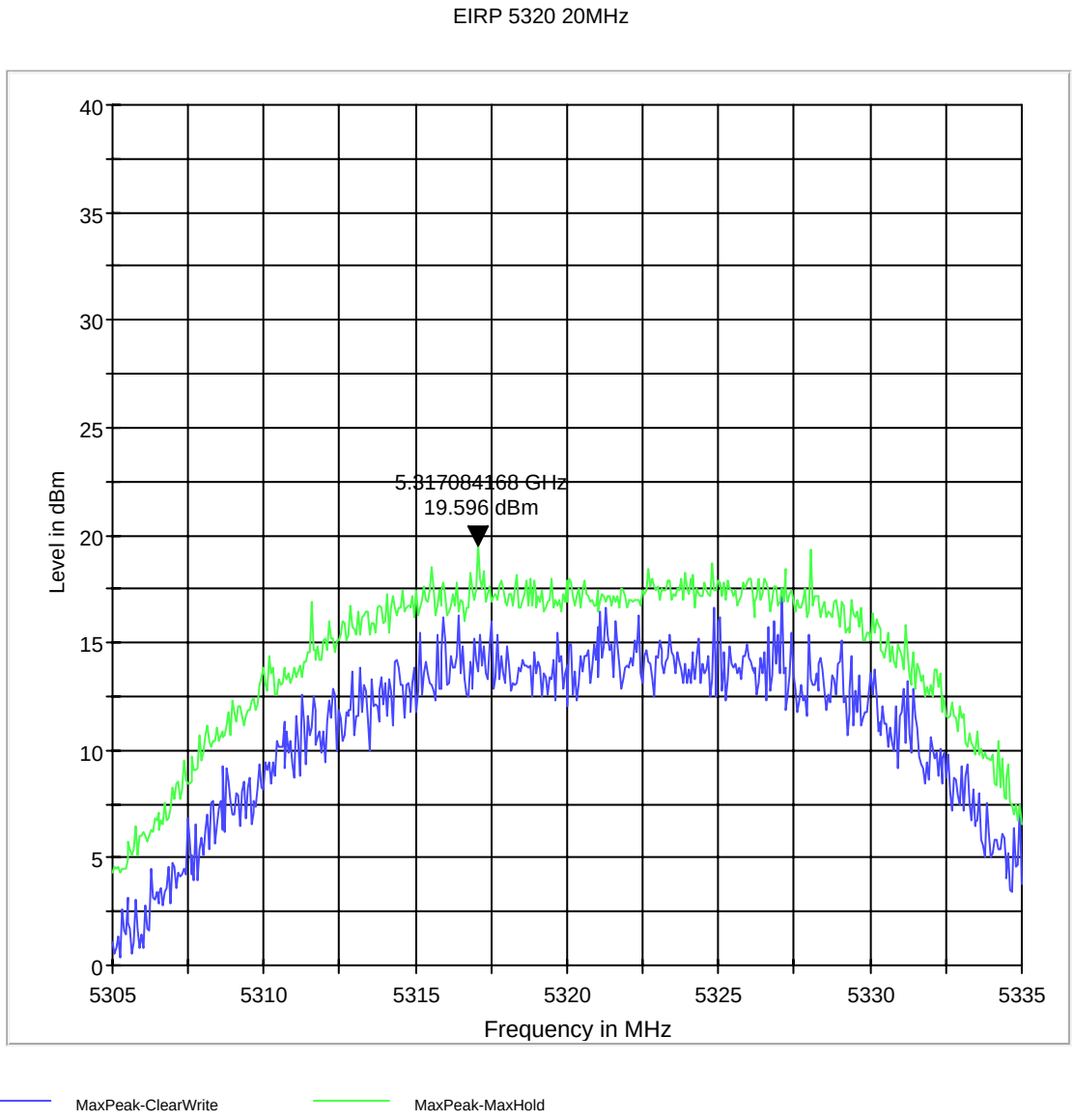


EIRP 5300 MHz

EIRP 5300 20MHz

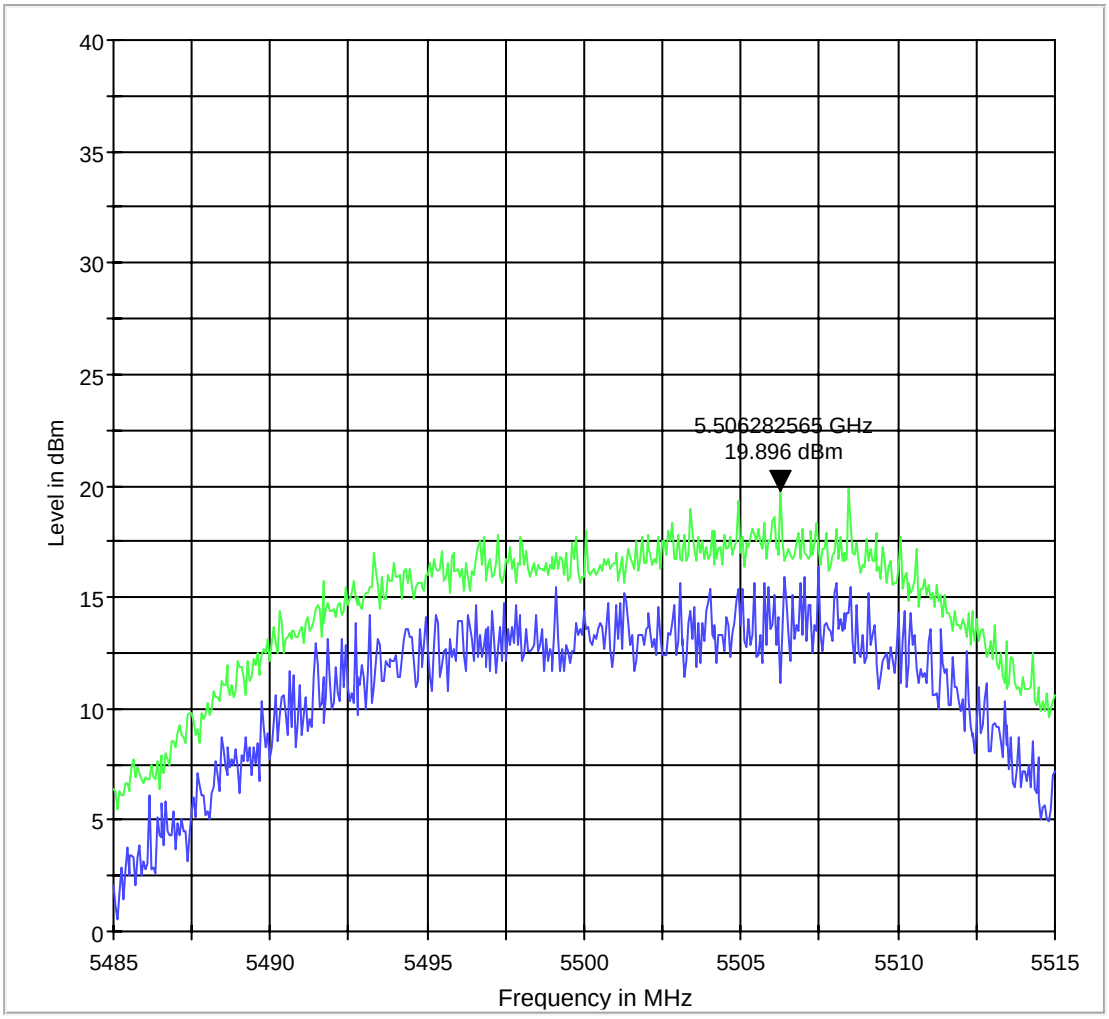


EIRP 5320 MHz

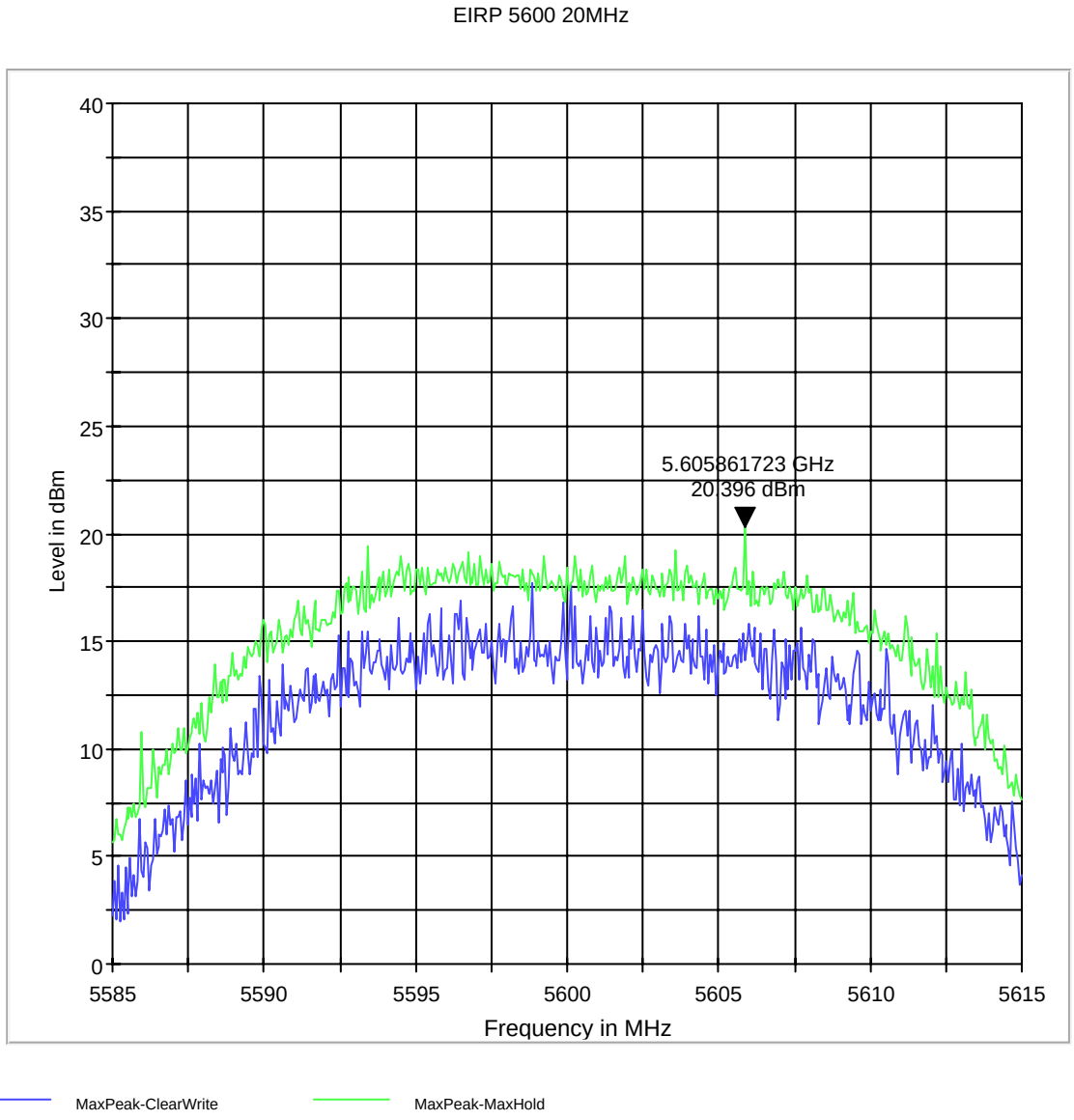


EIRP 5500 MHz

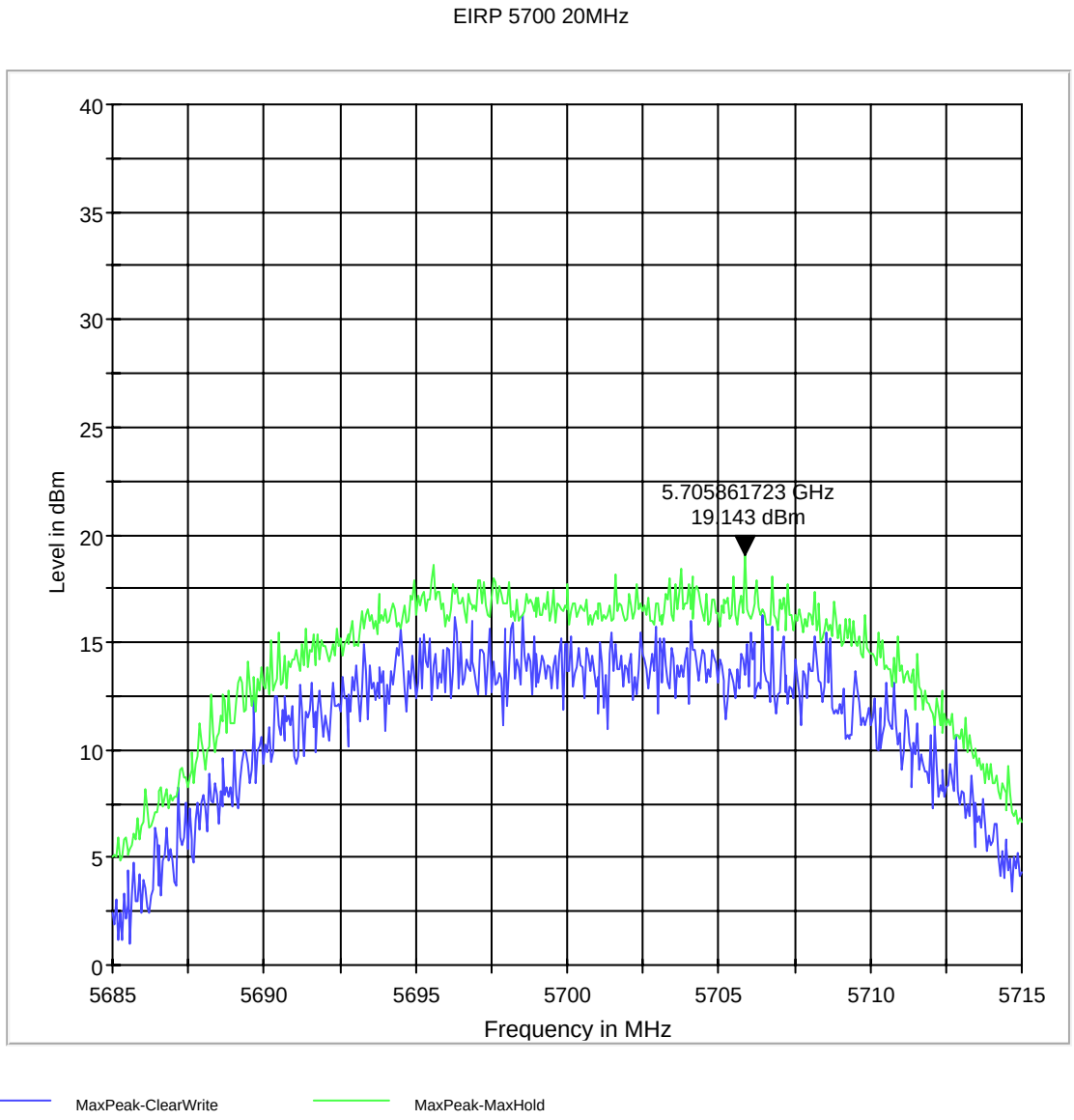
EIRP 5500 20MHz



EIRP 5600 MHz

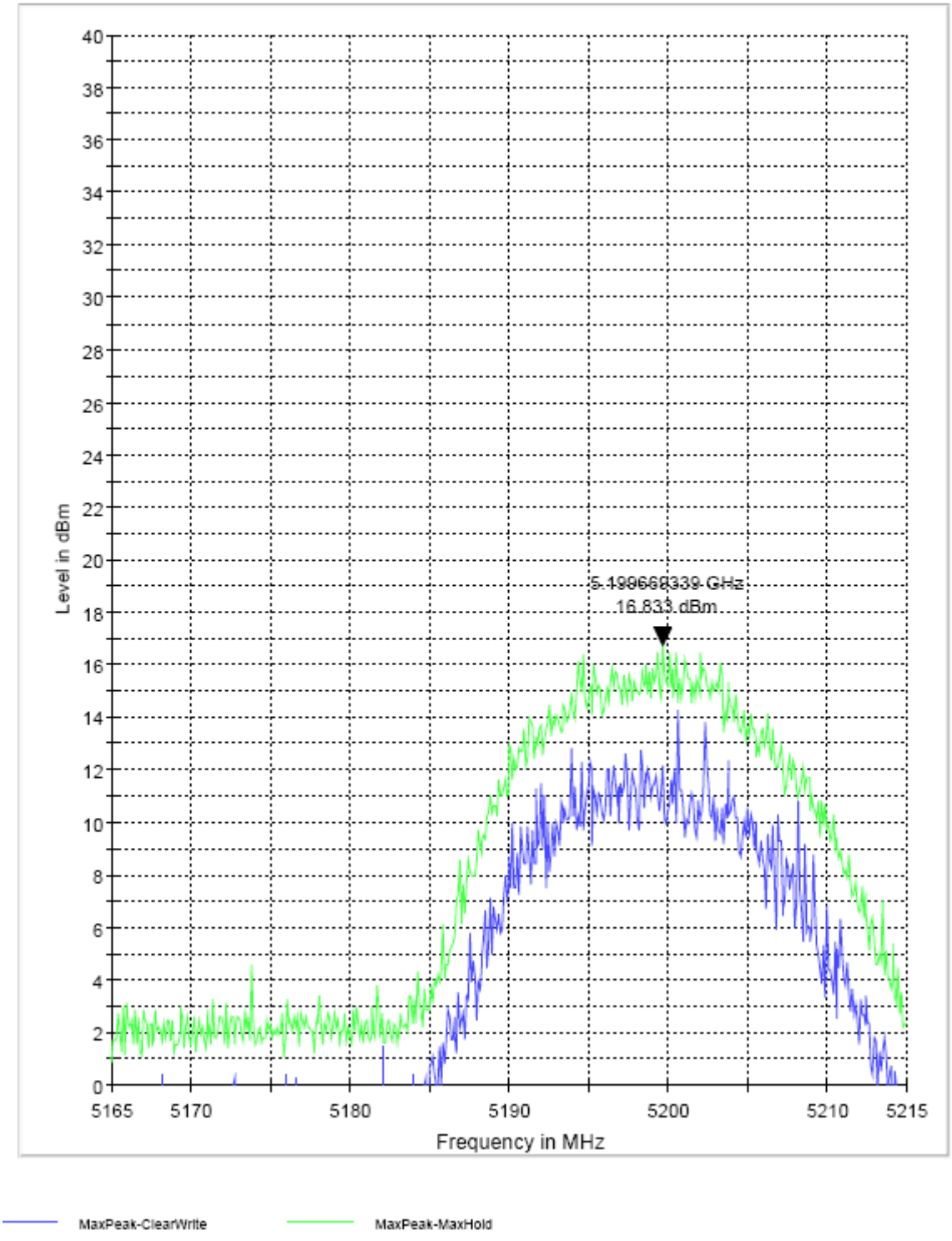


EIRP 5700 MHz



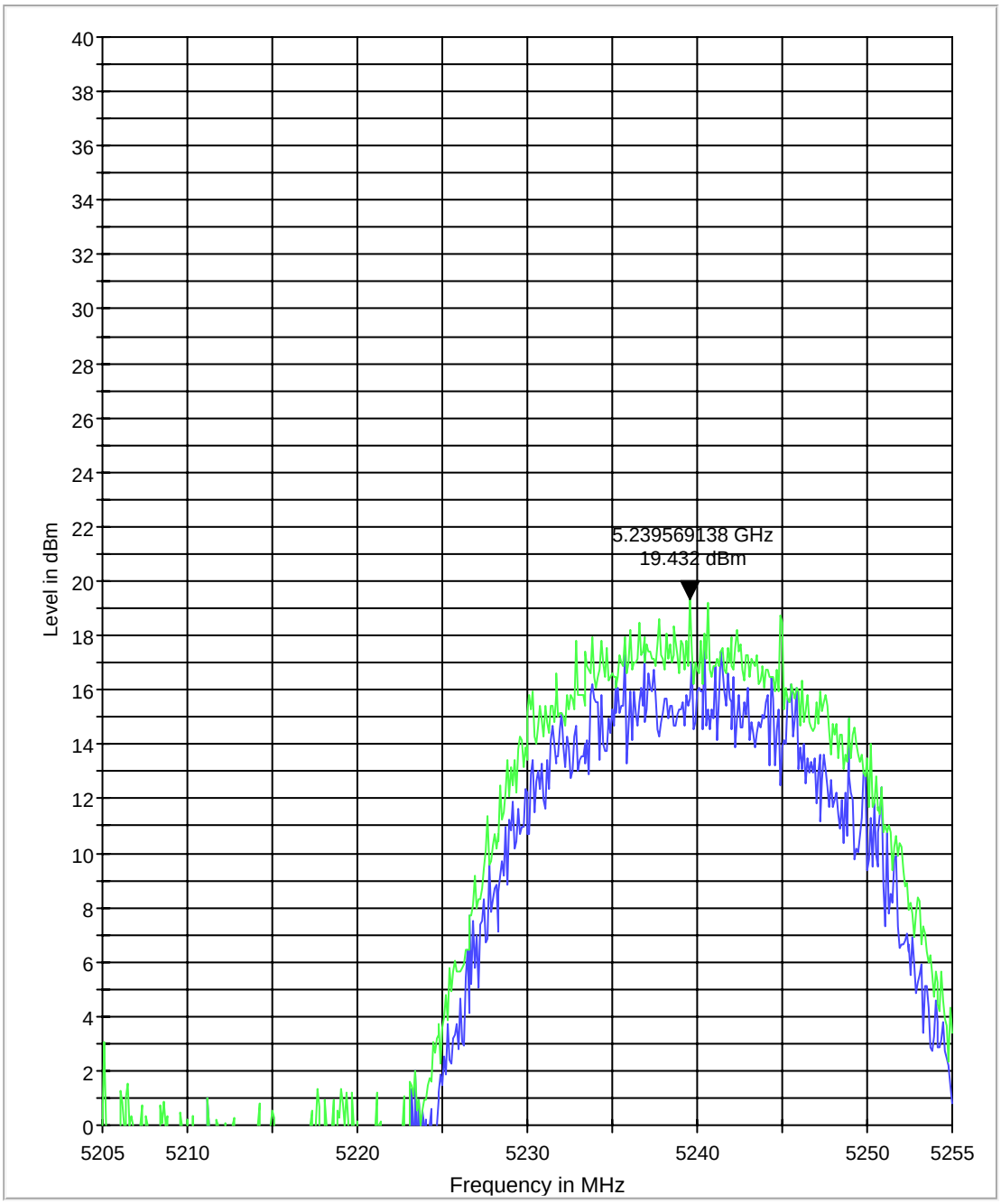
5.1.9 **802.11n HT40 mode CHAIN A**

EIRP 5190 MHz

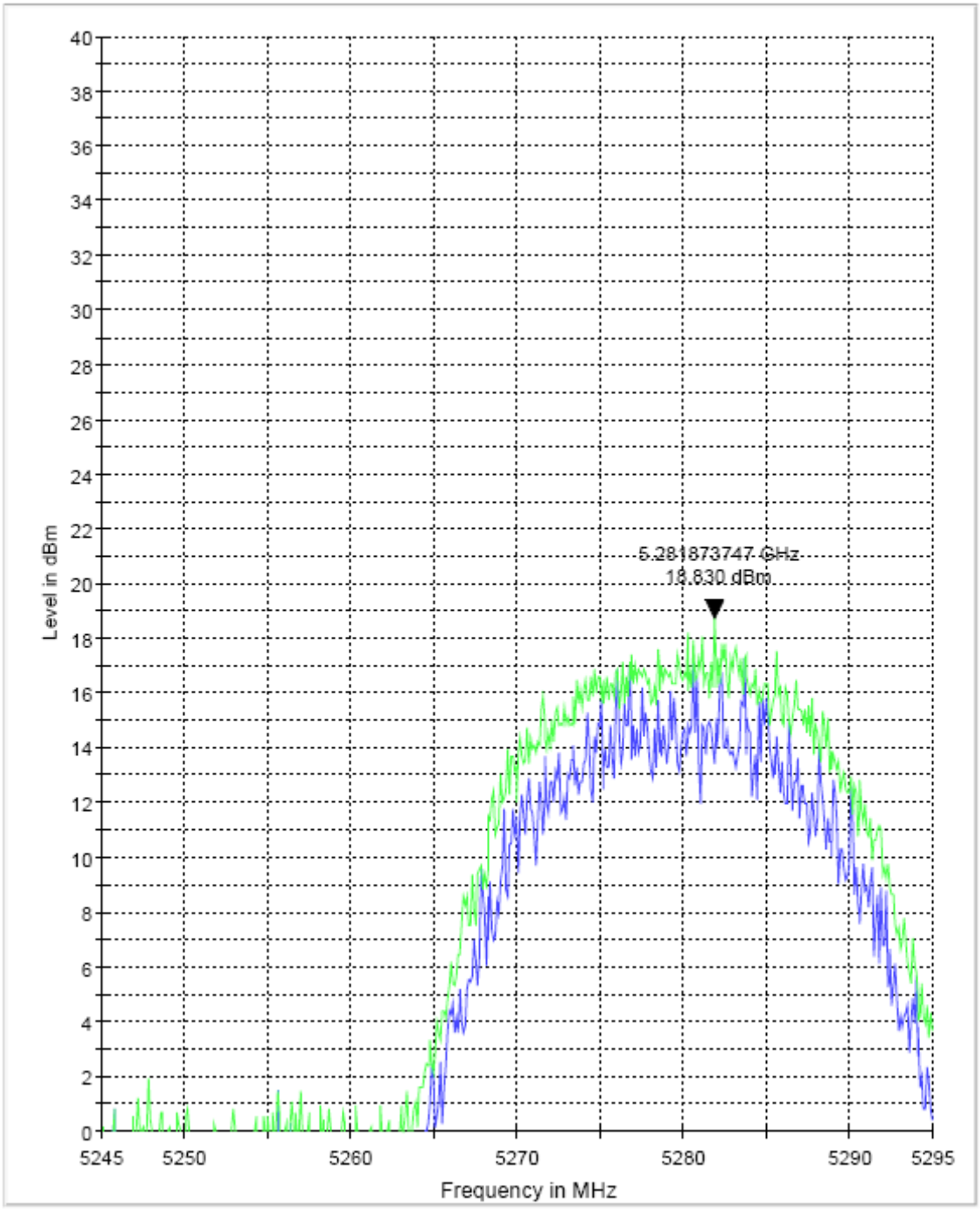


EIRP 5230 MHz

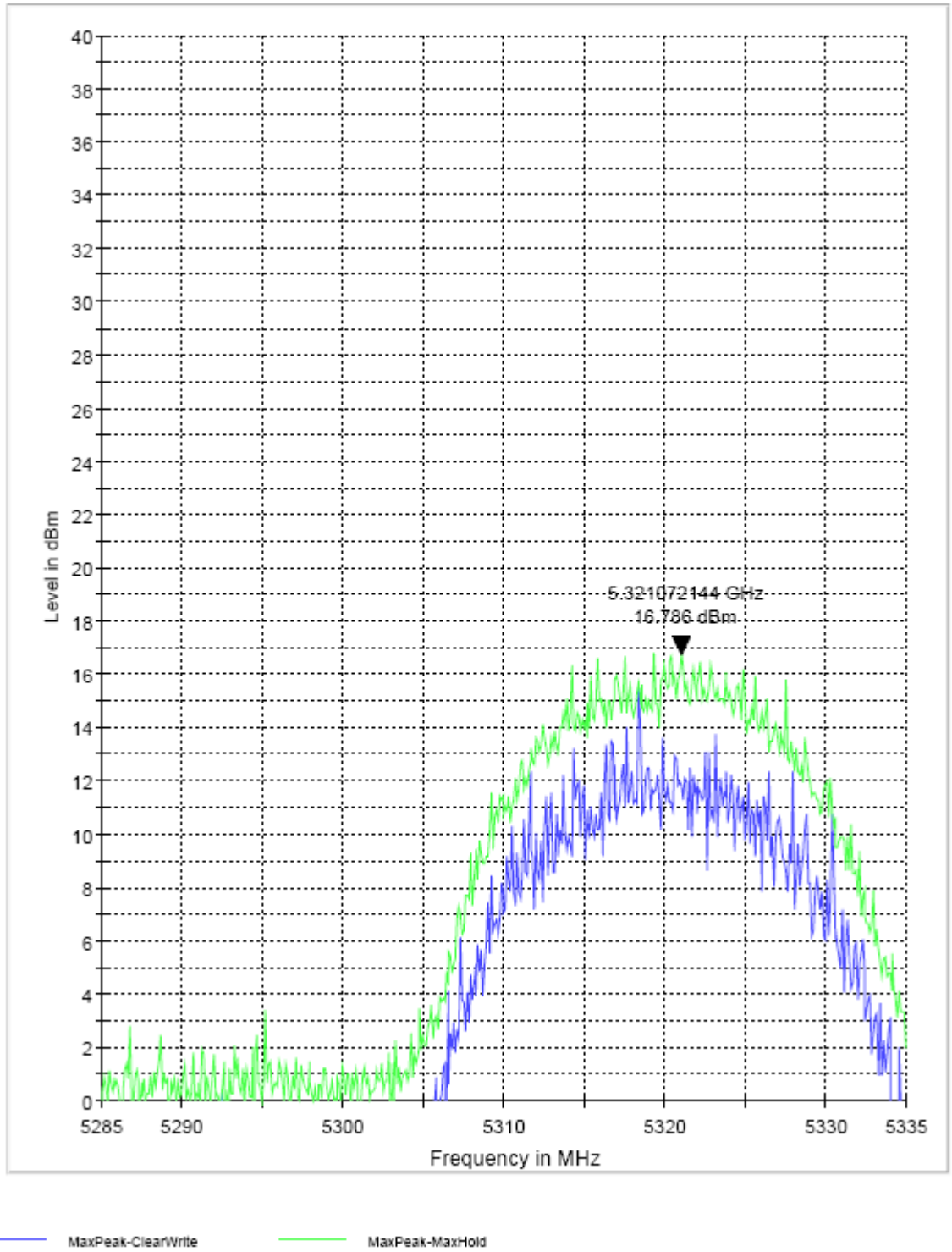
EIRP 5230 40MHz



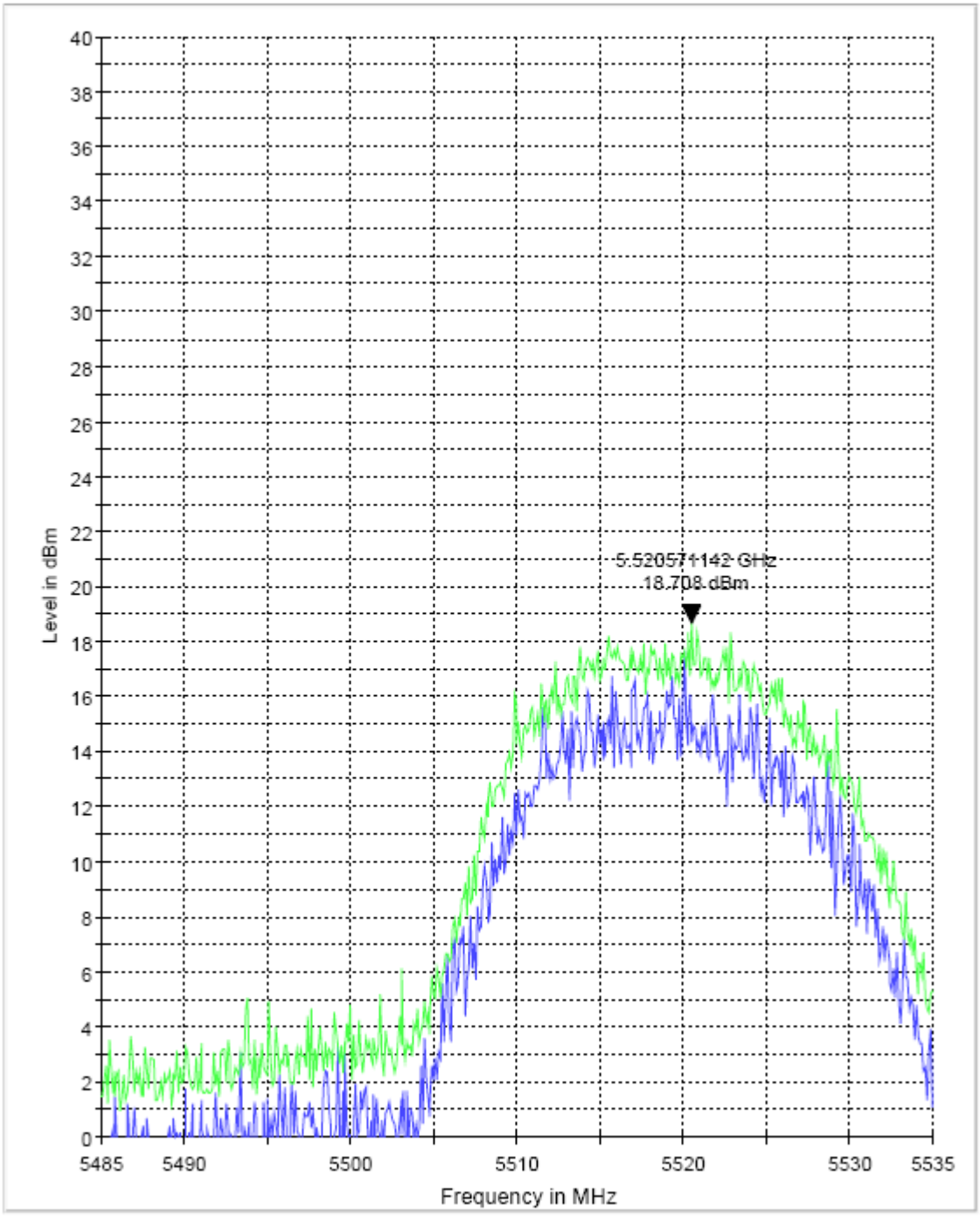
EIRP 5270 MHz



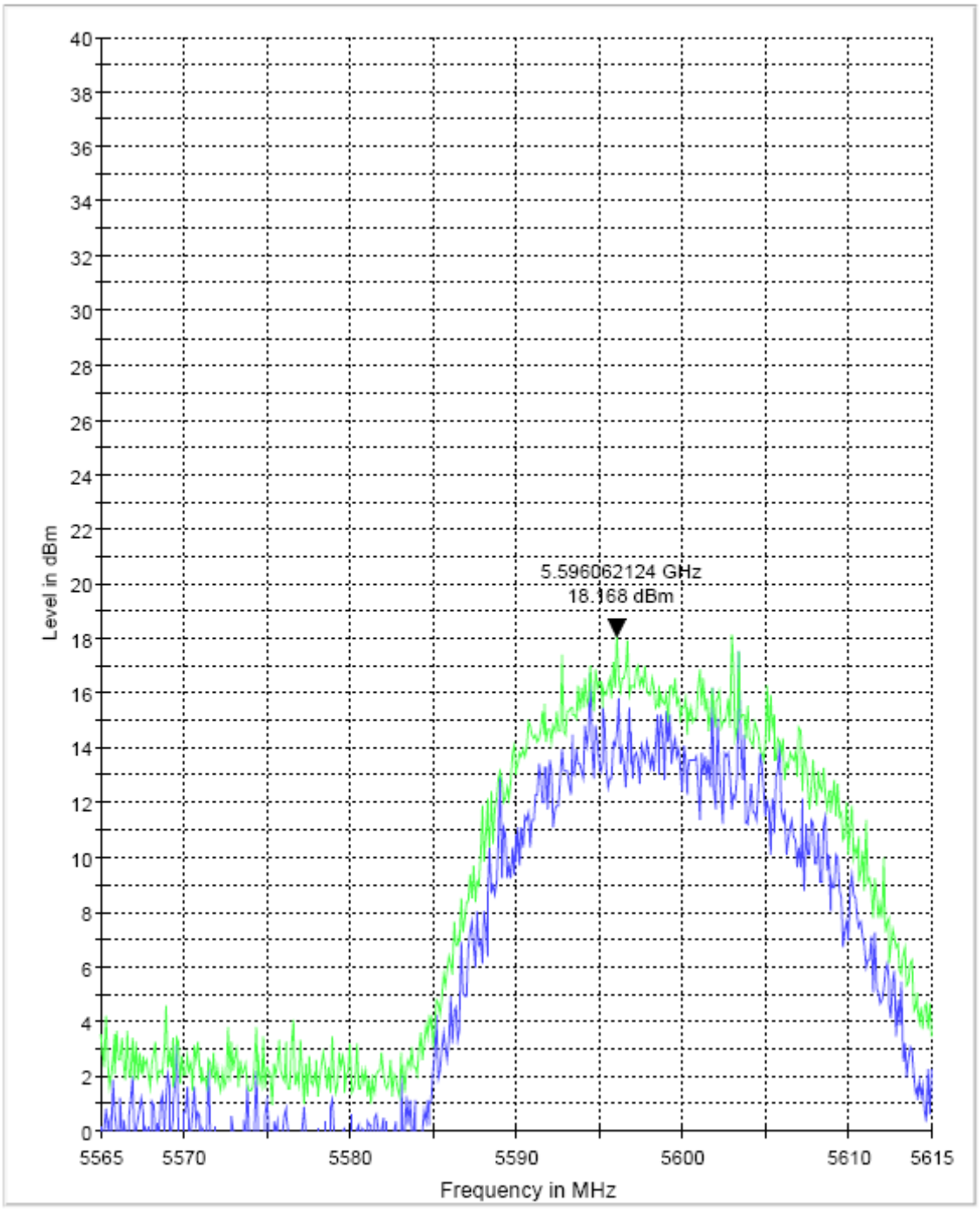
EIRP 5310 MHz



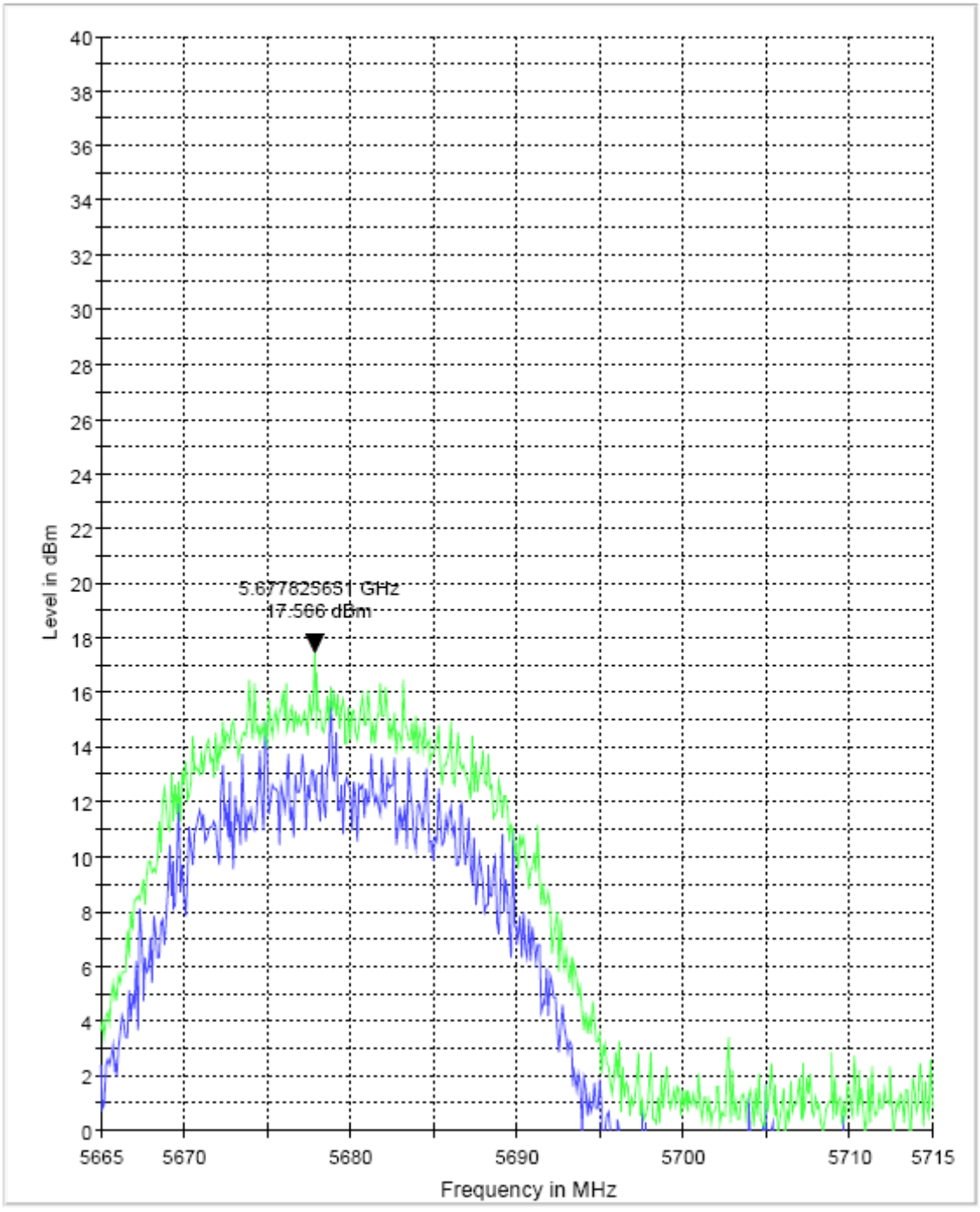
EIRP 5510 MHz



EIRP 5590 MHz

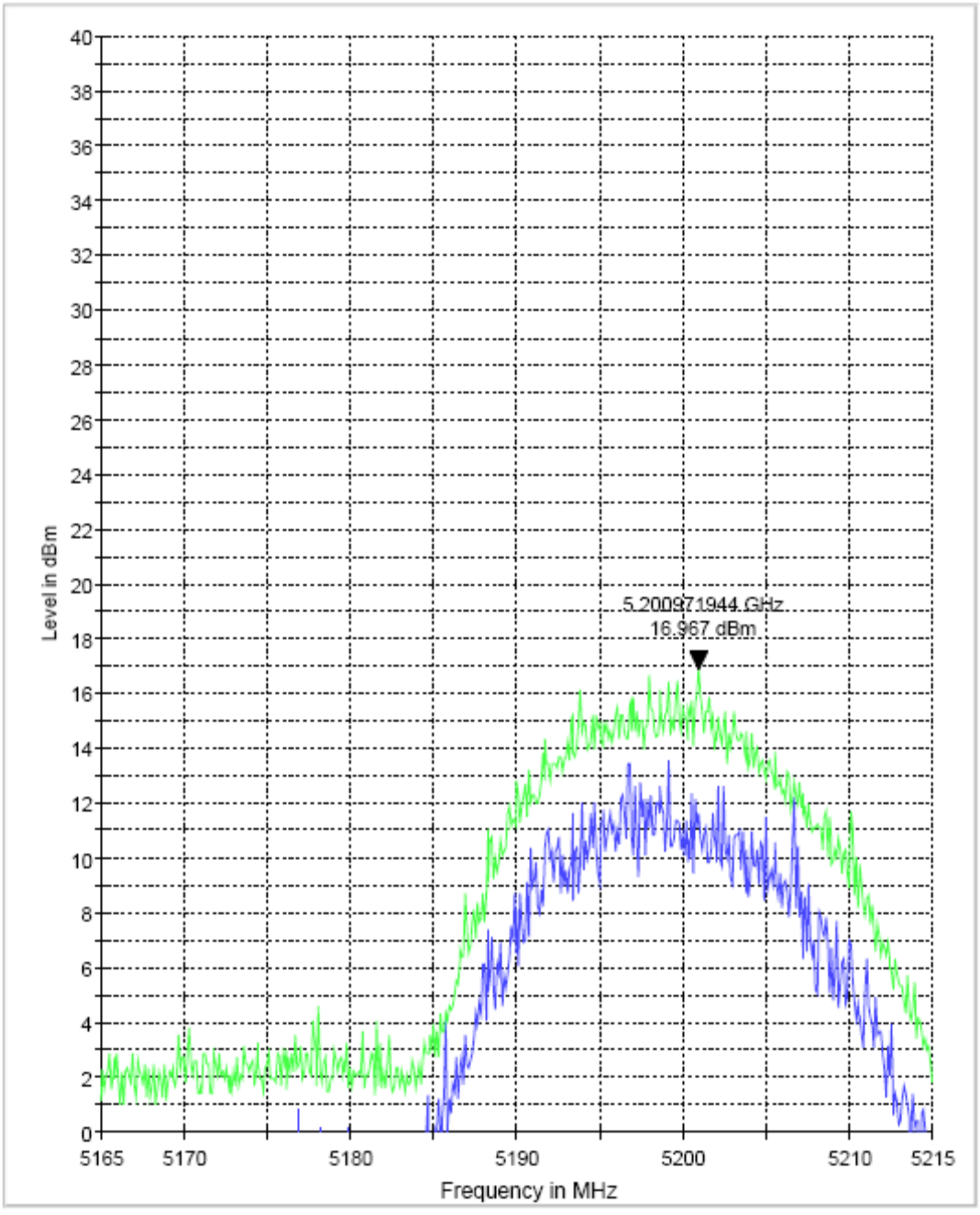


EIRP 5670 MHz

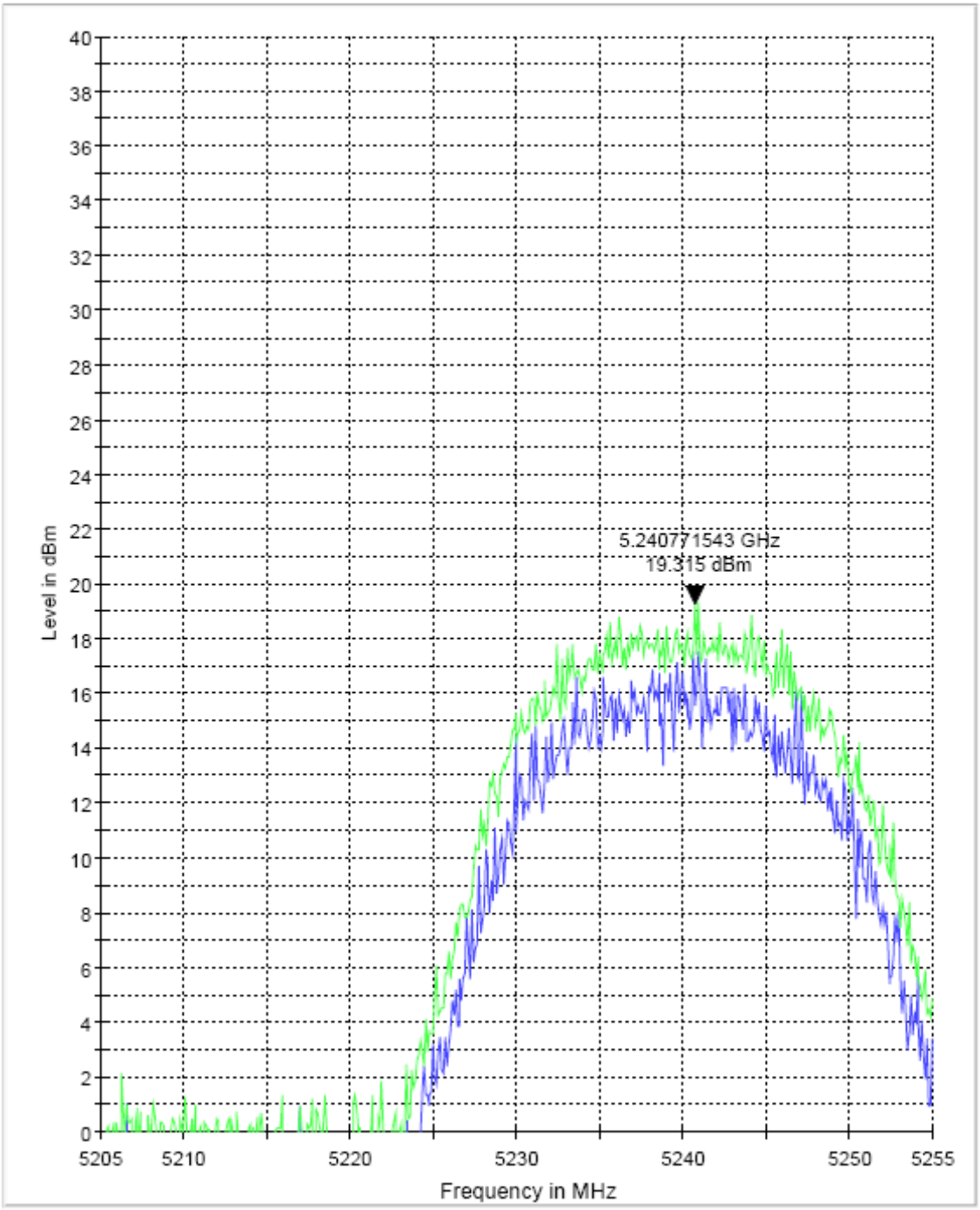


5.1.10 **802.11n HT40 mode CHAIN B**

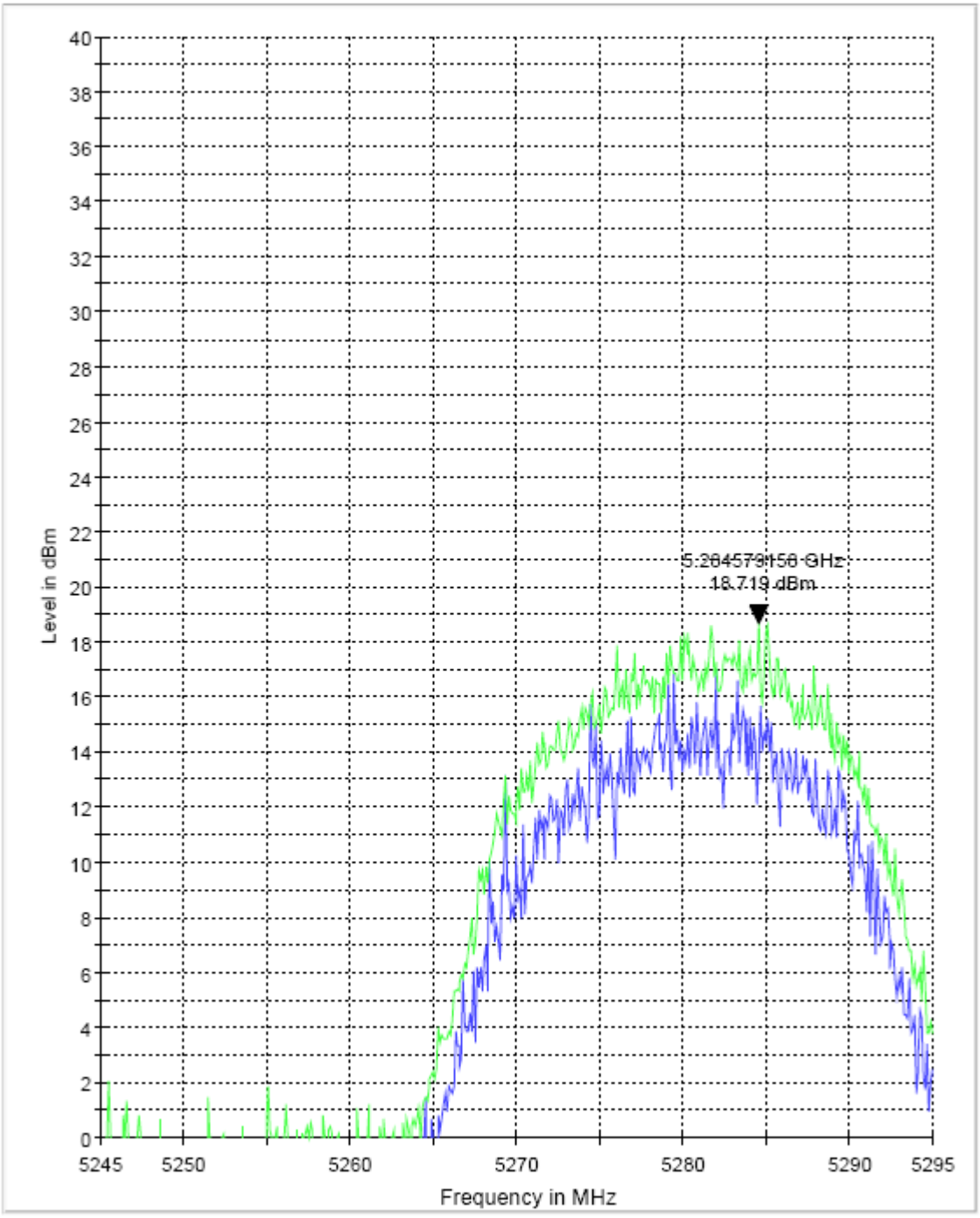
EIRP 5190 MHz



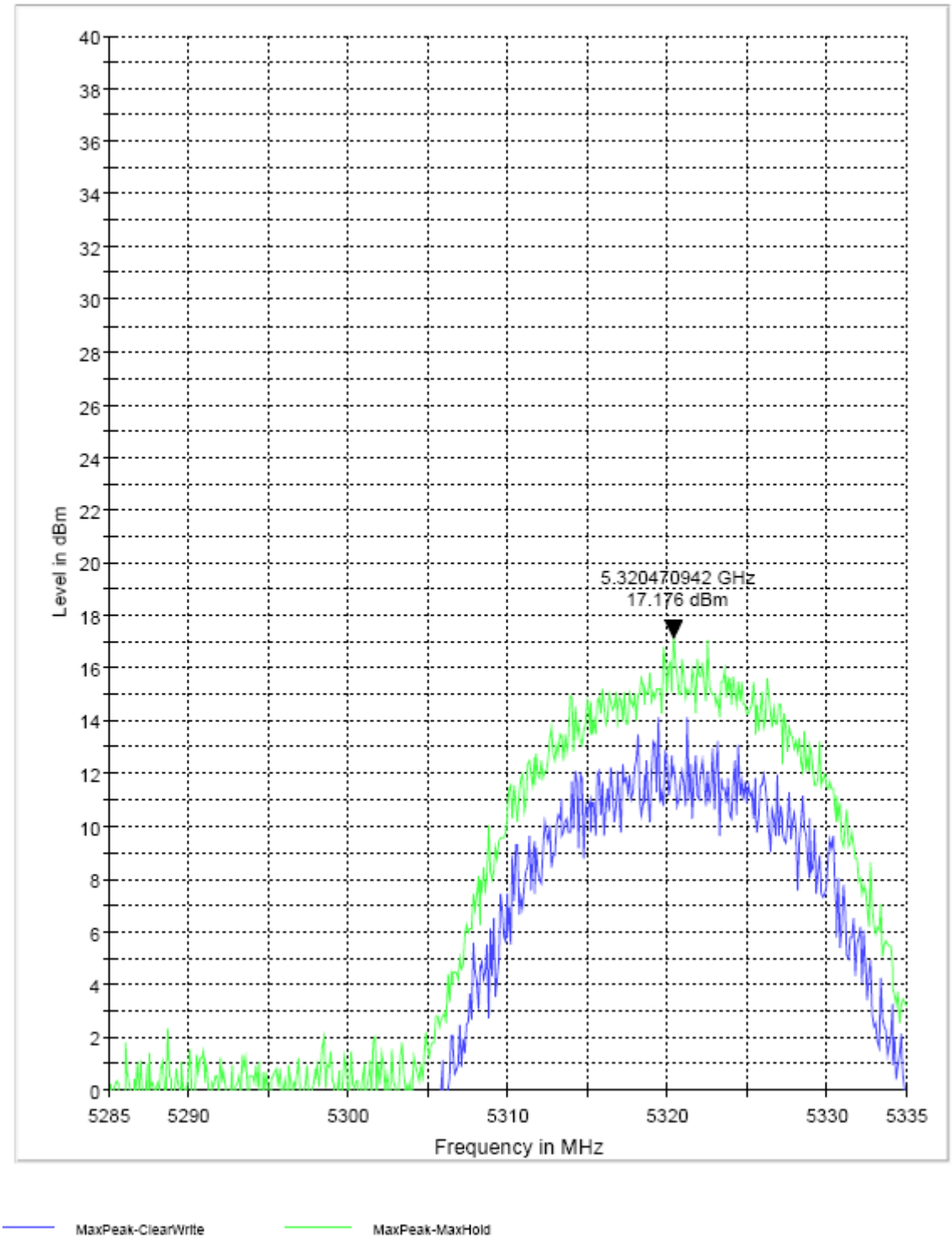
EIRP 5230 MHz



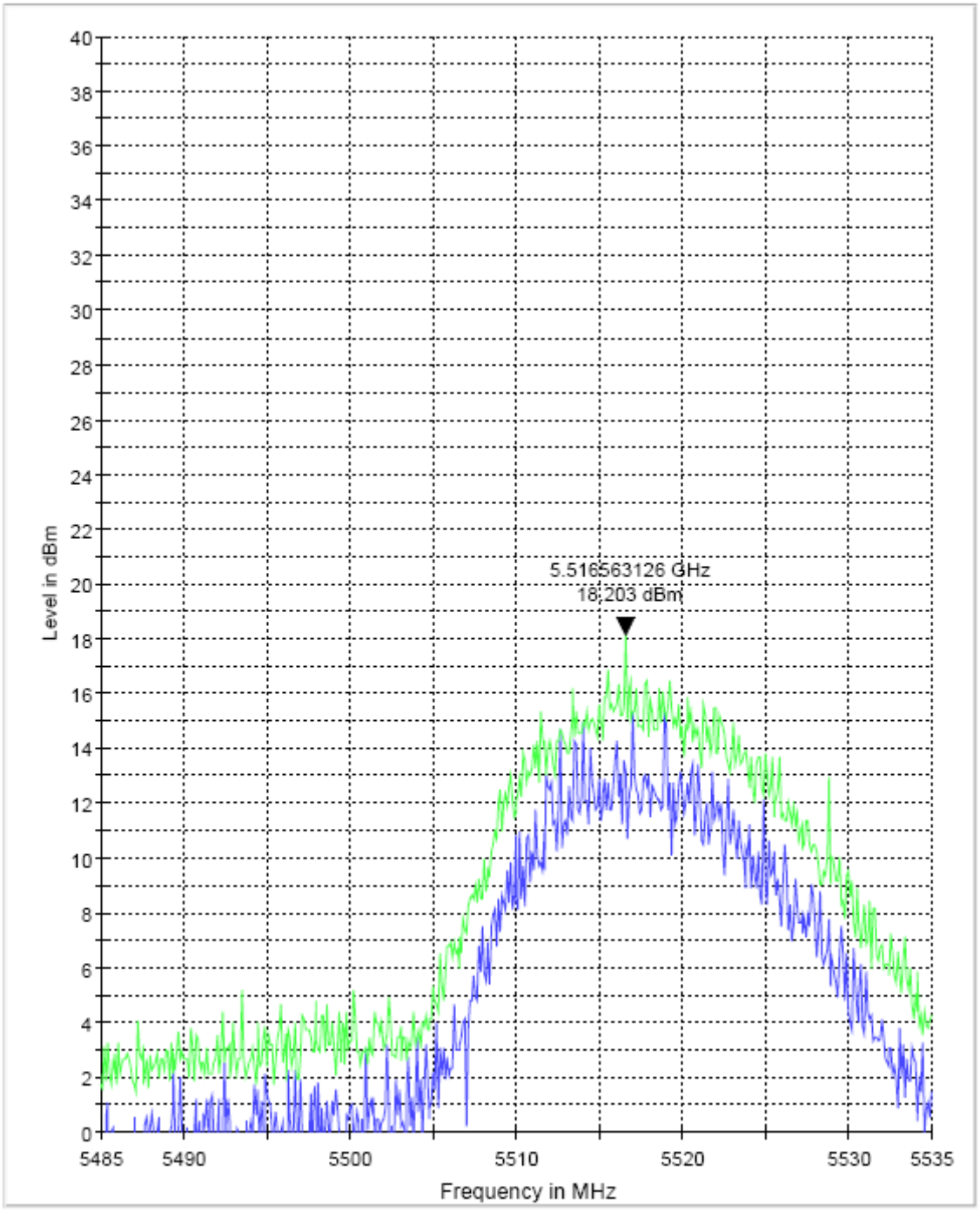
EIRP 5270 MHz



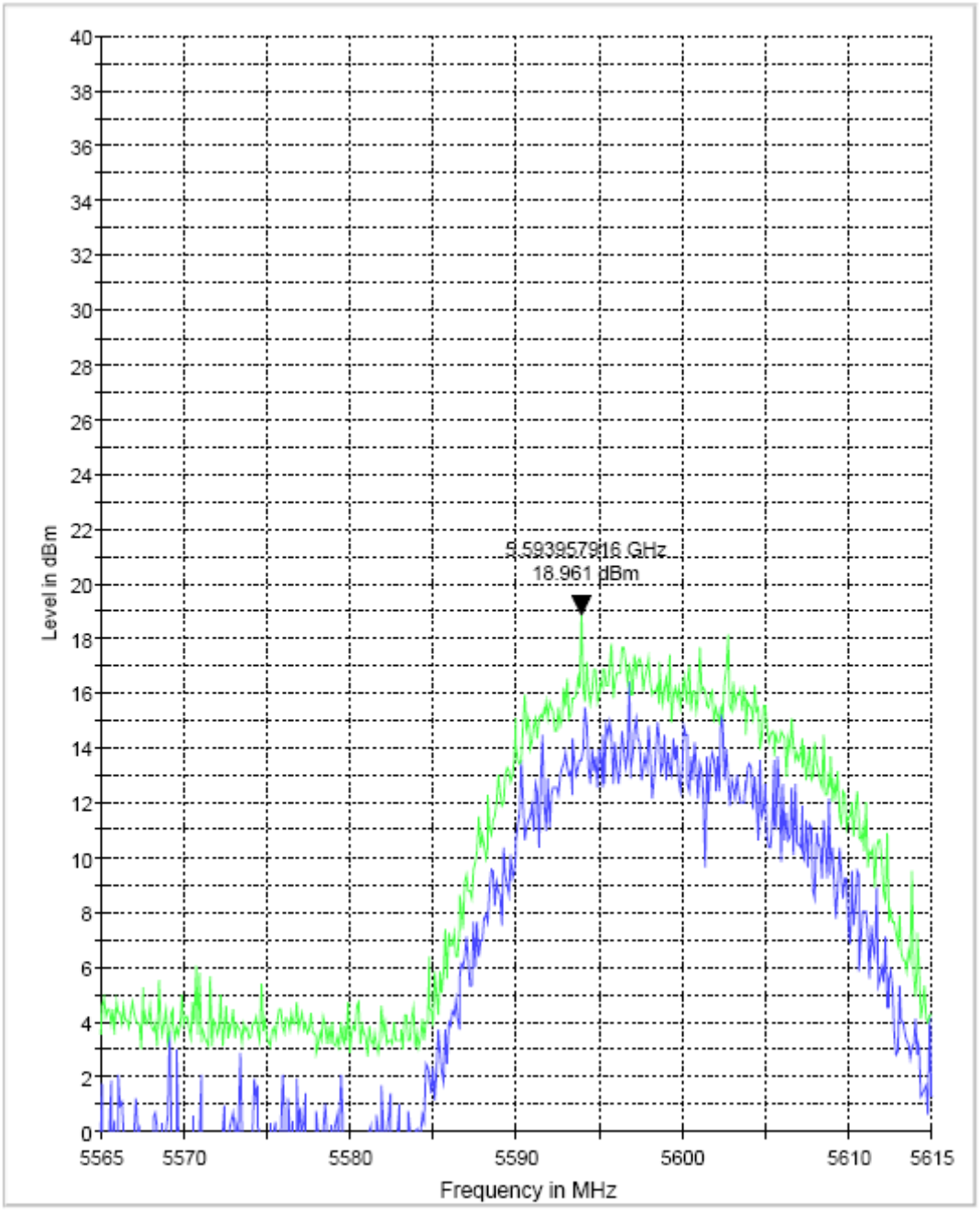
EIRP 5310 MHz



