



## TEST REPORT

|                             |   |
|-----------------------------|---|
| Application No.:            | GZCR2203000258AT  |
| Applicant:                  | IVATIV, Inc   |
| Address of Applicant:       | 6141 Running Springs Rd, San Jose, CA 95135, USA  |
| Manufacturer:               | IVATIV, Inc   |
| Address of Manufacturer:    | 6141 Running Springs Rd, San Jose, CA 95135, USA  |
| Factory:                    | IVATIV, Inc   |
| Address of Factory:         | 6141 Running Springs Rd, San Jose, CA 95135, USA  |
| Equipment Under Test (EUT): |   |
| EUT Name:                   | BALI series   |
|                             | Wi-Fi 11abgn/ac + BT 5.0 module   |
| Model No.:                  | I950HCR0, I951HCR0, I950HC00, I951HC00 and I952HC00 ♣   |
| ♣                           | Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical. |
| Standard(s) :               | 47 CFR Part 15, Subpart E 15.407  |
| Date of Receipt:            | 2022-01-22  |
| Date of Test:               | 2022-03-02 to 2022-05-09  |
| Date of Issue:              | 2022-05-20  |

|              |       |
|--------------|-------|
| Test Result: | Pass* |
|--------------|-------|

\* In the configuration tested, the EUT complied with the standards specified above.

Ricky Liu  
Manager

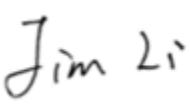


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| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2022-05-20 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                         |   |                         |  |
|-------------------------|---|-------------------------|--|
| Authorized for issue by |   |                         |  |
|                         |  | Jim Li                  |  |
|                         |   | Jim Li/Project Engineer |  |
|                         |  | Ricky Liu               |  |
|                         |   | Ricky Liu/Reviewer      |  |

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## 2 Test Summary

| <b>Radio Spectrum Technical Requirement</b> |                                  |               |                                      |               |
|---|----------------------------------|---------------|--------------------------------------|---------------|
| <b>Item</b>                                 | <b>Standard</b>                  | <b>Method</b> | <b>Requirement</b>                   | <b>Result</b> |
| Antenna Requirement                         | 47 CFR Part 15, Subpart E 15.407 | N/A           | 47 CFR Part 15, Subpart C 15.203     | Pass          |
| Transmission in the Absence of Data         |                                  | N/A           | 47 CFR Part 15, Subpart C 15.407 (c) | Pass          |

| <b>Radio Spectrum Matter Part</b>                     |                                  |                                 |  |               |
|---|----------------------------------|---------------------------------|--|---------------|
| <b>Item</b>   | <b>Standard</b>                  | <b>Method</b>                   | <b>Requirement</b>                             | <b>Result</b> |
| Conducted Emissions at AC Power Line (150kHz-30MHz)   | 47 CFR Part 15, Subpart E 15.407 | ANSI C63.10 (2013) Section 6.2  | 47 CFR Part 15, Subpart C 15.207 & 15.407 b(6) | Pass          |
| Duty Cycle  |                                  | ANSI C63.10 (2013) Section 12.2 | KDB 789033 D02 v02r01 II B 1                   | Pass          |
| 99% Bandwidth   |                                  | KDB 789033 II D                 | N/A  | Pass          |
| 26dB Emission bandwidth                               |                                  | KDB 789033 D02 II C 1           | 47 CFR Part 15, Subpart C 15.407 (a)           | Pass          |
| Minimum 6 dB bandwidth (5.725-5.85 GHz band)          |                                  | KDB 789033 D02 II C 2           | 47 CFR Part 15, Subpart C 15.407 (e)           | Pass          |
| Conducted Peak Output Power                           |                                  | KDB 789033 D02 II E             | 47 CFR Part 15, Subpart C 15.407 (a)           | Pass          |
| Maximum Power Spectral Density                        |                                  | KDB 789033 D02 II F             | 47 CFR Part 15, Subpart C 15.407 (a)           | Pass          |
| Radiated Emissions (below 1GHz)                       |                                  | KDB 789033 D02 II G             | 47 CFR Part 15, Subpart C 15.209 & 15.407(b)   | Pass          |
| Radiated Emissions which fall in the restricted bands |                                  | KDB 789033 D02 II G             | 47 CFR Part 15, Subpart C 15.209 & 15.407(b)   | Pass          |
| Frequency Stability                                   |                                  | ANSI C63.10 (2013) Section 6.8  | 47 CFR Part 15, Subpart C 15.407 (g)           | Pass          |
| Non-occupancy period                                  |                                  | KDB 905462 D02 Section 7.8.3    | KDB 905462 D02 Section 5.1                     | Pass          |
| Channel Move Time                                     |                                  | KDB 905462 D02 Section 7.8.3    | KDB 905462 D02 Section 5.1                     | Pass          |
| Channel Closing Transmission Time                     |                                  | KDB 905462 D02 Section 7.8.3    | KDB 905462 D02 Section 5.1                     | Pass          |
| Radiated Emissions (above 1GHz)                       |                                  | KDB 789033 D02 II G             | 47 CFR Part 15, Subpart C 15.209 & 15.407(b)   | Pass          |

**Note:**

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

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**Declaration of EUT Family Grouping:**

Model No.: I950HCR0, I951HCR0, I950HC00, I951HC00 and I952HC00

Only the Model No: I952HCR0 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components that affect RF and internal wiring and functions are identical for all the above models. only different on:

I950HCR0: Supports SDIO interface instead of USB

I951HCR0: Supports PCI interface instead of USB

I950HC00: Supports SDIO interface instead of USB and doesn't support BT

I951HC00: Supports PCI interface instead of USB and doesn't support BT

I952HC00: Supports USB interface and doesn't support BT

Clear directions of how to use EVIA without BT is given in documentation.

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## 4 General Information

### 4.1 Details of E.U.T.

|                              |   |
|------------------------------|---|
| Power supply:                | DC 3.3V   |
|                              | U-NII-1: 5180-5240MHz;  |
| Operation Frequency (20MHz): | U-NII-2A: 5260-5320MHz;<br>U-NII-2C: 5500-5700MHz;<br>U-NII-3: 5745-5825MHz   |
| Operation Frequency (40MHz): | U-NII-1: 5190-5230MHz;<br>U-NII-2A: 5270-5310MHz;<br>U-NII-2C: 5510-5670MHz;<br>U-NII-3: 5755-5795MHz   |
| Operation Frequency (80MHz): | U-NII-1: 5210MHz;<br>U-NII-2A: 5290MHz;<br>U-NII-2C: 5530-5610MHz;<br>U-NII-3: 5775MHz  |
| Modulation Type:             | 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK);<br>802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM);<br>802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)<br>802.11a/n(HT20)/ac(HT20): 20MHz; |
| Channel Spacing:             | 802.11n(HT40)/ac(HT40): 40MHz;<br>802.11ac(HT80): 80MHz   |
| DFS Function:                | Slave without Radar detection   |
| TPC Function:                | Without TPC function  |
| Antenna Type:                | Screw mount Dipole Antenna  |
| Antenna Gain:                | ANT1: 2.93dBi; ANT2: 2.93dBi<br>Note: SISO for Ant1 and Ant2  |

### 4.2 Description of Support Units

| Description      | Manufacturer       | Model No.             | Serial No.         |
|------------------|--------------------|-----------------------|--------------------|
| Adapter          | Apple              | A1443                 | REF. No. SEA05D11D |
| Test Motherboard | Provided by client | /                     | /                  |
| USB Cable        | SGS                | /                     | /                  |
| RF Cable         | SGS                | N/A(Cable loss:0.9dB) | N/A                |

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**4.3 Measurement Uncertainty**

| Test Item   | Measurement Uncertainty   |
|---|---|
| Conducted Emissions at AC Power Line (150kHz-30MHz)   | ±2.76dB   |
| Duty Cycle  | ± 0.37%   |
| 99% Bandwidth   | ± 3%  |
| 26dB Emission bandwidth                               | ± 3%  |
| Minimum 6 dB bandwidth (5.725-5.85 GHz band )         | ± 3%  |
| Conducted Peak Output Power                           | ± 0.75dB  |
| Maximum Power Spectral Density                        | ± 2.84dB  |
| Radiated Emissions (below 1GHz)                       | ±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m)  |
| Radiated Emissions which fall in the restricted bands | ±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m);± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz) |
| Frequency Stability                                   | ± 7.25 x 10-8   |
| Radiated Emissions (above 1GHz)                       | ± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz)  |

**4.4 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,  
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,  
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No tests were sub-contracted.

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## 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

## 4.6 Deviation from Standards

None

## 4.7 Abnormalities from Standard Conditions

None

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## 5 Equipment List

| Conducted Emissions at AC Power Line (150kHz-30MHz) |                   |                |              |            |              |
|---|-------------------|----------------|--------------|------------|--------------|
| Equipment   | Manufacturer      | Model No       | Inventory No | Cal Date   | Cal Due Date |
| Shielding Room                                      | ChangZhou ZhongYu | 8m x 3m x 3.8m | EMC0306      | N/A        | N/A          |
| Two-Line V-Network                                  | Rohde & Schwarz   | ENV216         | EMC0118      | 2021-12-23 | 2022-12-22   |
| Two-Line V-Network-GZ                               | Rohde & Schwarz   | ENV216         | EMC2135      | 2021-09-24 | 2022-09-23   |
| Coaxial Cable                                       | HangTianXing      | 2m             | EMC0107      | 2020-09-09 | 2022-09-08   |
| Test Software E3c                                   | Audix             | Ver. 5.4.1221b | GZE100-62    | N/A        | N/A          |
| EMI Test Receiver(9kHz-3.6GHz)                      | Rohde & Schwarz   | ESR3           | EMC2221      | 2021-06-01 | 2022-05-31   |

| Duty Cycle                               |                      |             |              |                          |                          |
|--|----------------------|-------------|--------------|--------------------------|--------------------------|
| Equipment                                | Manufacturer         | Model No    | Inventory No | Cal Date                 | Cal Due Date             |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A      | SEM004-10    | 2021-03-02               | 2022-03-01               |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C      | SEM006-15    | 2021-09-23               | 2022-09-22               |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B      | SEM006-04    | 2021-07-12               | 2022-07-11               |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19               | 2022-05-18               |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19               | 2022-05-18               |
| EXA Signal Analyzer(10Hz-44GHz)          | Agilent Technologies | N9010A      | EMC2138      | 2021-09-16               | 2022-09-15               |
| 6dB Attenuator                           | HP                   | 8491A       | EMC2062      | 2020-04-15<br>2022-04-13 | 2022-04-14<br>2023-04-12 |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2136      | 2021-11-01               | 2023-11-01               |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2137      | 2021-11-01               | 2023-11-01               |
| Test Software                            | TST                  | V2.0        | GZE100-78    | N/A                      | N/A                      |

| 99% Bandwidth                            |                      |          |              |            |              |
|--|----------------------|----------|--------------|------------|--------------|
| Equipment                                | Manufacturer         | Model No | Inventory No | Cal Date   | Cal Due Date |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A   | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C   | SEM006-15    | 2021-09-23 | 2022-09-22   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B   | SEM006-04    | 2021-07-12 | 2022-07-11   |



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|                                 |                      |             |           |            |            |
|---------------------------------|----------------------|-------------|-----------|------------|------------|
| Power Meter (U2021XA_Ch2)       | Agilent Technologies | U2021XA_Ch2 | SEM009-02 | 2021-05-19 | 2022-05-18 |
| Power Meter (U2021XA_Ch3)       | Agilent Technologies | U2021XA_Ch3 | SEM009-03 | 2021-05-19 | 2022-05-18 |
| EXA Signal Analyzer(10Hz-44GHz) | Agilent Technologies | N9010A      | EMC2138   | 2021-09-16 | 2022-09-15 |
| 6dB Attenuator                  | HP                   | 8491A       | EMC2062   | 2020-04-15 | 2022-04-14 |
|                                 |                      |             |           | 2022-04-13 | 2023-04-12 |
| MI CABLE                        | SGS-EMC              | 0.8M        | EMC2136   | 2021-11-01 | 2023-11-01 |
| MI CABLE                        | SGS-EMC              | 0.8M        | EMC2137   | 2021-11-01 | 2023-11-01 |
| Test Software                   | TST                  | V2.0        | GZE100-78 | N/A        | N/A        |

**26dB Emission bandwidth**

| Equipment                                | Manufacturer         | Model No    | Inventory No | Cal Date   | Cal Due Date |
|--|----------------------|-------------|--------------|------------|--------------|
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A      | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C      | SEM006-15    | 2021-09-23 | 2022-09-22   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B      | SEM006-04    | 2021-07-12 | 2022-07-11   |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19 | 2022-05-18   |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19 | 2022-05-18   |
| EXA Signal Analyzer(10Hz-44GHz)          | Agilent Technologies | N9010A      | EMC2138      | 2021-09-16 | 2022-09-15   |
| 6dB Attenuator                           | HP                   | 8491A       | EMC2062      | 2020-04-15 | 2022-04-14   |
|  |                      |             |              | 2022-04-13 | 2023-04-12   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2136      | 2021-11-01 | 2023-11-01   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2137      | 2021-11-01 | 2023-11-01   |
| Test Software                            | TST                  | V2.0        | GZE100-78    | N/A        | N/A          |

**Minimum 6 dB bandwidth (5.725-5.85 GHz band)**

| Equipment                                | Manufacturer         | Model No | Inventory No | Cal Date   | Cal Due Date |
|--|----------------------|----------|--------------|------------|--------------|
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A   | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C   | SEM006-15    | 2021-09-23 | 2022-09-22   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B   | SEM006-04    | 2021-07-12 | 2022-07-11   |

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|                                   |                         |             |           |            |            |
|-----------------------------------|-------------------------|-------------|-----------|------------|------------|
| Power Meter<br>(U2021XA_Ch2)      | Agilent<br>Technologies | U2021XA_Ch2 | SEM009-02 | 2021-05-19 | 2022-05-18 |
| Power Meter<br>(U2021XA_Ch3)      | Agilent<br>Technologies | U2021XA_Ch3 | SEM009-03 | 2021-05-19 | 2022-05-18 |
| EXA Signal<br>Analzer(10Hz-44GHz) | Agilent<br>Technologies | N9010A      | EMC2138   | 2021-09-16 | 2022-09-15 |
| 6dB Attenuator                    | HP                      | 8491A       | EMC2062   | 2020-04-15 | 2022-04-14 |
|                                   |                         |             |           | 2022-04-13 | 2023-04-12 |
| MI CABLE                          | SGS-EMC                 | 0.8M        | EMC2136   | 2021-11-01 | 2023-11-01 |
| MI CABLE                          | SGS-EMC                 | 0.8M        | EMC2137   | 2021-11-01 | 2023-11-01 |
| Test Software                     | TST                     | V2.0        | GZE100-78 | N/A        | N/A        |

**Conducted Peak Output Power**

| Equipment                                       | Manufacturer            | Model No    | Inventory No | Cal Date   | Cal Due Date |
|---|-------------------------|-------------|--------------|------------|--------------|
| MXA Signal<br>Analyzer(10Hz-8.4GHz)             | Agilent<br>Technologies | N9020A      | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal<br>Generator(250kHz-<br>6GHz) | Keysight                | E4438C      | SEM006-15    | 2021-09-23 | 2022-09-22   |
| EXG Analog Signal<br>Generator(9kHz-3GHz)       | Agilent<br>Technologies | N5171B      | SEM006-04    | 2021-07-12 | 2022-07-11   |
| Power Meter<br>(U2021XA_Ch2)                    | Agilent<br>Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19 | 2022-05-18   |
| Power Meter<br>(U2021XA_Ch3)                    | Agilent<br>Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19 | 2022-05-18   |
| EXA Signal<br>Analzer(10Hz-44GHz)               | Agilent<br>Technologies | N9010A      | EMC2138      | 2021-09-16 | 2022-09-15   |
| 6dB Attenuator                                  | HP                      | 8491A       | EMC2062      | 2020-04-15 | 2022-04-14   |
|   |                         |             |              | 2022-04-13 | 2023-04-12   |
| MI CABLE  | SGS-EMC                 | 0.8M        | EMC2136      | 2021-11-01 | 2023-11-01   |
| MI CABLE  | SGS-EMC                 | 0.8M        | EMC2137      | 2021-11-01 | 2023-11-01   |
| Test Software                                   | TST                     | V2.0        | GZE100-78    | N/A        | N/A          |

**Maximum Power Spectral Density**

| Equipment                                       | Manufacturer            | Model No | Inventory No | Cal Date   | Cal Due Date |
|---|-------------------------|----------|--------------|------------|--------------|
| MXA Signal<br>Analyzer(10Hz-8.4GHz)             | Agilent<br>Technologies | N9020A   | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal<br>Generator(250kHz-<br>6GHz) | Keysight                | E4438C   | SEM006-15    | 2021-09-23 | 2022-09-22   |
| EXG Analog Signal<br>Generator(9kHz-3GHz)       | Agilent<br>Technologies | N5171B   | SEM006-04    | 2021-07-12 | 2022-07-11   |

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|                                 |                      |             |           |            |            |
|---------------------------------|----------------------|-------------|-----------|------------|------------|
| Power Meter (U2021XA_Ch2)       | Agilent Technologies | U2021XA_Ch2 | SEM009-02 | 2021-05-19 | 2022-05-18 |
| Power Meter (U2021XA_Ch3)       | Agilent Technologies | U2021XA_Ch3 | SEM009-03 | 2021-05-19 | 2022-05-18 |
| EXA Signal Analyzer(10Hz-44GHz) | Agilent Technologies | N9010A      | EMC2138   | 2021-09-16 | 2022-09-15 |
| 6dB Attenuator                  | HP                   | 8491A       | EMC2062   | 2020-04-15 | 2022-04-14 |
|                                 |                      |             |           | 2022-04-13 | 2023-04-12 |
| MI CABLE                        | SGS-EMC              | 0.8M        | EMC2136   | 2021-11-01 | 2023-11-01 |
| MI CABLE                        | SGS-EMC              | 0.8M        | EMC2137   | 2021-11-01 | 2023-11-01 |
| Test Software                   | TST                  | V2.0        | GZE100-78 | N/A        | N/A        |

| <b>Radiated Emissions (below 1GHz)</b>   |                             |                 |                     |                 |                     |
|--|-----------------------------|-----------------|---------------------|-----------------|---------------------|
| <b>Equipment</b>                         | <b>Manufacturer</b>         | <b>Model No</b> | <b>Inventory No</b> | <b>Cal Date</b> | <b>Cal Due Date</b> |
| Chamber cable                            | HangTianXing                | N/A             | EMC0542             | 2020-09-09      | 2022-09-08          |
| Trilog Broadband Antenna(25MHz-1GHz)-Lab | SCHWARZBECK MESS-ELEKTRONIK | VULB 9168       | SEM003-18           | 2019-02-22      | 2022-02-22          |
| Amplifier(9kHz-1.3GHz)                   | HP                          | 8447F           | EMC2065             | 2021-05-19      | 2022-05-18          |
| Active Loop Antenna-RED                  | ETS-Lindgren                | 6502            | EMC2190             | 2022-04-06      | 2024-04-05          |
| 10m Semi-Anechoic Chamber                | ETS                         | N/A             | EMC0530             | 2019-10-20      | 2022-10-19          |
| Test Software E3                         | Audix                       | Ver.6.120110a   | GZE100-61           | N/A             | N/A                 |
| EMI Test Receiver(1Hz-8GHz)              | Rohde & Schwarz             | ESW8            | EMC2220             | 2021-05-26      | 2022-05-25          |

| <b>Radiated Emissions which fall in the restricted bands</b> |                             |                 |                     |                 |                     |
|--|-----------------------------|-----------------|---------------------|-----------------|---------------------|
| <b>Equipment</b>   | <b>Manufacturer</b>         | <b>Model No</b> | <b>Inventory No</b> | <b>Cal Date</b> | <b>Cal Due Date</b> |
| EMI Test Receiver(20Hz-26.5GHz)                              | Rohde & Schwarz             | ESIB26          | EMC0522             | 2021-12-17      | 2022-12-16          |
| Chamber cable(Above 1GHz)                                    | Scoflex                     | KMKG-8.0m       | EMC0545             | 2020-09-09      | 2022-09-08          |
| Horn Antenna(1GHz-18GHz)                                     | SCHWARZBECK MESS-ELEKTRONIK | BBHA 9120D      | EMC2026             | 2019-09-25      | 2022-09-24          |
| 1GHz-26.5 GHz Pre-Amplifier                                  | Agilent                     | 8449B           | EMC0521             | 2021-12-17      | 2022-12-16          |
| 966 Anechoic Chamber   | C.R.T                       | 9m x 6m x 6m    | EMC2142             | 2020-12-20      | 2023-12-19          |
| MXE EMI Receiver(10Hz-8.4GHz)                                | Keysight                    | N9038A          | EMC2139             | 2021-11-01      | 2022-10-31          |
| EXA Signal Analyzer(10Hz-44GHz)                              | Keysight                    | N9010A          | EMC2138             | 2021-09-16      | 2022-09-15          |
| Test Software E3   | Audix                       | Ver.6.120110a   | GZE100-61           | N/A             | N/A                 |

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|  |              |           |         |            |            |
|--|--------------|-----------|---------|------------|------------|
| Notch Filter<br>(5150-5880)                    | Mico-Tronics | BRM50716  | EMC2168 | 2021-07-29 | 2022-07-28 |
| Horn Antenna(14-40GHz)                         | SCHWARZBECK  | BBHA 9170 | EMC2041 | 2020-06-28 | 2023-06-27 |
| Microwave Broadband Preamplifier<br>(18-40GHz) | SCHWARZBECK  | BBV 9721  | EMC2172 | 2021-08-30 | 2022-08-29 |

| <b>Frequency Stability</b>               |                      |                 |                     |                          |                          |
|--|----------------------|-----------------|---------------------|--------------------------|--------------------------|
| <b>Equipment</b>                         | <b>Manufacturer</b>  | <b>Model No</b> | <b>Inventory No</b> | <b>Cal Date</b>          | <b>Cal Due Date</b>      |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A          | SEM004-10           | 2022-03-02               | 2023-03-01               |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C          | SEM006-15           | 2021-09-23               | 2022-09-22               |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B          | SEM006-04           | 2021-07-12               | 2022-07-11               |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2     | SEM009-02           | 2021-05-19               | 2022-05-18               |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3     | SEM009-03           | 2021-05-19               | 2022-05-18               |
| EXA Signal Analyzer(10Hz-44GHz)          | Agilent Technologies | N9010A          | EMC2138             | 2021-09-16               | 2022-09-15               |
| 6dB Attenuator                           | HP                   | 8491A           | EMC2062             | 2020-04-15<br>2022-04-13 | 2022-04-14<br>2023-04-12 |
| MI CABLE                                 | SGS-EMC              | 0.8M            | EMC2136             | 2021-11-01               | 2023-11-01               |
| MI CABLE                                 | SGS-EMC              | 0.8M            | EMC2137             | 2021-11-01               | 2023-11-01               |
| Test Software                            | TST                  | V2.0            | GZE100-78           | N/A                      | N/A                      |

| <b>Non-occupancy period</b>              |                      |                 |                     |                 |                     |
|--|----------------------|-----------------|---------------------|-----------------|---------------------|
| <b>Equipment</b>                         | <b>Manufacturer</b>  | <b>Model No</b> | <b>Inventory No</b> | <b>Cal Date</b> | <b>Cal Due Date</b> |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A          | SEM004-10           | 2022-03-02      | 2023-03-01          |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C          | SEM006-03           | 2021-03-12      | 2022-03-11          |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B          | SEM006-04           | 2021-07-12      | 2022-07-11          |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2     | SEM009-02           | 2021-05-19      | 2022-05-18          |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3     | SEM009-03           | 2021-05-19      | 2022-05-18          |

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|                                 |                      |        |           |            |            |
|---------------------------------|----------------------|--------|-----------|------------|------------|
| EXA Signal Analyzer(10Hz-44GHz) | Agilent Technologies | N9010A | EMC2138   | 2021-09-16 | 2022-09-15 |
| 6dB Attenuator                  | HP                   | 8491A  | EMC2062   | 2020-04-15 | 2022-04-14 |
|                                 |                      |        |           | 2022-04-13 | 2023-04-12 |
| MI CABLE                        | SGS-EMC              | 0.8M   | EMC2136   | 2021-11-01 | 2023-11-01 |
| MI CABLE                        | SGS-EMC              | 0.8M   | EMC2137   | 2021-11-01 | 2023-11-01 |
| Test Software                   | TST                  | V2.0   | GZE100-78 | N/A        | N/A        |

| Channel Move Time                        |                      |             |              |            |              |
|--|----------------------|-------------|--------------|------------|--------------|
| Equipment                                | Manufacturer         | Model No    | Inventory No | Cal Date   | Cal Due Date |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A      | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C      | SEM006-03    | 2021-03-12 | 2022-03-11   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B      | SEM006-04    | 2021-07-12 | 2022-07-11   |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19 | 2022-05-18   |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19 | 2022-05-18   |
| EXA Signal Analyzer(10Hz-44GHz)          | Agilent Technologies | N9010A      | EMC2138      | 2021-09-16 | 2022-09-15   |
| 6dB Attenuator                           | HP                   | 8491A       | EMC2062      | 2020-04-15 | 2022-04-14   |
|  |                      |             |              | 2022-04-13 | 2023-04-12   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2136      | 2021-11-01 | 2023-11-01   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2137      | 2021-11-01 | 2023-11-01   |
| Test Software                            | TST                  | V2.0        | GZE100-78    | N/A        | N/A          |

| Channel Closing Transmission Time        |                      |             |              |            |              |
|--|----------------------|-------------|--------------|------------|--------------|
| Equipment                                | Manufacturer         | Model No    | Inventory No | Cal Date   | Cal Due Date |
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A      | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C      | SEM006-03    | 2021-03-12 | 2022-03-11   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B      | SEM006-04    | 2021-07-12 | 2022-07-11   |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19 | 2022-05-18   |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19 | 2022-05-18   |



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|                                 |                      |        |           |            |            |
|---------------------------------|----------------------|--------|-----------|------------|------------|
| EXA Signal Analyzer(10Hz-44GHz) | Agilent Technologies | N9010A | EMC2138   | 2021-09-16 | 2022-09-15 |
| 6dB Attenuator                  | HP                   | 8491A  | EMC2062   | 2020-04-15 | 2022-04-14 |
|                                 |                      |        |           | 2022-04-13 | 2023-04-12 |
| MI CABLE                        | SGS-EMC              | 0.8M   | EMC2136   | 2021-11-01 | 2023-11-01 |
| MI CABLE                        | SGS-EMC              | 0.8M   | EMC2137   | 2021-11-01 | 2023-11-01 |
| Test Software                   | TST                  | V2.0   | GZE100-78 | N/A        | N/A        |

**Radiated Emissions (above 1GHz)**

| Equipment                                | Manufacturer         | Model No    | Inventory No | Cal Date   | Cal Due Date |
|--|----------------------|-------------|--------------|------------|--------------|
| MXA Signal Analyzer(10Hz-8.4GHz)         | Agilent Technologies | N9020A      | SEM004-10    | 2022-03-02 | 2023-03-01   |
| ESG Vector Signal Generator(250kHz-6GHz) | Keysight             | E4438C      | SEM006-03    | 2021-03-12 | 2022-03-11   |
| EXG Analog Signal Generator(9kHz-3GHz)   | Agilent Technologies | N5171B      | SEM006-04    | 2021-07-12 | 2022-07-11   |
| Power Meter (U2021XA_Ch2)                | Agilent Technologies | U2021XA_Ch2 | SEM009-02    | 2021-05-19 | 2022-05-18   |
| Power Meter (U2021XA_Ch3)                | Agilent Technologies | U2021XA_Ch3 | SEM009-03    | 2021-05-19 | 2022-05-18   |
| EXA Signal Analyzer(10Hz-44GHz)          | Agilent Technologies | N9010A      | EMC2138      | 2021-09-16 | 2022-09-15   |
| 6dB Attenuator                           | HP                   | 8491A       | EMC2062      | 2020-04-15 | 2022-04-14   |
|  |                      |             |              | 2022-04-13 | 2023-04-12   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2136      | 2021-11-01 | 2023-11-01   |
| MI CABLE                                 | SGS-EMC              | 0.8M        | EMC2137      | 2021-11-01 | 2023-11-01   |
| Test Software                            | TST                  | V2.0        | GZE100-78    | N/A        | N/A          |

**General used equipment**

| Equipment | Manufacturer | Model No | Inventory No | Cal Date   | Cal Due Date |
|-----------|--------------|----------|--------------|------------|--------------|
| DMM       | Fluke        | 73       | EMC0006      | 2021-07-05 | 2022-07-05   |
| DMM       | Fluke        | 73       | EMC0007      | 2021-07-05 | 2022-07-05   |

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## 6 Radio Spectrum Technical Requirement

### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

#### 6.1.2 Conclusion

15.203 Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of 15.211, 15.213, 15.217, 15.219, 15.221, or 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

EUT has an antenna pin that is connected to a unique antenna connector on the test board. Antenna reference design will be provided to the end user who uses this module.

The best case gain of the Antenna 1: 2.93dBi; Antenna 2: 2.93dBi.

Antenna location: Refer to external photo.

### 6.2 Transmission in the Absence of Data

#### 6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (c)

#### 6.2.2 Conclusion

6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

EUT Details:

WIFI chip support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.



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## 7 Radio Spectrum Matter Test Results

### 7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 &amp; 15.407 b(6)

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

| Frequency of emission(MHz) | Conducted limit(dB $\mu$ 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 the logarithm of the frequency.

#### 7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 50.6 % RH Atmospheric Pressure: 1020 mbar

#### 7.1.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description  |
|--------------------------|--------------|--|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Pre-scan                 | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Pre-scan                 | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Pre-scan                 | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested  |

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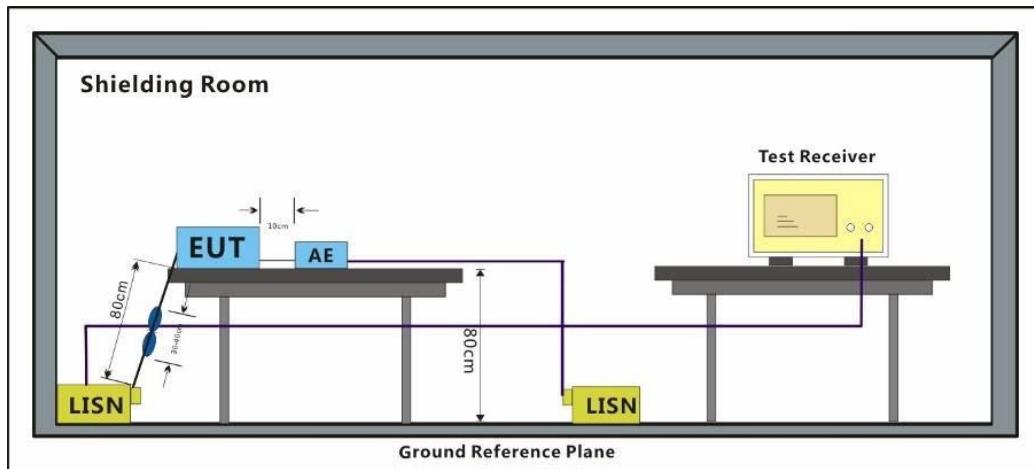
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and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

### 7.1.3 Test Setup Diagram



#### 7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50 $\mu$ H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

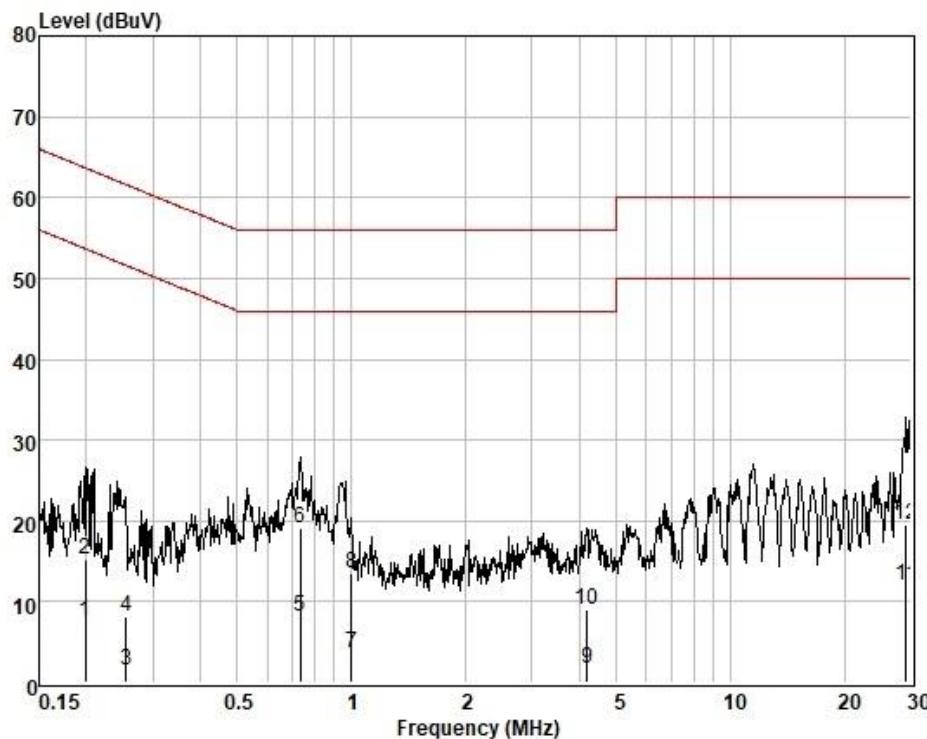
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

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Test Mode: 04; Polarity: Neutral; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: NEUTRAL

Mode :

Model :

| Freq | Read   | Cable | LISN   | Limit | Over  | Line  | Limit  | Remark  |
|------|--------|-------|--------|-------|-------|-------|--------|---------|
|      | Level  | Loss  | Factor |       |       |       |        |         |
| MHz  | dBuV   | dB    | dB     | dBuV  | dBuV  | dB    | dB     |         |
| 1    | 0.199  | -2.07 | 0.06   | 9.55  | 7.54  | 53.67 | -46.13 | Average |
| 2    | 0.199  | 5.55  | 0.06   | 9.55  | 15.16 | 63.67 | -48.51 | QP      |
| 3    | 0.255  | -8.20 | 0.06   | 9.56  | 1.42  | 51.60 | -50.18 | Average |
| 4    | 0.255  | -1.45 | 0.06   | 9.56  | 8.17  | 61.60 | -53.43 | QP      |
| 5    | 0.735  | -1.57 | 0.07   | 9.59  | 8.09  | 46.00 | -37.91 | Average |
| 6    | 0.735  | 9.38  | 0.07   | 9.59  | 19.04 | 56.00 | -36.96 | QP      |
| 7    | 1.000  | -6.11 | 0.07   | 9.59  | 3.55  | 46.00 | -42.45 | Average |
| 8    | 1.000  | 3.76  | 0.07   | 9.59  | 13.42 | 56.00 | -42.58 | QP      |
| 9    | 4.202  | -8.11 | 0.17   | 9.64  | 1.70  | 46.00 | -44.30 | Average |
| 10   | 4.202  | -0.83 | 0.17   | 9.64  | 8.98  | 56.00 | -47.02 | QP      |
| 11   | 29.216 | 1.59  | 0.44   | 9.91  | 11.94 | 50.00 | -38.06 | Average |
| 12   | 29.216 | 9.20  | 0.44   | 9.91  | 19.55 | 60.00 | -40.45 | QP      |

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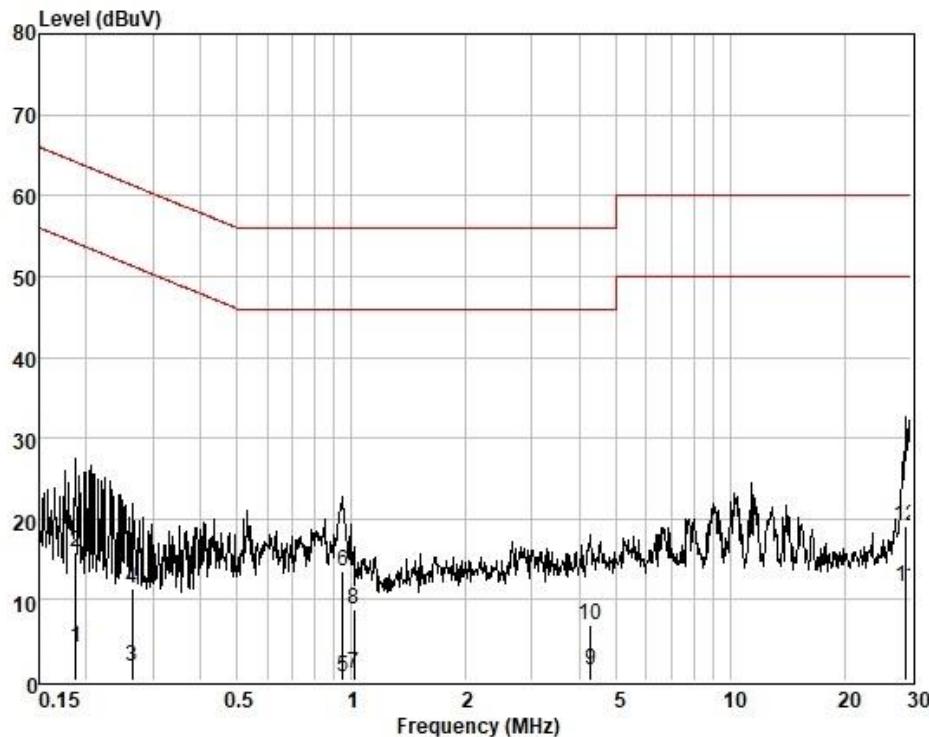
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Test Mode: 04; Polarity: Line; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: LINE

Mode :

Model :

| Freq | Read   | Cable | LISN | Limit | Over  | Line  | Limit  | Remark  |
|------|--------|-------|------|-------|-------|-------|--------|---------|
|      | Freq   | Level | Loss |       |       |       |        |         |
|      | MHz    | dBuV  | dB   | dB    | dBuV  | dBuV  | dB     |         |
| 1    | 0.187  | -5.56 | 0.06 | 9.56  | 4.06  | 54.15 | -50.09 | Average |
| 2    | 0.187  | 6.20  | 0.06 | 9.56  | 15.82 | 64.15 | -48.33 | QP      |
| 3    | 0.264  | -7.87 | 0.06 | 9.57  | 1.76  | 51.29 | -49.53 | Average |
| 4    | 0.264  | 1.75  | 0.06 | 9.57  | 11.38 | 61.29 | -49.91 | QP      |
| 5    | 0.948  | -9.16 | 0.07 | 9.60  | 0.51  | 46.00 | -45.49 | Average |
| 6    | 0.948  | 3.81  | 0.07 | 9.60  | 13.48 | 56.00 | -42.52 | QP      |
| 7    | 1.016  | -8.85 | 0.07 | 9.60  | 0.82  | 46.00 | -45.18 | Average |
| 8    | 1.016  | -0.86 | 0.07 | 9.60  | 8.81  | 56.00 | -47.19 | QP      |
| 9    | 4.292  | -8.56 | 0.17 | 9.65  | 1.26  | 46.00 | -44.74 | Average |
| 10   | 4.292  | -2.91 | 0.17 | 9.65  | 6.91  | 56.00 | -49.09 | QP      |
| 11   | 29.216 | 1.47  | 0.44 | 9.75  | 11.66 | 50.00 | -38.34 | Average |
| 12   | 29.216 | 8.89  | 0.44 | 9.75  | 19.08 | 60.00 | -40.92 | QP      |

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## 7.2 Duty Cycle

Test Requirement KDB 789033 D02 v02r01 II B 1  
Test Method: ANSI C63.10 (2013) Section 12.2

### 7.2.1 E.U.T. Operation

Operating Environment:  
Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

### 7.2.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test               | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |

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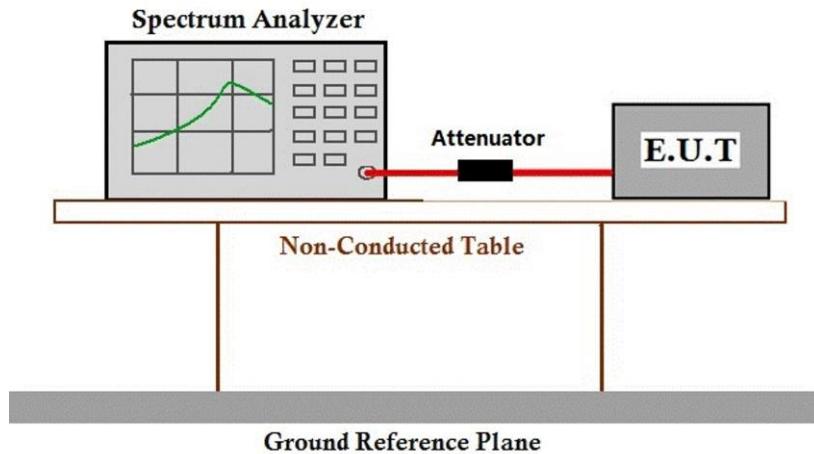
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**7.2.3 Test Setup Diagram****7.2.4 Measurement Procedure and Data**

Please Refer to Appendix for Details

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### 7.3 99% Bandwidth

Test Requirement N/A  
Test Method: KDB 789033 II D

#### 7.3.1 E.U.T. Operation

Operating Environment:  
Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

#### 7.3.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test               | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |

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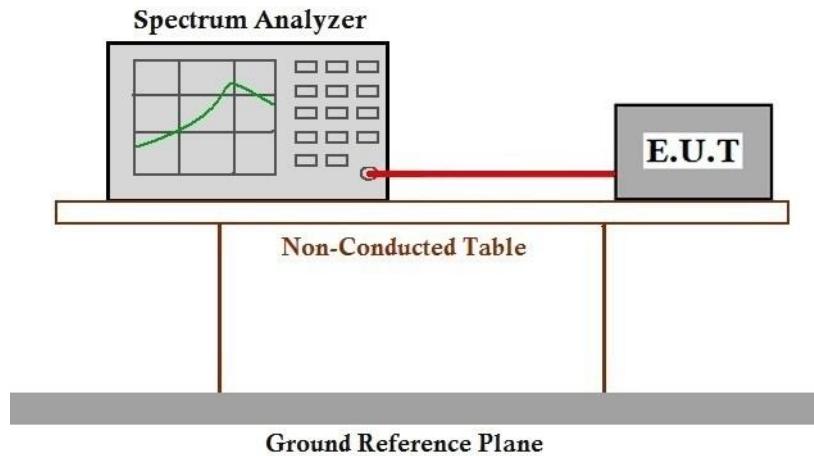
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**7.3.3 Test Setup Diagram****7.3.4 Measurement Procedure and Data**

Please Refer to Appendix for Details

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## 7.4 26dB Emission bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)  
Test Method: KDB 789033 D02 II C 1

### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

### 7.4.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test               | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |

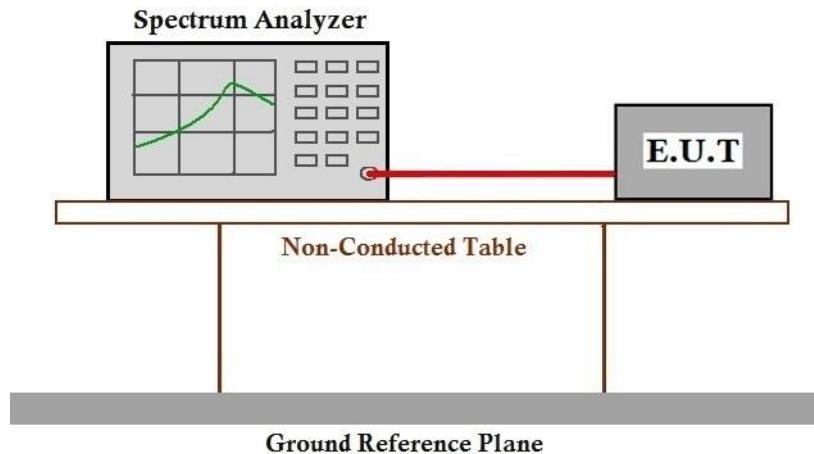


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**7.4.3 Test Setup Diagram****7.4.4 Measurement Procedure and Data**

Please Refer to Appendix for Details

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**7.5 Minimum 6 dB bandwidth (5.725-5.85 GHz band )**

Test Requirement 47 CFR Part 15, Subpart C 15.407 (e)

Test Method: KDB 789033 D02 II C 2

Limit:

| Frequency band(MHz) | Limit    |
|---------------------|----------|
| 5725-5850           | ≥500 kHz |

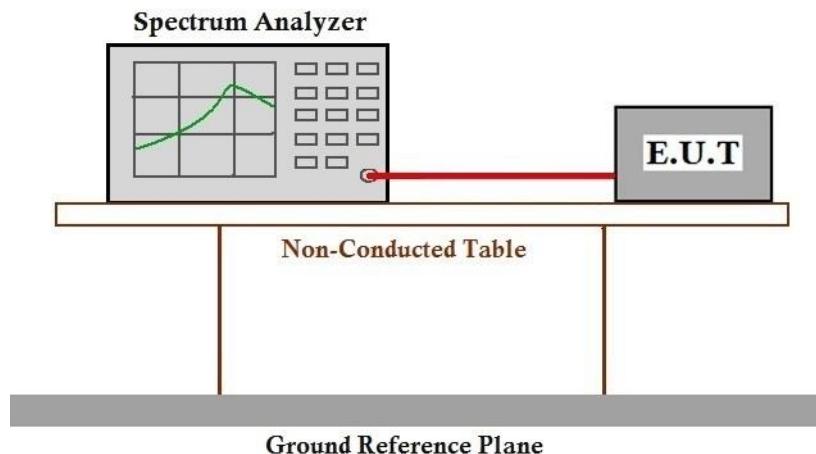
**7.5.1 E.U.T. Operation**

Operating Environment:

Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

**7.5.2 Test Mode Description**

| Pre-scan /<br>Final test | Mode<br>Code | Description  |
|--------------------------|--------------|--|
| Final test               | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |

**7.5.3 Test Setup Diagram****7.5.4 Measurement Procedure and Data**

Please Refer to Appendix for Details

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**7.6 Conducted Peak Output Power**

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II E

Limit:

| Frequency band(MHz) | Limit  |
|---------------------|--|
| 5150-5250           | ≤1W(30dBm) for master device                     |
|                     | ≤250mW(24dBm) for client device                  |
| 5250-5350           | ≤250mW(24dBm) for client device or 11dBm+10logB* |
| 5470-5725           | ≤250mW(24dBm) for client device or 11dBm+10logB* |
| 5725-5850           | ≤1W(30dBm)                                       |

Remark:

\* Where B is the 26dB emission bandwidth in MHz.

