



Test Report

FCC Part 15.407

Industry Canada RSS210

UNII Devices

Model #: PCG-31112L

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

FCC ID: AK8PCG31112L
IC ID: 409B- PCG31112L

TEST REPORT #: EMC_SONYE_034_09002_15.407_PCG-31112L
DATE: 2009-12-08



FCC listed
A2LA Accredited
IC recognized #
3462B

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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-31112L |

This report is reviewed by:

Marc Douat

2009-12-08 EMC & Radio (Test Lab Manager)

Date Section Name Signature

This report is prepared by:

Satya Radhakrishna

2009-12-08 EMC & Radio (EMC Project Engineer)

Date Section Name Signature

The test results of this test report relate exclusively to the test item specified in Identification of the Equipment under Test. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc USA.



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 | Michio Kobayashi |
| Telephone | +81-263-72-5696 |
| Fax | +81-263-72-9755 |
| e-mail | <u>Michio.Kobayashi@jp.sony.com</u> |

2.3 Identification of the Manufacturer

| MANUFACTURER (If different from Applicant) | |
|---------------------------------------------------|----------------------------------------------------------------------------------------------|
| Applicant (Firm Name): | Sony EMCS Corporation |
| Contact Person: | Michio Kobayashi |
| Telephone: | +81-263-72-5696 |
| Fax: | +81-263-72-9755 |
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| City: | Azumino-shi, Nagano |
| Postal Code/ Country: | 399-8282, Japan |
| e-mail: | <u>Michio.Kobayashi@jp.sony.com</u> |



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-31112L |
| Description: | Personal Computer |
| Model No: | PCG-31112L |
| FCC ID: | AK8PCG31112L |
| IC ID: | 409B- PCG31112L |

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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: | <p>Sub-band 1: 5150-5250MHz</p> <p>802.11a mode chain A: EIRP: 21.62dBm, (145.08 mW). Conducted: 16.84dBm (48.35mW)</p> <p>802.11a mode chain B: EIRP: 17.828dBm, (60.65mW). Conducted: 16.84dBm (48.35mW)</p> <p>802.11n HT20 mode chain A: EIRP: 21.334dBm, (135.96mW). Conducted: 16.84dBm (48.35mW)</p> <p>802.11n HT20 mode chain B: EIRP: 20.38dBm, (109.14mW). Conducted: 16.84dBm (48.35mW)</p> <p>802.11n HT40 mode chain A: EIRP: 19.432dBm, (87.74mW). Conducted: 16.89dBm (48.84mW)</p> <p>802.11n HT40 mode chain B: EIRP: 19.315dBm, (85.41mW). Conducted: 16.89dBm (48.84mW)</p> <p>Sub-band 2: 5250-5350MHz</p> <p>802.11a mode chain A: EIRP: 21.76dBm, (149.93mW). Conducted: 16.74dBm (47.25mW)</p> <p>802.11a mode chain B: EIRP: 18.30dBm, (67.64mW). Conducted: 16.64dBm (46.17mW)</p> <p>802.11n HT20 mode chain A: EIRP: 20.43dBm, (110.41mW). Conducted: 16.84dBm (48.35mW)</p> |



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

3.2 Identification of the Equipment under Test (EUT)

| EUT # | TYPE | MANF. | MODEL | SERIAL # |
|-------|------|------------------|------------|--------------------------------------------|
| 1 | EUT | Sony Corporation | PCG-31112L | 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



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.

802.11a Mode

| Channel Frequency | Conducted Output Power Limit (dBm) | | | Applicable | EIRP Limit (dBm) |
|-------------------|------------------------------------|--------------------|--------------------|------------|------------------|
| | Stated | Calculated chain A | Calculated Chain B | | |
| 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 $T_{nom}(23)^{\circ}C$, $V_{nom}VDC$ | 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 $T_{nom}(23)^{\circ}C$, $V_{nom}VDC$ | 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 $T_{nom}(23)^{\circ}C, V_{nom}VDC$ | 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:

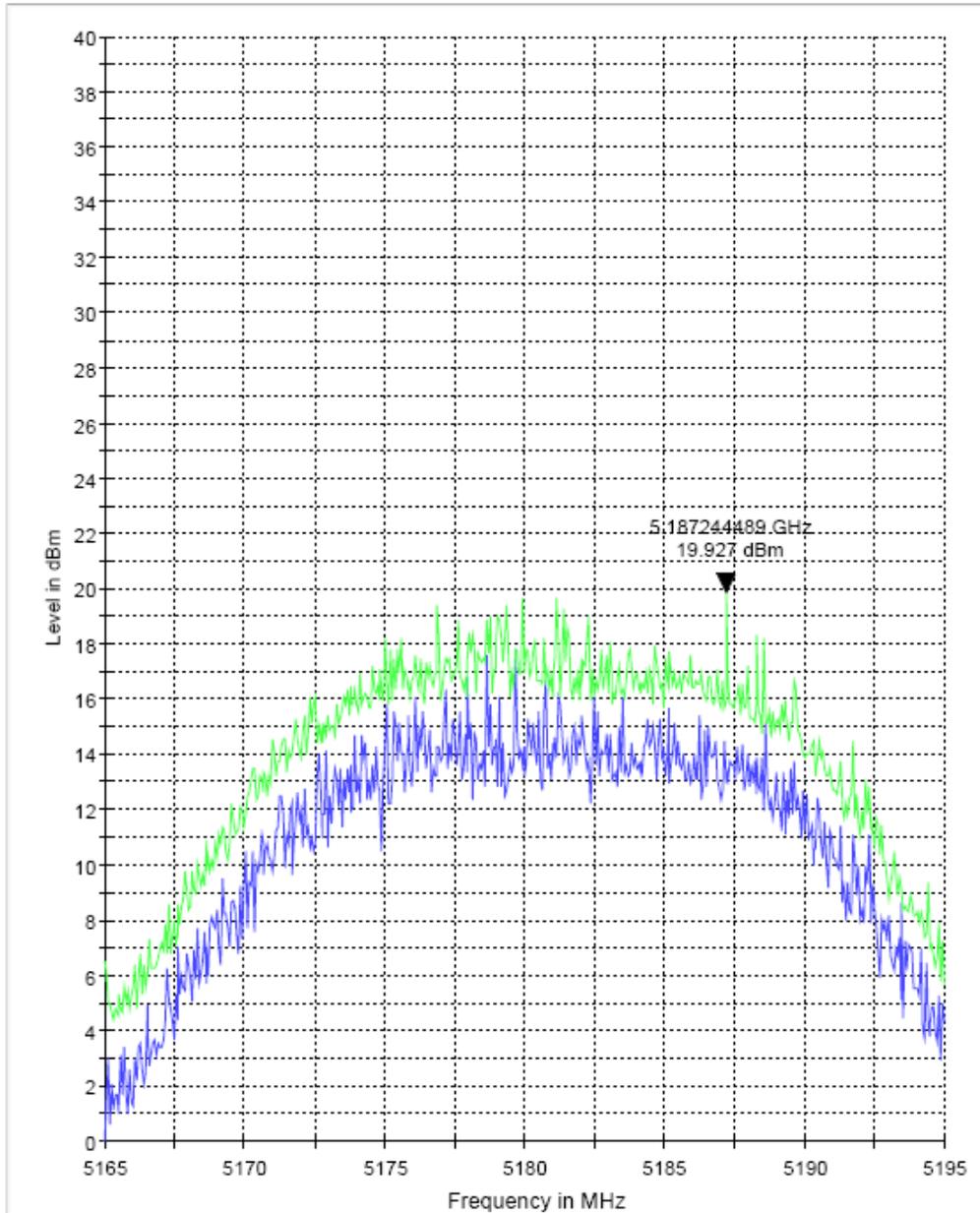
| TEST CONDITIONS $T_{nom}(23)^{\circ}C, V_{nom}VDC$ | Channel Frequency | EIRP (dBm) | EIRP (mW) | FCC Margin (dBm) | IC Margin (mW) |
|-------------------------------------------------------|----------------------|------------|--------------|---------------------|-------------------|
| Sub-band 1: 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

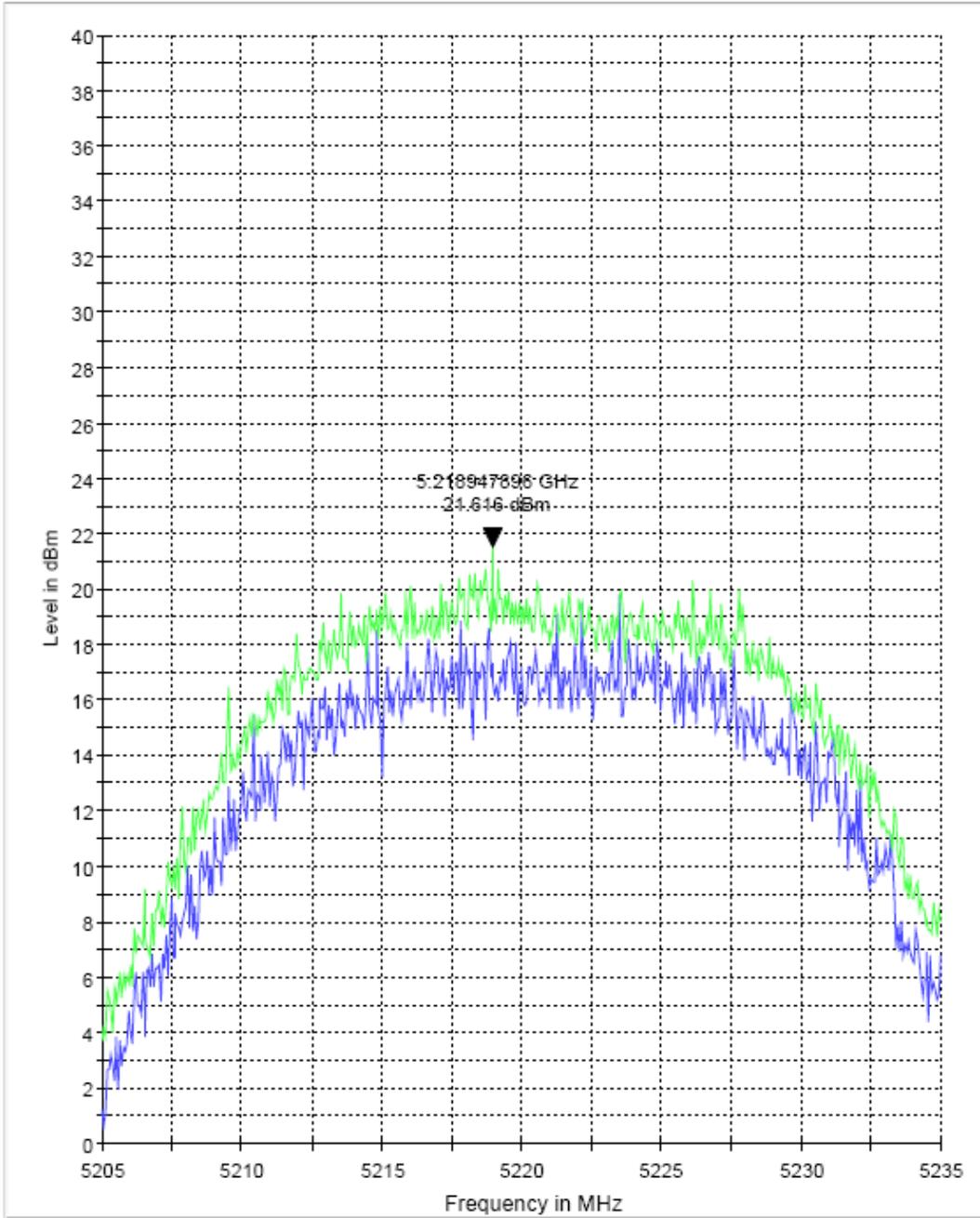
5.1.5 802.11a mode chain A

EIRP 5180 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold

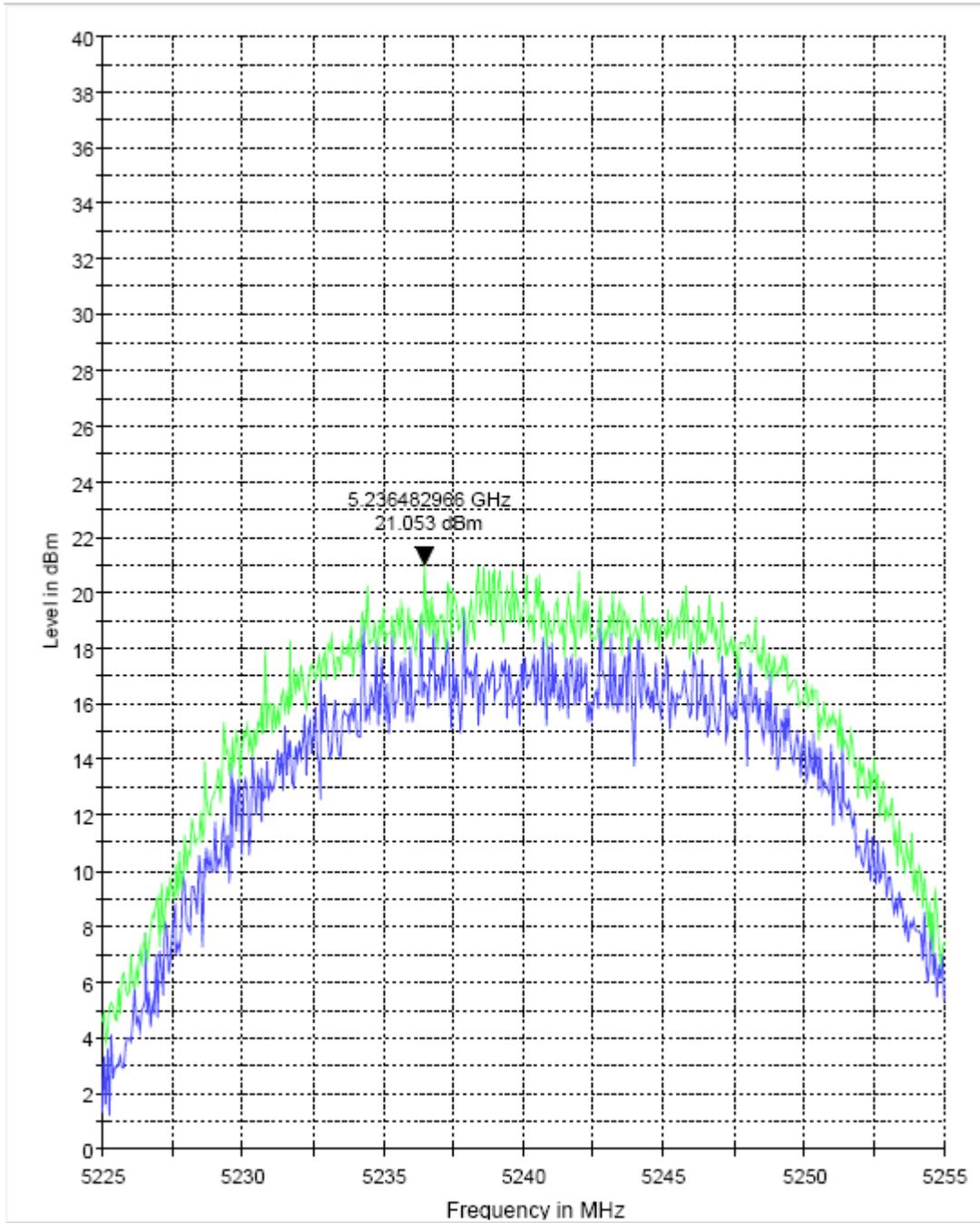
EIRP 5220 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



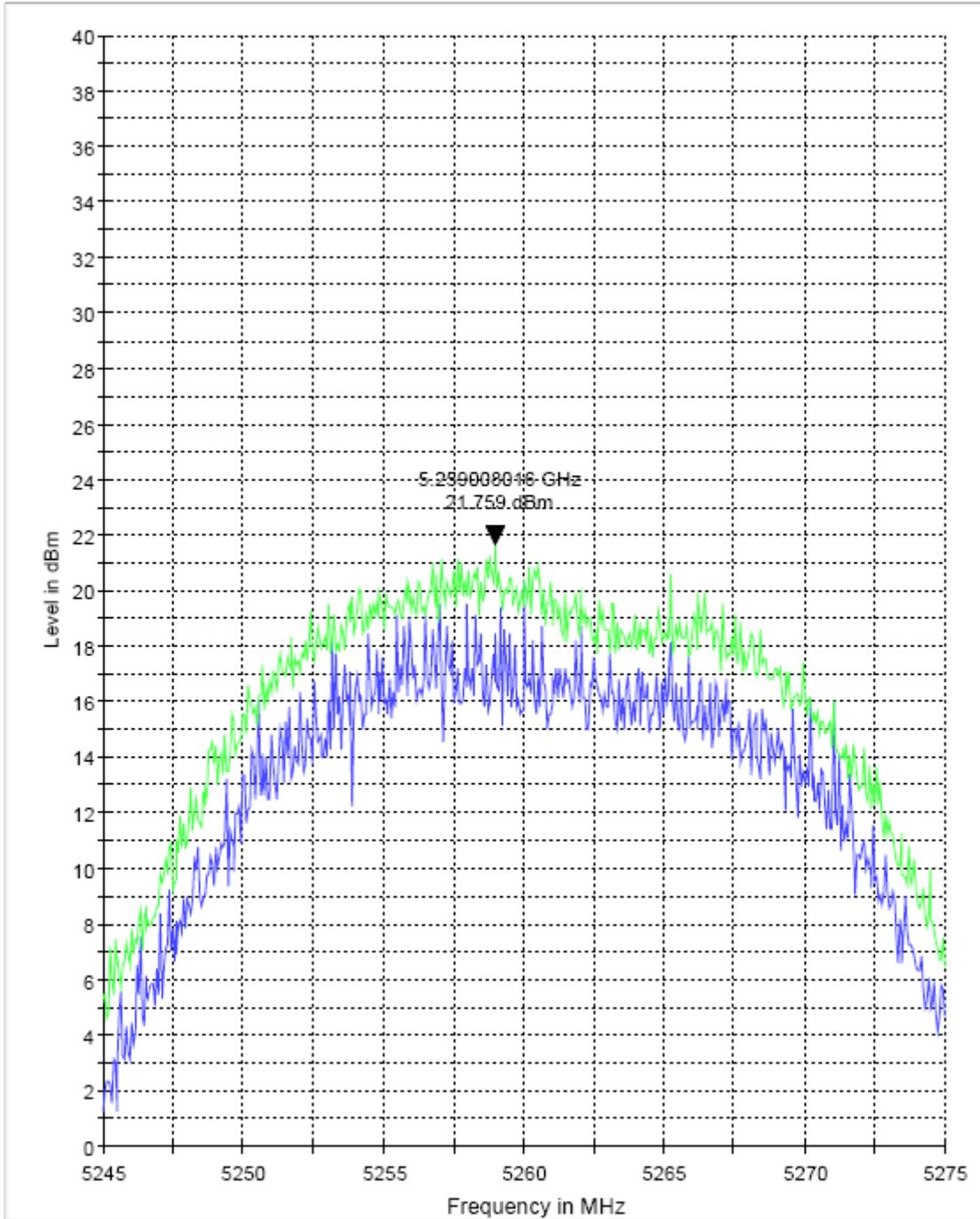
EIRP 5240 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



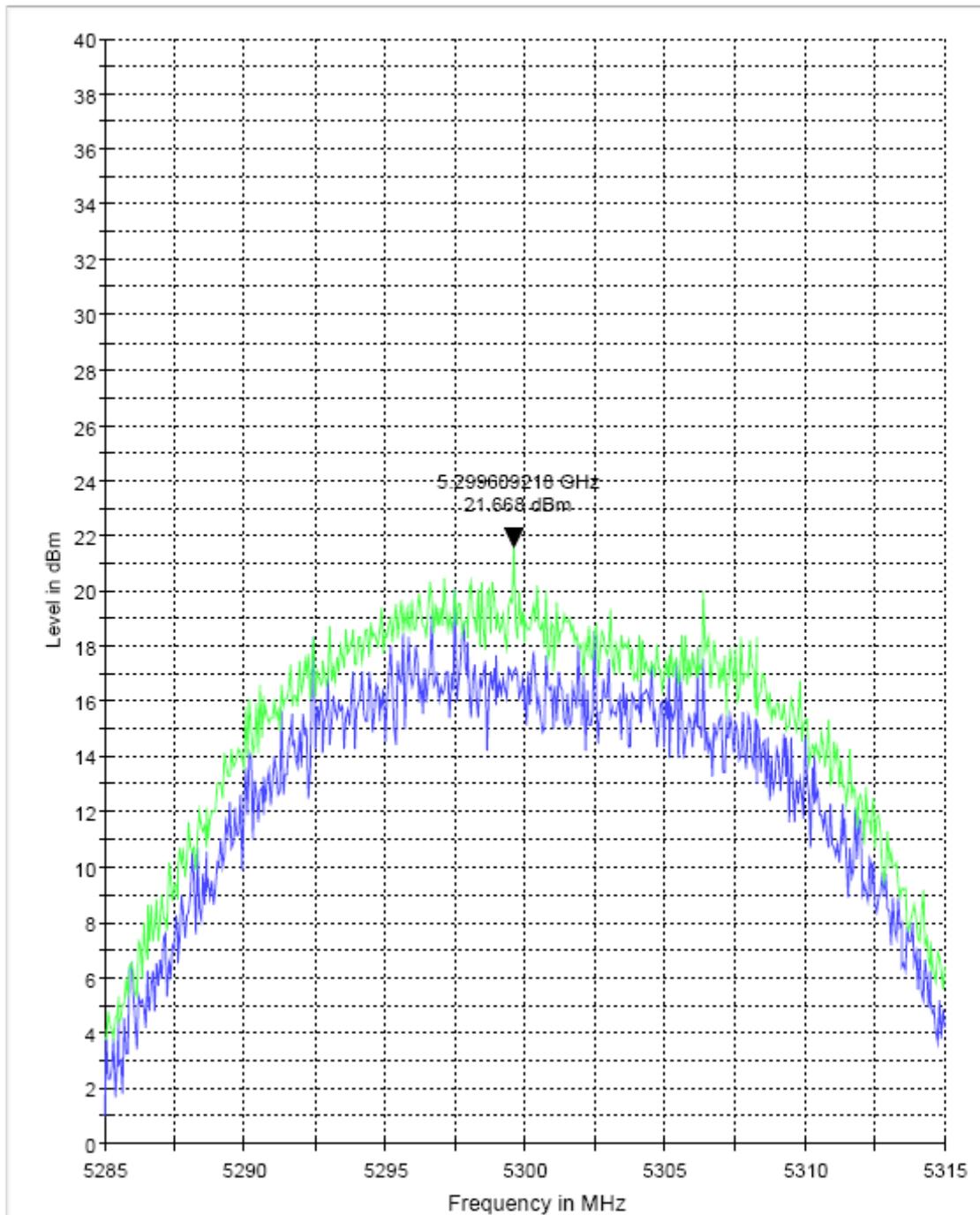
EIRP 5260 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



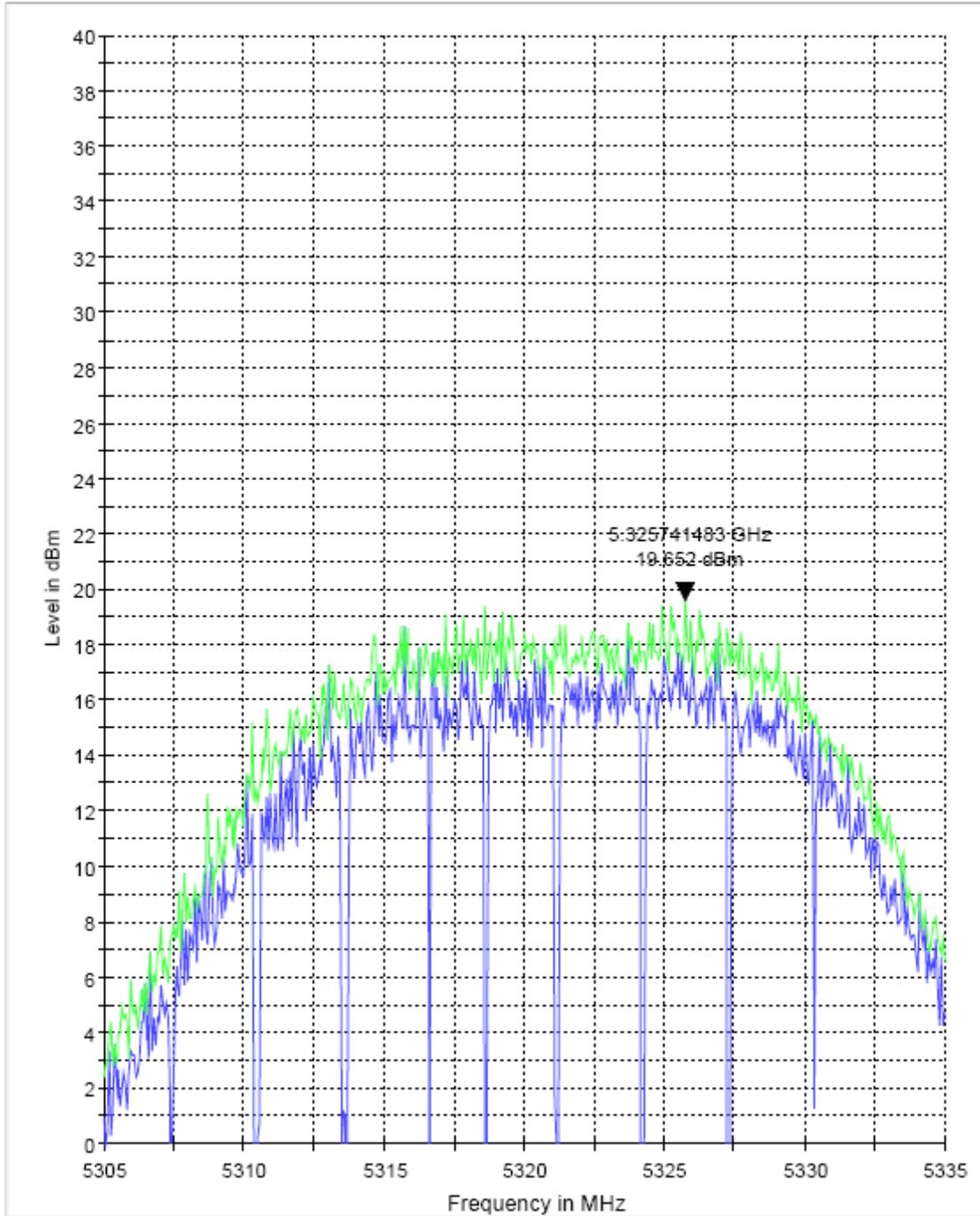
EIRP 5300 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



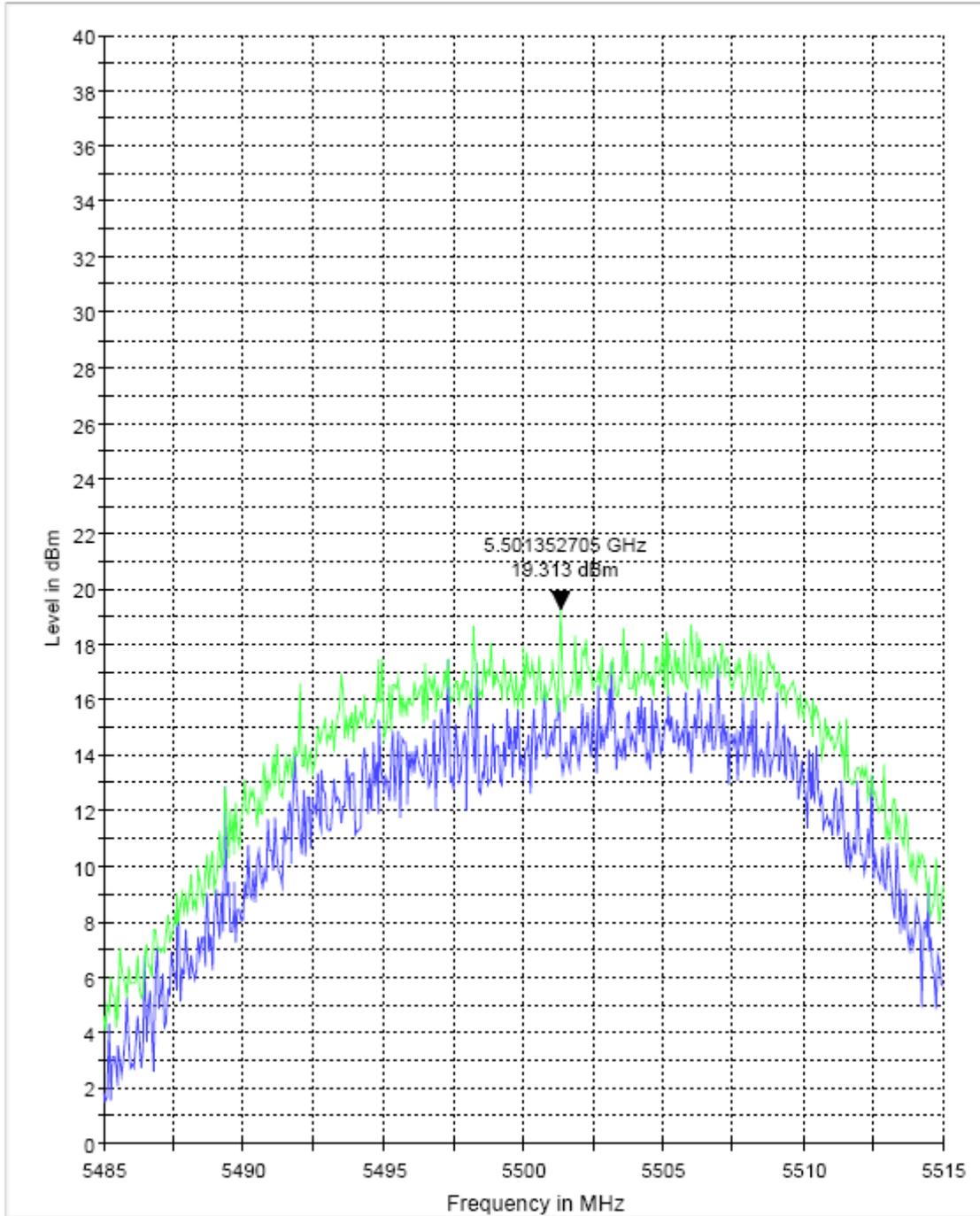
EIRP 5320 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



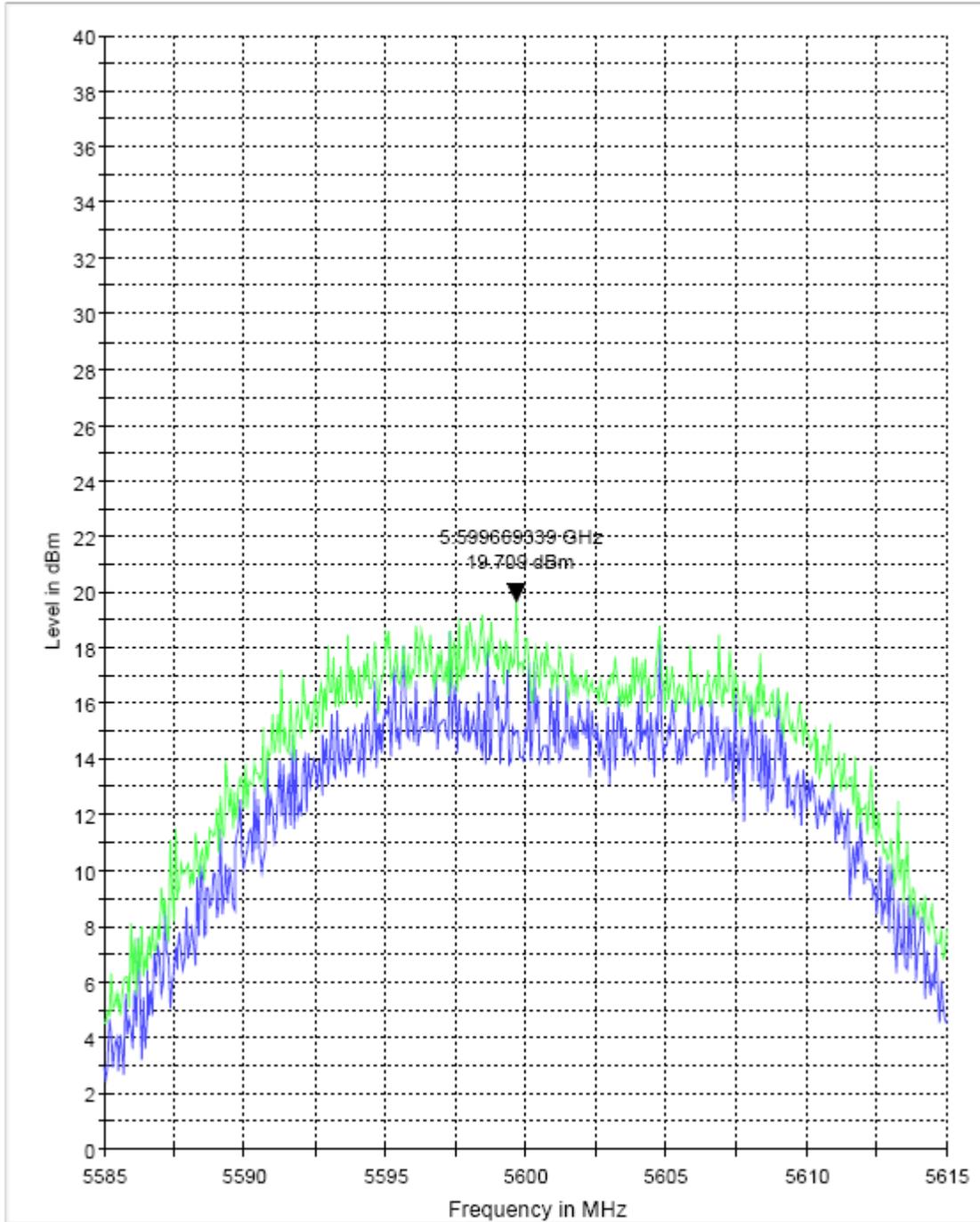
EIRP 5500 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



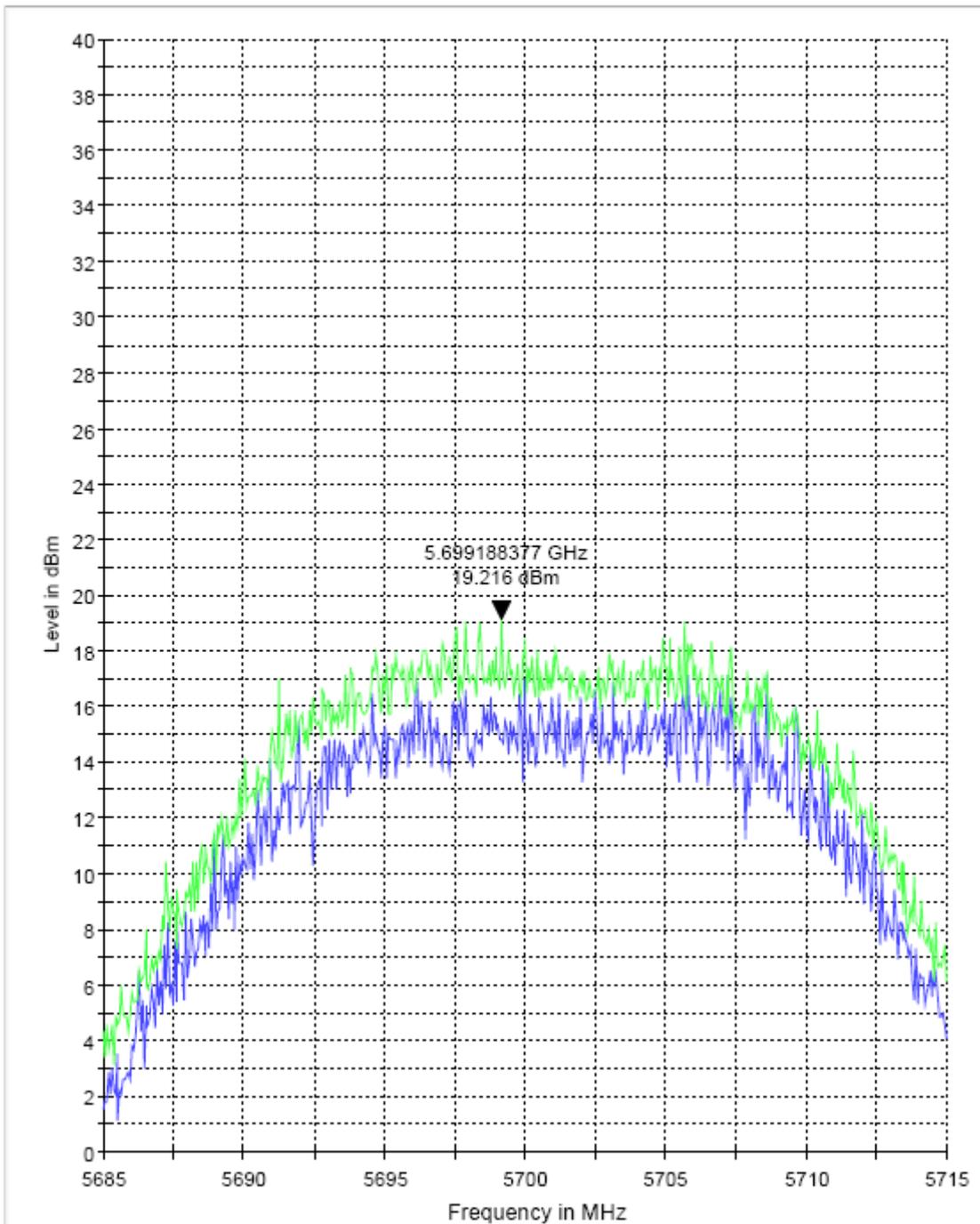
EIRP 5600 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5700 MHz

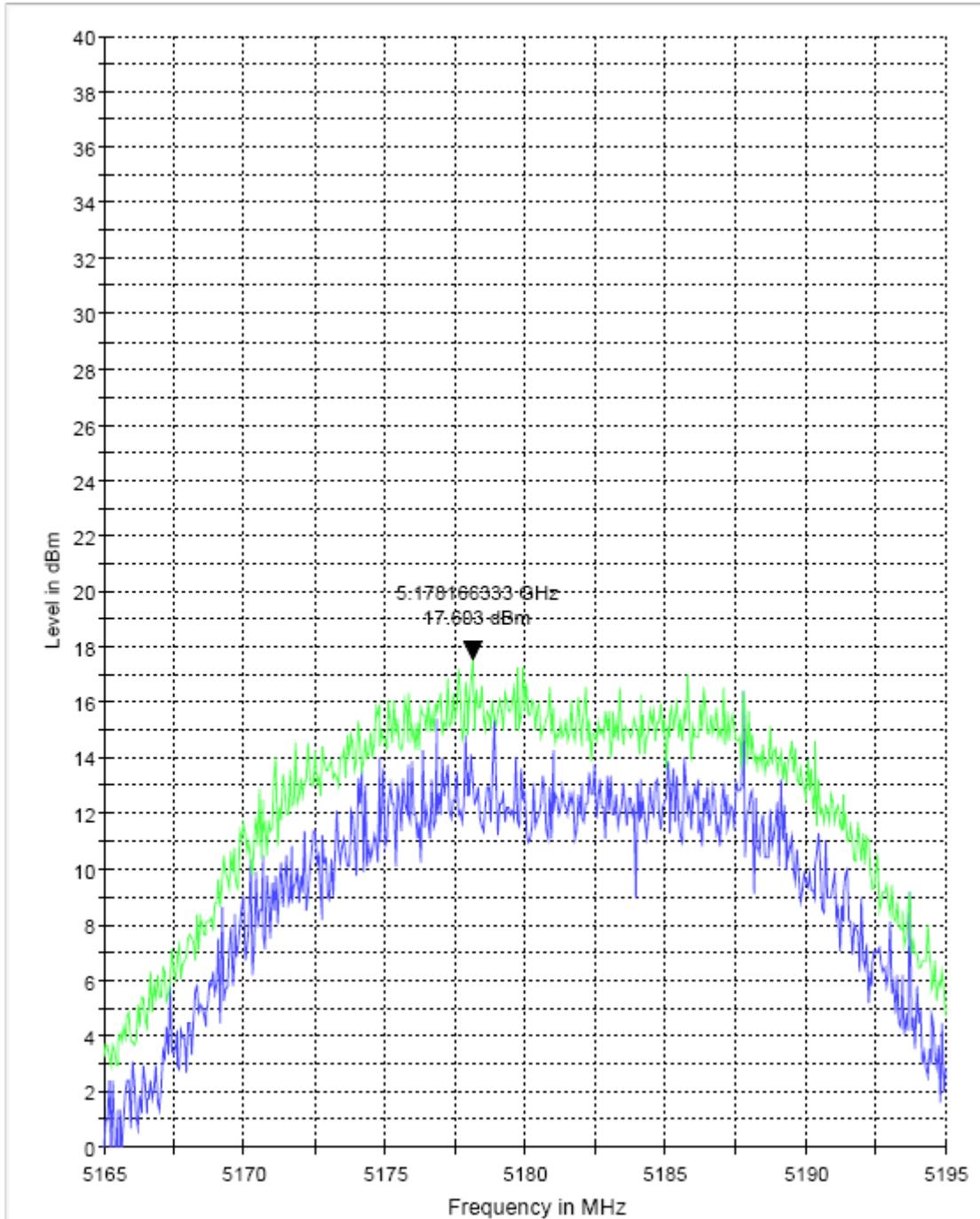


— MaxPeak-ClearWrite — MaxPeak-MaxHold



5.1.6 802.11a mode chain B

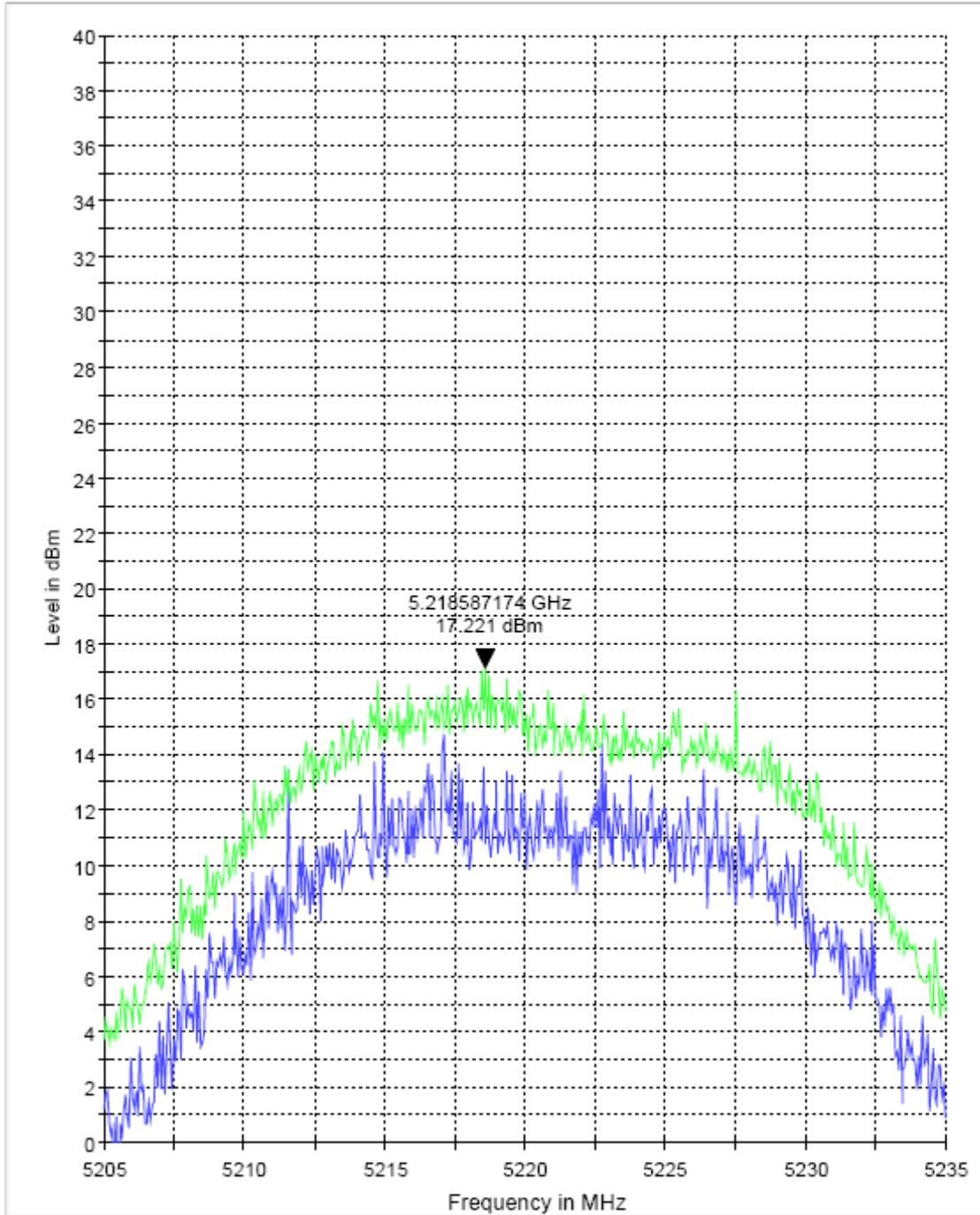
EIRP 5180 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



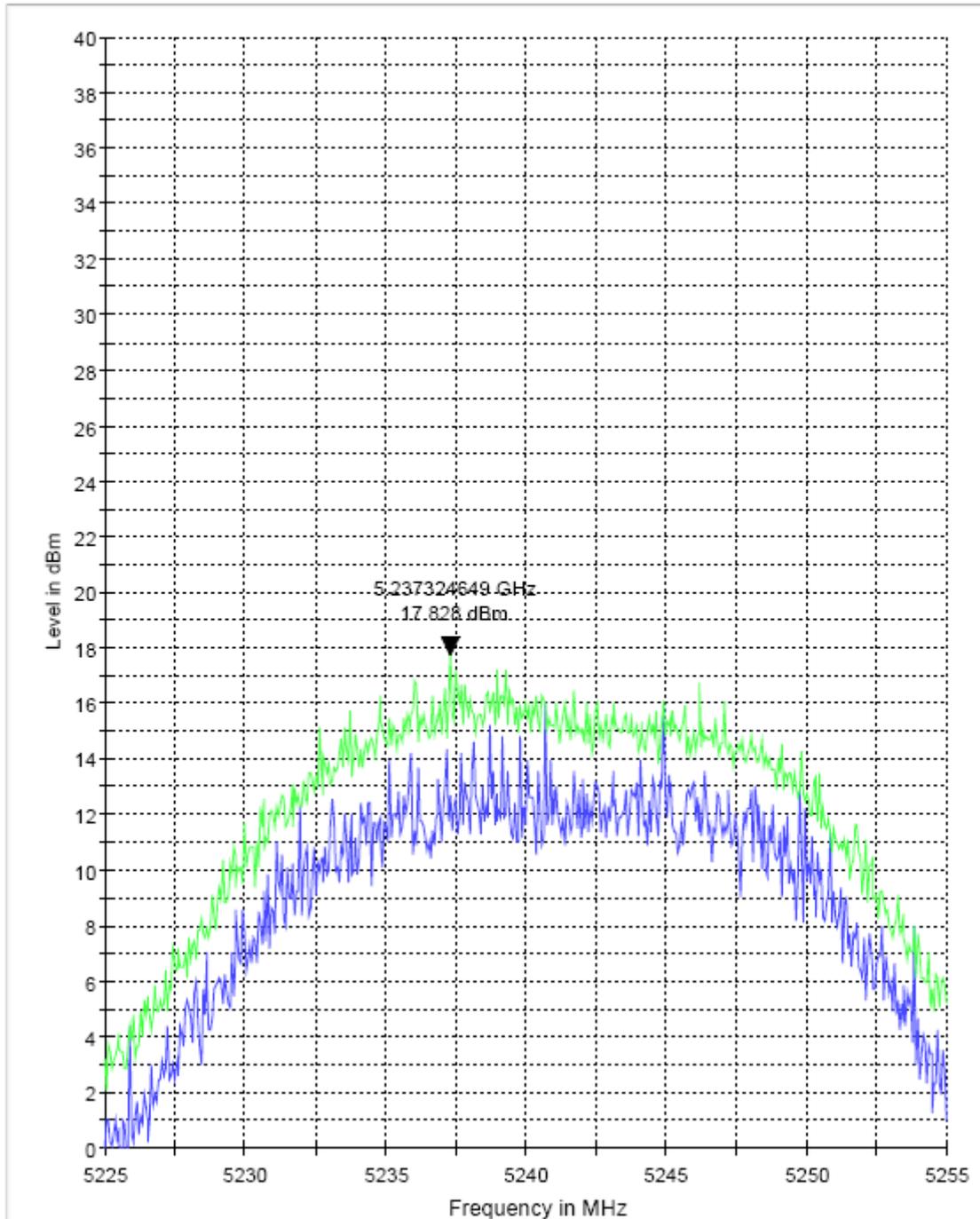
EIRP 5220 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold

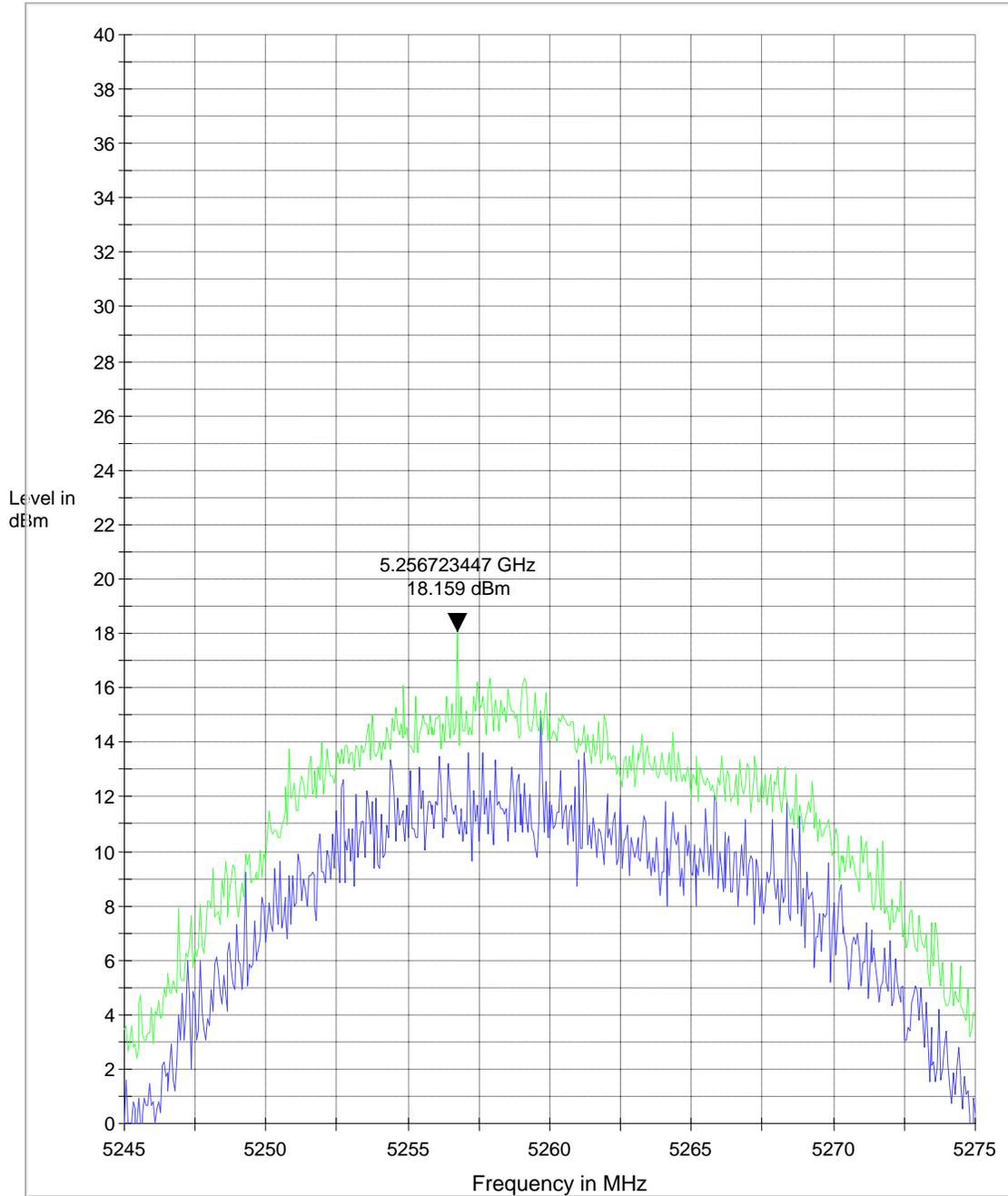


EIRP 5240 MHz





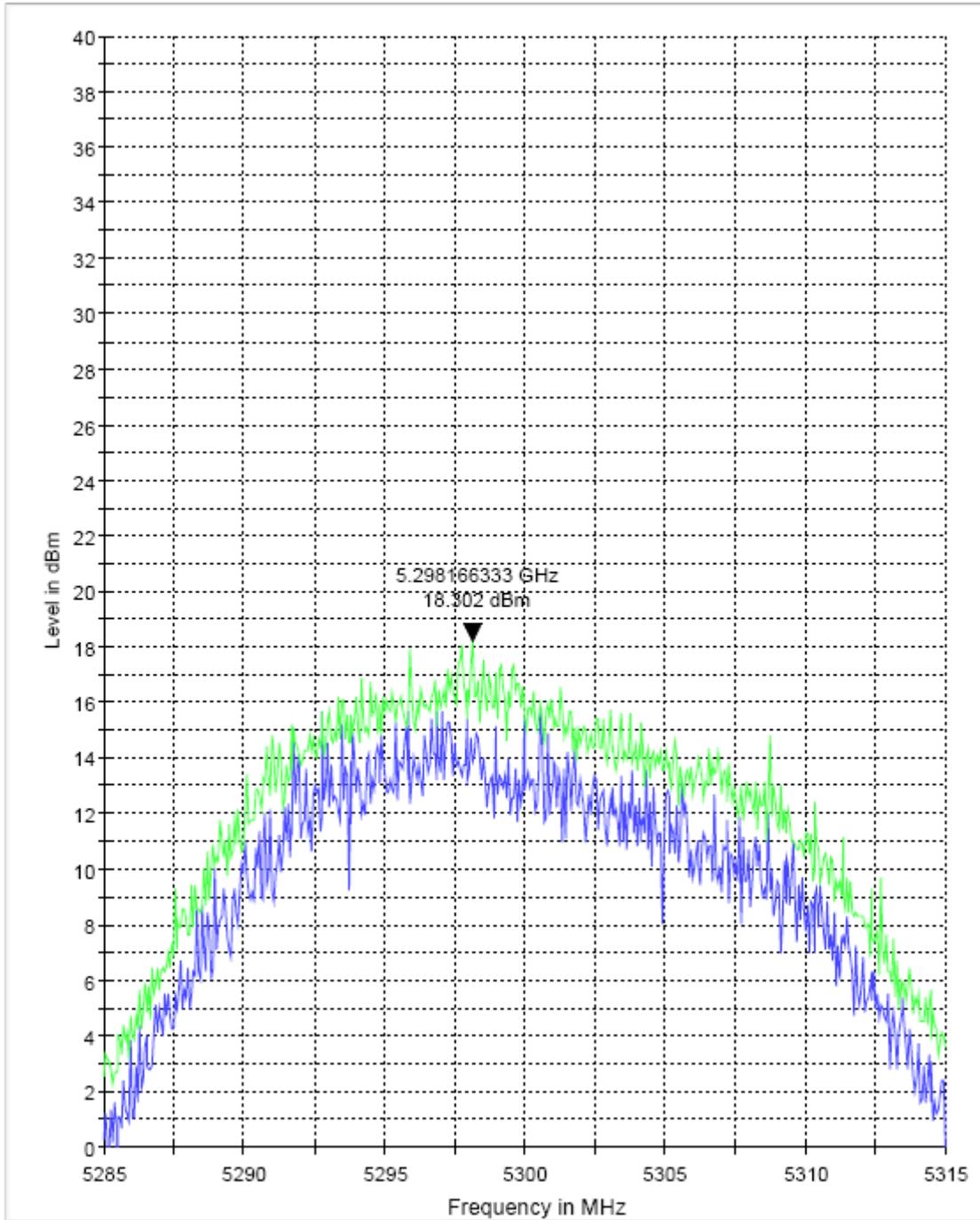
EIRP 5260 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



