

# TEST REPORT

Applicant Name : Invixium Access Inc.  
Address : 300-111 Gordon Baker Road Toronto M2H 3R1 Canada  
Report Number : 2401W43894E-RF-00E  
FCC ID: S38-IXM6490

## Test Standard (s)

FCC PART 15.407

## Sample Description

Product Type: IXM6490  
Model No.: IXM6490  
Multiple Model(s) No.: N/A  
Trade Mark: Invixium  
Date Received: 2024/08/28  
Issue Date: 2024/12/24

Test Result:

Pass<sup>▲</sup>

▲ In the configuration tested, the EUT complied with the standards above.

## Prepared and Checked By:

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Gala Liu  
RF Engineer

## Approved By:

Nancy Wang

Nancy Wang  
RF Supervisor

Note: The information marked # is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number      | Description of Revision | Date of Revision |
|-----------------|--------------------|-------------------------|------------------|
| 0               | 2401W43894E-RF-00E | Original Report         | 2024/12/24       |

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                           |                                                                                                     |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Product                                   | IXM6490                                                                                             |
| Tested Model                              | IXM6490                                                                                             |
| Multiple Models                           | N/A                                                                                                 |
| Frequency Range                           | U-NII 5: 5925-6425 MHz, U-NII 6: 6425-6525 MHz<br>U-NII 7:6525-6875 MHz, U-NII 8:6875-7125 MHz      |
| Equipment Classes                         | Low-power indoor client(6XD)                                                                        |
| Mode                                      | 802.11a/ax20/ax40/ax80/ax160                                                                        |
| Maximum Conducted<br>Average Output Power | 5925-6425 MHz: 11.91dBm, 6425-6525MHz: 10.74dBm<br>6525-6875 MHz: 10.86dBm, 6875-7125 MHz: 10.99dBm |
| Maximum EIRP                              | 5925-6425 MHz: 17.52dBm, 6425-6525MHz: 16.35dBm<br>6525-6875 MHz: 16.47dBm, 6875-7125 MHz: 16.60dBm |
| Modulation Technique                      | OFDM, OFDMA                                                                                         |
| Antenna Specification <sup>#</sup>        | 2.6dBi (It is provided by the applicant)                                                            |
| Voltage Range                             | 3.3V <sub>DC</sub>                                                                                  |
| Sample serial number                      | 2QNT-1 (Assigned by BACL, Shenzhen)                                                                 |
| Sample/EUT Status                         | Good condition                                                                                      |
|                                           |                                                                                                     |

### Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts E of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

### Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And

KDB789033 D02 General U-NII Test Procedures New Rules v02r01,  
KDB 987594 D02 U-NII 6 GHZ EMC Measurement v03,  
KDB662911D01v02r01 and ANS C63.10-2013.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

## Measurement Uncertainty

| Parameter                          |                             | Uncertainty                            |
|------------------------------------|-----------------------------|----------------------------------------|
| Occupied Channel Bandwidth         |                             | 109.2kHz(k=2, 95% level of confidence) |
| RF output power, conducted         |                             | 0.86dB(k=2, 95% level of confidence)   |
| Power Spectral Density             |                             | 0.90dB(k=2, 95% level of confidence)   |
| Unwanted Emission, conducted       |                             | 1.60dB(k=2, 95% level of confidence)   |
| AC Power Lines Conducted Emissions | 9kHz-150kHz                 | 3.63dB(k=2, 95% level of confidence)   |
|                                    | 150kHz-30MHz                | 3.66dB(k=2, 95% level of confidence)   |
| Radiated Emissions                 | 9kHz - 30MHz                | 3.60dB(k=2, 95% level of confidence)   |
|                                    | 30MHz~200MHz (Horizontal)   | 5.32dB(k=2, 95% level of confidence)   |
|                                    | 30MHz~200MHz (Vertical)     | 5.43dB(k=2, 95% level of confidence)   |
|                                    | 200MHz~1000MHz (Horizontal) | 5.77dB(k=2, 95% level of confidence)   |
|                                    | 200MHz~1000MHz (Vertical)   | 5.73dB(k=2, 95% level of confidence)   |
|                                    | 1GHz - 6GHz                 | 5.34dB(k=2, 95% level of confidence)   |
|                                    | 6GHz - 18GHz                | 5.40dB(k=2, 95% level of confidence)   |
|                                    | 18GHz - 40GHz               | 5.64dB(k=2, 95% level of confidence)   |
| Temperature                        |                             | ±1°C                                   |
| Humidity                           |                             | ±1%                                    |
| Supply voltages                    |                             | ±0.4%                                  |

*Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.*

## Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

For 5925-7125 MHz Band, 109 channels are provided to testing:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| 1       | 5955            | 47      | 6185            | 93      | 6415            | 141     | 6655            | 187     | 6885            |
| 3       | 5965            | 49      | 6195            | 97      | 6435            | 143     | 6665            | 189     | 6895            |
| 5       | 5975            | 51      | 6205            | 99      | 6445            | 145     | 6675            | 193     | 6915            |
| 7       | 5985            | 53      | 6215            | 101     | 6455            | 147     | 6685            | 195     | 6925            |
| 9       | 5995            | 55      | 6225            | 103     | 6465            | 149     | 6695            | 197     | 6935            |
| 11      | 6005            | 57      | 6235            | 105     | 6475            | 151     | 6705            | 199     | 6945            |
| 13      | 6015            | 59      | 6245            | 107     | 6485            | 153     | 6715            | 201     | 6955            |
| 15      | 6025            | 61      | 6255            | 109     | 6495            | 155     | 6725            | 203     | 6965            |
| 17      | 6035            | 65      | 6275            | 111     | 6505            | 157     | 6735            | 205     | 6975            |
| 19      | 6045            | 67      | 6285            | 113     | 6515            | 161     | 6755            | 207     | 6985            |
| 21      | 6055            | 69      | 6295            | 115     | 6525            | 163     | 6765            | 209     | 6995            |
| 23      | 6065            | 71      | 6305            | 117     | 6535            | 165     | 6775            | 211     | 7005            |
| 25      | 6075            | 73      | 6315            | 119     | 6545            | 167     | 6785            | 213     | 7015            |
| 27      | 6085            | 75      | 6325            | 121     | 6555            | 169     | 6795            | 215     | 7025            |
| 29      | 6095            | 77      | 6335            | 123     | 6565            | 171     | 6805            | 217     | 7035            |
| 33      | 6115            | 79      | 6345            | 125     | 6575            | 173     | 6815            | 219     | 7045            |
| 35      | 6125            | 81      | 6355            | 129     | 6595            | 175     | 6825            | 221     | 7055            |
| 37      | 6135            | 83      | 6365            | 131     | 6605            | 177     | 6835            | 225     | 7075            |
| 39      | 6145            | 85      | 6375            | 133     | 6615            | 179     | 6845            | 227     | 7085            |
| 41      | 6155            | 87      | 6385            | 135     | 6625            | 181     | 6855            | 229     | 7095            |
| 43      | 6165            | 89      | 6395            | 137     | 6635            | 183     | 6865            | 233     | 7115            |
| 45      | 6175            | 91      | 6405            | 139     | 6645            | 185     | 6875            | /       | /               |

**Tested Channels:**

| CH. #    | U-NII 5      | U-NII 6      | U-NII 7      | U-NII 8      |
|----------|--------------|--------------|--------------|--------------|
|          | 802.11a/ax20 | 802.11a/ax20 | 802.11a/ax20 | 802.11a/ax20 |
| Low      | 1            | 97           | 117          | 189          |
| Middle   | 45           | 105          | 149          | 209          |
| High     | 93           | 113          | 181          | 233          |
| Straddle | -            | -            | -            | 185          |

| CH. #    | U-NII 5     | U-NII 6     | U-NII 7     | U-NII 8     |
|----------|-------------|-------------|-------------|-------------|
|          | 802.11 ax40 | 802.11 ax40 | 802.11 ax40 | 802.11 ax40 |
| Low      | 3           | 99          | 123         | 195         |
| Middle   | 43          | -           | 147         | 203         |
| High     | 91          | 107         | 179         | 227         |
| Straddle | -           | 115         | -           | 187         |

| CH. #    | U-NII 5     | U-NII 6     | U-NII 7     | U-NII 8     |
|----------|-------------|-------------|-------------|-------------|
|          | 802.11 ax80 | 802.11 ax80 | 802.11 ax80 | 802.11 ax80 |
| Low      | 7           | -           | 135         | 199         |
| Middle   | 39          | 103         | 151         | -           |
| High     | 87          | -           | 167         | 215         |
| Straddle | -           | 119         | 183         | -           |

| CH. #    | U-NII 5      | U-NII 6      | U-NII 7      | U-NII 8      |
|----------|--------------|--------------|--------------|--------------|
|          | 802.11 ax160 | 802.11 ax160 | 802.11 ax160 | 802.11 ax160 |
| Low      | 15           | -            | -            | -            |
| Middle   | 47           | -            | 143          | 207          |
| High     | 79           | -            | -            | -            |
| Straddle | -            | 111          | 175          | -            |



## EUT Exercise Software

“QRCT4”<sup>#</sup> software was used and power level as below. The software and power level was provided by the applicant. The device was tested with the worst case was performed as below:

| U-NII   | Mode           | Data rate | Power Level <sup>#</sup> |                |              |                  |
|---------|----------------|-----------|--------------------------|----------------|--------------|------------------|
|         |                |           | Low Channel              | Middle Channel | High Channel | Straddle Channel |
| U-NII-5 | 802.11a        | 6Mbps     | 2                        | 2              | 2            | /                |
|         | 802.11ax-HE20  | MCS0      | 2                        | 2              | 2            | /                |
|         | 802.11ax-HE40  | MCS0      | 4                        | 5              | 5            | /                |
|         | 802.11ax-HE80  | MCS0      | 7                        | 7              | 7            | /                |
|         | 802.11ax-HE160 | MCS0      | 11                       | 11             | 11           | /                |
| U-NII-6 | 802.11a        | 6Mbps     | -2                       | 0              | 0            | /                |
|         | 802.11ax-HE20  | MCS0      | 0                        | 0              | 1            | /                |
|         | 802.11ax-HE40  | MCS0      | 5                        | /              | 5            | 5                |
|         | 802.11ax-HE80  | MCS0      | /                        | 7              | /            | 7                |
|         | 802.11ax-HE160 | MCS0      | /                        | /              | /            | 11               |
| U-NII-7 | 802.11a        | 6Mbps     | 2                        | 2              | 1            | /                |
|         | 802.11ax-HE20  | MCS0      | 1                        | 1              | 1            | /                |
|         | 802.11ax-HE40  | MCS0      | 4                        | 4              | 4            | /                |
|         | 802.11ax-HE80  | MCS0      | 6                        | 6              | 6            | 6                |
|         | 802.11ax-HE160 | MCS0      | /                        | 11             | /            | 11               |
| U-NII-8 | 802.11a        | 6Mbps     | 1                        | 1              | 1            | 1                |
|         | 802.11ax-HE20  | MCS0      | 1                        | 1              | -8           | 1                |
|         | 802.11ax-HE40  | MCS0      | 4                        | 4              | 4            | 4                |
|         | 802.11ax-HE80  | MCS0      | 6                        | /              | 6            | /                |
|         | 802.11ax-HE160 | MCS0      | /                        | 11             | /            | /                |

The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the power and PSD across all data rates, bandwidths and modulations.

The device support SISO and MIMO, for 802.11ax mode, the MIMO mode support beamforming, the SISO/MIMO and beamforming/nonbeamforming modes have same parameter, which was declared by applicant. The MIMO/beamforming was the worst mode which was selected to test.

For 802.11 ax modes, the device not support partial RU mode.

All the antenna ports have the same power level.

## Equipment Modifications

No modification was made to the EUT tested.

## Support Equipment List and Details

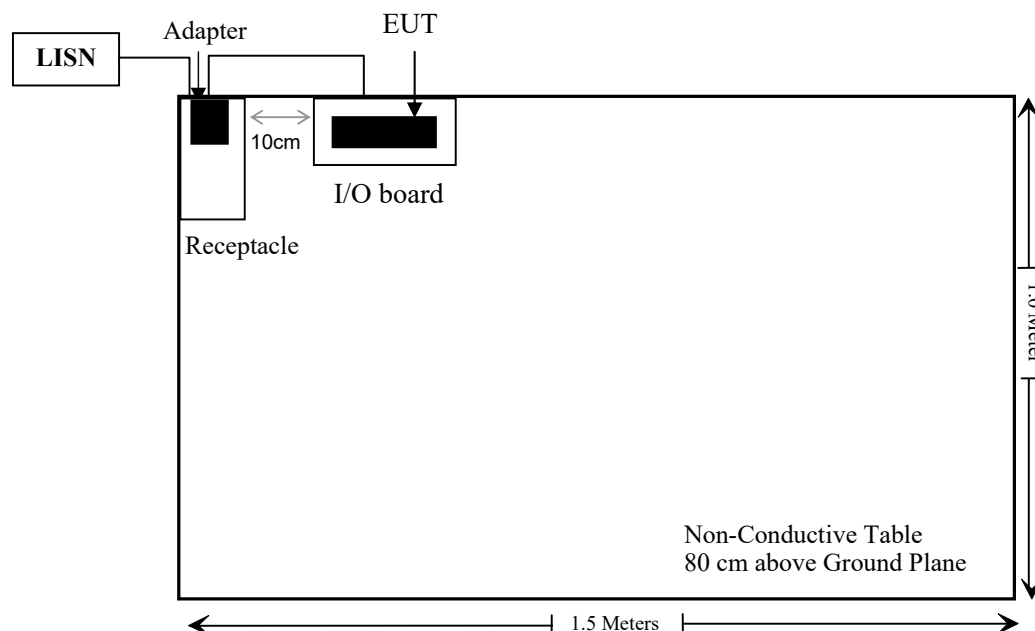
| Manufacturer                          | Description | Model       | Serial Number |
|---------------------------------------|-------------|-------------|---------------|
| GUANDONG LIANYONDA ELECTRONIC CO.,LTD | Adapter     | LYD1202000B | Unknown       |
| Invixium Access Inc.                  | I/O board   | TITAN ONE   | Unknown       |

## External I/O Cable

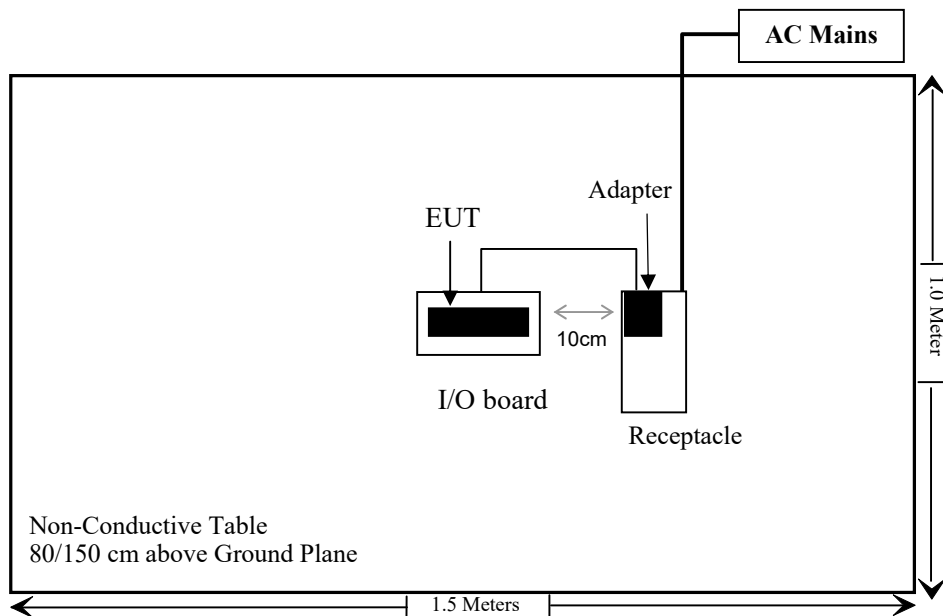
| Cable Description                   | Length (m) | From Port  | To            |
|-------------------------------------|------------|------------|---------------|
| Un-shielding Un-Detachable AC Cable | 1.0        | Receptacle | LISN/AC Mains |
| Un-shielding Un-Detachable DC Cable | 1.5        | Adapter    | I/O board     |

## Block Diagram of Test Setup

For Conducted Emissions



For Radiated Emissions:



**SUMMARY OF TEST RESULTS**

| FCC Rules                       | Description of Test                               | Result    |
|---------------------------------|---------------------------------------------------|-----------|
| §1.1310 & §2.1091               | Maximum Permissible Exposure (MPE)                | Compliant |
| §15.203                         | Antenna Requirement                               | Compliant |
| §15.407(b)(9)& §15.207(a)       | Conducted Emissions                               | Compliant |
| §15.205& §15.209<br>&§15.407(b) | Undesirable Emission& Restricted Bands            | Compliant |
| §15.407(a) (11)                 | 26 dB Emission Bandwidth & 99% Occupied bandwidth | Compliant |
| §15.407(a) (8)                  | Conducted Transmitter Output Power                | Compliant |
| §15.407 (a) (8)                 | Power Spectral Density                            | Compliant |
| §15.407 (b) (7)                 | In-Band Emissions                                 | Compliant |
| §15.407 (d) (6)                 | Contention Based Protocol                         | Compliant |
| C63.10 §11.6                    | Duty Cycle                                        | /         |

**TEST EQUIPMENT LIST**

| Manufacturer                    | Description                       | Model             | Serial Number          | Calibration Date | Calibration Due Date |
|---------------------------------|-----------------------------------|-------------------|------------------------|------------------|----------------------|
| <b>Conducted Emissions Test</b> |                                   |                   |                        |                  |                      |
| Rohde & Schwarz                 | EMI Test Receiver                 | ESCI              | 101120                 | 2024/01/16       | 2025/01/15           |
| Rohde & Schwarz                 | LISN                              | ENV216            | 101613                 | 2024/01/16       | 2025/01/15           |
| Rohde & Schwarz                 | Transient Limiter                 | ESH3Z2            | DE25985                | 2024/05/21       | 2025/05/20           |
| Unknown                         | CE Cable                          | Unknown           | UF A210B-1-0720-504504 | 2024/05/21       | 2025/05/20           |
| Audix                           | EMI Test software                 | E3                | 191218(V9)             | NCR              | NCR                  |
| <b>Radiated Emissions Test</b>  |                                   |                   |                        |                  |                      |
| Rohde & Schwarz                 | EMI Test Receiver                 | ESR3              | 102455                 | 2024/01/16       | 2025/01/15           |
| Sonoma instrument               | Pre-amplifier                     | 310 N             | 186238                 | 2024/05/21       | 2025/05/20           |
| Sunol Sciences                  | Broadband Antenna                 | JB1               | A040904-1              | 2023/07/20       | 2026/07/19           |
| Unknown                         | Cable                             | Chamber A Cable 1 | N/A                    | 2024/06/18       | 2025/06/17           |
| Unknown                         | Cable                             | XH500C            | J-10M-A                | 2024/06/18       | 2025/06/17           |
| BACL                            | Active Loop Antenna               | 1313-1A           | 4031911                | 2024/05/14       | 2027/05/13           |
| Unknown                         | Cable                             | 2Y194             | 0735                   | 2024/05/21       | 2025/05/20           |
| Unknown                         | Cable                             | PNG214            | 1354                   | 2024/05/21       | 2025/05/20           |
| Audix                           | EMI Test software                 | E3                | 19821b(V9)             | NCR              | NCR                  |
| Rohde & Schwarz                 | Spectrum Analyzer                 | FSV40             | 101605                 | 2024/03/27       | 2025/03/26           |
| COM-POWER                       | Pre-amplifier                     | PA-122            | 181919                 | 2024/06/18       | 2025/06/17           |
| Schwarzbeck                     | Horn Antenna                      | BBHA9120D(1201)   | 1143                   | 2023/07/26       | 2026/07/25           |
| Unknown                         | RF Cable                          | KMSE              | 735                    | 2024/06/18       | 2025/06/17           |
| Unknown                         | RF Cable                          | UFA147            | 219661                 | 2024/06/18       | 2025/06/17           |
| JD                              | Multiplex Switch Test Control Set | DT7220FSU         | DQ77926                | 2024/06/18       | 2025/06/17           |
| A.H.System                      | Pre-amplifier                     | PAM-1840VH        | 190                    | 2024/06/18       | 2025/06/17           |
| Electro-Mechanics Co            | Horn Antenna                      | 3116              | 9510-2270              | 2023/09/18       | 2026/09/17           |
| UTIFLEX                         | RF Cable                          | NO. 13            | 232308-001             | 2024/06/18       | 2025/06/17           |
| Audix                           | EMI Test software                 | E3                | 191218(V9)             | NCR              | NCR                  |

| Manufacturer      | Description                 | Model     | Serial Number | Calibration Date | Calibration Due Date |
|-------------------|-----------------------------|-----------|---------------|------------------|----------------------|
| RF Conducted Test |                             |           |               |                  |                      |
| Rohde & Schwarz   | Spectrum Analyzer           | FSV40     | 101942        | 2024/09/20       | 2025/09/19           |
| ANRITSU           | Microwave peak power sensor | MA24418A  | 12622         | 2024/05/21       | 2025/05/20           |
| Unknown           | 10dB Attenuator             | Unknown   | F-03-EM190    | 2024/06/27       | 2025/06/26           |
| Rohde & Schwarz   | Spectrum Analyzer           | FSV40     | 101473        | 2024/01/16       | 2025/01/15           |
| Keysight          | MXG Vector Signal Generator | N5182B    | MY53051503    | 2024/01/08       | 2025/01/07           |
| Keysight          | Frequency Extender          | N5182BX07 | MY59362537    | 2024/05/21       | 2025/05/20           |
| HP                | Power Splitter              | 11667A    | 1610A         | 2024/06/27       | 2025/06/26           |
| WEINSCHTEL        | 3dB Attenuator              | Unknown   | F-03-EM220    | 2024/06/27       | 2025/06/26           |
| Unknown           | RF Cable                    | 65475     | 01670515      | 2024/06/27       | 2025/06/26           |

**\* Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

## **FCC §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

### **Applicable Standard**

According to subpart 15.247(i) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                                      |                                      |                                          |                                 |
|----------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------------|---------------------------------|
| <b>Frequency Range (MHz)</b>                                   | <b>Electric Field Strength (V/m)</b> | <b>Magnetic Field Strength (A/m)</b> | <b>Power Density (mW/cm<sup>2</sup>)</b> | <b>Averaging Time (minutes)</b> |
| 0.3–1.34                                                       | 614                                  | 1.63                                 | *(100)                                   | 30                              |
| 1.34–30                                                        | 824/f                                | 2.19/f                               | *(180/f <sup>2</sup> )                   | 30                              |
| 30–300                                                         | 27.5                                 | 0.073                                | 0.2                                      | 30                              |
| 300–1500                                                       | /                                    | /                                    | f/1500                                   | 30                              |
| 1500–100,000                                                   | /                                    | /                                    | 1.0                                      | 30                              |

f = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

### **Result**

#### **Calculation formula:**

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

**Calculated Data:**

For worst case:

| Mode       | Frequency (MHz) | Antenna Gain <sup>#</sup> |           | Max Tune-up Power <sup>#</sup> |        | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|------------|-----------------|---------------------------|-----------|--------------------------------|--------|--------------------------|-------------------------------------|---------------------------------|
|            |                 | (dBi)                     | (numeric) | (dBm)                          | (mW)   |                          |                                     |                                 |
| BT         | 2402-2480       | 2.50                      | 1.78      | 2.5                            | 1.78   | 25                       | 0.0004                              | 1.0                             |
| BLE        | 2402-2480       | 2.50                      | 1.78      | 7.0                            | 5.01   | 25                       | 0.0011                              | 1.0                             |
| 2.4G Wi-Fi | 2412-2462       | 5.51                      | 3.56      | 30.0                           | 1000   | 25                       | 0.4533                              | 1.0                             |
| 5G Wi-Fi   | 5150-5250       | 5.61                      | 3.64      | 15.5                           | 35.48  | 25                       | 0.0164                              | 1.0                             |
|            | 5250-5350       | 5.61                      | 3.64      | 16.5                           | 44.67  | 25                       | 0.0207                              | 1.0                             |
|            | 5470-5725       | 5.61                      | 3.64      | 16.0                           | 39.81  | 25                       | 0.0185                              | 1.0                             |
|            | 5725-5850       | 5.61                      | 3.64      | 19.0                           | 79.43  | 25                       | 0.0368                              | 1.0                             |
|            | 5850-5895       | 5.61                      | 3.64      | 20.5                           | 112.20 | 25                       | 0.0520                              | 1.0                             |
| 6G Wi-Fi   | 5925-6425       | 5.61                      | 3.64      | 12.0                           | 15.85  | 25                       | 0.0073                              | 1.0                             |
|            | 6425-6525       | 5.61                      | 3.64      | 11.0                           | 12.59  | 25                       | 0.0058                              | 1.0                             |
|            | 6525-6875       | 5.61                      | 3.64      | 11.0                           | 12.59  | 25                       | 0.0058                              | 1.0                             |
|            | 6875-7125       | 5.61                      | 3.64      | 11.0                           | 12.59  | 25                       | 0.0058                              | 1.0                             |

Note:

- 1) The tune up conducted power and antenna gain was declared by the applicant.
- 2) For the Wi-Fi mode, the antenna gain should be the directional gain.
- 3) The BT, 2.4G Wi-Fi, 5G Wi-Fi and 6G Wi-Fi cannot Simultaneous transmitting.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 25cm from nearby persons.

**Result: Compliant.**



## FCC §15.203 – ANTENNA REQUIREMENT

### Applicable Standard

According to § 15.203, 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407 (a), if the transmitting antennas of directional gain greater than 6dBi are used, the transmit power and power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Antenna Connector Construction

No standard antenna connect port with this module, The EUT tested with two FPC antennas arrangement for Wi-Fi which were integrated on the main PCB use the MHF-Type connector and no consideration of replacement, fulfill the requirement of this section. Please refer to the EUT photos.

| Type | Antenna Gain | Impedance   | Frequency Range |
|------|--------------|-------------|-----------------|
| FPC  | 2.6dBi       | 50 $\Omega$ | 5925-7125MHz    |

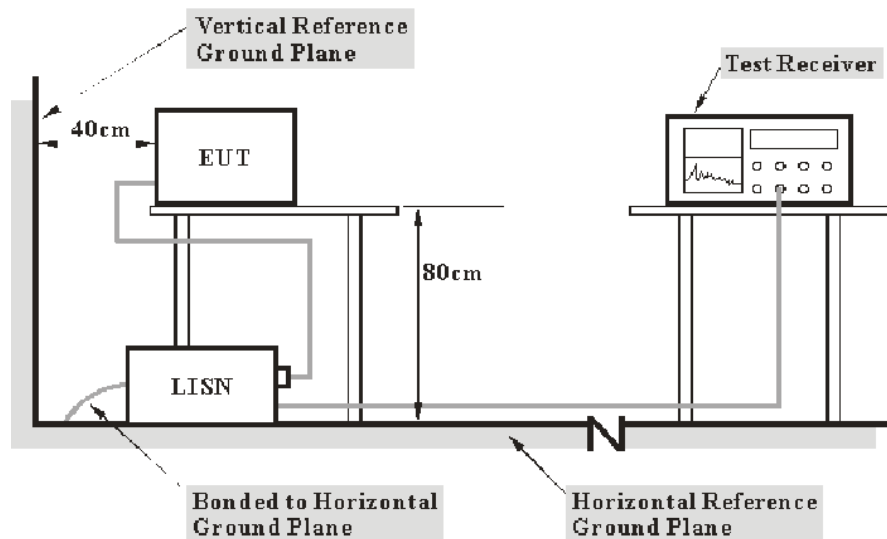
**Result:** Compliant.

## FCC §15.407 (b) (9) §15.207 (a) – CONDUCTED EMISSIONS

### Applicable Standard

FCC §15.207, §15.407(b) (9)

### EUT Setup



Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

### EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range  | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz  |

### Test Procedure

During the conducted emission test, the adapter was connected to the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and Average detection mode.

## Transd Factor & Margin Calculation

The factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{Level} - \text{Limit} \\ \text{Level} &= \text{Read Level} + \text{Factor}\end{aligned}$$

Note: The term "cable loss" refers to the combination of a cable and a 10dB transient limiter (attenuator).

## Test Data

### Environmental Conditions

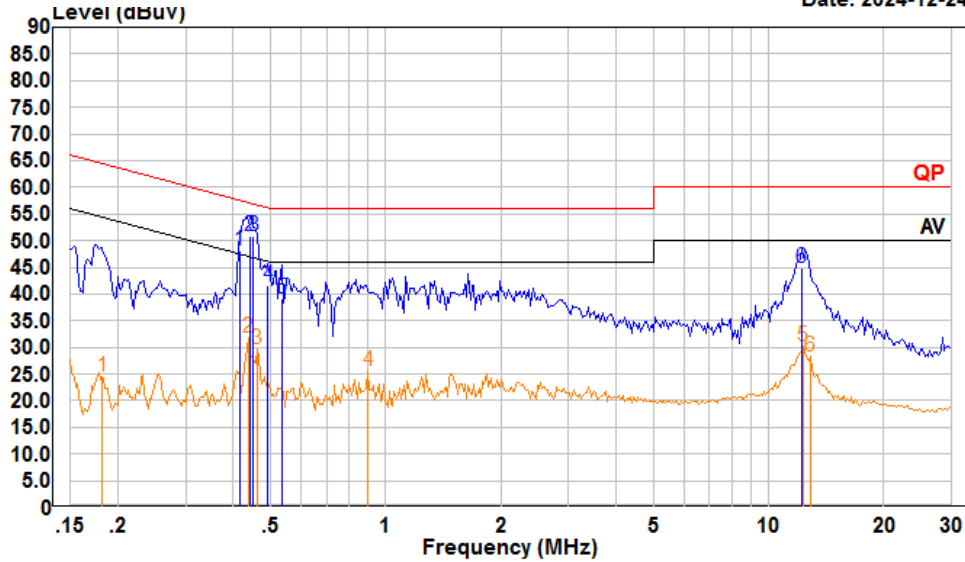
|                    |         |
|--------------------|---------|
| Temperature:       | 25 °C   |
| Relative Humidity: | 52 %    |
| ATM Pressure:      | 101 kPa |

*The testing was performed by Macy Shi on 2024-12-24.*

*EUT operation mode: Transmitting (Maximum Output Power Mode, 802.11ax160 6025MHz)*

## AC 120V/60 Hz, Line

Date: 2024-12-24



Trace: 1

Condition: Line

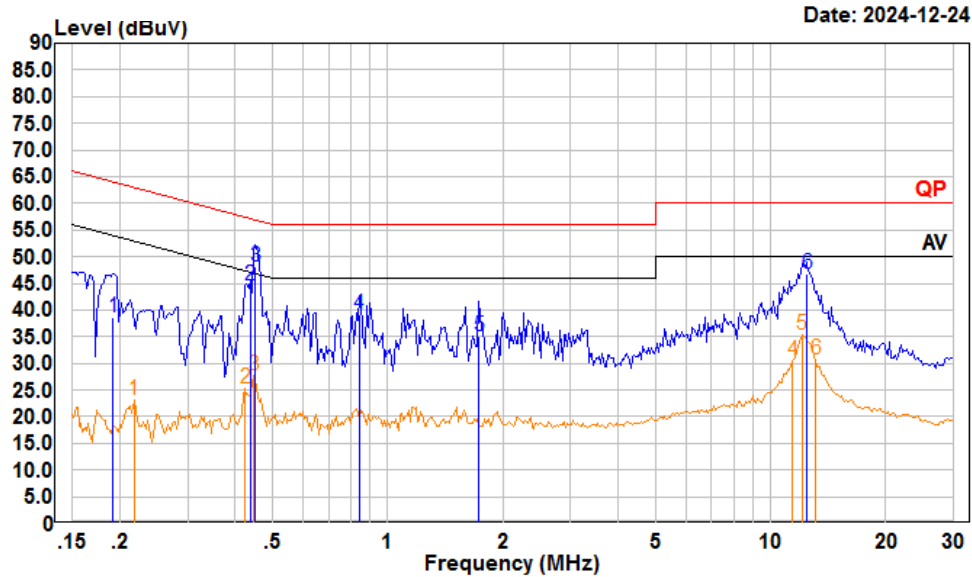
Project : 2401W43894E-RF

tester : Macy.shi Note:Transmitting

Setting : RBW:9kHz VBW:Auto SWT:Auto

|   |        | Read  |       | LISN   | Cable | Limit | Over   |         |
|---|--------|-------|-------|--------|-------|-------|--------|---------|
|   | Freq   | Level | Level | Factor | Loss  | Line  | Limit  | Remark  |
|   | MHz    | dBuV  | dBuV  | dB     | dB    | dBuV  | dB     |         |
| 1 | 0.415  | 27.40 | 48.07 | 10.56  | 10.11 | 57.55 | -9.48  | QP      |
| 2 | 0.442  | 30.10 | 50.76 | 10.54  | 10.12 | 57.02 | -6.26  | QP      |
| 3 | 0.452  | 30.20 | 50.85 | 10.53  | 10.12 | 56.85 | -6.00  | QP      |
| 4 | 0.491  | 20.89 | 41.54 | 10.51  | 10.14 | 56.14 | -14.60 | QP      |
| 5 | 0.535  | 18.40 | 39.03 | 10.50  | 10.13 | 56.00 | -16.97 | QP      |
| 6 | 12.188 | 24.00 | 44.81 | 10.60  | 10.21 | 60.00 | -15.19 | QP      |
|   | Freq   | Read  |       | LISN   | Cable | Limit | Over   |         |
|   | MHz    | Level | Level | Factor | Loss  | Line  | Limit  | Remark  |
|   | MHz    | dBuV  | dBuV  | dB     | dB    | dBuV  | dB     |         |
| 1 | 0.182  | 3.54  | 24.47 | 10.83  | 10.10 | 54.42 | -29.95 | Average |
| 2 | 0.437  | 11.13 | 31.78 | 10.54  | 10.11 | 47.11 | -15.33 | Average |
| 3 | 0.461  | 8.91  | 29.56 | 10.53  | 10.12 | 46.67 | -17.11 | Average |
| 4 | 0.899  | 5.06  | 25.59 | 10.43  | 10.10 | 46.00 | -20.41 | Average |
| 5 | 12.318 | 9.45  | 30.26 | 10.60  | 10.21 | 50.00 | -19.74 | Average |
| 6 | 12.852 | 7.42  | 28.24 | 10.60  | 10.22 | 50.00 | -21.76 | Average |

## AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2401W43894E-RF

tester : Macy.shi Note:Transmitting

Setting : RBW:9kHz VBW:Auto SWT:Auto

|   |        | Read  |       | LISN   | Cable | Limit | Over   |         |
|---|--------|-------|-------|--------|-------|-------|--------|---------|
|   | Freq   | Level | Level | Factor | Loss  | Line  | Limit  | Remark  |
|   | MHz    | dBuV  | dBuV  | dB     | dB    | dBuV  | dB     |         |
| 1 | 0.191  | 18.10 | 38.62 | 10.43  | 10.09 | 63.98 | -25.36 | QP      |
| 2 | 0.437  | 23.80 | 44.57 | 10.66  | 10.11 | 57.11 | -12.54 | QP      |
| 3 | 0.452  | 27.30 | 48.09 | 10.67  | 10.12 | 56.85 | -8.76  | QP      |
| 4 | 0.844  | 18.21 | 39.12 | 10.80  | 10.11 | 56.00 | -16.88 | QP      |
| 5 | 1.734  | 14.41 | 35.08 | 10.50  | 10.17 | 56.00 | -20.92 | QP      |
| 6 | 12.449 | 25.80 | 46.81 | 10.80  | 10.21 | 60.00 | -13.19 | QP      |
|   | Freq   | Read  |       | LISN   | Cable | Limit | Over   |         |
|   | Freq   | Level | Level | Factor | Loss  | Line  | Limit  | Remark  |
|   | MHz    | dBuV  | dBuV  | dB     | dB    | dBuV  | dB     |         |
| 1 | 0.217  | 2.65  | 23.17 | 10.43  | 10.09 | 52.92 | -29.75 | Average |
| 2 | 0.424  | 4.50  | 25.26 | 10.65  | 10.11 | 47.37 | -22.11 | Average |
| 3 | 0.447  | 6.90  | 27.68 | 10.66  | 10.12 | 46.93 | -19.25 | Average |
| 4 | 11.438 | 9.52  | 30.53 | 10.80  | 10.21 | 50.00 | -19.47 | Average |
| 5 | 12.060 | 14.37 | 35.38 | 10.80  | 10.21 | 50.00 | -14.62 | Average |
| 6 | 13.127 | 9.69  | 30.71 | 10.80  | 10.22 | 50.00 | -19.29 | Average |

## §15.205 & §15.209 & §15.407(B)– UNDESIRABLE EMISSION

### Applicable Standard

FCC §15.407 (b); §15.209; §15.205;

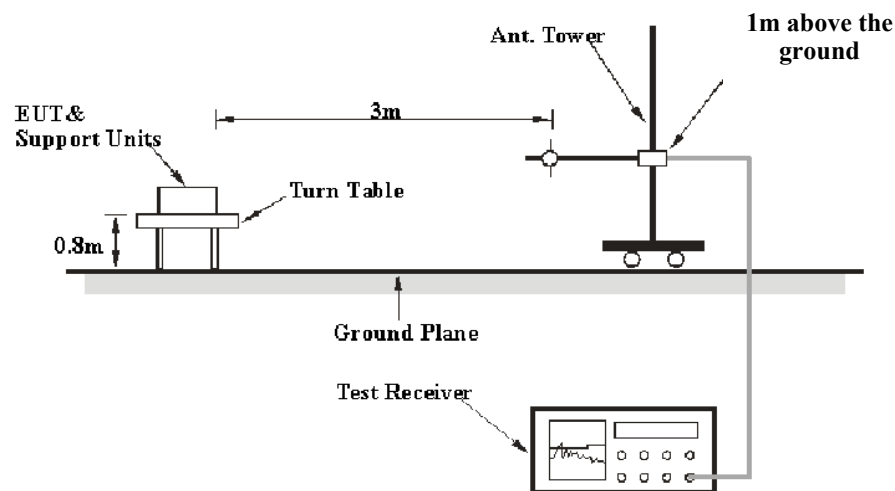
(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(6) For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of  $-27$  dBm/MHz.

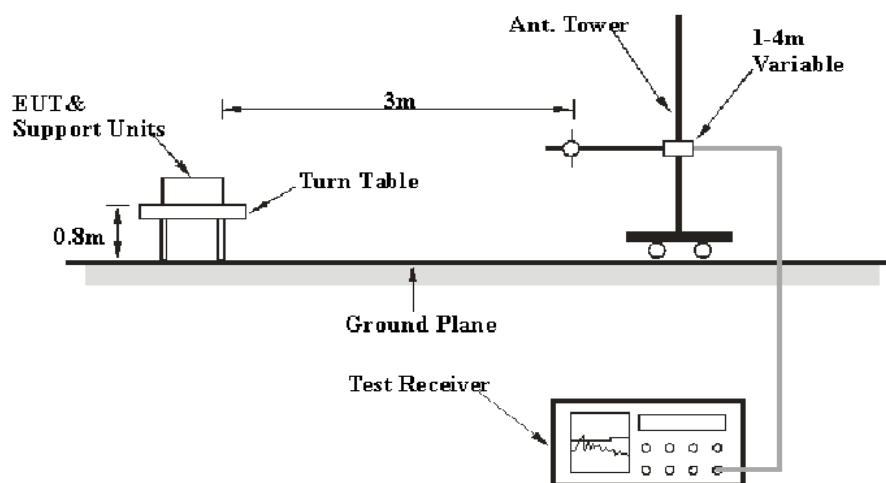
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

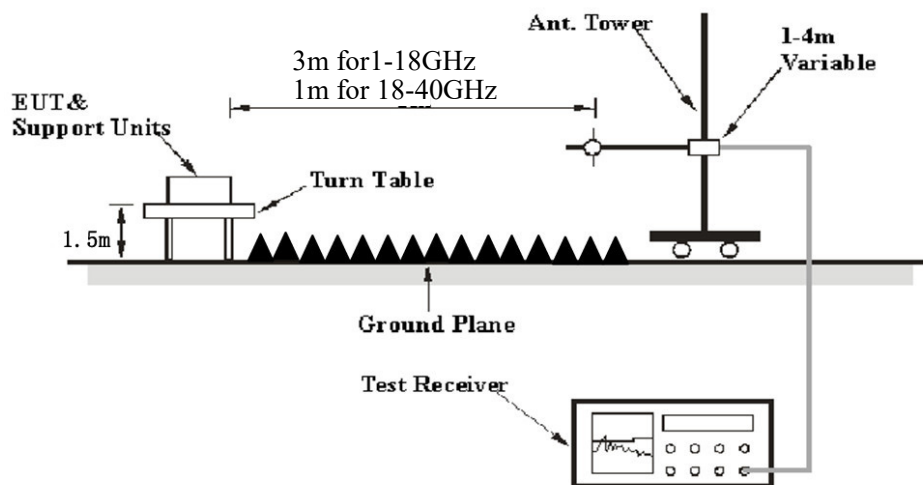
### EUT Setup

9 kHz-30MHz:



Below 1 GHz:



**Above 1 GHz:**

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

**EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 9 kHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9 kHz-1GHz:

| Frequency Range   | RBW     | Video B/W | IF B/W  | Measurement |
|-------------------|---------|-----------|---------|-------------|
| 9 kHz – 150 kHz   | /       | /         | 200 Hz  | QP          |
|                   | 300 Hz  | 1 kHz     | /       | PK          |
| 150 kHz – 30 MHz  | /       | /         | 9 kHz   | QP          |
|                   | 10 kHz  | 30 kHz    | /       | PK          |
| 30 MHz – 1000 MHz | /       | /         | 120 kHz | QP          |
|                   | 100 kHz | 300 kHz   | /       | PK          |

1-40GHz:

Pre-scan

| Measurement | Duty cycle | RBW  | Video B/W                   |
|-------------|------------|------|-----------------------------|
| PK          | Any        | 1MHz | 3 MHz                       |
| AV          | >98%       | 1MHz | 5 kHz                       |
|             | <98%       | 1MHz | ≥1/Ton, not less than 5 kHz |

Final measurement for emission identified during pre-scan

| Measurement | Duty cycle | RBW  | Video B/W |
|-------------|------------|------|-----------|
| PK          | Any        | 1MHz | 3 MHz     |
| AV          | >98%       | 1MHz | 10 Hz     |
|             | <98%       | 1MHz | ≥1/Ton    |

Note: Ton is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

## Test Procedure

### Radiated Spurious Emission

During the radiated emission test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all the installation combinations.

All final data was recorded in Quasi-peak detection mode except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz, average detection modes for frequency bands 9–90 kHz and 110–490 kHz, peak and average detection modes for frequencies above 1 GHz.

For 9 kHz-30MHz, the report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground-parallel) unless the margin is greater than 20 dB.

All emissions under the average limit and under the noise floor have not recorded in the report.

According to ANSI C63.10-2013,9.4: For field strength measurements made at other than the distance at which the applicable limit is specified, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance). In some cases, a different distance correction factor may be required;

$$E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \log \left( \frac{d_{\text{Meas}}}{d_{\text{SpecLimit}}} \right)$$

where

$E_{\text{SpecLimit}}$  is the field strength of the emission at the distance specified by the limit, in dBμV/m

$E_{\text{Meas}}$  is the field strength of the emission at the measurement distance, in dBμV/m

$d_{\text{Meas}}$  is the measurement distance, in m

$d_{\text{SpecLimit}}$  is the distance specified by the limit, in m

So the extrapolation factor of 1m is  $20 \cdot \log(1/3) = -9.5$  dB, for 18-40GHz range, the limit of 1m distance was added by 9.5dB from limit of 3m to compared with the result measurement at 1m distance.



## Factor & Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit/Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit/margin of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{Level} - \text{Limit}; \text{Margin} = \text{Limit} - \text{Corrected Amplitude} \\ \text{Level} / \text{Corrected Amplitude} &= \text{Read Level} + \text{Factor}\end{aligned}$$

## Test Data

### Environmental Conditions

|                    |          |
|--------------------|----------|
| Temperature:       | 22~25 °C |
| Relative Humidity: | 50~54 %  |
| ATM Pressure:      | 101 kPa  |

*The testing was performed by Anson Su on 12-04 for below 1GHz and Zenos Qiao on 2024-11-06 for above 1GHz.*

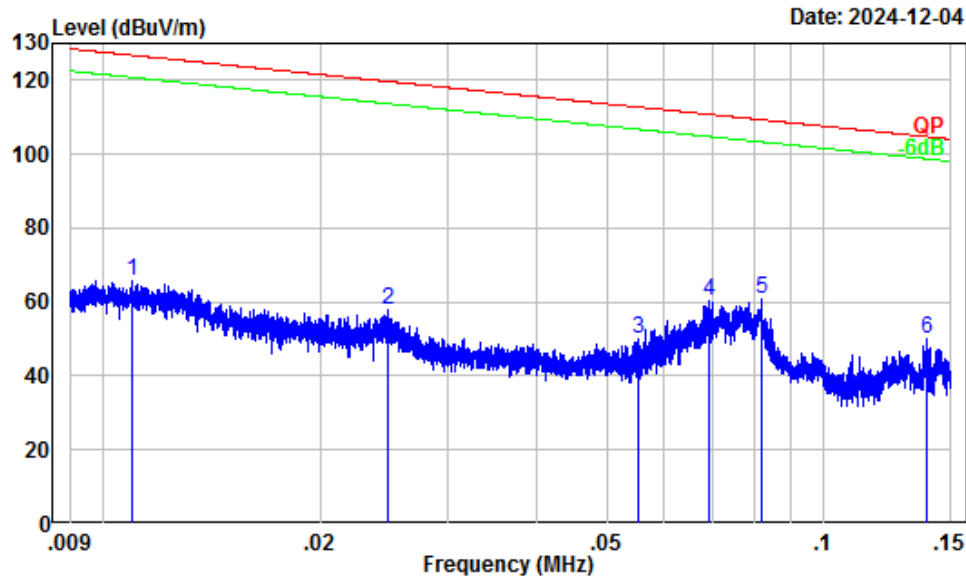
*EUT operation mode: Transmitting*

*Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.*

9 kHz-30MHz: (Maximum Output Power Mode, 802.11ax160 6025MHz)

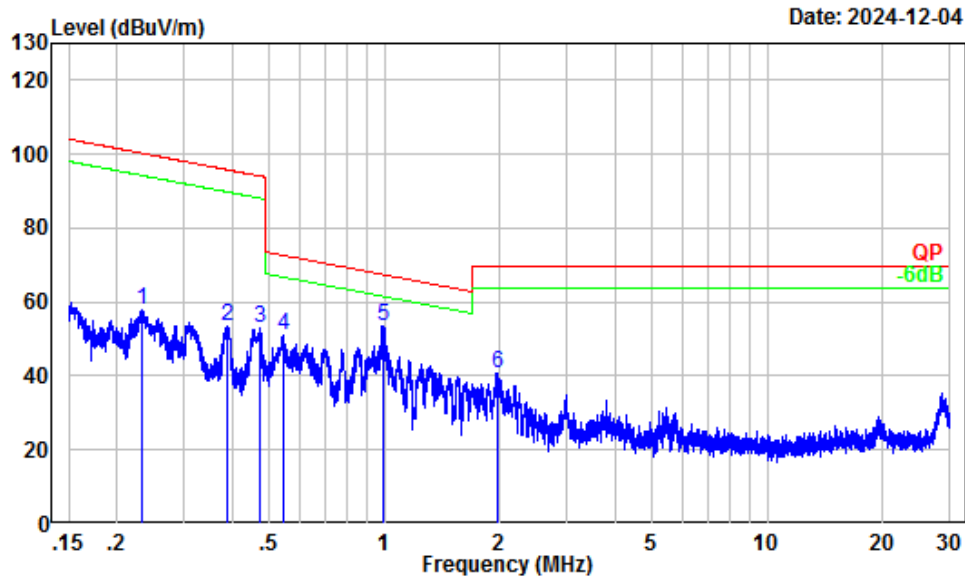
Note: When the test result of peak was less than the limit of QP/Average more than 6dB, just peak value were recorded.