The Conducted Peak Output Power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

**7.6.1 E.U.T. Operation**

Operating Environment:

Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

**7.6.2 Test Mode Description**

| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test               | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |

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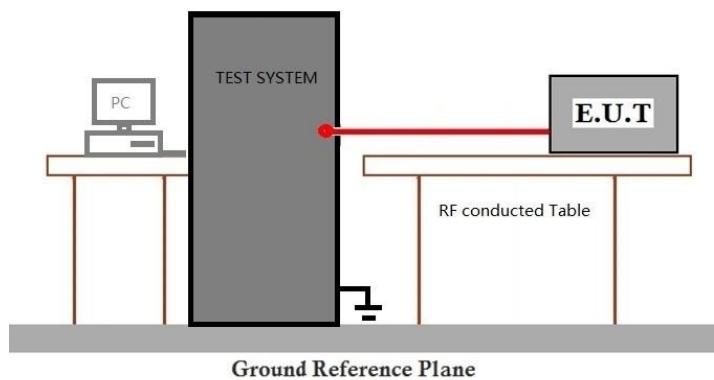
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Final test 07

TX mode (U-NII-3)\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

### 7.6.3 Test Setup Diagram



### 7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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**7.7 Maximum Power Spectral Density**

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II F

Limit:

| Frequency band(MHz) | Limit                            |
|---------------------|----------------------------------|
| 5150-5250           | ≤17dBm in 1MHz for master device |
|                     | ≤11dBm in 1MHz for client device |
| 5250-5350           | ≤11dBm in 1MHz for client device |
| 5470-5725           | ≤11dBm in 1MHz for client device |
| 5725-5850           | ≤30dBm in 500 kHz                |

Remark:

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

**7.7.1 E.U.T. Operation**

Operating Environment:

Temperature: 20.1 °C      Humidity: 52.3 % RH      Atmospheric Pressure: 1020 mbar

**7.7.2 Test Mode Description**

| Pre-scan / Mode<br>Final test | Mode<br>Code | Description   |
|-------------------------------|--------------|---|
| Final test                    | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test                    | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test                    | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test                    | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested  |

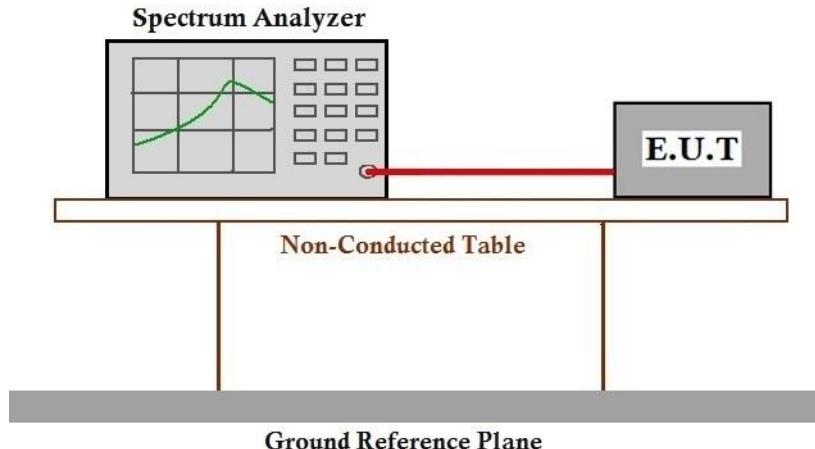
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and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

### 7.7.3 Test Setup Diagram



### 7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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**7.8 Radiated Emissions which fall in the restricted bands**

Test Requirement 47 CFR Part 15, Subpart C 15.209 &amp; 15.407(b)

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

| Frequency(MHz) | Field strength(microvolts/meter) | Measurement distance(meters) |
|----------------|----------------------------------|------------------------------|
| 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                            |

\* Frequency in CFR 15.205 Restricted Band.

Note: Frequency in non-Restricted Band:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

**7.8.1 E.U.T. Operation**

Operating Environment:

Temperature: 20.8 °C      Humidity: 50.4 % RH      Atmospheric Pressure: 1020 mbar



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**7.8.2 Test Mode Description**

| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Final test               | 04           | TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |
| Final test               | 05           | TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 06           | TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. |
| Final test               | 07           | TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.  |

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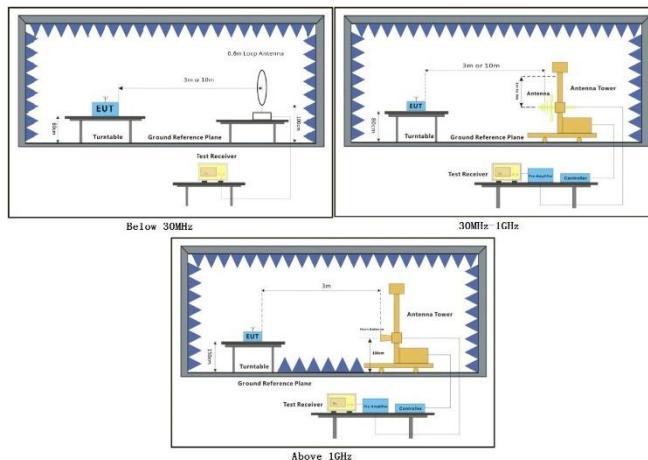


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### 7.8.3 Test Setup Diagram



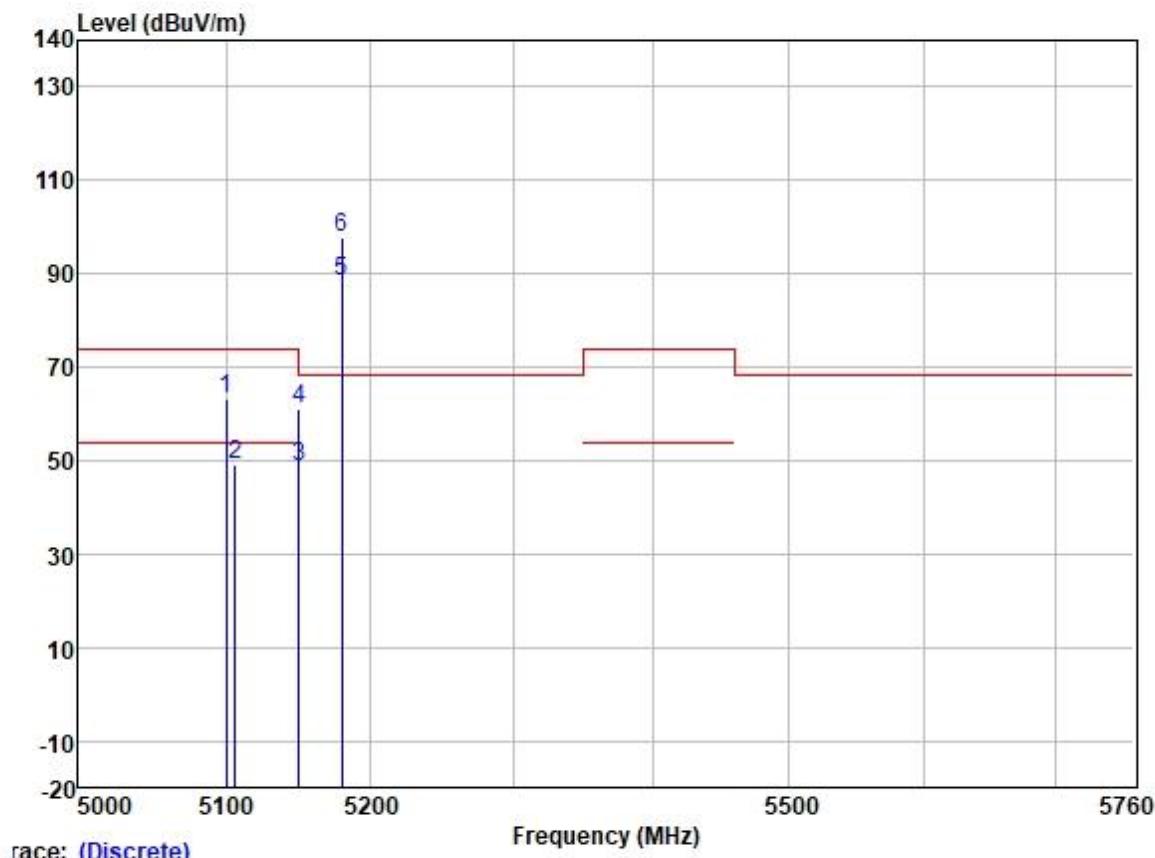
### 7.8.4 Measurement Procedure and Data

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



| Freq         | ReadAntenna |        | Cable |        | Preamp | Limit  | Over   | Line       | Limit   | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|--------|------------|---------|-----------|--------|
|              | Level       | Factor | Loss  | Factor |        |        |        |            |         |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB     |            |         |           |        |
| 1 5100.396   | 62.75       | 31.72  | 5.65  | 36.86  | 63.26  | 74.00  | -10.74 | HORIZONTAL | Peak    |           |        |
| 2 5106.243   | 48.66       | 31.72  | 5.65  | 36.86  | 49.17  | 54.00  | -4.83  | HORIZONTAL | Average |           |        |
| 3 5149.980   | 48.40       | 31.72  | 5.62  | 36.86  | 48.88  | 54.00  | -5.12  | HORIZONTAL | Average |           |        |
| 4 5149.980   | 60.62       | 31.72  | 5.62  | 36.86  | 61.10  | 74.00  | -12.90 | HORIZONTAL | Peak    |           |        |
| 5 5180.000   | 88.05       | 31.73  | 5.61  | 36.87  | 88.52  | -----  | -----  | HORIZONTAL | Average |           |        |
| 6 * 5180.000 | 97.41       | 31.73  | 5.61  | 36.87  | 97.88  | 68.20  | 29.68  | HORIZONTAL | Peak    |           |        |

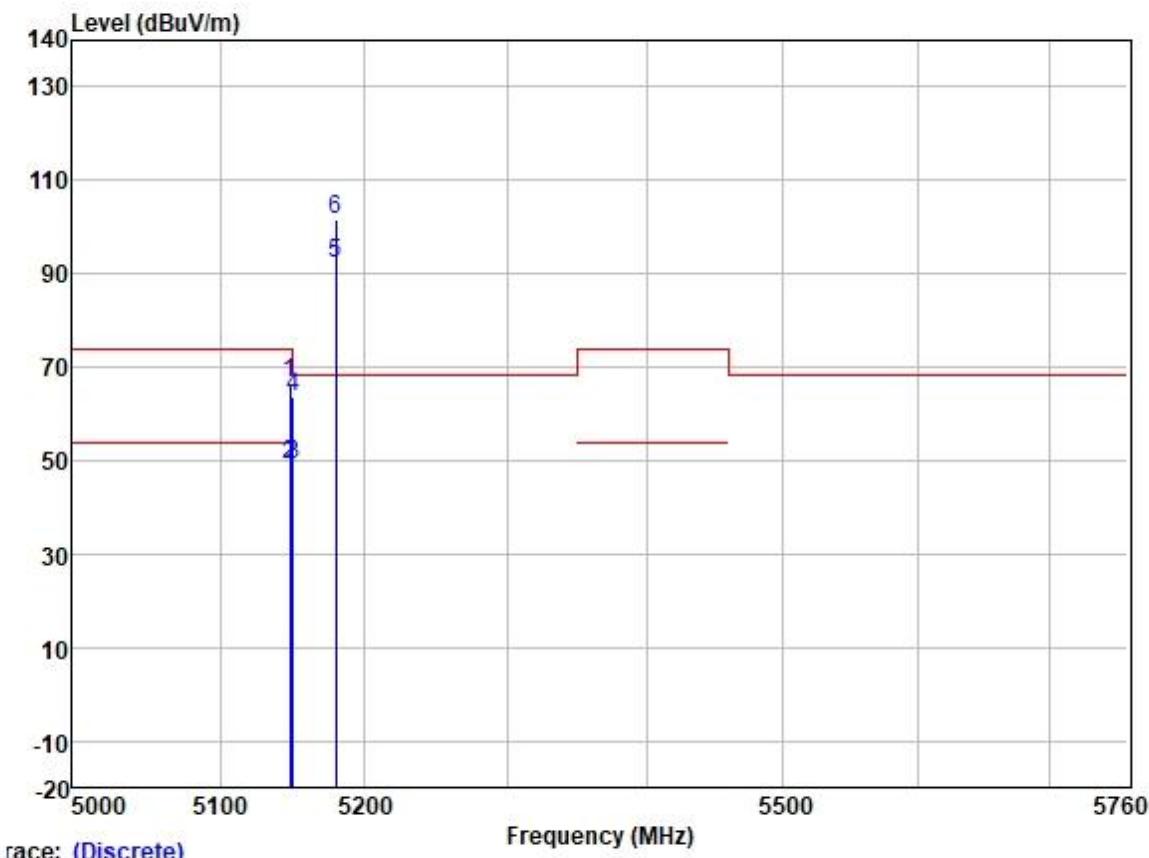
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Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



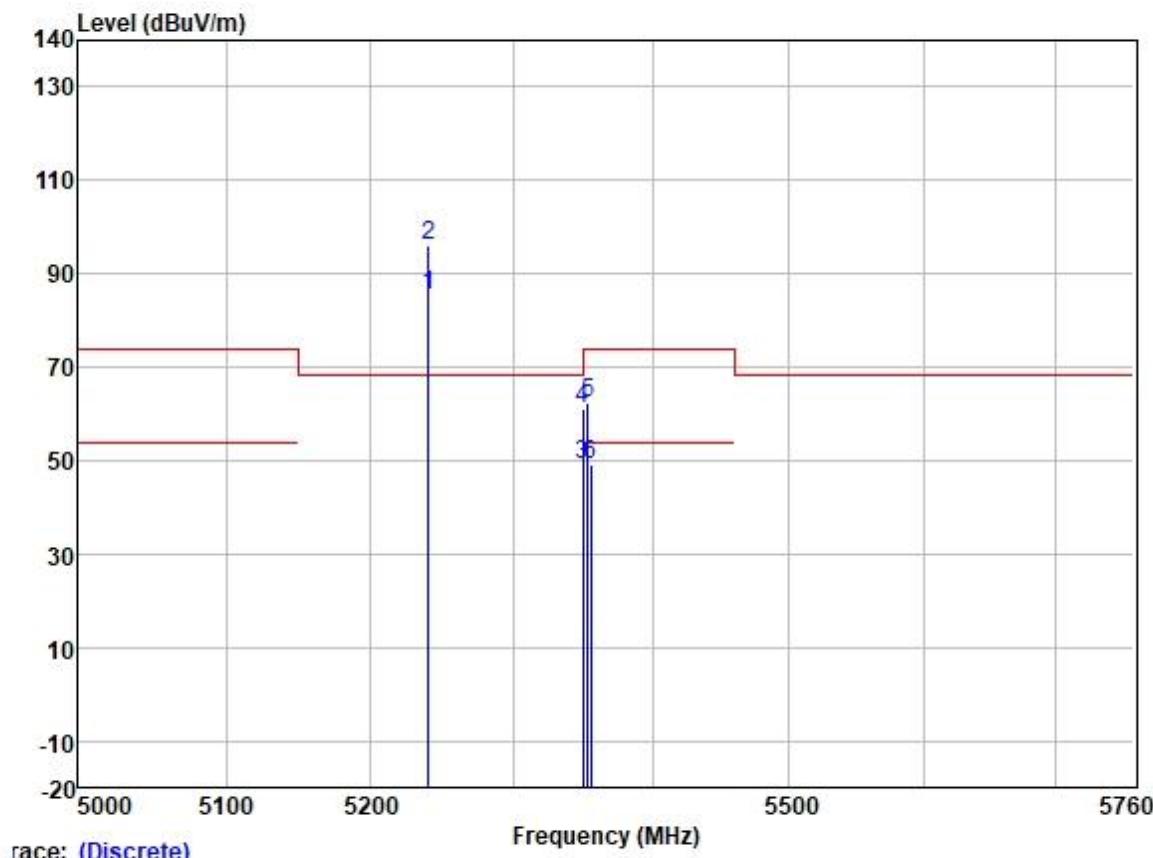
| Freq | ReadAntenna |        | Cable |        | Preamp |        | Level  | Line   | Over      |         | Remark |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|-----------|---------|--------|
|      | Level       | Factor | Loss  | Factor | Level  | Limit  |        |        | Pol/Phase |         |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB     | dBuV/m | dBuV/m |           | dB      |        |
| 1    | 5147.758    | 66.30  | 31.72 | 5.62   | 36.86  | 66.78  | 74.00  | -7.22  | VERTICAL  | Peak    |        |
| 2    | 5148.158    | 48.77  | 31.72 | 5.62   | 36.86  | 49.25  | 54.00  | -4.75  | VERTICAL  | Average |        |
| 3    | 5149.980    | 48.62  | 31.72 | 5.62   | 36.86  | 49.10  | 54.00  | -4.90  | VERTICAL  | Average |        |
| 4    | 5149.980    | 63.28  | 31.72 | 5.62   | 36.86  | 63.76  | 74.00  | -10.24 | VERTICAL  | Peak    |        |
| 5    | 5180.000    | 91.79  | 31.73 | 5.61   | 36.87  | 92.26  | -----  | -----  | VERTICAL  | Average |        |
| 6 *  | 5180.000    | 101.02 | 31.73 | 5.61   | 36.87  | 101.49 | 68.20  | 33.29  | VERTICAL  | Peak    |        |

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Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |       | Cable |        | Preamp | Limit  | Over   | Line   | Limit | Pol/Phase | Remark             |
|------|-------------|-------|-------|--------|--------|--------|--------|--------|-------|-----------|--------------------|
|      | MHz         | dBuV  | Level | Factor |        |        |        |        |       |           |                    |
|      | MHz         | dBuV  | dB/m  | dB     | dB     | dBuV/m | dBuV/m | dB     | dB    | dB        |                    |
| 1    | 5240.000    | 84.85 | 31.75 | 5.74   | 36.87  | 85.47  | -----  | -----  | ----- | -----     | HORIZONTAL Average |
| 2 *  | 5240.000    | 95.62 | 31.75 | 5.74   | 36.87  | 96.24  | 68.20  | 28.04  | ----- | -----     | HORIZONTAL Peak    |
| 3    | 5350.020    | 48.18 | 31.77 | 6.05   | 36.88  | 49.12  | 54.00  | -4.88  | ----- | -----     | HORIZONTAL Average |
| 4    | 5350.020    | 60.05 | 31.77 | 6.05   | 36.88  | 60.99  | 74.00  | -13.01 | ----- | -----     | HORIZONTAL Peak    |
| 5    | 5353.053    | 61.40 | 31.77 | 6.05   | 36.88  | 62.34  | 74.00  | -11.66 | ----- | -----     | HORIZONTAL Peak    |
| 6    | 5355.462    | 48.35 | 31.78 | 6.03   | 36.88  | 49.28  | 54.00  | -4.72  | ----- | -----     | HORIZONTAL Average |

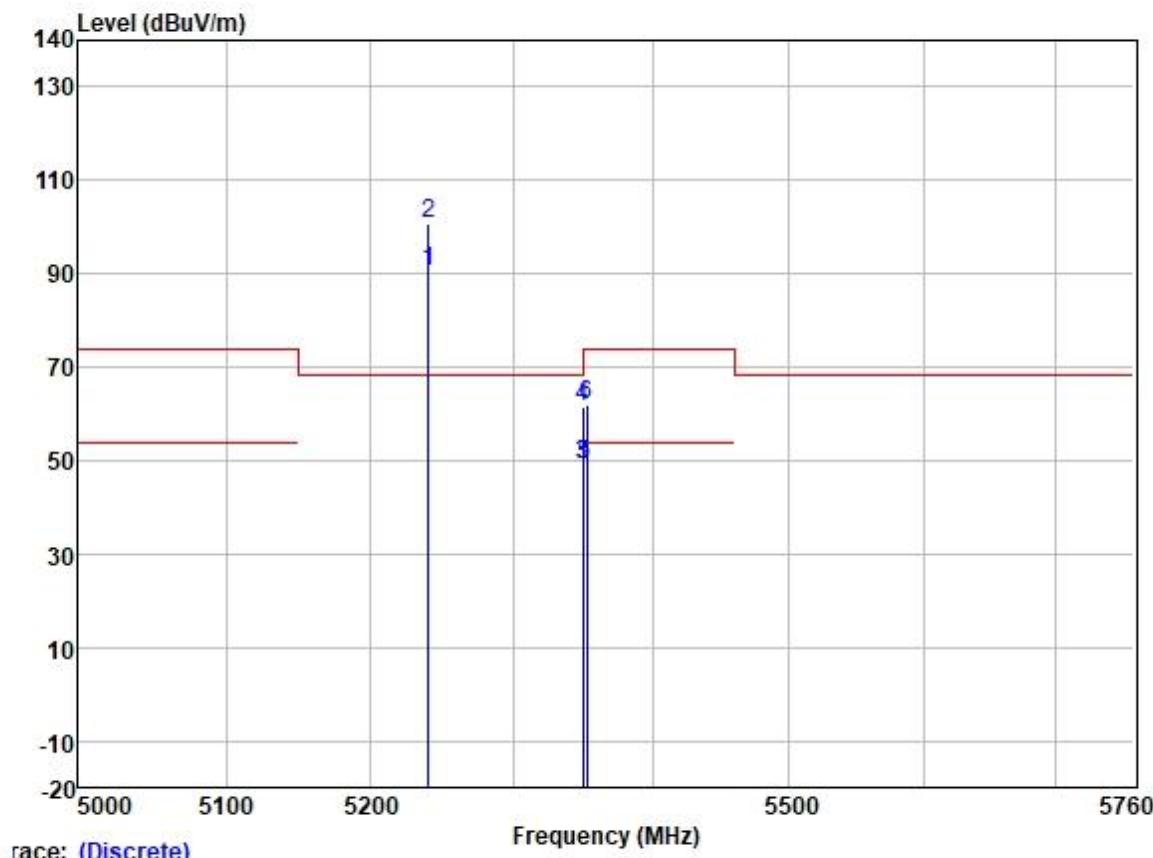
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Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line   | Limit    | Pol/Phase | Remark  |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|----------|-----------|---------|
|      | MHz         | dBuV   | Level | Factor |        |        |       |        |          |           |         |
| 1    | 5240.000    | 90.02  | 31.75 | 5.74   | 36.87  | 90.64  | ----- | -----  | -----    | -----     | Average |
| 2 *  | 5240.000    | 100.30 | 31.75 | 5.74   | 36.87  | 100.92 | 68.20 | 32.72  | VERTICAL | VERTICAL  | Peak    |
| 3    | 5350.020    | 48.23  | 31.77 | 6.05   | 36.88  | 49.17  | 54.00 | -4.83  | VERTICAL | VERTICAL  | Average |
| 4    | 5350.020    | 60.75  | 31.77 | 6.05   | 36.88  | 61.69  | 74.00 | -12.31 | VERTICAL | VERTICAL  | Peak    |
| 5    | 5350.504    | 48.30  | 31.77 | 6.05   | 36.88  | 49.24  | 54.00 | -4.76  | VERTICAL | VERTICAL  | Average |
| 6    | 5352.345    | 61.16  | 31.77 | 6.05   | 36.88  | 62.10  | 74.00 | -11.90 | VERTICAL | VERTICAL  | Peak    |

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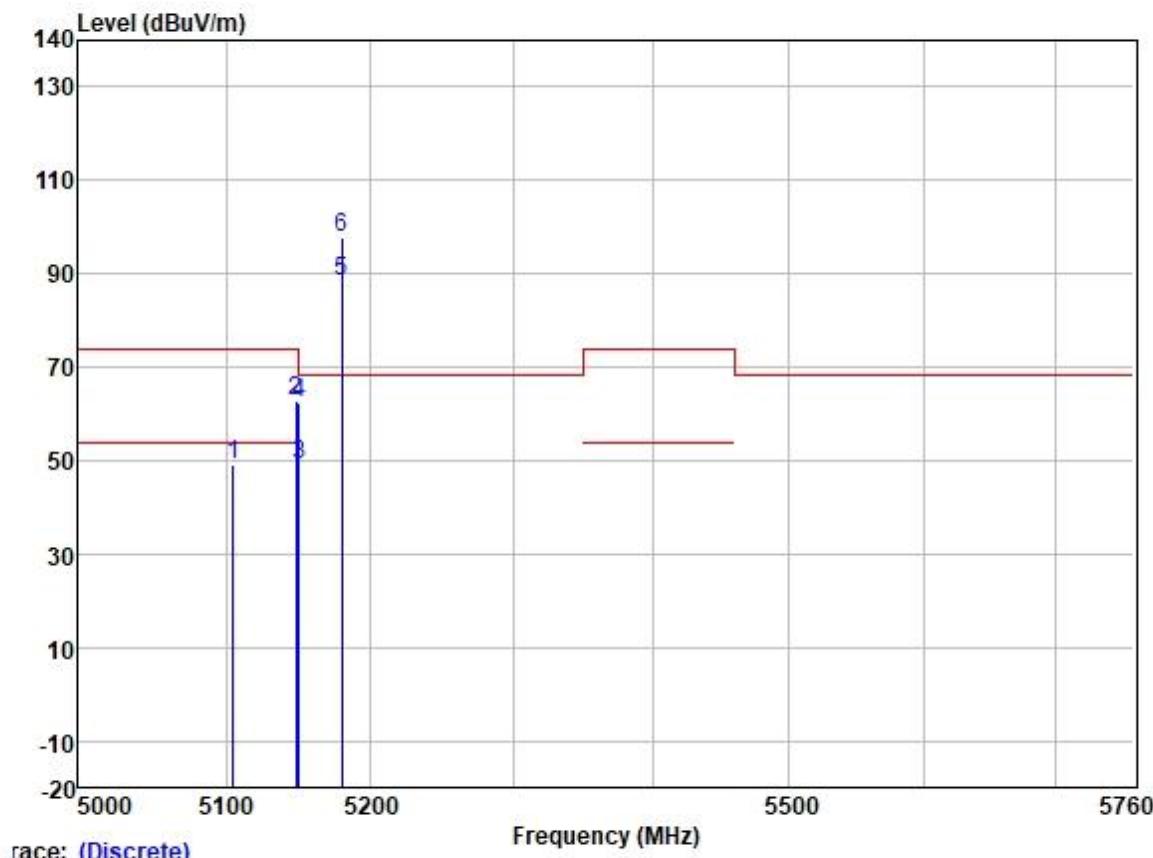


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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



| ReadAntenna | Cable    | Preamp | Limit | Over | Remark |        |        |        |            |         |      |       |
|-------------|----------|--------|-------|------|--------|--------|--------|--------|------------|---------|------|-------|
|             |          |        |       |      | Freq   | Level  | Factor | Loss   | Factor     | Level   | Line | Limit |
| MHz         | dBuV     | dB/m   | dB    | dB   | dBuV/m | dBuV/m | dB     | dB     | dB         | dB      |      |       |
| 1           | 5104.756 | 48.61  | 31.72 | 5.65 | 36.86  | 49.12  | 54.00  | -4.88  | HORIZONTAL | Average |      |       |
| 2           | 5148.158 | 62.21  | 31.72 | 5.62 | 36.86  | 62.69  | 74.00  | -11.31 | HORIZONTAL | Peak    |      |       |
| 3           | 5149.980 | 48.43  | 31.72 | 5.62 | 36.86  | 48.91  | 54.00  | -5.09  | HORIZONTAL | Average |      |       |
| 4           | 5149.980 | 61.71  | 31.72 | 5.62 | 36.86  | 62.19  | 74.00  | -11.81 | HORIZONTAL | Peak    |      |       |
| 5           | 5180.000 | 88.09  | 31.73 | 5.61 | 36.87  | 88.56  | -----  | -----  | HORIZONTAL | Average |      |       |
| 6 *         | 5180.000 | 97.30  | 31.73 | 5.61 | 36.87  | 97.77  | 68.20  | 29.57  | HORIZONTAL | Peak    |      |       |

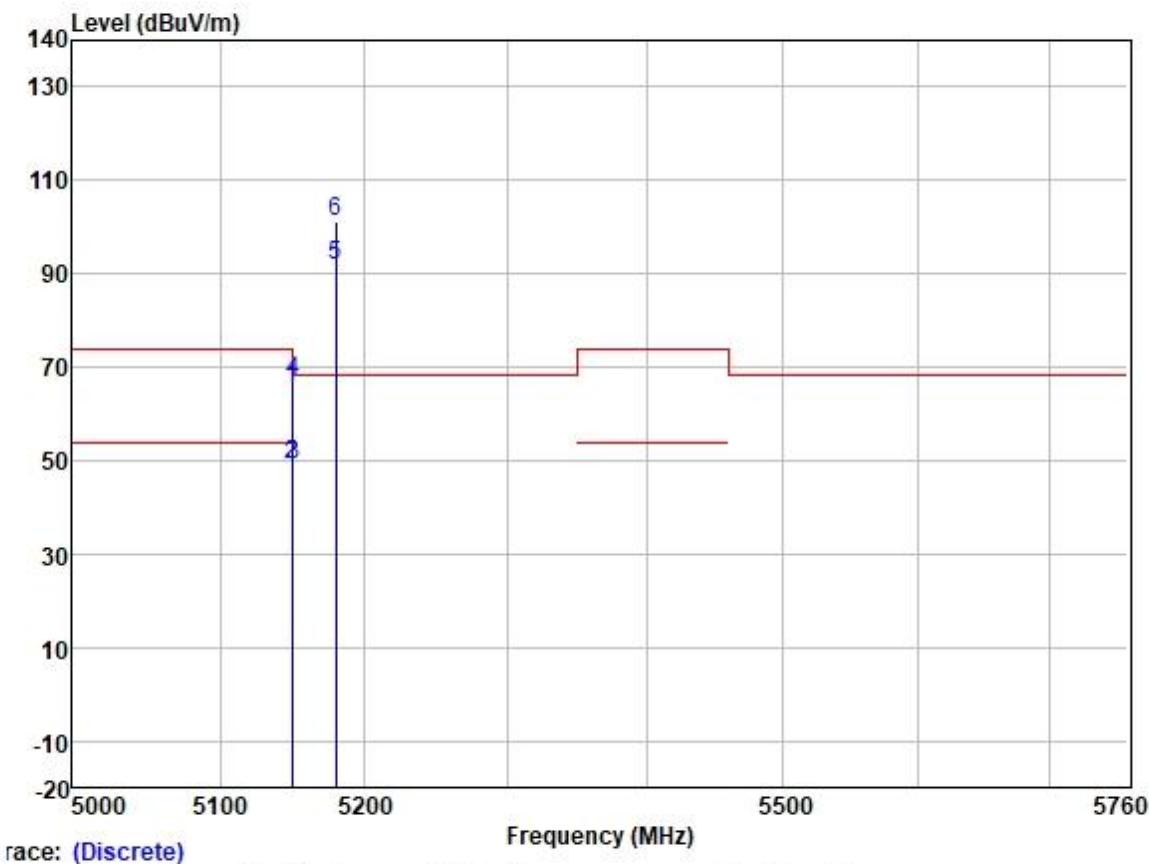
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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over  | Line     | Limit | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|-------|-------|----------|-------|-----------|--------|
|      | MHz         | dBuV   | Level | Factor | Loss   | Factor |       |       |          |       |           |        |
|      |             |        |       |        |        |        |       |       |          |       |           |        |
| 1    | 5149.157    | 64.65  | 31.72 | 5.62   | 36.86  | 65.13  | 74.00 | -8.87 | VERTICAL |       | Peak      |        |
| 2    | 5149.458    | 48.75  | 31.72 | 5.62   | 36.86  | 49.23  | 54.00 | -4.77 | VERTICAL |       | Average   |        |
| 3    | 5149.980    | 48.71  | 31.72 | 5.62   | 36.86  | 49.19  | 54.00 | -4.81 | VERTICAL |       | Average   |        |
| 4    | 5149.980    | 66.46  | 31.72 | 5.62   | 36.86  | 66.94  | 74.00 | -7.06 | VERTICAL |       | Peak      |        |
| 5    | 5180.000    | 91.20  | 31.73 | 5.61   | 36.87  | 91.67  | ----- | ----- | VERTICAL |       | Average   |        |
| 6 *  | 5180.000    | 100.56 | 31.73 | 5.61   | 36.87  | 101.03 | 68.20 | 32.83 | VERTICAL |       | Peak      |        |

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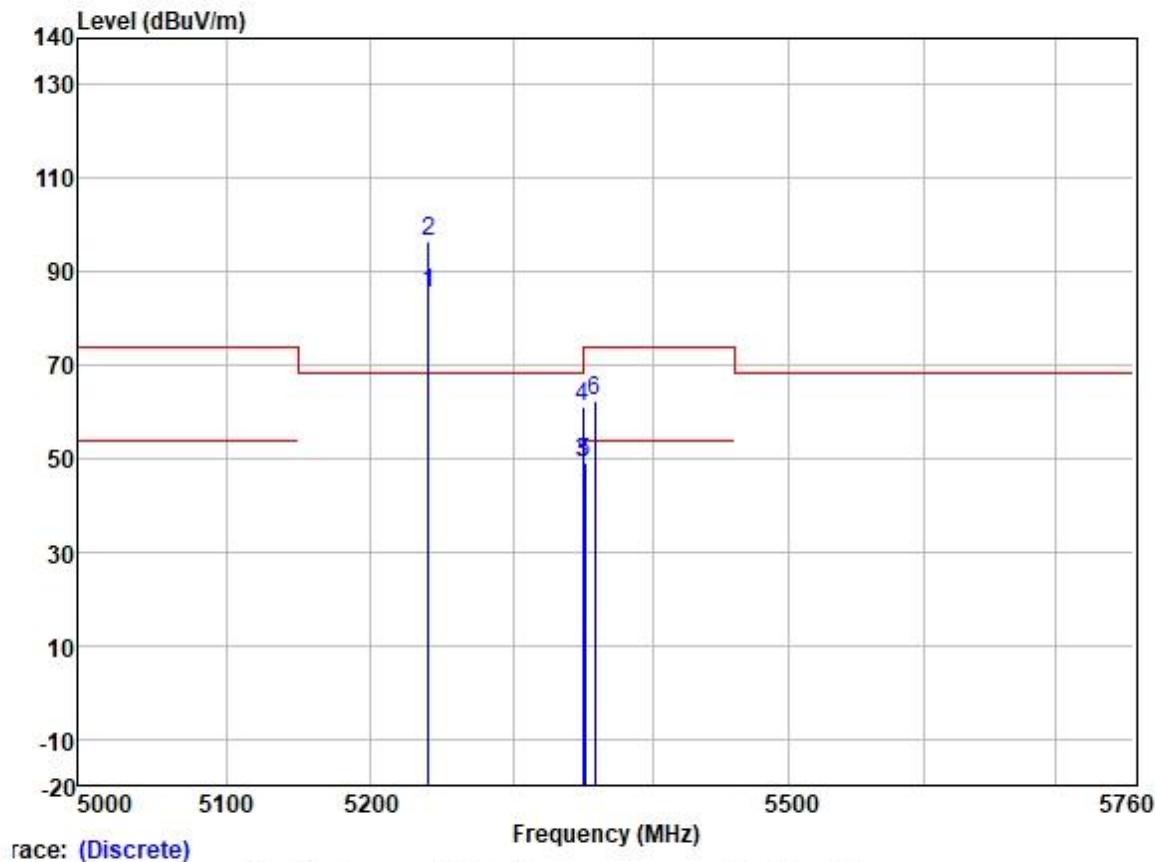
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

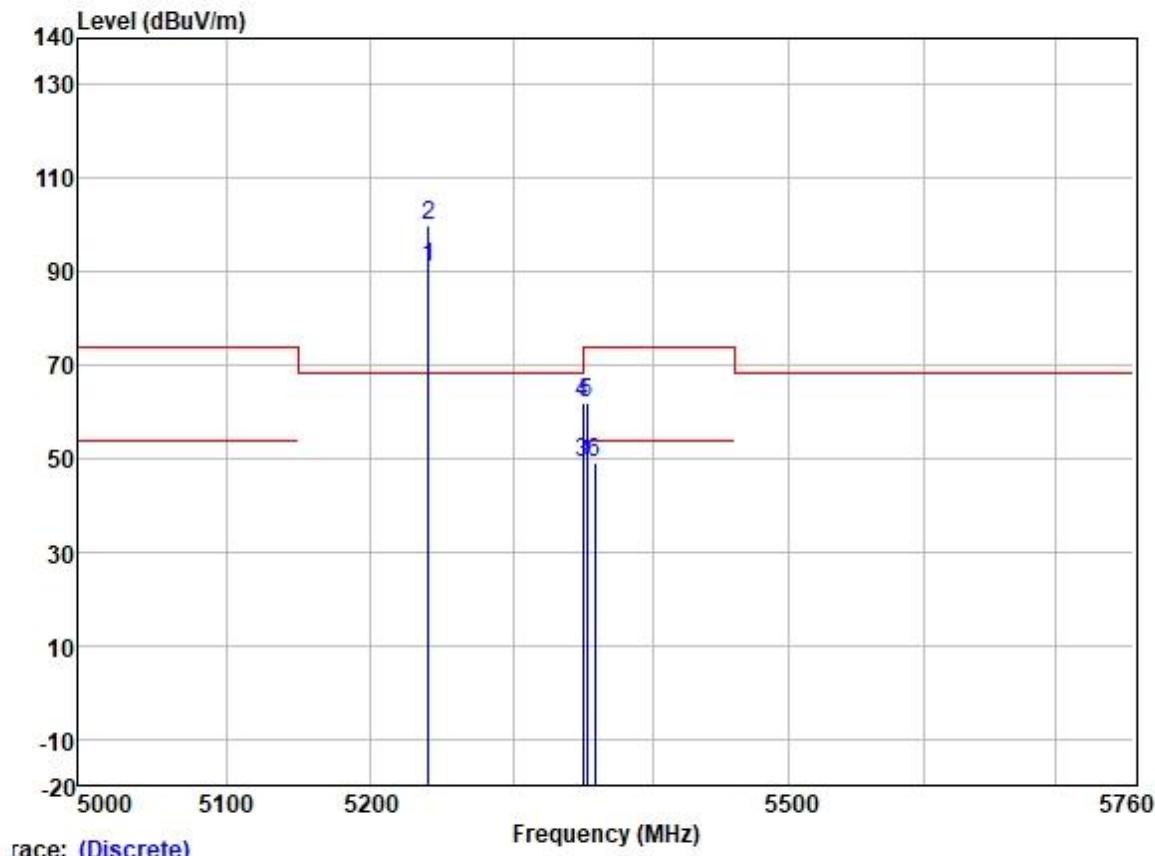


| Freq | ReadAntenna |        | Cable |        | Preamp |       | Level  | Line   | Over       | Limit   | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|-------|--------|--------|------------|---------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | Level  |       |        |        |            |         |           |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB    | dBuV/m | dBuV/m |            | dB      |           |        |
| 1    | 5240.000    | 84.75  | 31.75 | 5.74   | 36.87  | 85.37 | -----  | -----  | HORIZONTAL | Average |           |        |
| 2 *  | 5240.000    | 95.81  | 31.75 | 5.74   | 36.87  | 96.43 | 68.20  | 28.23  | HORIZONTAL | Peak    |           |        |
| 3    | 5350.020    | 48.18  | 31.77 | 6.05   | 36.88  | 49.12 | 54.00  | -4.88  | HORIZONTAL | Average |           |        |
| 4    | 5350.020    | 60.30  | 31.77 | 6.05   | 36.88  | 61.24 | 74.00  | -12.76 | HORIZONTAL | Peak    |           |        |
| 5    | 5350.929    | 48.29  | 31.77 | 6.05   | 36.88  | 49.23 | 54.00  | -4.77  | HORIZONTAL | Average |           |        |
| 6    | 5358.014    | 61.35  | 31.78 | 6.03   | 36.88  | 62.28 | 74.00  | -11.72 | HORIZONTAL | Peak    |           |        |

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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |       | Cable  |      | Preamp |        | Limit  | Over   | Pol/Phase | Remark  |
|------|-------------|-------|--------|------|--------|--------|--------|--------|-----------|---------|
|      | MHz         | Level | Factor | Loss | Factor | dBuV/m | dBuV/m | dB     |           |         |
| 1    | 5240.000    | 90.42 | 31.75  | 5.74 | 36.87  | 91.04  | -----  | -----  | VERTICAL  | Average |
| 2 *  | 5240.000    | 99.23 | 31.75  | 5.74 | 36.87  | 99.85  | 68.20  | 31.65  | VERTICAL  | Peak    |
| 3    | 5350.020    | 48.22 | 31.77  | 6.05 | 36.88  | 49.16  | 54.00  | -4.84  | VERTICAL  | Average |
| 4    | 5350.020    | 61.02 | 31.77  | 6.05 | 36.88  | 61.96  | 74.00  | -12.04 | VERTICAL  | Peak    |
| 5    | 5352.770    | 61.15 | 31.77  | 6.05 | 36.88  | 62.09  | 74.00  | -11.91 | VERTICAL  | Peak    |
| 6    | 5358.156    | 48.29 | 31.78  | 6.03 | 36.88  | 49.22  | 54.00  | -4.78  | VERTICAL  | Average |

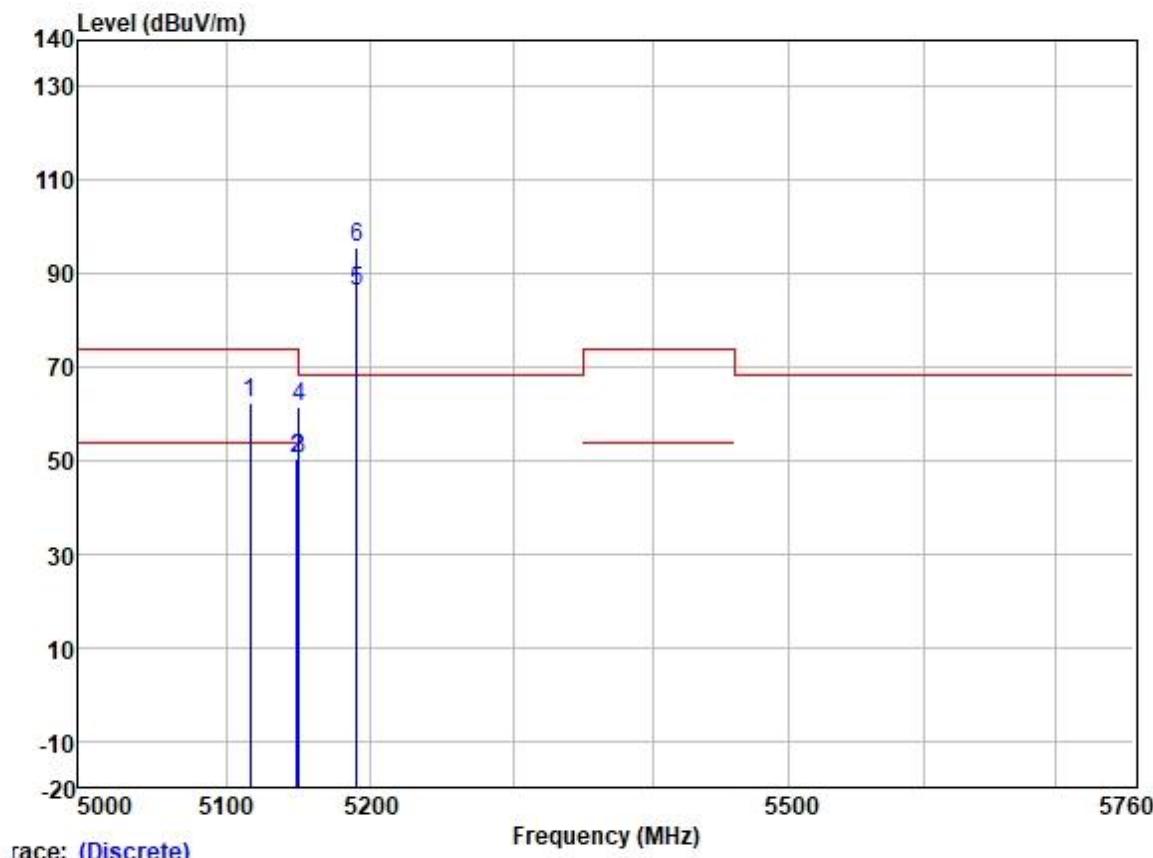
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over   | Line       | Limit   | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|------------|---------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | dB     | dBuV/m |       |        |            |         |           |        |
| MHz  | dBuV        | dB/m   |       |        |        |        |       |        |            |         |           |        |
| 1    | 5116.157    | 61.92  | 31.72 | 5.64   | 36.86  | 62.42  | 74.00 | -11.58 | HORIZONTAL | Peak    |           |        |
| 2    | 5148.982    | 49.97  | 31.72 | 5.62   | 36.86  | 50.45  | 54.00 | -3.55  | HORIZONTAL | Average |           |        |
| 3    | 5149.980    | 49.81  | 31.72 | 5.62   | 36.86  | 50.29  | 54.00 | -3.71  | HORIZONTAL | Average |           |        |
| 4    | 5149.980    | 60.86  | 31.72 | 5.62   | 36.86  | 61.34  | 74.00 | -12.66 | HORIZONTAL | Peak    |           |        |
| 5    | 5190.000    | 85.62  | 31.73 | 5.60   | 36.87  | 86.08  | ----- | -----  | HORIZONTAL | Average |           |        |
| 6 *  | 5190.000    | 95.28  | 31.73 | 5.60   | 36.87  | 95.74  | 68.20 | 27.54  | HORIZONTAL | Peak    |           |        |