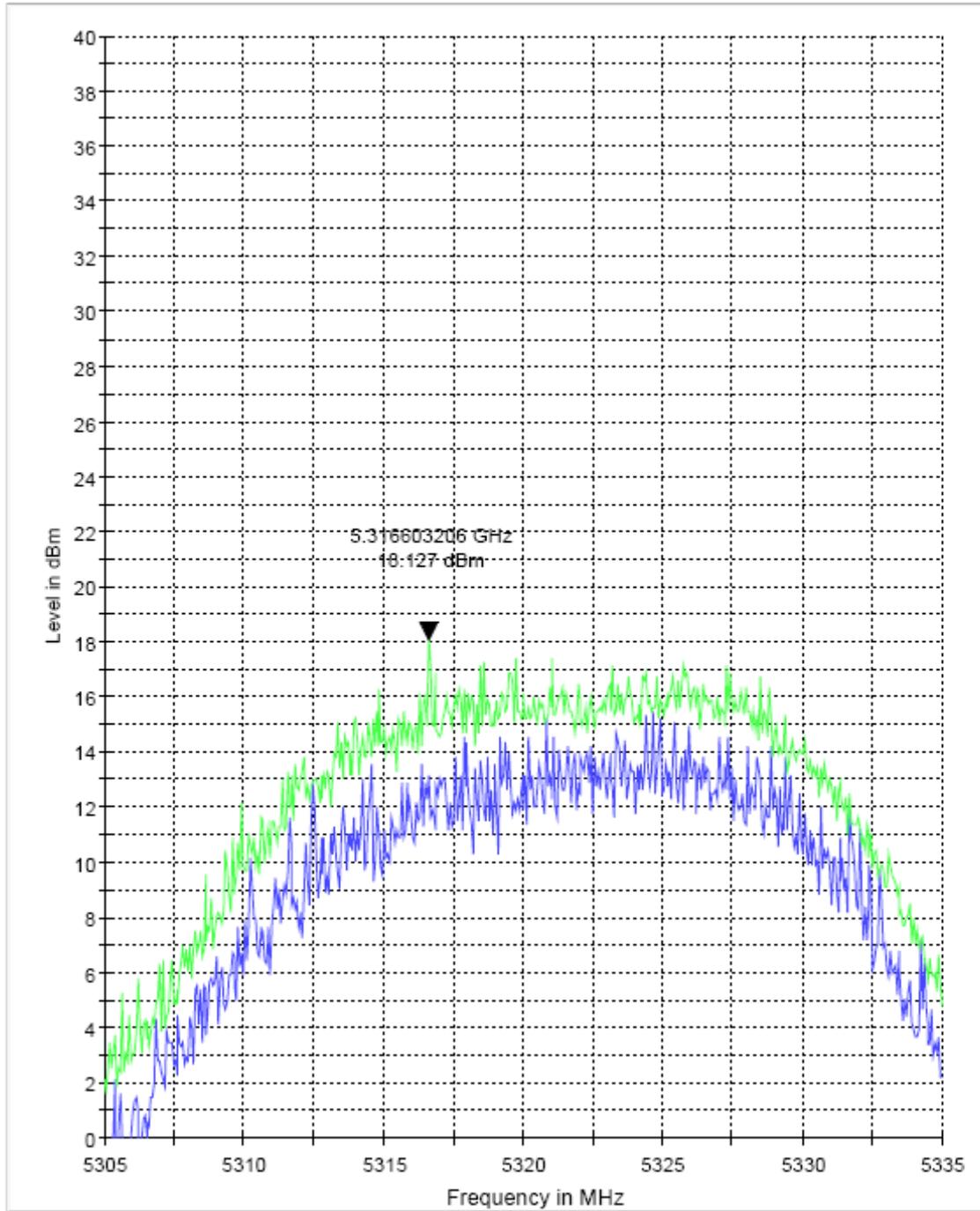
EIRP 5300 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



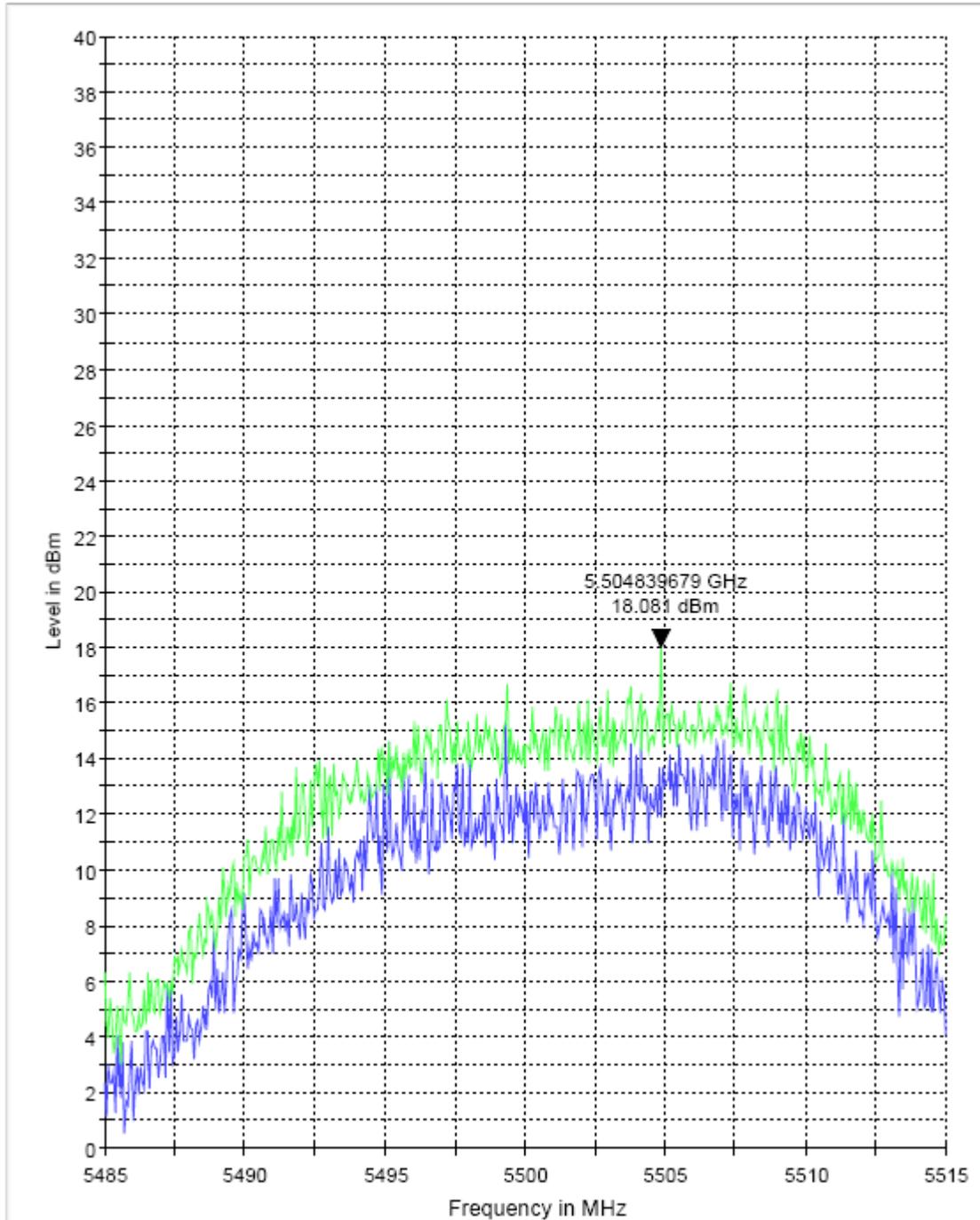
EIRP 5320 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



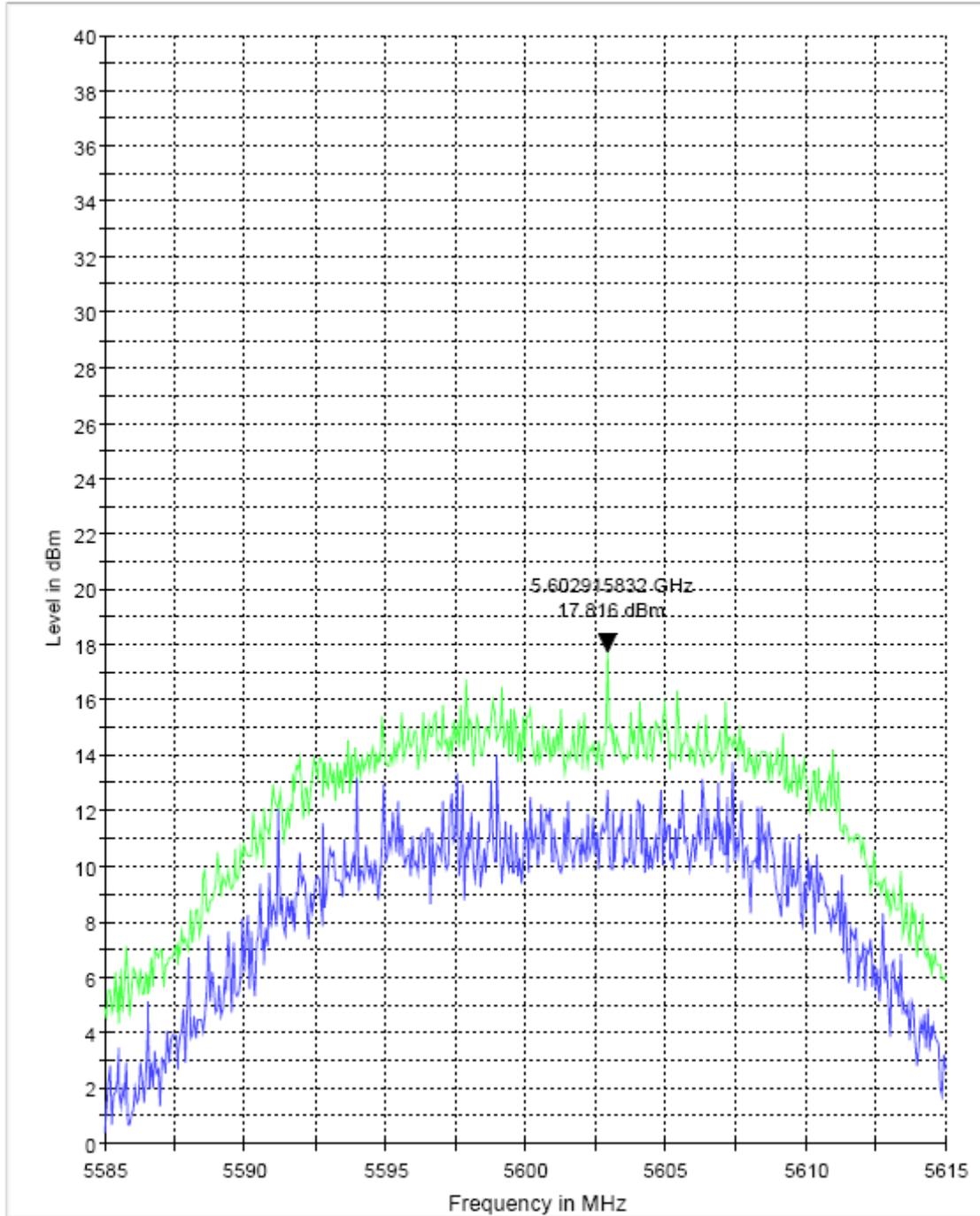
EIRP 5500 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



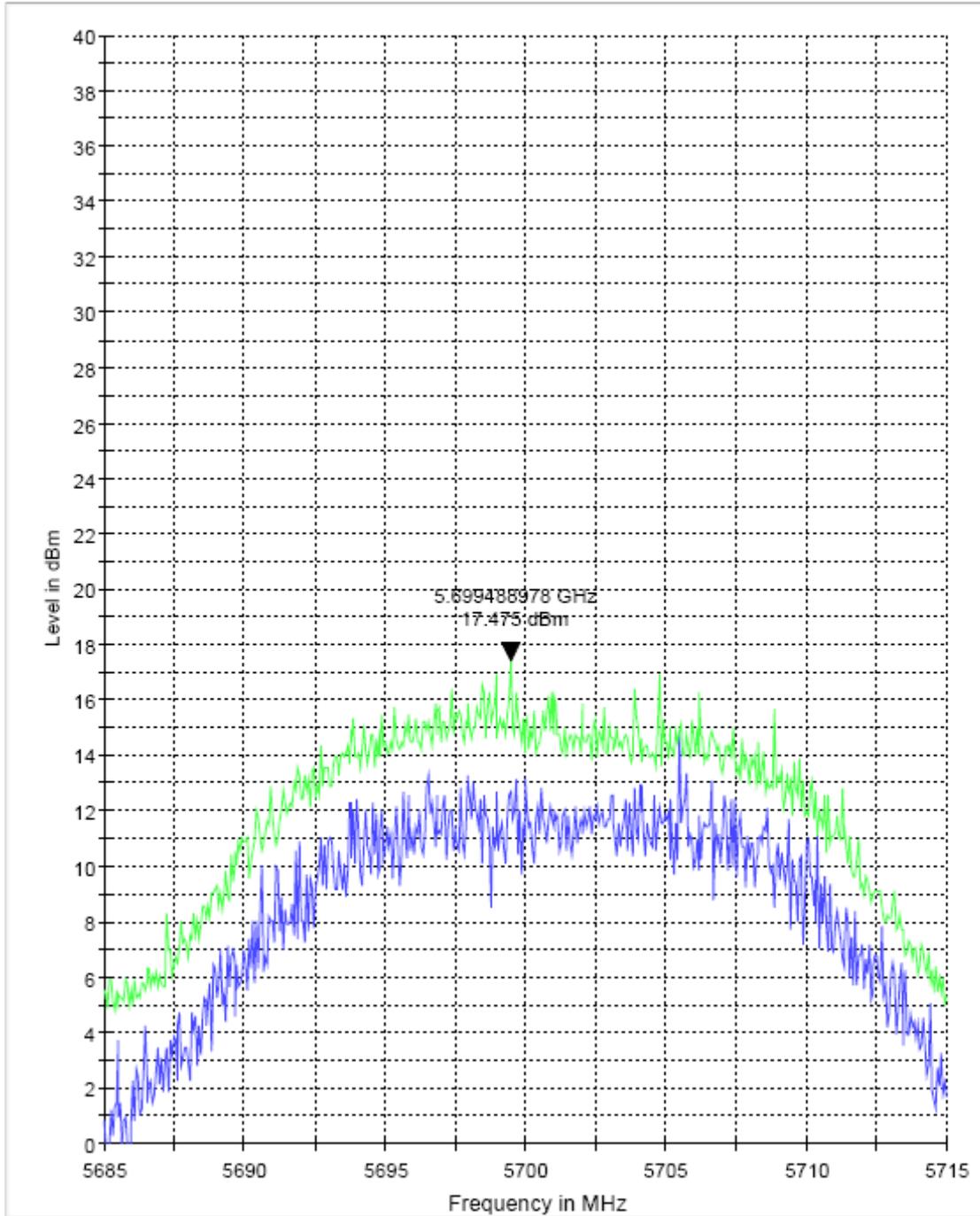
EIRP 5600 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5700 MHz



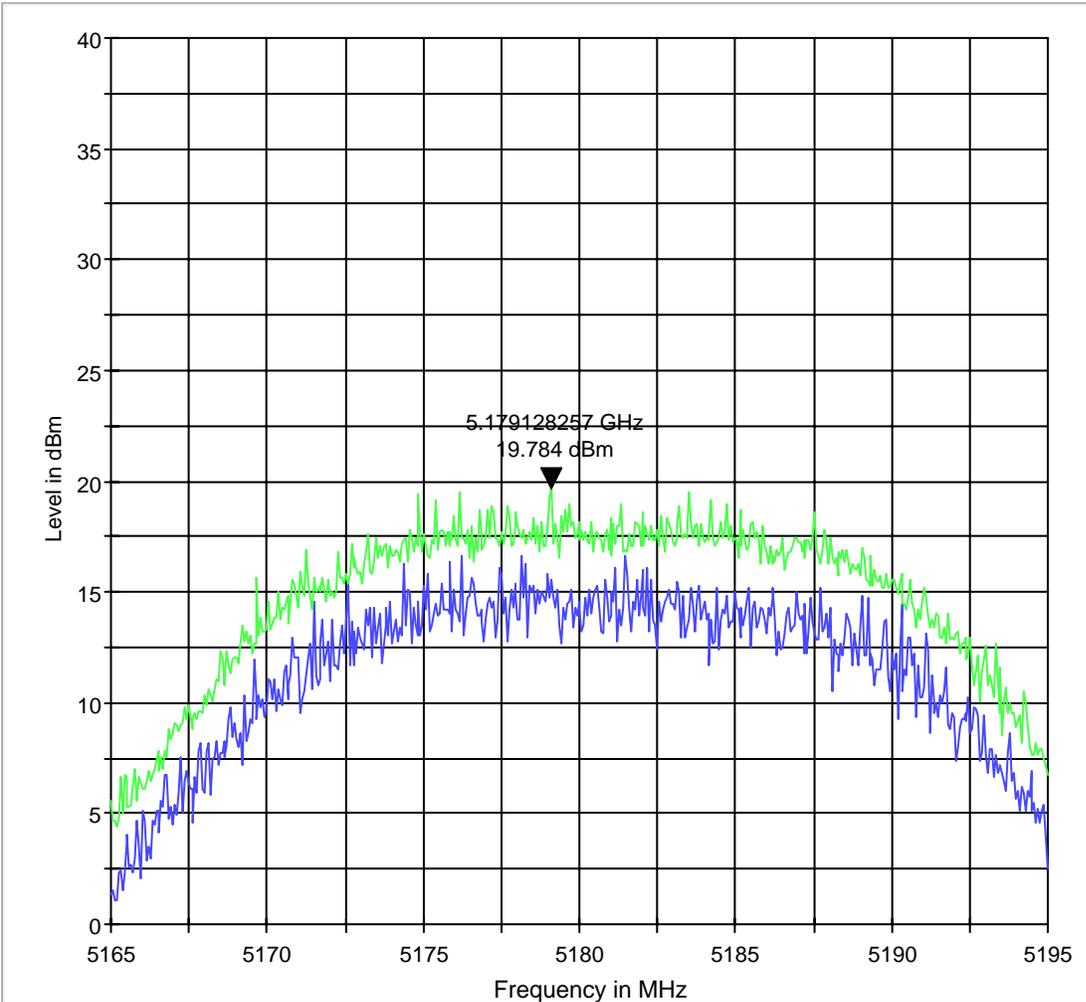
— MaxPeak-ClearWrite — MaxPeak-MaxHold



5.1.7 802.11n HT20 mode chain A

EIRP 5180 MHz

EIRP 5180 20MHz

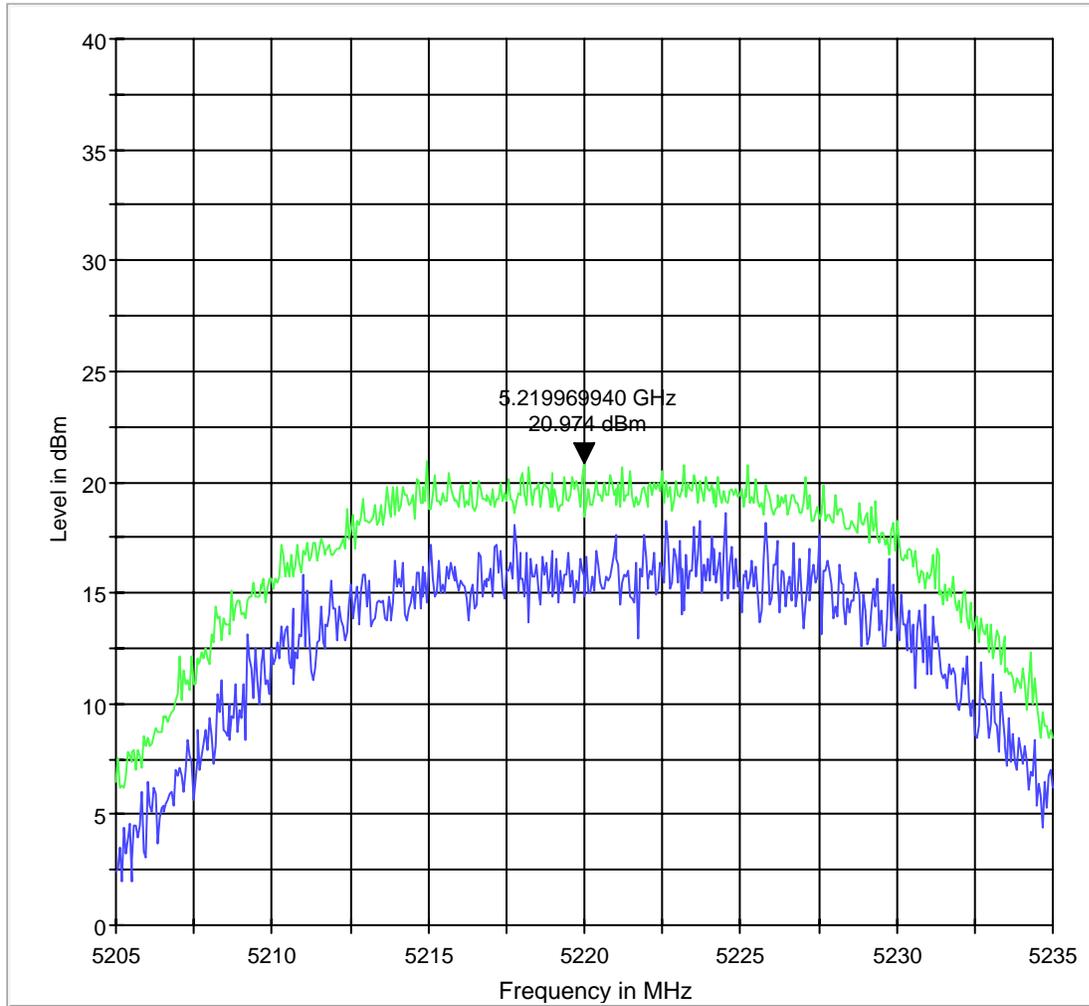


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5220 MHz

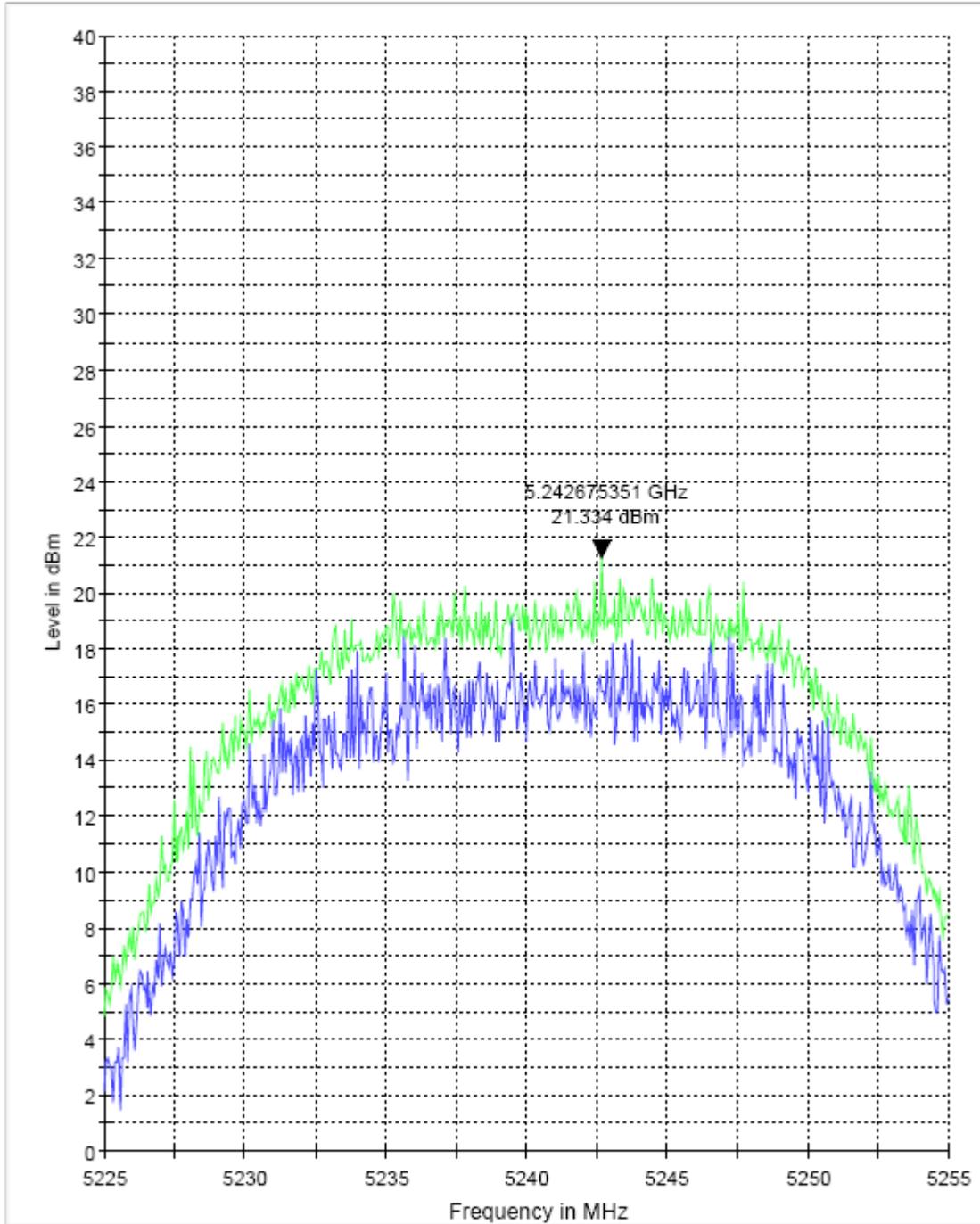
EIRP 5220 20MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5240 MHz