Parallel (worst case)



Site : Chamber A  
Condition : 3m  
Project Number: 2401W43894E-RF  
Test Mode : WIFI 6E Transmitting  
Tester : Anson Su

|   | Freq Factor |       | Read Level |        | Limit  | Over   | Remark |
|---|-------------|-------|------------|--------|--------|--------|--------|
|   | MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m | dB     |        |
| 1 | 0.01        | 37.19 | 28.41      | 65.60  | 126.80 | -61.20 | Peak   |
| 2 | 0.02        | 30.14 | 27.80      | 57.94  | 119.72 | -61.78 | Peak   |
| 3 | 0.06        | 22.37 | 27.83      | 50.20  | 112.77 | -62.57 | Peak   |
| 4 | 0.07        | 20.47 | 39.87      | 60.34  | 110.79 | -50.45 | Peak   |
| 5 | 0.08        | 18.83 | 41.97      | 60.80  | 109.33 | -48.53 | Peak   |
| 6 | 0.14        | 15.23 | 34.76      | 49.99  | 104.75 | -54.76 | Peak   |

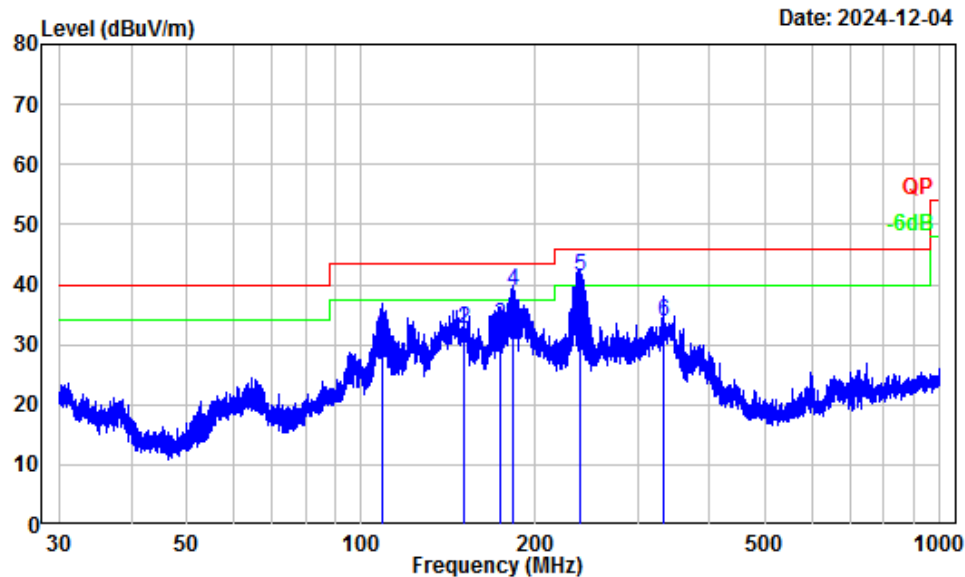


Site : Chamber A  
Condition : 3m  
Project Number: 2401W43894E-RF  
Test Mode : WIFI 6E Transmitting  
Tester : Anson Su

|   | Freq | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz  | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 0.23 | 10.80  | 46.99         | 57.79  | 100.22        | -42.43        | Peak   |
| 2 | 0.39 | 5.83   | 47.75         | 53.58  | 95.80         | -42.22        | Peak   |
| 3 | 0.47 | 4.06   | 48.71         | 52.77  | 94.11         | -41.34        | Peak   |
| 4 | 0.54 | 2.95   | 47.98         | 50.93  | 72.86         | -21.93        | Peak   |
| 5 | 1.00 | -1.57  | 55.16         | 53.59  | 67.50         | -13.91        | Peak   |
| 6 | 1.98 | -5.01  | 45.75         | 40.74  | 69.54         | -28.80        | Peak   |

30 MHz–1 GHz: (Maximum Output Power Mode, 802.11ax160 6025MHz)

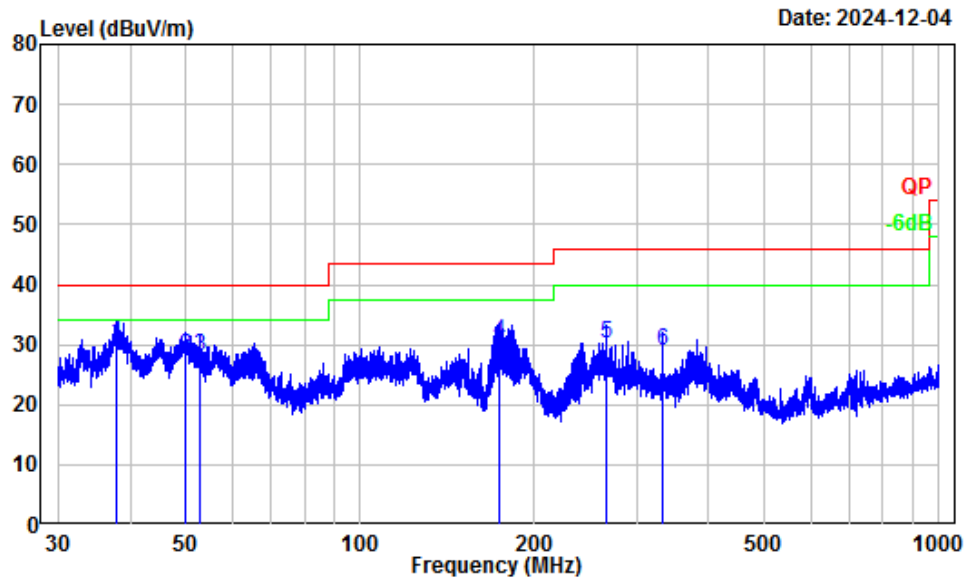
Horizontal



Site : Chamber A  
Condition : 3m Horizontal  
Project Number: 2401W43894E-RF  
Test Mode : WIFI 6E Transmitting  
Tester : Anson Su

|   | Freq Factor |        | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-------------|--------|------------|--------|------------|------------|--------|
|   | MHz         | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 108.74      | -14.38 | 46.20      | 31.82  | 43.50      | -11.68     | QP     |
| 2 | 150.80      | -13.61 | 46.20      | 32.59  | 43.50      | -10.91     | QP     |
| 3 | 173.43      | -13.91 | 46.99      | 33.08  | 43.50      | -10.42     | QP     |
| 4 | 183.12      | -13.01 | 52.00      | 38.99  | 43.50      | -4.51      | QP     |
| 5 | 238.41      | -14.53 | 56.00      | 41.47  | 46.00      | -4.53      | QP     |
| 6 | 331.94      | -12.50 | 46.30      | 33.80  | 46.00      | -12.20     | QP     |

## Vertical



Site : Chamber A  
Condition : 3m Vertical  
Project Number: 2401W43894E-RF  
Test Mode : WIFI 6E Transmitting  
Tester : Anson Su

|   | Freq   | Factor | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|--------|--------|------------|--------|------------|------------|--------|
|   | MHz    | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 37.94  | -11.74 | 42.00      | 30.26  | 40.00      | -9.74      | QP     |
| 2 | 49.99  | -18.74 | 46.77      | 28.03  | 40.00      | -11.97     | QP     |
| 3 | 52.64  | -19.08 | 47.02      | 27.94  | 40.00      | -12.06     | QP     |
| 4 | 173.74 | -13.88 | 44.25      | 30.37  | 43.50      | -13.13     | QP     |
| 5 | 265.33 | -13.91 | 44.02      | 30.11  | 46.00      | -15.89     | QP     |
| 6 | 333.10 | -12.48 | 41.61      | 29.13  | 46.00      | -16.87     | QP     |

**Above 1GHz:****Wi-Fi 6E\_ U-NII 5:**

| Frequency (MHz)   | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-------------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11a</b>    |                |       |             |               |                              |                |             |
| 5955MHz           |                |       |             |               |                              |                |             |
| 11910.00          | 47.35          | PK    | H           | 13.75         | 61.10                        | 74             | -12.90      |
| 11910.00          | 32.69          | AV    | H           | 13.75         | 46.44                        | 54             | -7.56       |
| 11910.00          | 47.03          | PK    | V           | 13.75         | 60.78                        | 74             | -13.22      |
| 11910.00          | 32.50          | AV    | V           | 13.75         | 46.25                        | 54             | -7.75       |
| 6175MHz           |                |       |             |               |                              |                |             |
| 12350.00          | 46.45          | PK    | H           | 13.35         | 59.80                        | 74             | -14.20      |
| 12350.00          | 31.84          | AV    | H           | 13.35         | 45.19                        | 54             | -8.81       |
| 12350.00          | 46.11          | PK    | V           | 13.35         | 59.46                        | 74             | -14.54      |
| 12350.00          | 31.62          | AV    | V           | 13.35         | 44.97                        | 54             | -9.03       |
| 6415MHz           |                |       |             |               |                              |                |             |
| 12830.00          | 45.67          | PK    | H           | 13.91         | 59.58                        | 88.2           | -28.62      |
| 12830.00          | 31.05          | AV    | H           | 13.91         | 44.96                        | 68.2           | -23.24      |
| 12830.00          | 45.34          | PK    | V           | 13.91         | 59.25                        | 88.2           | -28.95      |
| 12830.00          | 30.83          | AV    | V           | 13.91         | 44.74                        | 68.2           | -23.46      |
| <b>802.11ax20</b> |                |       |             |               |                              |                |             |
| 5955MHz           |                |       |             |               |                              |                |             |
| 11910.00          | 47.15          | PK    | H           | 13.75         | 60.90                        | 74             | -13.10      |
| 11910.00          | 32.57          | AV    | H           | 13.75         | 46.32                        | 54             | -7.68       |
| 11910.00          | 46.80          | PK    | V           | 13.75         | 60.55                        | 74             | -13.45      |
| 11910.00          | 32.38          | AV    | V           | 13.75         | 46.13                        | 54             | -7.87       |
| 6175MHz           |                |       |             |               |                              |                |             |
| 12350.00          | 46.36          | PK    | H           | 13.35         | 59.71                        | 74             | -14.29      |
| 12350.00          | 31.78          | AV    | H           | 13.35         | 45.13                        | 54             | -8.87       |
| 12350.00          | 46.09          | PK    | V           | 13.35         | 59.44                        | 74             | -14.56      |
| 12350.00          | 31.57          | AV    | V           | 13.35         | 44.92                        | 54             | -9.08       |
| 6415MHz           |                |       |             |               |                              |                |             |
| 12830.00          | 45.58          | PK    | H           | 13.91         | 59.49                        | 88.2           | -28.71      |
| 12830.00          | 31.02          | AV    | H           | 13.91         | 44.93                        | 68.2           | -23.27      |
| 12830.00          | 45.27          | PK    | V           | 13.91         | 59.18                        | 88.2           | -29.02      |
| 12830.00          | 30.85          | AV    | V           | 13.91         | 44.76                        | 68.2           | -23.44      |

| Frequency (MHz)   | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-------------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11ax40</b> |                |       |             |               |                              |                |             |
| 5965MHz           |                |       |             |               |                              |                |             |
| 11930.00          | 47.17          | PK    | H           | 13.77         | 60.94                        | 74             | -13.06      |
| 11930.00          | 32.64          | AV    | H           | 13.77         | 46.41                        | 54             | -7.59       |
| 11930.00          | 46.89          | PK    | V           | 13.77         | 60.66                        | 74             | -13.34      |
| 11930.00          | 32.46          | AV    | V           | 13.77         | 46.23                        | 54             | -7.77       |
| 6165MHz           |                |       |             |               |                              |                |             |
| 12330.00          | 46.59          | PK    | H           | 13.39         | 59.98                        | 74             | -14.02      |
| 12330.00          | 31.97          | AV    | H           | 13.39         | 45.36                        | 54             | -8.64       |
| 12330.00          | 46.31          | PK    | V           | 13.39         | 59.70                        | 74             | -14.30      |
| 12330.00          | 31.78          | AV    | V           | 13.39         | 45.17                        | 54             | -8.83       |
| 6405MHz           |                |       |             |               |                              |                |             |
| 12810.00          | 46.06          | PK    | H           | 13.91         | 59.97                        | 88.2           | -28.23      |
| 12810.00          | 31.38          | AV    | H           | 13.91         | 45.29                        | 68.2           | -22.91      |
| 12810.00          | 45.75          | PK    | V           | 13.91         | 59.66                        | 88.2           | -28.54      |
| 12810.00          | 31.20          | AV    | V           | 13.91         | 45.11                        | 68.2           | -23.09      |
| <b>802.11ax80</b> |                |       |             |               |                              |                |             |
| 5985MHz           |                |       |             |               |                              |                |             |
| 11970.00          | 46.94          | PK    | H           | 13.81         | 60.75                        | 74             | -13.25      |
| 11970.00          | 32.22          | AV    | H           | 13.81         | 46.03                        | 54             | -7.97       |
| 11970.00          | 46.67          | PK    | V           | 13.81         | 60.48                        | 74             | -13.52      |
| 11970.00          | 32.01          | AV    | V           | 13.81         | 45.82                        | 54             | -8.18       |
| 6145MHz           |                |       |             |               |                              |                |             |
| 12290.00          | 46.47          | PK    | H           | 13.46         | 59.93                        | 74             | -14.07      |
| 12290.00          | 32.04          | AV    | H           | 13.46         | 45.50                        | 54             | -8.50       |
| 12290.00          | 46.19          | PK    | V           | 13.46         | 59.65                        | 74             | -14.35      |
| 12290.00          | 31.85          | AV    | V           | 13.46         | 45.31                        | 54             | -8.69       |
| 6385MHz           |                |       |             |               |                              |                |             |
| 12770.00          | 46.06          | PK    | H           | 13.77         | 59.83                        | 88.2           | -28.37      |
| 12770.00          | 31.83          | AV    | H           | 13.77         | 45.60                        | 68.2           | -22.60      |
| 12770.00          | 45.78          | PK    | V           | 13.77         | 59.55                        | 88.2           | -28.65      |
| 12770.00          | 31.65          | AV    | V           | 13.77         | 45.42                        | 68.2           | -22.78      |

| Frequency (MHz)    | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|--------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax160</b> |                      |       |             |               |                                    |                      |             |
| 6025MHz            |                      |       |             |               |                                    |                      |             |
| 12050.00           | 46.83                | PK    | H           | 13.84         | 60.67                              | 74                   | -13.33      |
| 12050.00           | 31.94                | AV    | H           | 13.84         | 45.78                              | 54                   | -8.22       |
| 12050.00           | 46.55                | PK    | V           | 13.84         | 60.39                              | 74                   | -13.61      |
| 12050.00           | 31.77                | AV    | V           | 13.84         | 45.61                              | 54                   | -8.39       |
| 6185MHz            |                      |       |             |               |                                    |                      |             |
| 12370.00           | 46.57                | PK    | H           | 13.32         | 59.89                              | 74                   | -14.11      |
| 12370.00           | 31.73                | AV    | H           | 13.32         | 45.05                              | 54                   | -8.95       |
| 12370.00           | 46.24                | PK    | V           | 13.32         | 59.56                              | 74                   | -14.44      |
| 12370.00           | 31.56                | AV    | V           | 13.32         | 44.88                              | 54                   | -9.12       |
| 6345MHz            |                      |       |             |               |                                    |                      |             |
| 12690.00           | 46.30                | PK    | H           | 13.45         | 59.75                              | 74                   | -14.25      |
| 12690.00           | 31.52                | AV    | H           | 13.45         | 44.97                              | 54                   | -9.03       |
| 12690.00           | 46.06                | PK    | V           | 13.45         | 59.51                              | 74                   | -14.49      |
| 12690.00           | 31.34                | AV    | V           | 13.45         | 44.79                              | 54                   | -9.21       |



**Wi-Fi 6E\_ U-NII 6:**

| Frequency (MHz)   | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-------------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11a</b>    |                |       |             |               |                              |                |             |
| 6435MHz           |                |       |             |               |                              |                |             |
| 12870.00          | 46.48          | PK    | H           | 13.94         | 60.42                        | 88.2           | -27.78      |
| 12870.00          | 31.56          | AV    | H           | 13.94         | 45.50                        | 68.2           | -22.70      |
| 12870.00          | 46.21          | PK    | V           | 13.94         | 60.15                        | 88.2           | -28.05      |
| 12870.00          | 31.40          | AV    | V           | 13.94         | 45.34                        | 68.2           | -22.86      |
| 6475MHz           |                |       |             |               |                              |                |             |
| 12950.00          | 45.96          | PK    | H           | 13.83         | 59.79                        | 88.2           | -28.41      |
| 12950.00          | 31.25          | AV    | H           | 13.83         | 45.08                        | 68.2           | -23.12      |
| 12950.00          | 45.69          | PK    | V           | 13.83         | 59.52                        | 88.2           | -28.68      |
| 12950.00          | 31.08          | AV    | V           | 13.83         | 44.91                        | 68.2           | -23.29      |
| 6515MHz           |                |       |             |               |                              |                |             |
| 13030.00          | 45.57          | PK    | H           | 13.79         | 59.36                        | 88.2           | -28.84      |
| 13030.00          | 30.79          | AV    | H           | 13.79         | 44.58                        | 68.2           | -23.62      |
| 13030.00          | 45.33          | PK    | V           | 13.79         | 59.12                        | 88.2           | -29.08      |
| 13030.00          | 30.62          | AV    | V           | 13.79         | 44.41                        | 68.2           | -23.79      |
| <b>802.11ax20</b> |                |       |             |               |                              |                |             |
| 6435MHz           |                |       |             |               |                              |                |             |
| 12870.00          | 46.64          | PK    | H           | 13.94         | 60.58                        | 88.2           | -27.62      |
| 12870.00          | 31.78          | AV    | H           | 13.94         | 45.72                        | 68.2           | -22.48      |
| 12870.00          | 46.37          | PK    | V           | 13.94         | 60.31                        | 88.2           | -27.89      |
| 12870.00          | 31.59          | AV    | V           | 13.94         | 45.53                        | 68.2           | -22.67      |
| 6475MHz           |                |       |             |               |                              |                |             |
| 12950.00          | 46.18          | PK    | H           | 13.83         | 60.01                        | 88.2           | -28.19      |
| 12950.00          | 31.43          | AV    | H           | 13.83         | 45.26                        | 68.2           | -22.94      |
| 12950.00          | 45.92          | PK    | V           | 13.83         | 59.75                        | 88.2           | -28.45      |
| 12950.00          | 31.26          | AV    | V           | 13.83         | 45.09                        | 68.2           | -23.11      |
| 6515MHz           |                |       |             |               |                              |                |             |
| 13030.00          | 45.87          | PK    | H           | 13.79         | 59.66                        | 88.2           | -28.54      |
| 13030.00          | 30.93          | AV    | H           | 13.79         | 44.72                        | 68.2           | -23.48      |
| 13030.00          | 45.61          | PK    | V           | 13.79         | 59.40                        | 88.2           | -28.80      |
| 13030.00          | 30.75          | AV    | V           | 13.79         | 44.54                        | 68.2           | -23.66      |

| Frequency (MHz)    | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11ax40</b>  |                |       |             |               |                              |                |             |
| 6445MHz            |                |       |             |               |                              |                |             |
| 12890.00           | 46.95          | PK    | H           | 13.95         | 60.90                        | 88.2           | -27.30      |
| 12890.00           | 31.71          | AV    | H           | 13.95         | 45.66                        | 68.2           | -22.54      |
| 12890.00           | 46.68          | PK    | V           | 13.95         | 60.63                        | 88.2           | -27.57      |
| 12890.00           | 31.53          | AV    | V           | 13.95         | 45.48                        | 68.2           | -22.72      |
| 6485MHz            |                |       |             |               |                              |                |             |
| 12970.00           | 46.54          | PK    | H           | 13.78         | 60.32                        | 88.2           | -27.88      |
| 12970.00           | 31.18          | AV    | H           | 13.78         | 44.96                        | 68.2           | -23.24      |
| 12970.00           | 46.29          | PK    | V           | 13.78         | 60.07                        | 88.2           | -28.13      |
| 12970.00           | 31.02          | AV    | V           | 13.78         | 44.80                        | 68.2           | -23.40      |
| 6525MHz            |                |       |             |               |                              |                |             |
| 13050.00           | 46.12          | PK    | H           | 13.84         | 59.96                        | 88.2           | -28.24      |
| 13050.00           | 30.69          | AV    | H           | 13.84         | 44.53                        | 68.2           | -23.67      |
| 13050.00           | 45.87          | PK    | V           | 13.84         | 59.71                        | 88.2           | -28.49      |
| 13050.00           | 30.50          | AV    | V           | 13.84         | 44.34                        | 68.2           | -23.86      |
| <b>802.11ax80</b>  |                |       |             |               |                              |                |             |
| 6465MHz            |                |       |             |               |                              |                |             |
| 12930.00           | 46.50          | PK    | H           | 13.87         | 60.37                        | 88.2           | -27.83      |
| 12930.00           | 31.87          | AV    | H           | 13.87         | 45.74                        | 68.2           | -22.46      |
| 12930.00           | 46.24          | PK    | V           | 13.87         | 60.11                        | 88.2           | -28.09      |
| 12930.00           | 31.68          | AV    | V           | 13.87         | 45.55                        | 68.2           | -22.65      |
| 6545MHz            |                |       |             |               |                              |                |             |
| 13090.00           | 45.85          | PK    | H           | 13.96         | 59.81                        | 88.2           | -28.39      |
| 13090.00           | 31.46          | AV    | H           | 13.96         | 45.42                        | 68.2           | -22.78      |
| 13090.00           | 45.61          | PK    | V           | 13.96         | 59.57                        | 88.2           | -28.63      |
| 13090.00           | 31.29          | AV    | V           | 13.96         | 45.25                        | 68.2           | -22.95      |
| <b>802.11ax160</b> |                |       |             |               |                              |                |             |
| 6505MHz            |                |       |             |               |                              |                |             |
| 13010.00           | 46.27          | PK    | H           | 13.73         | 60.00                        | 88.2           | -28.20      |
| 13010.00           | 31.32          | AV    | H           | 13.73         | 45.05                        | 68.2           | -23.15      |
| 13010.00           | 46.01          | PK    | V           | 13.73         | 59.74                        | 88.2           | -28.46      |
| 13010.00           | 31.16          | AV    | V           | 13.73         | 44.89                        | 68.2           | -23.31      |

**Wi-Fi 6E\_ U-NII 7:**

| Frequency (MHz)   | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-------------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11a</b>    |                |       |             |               |                              |                |             |
| 6535MHz           |                |       |             |               |                              |                |             |
| 13070.00          | 45.72          | PK    | H           | 13.90         | 59.62                        | 88.2           | -28.58      |
| 13070.00          | 30.84          | AV    | H           | 13.90         | 44.74                        | 68.2           | -23.46      |
| 13070.00          | 45.48          | PK    | V           | 13.90         | 59.38                        | 88.2           | -28.82      |
| 13070.00          | 30.67          | AV    | V           | 13.90         | 44.57                        | 68.2           | -23.63      |
| 6695MHz           |                |       |             |               |                              |                |             |
| 13390.00          | 45.34          | PK    | H           | 14.55         | 59.89                        | 74             | -14.11      |
| 13390.00          | 30.56          | AV    | H           | 14.55         | 45.11                        | 54             | -8.89       |
| 13390.00          | 45.13          | PK    | V           | 14.55         | 59.68                        | 74             | -14.32      |
| 13390.00          | 30.40          | AV    | V           | 14.55         | 44.95                        | 54             | -9.05       |
| 6855MHz           |                |       |             |               |                              |                |             |
| 13710.00          | 45.01          | PK    | H           | 15.41         | 60.42                        | 88.2           | -27.78      |
| 13710.00          | 30.29          | AV    | H           | 15.41         | 45.70                        | 68.2           | -22.50      |
| 13710.00          | 44.77          | PK    | V           | 15.41         | 60.18                        | 88.2           | -28.02      |
| 13710.00          | 30.12          | AV    | V           | 15.41         | 45.53                        | 68.2           | -22.67      |
| <b>802.11ax20</b> |                |       |             |               |                              |                |             |
| 6535MHz           |                |       |             |               |                              |                |             |
| 13070.00          | 45.59          | PK    | H           | 13.90         | 59.49                        | 88.2           | -28.71      |
| 13070.00          | 30.73          | AV    | H           | 13.90         | 44.63                        | 68.2           | -23.57      |
| 13070.00          | 45.34          | PK    | V           | 13.90         | 59.24                        | 88.2           | -28.96      |
| 13070.00          | 30.56          | AV    | V           | 13.90         | 44.46                        | 68.2           | -23.74      |
| 6695MHz           |                |       |             |               |                              |                |             |
| 13390.00          | 45.27          | PK    | H           | 14.55         | 59.82                        | 74             | -14.18      |
| 13390.00          | 30.45          | AV    | H           | 14.55         | 45.00                        | 54             | -9.00       |
| 13390.00          | 45.03          | PK    | V           | 14.55         | 59.58                        | 74             | -14.42      |
| 13390.00          | 30.31          | AV    | V           | 14.55         | 44.86                        | 54             | -9.14       |
| 6855MHz           |                |       |             |               |                              |                |             |
| 13710.00          | 44.98          | PK    | H           | 15.41         | 60.39                        | 88.2           | -27.81      |
| 13710.00          | 30.17          | AV    | H           | 15.41         | 45.58                        | 68.2           | -22.62      |
| 13710.00          | 44.72          | PK    | V           | 15.41         | 60.13                        | 88.2           | -28.07      |
| 13710.00          | 30.03          | AV    | V           | 15.41         | 45.44                        | 68.2           | -22.76      |

| Frequency (MHz)   | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax40</b> |                      |       |             |               |                                    |                      |             |
| 6565MHz           |                      |       |             |               |                                    |                      |             |
| 13130.00          | 47.28                | PK    | H           | 14.02         | 61.30                              | 88.2                 | -26.90      |
| 13130.00          | 32.33                | AV    | H           | 14.02         | 46.35                              | 68.2                 | -21.85      |
| 13130.00          | 47.04                | PK    | V           | 14.02         | 61.06                              | 88.2                 | -27.14      |
| 13130.00          | 32.16                | AV    | V           | 14.02         | 46.18                              | 68.2                 | -22.02      |
| 6685MHz           |                      |       |             |               |                                    |                      |             |
| 13370.00          | 46.47                | PK    | H           | 14.53         | 61.00                              | 74                   | -13.00      |
| 13370.00          | 31.50                | AV    | H           | 14.53         | 46.03                              | 54                   | -7.97       |
| 13370.00          | 46.21                | PK    | V           | 14.53         | 60.74                              | 74                   | -13.26      |
| 13370.00          | 31.32                | AV    | V           | 14.53         | 45.85                              | 54                   | -8.15       |
| 6845MHz           |                      |       |             |               |                                    |                      |             |
| 13690.00          | 45.75                | PK    | H           | 15.34         | 61.09                              | 88.2                 | -27.11      |
| 13690.00          | 30.87                | AV    | H           | 15.34         | 46.21                              | 68.2                 | -21.99      |
| 13690.00          | 45.52                | PK    | V           | 15.34         | 60.86                              | 88.2                 | -27.34      |
| 13690.00          | 30.69                | AV    | V           | 15.34         | 46.03                              | 68.2                 | -22.17      |

| Frequency (MHz)    | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|--------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax80</b>  |                      |       |             |               |                                    |                      |             |
| 6625MHz            |                      |       |             |               |                                    |                      |             |
| 13250.00           | 46.87                | PK    | H           | 14.28         | 61.15                              | 74                   | -12.85      |
| 13250.00           | 31.92                | AV    | H           | 14.28         | 46.20                              | 54                   | -7.80       |
| 13250.00           | 46.64                | PK    | V           | 14.28         | 60.92                              | 74                   | -13.08      |
| 13250.00           | 31.75                | AV    | V           | 14.28         | 46.03                              | 54                   | -7.97       |
| 6705MHz            |                      |       |             |               |                                    |                      |             |
| 13410.00           | 47.20                | PK    | H           | 14.58         | 61.78                              | 88.2                 | -26.42      |
| 13410.00           | 32.28                | AV    | H           | 14.58         | 46.86                              | 68.2                 | -21.34      |
| 13410.00           | 46.96                | PK    | V           | 14.58         | 61.54                              | 88.2                 | -26.66      |
| 13410.00           | 32.12                | AV    | V           | 14.58         | 46.70                              | 68.2                 | -21.50      |
| 6785MHz            |                      |       |             |               |                                    |                      |             |
| 13570.00           | 46.35                | PK    | H           | 15.10         | 61.45                              | 88.2                 | -26.75      |
| 13570.00           | 31.42                | AV    | H           | 15.10         | 46.52                              | 68.2                 | -21.68      |
| 13570.00           | 46.11                | PK    | V           | 15.10         | 61.21                              | 88.2                 | -26.99      |
| 13570.00           | 31.26                | AV    | V           | 15.10         | 46.36                              | 68.2                 | -21.84      |
| 6865MHz            |                      |       |             |               |                                    |                      |             |
| 13730.00           | 45.49                | PK    | H           | 15.53         | 61.02                              | 88.2                 | -27.18      |
| 13730.00           | 30.71                | AV    | H           | 15.53         | 46.24                              | 68.2                 | -21.96      |
| 13730.00           | 45.24                | PK    | V           | 15.53         | 60.77                              | 88.2                 | -27.43      |
| 13730.00           | 30.55                | AV    | V           | 15.53         | 46.08                              | 68.2                 | -22.12      |
| <b>802.11ax160</b> |                      |       |             |               |                                    |                      |             |
| 6665MHz            |                      |       |             |               |                                    |                      |             |
| 13330.00           | 46.74                | PK    | H           | 14.50         | 61.24                              | 74                   | -12.76      |
| 13330.00           | 32.37                | AV    | H           | 14.50         | 46.87                              | 54                   | -7.13       |
| 13330.00           | 46.48                | PK    | V           | 14.50         | 60.98                              | 74                   | -13.02      |
| 13330.00           | 32.19                | AV    | V           | 14.50         | 46.69                              | 54                   | -7.31       |
| 6825MHz            |                      |       |             |               |                                    |                      |             |
| 13650.00           | 46.06                | PK    | H           | 15.30         | 61.36                              | 88.2                 | -26.84      |
| 13650.00           | 31.90                | AV    | H           | 15.30         | 47.20                              | 68.2                 | -21.00      |
| 13650.00           | 45.82                | PK    | V           | 15.30         | 61.12                              | 88.2                 | -27.08      |
| 13650.00           | 31.73                | AV    | V           | 15.30         | 47.03                              | 68.2                 | -21.17      |

**Wi-Fi 6E\_ U-NII 8:**

| Frequency (MHz) | Reading (dBμV) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|----------------|-------|-------------|---------------|------------------------------|----------------|-------------|
| <b>802.11a</b>  |                |       |             |               |                              |                |             |
| 6875MHz         |                |       |             |               |                              |                |             |
| 13750.00        | 45.05          | PK    | H           | 15.65         | 60.70                        | 88.2           | -27.50      |
| 13750.00        | 30.18          | AV    | H           | 15.65         | 45.83                        | 68.2           | -22.37      |
| 13750.00        | 44.82          | PK    | V           | 15.65         | 60.47                        | 88.2           | -27.73      |
| 13750.00        | 30.03          | AV    | V           | 15.65         | 45.68                        | 68.2           | -22.52      |
| 6895MHz         |                |       |             |               |                              |                |             |
| 13790.00        | 46.09          | PK    | H           | 15.89         | 61.98                        | 88.2           | -26.22      |
| 13790.00        | 31.37          | AV    | H           | 15.89         | 47.26                        | 68.2           | -20.94      |
| 13790.00        | 45.86          | PK    | V           | 15.89         | 61.75                        | 88.2           | -26.45      |
| 13790.00        | 31.21          | AV    | V           | 15.89         | 47.10                        | 68.2           | -21.10      |
| 6995MHz         |                |       |             |               |                              |                |             |
| 13990.00        | 45.67          | PK    | H           | 17.03         | 62.70                        | 88.2           | -25.50      |
| 13990.00        | 31.08          | AV    | H           | 17.03         | 48.11                        | 68.2           | -20.09      |
| 13990.00        | 45.43          | PK    | V           | 17.03         | 62.46                        | 88.2           | -25.74      |
| 13990.00        | 30.92          | AV    | V           | 17.03         | 47.95                        | 68.2           | -20.25      |
| 7115MHz         |                |       |             |               |                              |                |             |
| 14230.00        | 45.28          | PK    | H           | 17.22         | 62.50                        | 88.2           | -25.70      |
| 14230.00        | 30.56          | AV    | H           | 17.22         | 47.78                        | 68.2           | -20.42      |
| 14230.00        | 45.05          | PK    | V           | 17.22         | 62.27                        | 88.2           | -25.93      |
| 14230.00        | 30.39          | AV    | V           | 17.22         | 47.61                        | 68.2           | -20.59      |

| Frequency (MHz)   | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax20</b> |                      |       |             |               |                                    |                      |             |
| 6875MHz           |                      |       |             |               |                                    |                      |             |
| 13750.00          | 45.12                | PK    | H           | 15.65         | 60.77                              | 88.2                 | -27.43      |
| 13750.00          | 30.27                | AV    | H           | 15.65         | 45.92                              | 68.2                 | -22.28      |
| 13750.00          | 44.88                | PK    | V           | 15.65         | 60.53                              | 88.2                 | -27.67      |
| 13750.00          | 30.09                | AV    | V           | 15.65         | 45.74                              | 68.2                 | -22.46      |
| 6895MHz           |                      |       |             |               |                                    |                      |             |
| 13790.00          | 46.38                | PK    | H           | 15.89         | 62.27                              | 88.2                 | -25.93      |
| 13790.00          | 31.45                | AV    | H           | 15.89         | 47.34                              | 68.2                 | -20.86      |
| 13790.00          | 46.14                | PK    | V           | 15.89         | 62.03                              | 88.2                 | -26.17      |
| 13790.00          | 31.27                | AV    | V           | 15.89         | 47.16                              | 68.2                 | -21.04      |
| 6995MHz           |                      |       |             |               |                                    |                      |             |
| 13990.00          | 45.94                | PK    | H           | 17.03         | 62.97                              | 88.2                 | -25.23      |
| 13990.00          | 31.17                | AV    | H           | 17.03         | 48.20                              | 68.2                 | -20.00      |
| 13990.00          | 45.69                | PK    | V           | 17.03         | 62.72                              | 88.2                 | -25.48      |
| 13990.00          | 31.02                | AV    | V           | 17.03         | 48.05                              | 68.2                 | -20.15      |
| 7115MHz           |                      |       |             |               |                                    |                      |             |
| 14230.00          | 45.52                | PK    | H           | 17.22         | 62.74                              | 88.2                 | -25.46      |
| 14230.00          | 30.63                | AV    | H           | 17.22         | 47.85                              | 68.2                 | -20.35      |
| 14230.00          | 45.26                | PK    | V           | 17.22         | 62.48                              | 88.2                 | -25.72      |
| 14230.00          | 30.45                | AV    | V           | 17.22         | 47.67                              | 68.2                 | -20.53      |

| Frequency (MHz)   | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax40</b> |                      |       |             |               |                                    |                      |             |
| 6885MHz           |                      |       |             |               |                                    |                      |             |
| 13770.00          | 45.30                | PK    | H           | 15.77         | 61.07                              | 88.2                 | -27.13      |
| 13770.00          | 30.88                | AV    | H           | 15.77         | 46.65                              | 68.2                 | -21.55      |
| 13770.00          | 45.05                | PK    | V           | 15.77         | 60.82                              | 88.2                 | -27.38      |
| 13770.00          | 30.71                | AV    | V           | 15.77         | 46.48                              | 68.2                 | -21.72      |
| 6925MHz           |                      |       |             |               |                                    |                      |             |
| 13850.00          | 46.15                | PK    | H           | 16.40         | 62.55                              | 88.2                 | -25.65      |
| 13850.00          | 31.64                | AV    | H           | 16.40         | 48.04                              | 68.2                 | -20.16      |
| 13850.00          | 45.93                | PK    | V           | 16.40         | 62.33                              | 88.2                 | -25.87      |
| 13850.00          | 31.49                | AV    | V           | 16.40         | 47.89                              | 68.2                 | -20.31      |
| 6965MHz           |                      |       |             |               |                                    |                      |             |
| 13930.00          | 45.68                | PK    | H           | 16.91         | 62.59                              | 88.2                 | -25.61      |
| 13930.00          | 31.12                | AV    | H           | 16.91         | 48.03                              | 68.2                 | -20.17      |
| 13930.00          | 45.44                | PK    | V           | 16.91         | 62.35                              | 88.2                 | -25.85      |
| 13930.00          | 30.96                | AV    | V           | 16.91         | 47.87                              | 68.2                 | -20.33      |
| 7085MHz           |                      |       |             |               |                                    |                      |             |
| 14170.00          | 45.24                | PK    | H           | 17.12         | 62.36                              | 88.2                 | -25.84      |
| 14170.00          | 30.59                | AV    | H           | 17.12         | 47.71                              | 68.2                 | -20.49      |
| 14170.00          | 45.01                | PK    | V           | 17.12         | 62.13                              | 88.2                 | -26.07      |
| 14170.00          | 30.43                | AV    | V           | 17.12         | 47.55                              | 68.2                 | -20.65      |



| Frequency (MHz)    | Reading (dB $\mu$ V) | PK/AV | Polar (H/V) | Factor (dB/m) | Corrected Amplitude (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|--------------------|----------------------|-------|-------------|---------------|------------------------------------|----------------------|-------------|
| <b>802.11ax80</b>  |                      |       |             |               |                                    |                      |             |
| 6945MHz            |                      |       |             |               |                                    |                      |             |
| 13890.00           | 46.76                | PK    | H           | 16.76         | 63.52                              | 88.2                 | -24.68      |
| 13890.00           | 31.87                | AV    | H           | 16.76         | 48.63                              | 68.2                 | -19.57      |
| 13890.00           | 46.51                | PK    | V           | 16.76         | 63.27                              | 88.2                 | -24.93      |
| 13890.00           | 31.72                | AV    | V           | 16.76         | 48.48                              | 68.2                 | -19.72      |
| 7025MHz            |                      |       |             |               |                                    |                      |             |
| 14050.00           | 46.14                | PK    | H           | 17.07         | 63.21                              | 88.2                 | -24.99      |
| 14050.00           | 31.23                | AV    | H           | 17.07         | 48.30                              | 68.2                 | -19.90      |
| 14050.00           | 45.91                | PK    | V           | 17.07         | 62.98                              | 88.2                 | -25.22      |
| 14050.00           | 31.08                | AV    | V           | 17.07         | 48.15                              | 68.2                 | -20.05      |
| <b>802.11ax160</b> |                      |       |             |               |                                    |                      |             |
| 6985MHz            |                      |       |             |               |                                    |                      |             |
| 13970.00           | 45.61                | PK    | H           | 16.99         | 62.60                              | 88.2                 | -25.60      |
| 13970.00           | 30.75                | AV    | H           | 16.99         | 47.74                              | 68.2                 | -20.46      |
| 13970.00           | 45.36                | PK    | V           | 16.99         | 62.35                              | 88.2                 | -25.85      |
| 13970.00           | 30.57                | AV    | V           | 16.99         | 47.56                              | 68.2                 | -20.64      |

**Note:**

Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

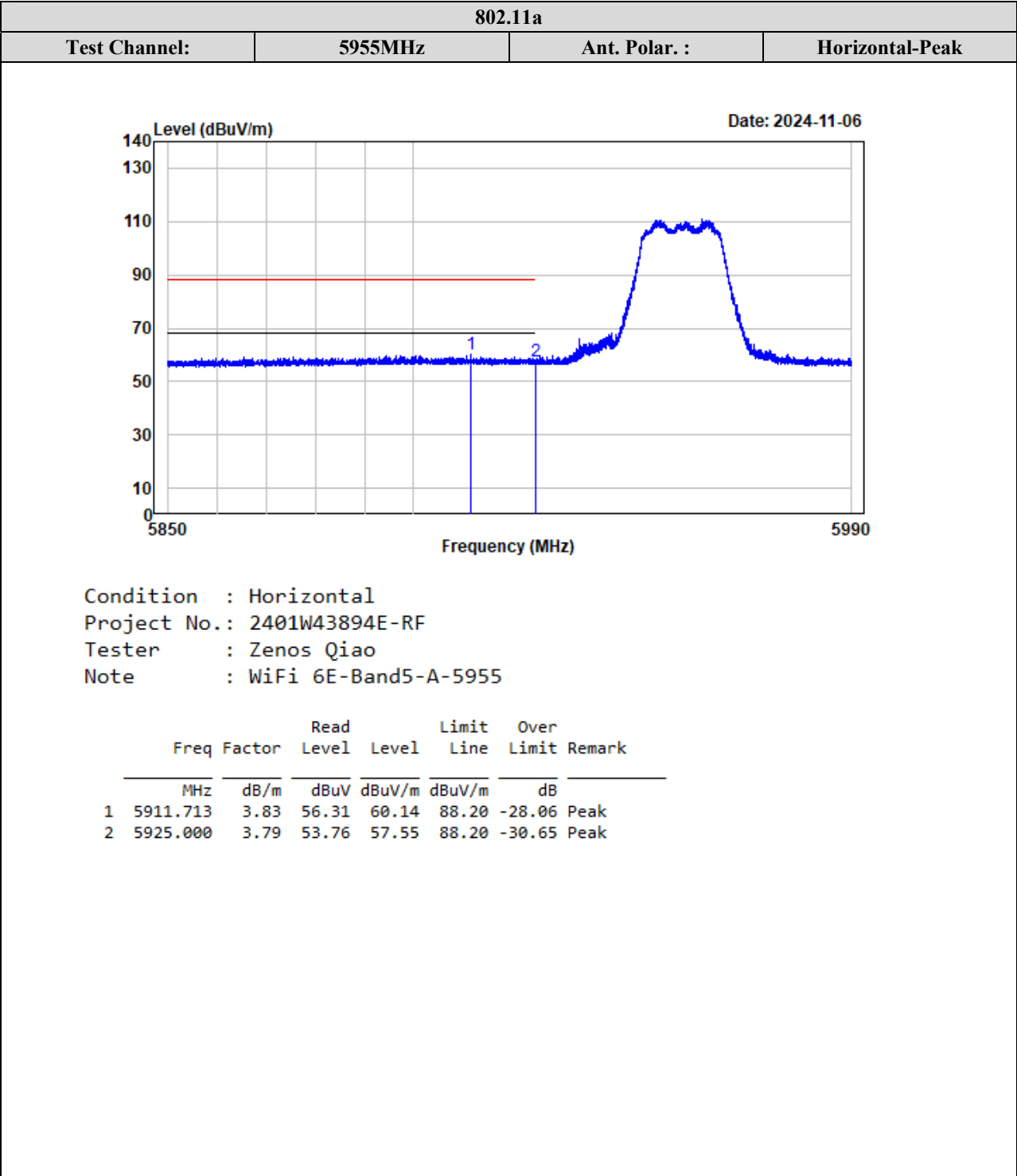
Corrected Amplitude = Factor + Reading

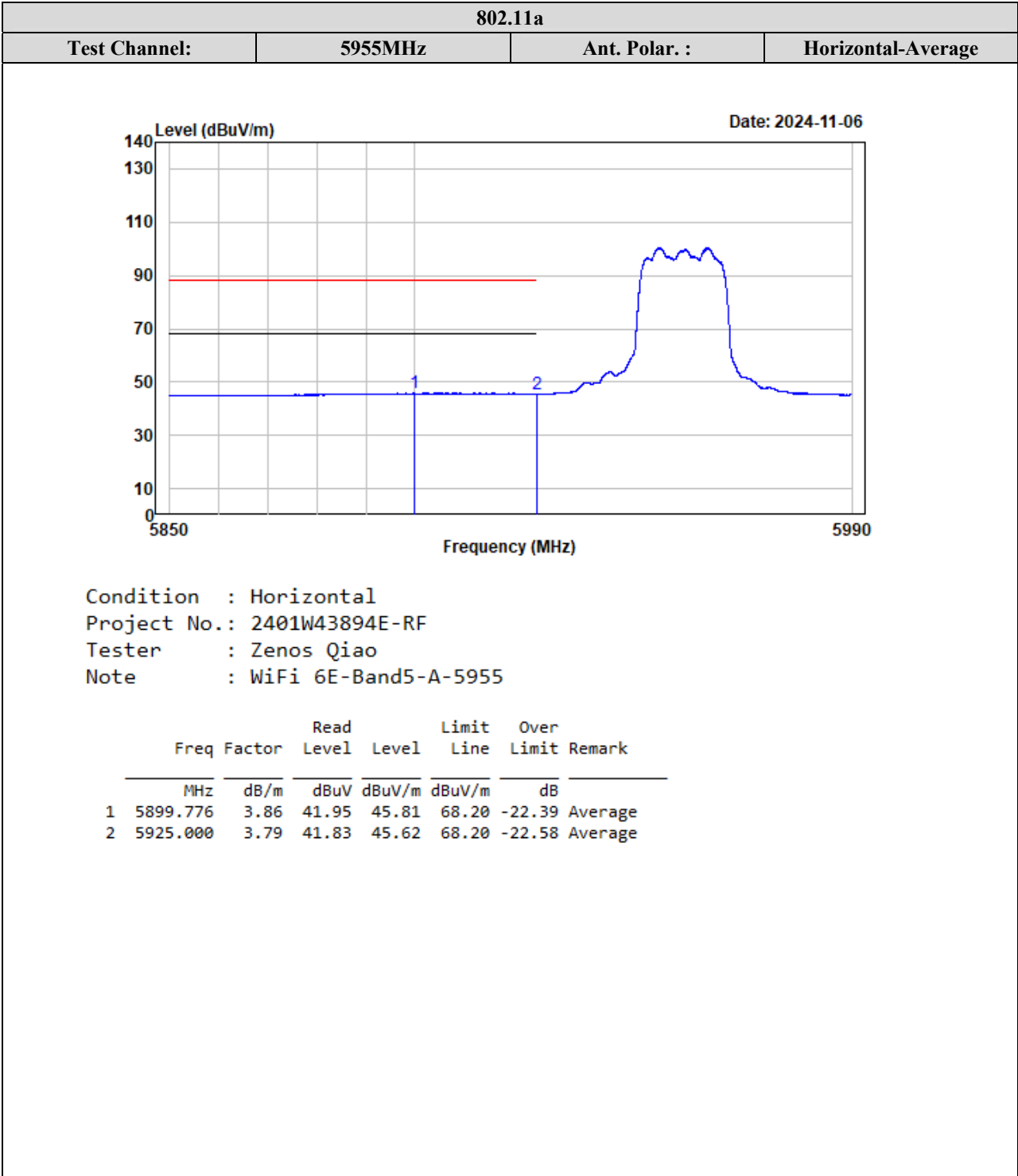
Margin = Corrected. Amplitude - Limit

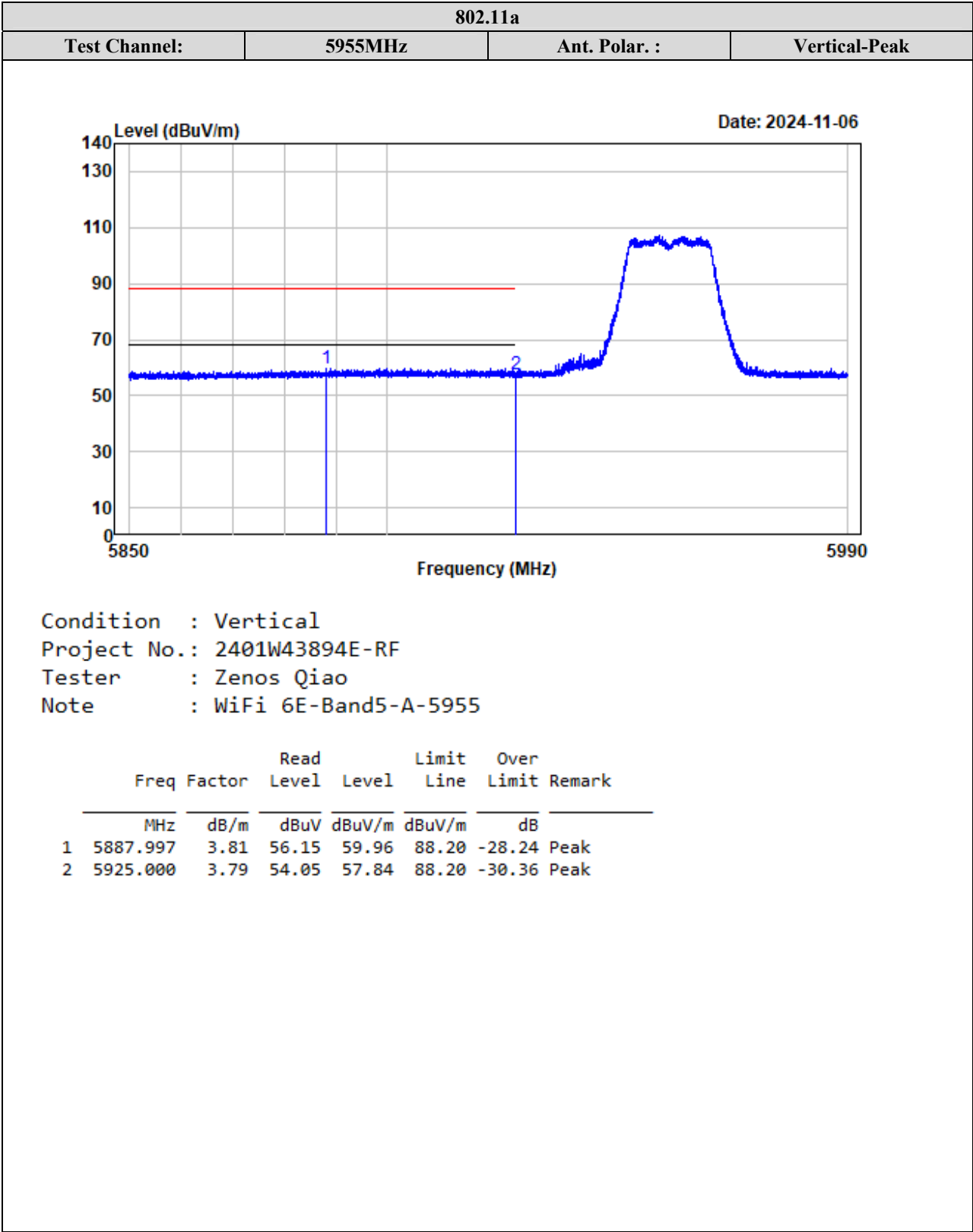
The other spurious emission which is in the noise floor level was not recorded.