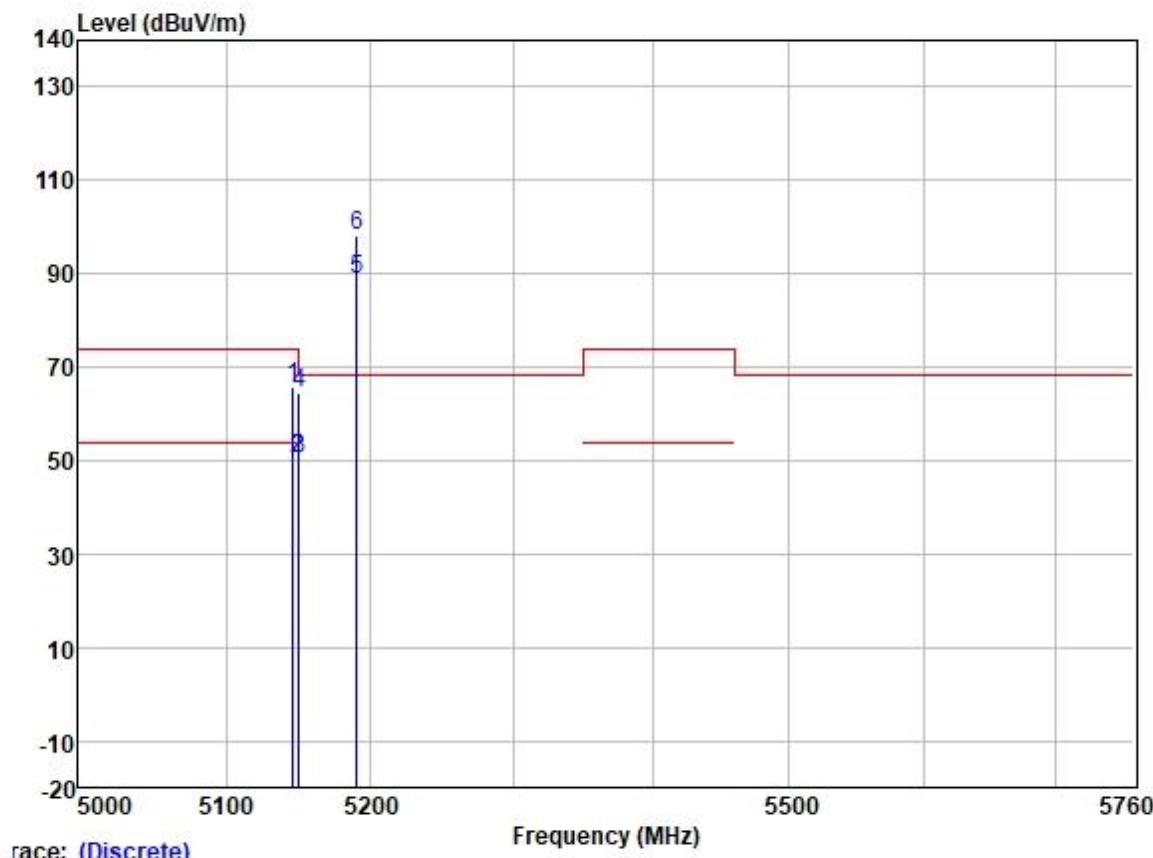
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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



| Freq         | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over     | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|-------|----------|-----------|--------|
|              | Level       | Factor | Loss  | Factor | Level  | Line   |       |          |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |          |           |        |
| 1 5145.870   | 65.08       | 31.72  | 5.62  | 36.86  | 65.56  | 74.00  | -8.44 | VERTICAL | Peak      |        |
| 2 5149.461   | 50.02       | 31.72  | 5.62  | 36.86  | 50.50  | 54.00  | -3.50 | VERTICAL | Average   |        |
| 3 5149.980   | 50.11       | 31.72  | 5.62  | 36.86  | 50.59  | 54.00  | -3.41 | VERTICAL | Average   |        |
| 4 5149.980   | 64.03       | 31.72  | 5.62  | 36.86  | 64.51  | 74.00  | -9.49 | VERTICAL | Peak      |        |
| 5 5190.000   | 88.42       | 31.73  | 5.60  | 36.87  | 88.88  | -----  | ----- | VERTICAL | Average   |        |
| 6 * 5190.000 | 97.90       | 31.73  | 5.60  | 36.87  | 98.36  | 68.20  | 30.16 | VERTICAL | Peak      |        |

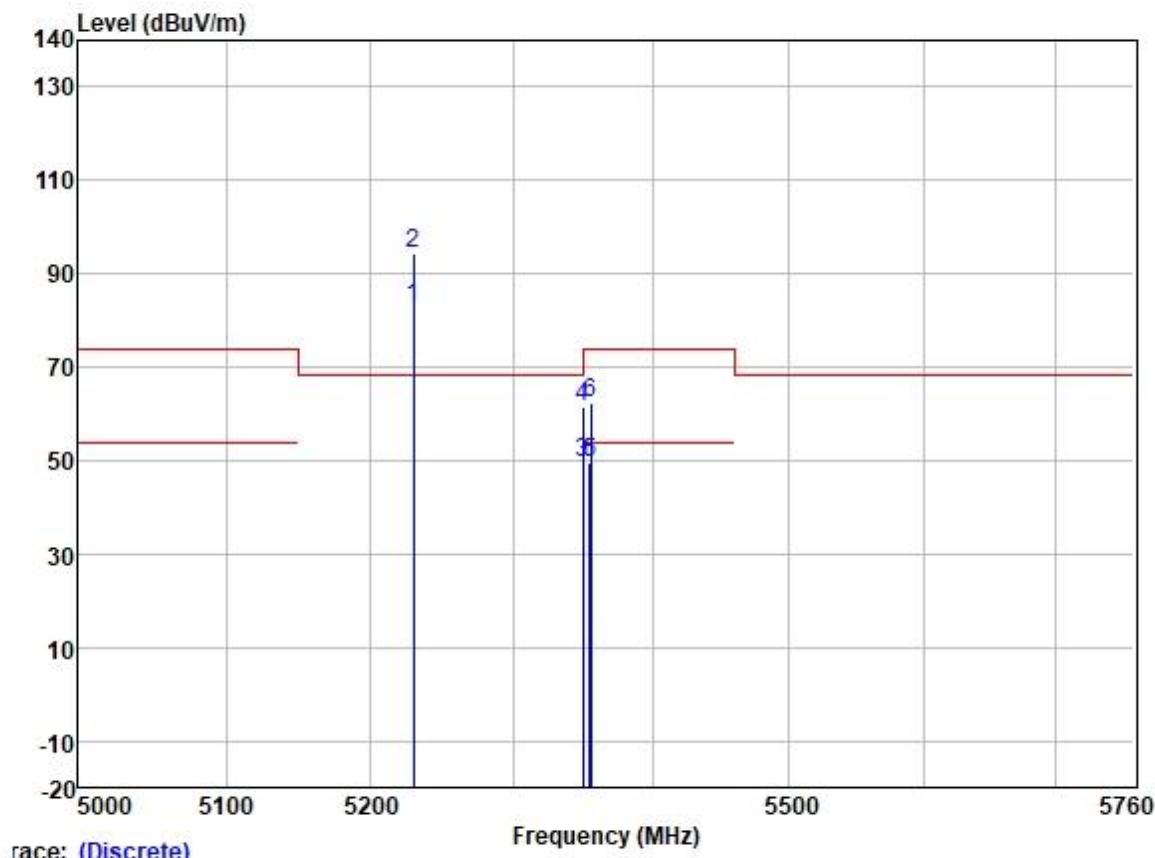
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line   | Limit | Pol/Phase  | Remark  |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|-------|------------|---------|
|      | Level       | Factor | Loss  | Factor |        |        |       |        |       |            |         |
| MHz  | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |        |       |            |         |
| 1    | 5230.000    | 82.33  | 31.74 | 5.70   | 36.87  | 82.90  | ----- | -----  | ----- | HORIZONTAL | Average |
| 2    | 5230.000    | 93.80  | 31.74 | 5.70   | 36.87  | 94.37  | 68.20 | 26.17  | ----- | HORIZONTAL | Peak    |
| 3    | 5350.020    | 48.54  | 31.77 | 6.05   | 36.88  | 49.48  | 54.00 | -4.52  | ----- | HORIZONTAL | Average |
| 4    | 5350.020    | 60.39  | 31.77 | 6.05   | 36.88  | 61.33  | 74.00 | -12.67 | ----- | HORIZONTAL | Peak    |
| 5    | 5354.642    | 48.76  | 31.78 | 6.03   | 36.88  | 49.69  | 54.00 | -4.31  | ----- | HORIZONTAL | Average |
| 6    | 5355.616    | 61.34  | 31.78 | 6.03   | 36.88  | 62.27  | 74.00 | -11.73 | ----- | HORIZONTAL | Peak    |

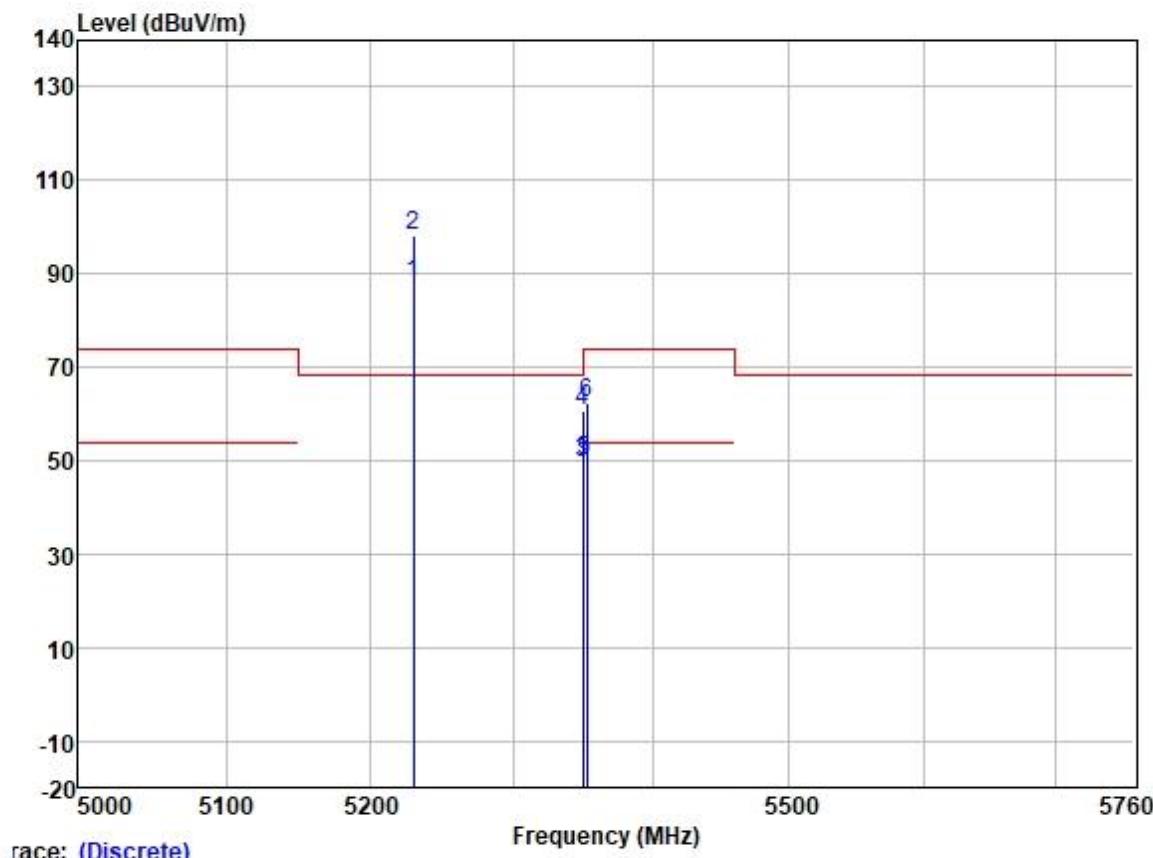
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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable |      | Preamp | Loss  | Factor | Limit  | Line  | Over   | Limit | Pol/Phase | Remark   |         |
|------|-------------|-------|-------|------|--------|-------|--------|--------|-------|--------|-------|-----------|----------|---------|
|      | MHz         | dBuV  | dB    | dB   |        |       |        |        |       |        |       |           |          |         |
| 1    | 5230.000    | 87.20 | 31.74 | 5.70 | 36.87  | 87.77 | -----  | -----  | ----- | -----  | ----- | -----     | VERTICAL | Average |
| 2 *  | 5230.000    | 97.61 | 31.74 | 5.70 | 36.87  | 98.18 | 68.20  | 29.98  | 68.20 | 29.98  | 68.20 | 29.98     | VERTICAL | Peak    |
| 3    | 5350.020    | 48.69 | 31.77 | 6.05 | 36.88  | 49.63 | 54.00  | -4.37  | 54.00 | -4.37  | 54.00 | -4.37     | VERTICAL | Average |
| 4    | 5350.020    | 59.84 | 31.77 | 6.05 | 36.88  | 60.78 | 74.00  | -13.22 | 74.00 | -13.22 | 74.00 | -13.22    | VERTICAL | Peak    |
| 5    | 5350.749    | 48.85 | 31.77 | 6.05 | 36.88  | 49.79 | 54.00  | -4.21  | 54.00 | -4.21  | 54.00 | -4.21     | VERTICAL | Average |
| 6    | 5352.695    | 61.29 | 31.77 | 6.05 | 36.88  | 62.23 | 74.00  | -11.77 | 74.00 | -11.77 | 74.00 | -11.77    | VERTICAL | Peak    |

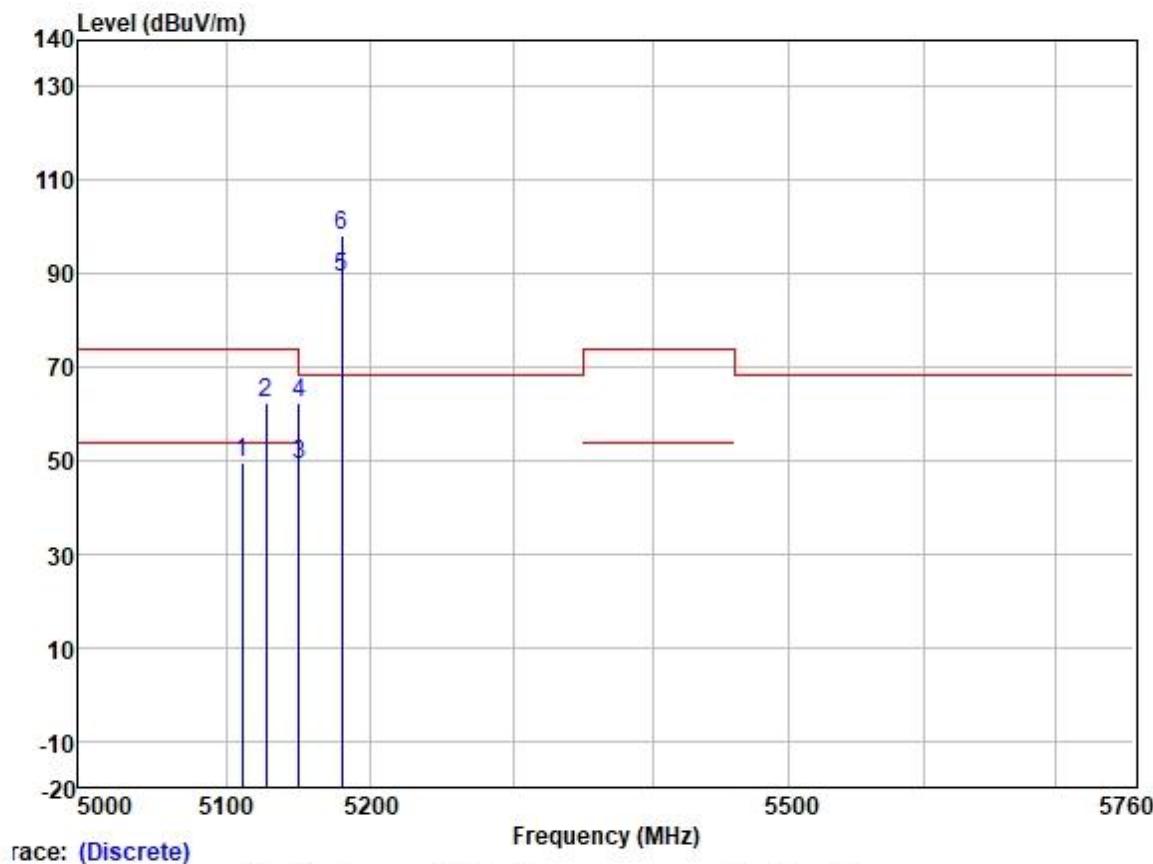
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable  |      | Preamp |       | Limit  | Over   | Line       | Limit   | Pol/Phase | Remark |
|------|-------------|-------|--------|------|--------|-------|--------|--------|------------|---------|-----------|--------|
|      | MHz         | Level | Factor | Loss | Factor | dB    | dBuV/m | dBuV/m | dB         |         |           |        |
| 1    | 5110.905    | 49.11 | 31.72  | 5.65 | 36.86  | 49.62 | 54.00  | -4.38  | HORIZONTAL | Average |           |        |
| 2    | 5127.705    | 61.82 | 31.72  | 5.63 | 36.86  | 62.31 | 74.00  | -11.69 | HORIZONTAL | Peak    |           |        |
| 3    | 5149.980    | 48.80 | 31.72  | 5.62 | 36.86  | 49.28 | 54.00  | -4.72  | HORIZONTAL | Average |           |        |
| 4    | 5149.980    | 61.85 | 31.72  | 5.62 | 36.86  | 62.33 | 74.00  | -11.67 | HORIZONTAL | Peak    |           |        |
| 5    | 5180.000    | 88.70 | 31.73  | 5.61 | 36.87  | 89.17 | -----  | -----  | HORIZONTAL | Average |           |        |
| 6 *  | 5180.000    | 97.70 | 31.73  | 5.61 | 36.87  | 98.17 | 68.20  | 29.97  | HORIZONTAL | Peak    |           |        |

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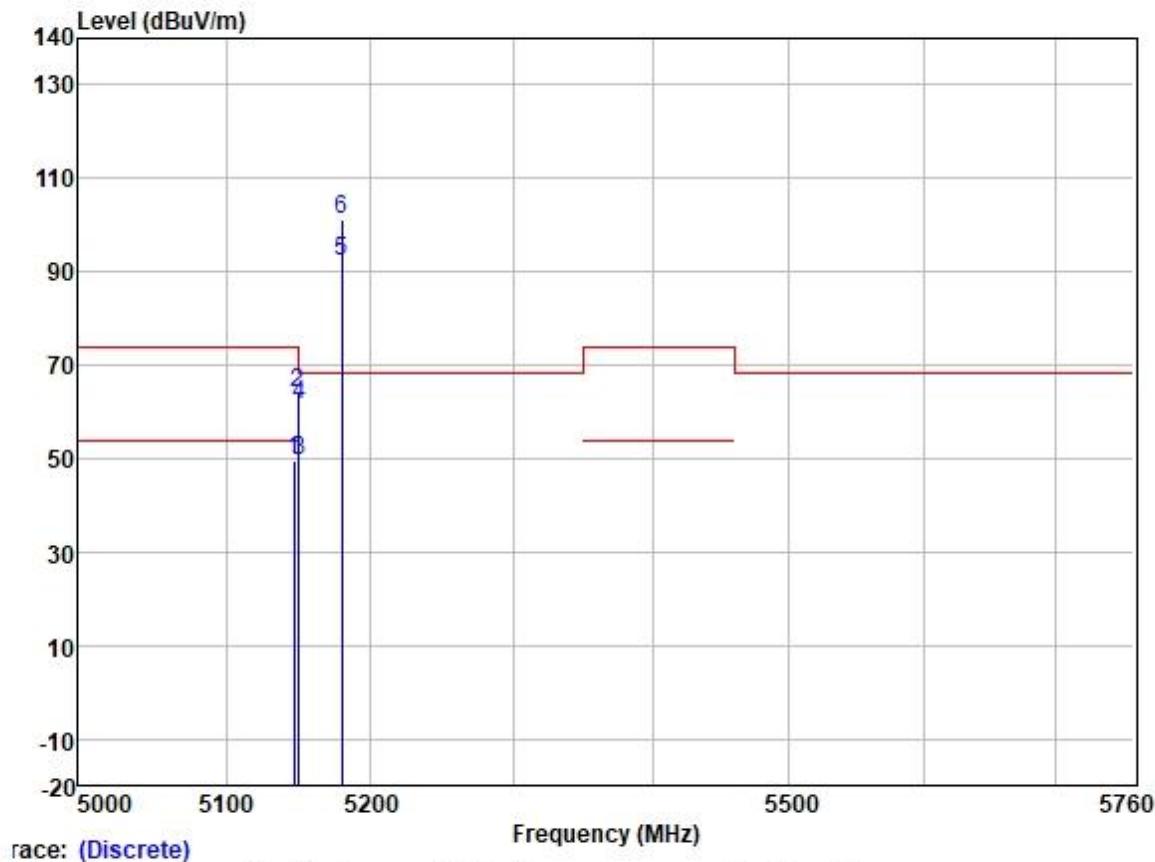


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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



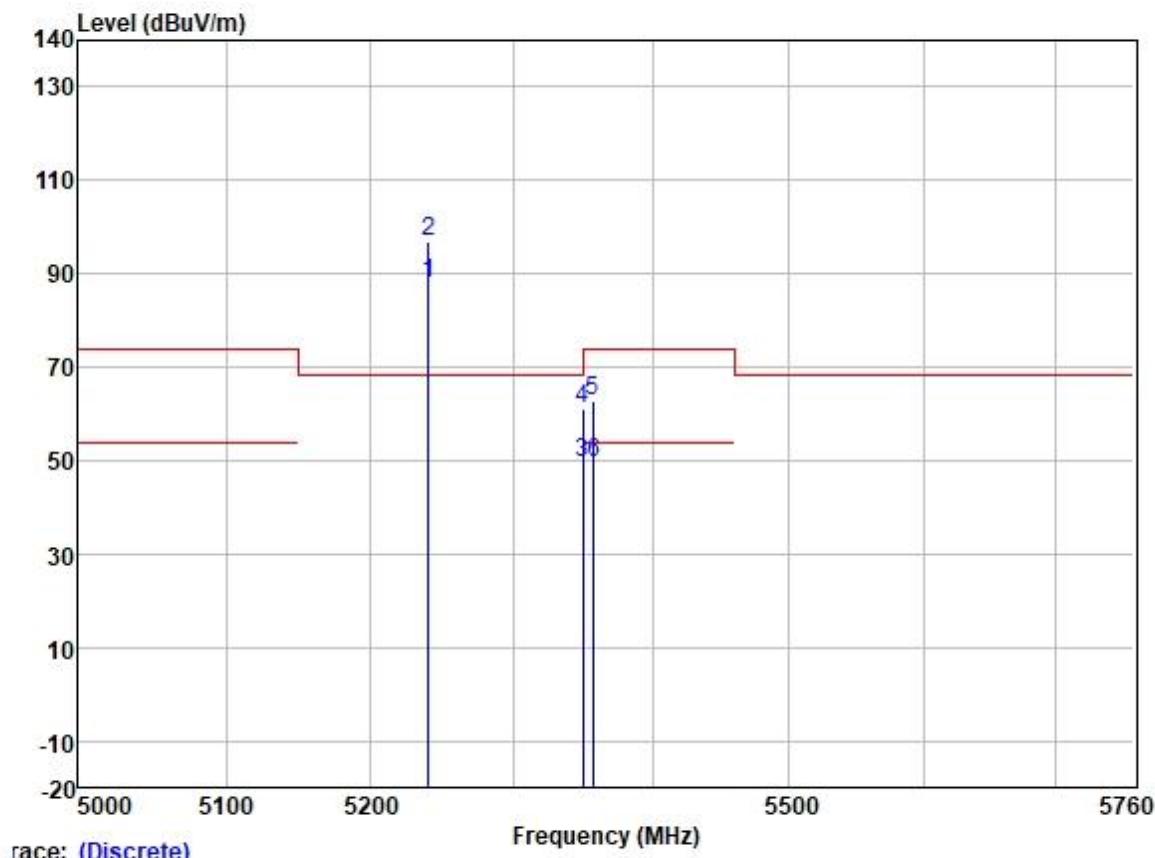
| Freq | ReadAntenna |        | Cable |        | Preamp |        | Level  | Line   | Over     | Limit | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|----------|-------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | Level  |        |        |        |          |       |           |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB     | dBuV/m | dBuV/m |          | dB    |           |        |
| 1    | 5146.658    | 49.21  | 31.72 | 5.62   | 36.86  | 49.69  | 54.00  | -4.31  | VERTICAL |       | Average   |        |
| 2    | 5149.257    | 63.63  | 31.72 | 5.62   | 36.86  | 64.11  | 74.00  | -9.89  | VERTICAL |       | Peak      |        |
| 3    | 5149.980    | 49.27  | 31.72 | 5.62   | 36.86  | 49.75  | 54.00  | -4.25  | VERTICAL |       | Average   |        |
| 4    | 5149.980    | 61.22  | 31.72 | 5.62   | 36.86  | 61.70  | 74.00  | -12.30 | VERTICAL |       | Peak      |        |
| 5    | 5180.000    | 91.75  | 31.73 | 5.61   | 36.87  | 92.22  | -----  | -----  | VERTICAL |       | Average   |        |
| 6 *  | 5180.000    | 100.59 | 31.73 | 5.61   | 36.87  | 101.06 | 68.20  | 32.86  | VERTICAL |       | Peak      |        |

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Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Pol/Phase  | Remark             |
|------|-------------|--------|-------|--------|--------|--------|-------|------------|--------------------|
|      | Level       | Factor | Loss  | Factor |        |        |       |            |                    |
| MHz  | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |            |                    |
| 1    | 5240.000    | 87.17  | 31.75 | 5.74   | 36.87  | 87.79  | ----- | HORIZONTAL | Average            |
| 2 *  | 5240.000    | 96.44  | 31.75 | 5.74   | 36.87  | 97.06  | 68.20 | 28.86      | HORIZONTAL Peak    |
| 3    | 5350.020    | 48.62  | 31.77 | 6.05   | 36.88  | 49.56  | 54.00 | -4.44      | HORIZONTAL Average |
| 4    | 5350.020    | 60.22  | 31.77 | 6.05   | 36.88  | 61.16  | 74.00 | -12.84     | HORIZONTAL Peak    |
| 5    | 5357.022    | 61.95  | 31.78 | 6.03   | 36.88  | 62.88  | 74.00 | -11.12     | HORIZONTAL Peak    |
| 6    | 5357.305    | 48.75  | 31.78 | 6.03   | 36.88  | 49.68  | 54.00 | -4.32      | HORIZONTAL Average |

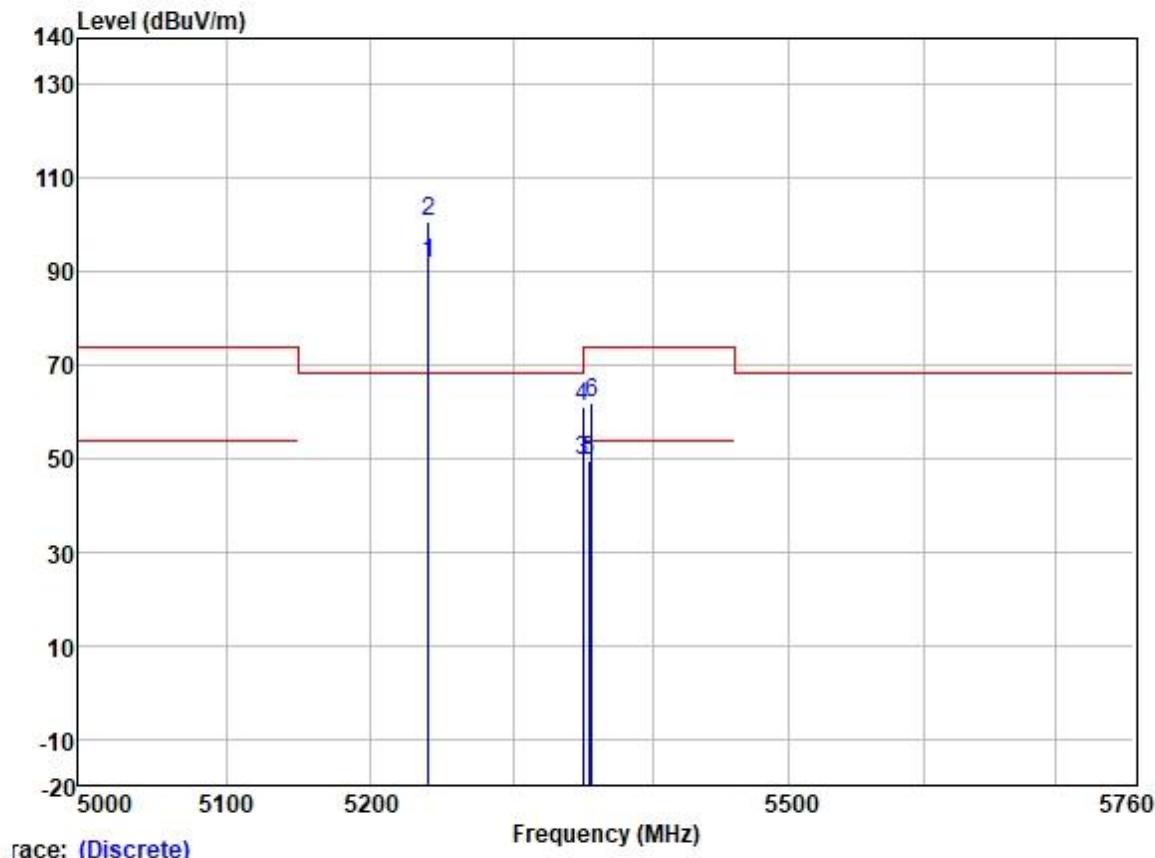
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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

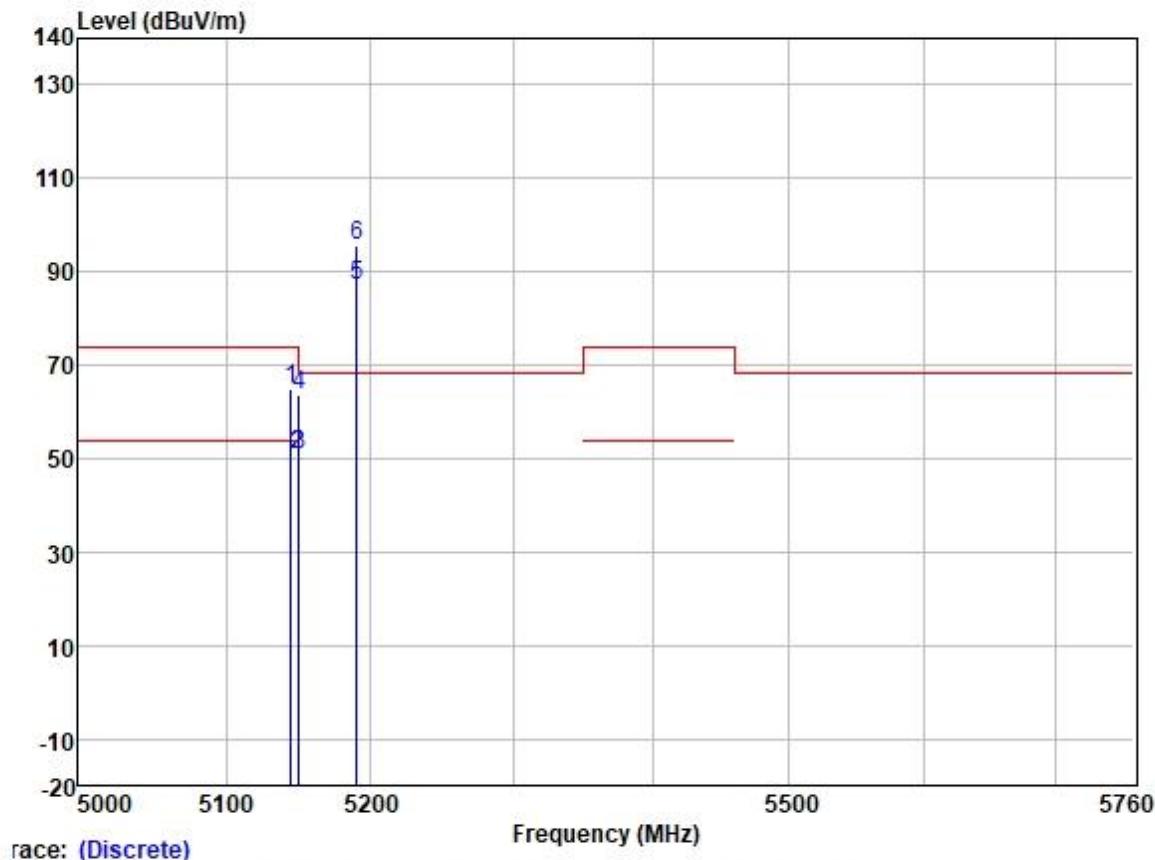


| Freq | ReadAntenna |        | Cable |        | Preamp |        | Level  | Limit  | Over  | Limit | Pol/Phase | Remark   |         |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|-------|-------|-----------|----------|---------|
|      | Level       | Factor | Loss  | Factor | Level  | Line   |        |        |       |       |           |          |         |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB     | dBuV/m | dBuV/m |       | dB    |           |          |         |
| 1    | 5240.000    | 91.00  | 31.75 | 5.74   | 36.87  | 91.62  | -----  | -----  | ----- | ----- | -----     | VERTICAL | Average |
| 2 *  | 5240.000    | 99.92  | 31.75 | 5.74   | 36.87  | 100.54 | 68.20  | 32.34  | ----- | ----- | -----     | VERTICAL | Peak    |
| 3    | 5350.020    | 48.71  | 31.77 | 6.05   | 36.88  | 49.65  | 54.00  | -4.35  | ----- | ----- | -----     | VERTICAL | Average |
| 4    | 5350.020    | 60.22  | 31.77 | 6.05   | 36.88  | 61.16  | 74.00  | -12.84 | ----- | ----- | -----     | VERTICAL | Peak    |
| 5    | 5354.187    | 48.75  | 31.78 | 6.03   | 36.88  | 49.68  | 54.00  | -4.32  | ----- | ----- | -----     | VERTICAL | Average |
| 6    | 5356.029    | 61.01  | 31.78 | 6.03   | 36.88  | 61.94  | 74.00  | -12.06 | ----- | ----- | -----     | VERTICAL | Peak    |

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Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp |       | Level  | Line   | Over       | Limit   | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|-------|--------|--------|------------|---------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | Level  |       |        |        |            |         |           |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB    | dBuV/m | dBuV/m |            | dB      |           |        |
| 1    | 5144.554    | 64.24  | 31.72 | 5.62   | 36.86  | 64.72 | 74.00  | -9.28  | HORIZONTAL | Peak    |           |        |
| 2    | 5149.342    | 50.25  | 31.72 | 5.62   | 36.86  | 50.73 | 54.00  | -3.27  | HORIZONTAL | Average |           |        |
| 3    | 5149.980    | 50.37  | 31.72 | 5.62   | 36.86  | 50.85 | 54.00  | -3.15  | HORIZONTAL | Average |           |        |
| 4    | 5149.980    | 63.31  | 31.72 | 5.62   | 36.86  | 63.79 | 74.00  | -10.21 | HORIZONTAL | Peak    |           |        |
| 5    | 5190.000    | 86.48  | 31.73 | 5.60   | 36.87  | 86.94 | -----  | -----  | HORIZONTAL | Average |           |        |
| 6 *  | 5190.000    | 94.96  | 31.73 | 5.60   | 36.87  | 95.42 | 68.20  | 27.22  | HORIZONTAL | Peak    |           |        |

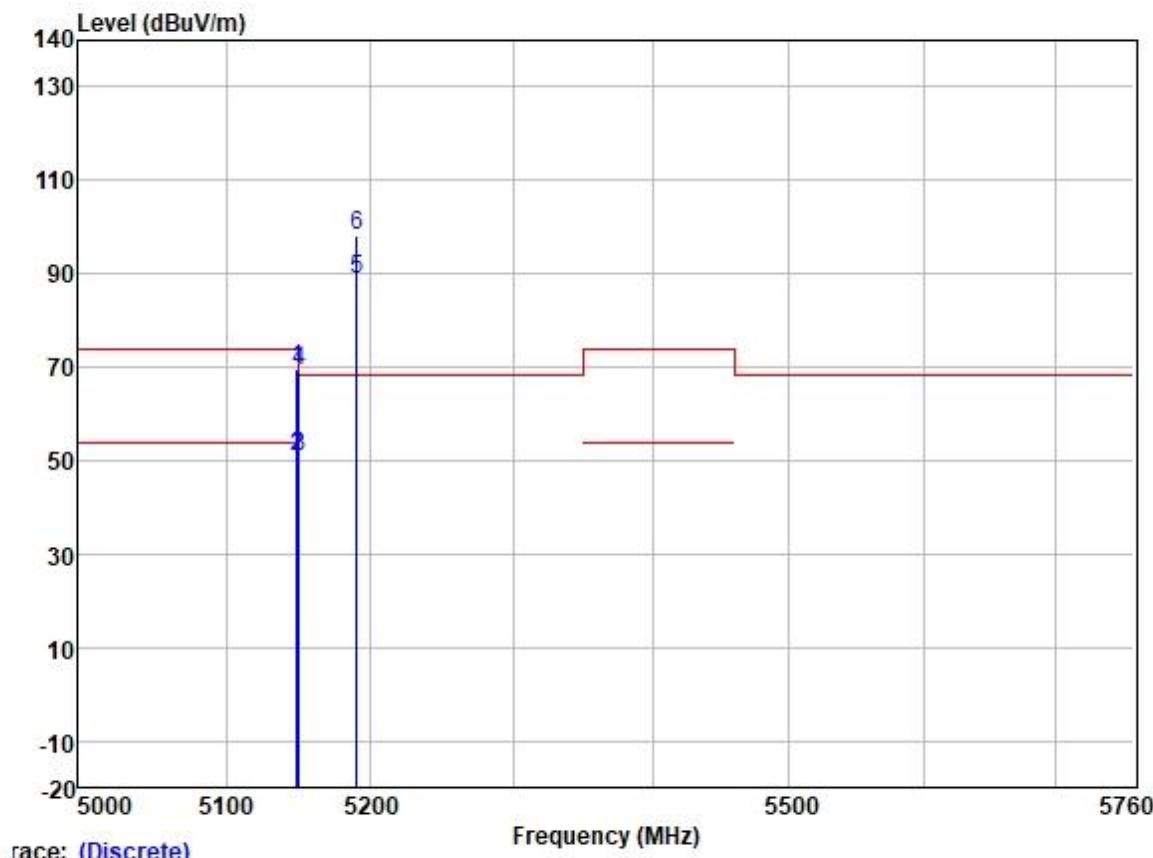
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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



|     | Freq     | ReadAntenna Level | Factor | Cable Loss | Preamp Factor | Limit Line Level | Over Limit dB | Pol/Phase | Remark           |
|-----|----------|-------------------|--------|------------|---------------|------------------|---------------|-----------|------------------|
|     | MHz      | dBuV              | dB/m   | dB         | dB            | dBuV/m           | dBuV/m        |           |                  |
| 1   | 5148.982 | 69.12             | 31.72  | 5.62       | 36.86         | 69.60            | 74.00         | -4.40     | VERTICAL Peak    |
| 2   | 5149.102 | 50.52             | 31.72  | 5.62       | 36.86         | 51.00            | 54.00         | -3.00     | VERTICAL Average |
| 3   | 5149.980 | 50.43             | 31.72  | 5.62       | 36.86         | 50.91            | 54.00         | -3.09     | VERTICAL Average |
| 4   | 5149.980 | 68.73             | 31.72  | 5.62       | 36.86         | 69.21            | 74.00         | -4.79     | VERTICAL Peak    |
| 5   | 5190.000 | 88.14             | 31.73  | 5.60       | 36.87         | 88.60            | -----         | -----     | VERTICAL Average |
| 6 * | 5190.000 | 97.86             | 31.73  | 5.60       | 36.87         | 98.32            | 68.20         | 30.12     | VERTICAL Peak    |

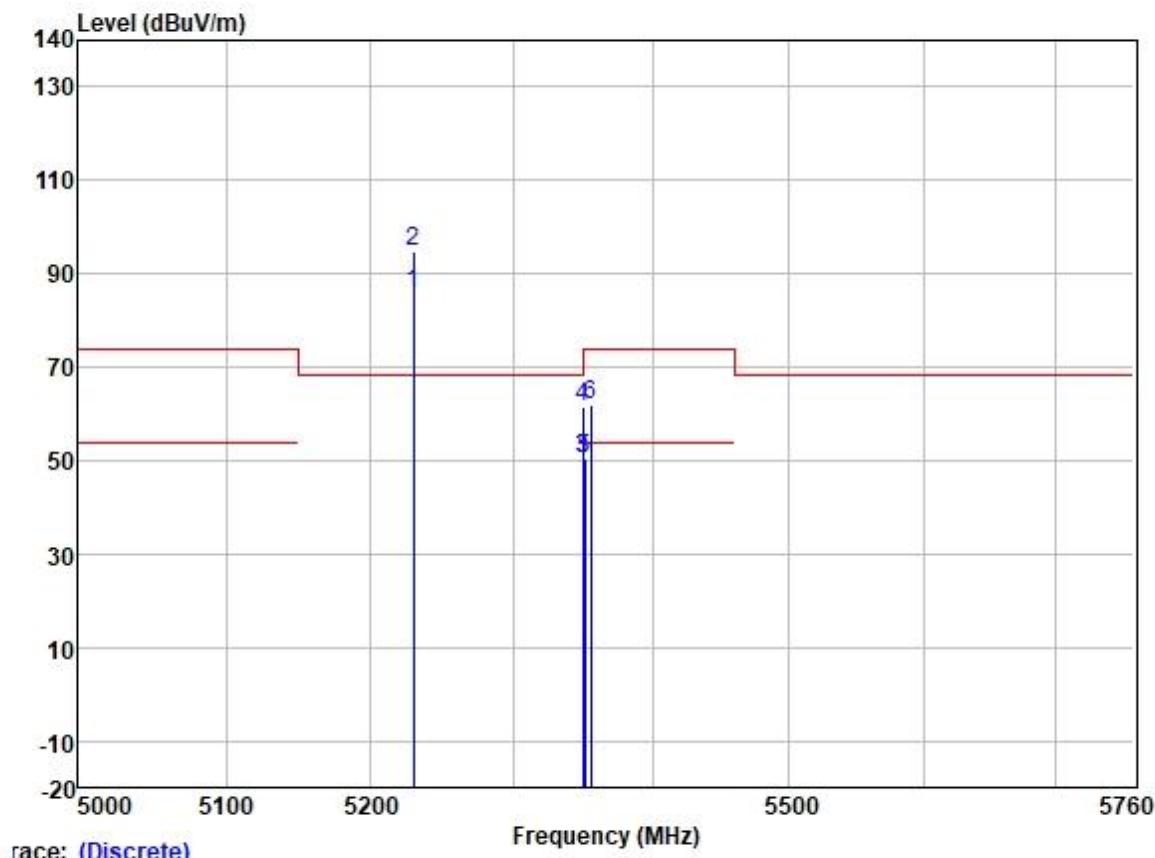
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



| Freq | ReadAntenna |        | Cable |        | Preamp |        | Level  | Line   | Over       | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|------------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | Level  | Line   |        |        |            |           |        |
|      | MHz         | dBuV   | dB/m  | dB     | dB     | dBuV/m | dBuV/m | dB     |            |           |        |
| 1    | 5230.000    | 85.30  | 31.74 | 5.70   | 36.87  | 85.87  | -----  | -----  | HORIZONTAL | Average   |        |
| 2 *  | 5230.000    | 94.00  | 31.74 | 5.70   | 36.87  | 94.57  | 68.20  | 26.37  | HORIZONTAL | Peak      |        |
| 3    | 5350.020    | 49.37  | 31.77 | 6.05   | 36.88  | 50.31  | 54.00  | -3.69  | HORIZONTAL | Average   |        |
| 4    | 5350.020    | 60.49  | 31.77 | 6.05   | 36.88  | 61.43  | 74.00  | -12.57 | HORIZONTAL | Peak      |        |
| 5    | 5351.073    | 49.44  | 31.77 | 6.05   | 36.88  | 50.38  | 54.00  | -3.62  | HORIZONTAL | Average   |        |
| 6    | 5355.778    | 60.94  | 31.78 | 6.03   | 36.88  | 61.87  | 74.00  | -12.13 | HORIZONTAL | Peak      |        |