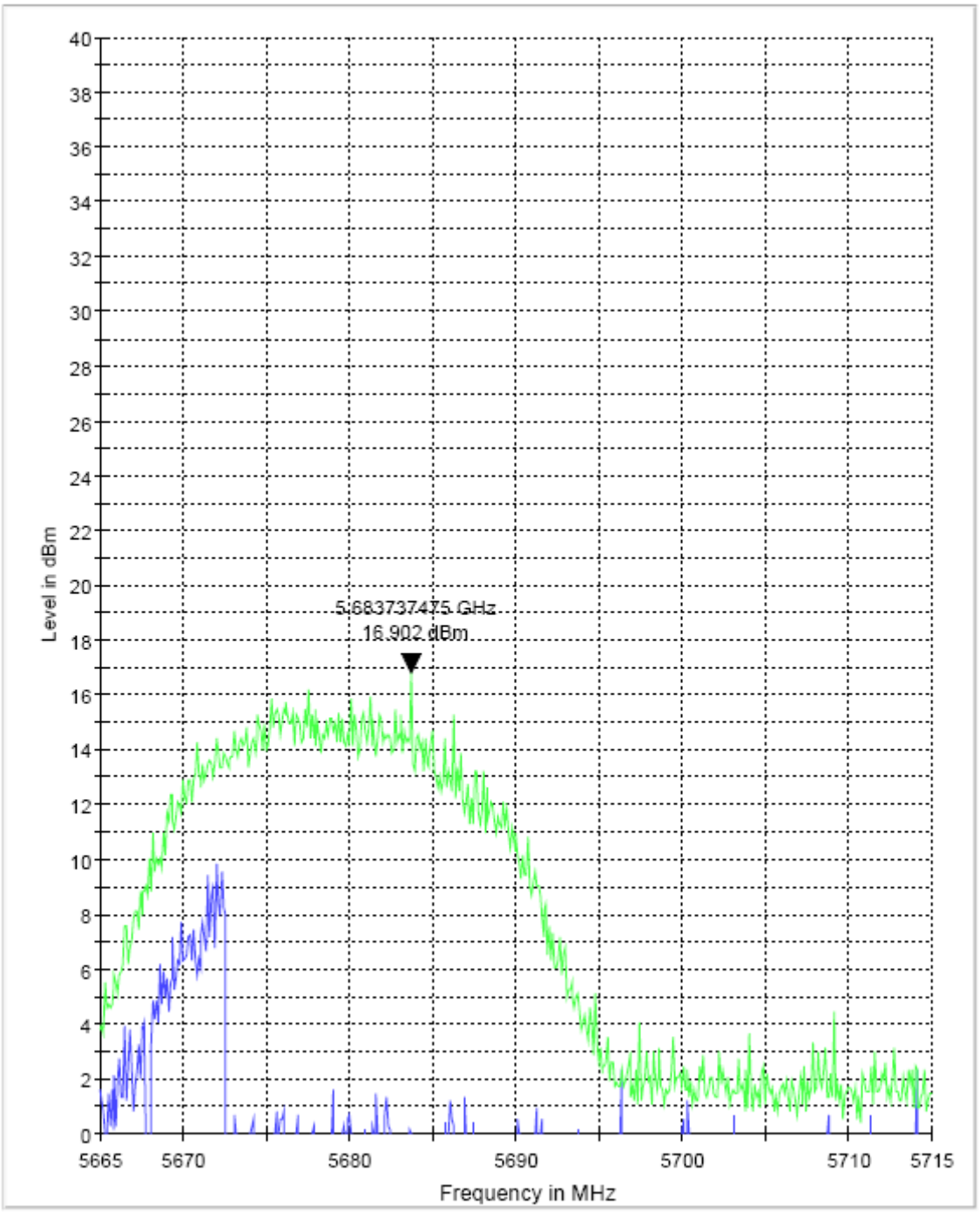
EIRP 5510 MHz



EIRP 5590 MHz



EIRP 5670 MHz



5.2 Restricted Band Edge Compliance §15.407(b)/15.205

5.2.1 Limits

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

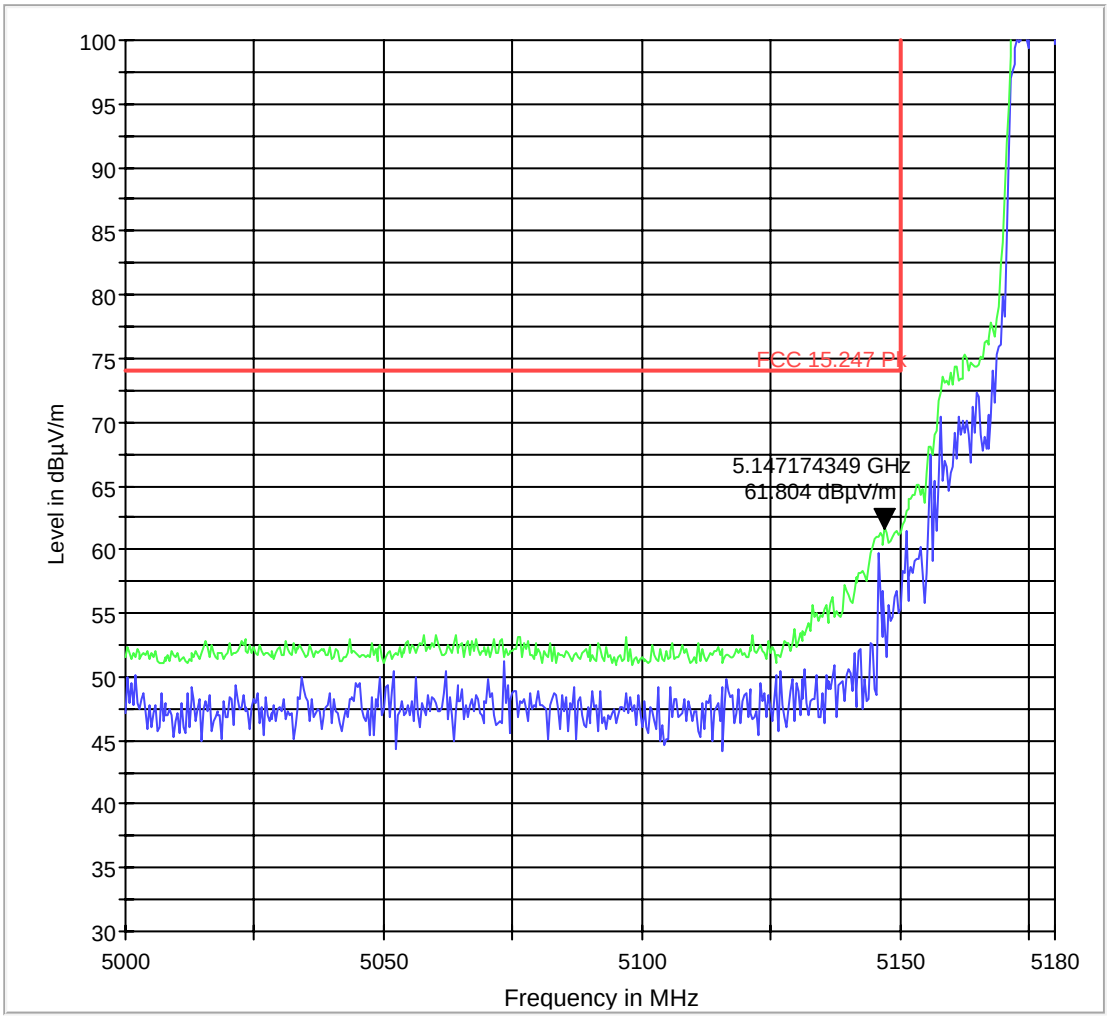
***PEAK LIMIT= 74dBuV/m**
***AVG. LIMIT= 54dBuV/m**

Test conducted in radiated mode with all three antenna ports transmitting.
Note: Higher output power values were observed in 802.11n HT 20 mode as opposed to 802.11a mode and hence measurements were performed in 802.11 HT 20 mode alone.

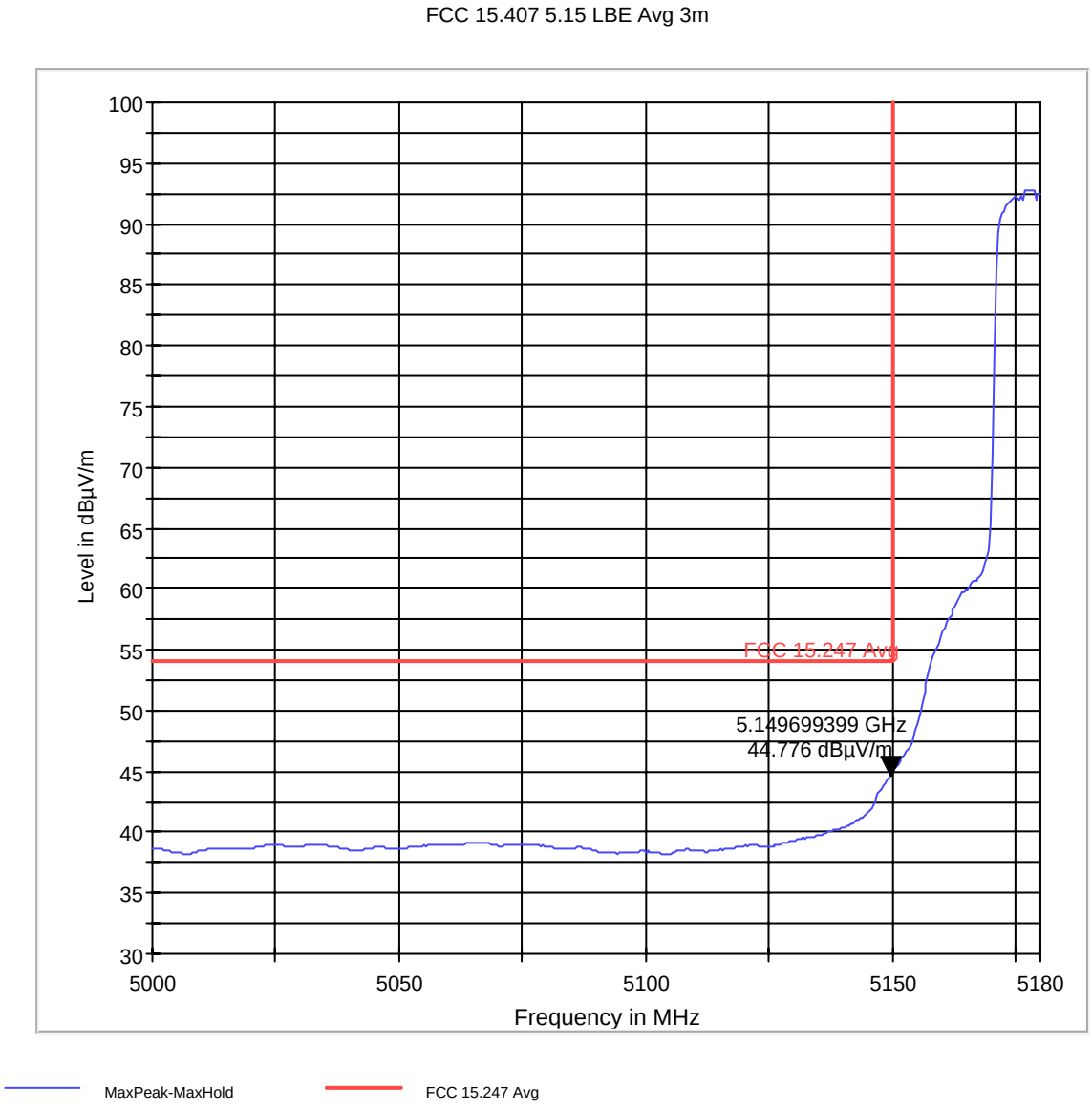
5.2.2 **802.11n HT20 mode**
Chain A

Sub-band 1: Frequency 5180 MHz: Lower band edge PEAK chain A

FCC 15.407 5.15 LBE Pk 3m

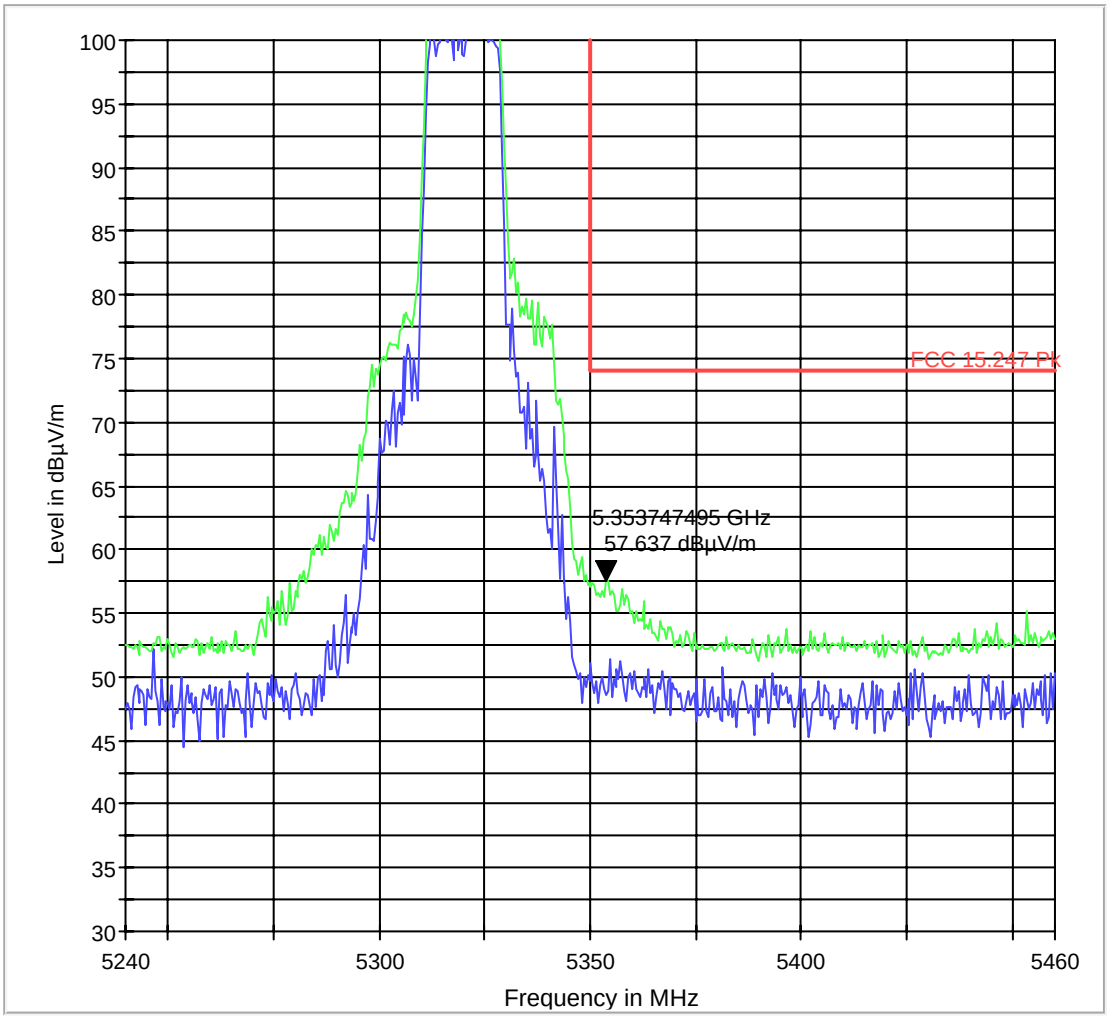


Sub-band 1: Frequency 5180 MHz: Lower band edge AVERAGE Chain A

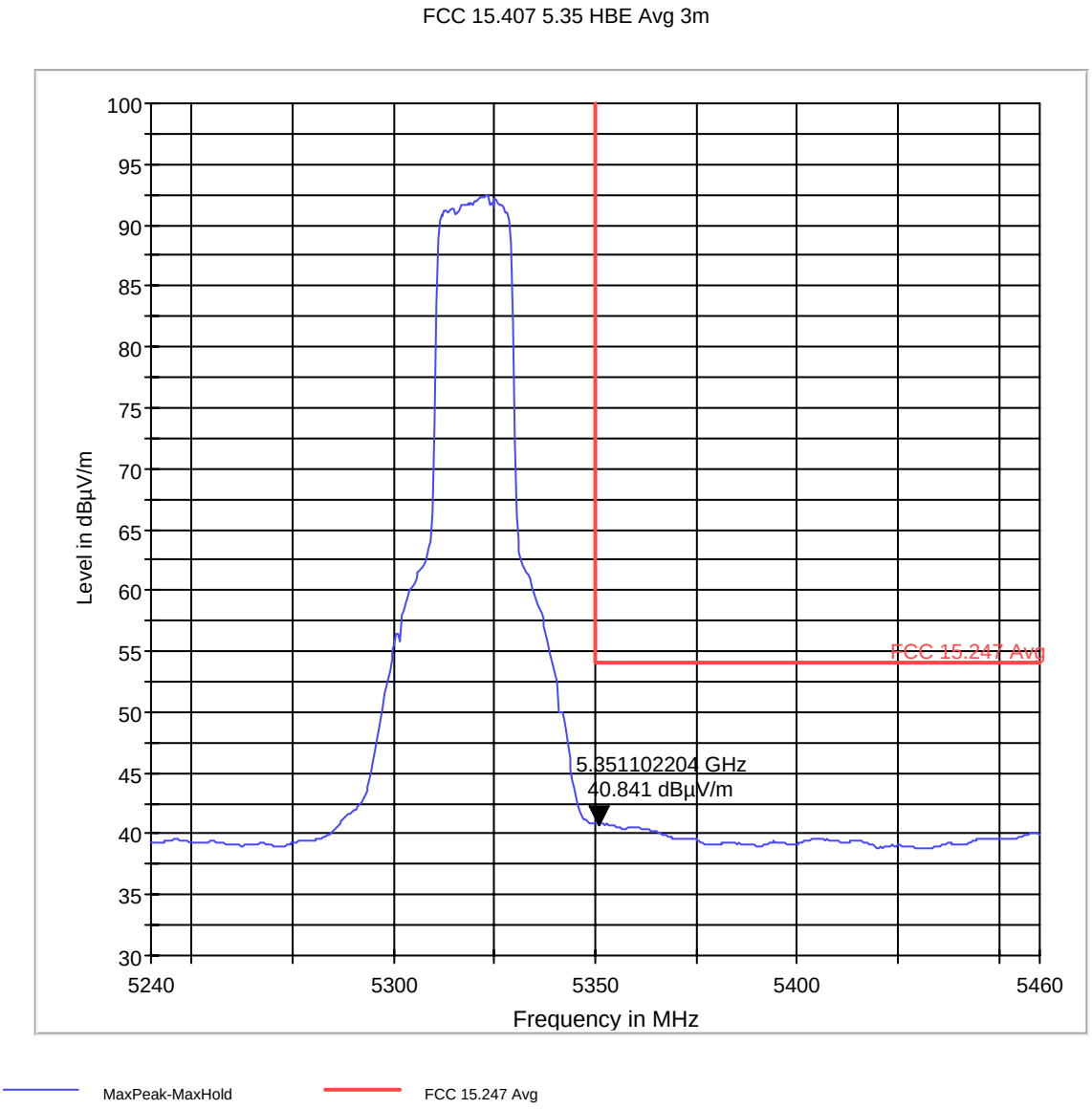


Sub-band 2: Frequency 5320 MHz: Higher band edge PEAK Chain A

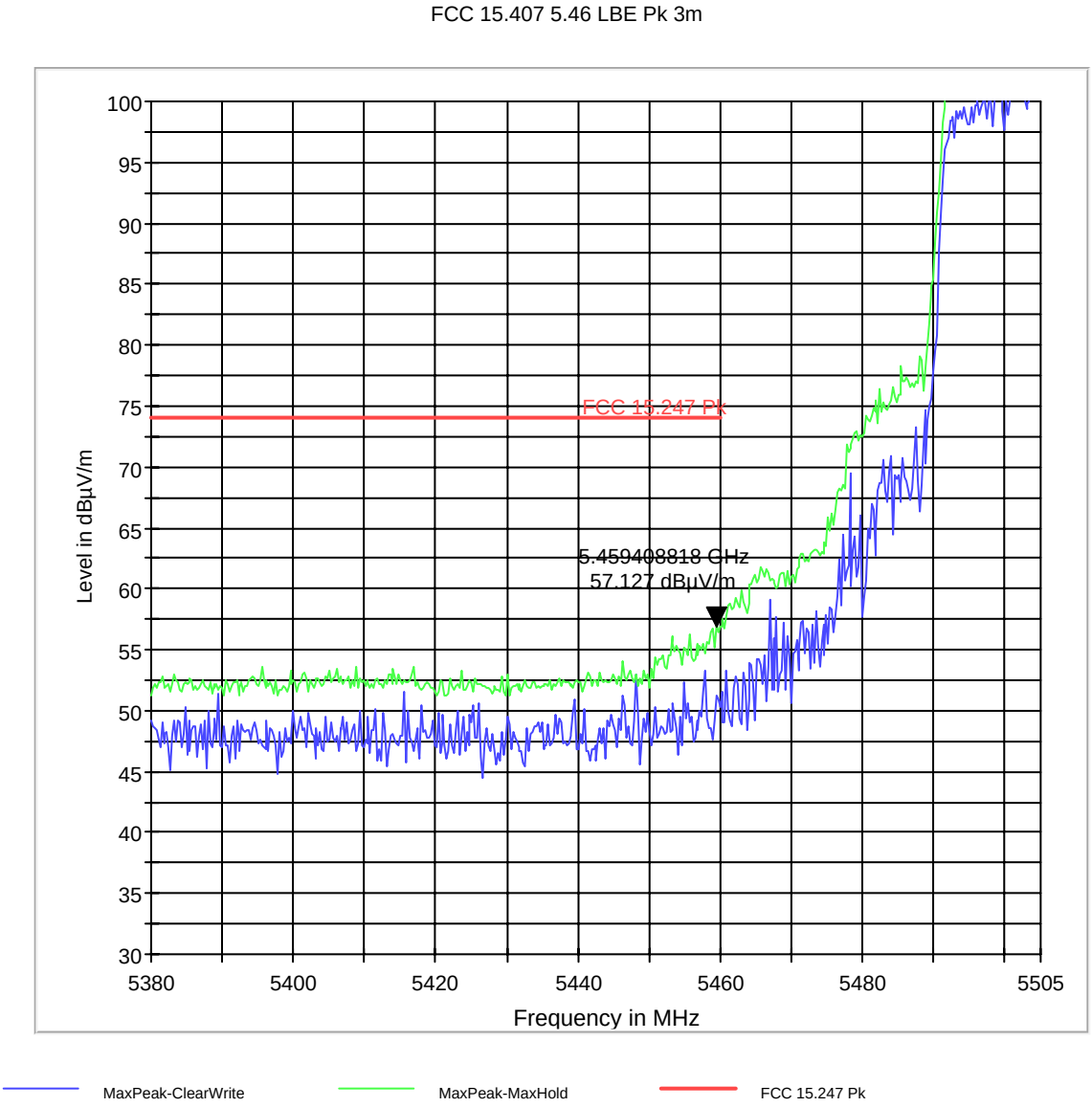
FCC 15.407 5.35 HBE Pk 3m



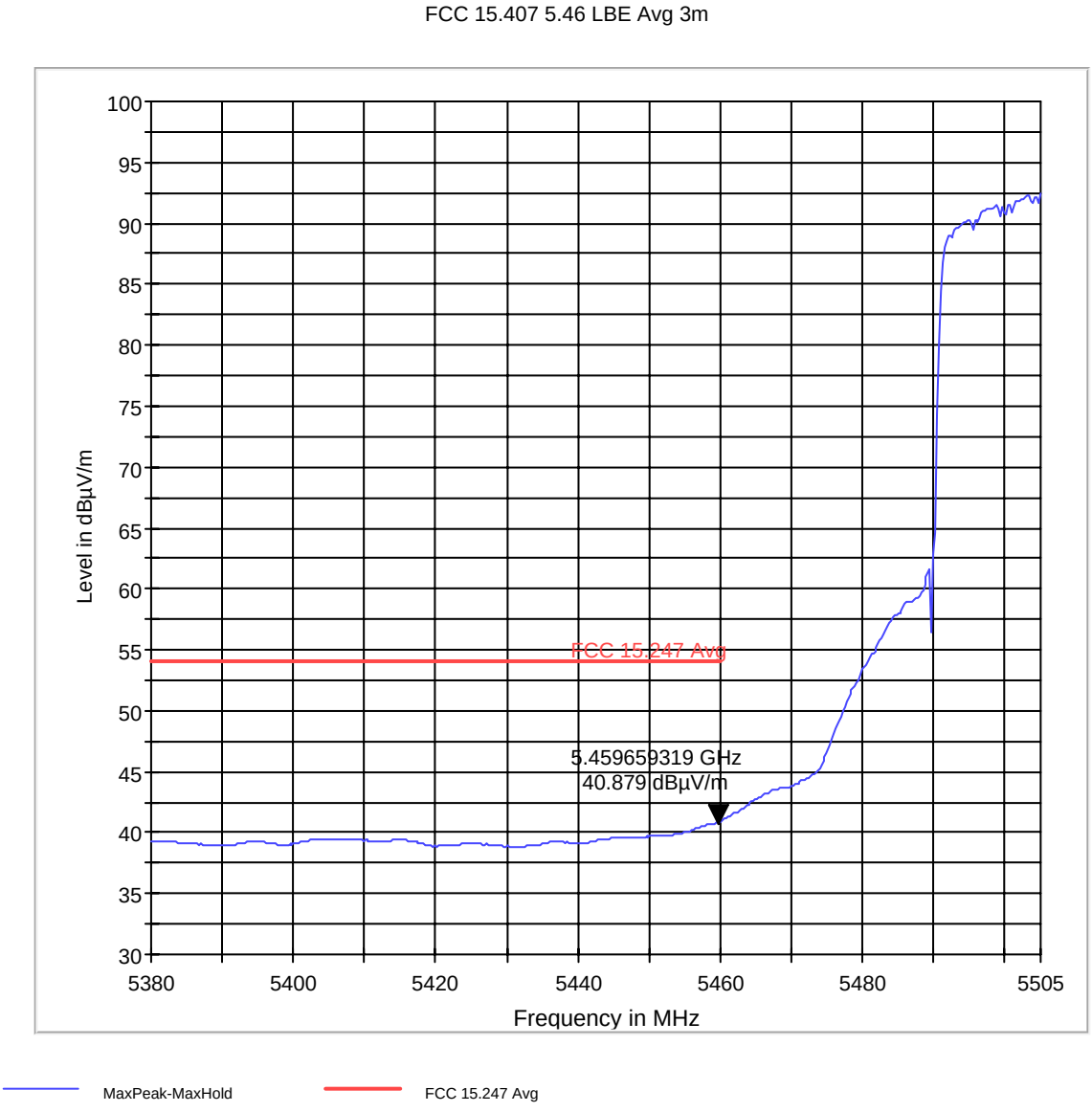
Sub-band 2: Frequency 5320 MHz: Higher band edge Average Chain A