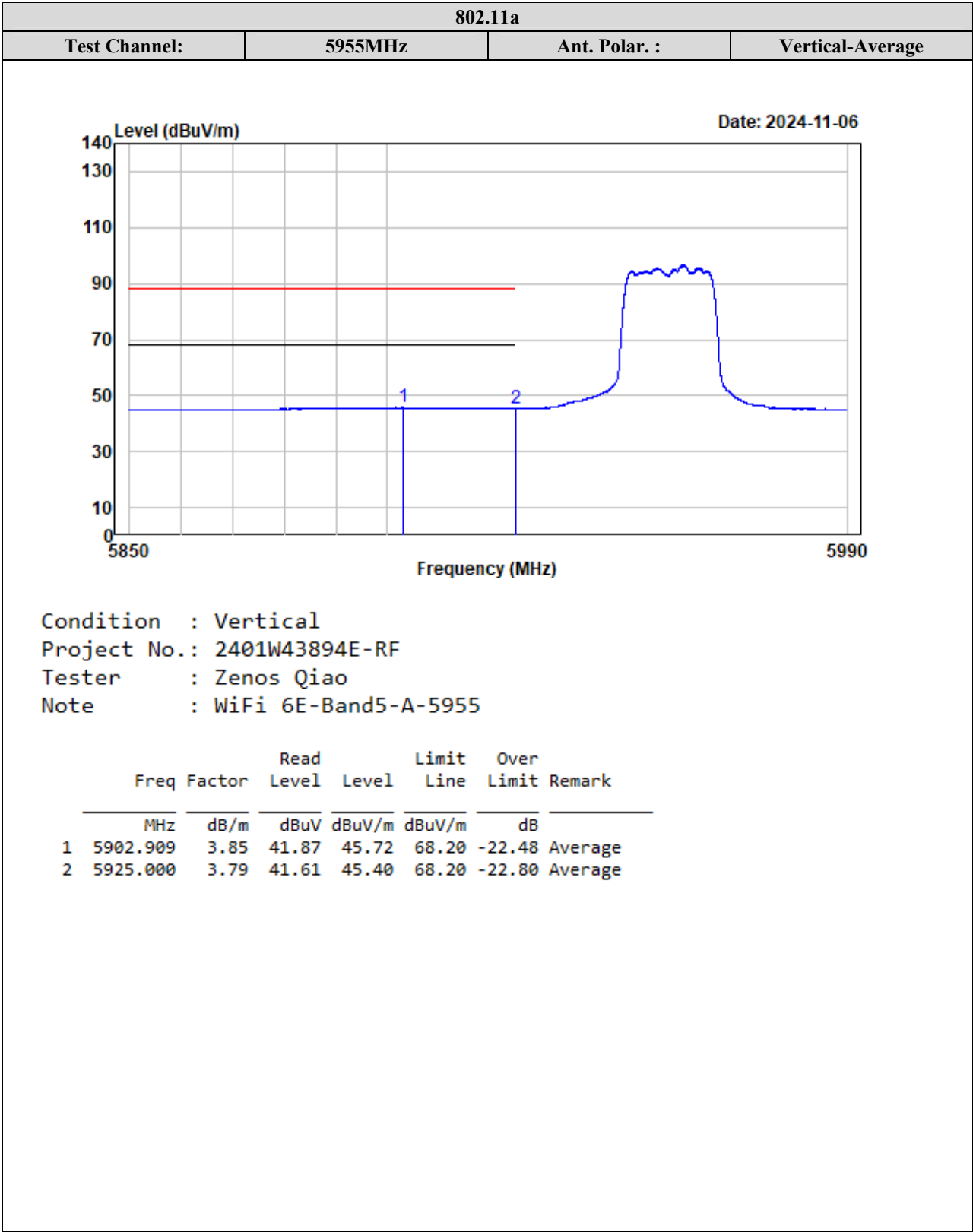
Test plots for Band Edge Measurements (Radiated)

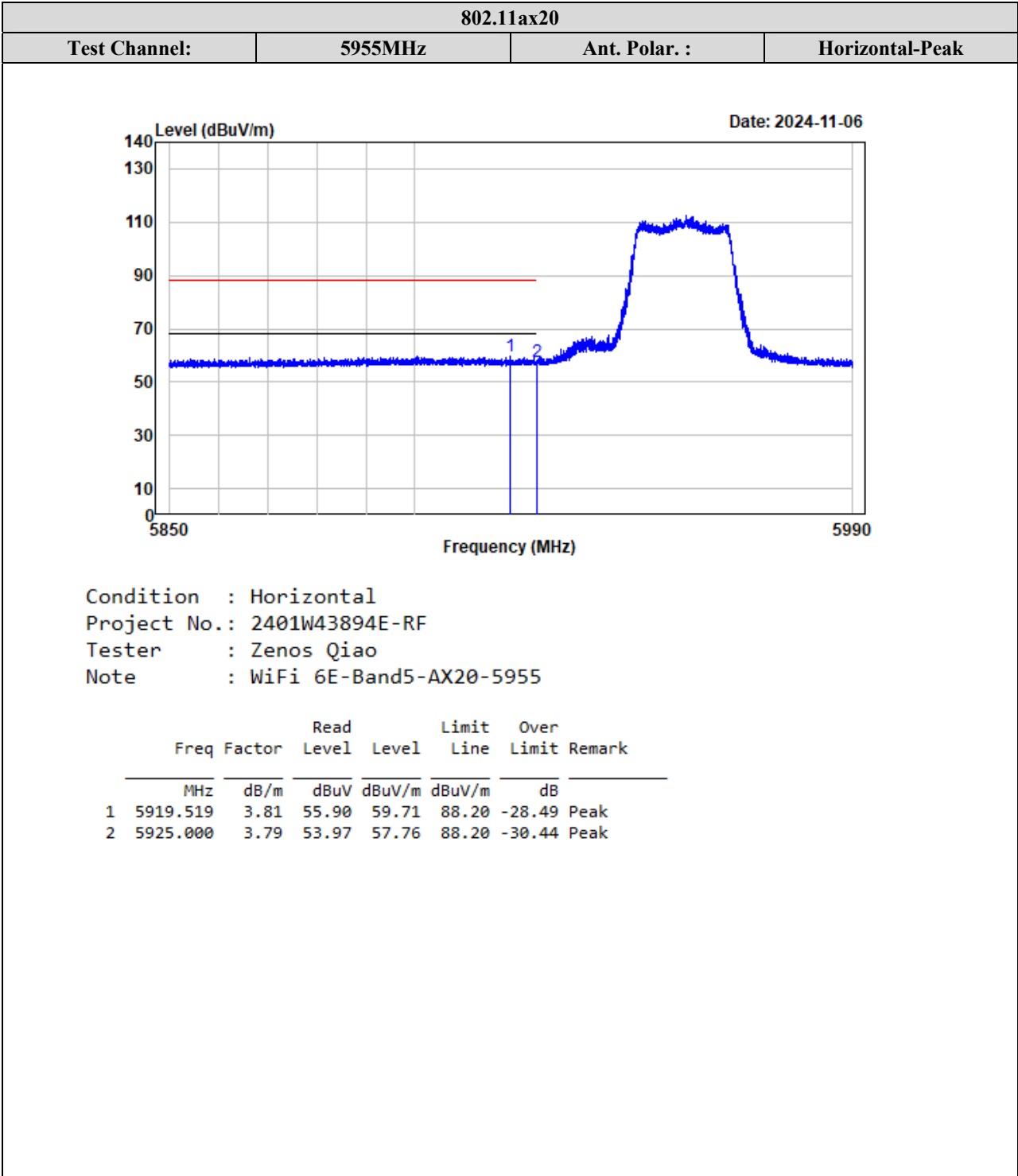
Wi-Fi 6E\_ U-NII 5:

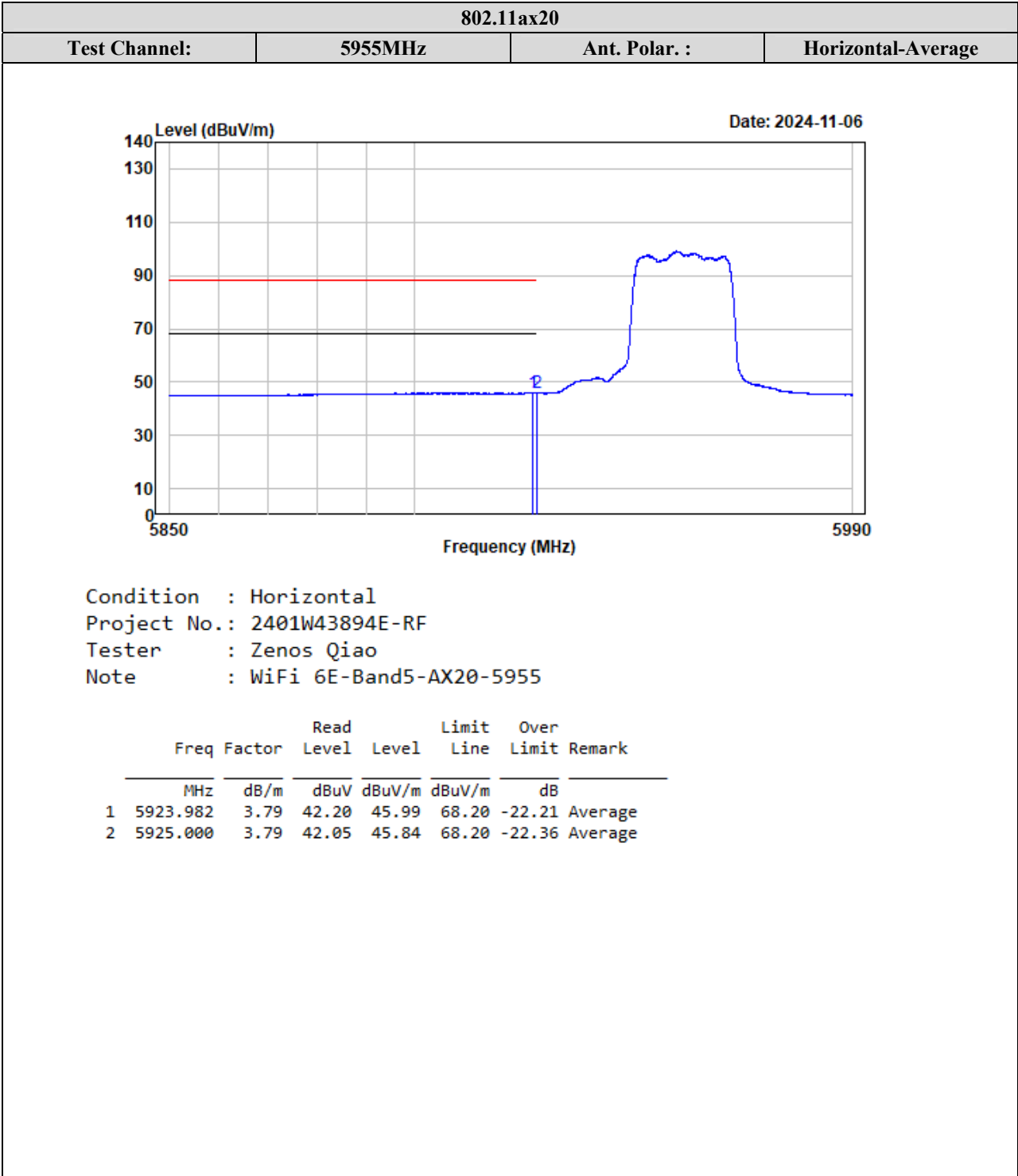


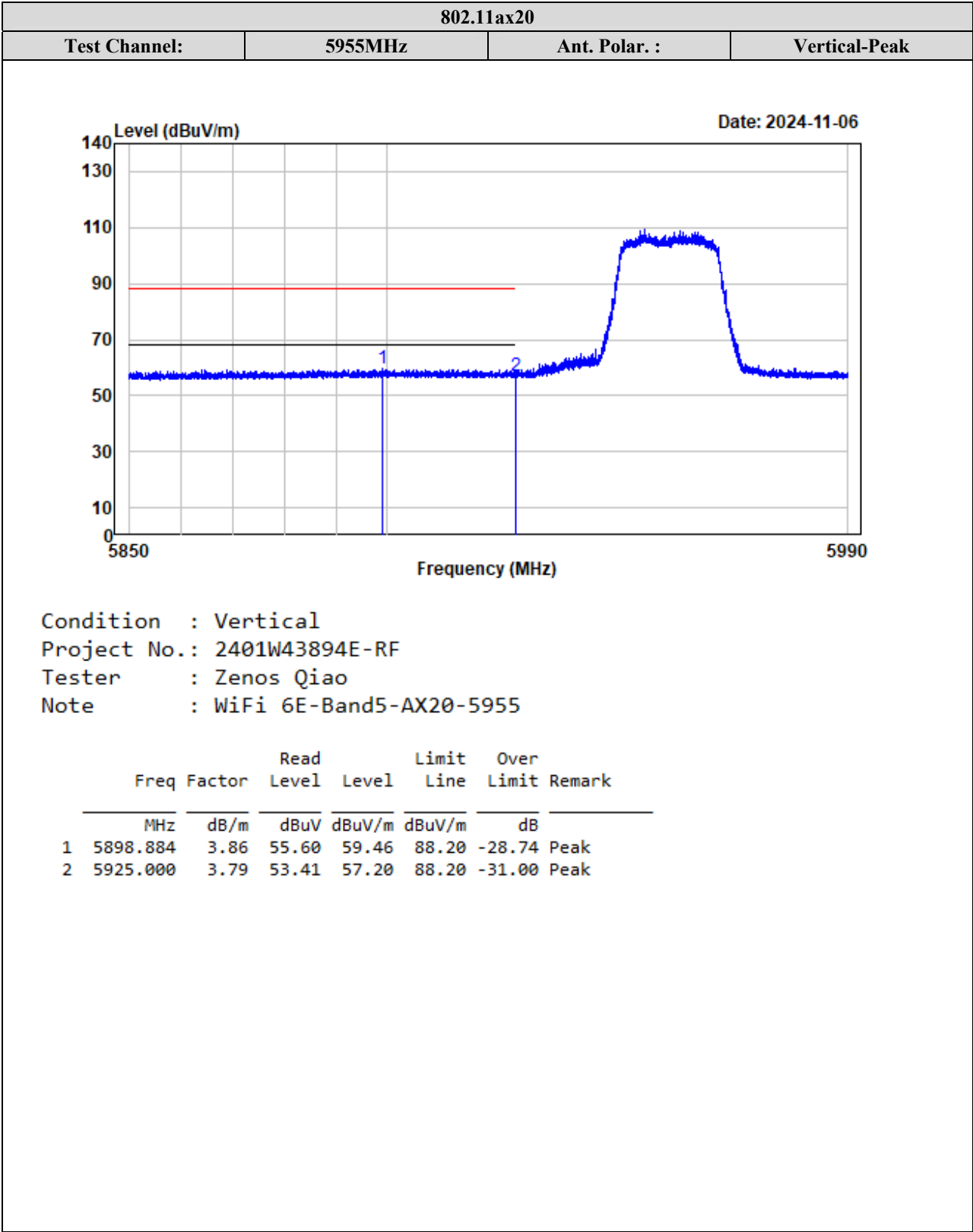




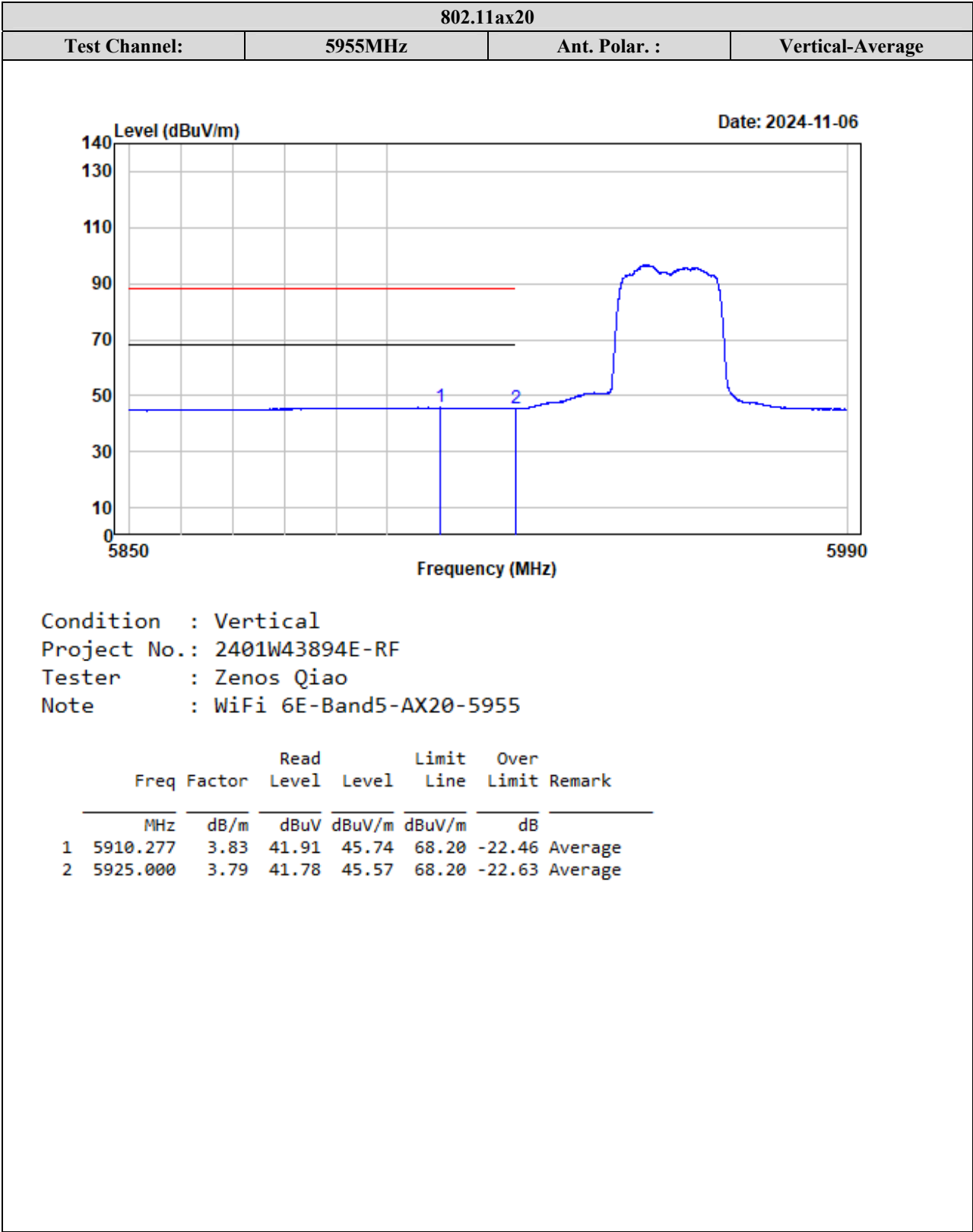


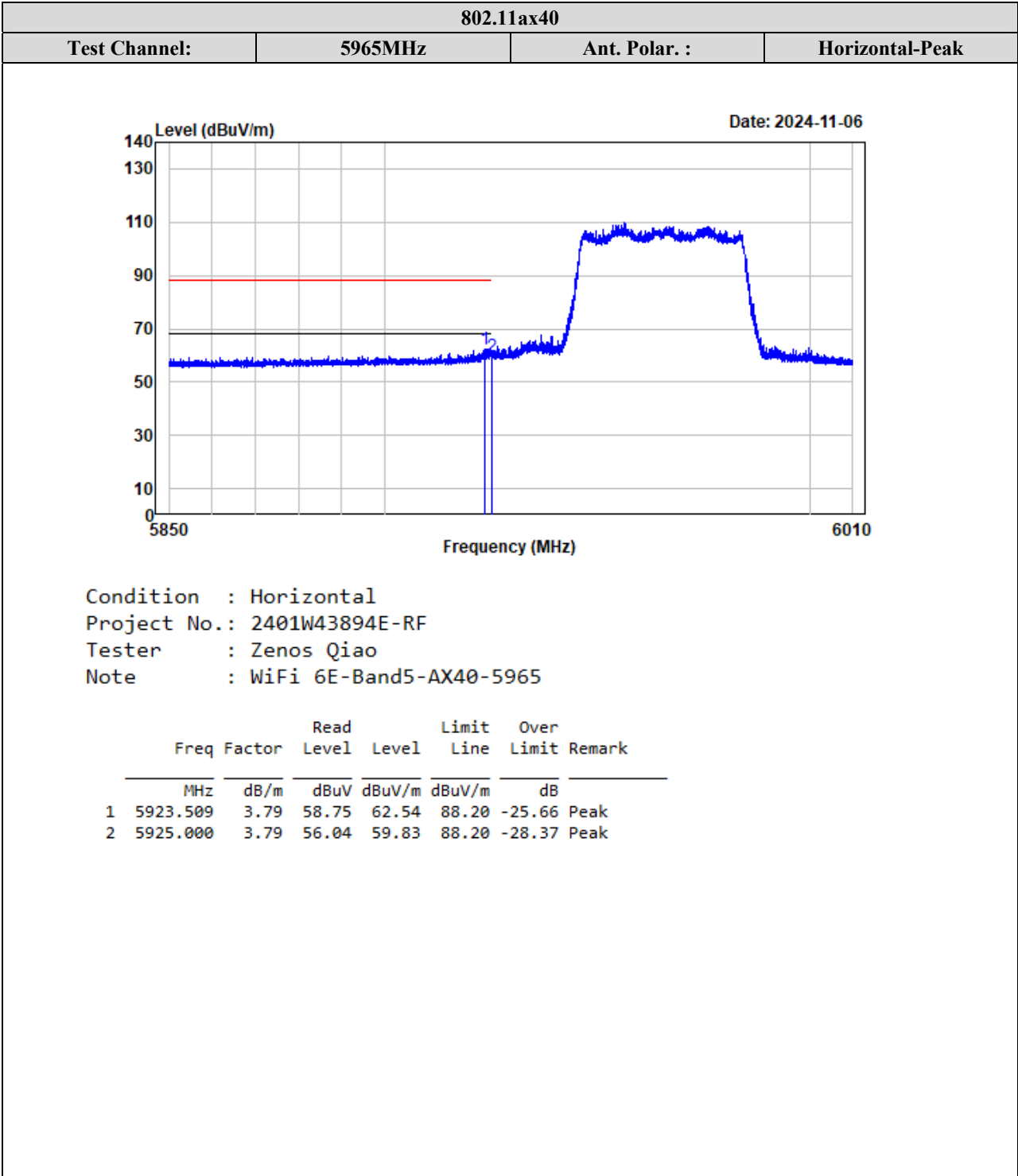


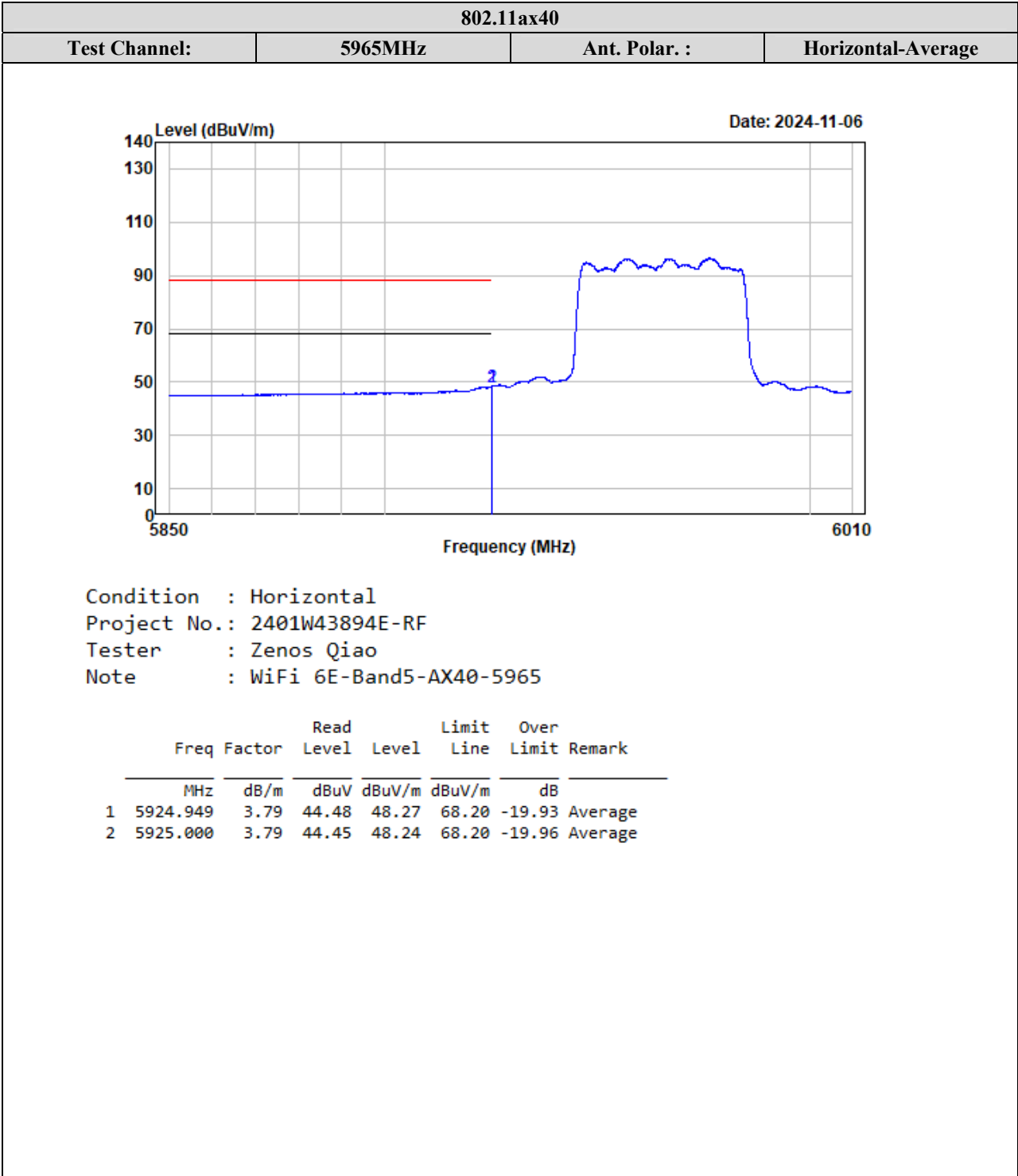


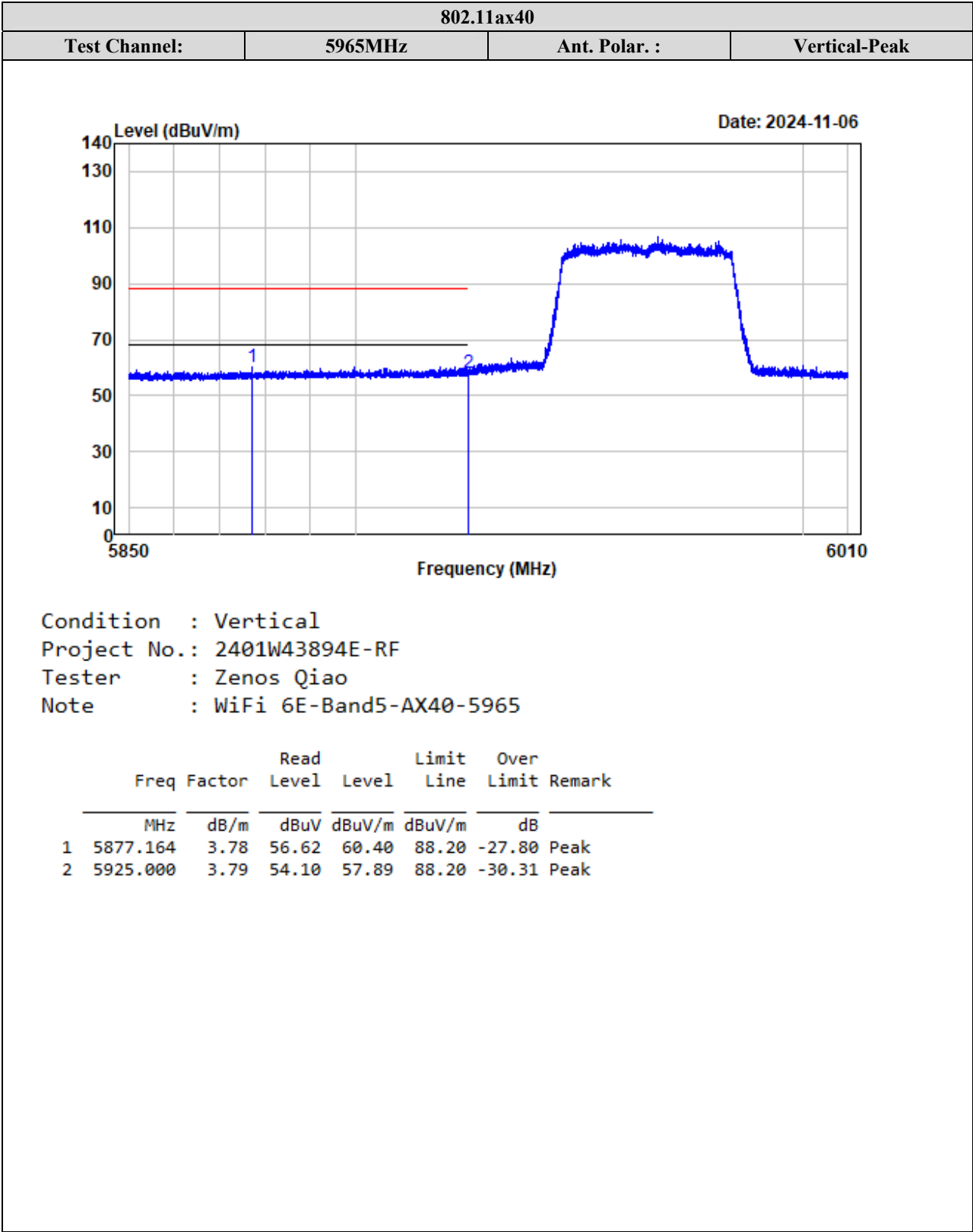


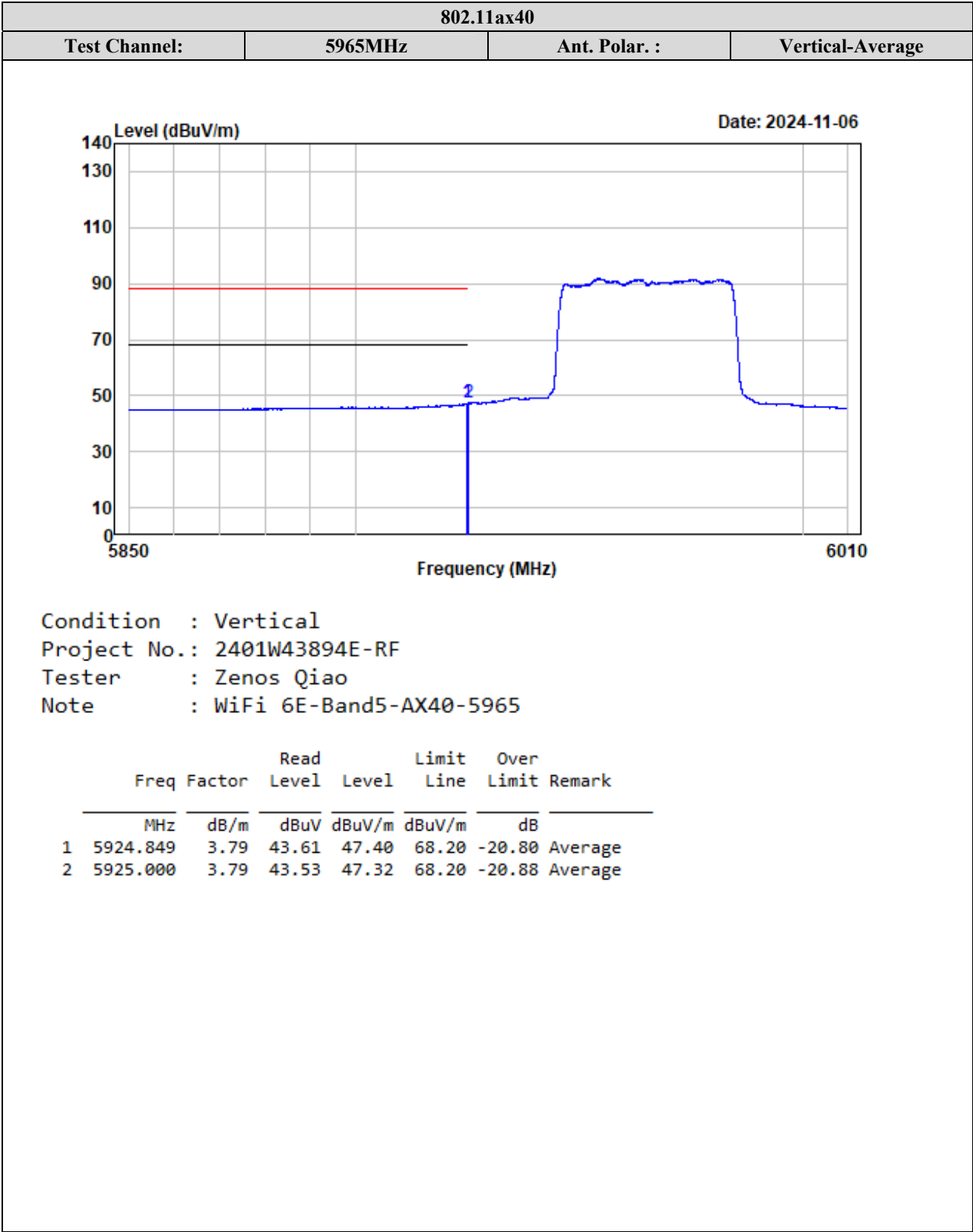


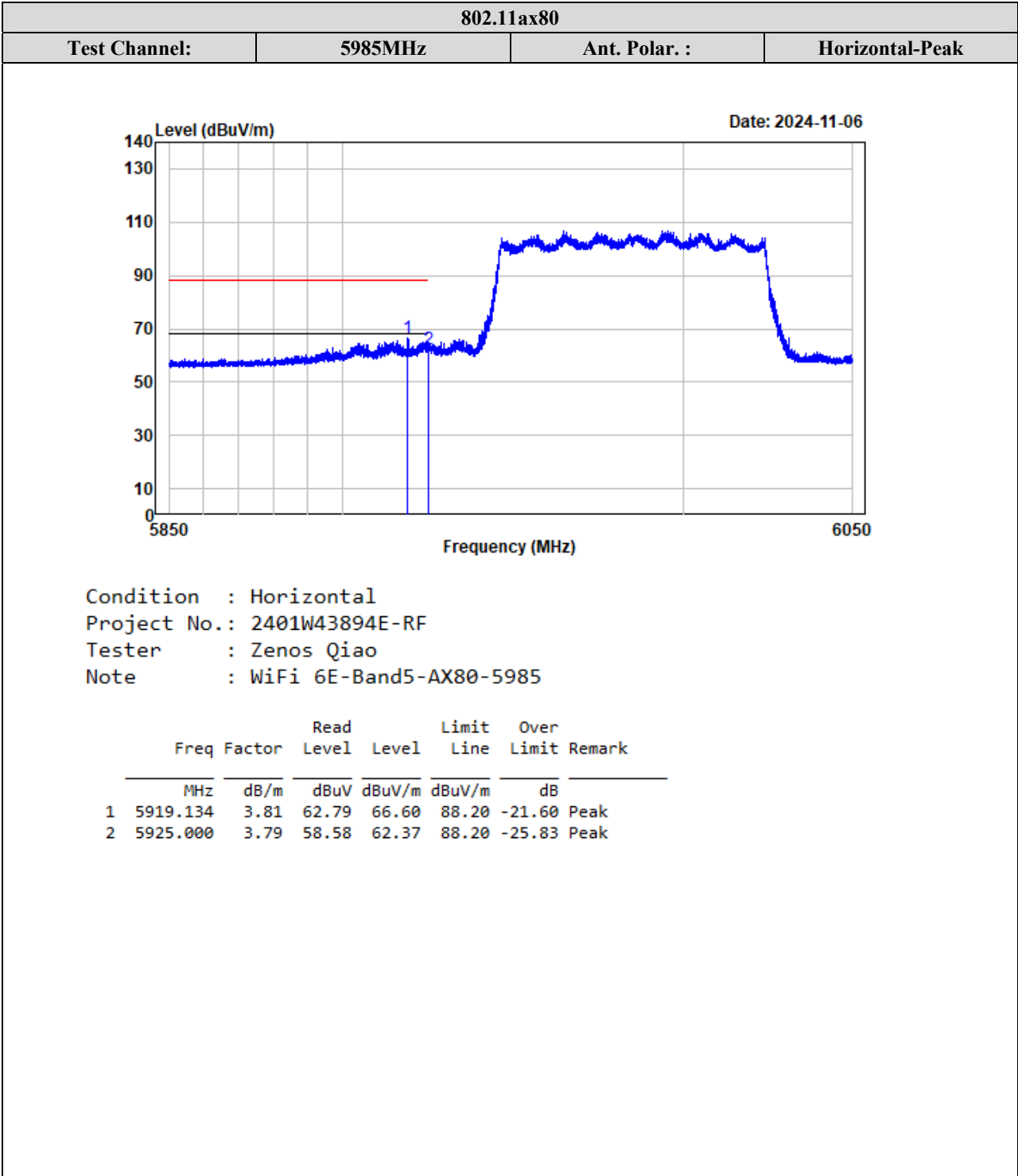


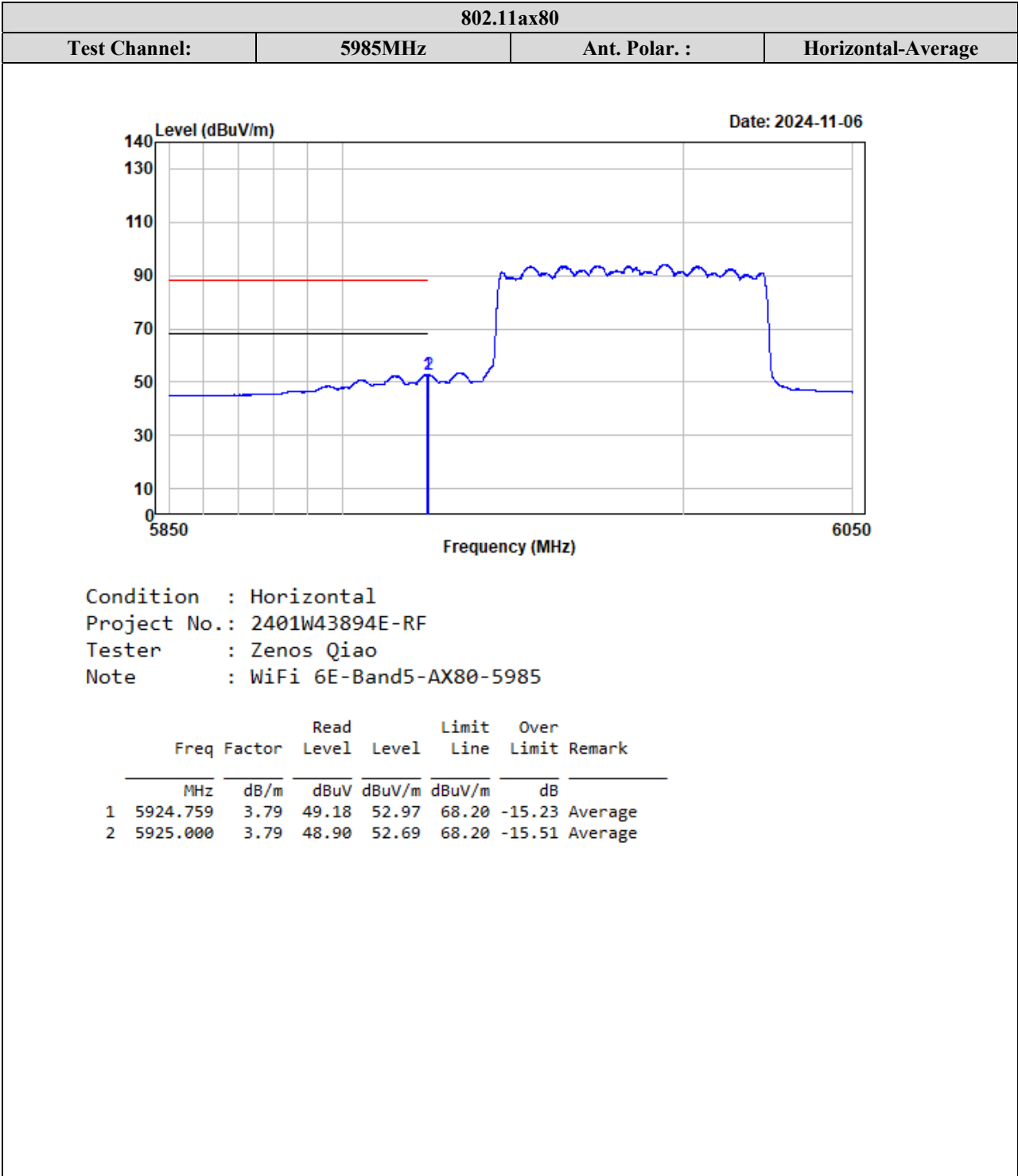


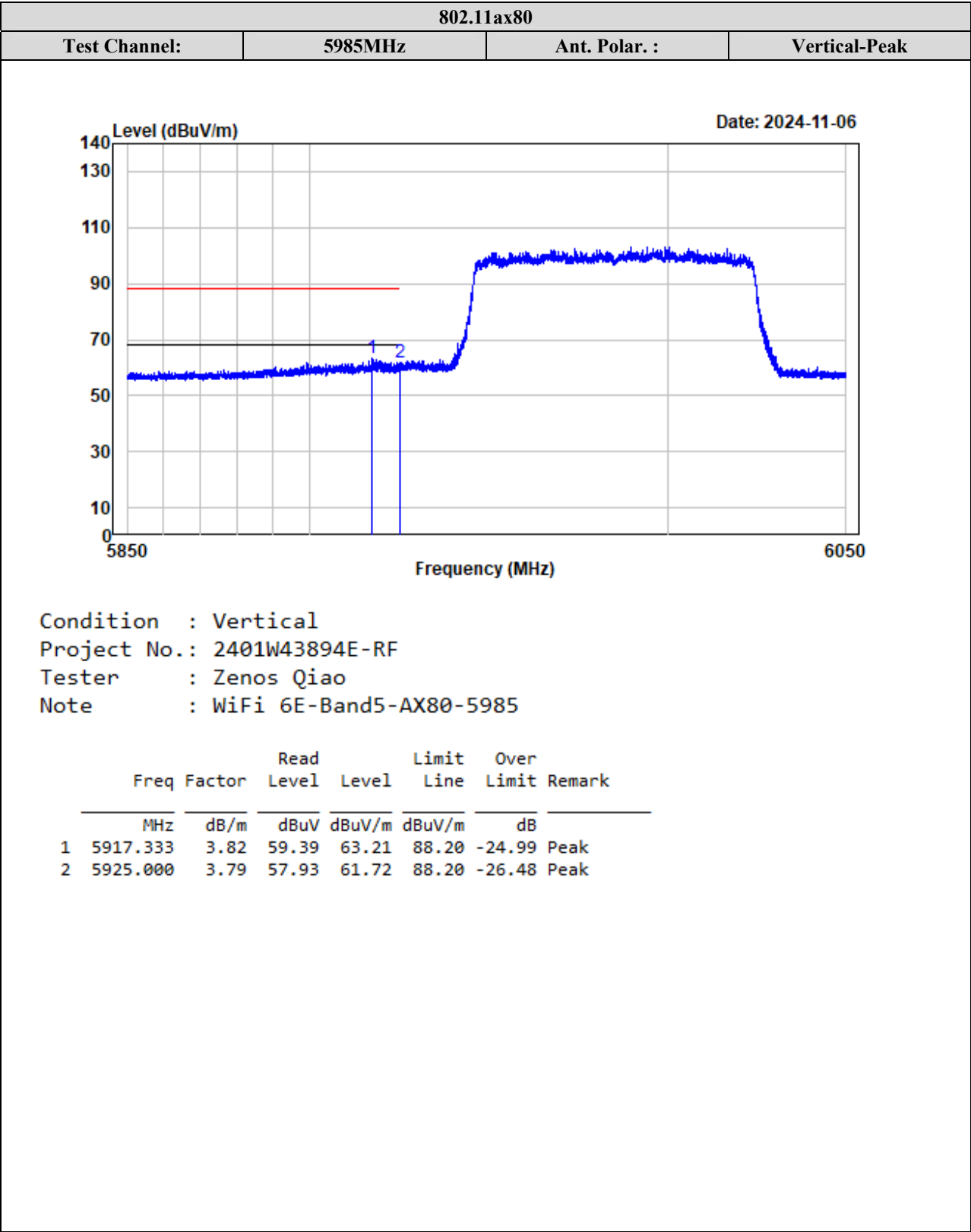




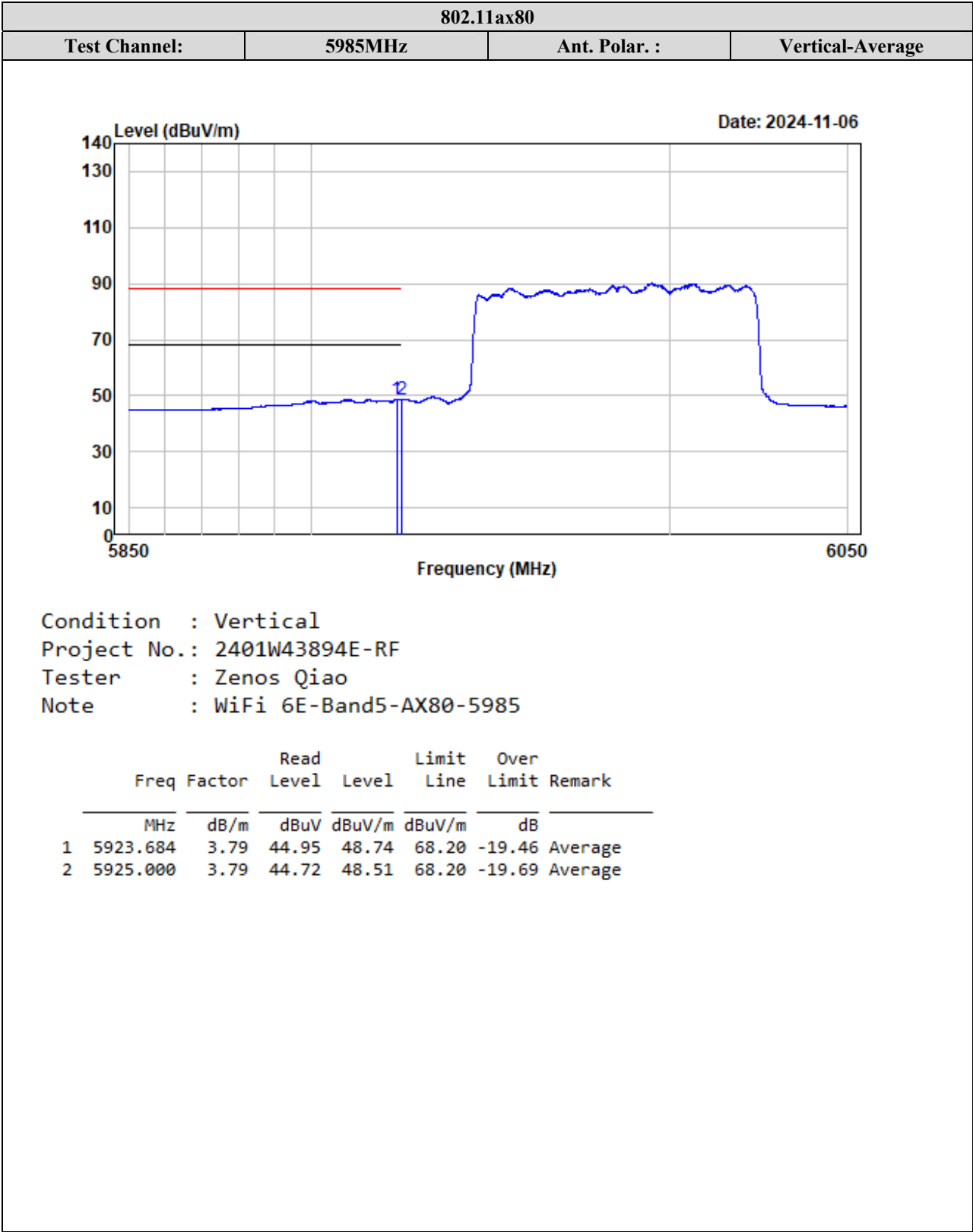


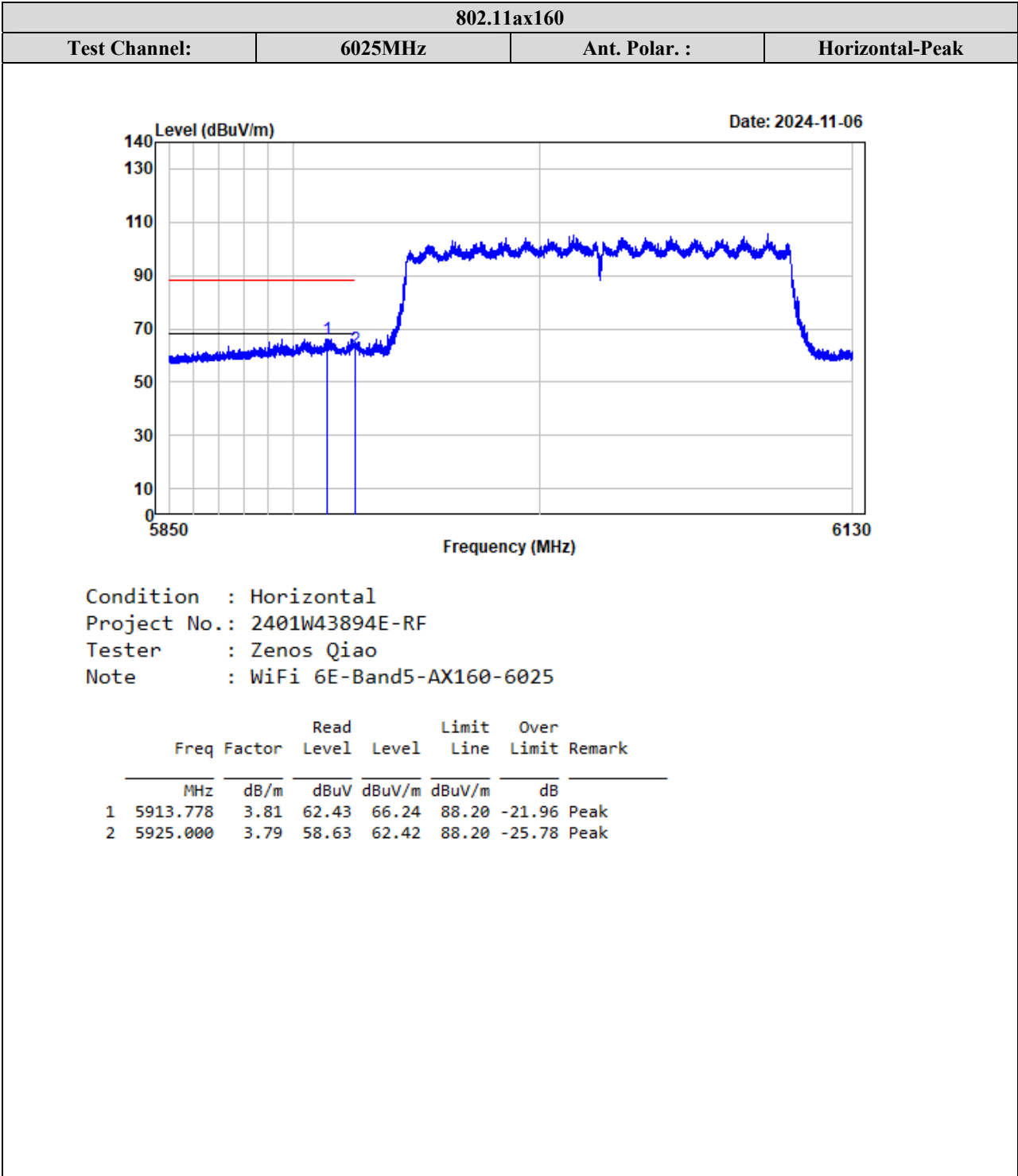


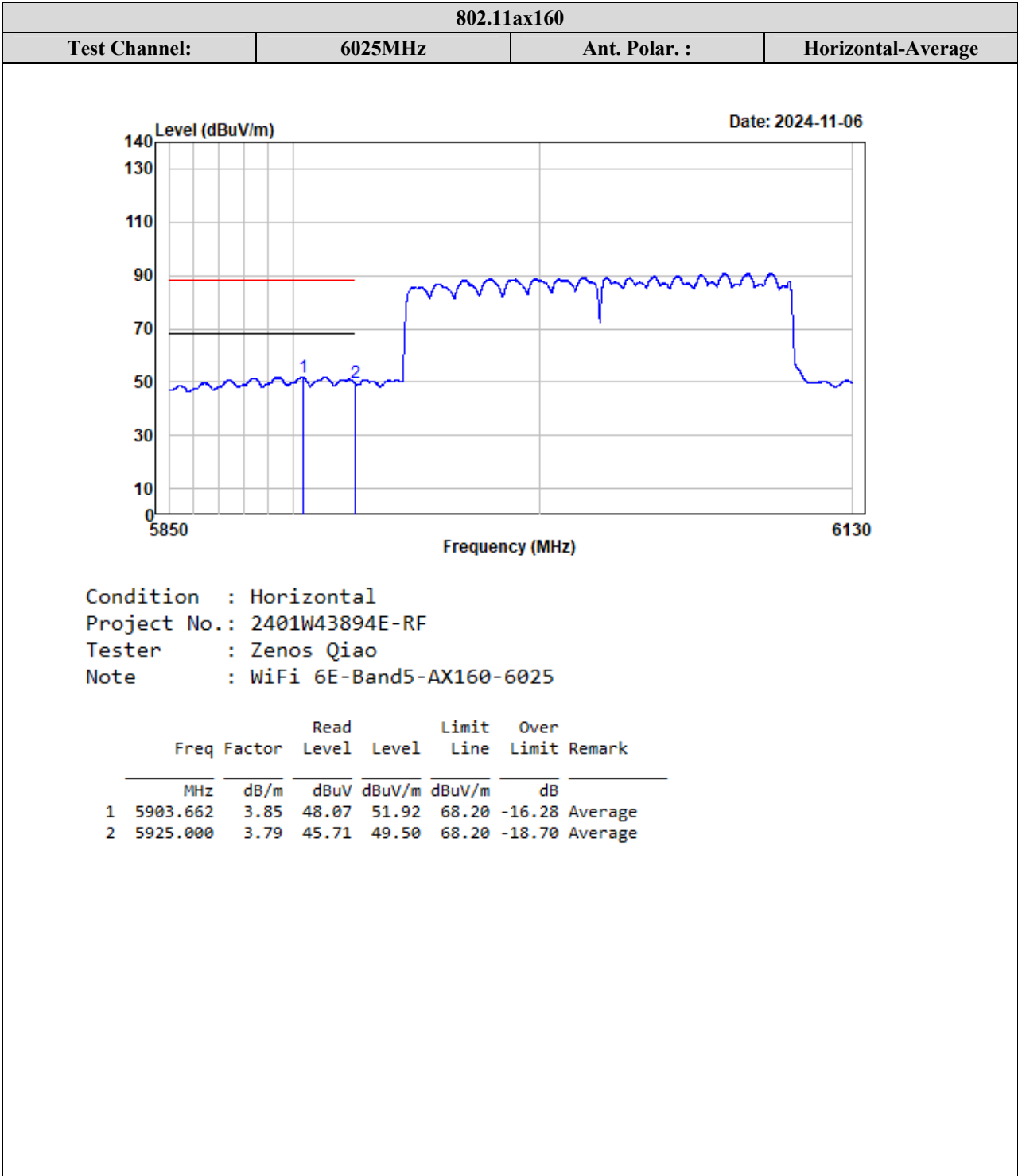


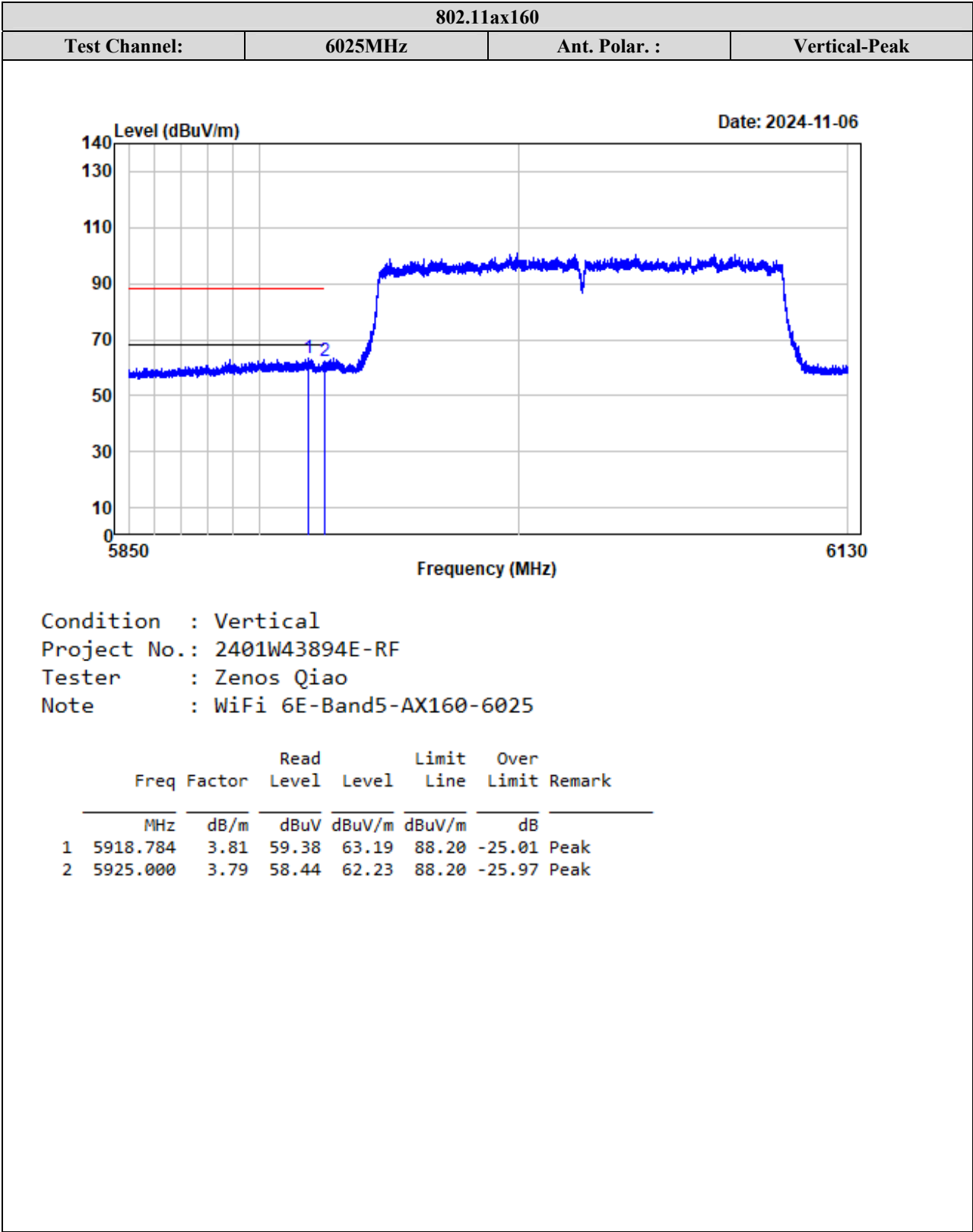


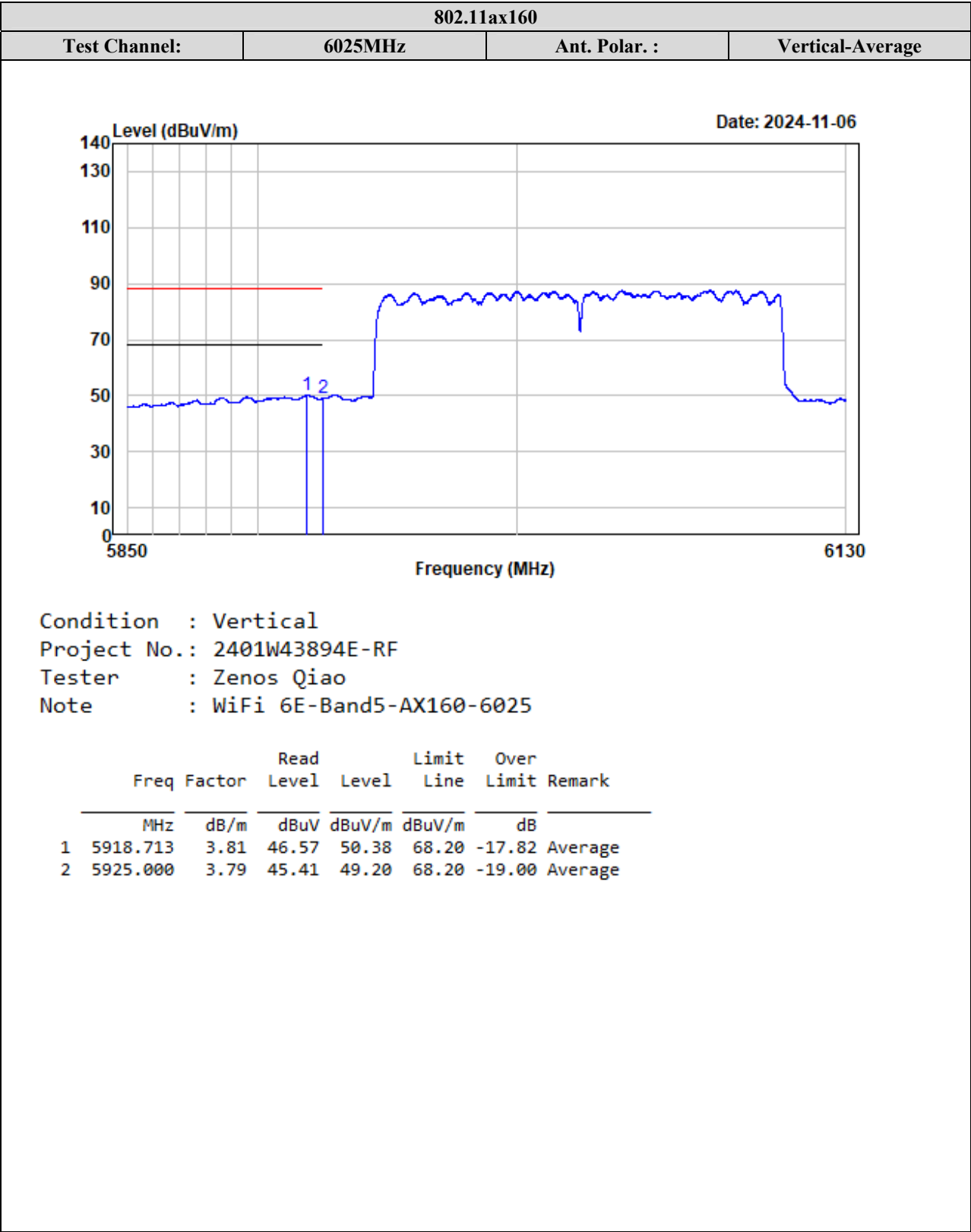




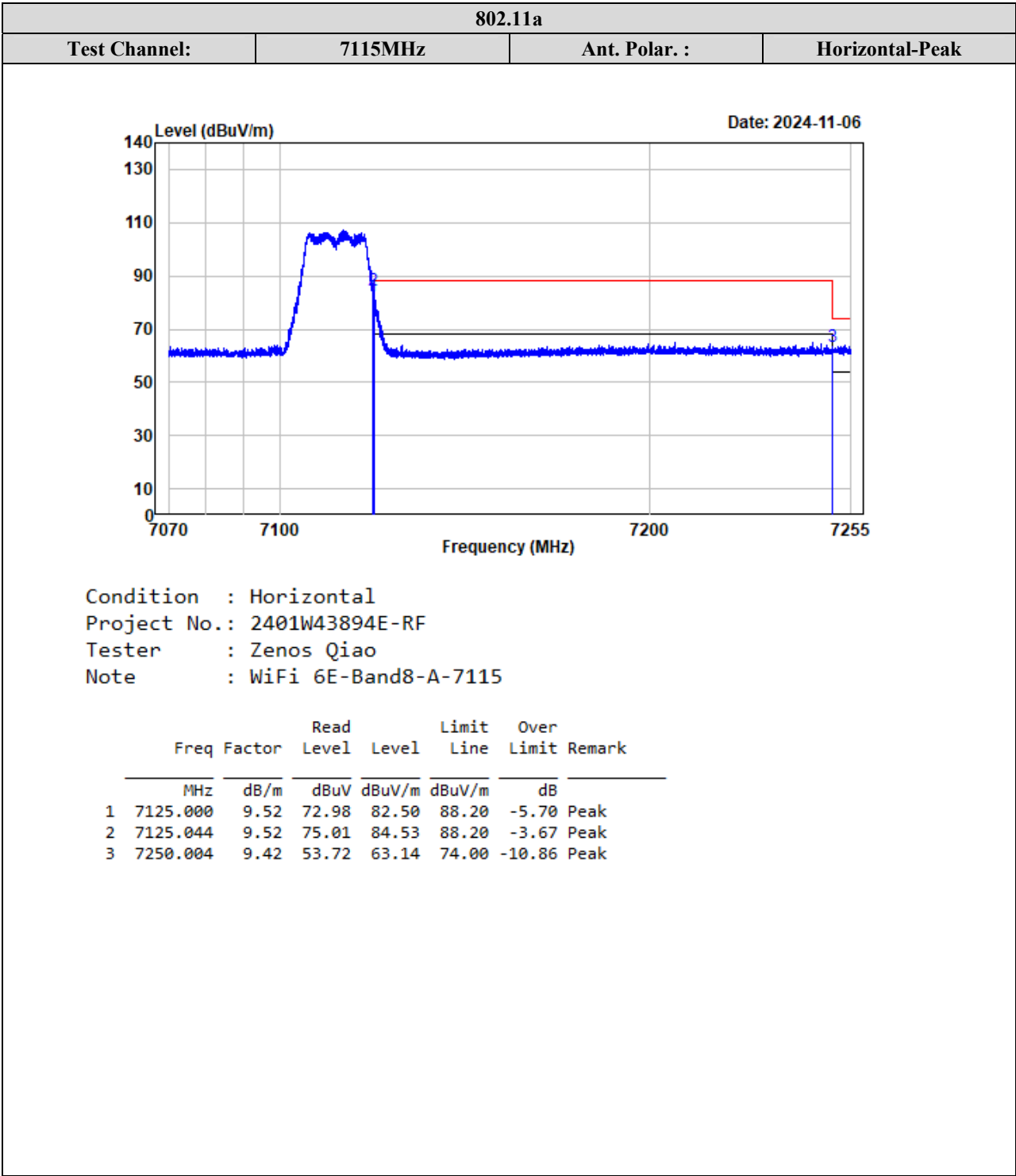


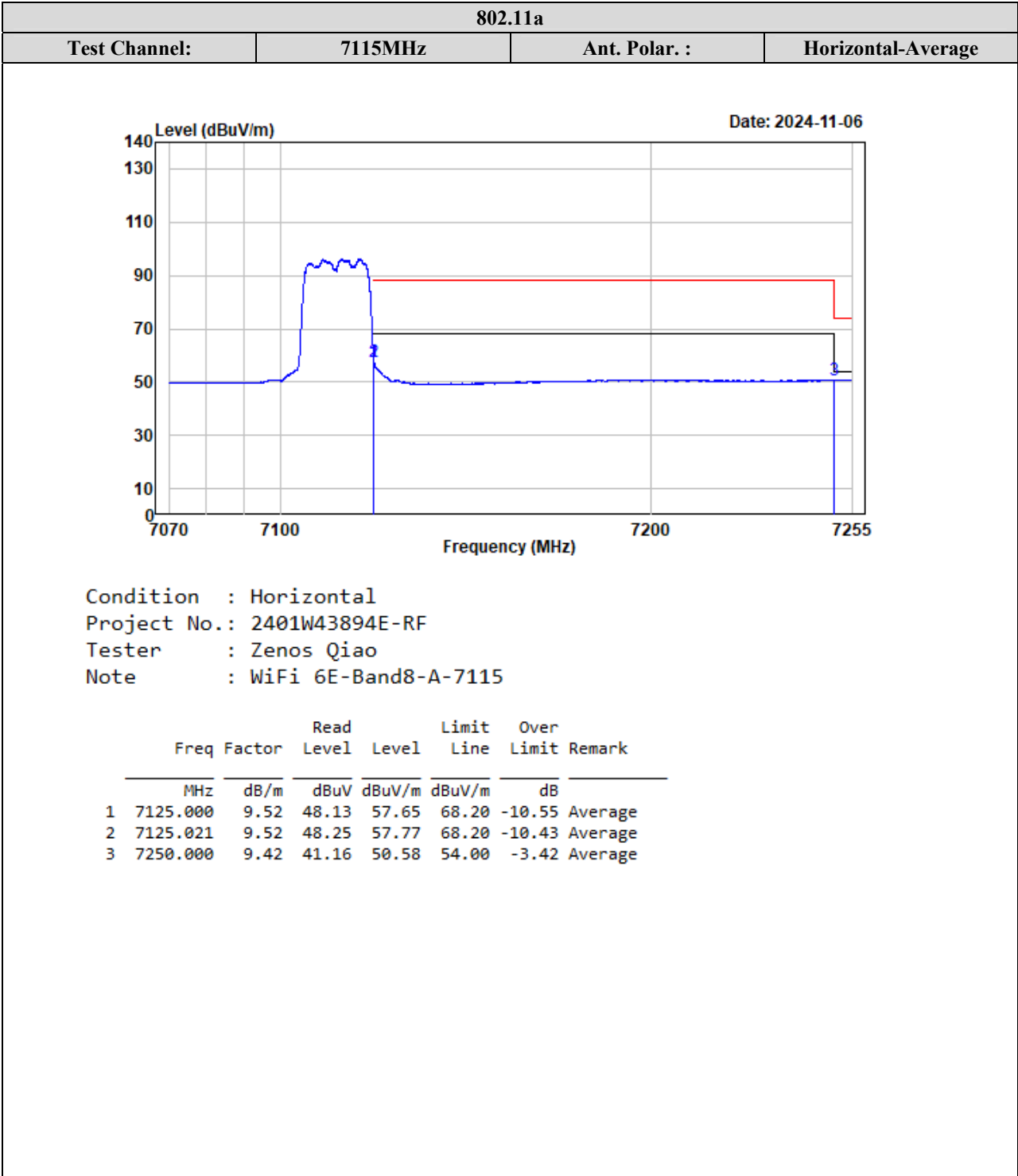


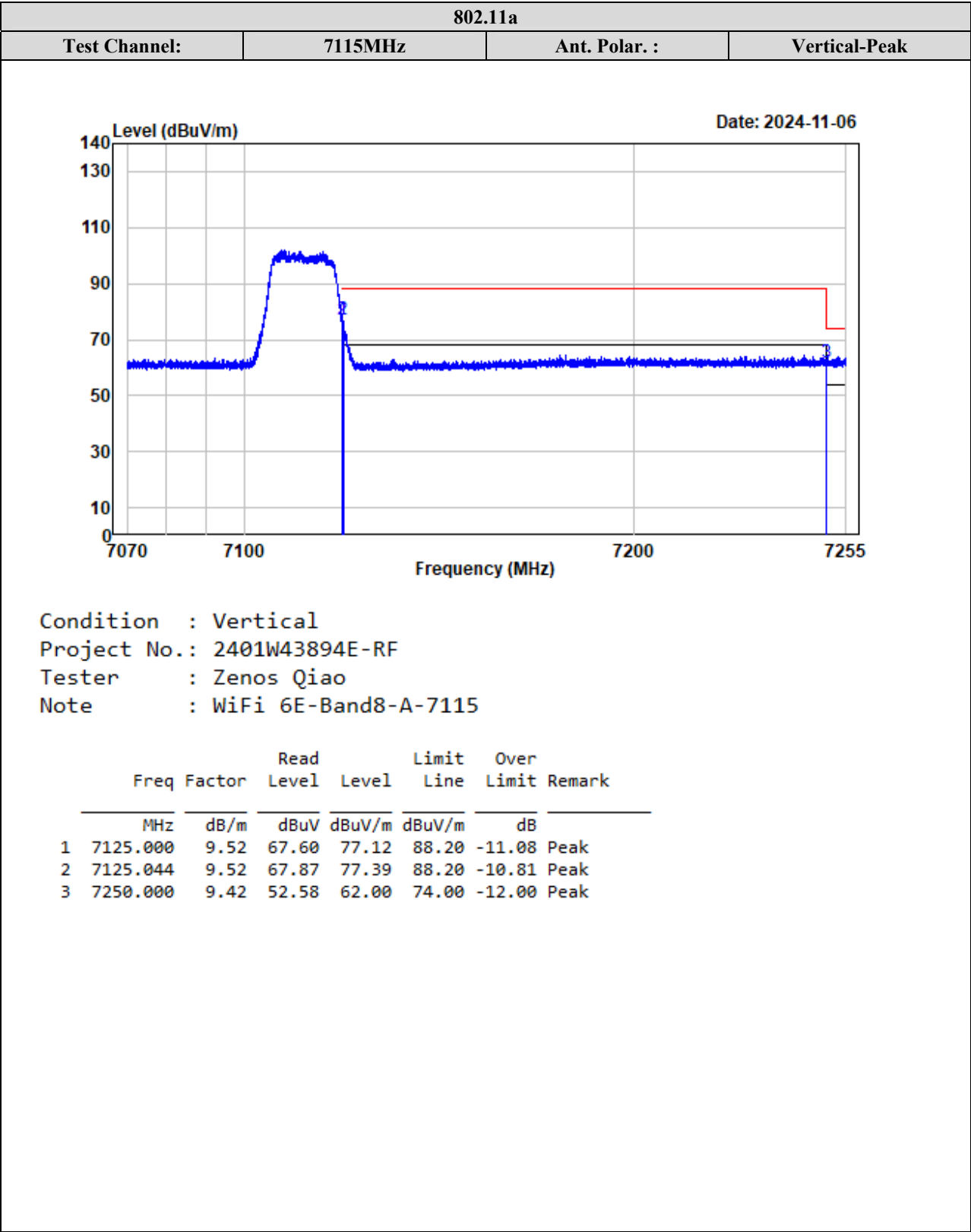




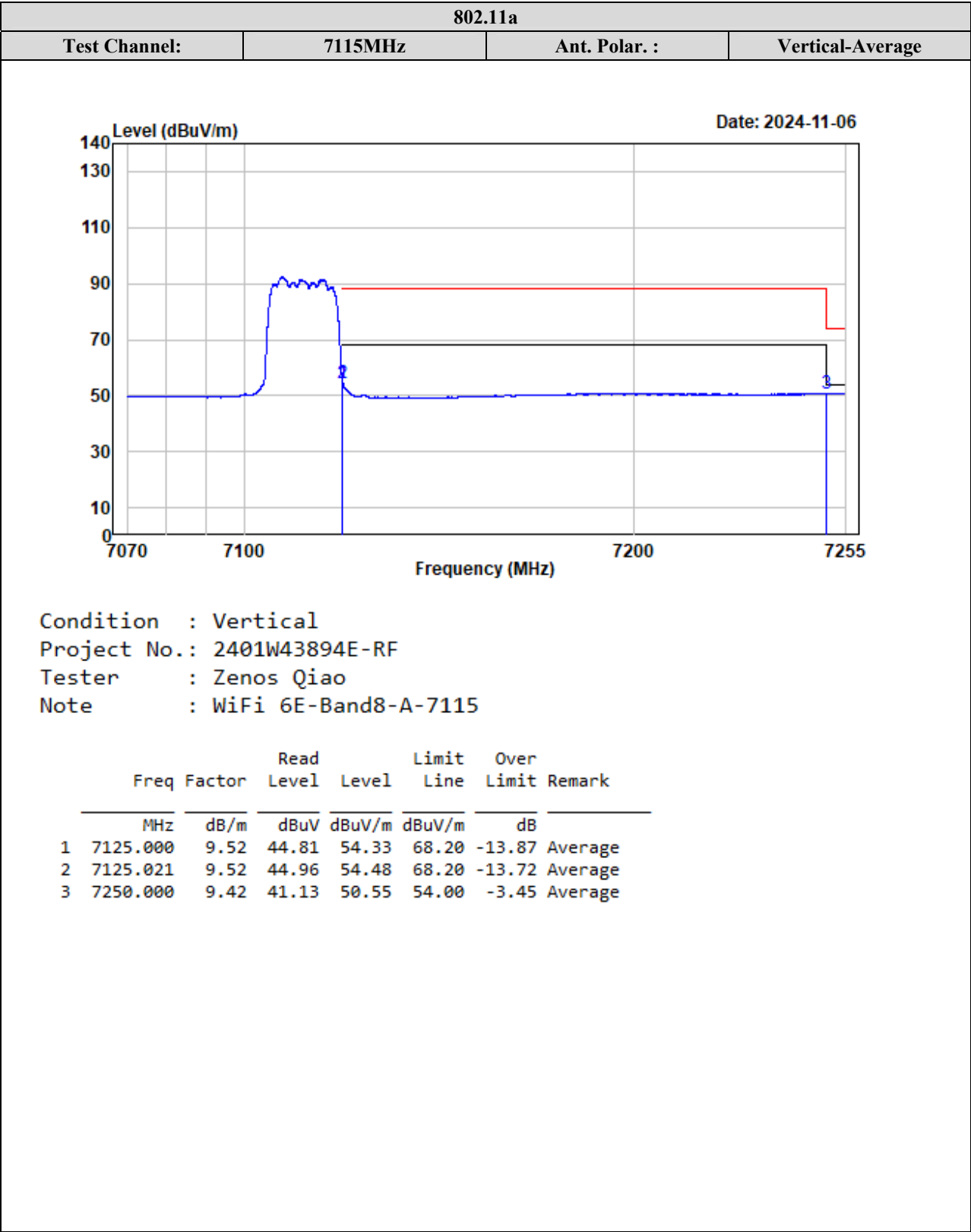
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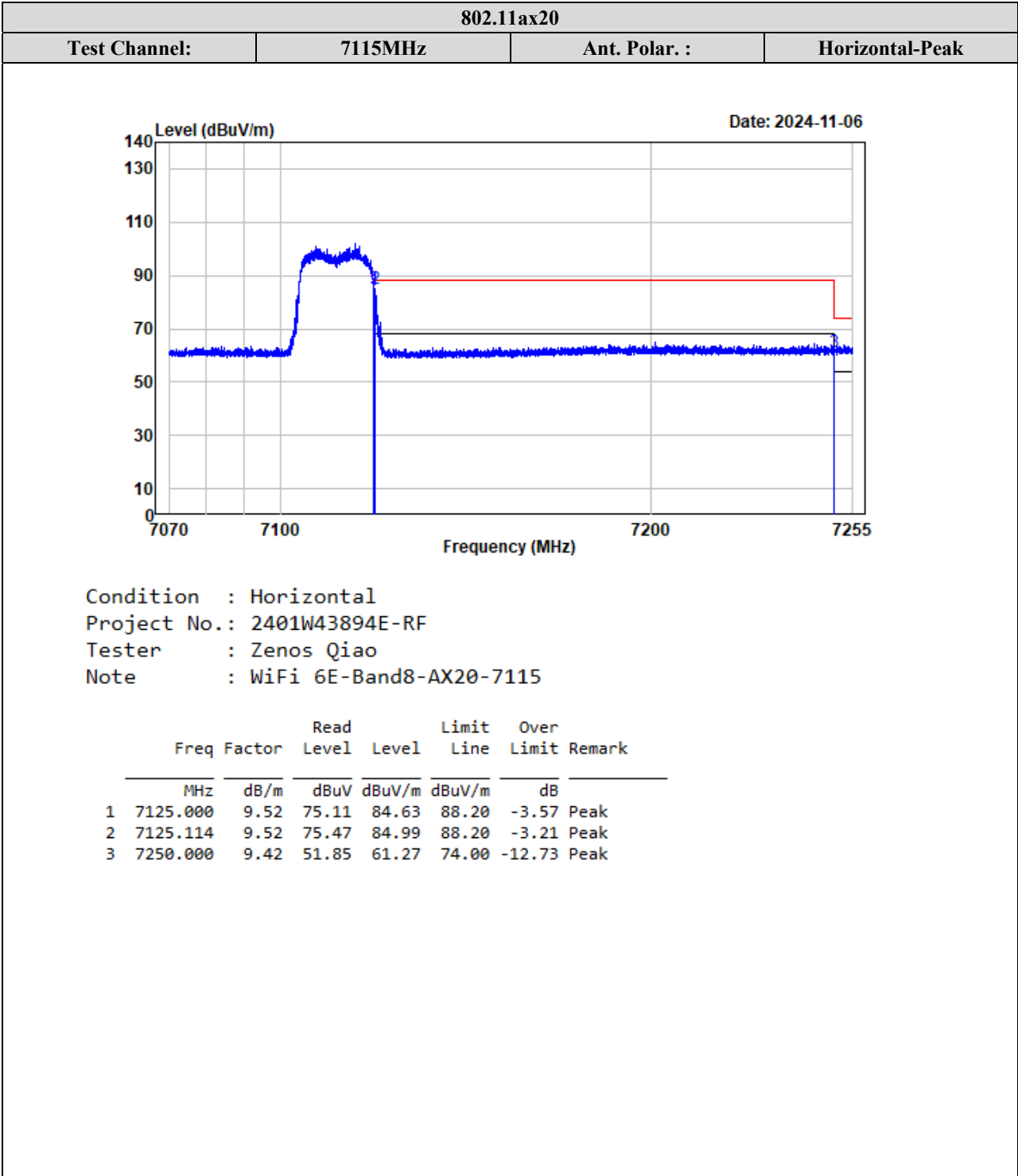