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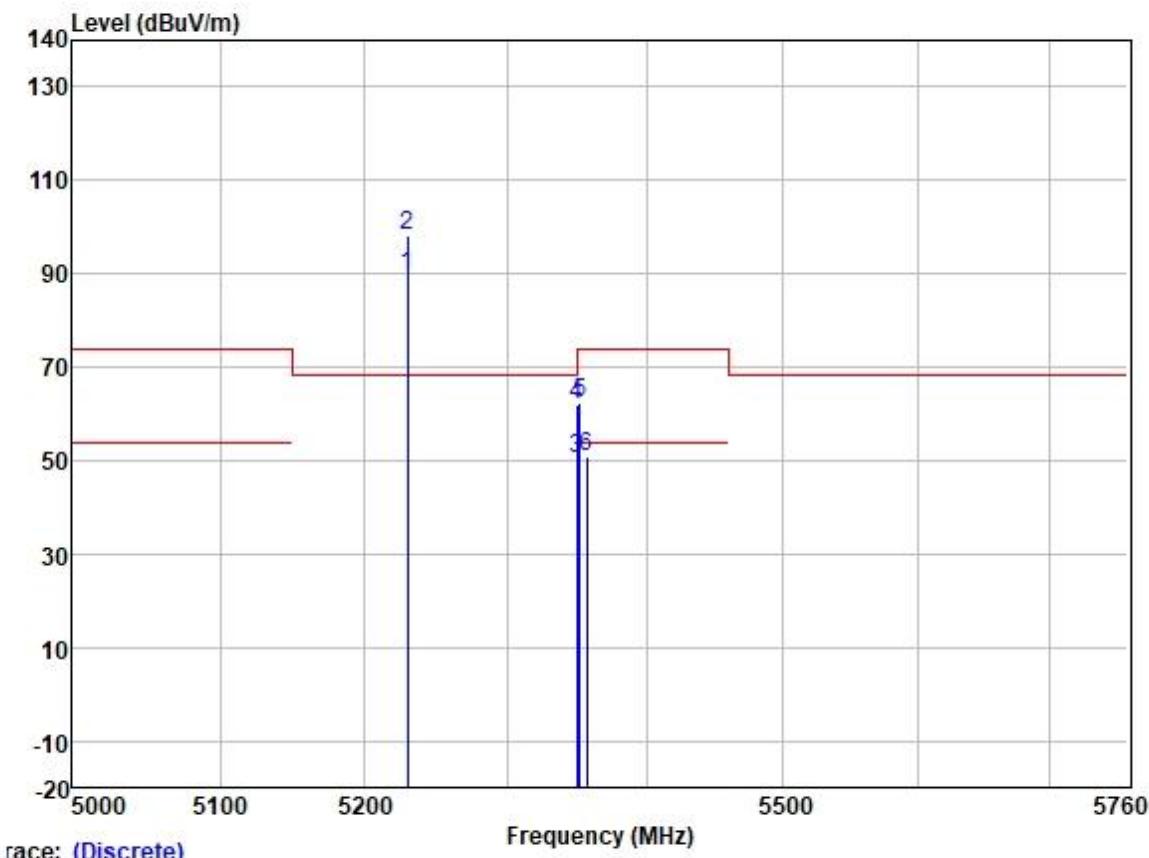
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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

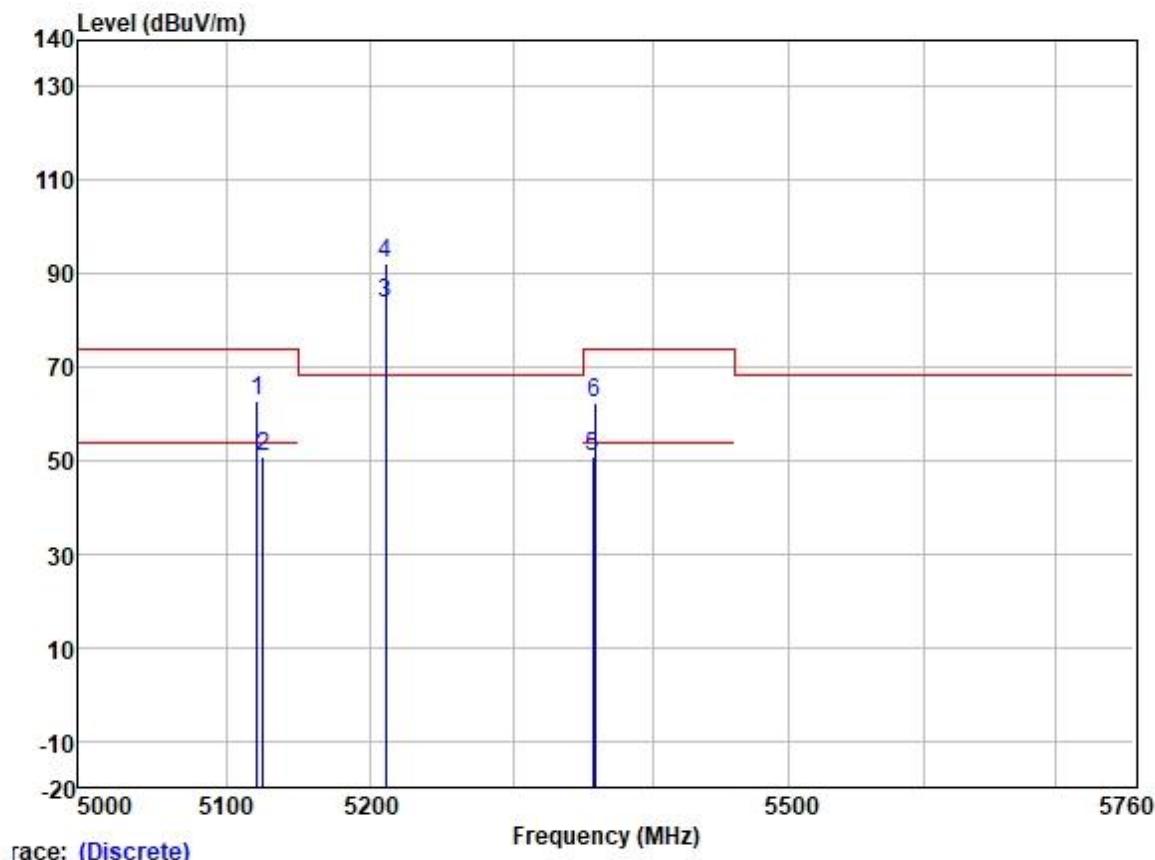


| Freq | ReadAntenna |        | Cable |        | Preamp |       | Level  | Limit  | Over  |           | Remark  |
|------|-------------|--------|-------|--------|--------|-------|--------|--------|-------|-----------|---------|
|      | Level       | Factor | Loss  | Factor | Level  | Line  |        |        | Limit | Pol/Phase |         |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB    | dBuV/m | dBuV/m |       | dB        |         |
| 1    | 5230.000    | 89.06  | 31.74 | 5.70   | 36.87  | 89.63 | -----  | -----  | ----- | VERTICAL  | Average |
| 2 *  | 5230.000    | 97.41  | 31.74 | 5.70   | 36.87  | 97.98 | 68.20  | 29.78  | ----- | VERTICAL  | Peak    |
| 3    | 5350.020    | 49.50  | 31.77 | 6.05   | 36.88  | 50.44 | 54.00  | -3.56  | ----- | VERTICAL  | Average |
| 4    | 5350.020    | 60.90  | 31.77 | 6.05   | 36.88  | 61.84 | 74.00  | -12.16 | ----- | VERTICAL  | Peak    |
| 5    | 5352.208    | 61.48  | 31.77 | 6.05   | 36.88  | 62.42 | 74.00  | -11.58 | ----- | VERTICAL  | Peak    |
| 6    | 5356.752    | 49.73  | 31.78 | 6.03   | 36.88  | 50.66 | 54.00  | -3.34  | ----- | VERTICAL  | Average |

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Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



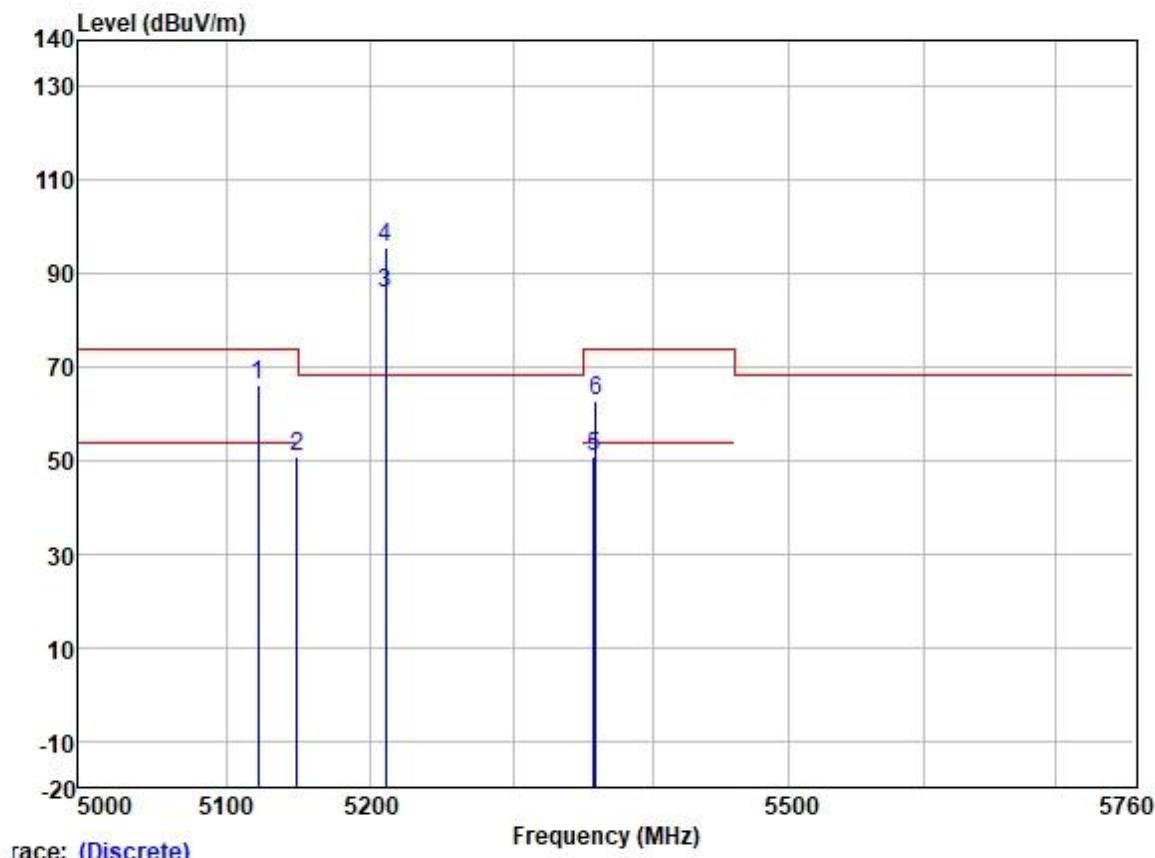
| Freq | ReadAntenna |        | Cable Preamp |        | Limit |        | Over   |           | Remark             |
|------|-------------|--------|--------------|--------|-------|--------|--------|-----------|--------------------|
|      | Level       | Factor | Loss         | Factor | Level | Line   | Limit  | Pol/Phase |                    |
|      | MHz         | dBuV   | dB/m         | dB     | dB    | dBuV/m | dBuV/m | dB        |                    |
| 1    | 5121.091    | 62.47  | 31.72        | 5.64   | 36.86 | 62.97  | 74.00  | -11.03    | HORIZONTAL Peak    |
| 2    | 5125.422    | 50.49  | 31.72        | 5.64   | 36.86 | 50.99  | 54.00  | -3.01     | HORIZONTAL Average |
| 3    | 5210.000    | 83.02  | 31.74        | 5.65   | 36.87 | 83.54  | -----  | -----     | HORIZONTAL Average |
| 4 *  | 5210.000    | 91.68  | 31.74        | 5.65   | 36.87 | 92.20  | 68.20  | 24.00     | HORIZONTAL Peak    |
| 5    | 5356.803    | 49.77  | 31.78        | 6.03   | 36.88 | 50.70  | 54.00  | -3.30     | HORIZONTAL Average |
| 6    | 5358.401    | 61.50  | 31.78        | 6.03   | 36.88 | 62.43  | 74.00  | -11.57    | HORIZONTAL Peak    |

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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



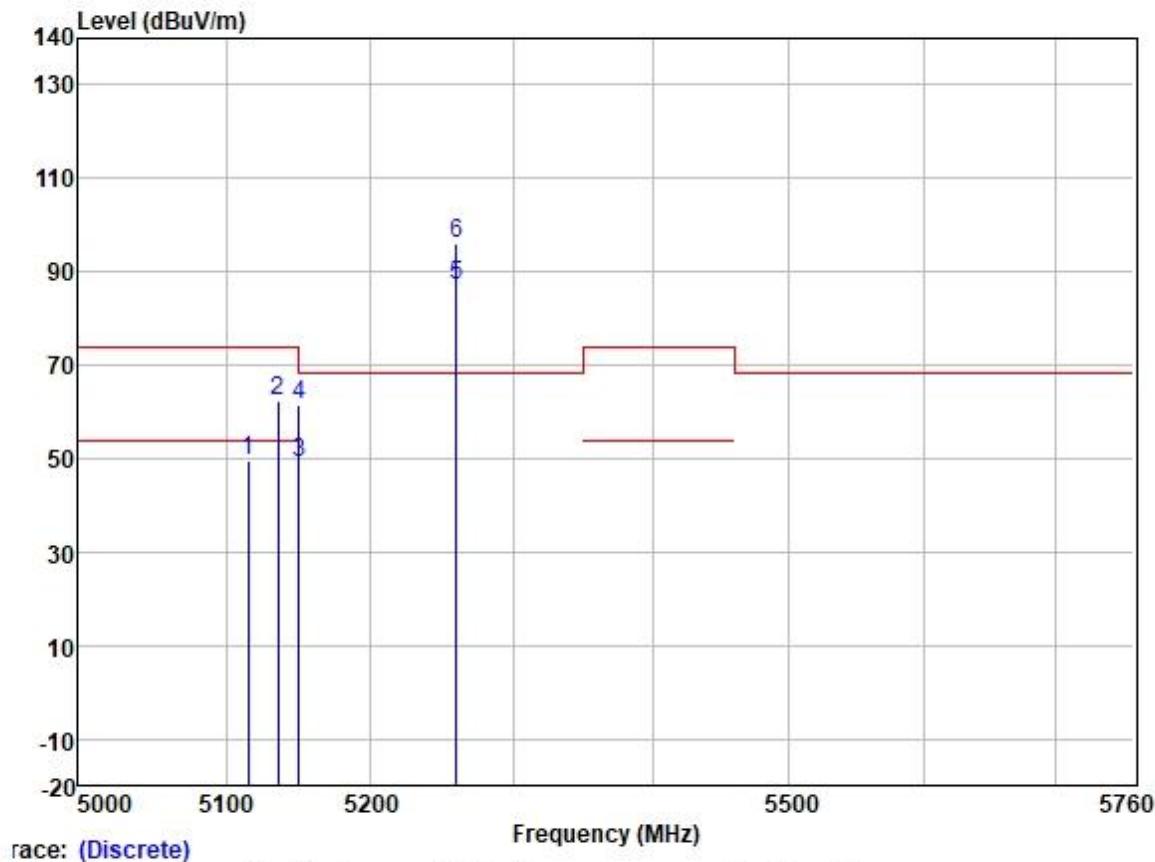
| Freq | ReadAntenna |        | Cable |        | Preamp |       | Level  | Line   | Over      |         | Remark |
|------|-------------|--------|-------|--------|--------|-------|--------|--------|-----------|---------|--------|
|      | Level       | Factor | Loss  | Factor | Level  | Limit |        |        | Pol/Phase |         |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB    | dBuV/m | dBuV/m |           | dB      |        |
| 1    | 5121.601    | 65.53  | 31.72 | 5.64   | 36.86  | 66.03 | 74.00  | -7.97  | VERTICAL  | Peak    |        |
| 2    | 5148.667    | 50.34  | 31.72 | 5.62   | 36.86  | 50.82 | 54.00  | -3.18  | VERTICAL  | Average |        |
| 3    | 5210.000    | 85.34  | 31.74 | 5.65   | 36.87  | 85.86 | -----  | -----  | VERTICAL  | Average |        |
| 4 *  | 5210.000    | 95.03  | 31.74 | 5.65   | 36.87  | 95.55 | 68.20  | 27.35  | VERTICAL  | Peak    |        |
| 5    | 5357.335    | 49.86  | 31.78 | 6.03   | 36.88  | 50.79 | 54.00  | -3.21  | VERTICAL  | Average |        |
| 6    | 5358.934    | 61.78  | 31.78 | 6.03   | 36.88  | 62.71 | 74.00  | -11.29 | VERTICAL  | Peak    |        |

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Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line   | Limit      | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|------------|-----------|--------|
|      | Level       | Factor | Loss  | Factor |        |        |       |        |            |           |        |
| MHz  | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |        |            |           |        |
| 1    | 5114.881    | 49.07  | 31.72 | 5.64   | 36.86  | 49.57  | 54.00 | -4.43  | HORIZONTAL | Average   |        |
| 2    | 5135.680    | 61.68  | 31.72 | 5.63   | 36.86  | 62.17  | 74.00 | -11.83 | HORIZONTAL | Peak      |        |
| 3    | 5149.980    | 48.73  | 31.72 | 5.62   | 36.86  | 49.21  | 54.00 | -4.79  | HORIZONTAL | Average   |        |
| 4    | 5149.980    | 61.20  | 31.72 | 5.62   | 36.86  | 61.68  | 74.00 | -12.32 | HORIZONTAL | Peak      |        |
| 5    | 5260.000    | 86.53  | 31.75 | 5.77   | 36.87  | 87.18  | ----- | -----  | HORIZONTAL | Average   |        |
| 6 *  | 5260.000    | 95.61  | 31.75 | 5.77   | 36.87  | 96.26  | 68.20 | 28.06  | HORIZONTAL | Peak      |        |

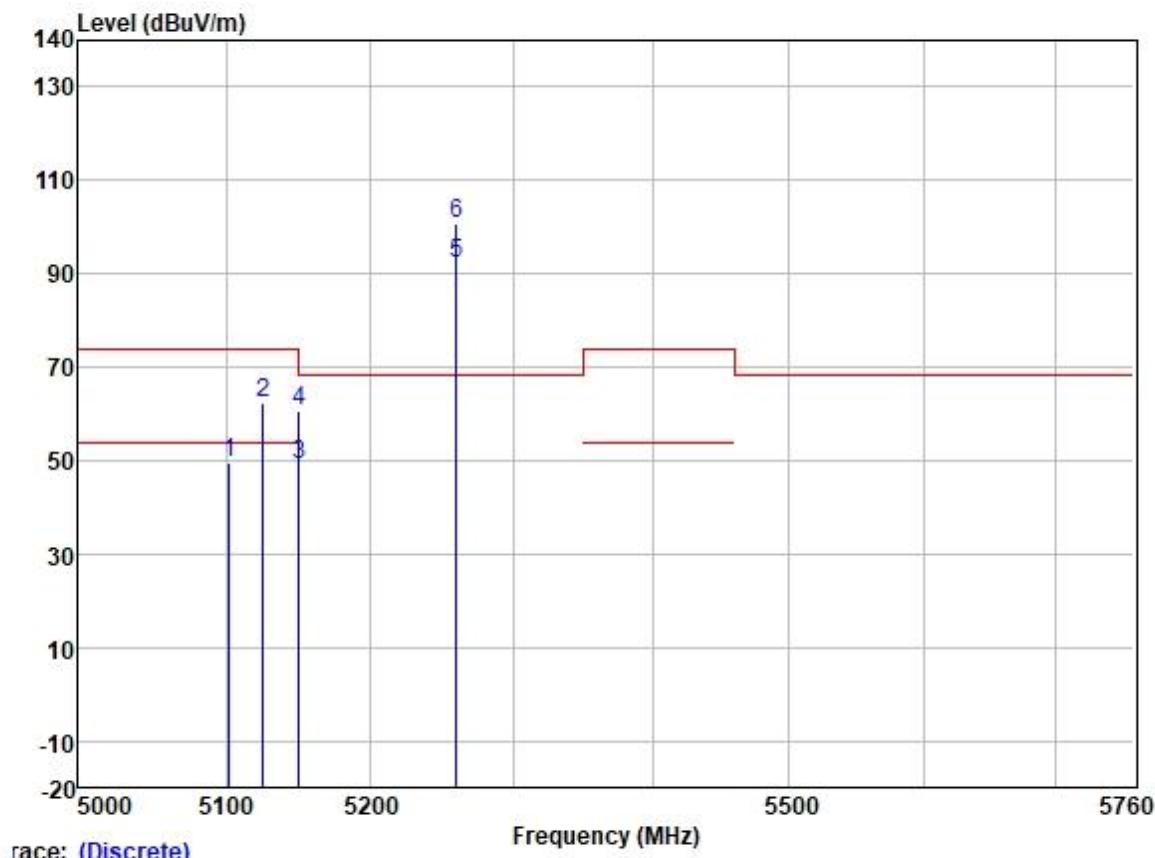
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Test Mode: 05; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Mode: (Discrete)

| Freq | ReadAntenna |        | Cable  |      | Preamp | Limit  | Over   | Line   | Limit    | Pol/Phase | Remark |
|------|-------------|--------|--------|------|--------|--------|--------|--------|----------|-----------|--------|
|      | MHz         | Level  | Factor | Loss |        |        |        |        |          |           |        |
|      | MHz         | dBuV   | dB/m   | dB   | dB     | dBuV/m | dBuV/m | dB     | dB       |           |        |
| 1    | 5101.946    | 49.12  | 31.72  | 5.65 | 36.86  | 49.63  | 54.00  | -4.37  | VERTICAL | Average   |        |
| 2    | 5125.181    | 61.75  | 31.72  | 5.64 | 36.86  | 62.25  | 74.00  | -11.75 | VERTICAL | Peak      |        |
| 3    | 5149.980    | 48.69  | 31.72  | 5.62 | 36.86  | 49.17  | 54.00  | -4.83  | VERTICAL | Average   |        |
| 4    | 5149.980    | 60.24  | 31.72  | 5.62 | 36.86  | 60.72  | 74.00  | -13.28 | VERTICAL | Peak      |        |
| 5    | 5260.000    | 91.66  | 31.75  | 5.77 | 36.87  | 92.31  | -----  | -----  | VERTICAL | Average   |        |
| 6 *  | 5260.000    | 100.26 | 31.75  | 5.77 | 36.87  | 100.91 | 68.20  | 32.71  | VERTICAL | Peak      |        |

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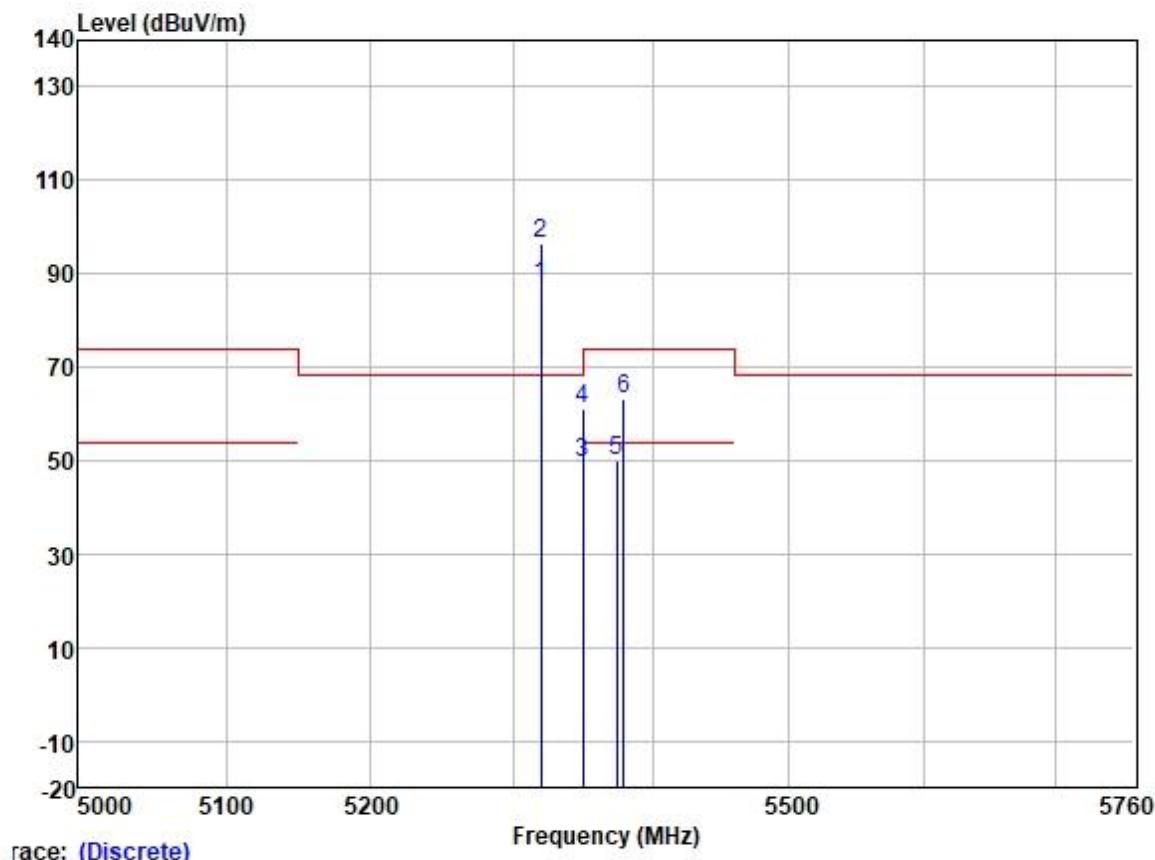


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Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |        | Cable Preamp |        | Level | Limit  | Over   |        | Remark             |
|------|-------------|--------|--------------|--------|-------|--------|--------|--------|--------------------|
|      | Level       | Factor | Loss         | Factor |       |        | Line   | Limit  |                    |
|      | MHz         | dBuV   | dB/m         | dB     | dB    | dBuV/m | dBuV/m | dB     |                    |
| 1    | 5320.000    | 86.46  | 31.77        | 6.08   | 36.88 | 87.43  | -----  | -----  | HORIZONTAL Average |
| 2 *  | 5320.000    | 95.30  | 31.77        | 6.08   | 36.88 | 96.27  | 68.20  | 28.07  | HORIZONTAL Peak    |
| 3    | 5350.020    | 48.66  | 31.77        | 6.05   | 36.88 | 49.60  | 54.00  | -4.40  | HORIZONTAL Average |
| 4    | 5350.020    | 60.11  | 31.77        | 6.05   | 36.88 | 61.05  | 74.00  | -12.95 | HORIZONTAL Peak    |
| 5    | 5374.021    | 48.99  | 31.78        | 6.02   | 36.88 | 49.91  | 54.00  | -4.09  | HORIZONTAL Average |
| 6    | 5379.247    | 62.23  | 31.78        | 6.02   | 36.88 | 63.15  | 74.00  | -10.85 | HORIZONTAL Peak    |

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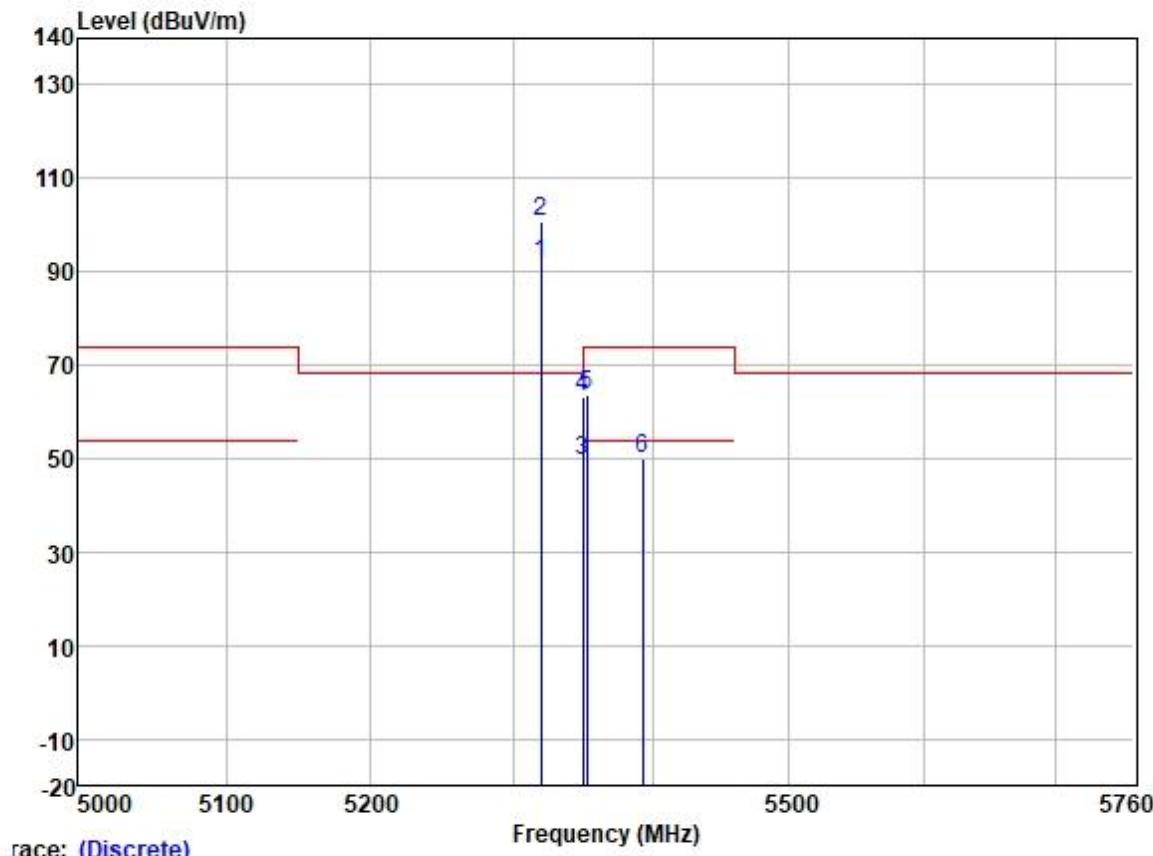
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Test Mode: 05; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

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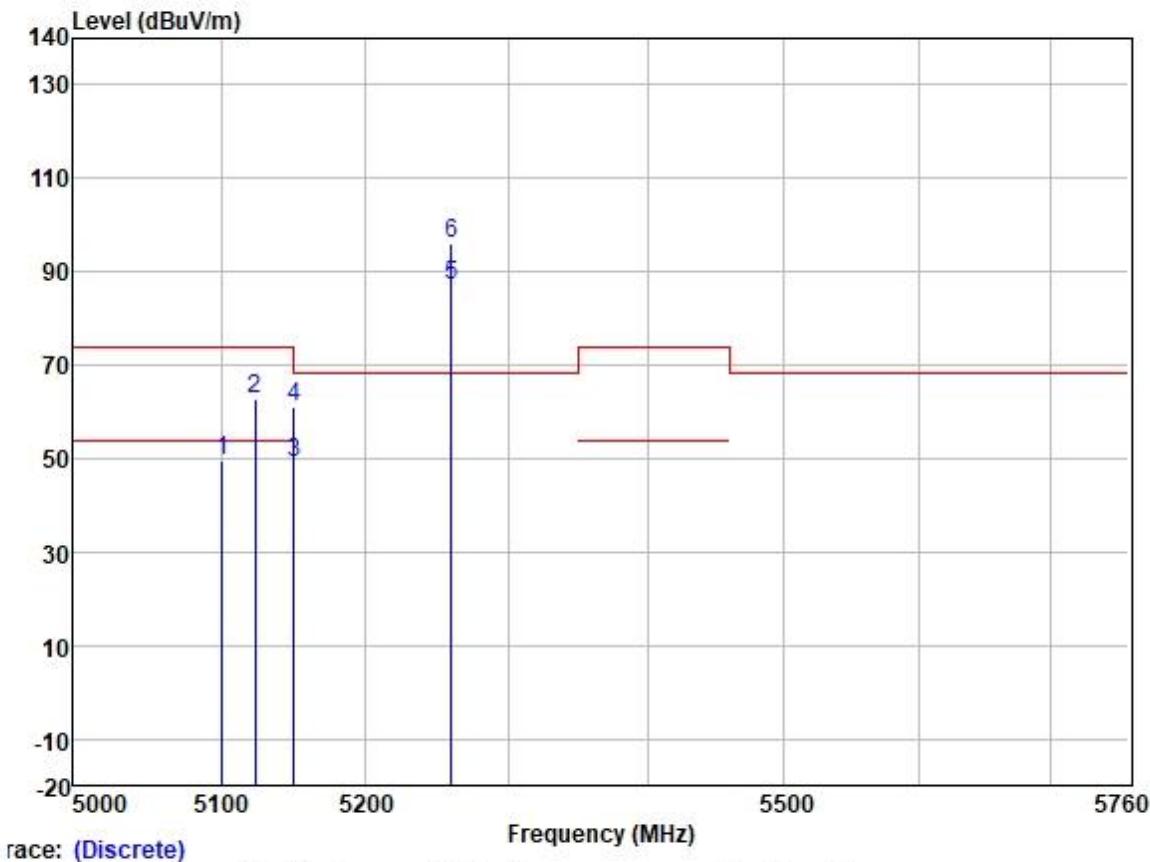
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



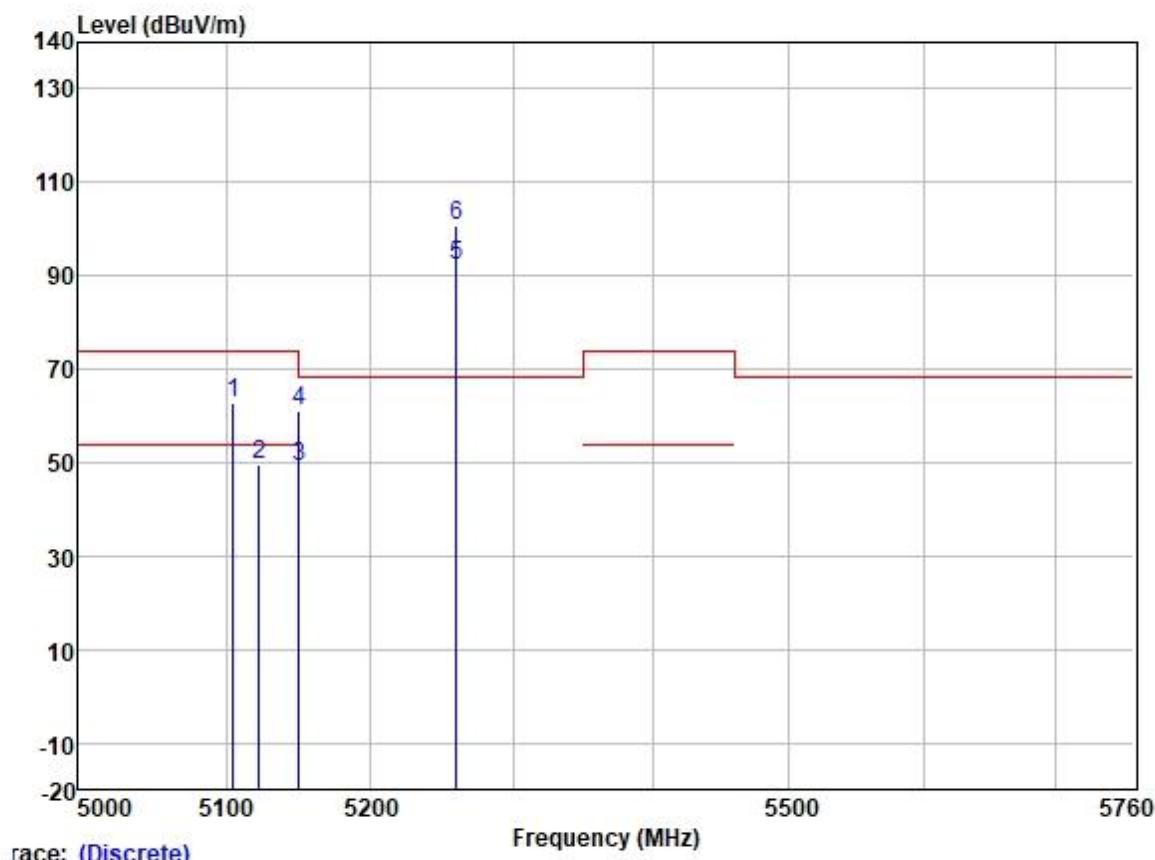
| Freq         | ReadAntenna |        | Cable |        | Preamp |        | Limit  |            | Over    |  | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|--------|------------|---------|--|--------|
|              | Level       | Factor | Loss  | Factor | Level  | Line   | Limit  | Pol/Phase  |         |  |        |
| MHz          | dBuV        | dB/m   |       | dB     | dB     | dBuV/m | dBuV/m |            | dB      |  |        |
| 1 5100.885   | 49.10       | 31.72  | 5.65  | 36.86  | 49.61  | 54.00  | -4.39  | HORIZONTAL | Average |  |        |
| 2 5123.226   | 62.30       | 31.72  | 5.64  | 36.86  | 62.80  | 74.00  | -11.20 | HORIZONTAL | Peak    |  |        |
| 3 5149.980   | 48.65       | 31.72  | 5.62  | 36.86  | 49.13  | 54.00  | -4.87  | HORIZONTAL | Average |  |        |
| 4 5149.980   | 60.76       | 31.72  | 5.62  | 36.86  | 61.24  | 74.00  | -12.76 | HORIZONTAL | Peak    |  |        |
| 5 5260.000   | 86.46       | 31.75  | 5.77  | 36.87  | 87.11  | -----  | -----  | HORIZONTAL | Average |  |        |
| 6 * 5260.000 | 95.40       | 31.75  | 5.77  | 36.87  | 96.05  | 68.20  | 27.85  | HORIZONTAL | Peak    |  |        |

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Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |        | Cable  |      | Preamp<br>Loss Factor | Level  | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark  |
|------|-------------|--------|--------|------|-----------------------|--------|---------------|---------------|-----------|---------|
|      | MHz         | dBuV   | Factor | dB   |                       |        |               |               |           |         |
| 1    | 5104.956    | 62.42  | 31.72  | 5.65 | 36.86                 | 62.93  | 74.00         | -11.07        | VERTICAL  | Peak    |
| 2    | 5122.338    | 49.16  | 31.72  | 5.64 | 36.86                 | 49.66  | 54.00         | -4.34         | VERTICAL  | Average |
| 3    | 5149.980    | 48.68  | 31.72  | 5.62 | 36.86                 | 49.16  | 54.00         | -4.84         | VERTICAL  | Average |
| 4    | 5149.980    | 60.62  | 31.72  | 5.62 | 36.86                 | 61.10  | 74.00         | -12.90        | VERTICAL  | Peak    |
| 5    | 5260.000    | 91.37  | 31.75  | 5.77 | 36.87                 | 92.02  | -----         | -----         | VERTICAL  | Average |
| 6 *  | 5260.000    | 100.11 | 31.75  | 5.77 | 36.87                 | 100.76 | 68.20         | 32.56         | VERTICAL  | Peak    |

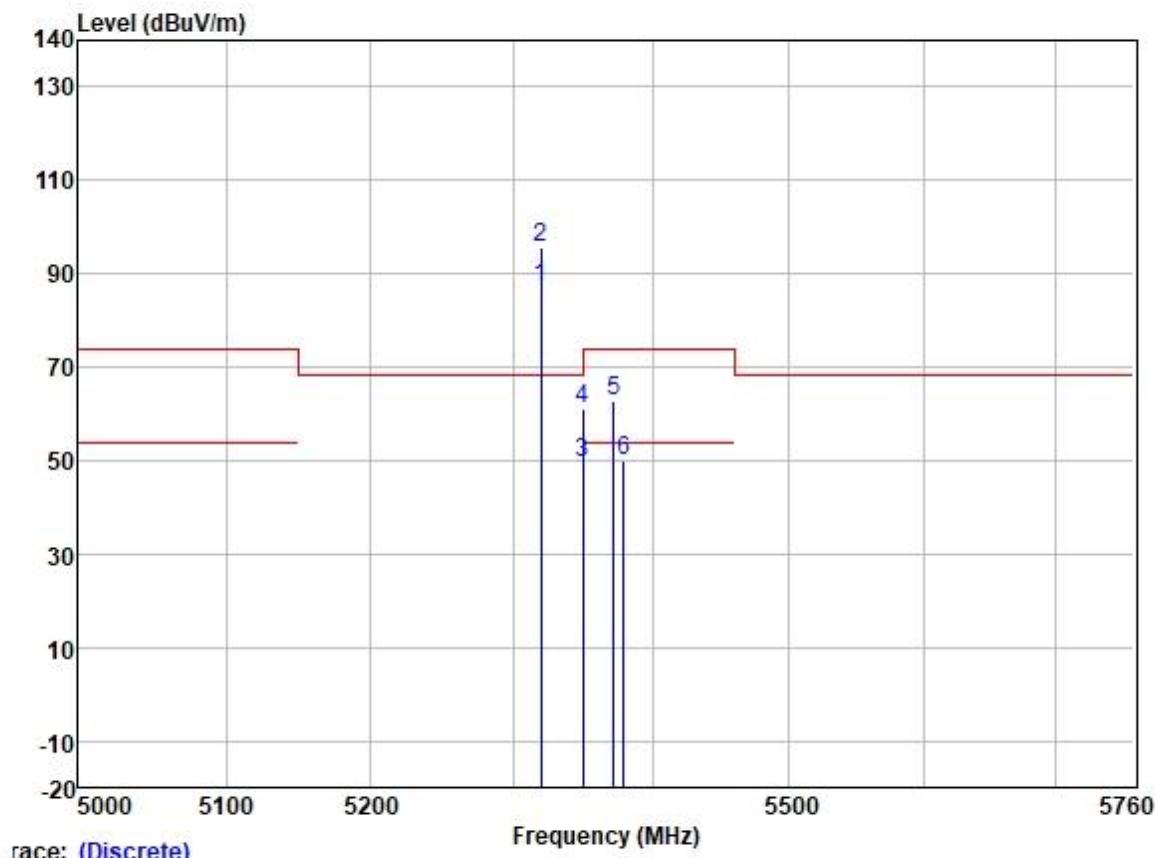
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |       | Cable        |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark  |
|------|-------------|-------|--------------|------|-----------------------|-------|---------------|---------------|------------|---------|
|      | MHz         | dBuV  | Level Factor | dB   |                       |       |               |               |            |         |
| 1    | 5320.000    | 85.98 | 31.77        | 6.08 | 36.88                 | 86.95 | -----         | -----         | HORIZONTAL | Average |
| 2    | * 5320.000  | 94.87 | 31.77        | 6.08 | 36.88                 | 95.84 | 68.20         | 27.64         | HORIZONTAL | Peak    |
| 3    | 5350.020    | 48.52 | 31.77        | 6.05 | 36.88                 | 49.46 | 54.00         | -4.54         | HORIZONTAL | Average |
| 4    | 5350.020    | 60.14 | 31.77        | 6.05 | 36.88                 | 61.08 | 74.00         | -12.92        | HORIZONTAL | Peak    |
| 5    | 5371.610    | 61.81 | 31.78        | 6.02 | 36.88                 | 62.73 | 74.00         | -11.27        | HORIZONTAL | Peak    |
| 6    | 5379.247    | 48.89 | 31.78        | 6.02 | 36.88                 | 49.81 | 54.00         | -4.19         | HORIZONTAL | Average |