Sub-band 3: Frequency 5500 MHz: Lower band edge PEAK chain A

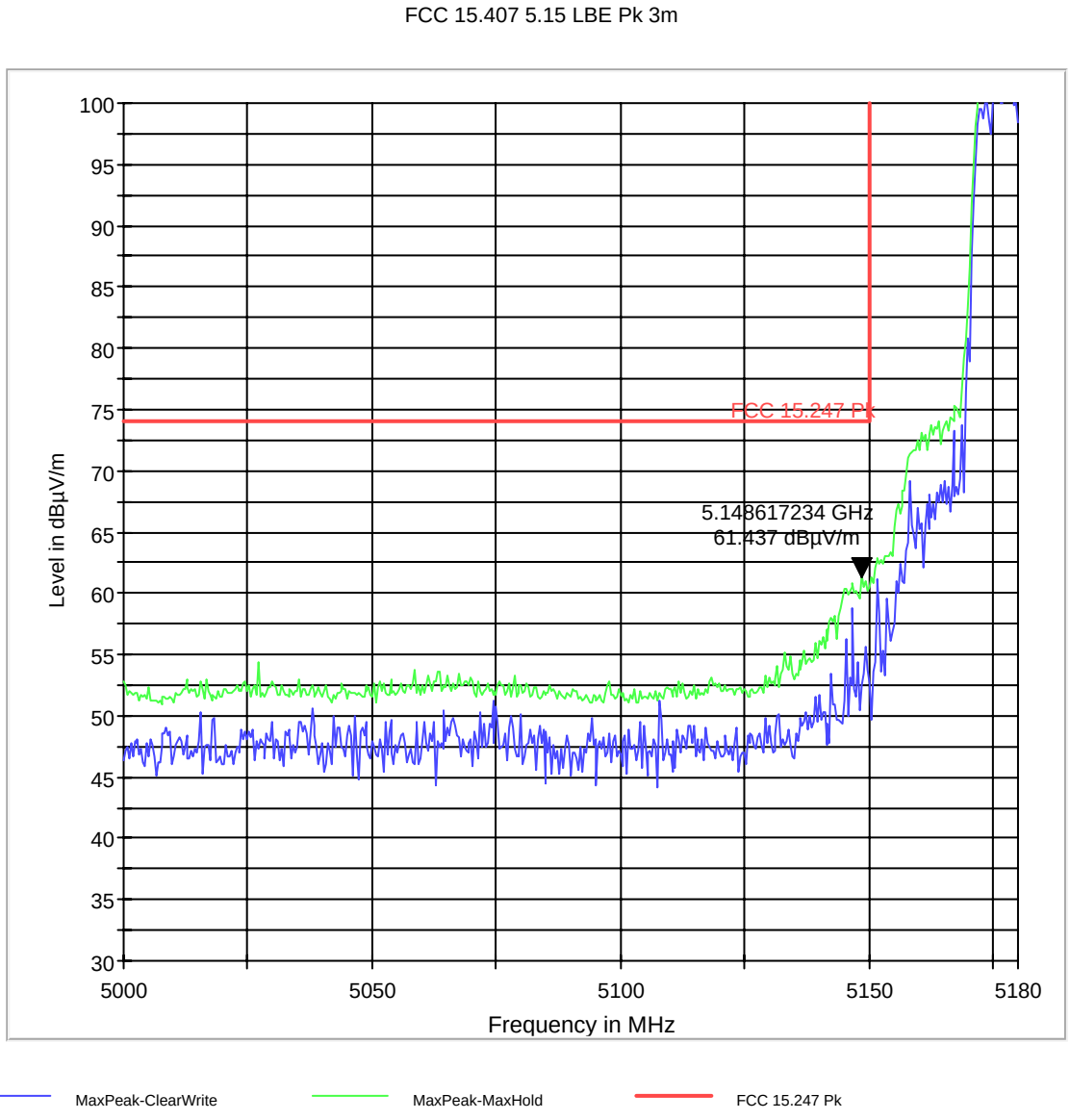


Sub-band 3: Frequency 5500 MHz: Lower band edge AVERAGE chain A

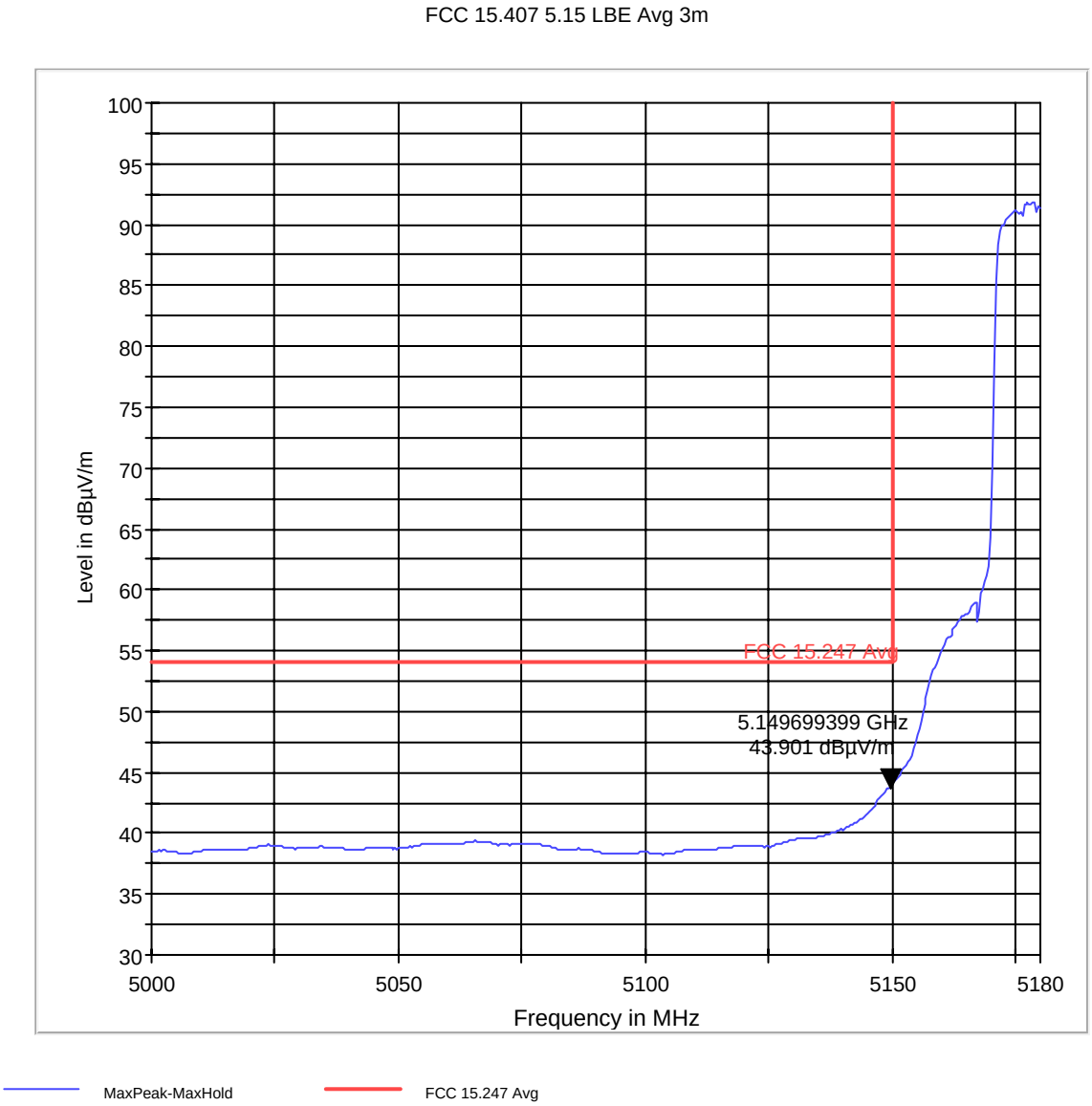


802.11n HT20 mode Chain B

Sub-band 1: Frequency 5180 MHz: Lower band edge PEAK chain B

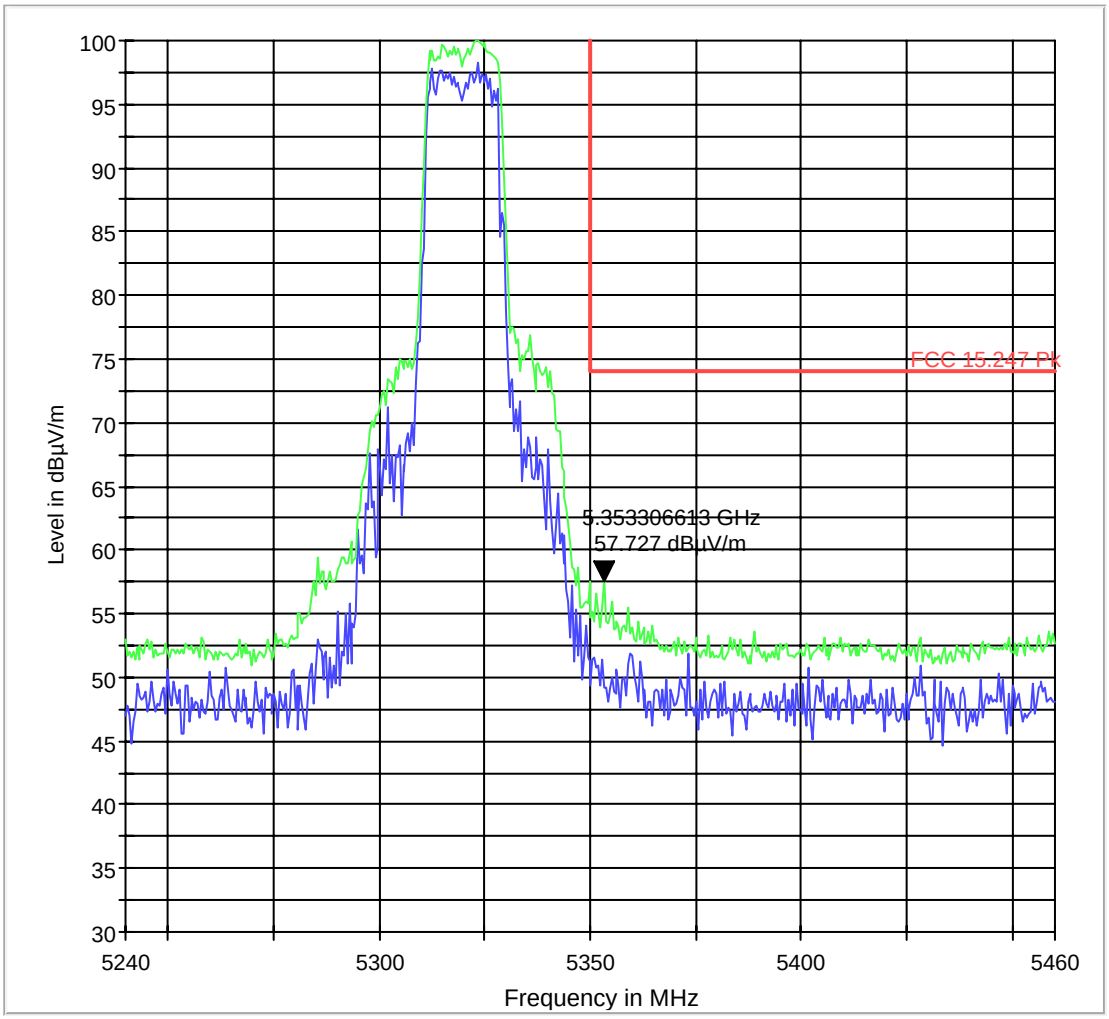


Sub-band 1: Frequency 5180 MHz: Lower band edge AVERAGE Chain B

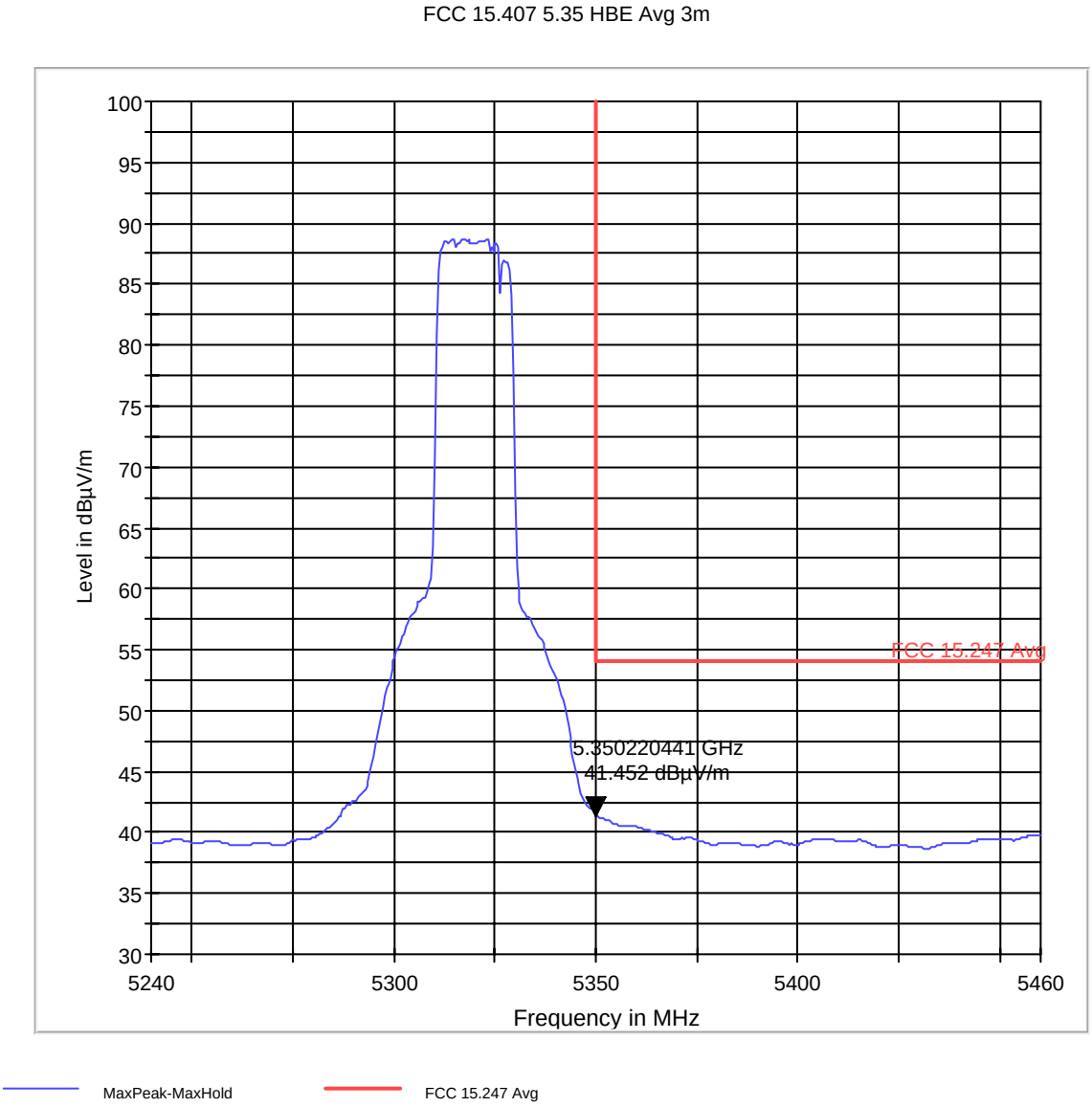


Sub-band 2: Frequency 5320 MHz: Higher band edge PEAK Chain B

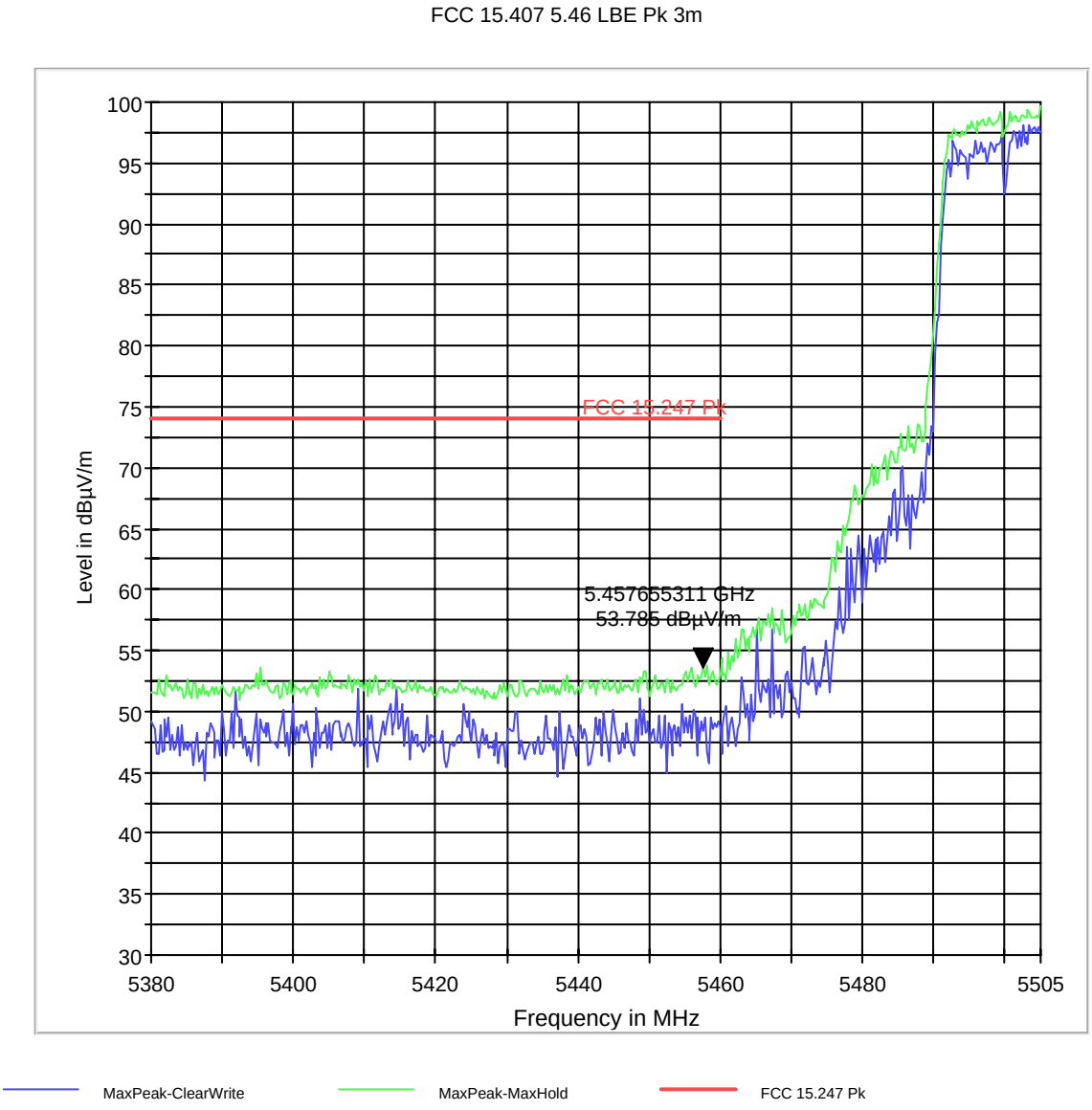
FCC 15.407 5.35 HBE Pk 3m



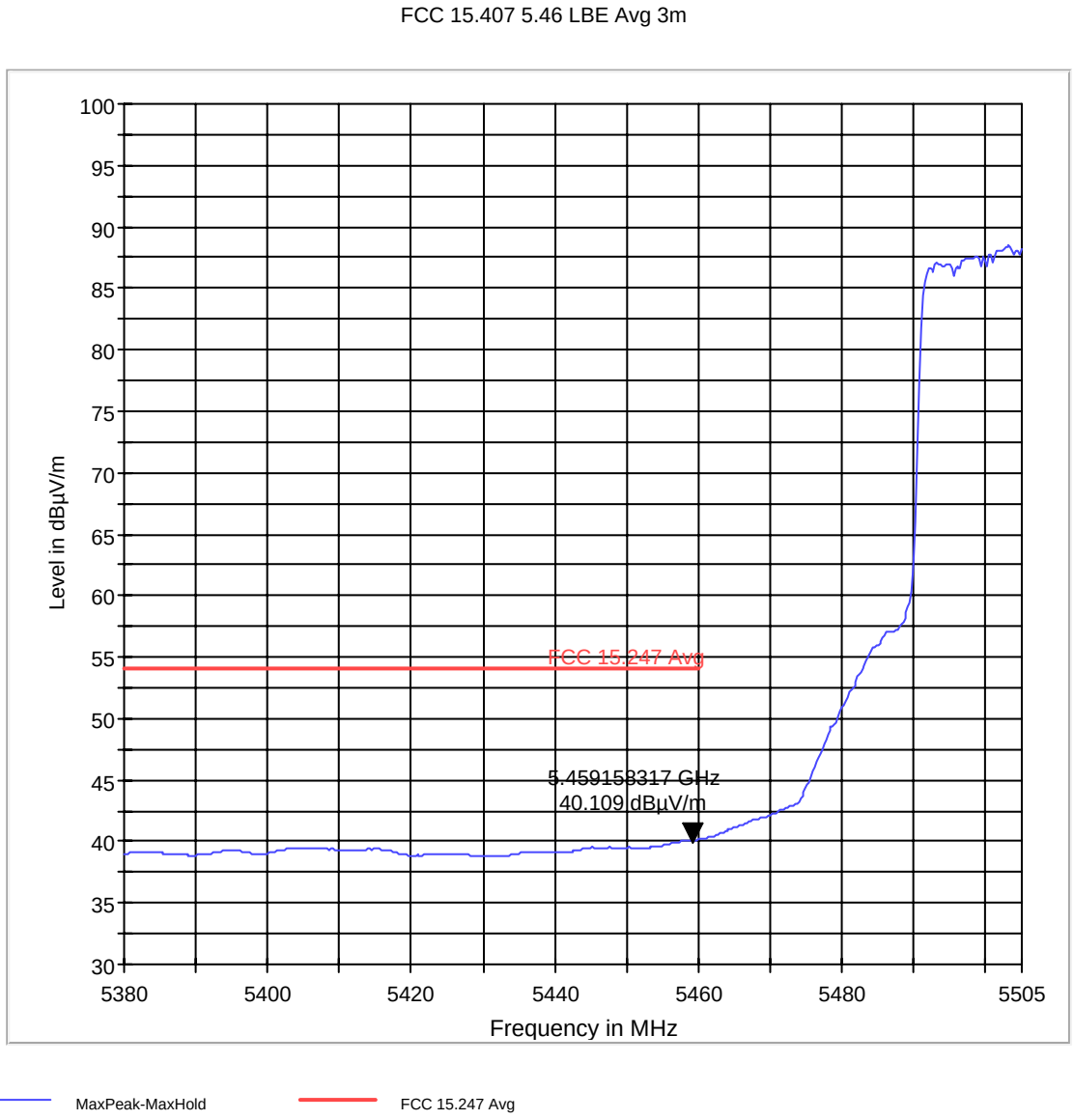
Sub-band 2: Frequency 5320 MHz: Higher band edge Average Chain B



Sub-band 3: Frequency 5500 MHz: Lower band edge PEAK chain B

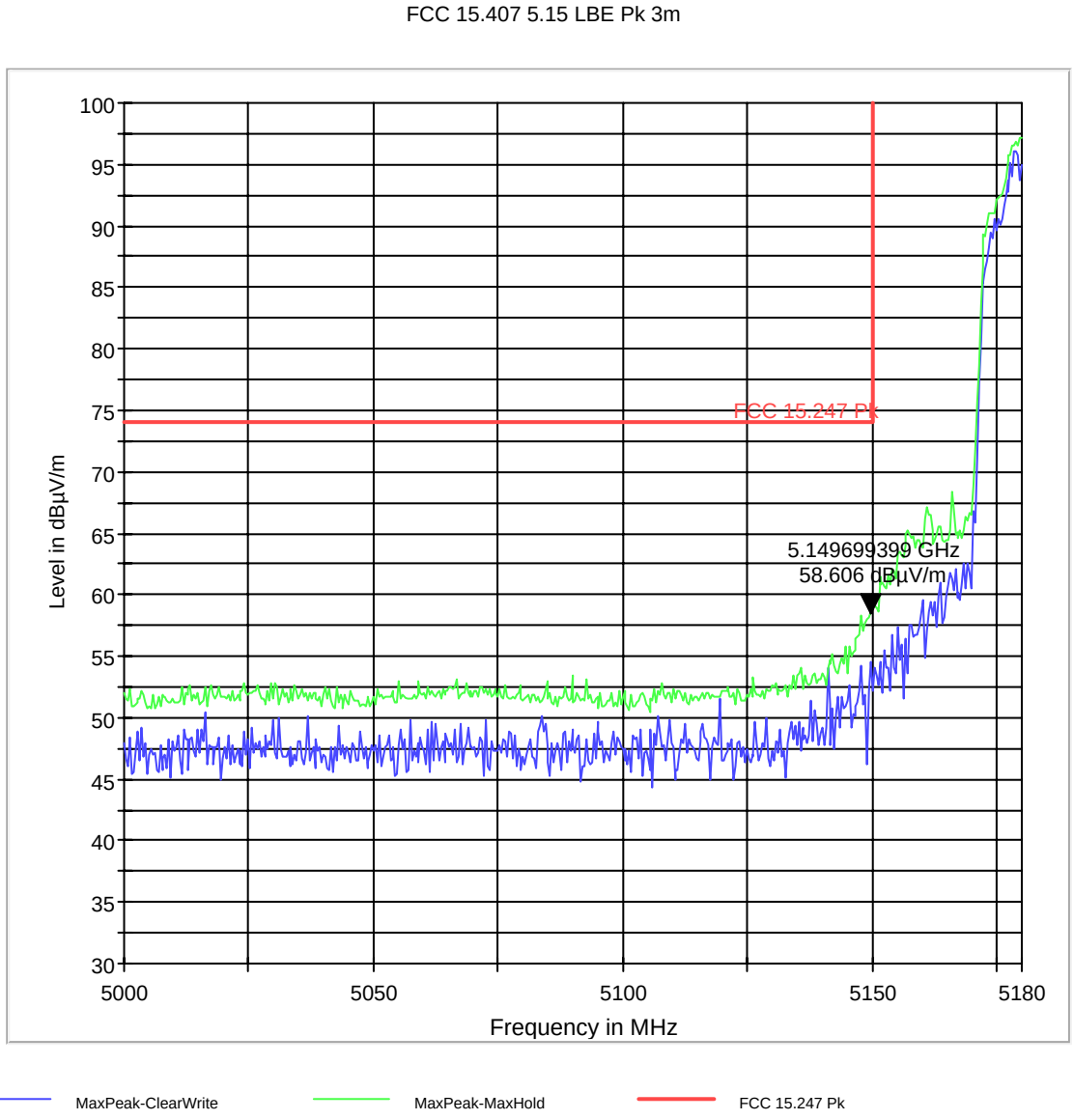


Sub-band 3: Frequency 5500 MHz: Lower band edge AVERAGE chain B

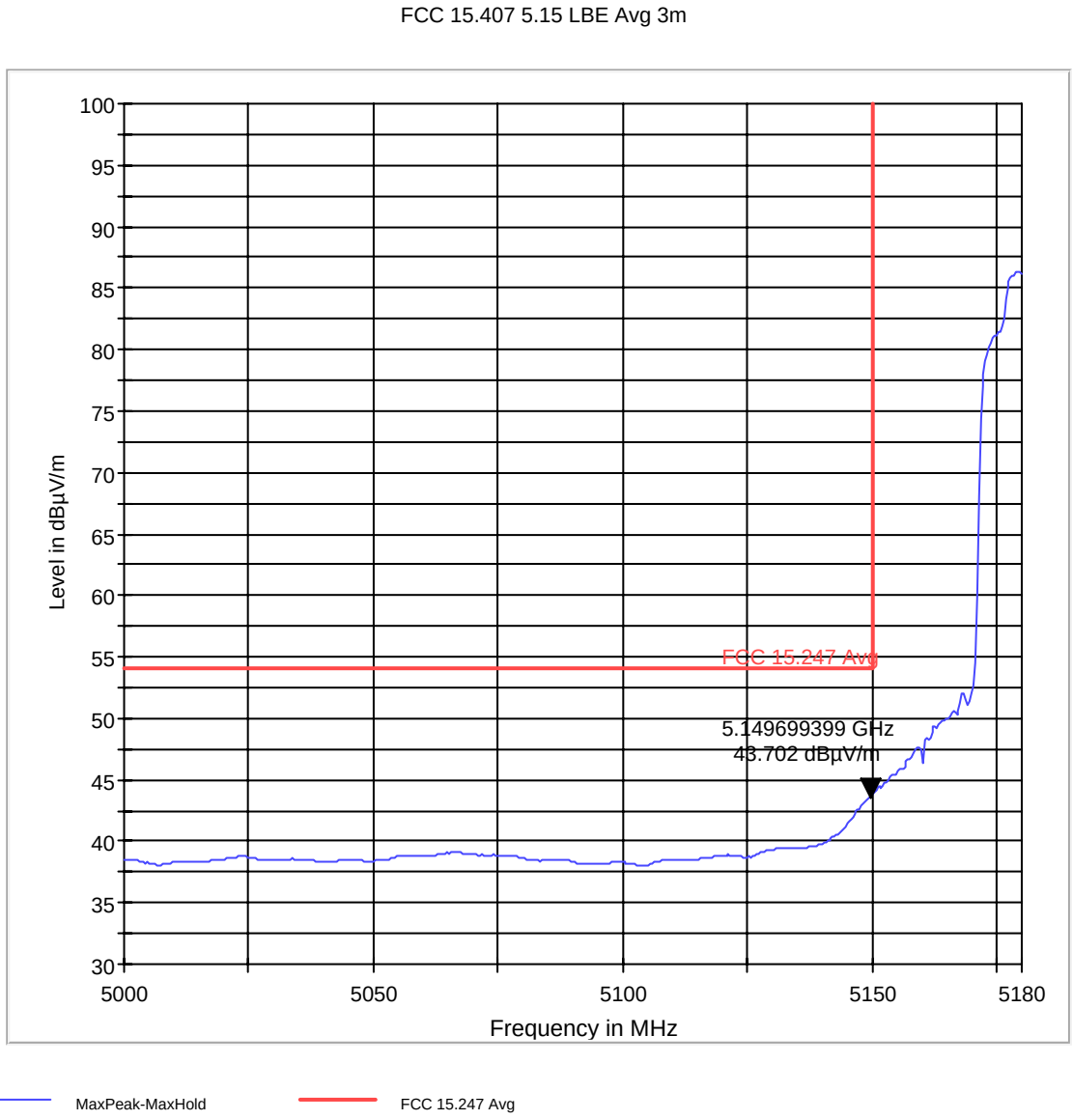


5.2.3 **802.11n HT40 MODE**

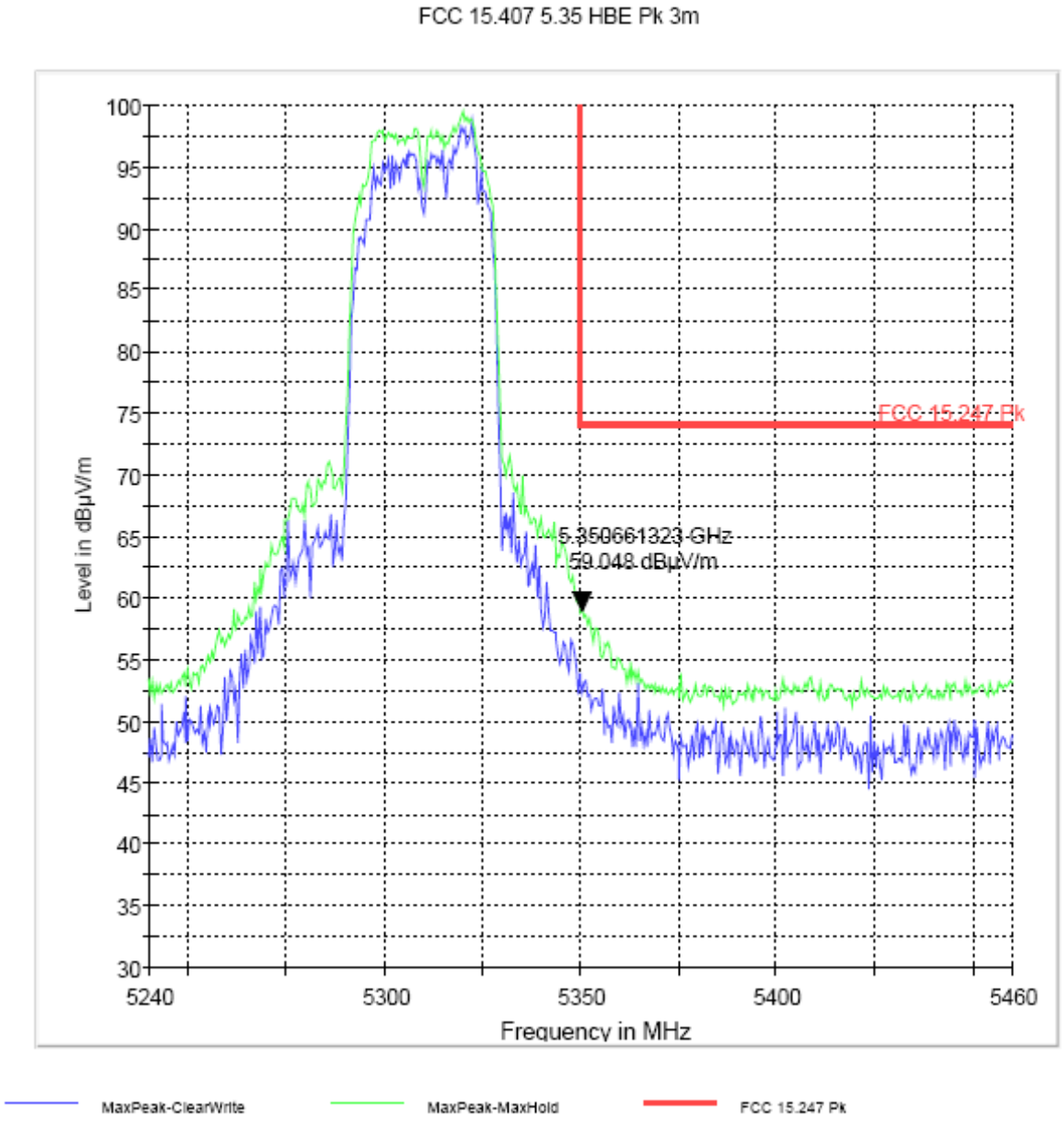
Sub-band 1: 5190MHz, Lower band edge PEAK CHAIN A



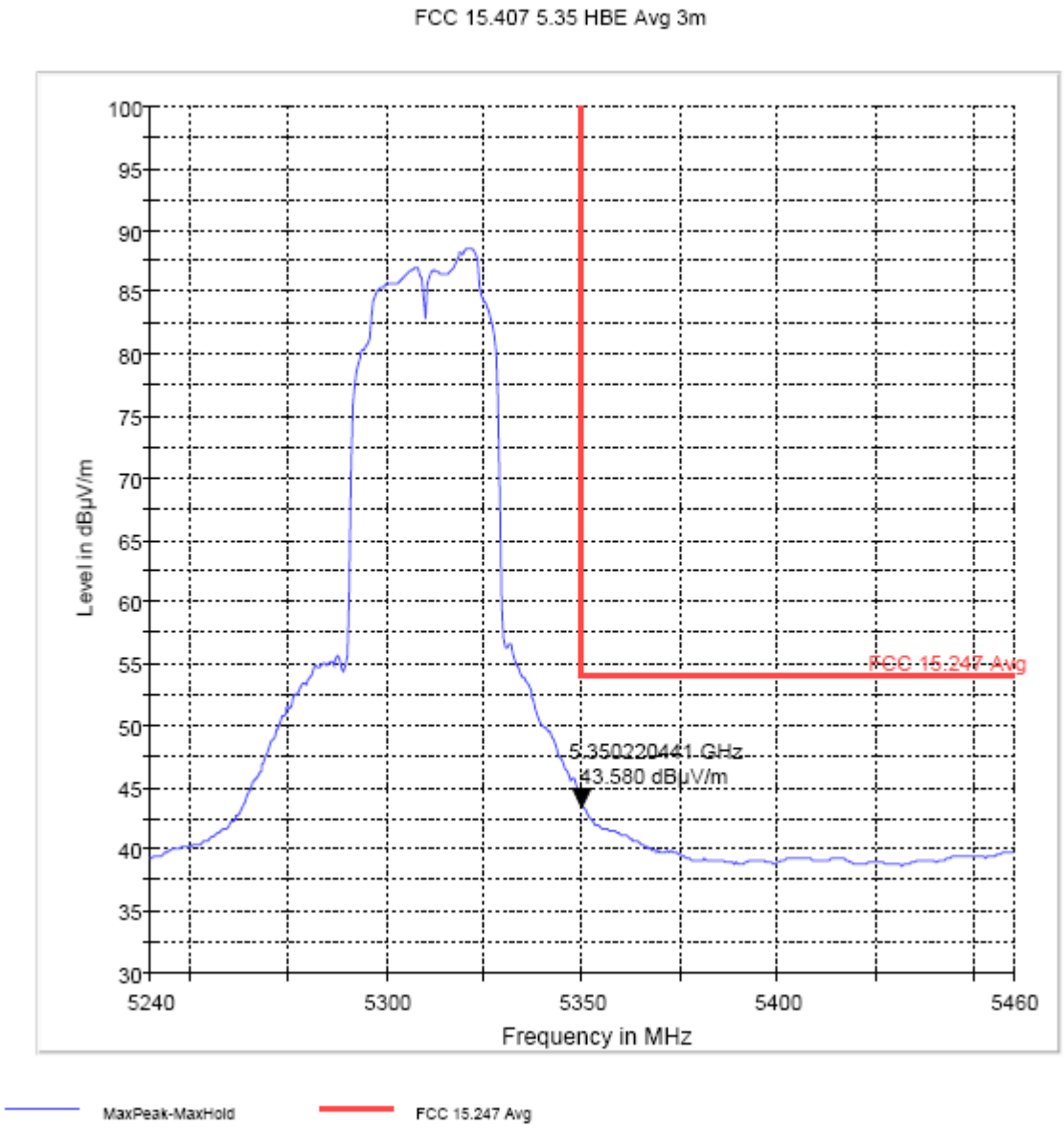
Sub-band 1: 5190MHz, Lower band edge AVG CHAIN A



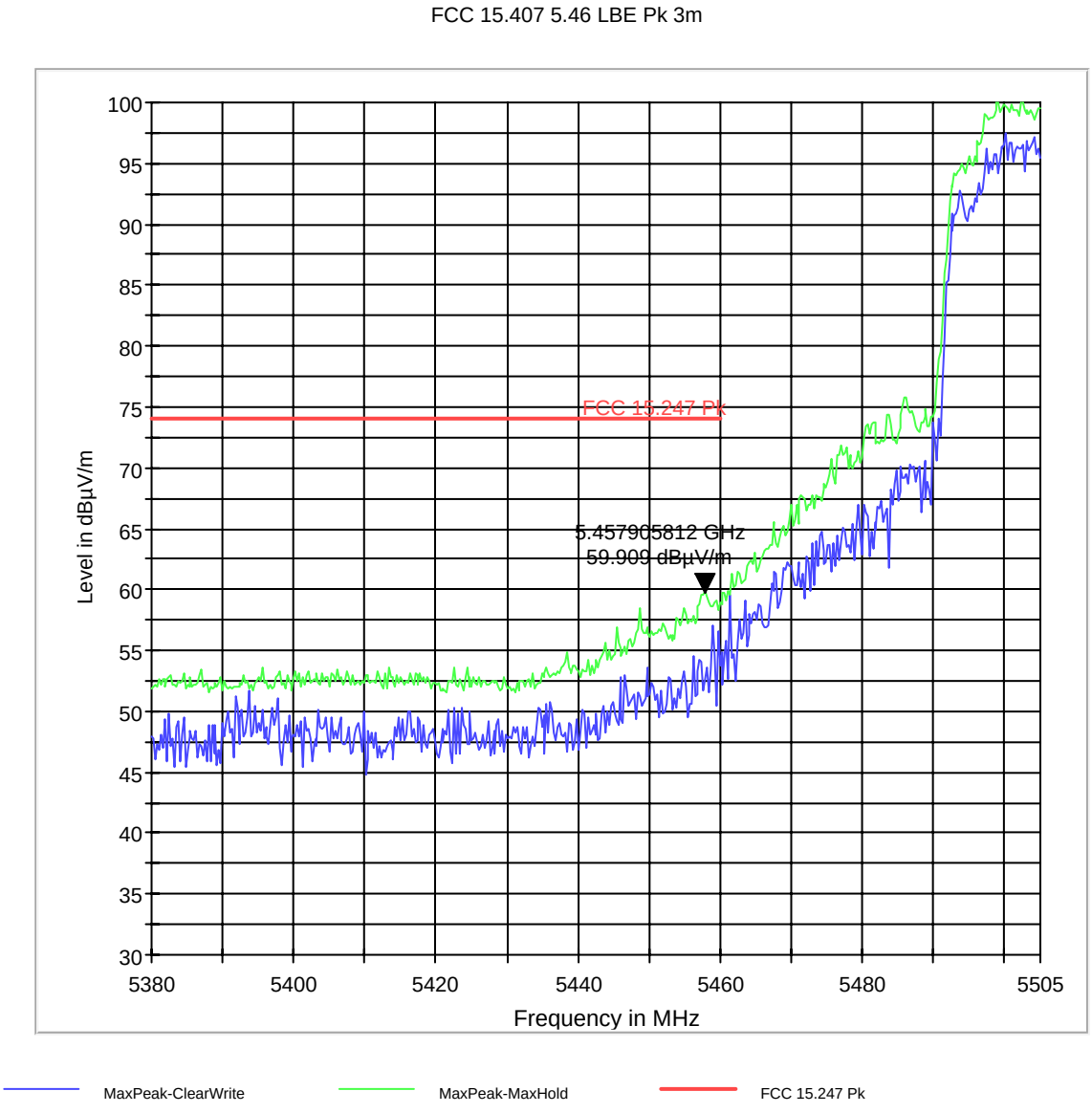
Sub-band 2: 5310 MHz: Higher band edge PEAK CHAIN A



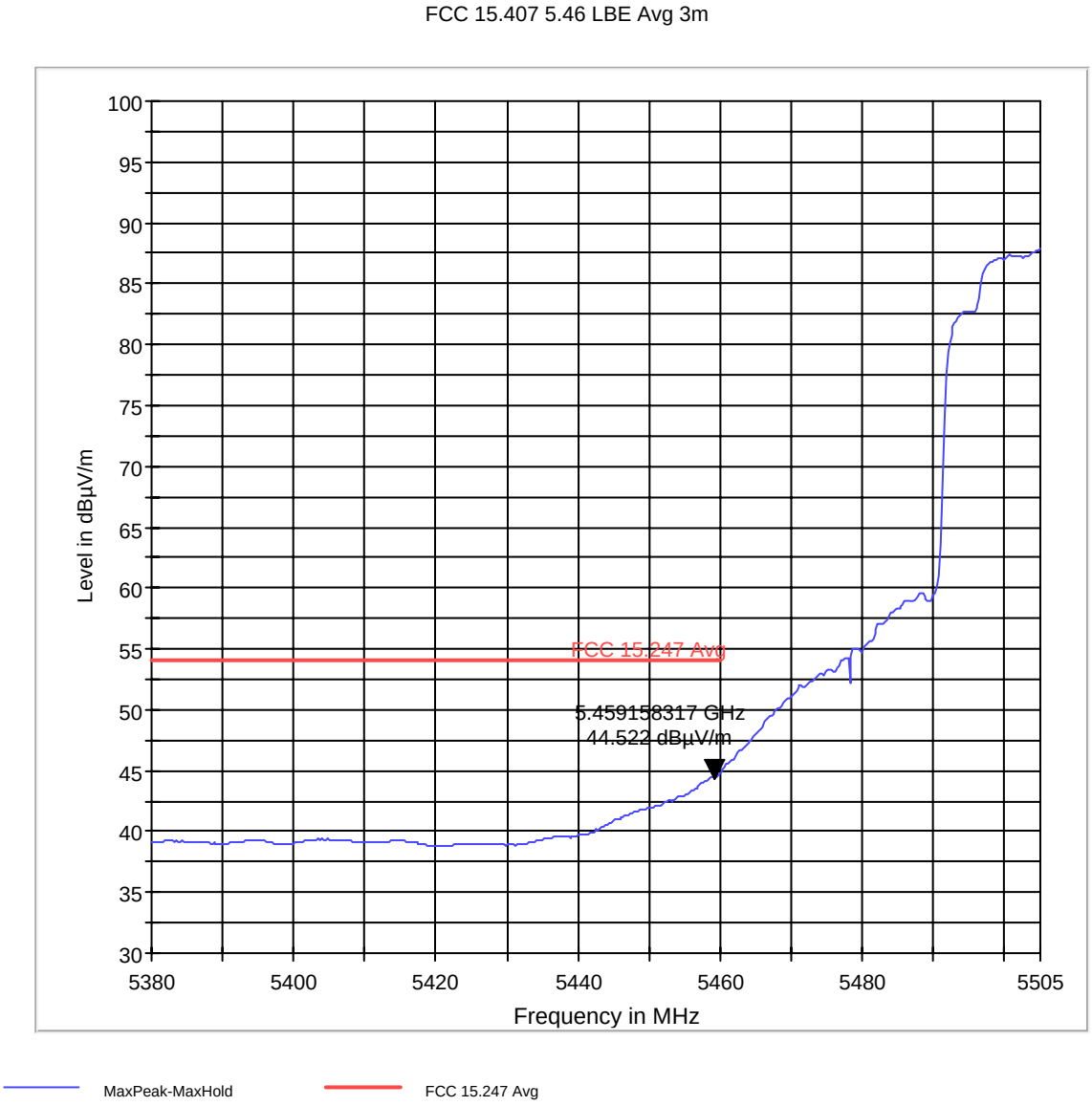
Sub-band 2: 5310 MHz: Higher band edge Average CHAIN A