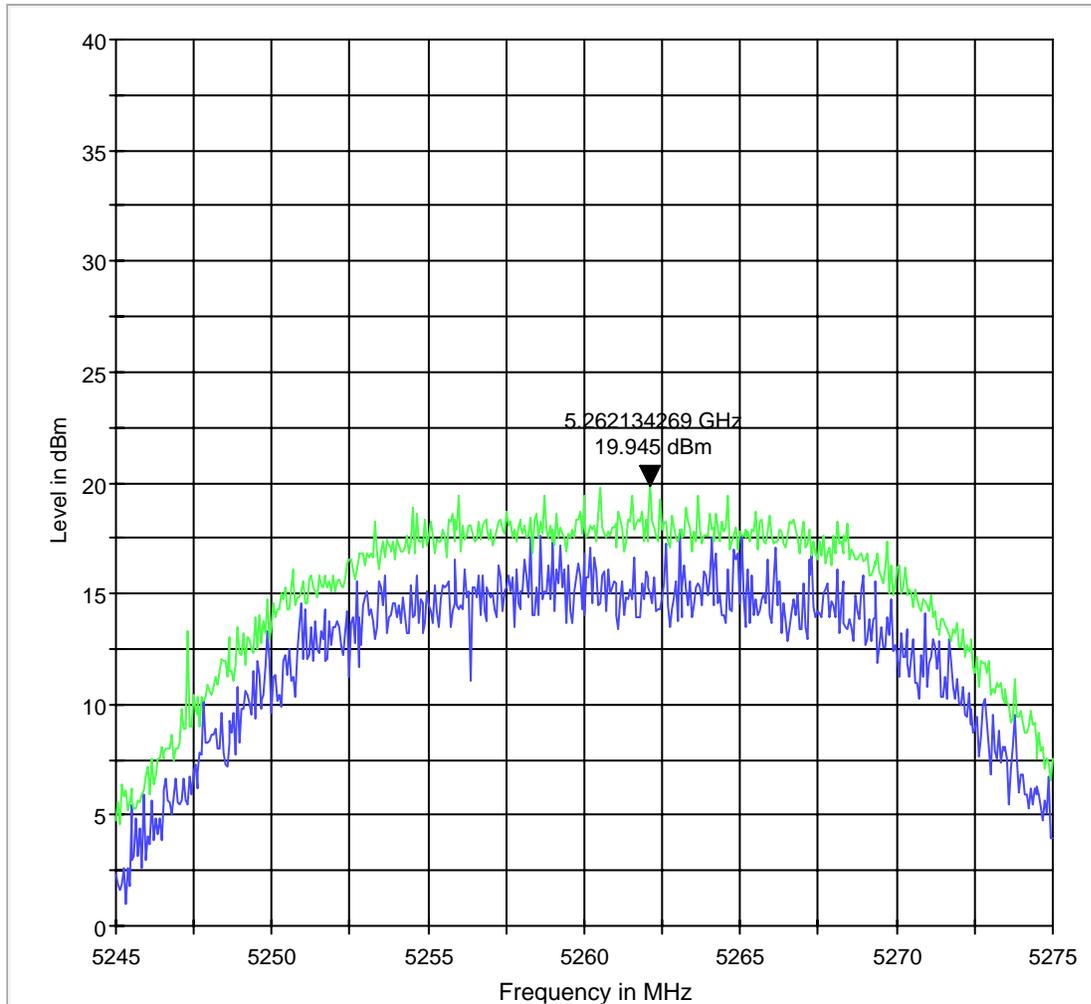


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5260 MHz

EIRP 5260 20MHz

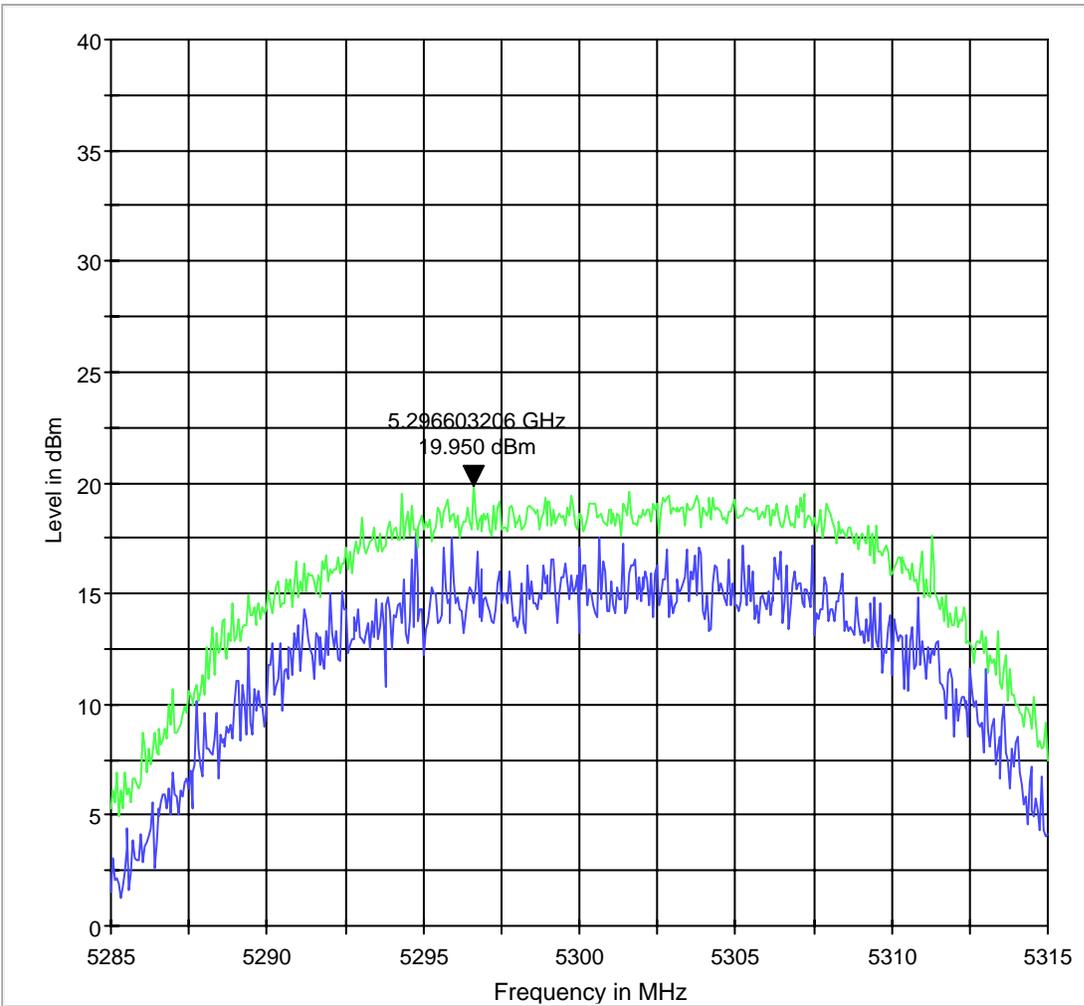


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5300 MHz

EIRP 5300 20MHz

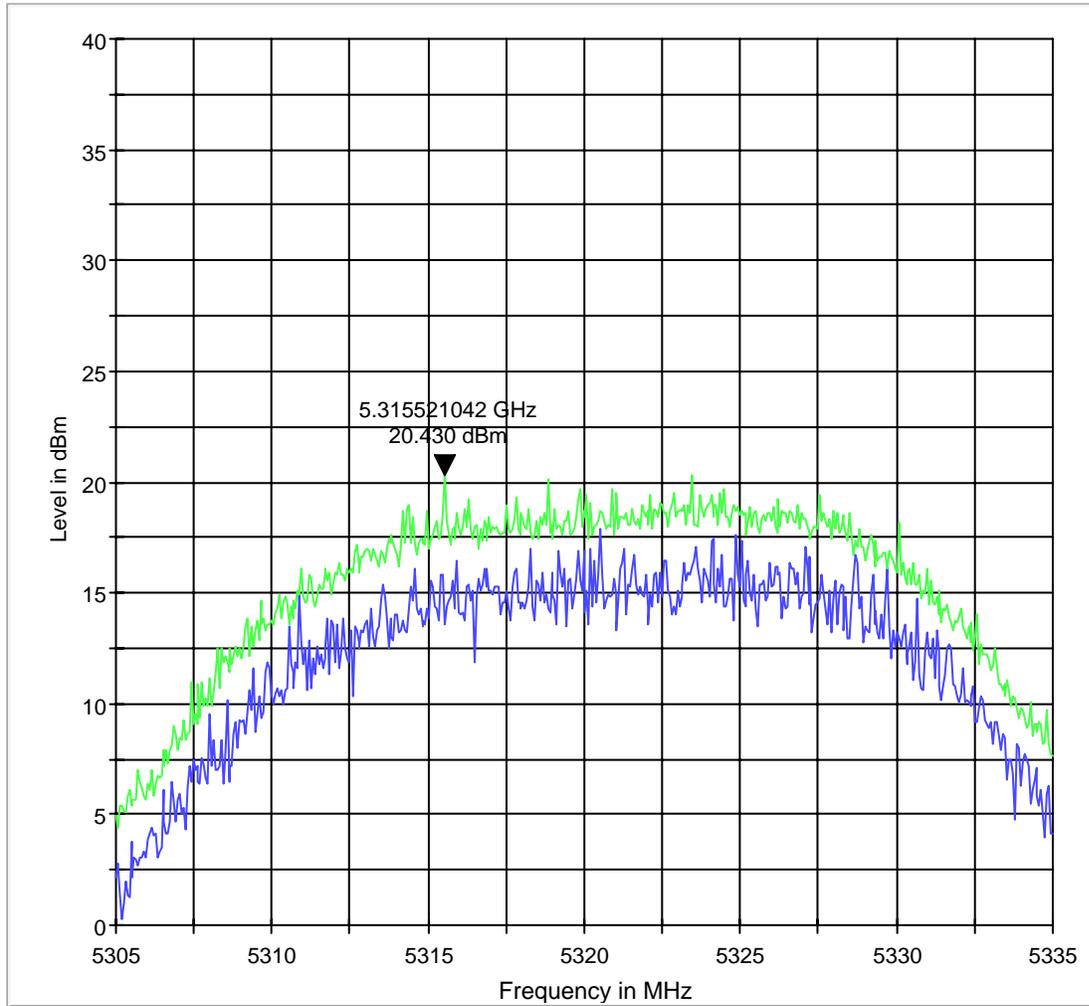


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5320 MHz

EIRP 5320 20MHz



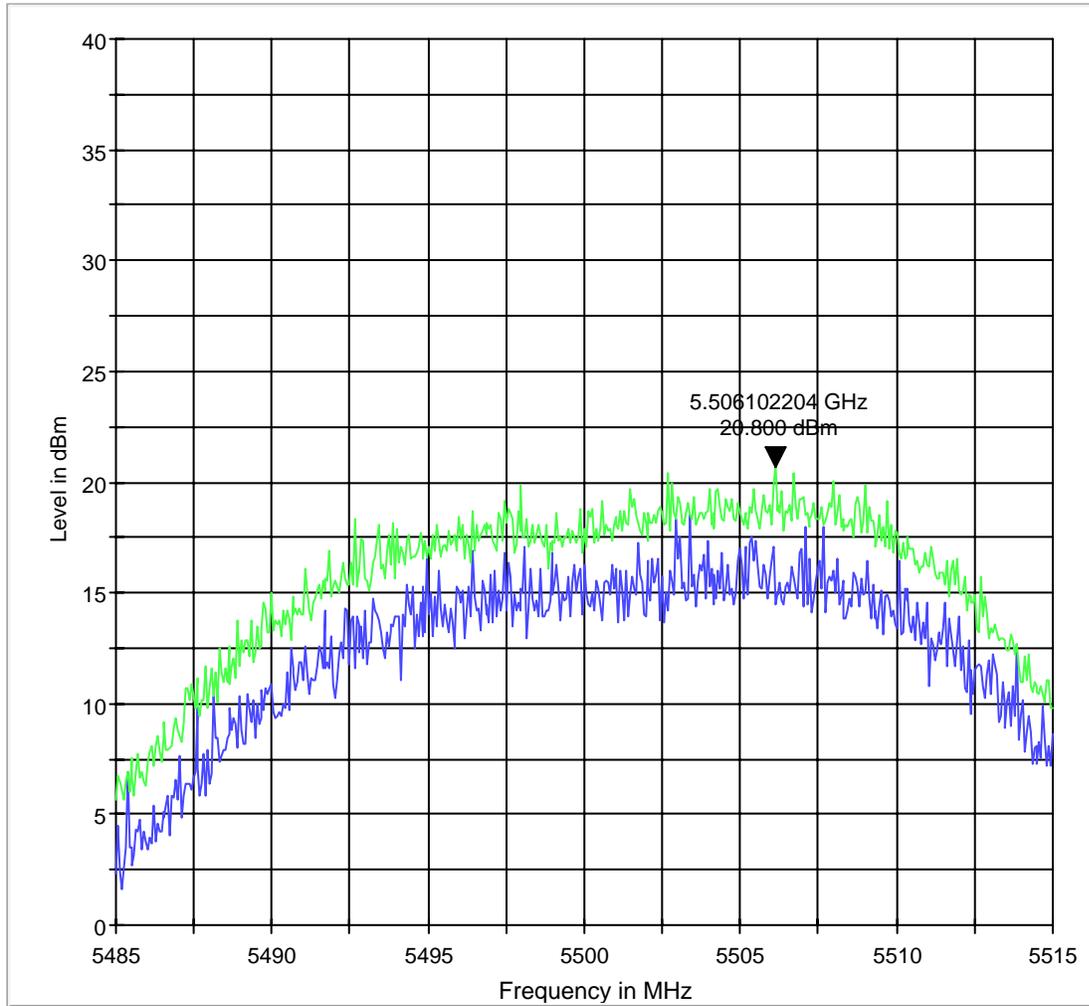
MaxPeak-ClearWrite

MaxPeak-MaxHold



EIRP 5500 MHz

EIRP 5500 20MHz

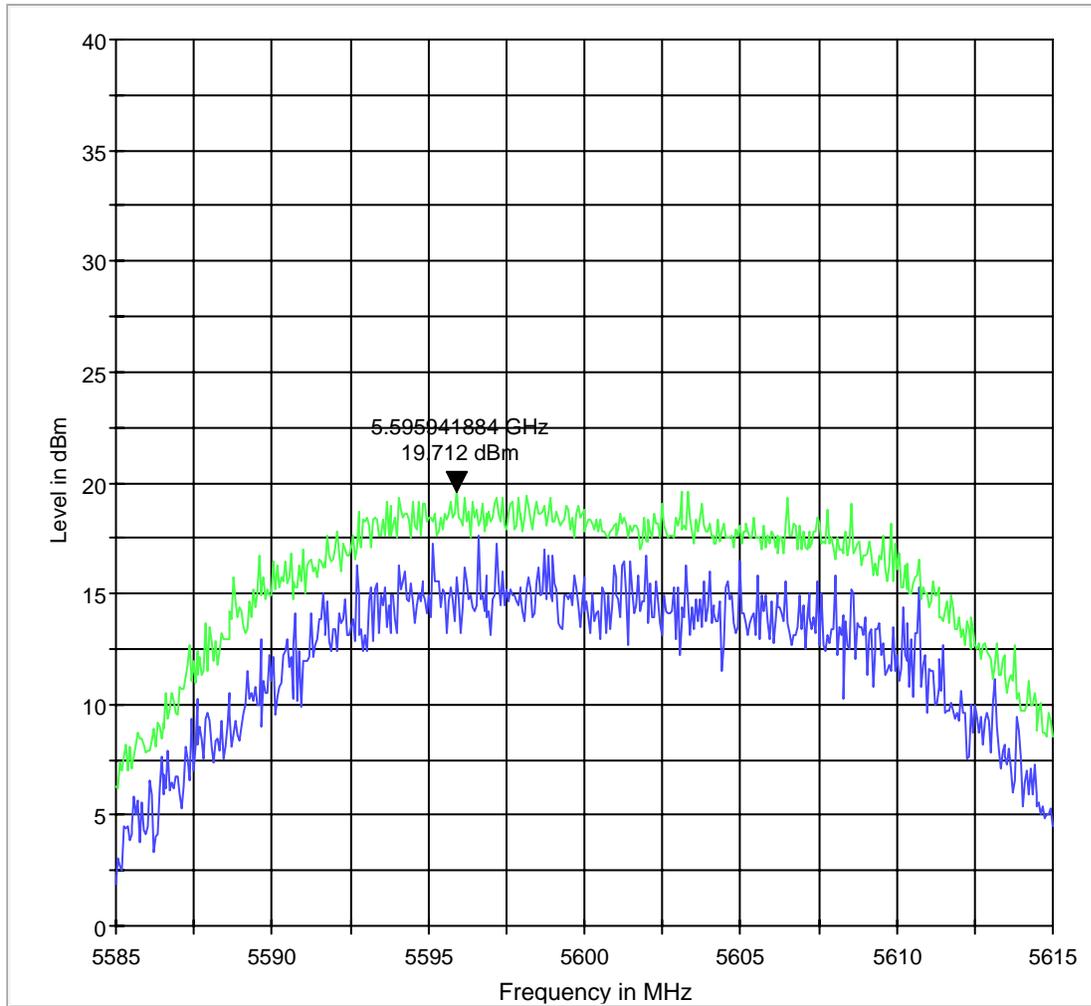


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5600 MHz

EIRP 5600 20MHz

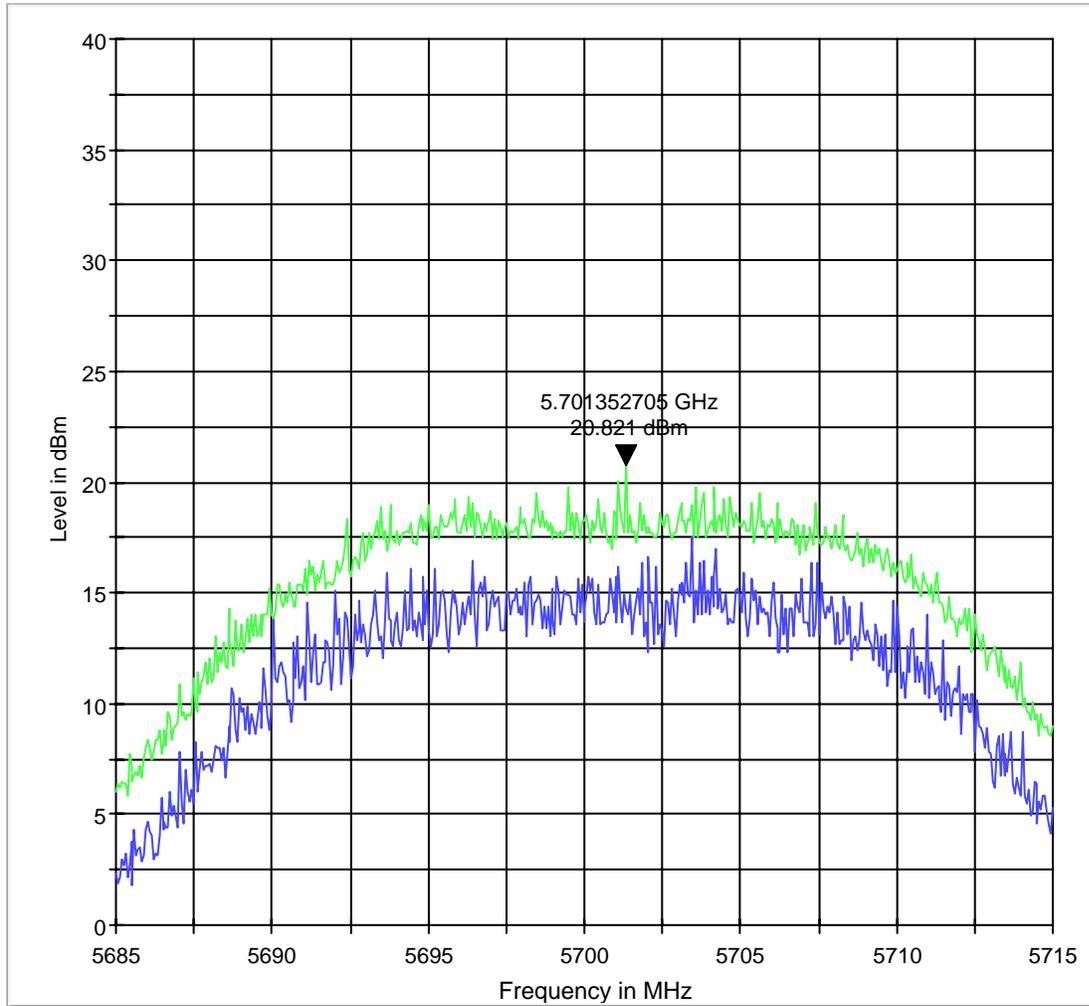


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5700 MHz

EIRP 5700 20MHz



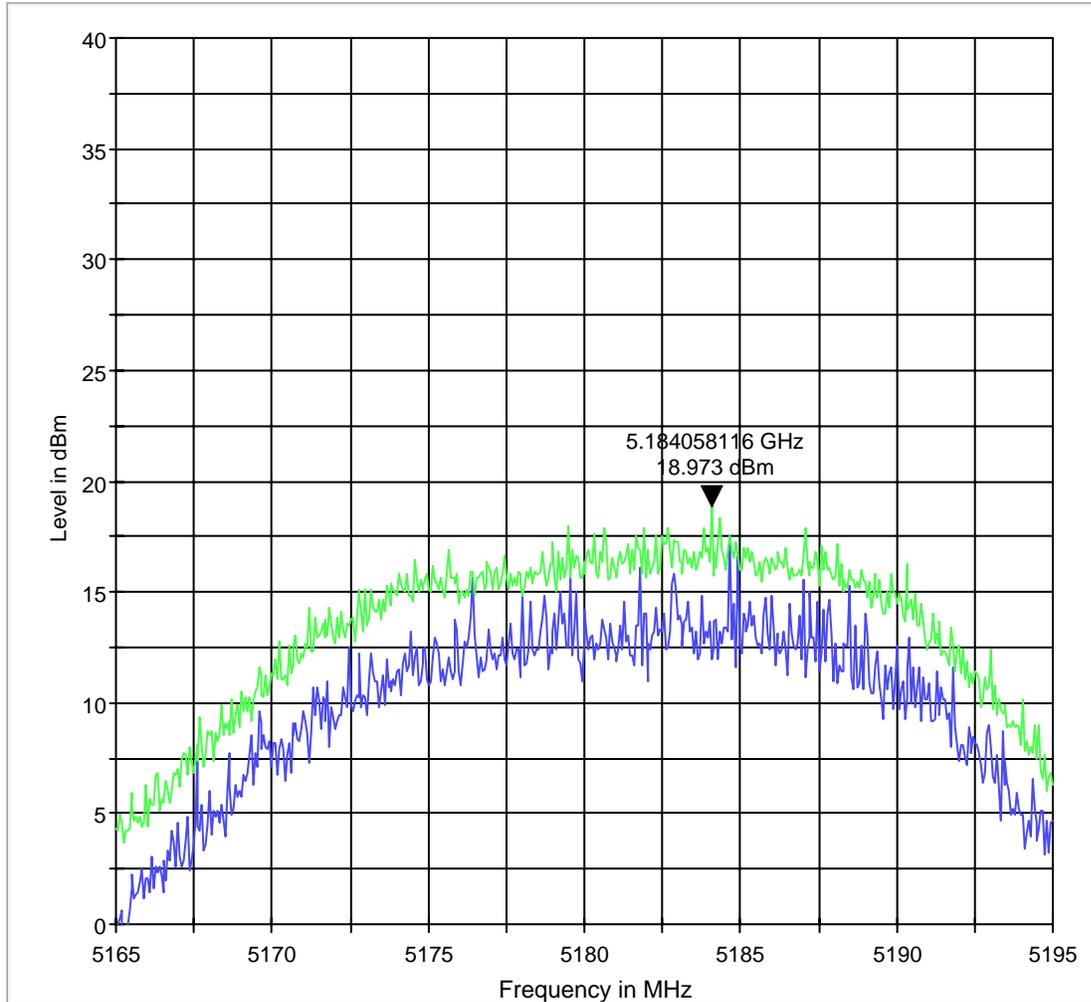
— MaxPeak-ClearWrite — MaxPeak-MaxHold



5.1.8 802.11n HT20 mode chain B

EIRP 5180 MHz

EIRP 5180 20MHz

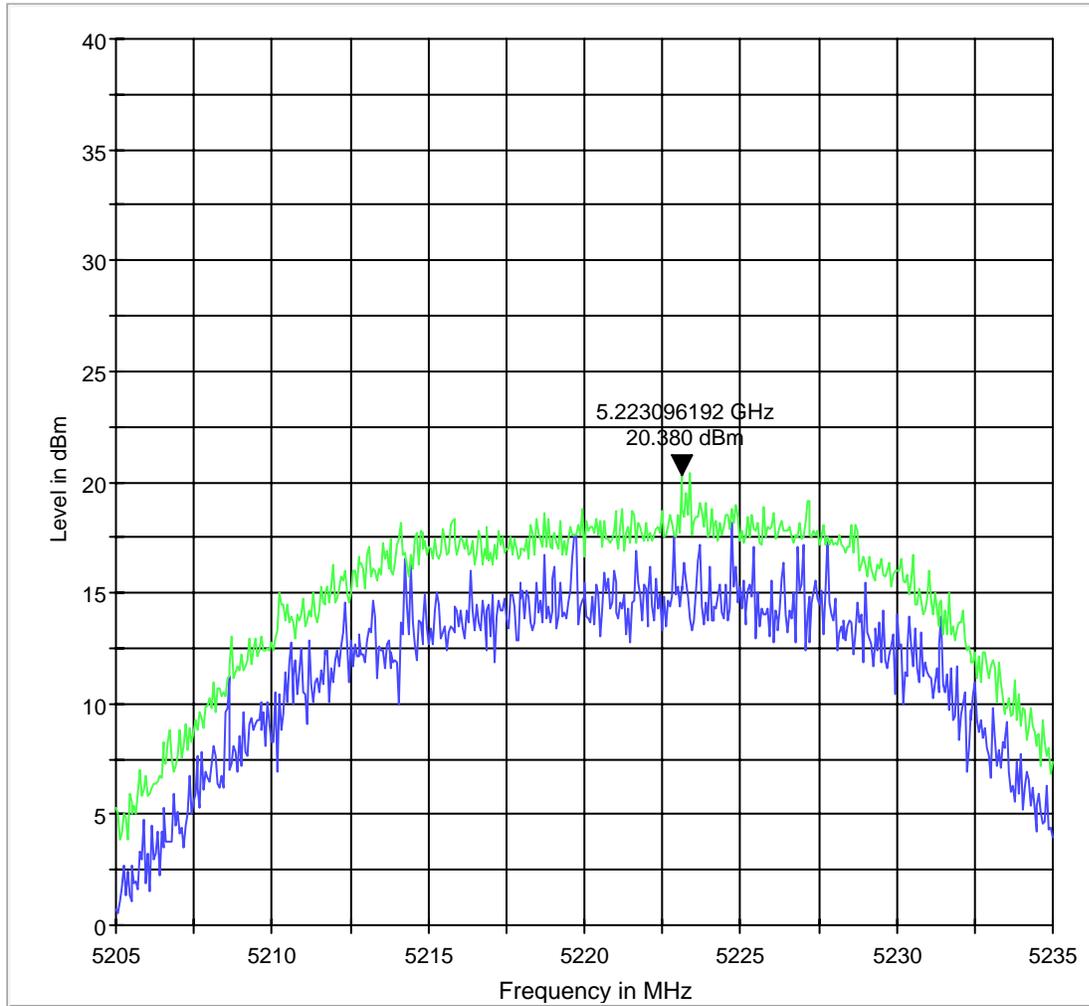


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5220 MHz

EIRP 5220 20MHz

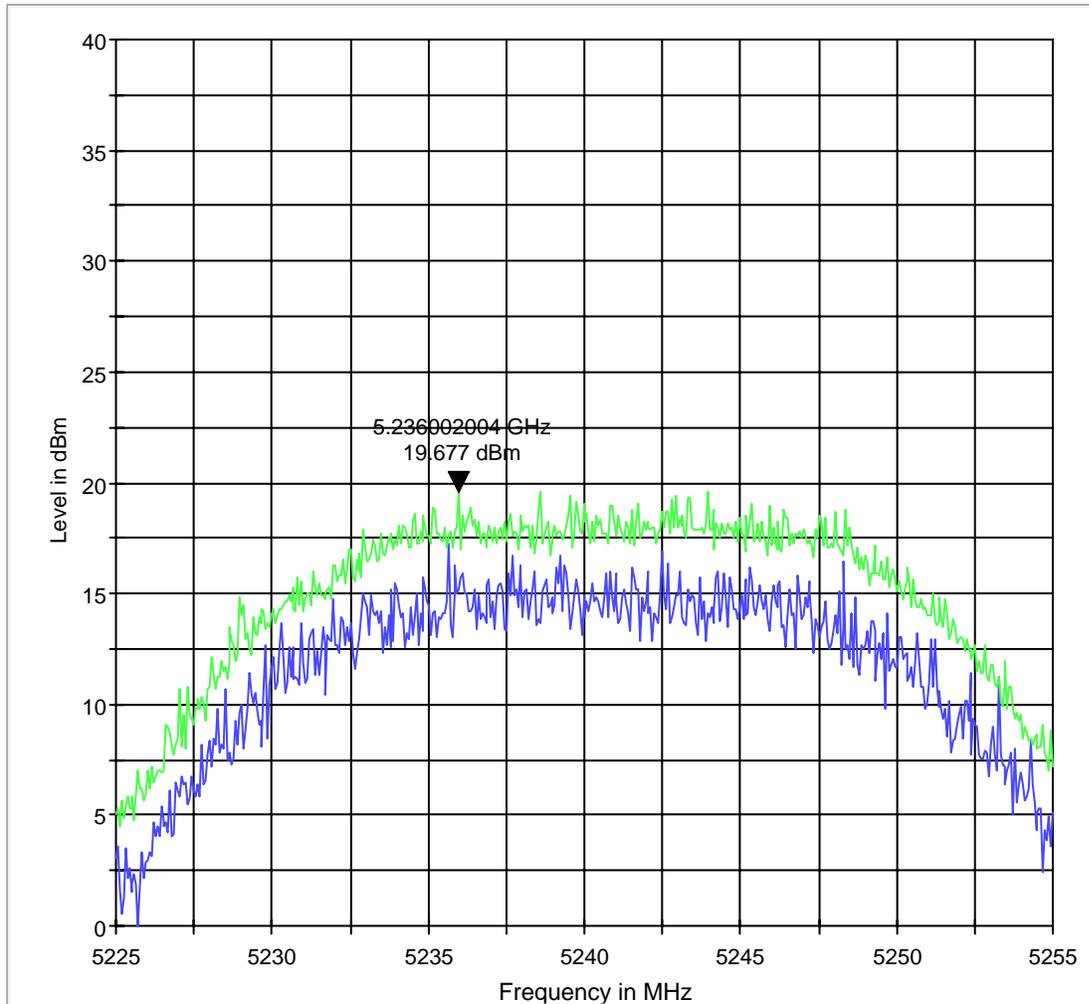


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5240 MHz

EIRP 5240 20MHz

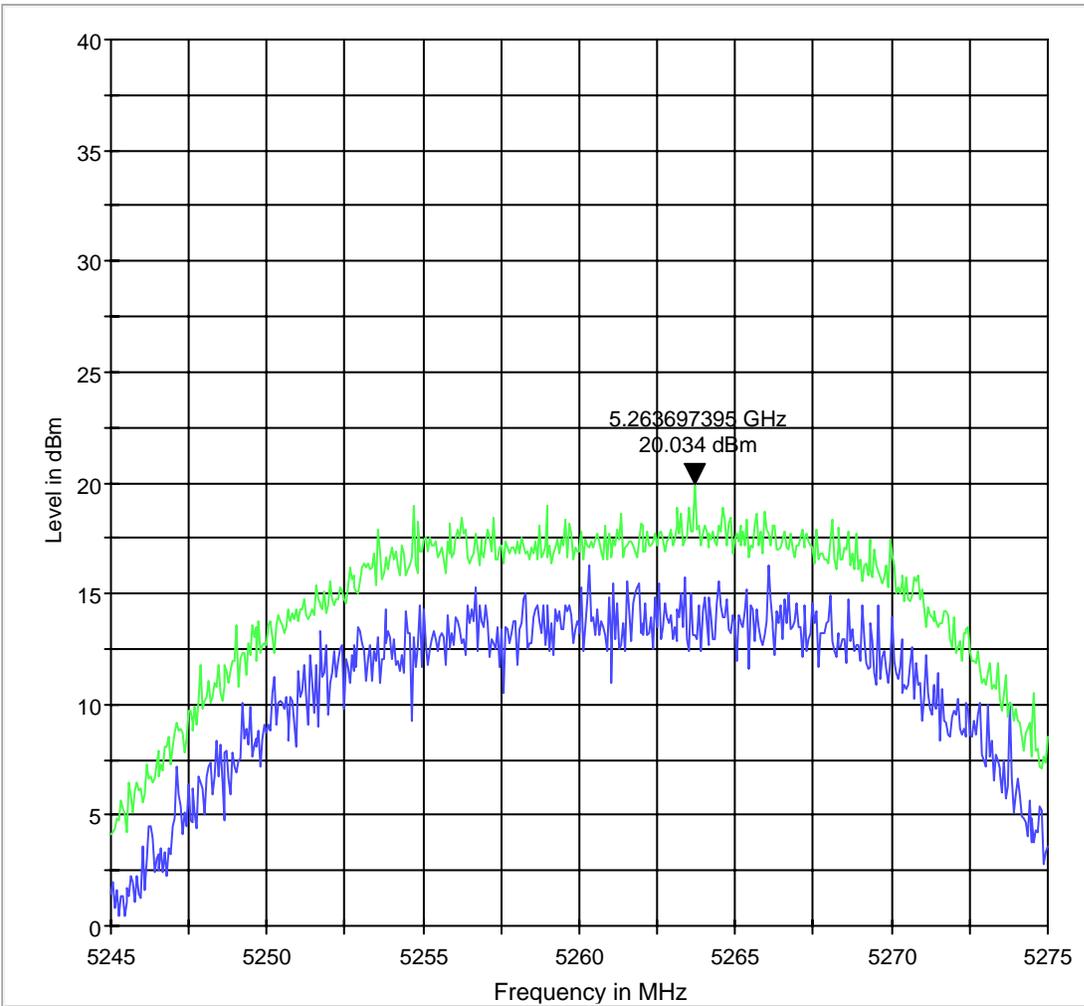


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5260 MHz

EIRP 5260 20MHz

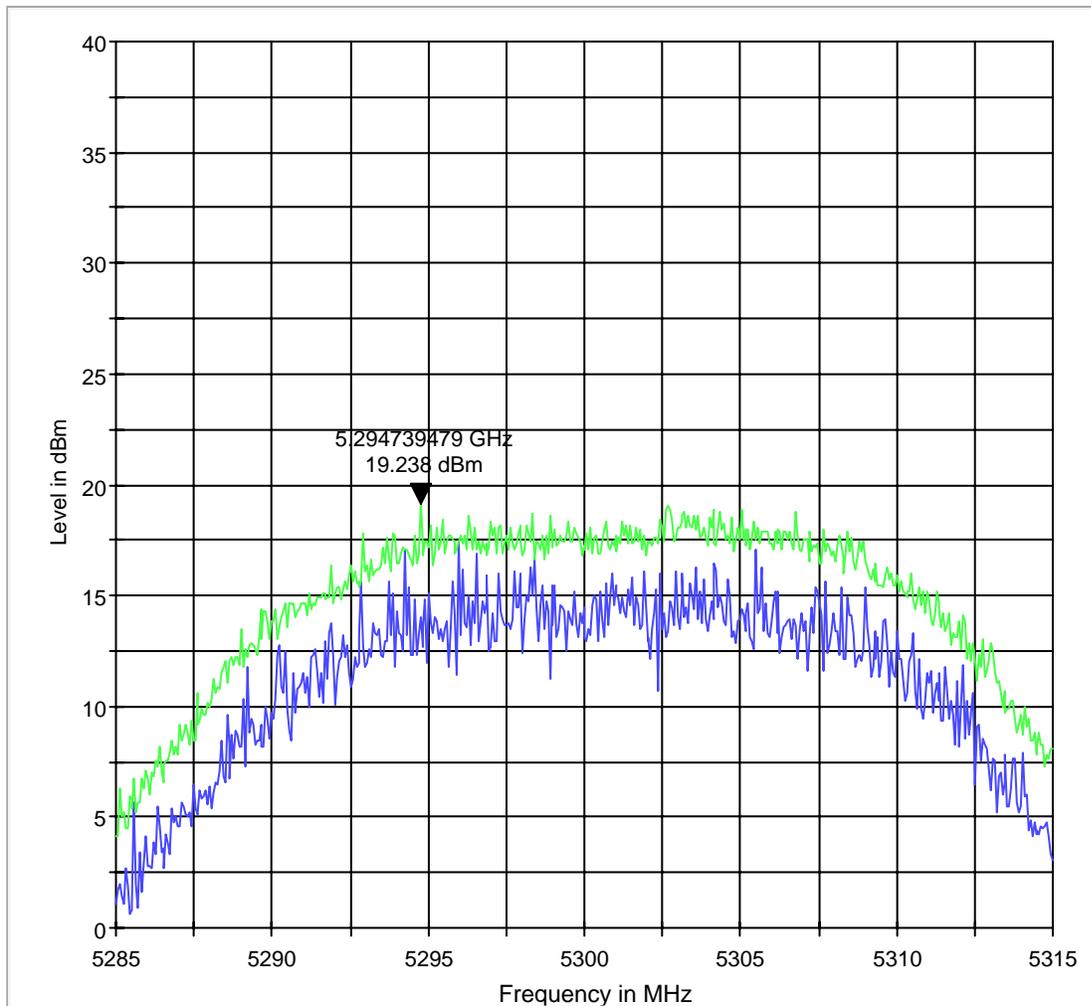


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5300 MHz

EIRP 5300 20MHz

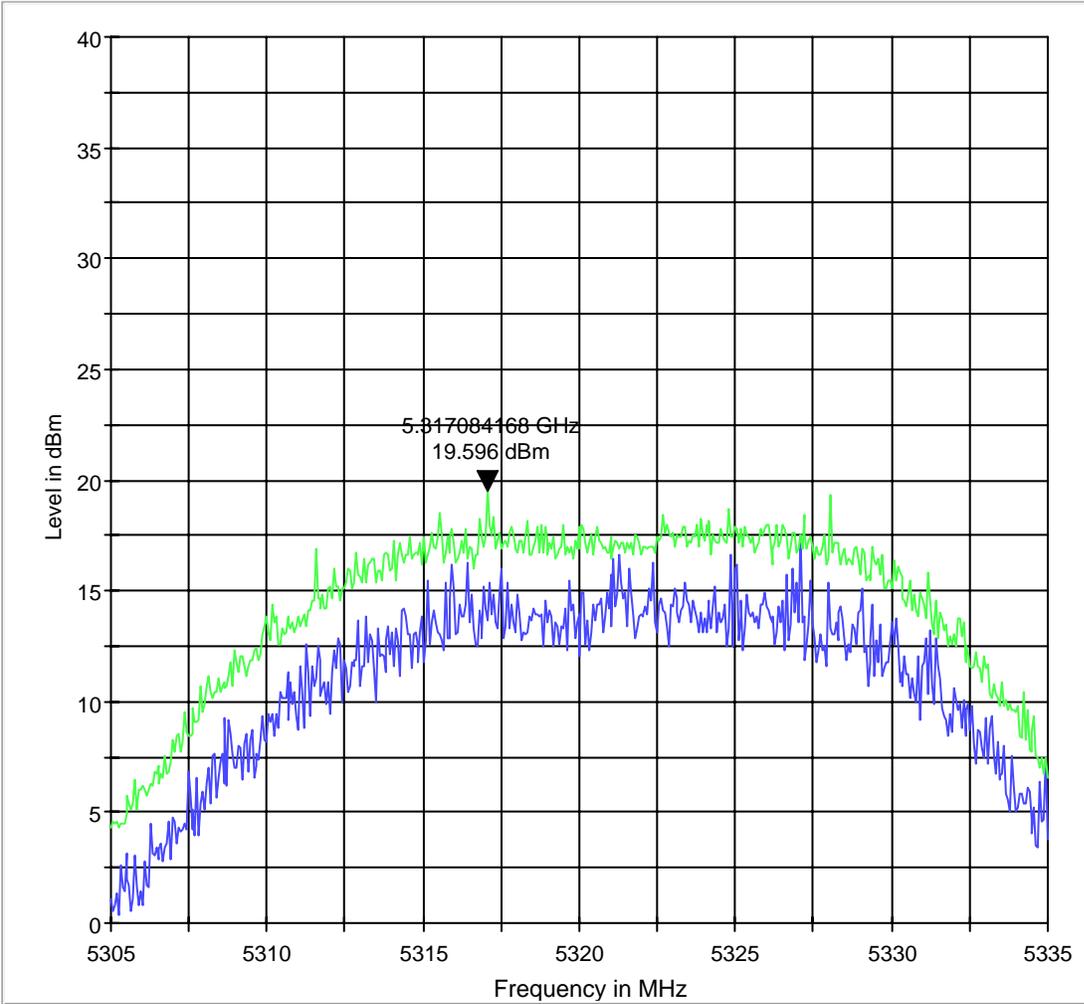


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5320 MHz

EIRP 5320 20MHz

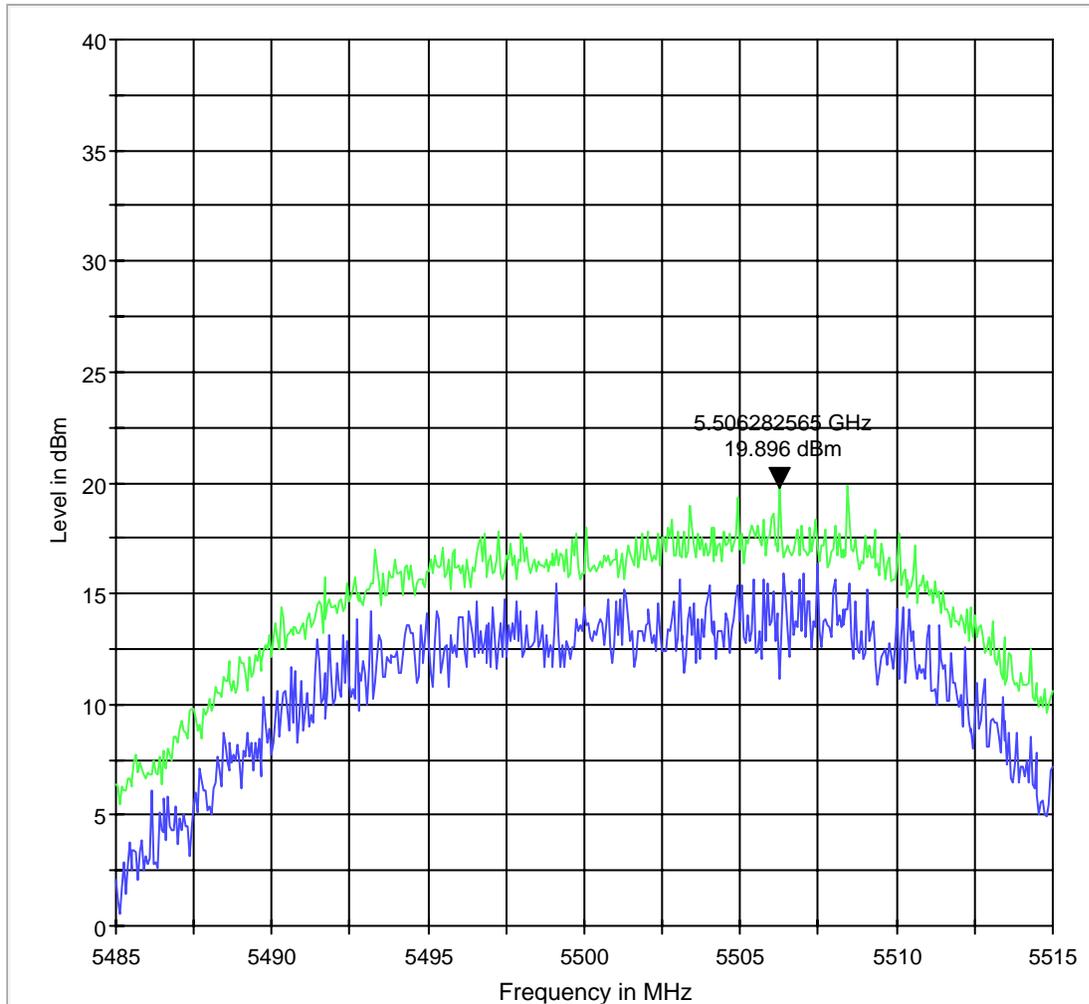


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5500 MHz

EIRP 5500 20MHz

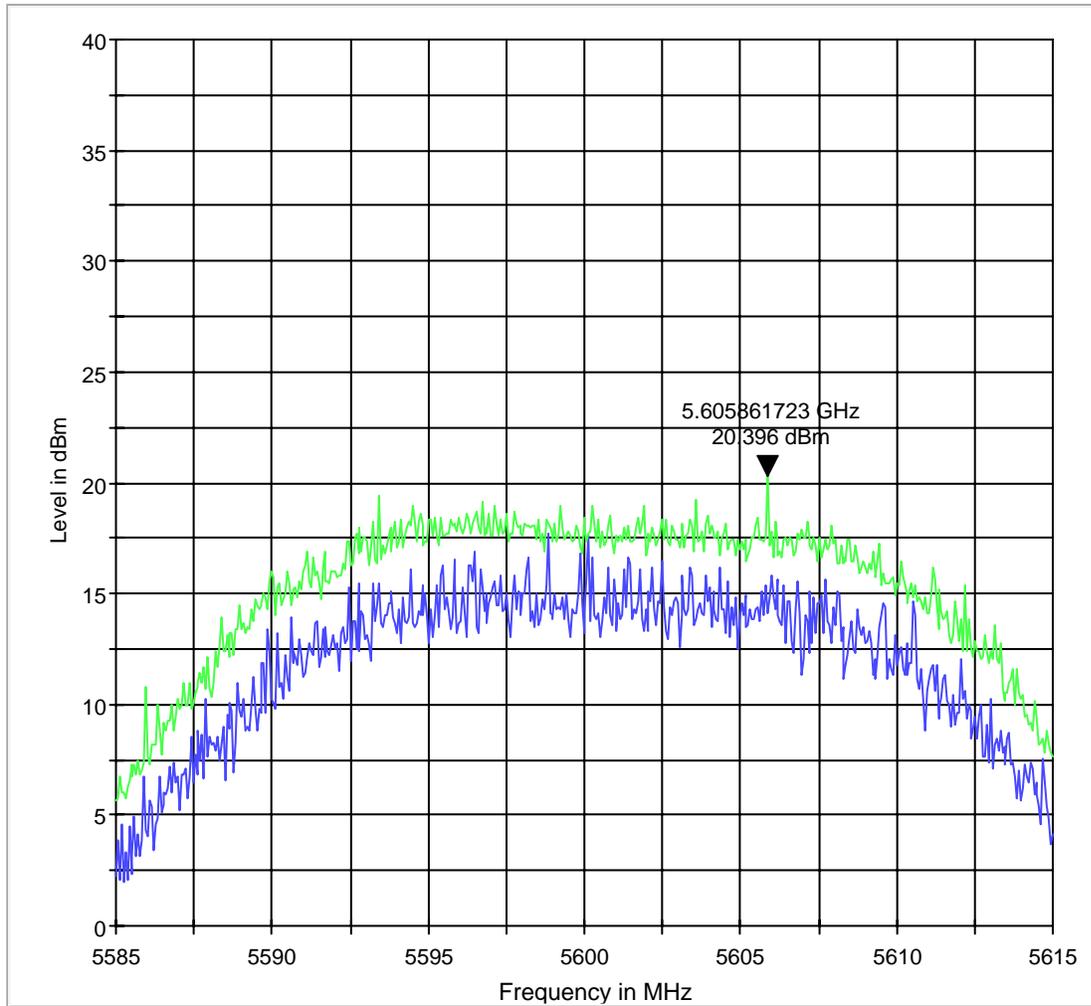


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5600 MHz

EIRP 5600 20MHz

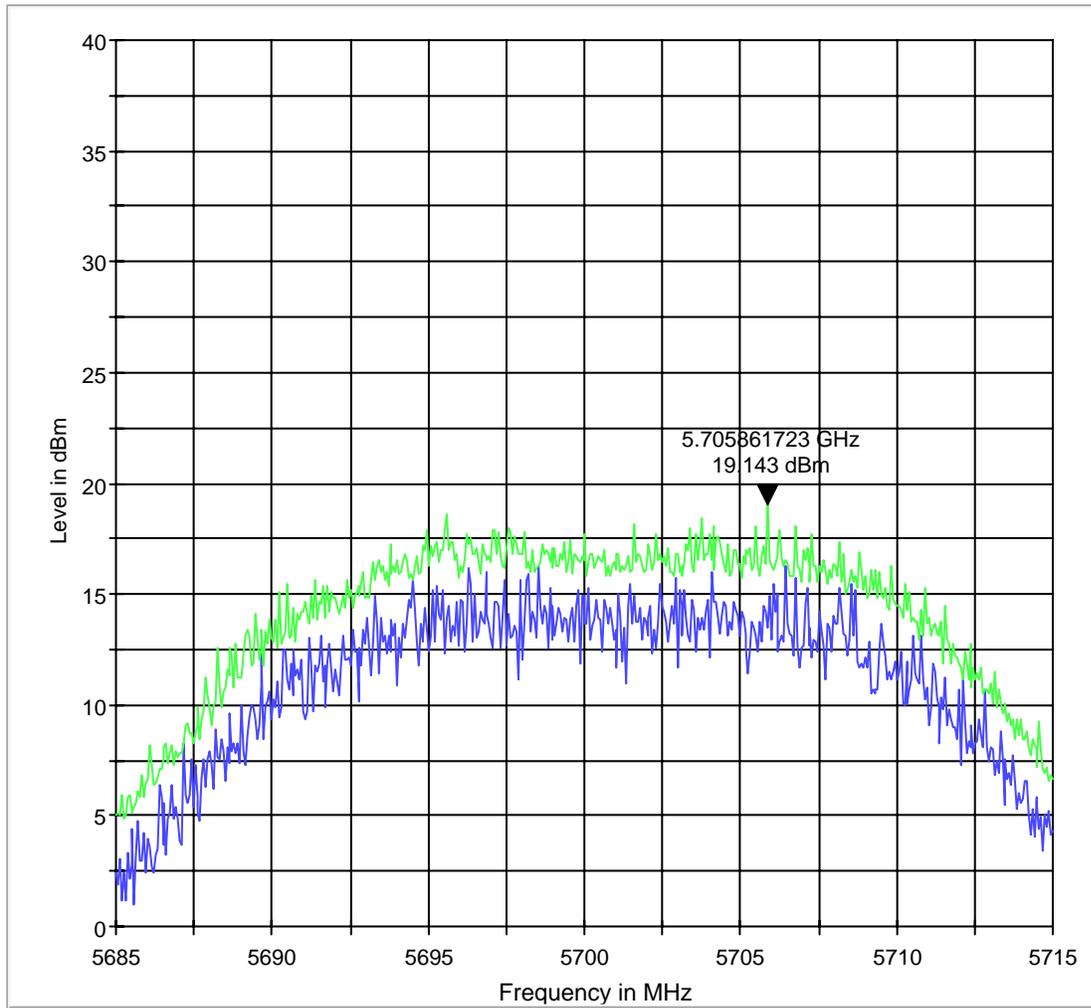


MaxPeak-ClearWrite MaxPeak-MaxHold



EIRP 5700 MHz

EIRP 5700 20MHz

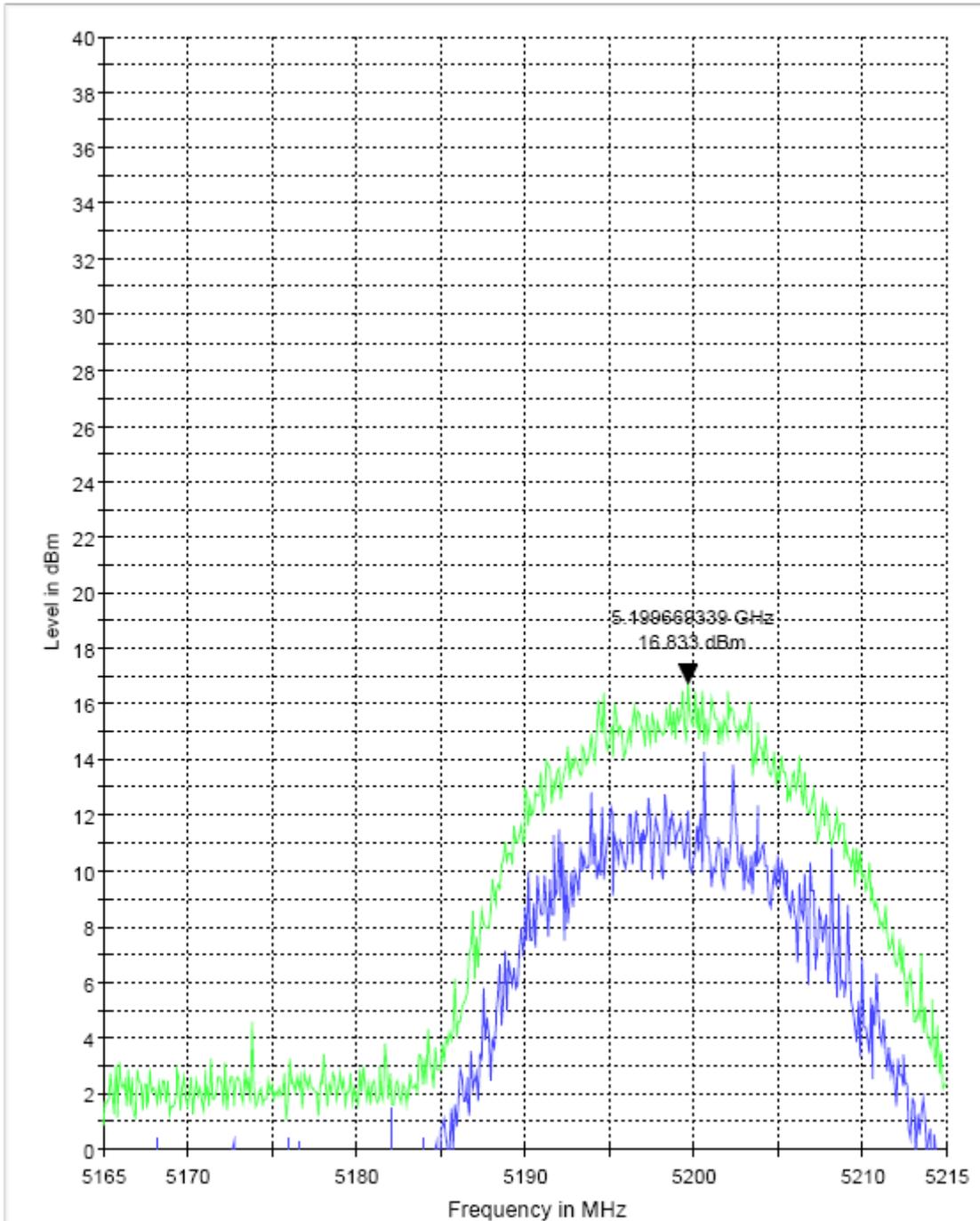


MaxPeak-ClearWrite MaxPeak-MaxHold



5.1.9 802.11n HT40 mode CHAIN A

EIRP 5190 MHz

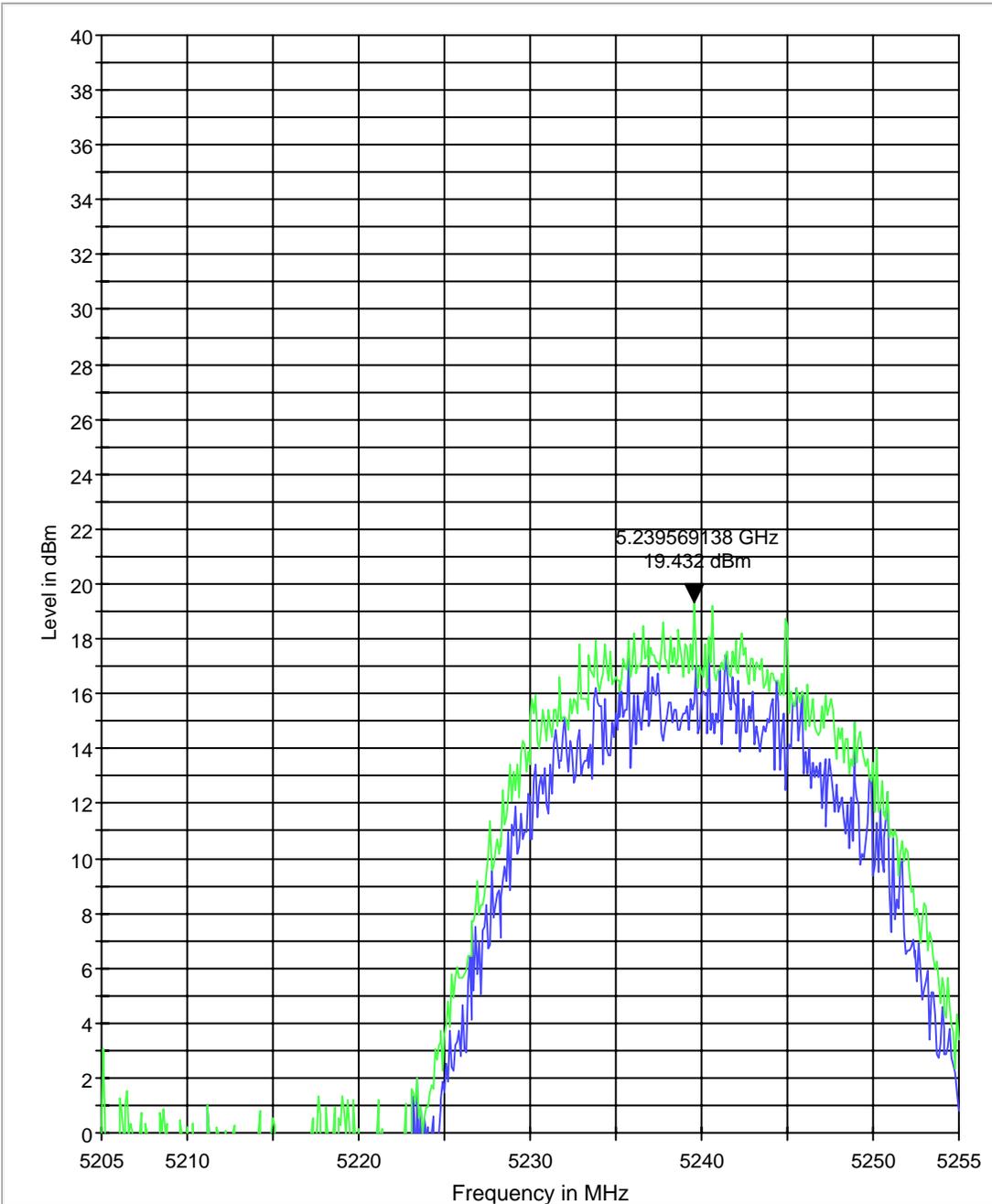


— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5230 MHz

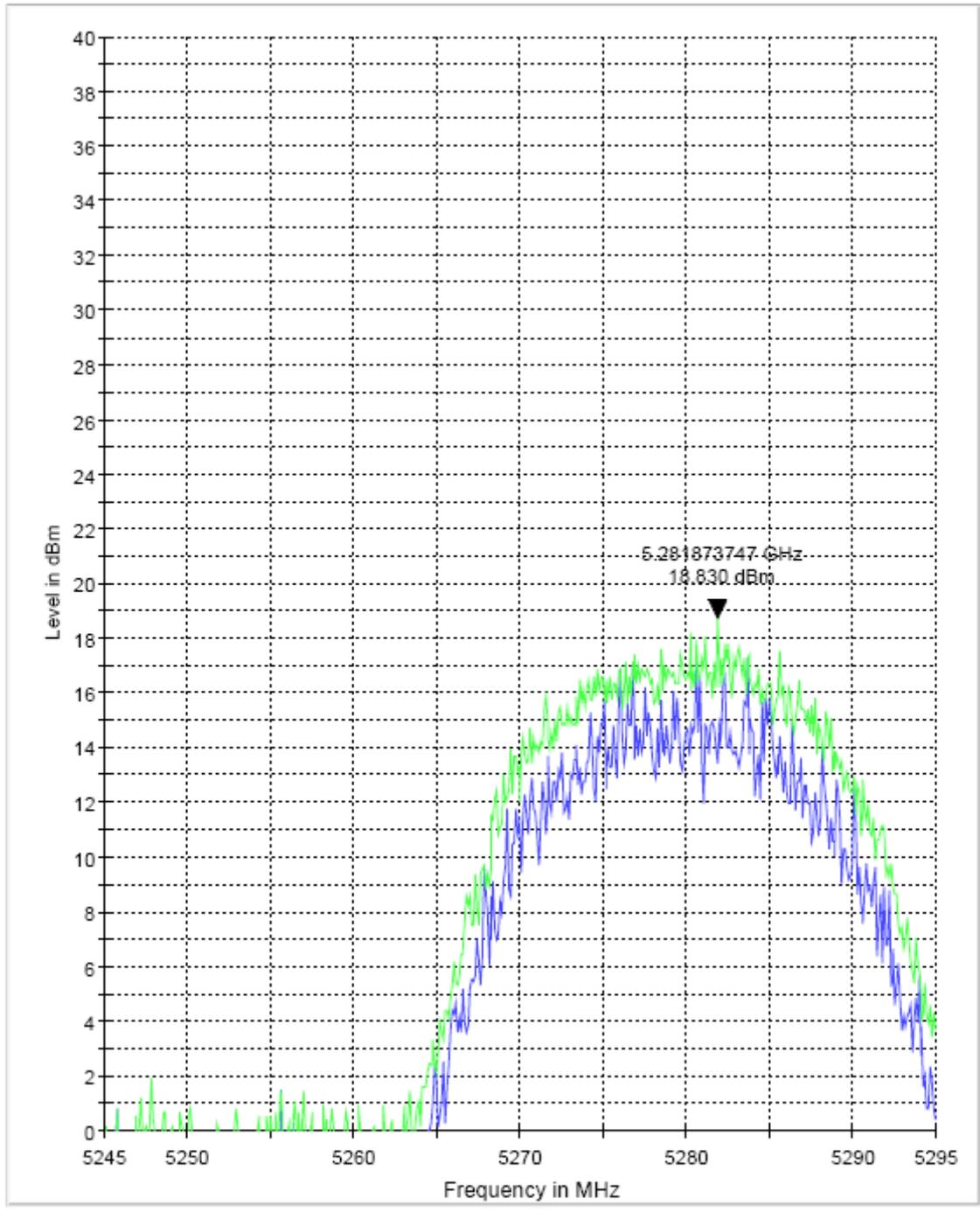
EIRP 5230 40MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



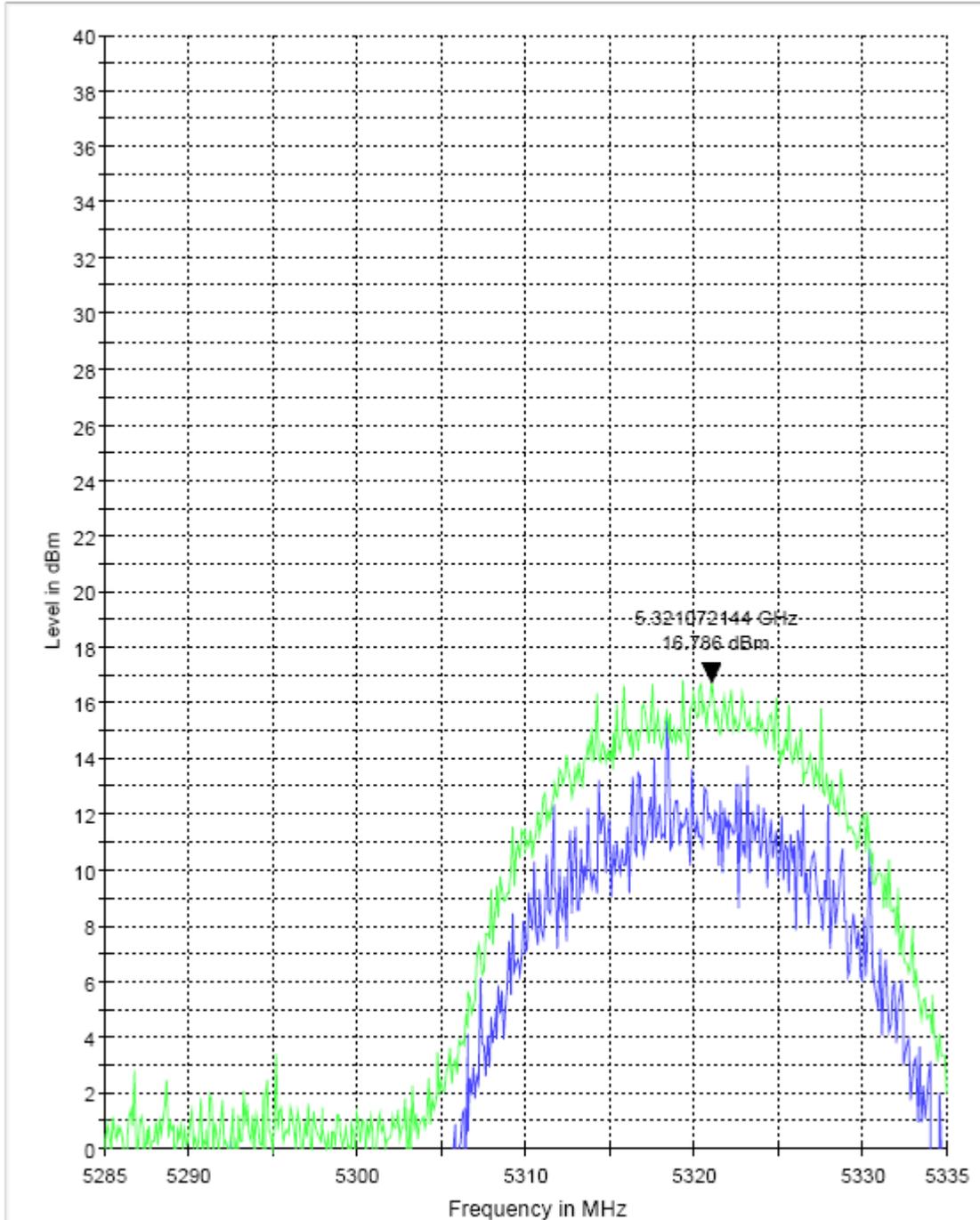
EIRP 5270 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold

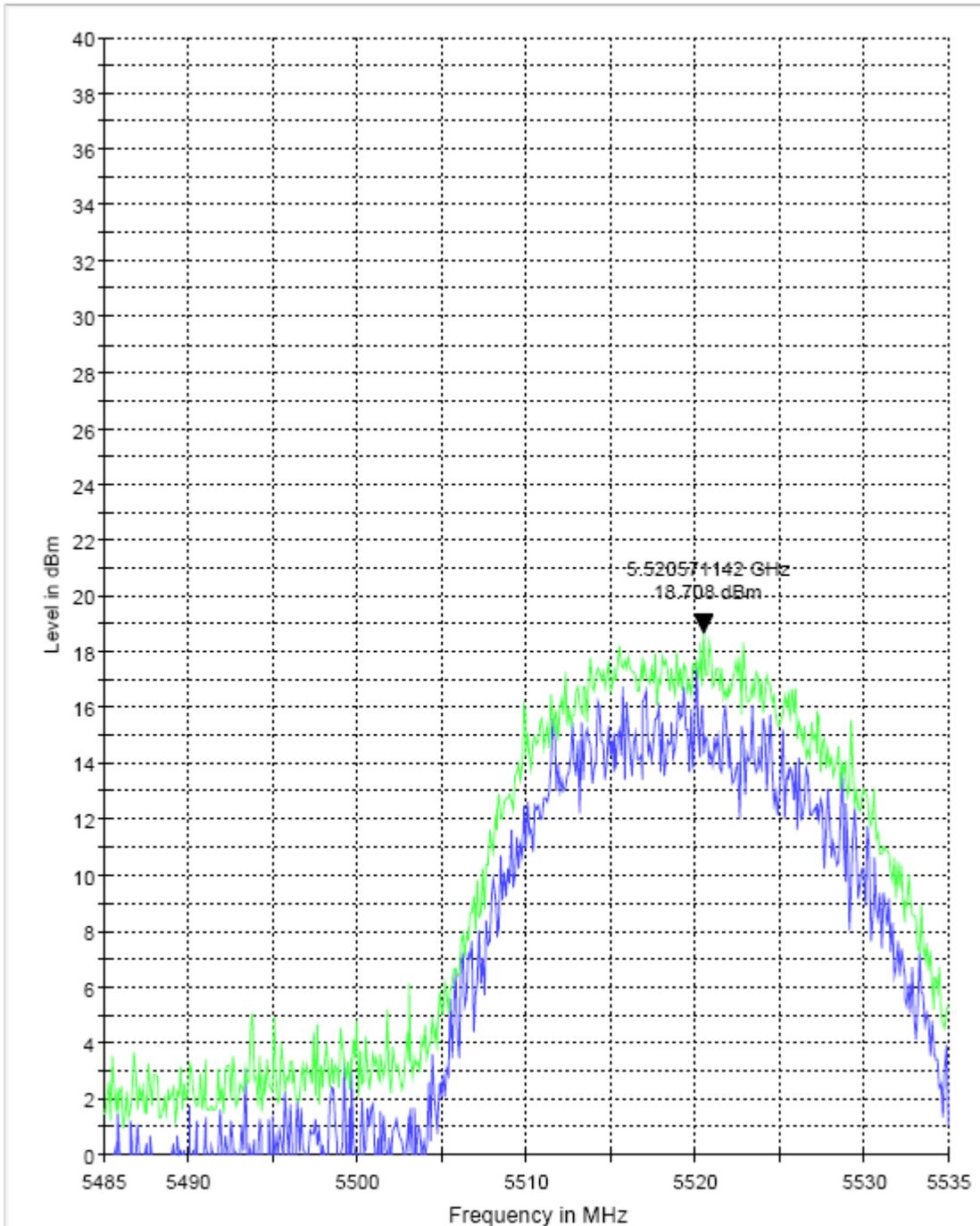


EIRP 5310 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold

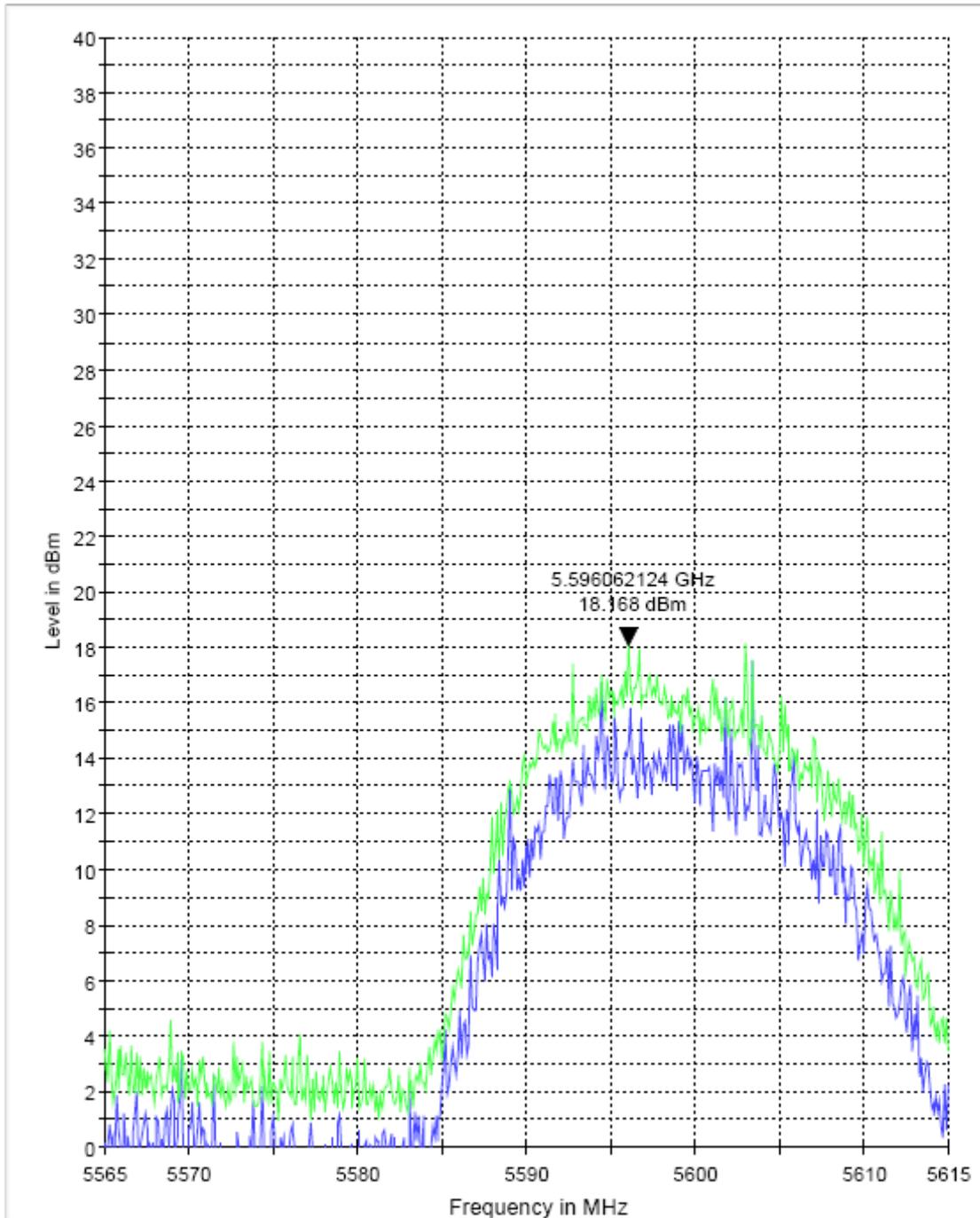
EIRP 5510 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



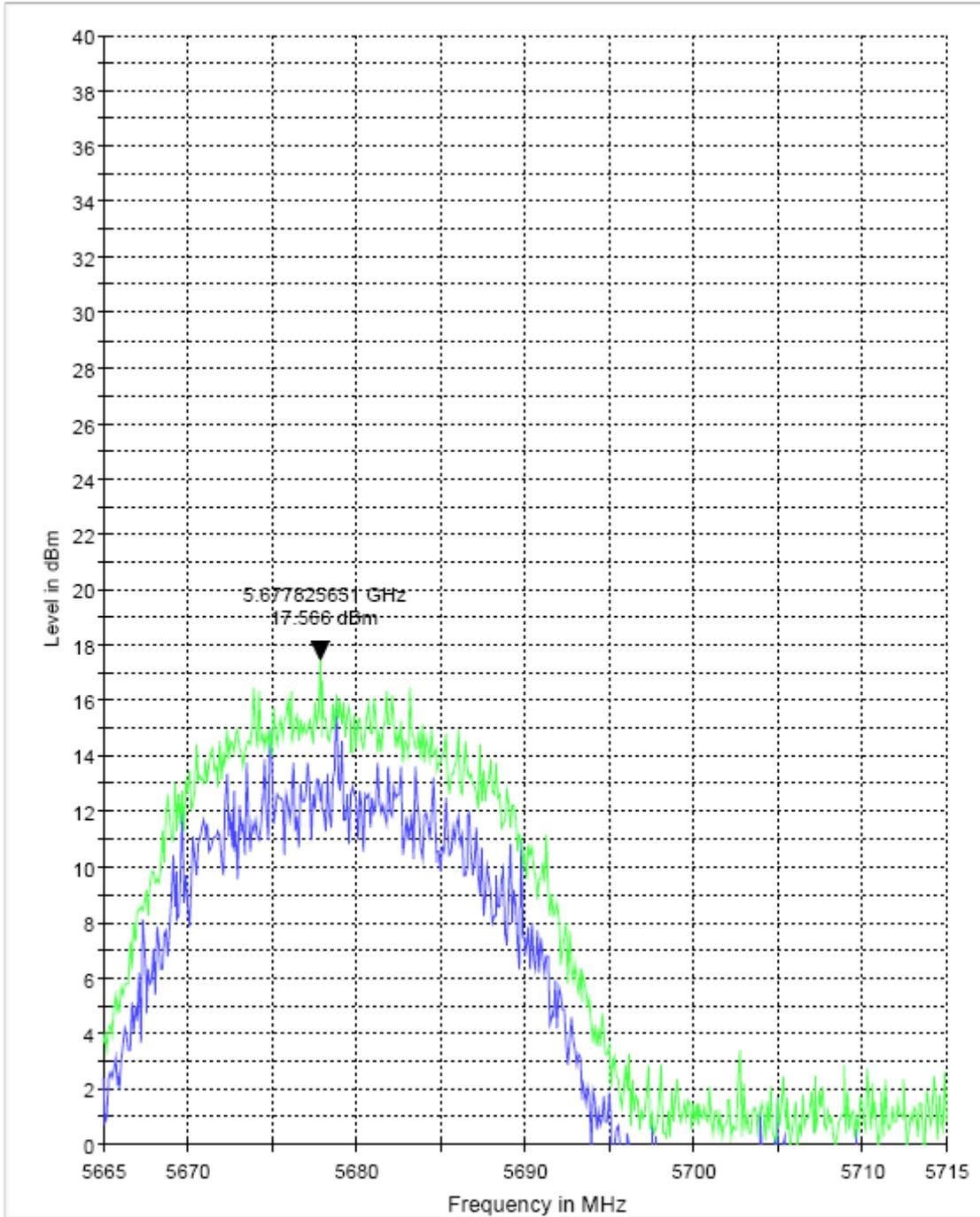
EIRP 5590 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



EIRP 5670 MHz

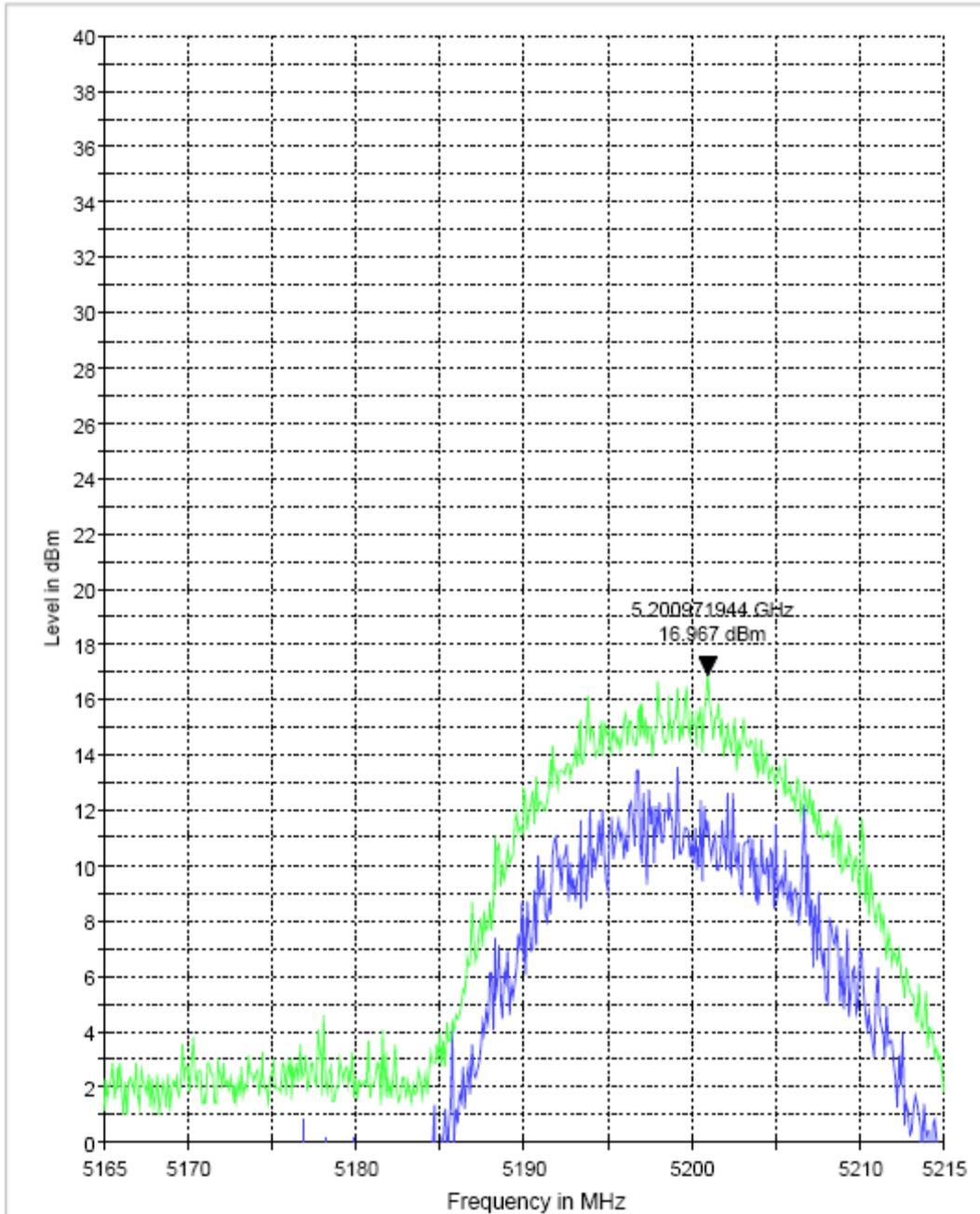


— MaxPeak-ClearWrite — MaxPeak-MaxHold



5.1.10 802.11n HT40 mode CHAIN B

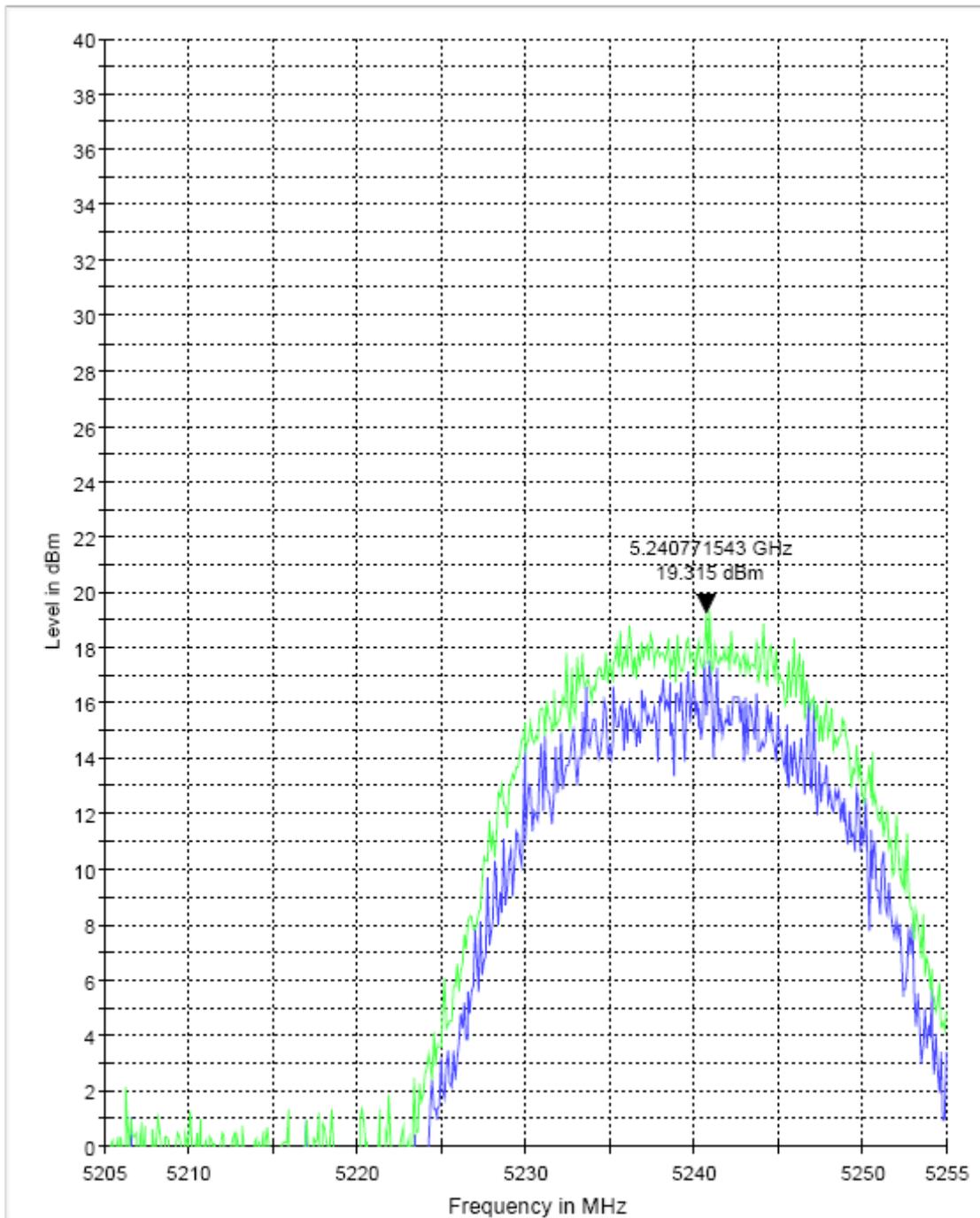
EIRP 5190 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