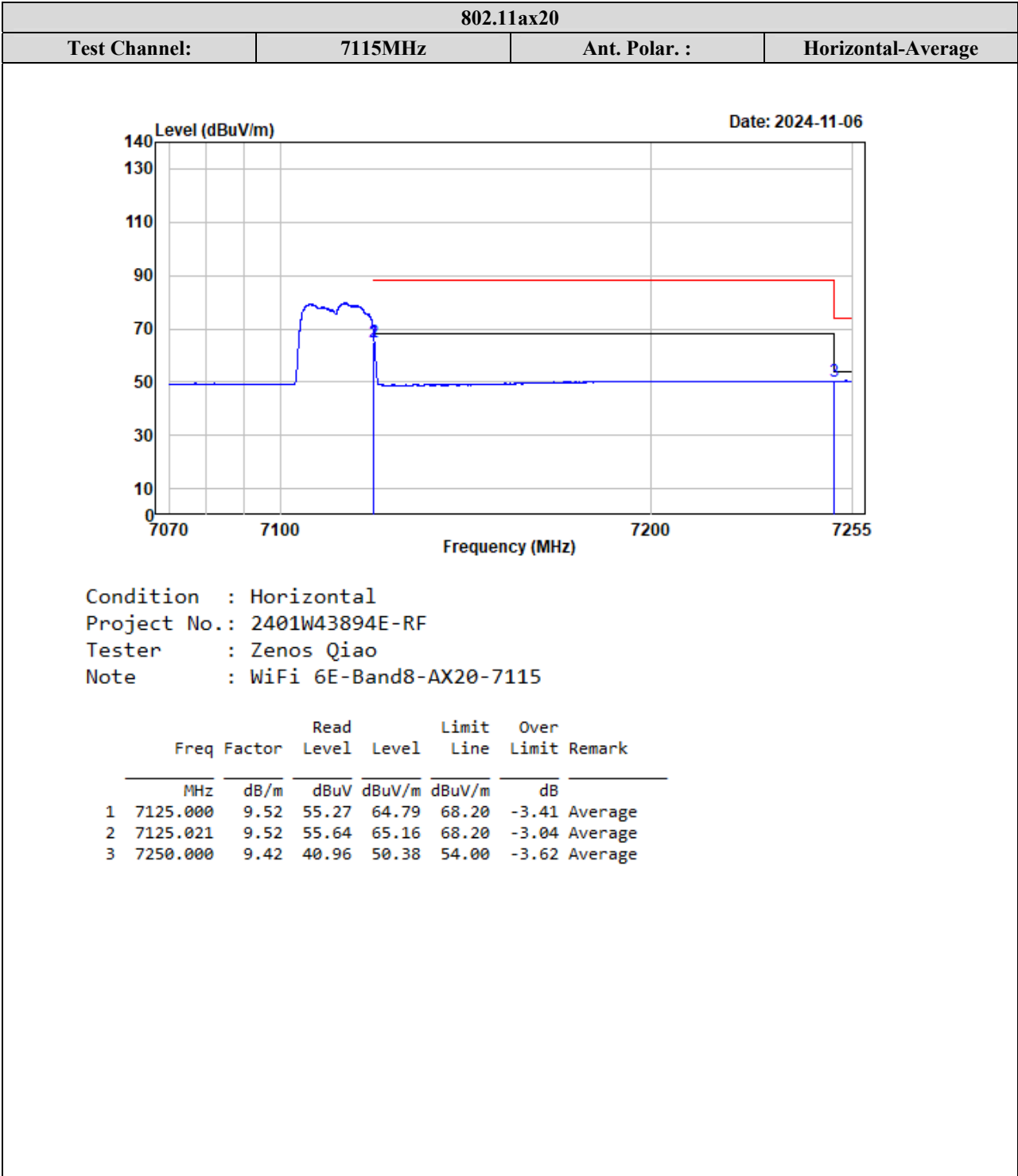


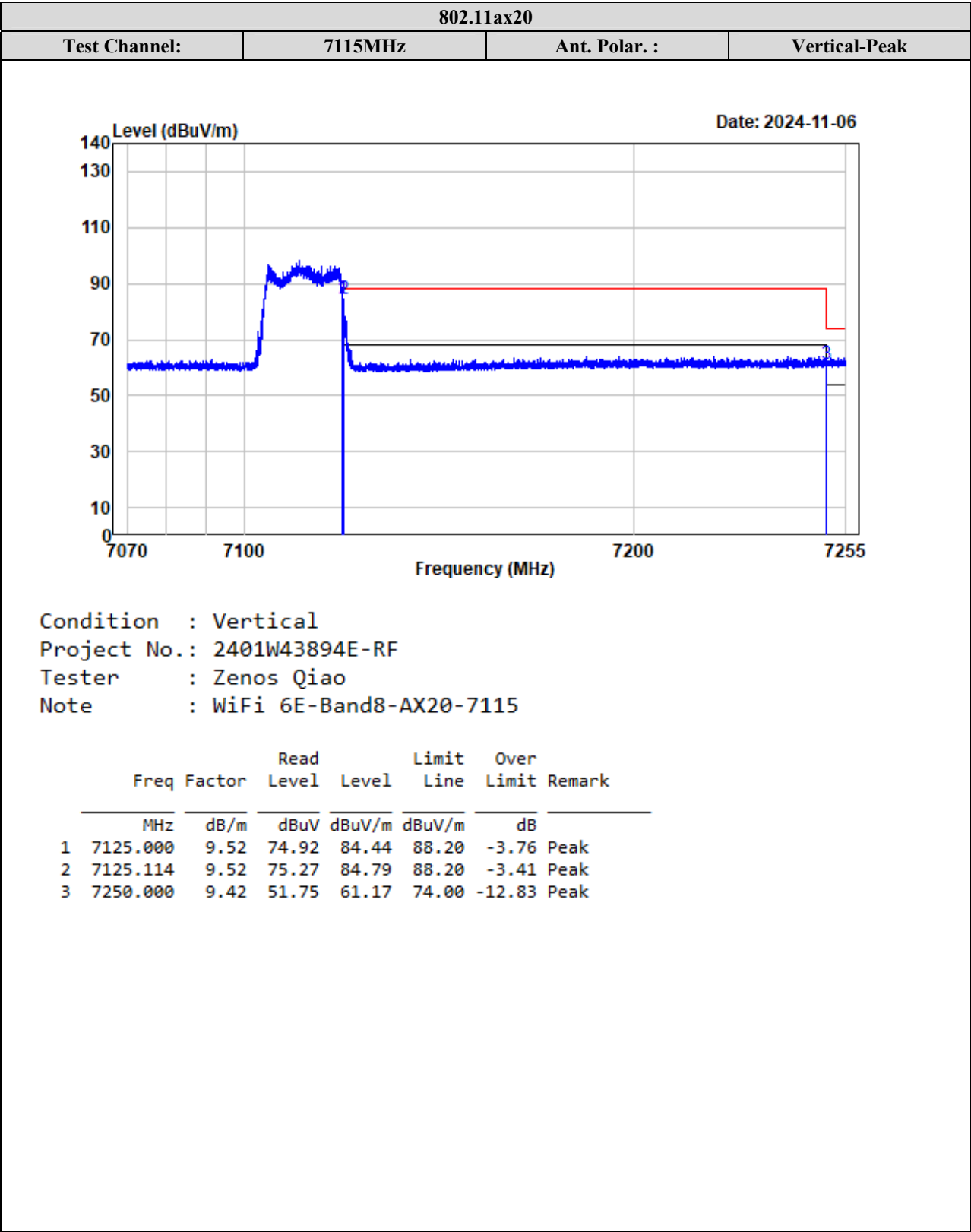


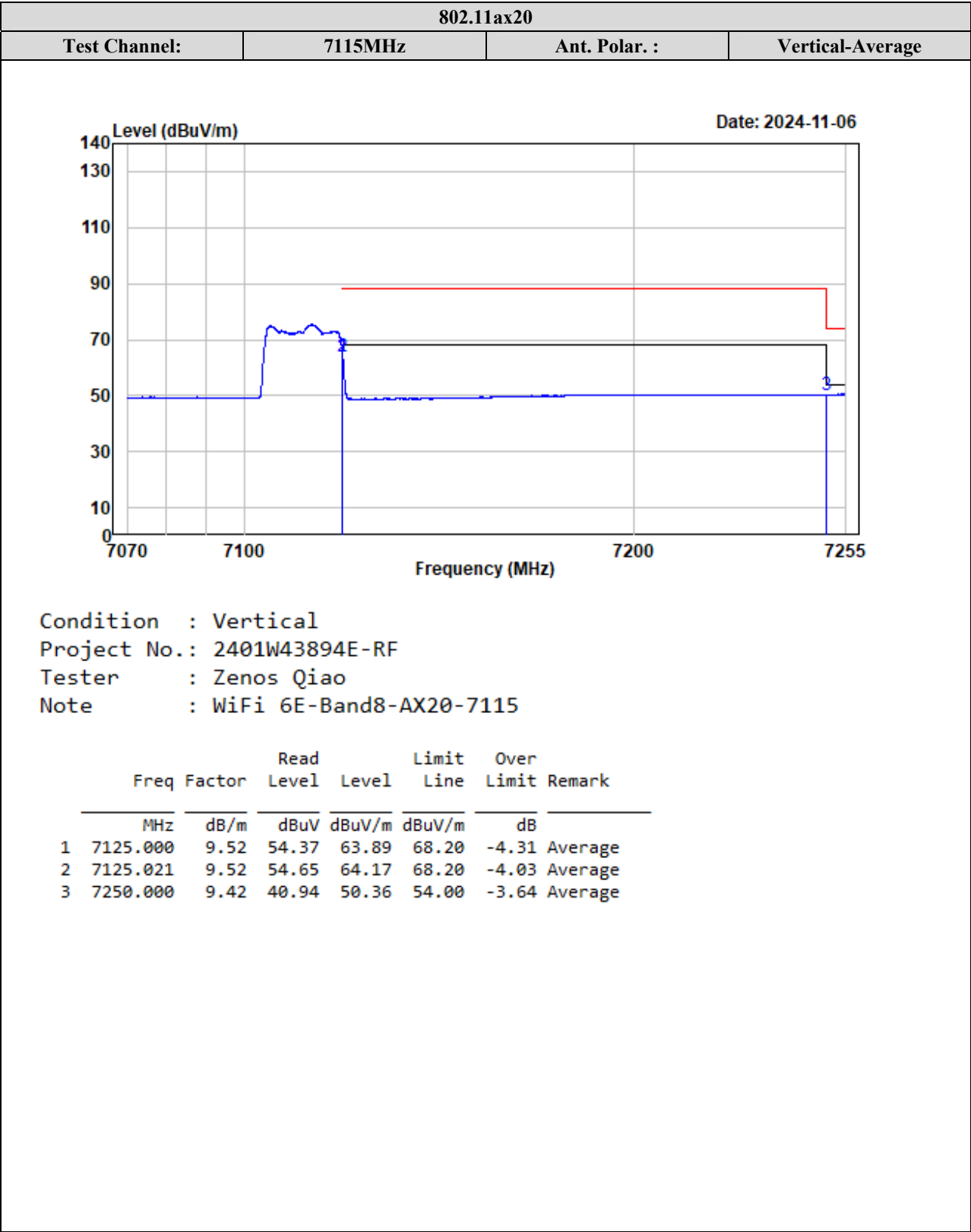


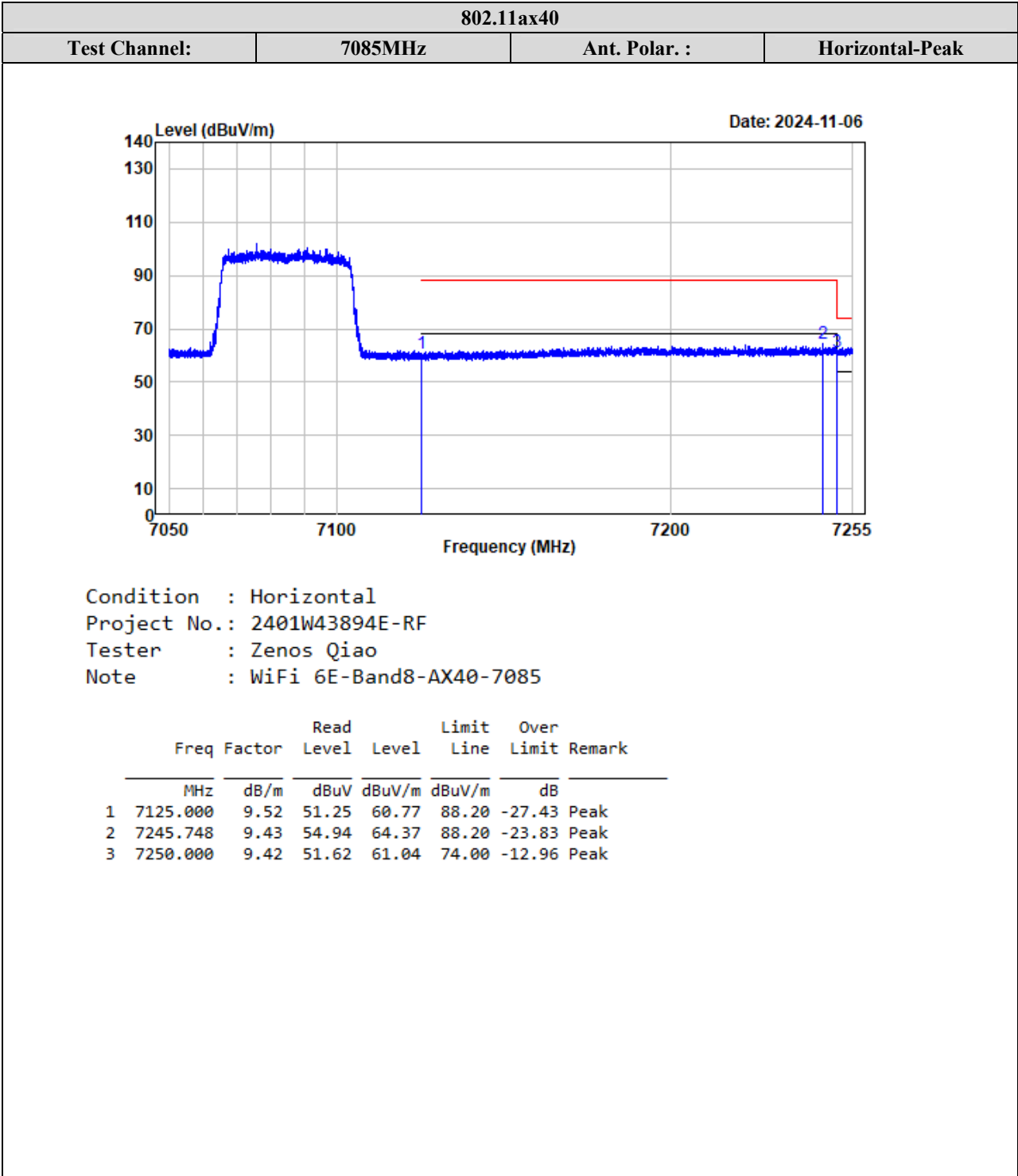


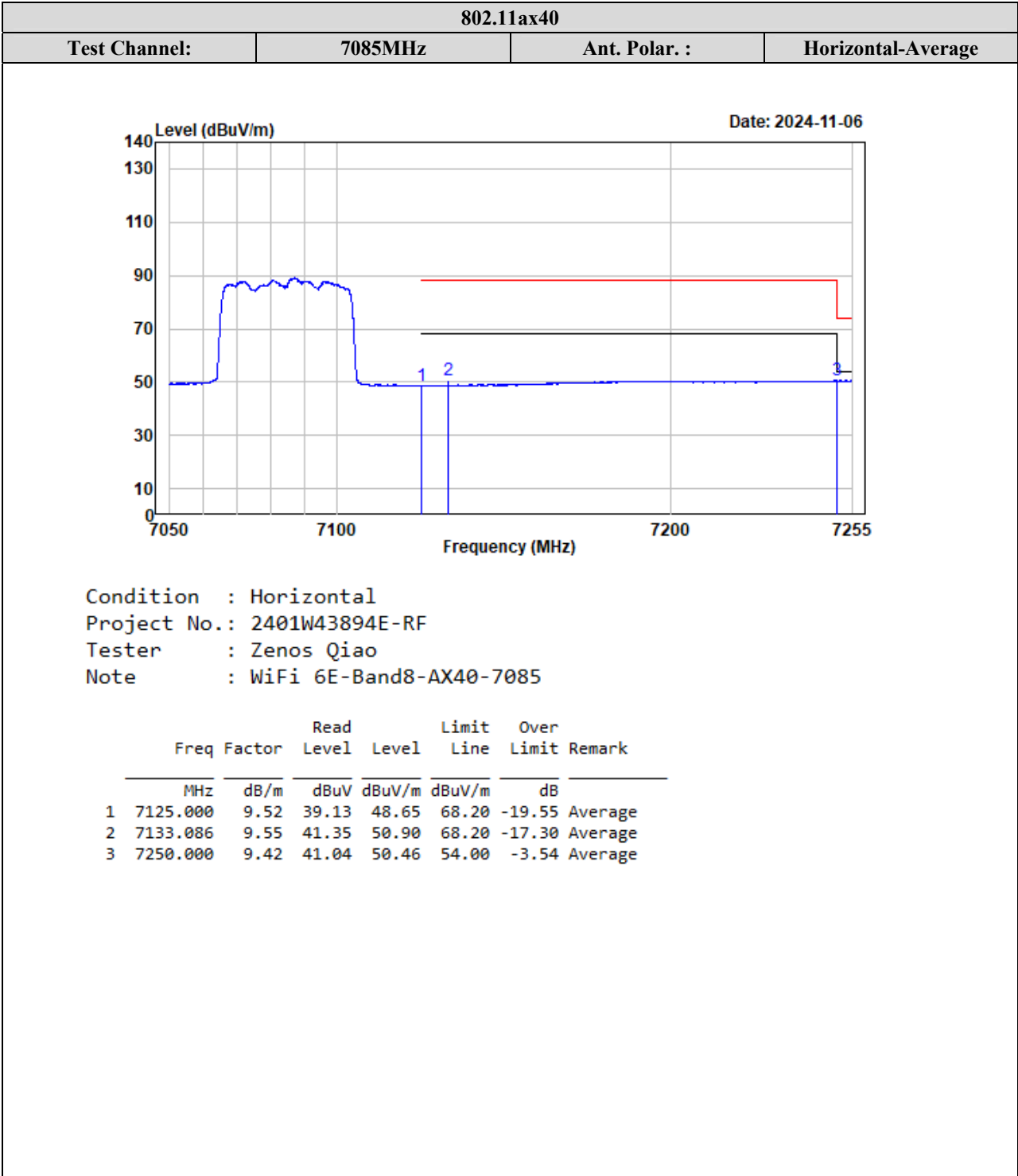


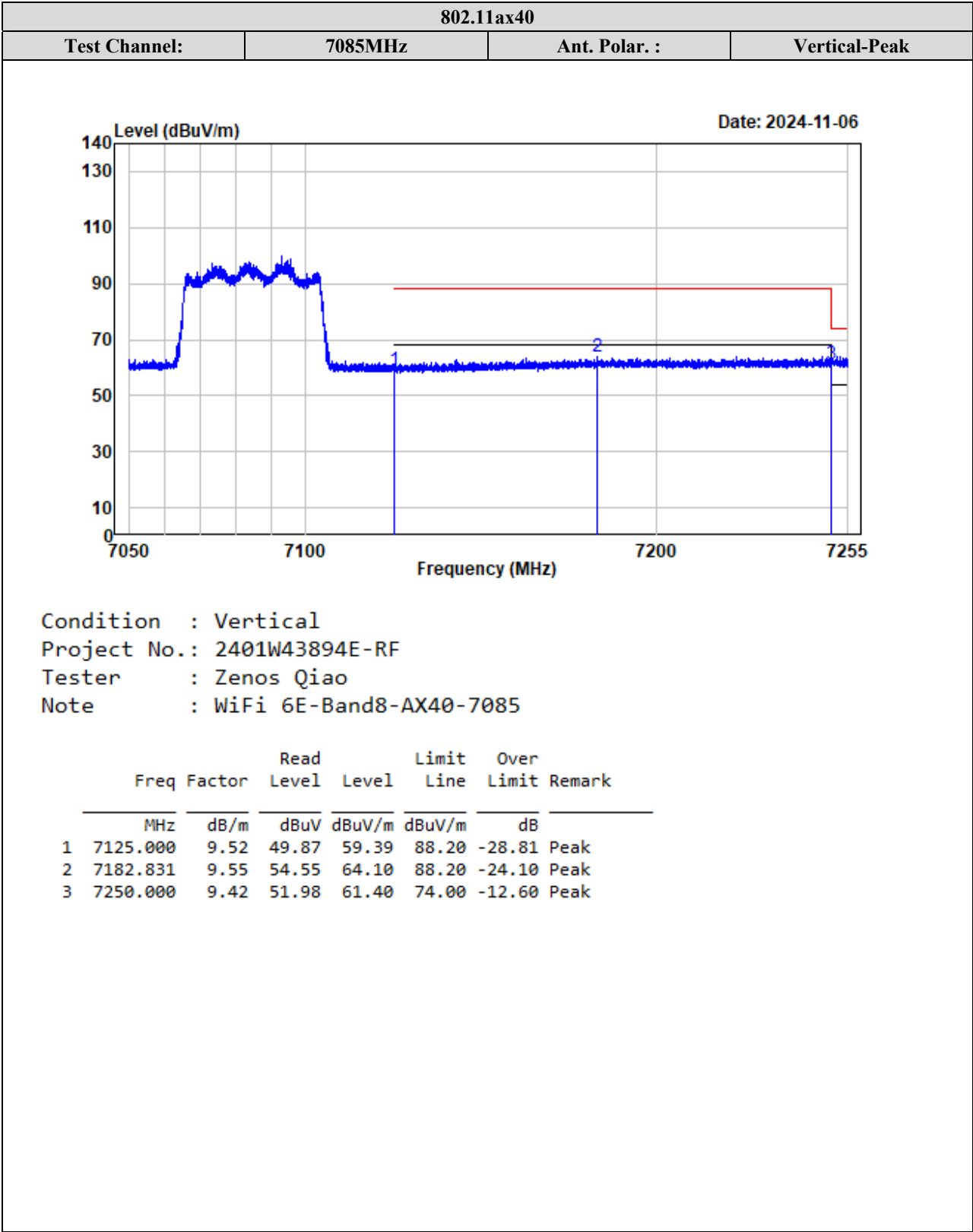




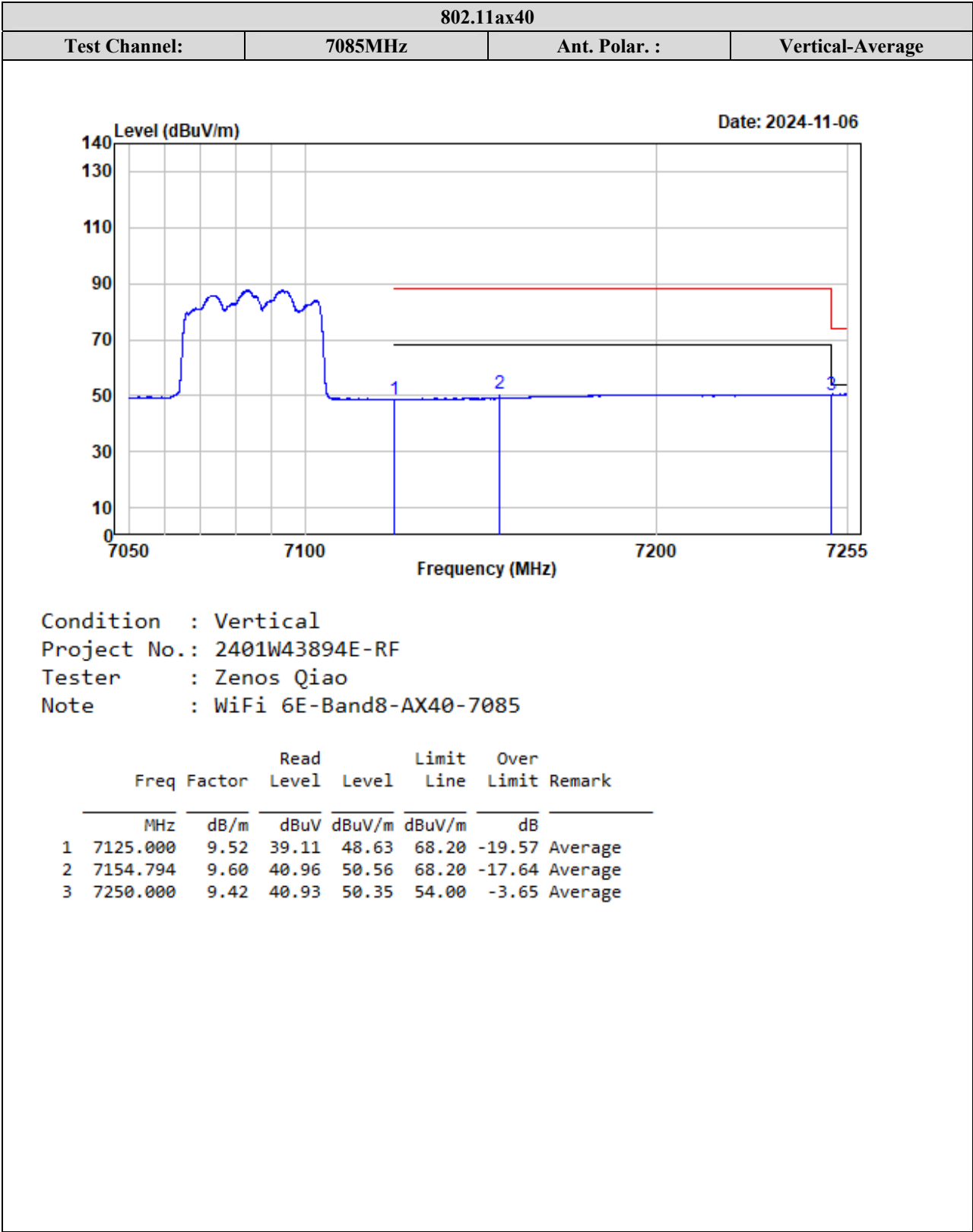


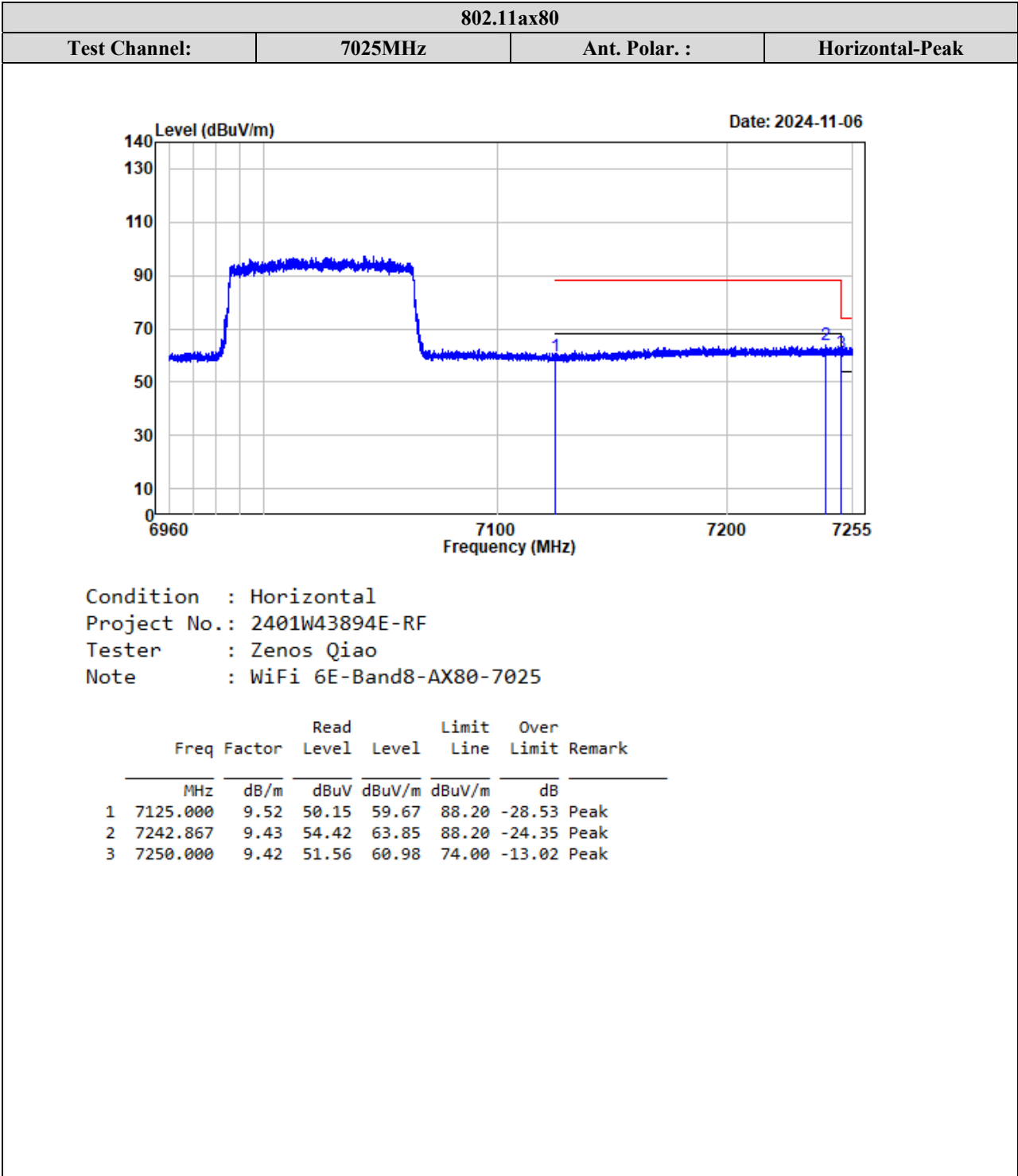


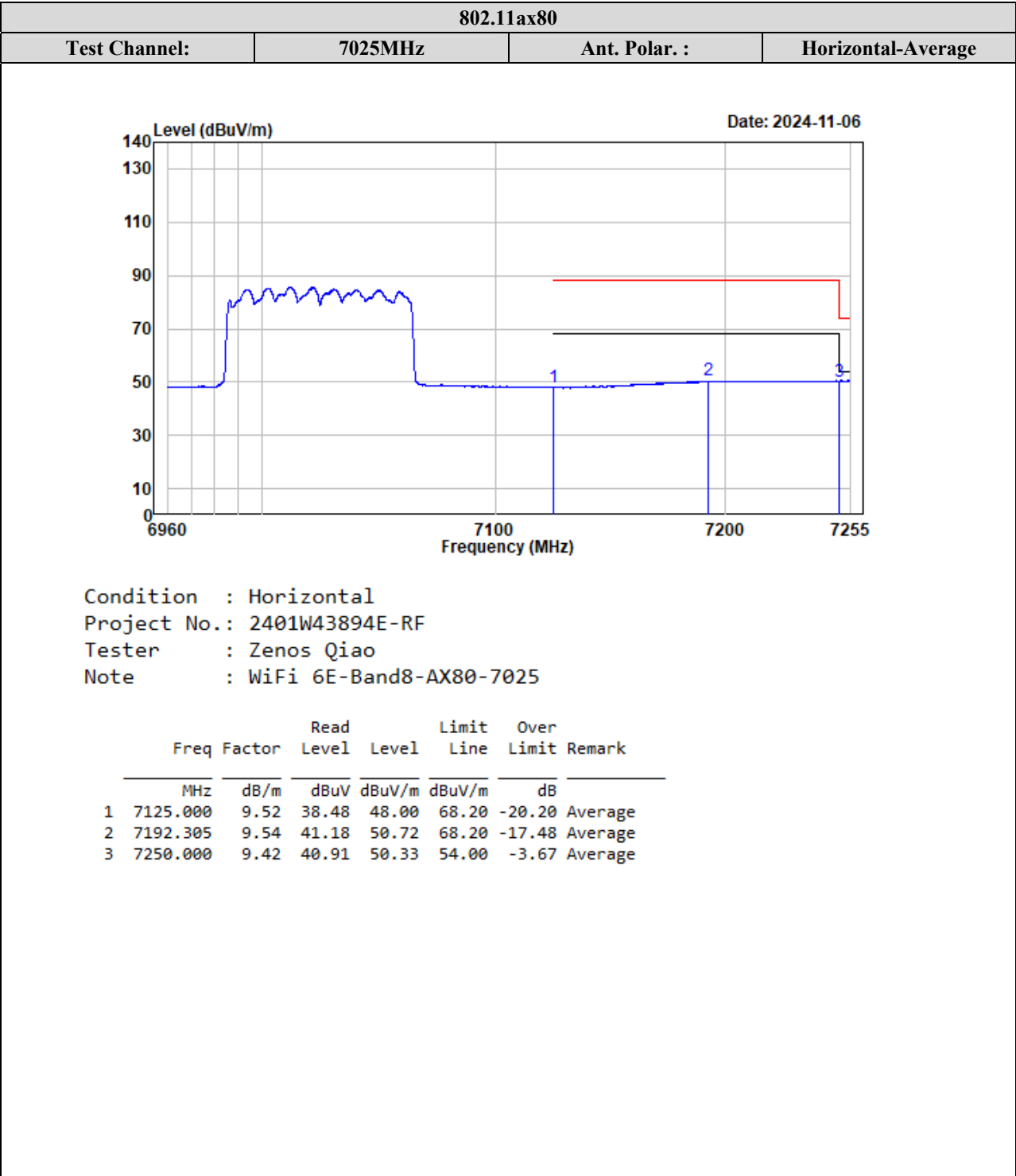


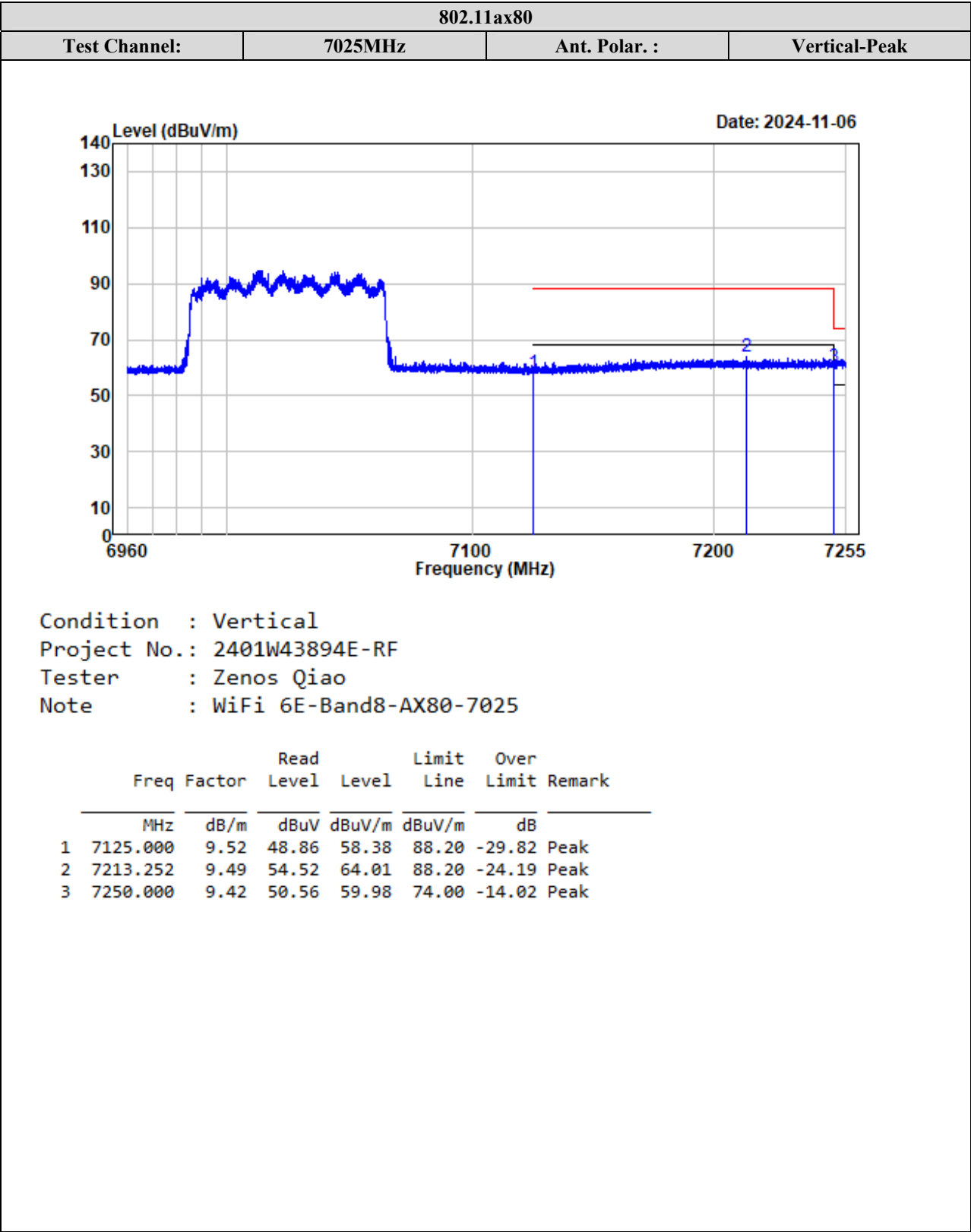


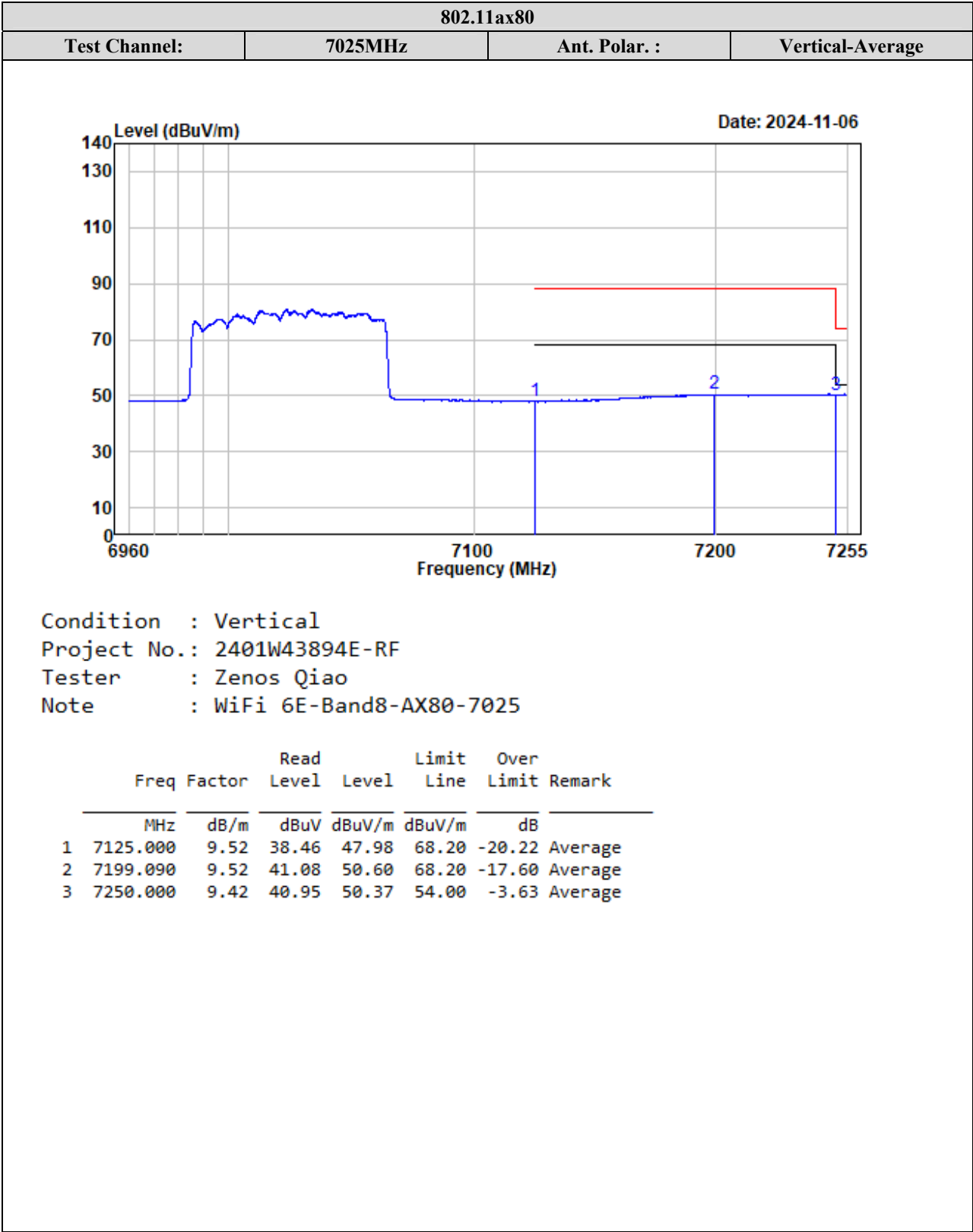


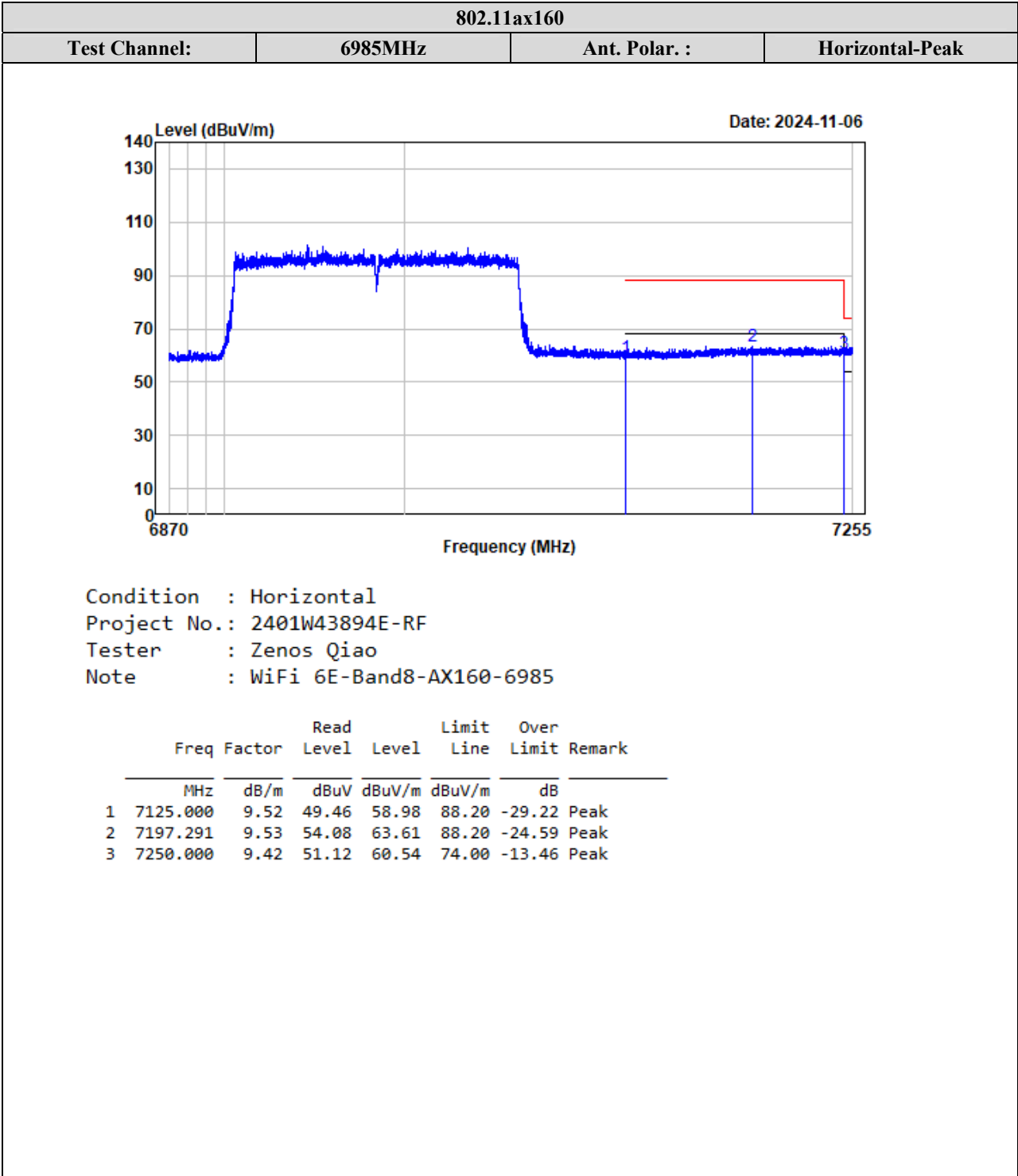


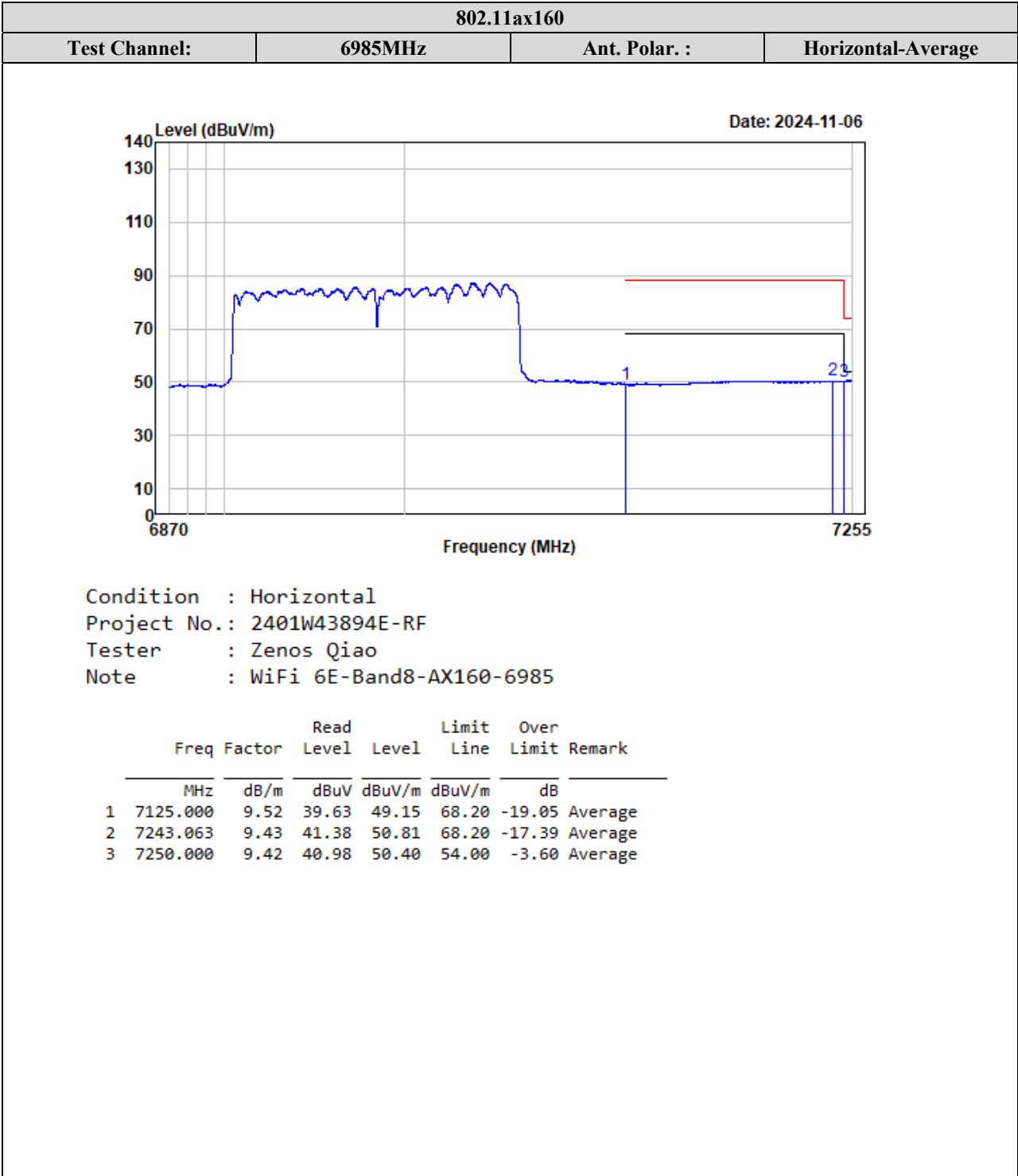


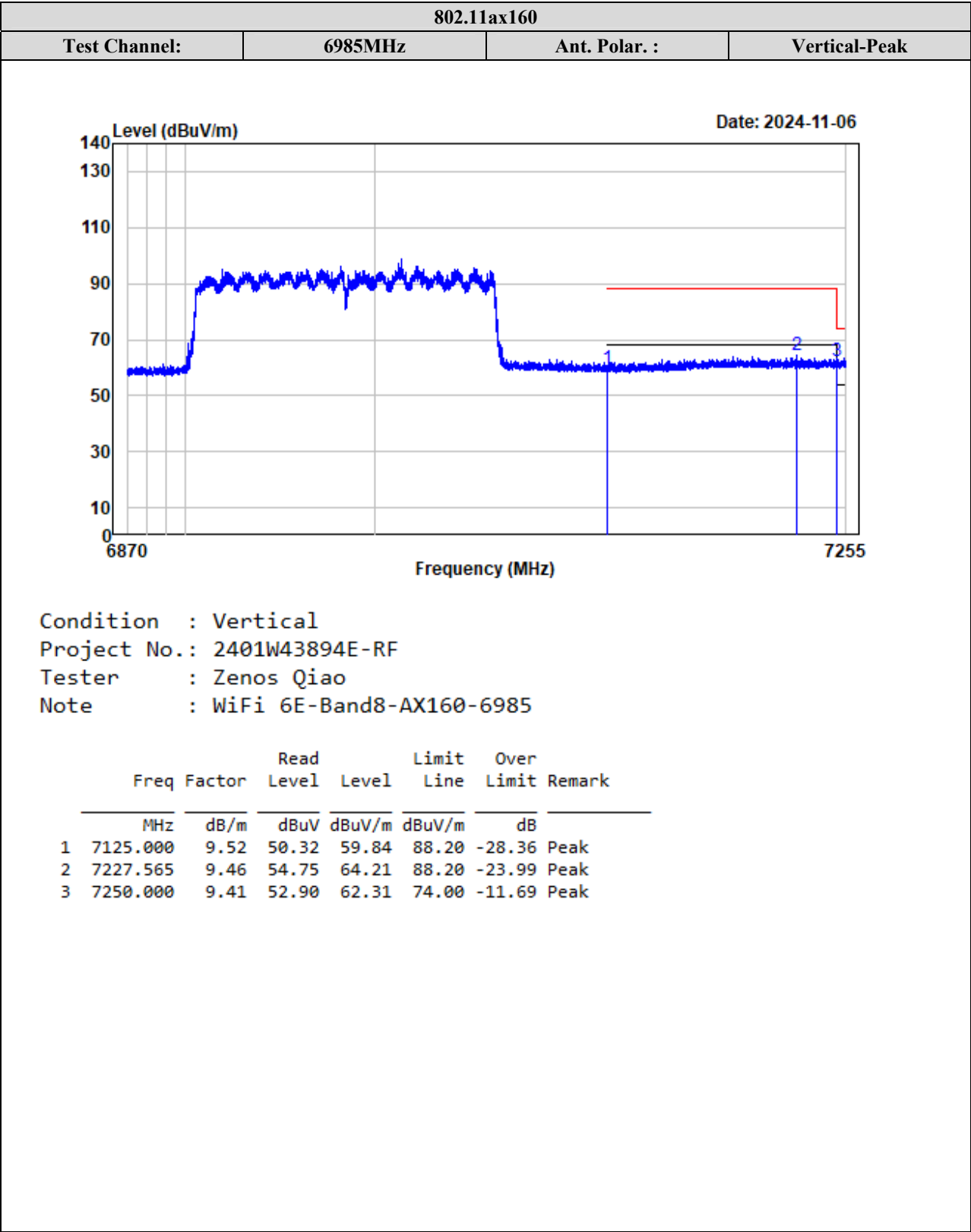




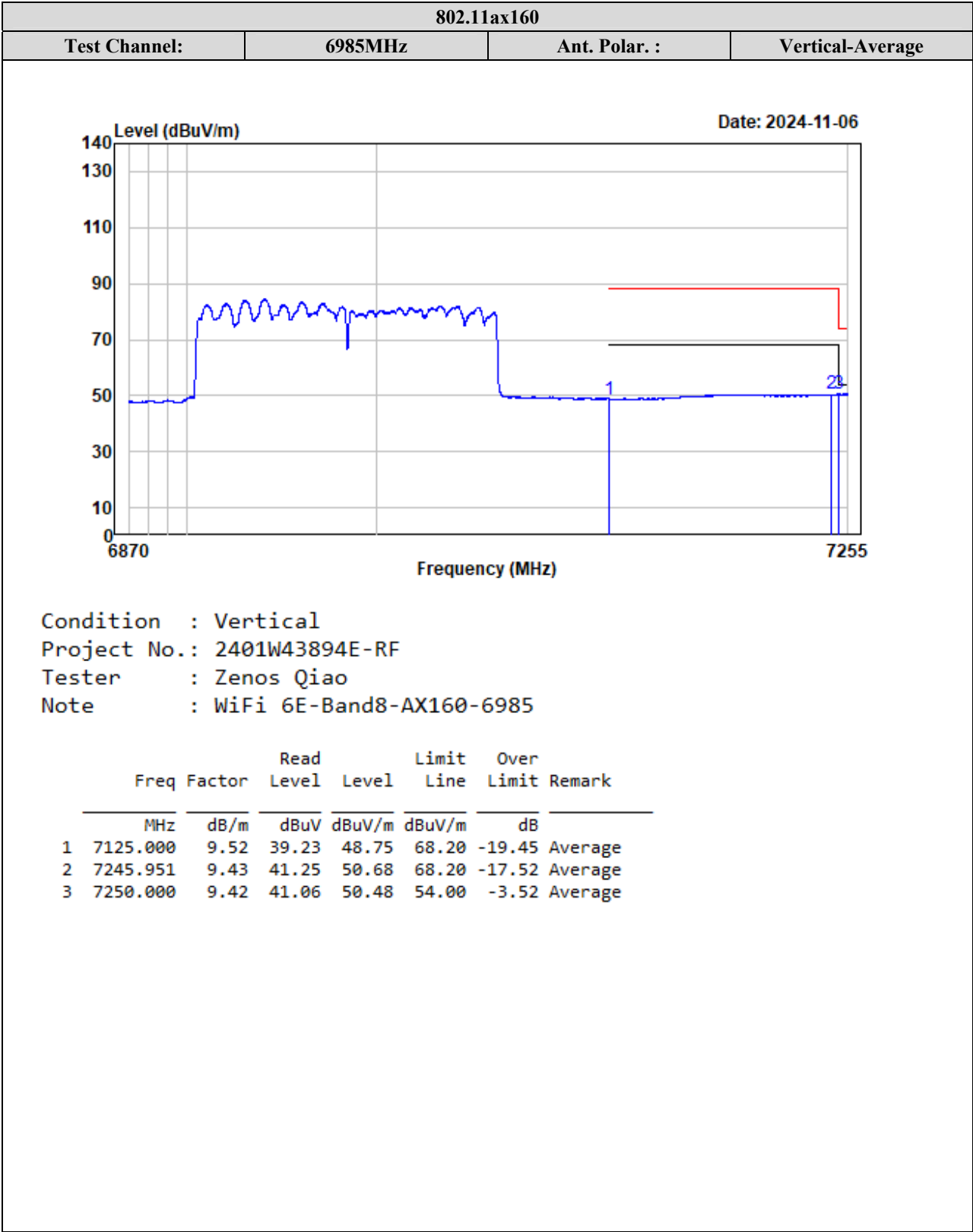








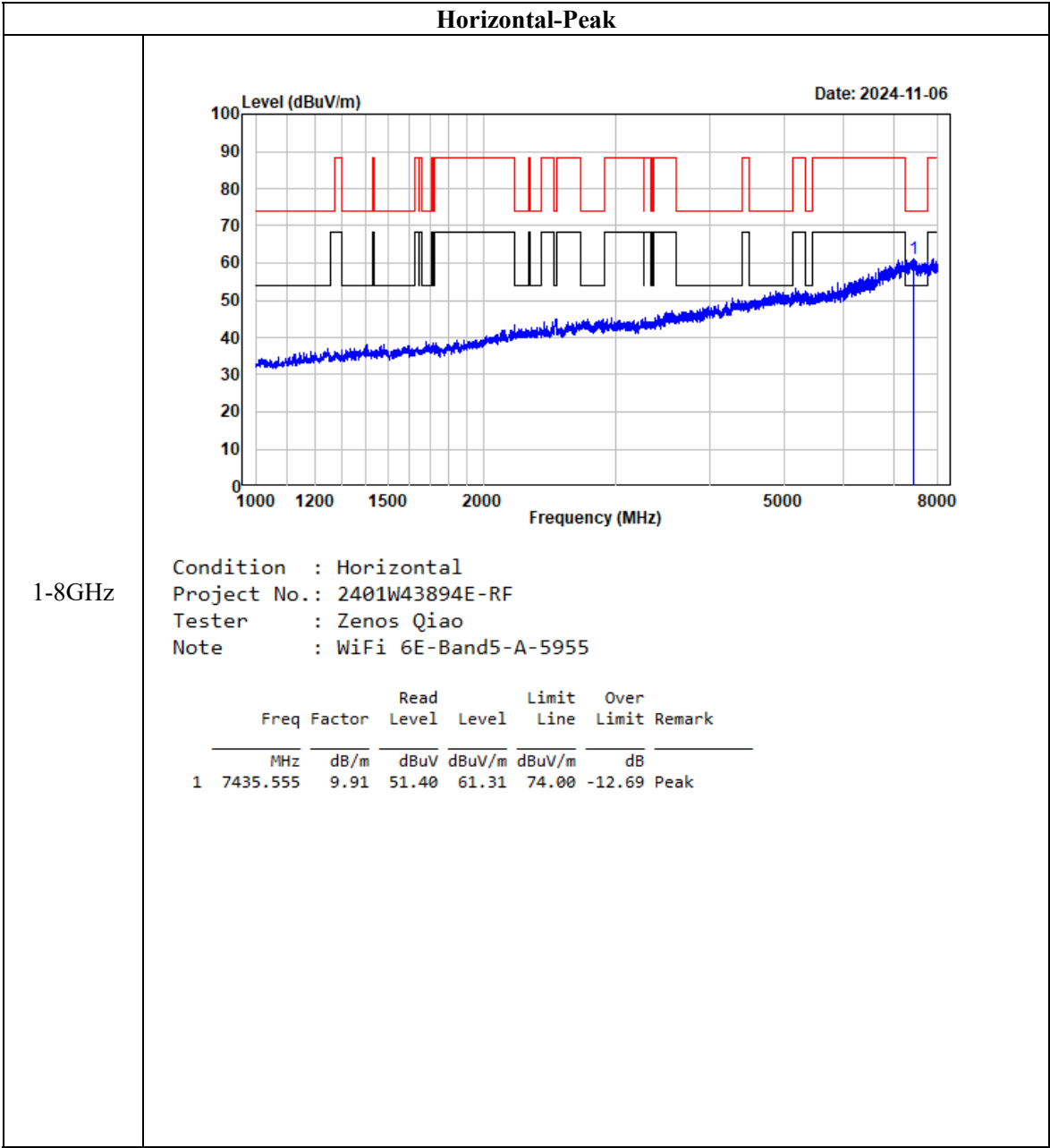


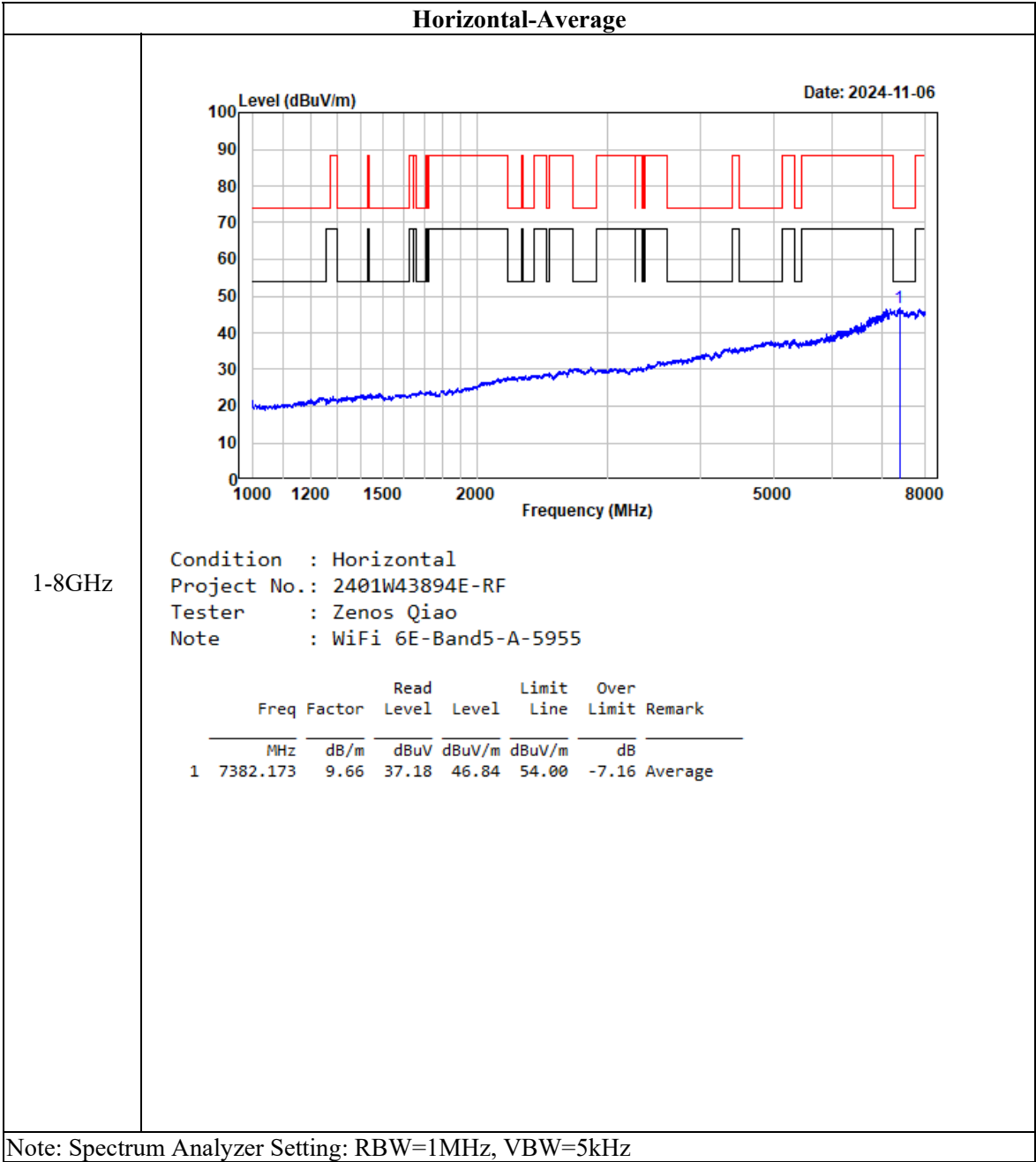


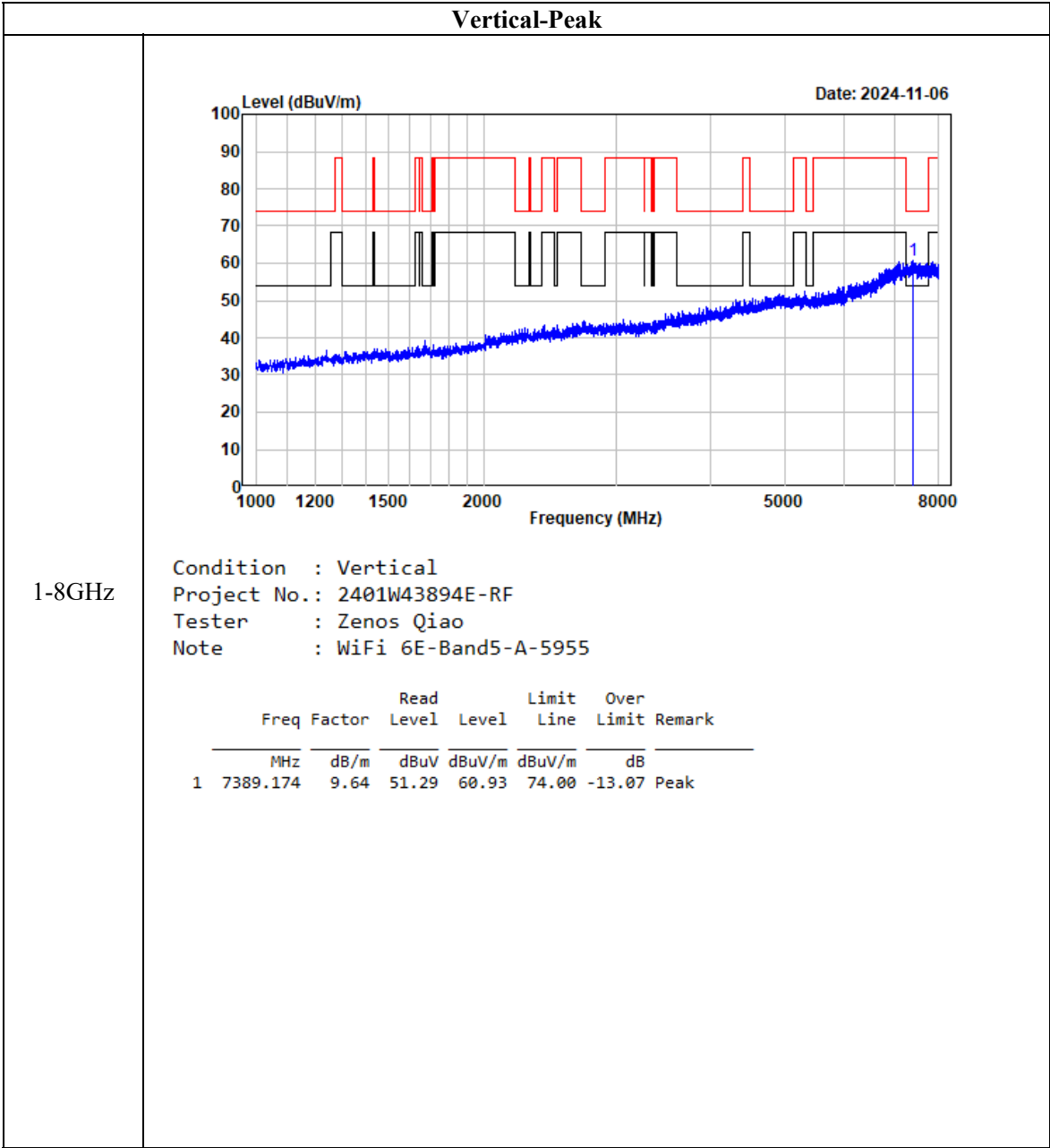
1-18GHz (Listed with the worst harmonic margin test plots):

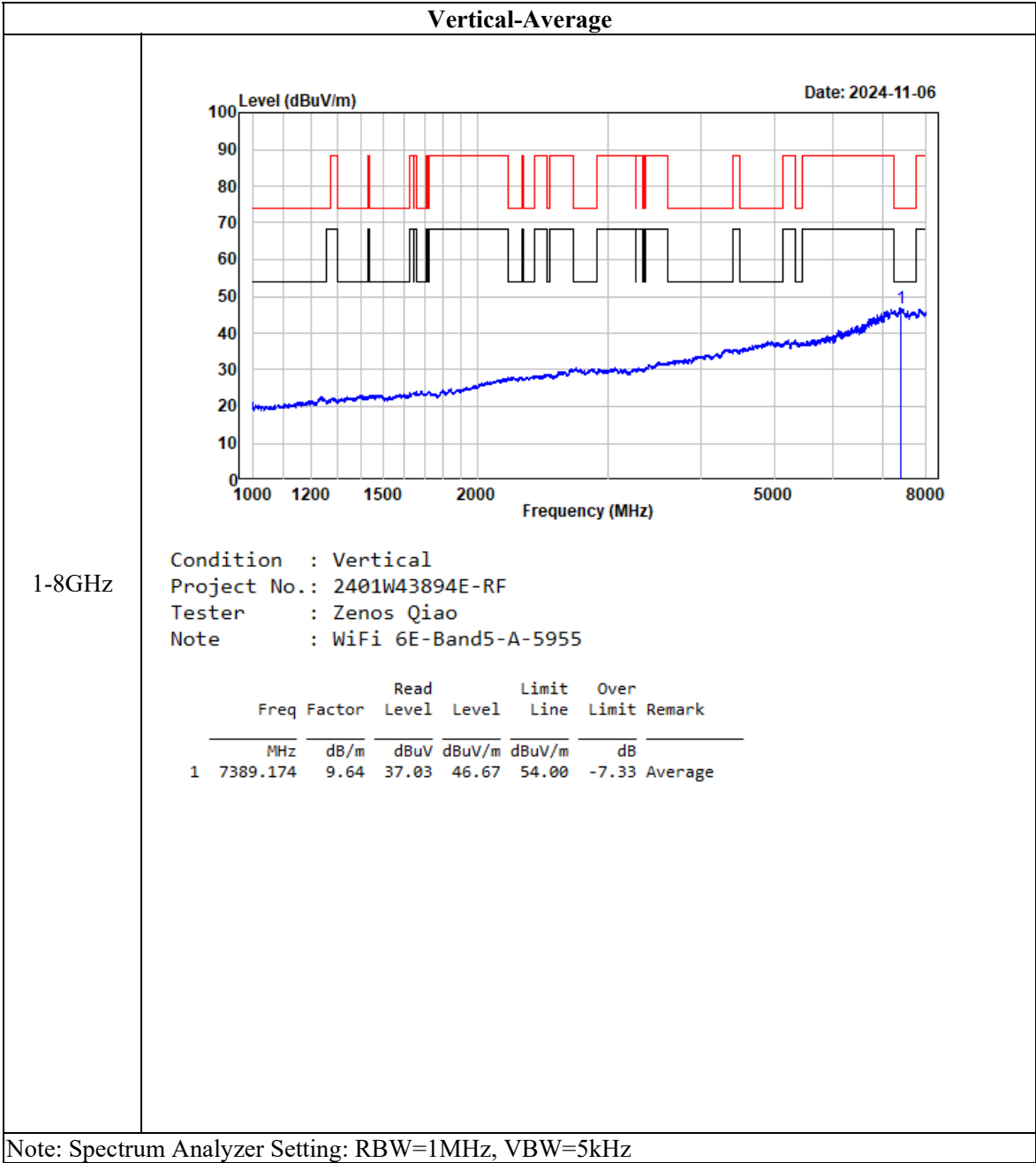
Wi-Fi 6E\_ U-NII 5:

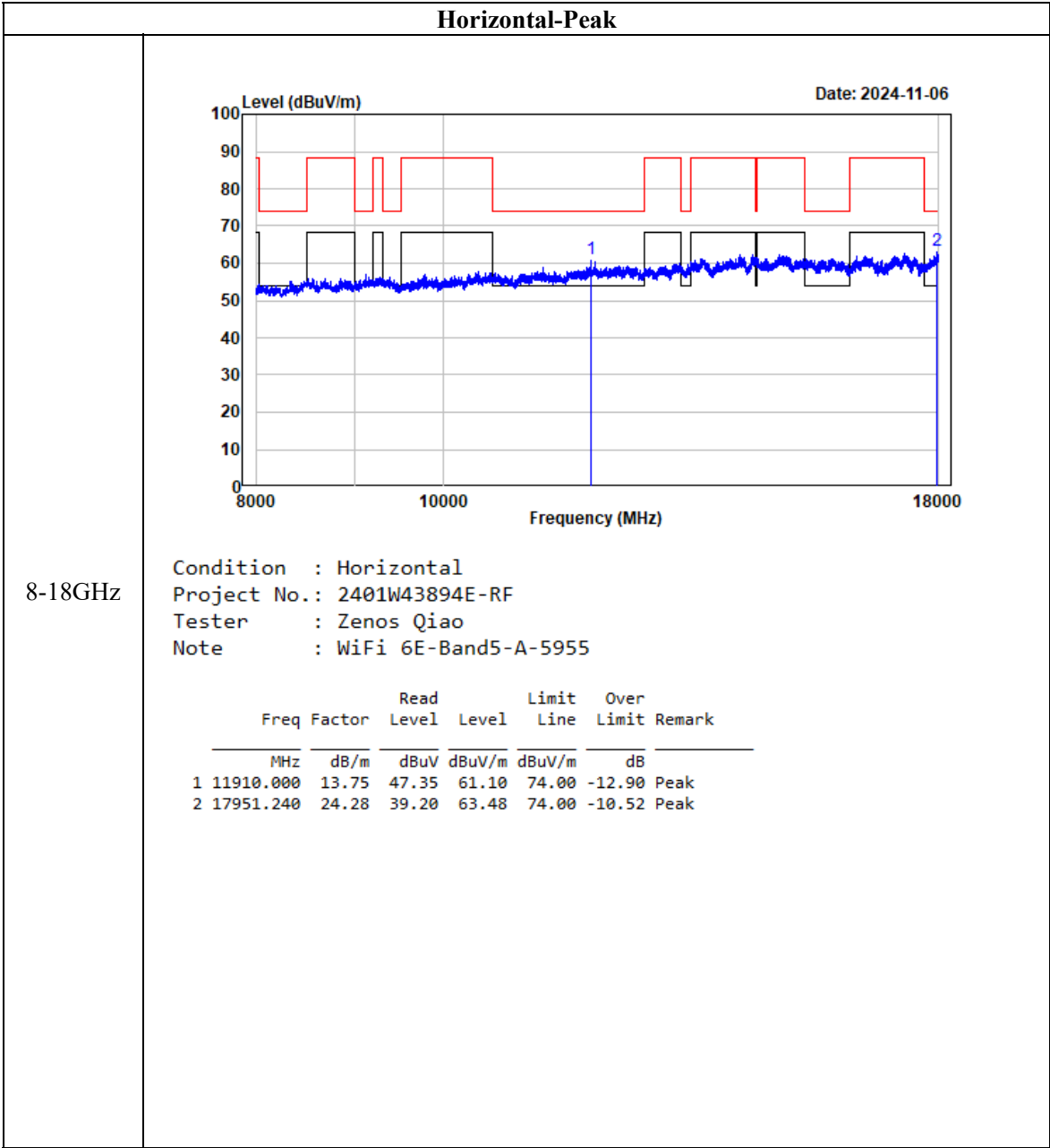
802.11a, 5955MHz

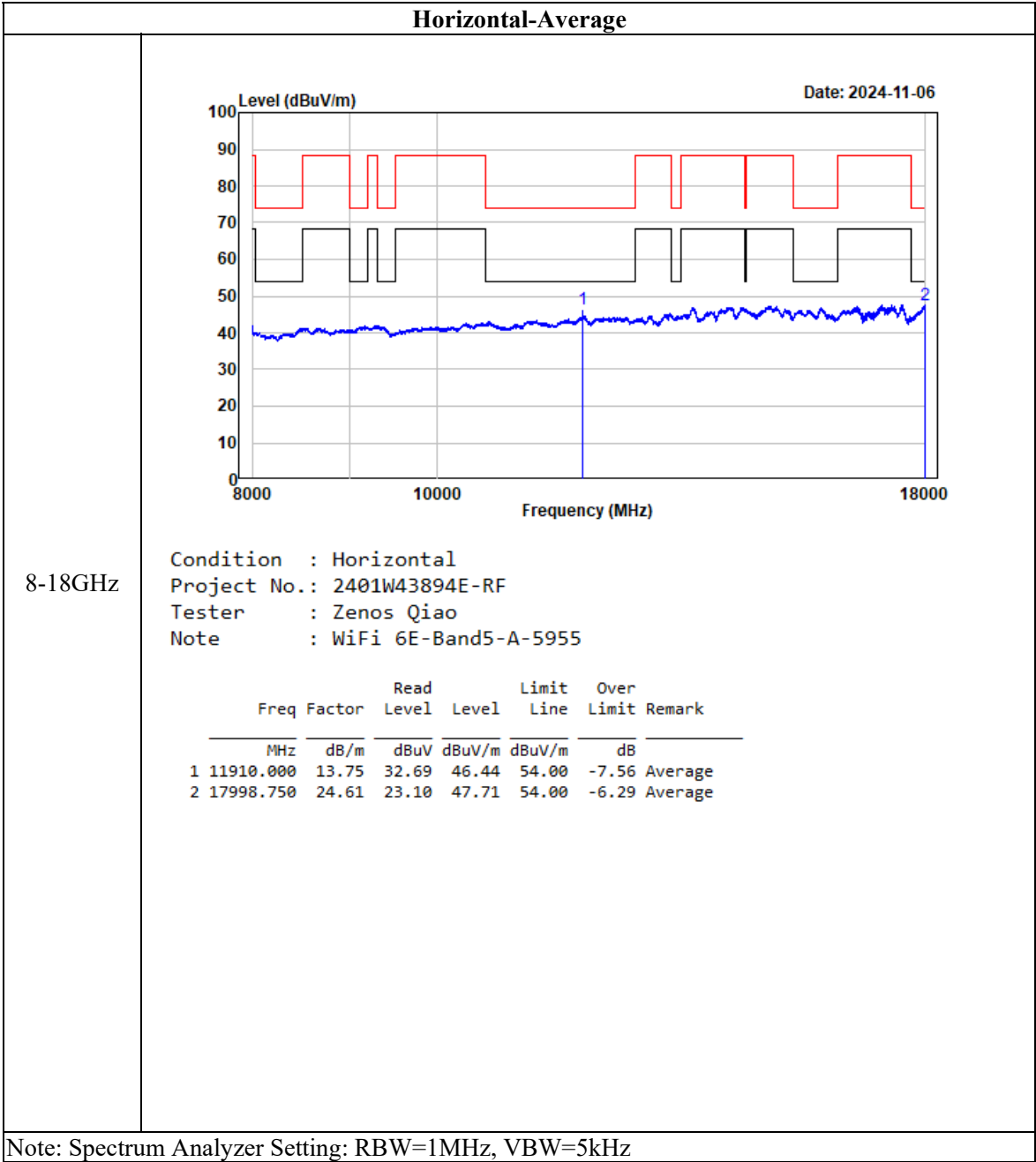


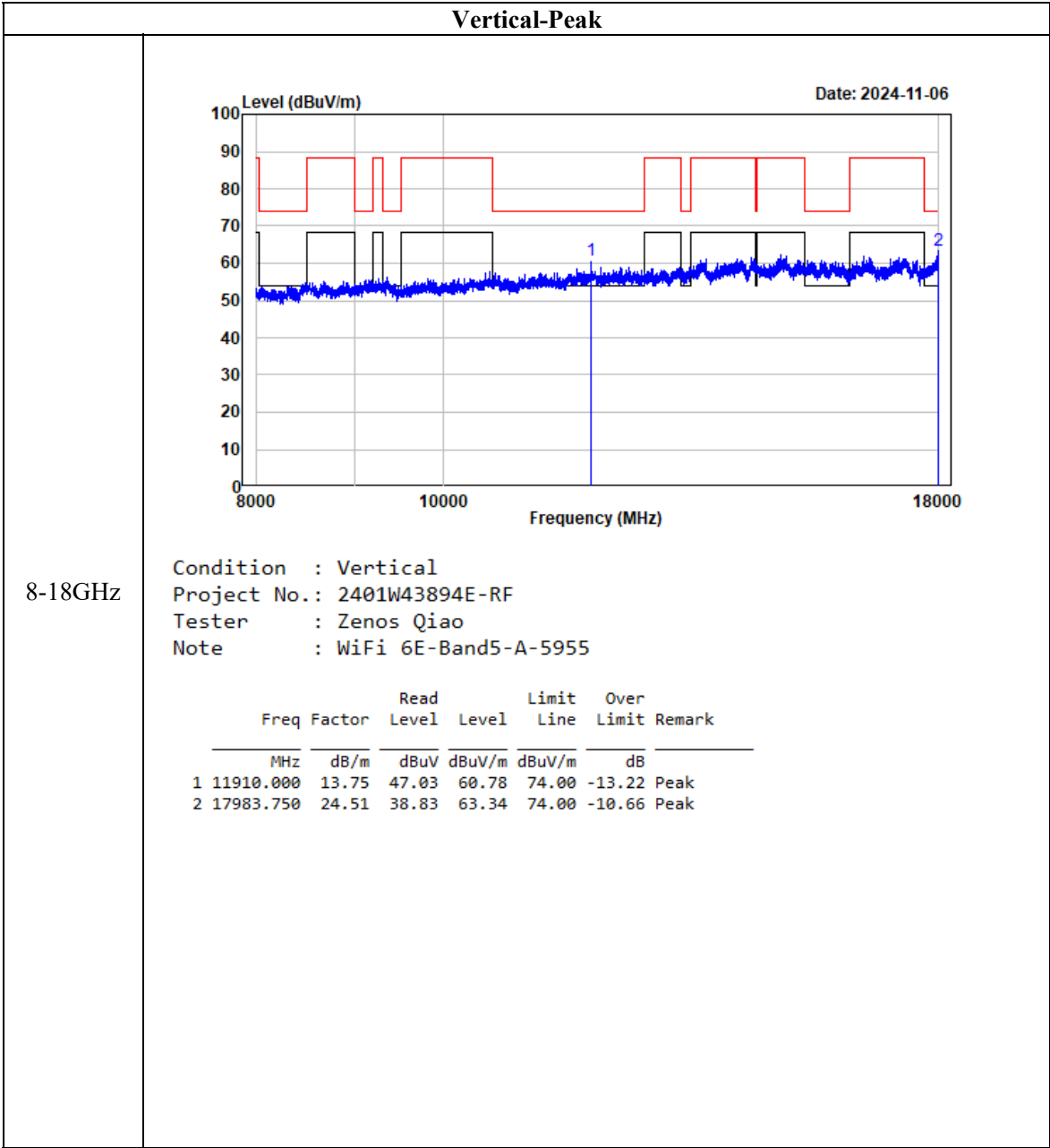




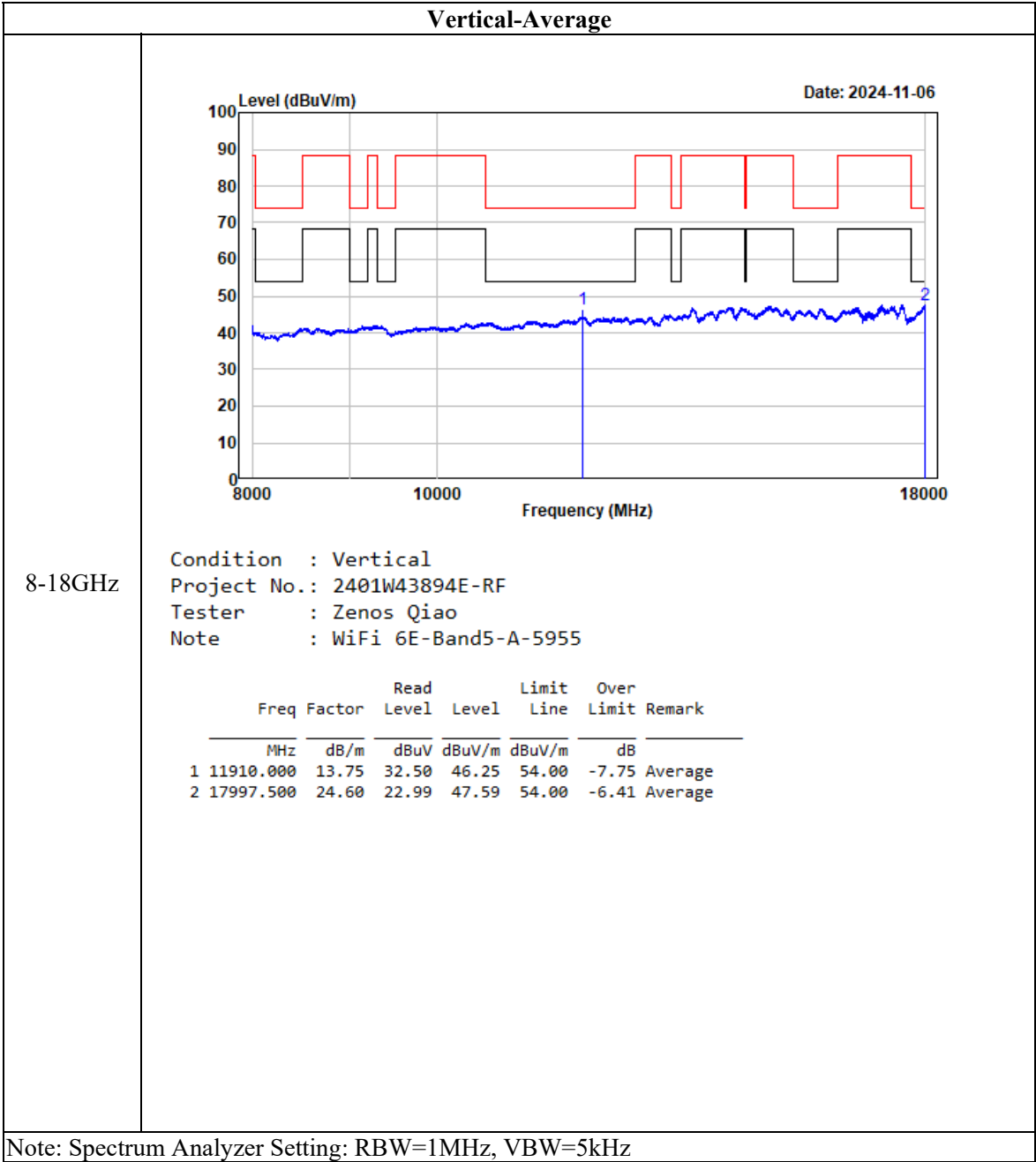




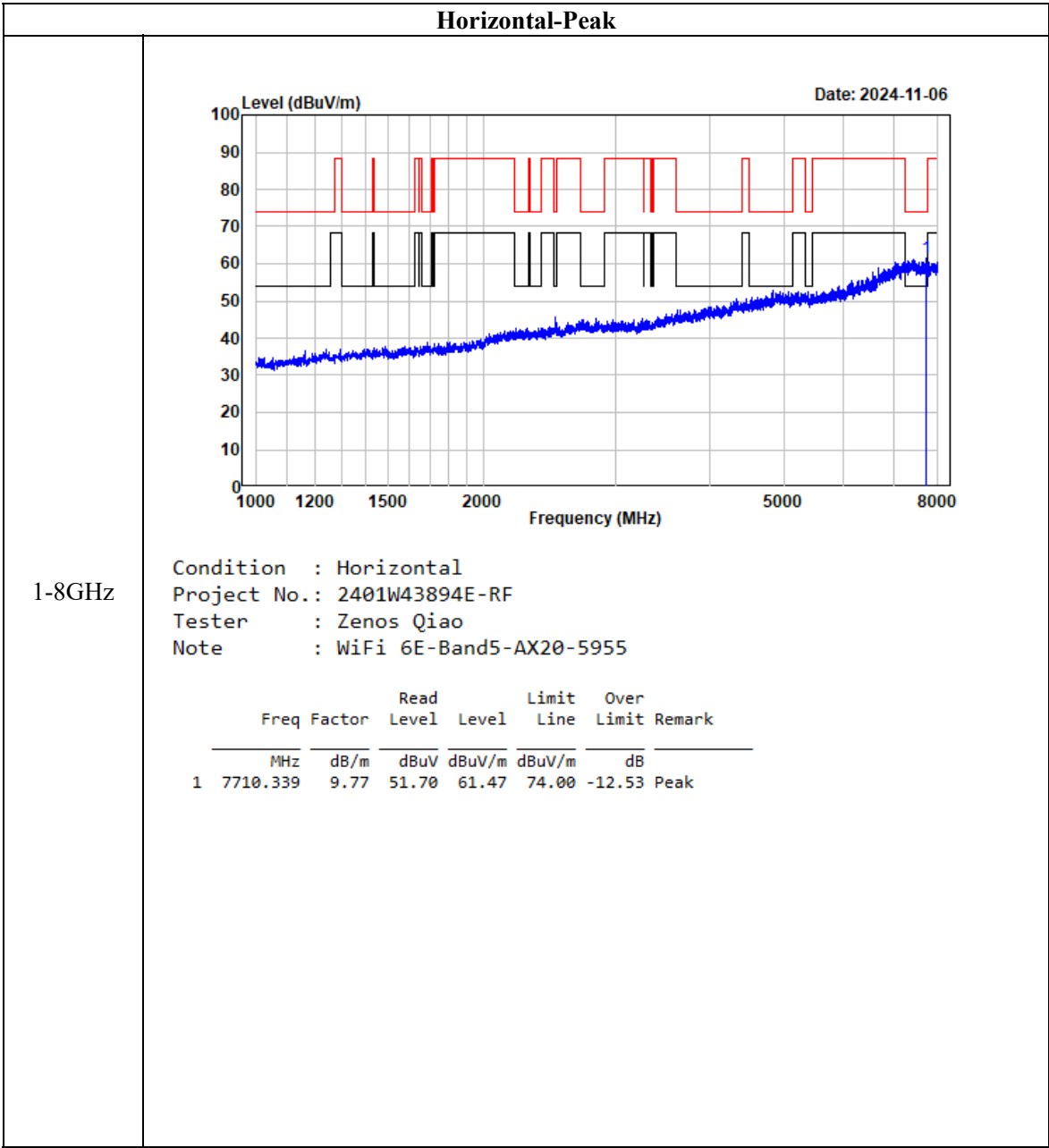


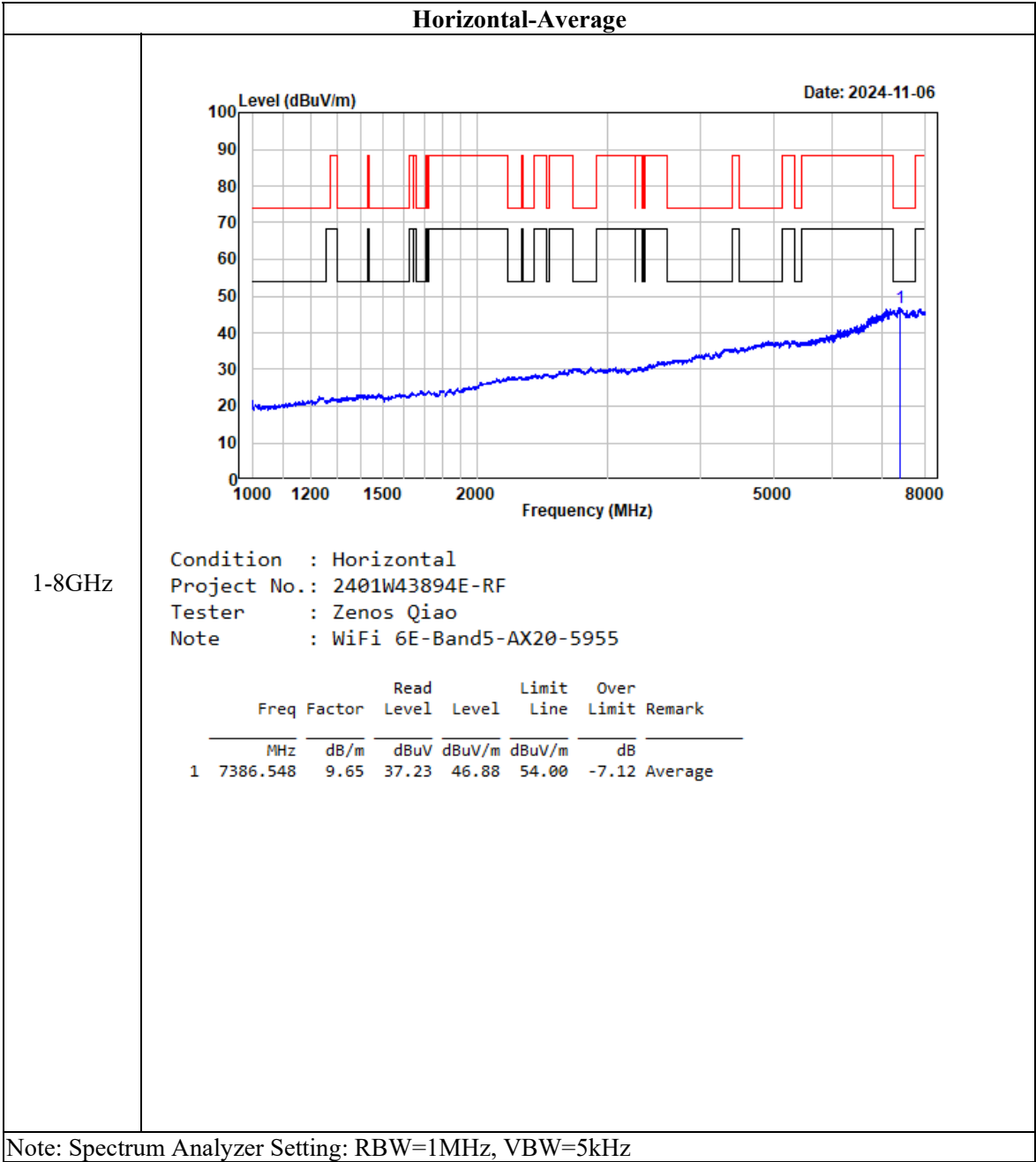


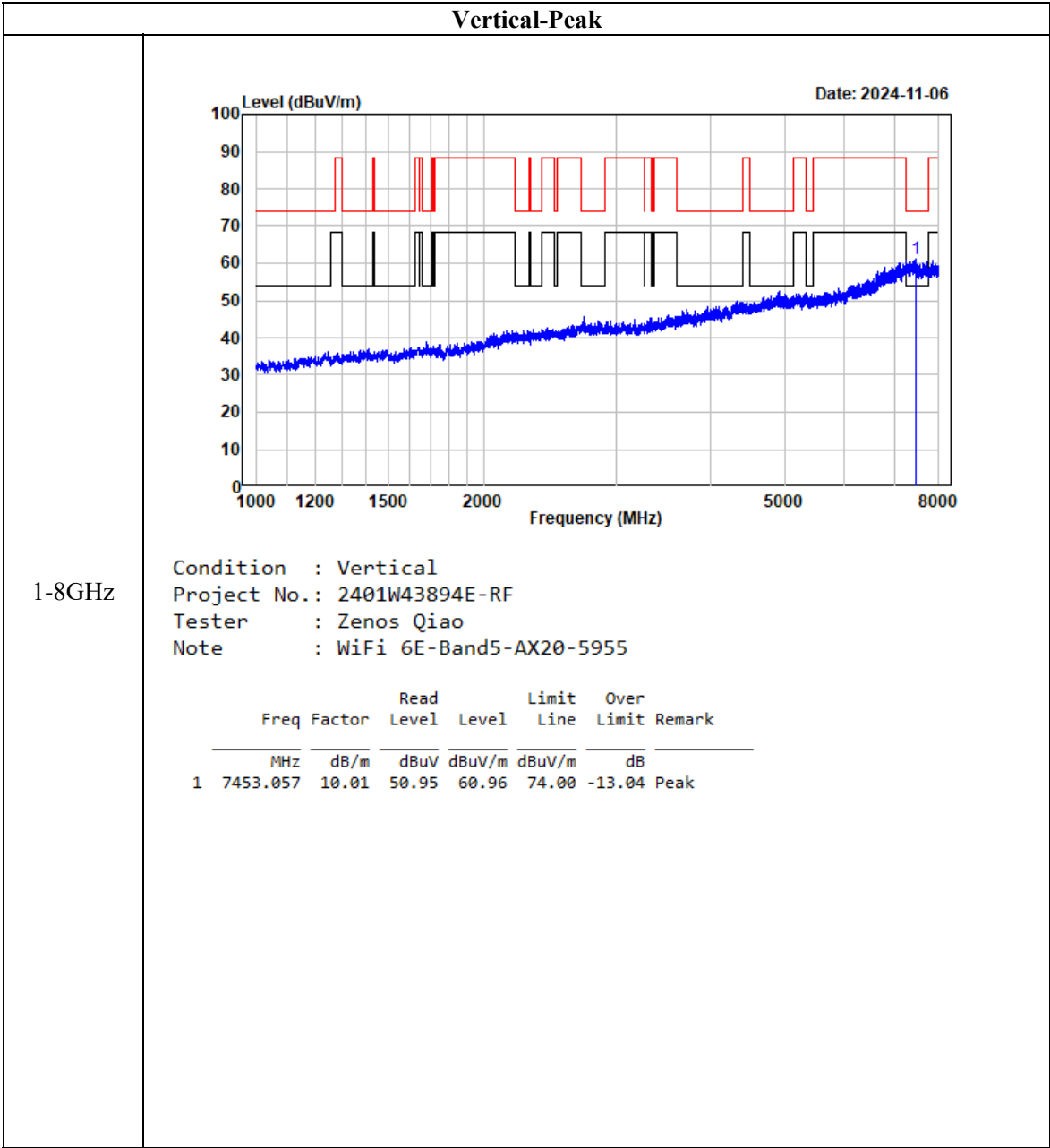


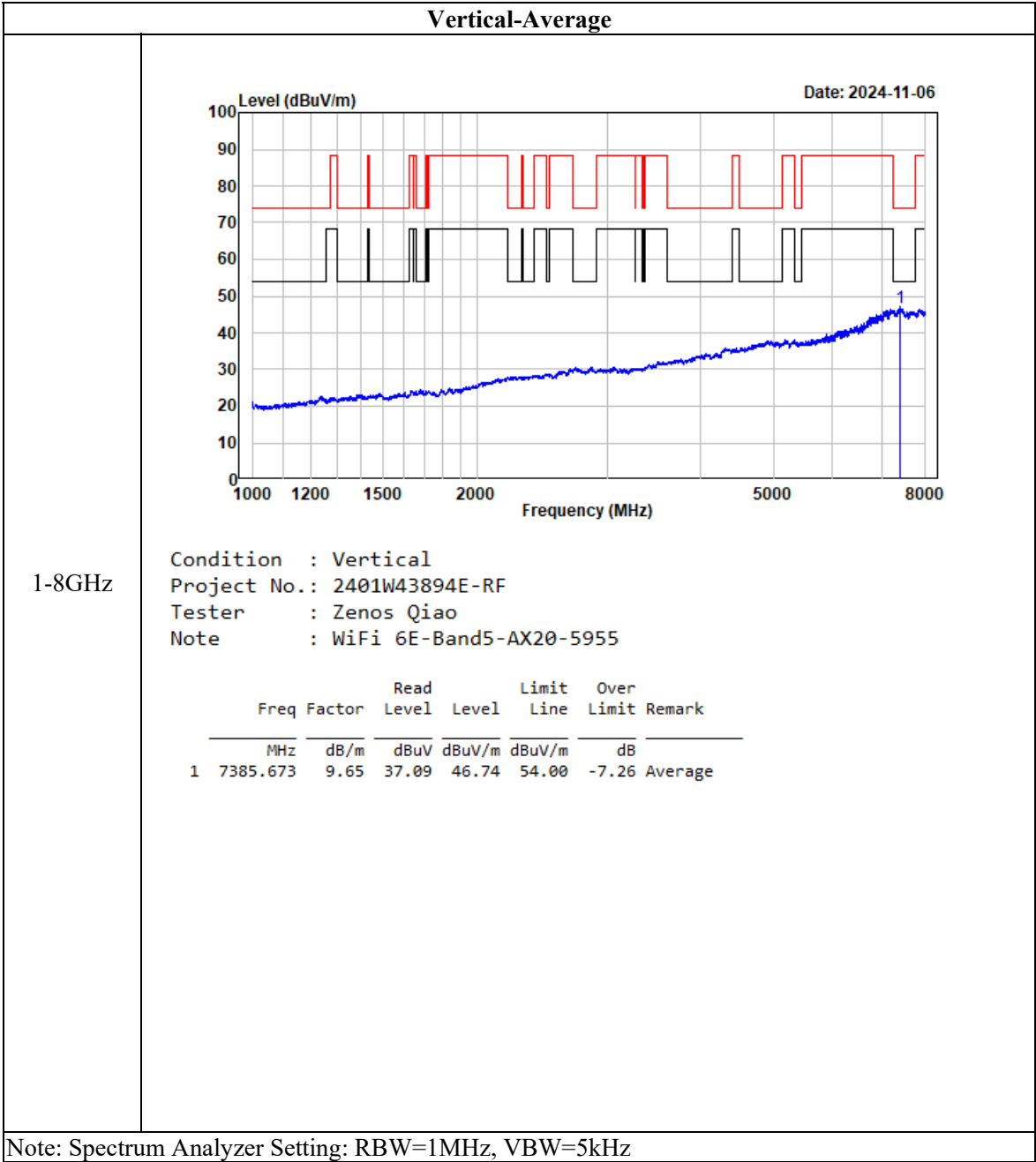


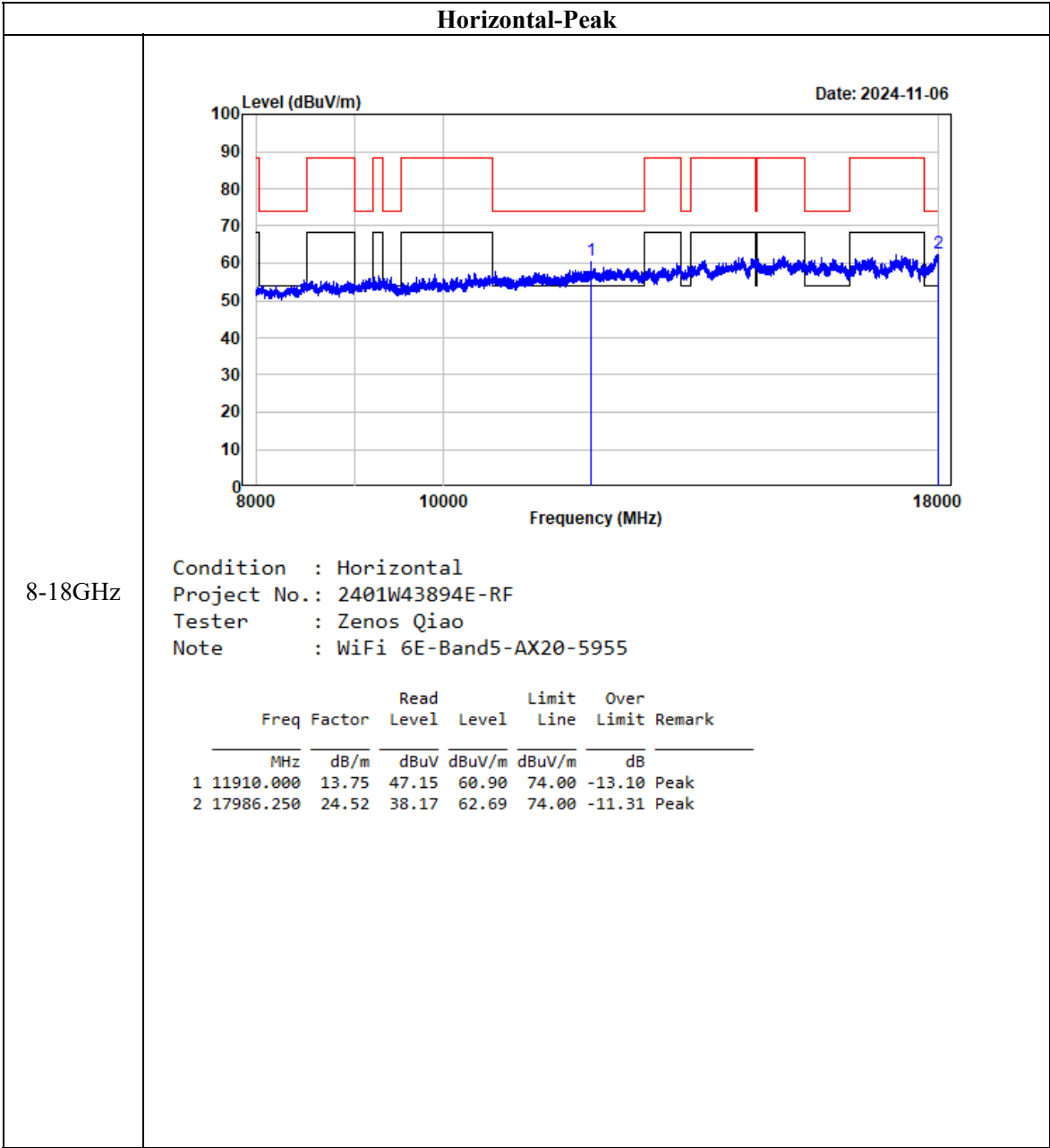
802.11ax20, 5955MHz

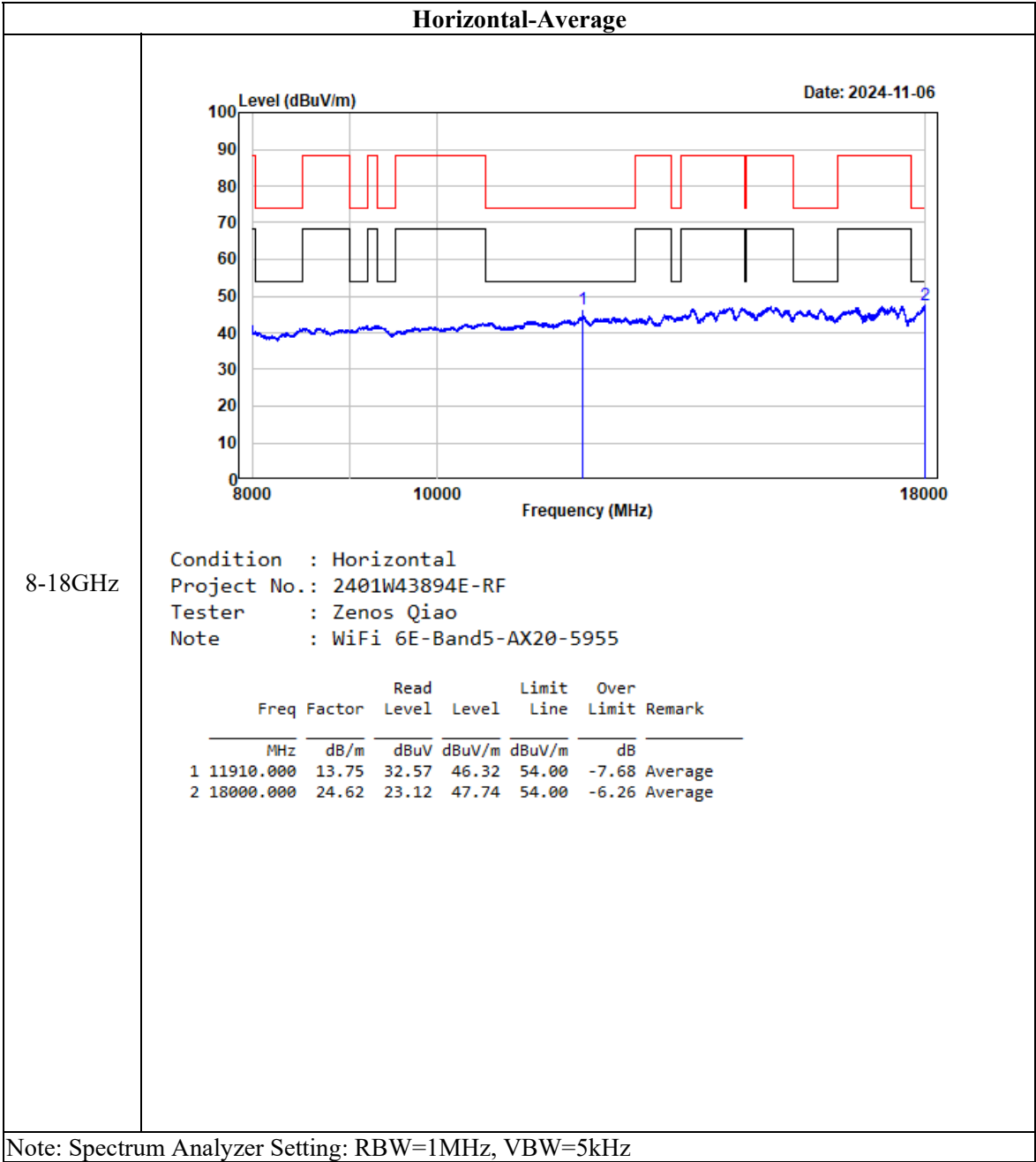


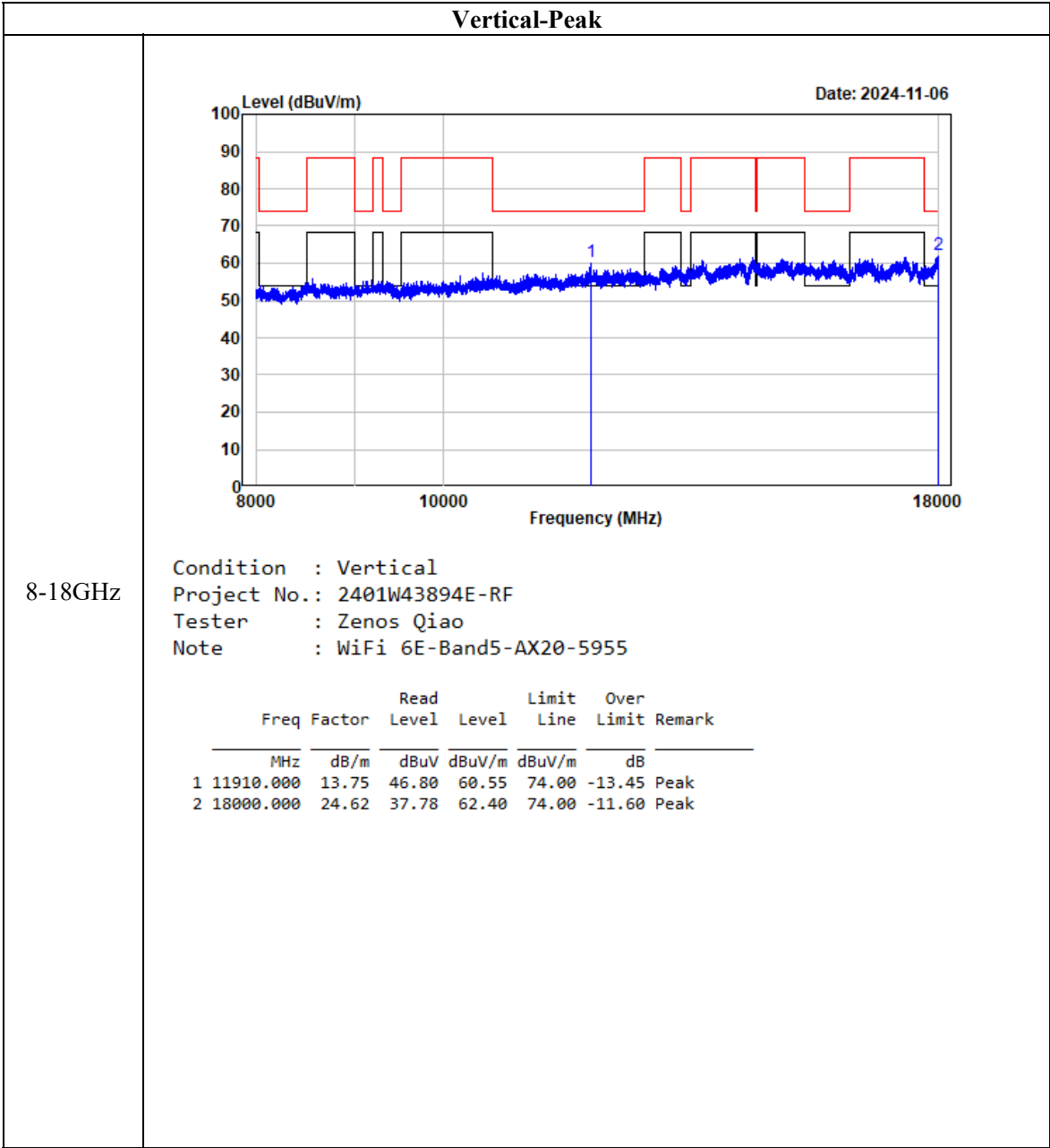




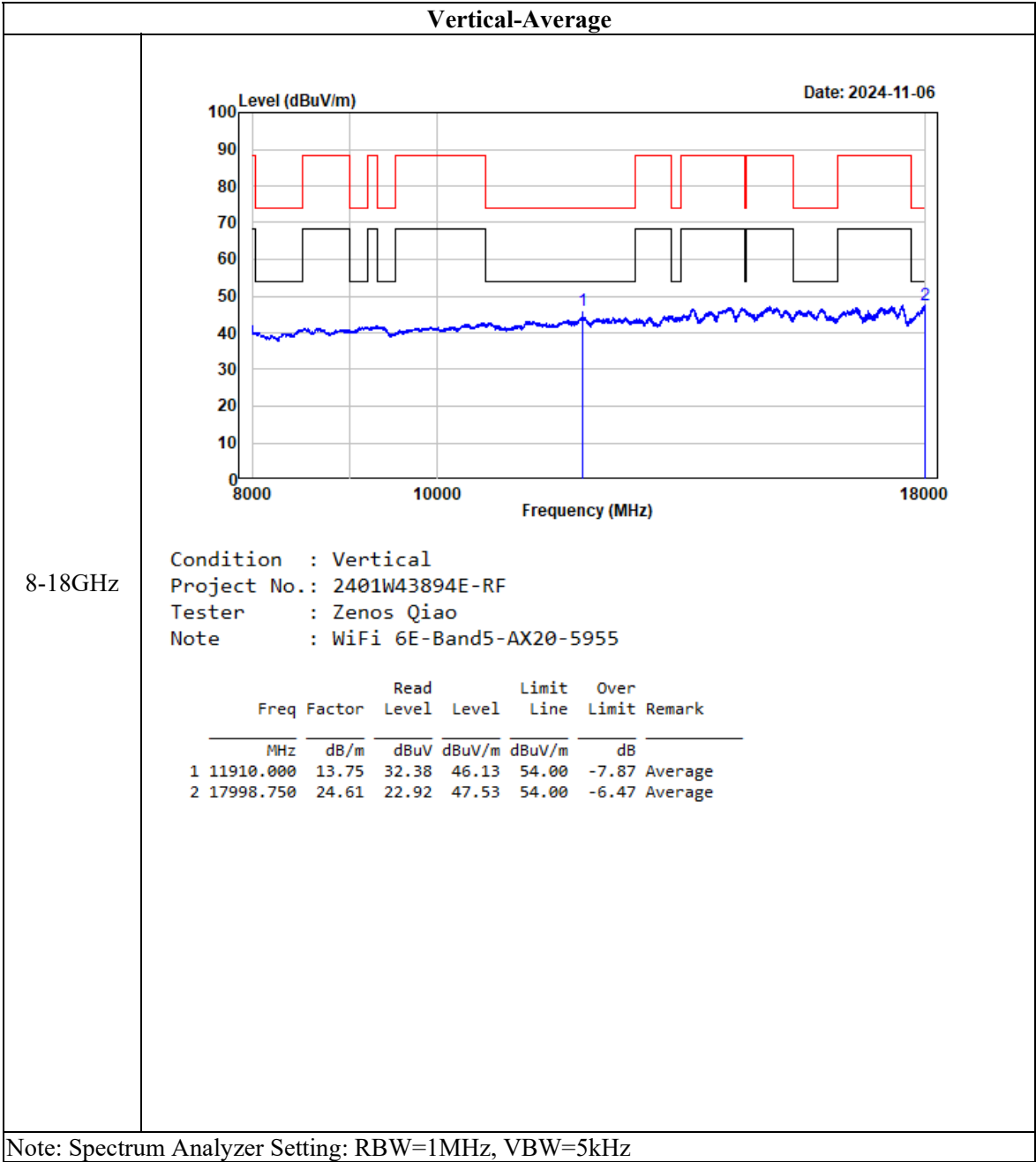




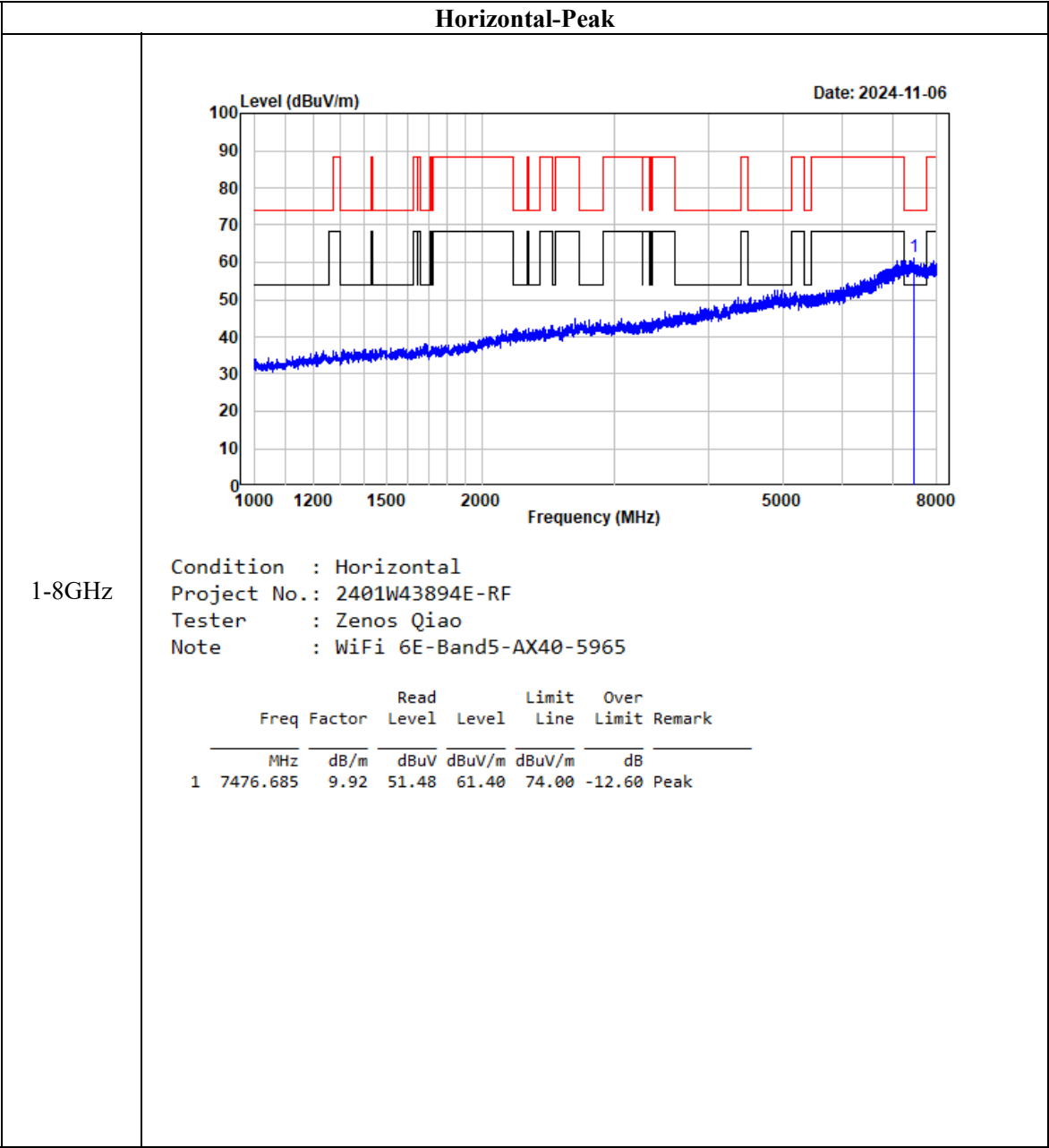


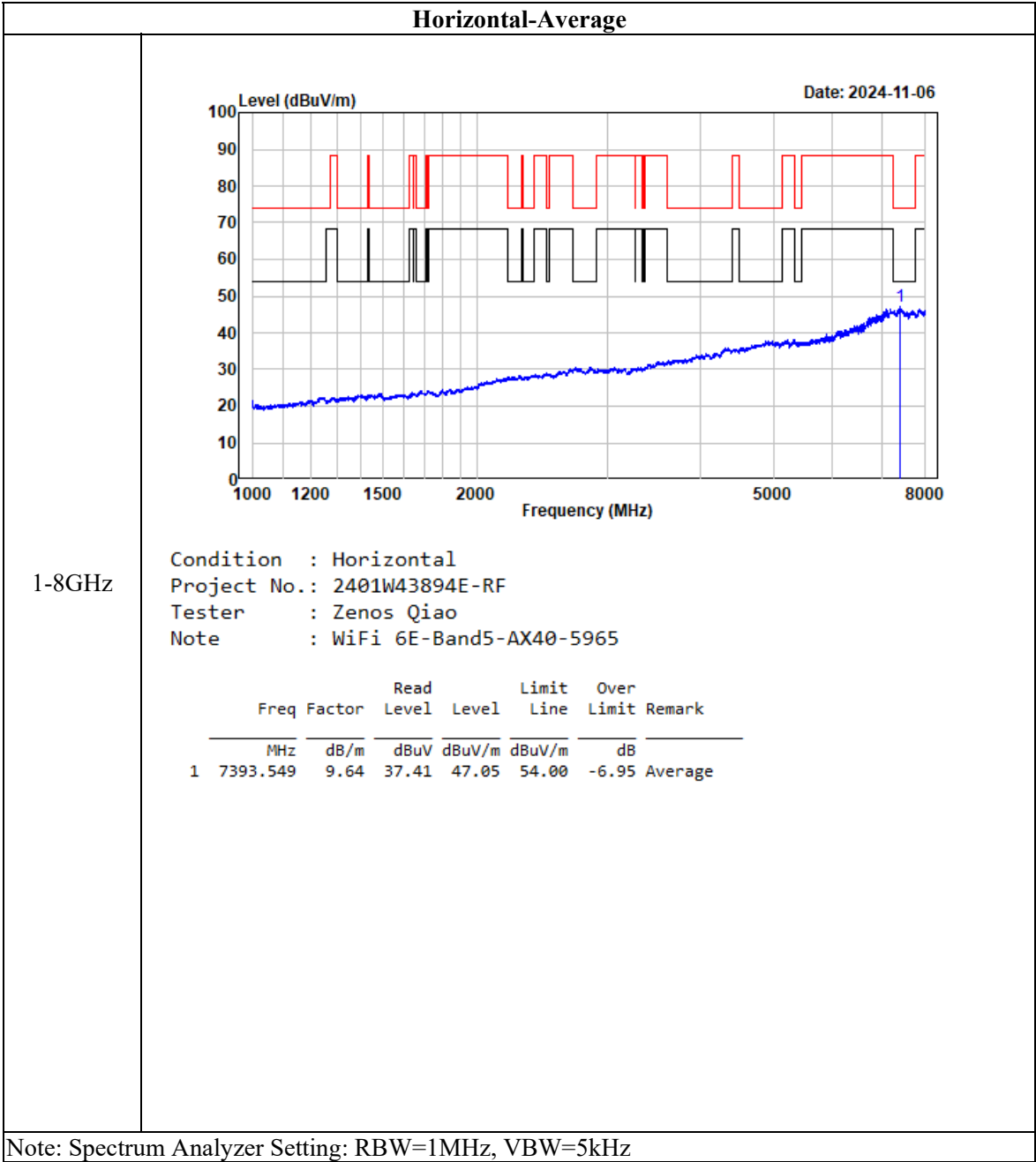


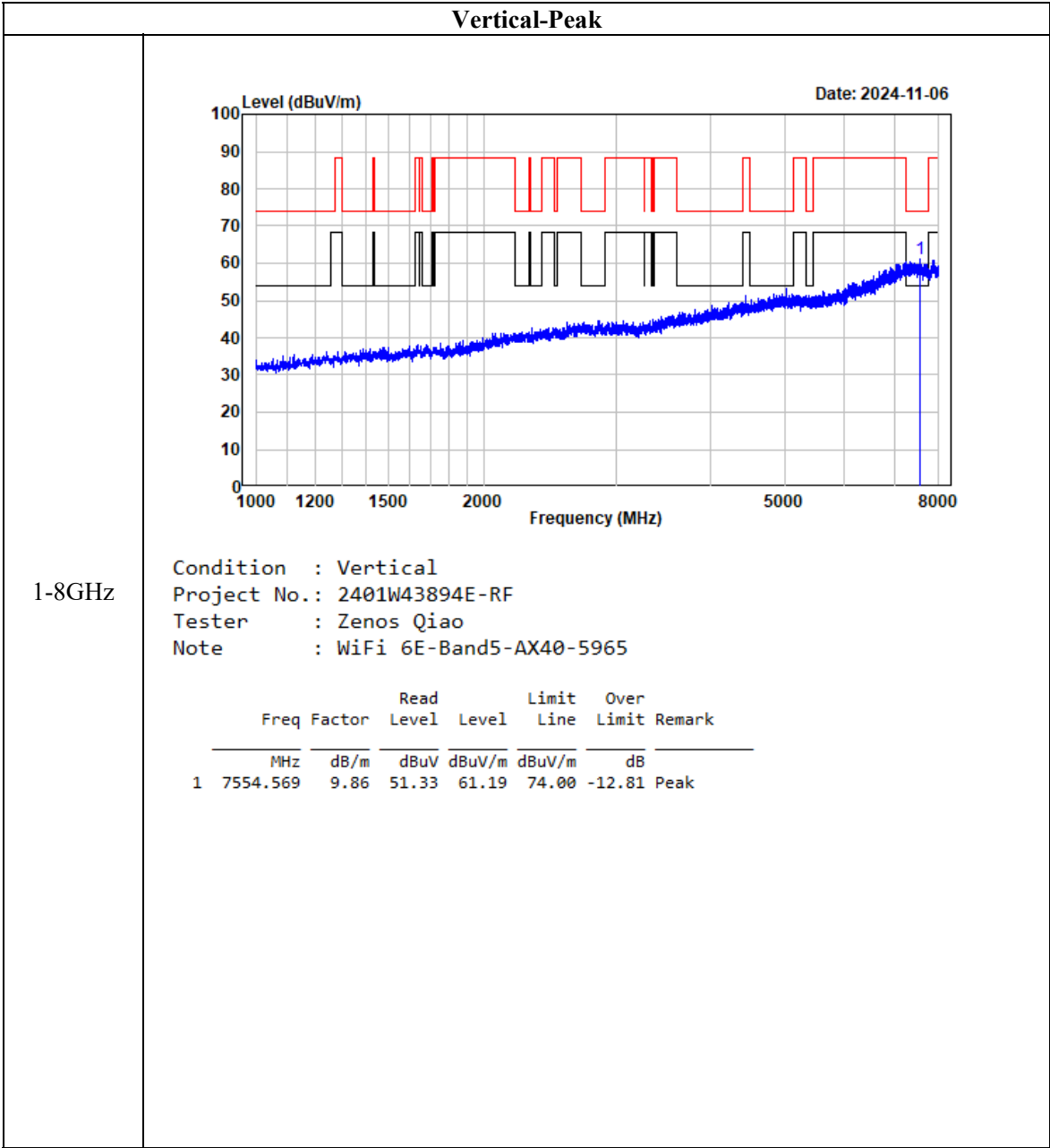


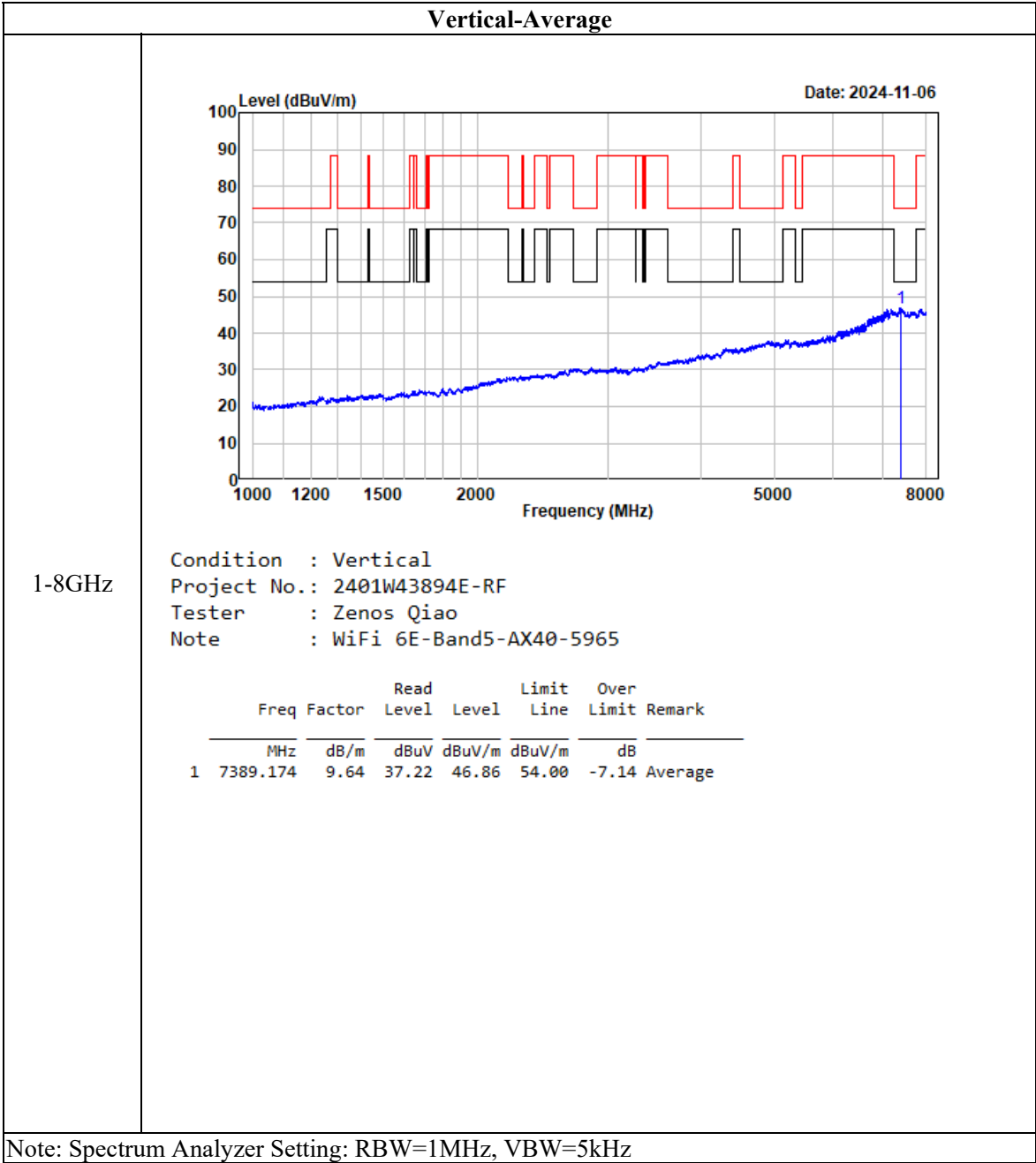


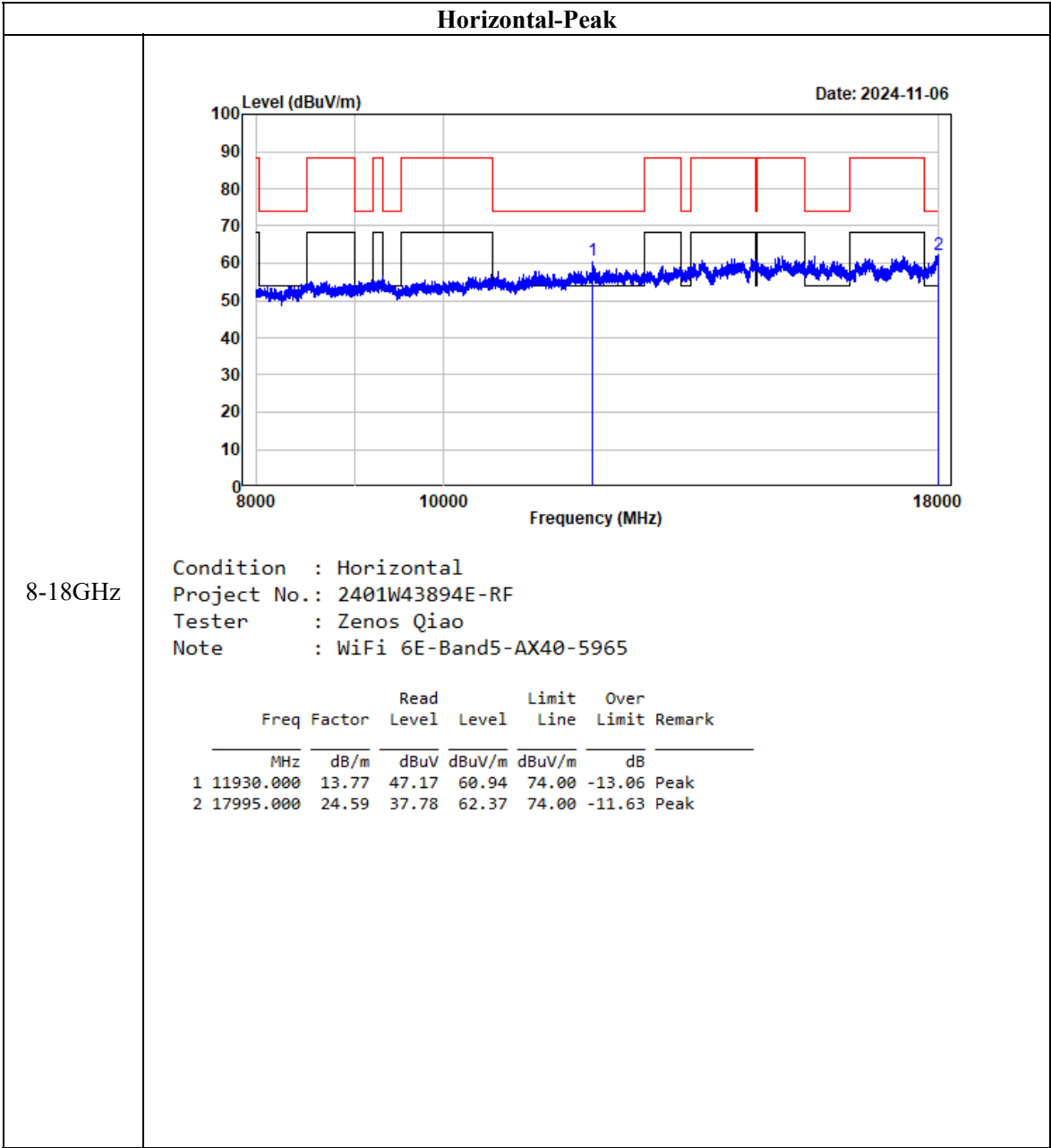
802.11ax40, 5965MHz

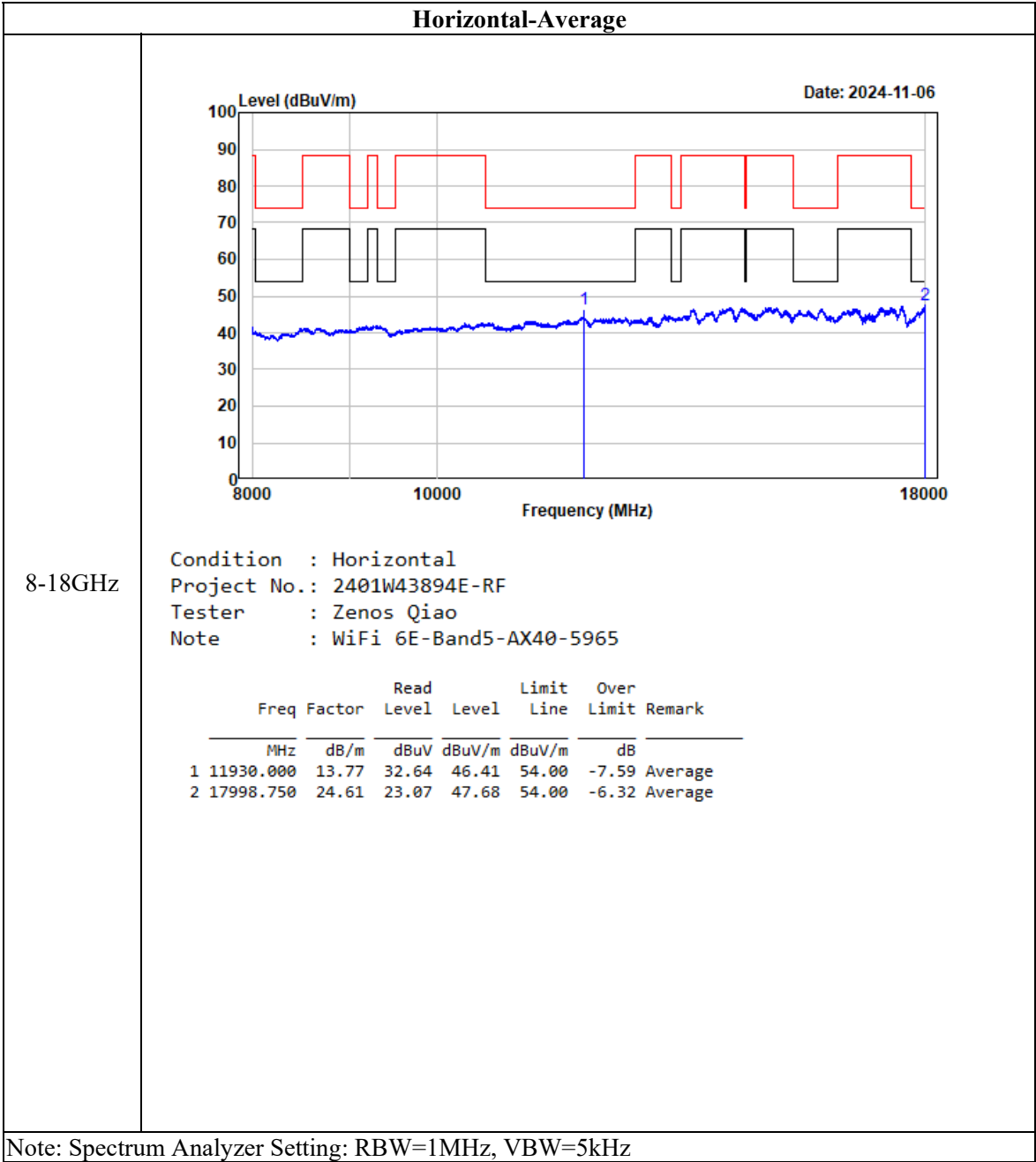


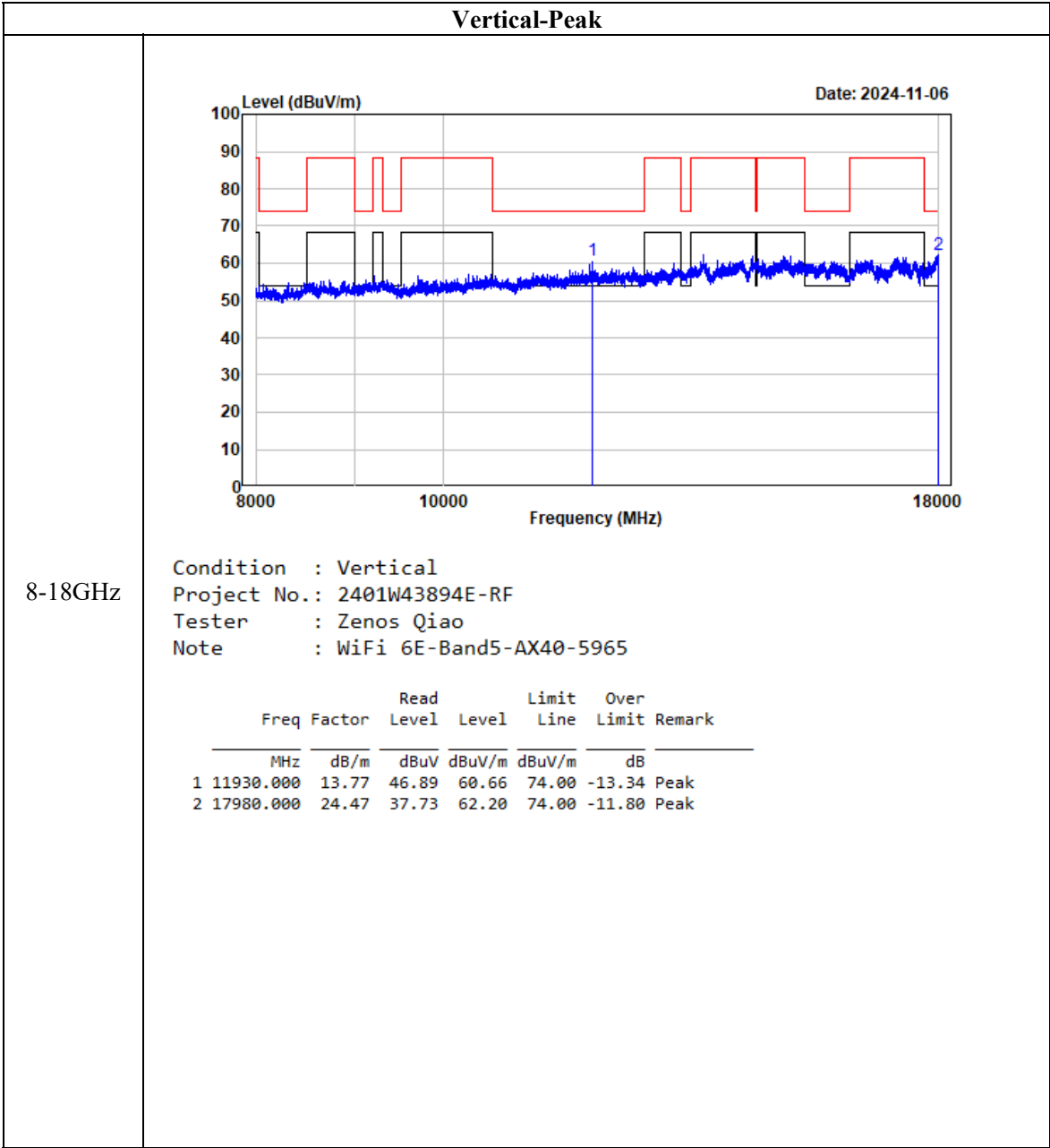




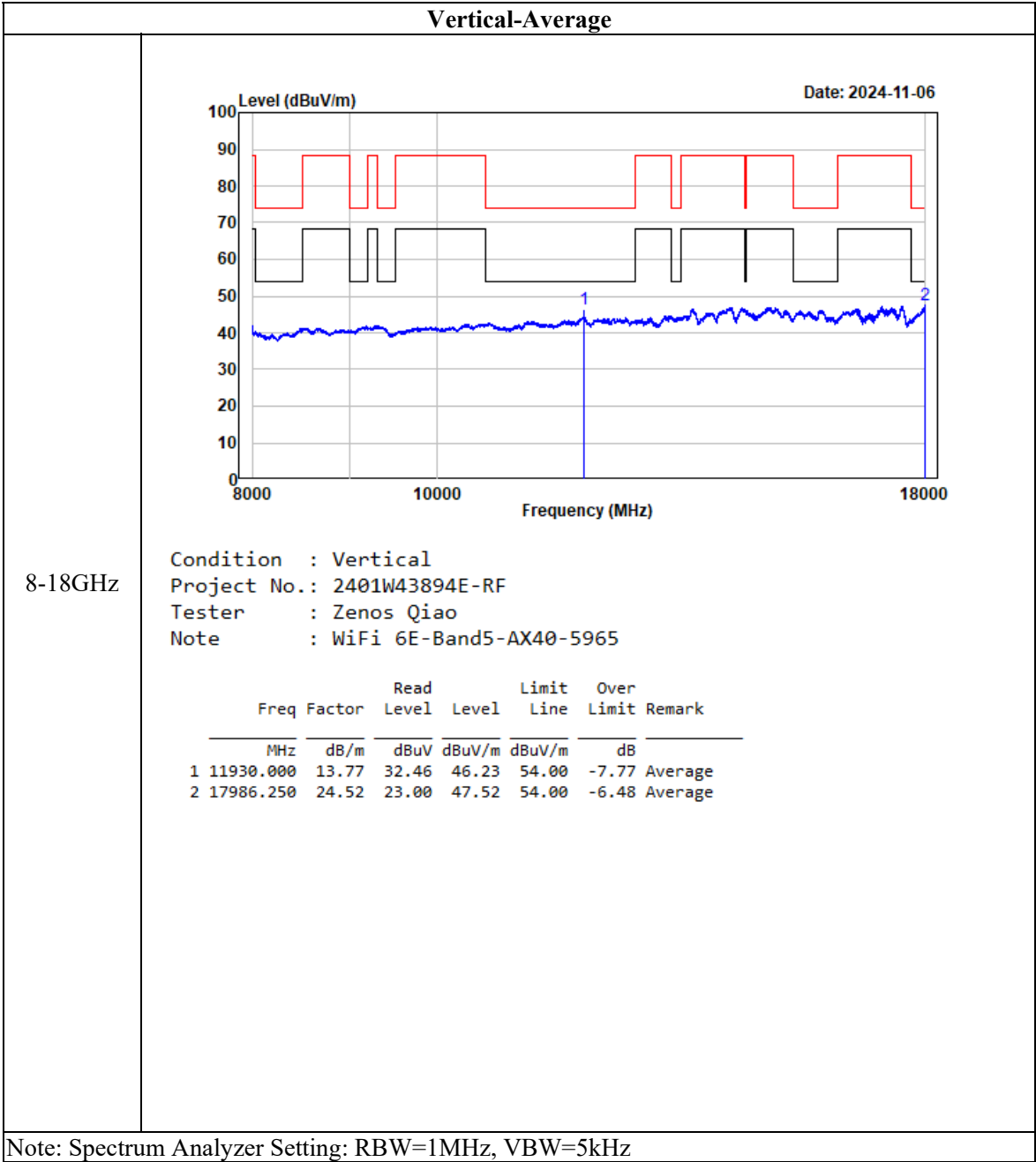