Sub-band 3: 5510 MHz: Lower band edge PEAK CHAIN a

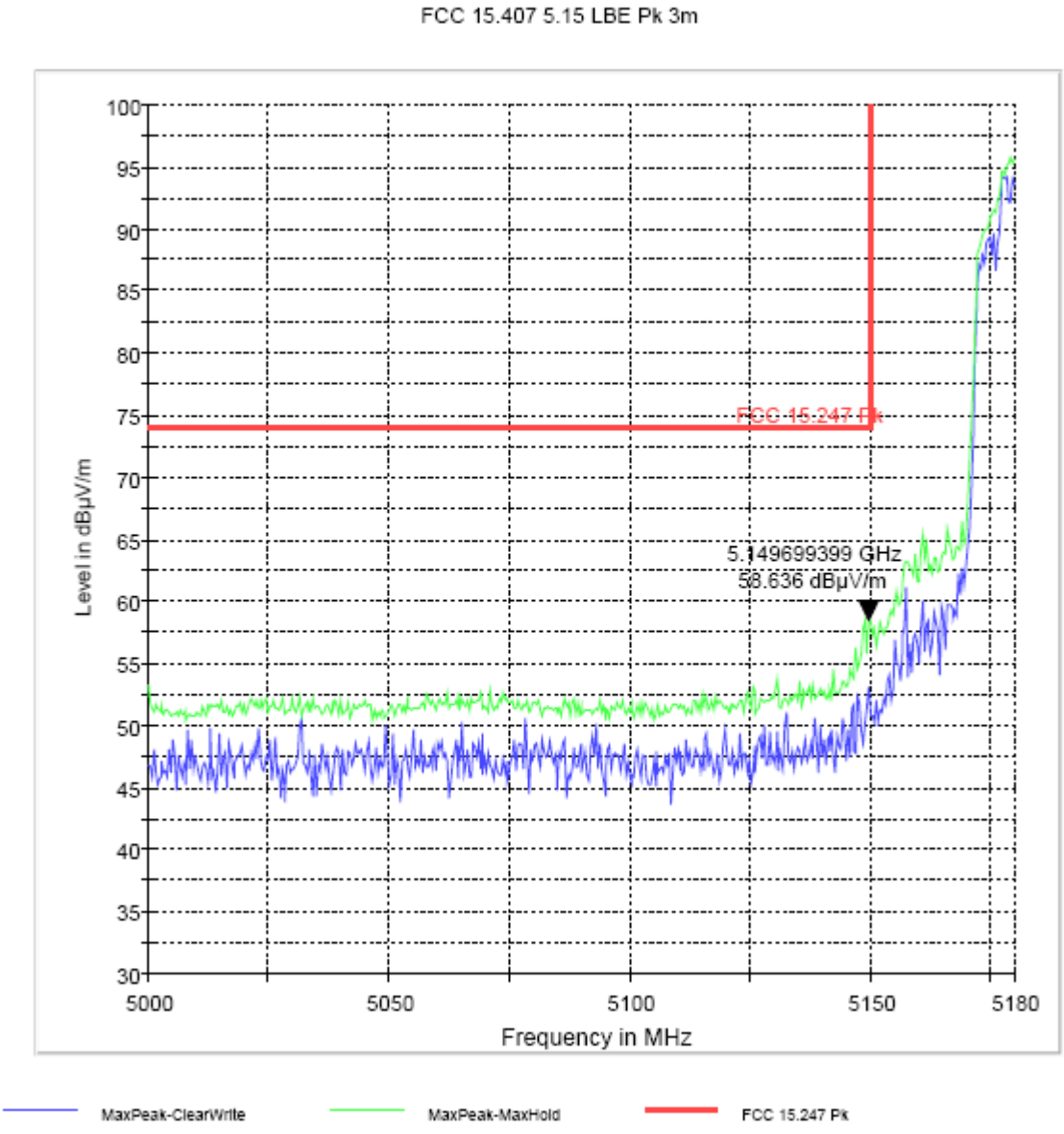


Sub-band 3: 5510 MHz: Lower band edge AVERAGE CHAIN a

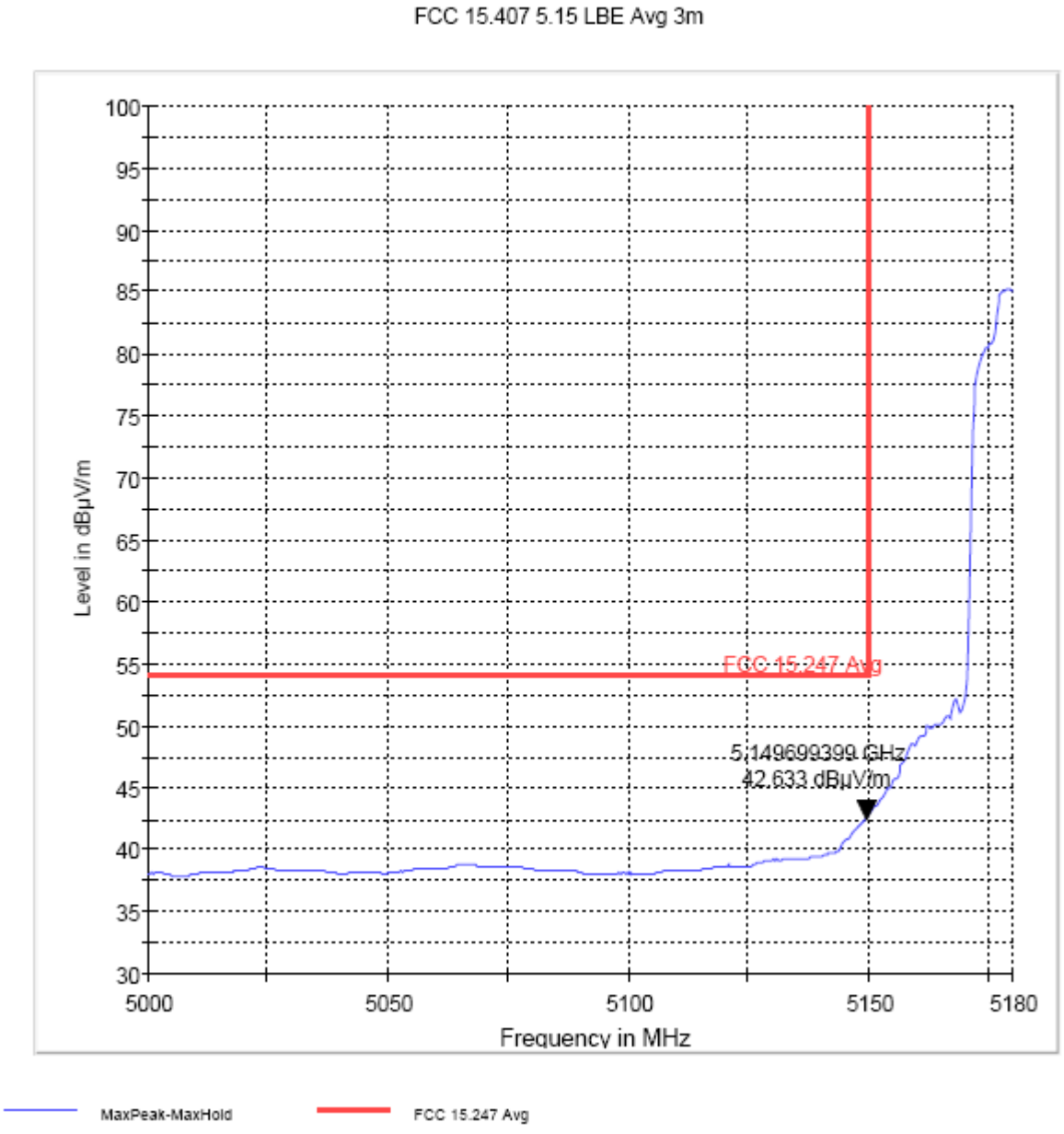


CHAIN B

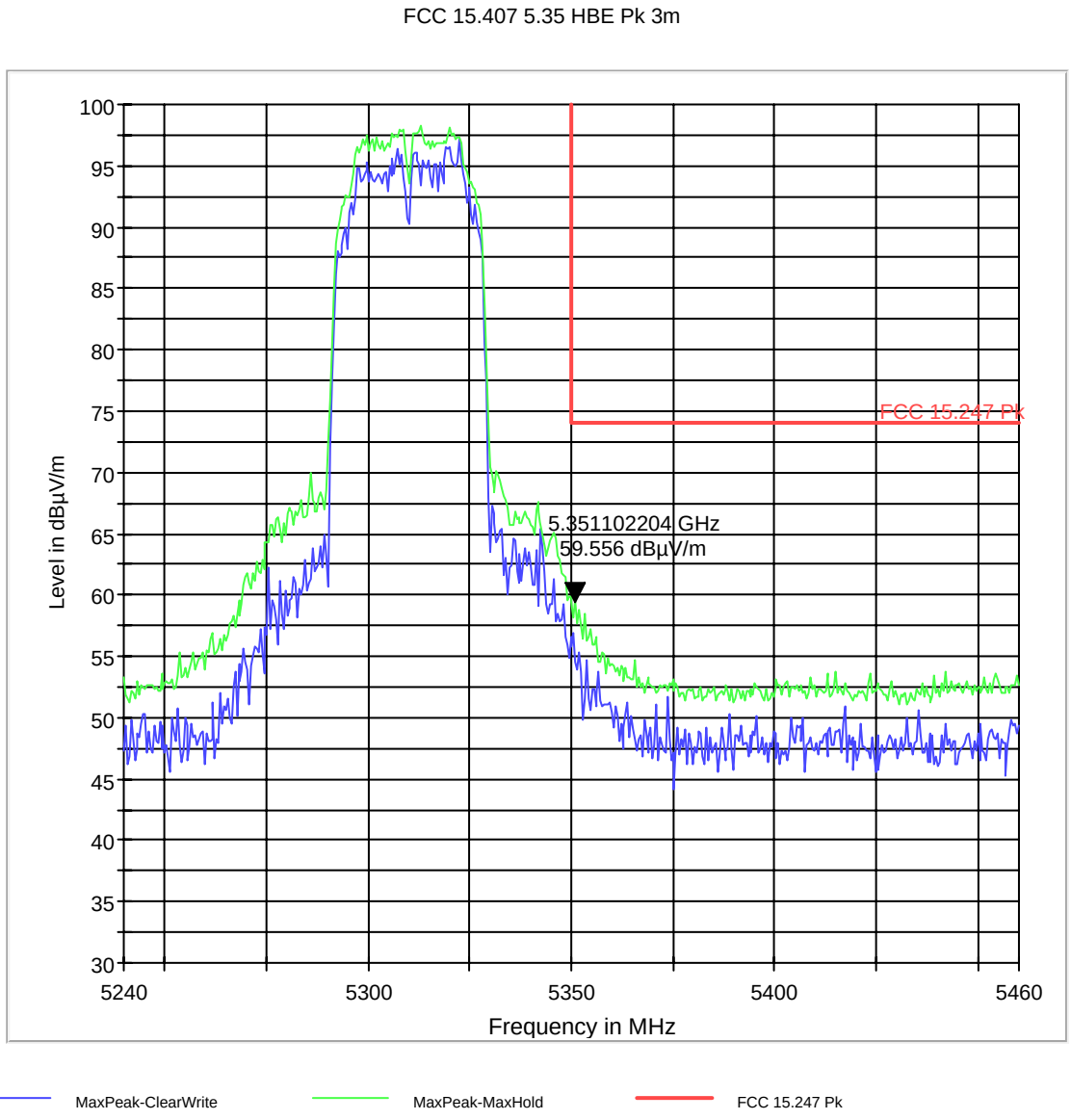
Sub-band 1: 5190MHz, Lower band edge PEAK CHAIN B



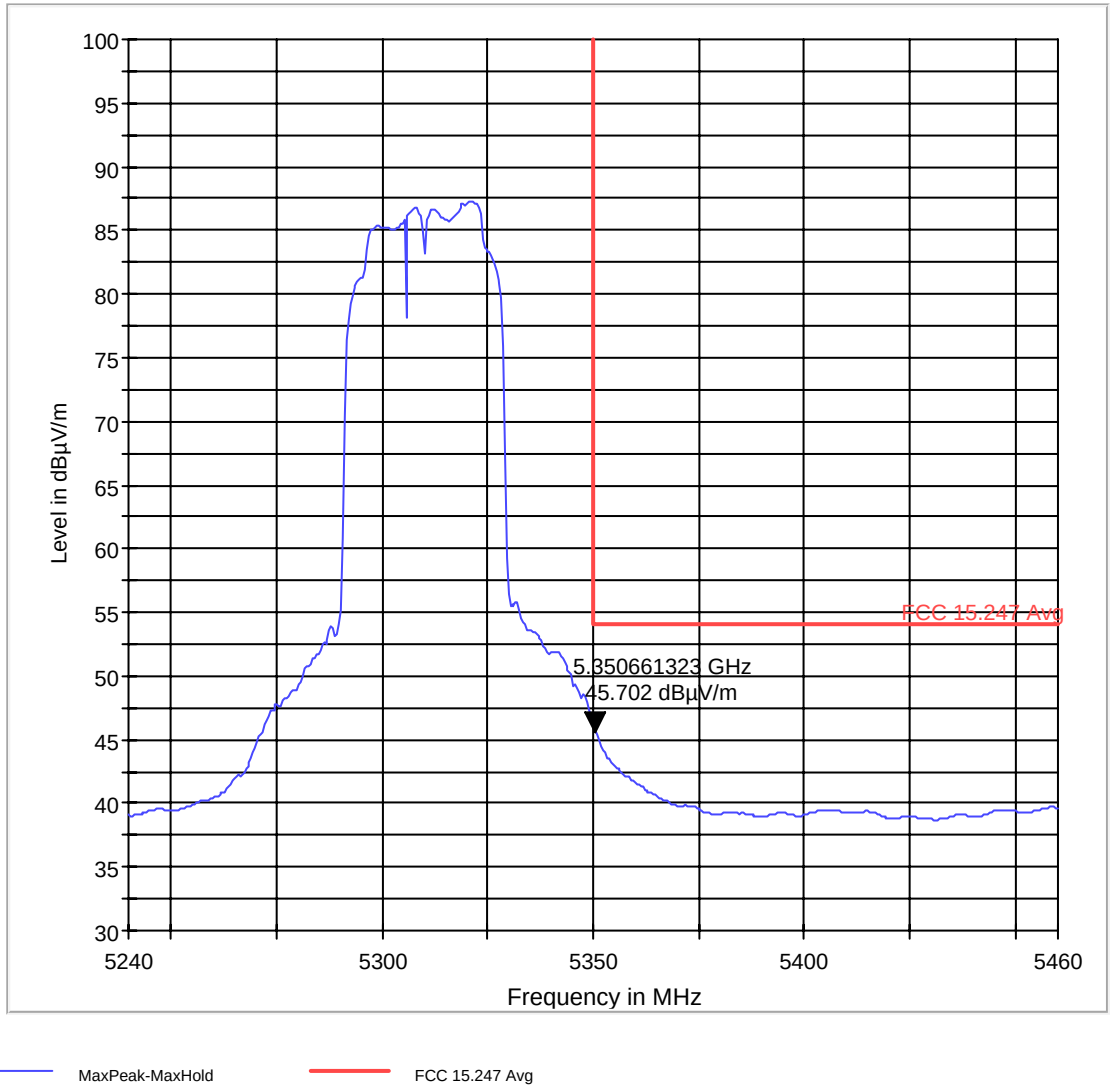
Sub-band 1: 5190MHz, Lower band edge AVG CHAIN B



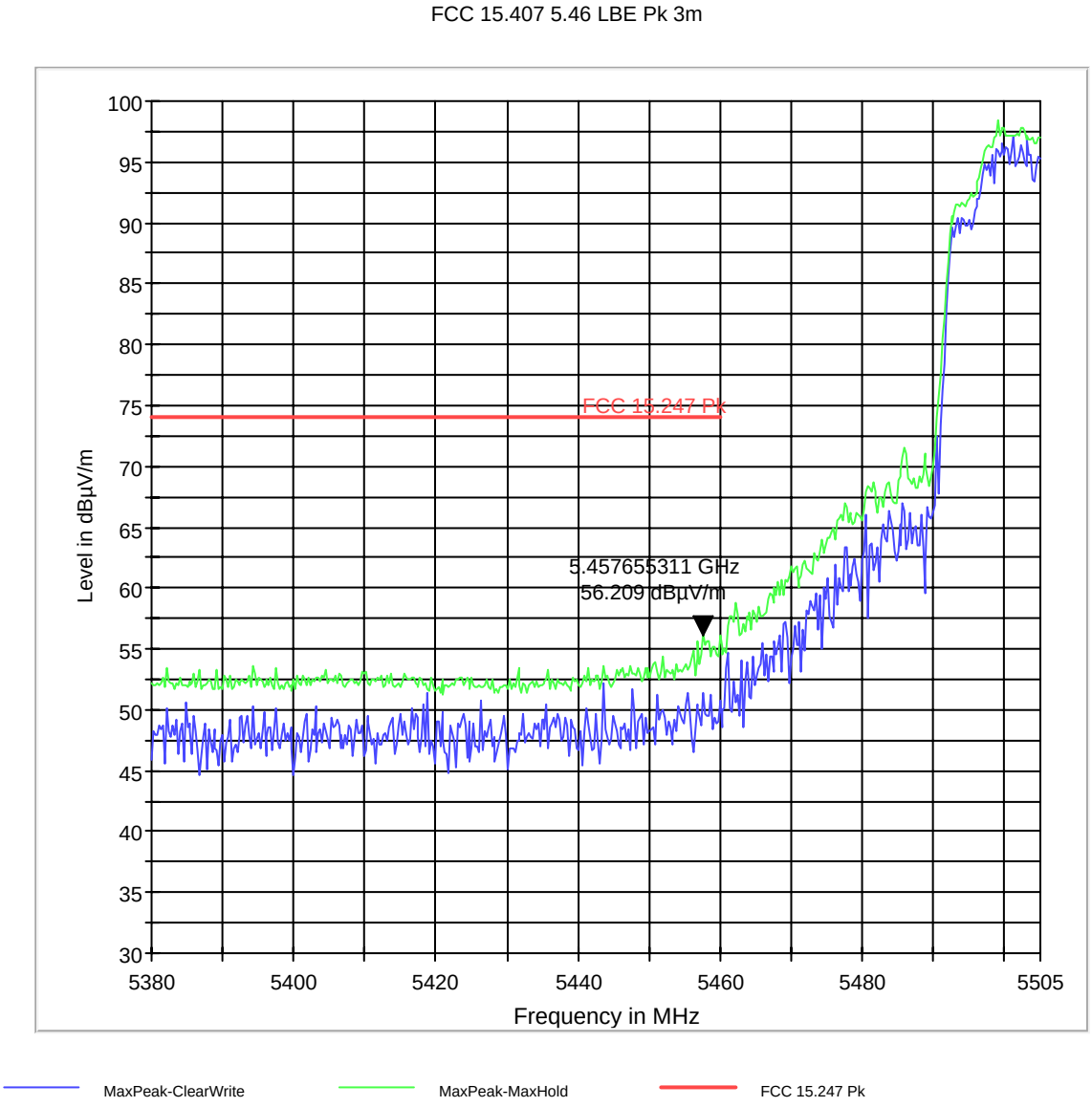
Sub-band 2: 5310 MHz: Higher band edge PEAK CHAIN B



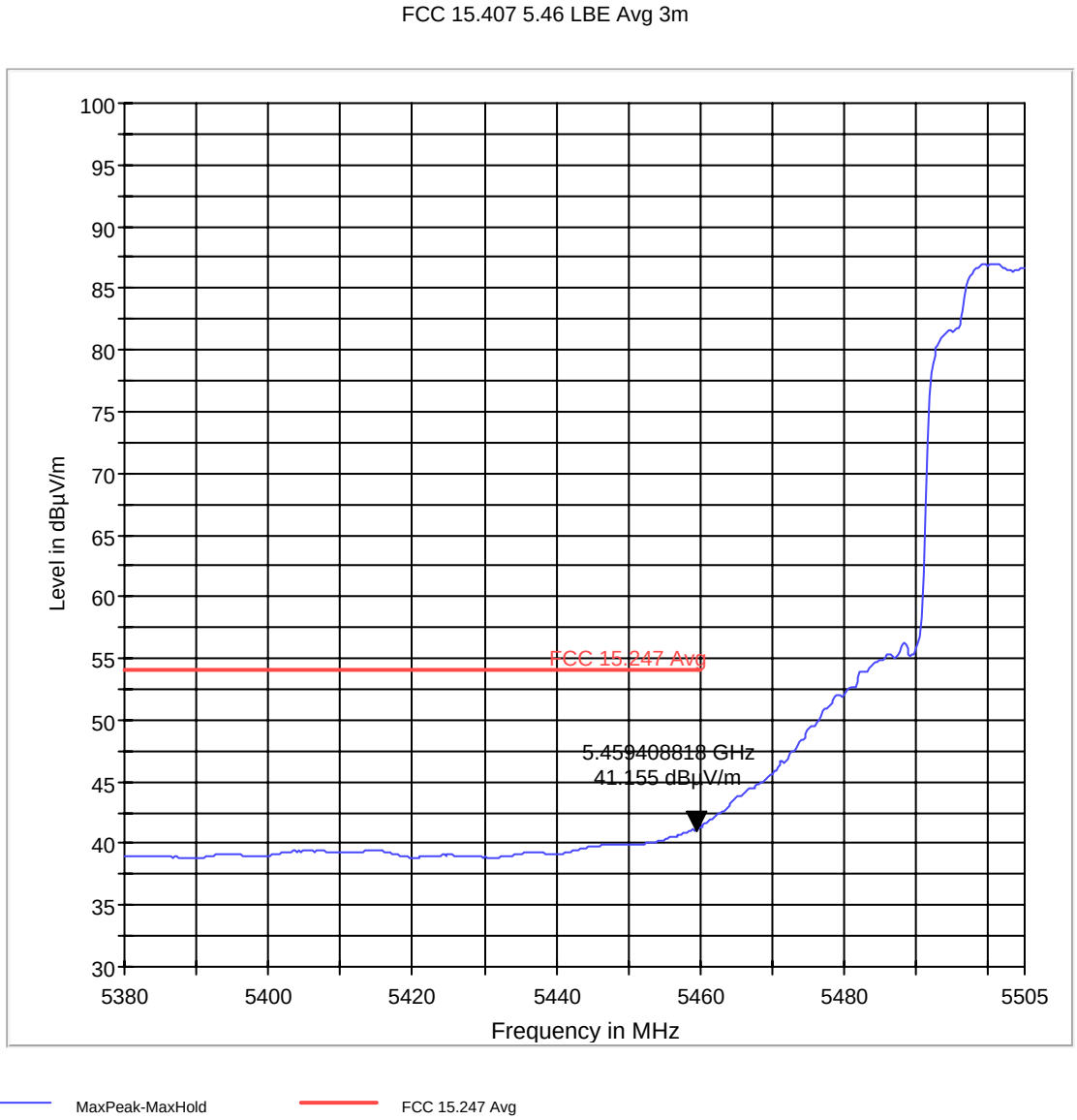
Sub-band 2: 5310 MHz: Higher band edge Average CHAIN B



Sub-band 3: 5510 MHz: Lower band edge PEAK CHAIN B



Sub-band 3: 5510 MHz: Lower band edge AVERAGE CHAIN B



5.3 Transmiter Spurious Emission § 15.407(b)/15.205/15.209

5.3.1 **Limits**

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

***PEAK LIMIT= 74dBuV/m for spurious in restricted bands**
***AVG. LIMIT= 54dBuV/m for spurious in restricted bands**
NOTE:
1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 3 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.
2. All measurements are done in peak mode using an average limit, unless specified with the plots.

Results for the radiated measurements below 30MHz according § 15.33

Frequency	**Measured values**	**Remarks**
9KHz – 30MHz	No emissions found, caused by the EUT	This is valid for all the tested channels

Note: Higher output power values were observed in 802.11n HT 20 mode as opposed to 802.11a mode and hence measurements were performed in 802.11 HT 20 mode alone.

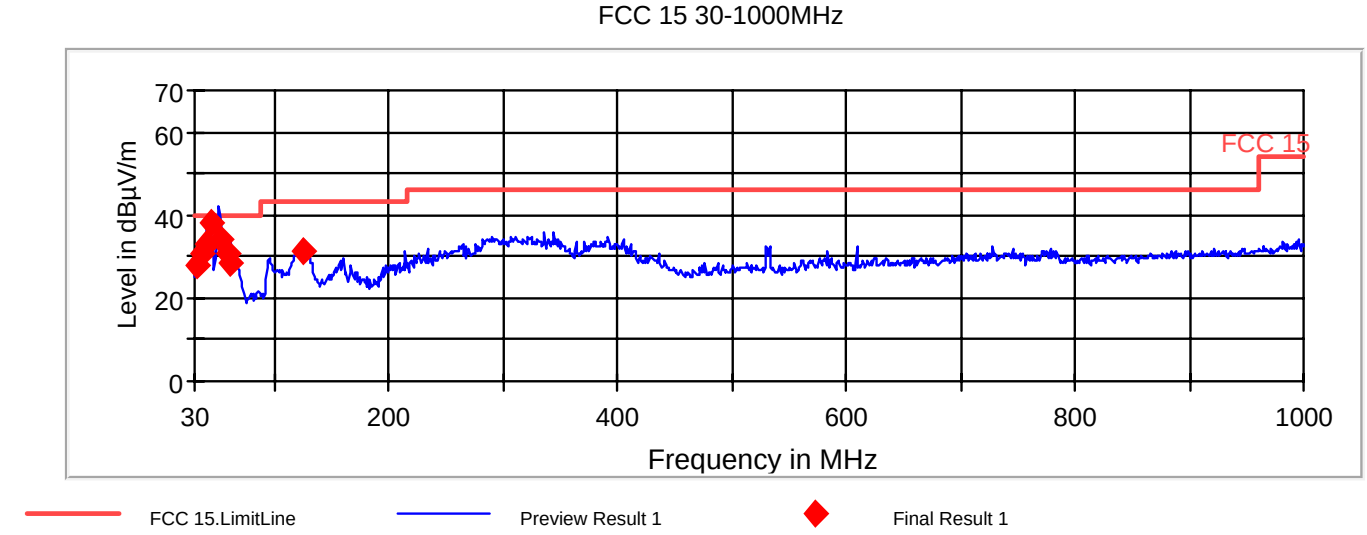
5.3.2 **Sub-band 1 802.11n HT20 MODE**

30MHz – 1GHz chain AB

Note: This plot is valid for low, mid, high channels (worst-case plot).

Final Result 1

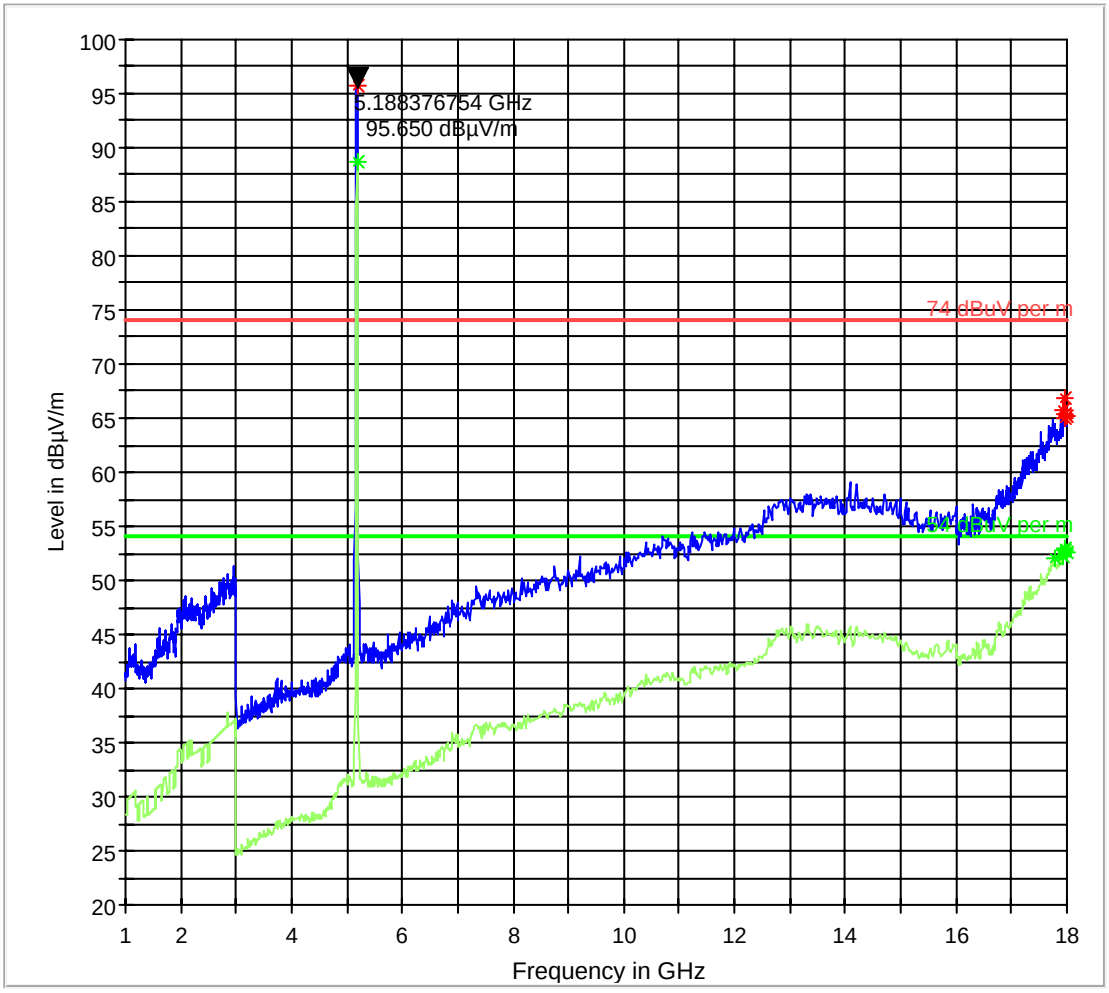
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
32.661602	28.1	20.000	120.000	120.0	V	315.0	6.9	11.9	40.0
36.253378	31.0	20.000	120.000	120.0	V	315.0	6.2	9.0	40.0
40.266092	33.2	20.000	120.000	120.0	V	308.0	5.5	6.8	40.0
44.006684	38.0	20.000	120.000	120.0	V	315.0	6.0	2.0	40.0
52.773655	34.0	20.000	120.000	190.0	V	180.0	7.1	6.0	40.0
59.316051	31.0	20.000	120.000	204.0	V	76.0	7.8	9.0	40.0
60.016747	28.7	20.000	120.000	195.0	V	257.0	7.9	11.3	40.0
124.735280	31.2	20.000	120.000	120.0	V	299.0	8.2	12.3	43.5



1-18GHz (5180MHz) 802.11n 20MHz chain A

Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz

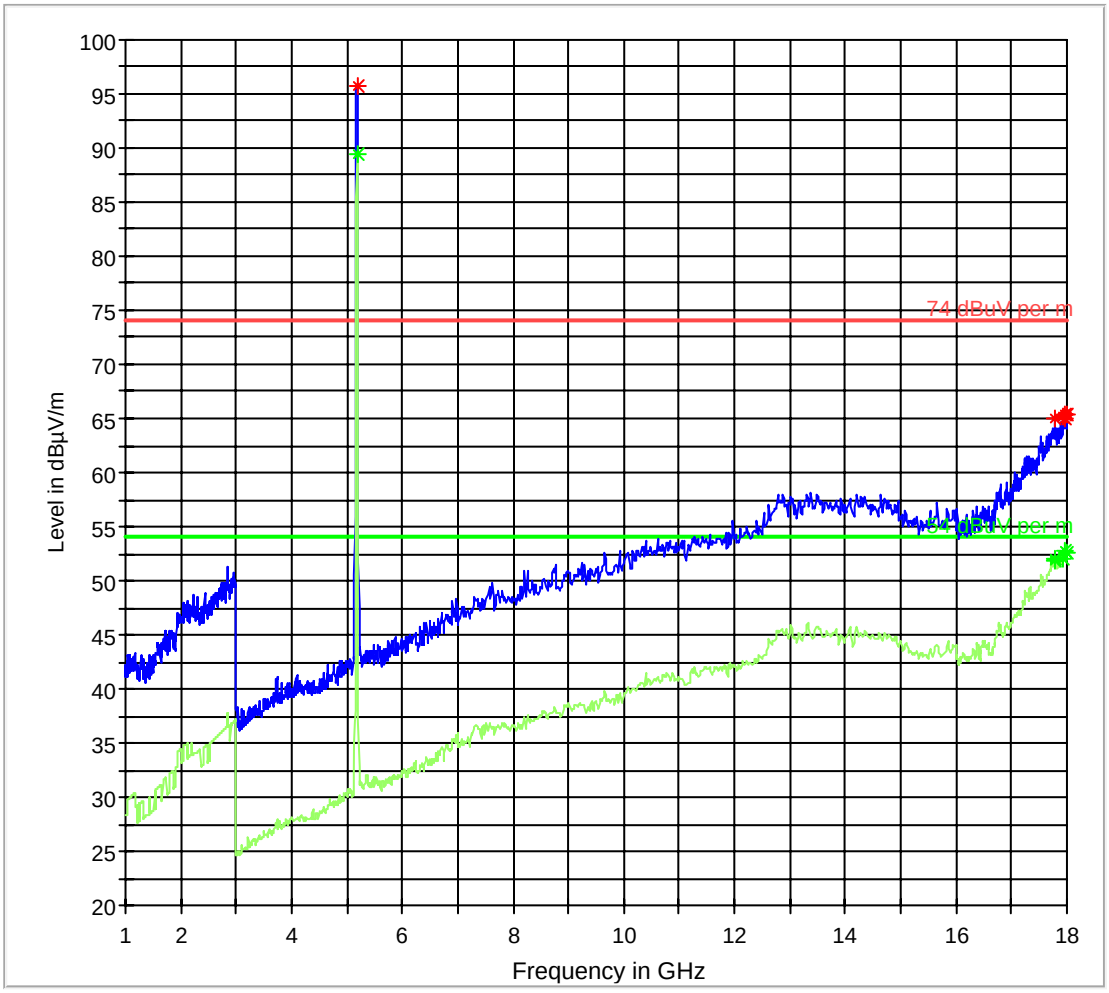


74 dBuV per m.LimitLine
Preview Result 2
54 dBuV per m.LimitLine
Data Reduction 1 [2]
Preview Result 1
Data Reduction 2 [2]

1-18GHz (5180MHz) 802.11n 20MHz chain B

Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz

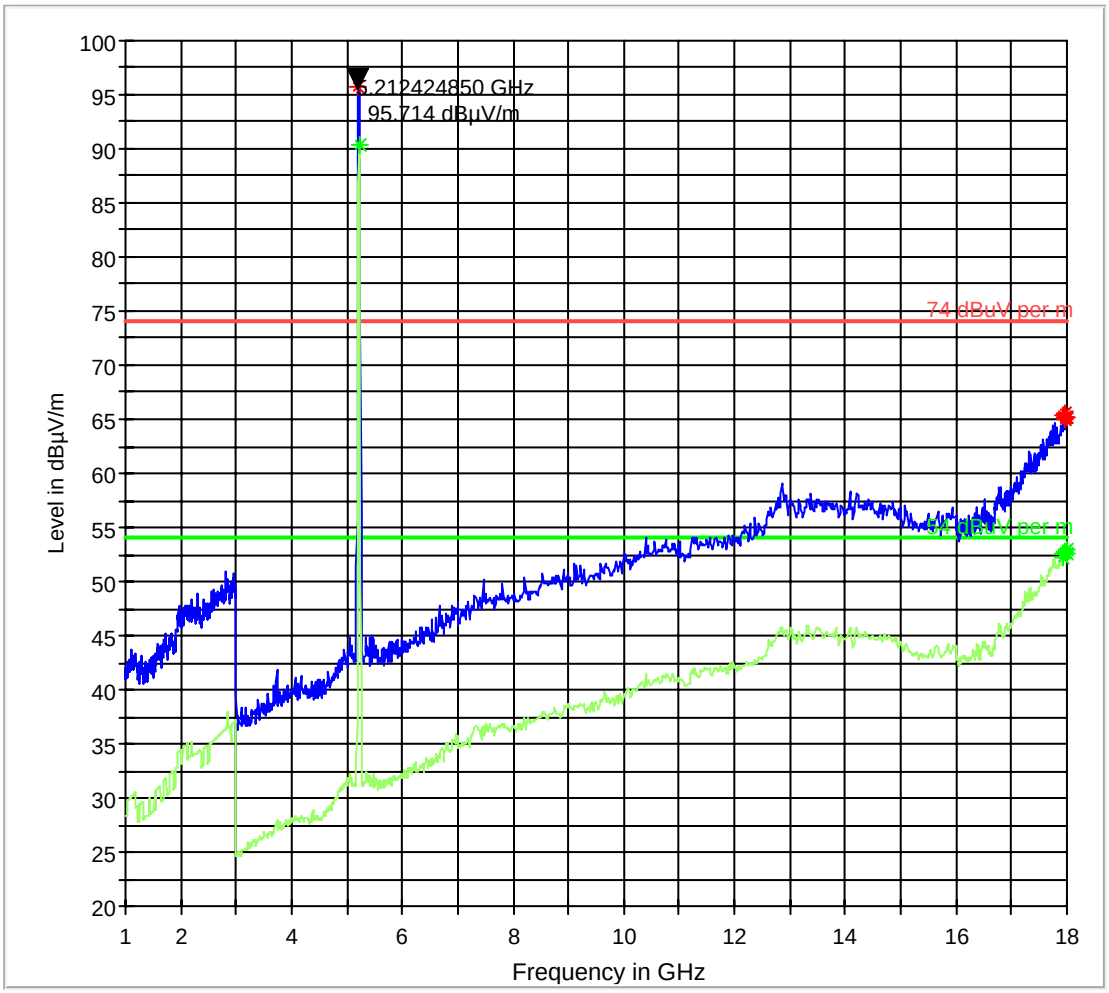


74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2
Data Reduction 1 [2]
Data Reduction 2 [2]

1-18GHz (5220MHz) 802.11n 20MHz chain A

Note: The peak above the limit line is the carrier freq.

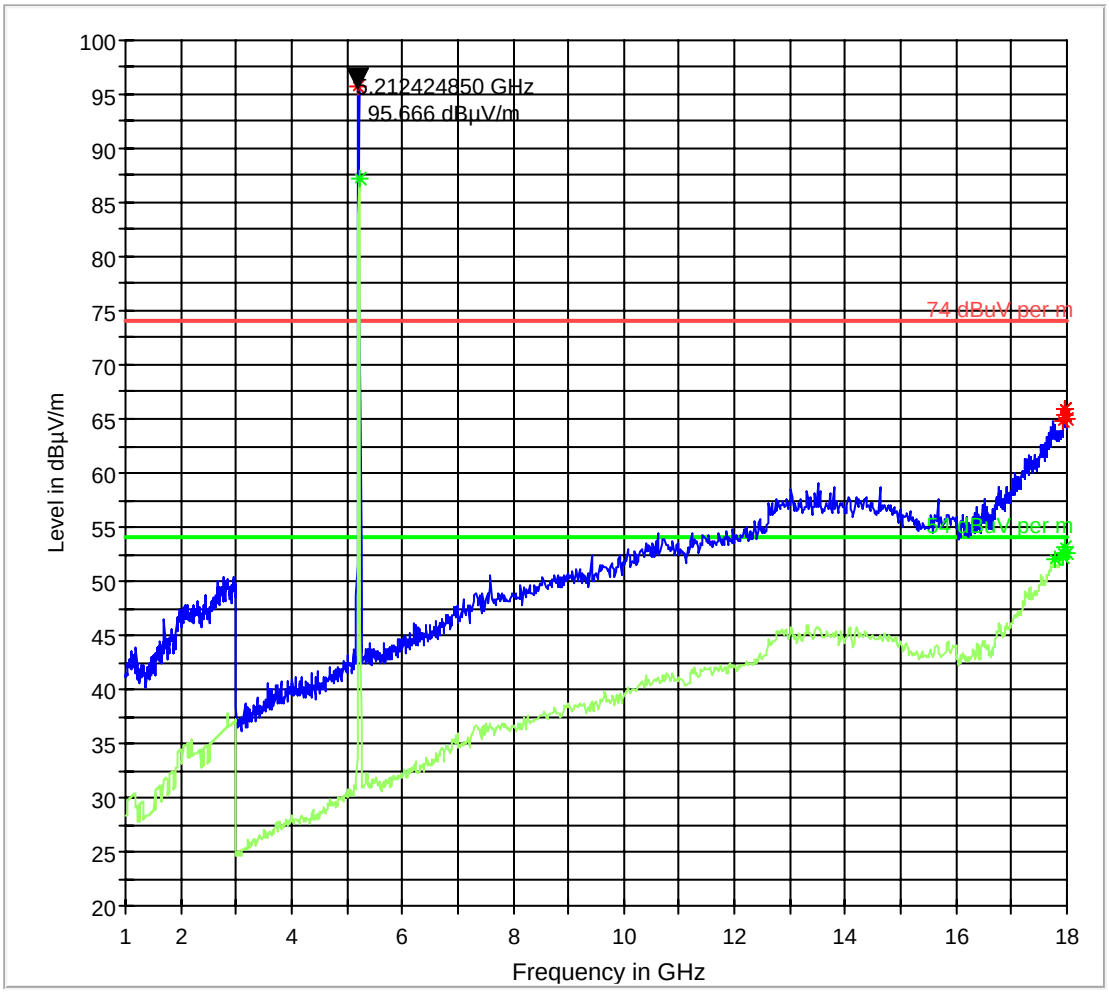
FCC 15 1-18GHz



1-18GHz (5220MHz) 802.11n 20MHz chain B

Note: The peak above the limit line is the carrier freq.