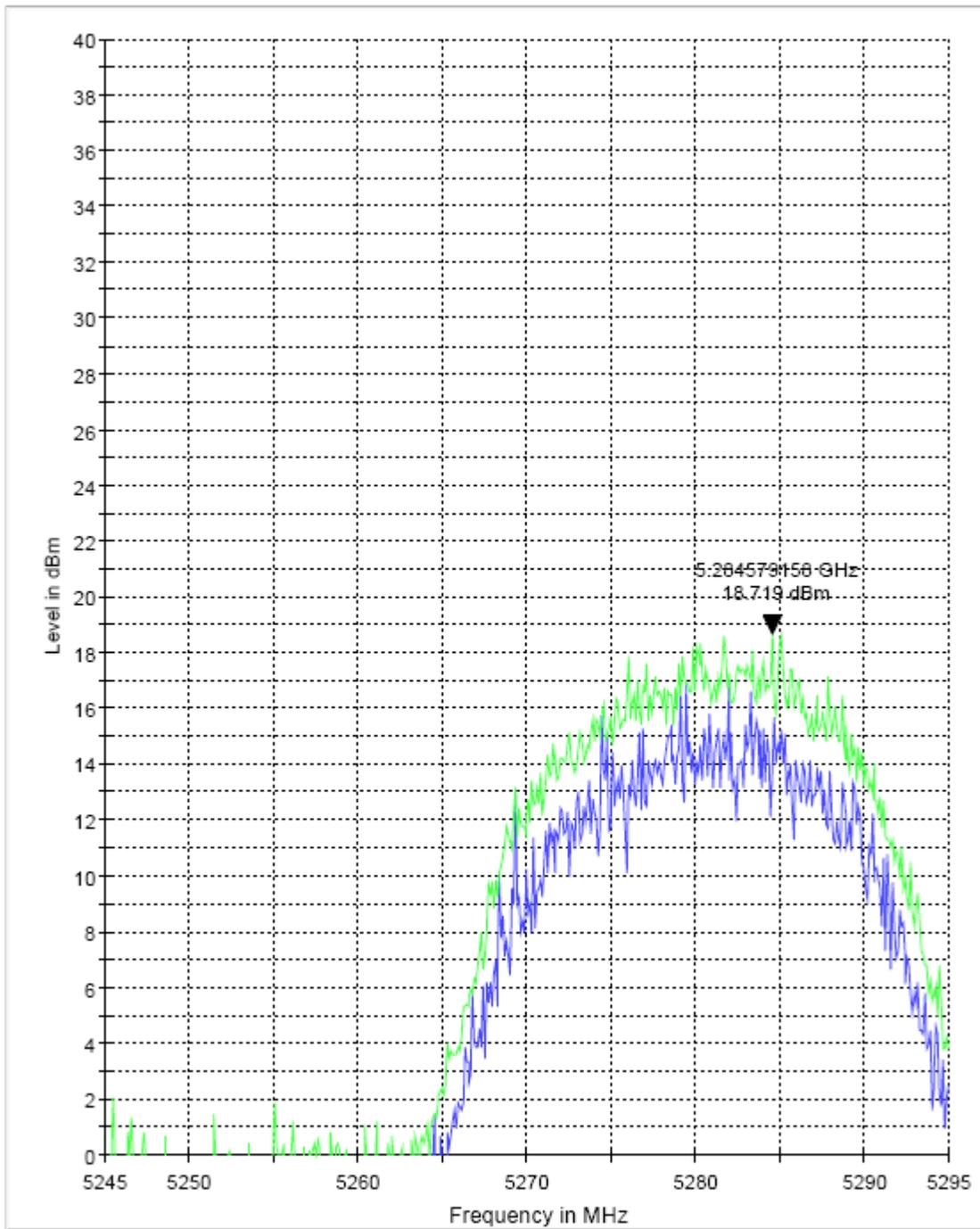
EIRP 5230 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold

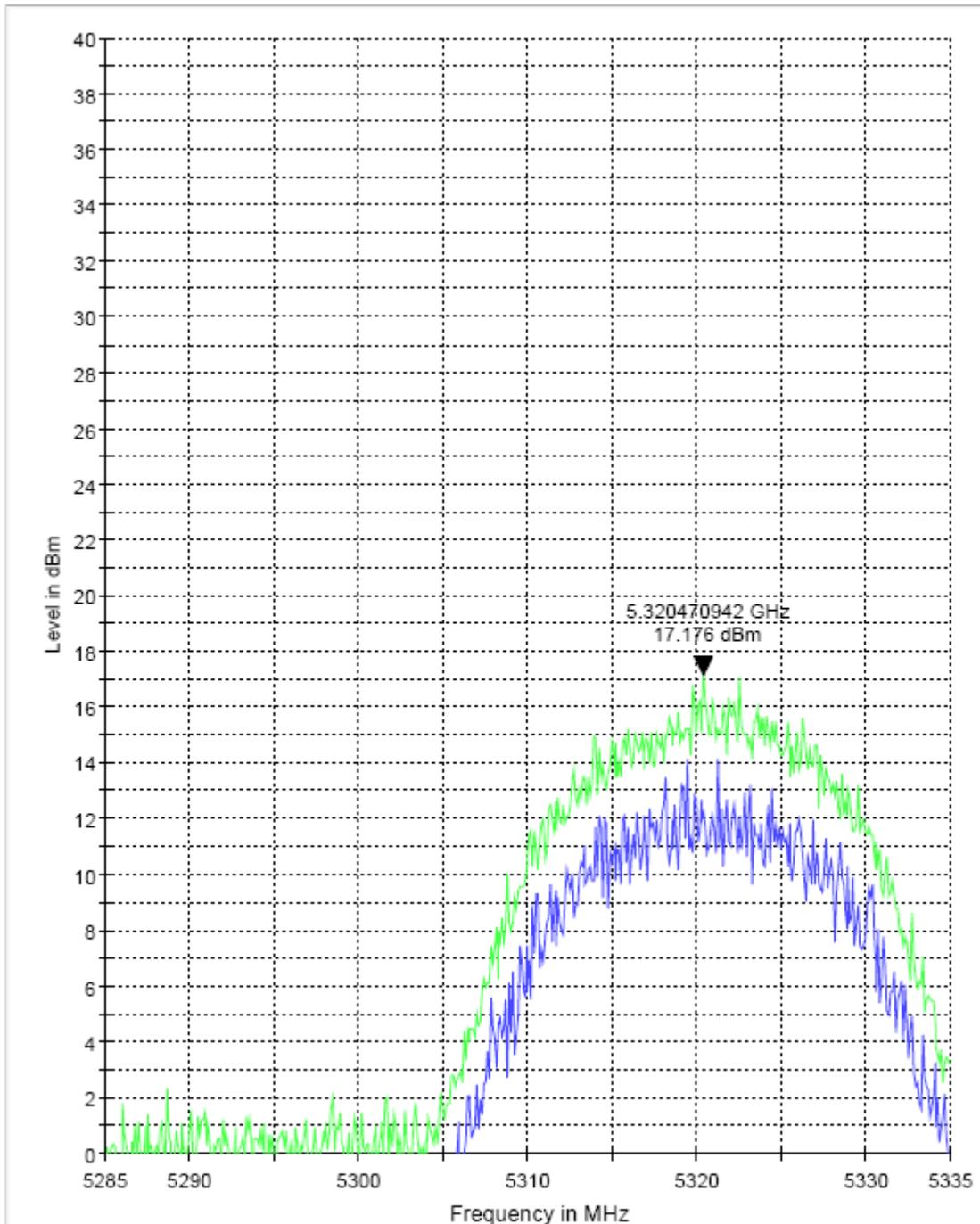


EIRP 5270 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold

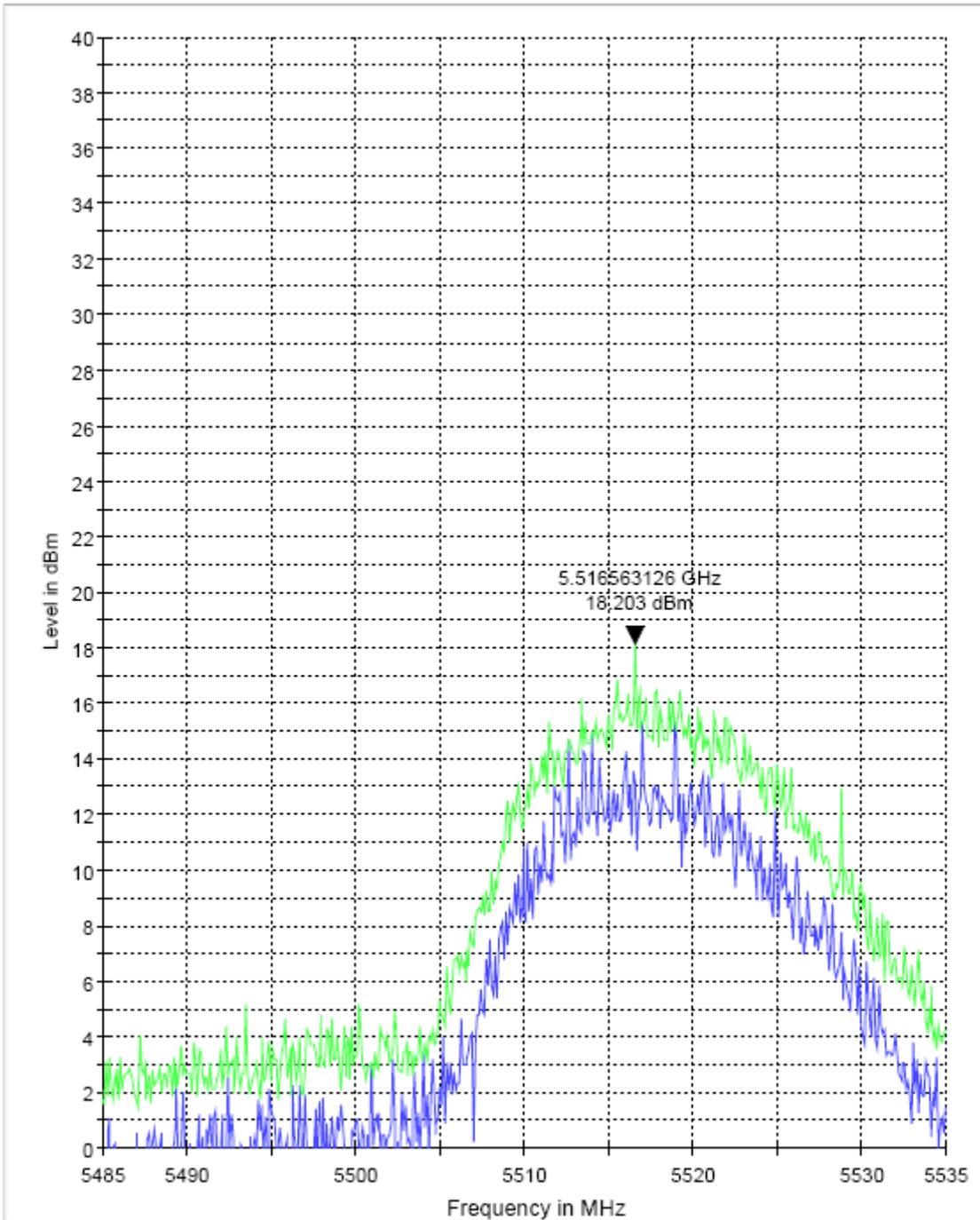
EIRP 5310 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold



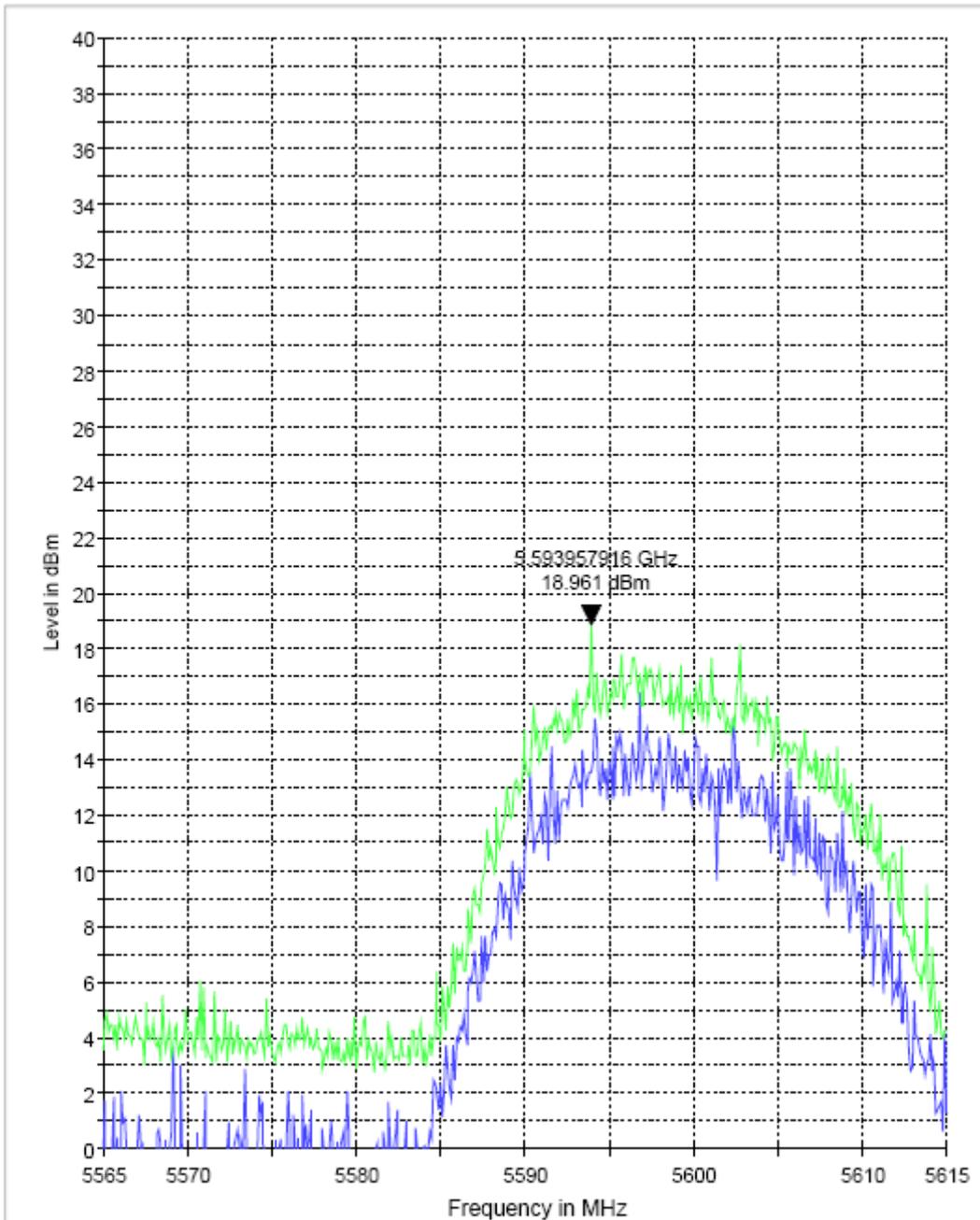
EIRP 5510 MHz



— MaxPeak-ClearWrite — MaxPeak-MaxHold

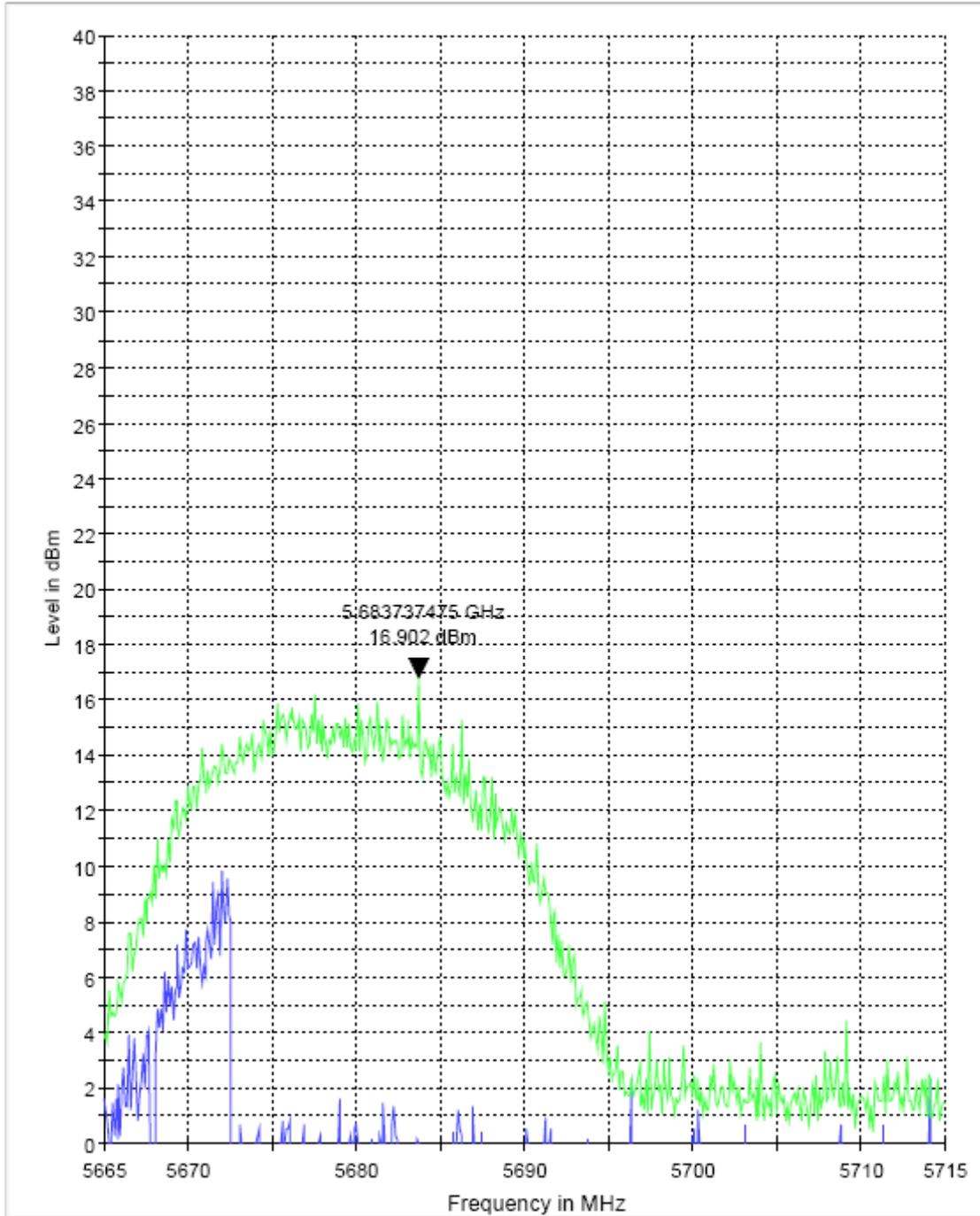


EIRP 5590 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold

EIRP 5670 MHz



MaxPeak-ClearWrite MaxPeak-MaxHold



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 |
| 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.