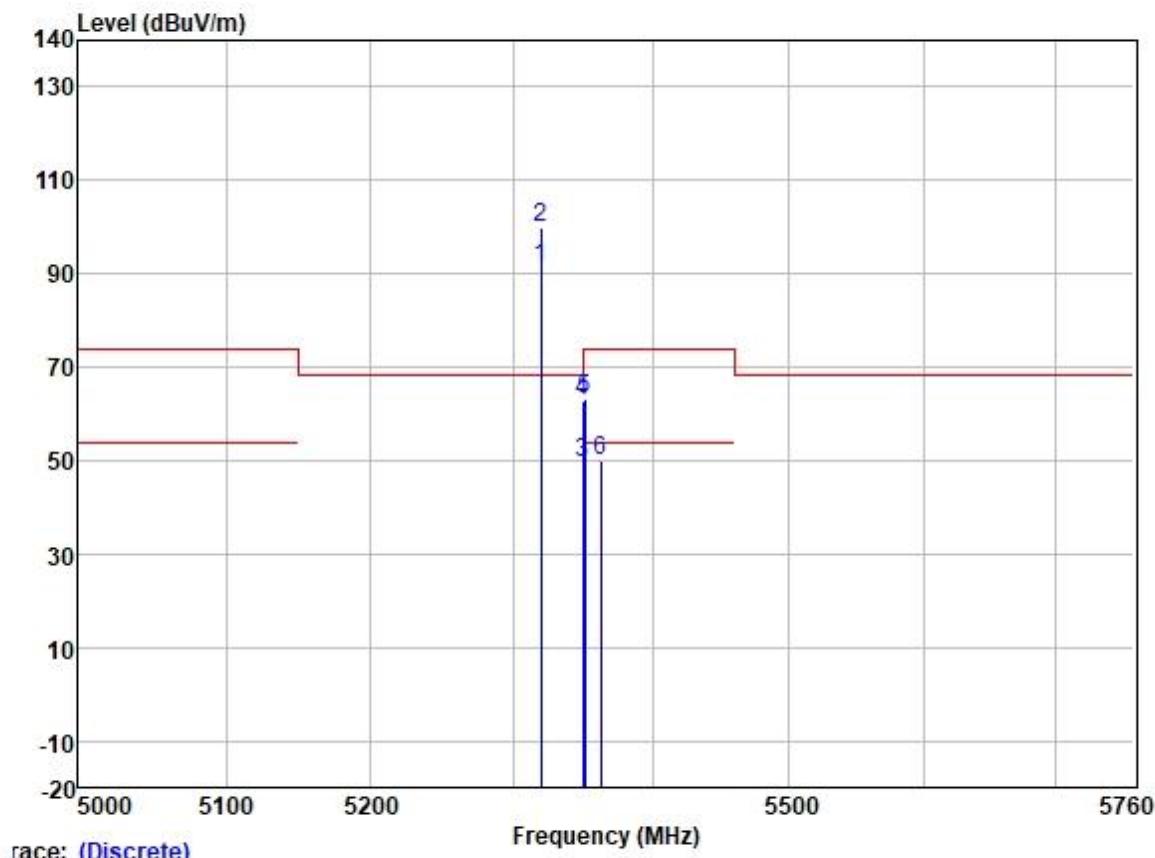
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Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line     | Limit | Pol/Phase | Remark  |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|-------|-----------|---------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |          |       |           |         |
|      |             |       |       |        |        |        |       |        |          |       |           |         |
| 1    | 5320.000    | 90.26 | 31.77 | 6.08   | 36.88  | 91.23  | ----- | -----  | -----    | ----- | -----     | Average |
| 2    | * 5320.000  | 99.04 | 31.77 | 6.08   | 36.88  | 100.01 | 68.20 | 31.81  | VERTICAL | 31.81 | VERTICAL  | Peak    |
| 3    | 5350.020    | 48.78 | 31.77 | 6.05   | 36.88  | 49.72  | 54.00 | -4.28  | VERTICAL | 54.00 | VERTICAL  | Average |
| 4    | 5350.020    | 62.03 | 31.77 | 6.05   | 36.88  | 62.97  | 74.00 | -11.03 | VERTICAL | 74.00 | VERTICAL  | Peak    |
| 5    | 5351.066    | 62.41 | 31.77 | 6.05   | 36.88  | 63.35  | 74.00 | -10.65 | VERTICAL | 74.00 | VERTICAL  | Peak    |
| 6    | 5362.782    | 49.03 | 31.78 | 6.03   | 36.88  | 49.96  | 54.00 | -4.04  | VERTICAL | 54.00 | VERTICAL  | Average |

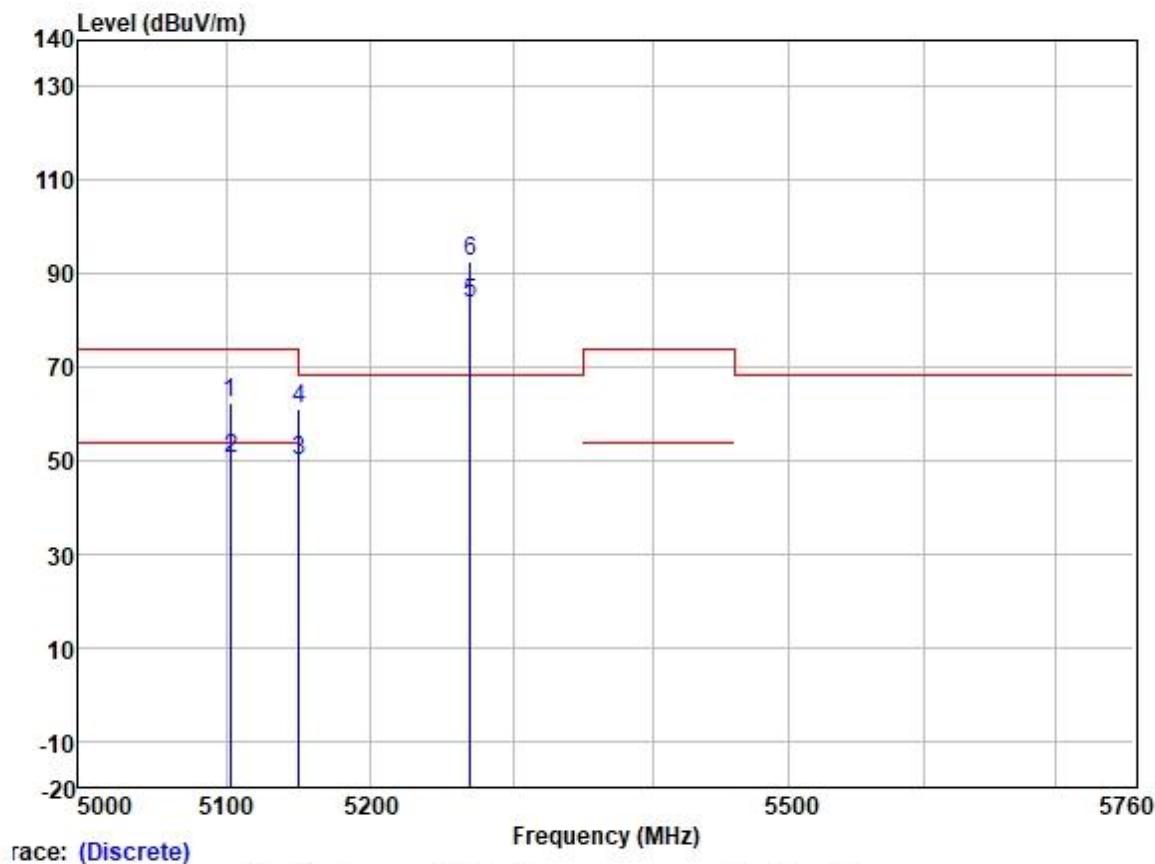
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp | Loss  | Factor | Limit  | Line       | Over    | Limit | Pol/Phase | Remark |
|------|-------------|-------|-------|--------|--------|-------|--------|--------|------------|---------|-------|-----------|--------|
|      | MHz         | dBuV  | Level | Factor |        |       |        |        |            |         |       |           |        |
| 1    | 5102.551    | 61.97 | 31.72 | 5.65   | 36.86  | 62.48 | 74.00  | -11.52 | HORIZONTAL | Peak    |       |           |        |
| 2    | 5103.532    | 49.75 | 31.72 | 5.65   | 36.86  | 50.26 | 54.00  | -3.74  | HORIZONTAL | Average |       |           |        |
| 3    | 5149.980    | 49.31 | 31.72 | 5.62   | 36.86  | 49.79 | 54.00  | -4.21  | HORIZONTAL | Average |       |           |        |
| 4    | 5149.980    | 60.78 | 31.72 | 5.62   | 36.86  | 61.26 | 74.00  | -12.74 | HORIZONTAL | Peak    |       |           |        |
| 5    | 5270.000    | 83.11 | 31.75 | 5.80   | 36.87  | 83.79 | -----  | -----  | HORIZONTAL | Average |       |           |        |
| 6 *  | 5270.000    | 91.85 | 31.75 | 5.80   | 36.87  | 92.53 | 68.20  | 24.33  | HORIZONTAL | Peak    |       |           |        |

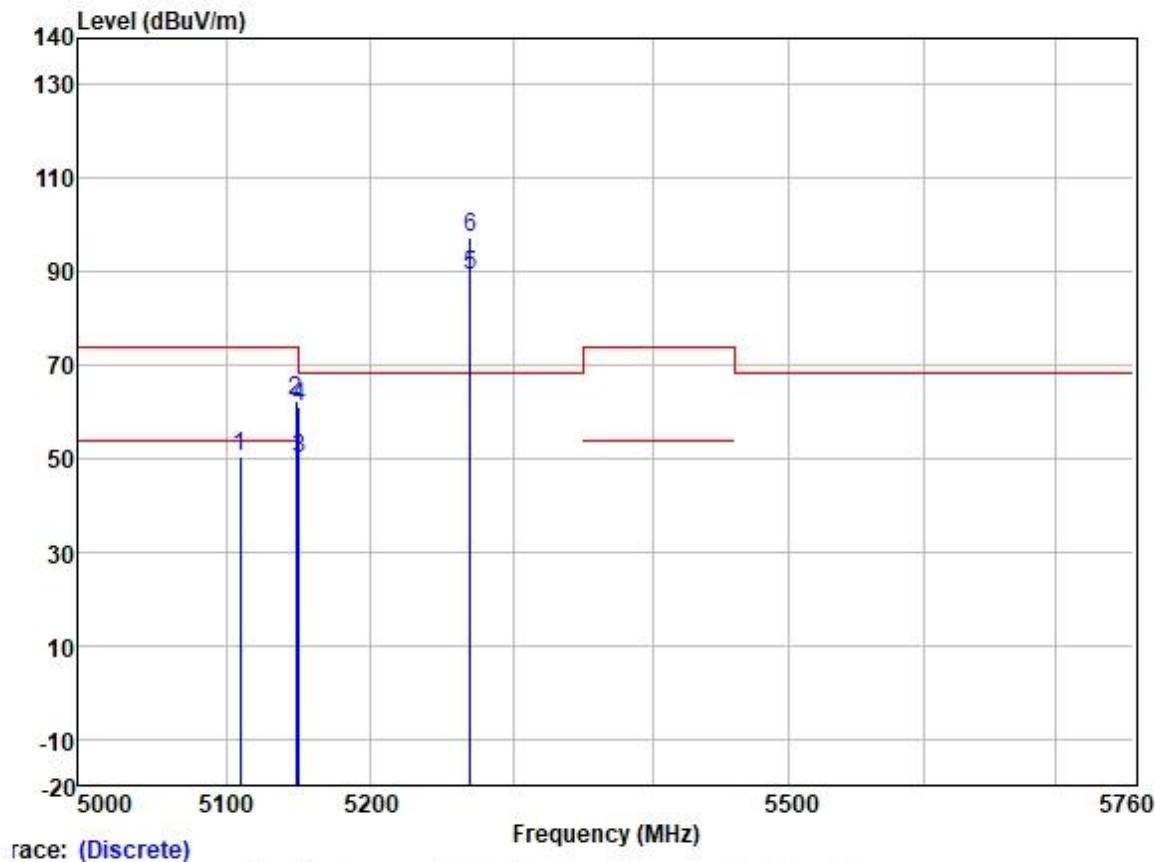
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Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line   | Limit    | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|----------|-----------|--------|
|      | Level       | Factor | Loss  | Factor |        |        |       |        |          |           |        |
| MHz  | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |        |          |           |        |
| 1    | 5109.818    | 49.94  | 31.72 | 5.65   | 36.86  | 50.45  | 54.00 | -3.55  | VERTICAL | Average   |        |
| 2    | 5148.093    | 61.83  | 31.72 | 5.62   | 36.86  | 62.31  | 74.00 | -11.69 | VERTICAL | Peak      |        |
| 3    | 5149.980    | 49.30  | 31.72 | 5.62   | 36.86  | 49.78  | 54.00 | -4.22  | VERTICAL | Average   |        |
| 4    | 5149.980    | 60.60  | 31.72 | 5.62   | 36.86  | 61.08  | 74.00 | -12.92 | VERTICAL | Peak      |        |
| 5    | 5270.000    | 88.41  | 31.75 | 5.80   | 36.87  | 89.09  | ----- | -----  | VERTICAL | Average   |        |
| 6 *  | 5270.000    | 96.83  | 31.75 | 5.80   | 36.87  | 97.51  | 68.20 | 29.31  | VERTICAL | Peak      |        |

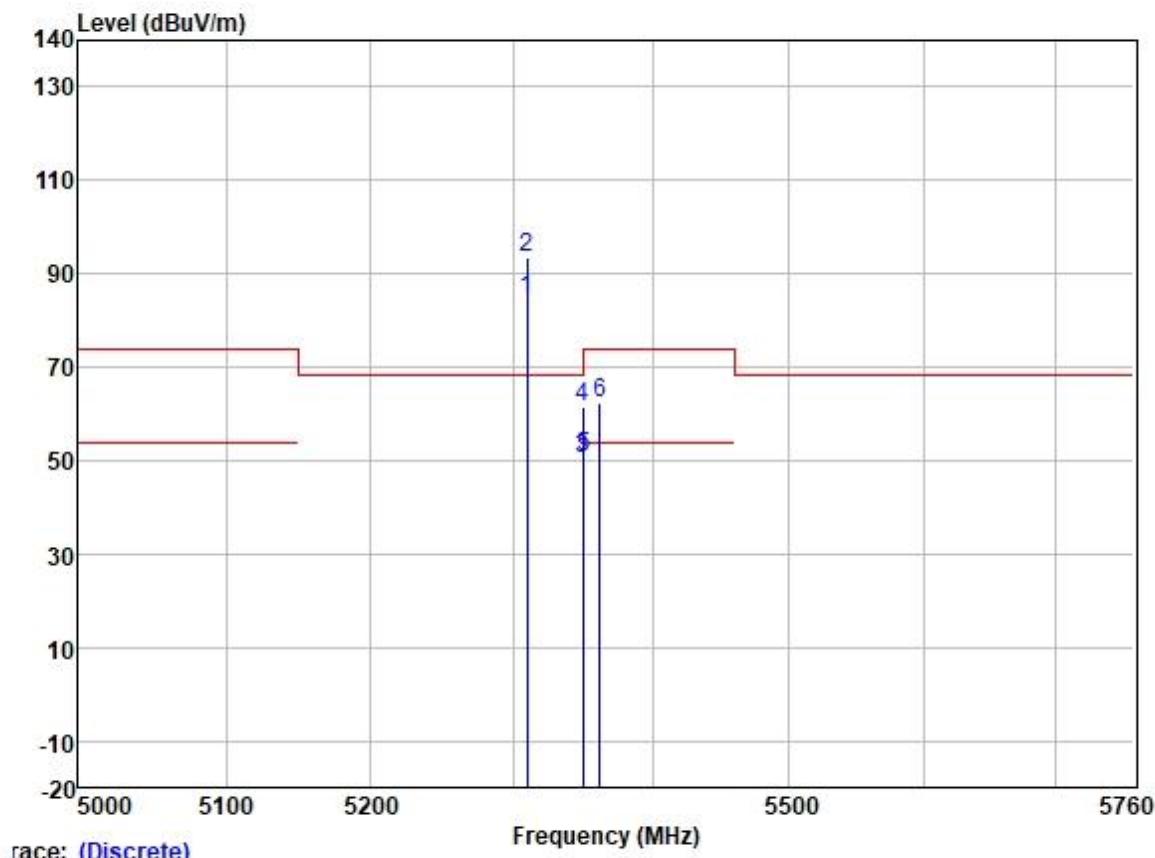
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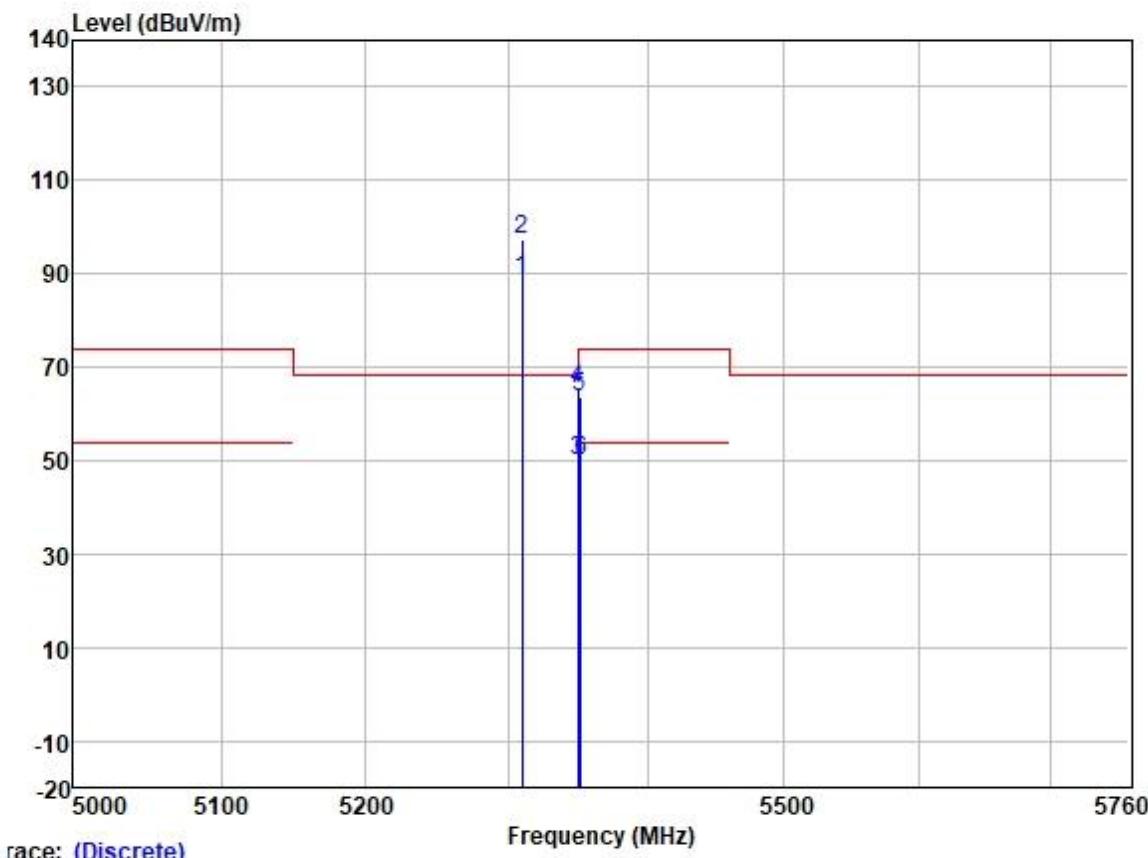
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Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line     | Limit | Pol/Phase | Remark  |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|-------|-----------|---------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor | dB    | dBuV/m | dBuV/m   | dB    |           |         |
| 1    | 5310.000    | 87.77 | 31.77 | 6.08   | 36.87  | 88.75  | ----- | -----  | -----    | ----- | -----     | Average |
| 2 *  | 5310.000    | 96.39 | 31.77 | 6.08   | 36.87  | 97.37  | 68.20 | 29.17  | VERTICAL | 29.17 | VERTICAL  | Peak    |
| 3    | 5350.020    | 49.09 | 31.77 | 6.05   | 36.88  | 50.03  | 54.00 | -3.97  | VERTICAL | 54.00 | VERTICAL  | Average |
| 4    | 5350.020    | 64.18 | 31.77 | 6.05   | 36.88  | 65.12  | 74.00 | -8.88  | VERTICAL | 74.00 | VERTICAL  | Peak    |
| 5    | 5351.075    | 62.52 | 31.77 | 6.05   | 36.88  | 63.46  | 74.00 | -10.54 | VERTICAL | 74.00 | VERTICAL  | Peak    |
| 6    | 5351.556    | 49.20 | 31.77 | 6.05   | 36.88  | 50.14  | 54.00 | -3.86  | VERTICAL | 54.00 | VERTICAL  | Average |

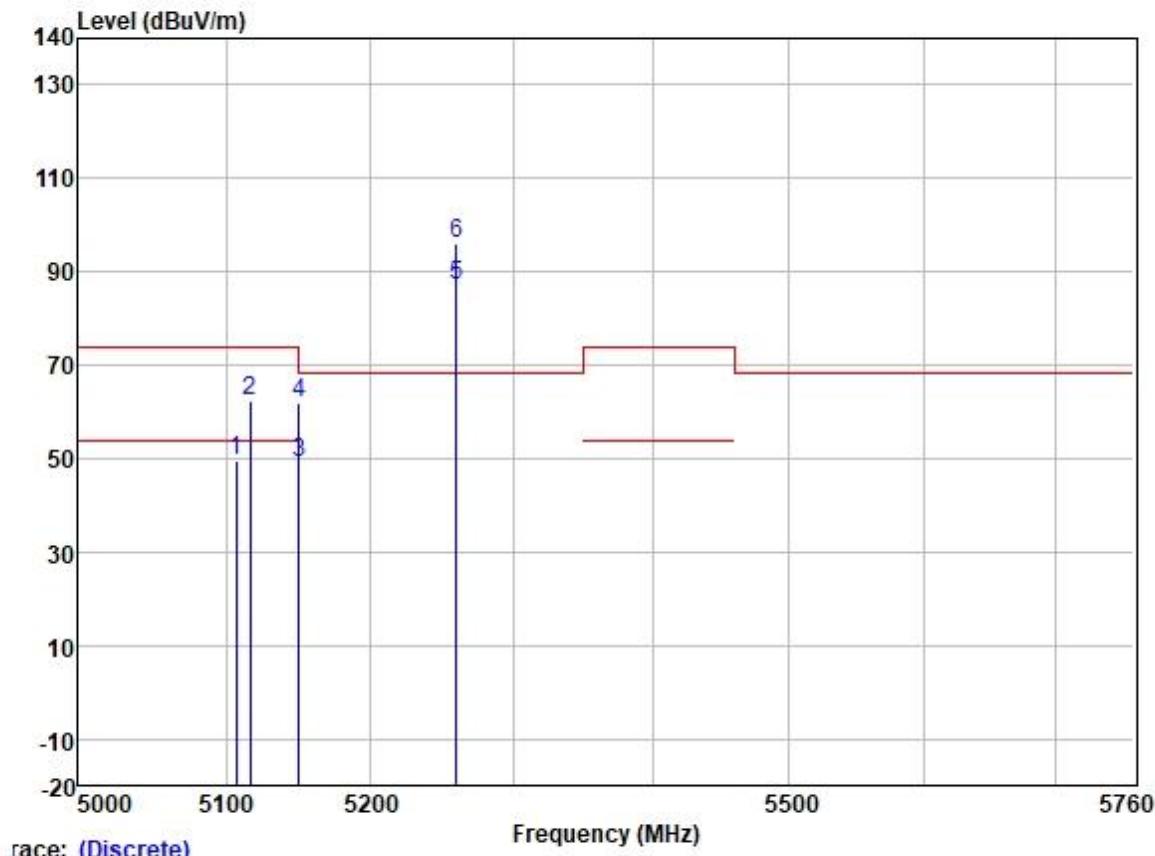
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over   | Line       | Limit   | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|-------|--------|------------|---------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | dB     | dBuV/m |       |        |            |         |           |        |
| MHz  | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |        |            |         |           |        |
| 1    | 5106.727    | 49.10  | 31.72 | 5.65   | 36.86  | 49.61  | 54.00 | -4.39  | HORIZONTAL | Average |           |        |
| 2    | 5116.655    | 61.83  | 31.72 | 5.64   | 36.86  | 62.33  | 74.00 | -11.67 | HORIZONTAL | Peak    |           |        |
| 3    | 5149.980    | 48.73  | 31.72 | 5.62   | 36.86  | 49.21  | 54.00 | -4.79  | HORIZONTAL | Average |           |        |
| 4    | 5149.980    | 61.34  | 31.72 | 5.62   | 36.86  | 61.82  | 74.00 | -12.18 | HORIZONTAL | Peak    |           |        |
| 5    | 5260.000    | 86.40  | 31.75 | 5.77   | 36.87  | 87.05  | ----- | -----  | HORIZONTAL | Average |           |        |
| 6 *  | 5260.000    | 95.40  | 31.75 | 5.77   | 36.87  | 96.05  | 68.20 | 27.85  | HORIZONTAL | Peak    |           |        |

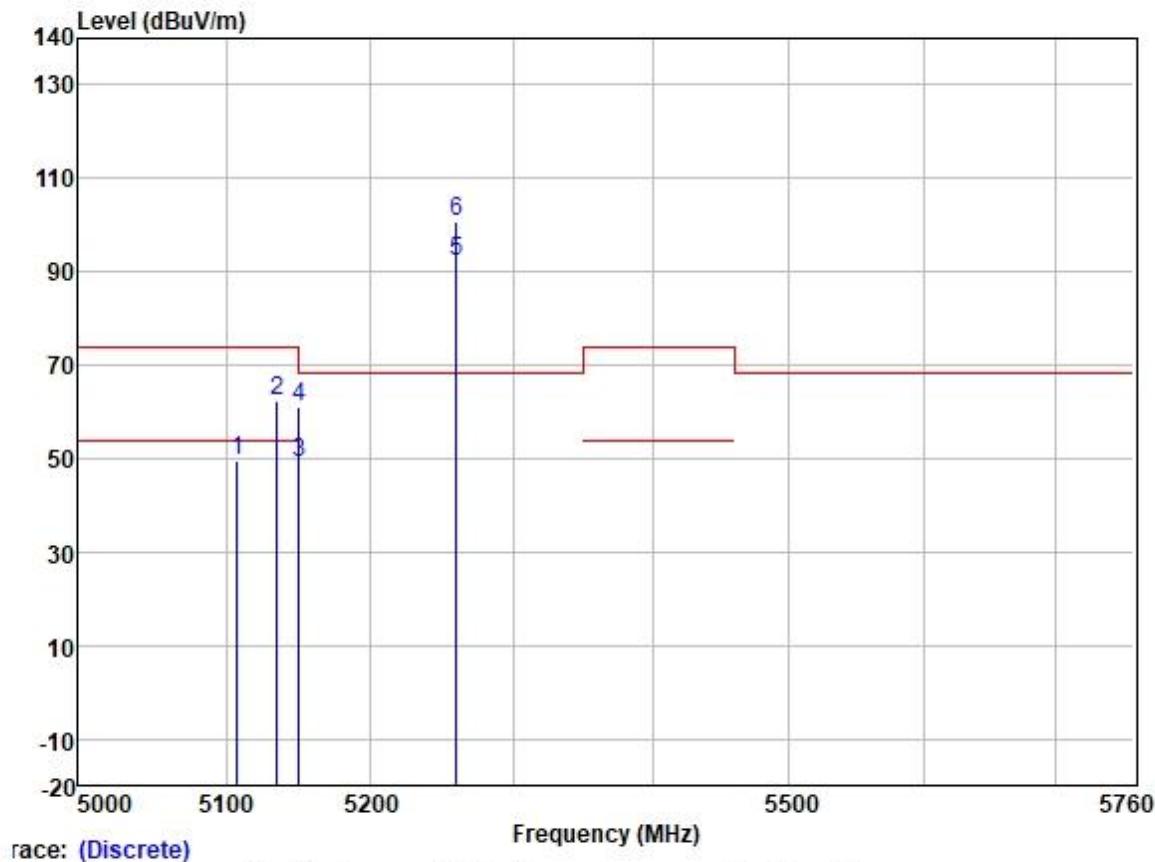
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Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |        | Cable |        | Preamp | Loss   | Factor | Limit  | Line     | Over | Limit | Pol/Phase | Remark |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|----------|------|-------|-----------|--------|
|      | MHz         | dBuV   | Level | Factor |        |        |        |        |          |      |       |           |        |
| 1    | 5107.258    | 49.10  | 31.72 | 5.65   | 36.86  | 49.61  | 54.00  | -4.39  | VERTICAL |      |       | Average   |        |
| 2    | 5134.612    | 61.96  | 31.72 | 5.63   | 36.86  | 62.45  | 74.00  | -11.55 | VERTICAL |      |       | Peak      |        |
| 3    | 5149.980    | 48.67  | 31.72 | 5.62   | 36.86  | 49.15  | 54.00  | -4.85  | VERTICAL |      |       | Average   |        |
| 4    | 5149.980    | 60.50  | 31.72 | 5.62   | 36.86  | 60.98  | 74.00  | -13.02 | VERTICAL |      |       | Peak      |        |
| 5    | 5260.000    | 91.46  | 31.75 | 5.77   | 36.87  | 92.11  | -----  | -----  | VERTICAL |      |       | Average   |        |
| 6 *  | 5260.000    | 100.15 | 31.75 | 5.77   | 36.87  | 100.80 | 68.20  | 32.60  | VERTICAL |      |       | Peak      |        |

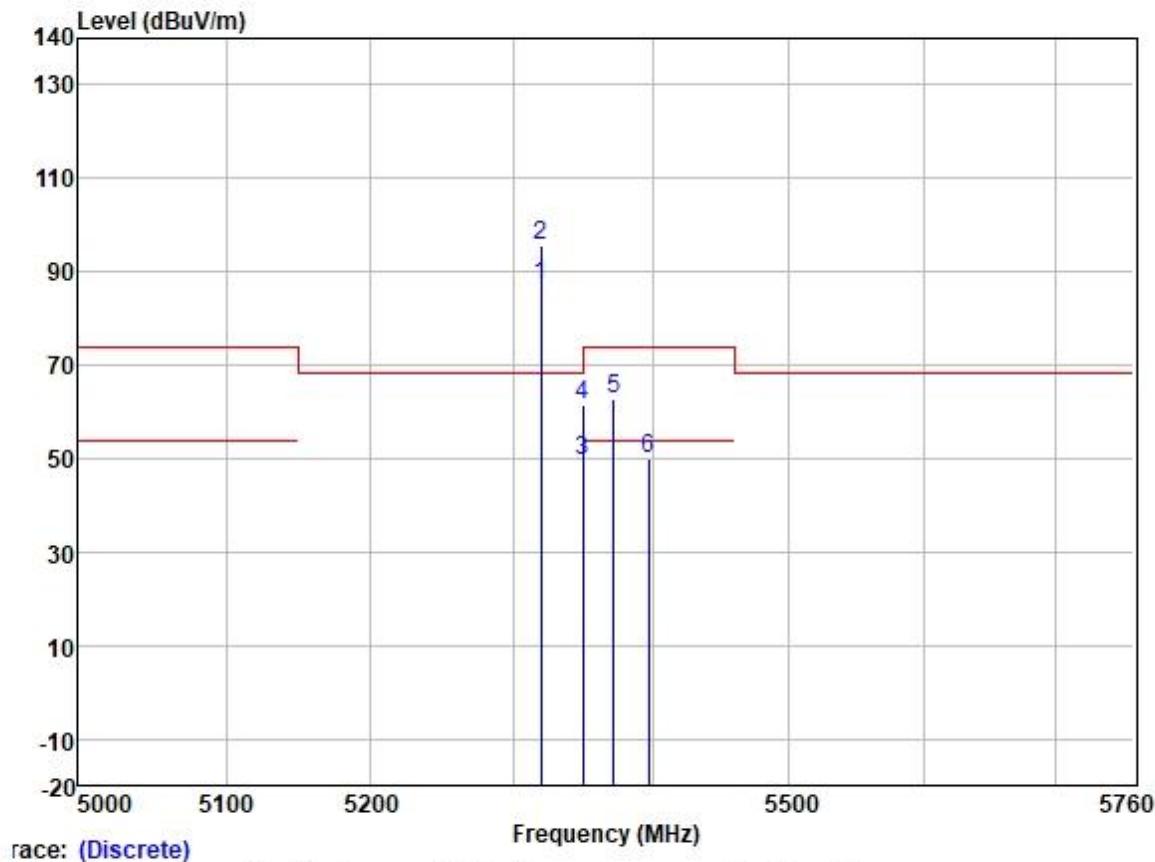
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



| Freq         | ReadAntenna |        | Cable |        | Preamp |        | Limit  | Over       | Limit   | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|--------|------------|---------|-----------|--------|
|              | Level       | Factor | Loss  | Factor | Level  | Line   |        |            |         |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB     | dB         | dB      | dB        | dB     |
| 1 5320.000   | 85.96       | 31.77  | 6.08  | 36.88  | 86.93  | -----  | -----  | HORIZONTAL | Average |           |        |
| 2 * 5320.000 | 94.65       | 31.77  | 6.08  | 36.88  | 95.62  | 68.20  | 27.42  | HORIZONTAL | Peak    |           |        |
| 3 5350.020   | 48.74       | 31.77  | 6.05  | 36.88  | 49.68  | 54.00  | -4.32  | HORIZONTAL | Average |           |        |
| 4 5350.020   | 60.70       | 31.77  | 6.05  | 36.88  | 61.64  | 74.00  | -12.36 | HORIZONTAL | Peak    |           |        |
| 5 5372.113   | 61.85       | 31.78  | 6.02  | 36.88  | 62.77  | 74.00  | -11.23 | HORIZONTAL | Peak    |           |        |
| 6 5397.074   | 49.04       | 31.78  | 6.00  | 36.88  | 49.94  | 54.00  | -4.06  | HORIZONTAL | Average |           |        |

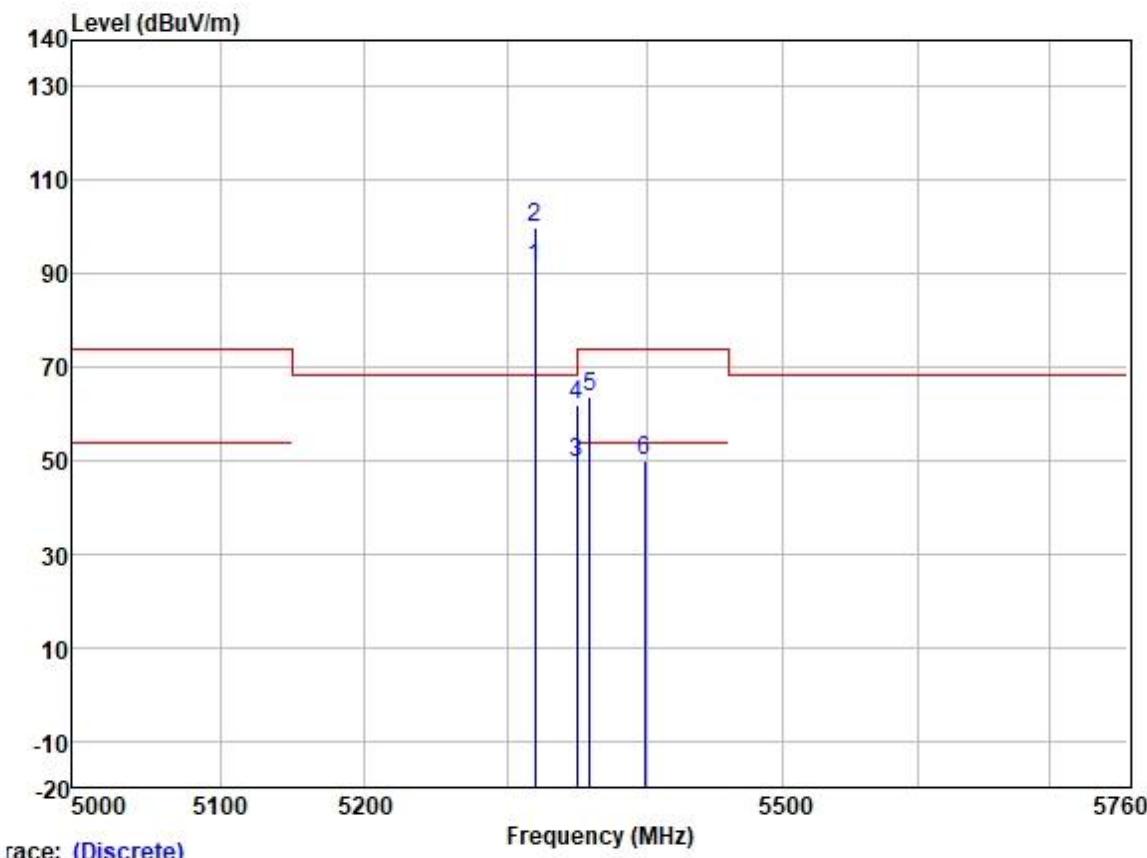
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Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp | Limit | Over  | Line   | Limit    | Pol/Phase | Remark           |
|------|-------------|-------|-------|--------|--------|-------|-------|--------|----------|-----------|------------------|
|      | MHz         | dBuV  | Level | Factor |        |       |       |        |          |           |                  |
|      |             |       |       |        |        |       |       |        |          |           |                  |
| 1    | 5320.000    | 90.42 | 31.77 | 6.08   | 36.88  | 91.39 | ----- | -----  | -----    | -----     | VERTICAL Average |
| 2    | * 5320.000  | 98.87 | 31.77 | 6.08   | 36.88  | 99.84 | 68.20 | 31.64  | VERTICAL | Peak      |                  |
| 3    | 5350.020    | 48.69 | 31.77 | 6.05   | 36.88  | 49.63 | 54.00 | -4.37  | VERTICAL | Average   |                  |
| 4    | 5350.020    | 60.79 | 31.77 | 6.05   | 36.88  | 61.73 | 74.00 | -12.27 | VERTICAL | Peak      |                  |
| 5    | 5359.375    | 62.86 | 31.78 | 6.03   | 36.88  | 63.79 | 74.00 | -10.21 | VERTICAL | Peak      |                  |
| 6    | 5398.385    | 48.92 | 31.78 | 6.00   | 36.88  | 49.82 | 54.00 | -4.18  | VERTICAL | Average   |                  |

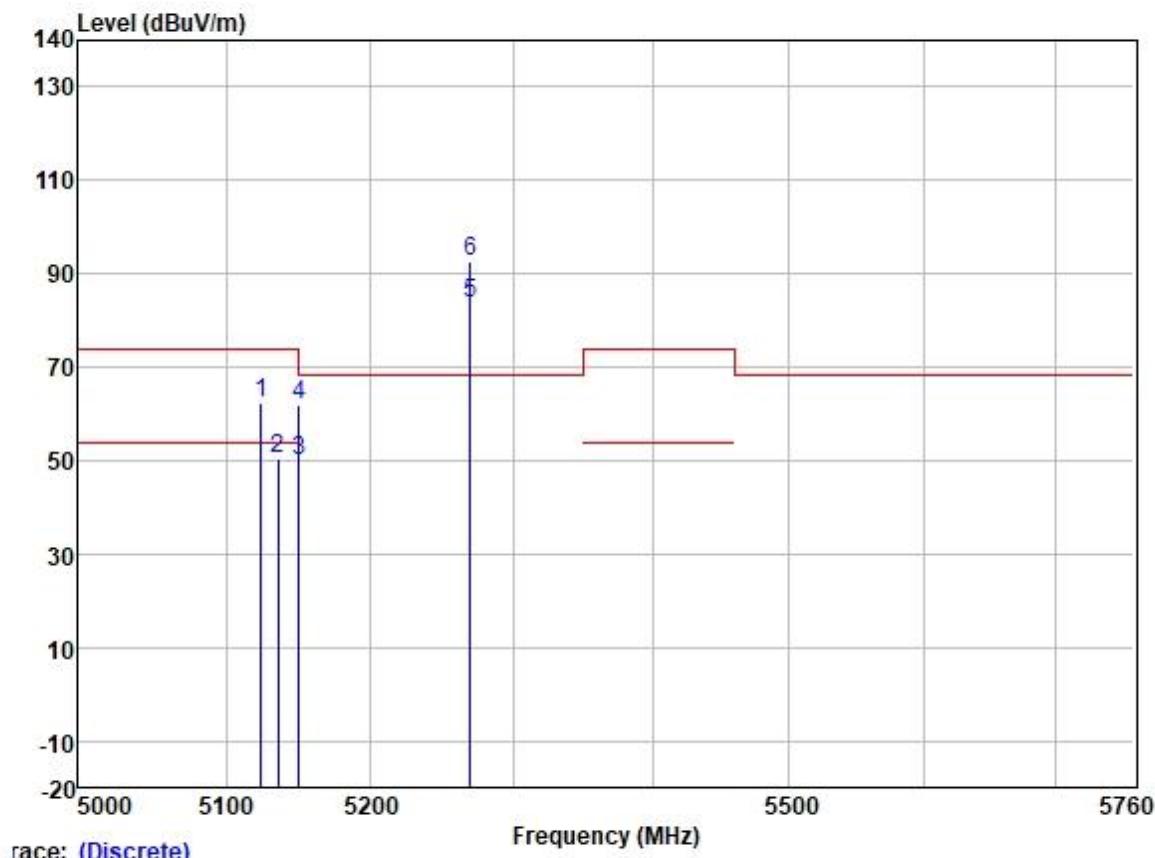
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line       | Limit   | Pol/Phase | Remark |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|------------|---------|-----------|--------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |            |         |           |        |
|      |             |       |       |        |        |        |       |        |            |         |           |        |
| 1    | 5124.187    | 61.72 | 31.72 | 5.64   | 36.86  | 62.22  | 74.00 | -11.78 | HORIZONTAL | Peak    |           |        |
| 2    | 5135.830    | 49.97 | 31.72 | 5.63   | 36.86  | 50.46  | 54.00 | -3.54  | HORIZONTAL | Average |           |        |
| 3    | 5149.980    | 49.48 | 31.72 | 5.62   | 36.86  | 49.96  | 54.00 | -4.04  | HORIZONTAL | Average |           |        |
| 4    | 5149.980    | 61.56 | 31.72 | 5.62   | 36.86  | 62.04  | 74.00 | -11.96 | HORIZONTAL | Peak    |           |        |
| 5    | 5270.000    | 83.07 | 31.75 | 5.80   | 36.87  | 83.75  | ----- | -----  | HORIZONTAL | Average |           |        |
| 6 *  | 5270.000    | 91.77 | 31.75 | 5.80   | 36.87  | 92.45  | 68.20 | 24.25  | HORIZONTAL | Peak    |           |        |

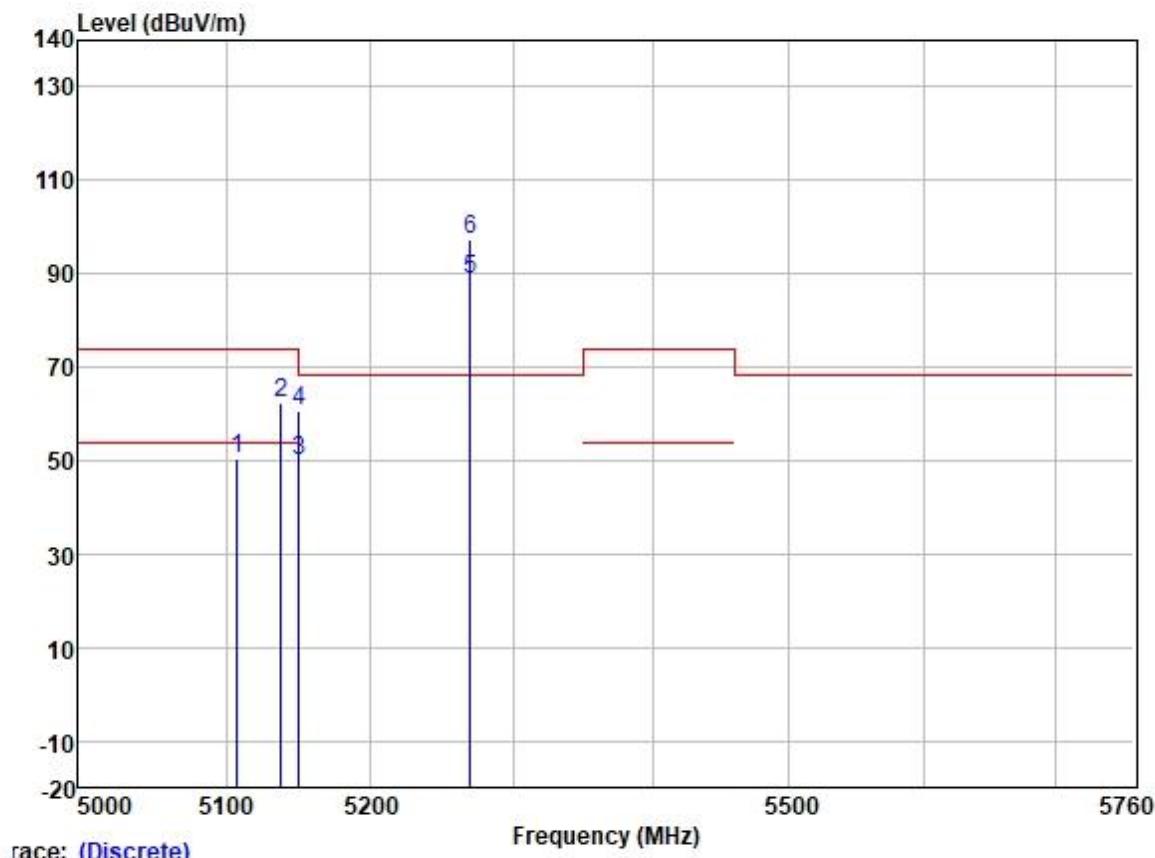
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Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line     | Limit | Pol/Phase | Remark  |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|-------|-----------|---------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |          |       |           |         |
|      |             |       |       |        |        |        |       |        |          |       |           |         |
| 1    | 5107.853    | 50.06 | 31.72 | 5.65   | 36.86  | 50.57  | 54.00 | -3.43  | VERTICAL |       |           | Average |
| 2    | 5137.410    | 61.75 | 31.72 | 5.63   | 36.86  | 62.24  | 74.00 | -11.76 | VERTICAL |       |           | Peak    |
| 3    | 5149.980    | 49.42 | 31.72 | 5.62   | 36.86  | 49.90  | 54.00 | -4.10  | VERTICAL |       |           | Average |
| 4    | 5149.980    | 60.14 | 31.72 | 5.62   | 36.86  | 60.62  | 74.00 | -13.38 | VERTICAL |       |           | Peak    |
| 5    | 5270.000    | 88.31 | 31.75 | 5.80   | 36.87  | 88.99  | ----- | -----  | VERTICAL |       |           | Average |
| 6 *  | 5270.000    | 96.78 | 31.75 | 5.80   | 36.87  | 97.46  | 68.20 | 29.26  | VERTICAL |       |           | Peak    |