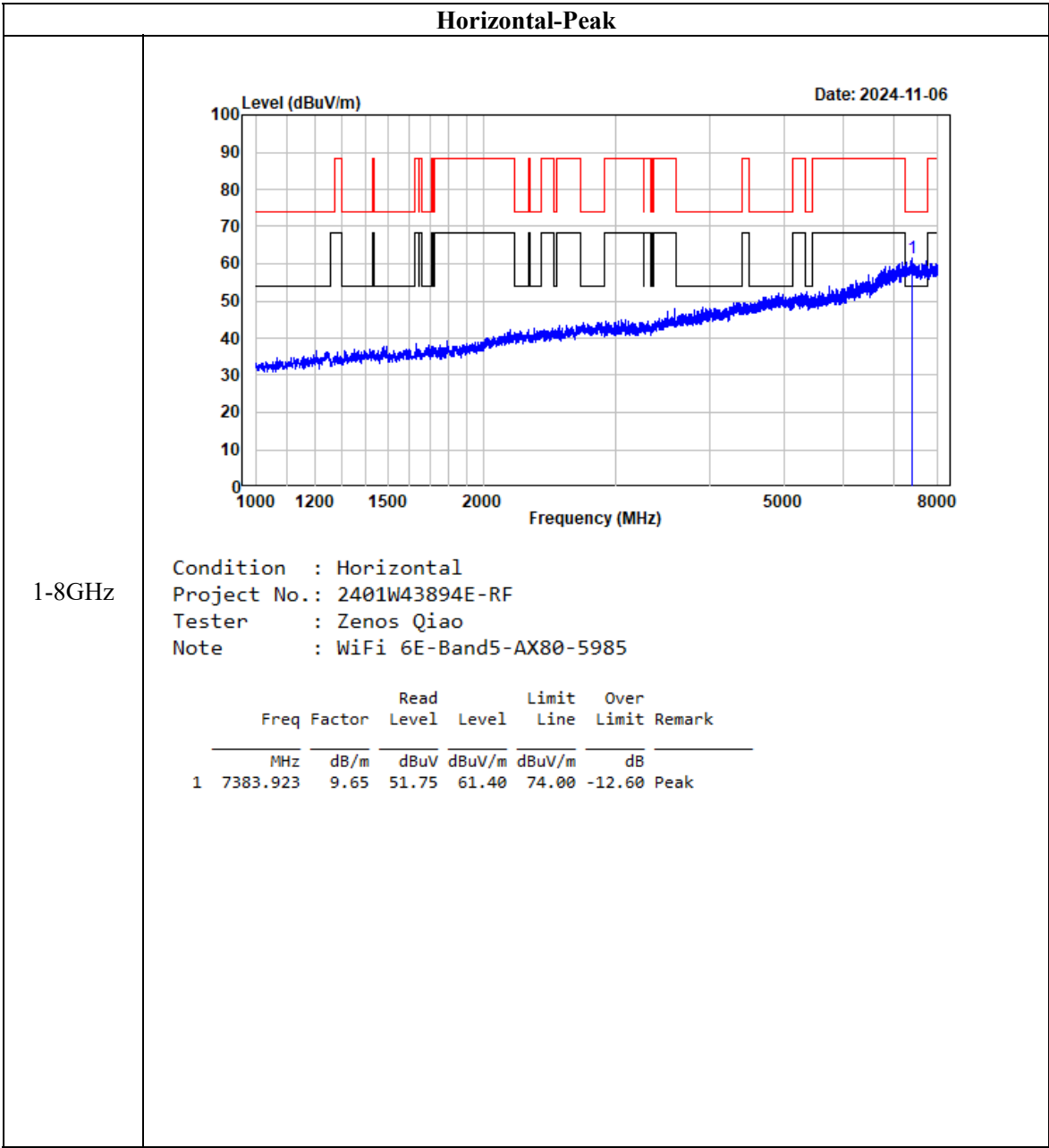


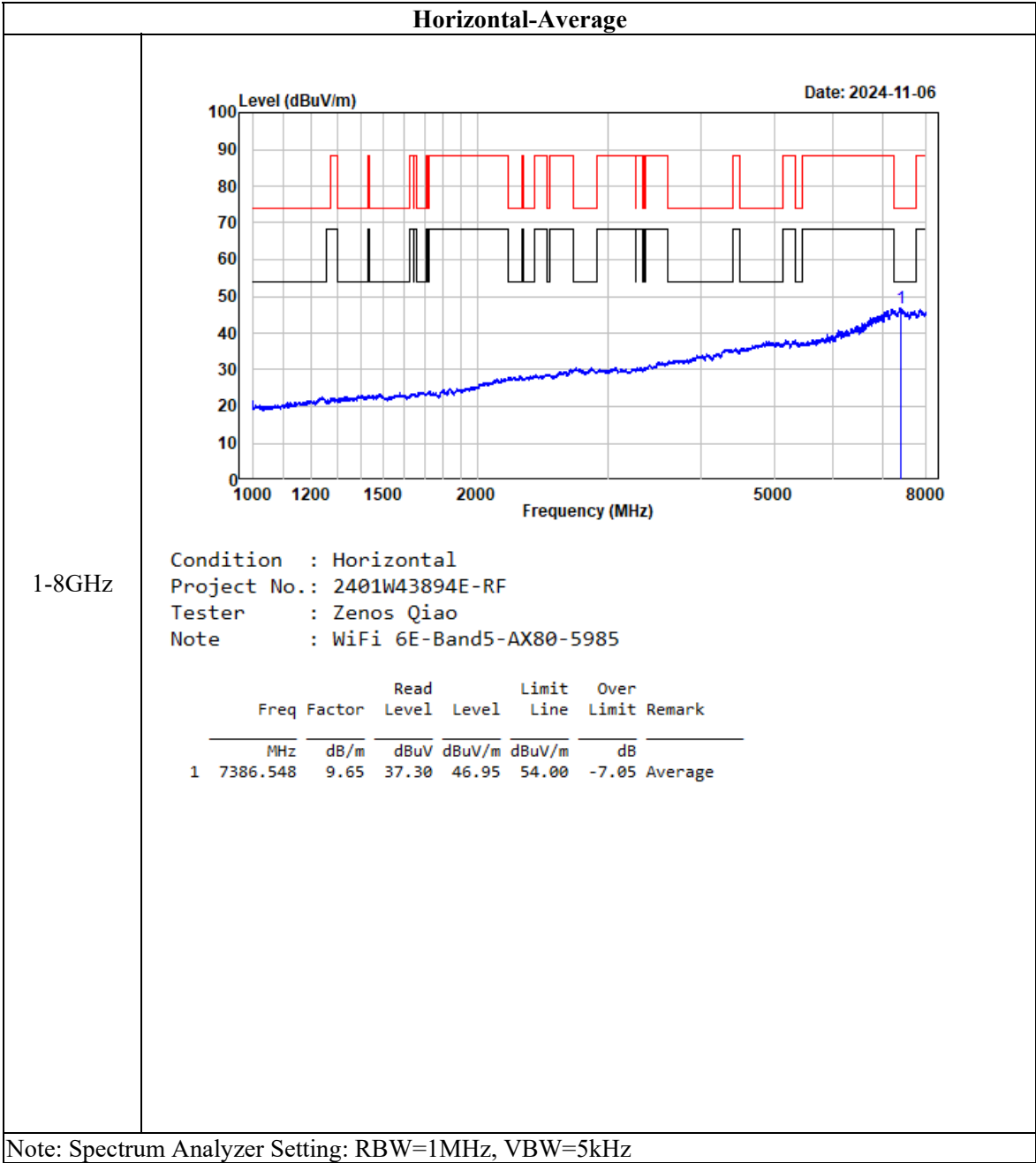


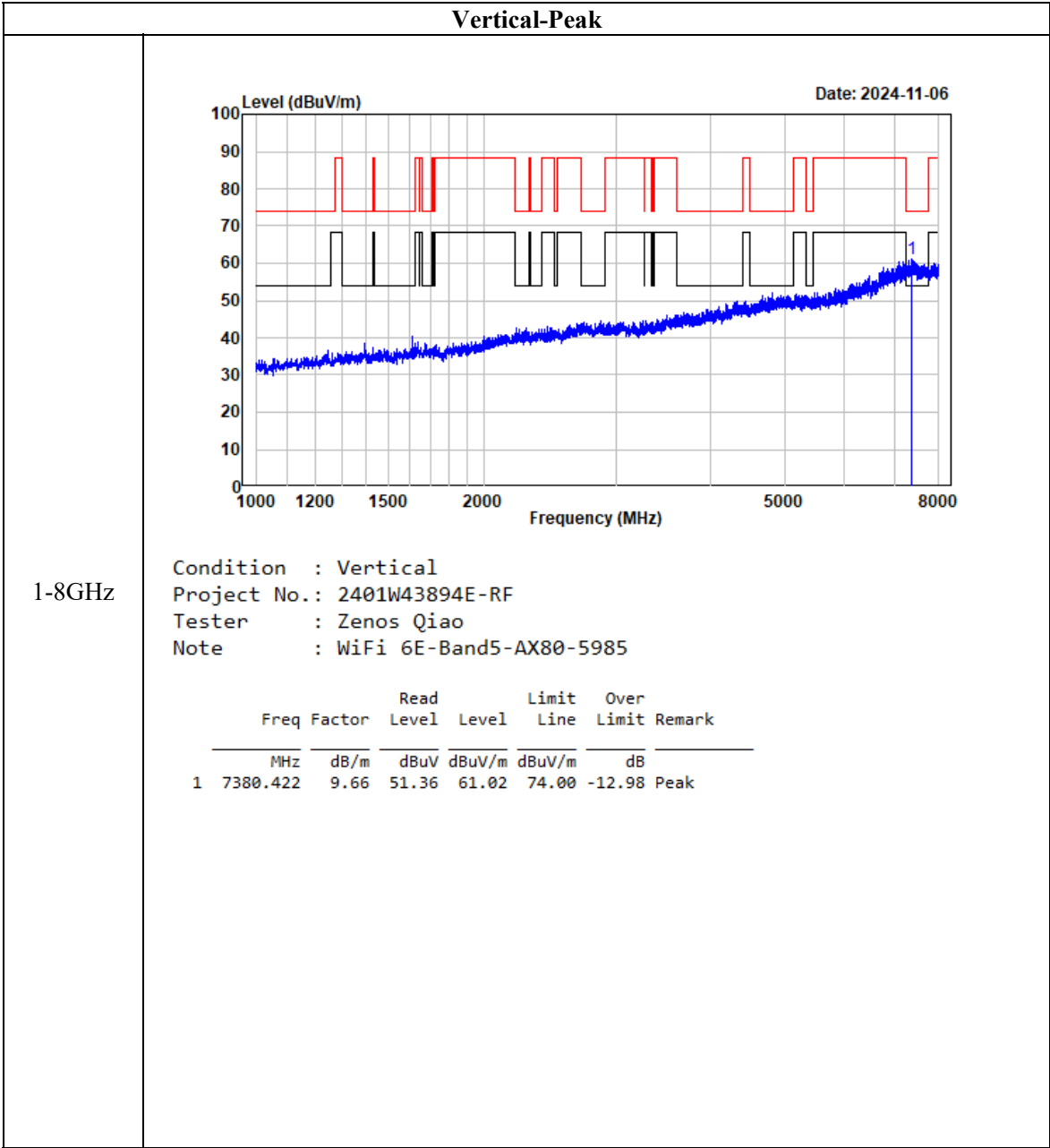


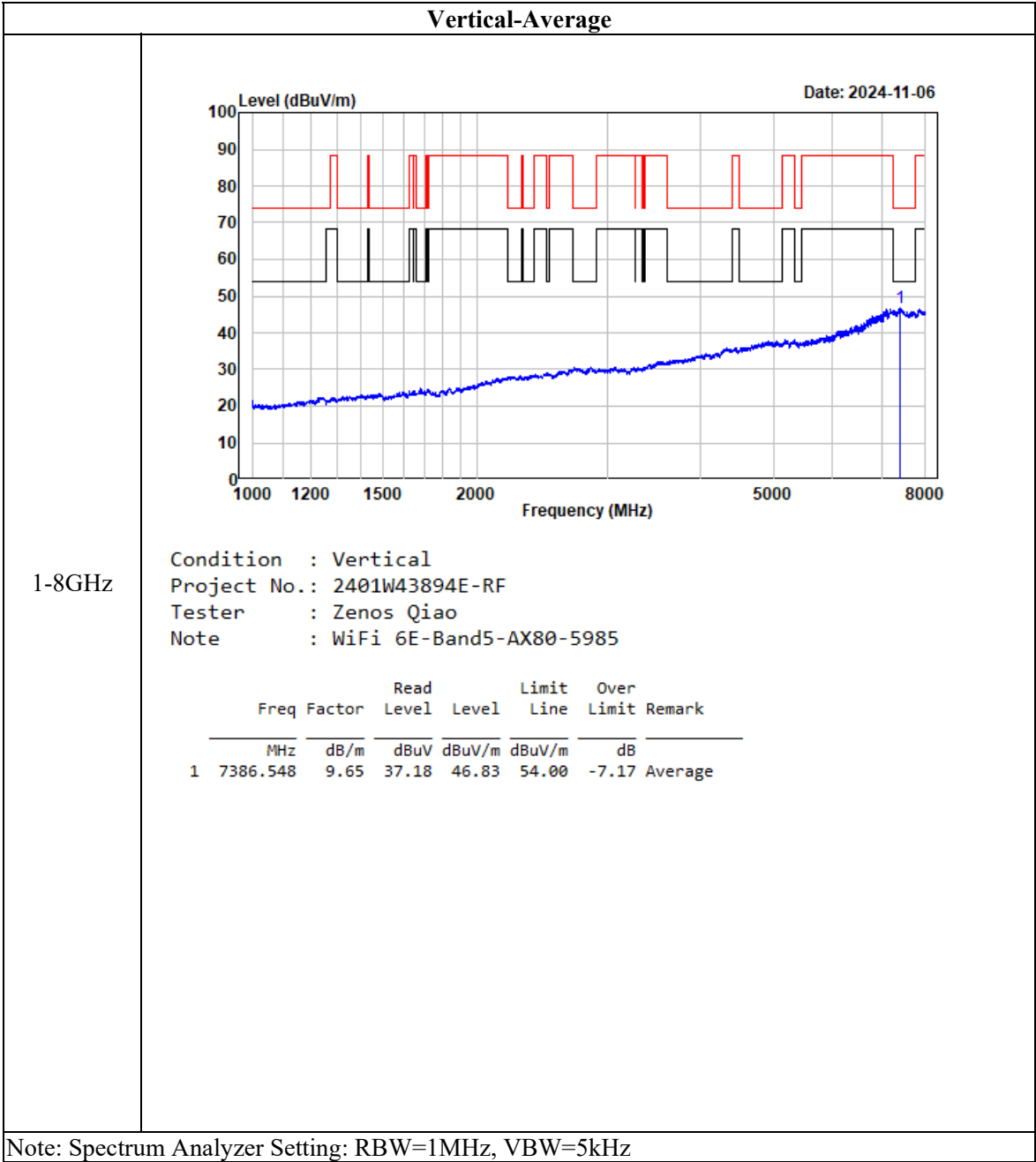


802.11ax80, 5985MHz

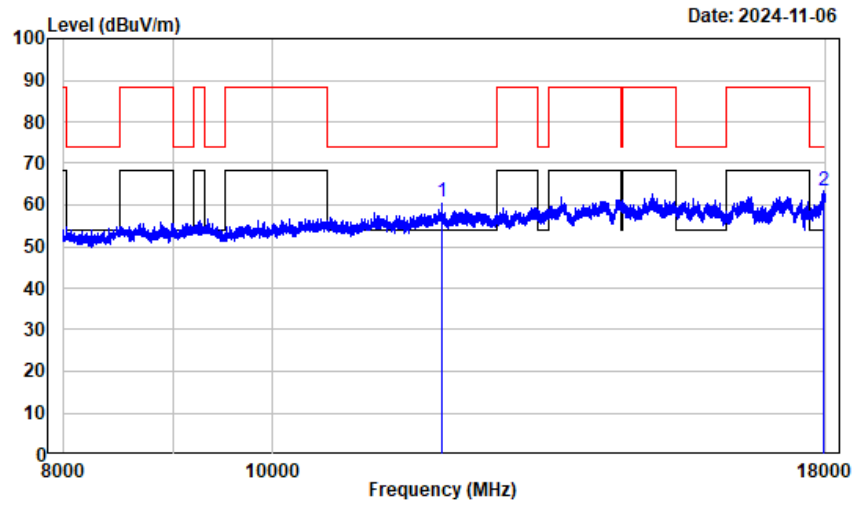








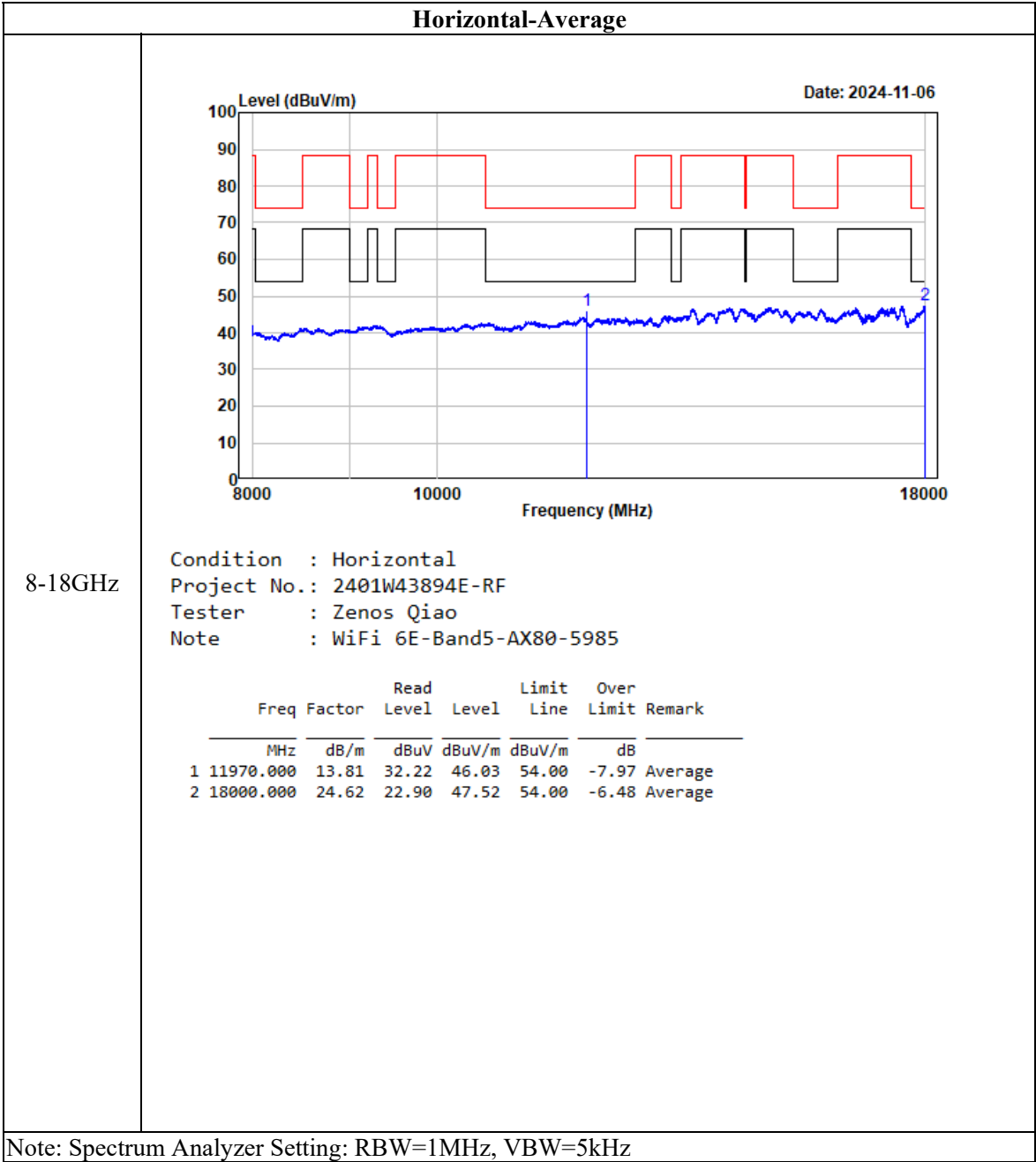
### Horizontal-Peak

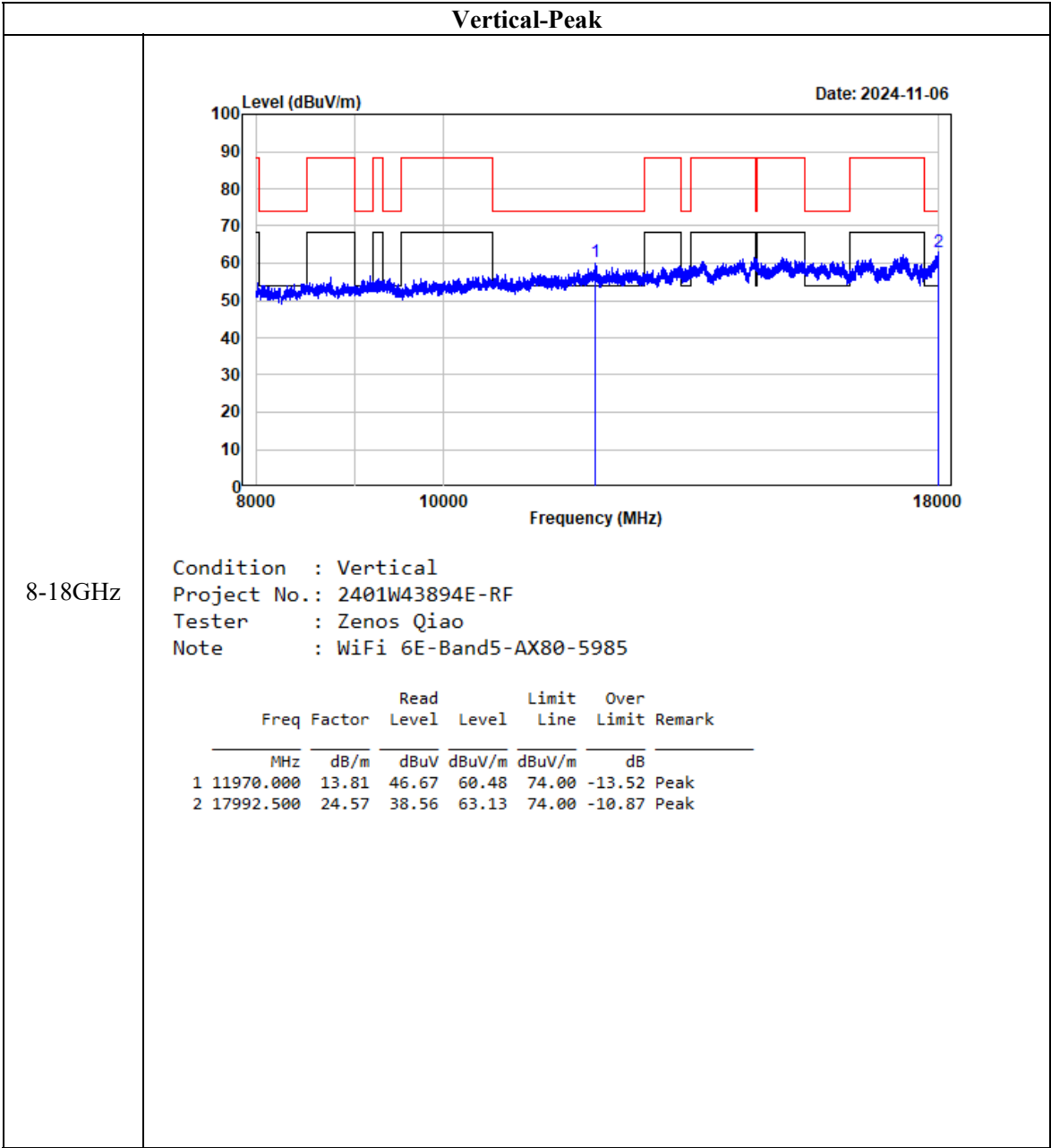


8-18GHz

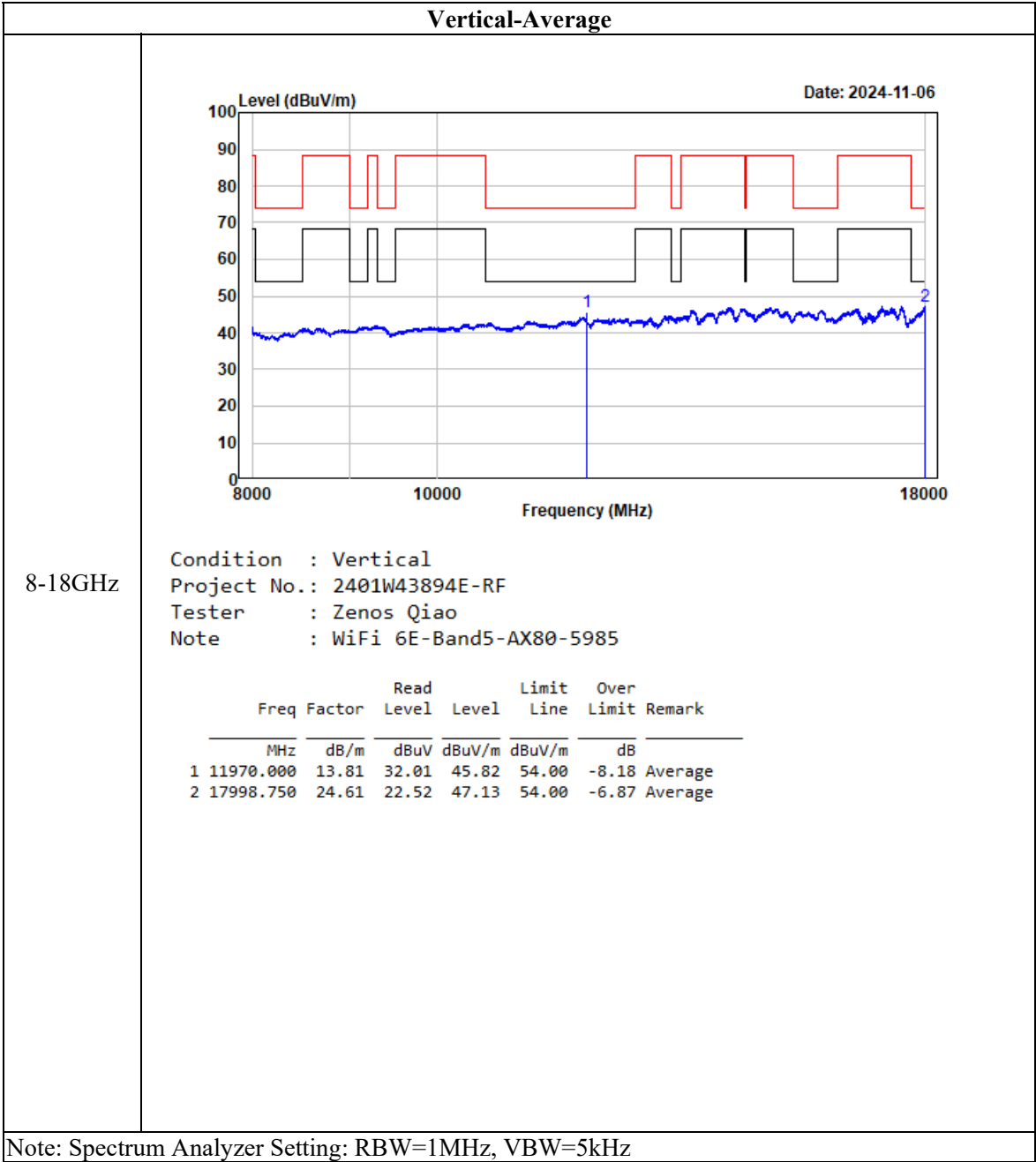
Condition : Horizontal  
Project No.: 2401W43894E-RF  
Tester : Zenos Qiao  
Note : WiFi 6E-Band5-AX80-5985

|   | Freq      | Factor | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-----------|--------|------------|--------|------------|------------|--------|
|   | MHz       | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 11970.000 | 13.81  | 46.94      | 60.75  | 74.00      | -13.25     | Peak   |
| 2 | 17970.000 | 24.41  | 38.96      | 63.37  | 74.00      | -10.63     | Peak   |