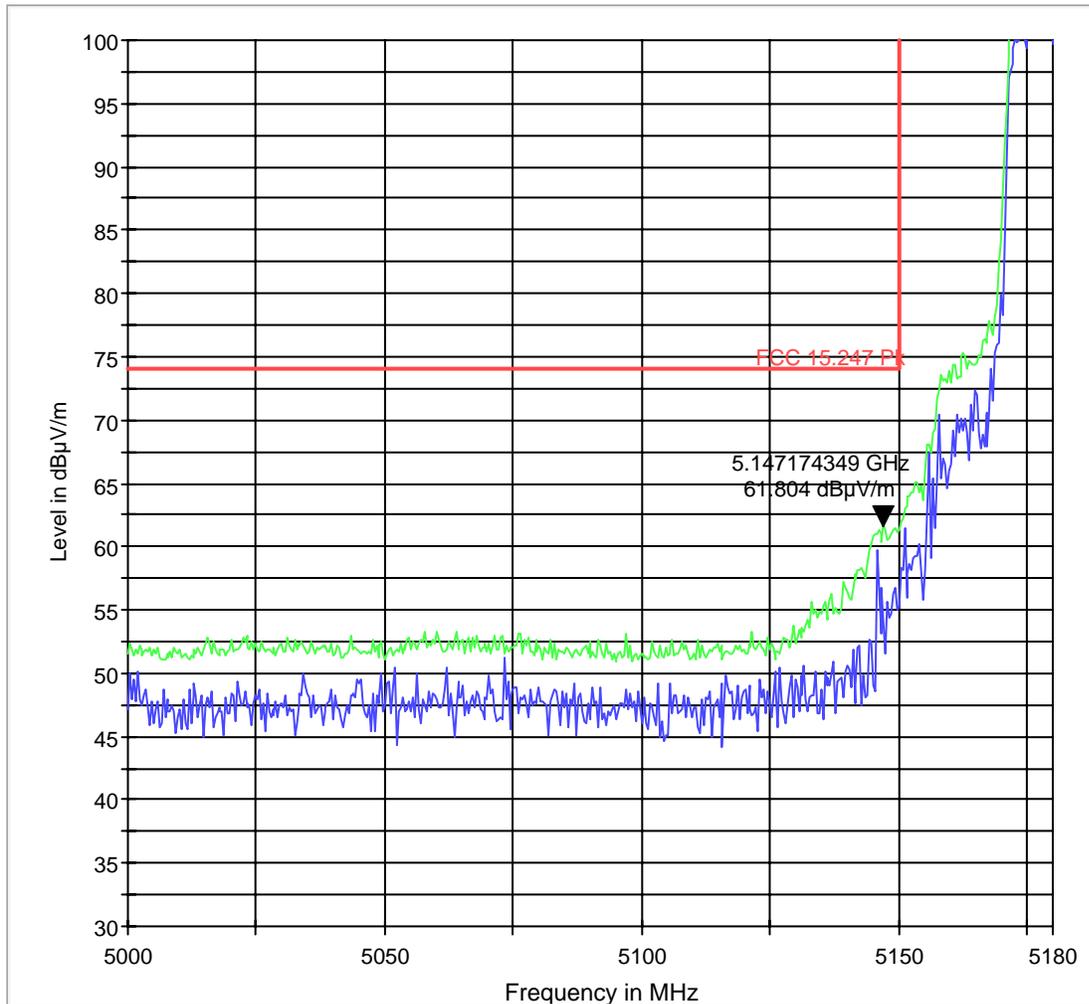


5.2.2 802.11n HT20 mode

Chain A

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

FCC 15.407 5.15 LBE Pk 3m

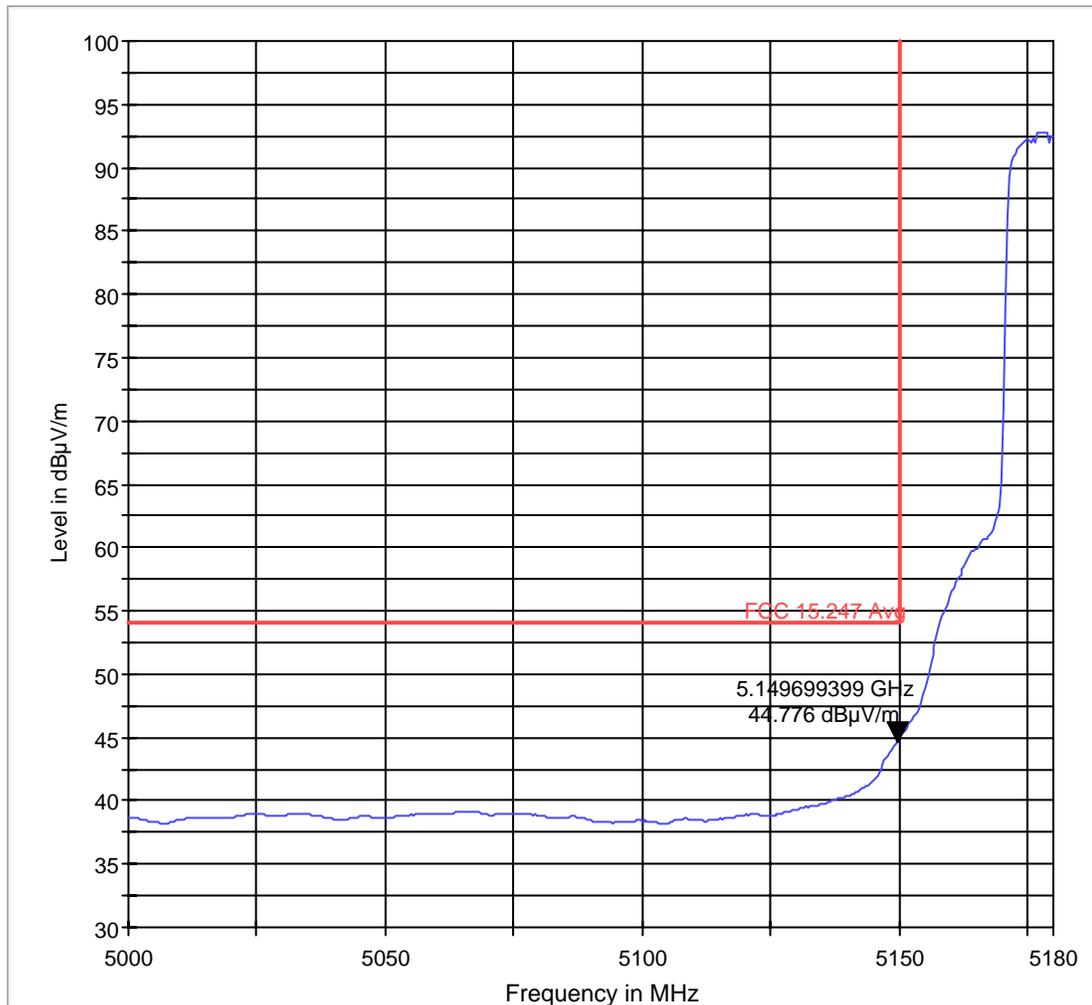


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.15 LBE Avg 3m

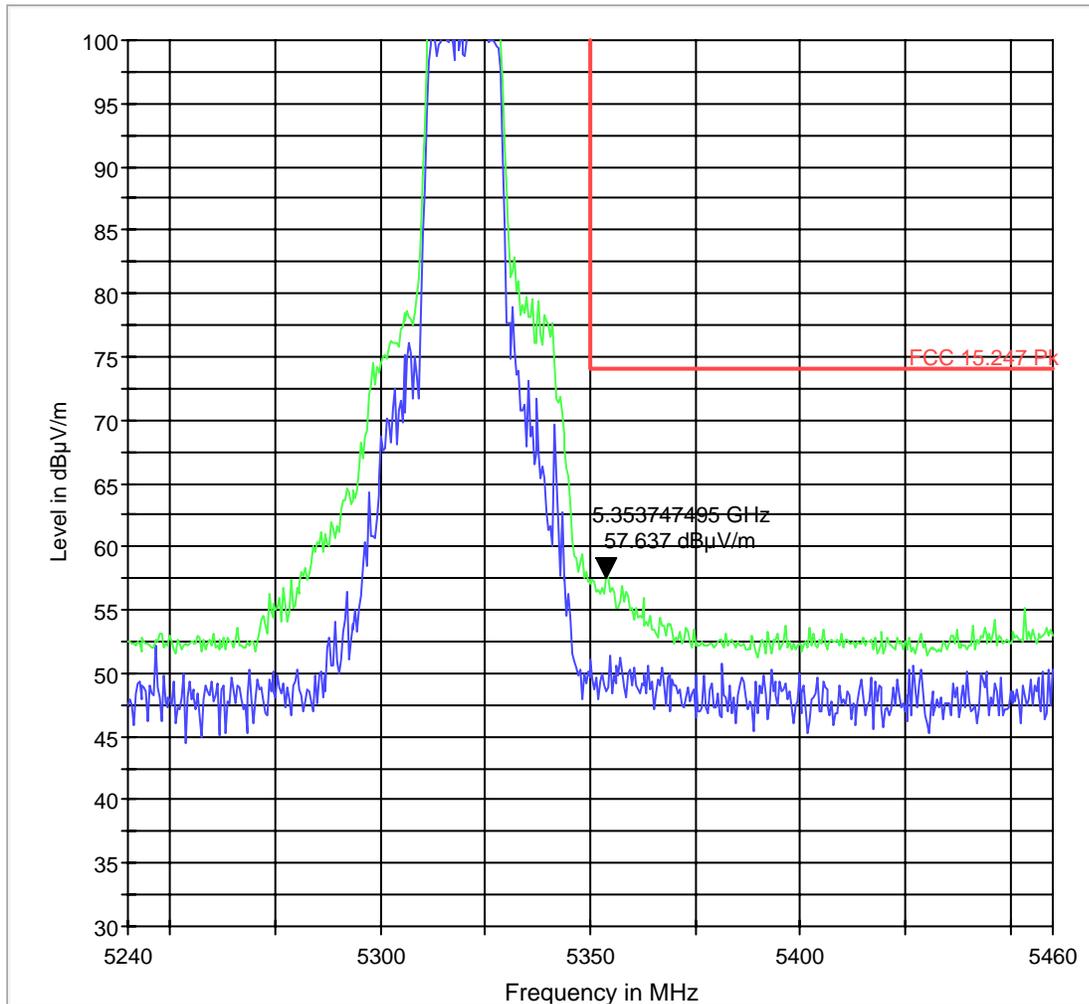


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.35 HBE Pk 3m



MaxPeak-ClearWrite

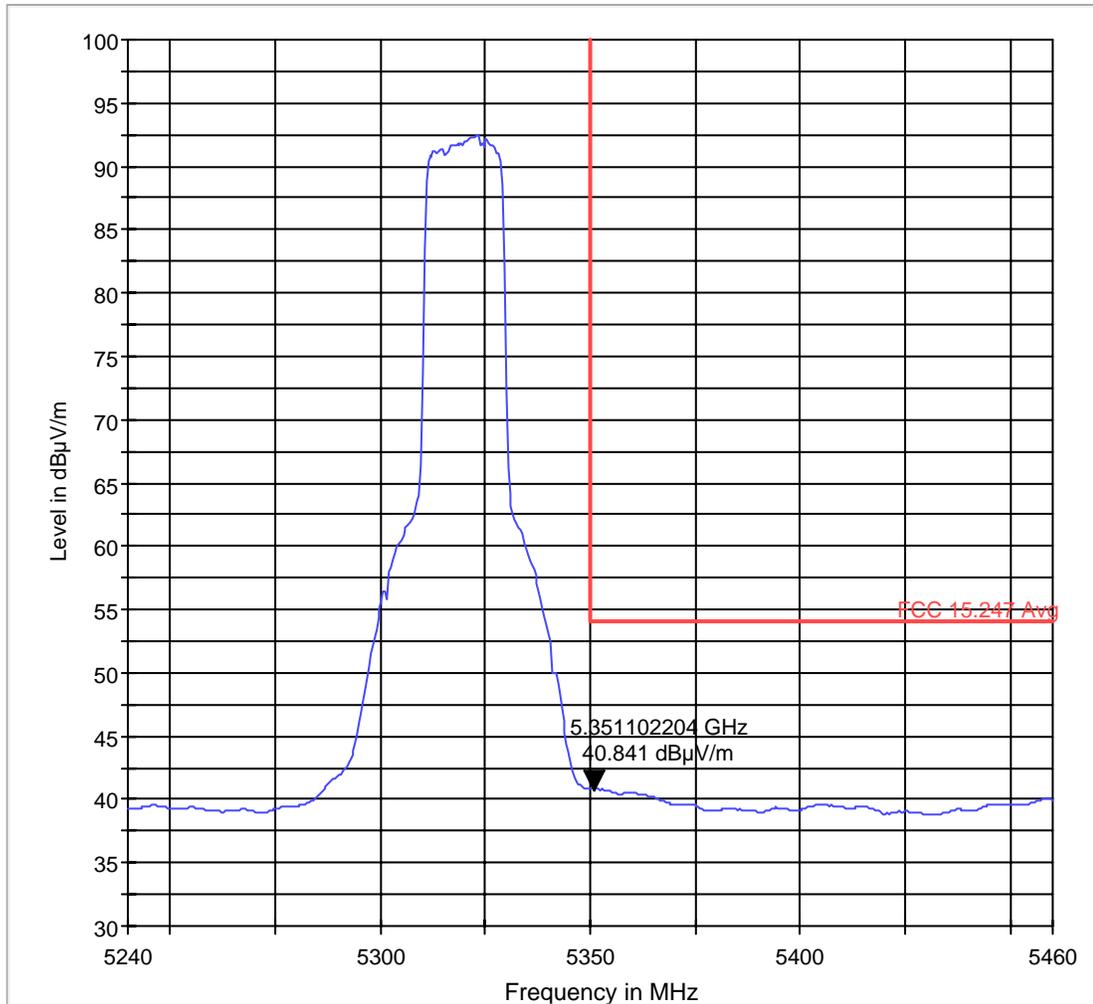
MaxPeak-MaxHold

FCC 15.247 Pk



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

FCC 15.407 5.35 HBE Avg 3m

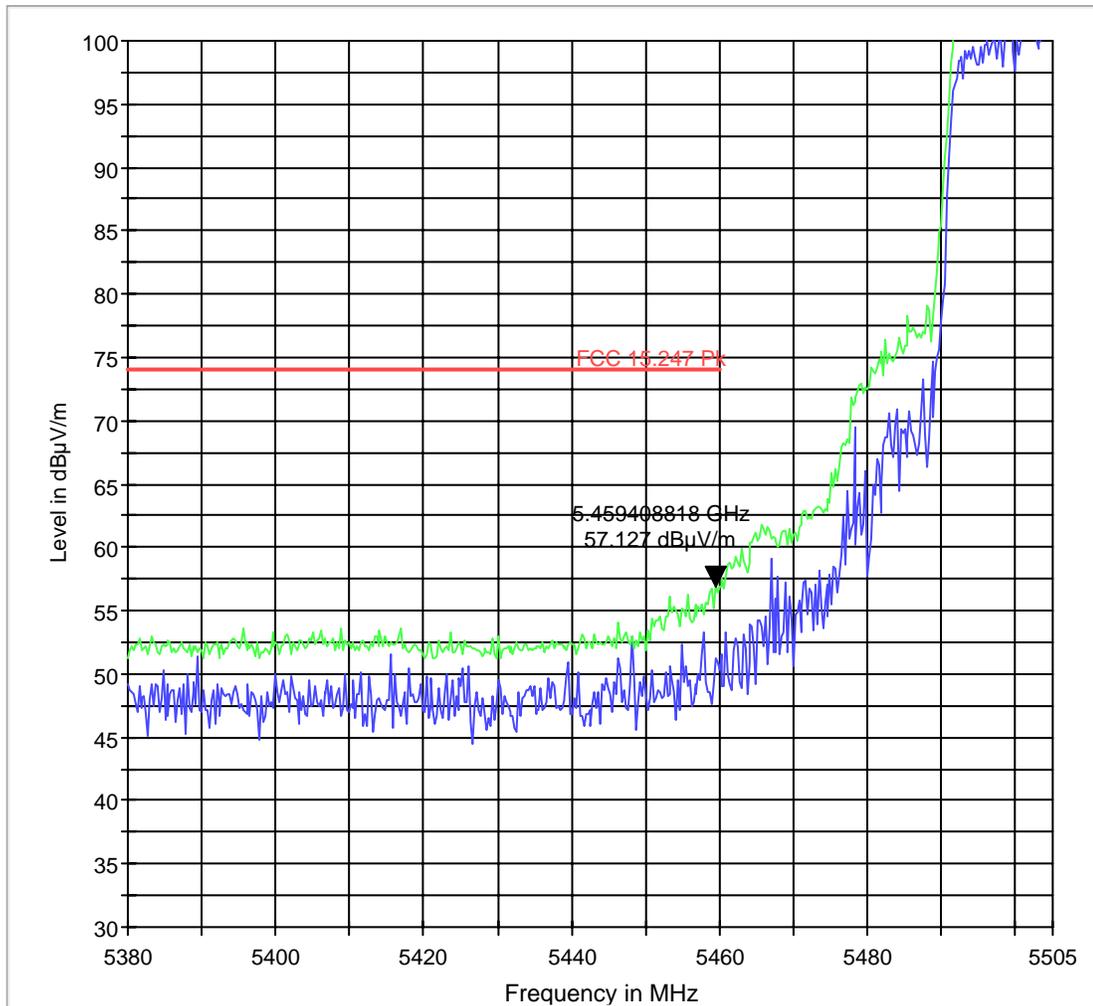


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.46 LBE Pk 3m

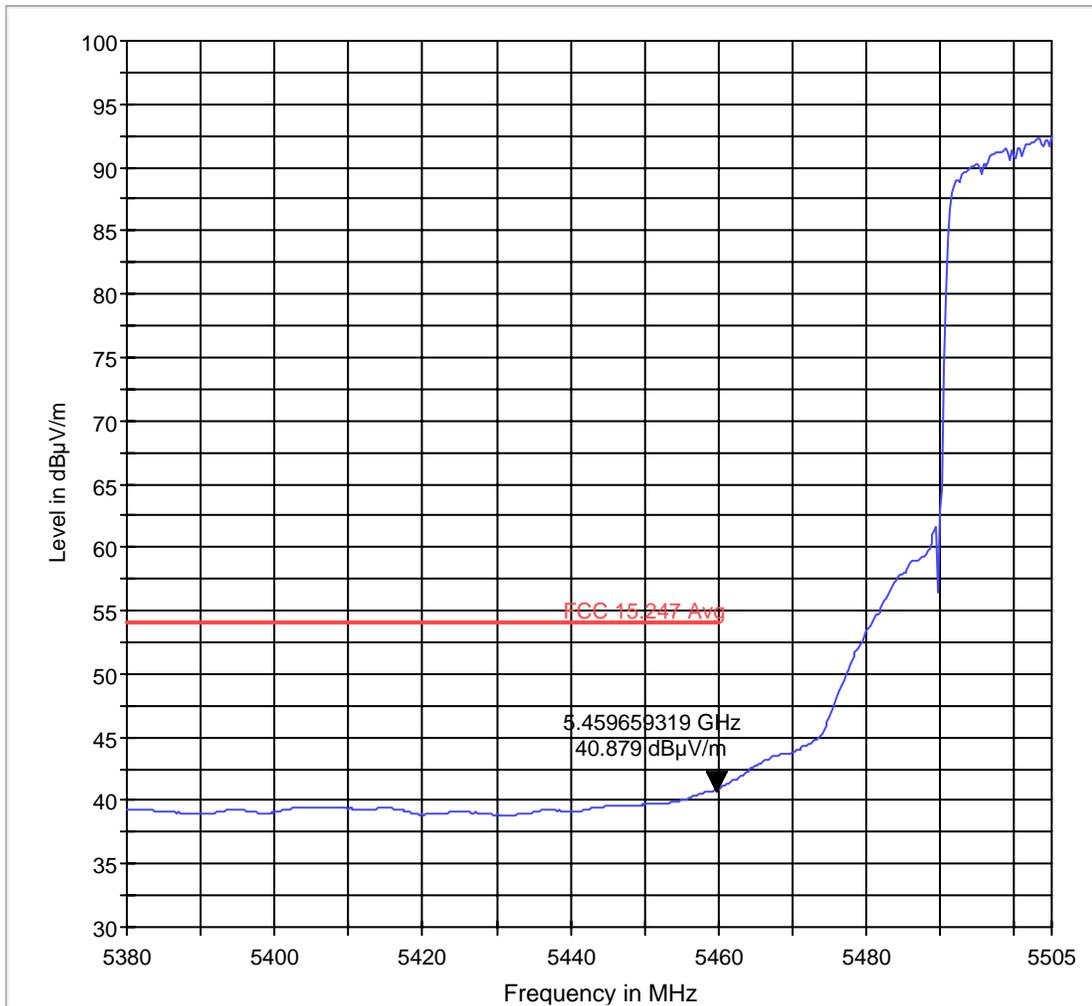


— MaxPeak-ClearWrite — MaxPeak-MaxHold — FCC 15.247 Pk



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

FCC 15.407 5.46 LBE Avg 3m



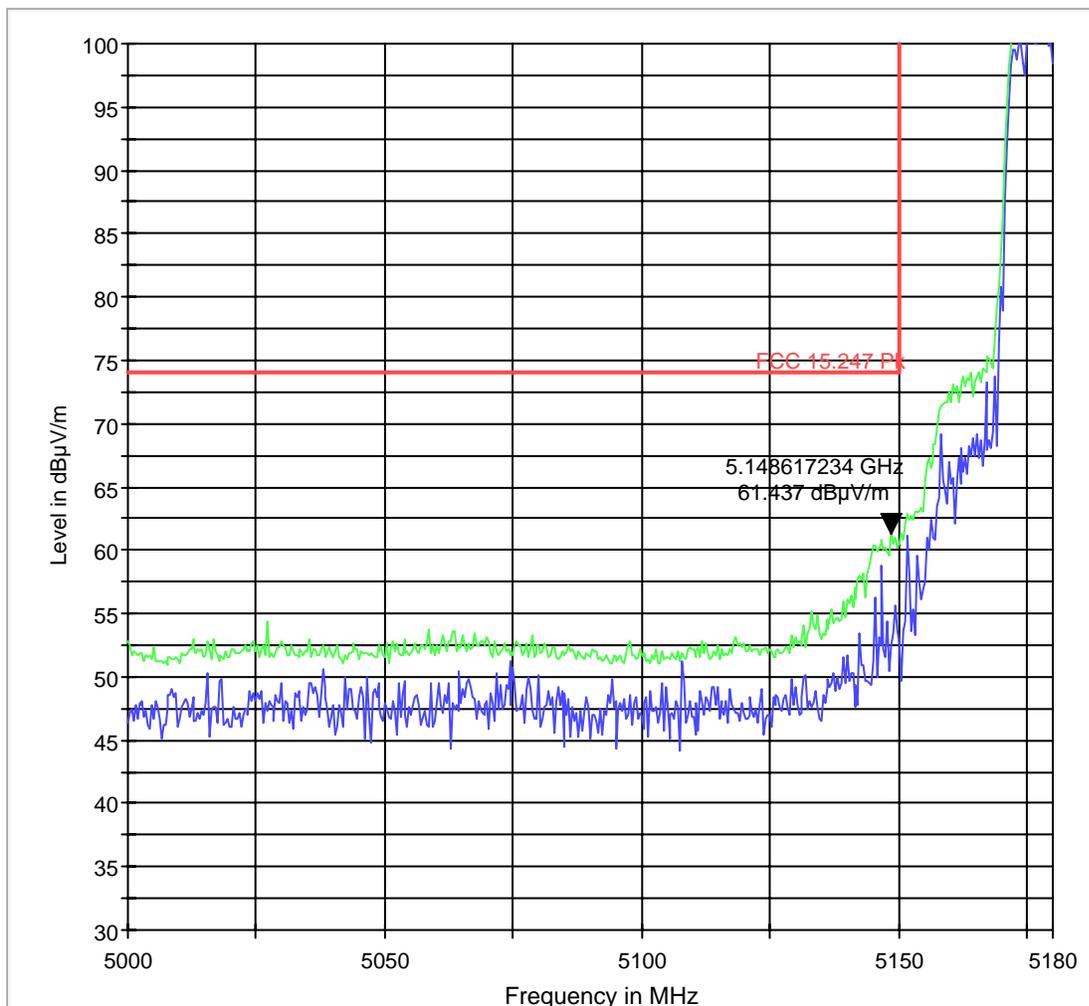
— MaxPeak-MaxHold — FCC 15.247 Avg



802.11n HT20 mode Chain B

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

FCC 15.407 5.15 LBE Pk 3m

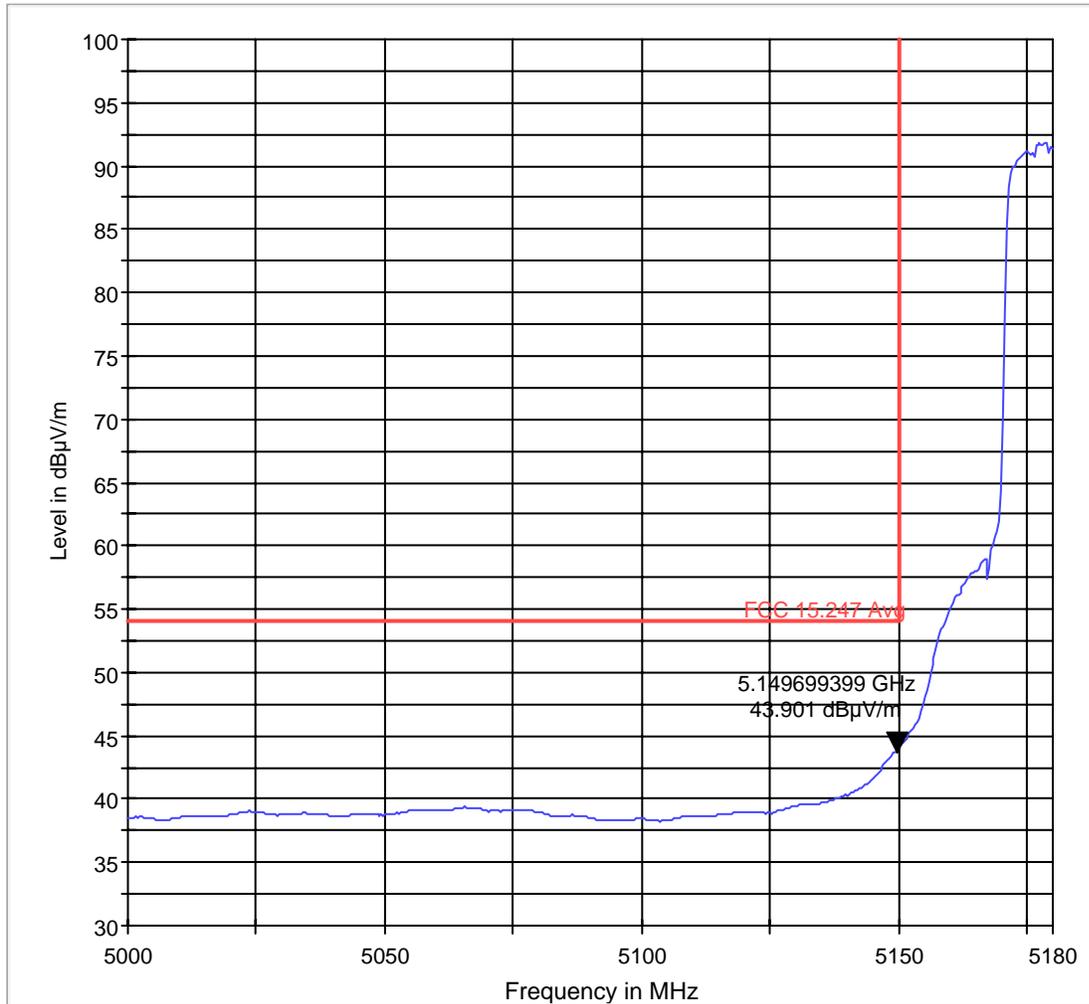


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.15 LBE Avg 3m

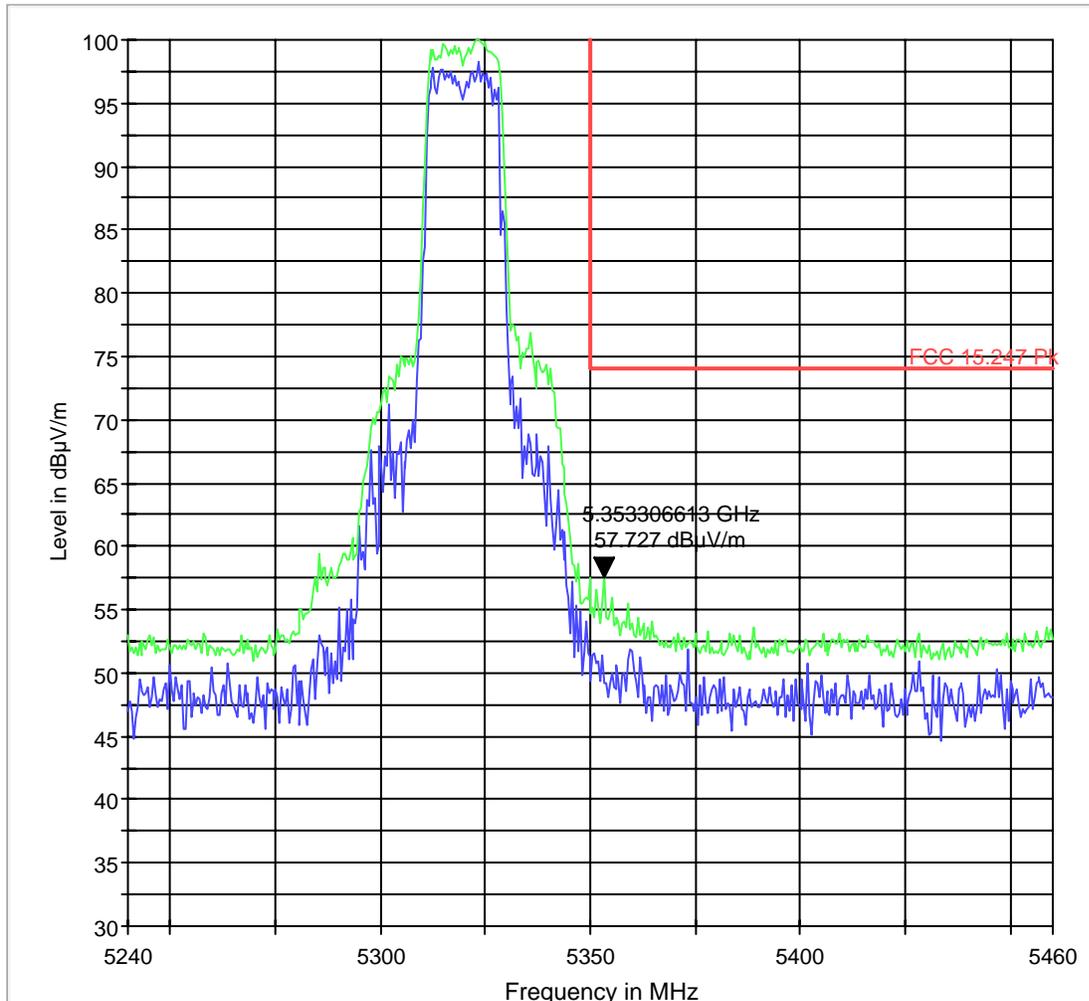


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.35 HBE Pk 3m

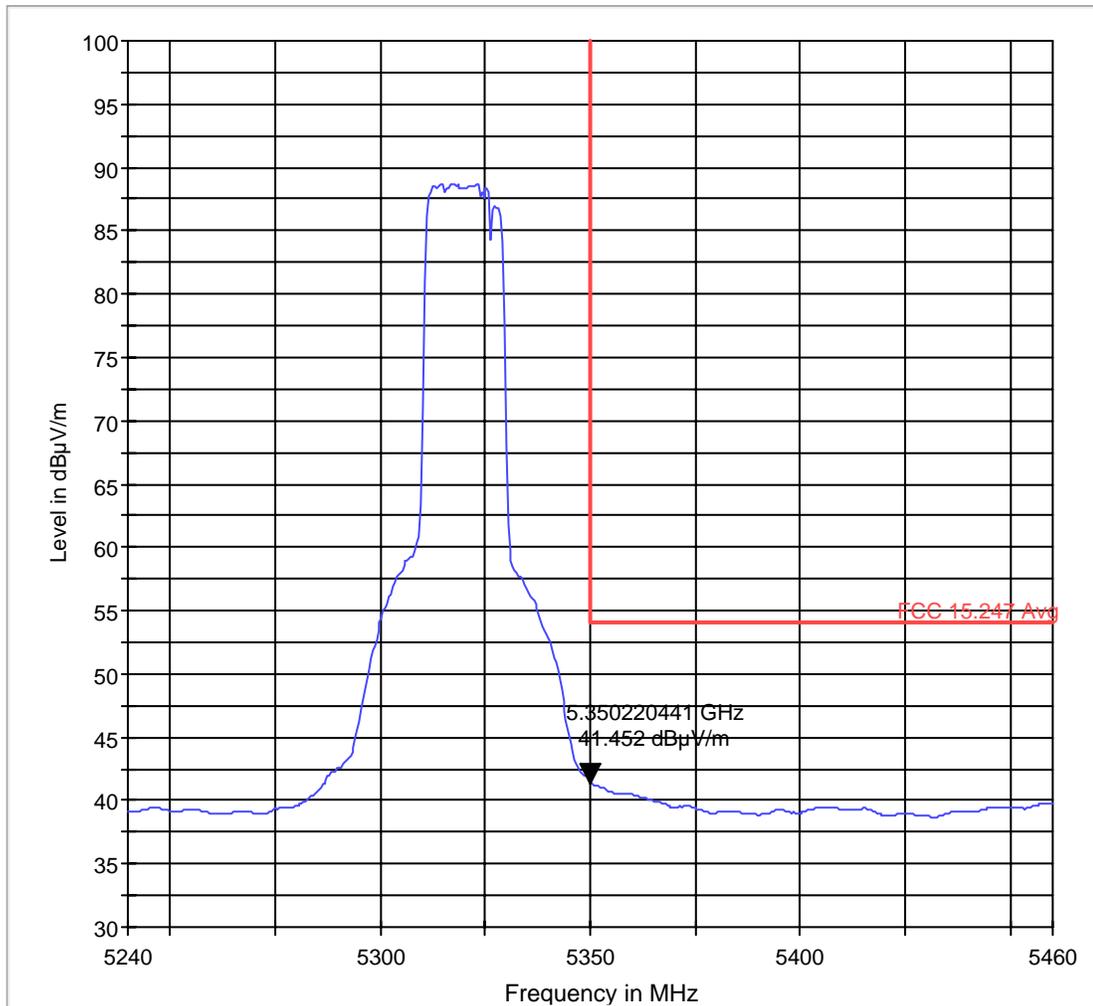


— MaxPeak-ClearWrite — MaxPeak-MaxHold — FCC 15.247 Pk



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

FCC 15.407 5.35 HBE Avg 3m

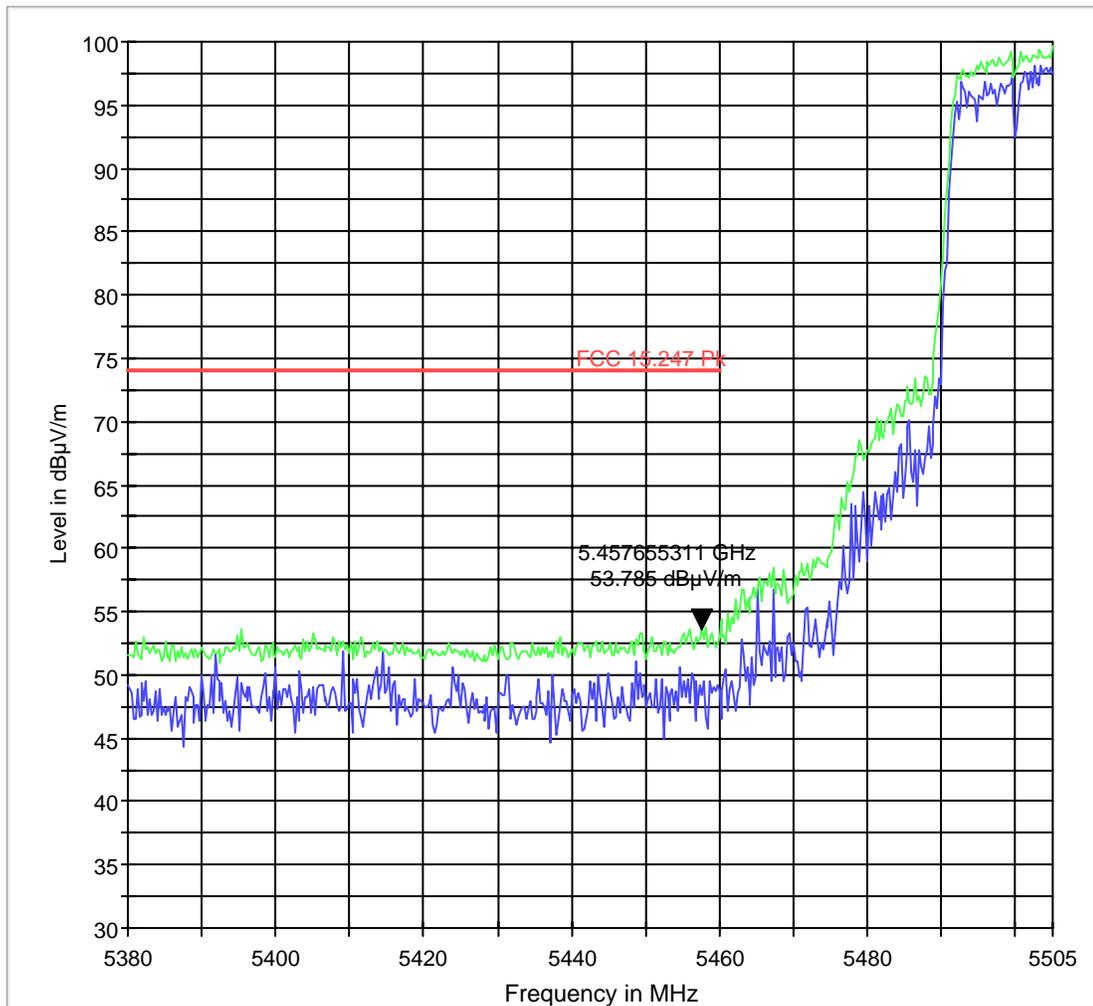


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.46 LBE Pk 3m

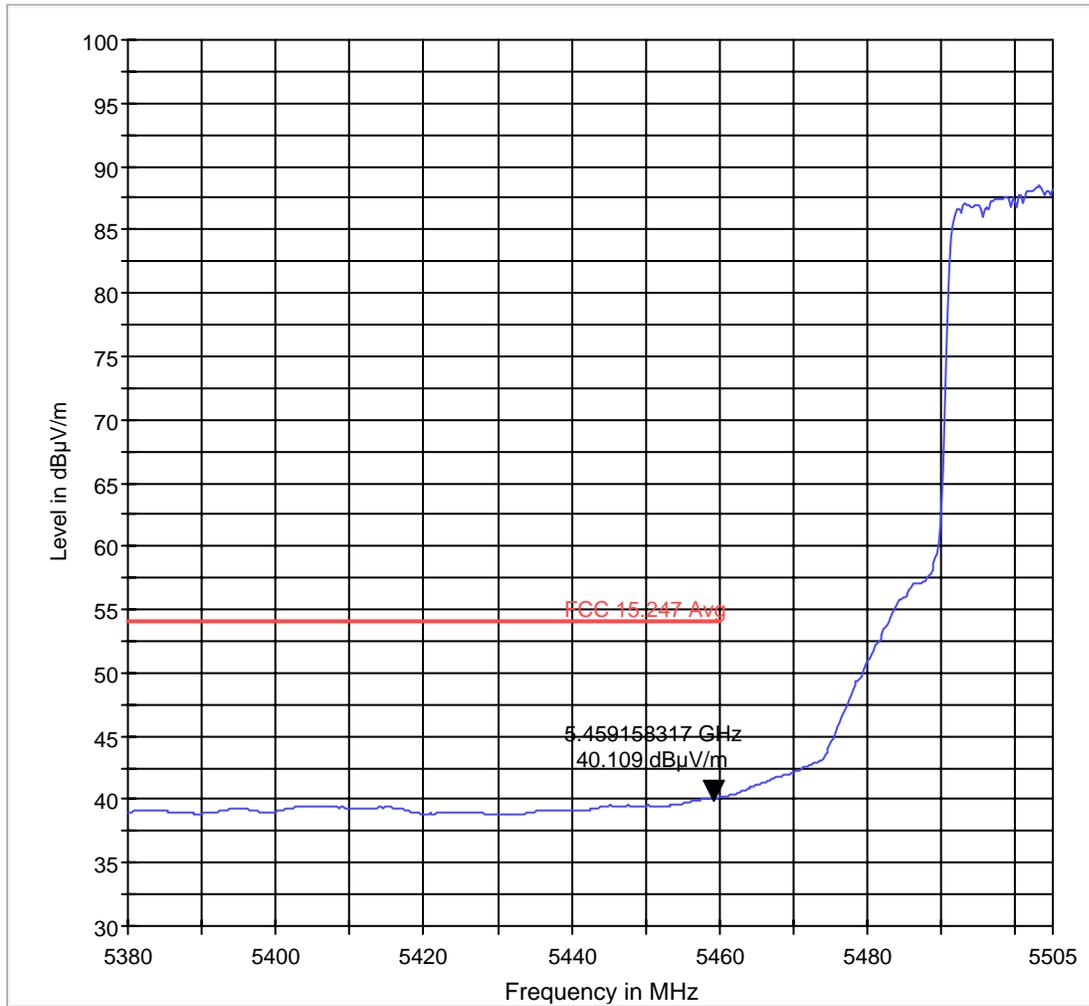


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.46 LBE Avg 3m



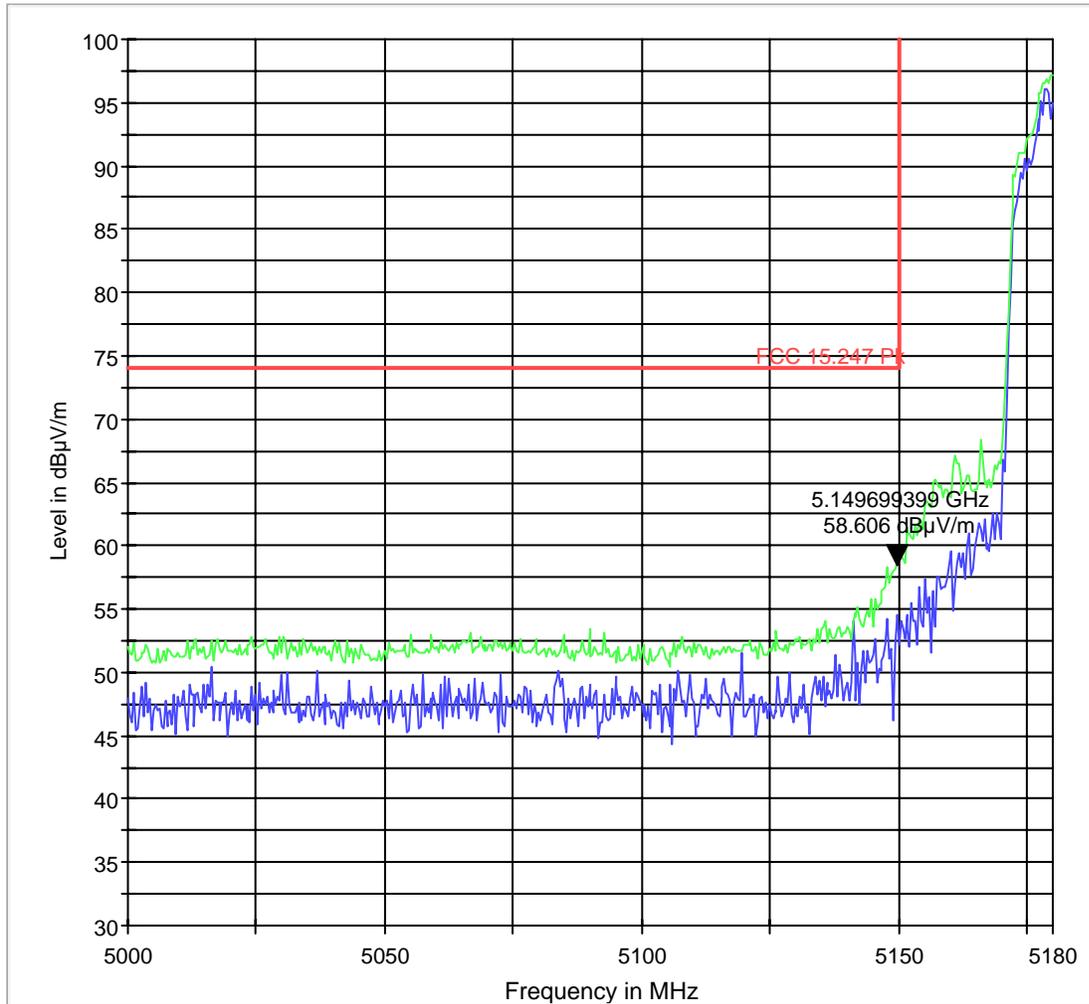
— MaxPeak-MaxHold — FCC 15.247 Avg



5.2.3 802.11n HT40 MODE

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

FCC 15.407 5.15 LBE Pk 3m

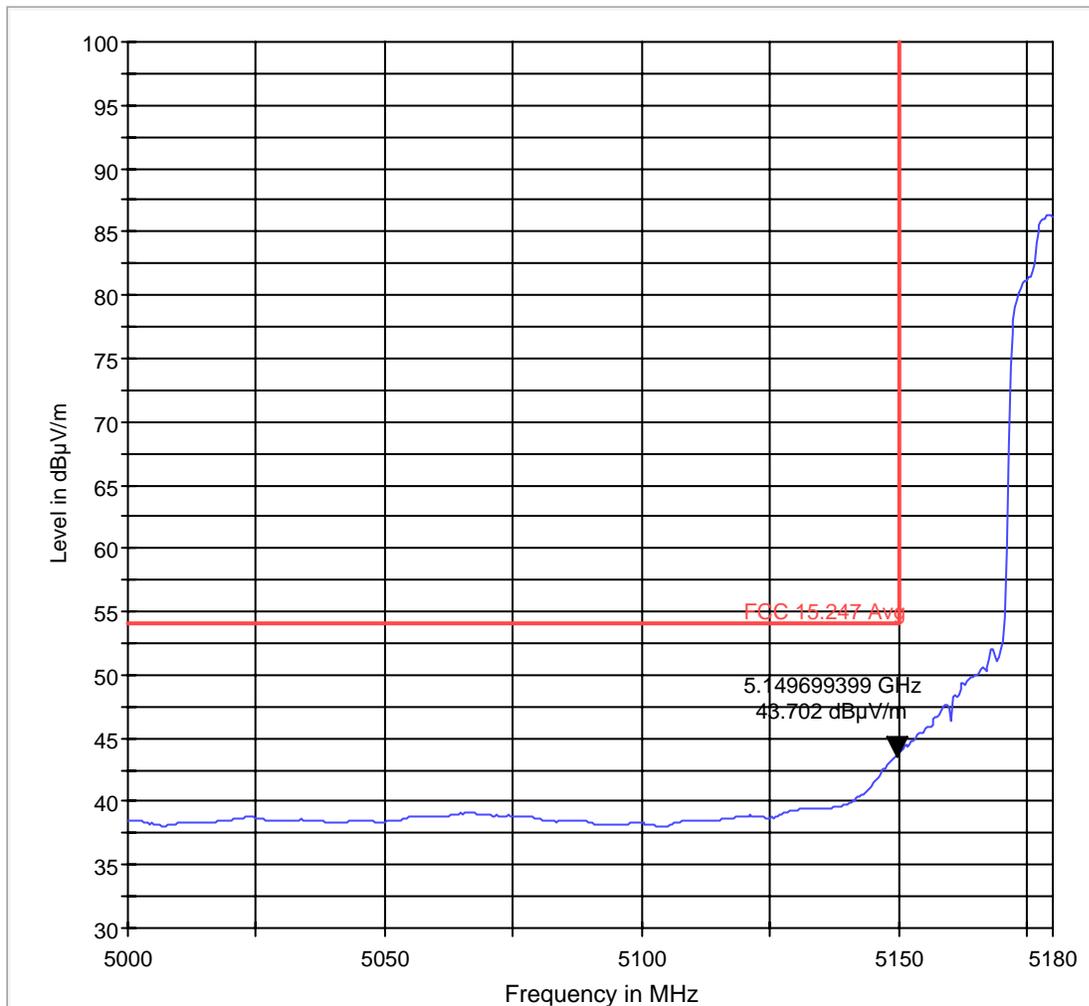


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.15 LBE Avg 3m

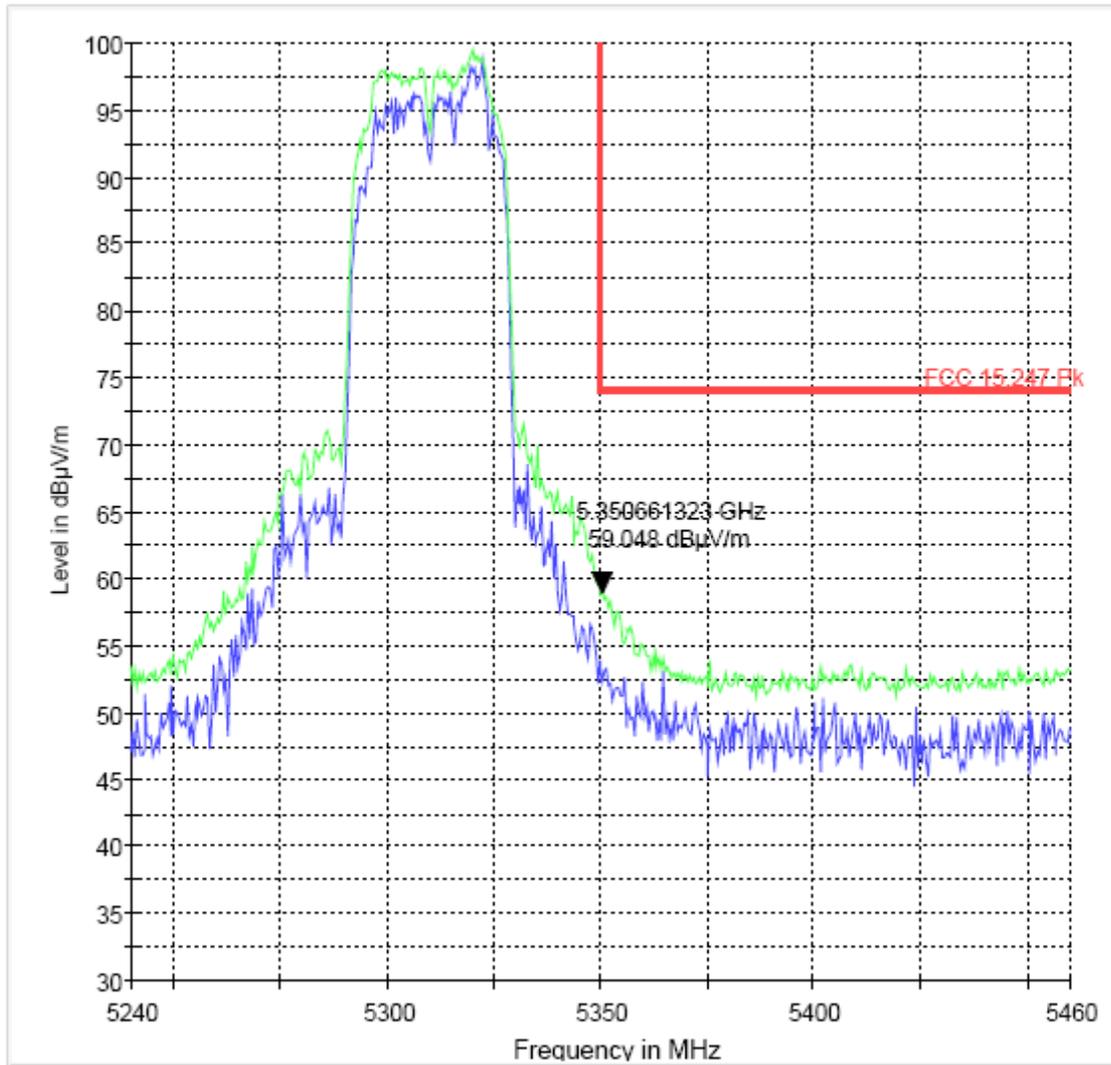


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.35 HBE Pk 3m

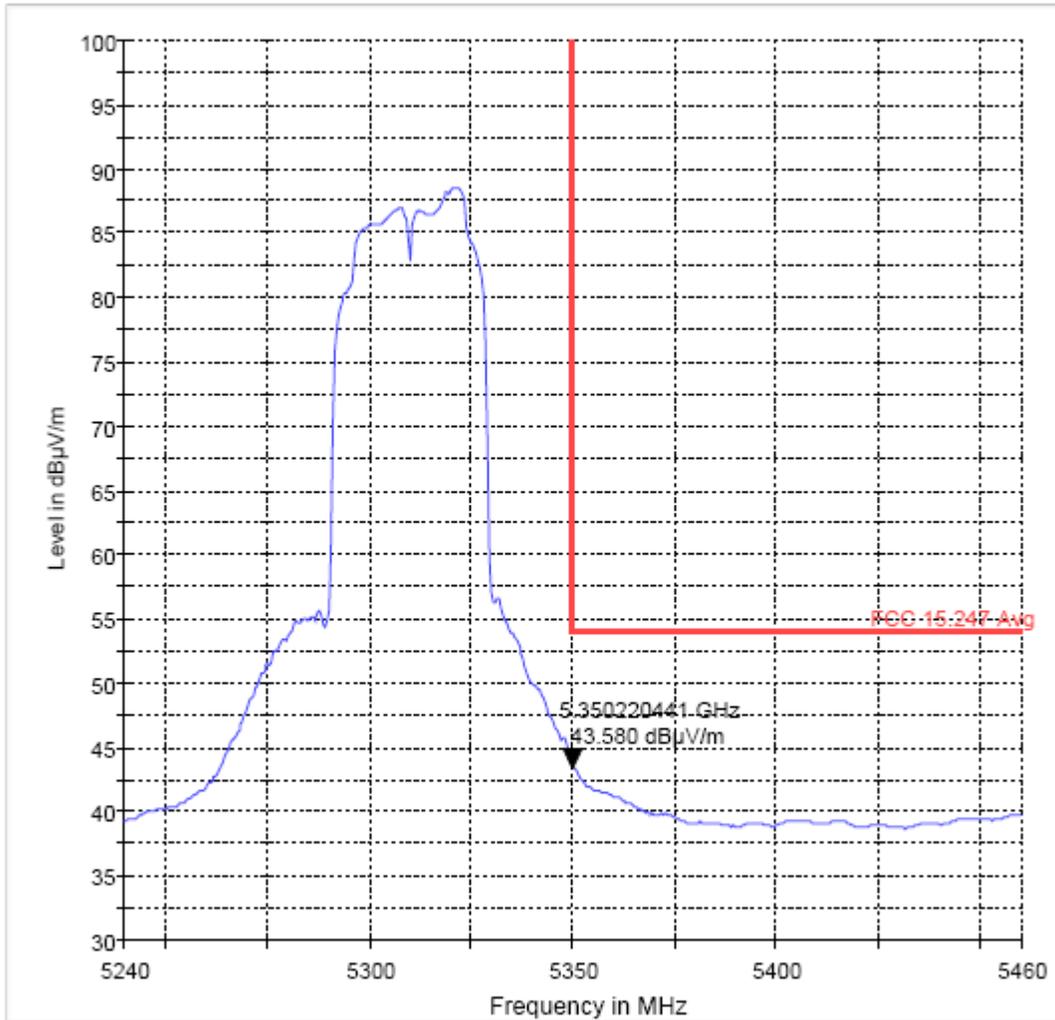


— MaxPeak-ClearWrite — MaxPeak-MaxHold — FCC 15.247 Pk



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

FCC 15.407 5.35 HBE Avg 3m

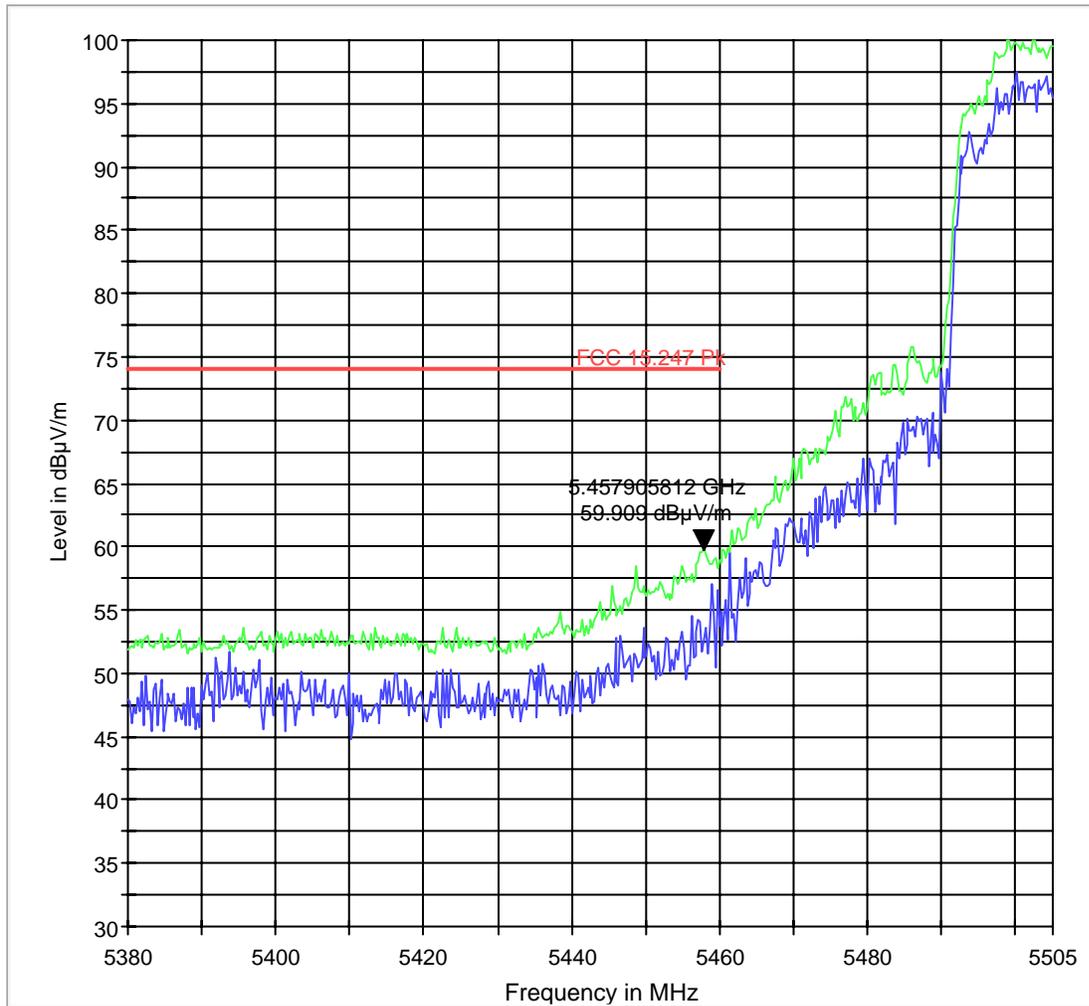


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.46 LBE Pk 3m

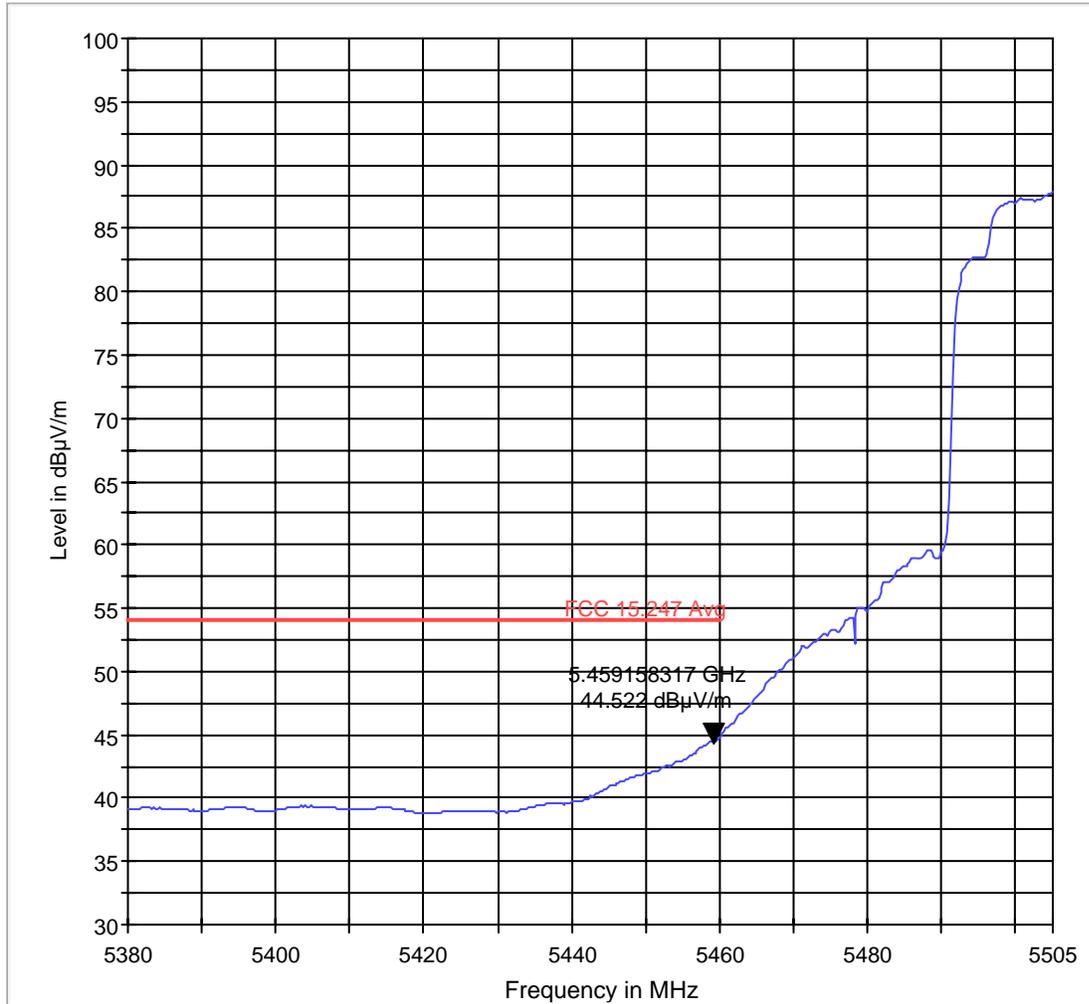


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.46 LBE Avg 3m



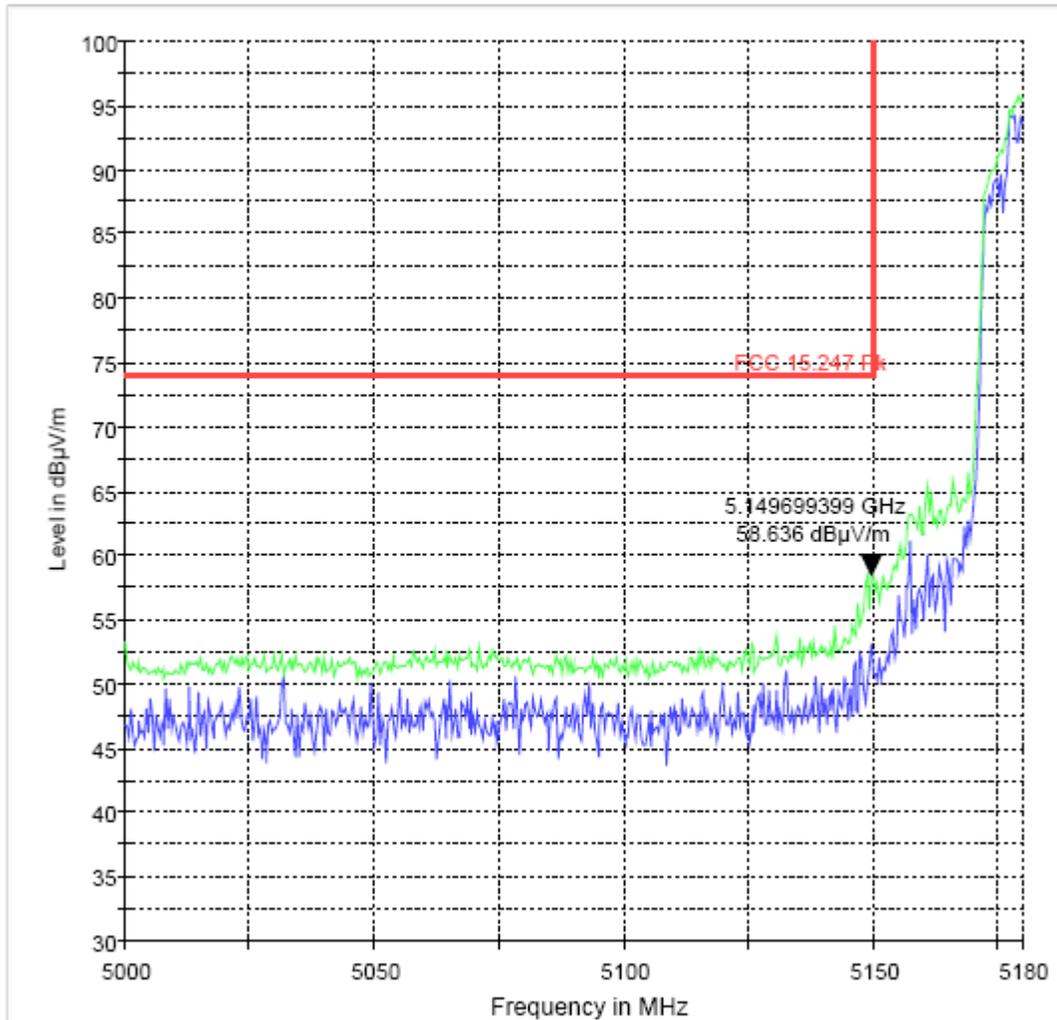
— MaxPeak-MaxHold — FCC 15.247 Avg



CHAIN B

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

FCC 15.407 5.15 LBE Pk 3m

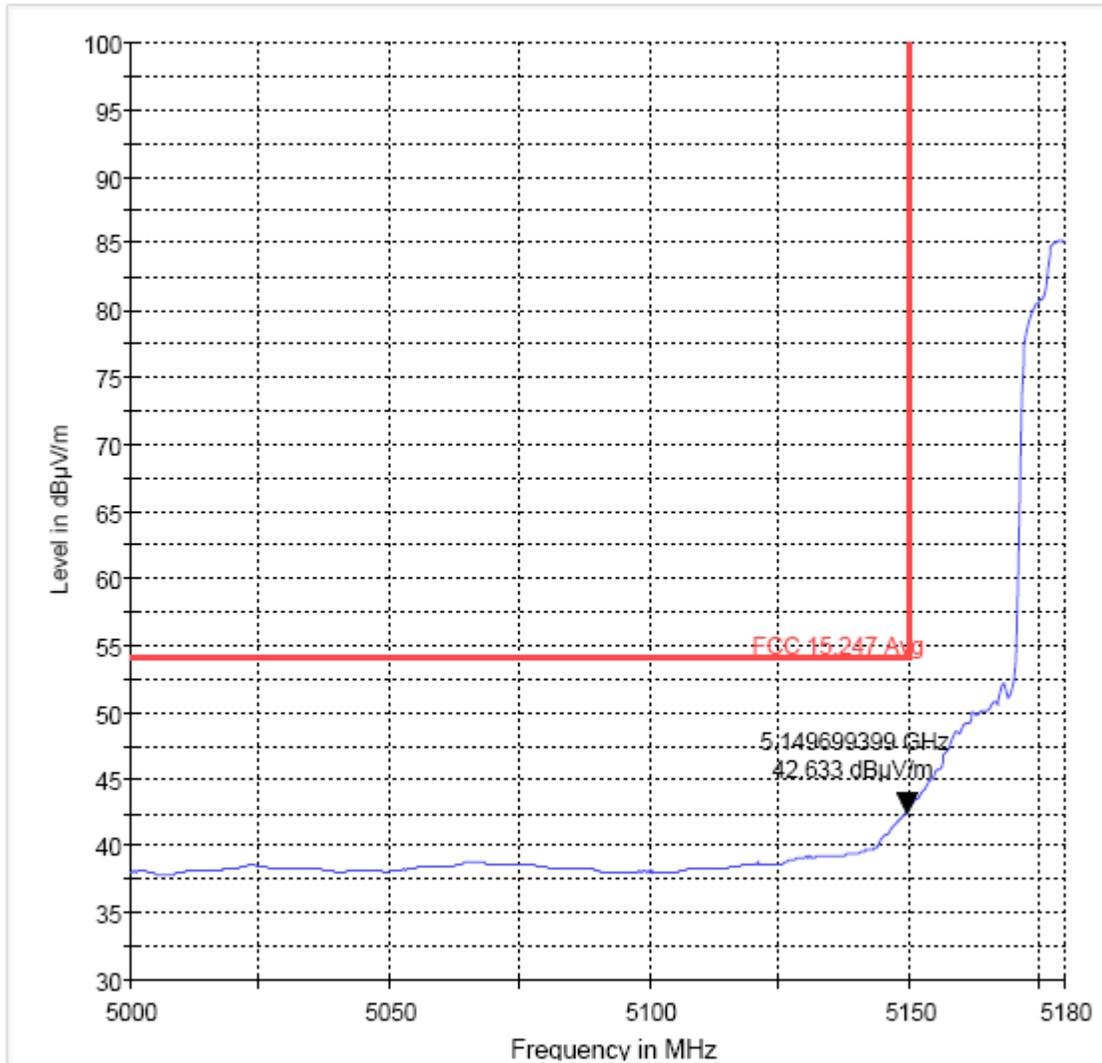


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.15 LBE Avg 3m

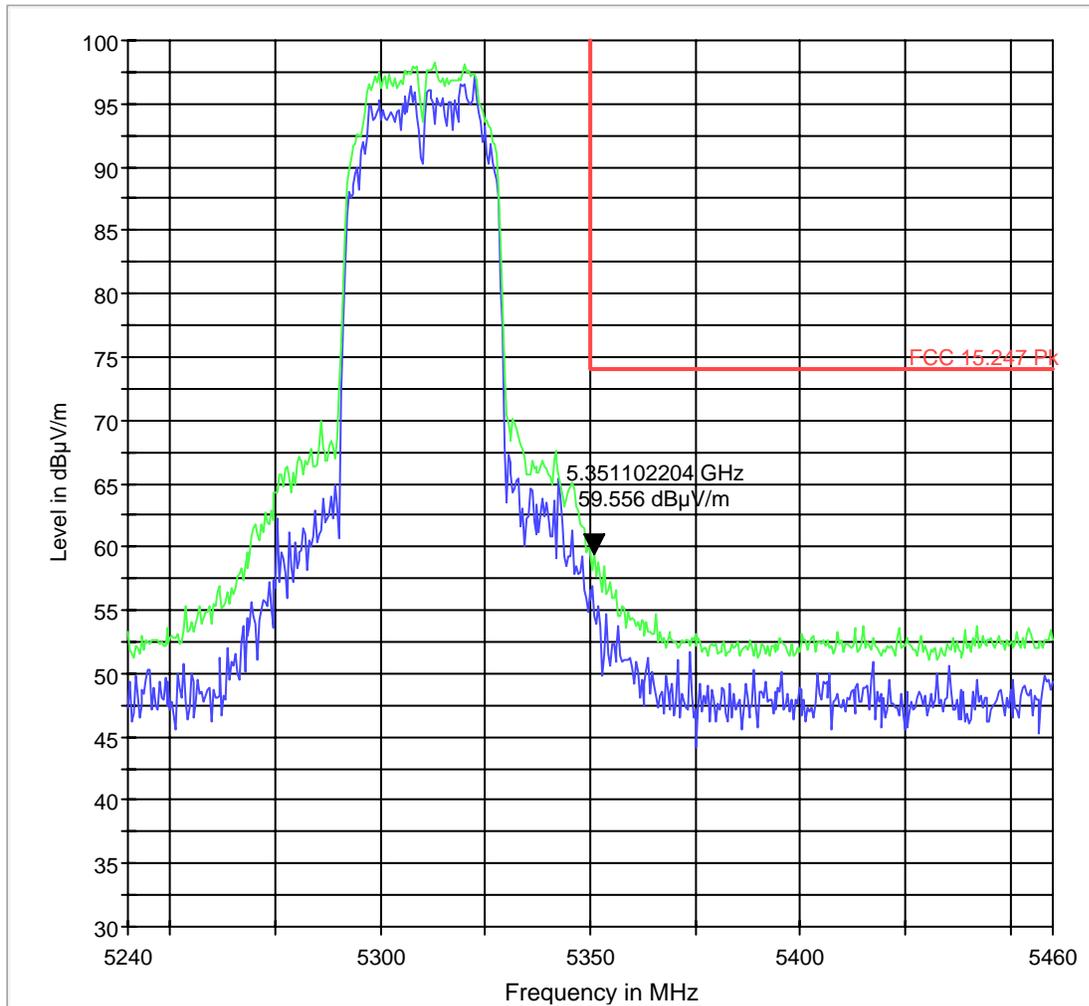


— MaxPeak-MaxHold — FCC 15.247 Avg



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

FCC 15.407 5.35 HBE Pk 3m

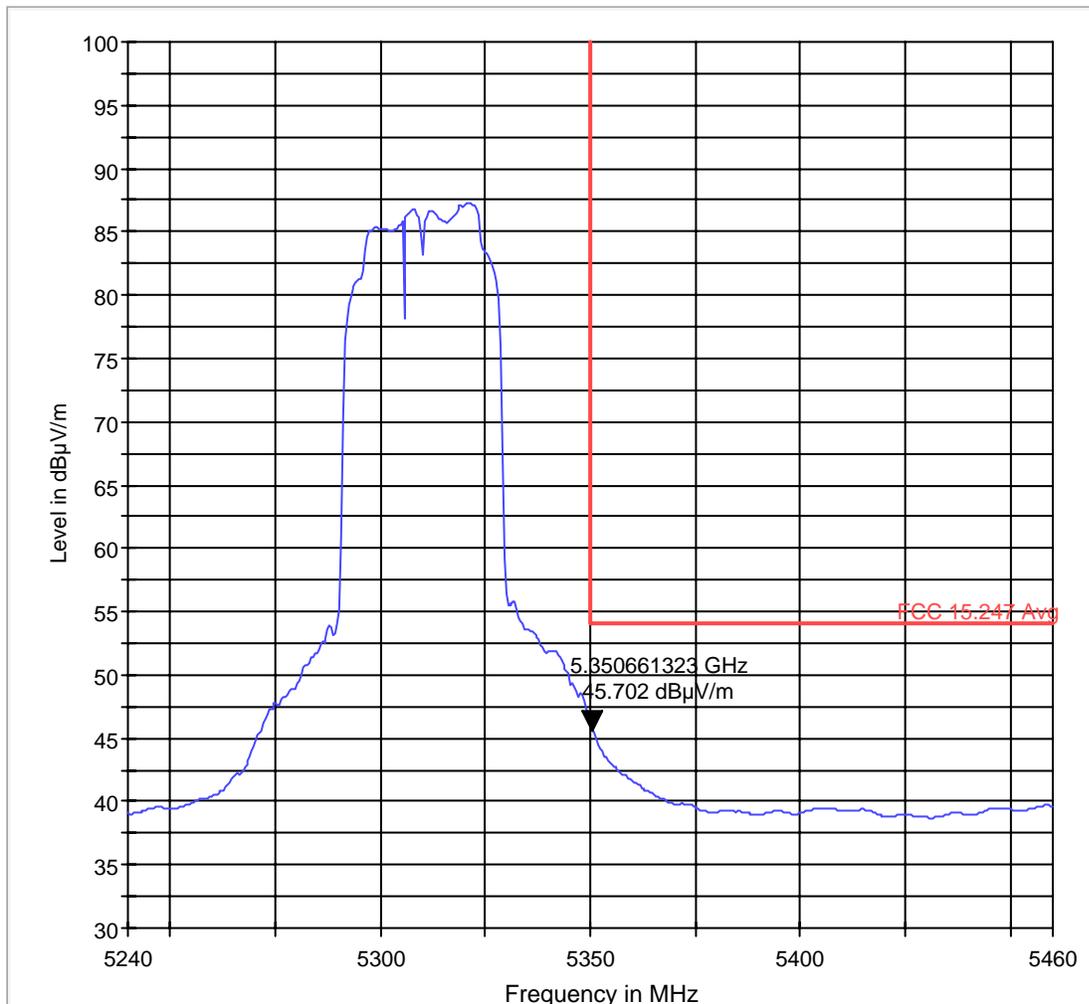


— MaxPeak-ClearWrite — MaxPeak-MaxHold — FCC 15.247 Pk



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

FCC 15.407 5.35 HBE Avg 3m



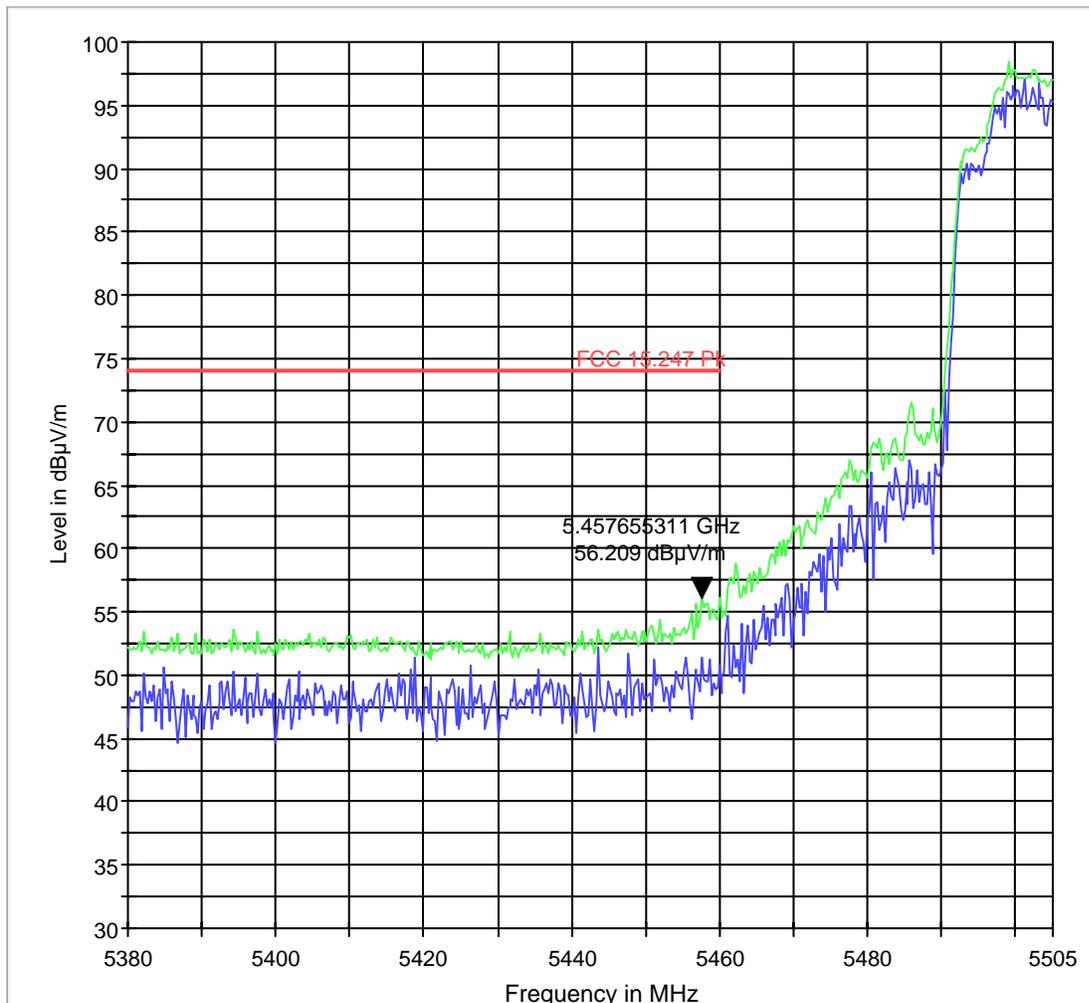
MaxPeak-MaxHold

FCC 15.247 Avg



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

FCC 15.407 5.46 LBE Pk 3m

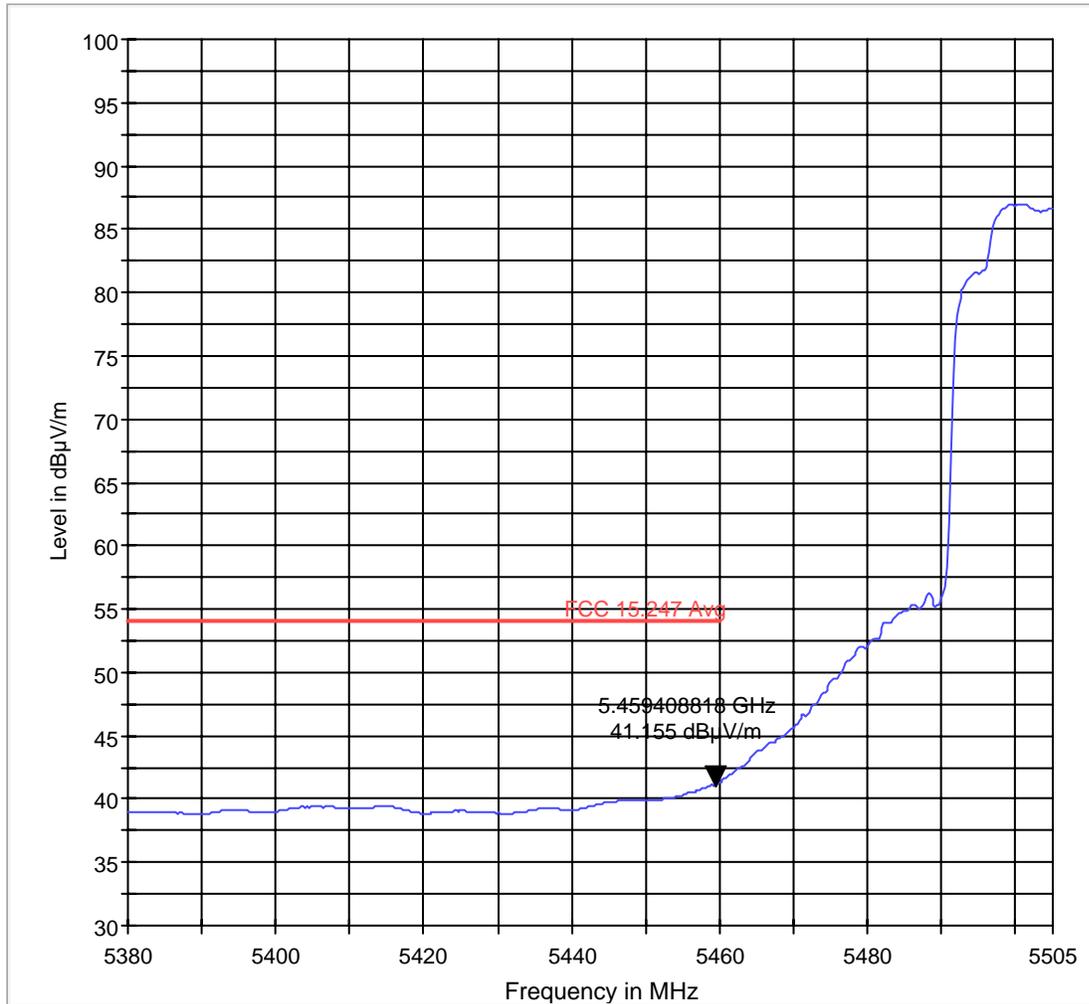


MaxPeak-ClearWrite MaxPeak-MaxHold FCC 15.247 Pk



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

FCC 15.407 5.46 LBE Avg 3m



— MaxPeak-MaxHold — FCC 15.247 Avg



5.3 Transmitter 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.



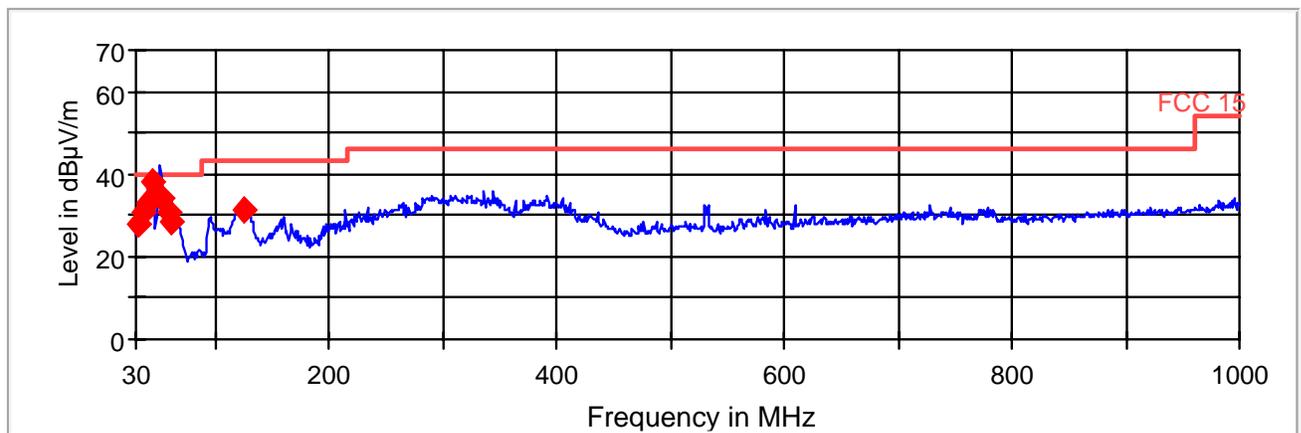
**5.3.2 Sub-band 1 802.11n HT20 MODE
30MHz – 1GHz chain AB**

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 |

FCC 15 30-1000MHz



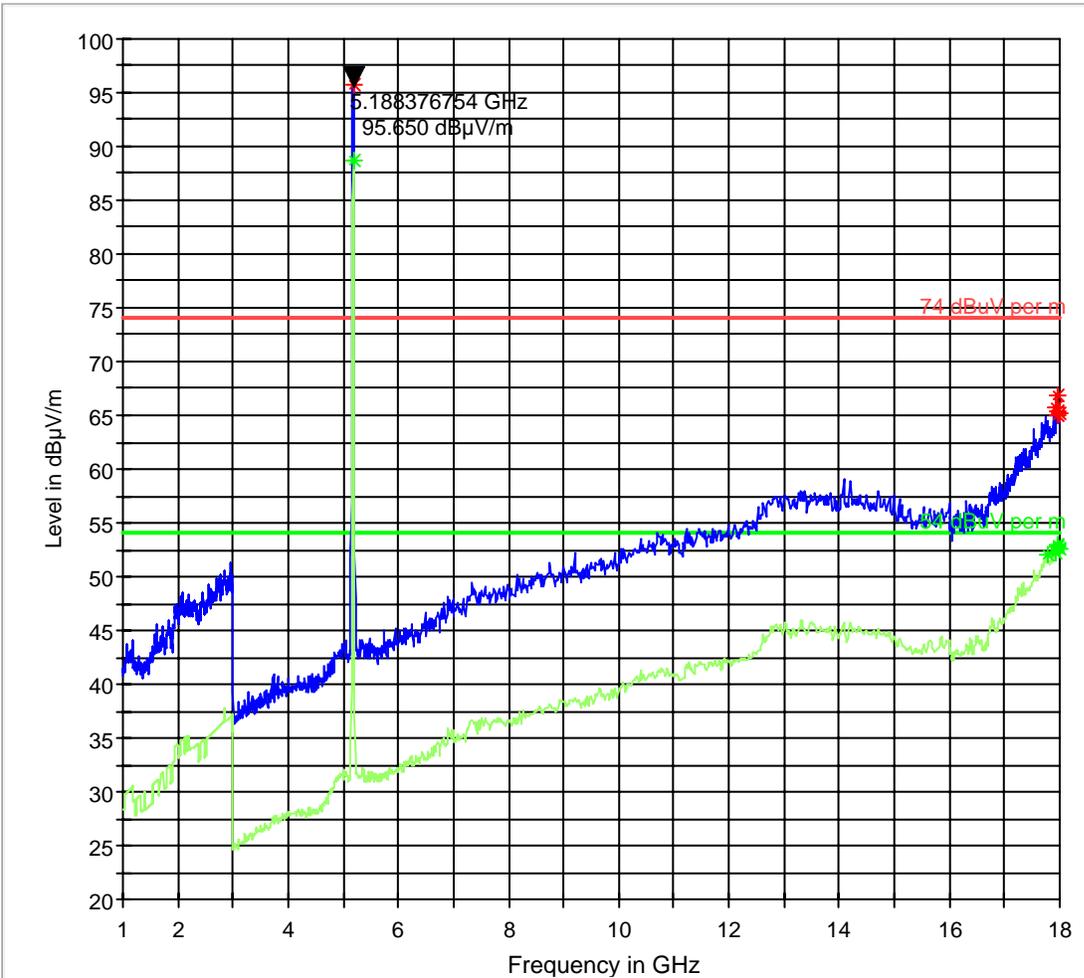
— FCC 15.LimitLine
 — Preview Result 1
 ◆ Final Result 1



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]

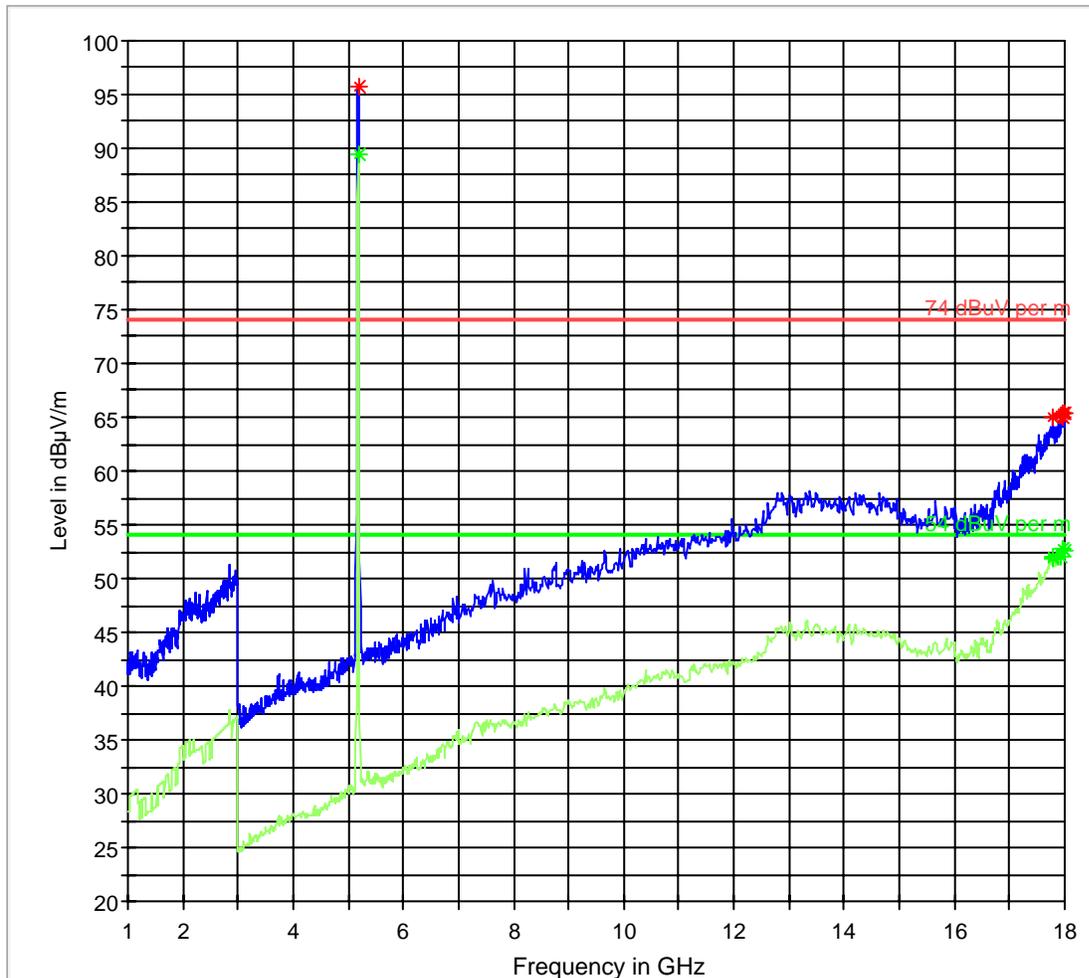
Preview Result 1
* Data Reduction 2 [2]