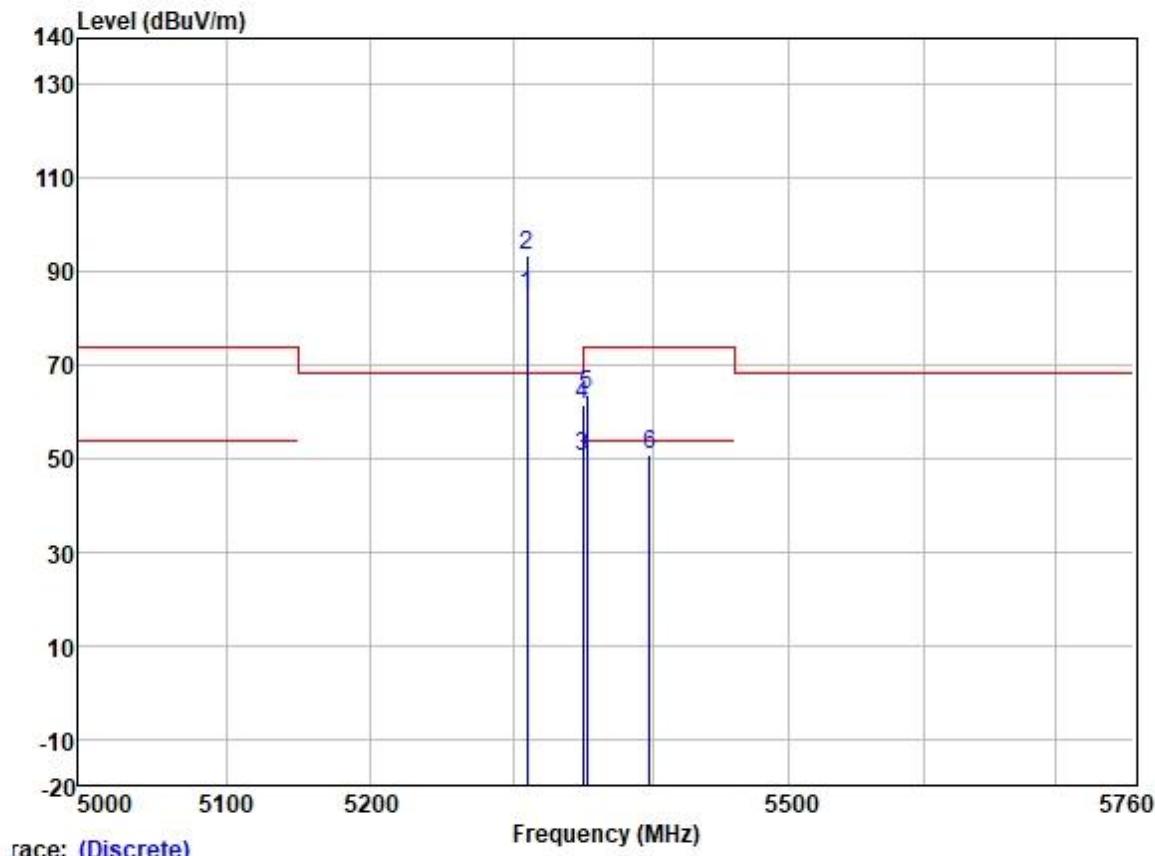
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



| ReadAntenna | Cable    | Preamp | Limit | Over | Limit  |        |        | Pol/Phase  | Remark             |
|-------------|----------|--------|-------|------|--------|--------|--------|------------|--------------------|
|             |          |        |       |      | Freq   | Level  | Factor |            |                    |
| MHz         | dBuV     | dB/m   | dB    | dB   | dBuV/m | dBuV/m | dB     |            |                    |
| 1           | 5310.000 | 83.96  | 31.77 | 6.08 | 36.87  | 84.94  | -----  | HORIZONTAL | Average            |
| 2 *         | 5310.000 | 92.42  | 31.77 | 6.08 | 36.87  | 93.40  | 68.20  | 25.20      | HORIZONTAL Peak    |
| 3           | 5350.020 | 49.58  | 31.77 | 6.05 | 36.88  | 50.52  | 54.00  | -3.48      | HORIZONTAL Average |
| 4           | 5350.020 | 60.65  | 31.77 | 6.05 | 36.88  | 61.59  | 74.00  | -12.41     | HORIZONTAL Peak    |
| 5           | 5352.398 | 62.48  | 31.77 | 6.05 | 36.88  | 63.42  | 74.00  | -10.58     | HORIZONTAL Peak    |
| 6           | 5398.059 | 49.85  | 31.78 | 6.00 | 36.88  | 50.75  | 54.00  | -3.25      | HORIZONTAL Average |

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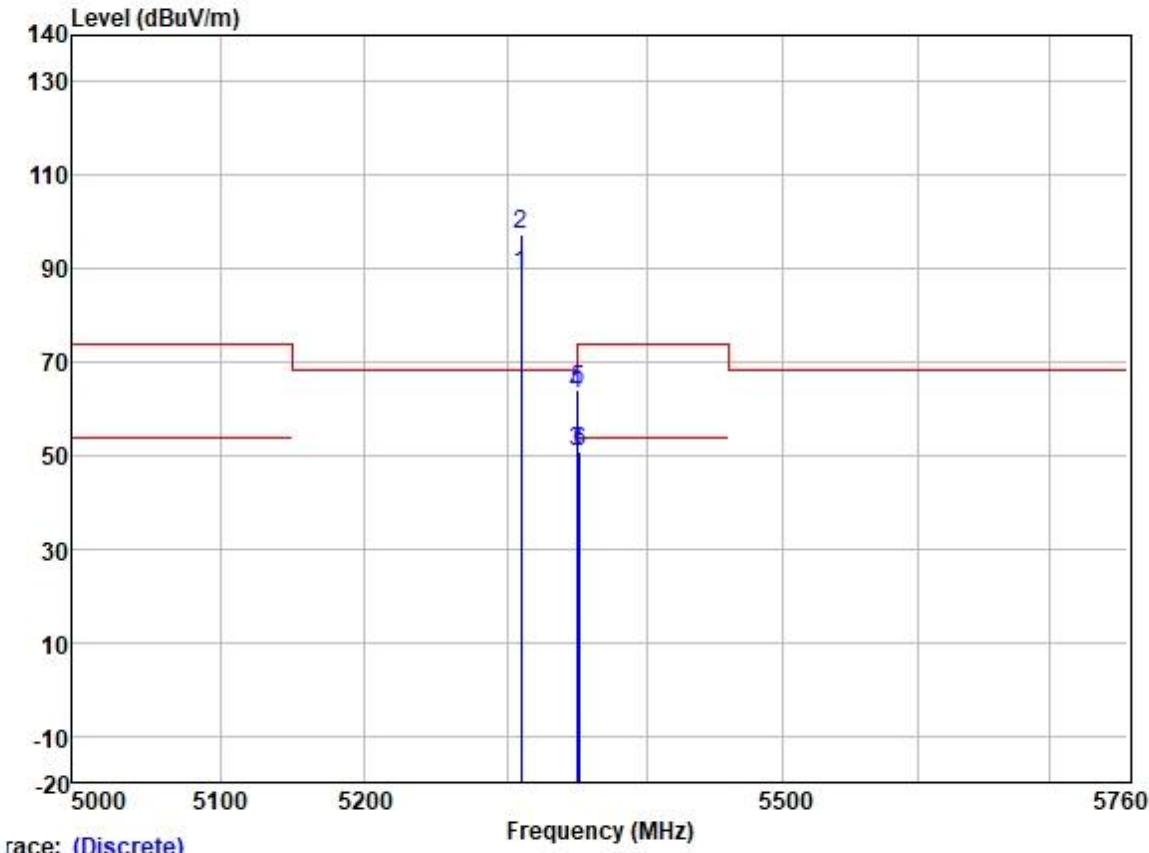
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Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Race: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line     | Limit    | Pol/Phase | Remark  |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|----------|-----------|---------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |          |          |           |         |
|      |             |       |       |        |        |        |       |        |          |          |           |         |
| 1    | 5310.000    | 87.68 | 31.77 | 6.08   | 36.87  | 88.66  | ----- | -----  | -----    | -----    | -----     | Average |
| 2    | * 5310.000  | 96.42 | 31.77 | 6.08   | 36.87  | 97.40  | 68.20 | 29.20  | VERTICAL | VERTICAL | Peak      |         |
| 3    | 5350.020    | 49.99 | 31.77 | 6.05   | 36.88  | 50.93  | 54.00 | -3.07  | VERTICAL | VERTICAL | Average   |         |
| 4    | 5350.020    | 62.11 | 31.77 | 6.05   | 36.88  | 63.05  | 74.00 | -10.95 | VERTICAL | VERTICAL | Peak      |         |
| 5    | 5350.594    | 63.24 | 31.77 | 6.05   | 36.88  | 64.18  | 74.00 | -9.82  | VERTICAL | VERTICAL | Peak      |         |
| 6    | 5351.556    | 49.97 | 31.77 | 6.05   | 36.88  | 50.91  | 54.00 | -3.09  | VERTICAL | VERTICAL | Average   |         |

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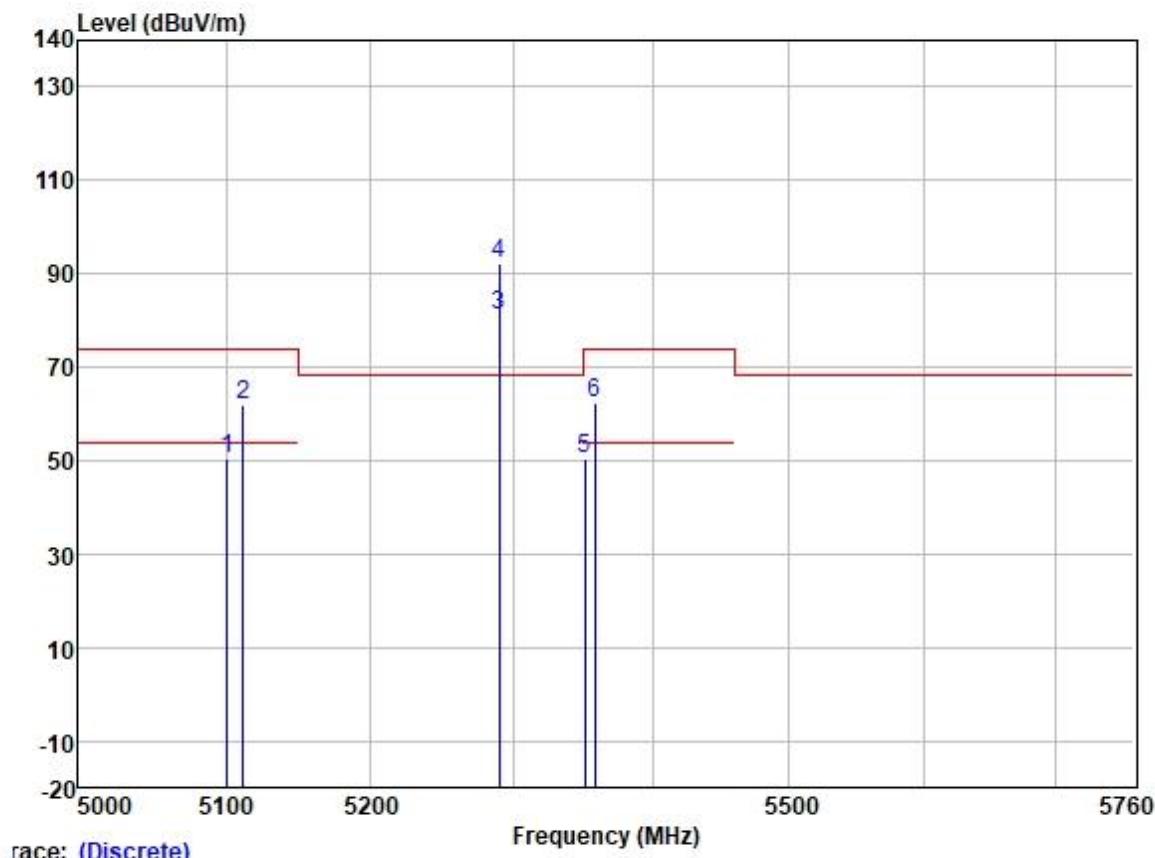
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Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



| Freq | ReadAntenna |       | Cable  |      | Preamp |       | Limit  | Over   | Line       | Limit   | Pol/Phase | Remark |
|------|-------------|-------|--------|------|--------|-------|--------|--------|------------|---------|-----------|--------|
|      | MHz         | Level | Factor | Loss | Factor | dB    | dBuV/m | dBuV/m | dB         |         |           |        |
| 1    | 5100.583    | 49.96 | 31.72  | 5.65 | 36.86  | 50.47 | 54.00  | -3.53  | HORIZONTAL | Average |           |        |
| 2    | 5111.966    | 61.60 | 31.72  | 5.65 | 36.86  | 62.11 | 74.00  | -11.89 | HORIZONTAL | Peak    |           |        |
| 3    | 5290.000    | 80.16 | 31.76  | 6.00 | 36.87  | 81.05 | -----  | -----  | HORIZONTAL | Average |           |        |
| 4 *  | 5290.000    | 91.34 | 31.76  | 6.00 | 36.87  | 92.23 | 68.20  | 24.03  | HORIZONTAL | Peak    |           |        |
| 5    | 5351.146    | 49.64 | 31.77  | 6.05 | 36.88  | 50.58 | 54.00  | -3.42  | HORIZONTAL | Average |           |        |
| 6    | 5358.186    | 61.44 | 31.78  | 6.03 | 36.88  | 62.37 | 74.00  | -11.63 | HORIZONTAL | Peak    |           |        |

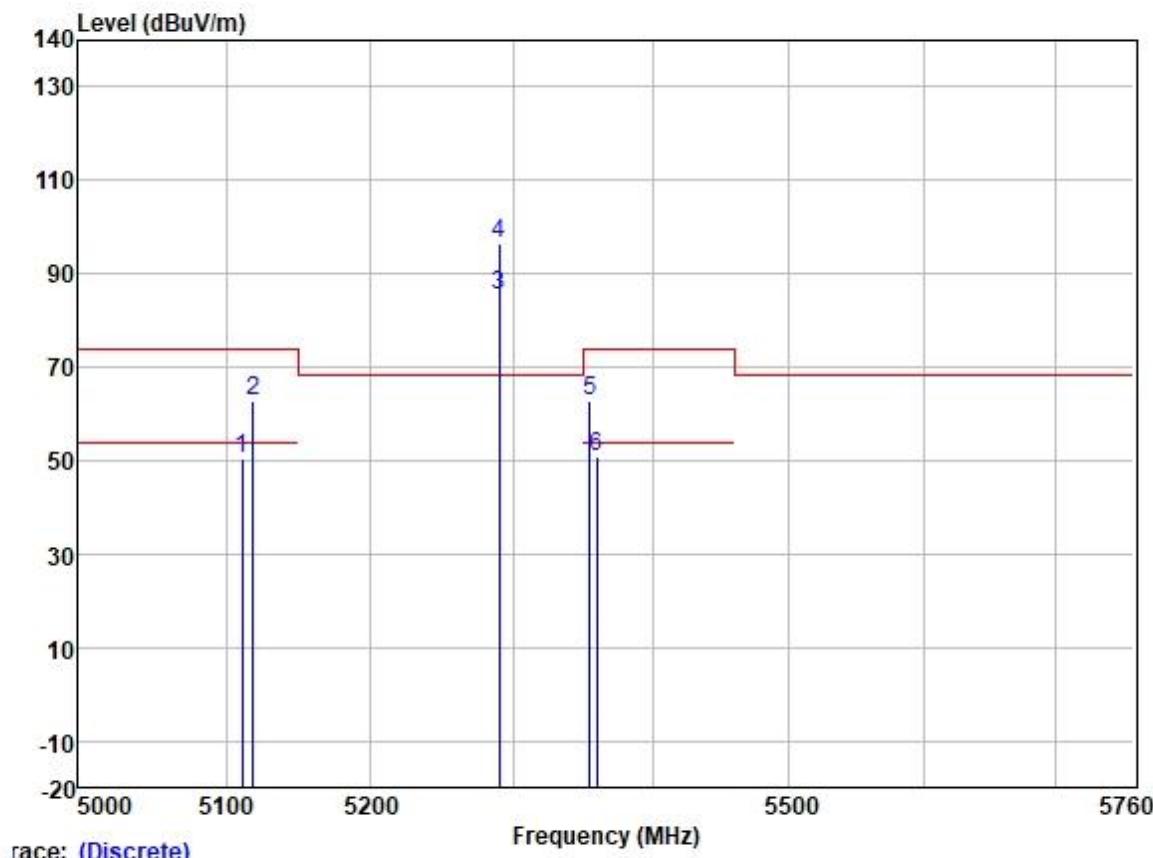
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Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable  |      | Preamp |       | Limit | Over   | Line     | Limit | Pol/Phase | Remark  |
|------|-------------|-------|--------|------|--------|-------|-------|--------|----------|-------|-----------|---------|
|      | MHz         | Level | Factor | Loss | Factor | dB    | dBuV  | dBuV/m | dBuV/m   | dB    |           |         |
| 1    | 5111.089    | 50.02 | 31.72  | 5.65 | 36.86  | 50.53 | 54.00 | -3.47  | VERTICAL |       |           | Average |
| 2    | 5118.690    | 62.42 | 31.72  | 5.64 | 36.86  | 62.92 | 74.00 | -11.08 | VERTICAL |       |           | Peak    |
| 3    | 5290.000    | 84.55 | 31.76  | 6.00 | 36.87  | 85.44 | ----- | -----  | VERTICAL |       |           | Average |
| 4 *  | 5290.000    | 95.57 | 31.76  | 6.00 | 36.87  | 96.46 | 68.20 | 28.26  | VERTICAL |       |           | Peak    |
| 5    | 5354.512    | 62.04 | 31.78  | 6.03 | 36.88  | 62.97 | 74.00 | -11.03 | VERTICAL |       |           | Peak    |
| 6    | 5359.717    | 49.99 | 31.78  | 6.03 | 36.88  | 50.92 | 54.00 | -3.08  | VERTICAL |       |           | Average |

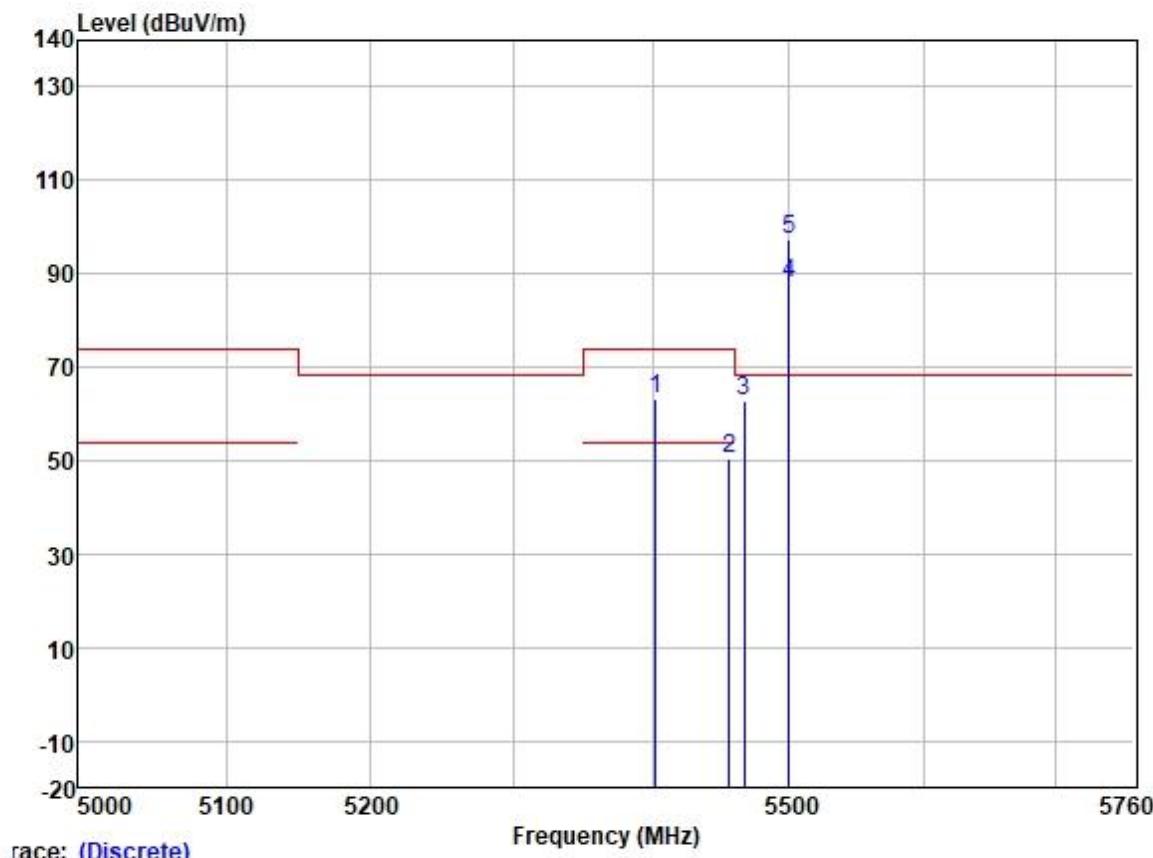
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



| Freq         | ReadAntenna |        | Cable |        | Preamp | Limit  | Over   | Line       | Limit   | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|--------|------------|---------|-----------|--------|
|              | Level       | Factor | Loss  | Factor |        |        |        |            |         |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB     |            |         |           |        |
| 1 5402.137   | 62.33       | 31.79  | 6.06  | 36.88  | 63.30  | 74.00  | -10.70 | HORIZONTAL | Peak    |           |        |
| 2 5455.952   | 49.30       | 31.79  | 6.26  | 36.88  | 50.47  | 54.00  | -3.53  | HORIZONTAL | Average |           |        |
| 3 5466.755   | 61.63       | 31.80  | 6.31  | 36.88  | 62.86  | 68.20  | -5.34  | HORIZONTAL | Peak    |           |        |
| 4 5500.000   | 86.83       | 31.80  | 6.40  | 36.88  | 88.15  | -----  | -----  | HORIZONTAL | Average |           |        |
| 5 * 5500.000 | 95.97       | 31.80  | 6.40  | 36.88  | 97.29  | 68.20  | 29.09  | HORIZONTAL | Peak    |           |        |

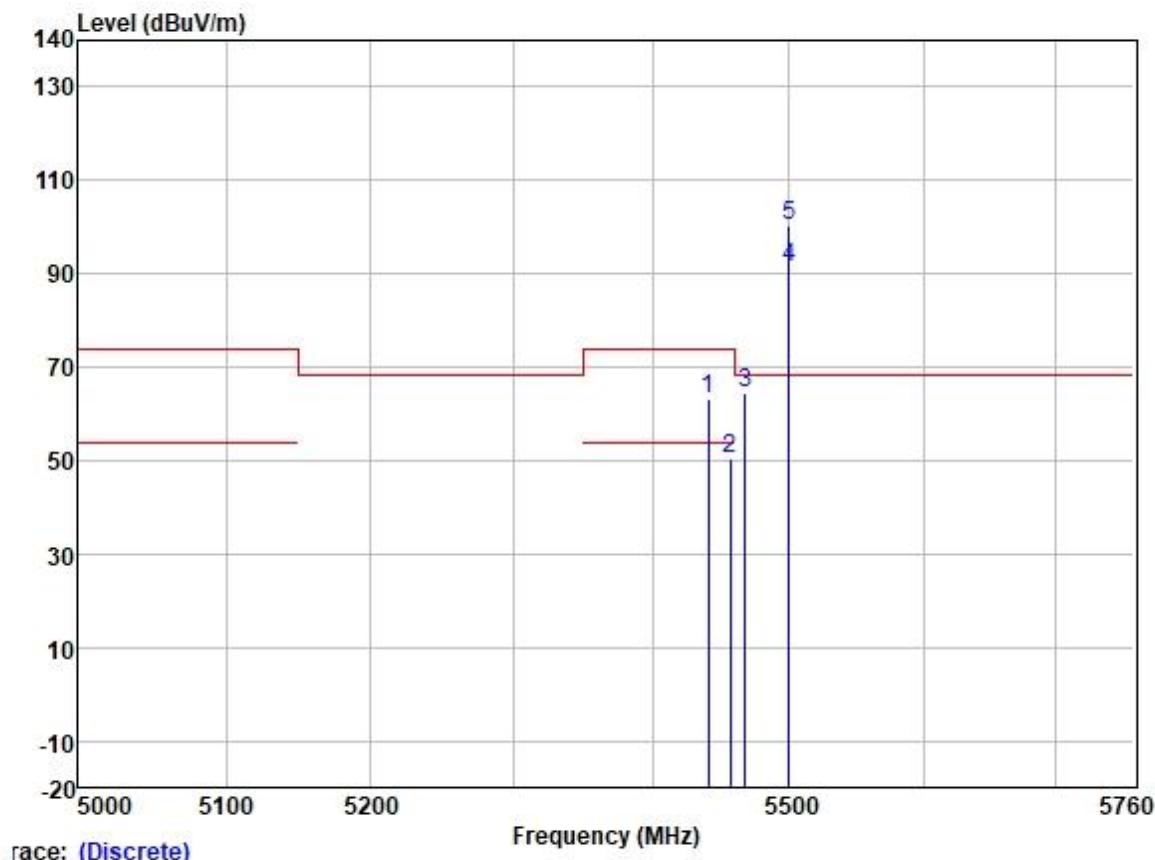
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Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



| Freq         | ReadAntenna |       | Cable  |       | Preamp |        | Limit  | Over     | Pol/Phase | Remark |
|--------------|-------------|-------|--------|-------|--------|--------|--------|----------|-----------|--------|
|              | Freq        | Level | Factor | Loss  | Factor | Level  |        |          |           |        |
| MHz          | dBuV        | dB/m  | dB     | dB    | dBuV/m | dBuV/m | dB     |          |           |        |
| 1 5440.265   | 62.17       | 31.79 | 6.20   | 36.88 | 63.28  | 74.00  | -10.72 | VERTICAL | Peak      |        |
| 2 5456.431   | 49.23       | 31.79 | 6.26   | 36.88 | 50.40  | 54.00  | -3.60  | VERTICAL | Average   |        |
| 3 5467.716   | 63.22       | 31.80 | 6.31   | 36.88 | 64.45  | 68.20  | -3.75  | VERTICAL | Peak      |        |
| 4 5500.000   | 90.11       | 31.80 | 6.40   | 36.88 | 91.43  | -----  | -----  | VERTICAL | Average   |        |
| 5 * 5500.000 | 99.14       | 31.80 | 6.40   | 36.88 | 100.46 | 68.20  | 32.26  | VERTICAL | Peak      |        |

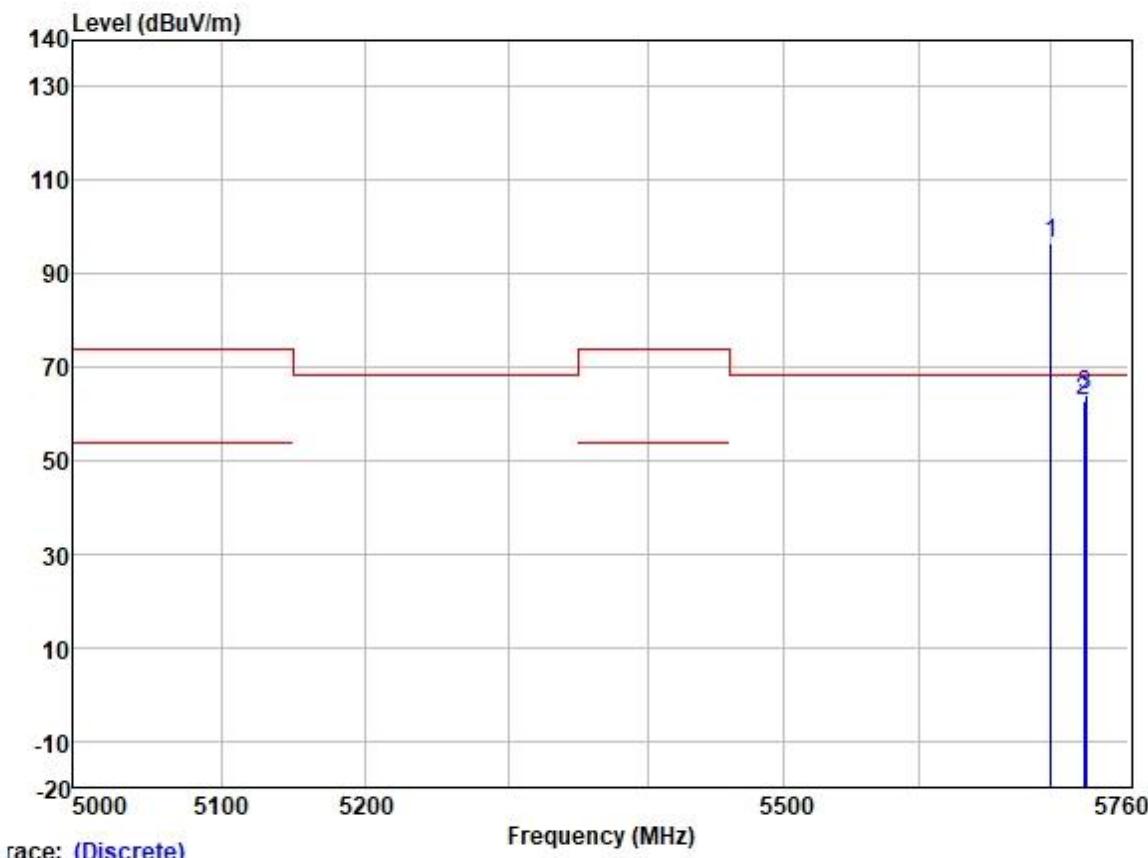
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

| Freq         | ReadAntenna |       | Cable |        | Preamp | Loss  | Factor | Limit      | Line | Over | Limit | Pol/Phase | Remark |
|--------------|-------------|-------|-------|--------|--------|-------|--------|------------|------|------|-------|-----------|--------|
|              | MHz         | dBuV  | Level | Factor |        |       |        |            |      |      |       |           |        |
| 1 * 5700.000 | 95.14       | 32.01 | 6.40  | 36.89  | 96.66  | 68.20 | 28.46  | HORIZONTAL | Peak |      |       |           |        |
| 2 5725.000   | 61.36       | 32.07 | 6.25  | 36.89  | 62.79  | 68.20 | -5.41  | HORIZONTAL | Peak |      |       |           |        |
| 3 5726.883   | 62.56       | 32.07 | 6.25  | 36.89  | 63.99  | 68.20 | -4.21  | HORIZONTAL | Peak |      |       |           |        |

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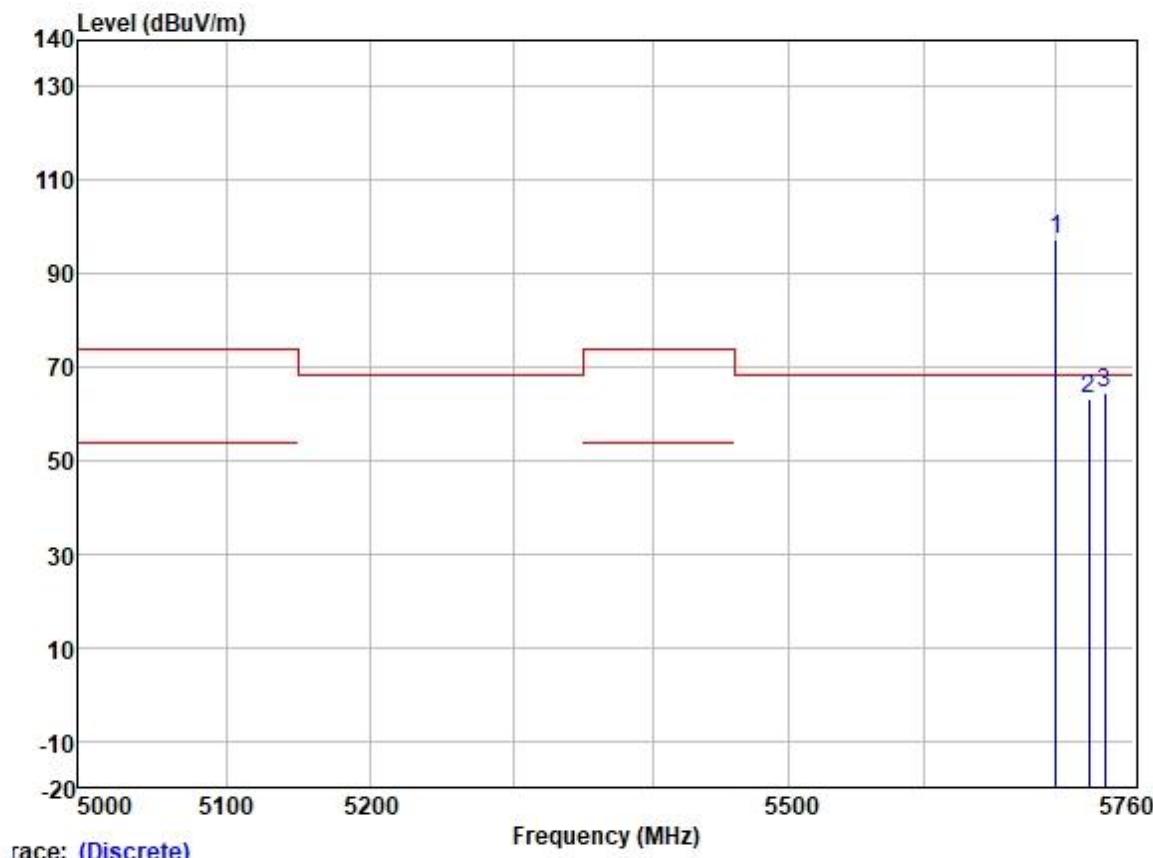
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Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



| Freq         | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over     | Limit | Over | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|-------|----------|-------|------|-----------|--------|
|              | Level       | Factor | Loss  | Factor | Level  | dBuV/m |       |          |       |      |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    | dB       | dB    | dB   | dB        | dB     |
| 1 * 5700.000 | 95.62       | 32.01  | 6.40  | 36.89  | 97.14  | 68.20  | 28.94 | VERTICAL |       |      | Peak      |        |
| 2 5725.000   | 61.62       | 32.07  | 6.25  | 36.89  | 63.05  | 68.20  | -5.15 | VERTICAL |       |      | Peak      |        |
| 3 5737.487   | 63.05       | 32.07  | 6.25  | 36.89  | 64.48  | 68.20  | -3.72 | VERTICAL |       |      | Peak      |        |

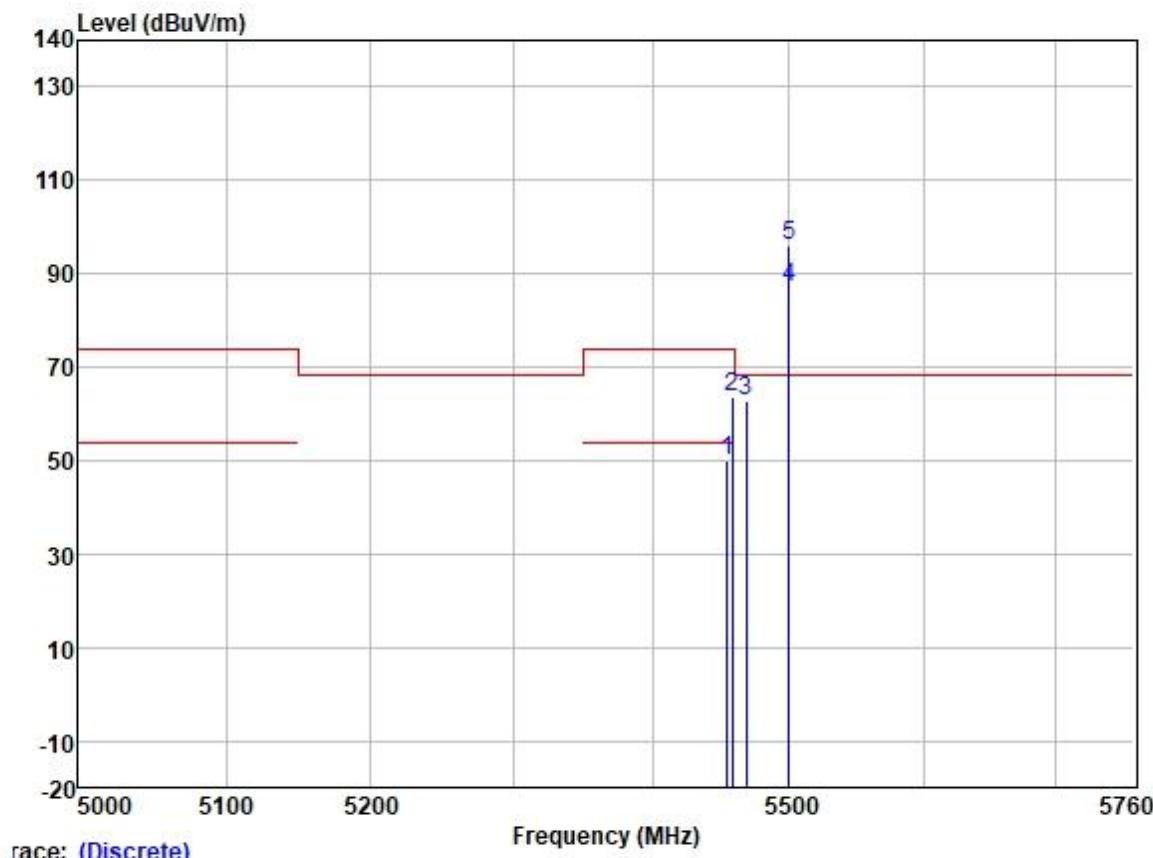
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable  |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark  |
|------|-------------|-------|--------|------|-----------------------|-------|---------------|---------------|------------|---------|
|      | MHz         | dBuV  | Factor | dB   |                       |       |               |               |            |         |
| 1    | 5454.513    | 48.75 | 31.79  | 6.26 | 36.88                 | 49.92 | 54.00         | -4.08         | HORIZONTAL | Average |
| 2    | 5457.871    | 62.52 | 31.79  | 6.26 | 36.88                 | 63.69 | 74.00         | -10.31        | HORIZONTAL | Peak    |
| 3    | 5467.957    | 61.35 | 31.80  | 6.31 | 36.88                 | 62.58 | 68.20         | -5.62         | HORIZONTAL | Peak    |
| 4    | 5500.000    | 85.95 | 31.80  | 6.40 | 36.88                 | 87.27 | -----         | -----         | HORIZONTAL | Average |
| 5 *  | 5500.000    | 94.55 | 31.80  | 6.40 | 36.88                 | 95.87 | 68.20         | 27.67         | HORIZONTAL | Peak    |

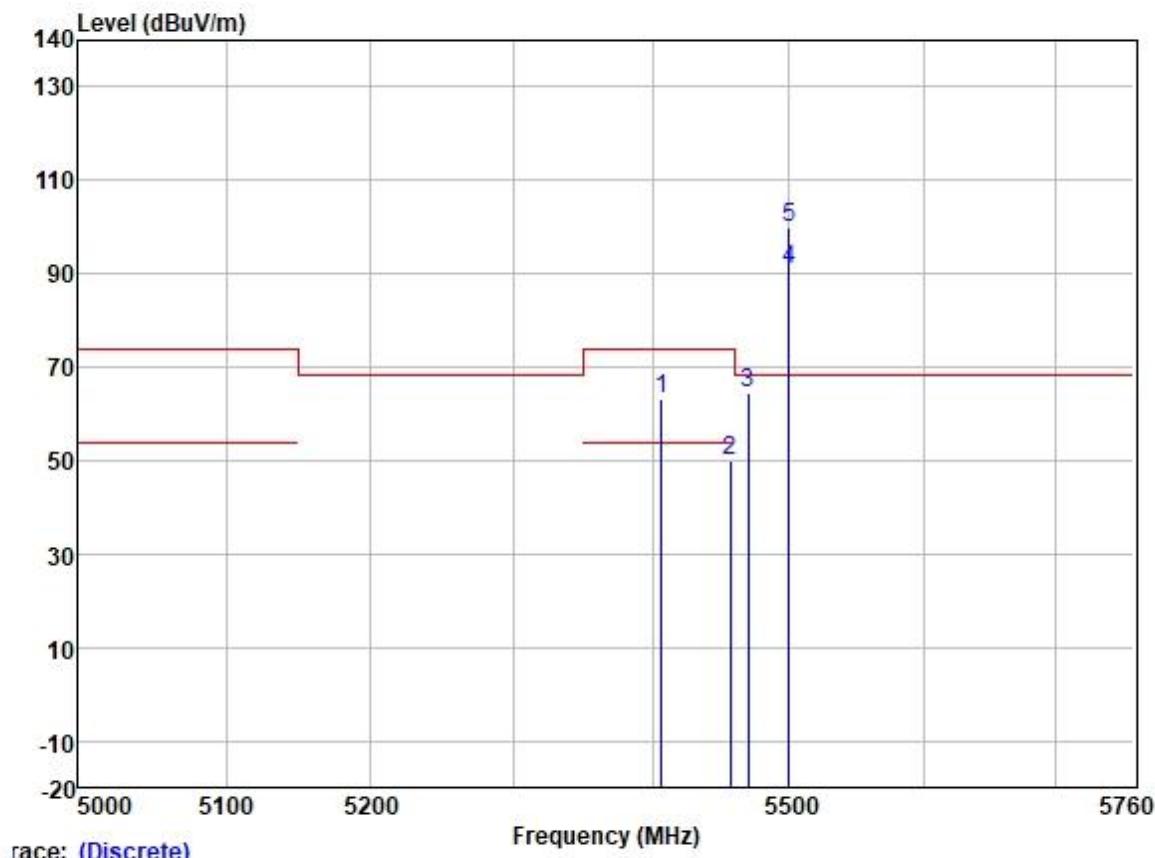
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Line     | Limit   | Pol/Phase | Remark |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|---------|-----------|--------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |          |         |           |        |
|      |             |       |       |        |        |        |       |        |          |         |           |        |
| 1    | 5406.175    | 62.34 | 31.79 | 6.06   | 36.88  | 63.31  | 74.00 | -10.69 | VERTICAL | Peak    |           |        |
| 2    | 5456.191    | 49.01 | 31.79 | 6.26   | 36.88  | 50.18  | 54.00 | -3.82  | VERTICAL | Average |           |        |
| 3    | 5469.759    | 63.38 | 31.80 | 6.31   | 36.88  | 64.61  | 68.20 | -3.59  | VERTICAL | Peak    |           |        |
| 4    | 5500.000    | 89.82 | 31.80 | 6.40   | 36.88  | 91.14  | ----- | -----  | VERTICAL | Average |           |        |
| 5 *  | 5500.000    | 98.43 | 31.80 | 6.40   | 36.88  | 99.75  | 68.20 | 31.55  | VERTICAL | Peak    |           |        |

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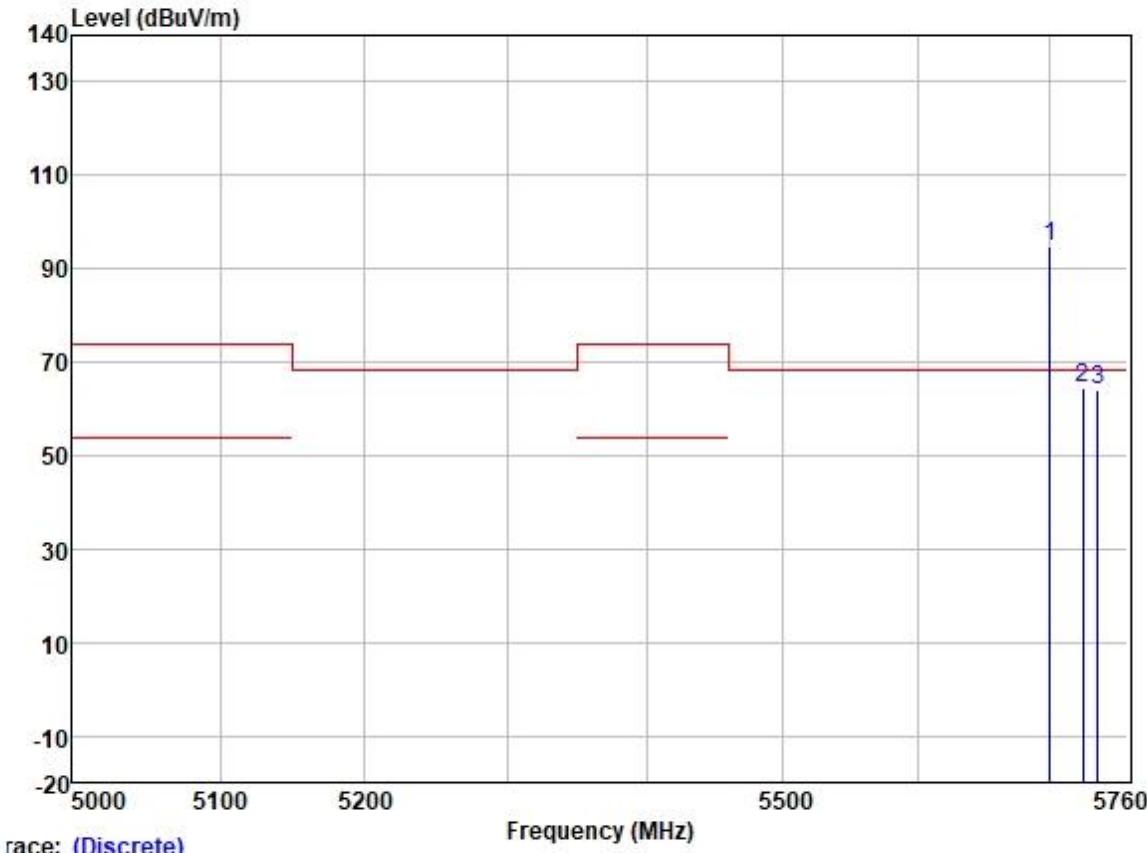
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