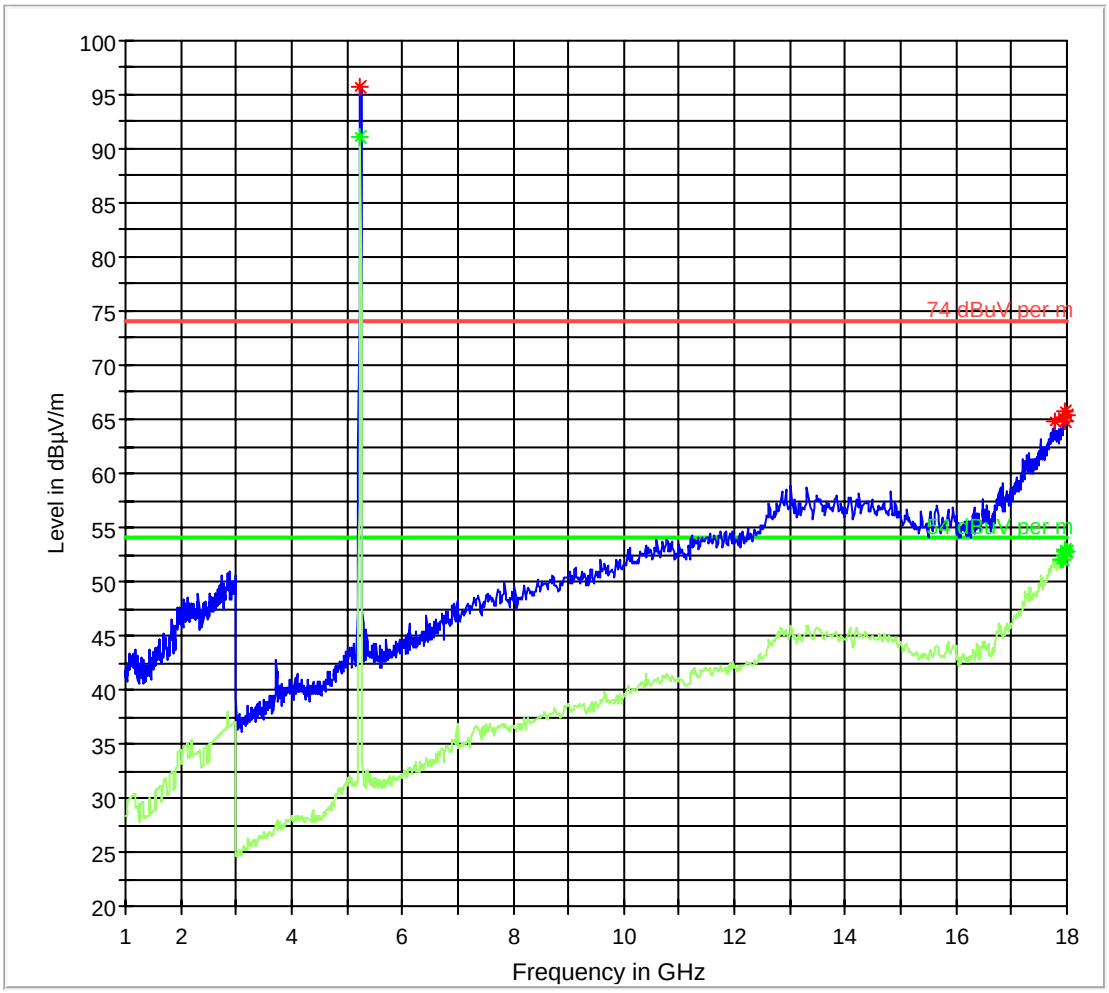
FCC 15 1-18GHz



1-18GHz (5240MHz) 802.11n 20MHz chain A

Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz

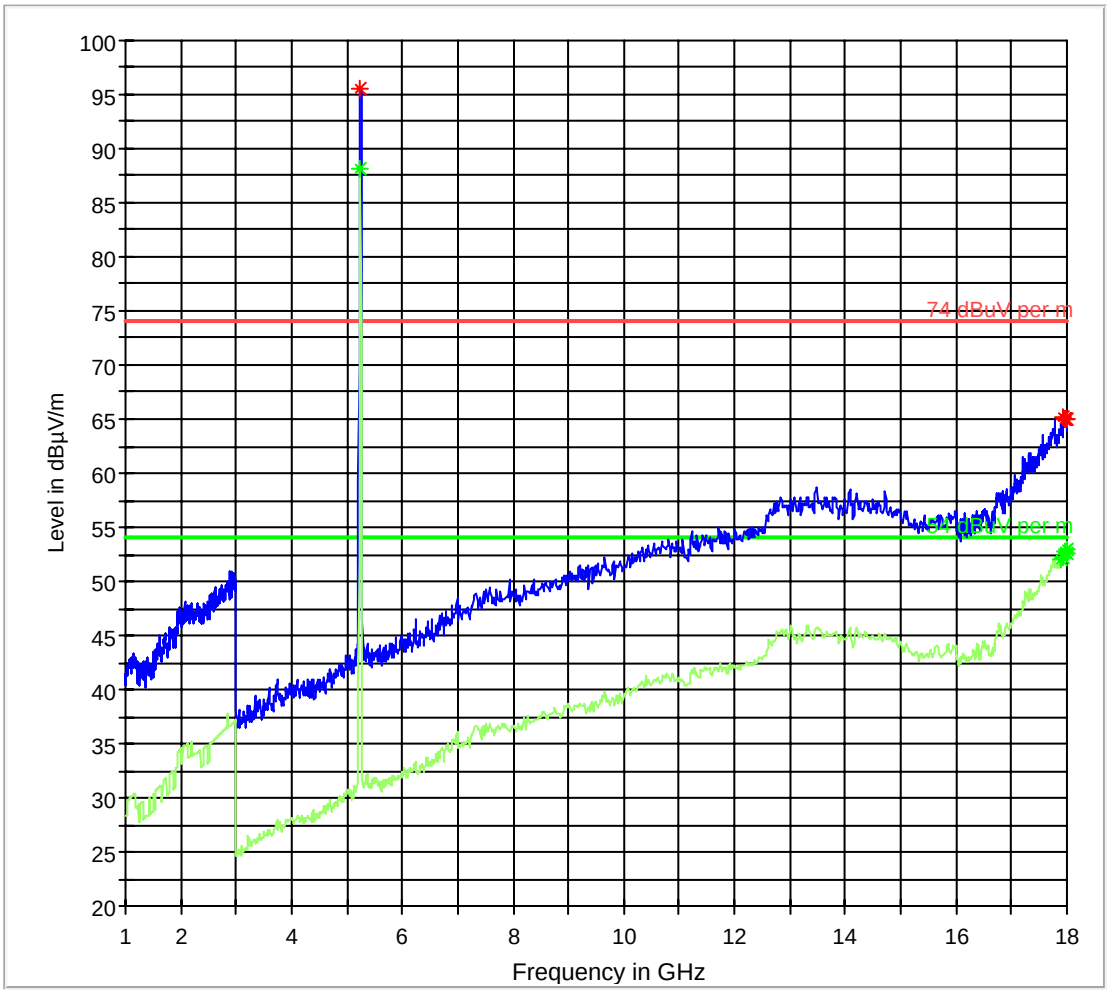


74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2
Data Reduction 1 [2]
Data Reduction 2 [2]

1-18GHz (5240MHz) 802.11n 20MHz chain B

Note: The peak above the limit line is the carrier freq.

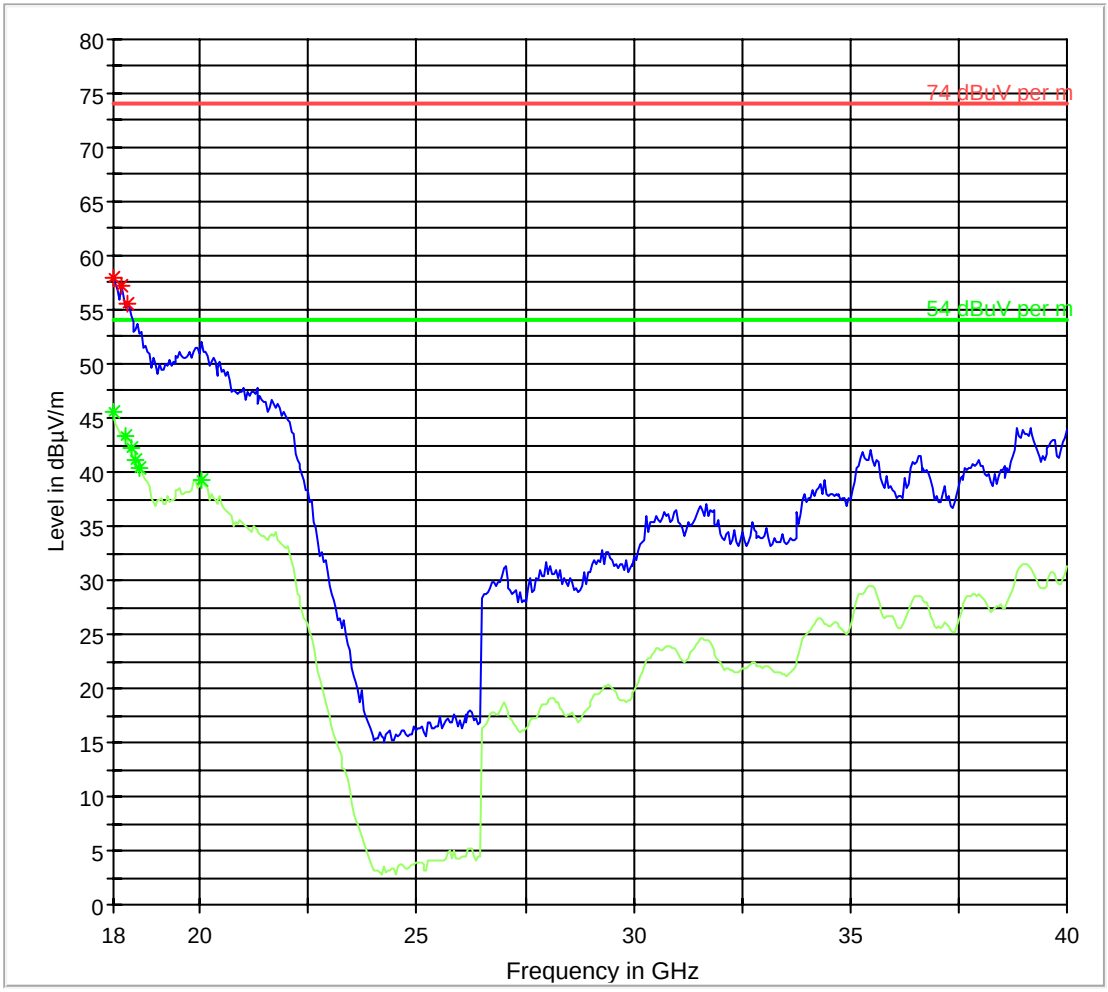
FCC 15 1-18GHz



74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2
Data Reduction 1 [2]
Data Reduction 2 [2]

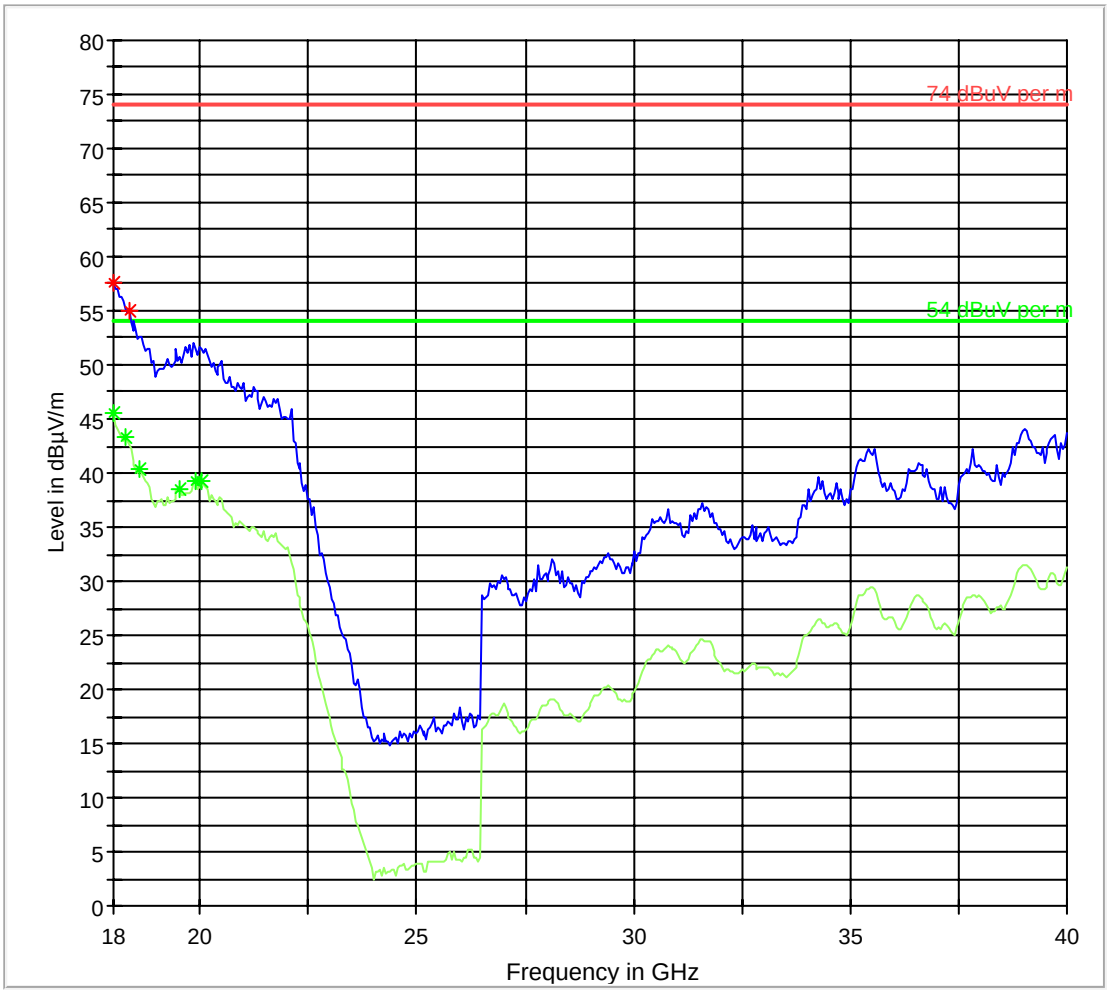
18-40 GHz (5180 MHz) 802.11n 20MHz chain A

FCC 15 18-40GHz



74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2
Data Reduction 1 [6]
Data Reduction 2 [6]

18-40 GHz (5180 MHz) 802.11n 20MHz chain B



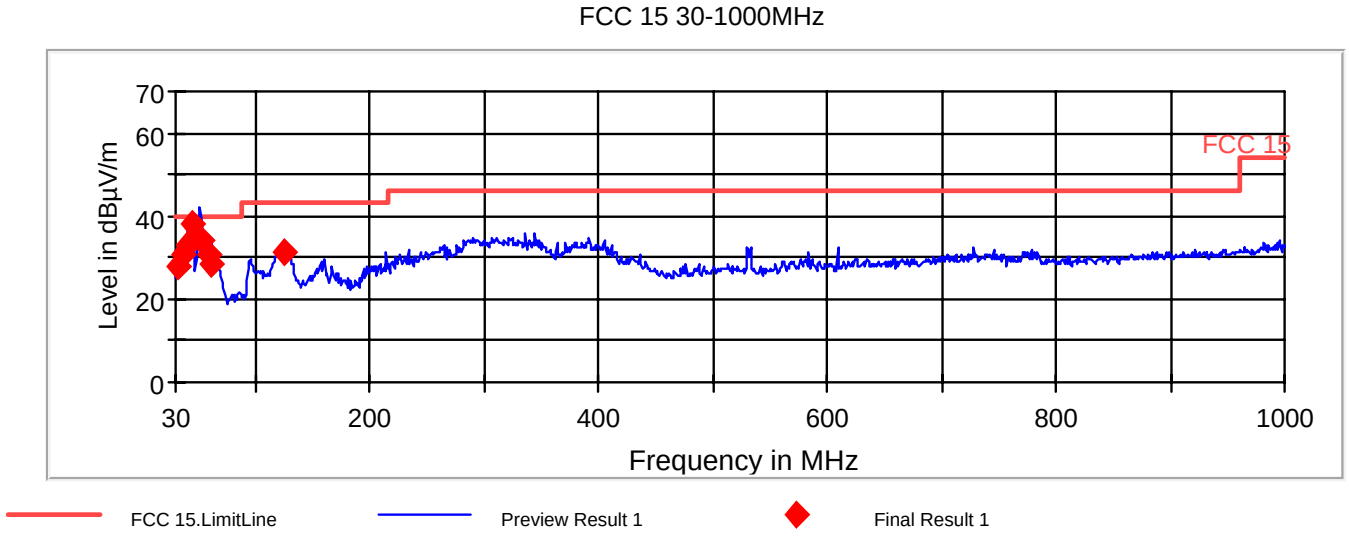
5.3.3 Sub-band 2 802.11n HT20 MODE

30MHz – 1GHz chain AB

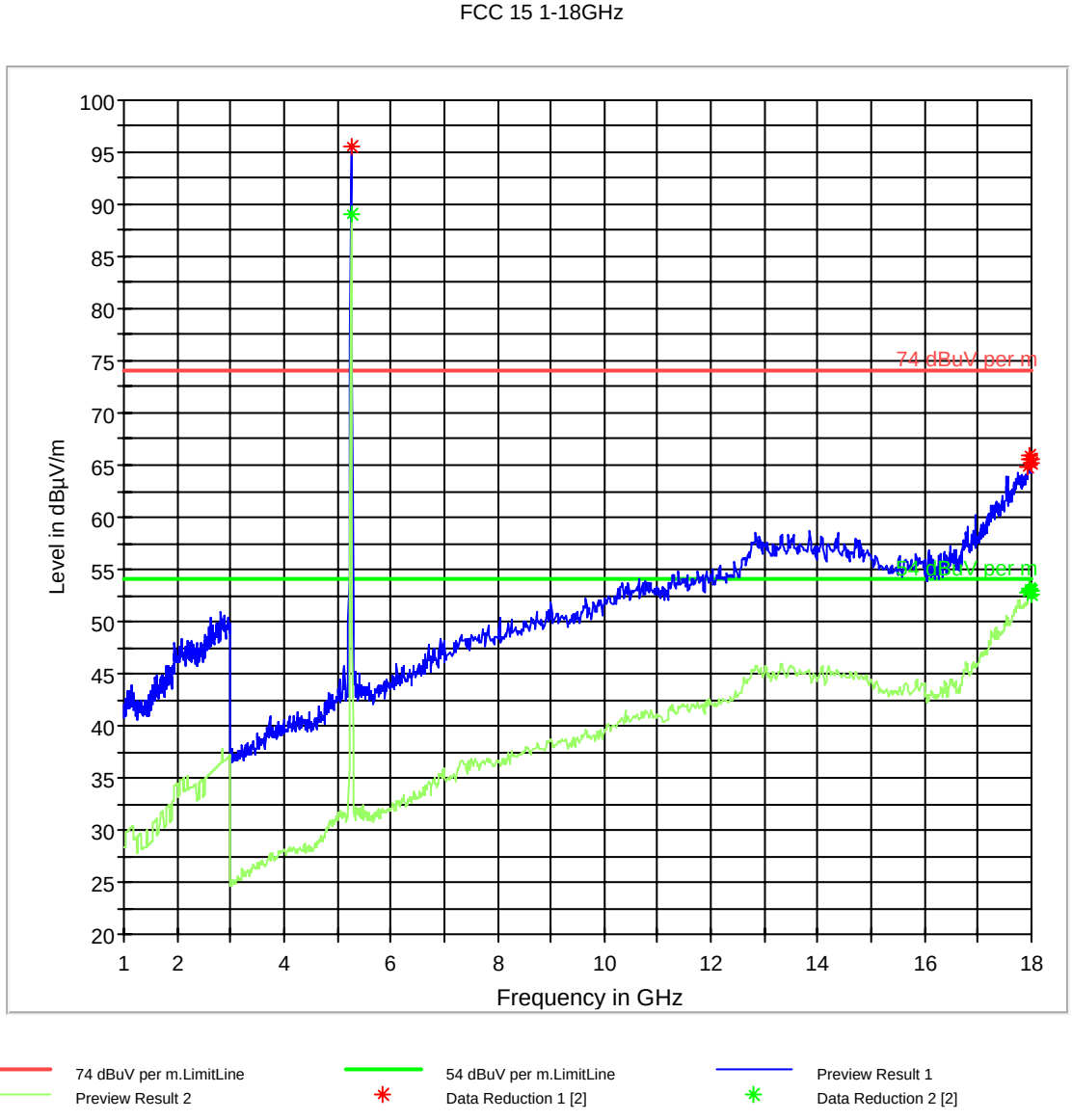
Note: This plot is valid for low, mid, high channels (worst-case plot).

Final Result 1

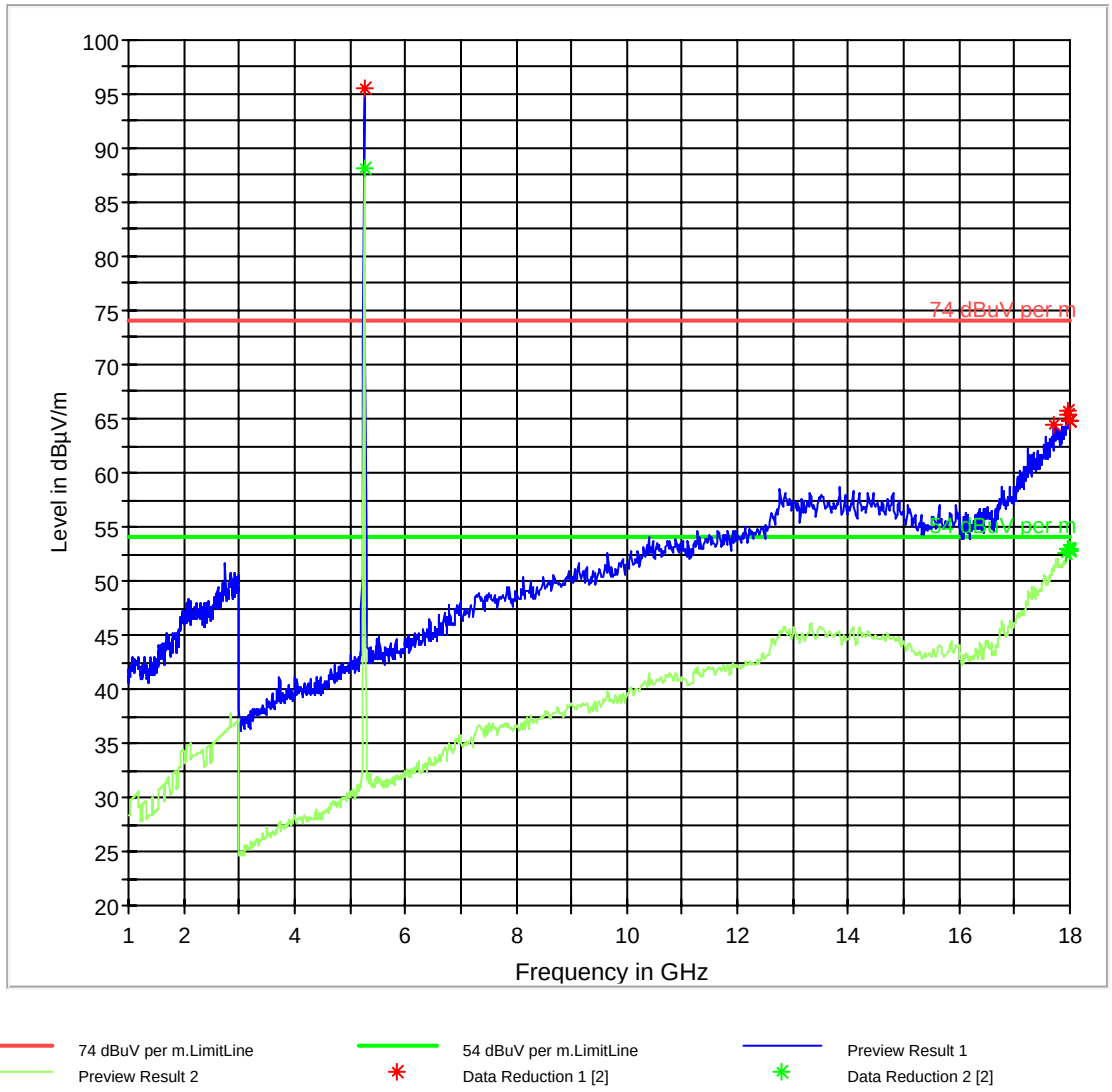
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
32.661602	28.1	20.000	120.000	120.0	V	315.0	6.9	11.9	40.0
36.253378	31.0	20.000	120.000	120.0	V	315.0	6.2	9.0	40.0
40.266092	33.2	20.000	120.000	120.0	V	308.0	5.5	6.8	40.0
44.006684	38.0	20.000	120.000	120.0	V	315.0	6.0	2.0	40.0
52.773655	34.0	20.000	120.000	190.0	V	180.0	7.1	6.0	40.0
59.316051	31.0	20.000	120.000	204.0	V	76.0	7.8	9.0	40.0
60.016747	28.7	20.000	120.000	195.0	V	257.0	7.9	11.3	40.0
124.735280	31.2	20.000	120.000	120.0	V	299.0	8.2	12.3	43.5



1-18GHz (5260MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.

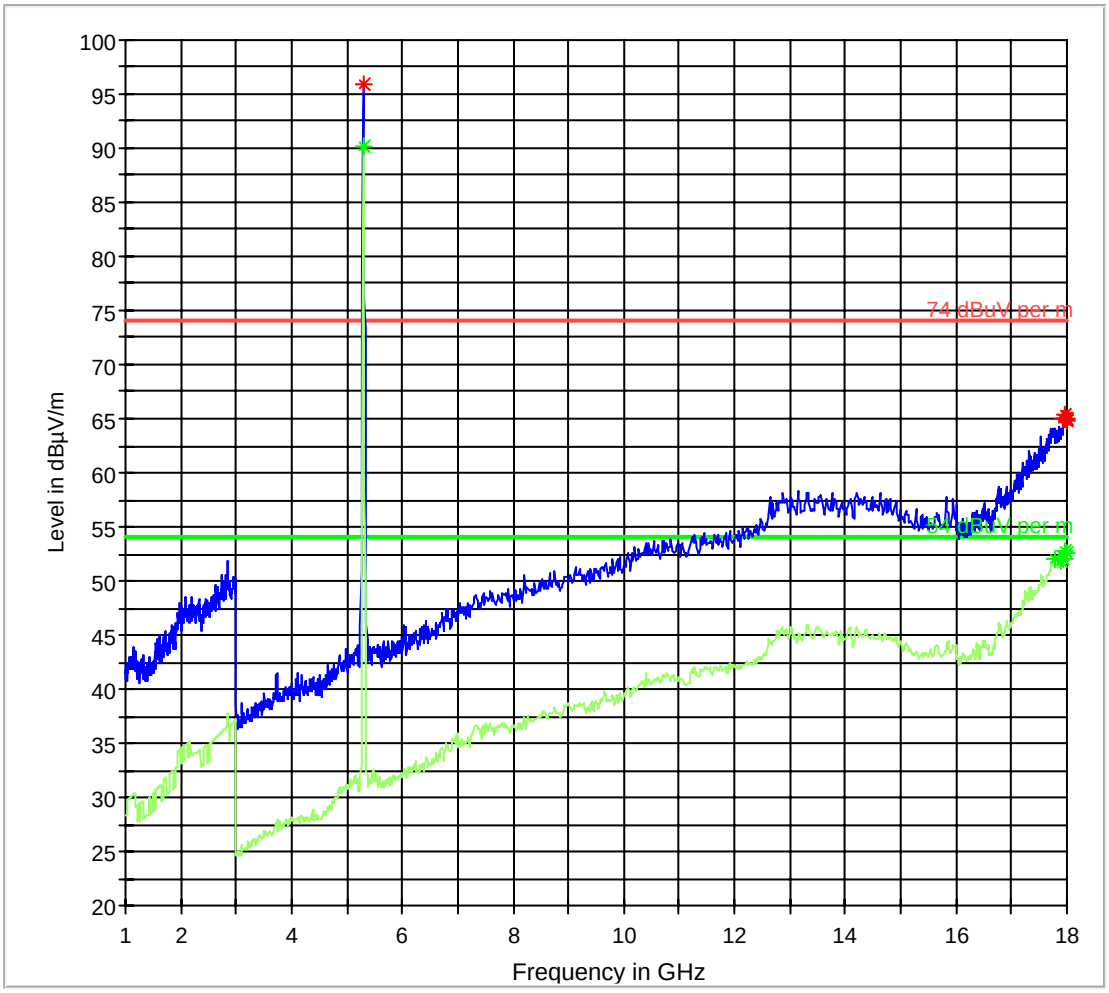


1-18GHz (5260MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.

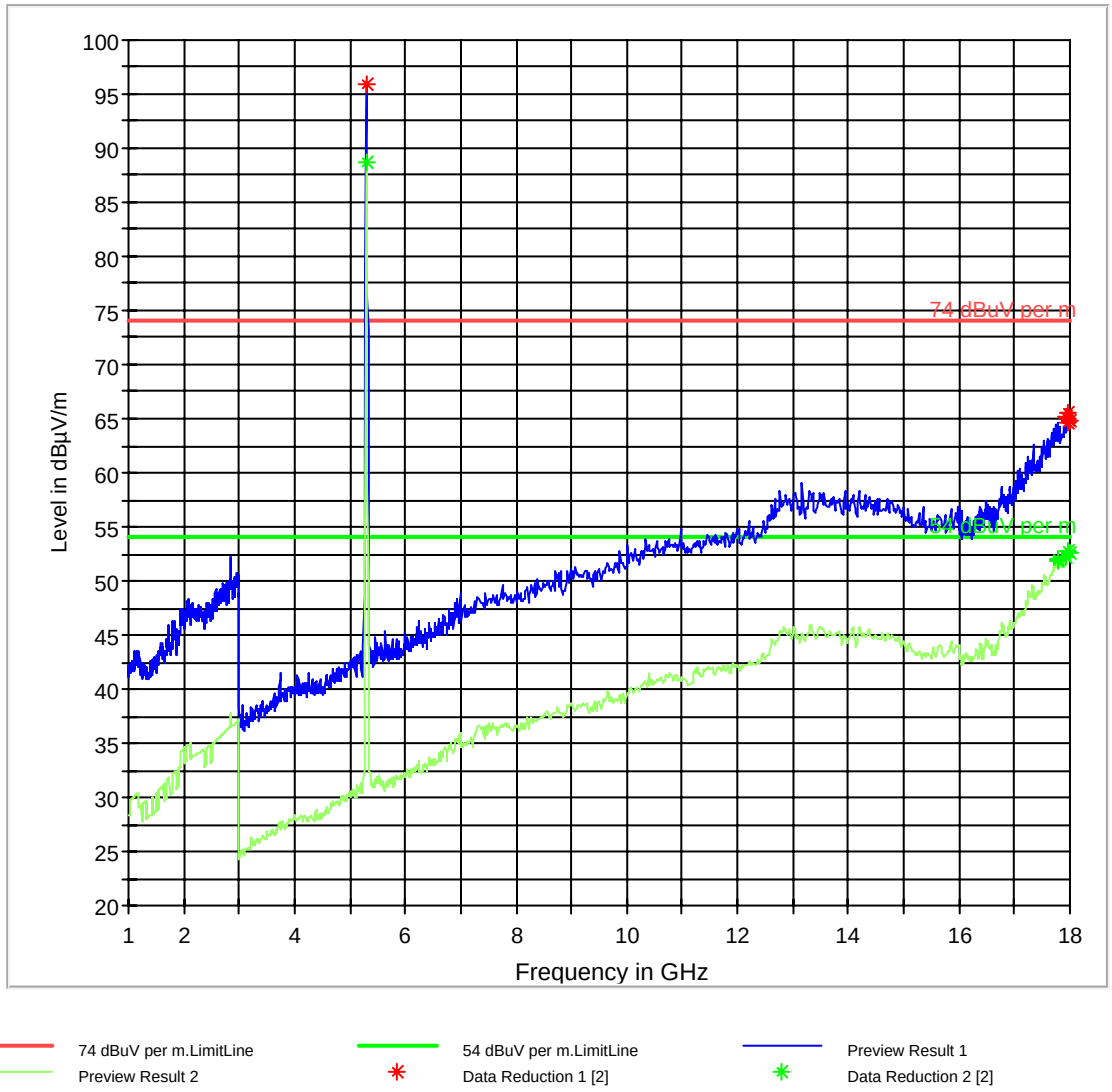


1-18GHz (5300MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.

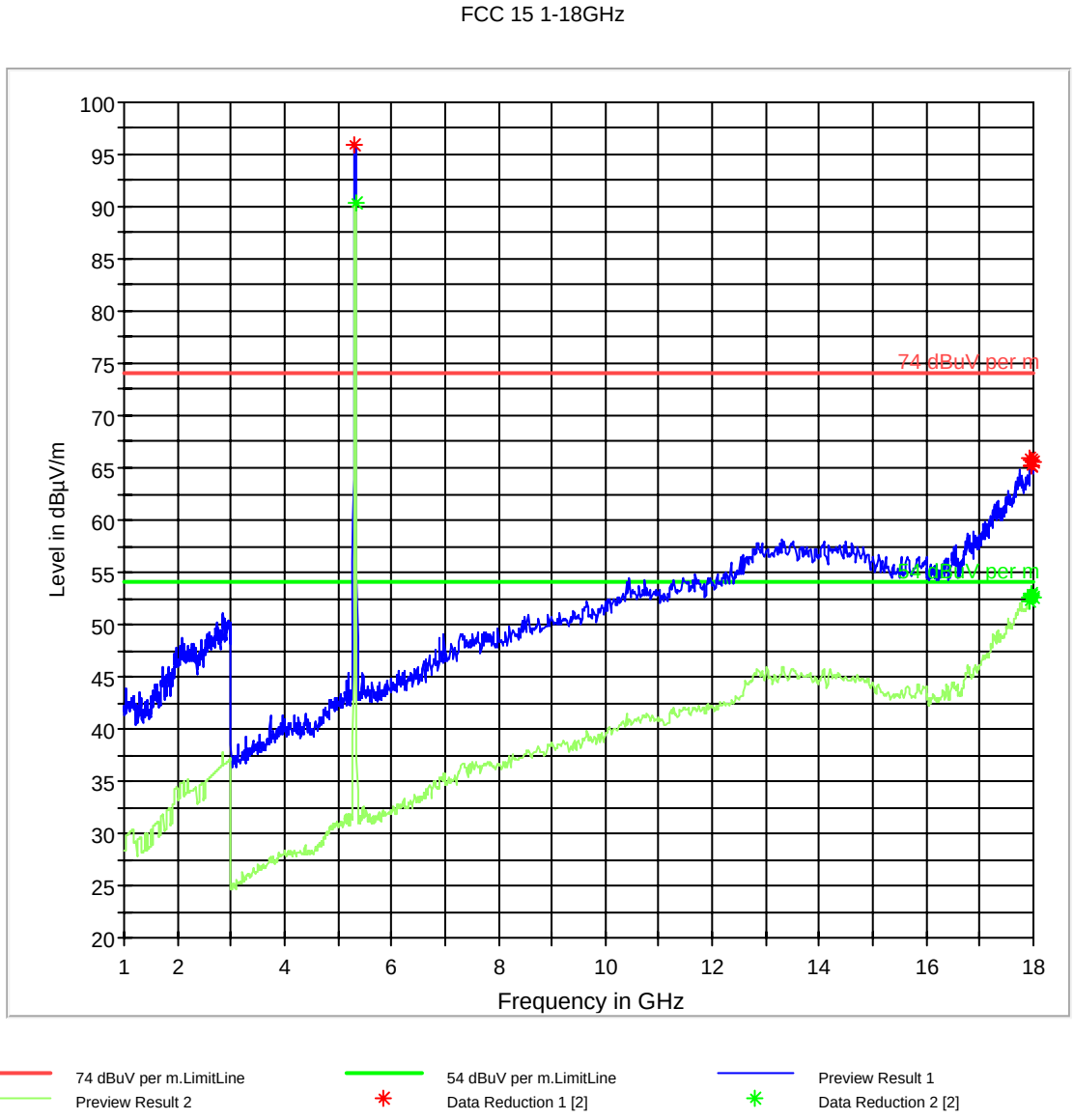
FCC 15 1-18GHz



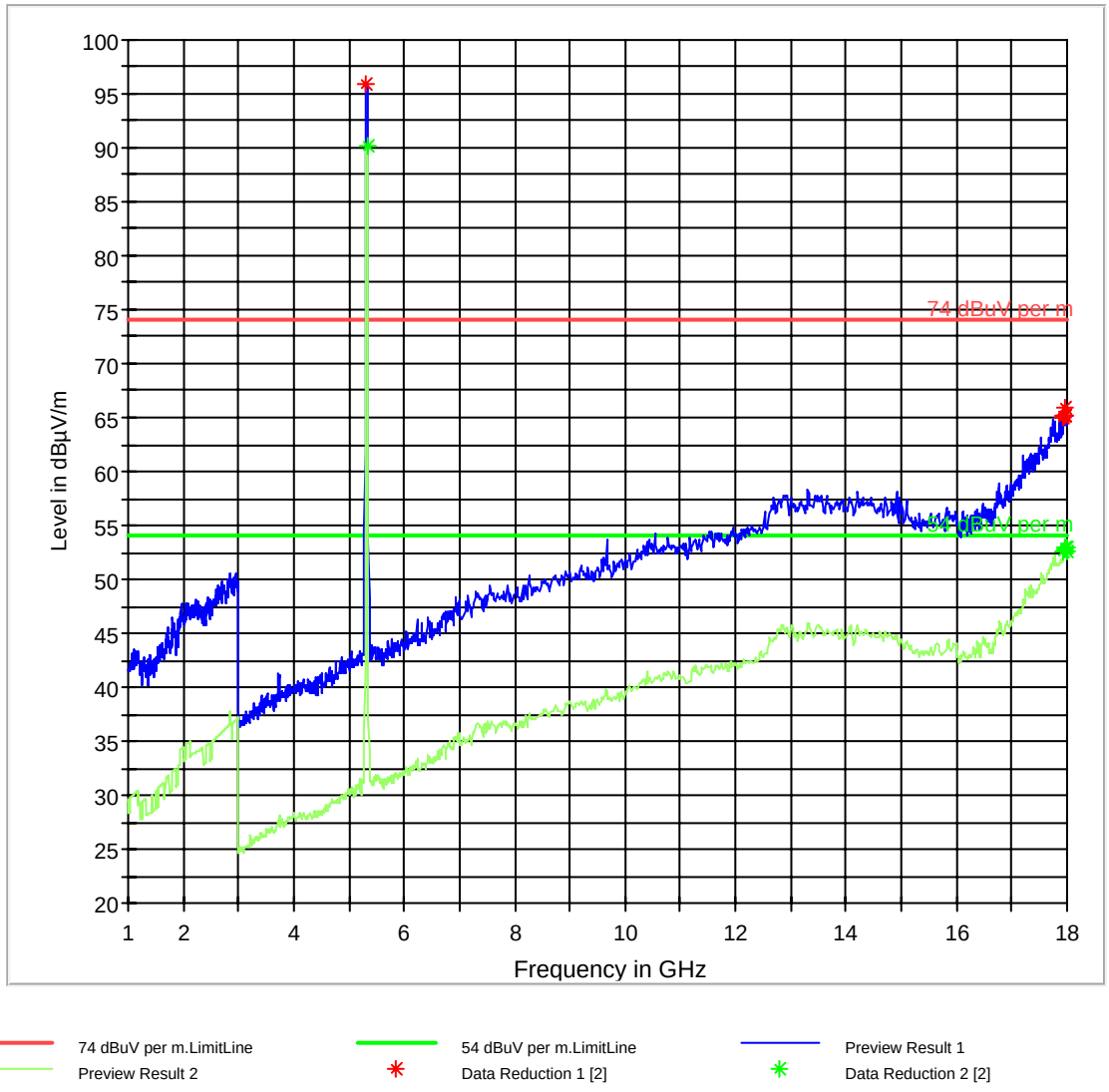
1-18GHz (5300MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.



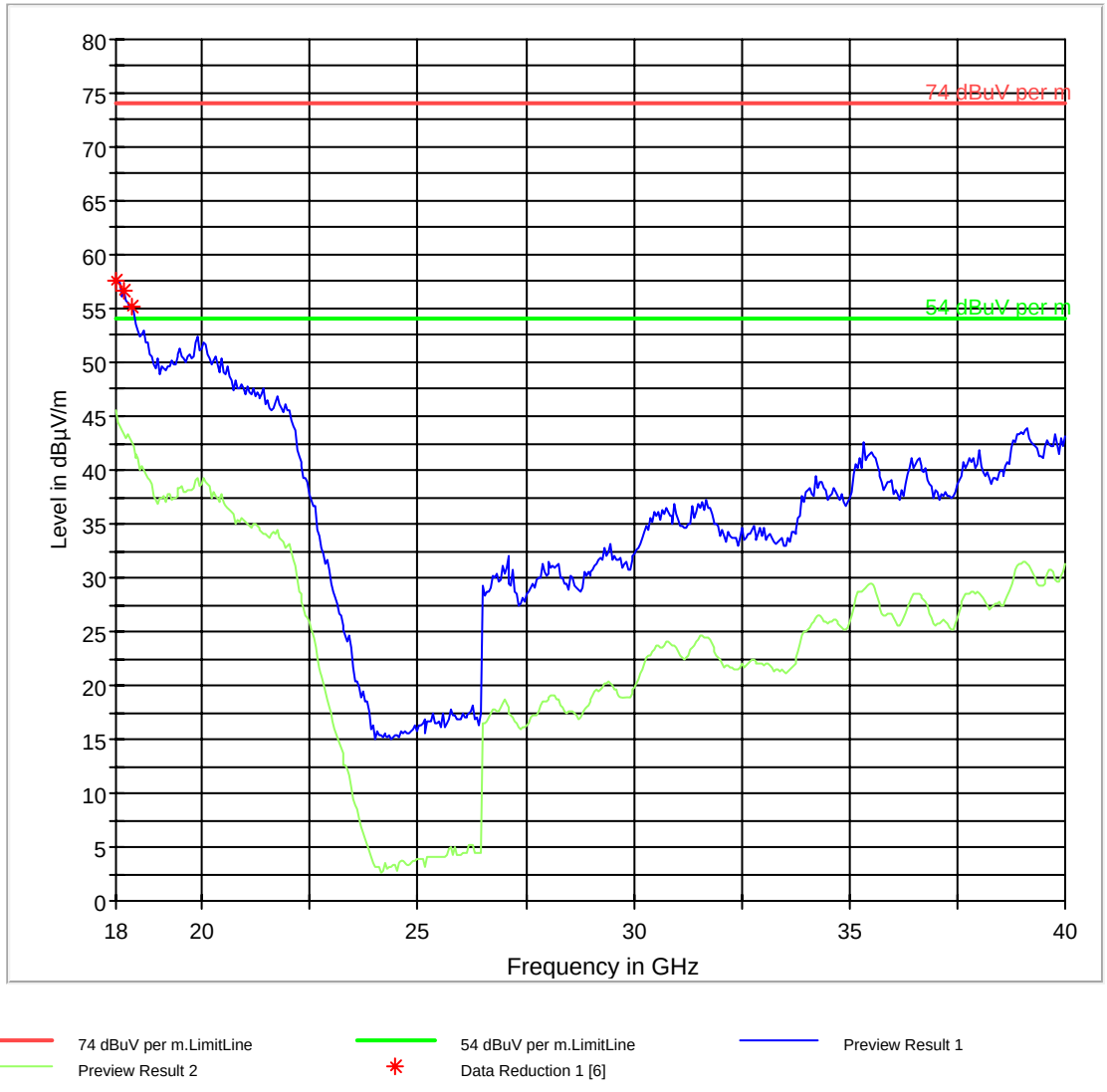
1-18GHz (5320MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.



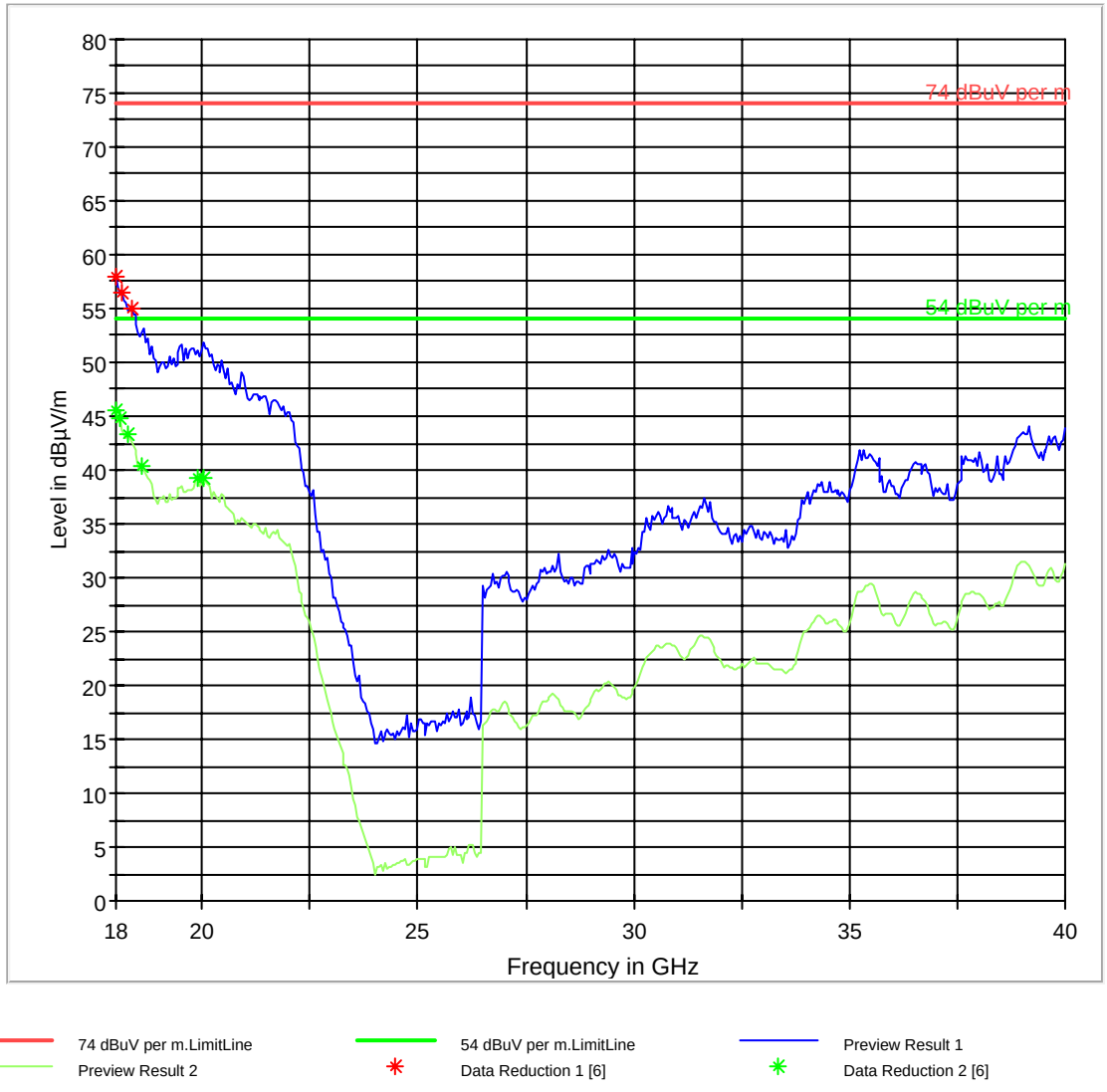
1-18GHz (5320MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.