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

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

FCC 15 1-18GHz



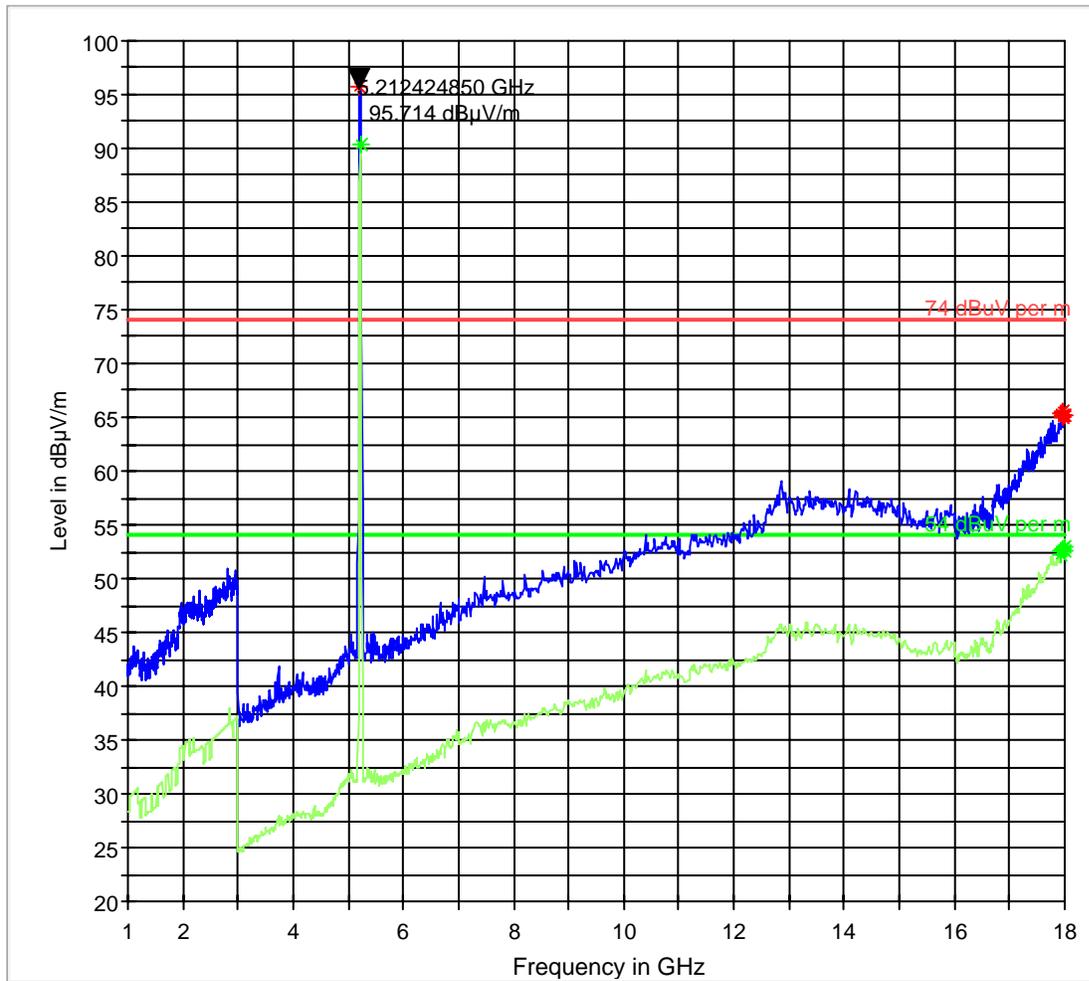
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

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

FCC 15 1-18GHz



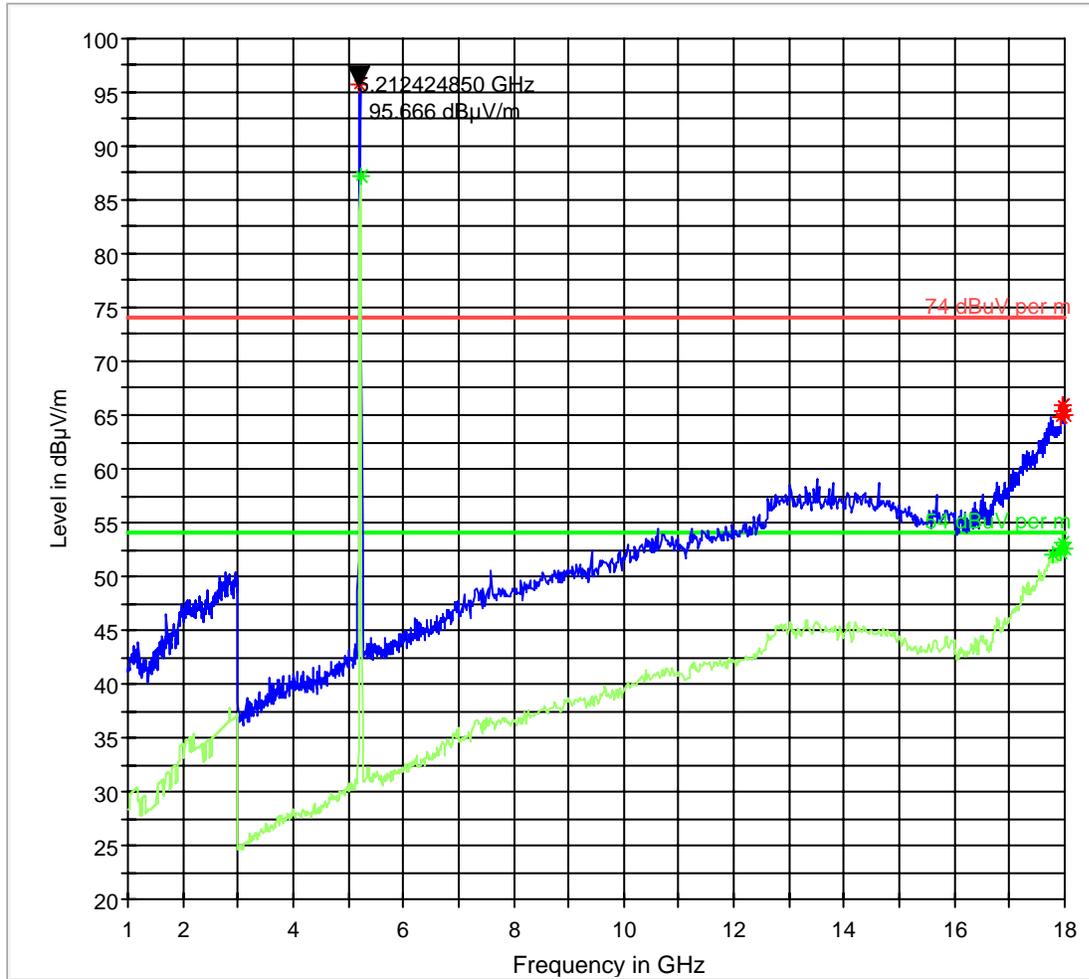
- 74 dBµV per m.LimitLine
- 54 dBµV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

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

FCC 15 1-18GHz



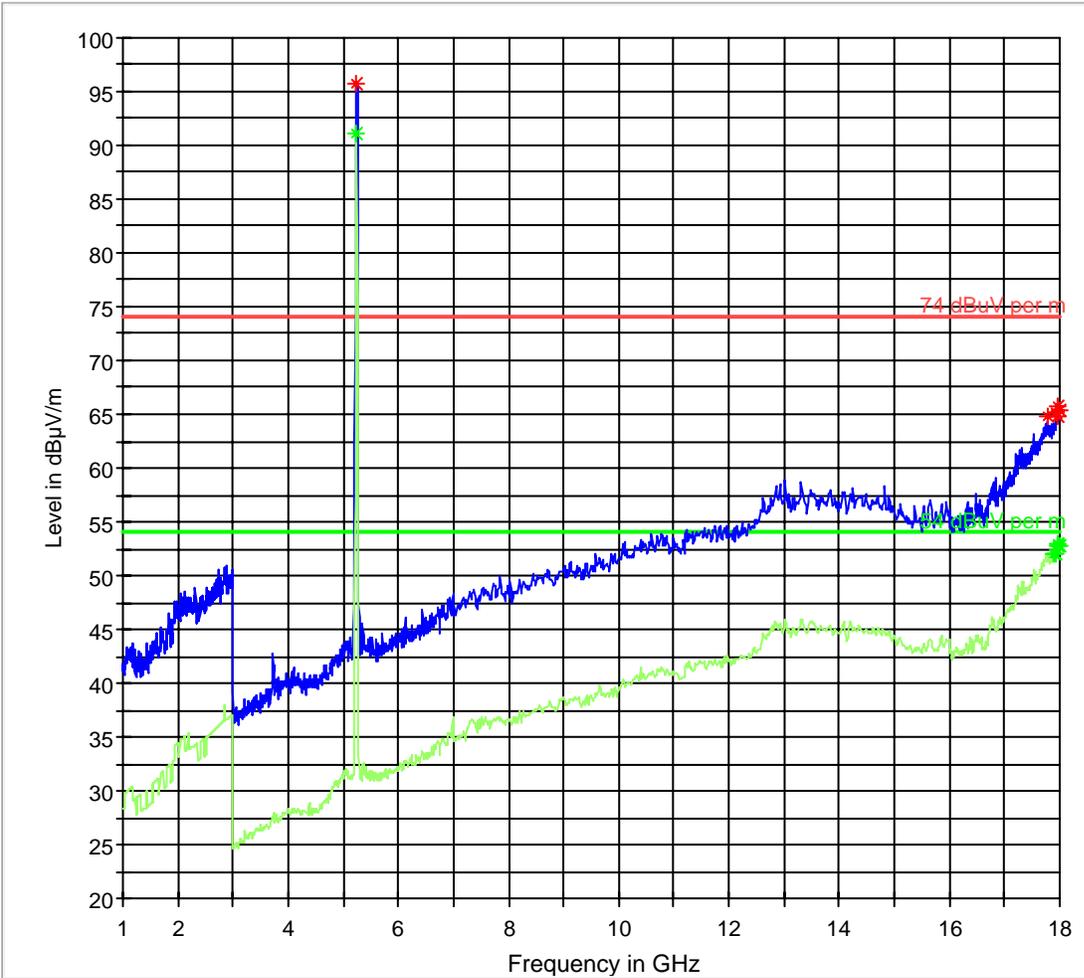
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

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

FCC 15 1-18GHz



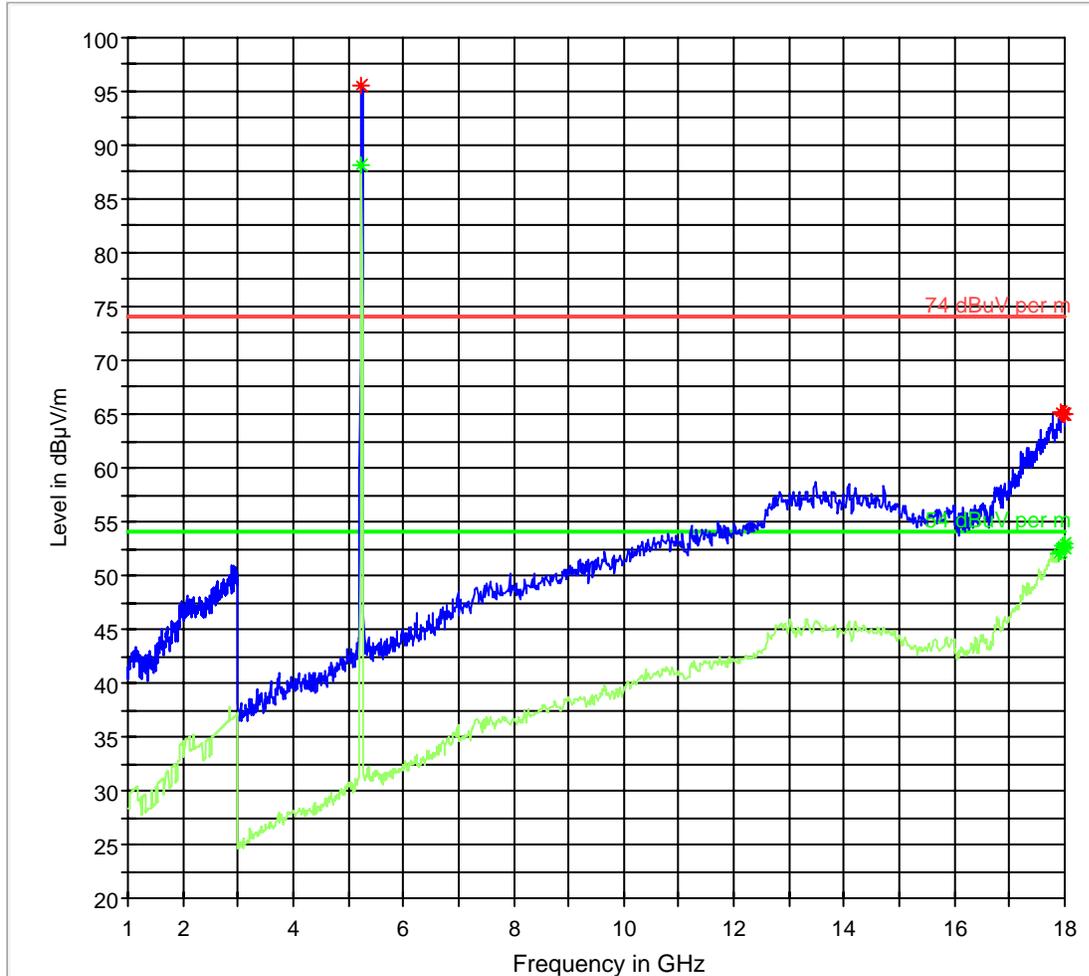
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

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

FCC 15 1-18GHz

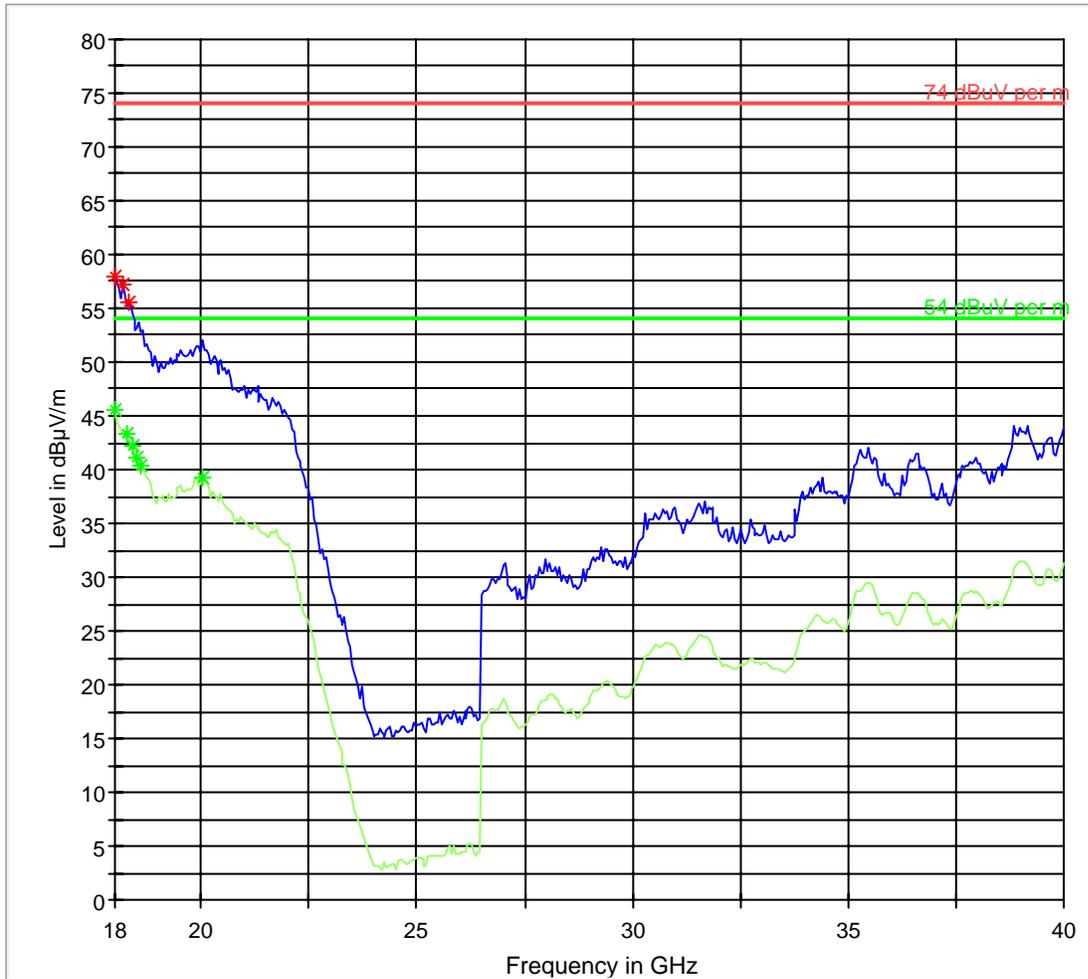


- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

FCC 15 18-40GHz



74 dBuV per m.LimitLine
Preview Result 2

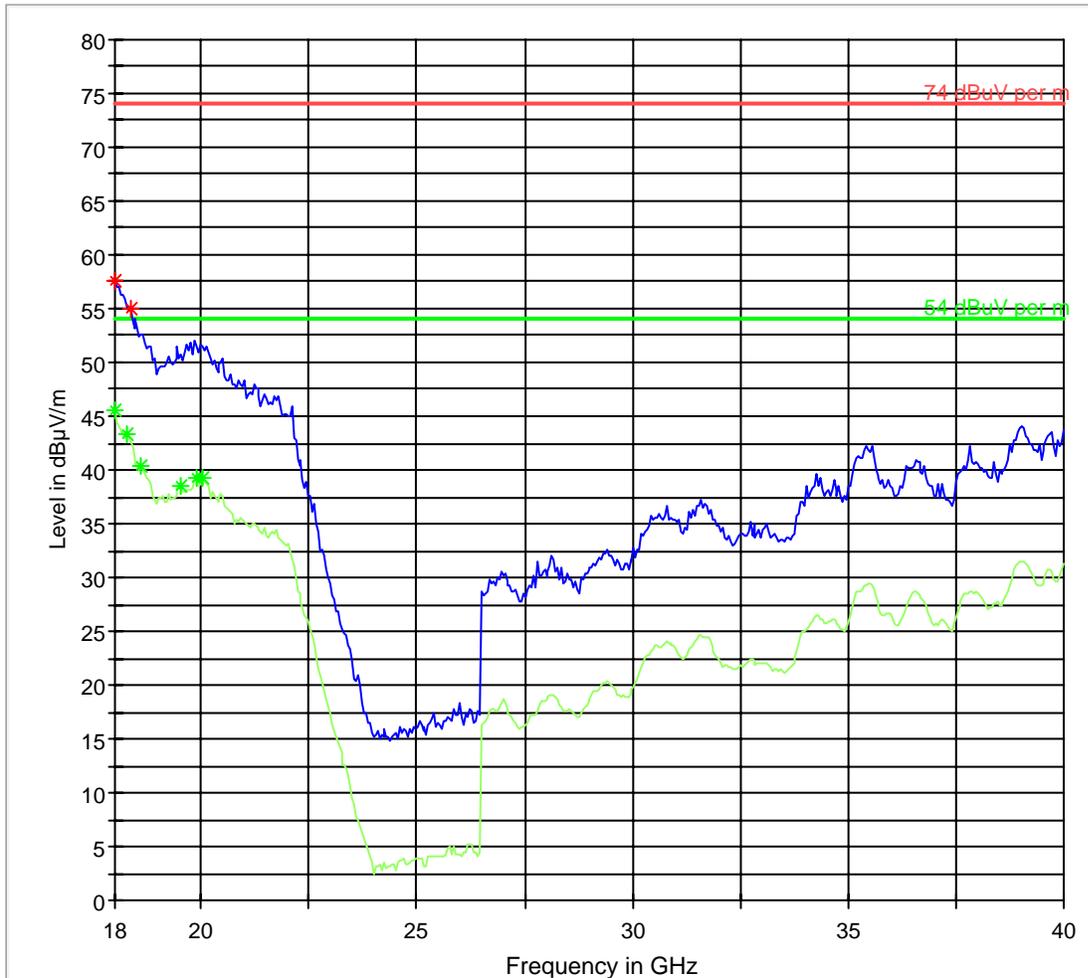
54 dBuV per m.LimitLine
* Data Reduction 1 [6]

Preview Result 1
* Data Reduction 2 [6]



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

FCC 15 18-40GHz



74 dBuV per m.LimitLine
Preview Result 2

54 dBuV per m.LimitLine
* Data Reduction 1 [6]

Preview Result 1
* Data Reduction 2 [6]



5.3.3 Sub-band 2 802.11n HT20 MODE

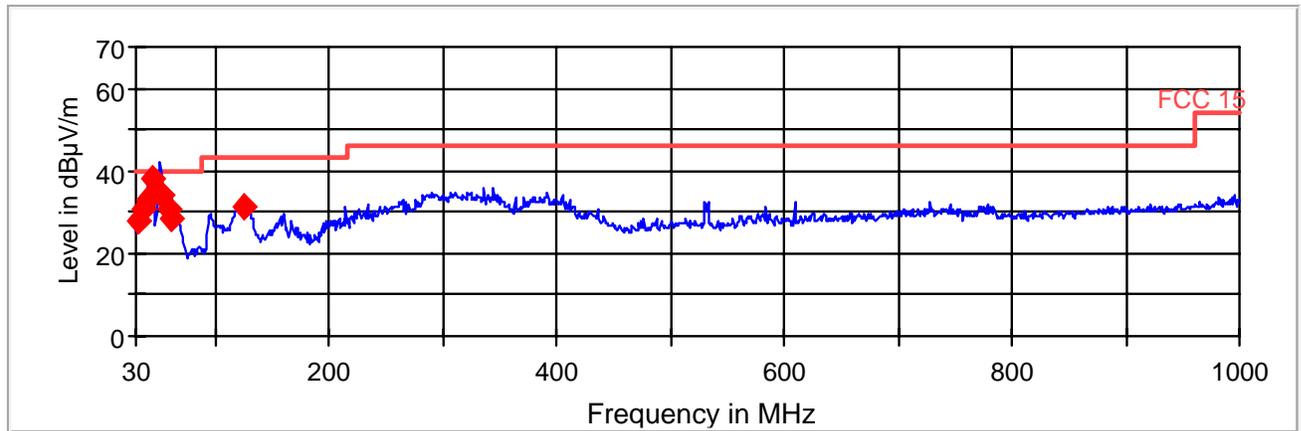
30MHz – 1GHz chain AB

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 |

FCC 15 30-1000MHz



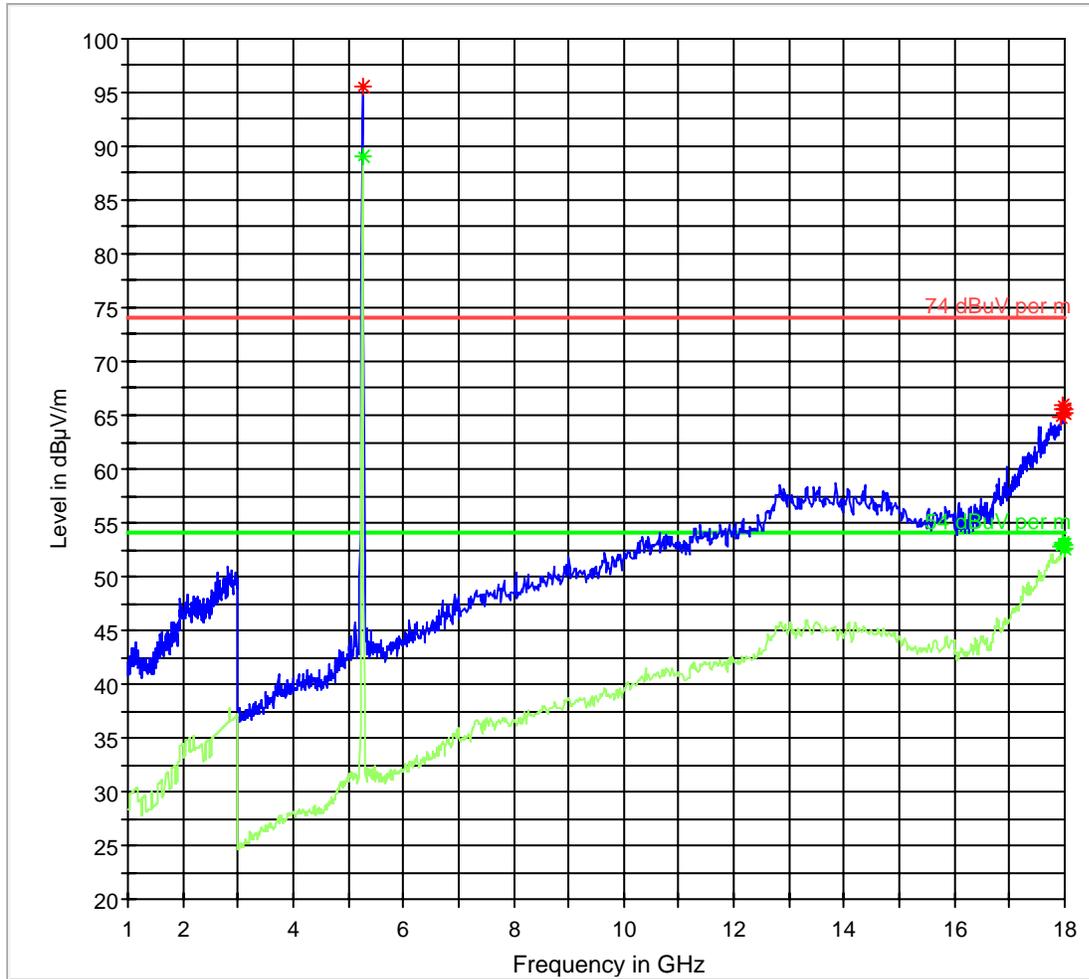
— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



1-18GHz (5260MHz) 802.11n 20MHz chain A

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

FCC 15 1-18GHz



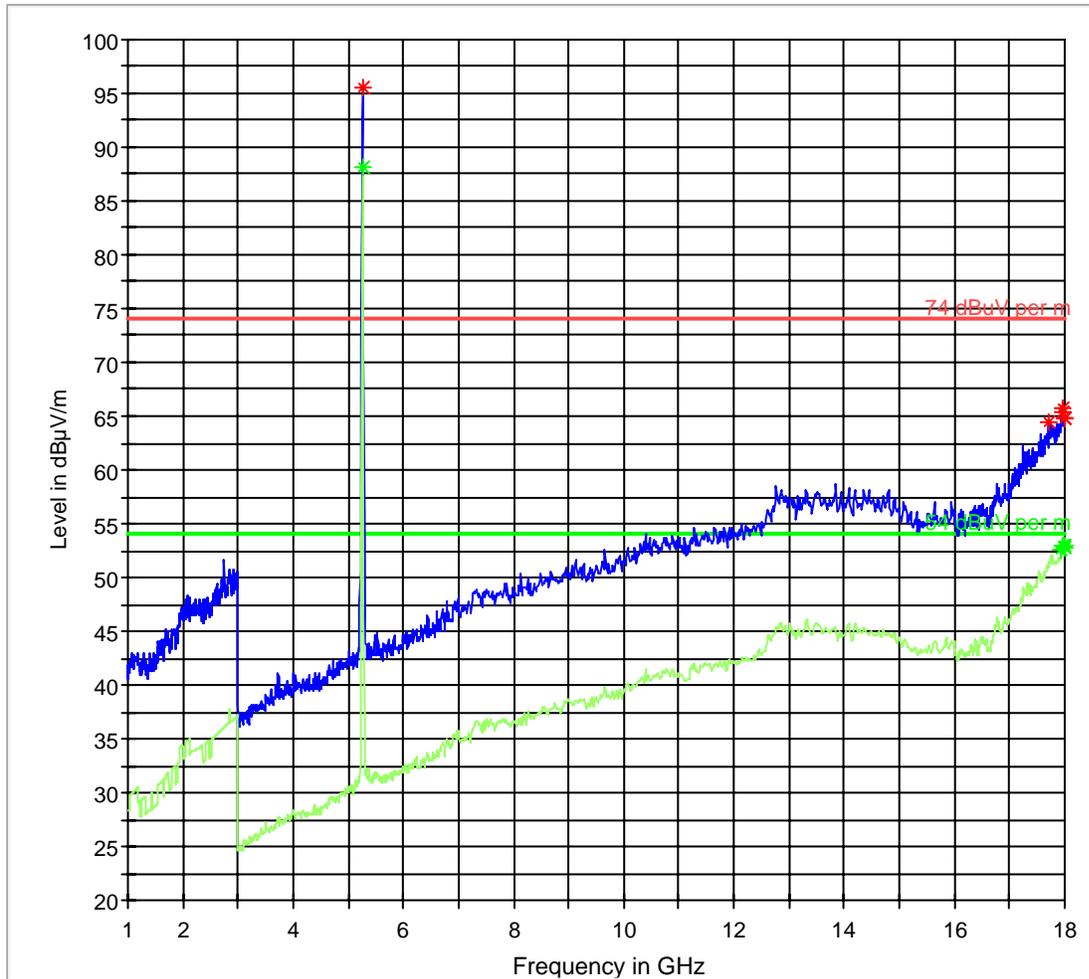
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5260MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz



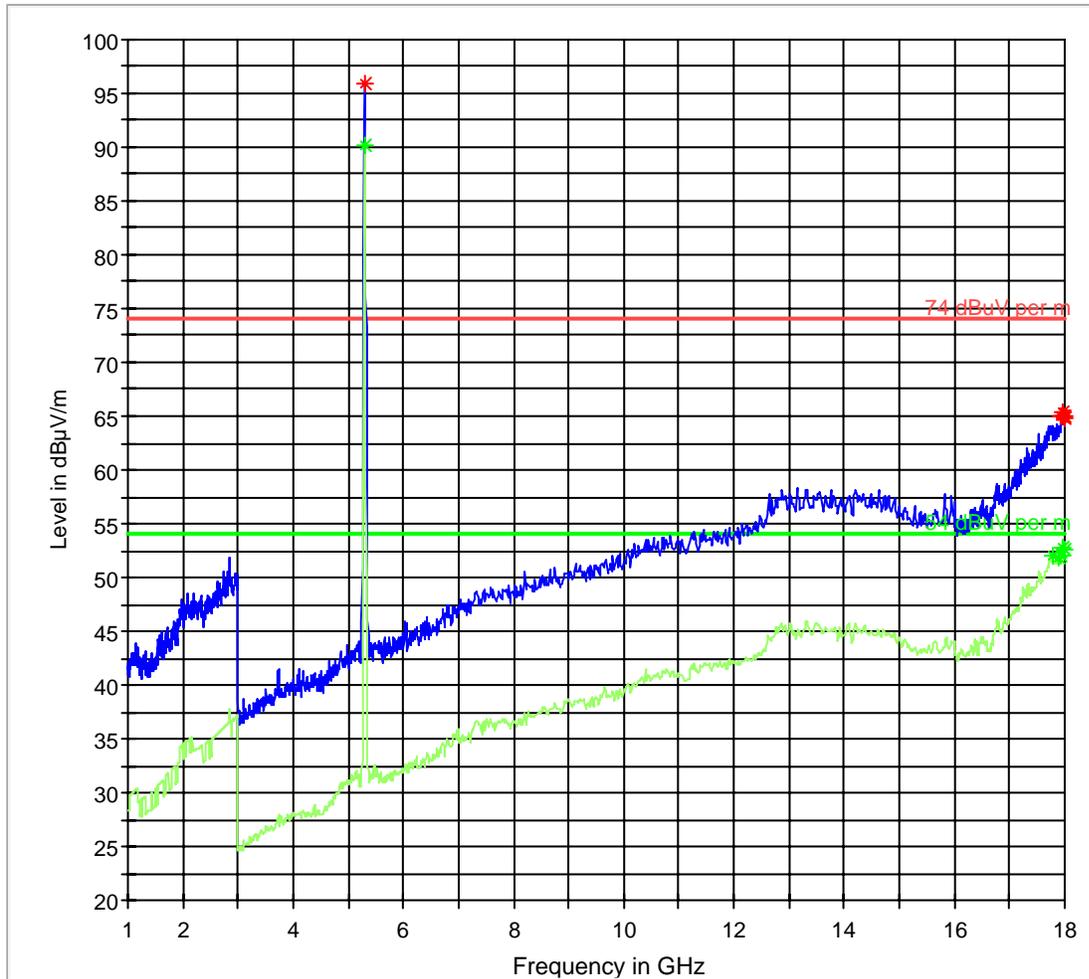
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5300MHz) 802.11n 20MHz chain A

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

FCC 15 1-18GHz



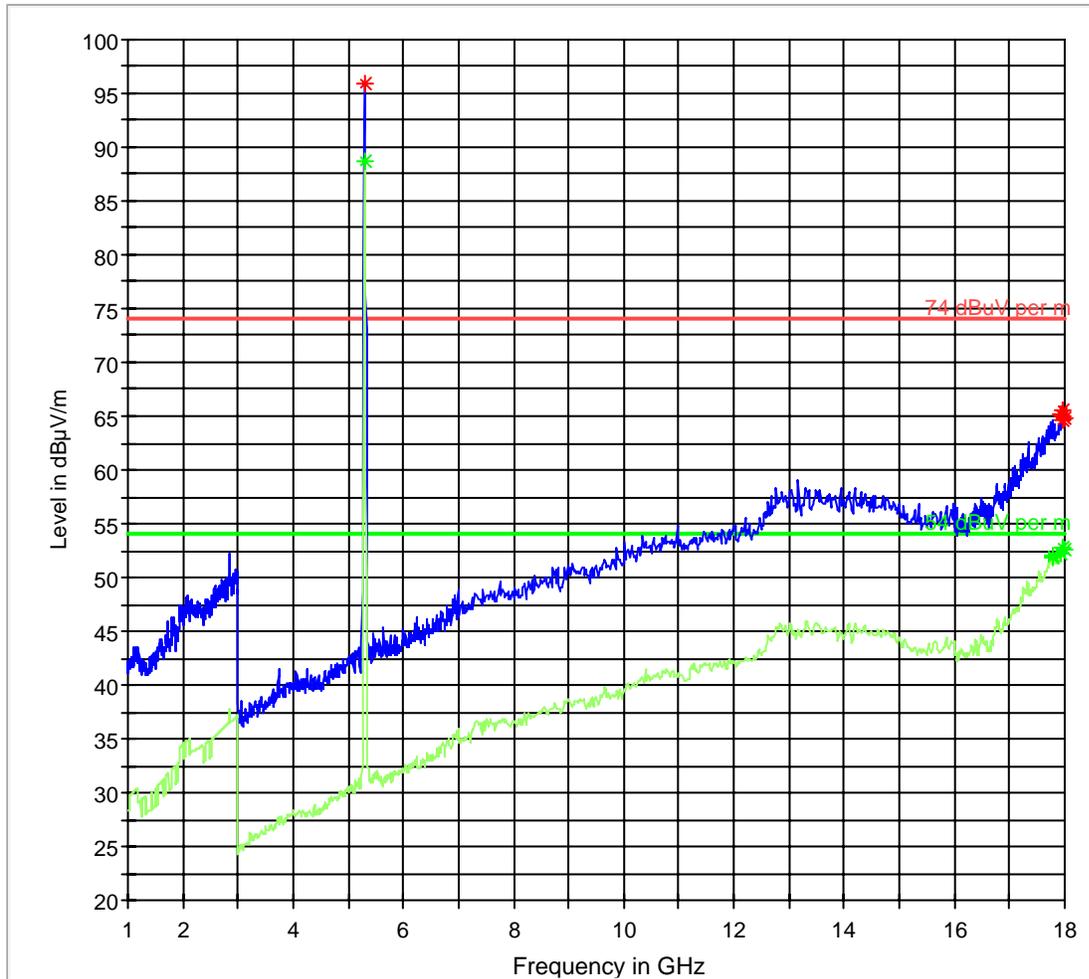
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5300MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz

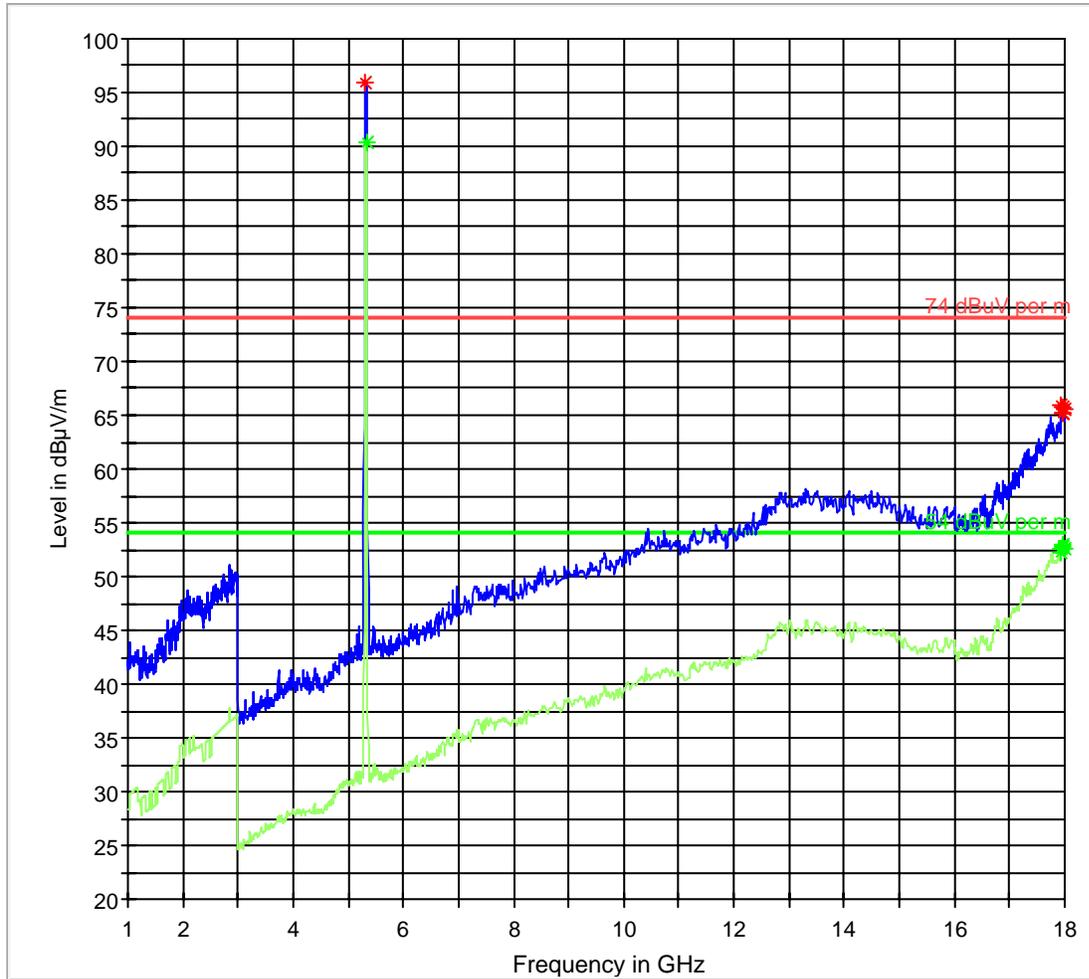


- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

FCC 15 1-18GHz



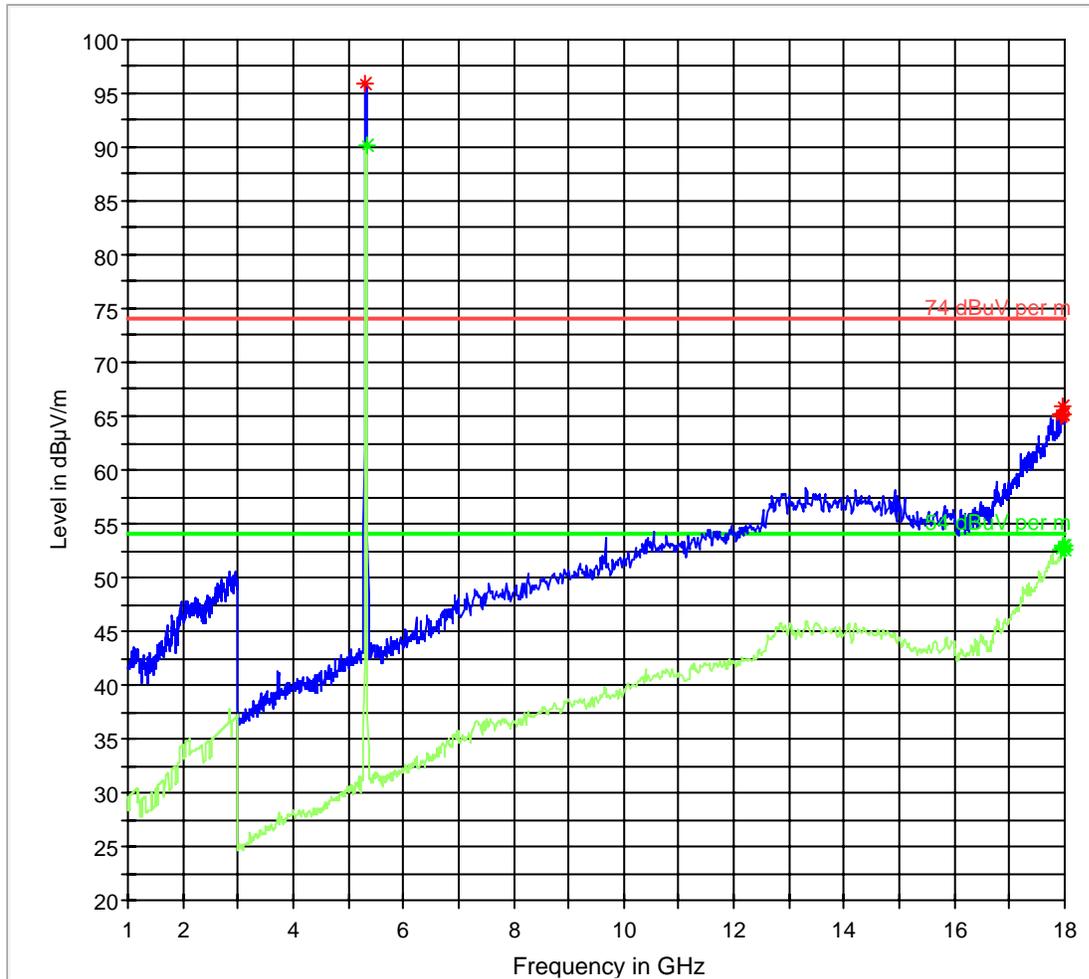
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5320MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz

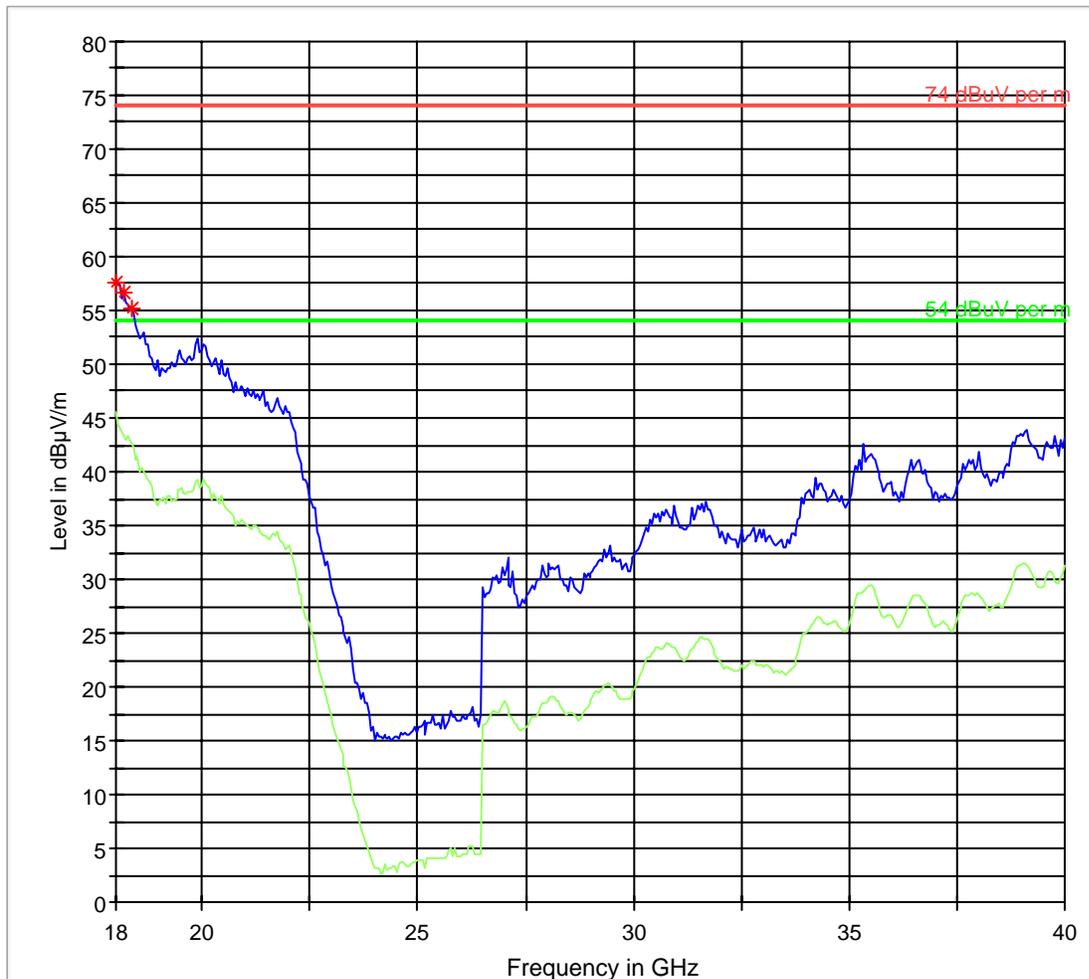


- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

FCC 15 18-40GHz

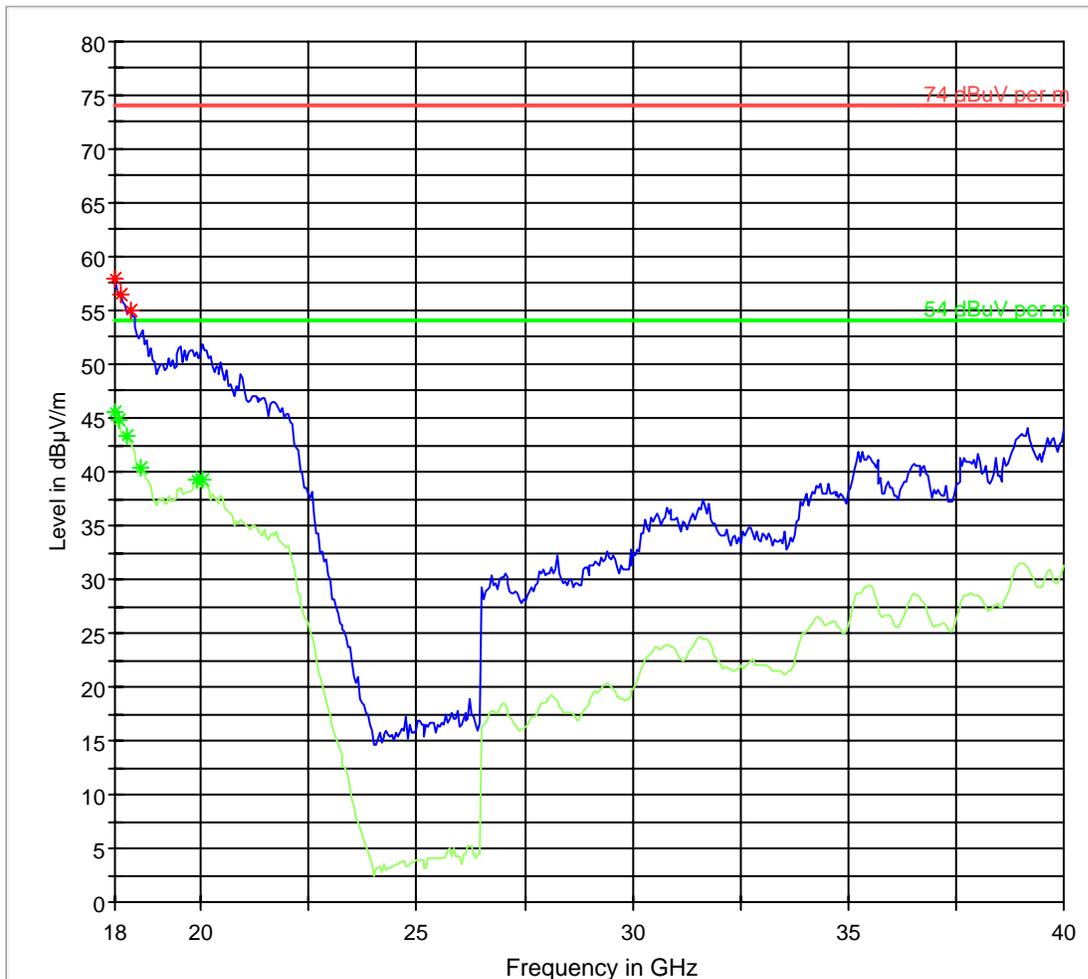


- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [6]



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

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]



5.3.4 Sub-band 3 802.11n HT20 MODE

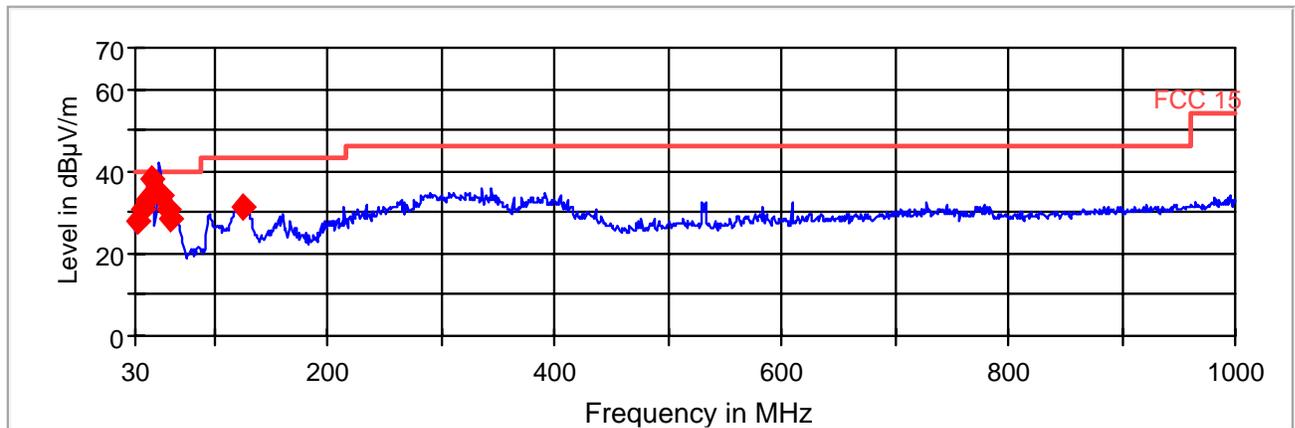
30MHz – 1GHz chain AB

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 |

FCC 15 30-1000MHz

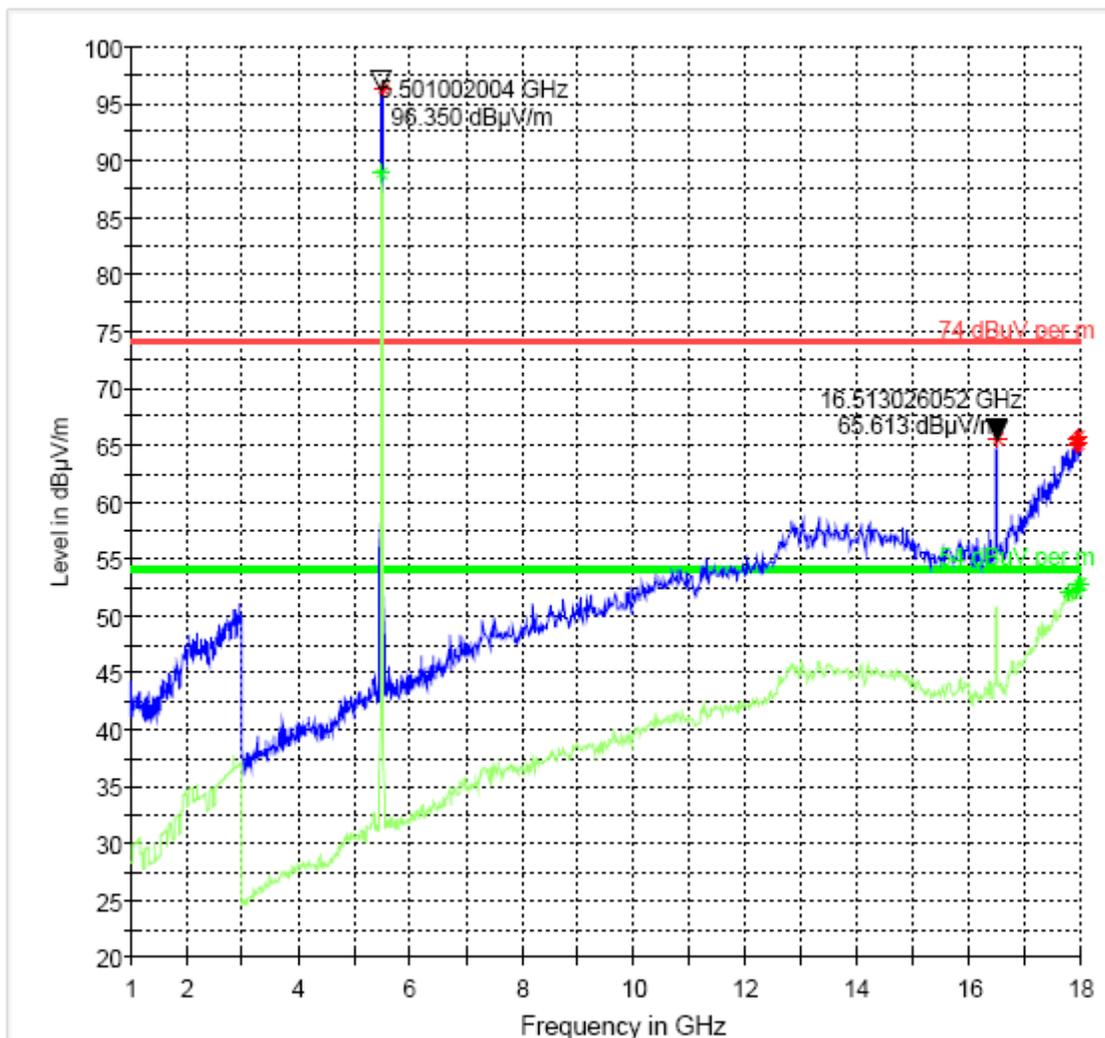


— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



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

FCC 15 1-18GHz



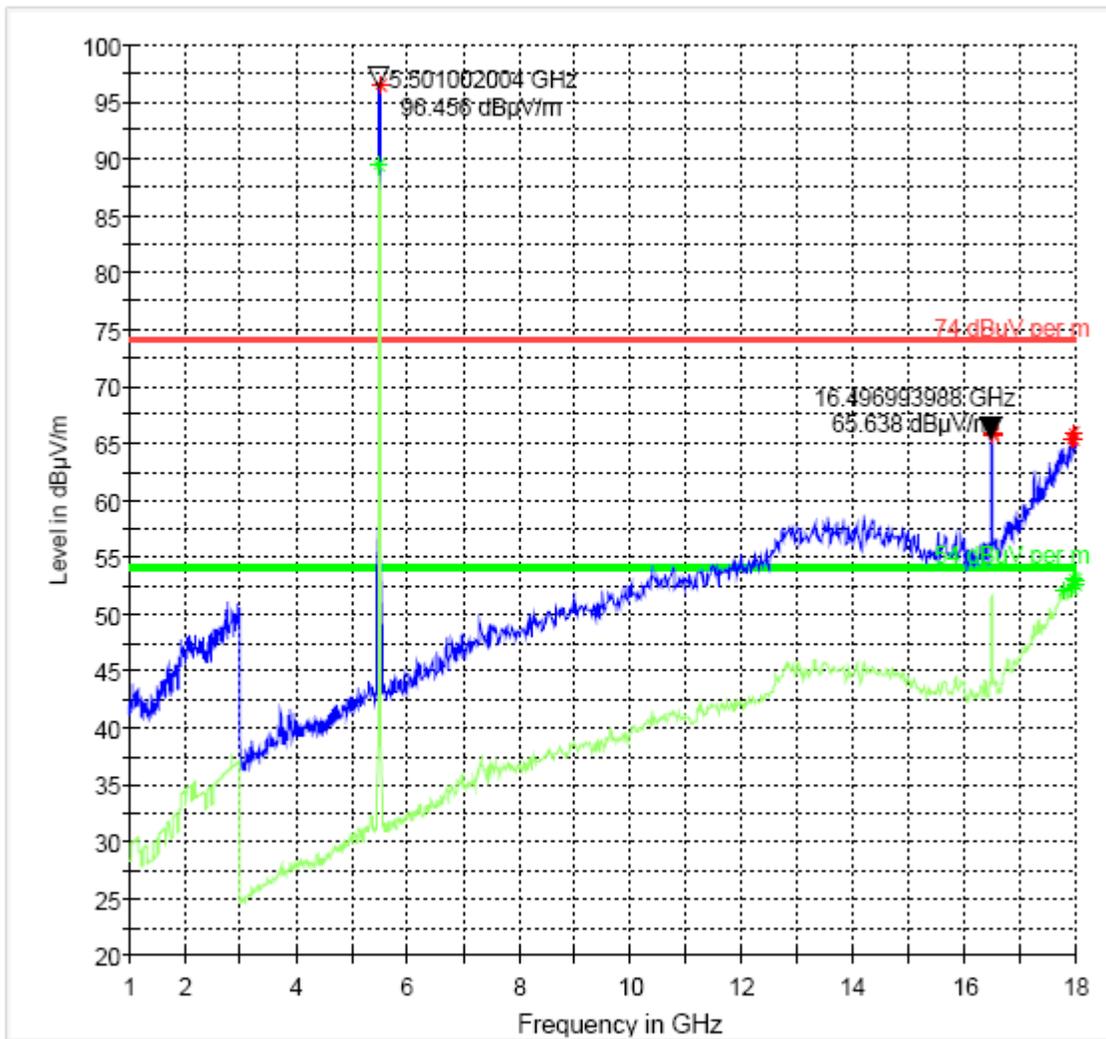
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5500MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz