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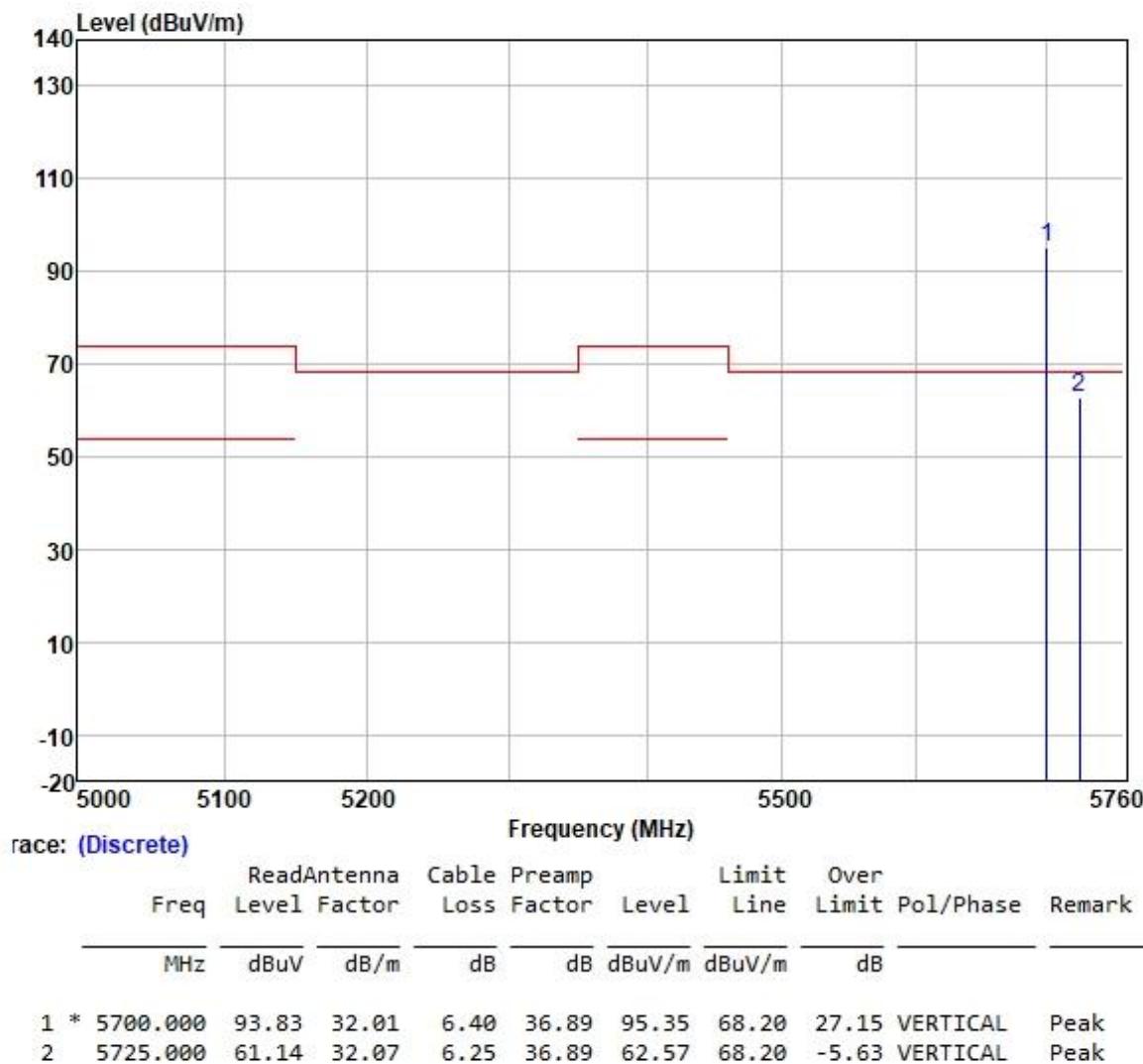
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



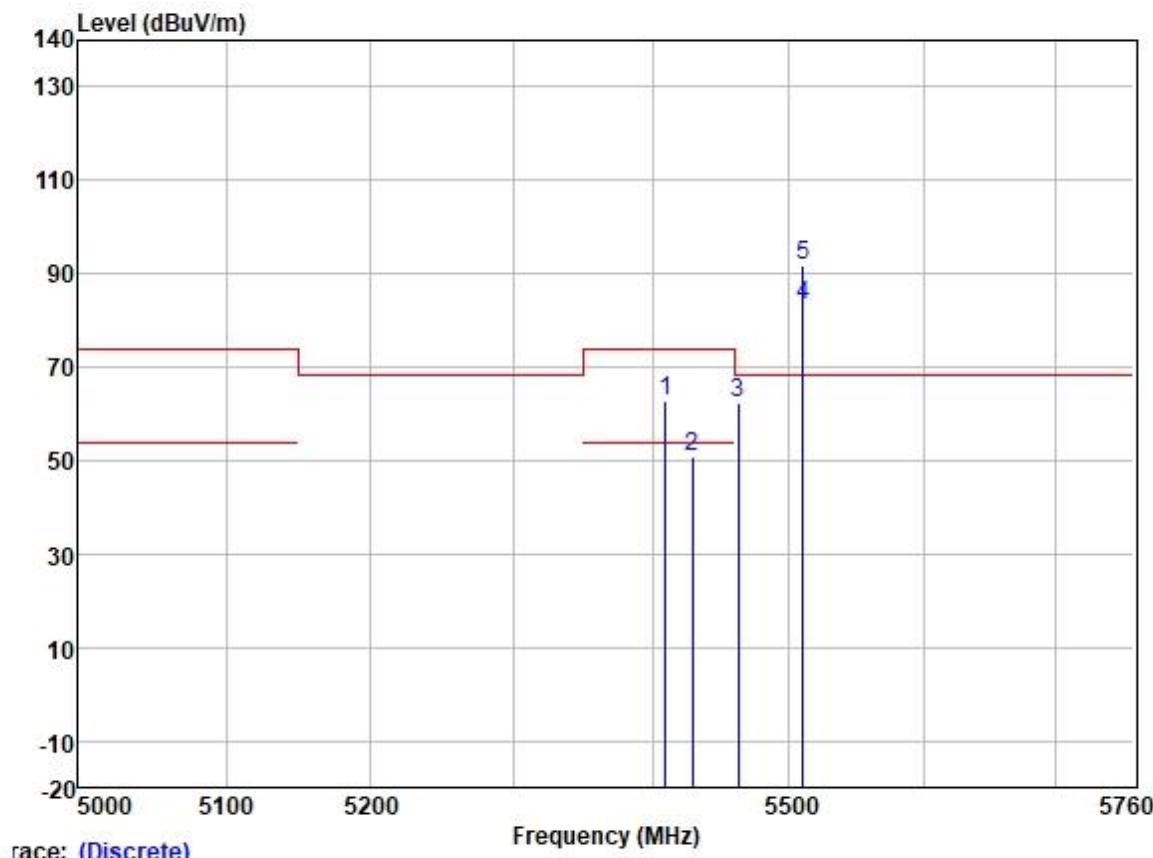
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



| Freq | ReadAntenna |       | Cable |        | Preamp | Limit  | Over  | Line   | Limit      | Pol/Phase | Remark |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|------------|-----------|--------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |            |           |        |
| 1    | 5409.130    | 61.69 | 31.79 | 6.06   | 36.88  | 62.66  | 74.00 | -11.34 | HORIZONTAL | Peak      |        |
| 2    | 5429.243    | 49.62 | 31.79 | 6.13   | 36.88  | 50.66  | 54.00 | -3.34  | HORIZONTAL | Average   |        |
| 3    | 5462.557    | 61.34 | 31.79 | 6.26   | 36.88  | 62.51  | 68.20 | -5.69  | HORIZONTAL | Peak      |        |
| 4    | 5510.000    | 81.82 | 31.80 | 6.40   | 36.88  | 83.14  | ----- | -----  | HORIZONTAL | Average   |        |
| 5 *  | 5510.000    | 90.55 | 31.80 | 6.40   | 36.88  | 91.87  | 68.20 | 23.67  | HORIZONTAL | Peak      |        |

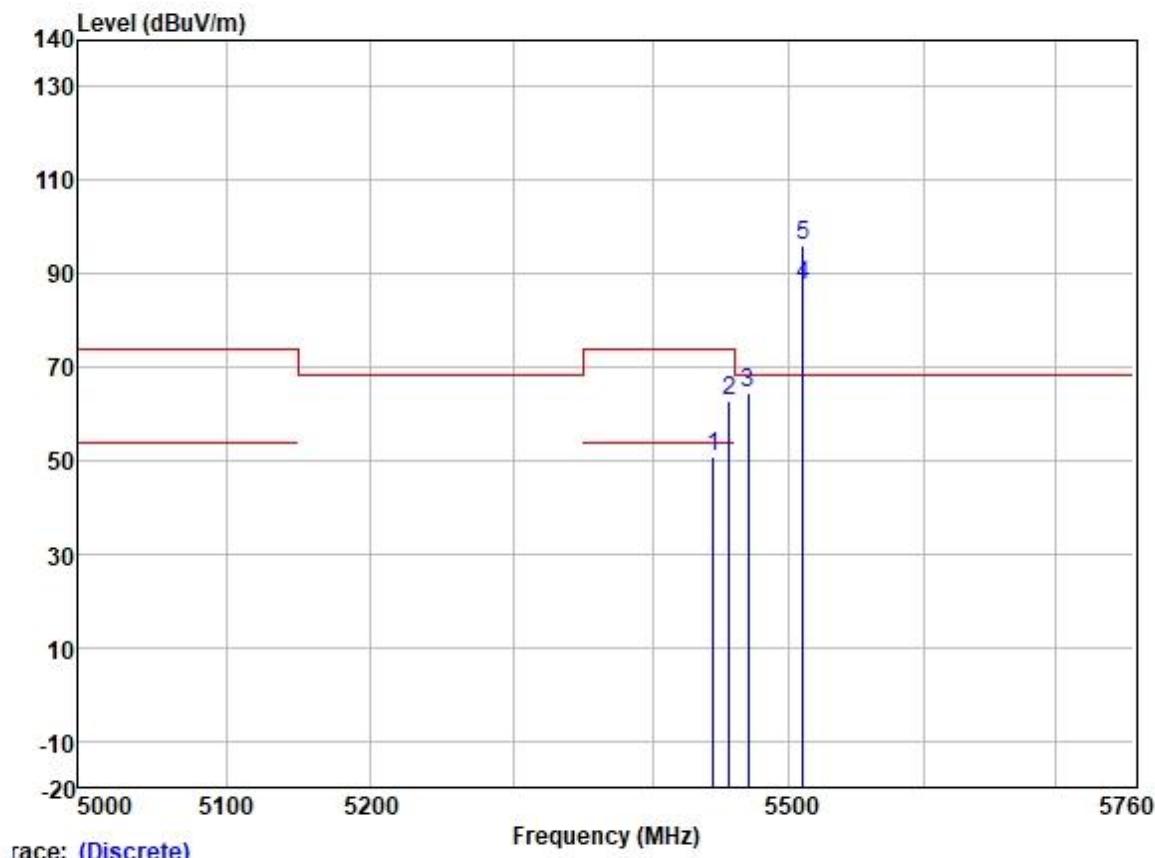
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Mode: (Discrete)

| Freq | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over   | Limit    | Pol/Phase | Remark |
|------|-------------|-------|-------|--------|--------|--------|-------|--------|----------|-----------|--------|
|      | MHz         | dBuV  | Level | Factor | Loss   | Factor |       |        |          |           |        |
| 1    | 5443.993    | 49.64 | 31.79 | 6.20   | 36.88  | 50.75  | 54.00 | -3.25  | VERTICAL | Average   |        |
| 2    | 5455.570    | 61.49 | 31.79 | 6.26   | 36.88  | 62.66  | 74.00 | -11.34 | VERTICAL | Peak      |        |
| 3    | 5469.412    | 63.35 | 31.80 | 6.31   | 36.88  | 64.58  | 68.20 | -3.62  | VERTICAL | Peak      |        |
| 4    | 5510.000    | 86.02 | 31.80 | 6.40   | 36.88  | 87.34  | ----- | -----  | VERTICAL | Average   |        |
| 5 *  | 5510.000    | 94.62 | 31.80 | 6.40   | 36.88  | 95.94  | 68.20 | 27.74  | VERTICAL | Peak      |        |

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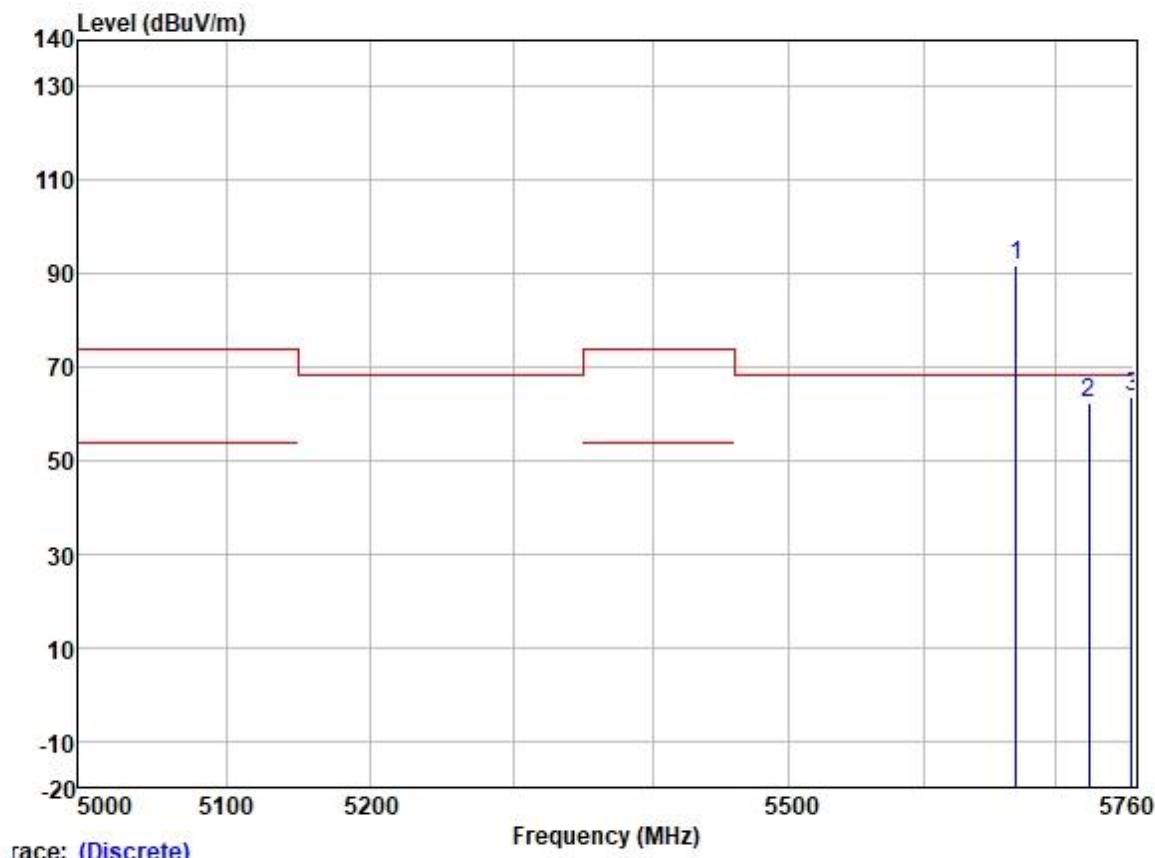


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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Race: (Discrete)

| Freq         | ReadAntenna |       | Cable |        | Preamp |        | Limit | Over       | Limit  | Pol/Phase | Remark |
|--------------|-------------|-------|-------|--------|--------|--------|-------|------------|--------|-----------|--------|
|              | MHz         | dBuV  | Level | Factor | Loss   | Factor | dB    | dBuV/m     | dBuV/m | dB        |        |
| 1 * 5670.000 | 90.41       | 31.97 | 6.37  | 36.89  | 91.86  | 68.20  | 23.66 | HORIZONTAL | Peak   |           |        |
| 2 5725.000   | 60.96       | 32.07 | 6.25  | 36.89  | 62.39  | 68.20  | -5.81 | HORIZONTAL | Peak   |           |        |
| 3 5758.075   | 62.21       | 32.13 | 6.15  | 36.89  | 63.60  | 68.20  | -4.60 | HORIZONTAL | Peak   |           |        |

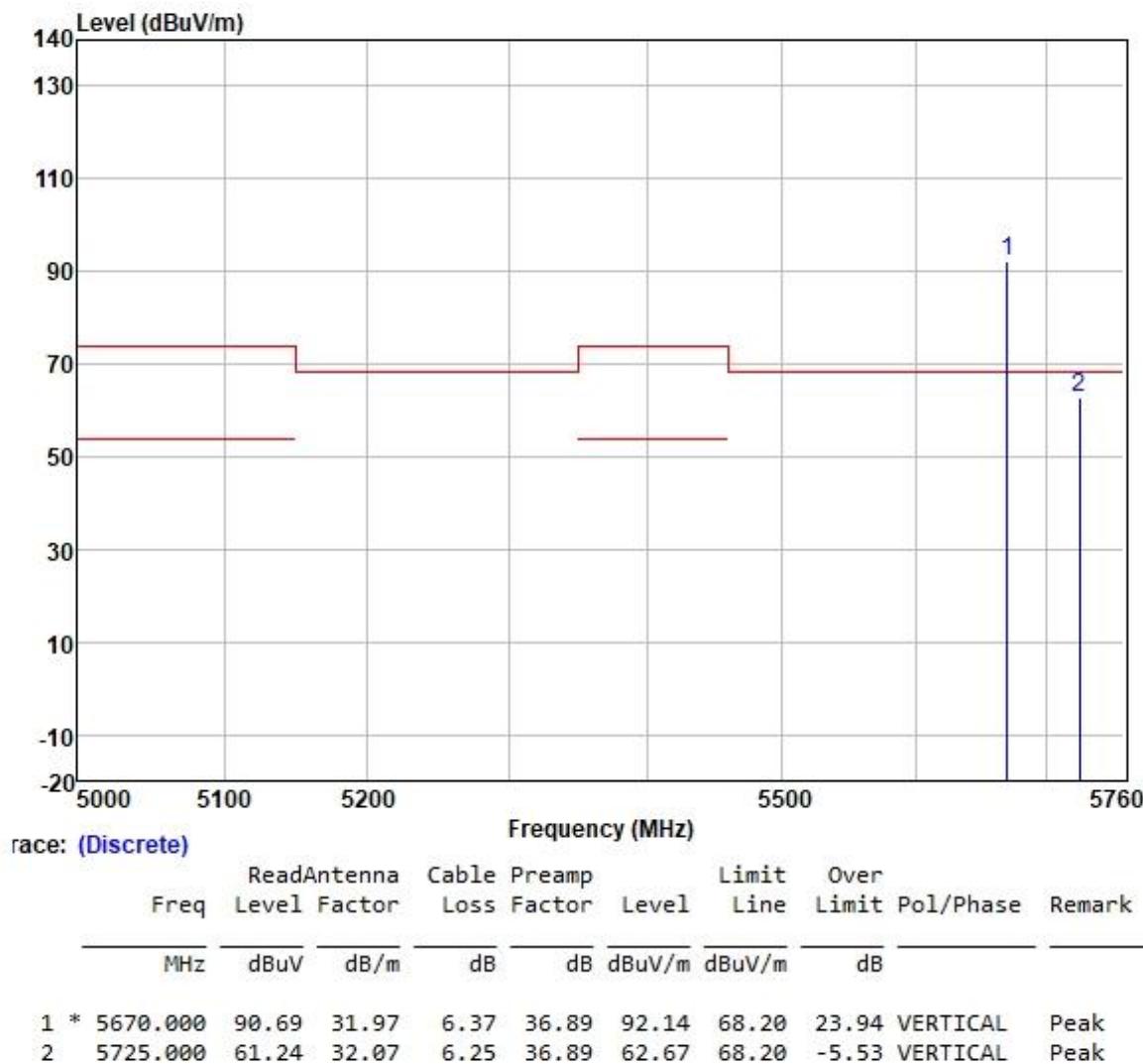
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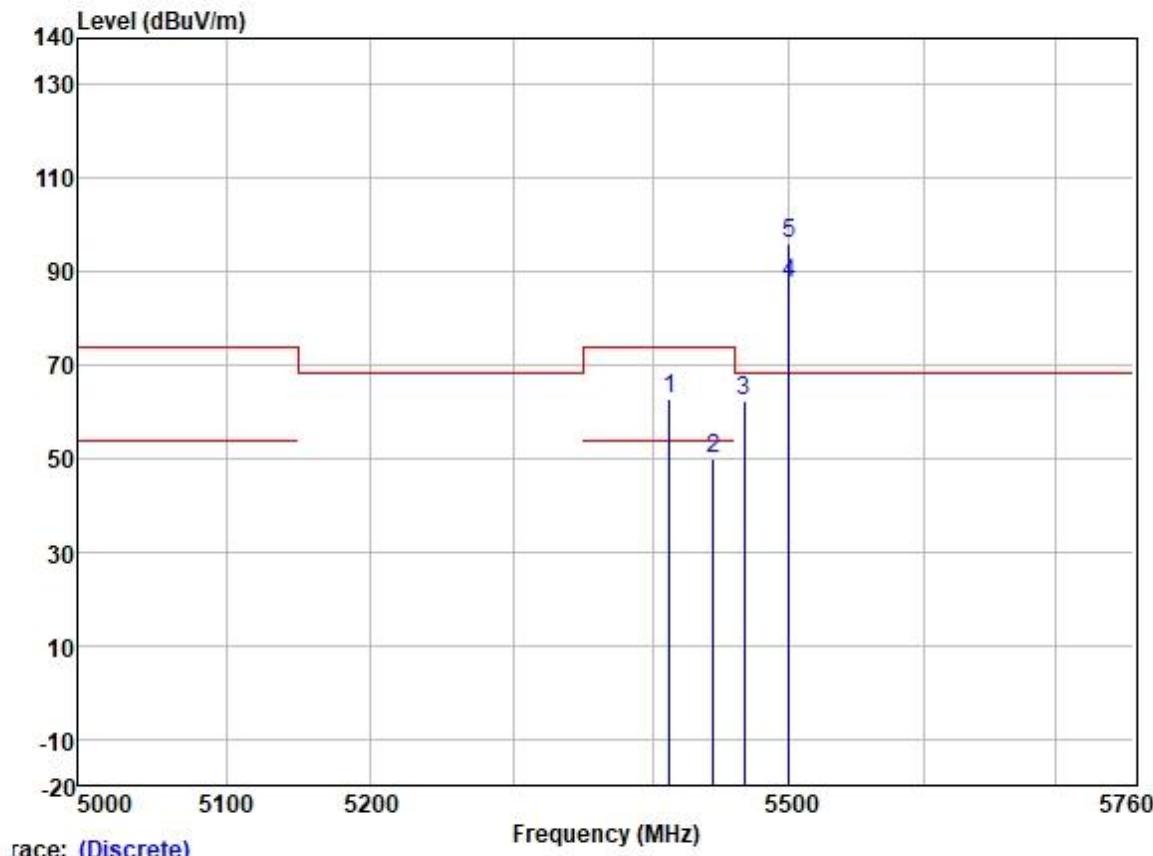
Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable  |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark  |
|------|-------------|-------|--------|------|-----------------------|-------|---------------|---------------|------------|---------|
|      | MHz         | dBuV  | Factor | dB   |                       |       |               |               |            |         |
| 1    | 5412.000    | 61.67 | 31.79  | 6.06 | 36.88                 | 62.64 | 74.00         | -11.36        | HORIZONTAL | Peak    |
| 2    | 5444.212    | 48.86 | 31.79  | 6.20 | 36.88                 | 49.97 | 54.00         | -4.03         | HORIZONTAL | Average |
| 3    | 5466.875    | 61.26 | 31.80  | 6.31 | 36.88                 | 62.49 | 68.20         | -5.71         | HORIZONTAL | Peak    |
| 4    | 5500.000    | 86.01 | 31.80  | 6.40 | 36.88                 | 87.33 | -----         | -----         | HORIZONTAL | Average |
| 5 *  | 5500.000    | 94.56 | 31.80  | 6.40 | 36.88                 | 95.88 | 68.20         | 27.68         | HORIZONTAL | Peak    |

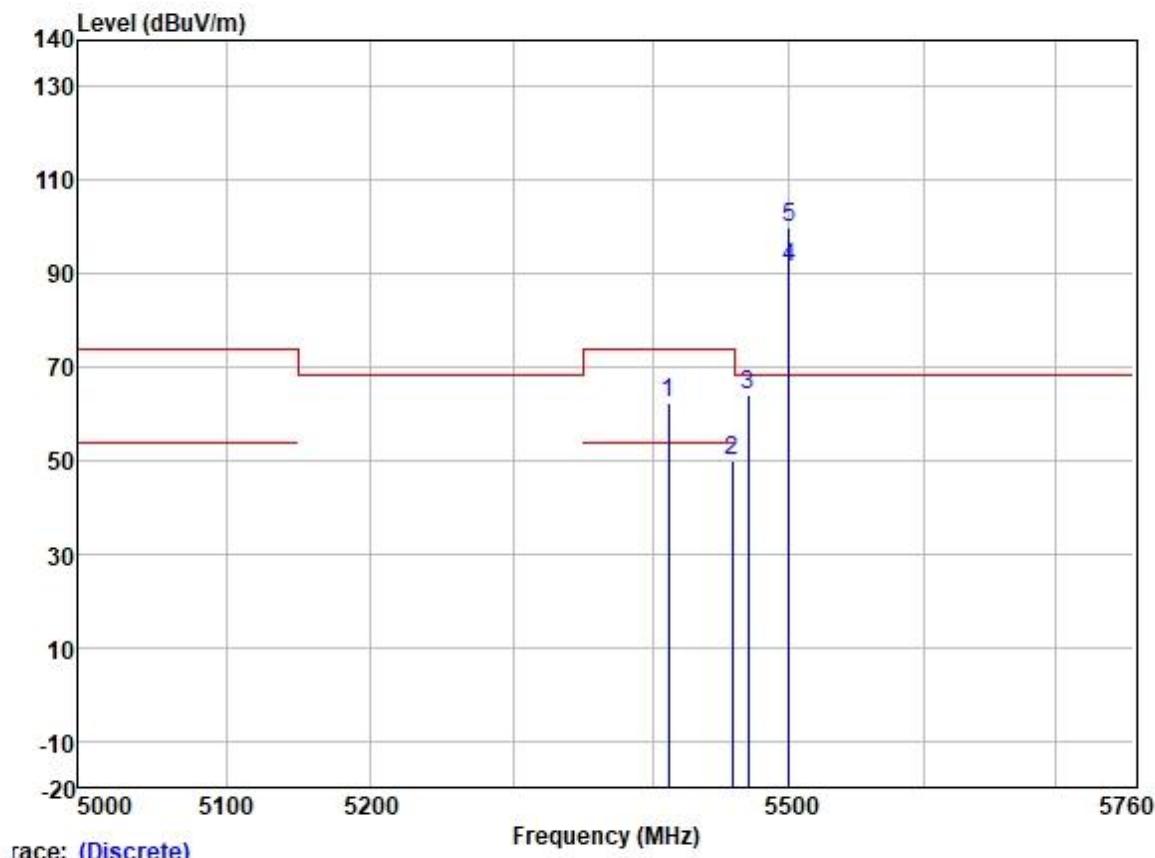
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



| Freq | ReadAntenna |       | Cable  |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark  |
|------|-------------|-------|--------|------|-----------------------|-------|---------------|---------------|-----------|---------|
|      | MHz         | dBuV  | Factor | dB   |                       |       |               |               |           |         |
| 1    | 5411.287    | 61.52 | 31.79  | 6.06 | 36.88                 | 62.49 | 74.00         | -11.51        | VERTICAL  | Peak    |
| 2    | 5458.230    | 48.79 | 31.79  | 6.26 | 36.88                 | 49.96 | 54.00         | -4.04         | VERTICAL  | Average |
| 3    | 5469.399    | 62.65 | 31.80  | 6.31 | 36.88                 | 63.88 | 68.20         | -4.32         | VERTICAL  | Peak    |
| 4    | 5500.000    | 89.94 | 31.80  | 6.40 | 36.88                 | 91.26 | -----         | -----         | VERTICAL  | Average |
| 5 *  | 5500.000    | 98.63 | 31.80  | 6.40 | 36.88                 | 99.95 | 68.20         | 31.75         | VERTICAL  | Peak    |

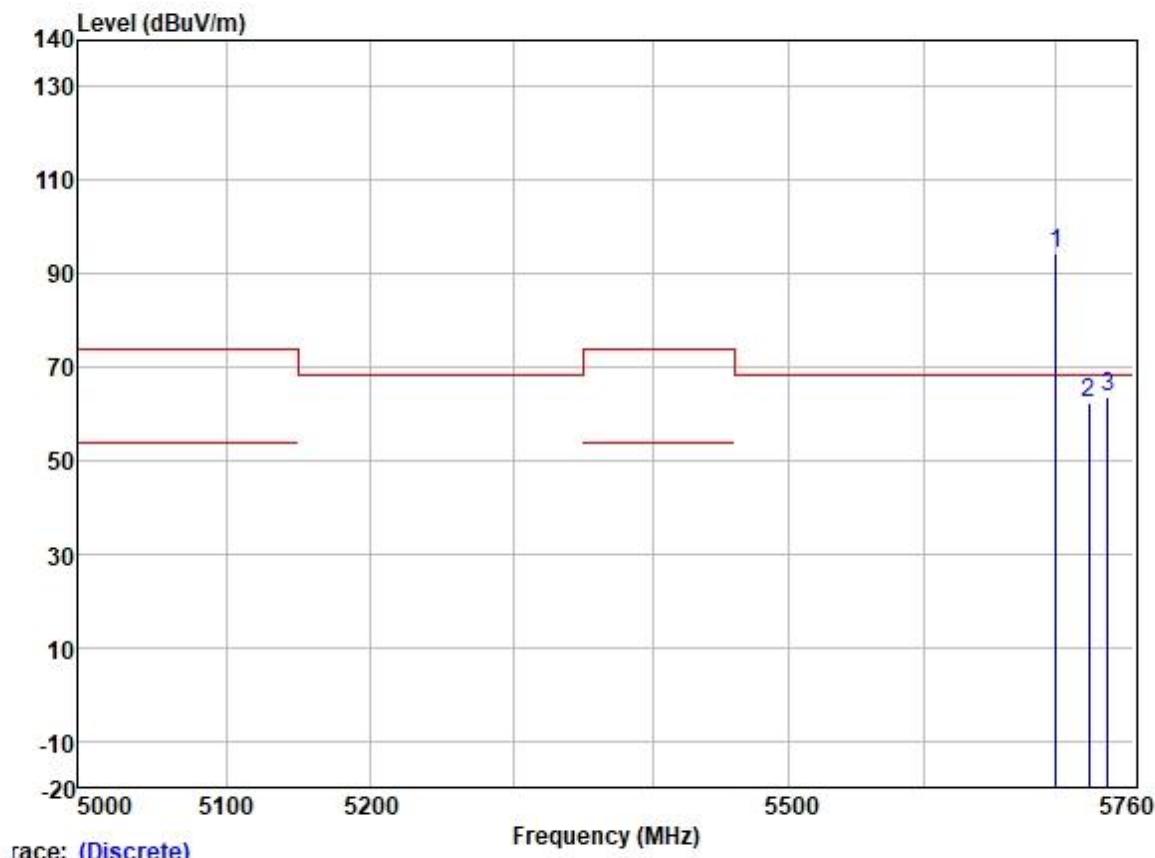
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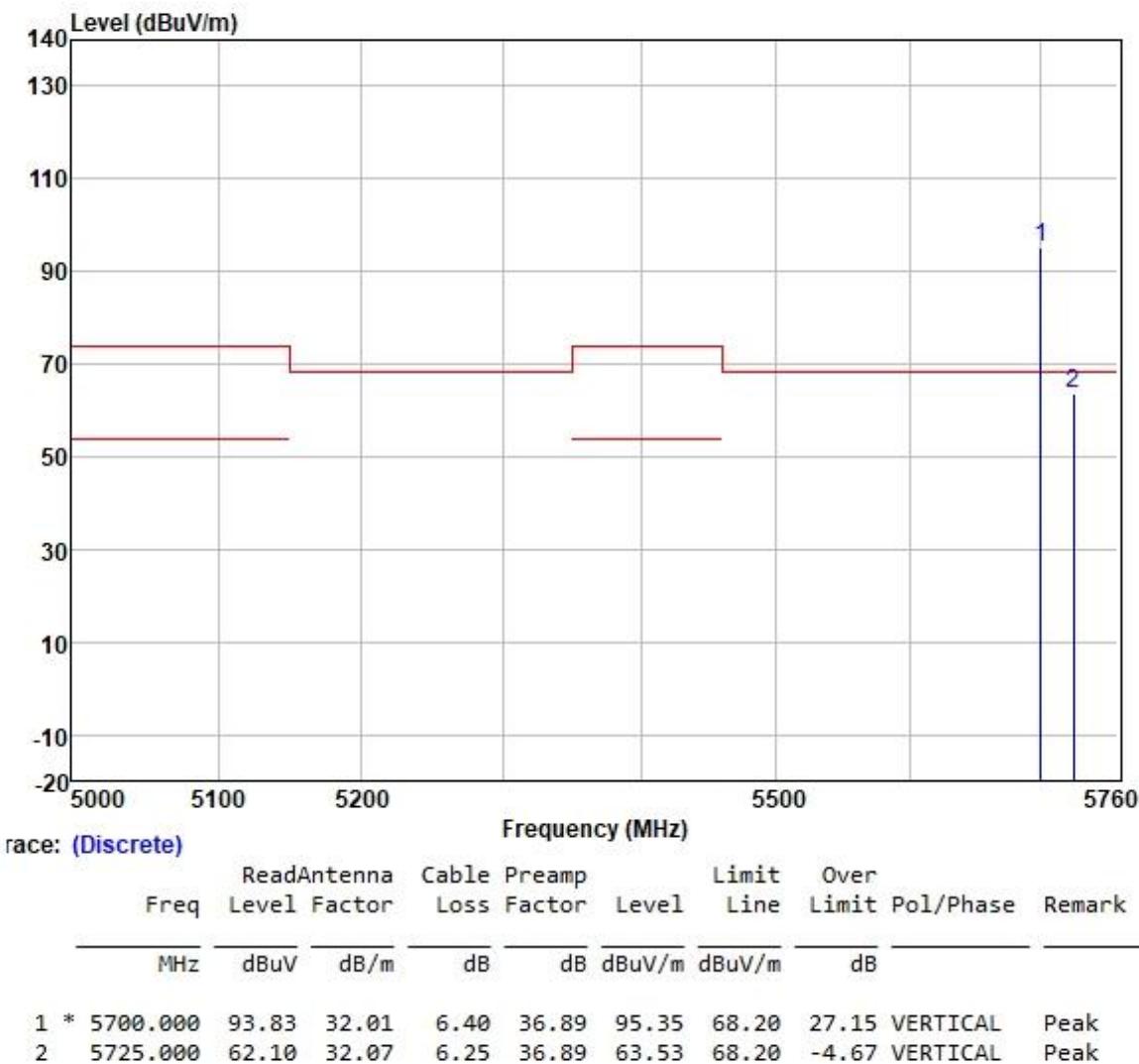


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Guangzhou Branch Testing Center for EEC Laboratory

Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



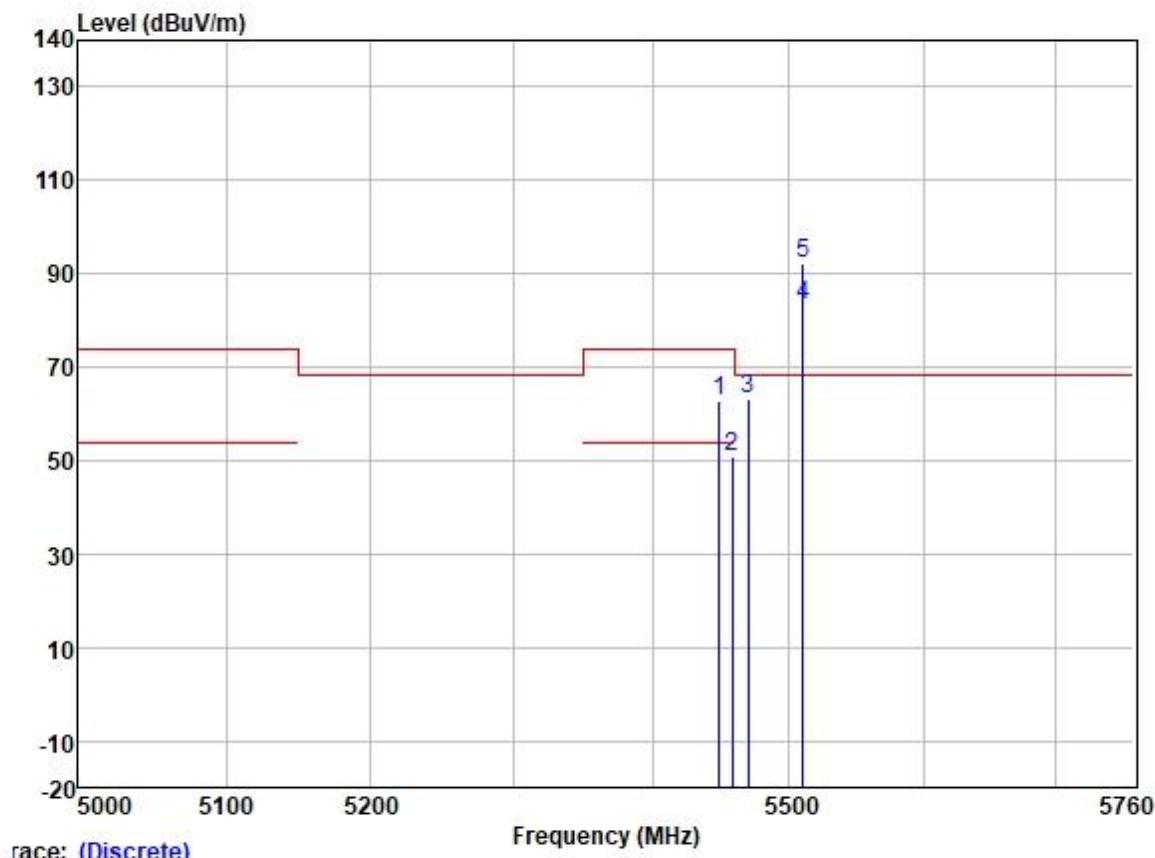
Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable  |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark  |
|------|-------------|-------|--------|------|-----------------------|-------|---------------|---------------|------------|---------|
|      | MHz         | dBuV  | Factor | dB   |                       |       |               |               |            |         |
| 1    | 5448.593    | 61.64 | 31.79  | 6.26 | 36.88                 | 62.81 | 74.00         | -11.19        | HORIZONTAL | Peak    |
| 2    | 5458.224    | 49.49 | 31.79  | 6.26 | 36.88                 | 50.66 | 54.00         | -3.34         | HORIZONTAL | Average |
| 3    | 5469.552    | 61.76 | 31.80  | 6.31 | 36.88                 | 62.99 | 68.20         | -5.21         | HORIZONTAL | Peak    |
| 4    | 5510.000    | 81.76 | 31.80  | 6.40 | 36.88                 | 83.08 | -----         | -----         | HORIZONTAL | Average |
| 5 *  | 5510.000    | 90.72 | 31.80  | 6.40 | 36.88                 | 92.04 | 68.20         | 23.84         | HORIZONTAL | Peak    |

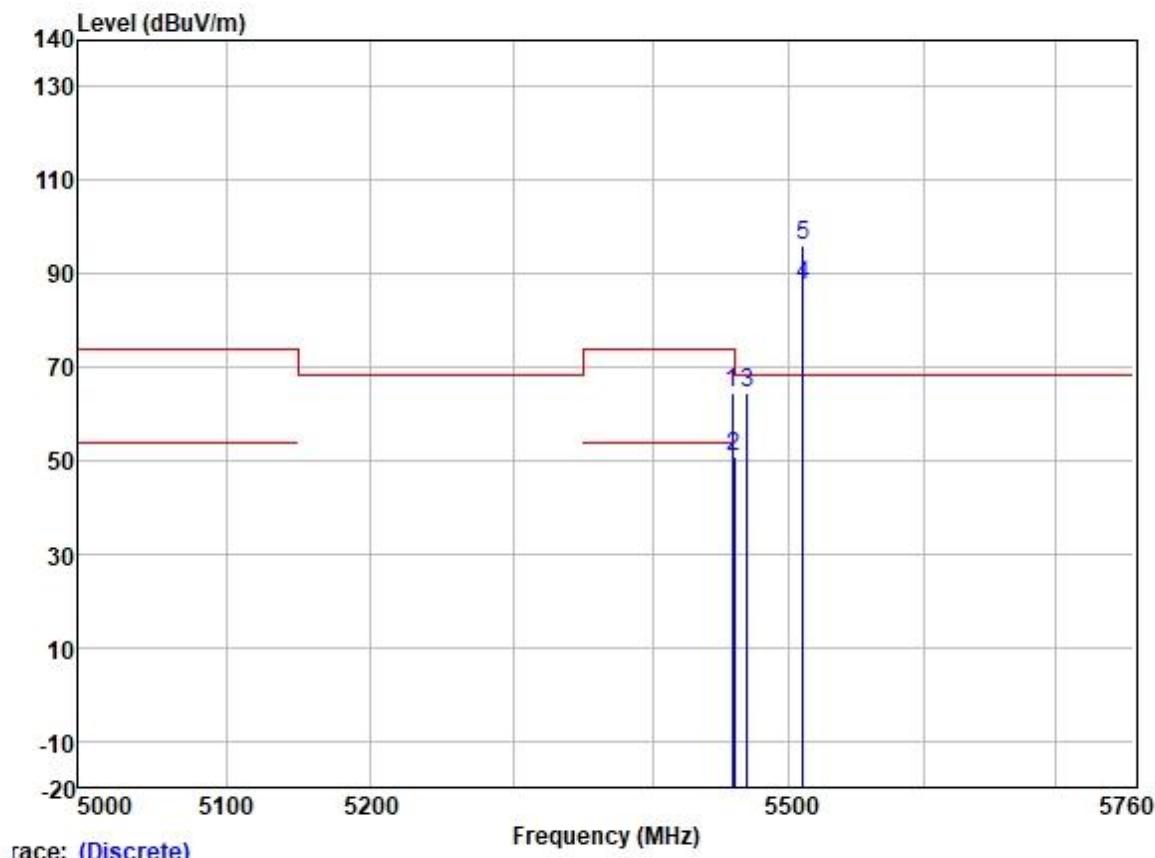
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



| Freq         | ReadAntenna |        | Cable |        | Preamp |        | Limit | Over     | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|-------|----------|-----------|--------|
|              | Level       | Factor | Loss  | Factor | Level  | dBuV/m |       |          |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    | dB       | dB        | dB     |
| 1 5458.084   | 63.11       | 31.79  | 6.26  | 36.88  | 64.28  | 74.00  | -9.72 | VERTICAL | Peak      |        |
| 2 5459.481   | 49.67       | 31.79  | 6.26  | 36.88  | 50.84  | 54.00  | -3.16 | VERTICAL | Average   |        |
| 3 5469.132   | 63.44       | 31.80  | 6.31  | 36.88  | 64.67  | 68.20  | -3.53 | VERTICAL | Peak      |        |
| 4 5510.000   | 86.16       | 31.80  | 6.40  | 36.88  | 87.48  | -----  | ----- | VERTICAL | Average   |        |
| 5 * 5510.000 | 94.76       | 31.80  | 6.40  | 36.88  | 96.08  | 68.20  | 27.88 | VERTICAL | Peak      |        |