18-40 GHz (5260 MHz) 802.11n 20MHz chain A



18-40 GHz (5260 MHz) 802.11n 20MHz chain B



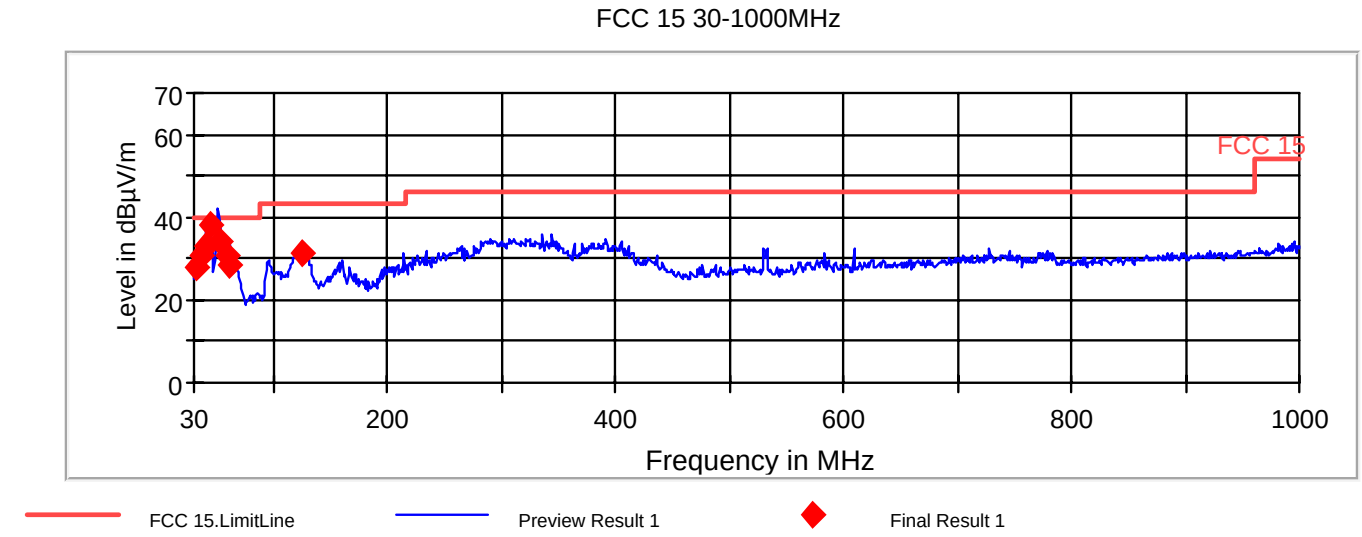
5.3.4 **Sub-band 3 802.11n HT20 MODE**

30MHz – 1GHz chain AB

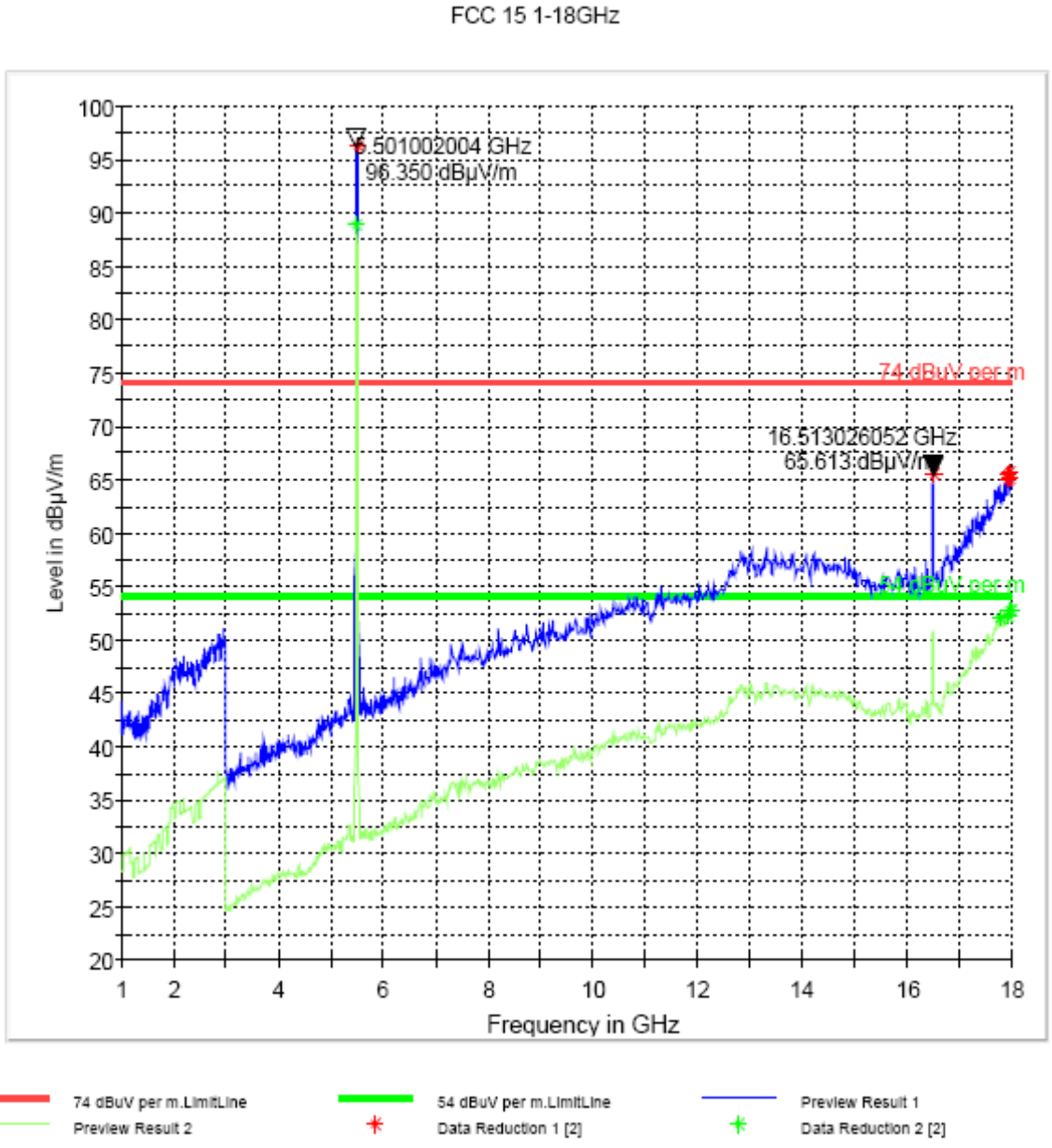
Note: This plot is valid for low, mid, high channels (worst-case plot).

Final Result 1

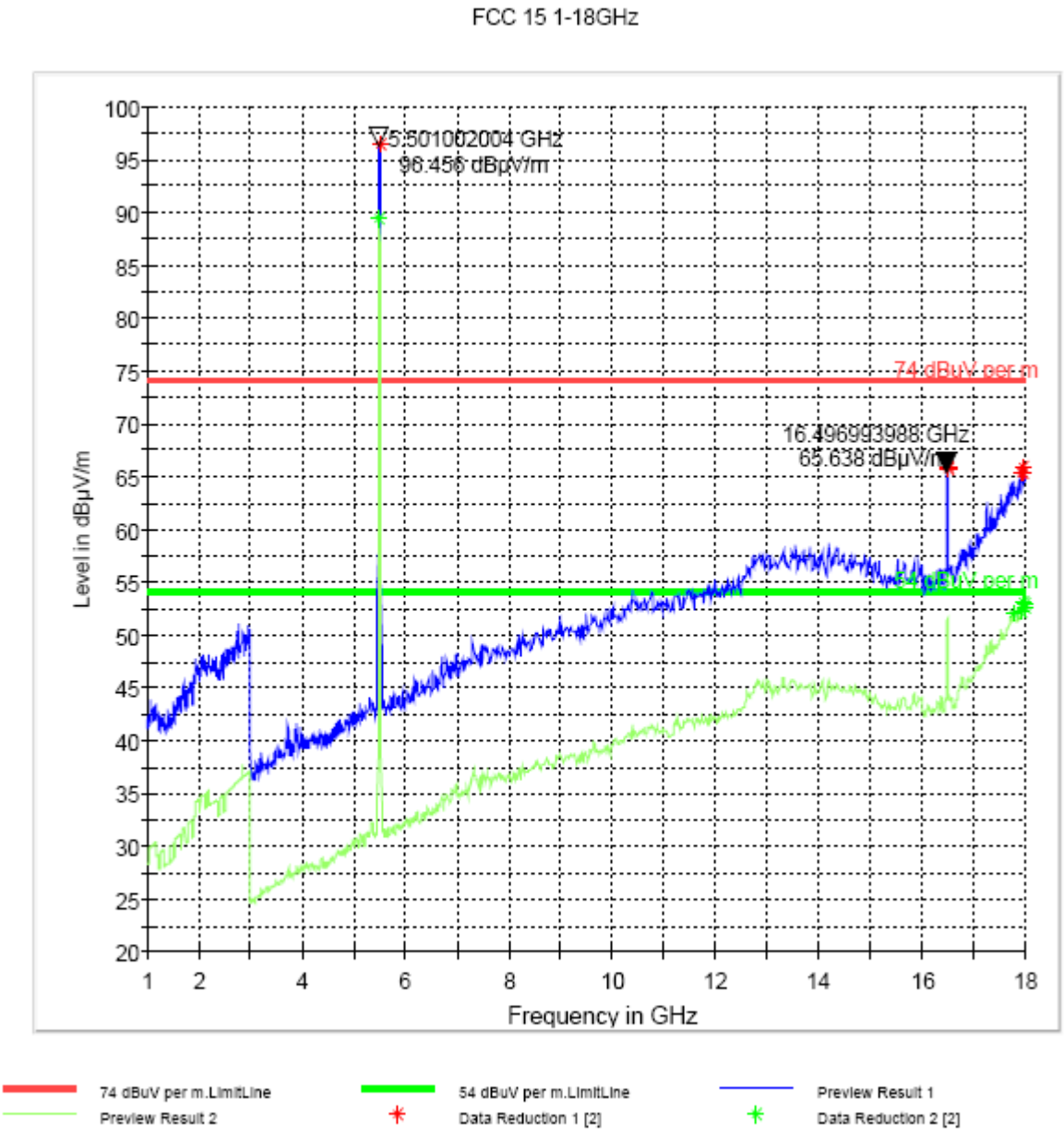
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
32.661602	28.1	20.000	120.000	120.0	V	315.0	6.9	11.9	40.0
36.253378	31.0	20.000	120.000	120.0	V	315.0	6.2	9.0	40.0
40.266092	33.2	20.000	120.000	120.0	V	308.0	5.5	6.8	40.0
44.006684	38.0	20.000	120.000	120.0	V	315.0	6.0	2.0	40.0
52.773655	34.0	20.000	120.000	190.0	V	180.0	7.1	6.0	40.0
59.316051	31.0	20.000	120.000	204.0	V	76.0	7.8	9.0	40.0
60.016747	28.7	20.000	120.000	195.0	V	257.0	7.9	11.3	40.0
124.735280	31.2	20.000	120.000	120.0	V	299.0	8.2	12.3	43.5



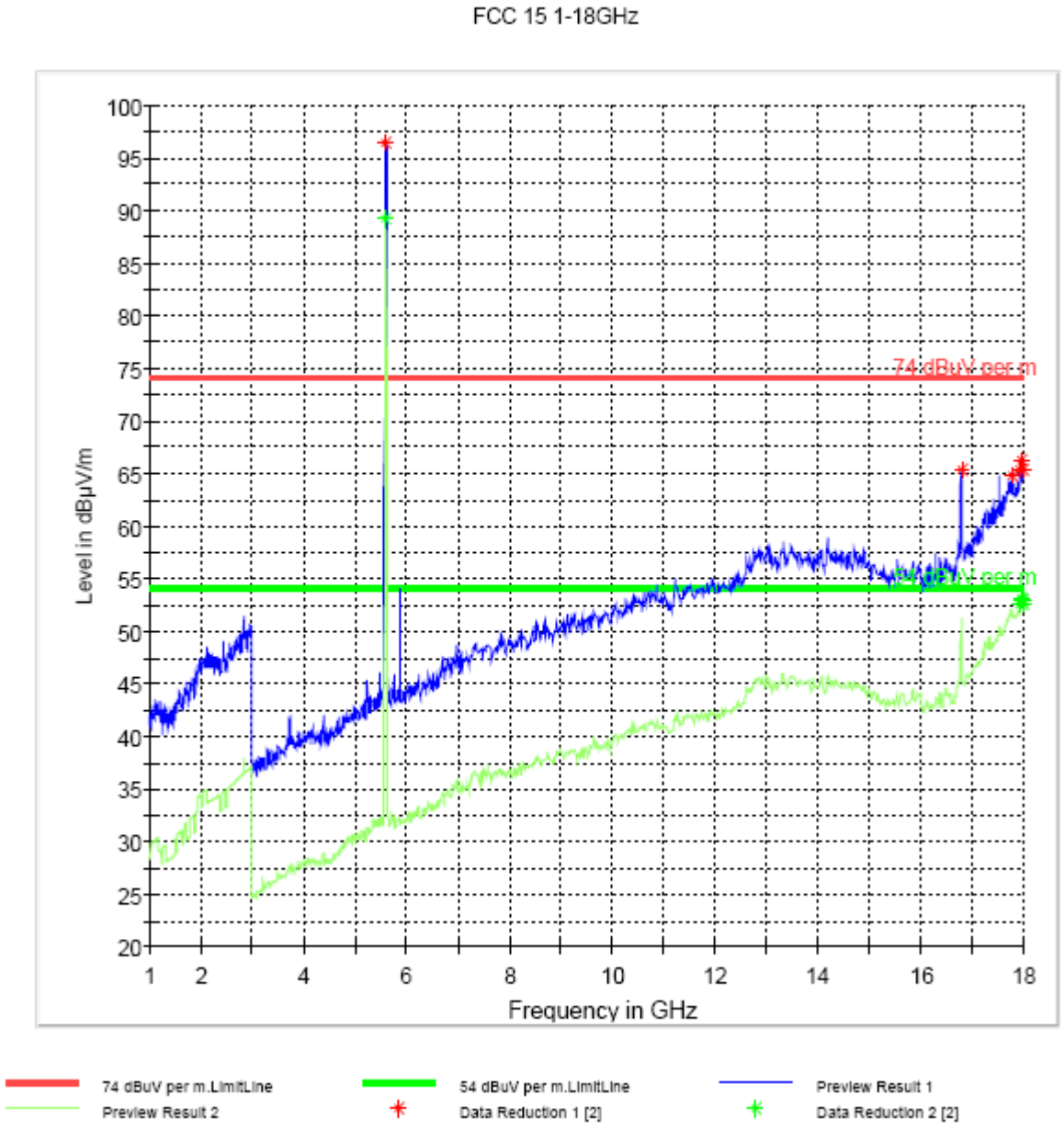
1-18GHz (5500MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.



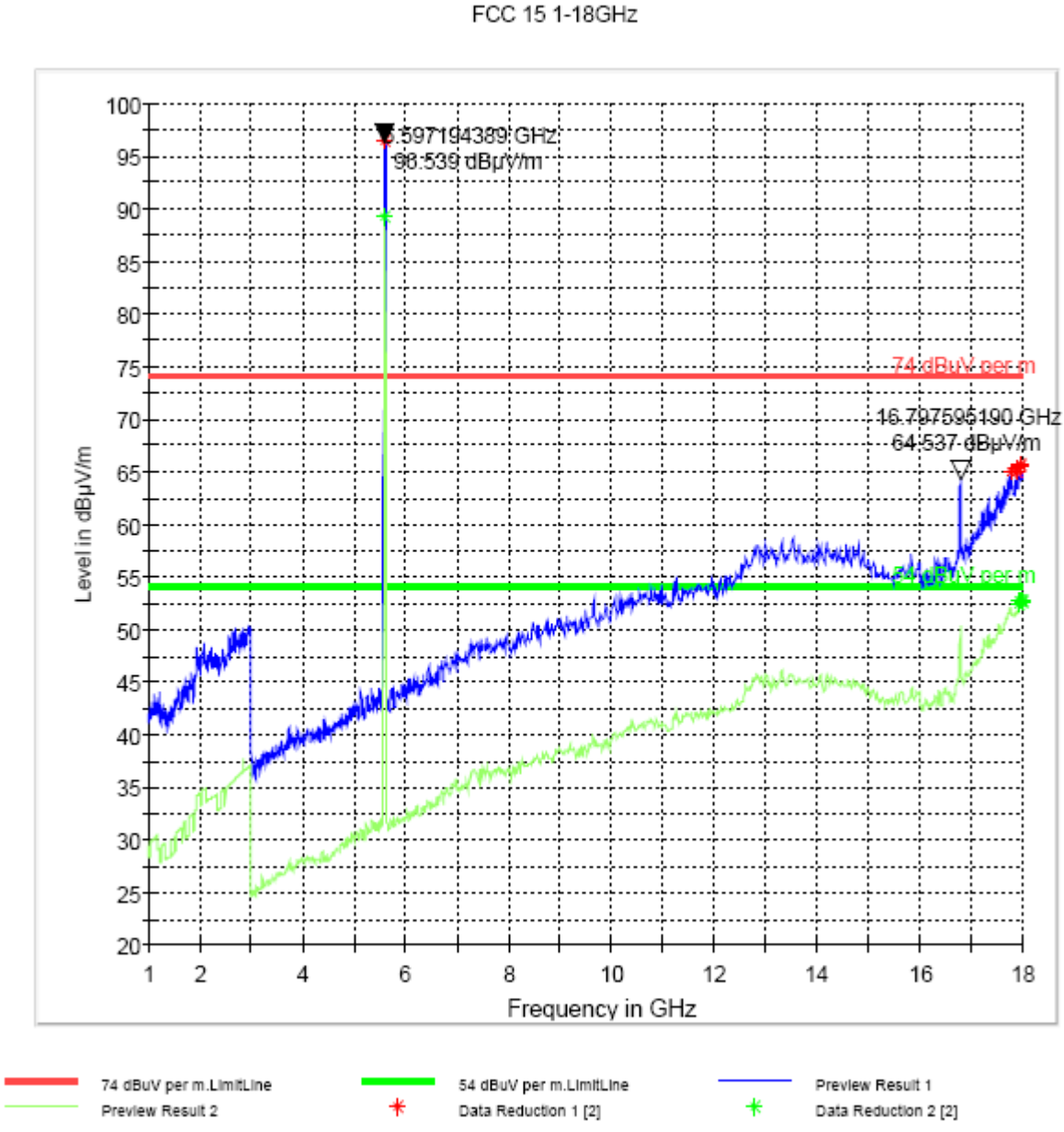
1-18GHz (5500MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.



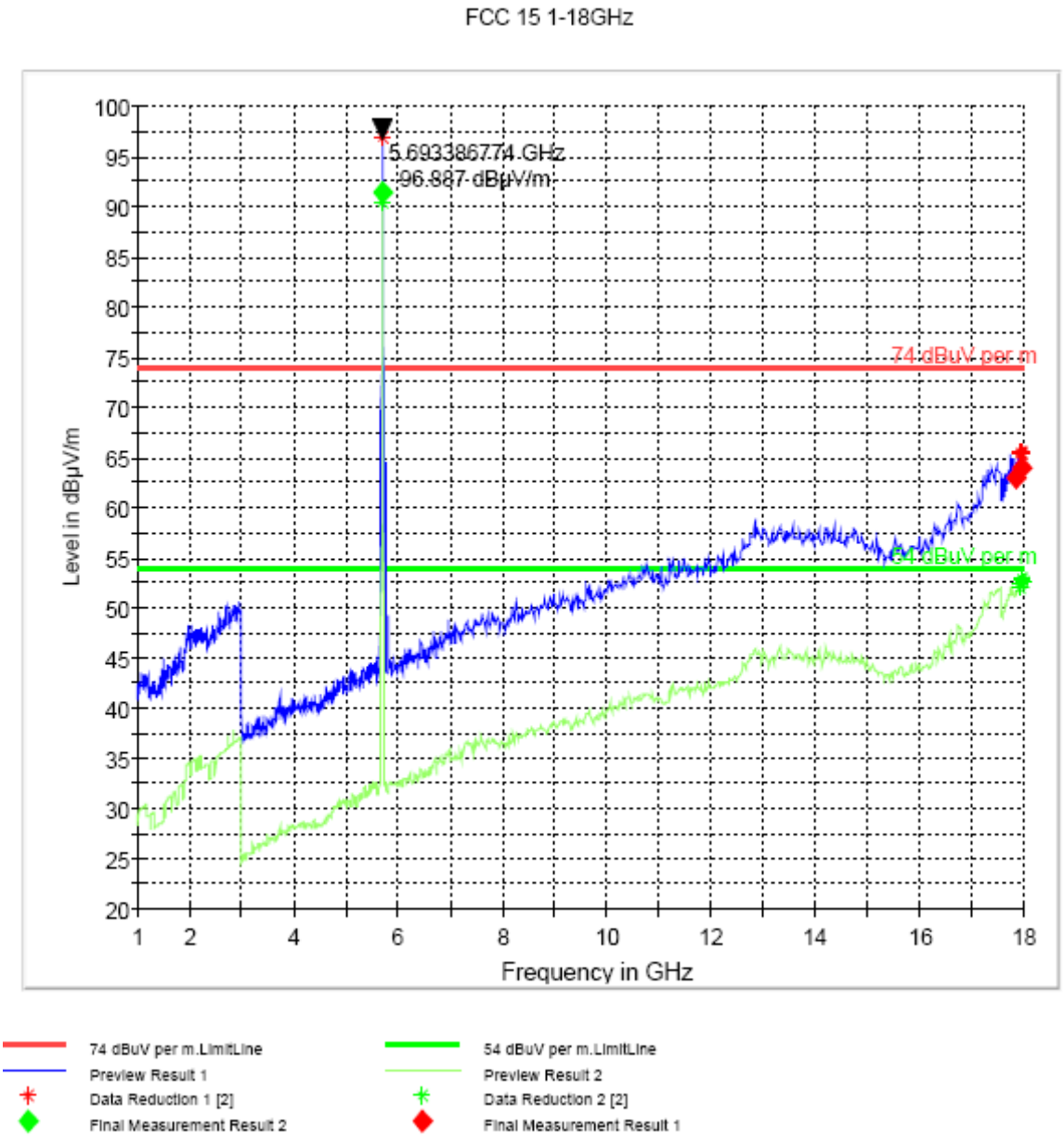
1-18GHz (5600MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.



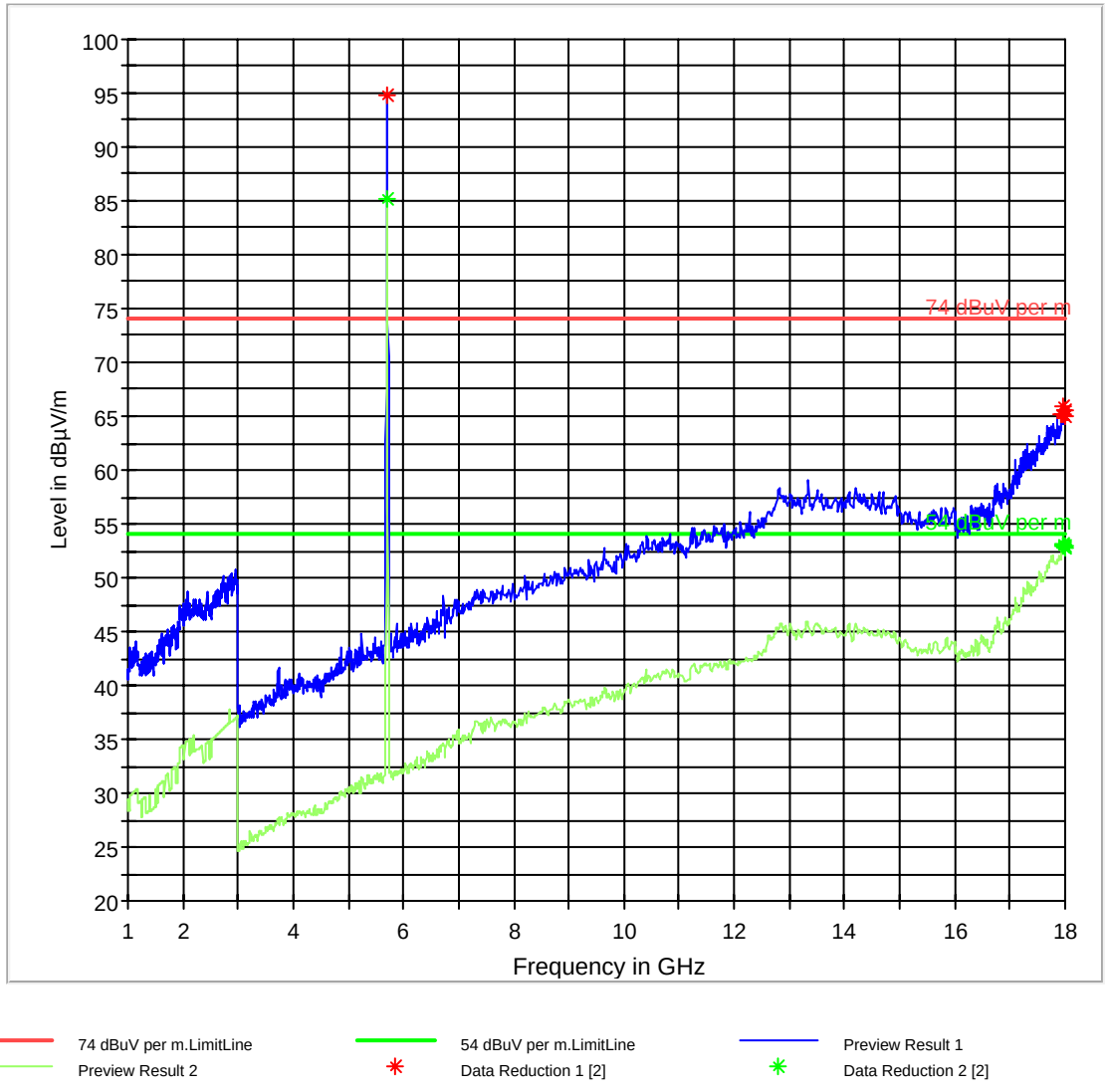
1-18GHz (5600MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.



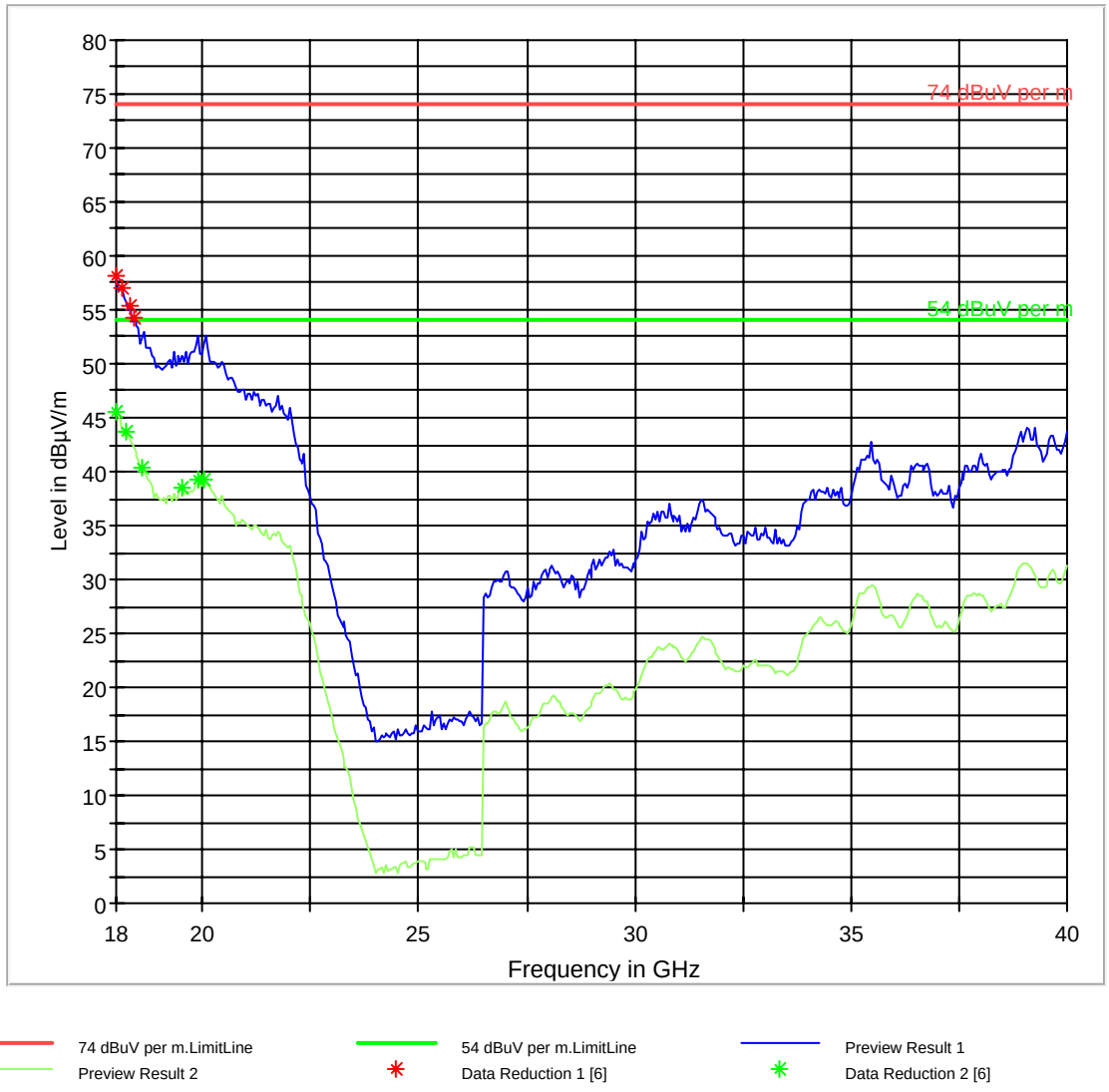
1-18GHz (5700MHz) 802.11n 20MHz chain A
Note: The peak above the limit line is the carrier freq.



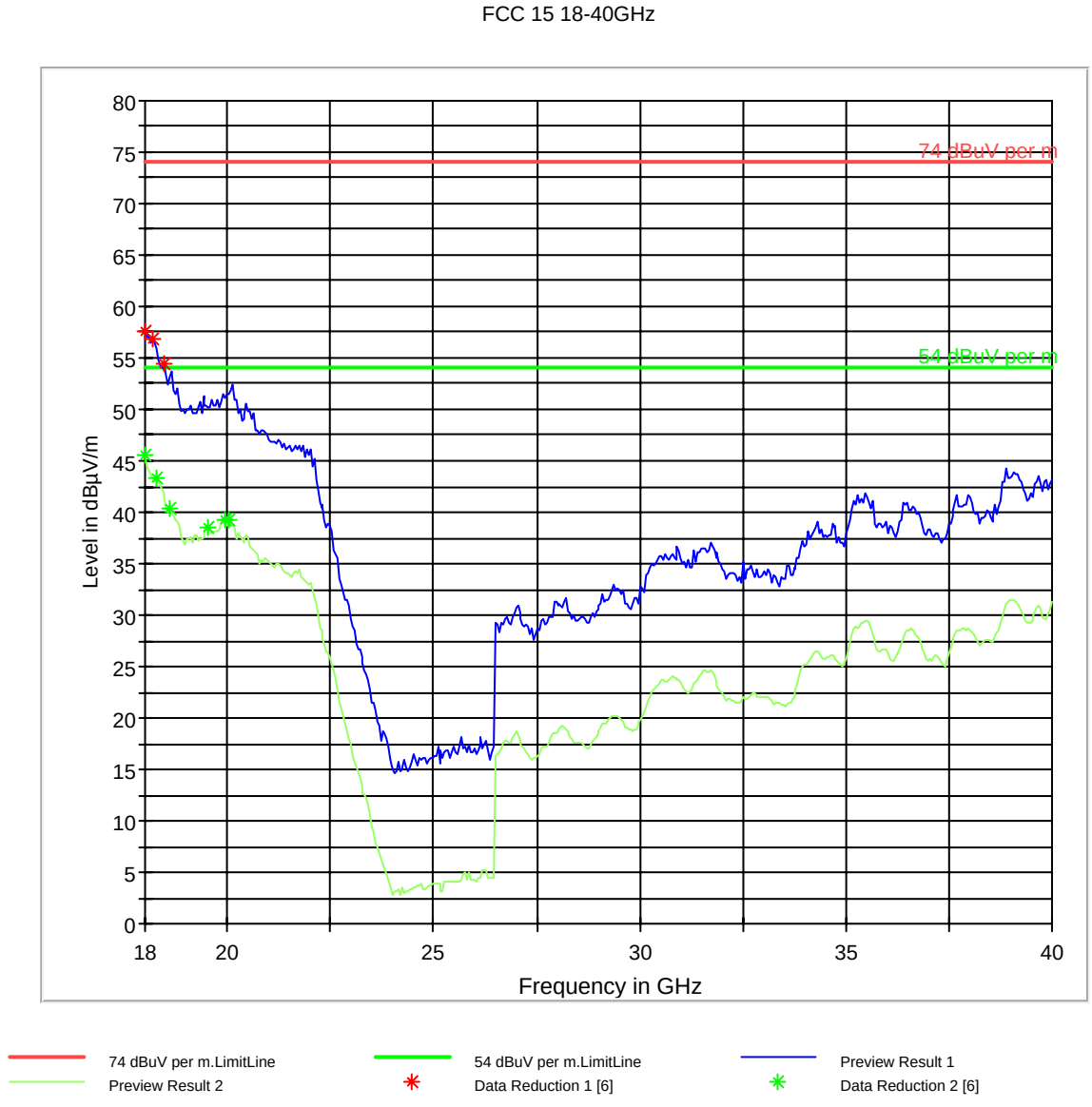
1-18GHz (5700MHz) 802.11n 20MHz chain B
Note: The peak above the limit line is the carrier freq.



18-40 GHz (5500 MHz) 802.11n 20MHz chain A



18-40 GHz (5500 MHz) 802.11n 20MHz chain B



5.3.5 **Sub-band 1 802.11n HT40 MODE**

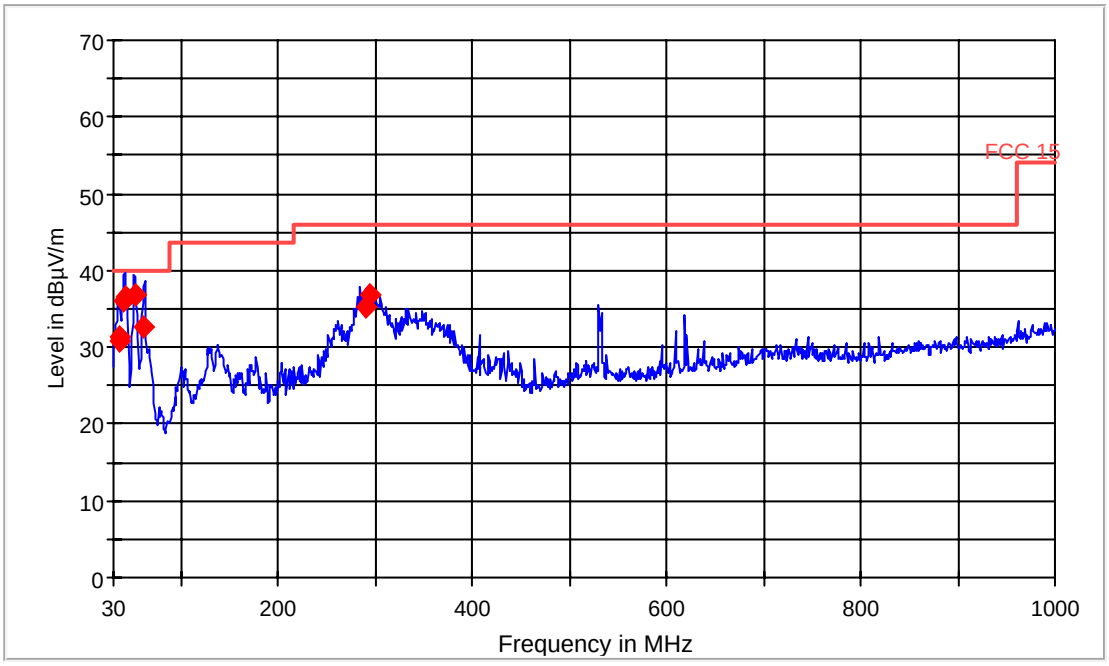
30MHz – 1GHz; Chain AB

Note: This plot is valid for low, mid, high channels (worst-case plot).

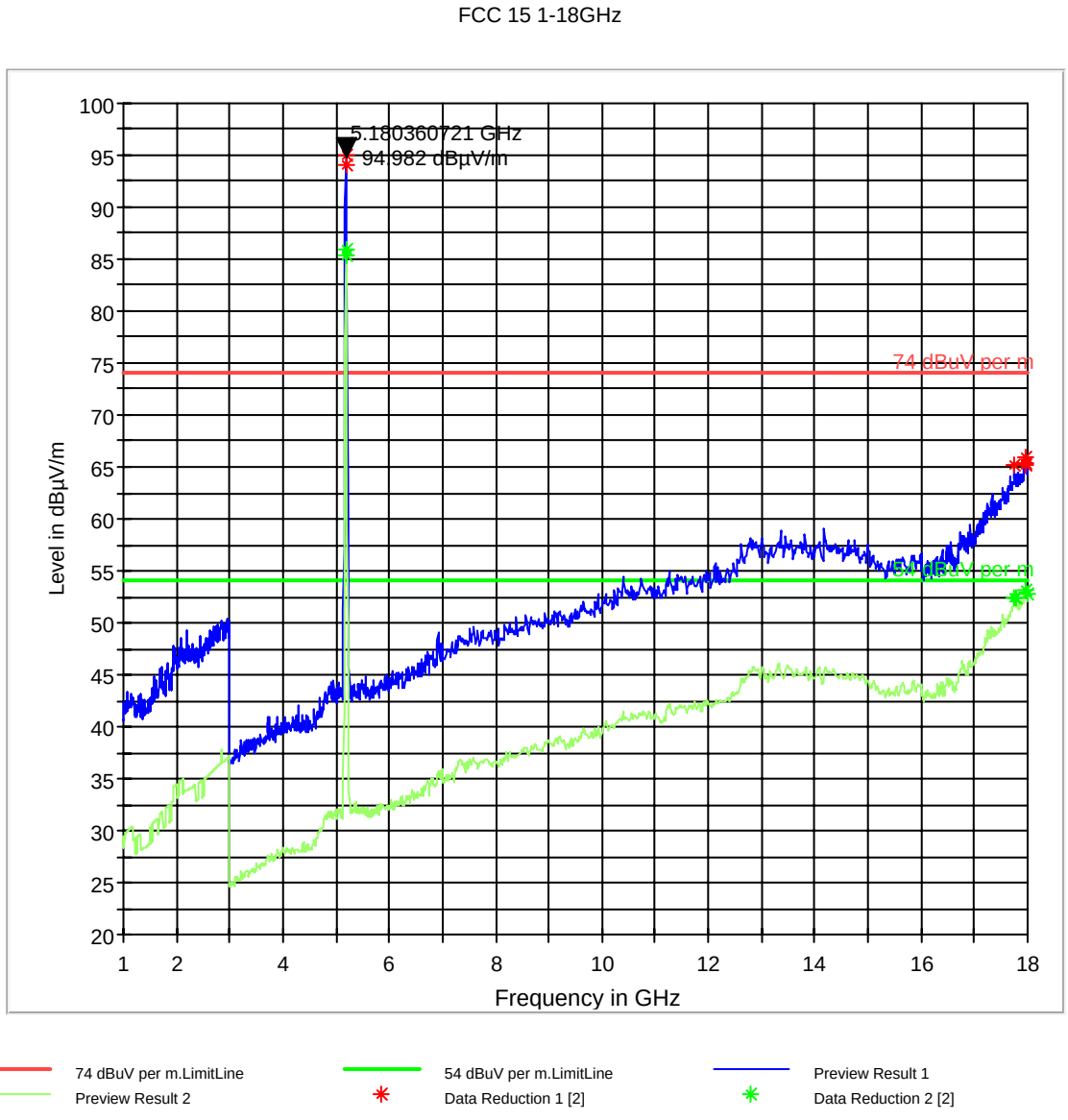
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
35.232701	31.3	20.000	120.000	120.0	V	225.0	6.4	8.7	40.0
36.657364	30.8	20.000	120.000	120.0	V	315.0	6.1	9.2	40.0
41.046194	36.1	20.000	120.000	120.0	V	298.0	5.6	3.9	40.0
42.128096	36.6	20.000	120.000	120.0	V	298.0	5.7	3.4	40.0
52.364723	37.0	20.000	120.000	120.0	V	45.0	7.0	3.0	40.0
60.703482	32.6	20.000	120.000	195.0	V	78.0	8.0	7.4	40.0
289.279594	35.1	20.000	120.000	120.0	H	236.0	15.5	10.9	46.0
293.653878	37.0	20.000	120.000	120.0	H	244.0	15.8	9.0	46.0

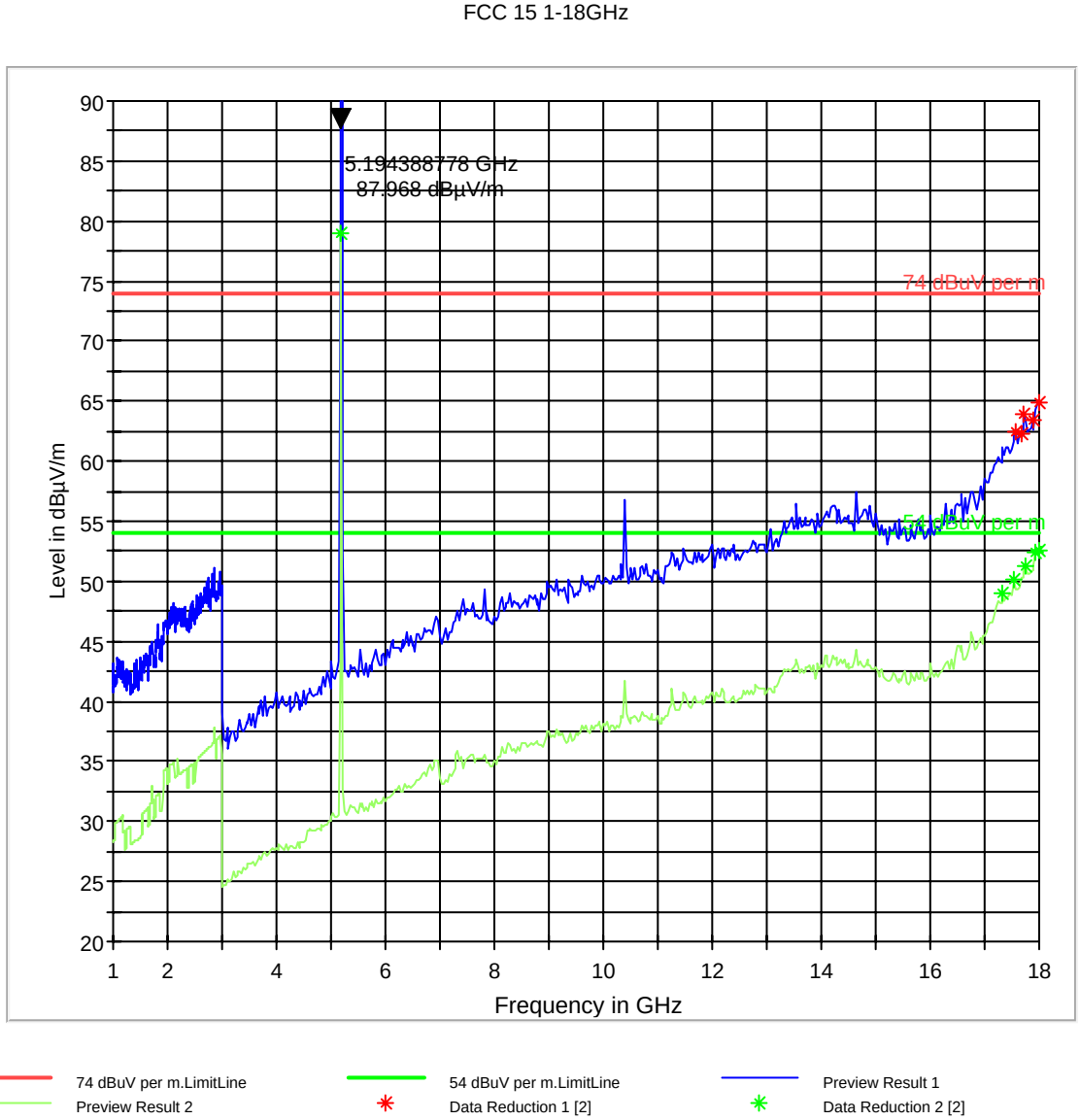
FCC 15 30-1000MHz



1-18GHz (5190MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

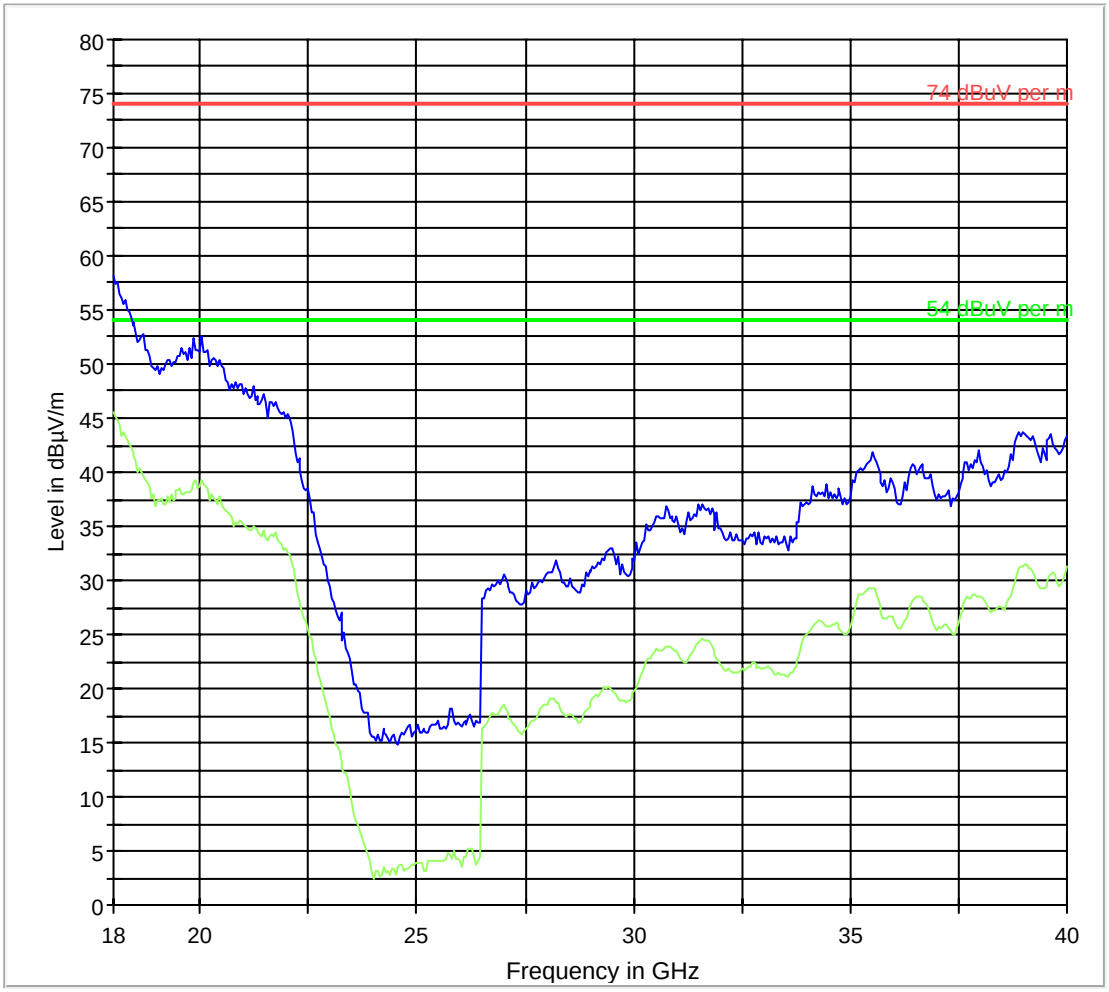


1-18GHz (5190MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.