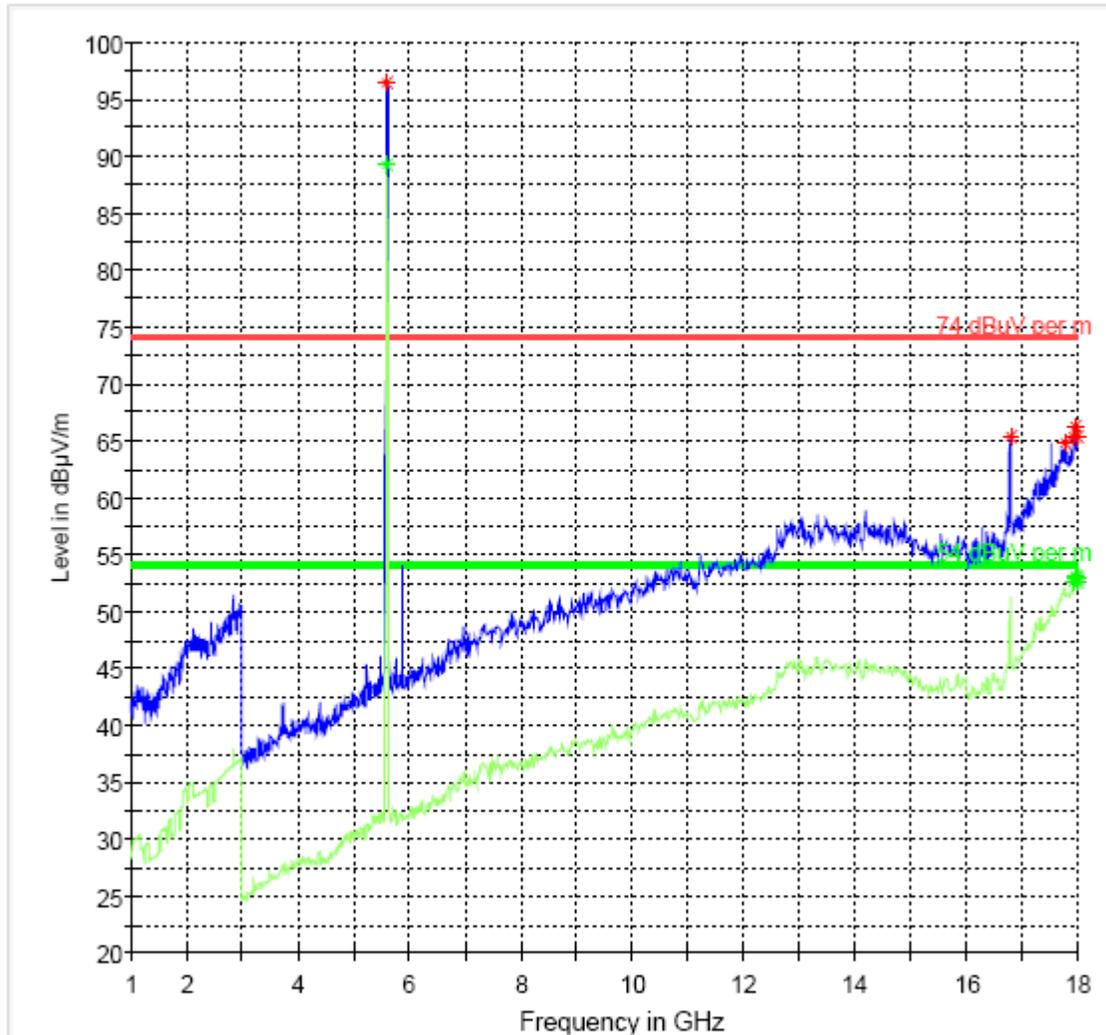
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5600MHz) 802.11n 20MHz chain A

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

FCC 15 1-18GHz



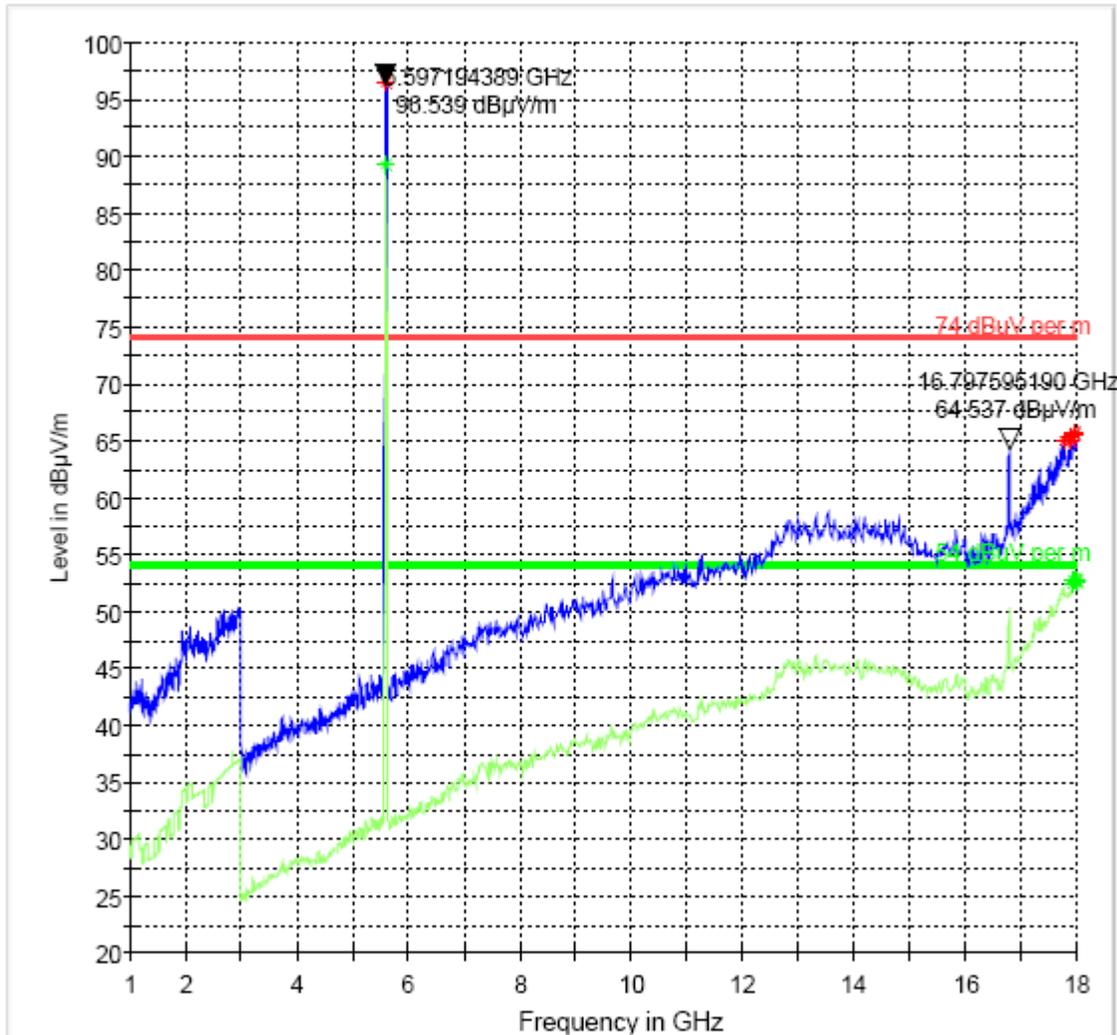
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- Data Reduction 1 [2]
- Data Reduction 2 [2]



1-18GHz (5600MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz

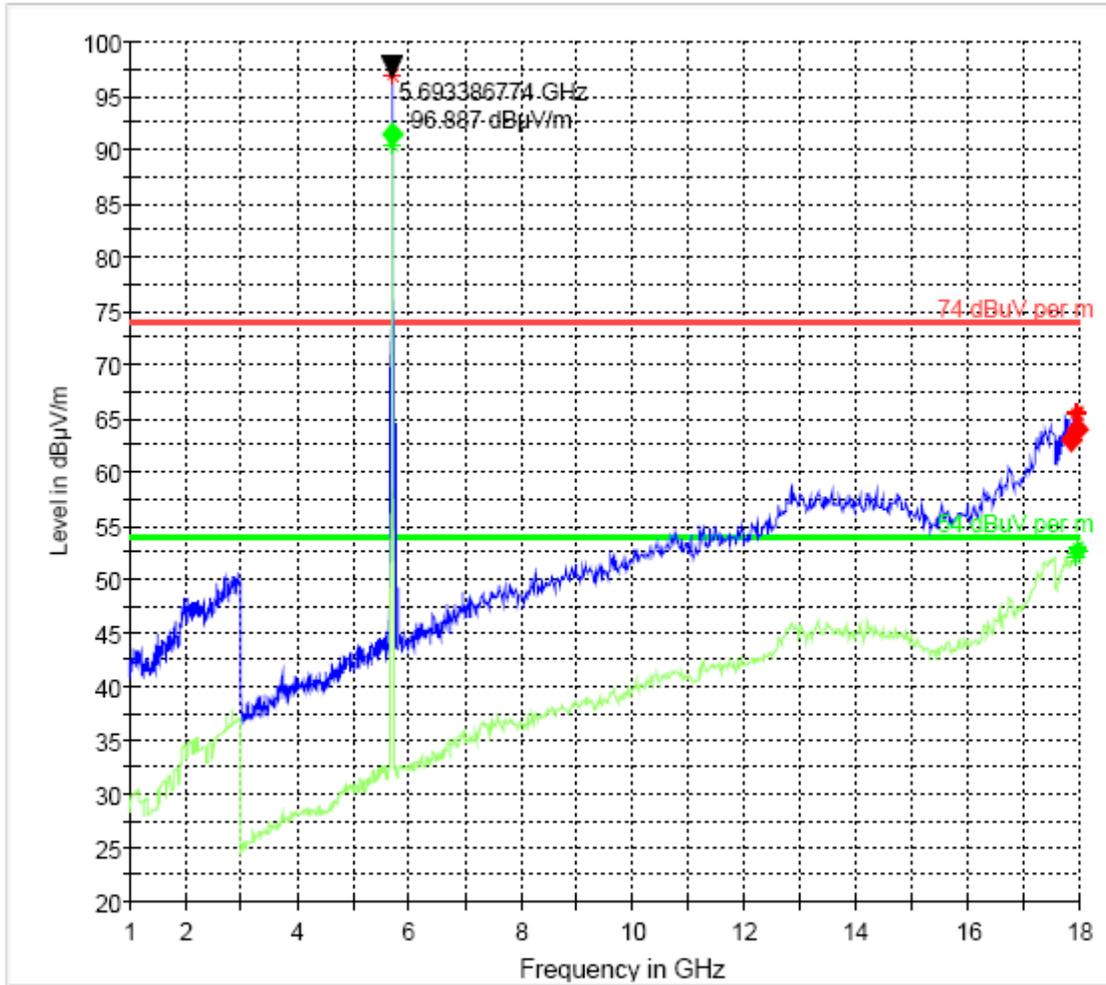


- 74 dBµV per m.LimitLine
- 54 dBµV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

FCC 15 1-18GHz



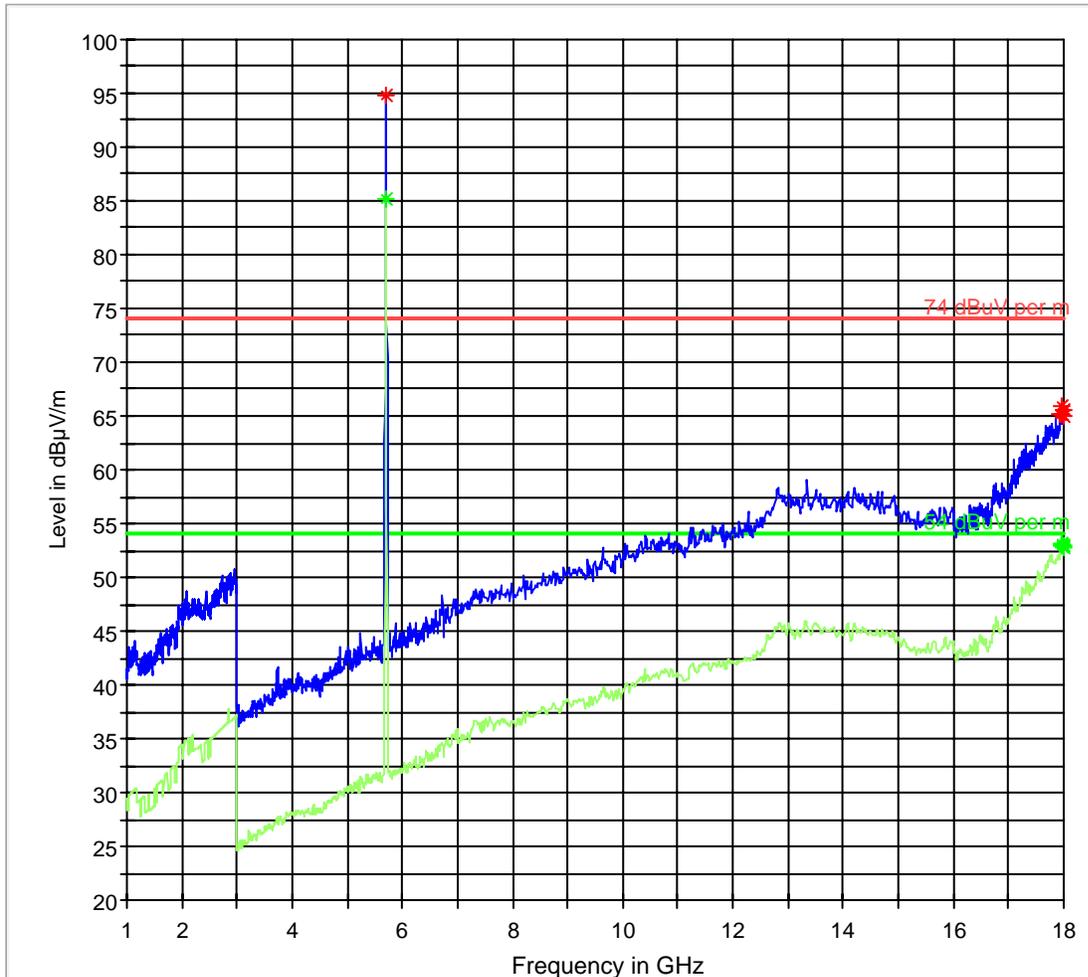
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]
- ◆ Final Measurement Result 2
- ◆ Final Measurement Result 1



1-18GHz (5700MHz) 802.11n 20MHz chain B

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

FCC 15 1-18GHz

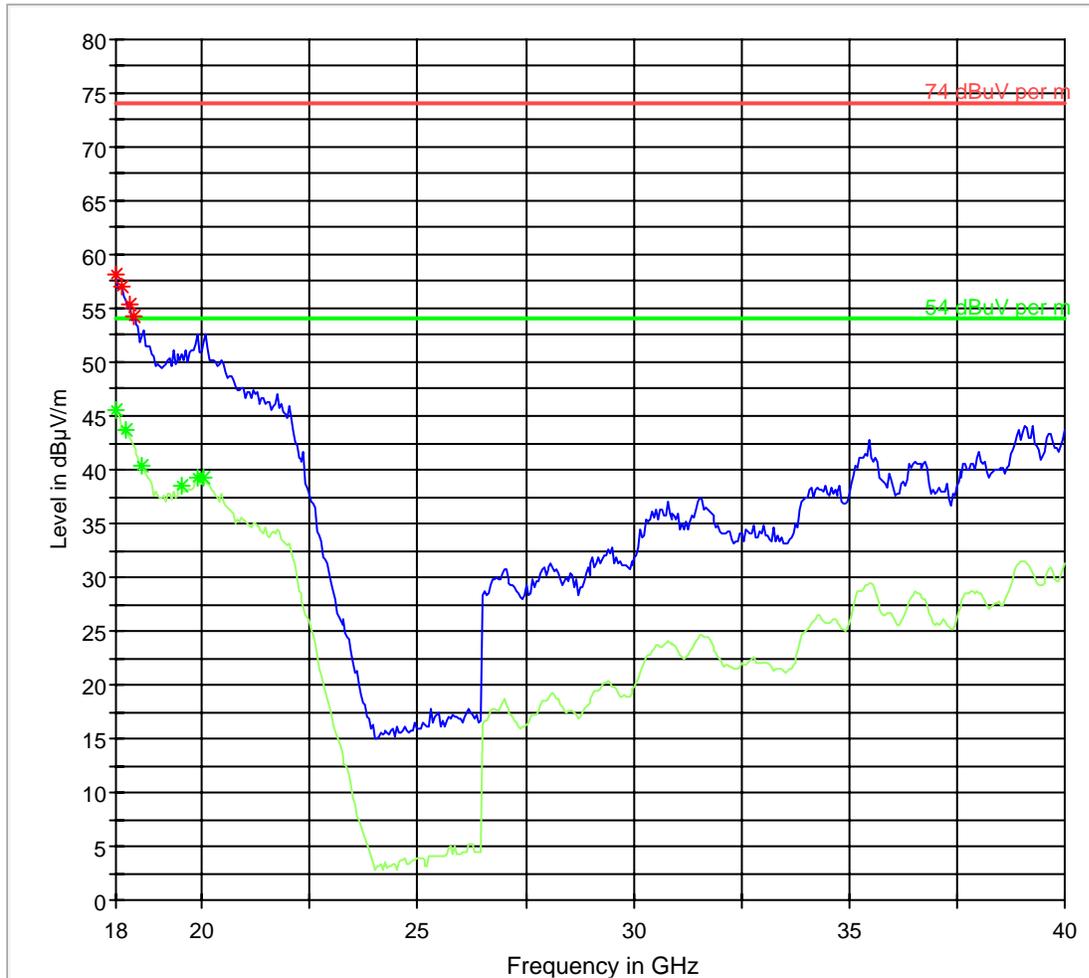


- 74 dBµV per m.LimitLine
- 54 dBµV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



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

FCC 15 18-40GHz



74 dBuV per m.LimitLine
Preview Result 2

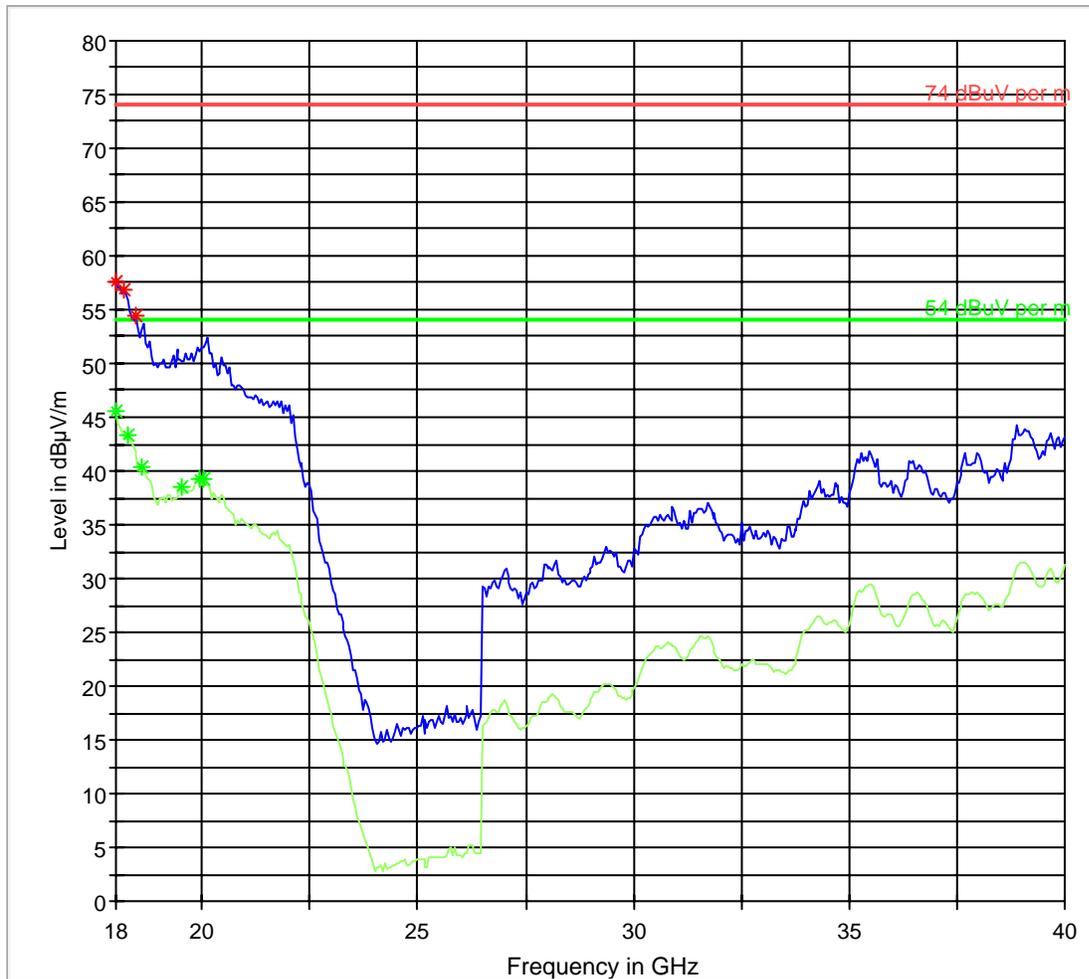
54 dBuV per m.LimitLine
* Data Reduction 1 [6]

Preview Result 1
* Data Reduction 2 [6]



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

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]



5.3.5 Sub-band 1 802.11n HT40 MODE

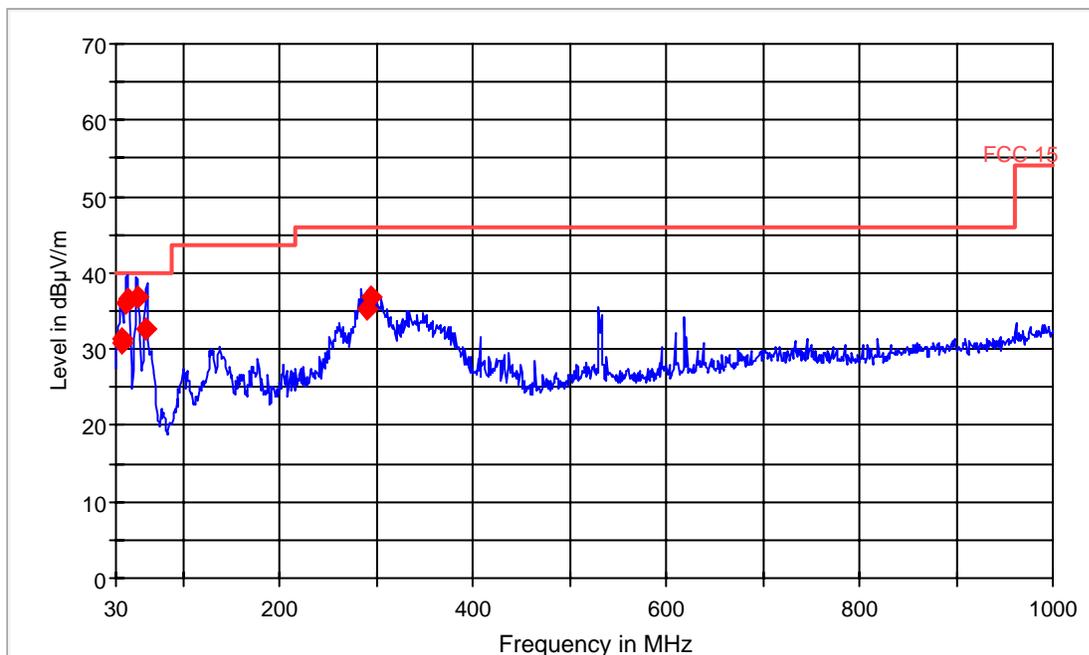
30MHz – 1GHz; Chain AB

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



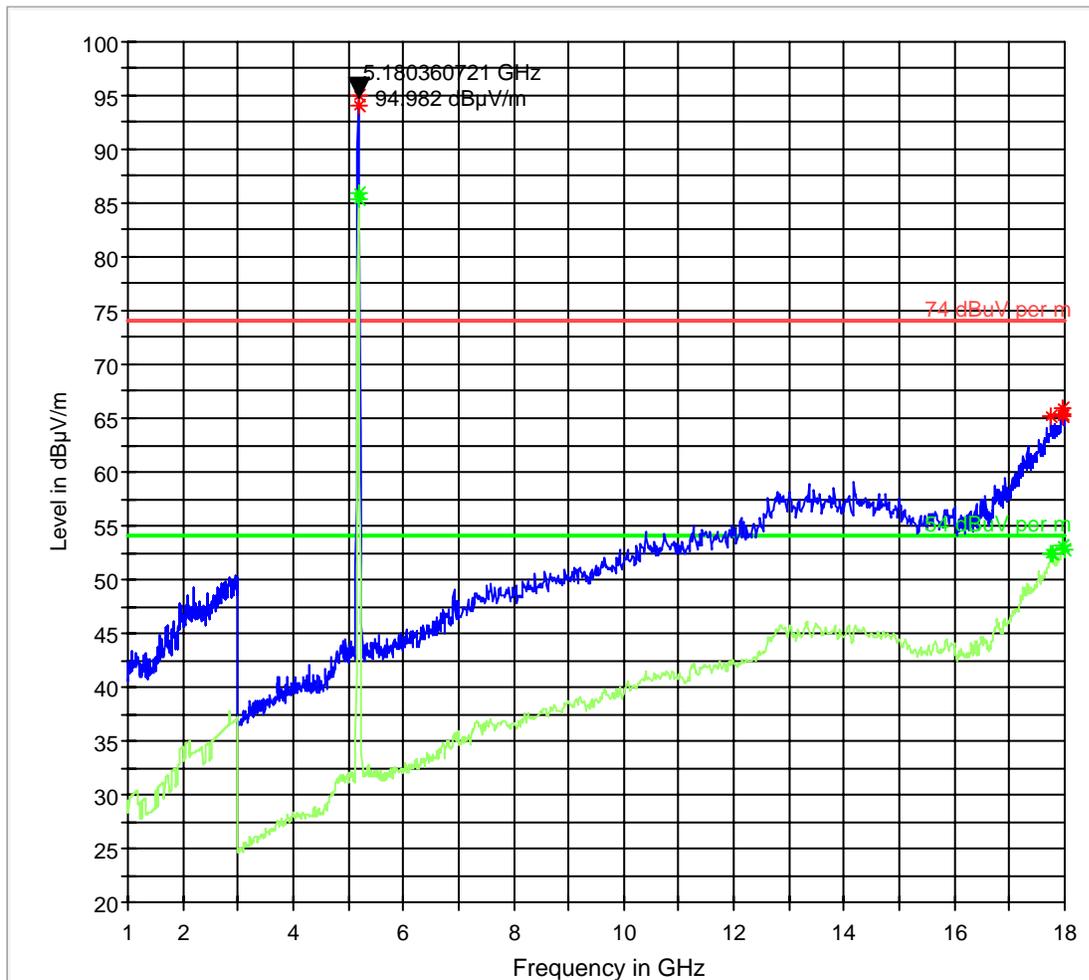
— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



1-18GHz (5190MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



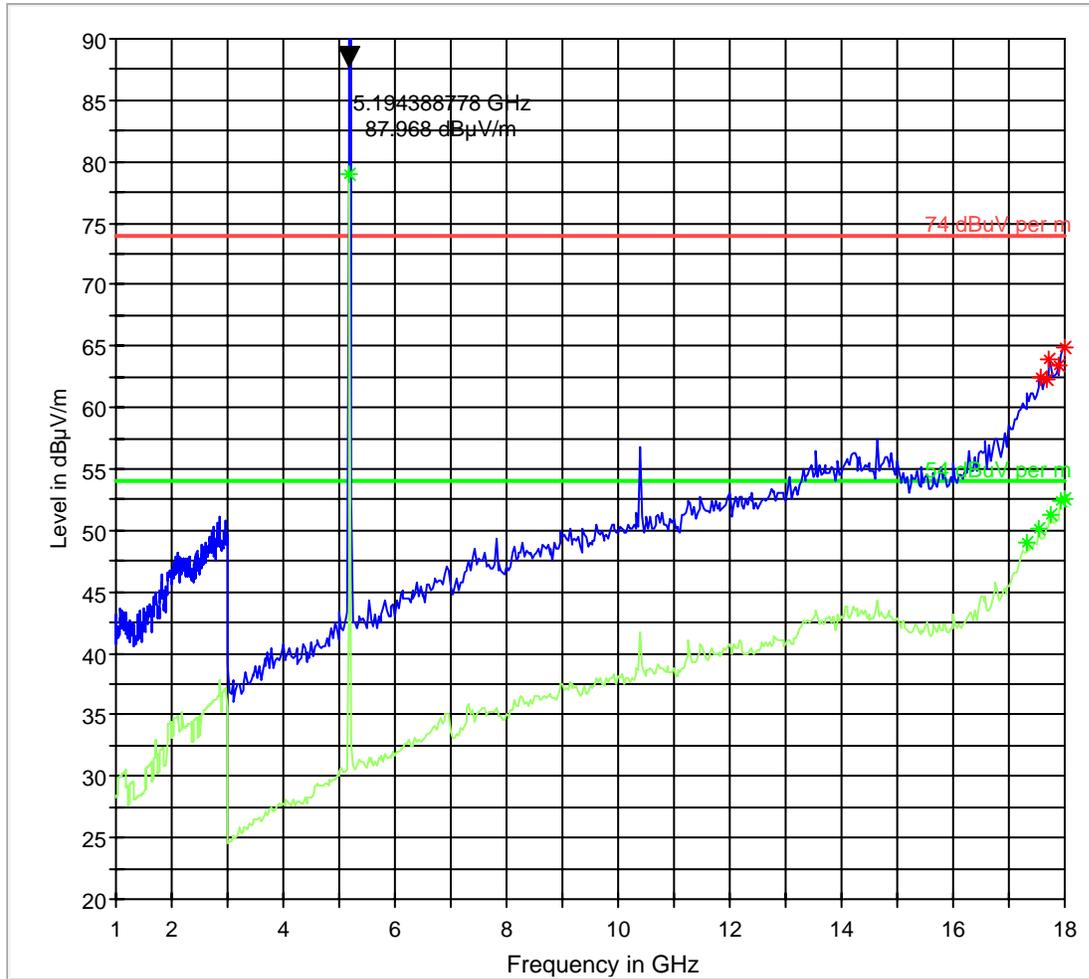
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5190MHz) 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 2

54 dBuV per m.LimitLine
* Data Reduction 1 [2]

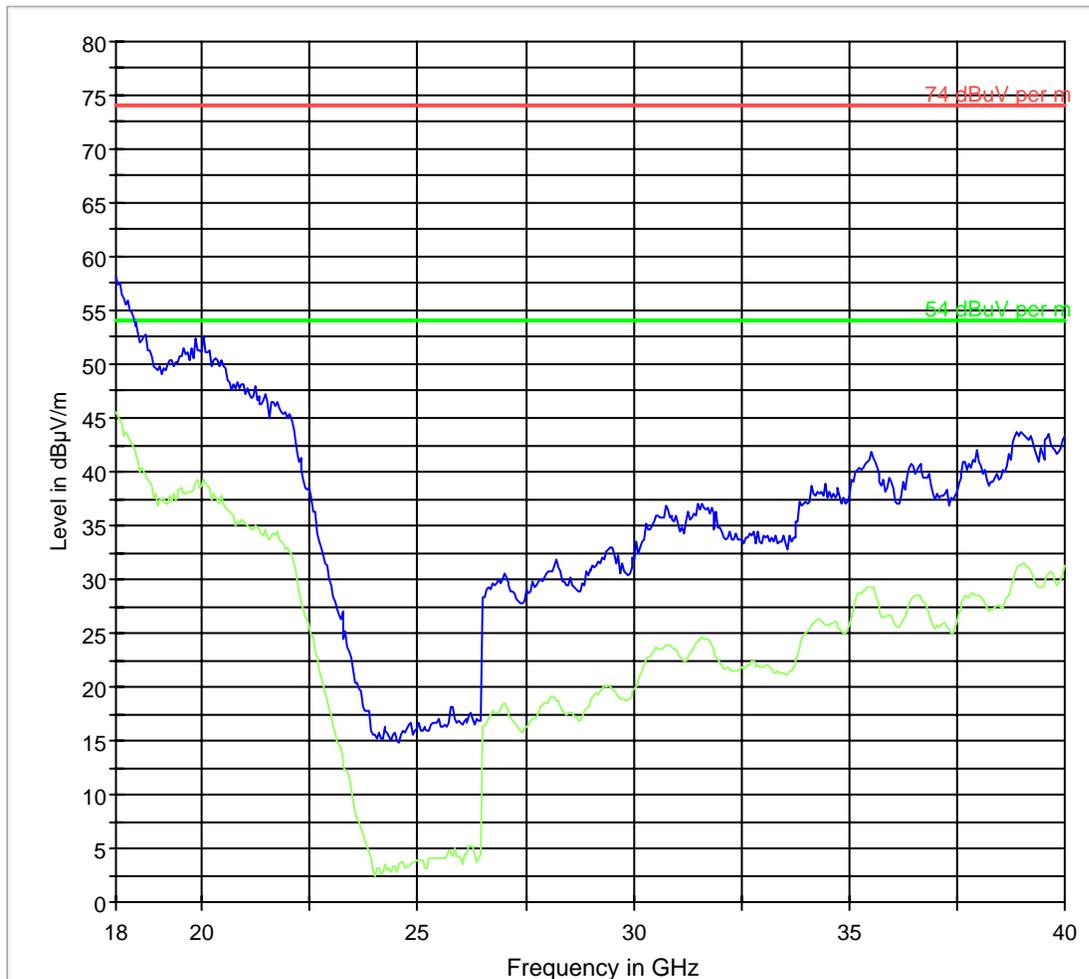
Preview Result 1
* Data Reduction 2 [2]



18-40 GHz (5190MHz) 802.11n 40MHz chain A

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

FCC 15 18-40GHz



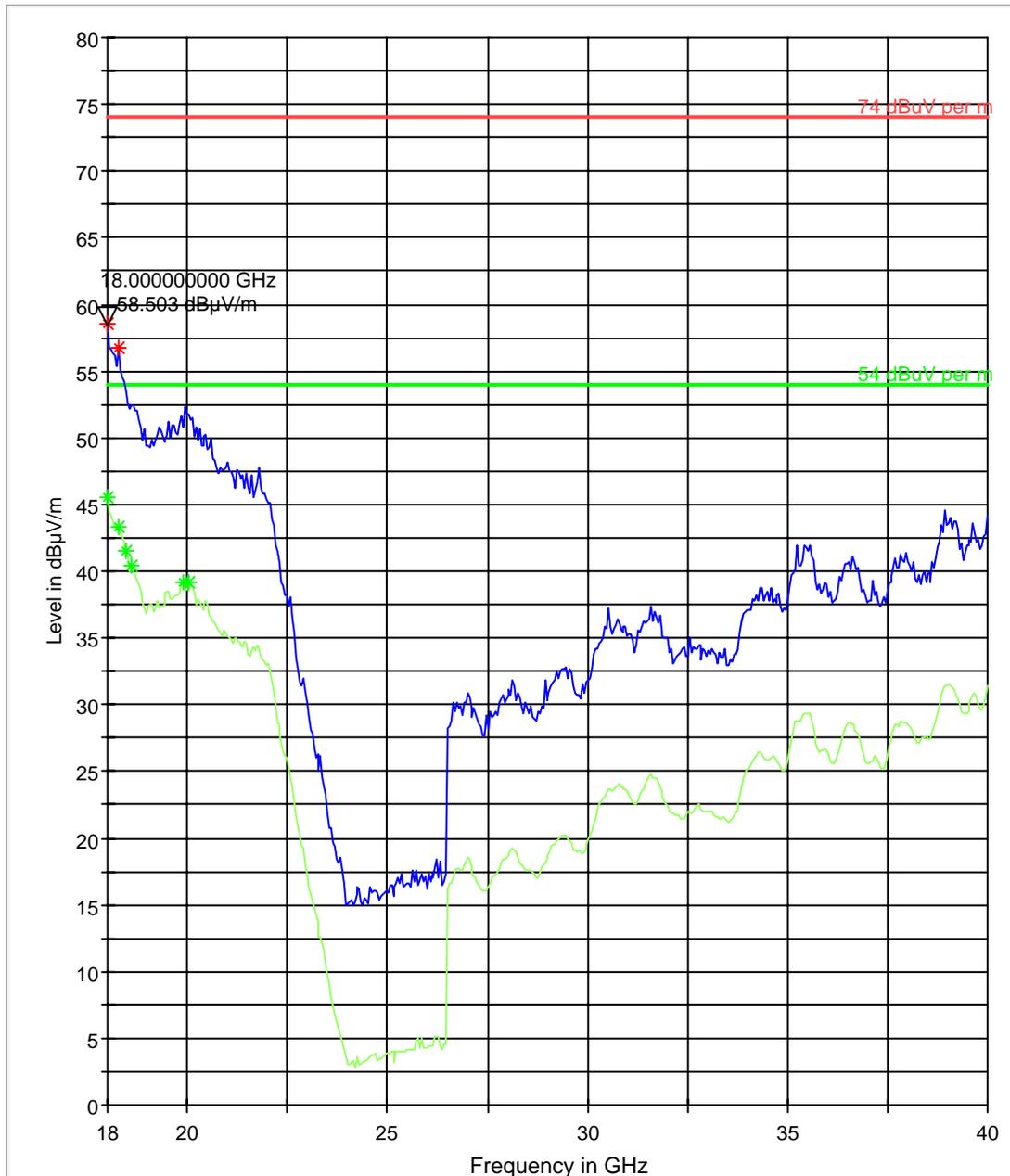
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



18-40GHz (5190MHz) 802.11n 40MHz chain B

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

FCC 15 18-40GHz



74 dBuV per m.LimitLine
Preview Result 2

54 dBuV per m.LimitLine
* Data Reduction 1 [6]

Preview Result 1
* Data Reduction 2 [6]



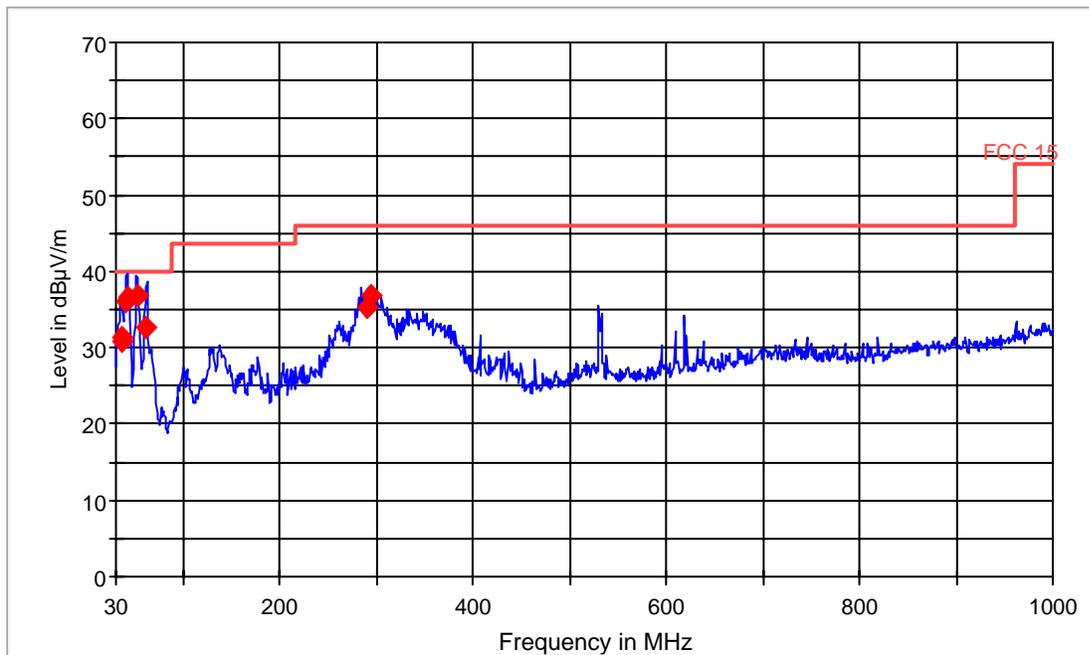
5.3.6 Sub-band 2 802.11n HT40 MODE

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



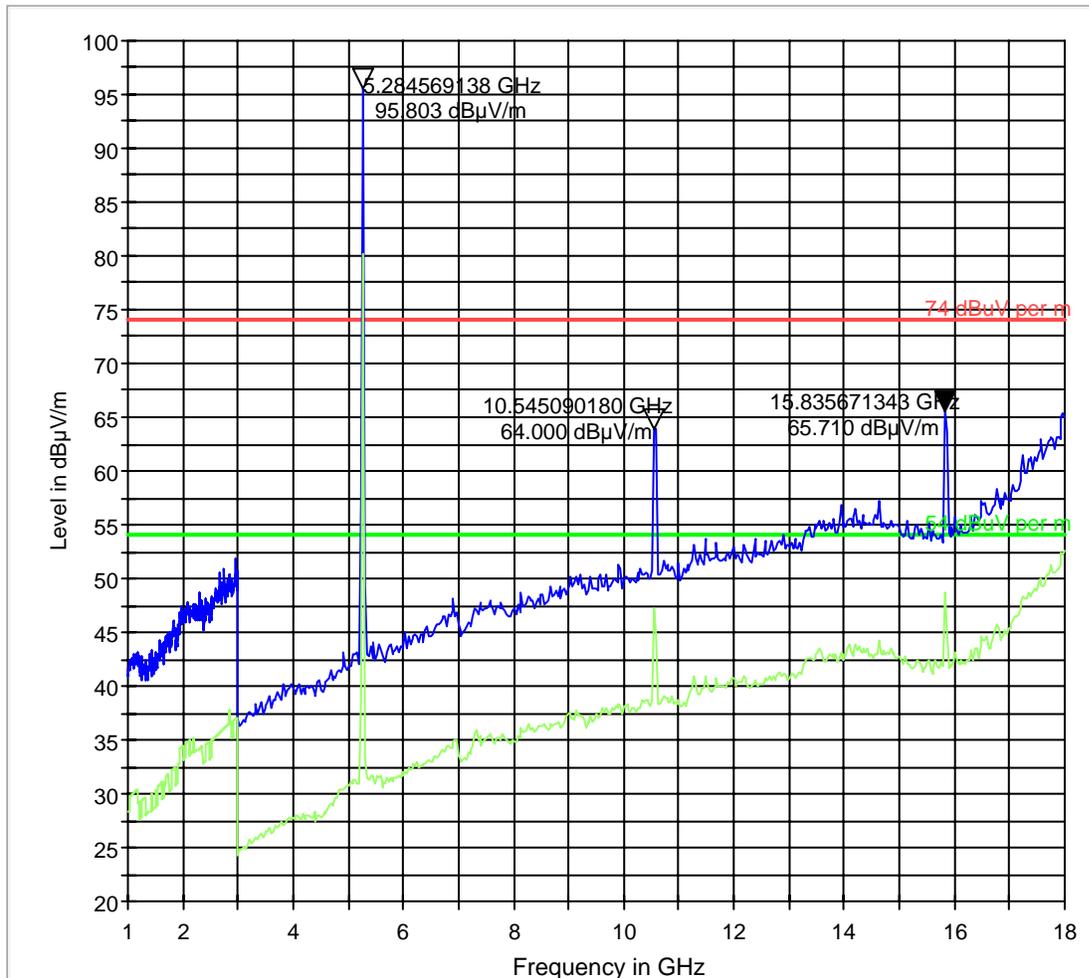
— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



1-18GHz (5270MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



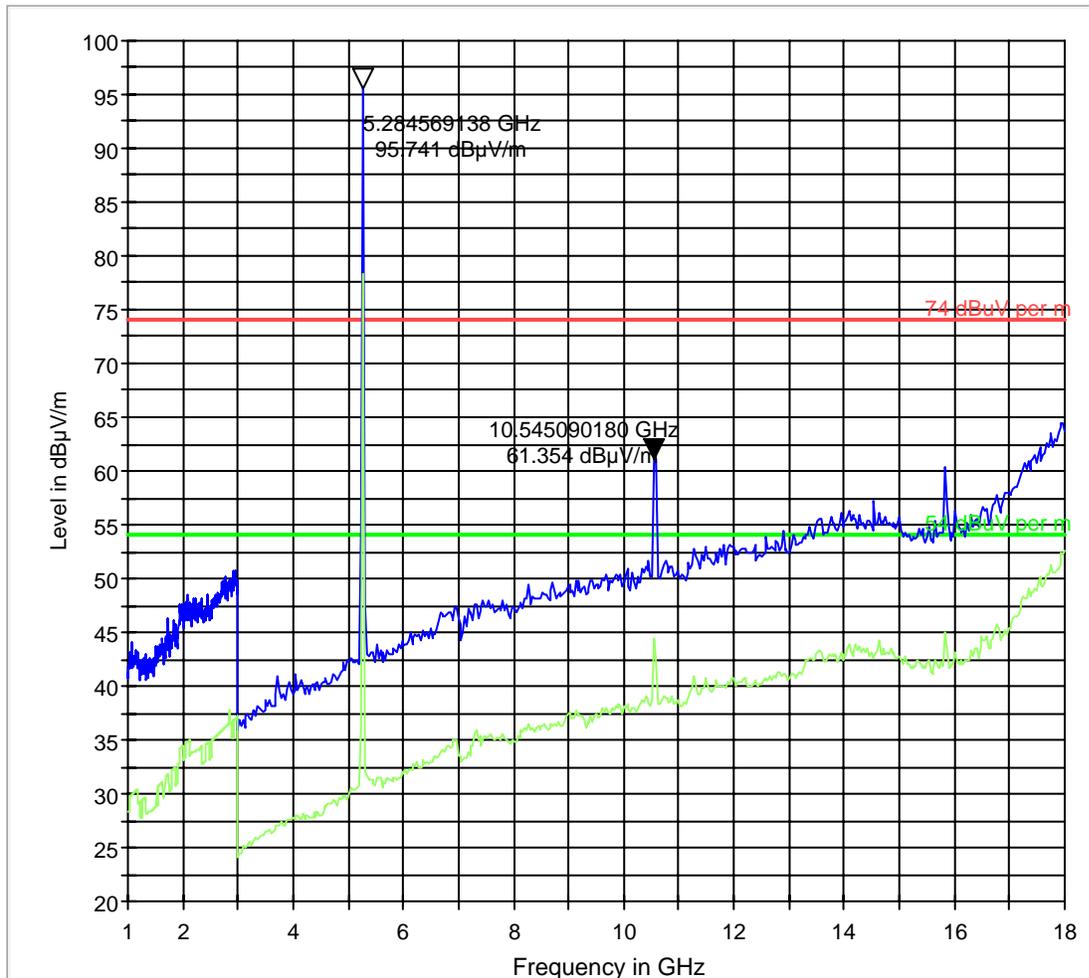
74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2



1-18GHz (5270MHz) 802.11n 40MHz chain B

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

FCC 15 1-18GHz



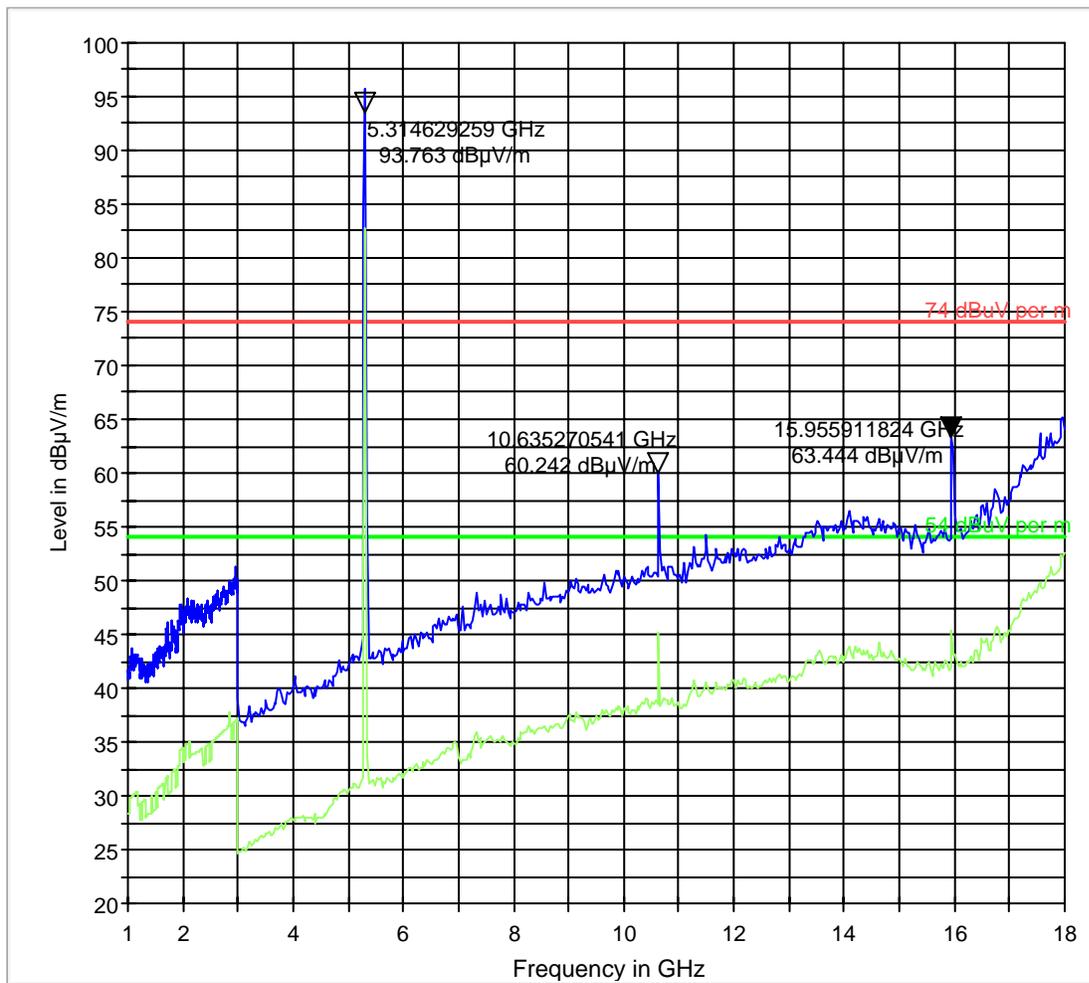
74 dBuV per m.LimitLine
54 dBuV per m.LimitLine
Preview Result 1
Preview Result 2



1-18GHz (5310MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



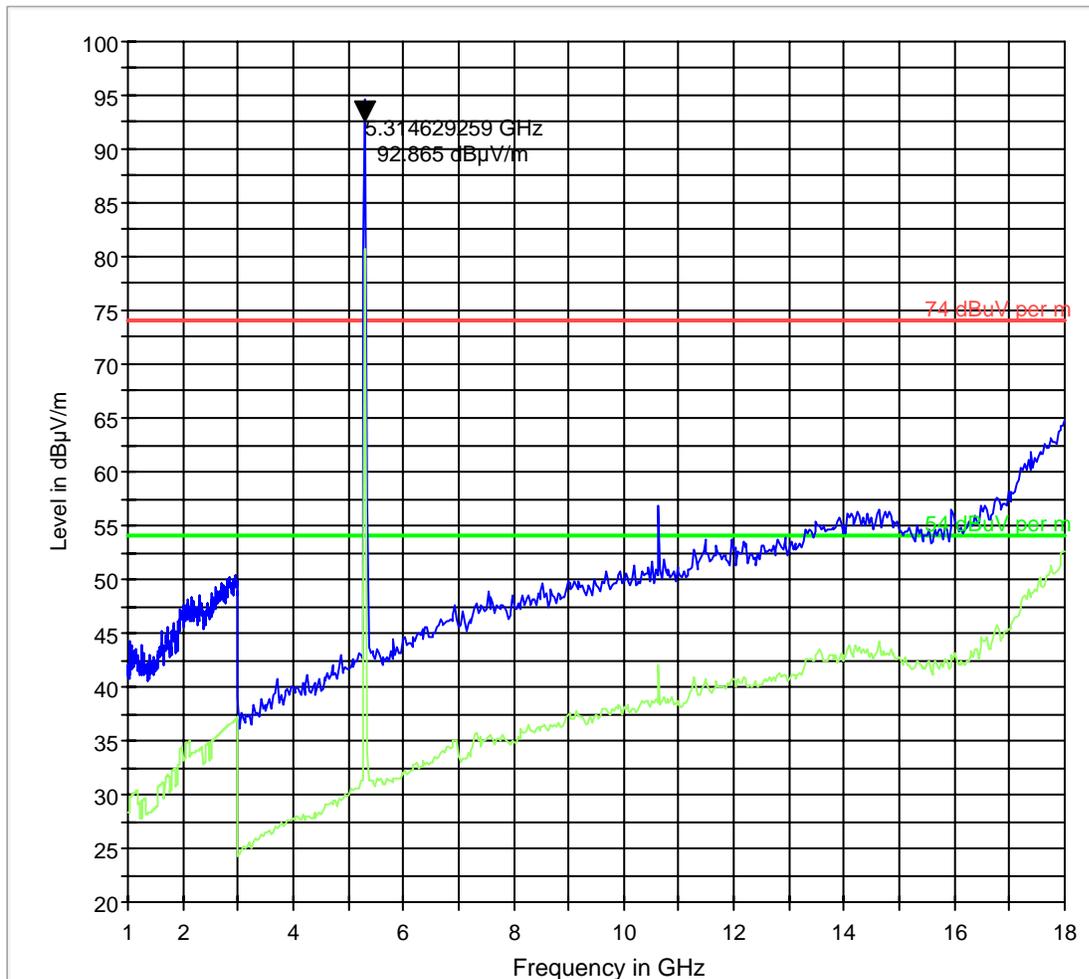
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



1-18GHz (5310MHz) 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
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