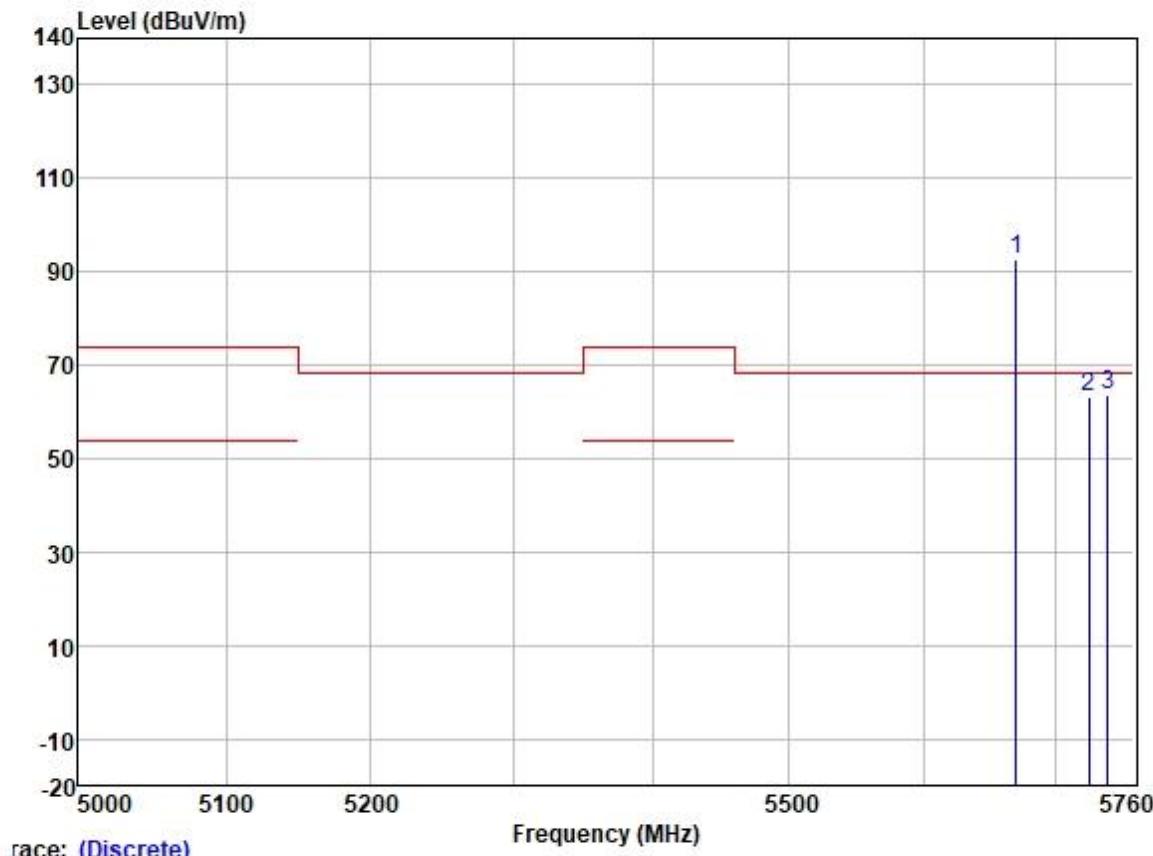
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



| Freq         | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line       | Limit | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|-------|------------|-------|-----------|--------|
|              | Level       | Factor | Loss  | Factor |        |        |       |            |       |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |            |       |           |        |
| 1 * 5670.000 | 91.30       | 31.97  | 6.37  | 36.89  | 92.75  | 68.20  | 24.55 | HORIZONTAL | Peak  |           |        |
| 2 5725.000   | 61.73       | 32.07  | 6.25  | 36.89  | 63.16  | 68.20  | -5.04 | HORIZONTAL | Peak  |           |        |
| 3 5739.609   | 62.42       | 32.10  | 6.20  | 36.89  | 63.83  | 68.20  | -4.37 | HORIZONTAL | Peak  |           |        |

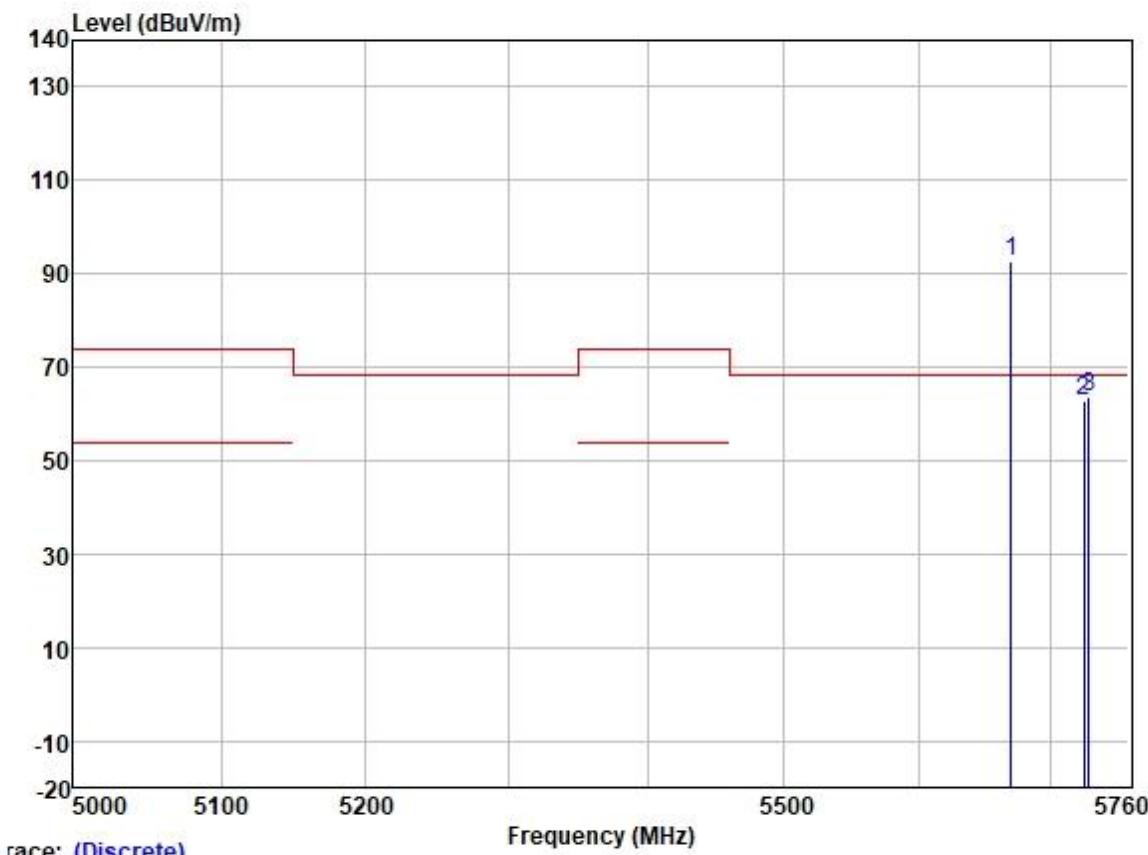
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



| Freq         | ReadAntenna |        | Cable |        | Preamp | Limit  | Over  | Line     | Limit | Pol/Phase | Remark |
|--------------|-------------|--------|-------|--------|--------|--------|-------|----------|-------|-----------|--------|
|              | Level       | Factor | Loss  | Factor |        |        |       |          |       |           |        |
| MHz          | dBuV        | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB    |          |       |           |        |
| 1 * 5670.000 | 91.23       | 31.97  | 6.37  | 36.89  | 92.68  | 68.20  | 24.48 | VERTICAL | Peak  |           |        |
| 2 5725.000   | 61.46       | 32.07  | 6.25  | 36.89  | 62.89  | 68.20  | -5.31 | VERTICAL | Peak  |           |        |
| 3 5728.923   | 62.09       | 32.07  | 6.25  | 36.89  | 63.52  | 68.20  | -4.68 | VERTICAL | Peak  |           |        |

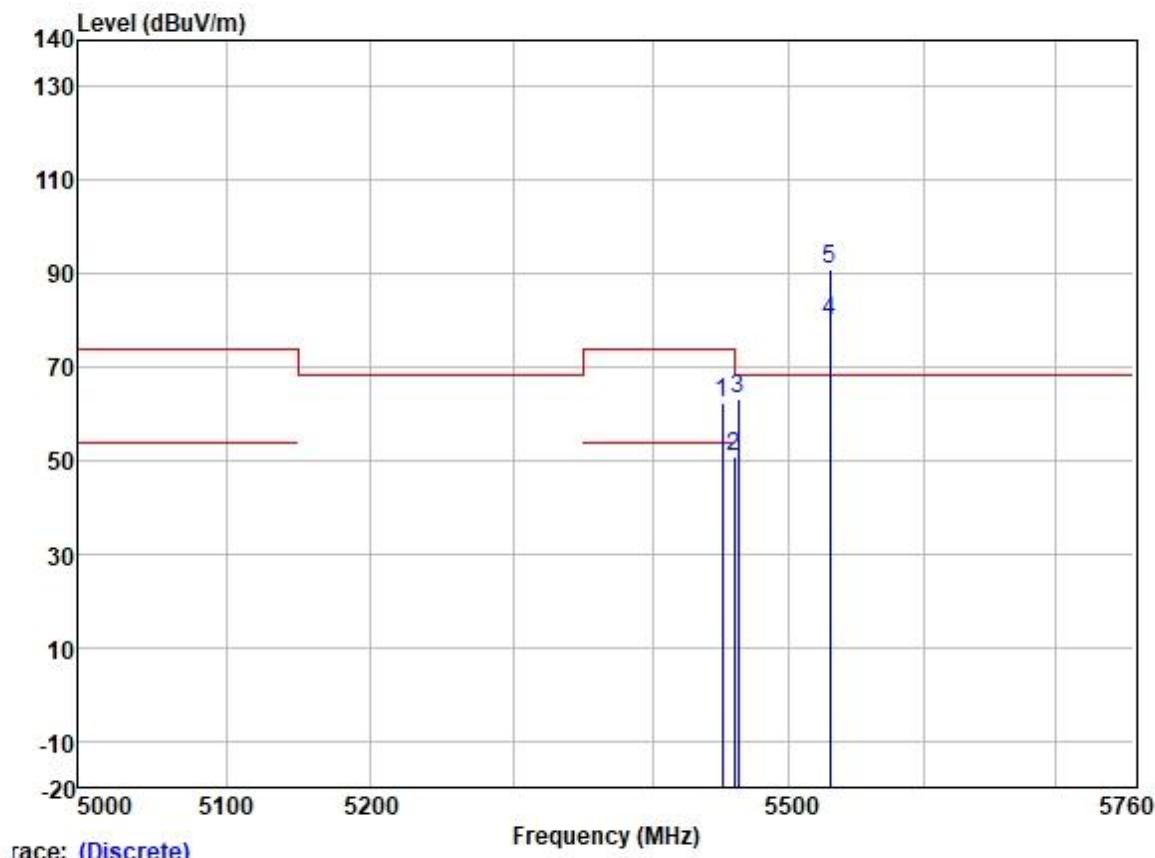
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



| Freq | ReadAntenna |        | Cable |        | Preamp |       | Level  | Limit  | Over       |           | Remark |
|------|-------------|--------|-------|--------|--------|-------|--------|--------|------------|-----------|--------|
|      | Level       | Factor | Loss  | Factor | Level  | Line  |        |        | Limit      | Pol/Phase |        |
|      | MHz         | dBuV   | dB/m  |        | dB     | dB    | dBuV/m | dBuV/m |            | dB        |        |
| 1    | 5450.521    | 61.21  | 31.79 | 6.26   | 36.88  | 62.38 | 74.00  | -11.62 | HORIZONTAL | Peak      |        |
| 2    | 5459.465    | 49.68  | 31.79 | 6.26   | 36.88  | 50.85 | 54.00  | -3.15  | HORIZONTAL | Average   |        |
| 3    | 5462.330    | 61.82  | 31.79 | 6.26   | 36.88  | 62.99 | 68.20  | -5.21  | HORIZONTAL | Peak      |        |
| 4    | 5530.000    | 78.34  | 31.83 | 6.37   | 36.89  | 79.65 | -----  | -----  | HORIZONTAL | Average   |        |
| 5 *  | 5530.000    | 89.42  | 31.83 | 6.37   | 36.89  | 90.73 | 68.20  | 22.53  | HORIZONTAL | Peak      |        |

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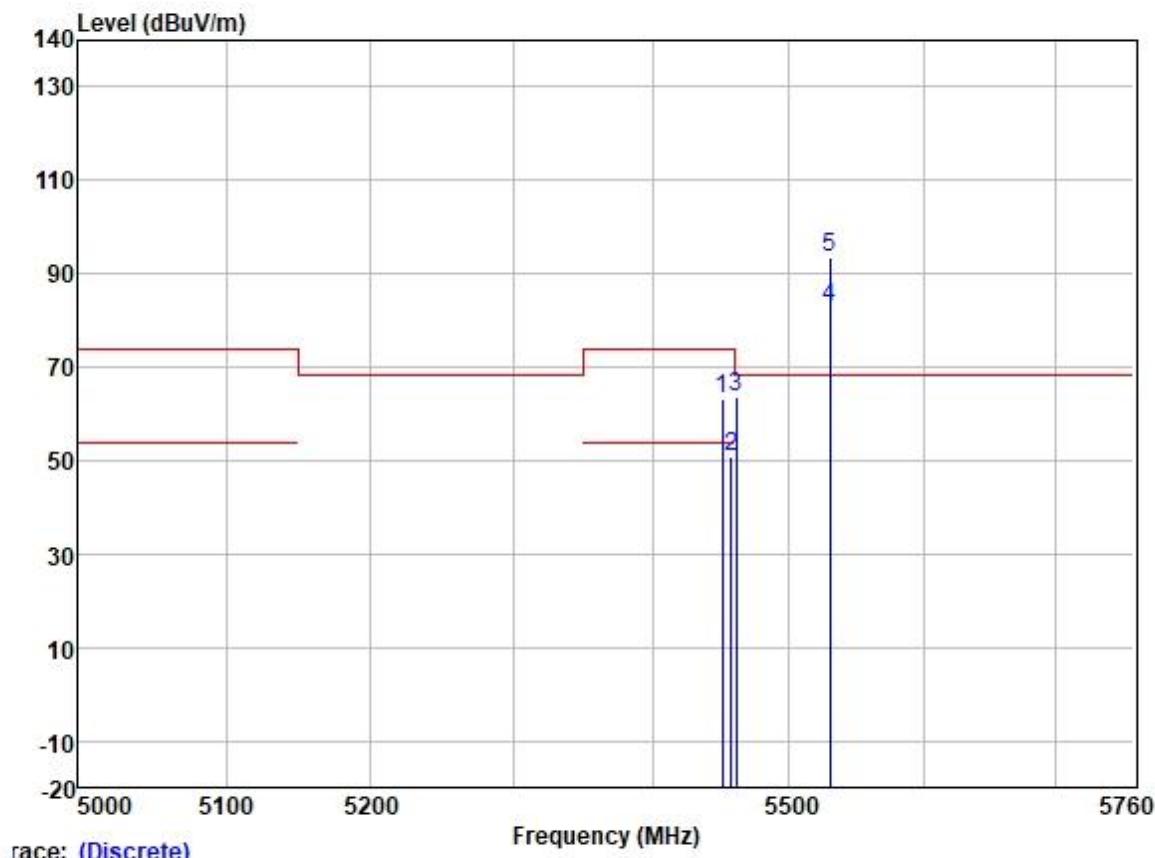
106-7551-20271442  
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

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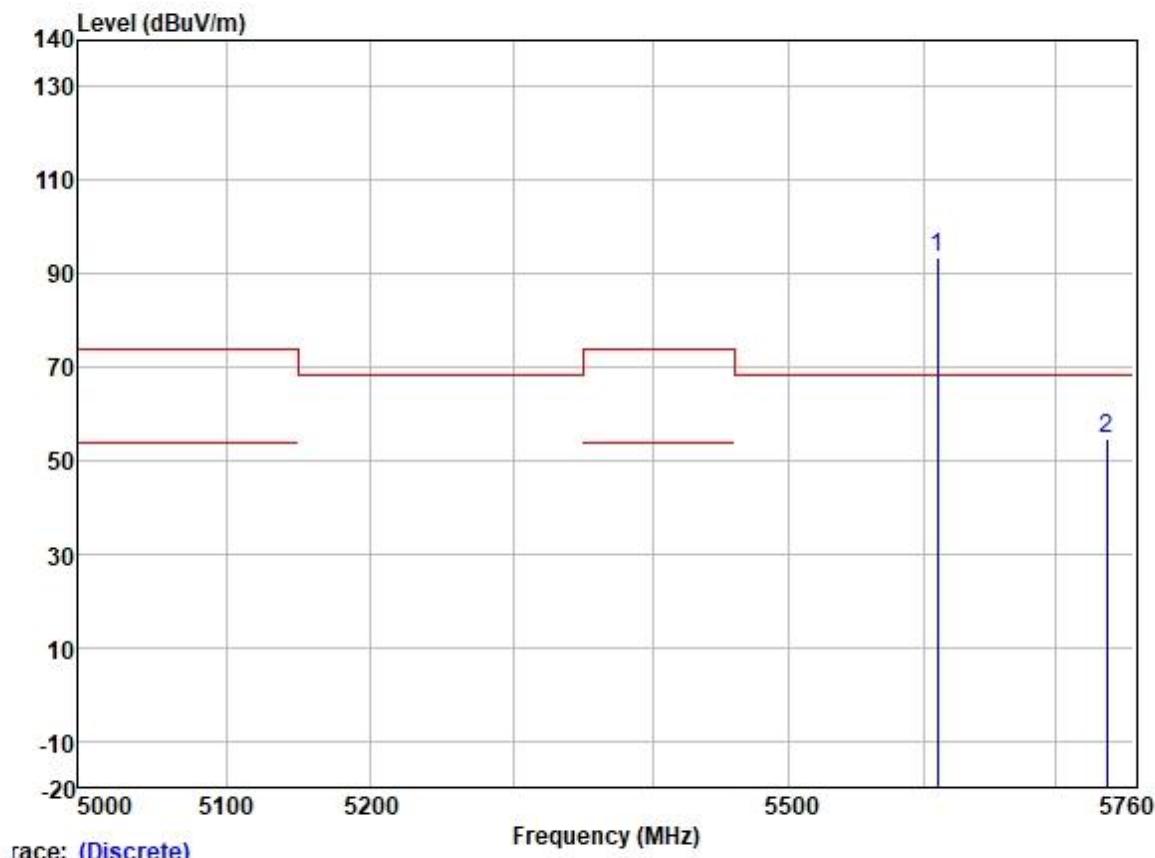
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:High

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Guangzhou Branch Testing Center EEC Laboratory

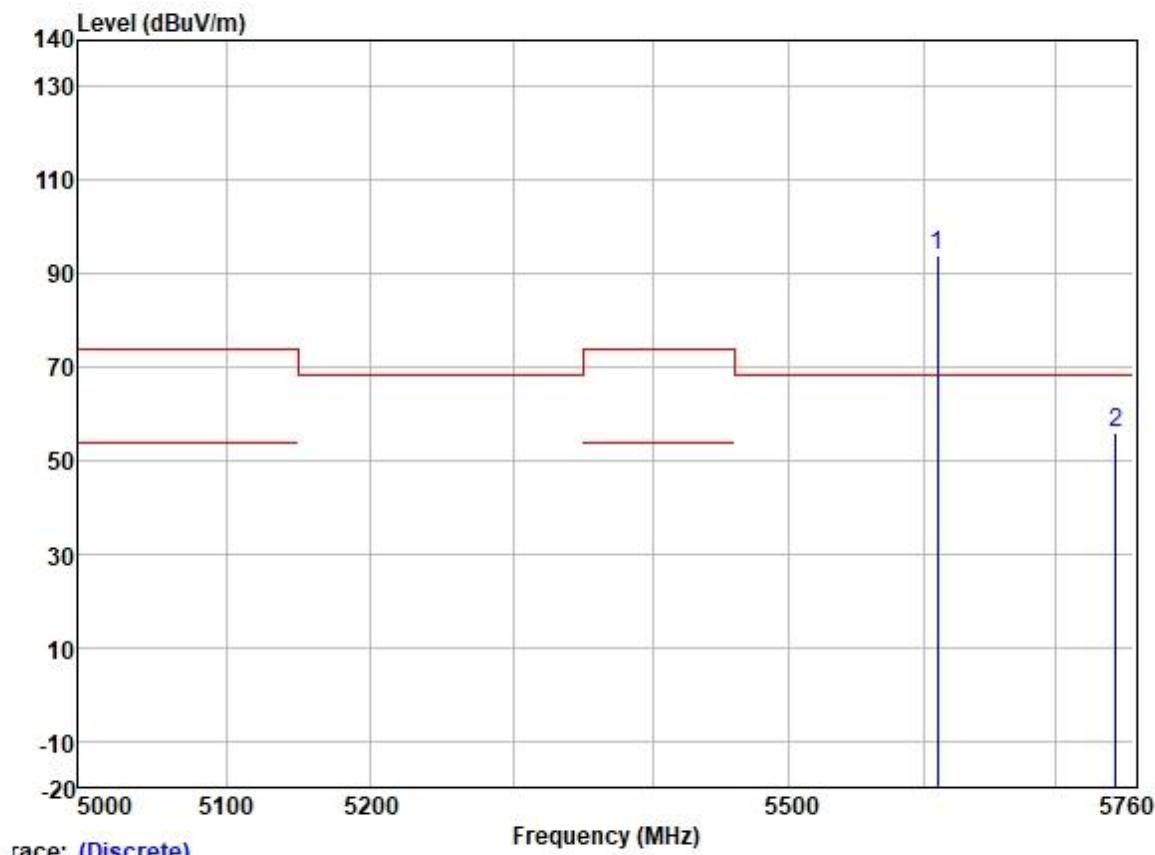
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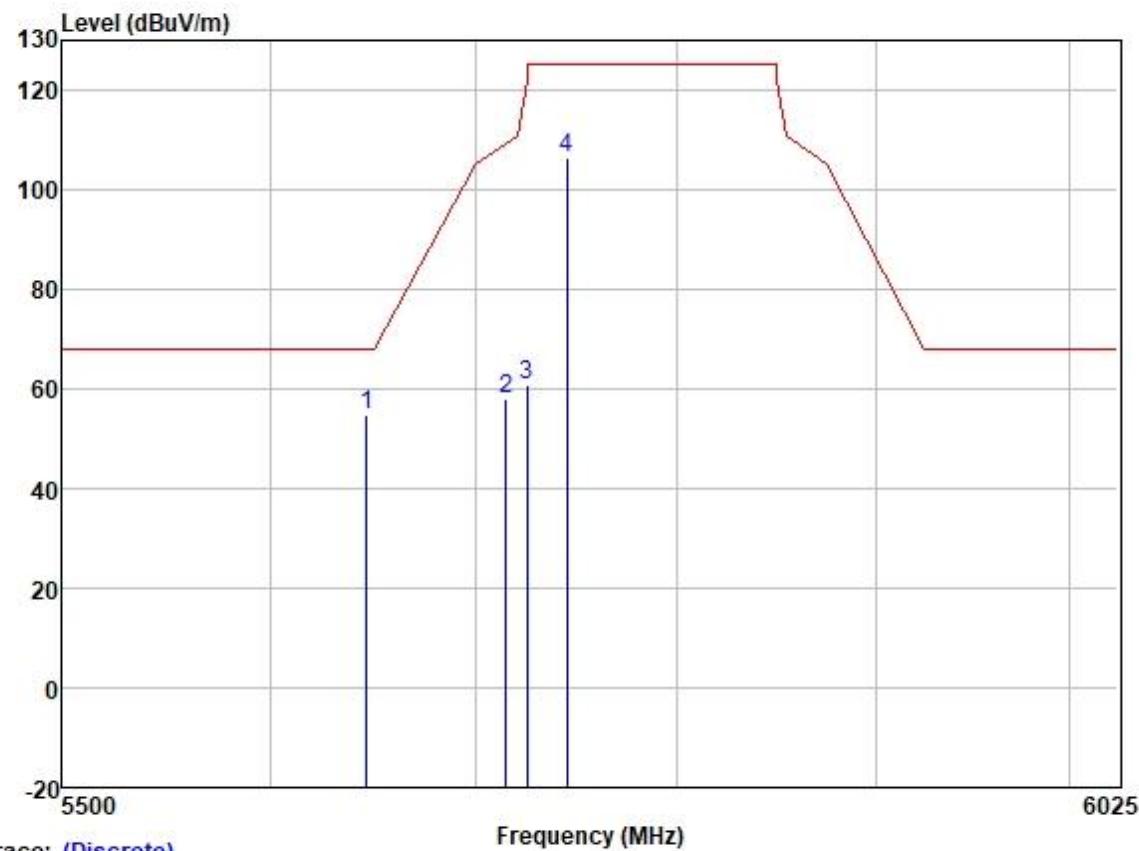
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:High



Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

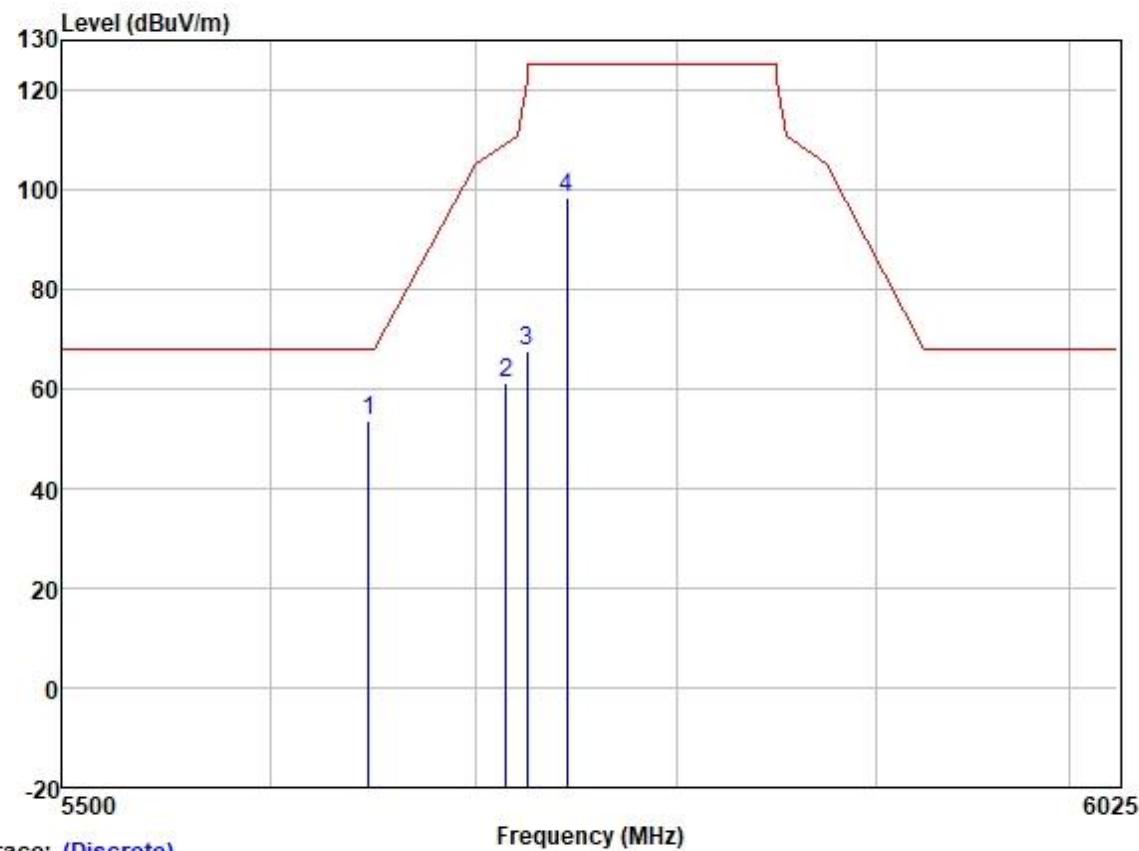


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Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



| Race: | ReadAntenna |       | Cable  |      | Preamp |        | Limit  | Over   | Limit    | Pol/Phase | Remark |
|-------|-------------|-------|--------|------|--------|--------|--------|--------|----------|-----------|--------|
|       | Freq        | Level | Factor | Loss | Factor | Level  |        |        |          |           |        |
|       | MHz         | dBuV  | dB/m   | dB   | dB     | dBuV/m | dBuV/m | dB     |          |           |        |
| 1     | 5647.196    | 52.36 | 31.95  | 6.35 | 36.89  | 53.77  | 68.20  | -14.43 | VERTICAL | Peak      |        |
| 2     | 5715.000    | 59.53 | 32.04  | 6.33 | 36.89  | 61.01  | 109.40 | -48.39 | VERTICAL | Peak      |        |
| 3     | 5725.000    | 66.24 | 32.07  | 6.25 | 36.89  | 67.67  | 122.20 | -54.53 | VERTICAL | Peak      |        |
| 4     | 5745.000    | 96.87 | 32.10  | 6.20 | 36.89  | 98.28  | 125.20 | -26.92 | VERTICAL | Peak      |        |

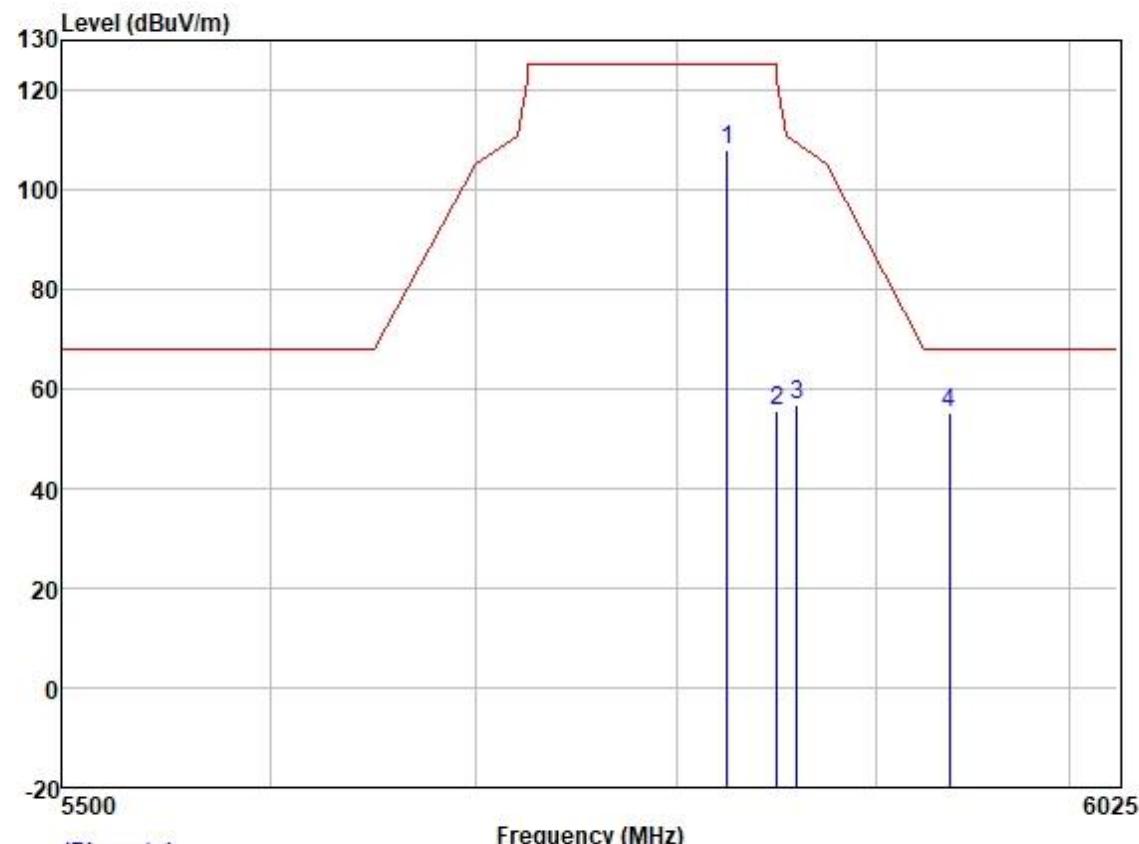
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



| Freq | ReadAntenna |        | Cable |        | Preamp | Limit  | Over   | Limit  | Pol/Phase  | Remark |
|------|-------------|--------|-------|--------|--------|--------|--------|--------|------------|--------|
|      | MHz         | dBuV   | Level | Factor | Loss   |        |        |        |            |        |
|      |             |        |       |        |        |        |        |        |            |        |
| 1    | 5825.000    | 106.52 | 32.23 | 6.04   | 36.90  | 107.89 | 125.20 | -17.31 | HORIZONTAL | Peak   |
| 2    | 5850.000    | 54.24  | 32.25 | 6.00   | 36.90  | 55.59  | 122.20 | -66.61 | HORIZONTAL | Peak   |
| 3    | 5860.000    | 55.61  | 32.27 | 5.96   | 36.90  | 56.94  | 109.40 | -52.46 | HORIZONTAL | Peak   |
| 4    | 5937.623    | 53.72  | 32.34 | 6.00   | 36.90  | 55.16  | 68.20  | -13.04 | HORIZONTAL | Peak   |

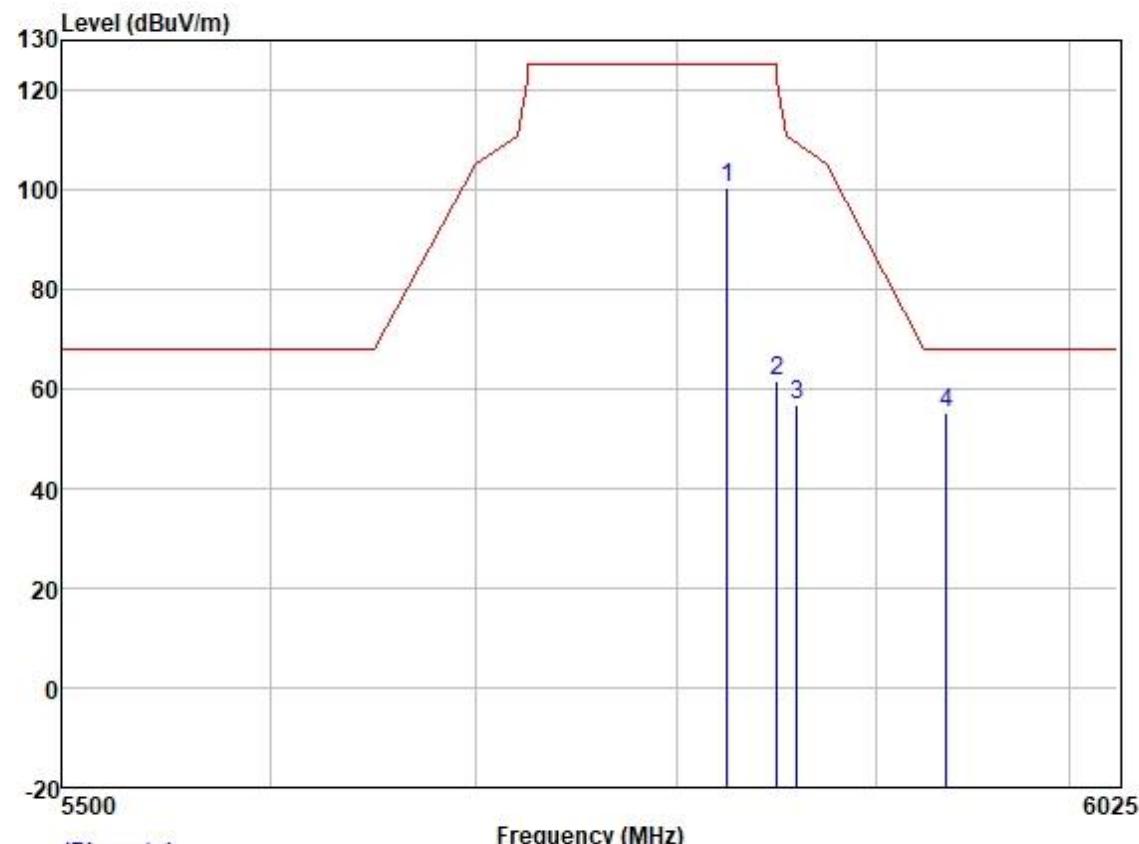
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Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

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Guangzhou Branch Testing Center EEC Laboratory

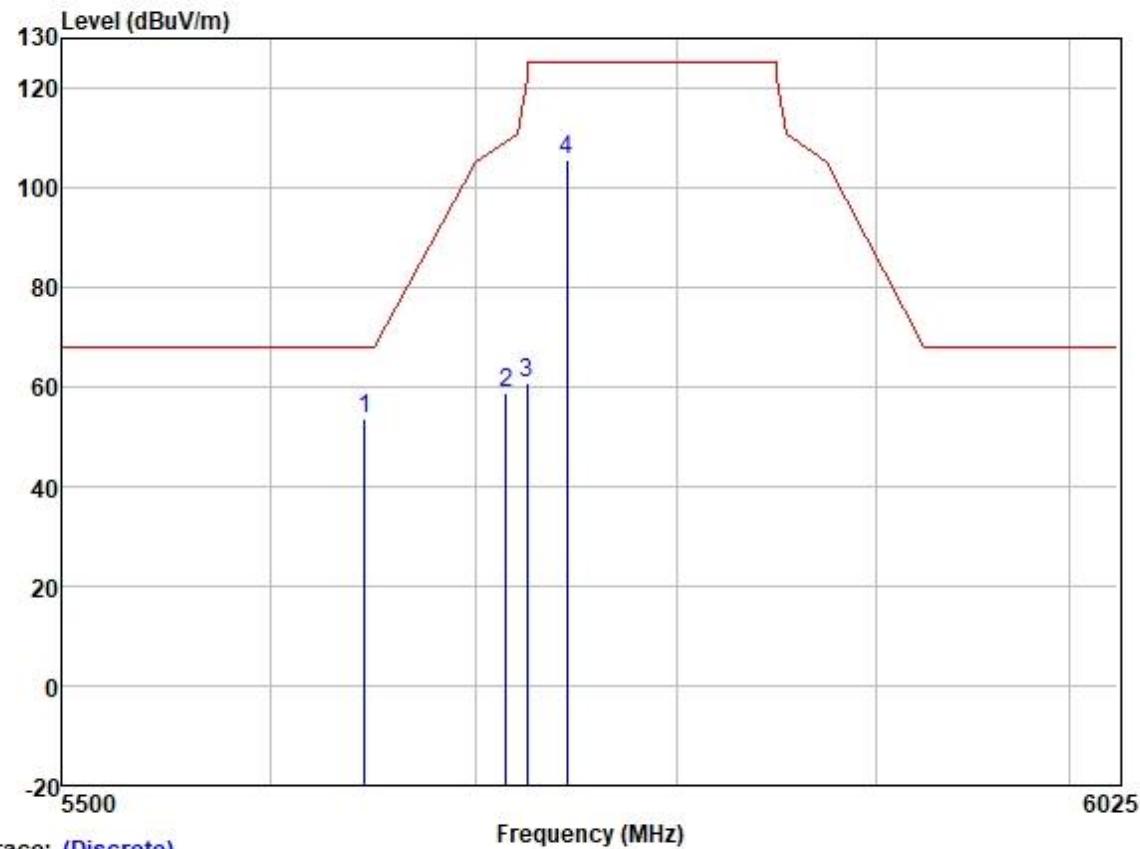
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

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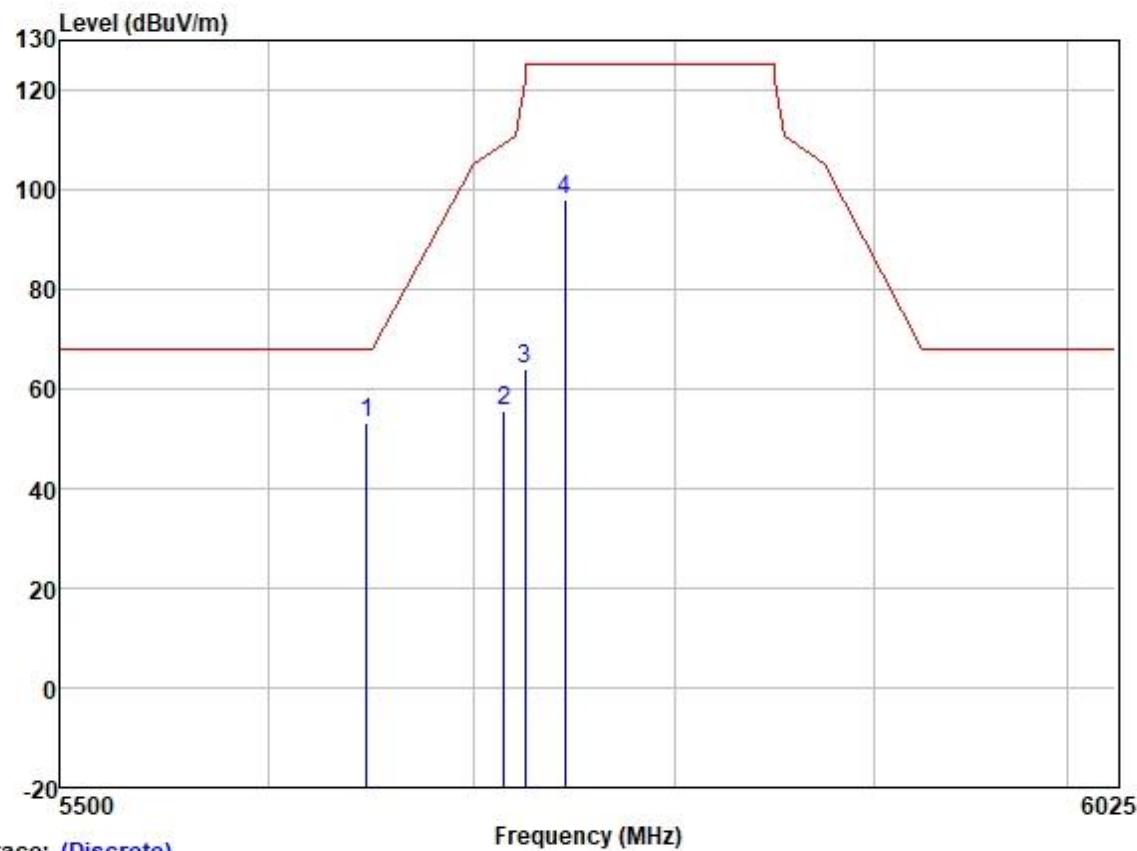
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

| Freq | ReadAntenna |       | Cable |      | Preamp<br>Loss Factor | Level | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark |
|------|-------------|-------|-------|------|-----------------------|-------|---------------|---------------|-----------|--------|
|      | MHz         | dBuV  | dB/m  | dB   |                       |       |               |               |           |        |
| 1    | 5647.196    | 51.93 | 31.95 | 6.35 | 36.89                 | 53.34 | 68.20         | -14.86        | VERTICAL  | Peak   |
| 2    | 5715.000    | 54.04 | 32.04 | 6.33 | 36.89                 | 55.52 | 109.40        | -53.88        | VERTICAL  | Peak   |
| 3    | 5725.000    | 62.62 | 32.07 | 6.25 | 36.89                 | 64.05 | 122.20        | -58.15        | VERTICAL  | Peak   |
| 4    | 5745.000    | 96.49 | 32.10 | 6.20 | 36.89                 | 97.90 | 125.20        | -27.30        | VERTICAL  | Peak   |

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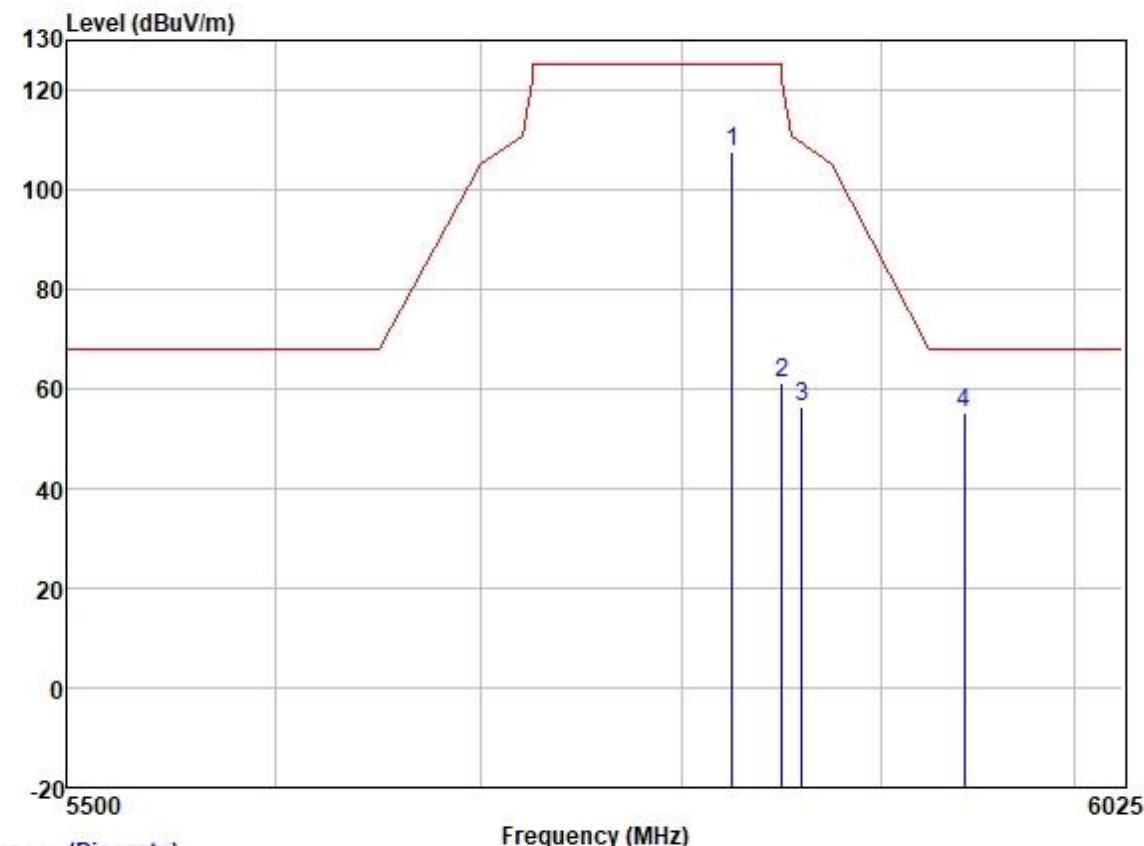
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Race: (Discrete)

| Freq | ReadAntenna |        | Cable |        | Preamp<br>Loss Factor | Level  | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark |
|------|-------------|--------|-------|--------|-----------------------|--------|---------------|---------------|------------|--------|
|      | MHz         | dBuV   | Level | Factor |                       |        |               |               |            |        |
| 1    | 5825.000    | 106.18 | 32.23 | 6.04   | 36.90                 | 107.55 | 125.20        | -17.65        | HORIZONTAL | Peak   |
| 2    | 5850.000    | 59.84  | 32.25 | 6.00   | 36.90                 | 61.19  | 122.20        | -61.01        | HORIZONTAL | Peak   |
| 3    | 5860.000    | 54.97  | 32.27 | 5.96   | 36.90                 | 56.30  | 109.40        | -53.10        | HORIZONTAL | Peak   |
| 4    | 5942.958    | 53.63  | 32.36 | 6.05   | 36.90                 | 55.14  | 68.20         | -13.06        | HORIZONTAL | Peak   |

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