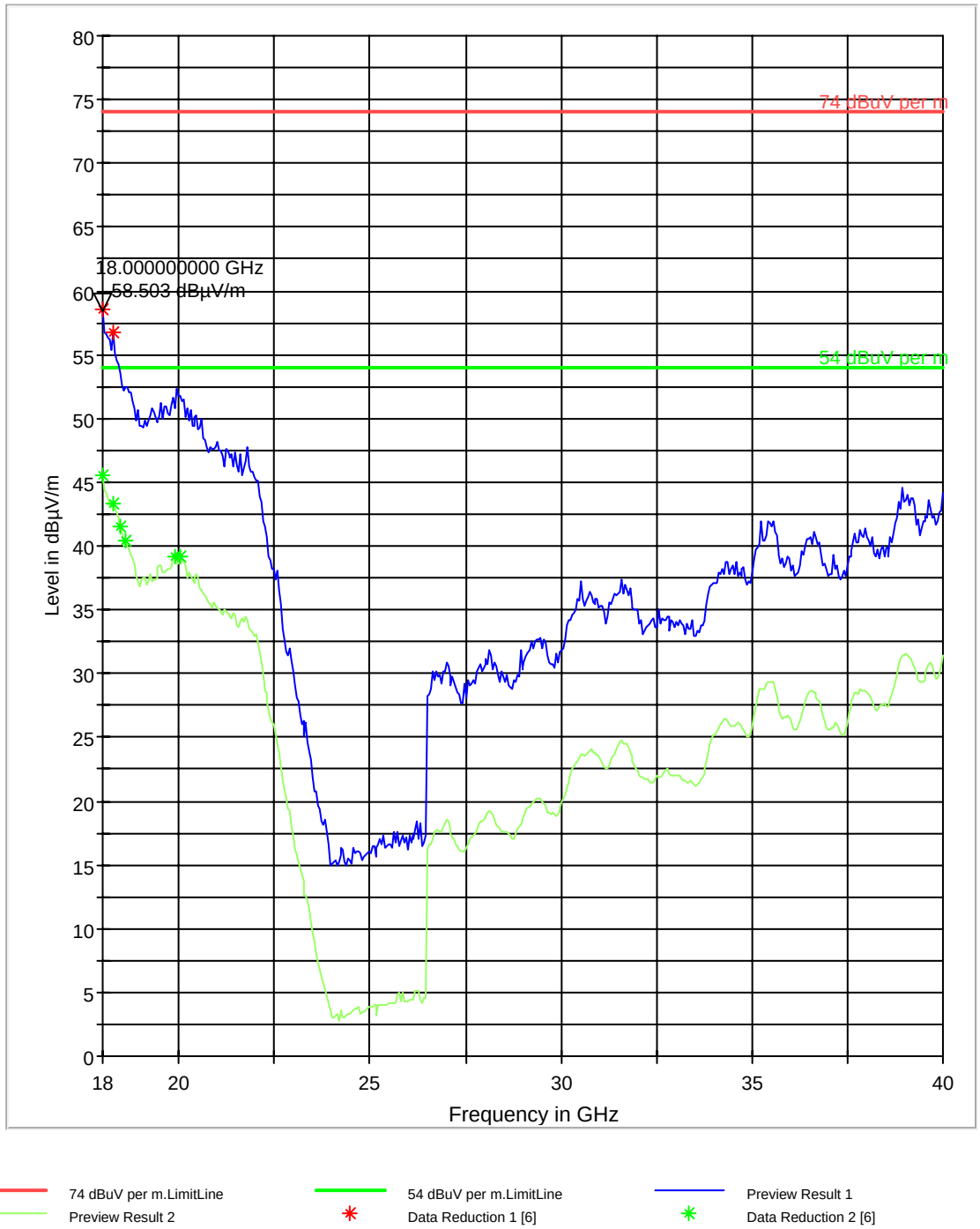
18-40 GHz (5190MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

FCC 15 18-40GHz



74 dBuV per m.LimitLine
Preview Result 1
54 dBuV per m.LimitLine
Preview Result 2

18-40GHz (5190MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.



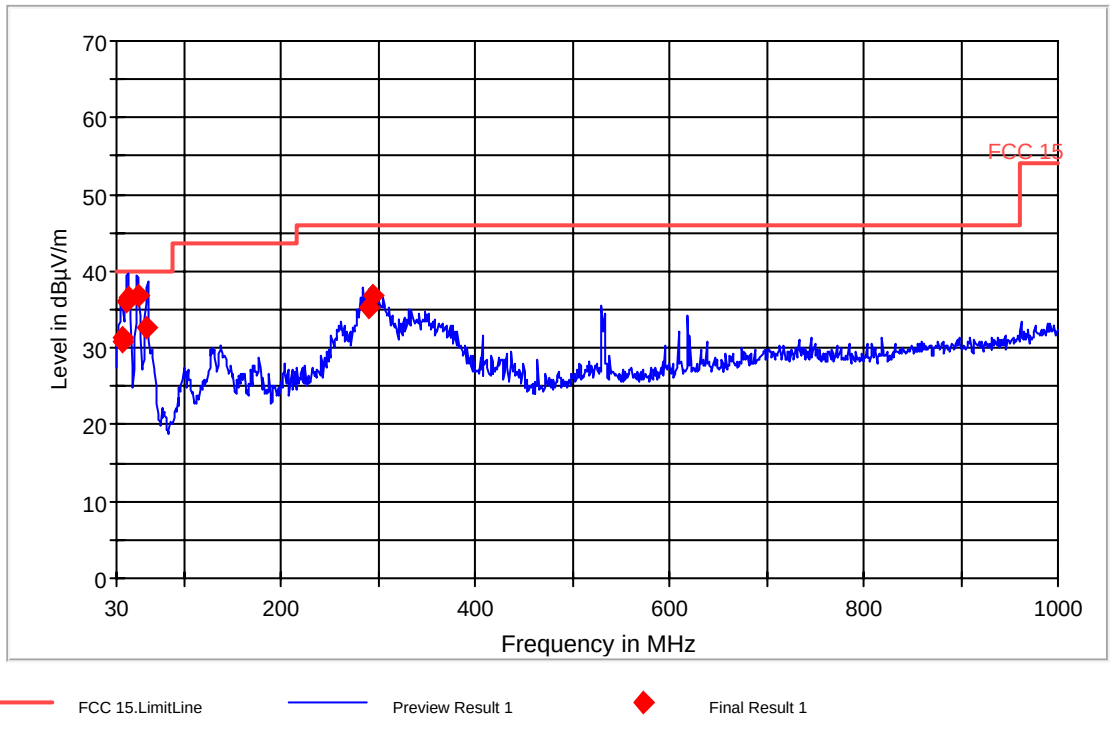
5.3.6 **Sub-band 2 802.11n HT40 MODE**

30MHz – 1GHz chain AB

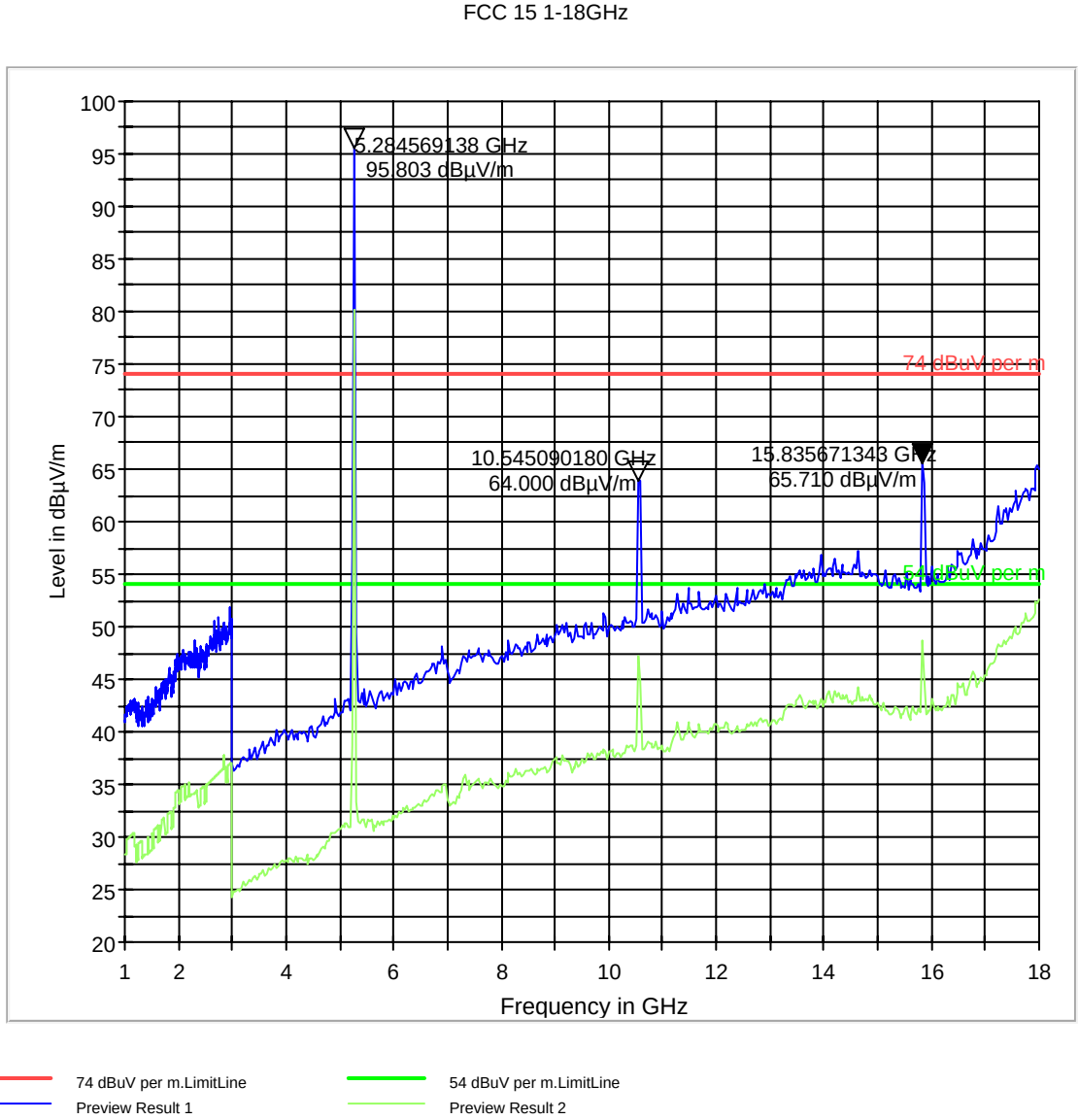
Note: This plot is valid for low, mid, high channels (worst-case plot).

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
35.232701	31.3	20.000	120.000	120.0	V	225.0	6.4	8.7	40.0
36.657364	30.8	20.000	120.000	120.0	V	315.0	6.1	9.2	40.0
41.046194	36.1	20.000	120.000	120.0	V	298.0	5.6	3.9	40.0
42.128096	36.6	20.000	120.000	120.0	V	298.0	5.7	3.4	40.0
52.364723	37.0	20.000	120.000	120.0	V	45.0	7.0	3.0	40.0
60.703482	32.6	20.000	120.000	195.0	V	78.0	8.0	7.4	40.0
289.279594	35.1	20.000	120.000	120.0	H	236.0	15.5	10.9	46.0
293.653878	37.0	20.000	120.000	120.0	H	244.0	15.8	9.0	46.0

FCC 15 30-1000MHz

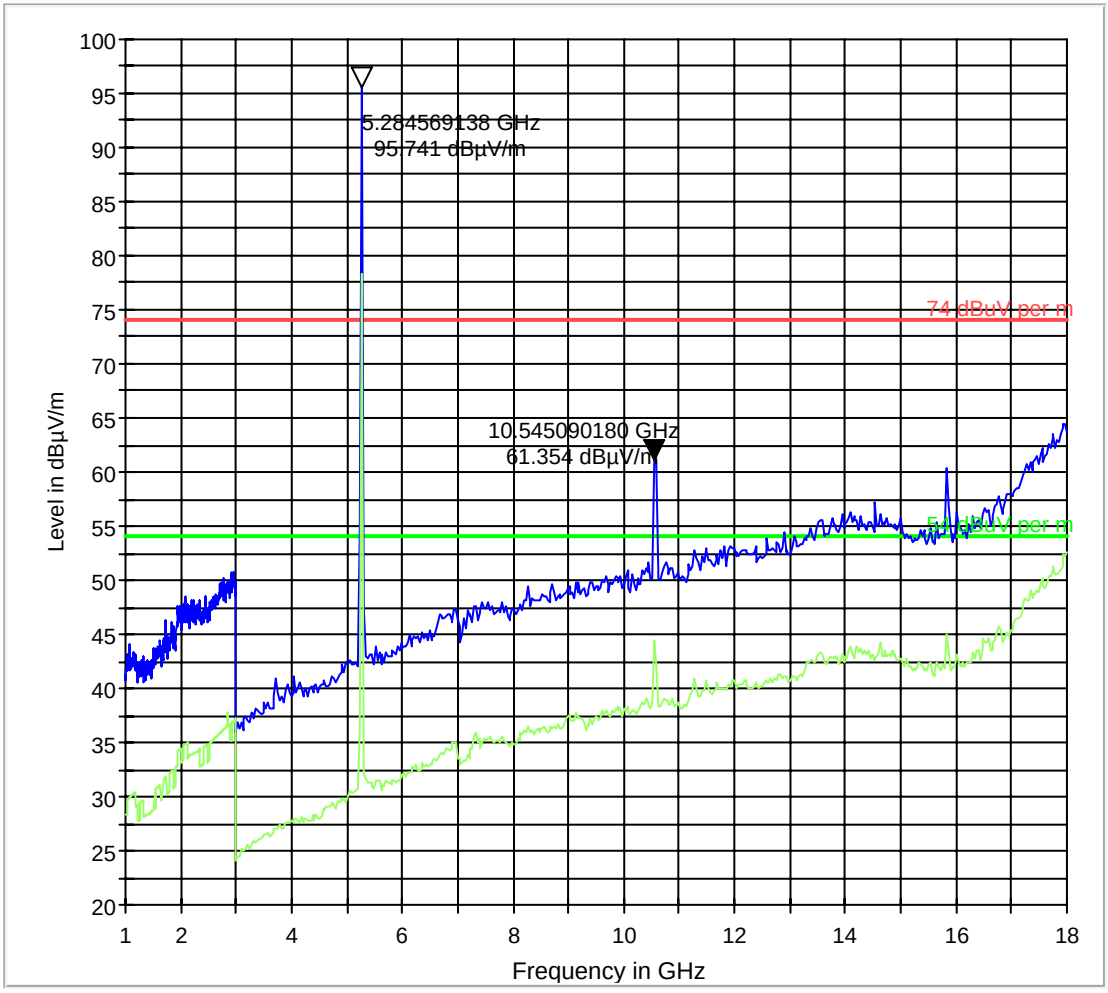


1-18GHz (5270MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.



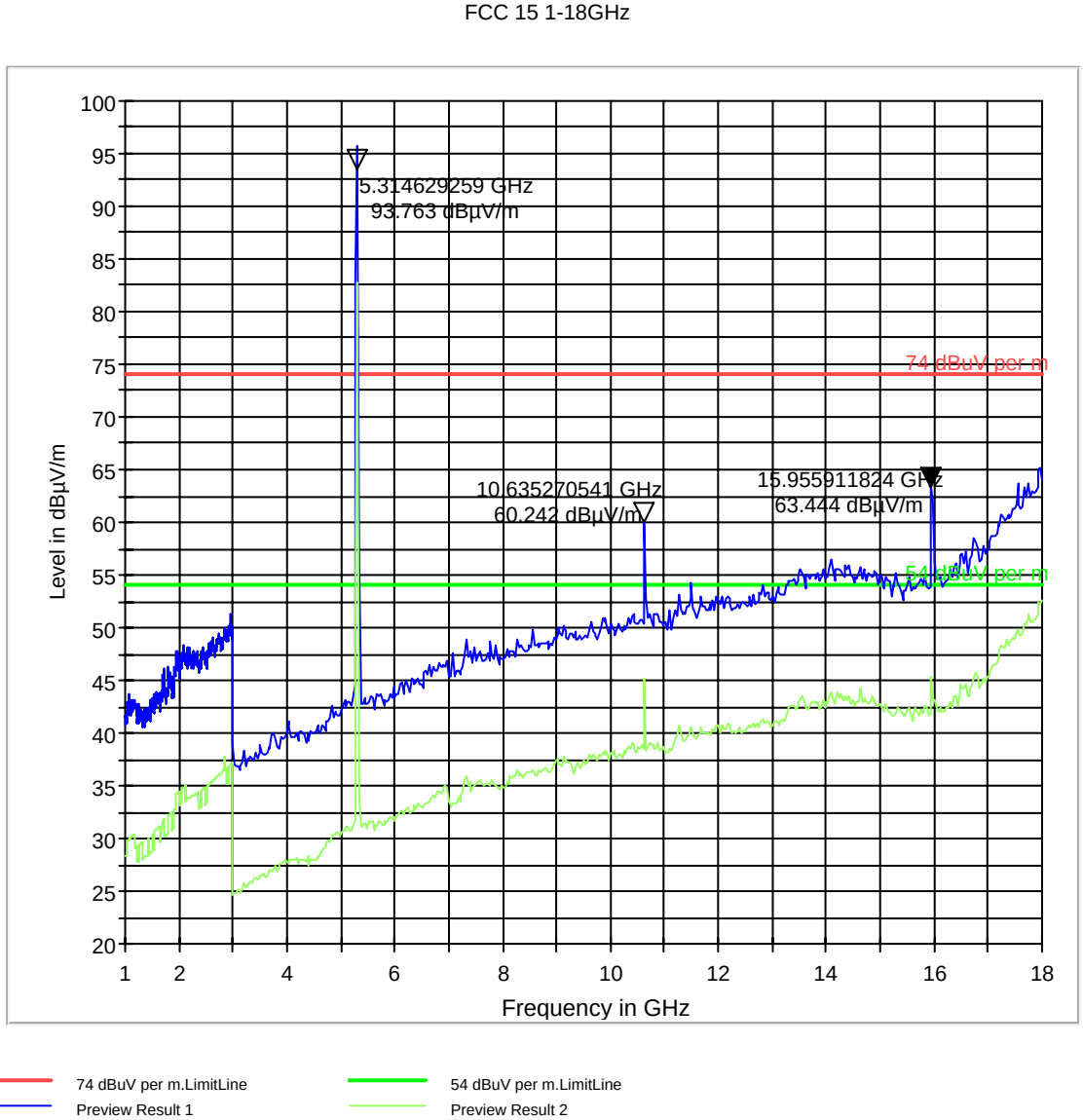
1-18GHz (5270MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz



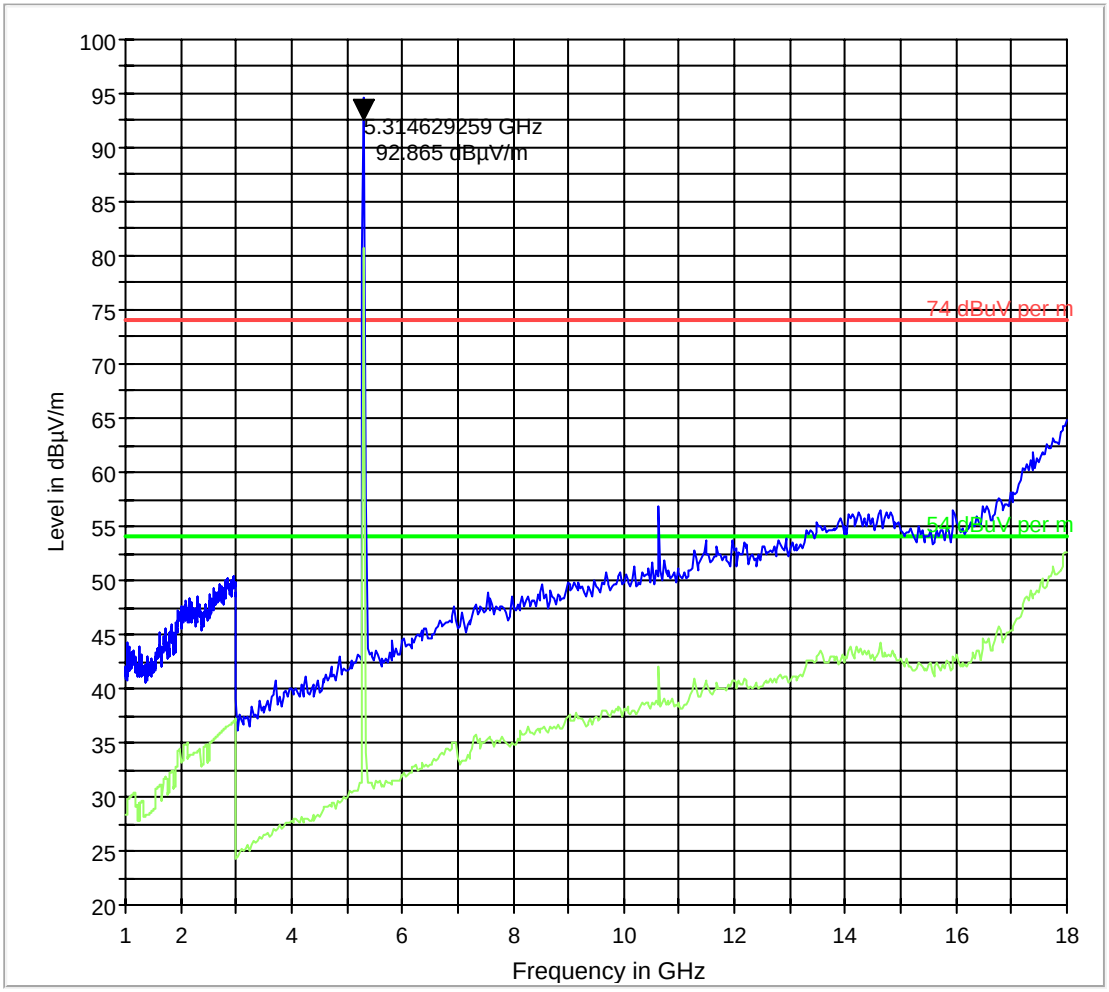
74 dBuV per m.LimitLine
Preview Result 1
54 dBuV per m.LimitLine
Preview Result 2

1-18GHz (5310MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.



1-18GHz (5310MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz



18-40GHz (5270MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

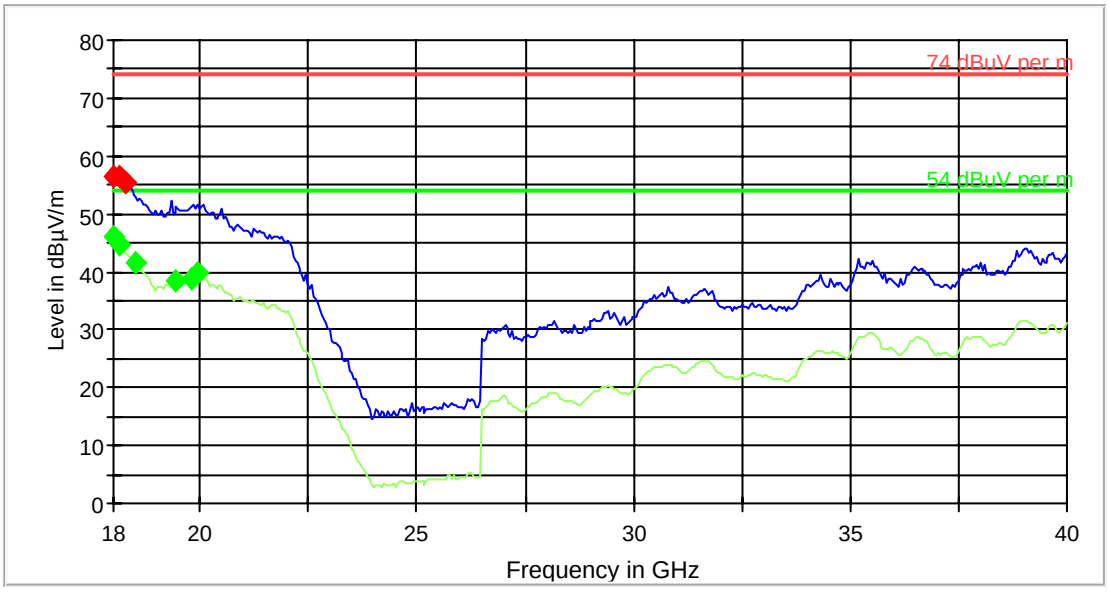
Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
18009.198397	56.6	20.000	1000.000	120.0	H	258.0	28.1	17.4	74.0
18129.338882	56.6	20.000	1000.000	120.0	V	292.0	27.7	17.4	74.0
18292.571815	55.6	20.000	1000.000	120.0	V	112.0	26.4	18.4	74.0

(continuation of the "Final Result 1" table from column 10 ...)

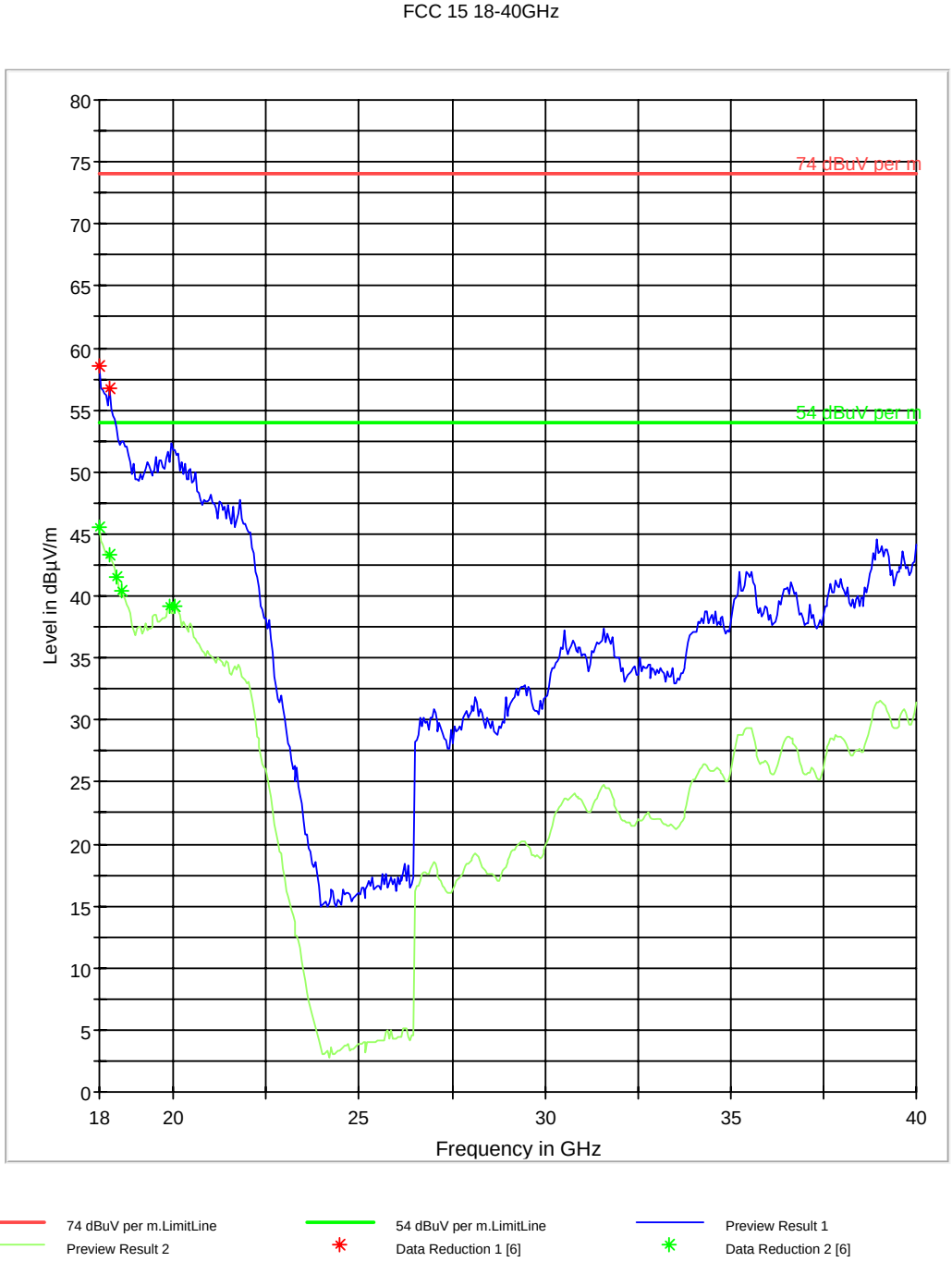
Frequency (MHz)	Comment
18009.198397	
18129.338882	
18292.571815	

FCC 15 18-40GHz



18-40 GHz (5270MHz) 802.11n 40MHz chain B

Note: The peak above the limit line is the carrier freq.



5.3.7 **Sub-band 3 802.11n HT40 MODE**

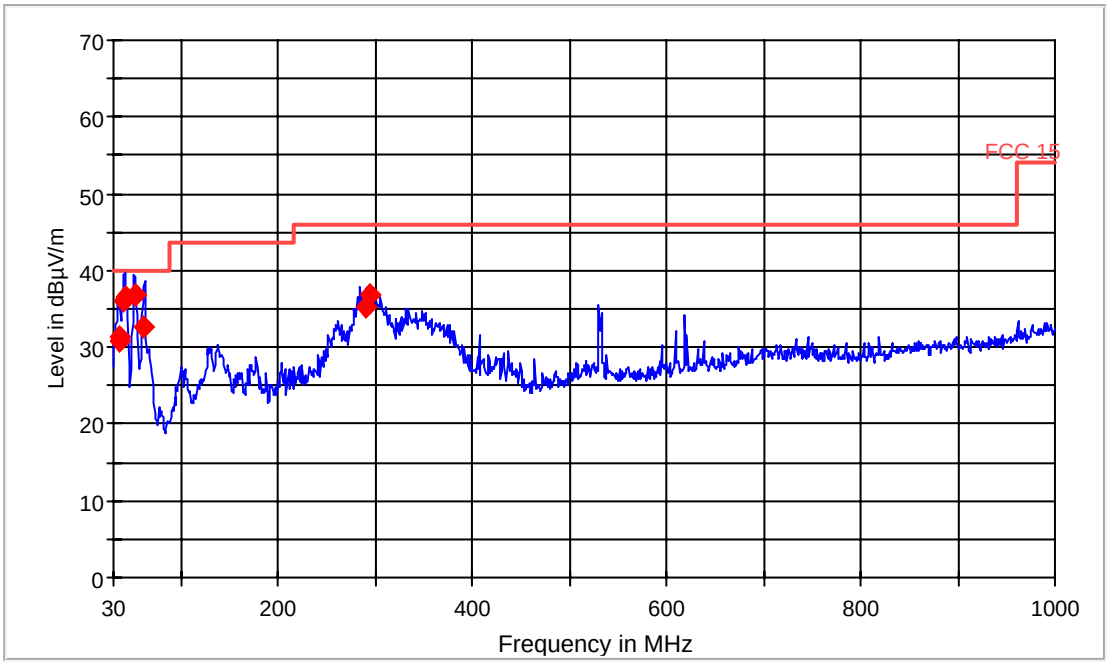
30MHz – 1GHz, chain AB

Note: This plot is valid for low, mid, high channels (worst-case plot).

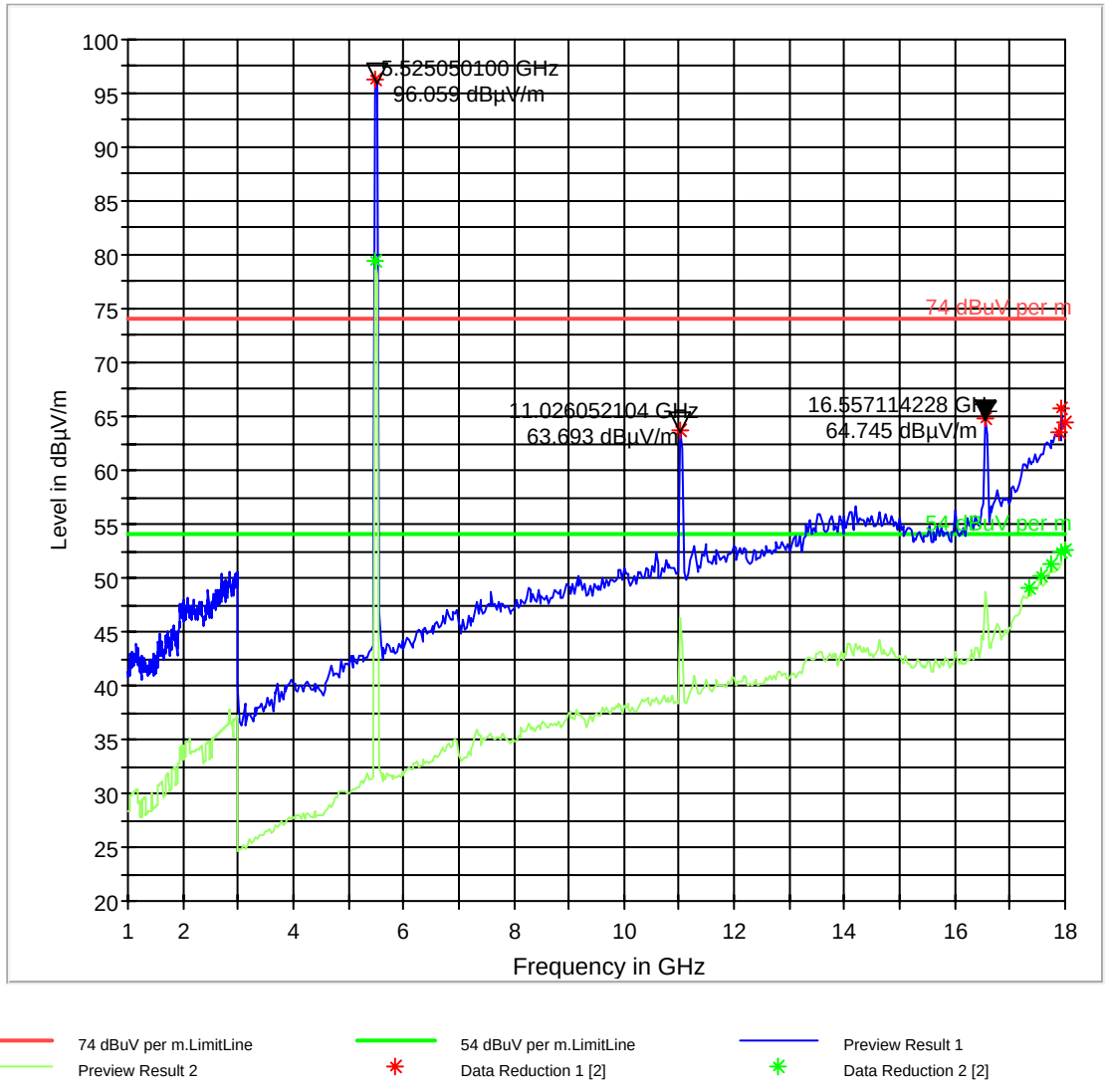
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
35.232701	31.3	20.000	120.000	120.0	V	225.0	6.4	8.7	40.0
36.657364	30.8	20.000	120.000	120.0	V	315.0	6.1	9.2	40.0
41.046194	36.1	20.000	120.000	120.0	V	298.0	5.6	3.9	40.0
42.128096	36.6	20.000	120.000	120.0	V	298.0	5.7	3.4	40.0
52.364723	37.0	20.000	120.000	120.0	V	45.0	7.0	3.0	40.0
60.703482	32.6	20.000	120.000	195.0	V	78.0	8.0	7.4	40.0
289.279594	35.1	20.000	120.000	120.0	H	236.0	15.5	10.9	46.0
293.653878	37.0	20.000	120.000	120.0	H	244.0	15.8	9.0	46.0

FCC 15 30-1000MHz

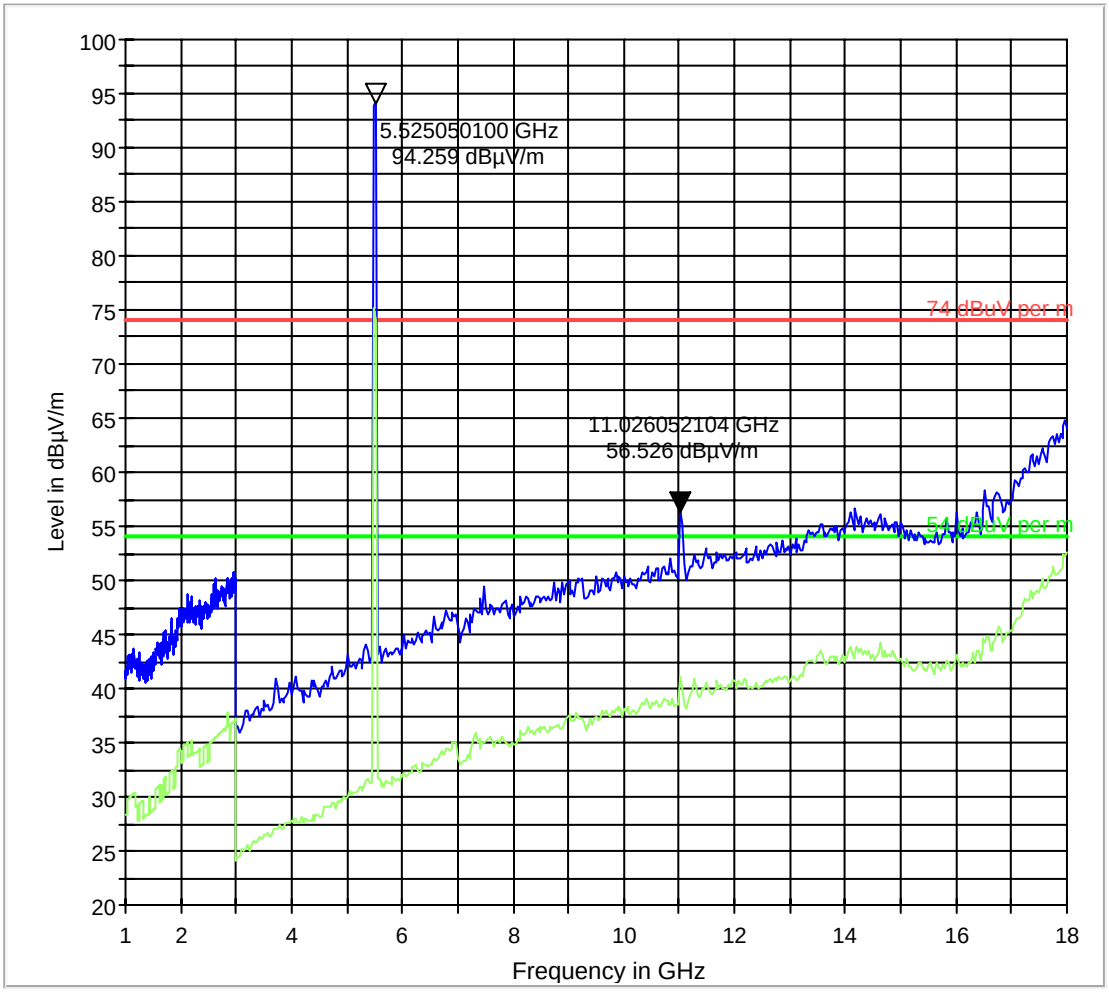


1-18GHz (5510MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.



1-18GHz (5510MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.