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

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

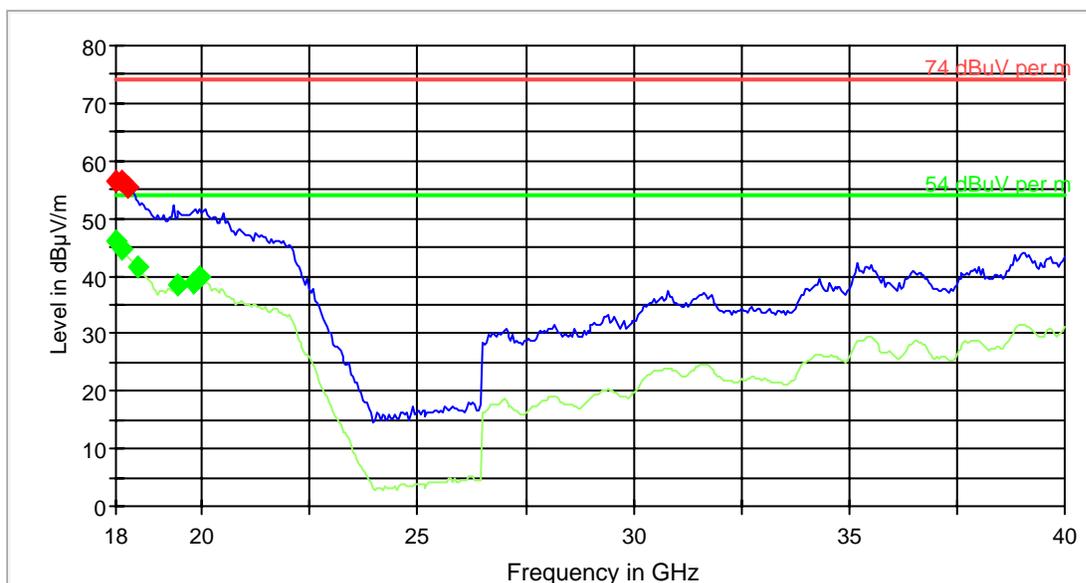
Final Result 1

| 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



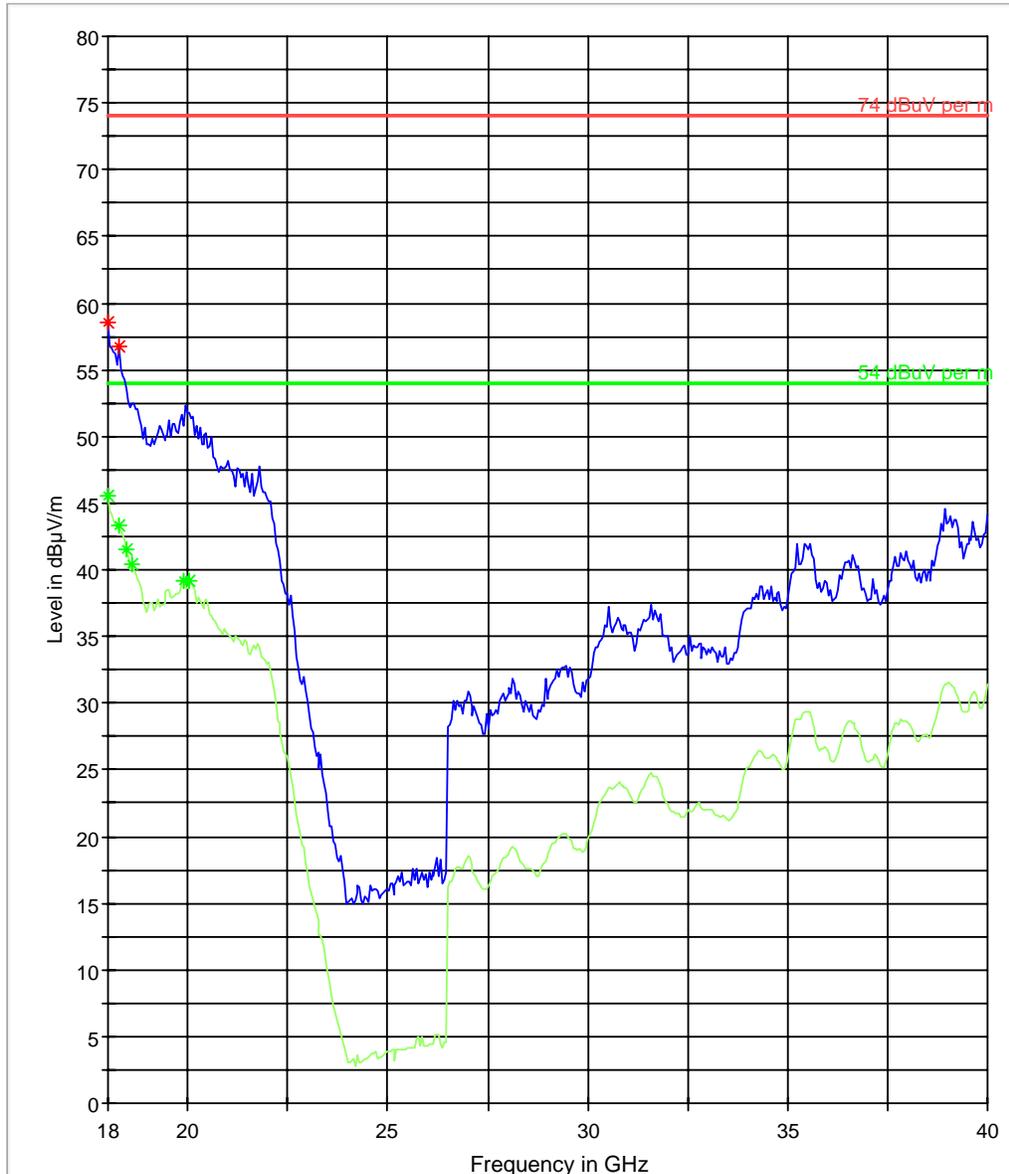
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- ◆ Final Result 1
- ◆ Final Result 2



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

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

FCC 15 18-40GHz





5.3.7 Sub-band 3 802.11n HT40 MODE

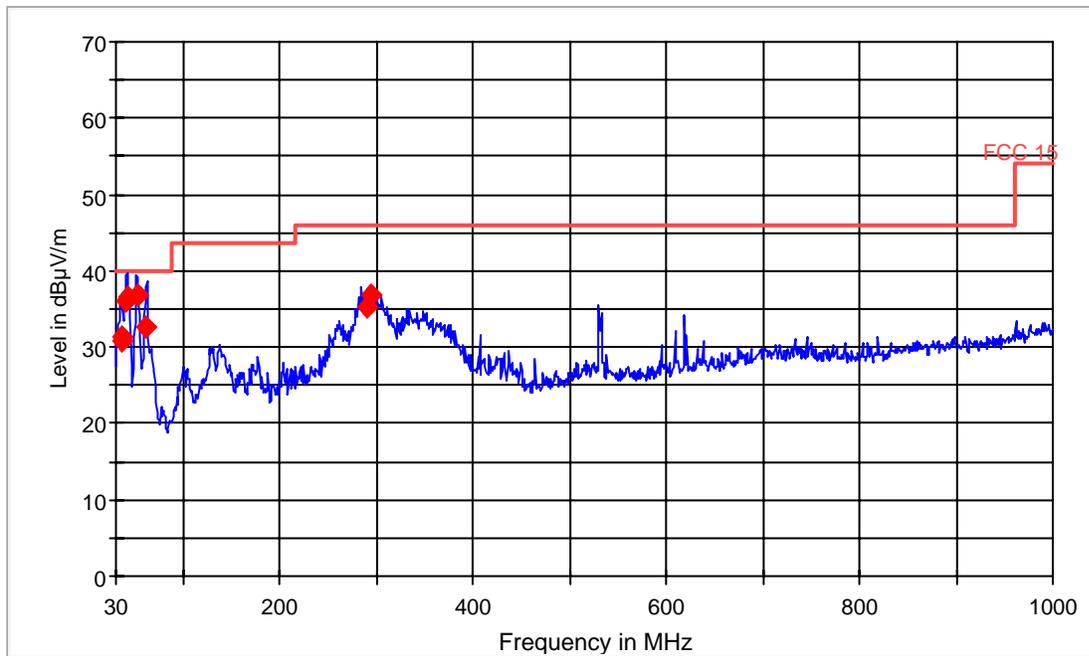
30MHz – 1GHz, chain AB

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



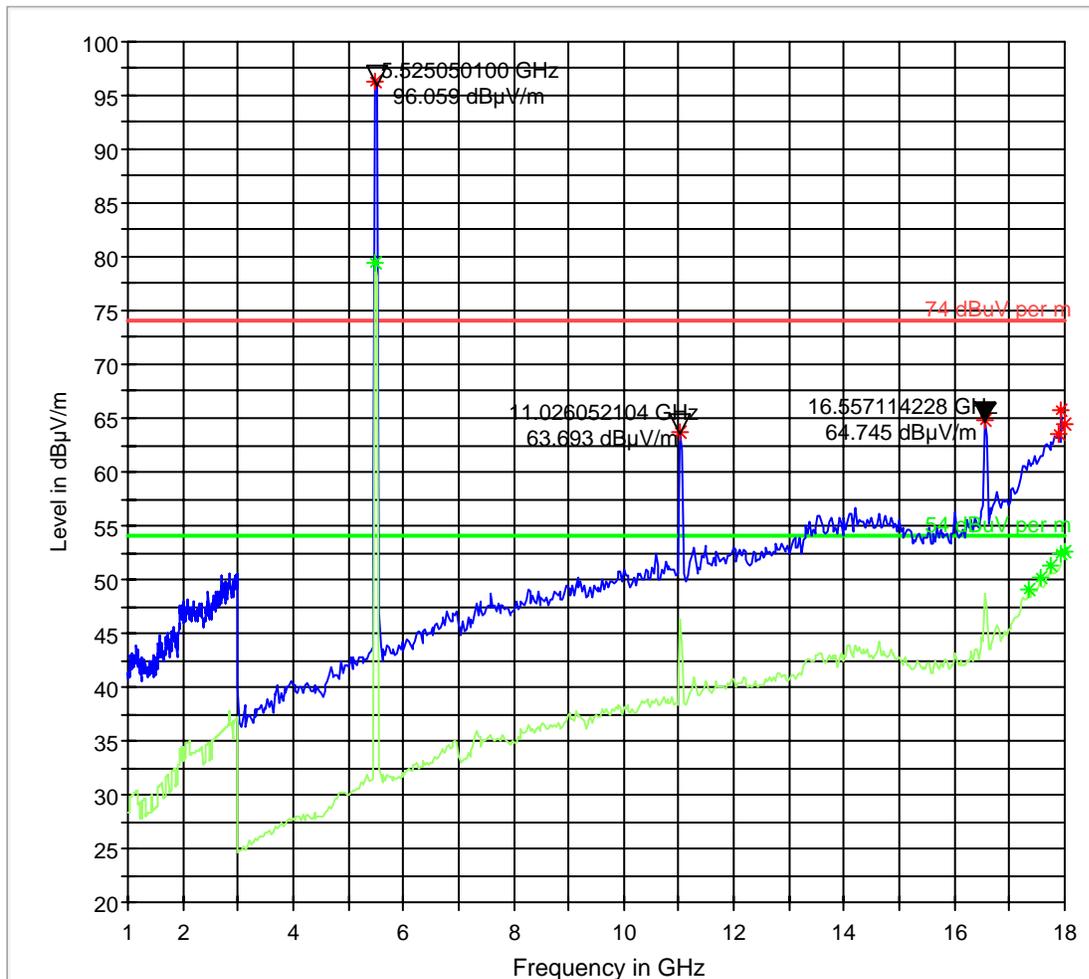
— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



1-18GHz (5510MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



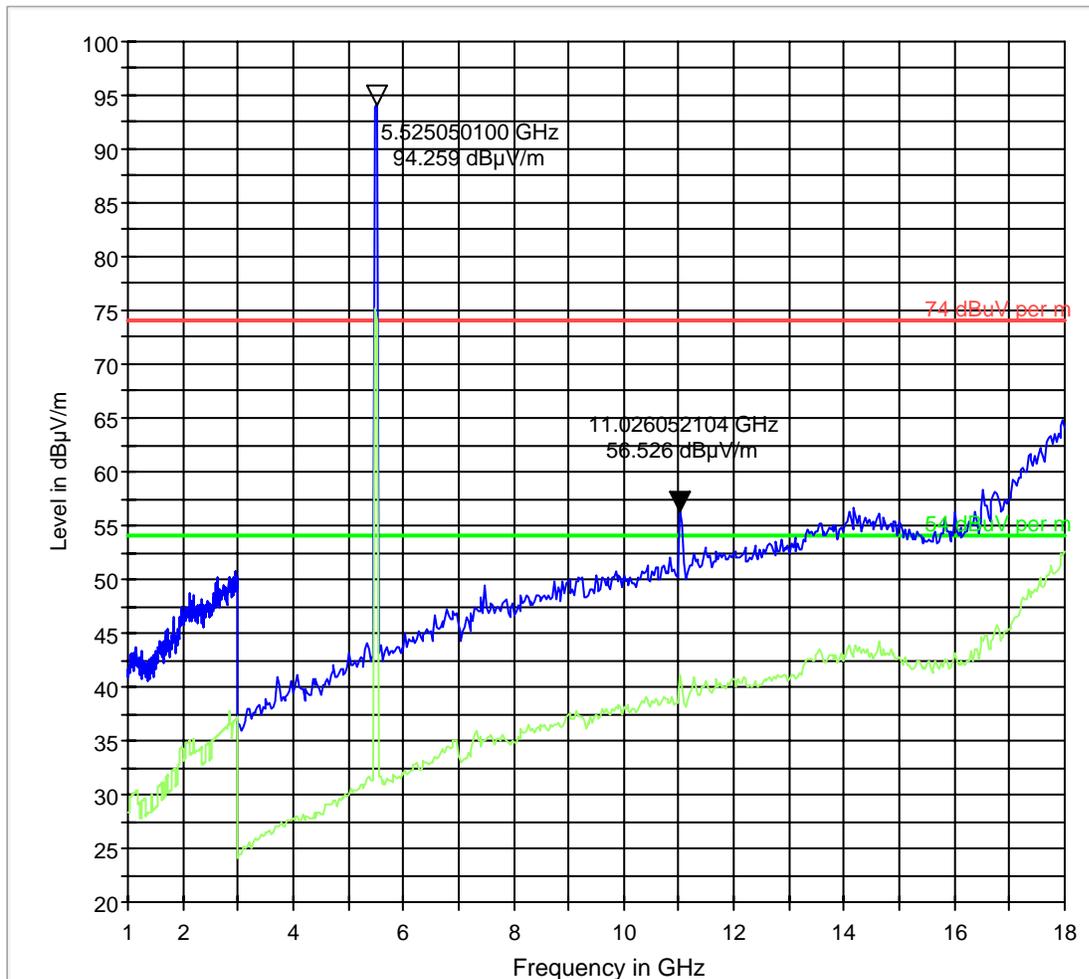
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



1-18GHz (5510MHz) 802.11n 40MHz chain B

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

FCC 15 1-18GHz



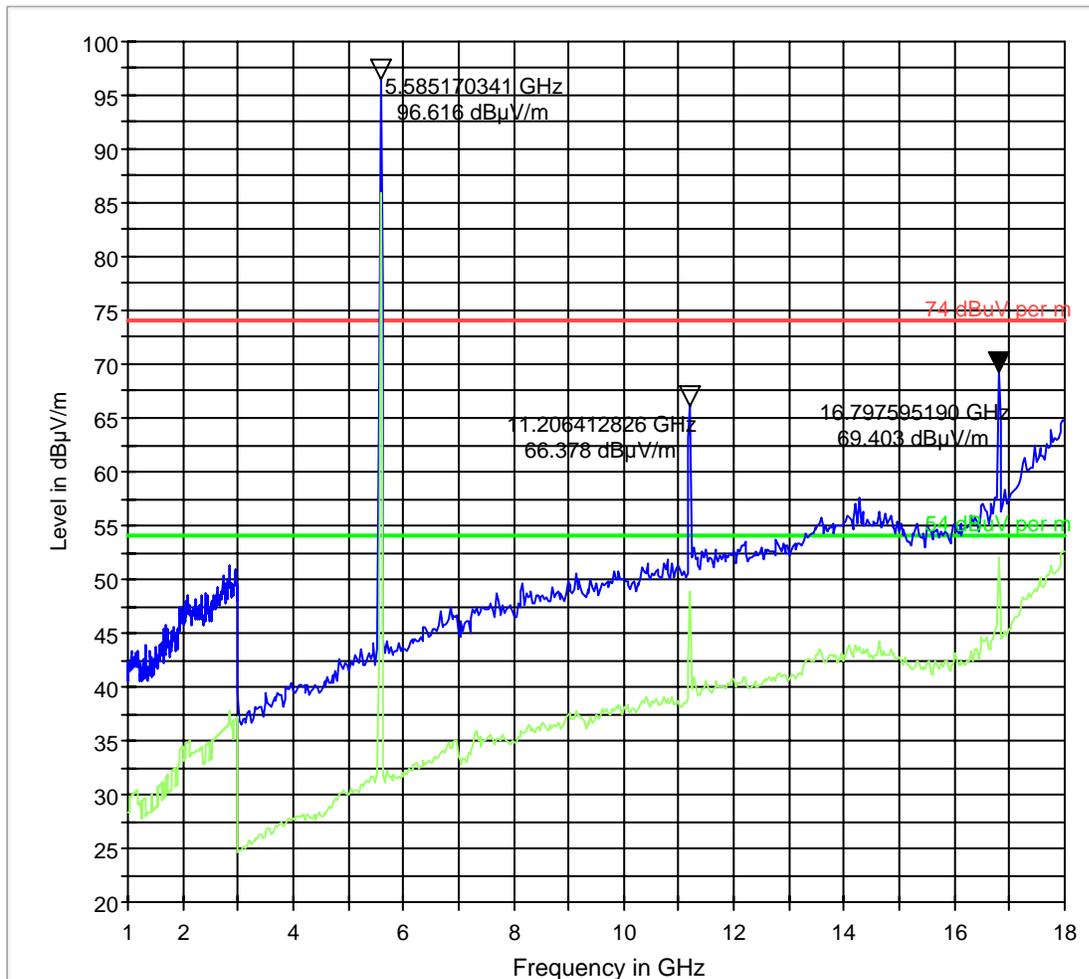
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



1-18GHz (5590MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



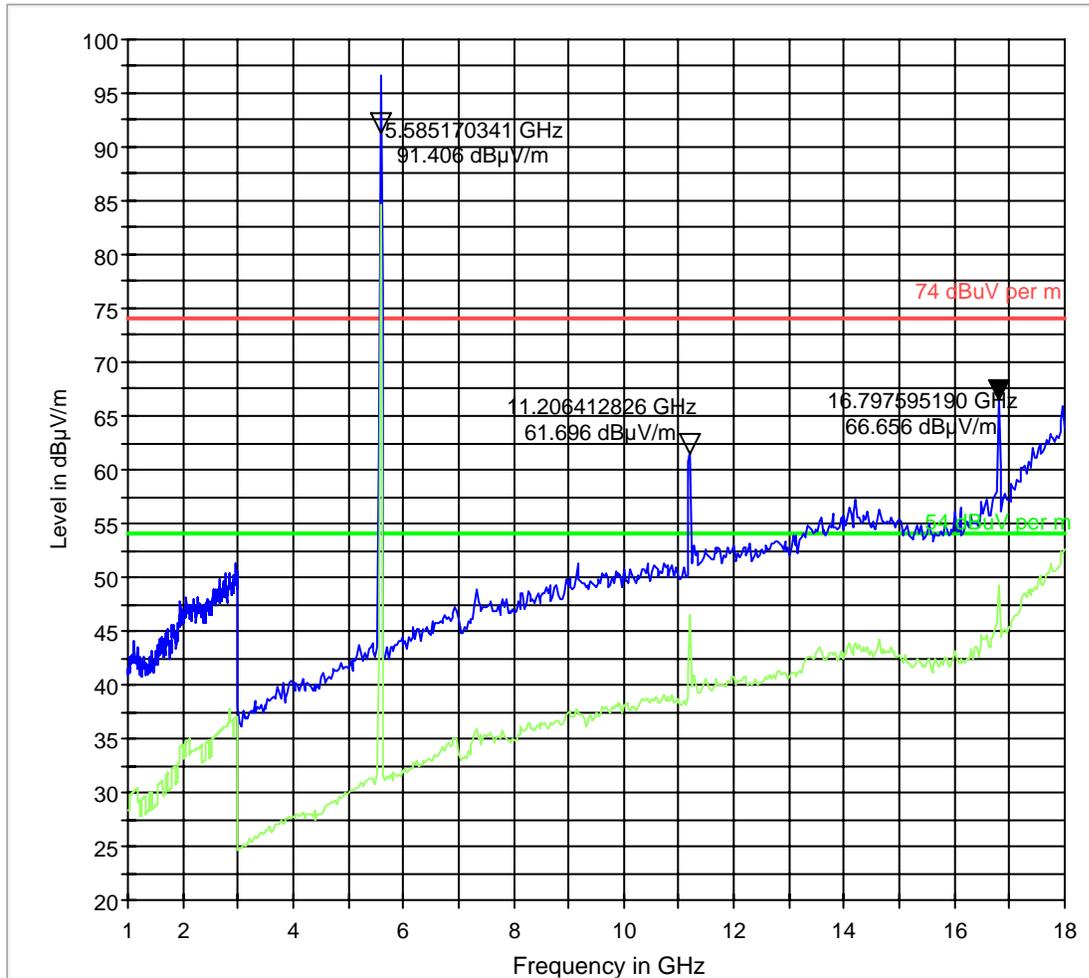
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



1-18GHz (5590MHz) 802.11n 40MHz chain B

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

FCC 15 1-18GHz



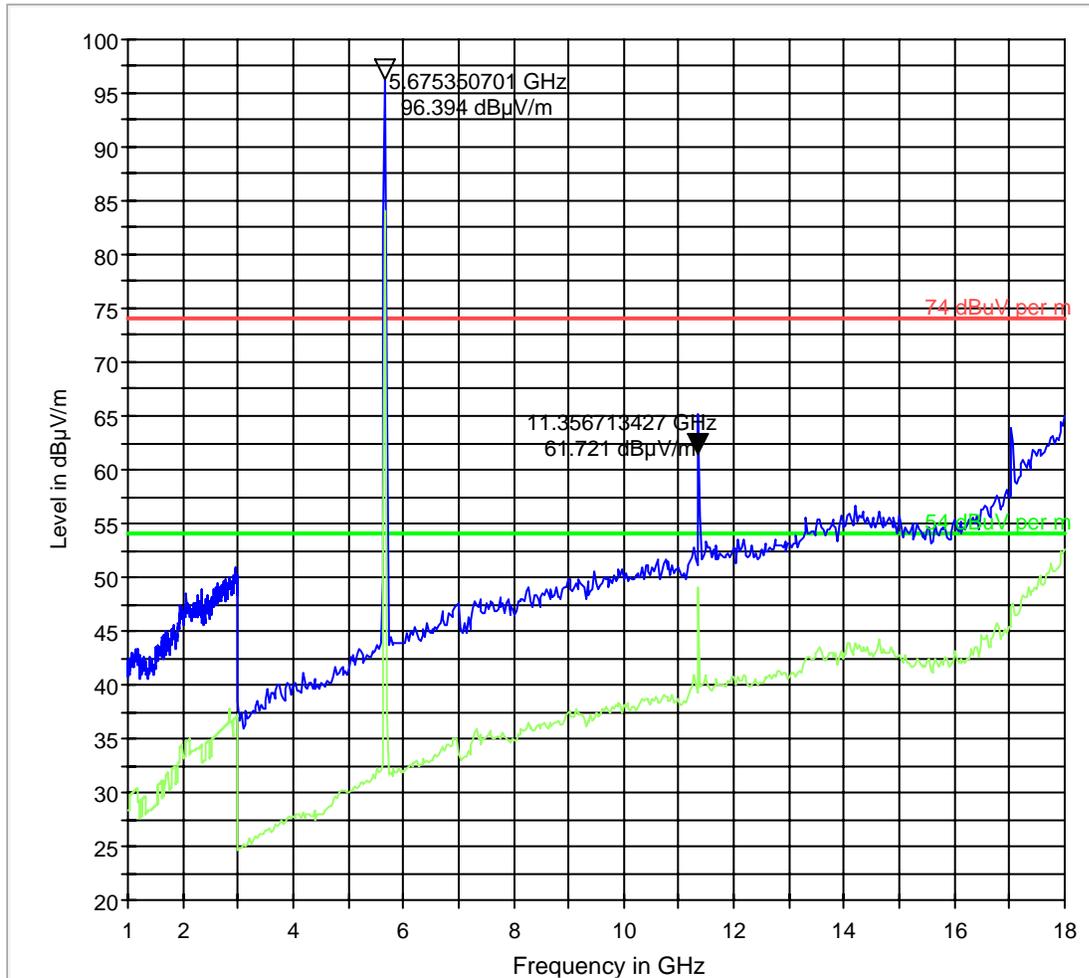
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



1-18GHz (5670MHz) 802.11n 40MHz chain A

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

FCC 15 1-18GHz



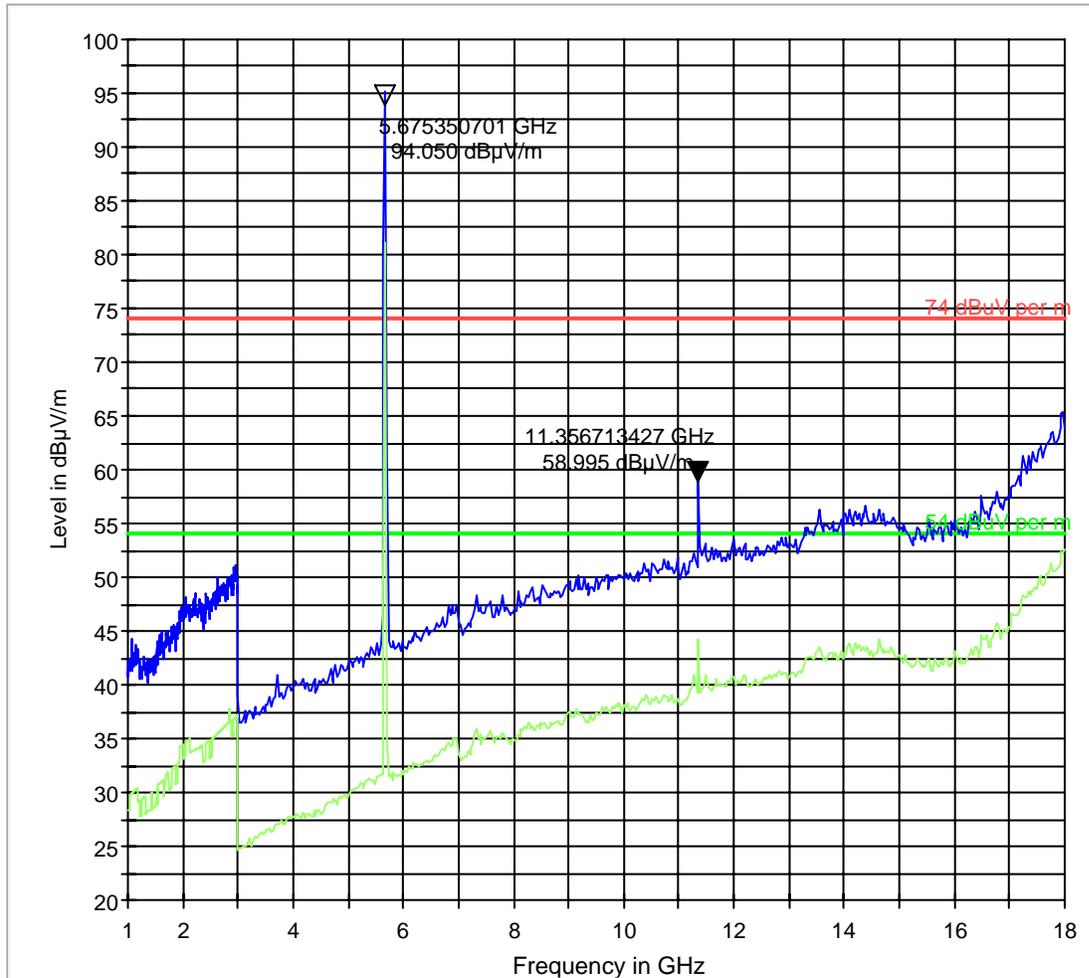
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



1-18GHz (5670MHz) 802.11n 40MHz chain B

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

FCC 15 1-18GHz



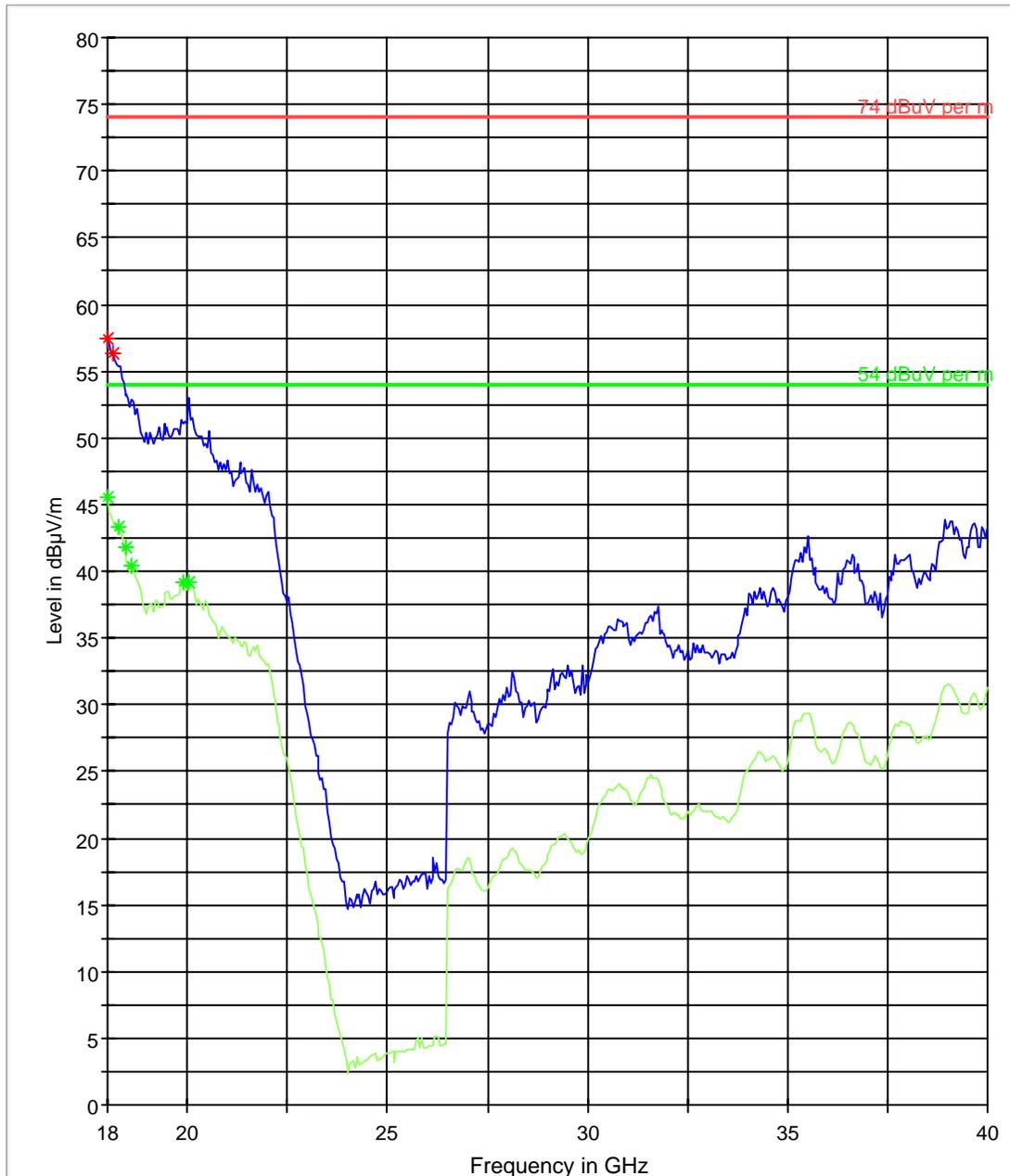
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2



18-40GHz (5590MHz) 802.11n 40MHz chain A

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

FCC 15 18-40GHz



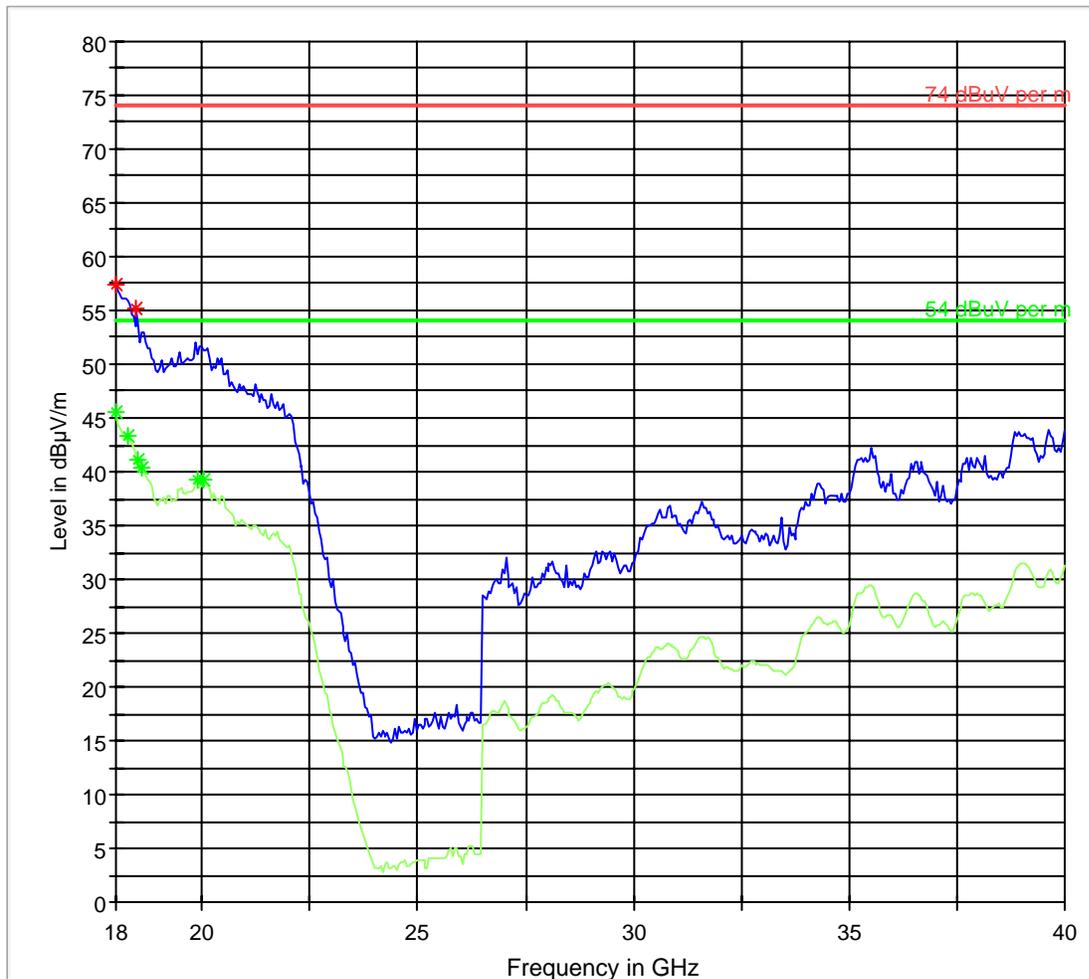
- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [6]
- * Data Reduction 2 [6]



18-40GHz (5590MHz) 802.11n 40MHz chain B

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

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]

5.4 Receiver Spurious Emission § 15.209/RSS210

5.4.1 Limits

| Frequency (MHz) | Field strength ($\mu\text{V/m}$) | 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

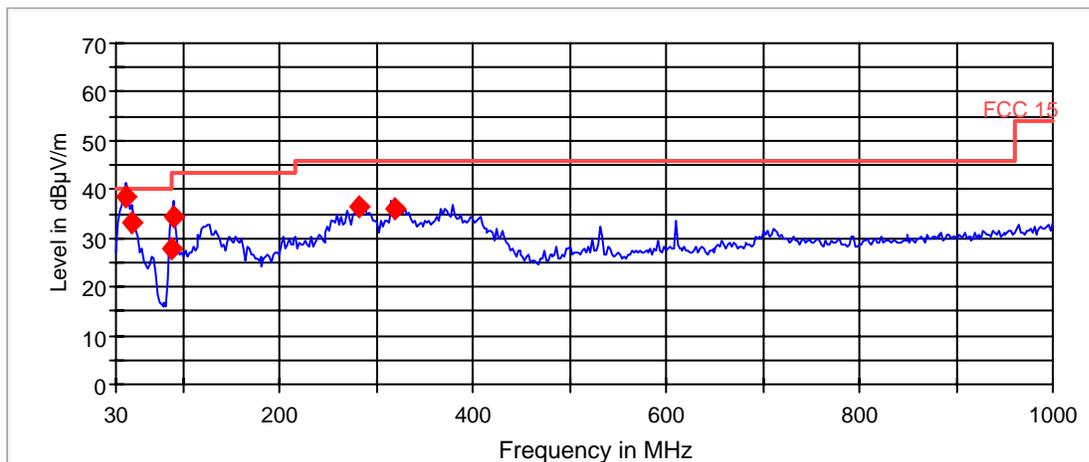
Note: This plot is valid for low, mid, high channels (worst-case plot).

| 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 | |

FCC 15 30-1000MHz

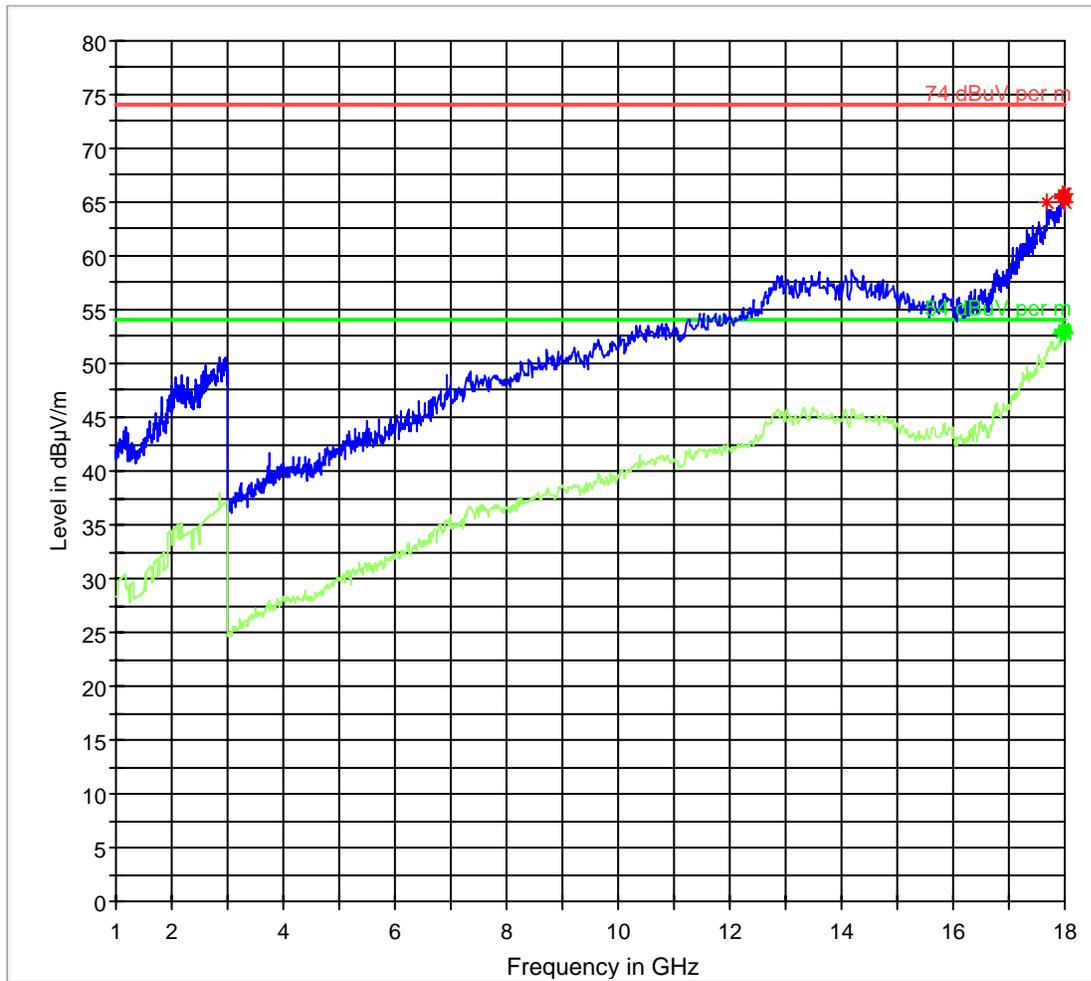


— FCC 15.LimitLine — Preview Result 1 ◆ Final Result 1



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

FCC 15 1-18GHz

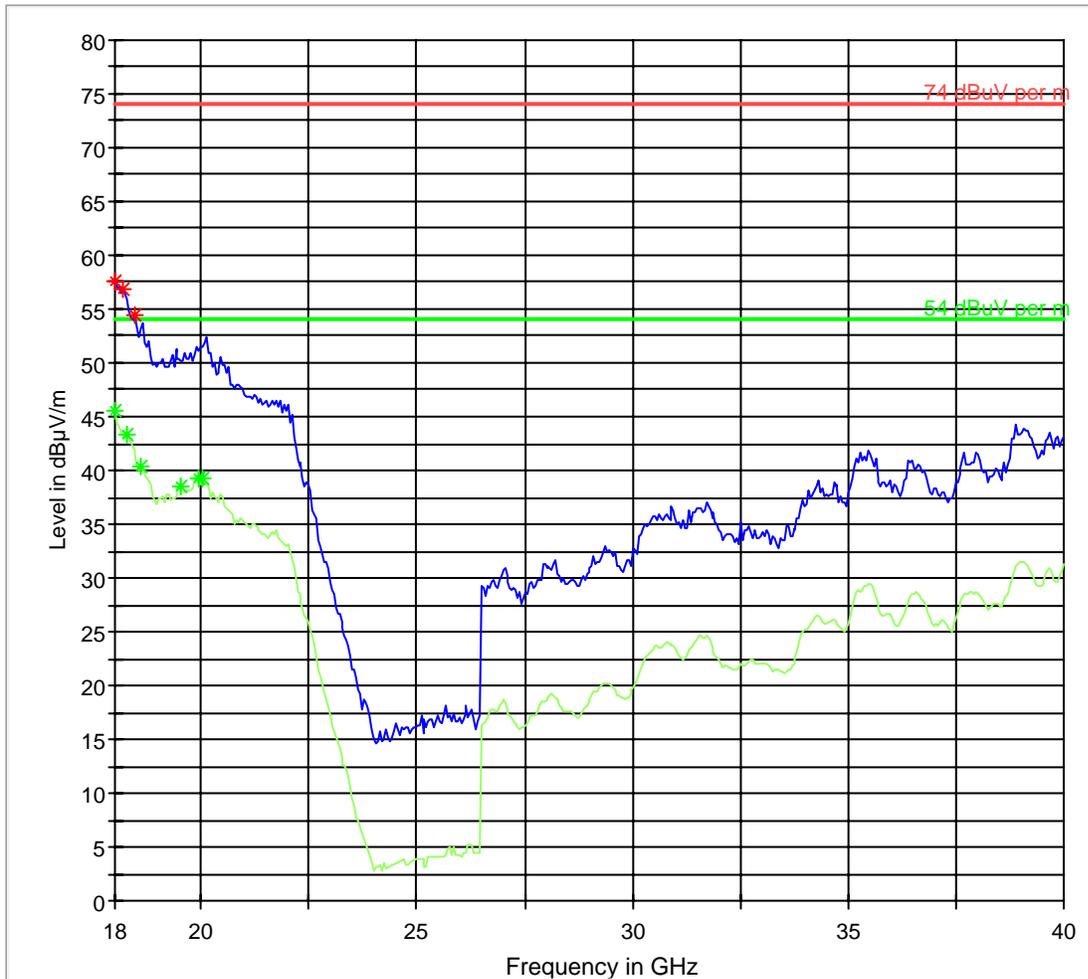


- 74 dBuV per m.LimitLine
- 54 dBuV per m.LimitLine
- Preview Result 1
- Preview Result 2
- * Data Reduction 1 [2]
- * Data Reduction 2 [2]



**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 μ H/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 (dB μ V) | |
|-----------------------------|------------------------------|-----------|
| | 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

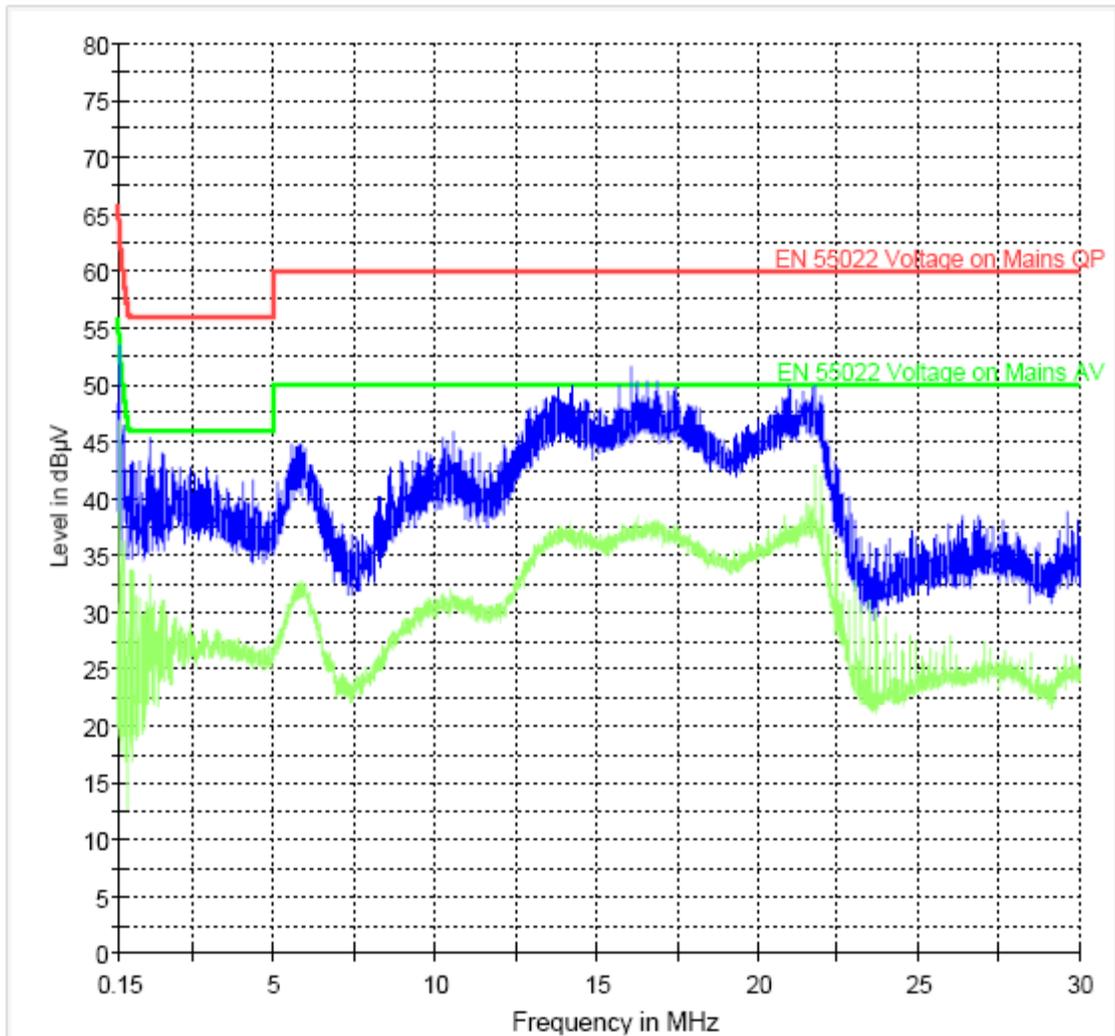


6.6.2 RESULTS

Sub-band 1 802.11n HT20

Note: Plot contains results of both Line and Neutral Measurements

CISPR 22 Mains Conducted



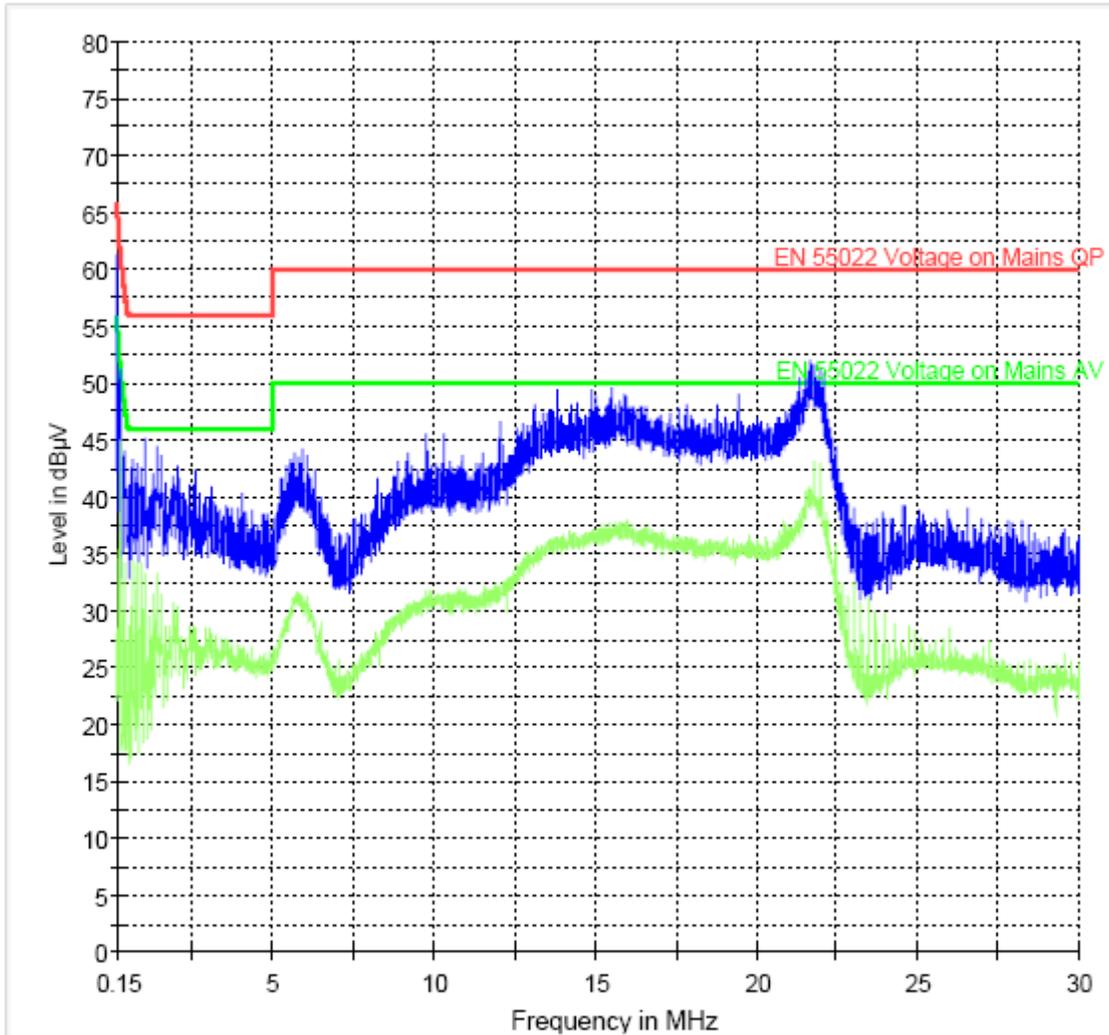
— EN 55022 Voltage on Mains QP LimitLine
— EN 55022 Voltage on Mains AV LimitLine
— Preview Result 1
— Preview Result 2



Sub-band 3 802.11n HT40

Note: Plot contains results of both Line and Neutral Measurements

CISPR 22 Mains Conducted



EN 55022 Voltage on Mains QP.LimitLine
Preview Result 1

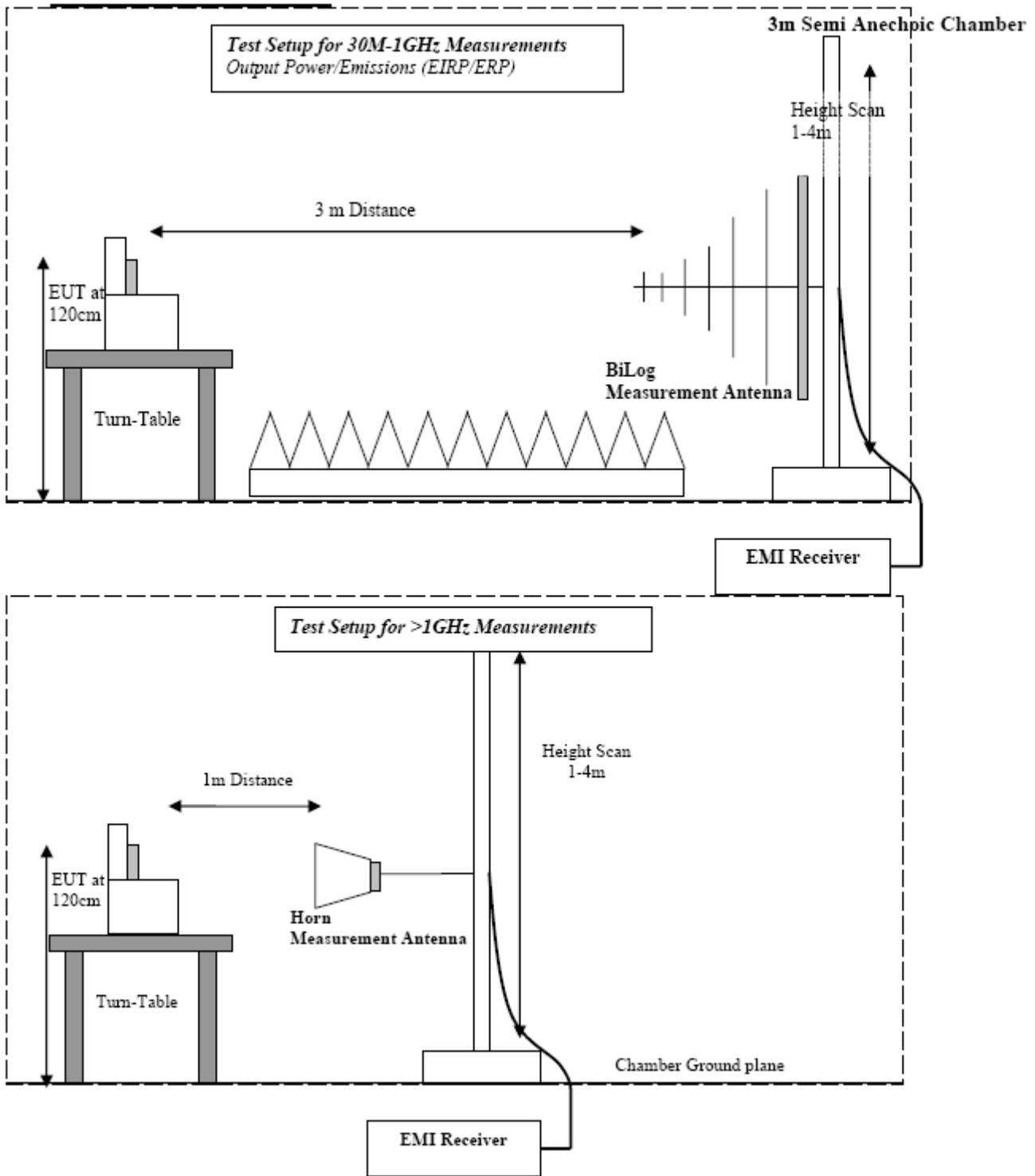
EN 55022 Voltage on Mains AV.LimitLine
Preview Result 2



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



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Date of Report: 2009-12-08

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9 Revision History

2009-12-08:

EMC_SONYE_034_09002_15.407_PCG-31112L: Original report