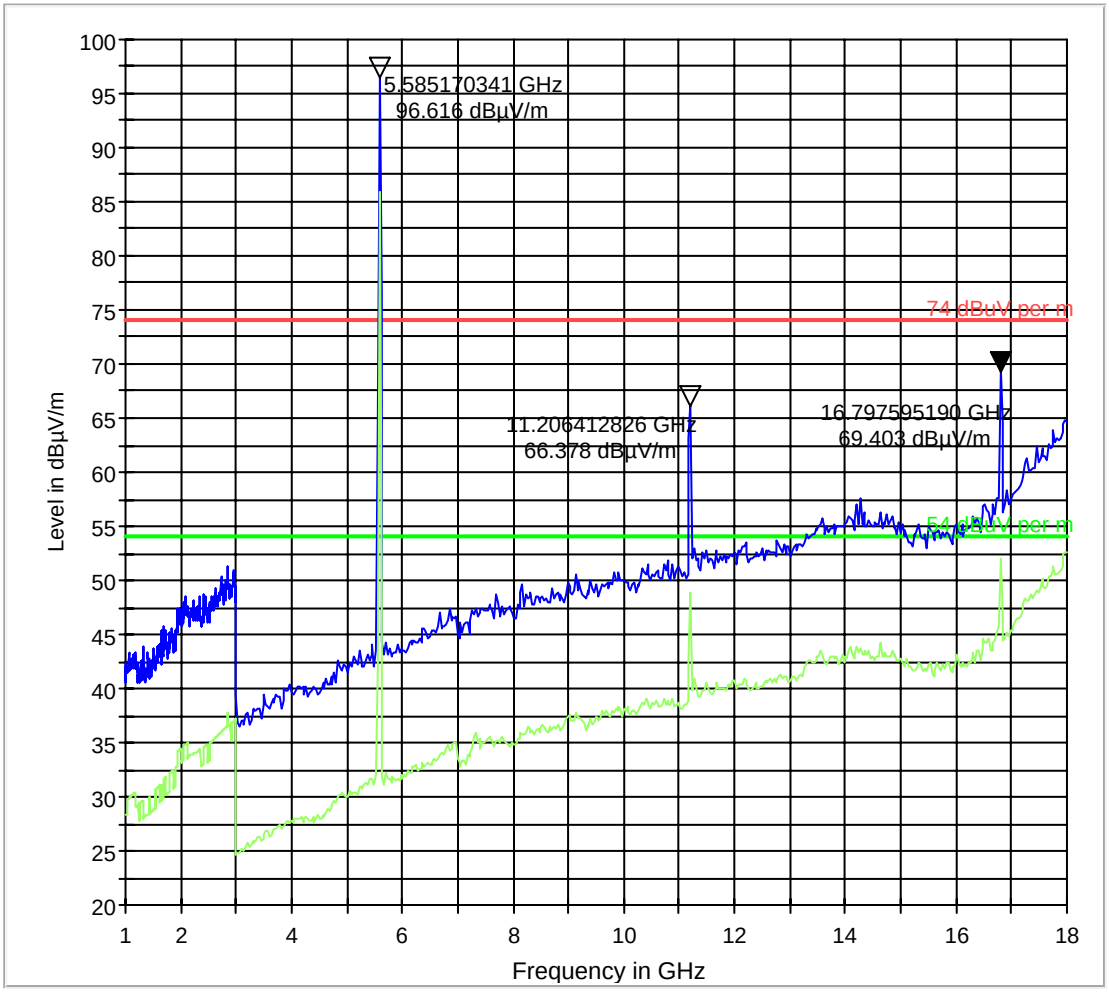
FCC 15 1-18GHz



74 dBuV per m.LimitLine
Preview Result 1
54 dBuV per m.LimitLine
Preview Result 2

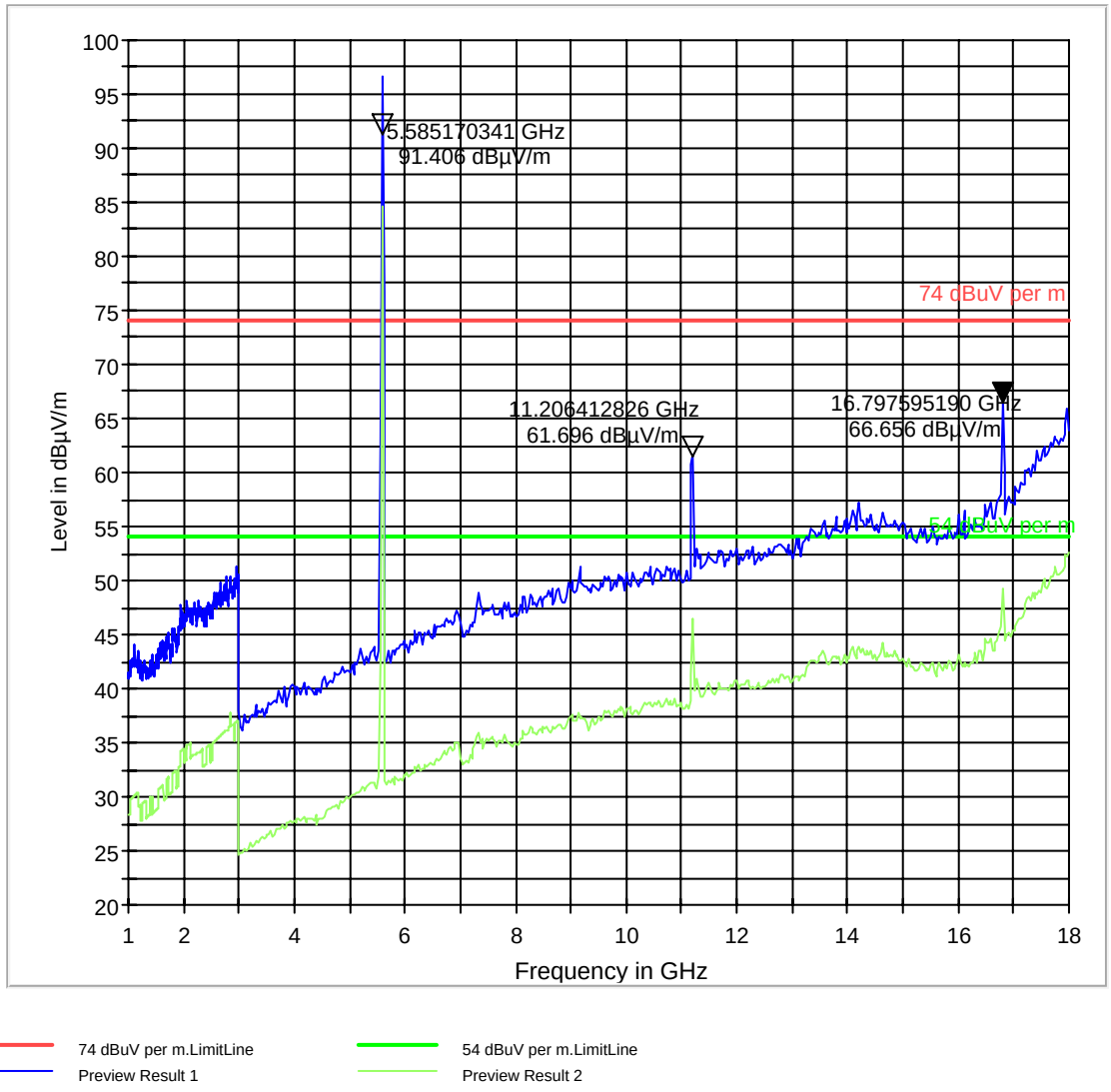
1-18GHz (5590MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

FCC 15 1-18GHz

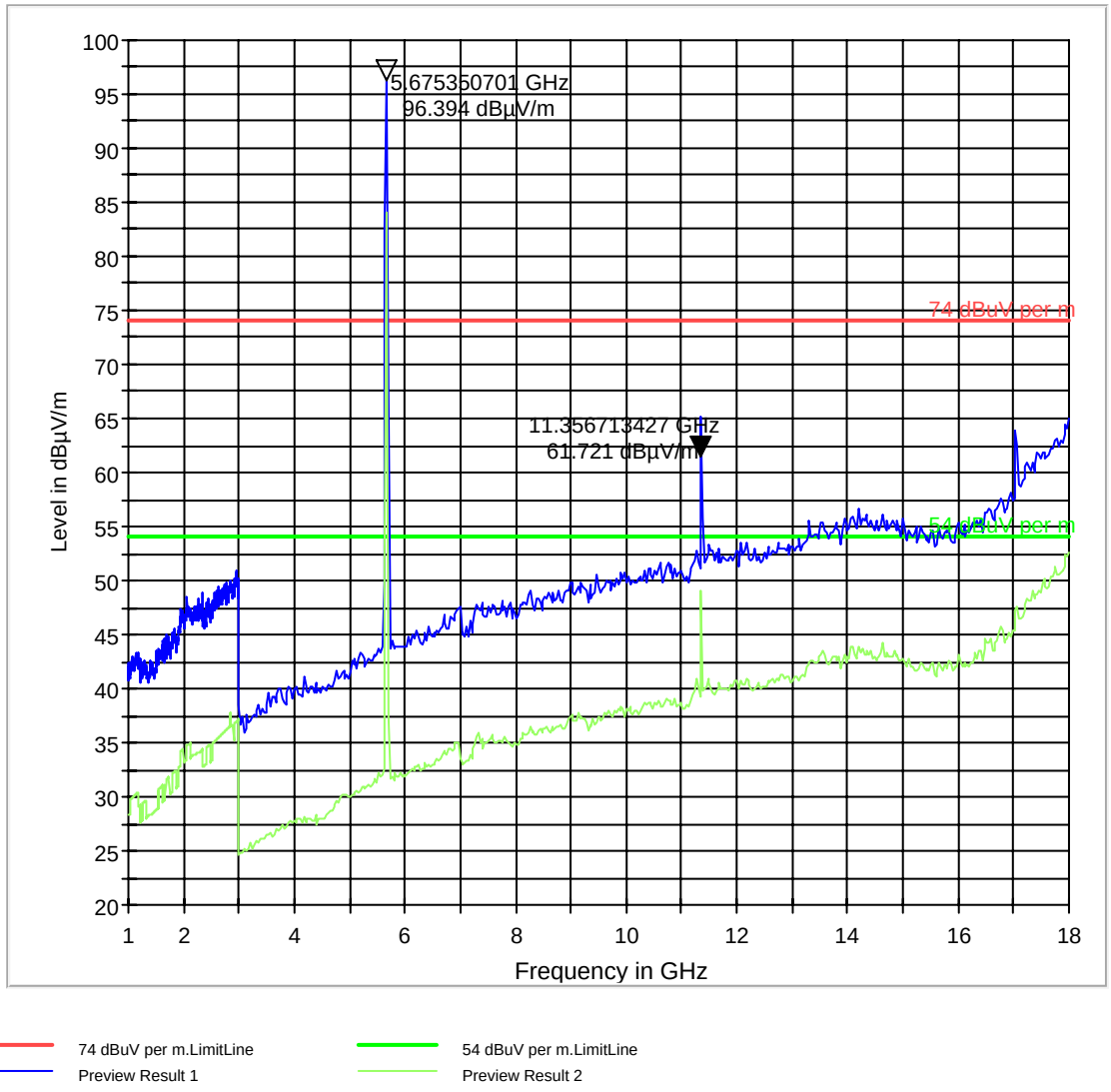


74 dBuV per m.LimitLine
Preview Result 1
54 dBuV per m.LimitLine
Preview Result 2

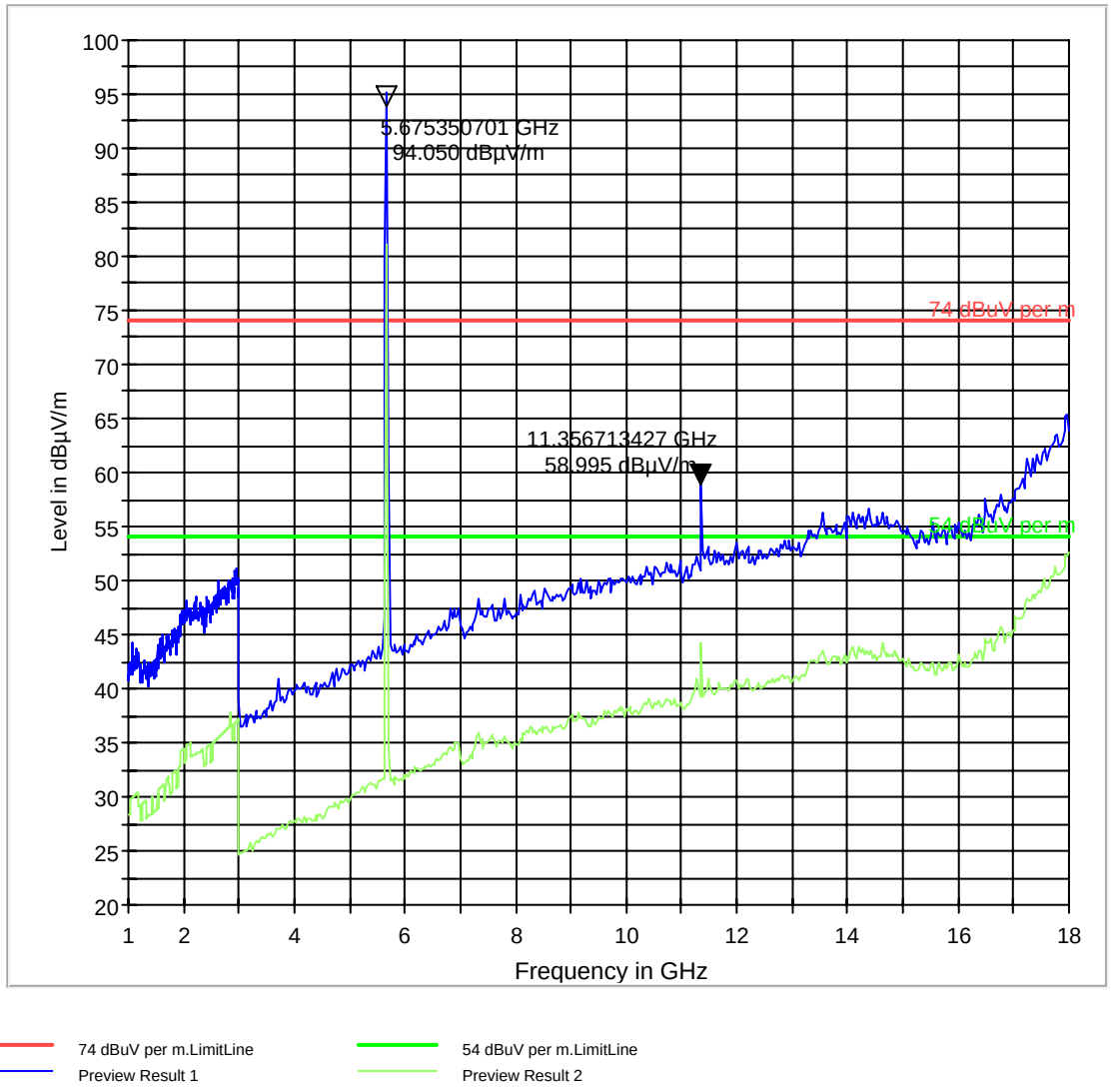
1-18GHz (5590MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.



1-18GHz (5670MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

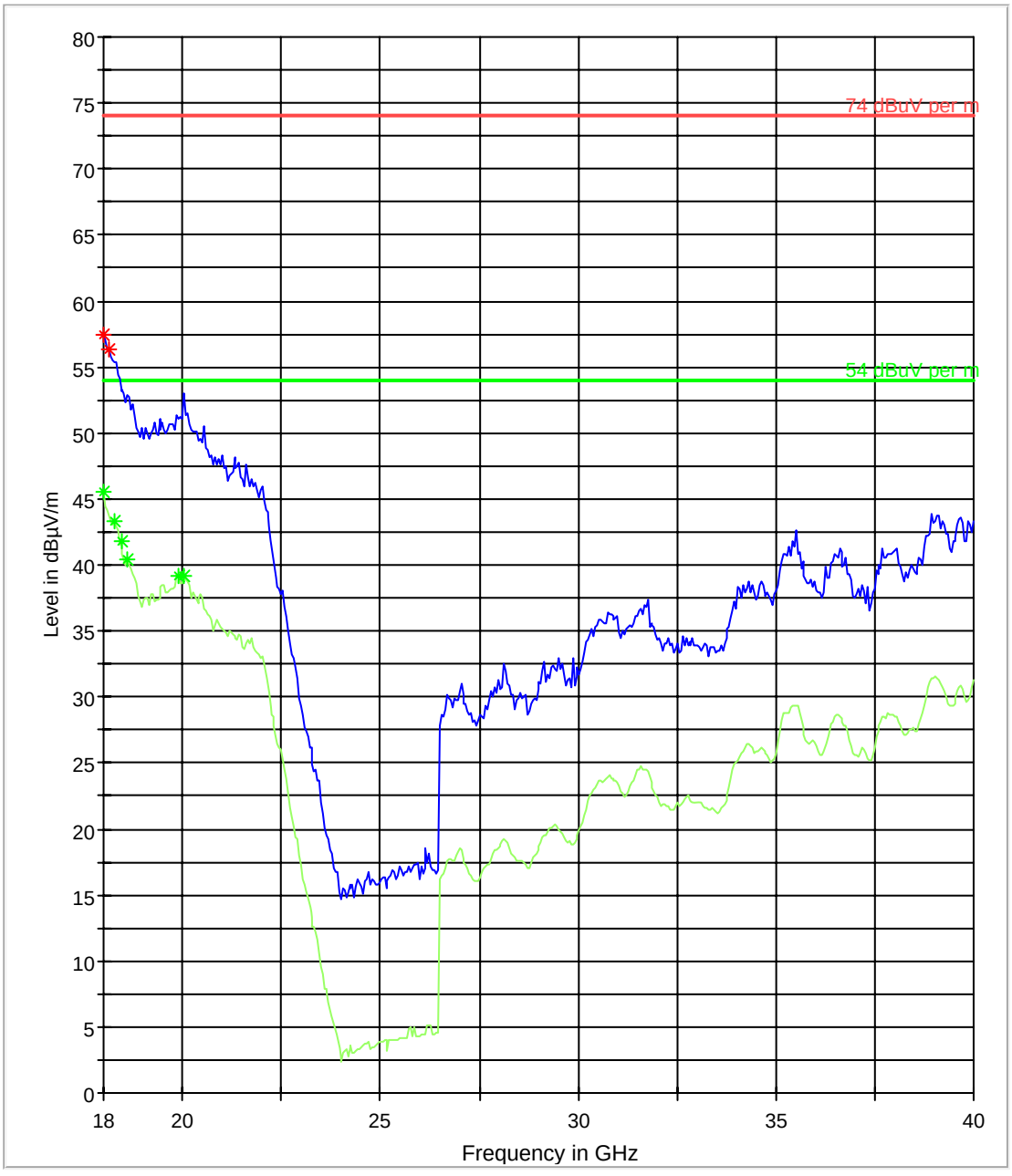


1-18GHz (5670MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.

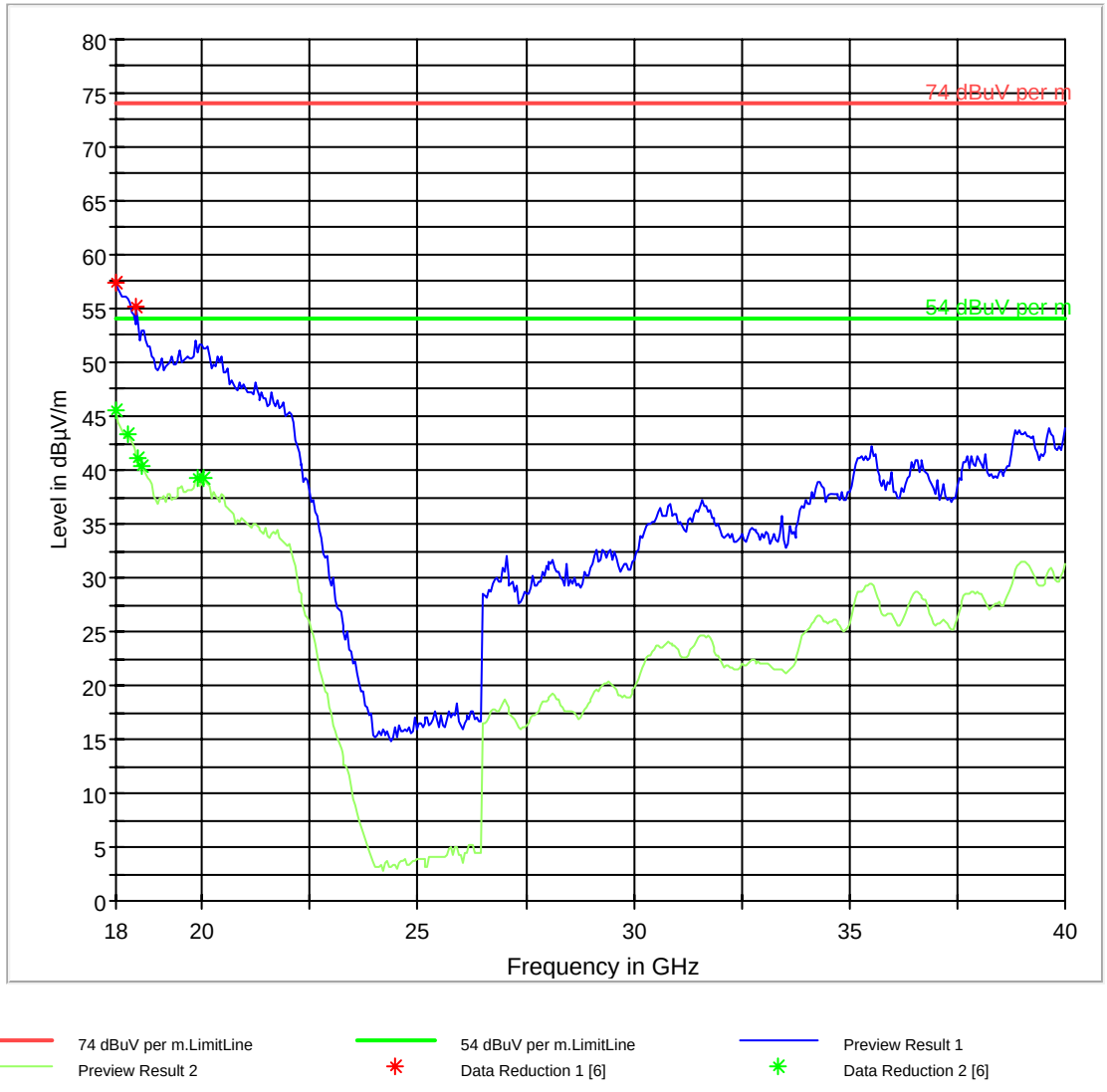


18-40GHz (5590MHz) 802.11n 40MHz chain A
Note: The peak above the limit line is the carrier freq.

FCC 15 18-40GHz



18-40GHz (5590MHz) 802.11n 40MHz chain B
Note: The peak above the limit line is the carrier freq.



5.4 Receiver Spurious Emission § 15.209/RSS210

5.4.1 **Limits**

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 - 0.490	**2400/F (kHz)**	**300**
0.490 - 1.705	**24000/F (kHz)**	**30**
1.705 - 30.0	**30**	**30**
30 - 88	**100**	**3**
88 - 216	**150**	**3**
216 - 960	**200**	**3**
above 960	**500**	**3**

NOTE:
1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 3 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.

2. All measurements are done in peak mode using an average limit unless specified with the plots.

3. There are no measurable emissions above 18GHz in Rx mode.

5.4.2 **Results**

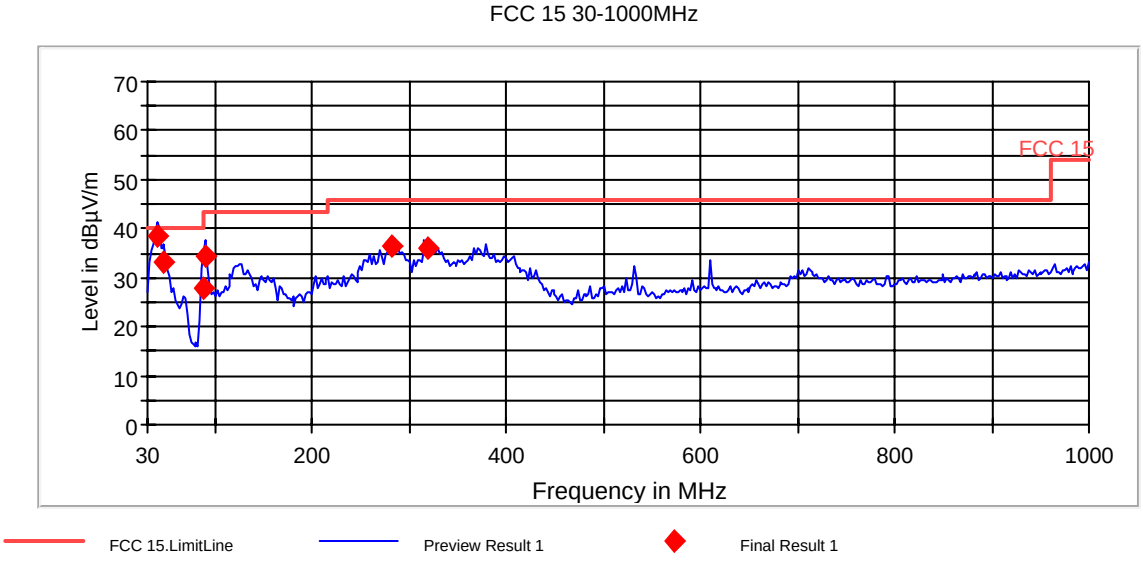
802.11n MODE HT20 RX mode
30MHz – 1GHz, Chain AB

Note: This plot is valid for low, mid, high channels (worst-case plot).

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
39.998828	38.3	20.000	120.000	143.0	V	68.0	5.4	1.7	40.0
47.096184	33.2	20.000	120.000	120.0	V	248.0	6.4	6.8	40.0
87.198175	27.8	20.000	120.000	120.0	V	112.0	10.1	12.2	40.0
90.034444	34.4	20.000	120.000	119.0	V	10.0	10.2	9.1	43.5
282.635065	36.6	20.000	120.000	120.0	H	292.0	15.0	9.4	46.0
318.288893	35.9	20.000	120.000	120.0	H	112.0	16.5	10.1	46.0

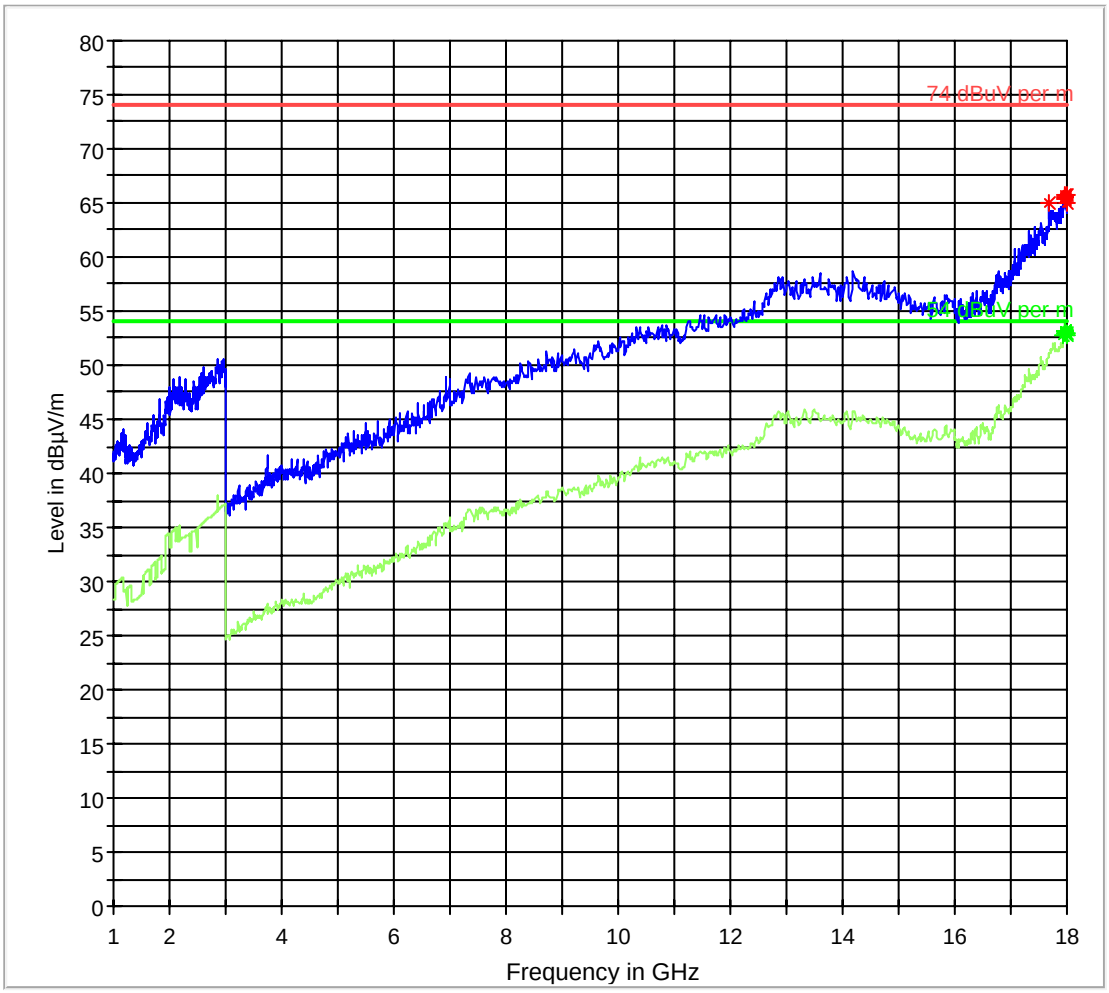
(continuation of the "Final Result 1" table from column 10 ...)

Frequency (MHz)	Comment
39.998828	
47.096184	
87.198175	
90.034444	
282.635065	
318.288893	



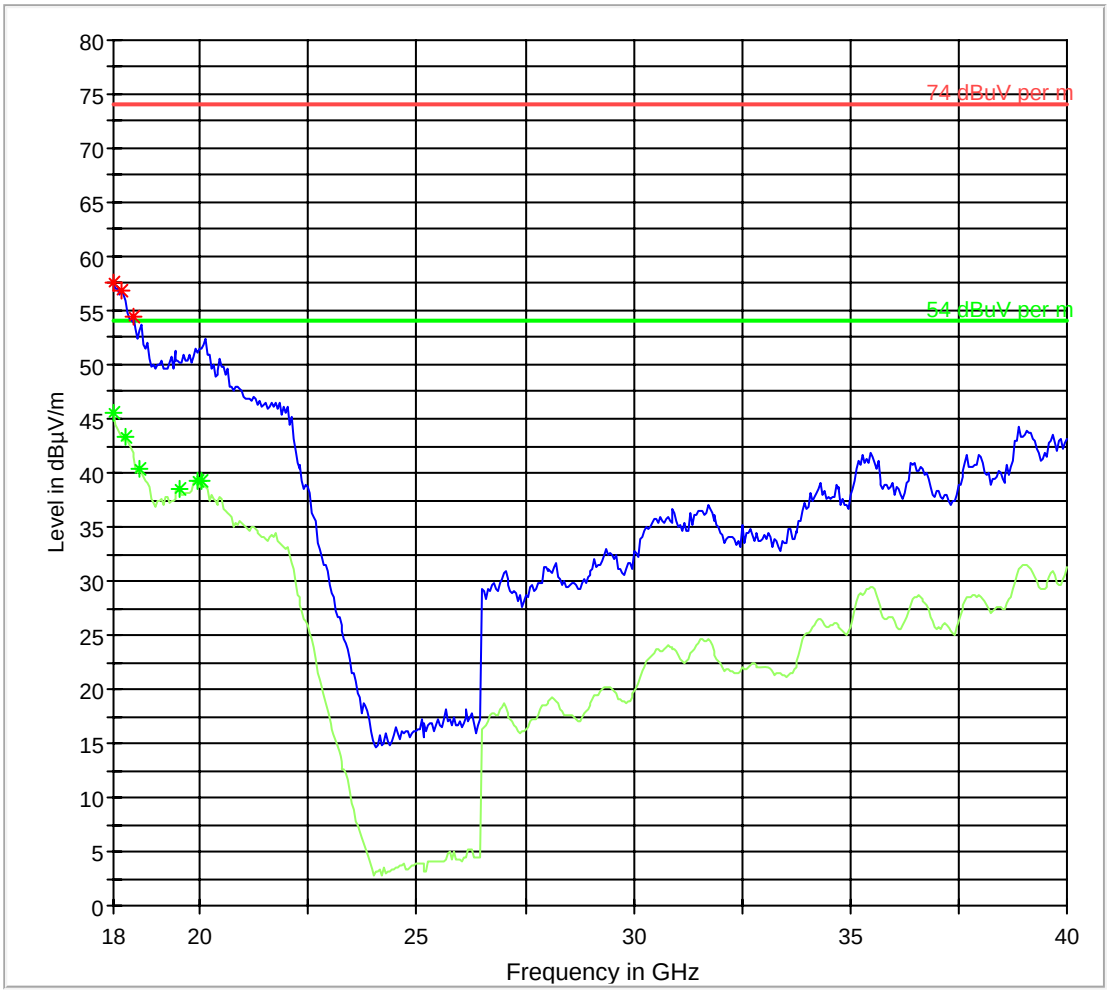
802.11n 40MHz 5230MHz RX Mode
1GHz-18GHz Chain AB

FCC 15 1-18GHz



802.11n 20MHz sub-band 1 RX Mode
18-40 GHz Chain AB

FCC 15 18-40GHz



74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2
Data Reduction 1 [6]
Data Reduction 2 [6]

6 Conducted Measurements

6.1 26dB bandwidth and 99% bandwidth.

6.1.1 Limit

None. Measurement procedure per FCC Public Notice DA02-2138.

6.1.2 Test Results

Test Not conducted. The EUT integrates an FCC approved module. All conducted measurements are referenced from the original report for the module.

6.2 Conducted Power Measurement

6.2.1 FCC Limits:

Conducted Output Power is defined as the following (reduced if directional gain > 6dBi):

Sub-band 1: 5150-5250MHz: 15.407(a)(1): 50mW or 4dBm + 10log(B),
Sub-band 2: 5250-5350MHz: 15.407(a)(2): 250mW or 11dBm + 10log(B)
Sub-band 3: 5470-5725MHz: 15.407(a)(2): 250mW or 11dBm + 10log(B)

B is the 26–dB emission bandwidth in MHz.

6.2.2 IC Limits

Sub-band 1: 5150-5250MHz: Not defined.
Sub-band 2: 5250-5350MHz: RSS-210 A9.2(2): 250mW or 11dBm + 10log(B)
Sub-band 3: 5470-5725MHz: RSS-210 A9.2(2): 250mW or 11dBm + 10log(B)

B is the 99% emission bandwidth in MHz

6.2.3 Measurement Results

Test Not conducted. The EUT integrates an FCC approved module. All conducted measurements are referenced from the original report for the module.

6.3 Power Spectral Density

6.3.1 FCC Limit

Sub-band 1: 5150-5250MHz 15.407(a) (1): 4dBm in any 1–MHz band
Sub-band 2: 5250-5350MHz 15.407(a) (2): 11dBm in any 1–MHz band
Sub-band 3: 5470-5725MHz 15.407(a) (2): 11dBm in any 1–MHz band

6.3.2 IC Limit

Sub-band 1: 5150-5250MHz RSS-210 A9.2(1): 10dBm in any 1–MHz band
Sub-band 2: 5250-5350MHz RSS-210 A9.2(2): 11dBm in any 1–MHz band
Sub-band 3: 5470-5725MHz RSS-210 A9.2(2): 11dBm in any 1–MHz band

6.3.3 Results

Test Not conducted. The EUT integrates an FCC approved module. All conducted measurements are referenced from the original report for the module.

6.4 Peak Excursion

6.4.1 Limit

FCC15.407 (A)(6): The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

6.4.2 Results

Test Not conducted. The EUT integrates an FCC approved module. All conducted measurements are referenced from the original report for the module.

6.5 Conducted Spurious Emission

6.5.1 Limit

As specified in 15.407 (b)(1)(2)(3)(4) and RSS-210 (A9.3)(1)(2)(3)(4).

6.5.2 Results:

Test Not conducted. The EUT integrates an FCC approved module. All conducted measurements are referenced from the original report for the module.

6.6 AC Power Line Conducted Emissions § 15.107/207

6.6.1 **LIMITS**

Technical specification: 15.107 / 15.207 (Revised as of August 20, 2002)

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

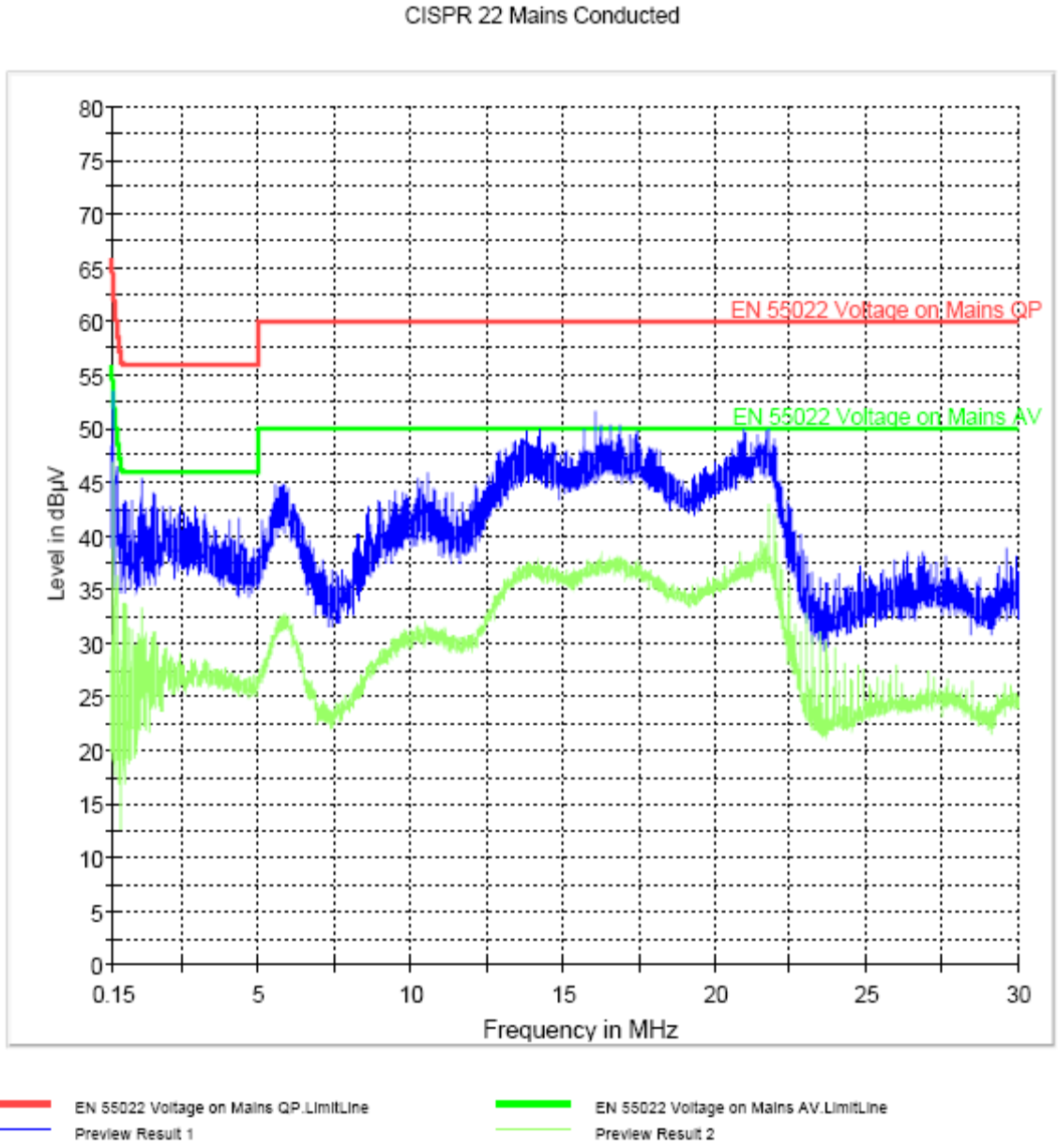
Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50
* Decreases with logarithm of the frequency		

ANALYZER SETTINGS: RBW = 10KHz VBW = 10KHz

6.6.2 **RESULTS**

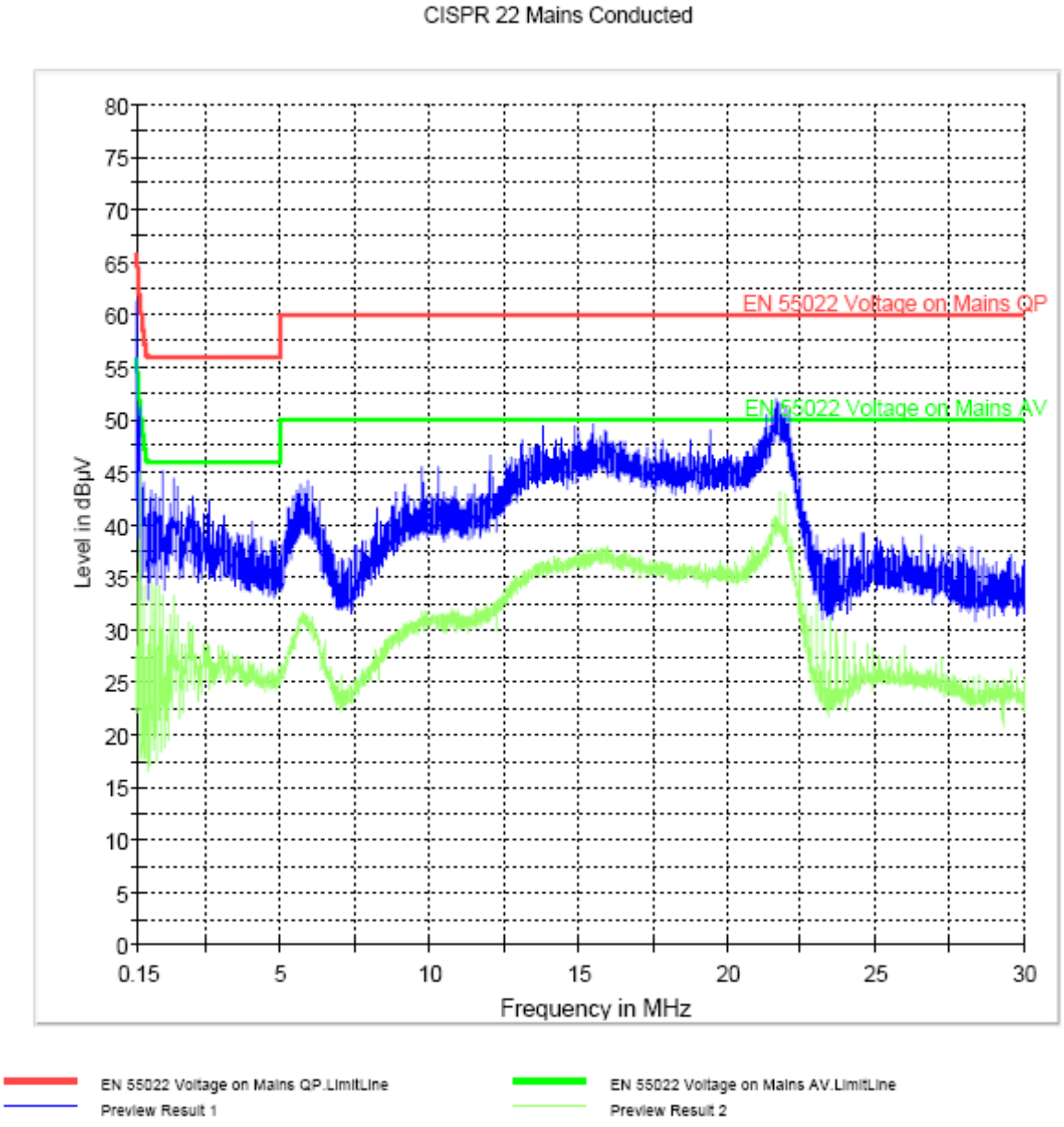
Sub-band 1 802.11n HT20

Note: Plot contains results of both Line and Neutral Measurements



Sub-band 3 802.11n HT40

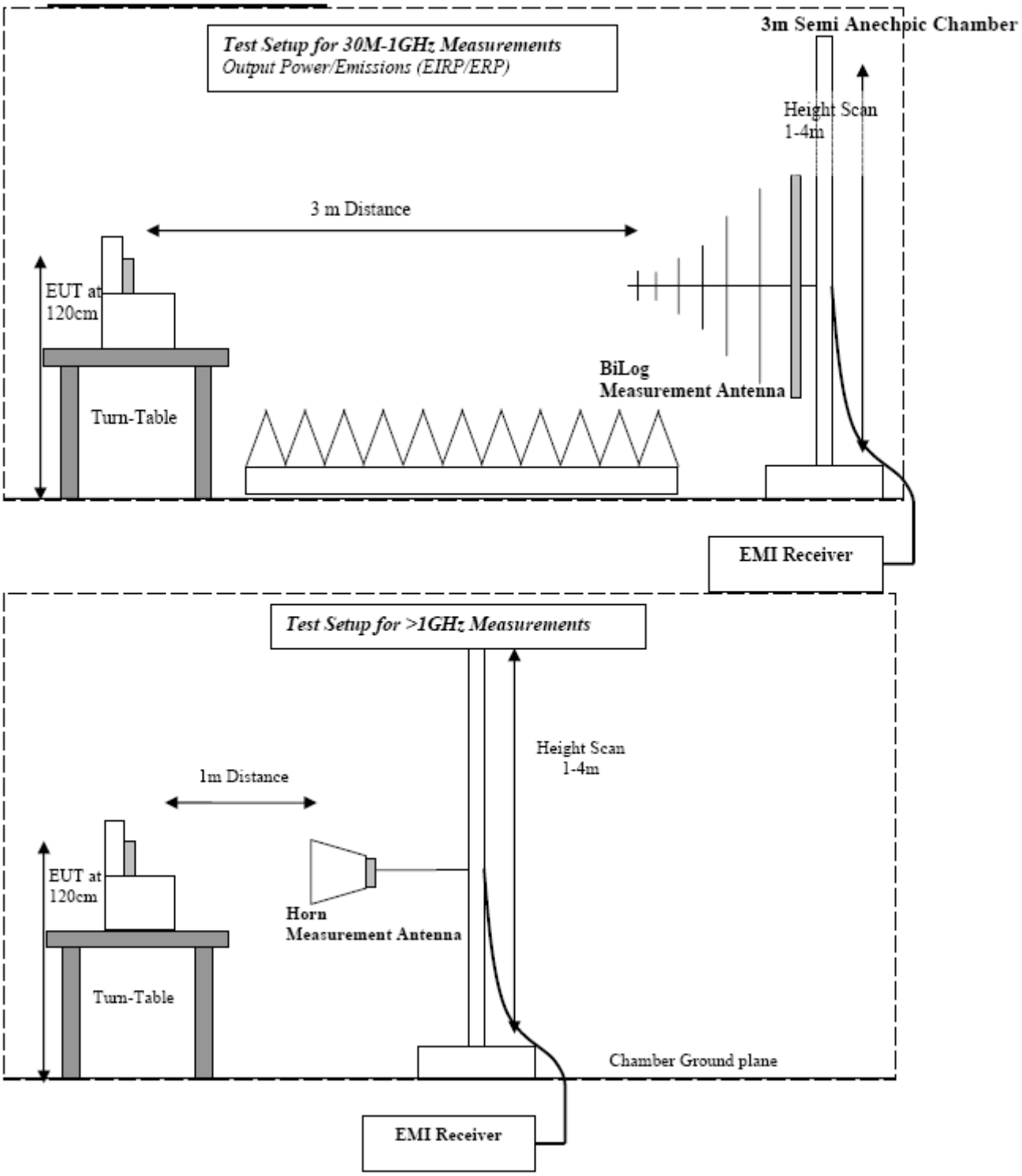
Note: Plot contains results of both Line and Neutral Measurements



7 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2010	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	May 2010	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2010	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2010	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2011	2 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2011	2 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2011	2 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
10	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
11	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2010	1 year
12	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2010	1 year
13	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2010	1 year
14	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2010	1 year
15	LISN	ESH3-Z5	Rohde & Schwarz	836679/003	May 2010	1 year
16	Loop Antenna	6512	EMCO	00049838	July 2011	2 years

8 BLOCK DIAGRAMS



9 Revision History

2010-03-05:

EMC_SONYE_034_09002_15.407_PCG-31113L: Original report

2010-03-16:

EMC_SONYE_034_09002_15.407_PCG31113L_rev1: (replaces report# EMC_SONYE_034_09002_15.407_PCG31113L)

1. Contact person and email information changed in sections 2.2 and 2.3.