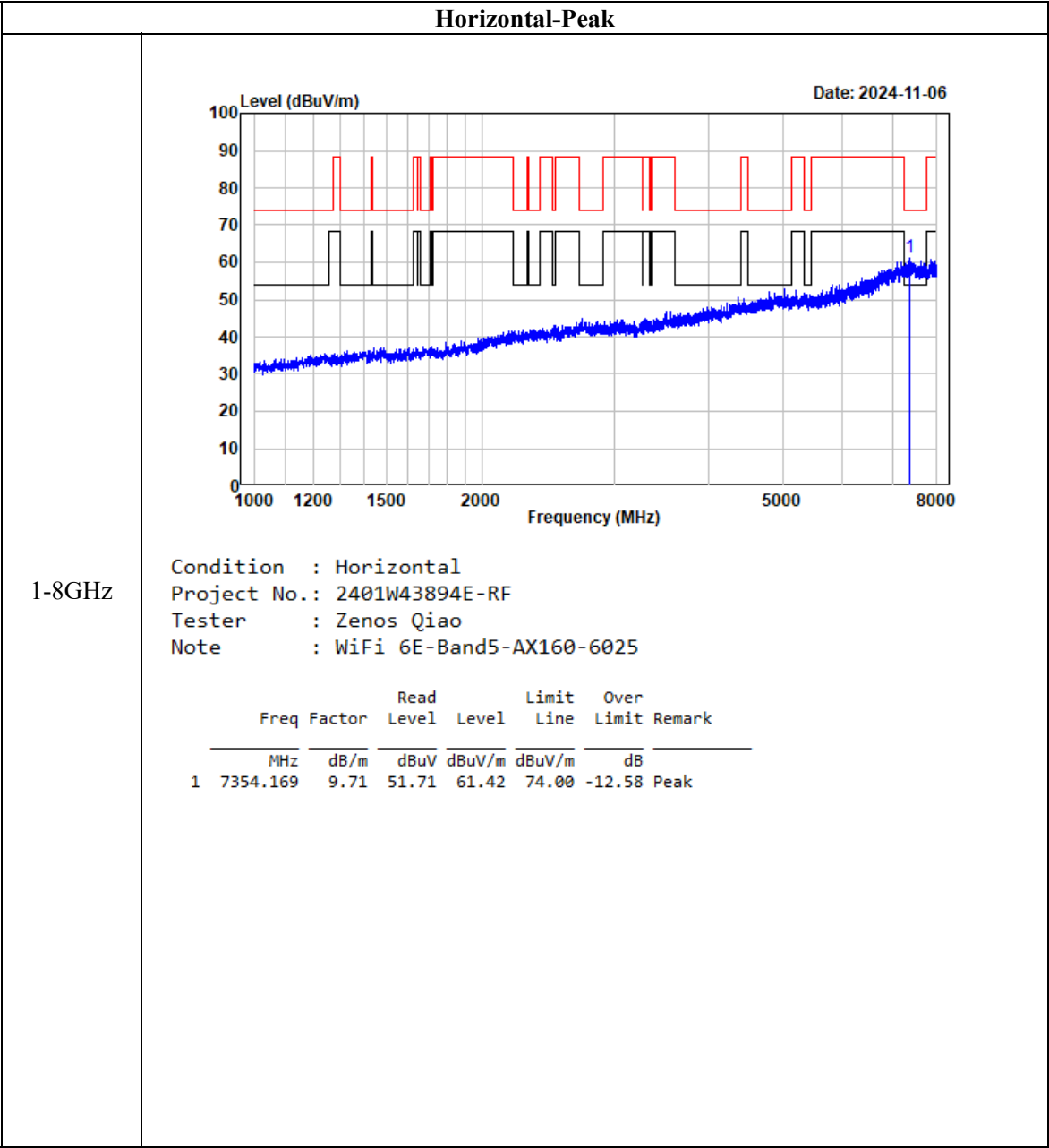


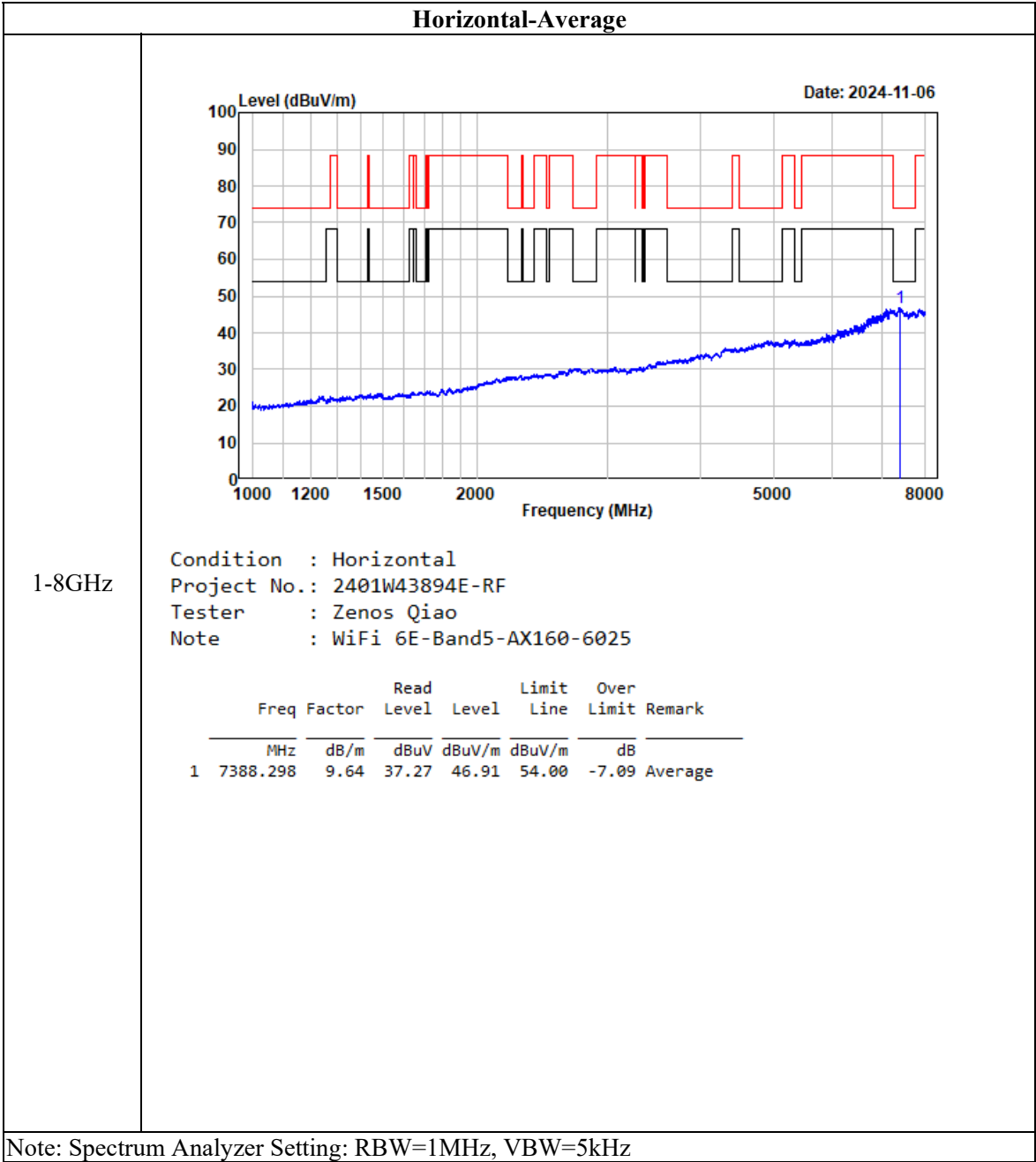


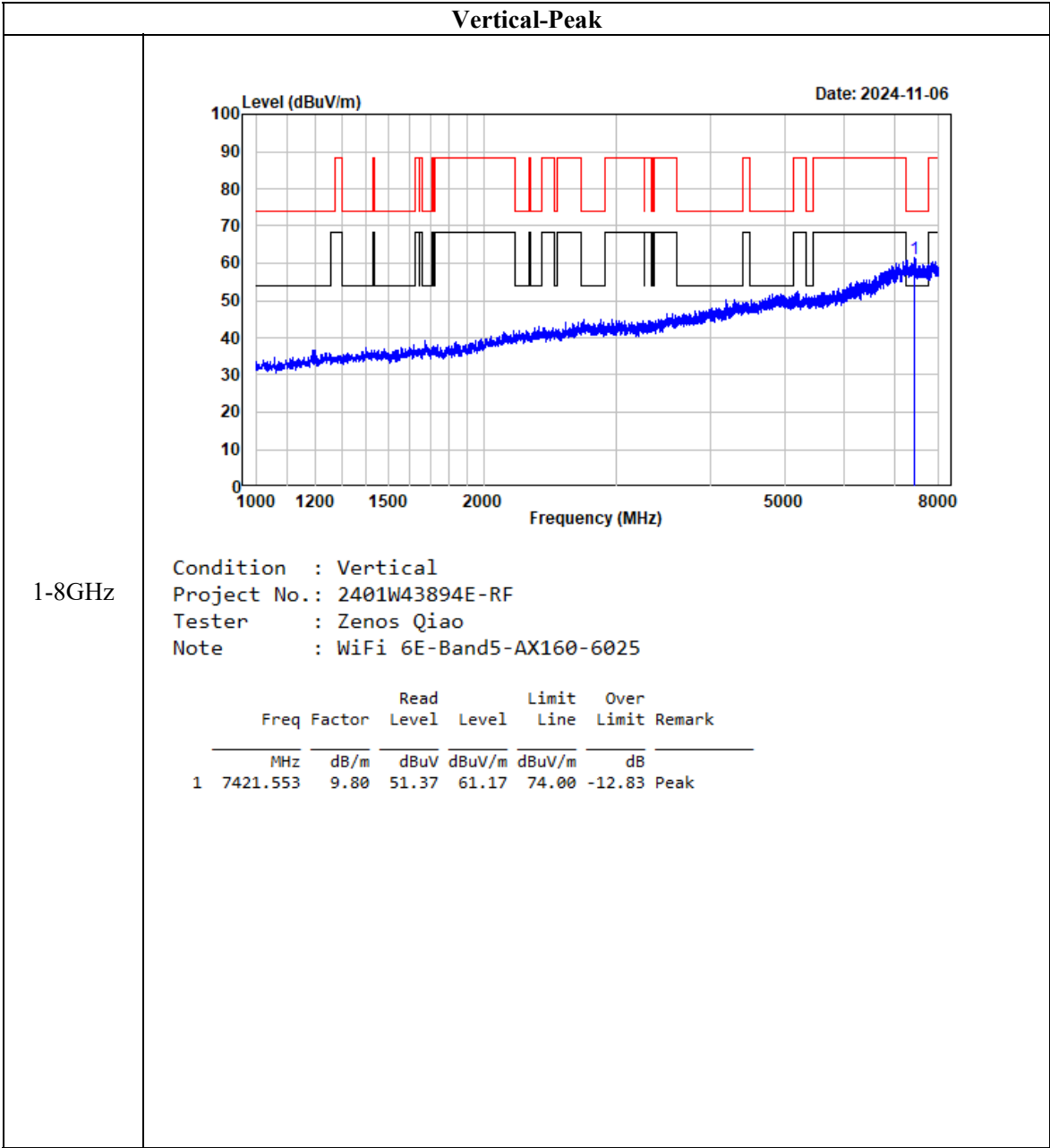


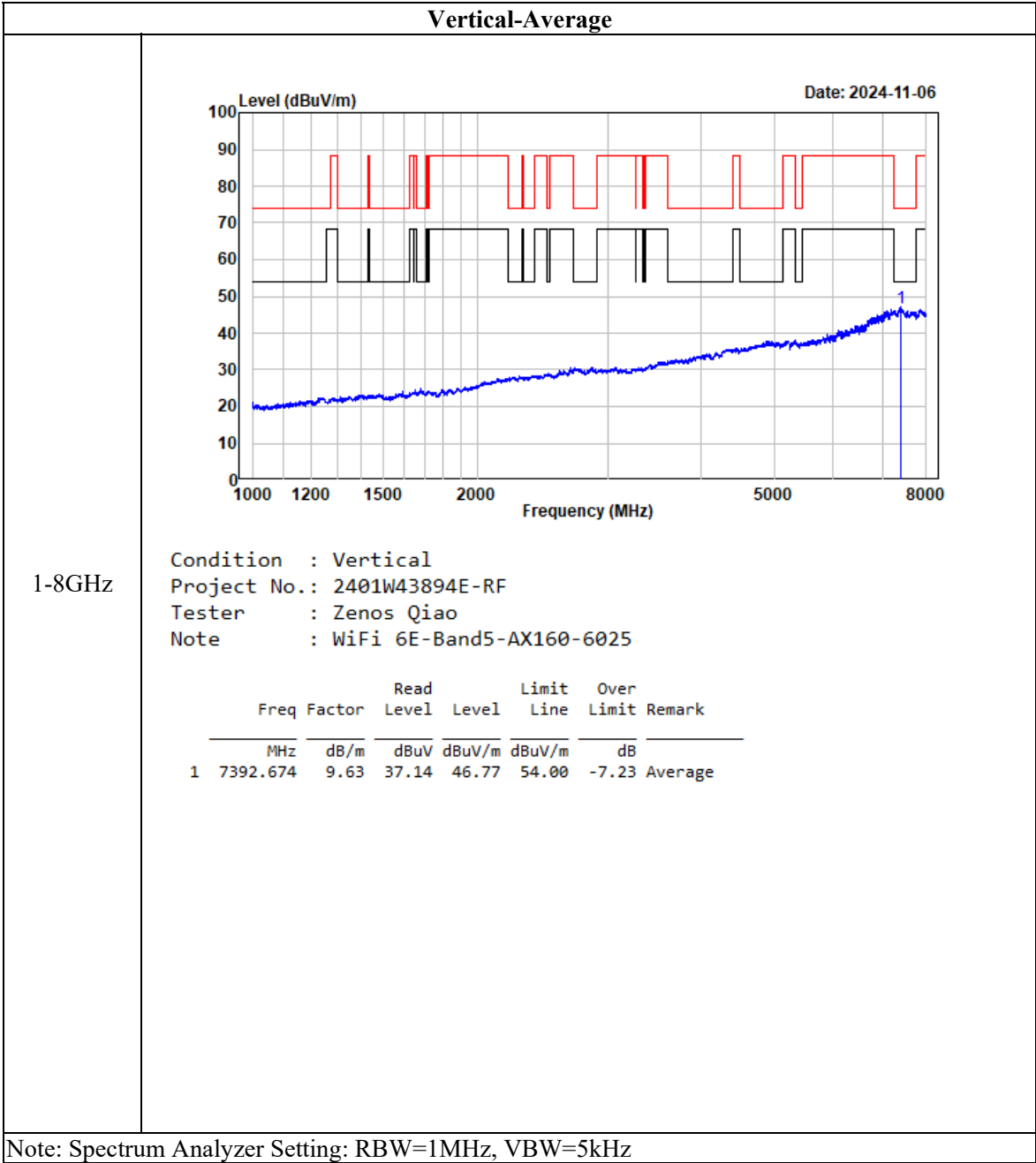


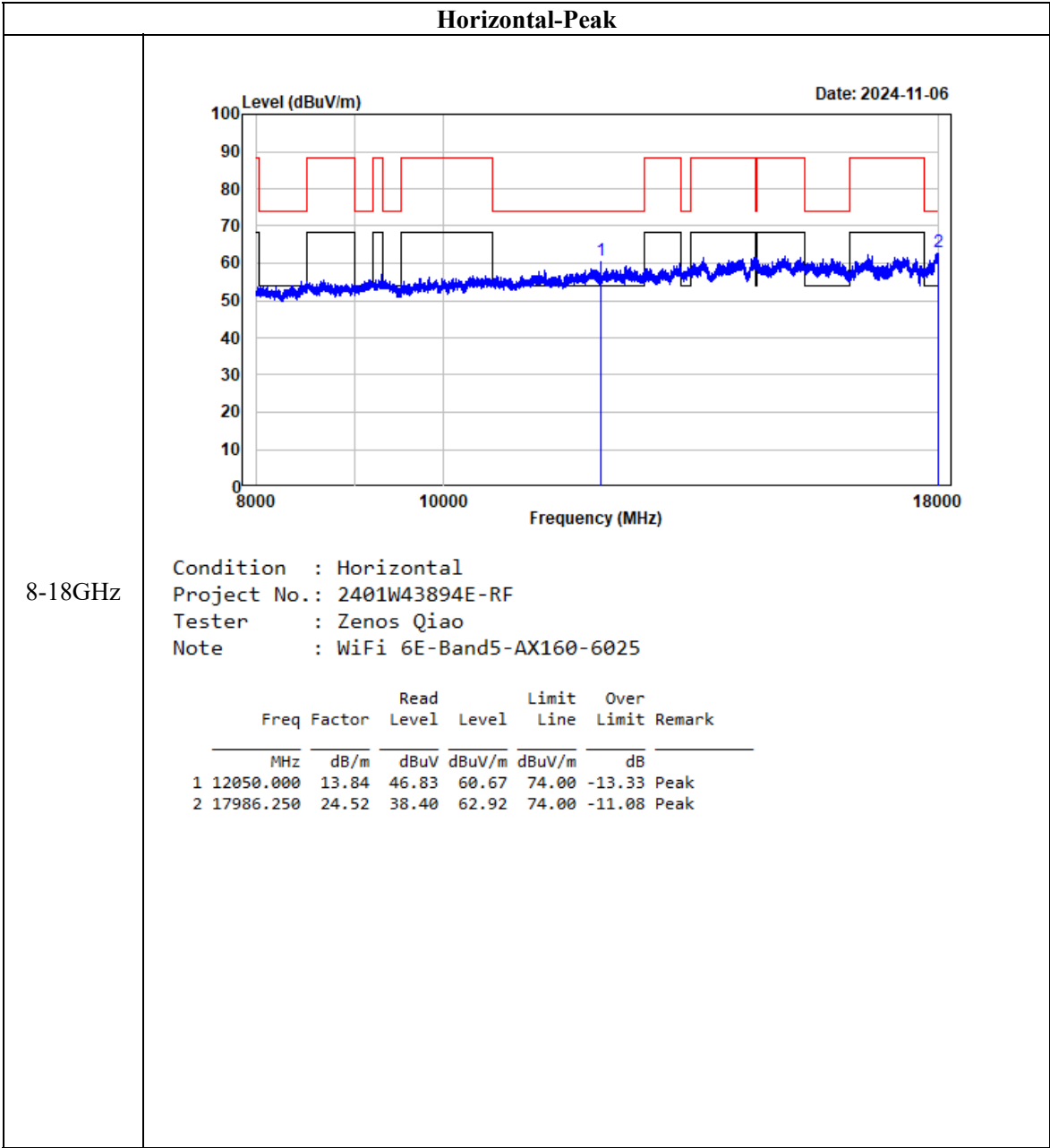
802.11ax160, 6025MHz

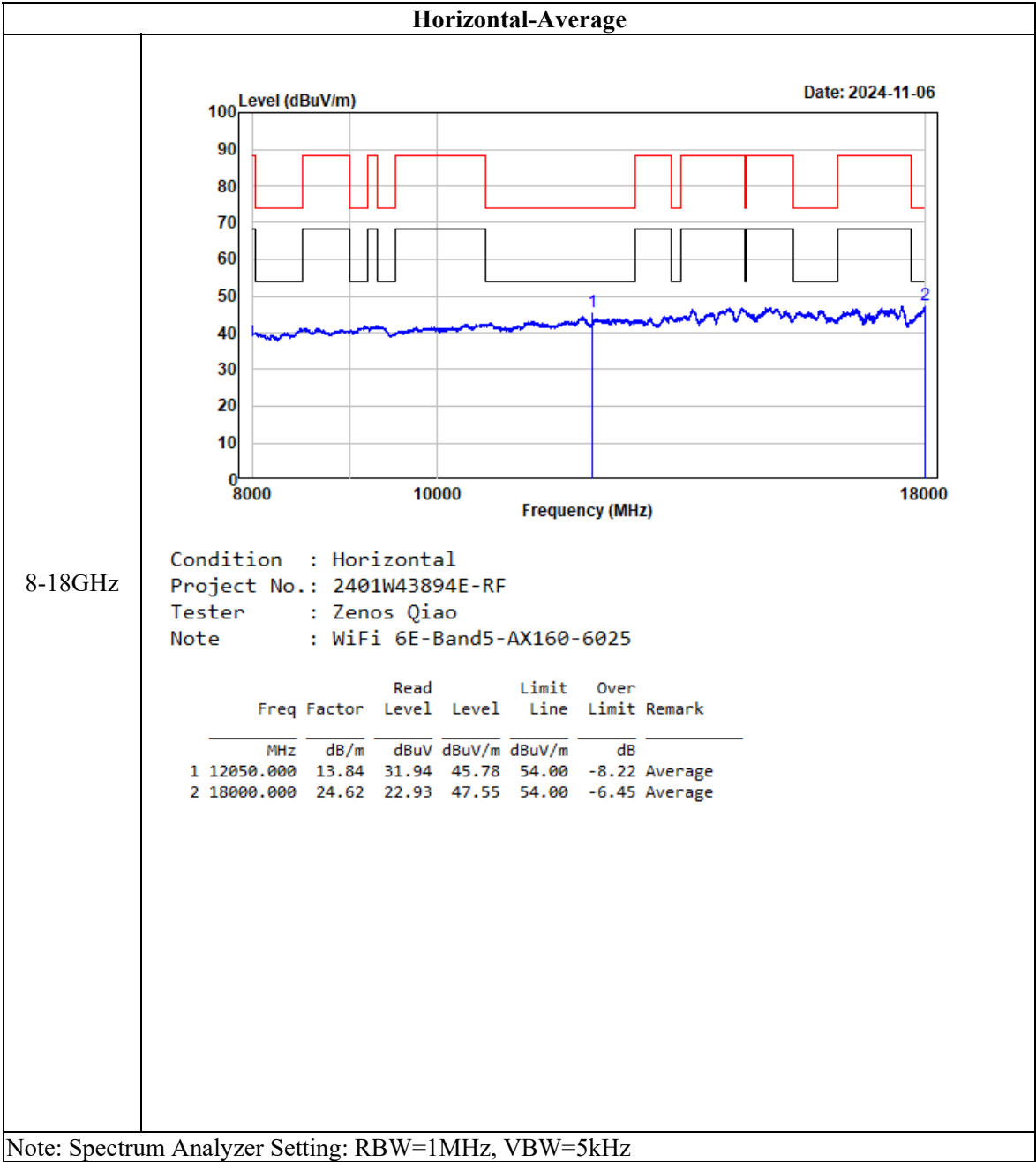


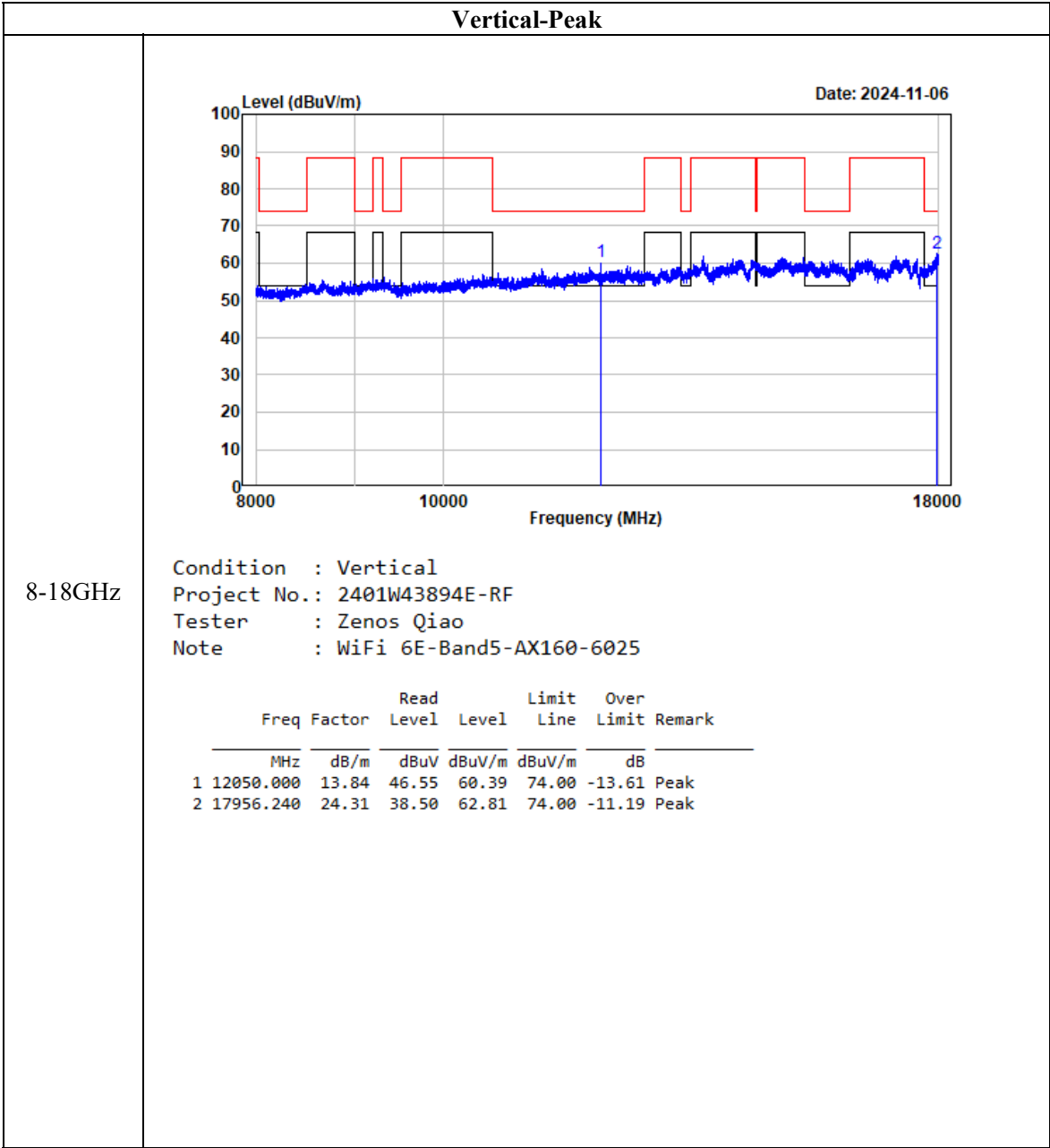




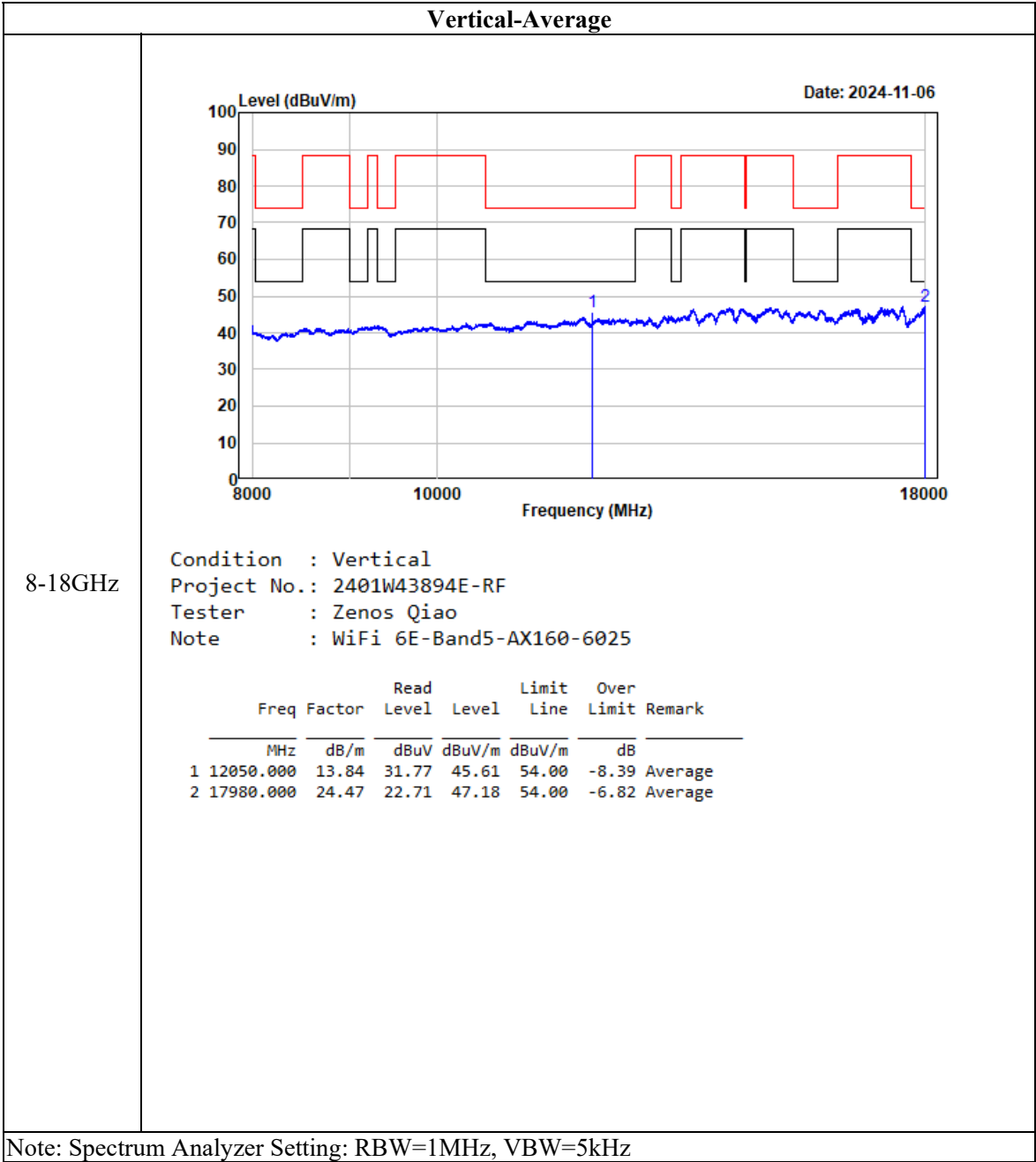






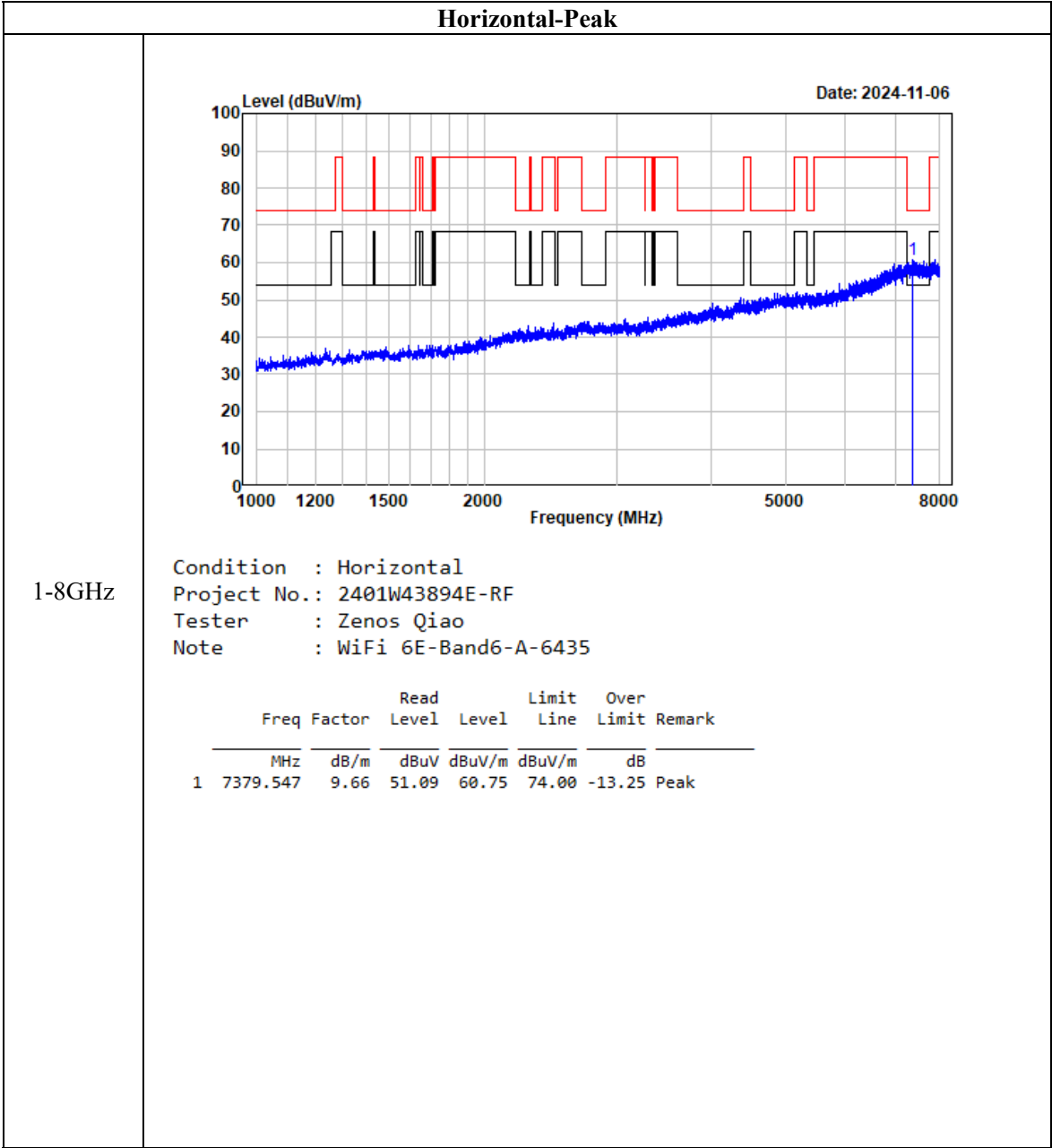


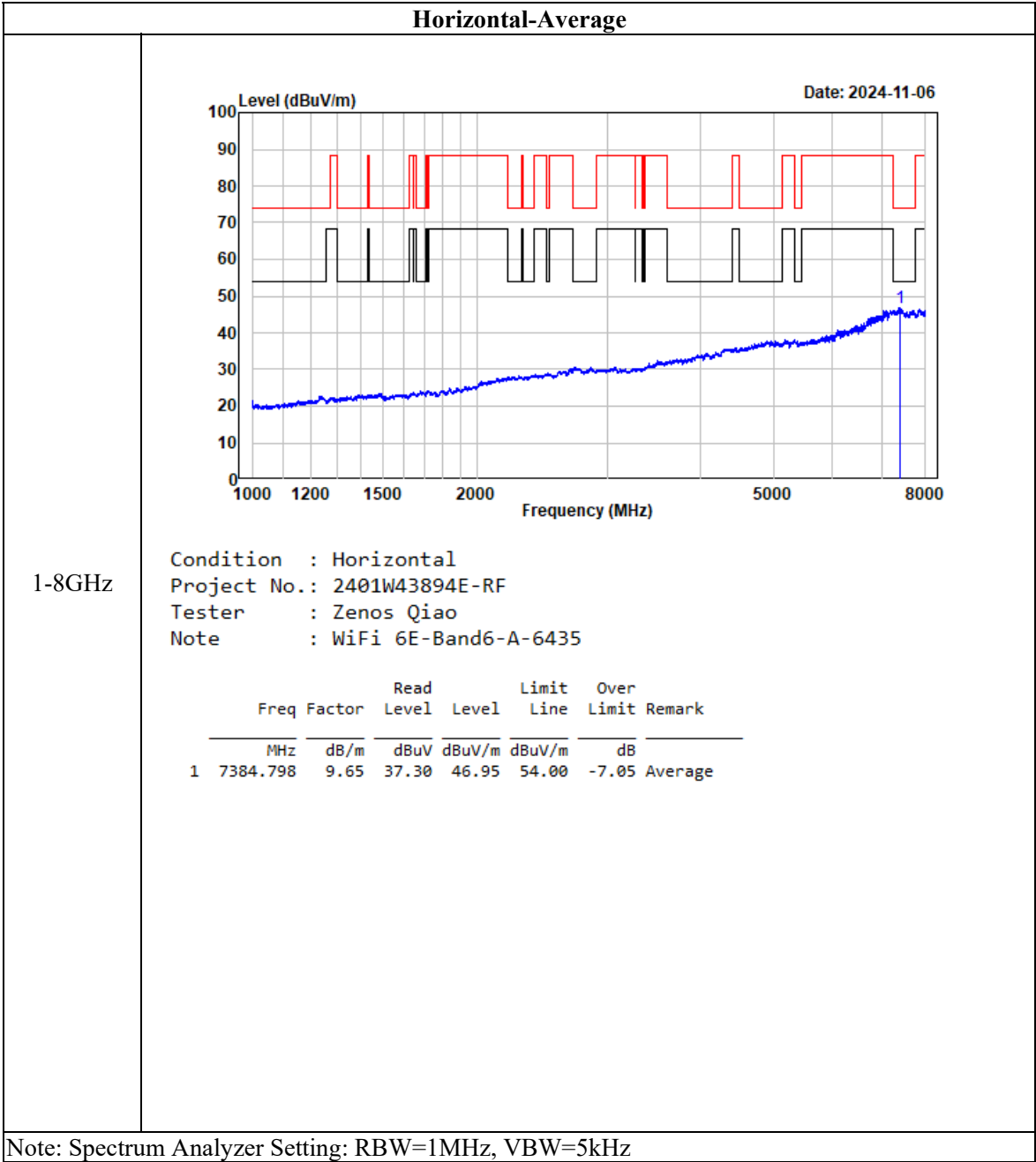


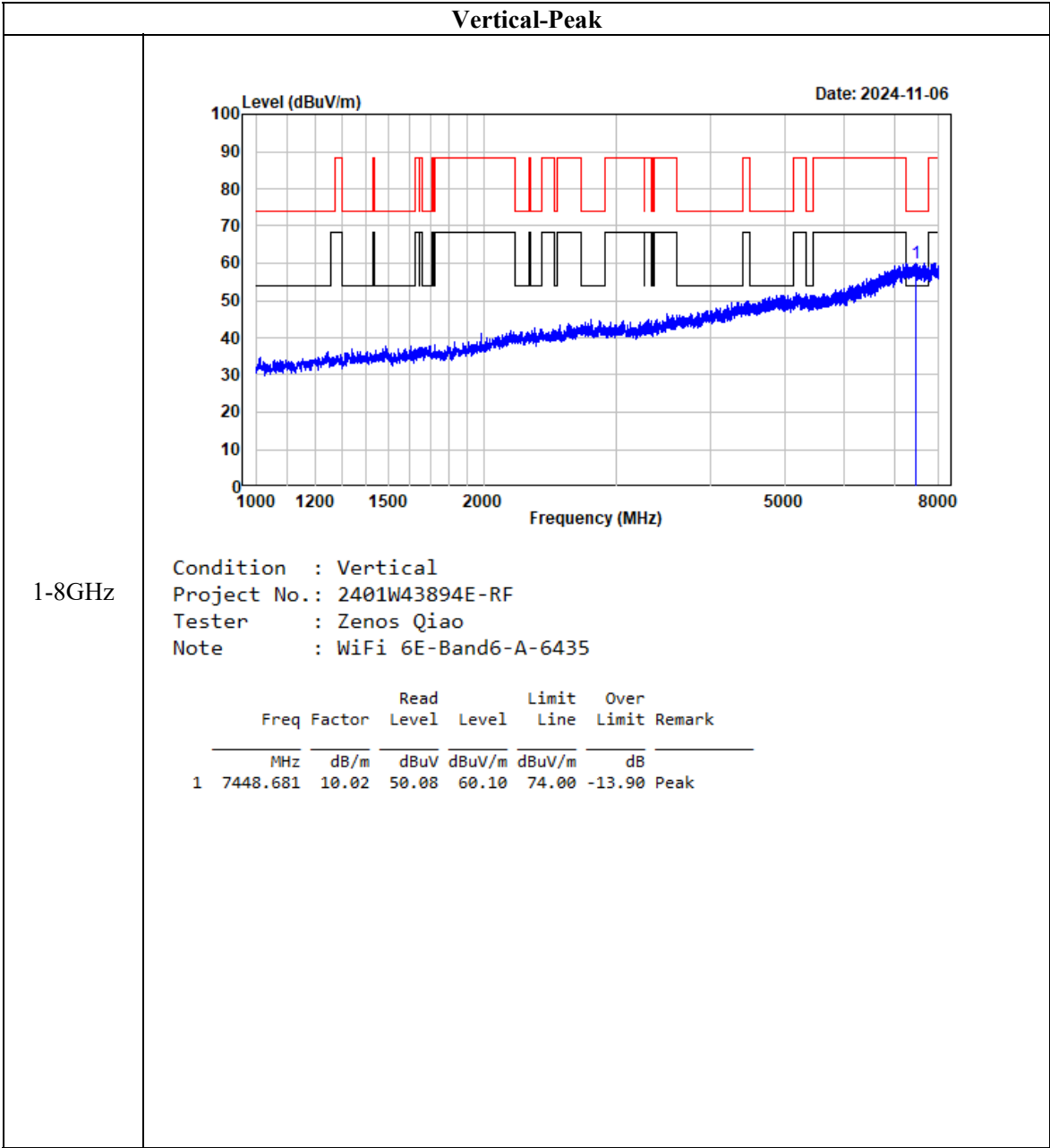


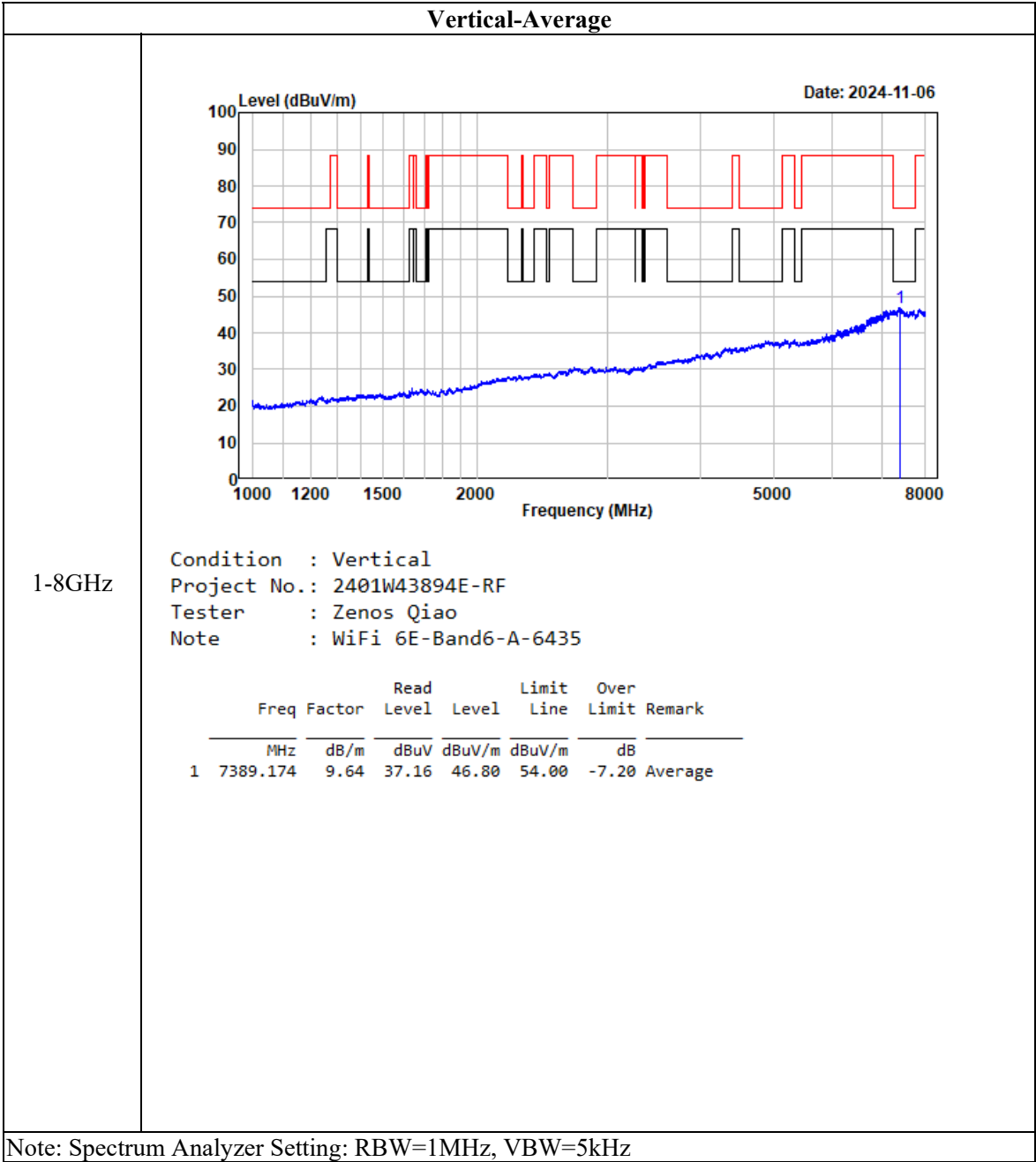
Wi-Fi 6E\_ U-NII 6:

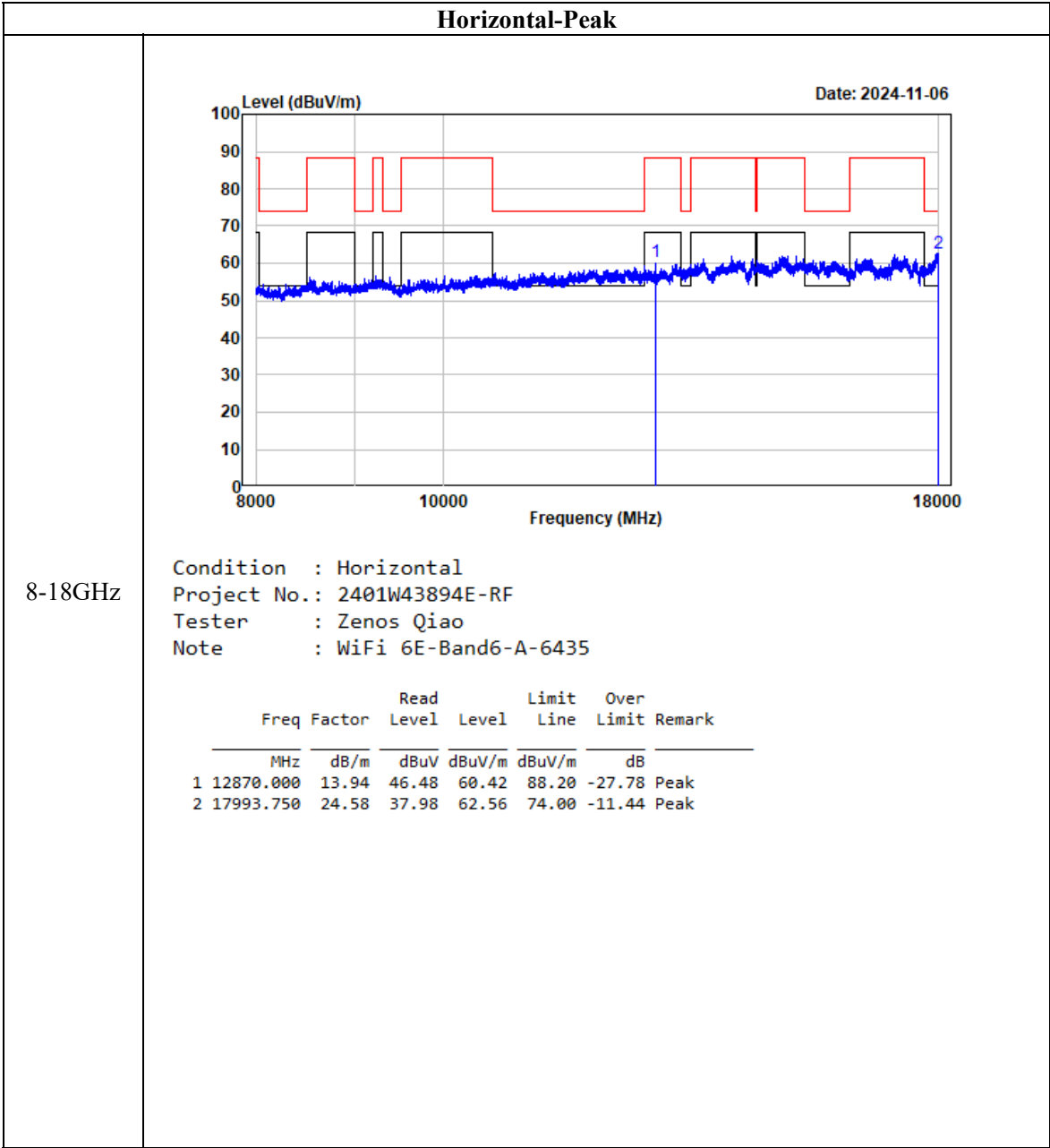
802.11a, 6435MHz

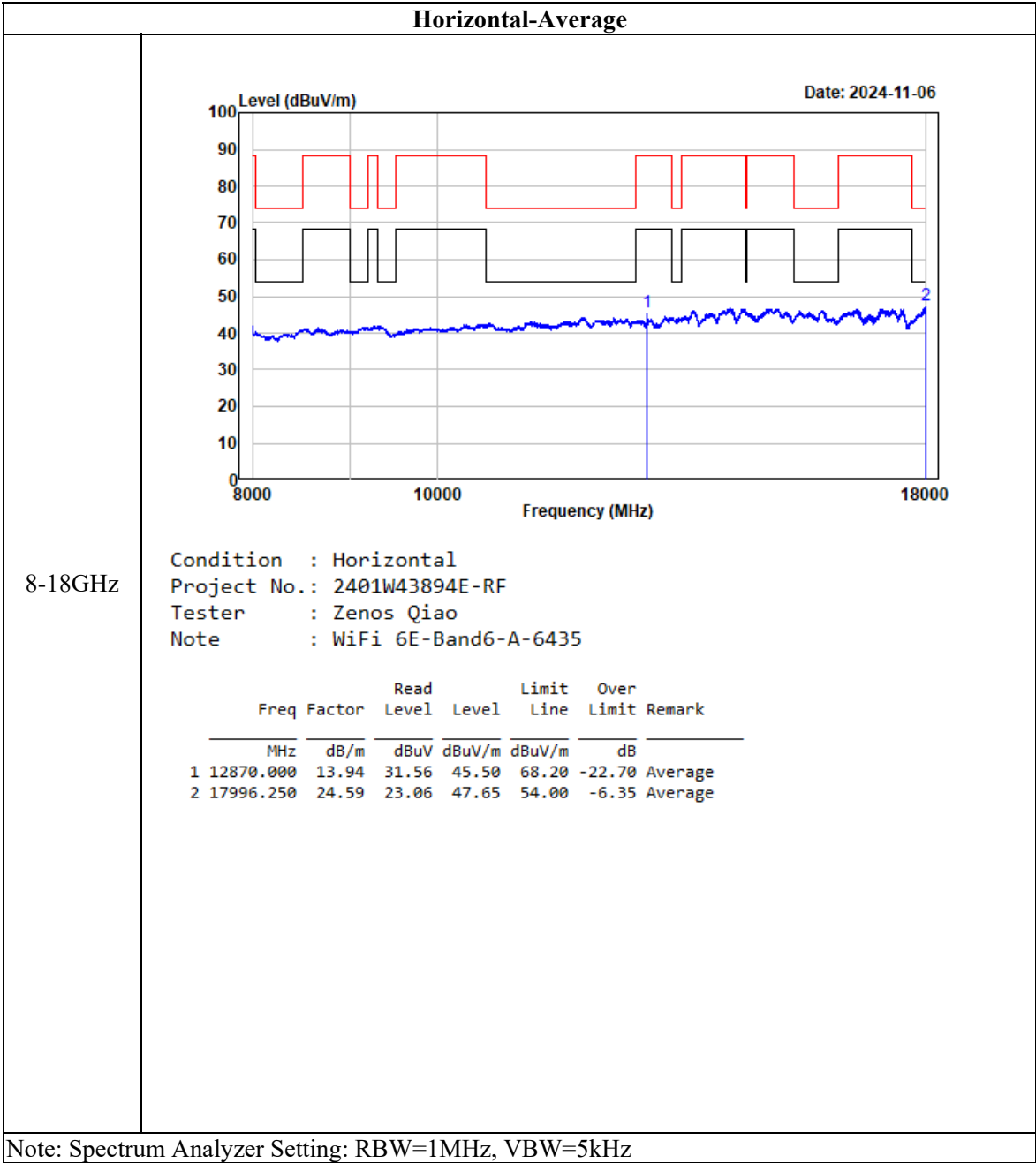


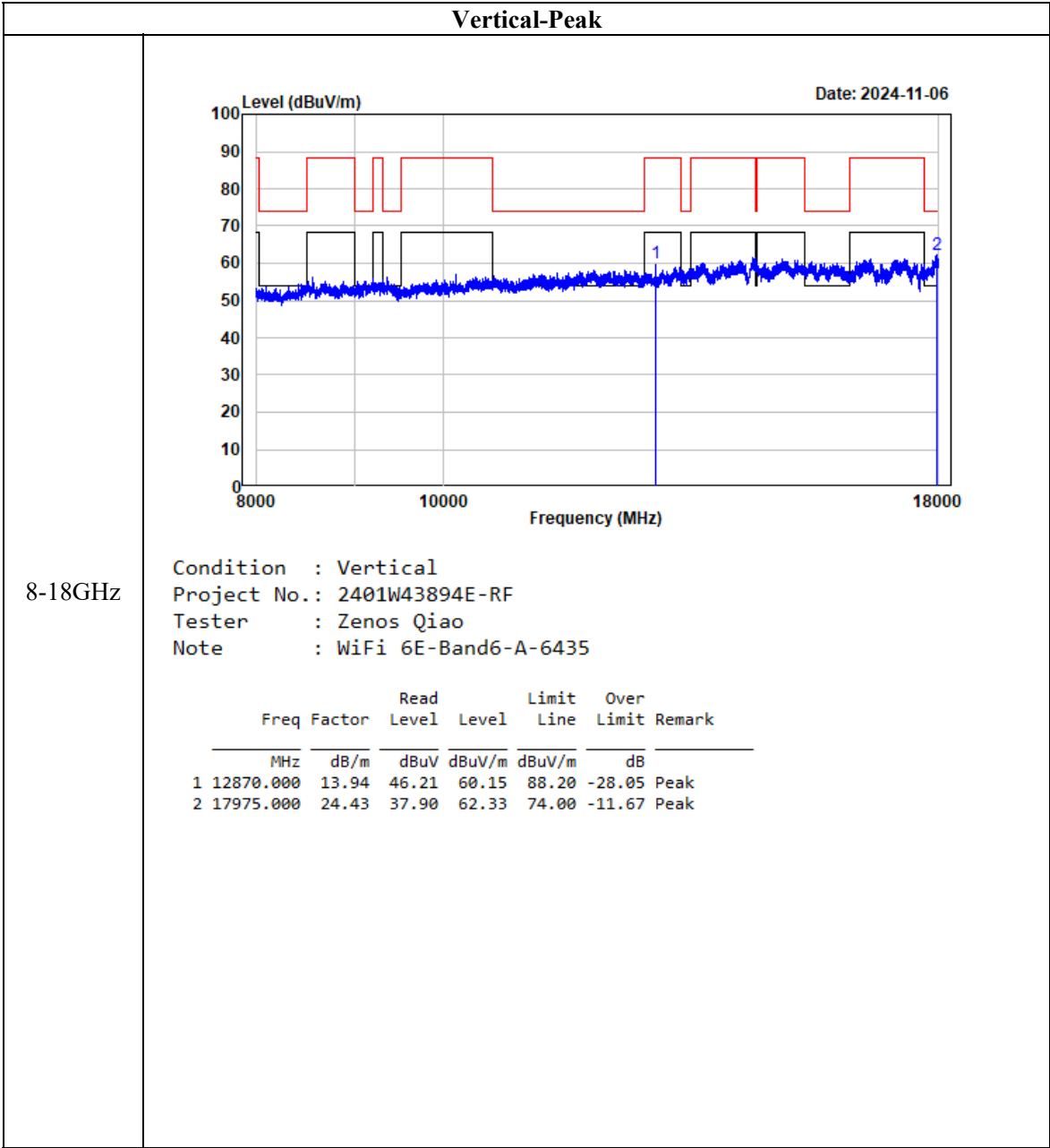




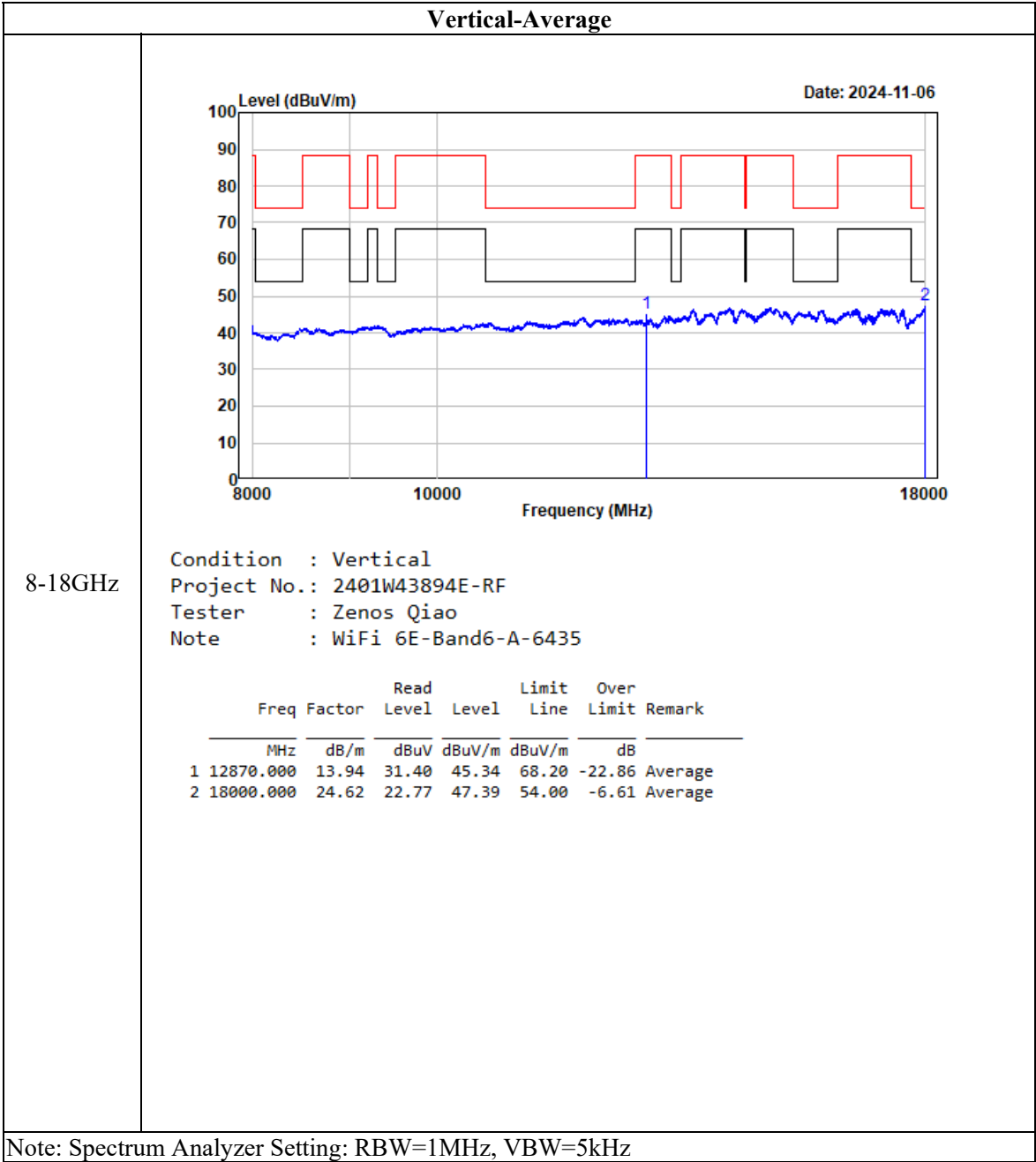




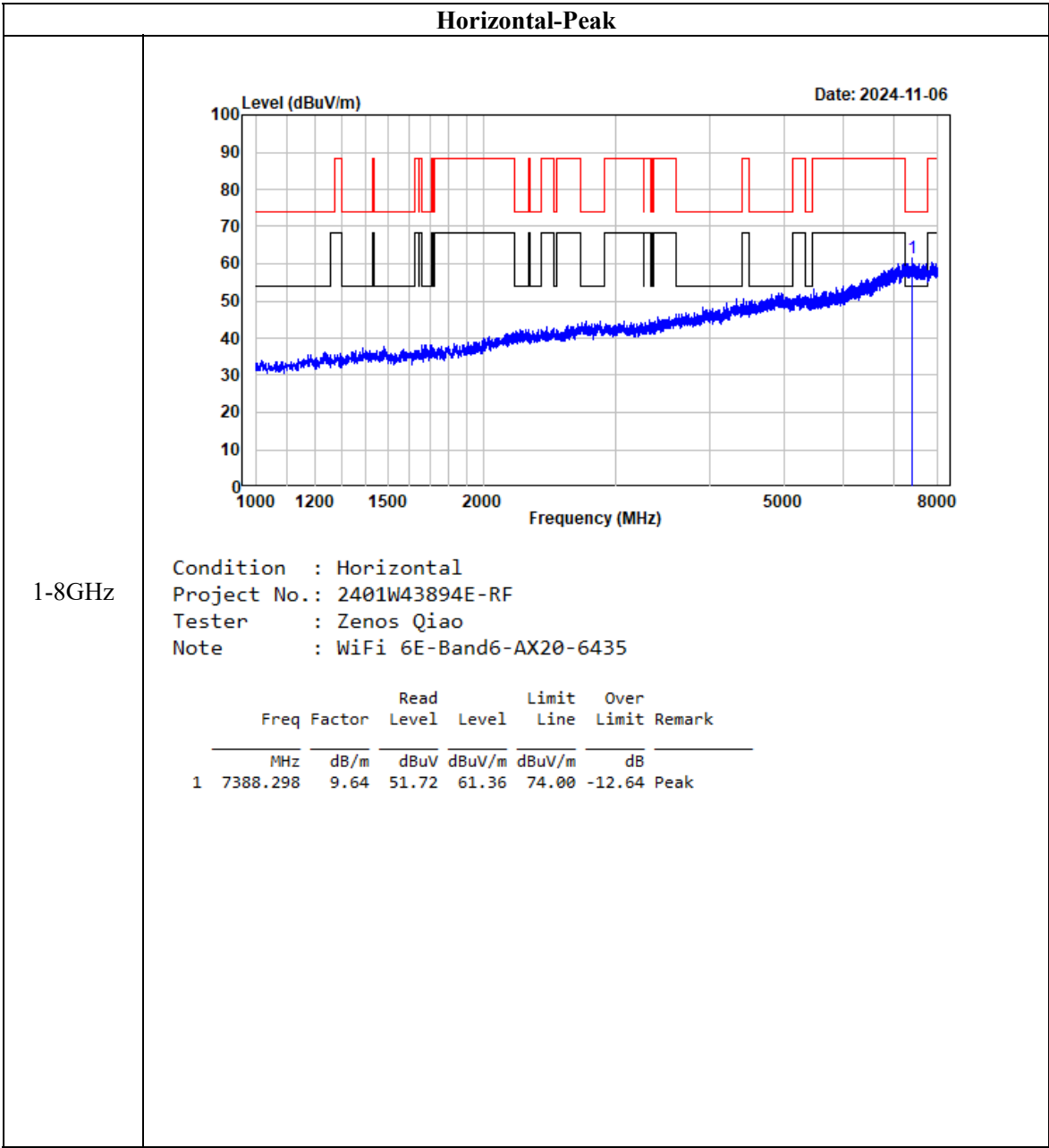


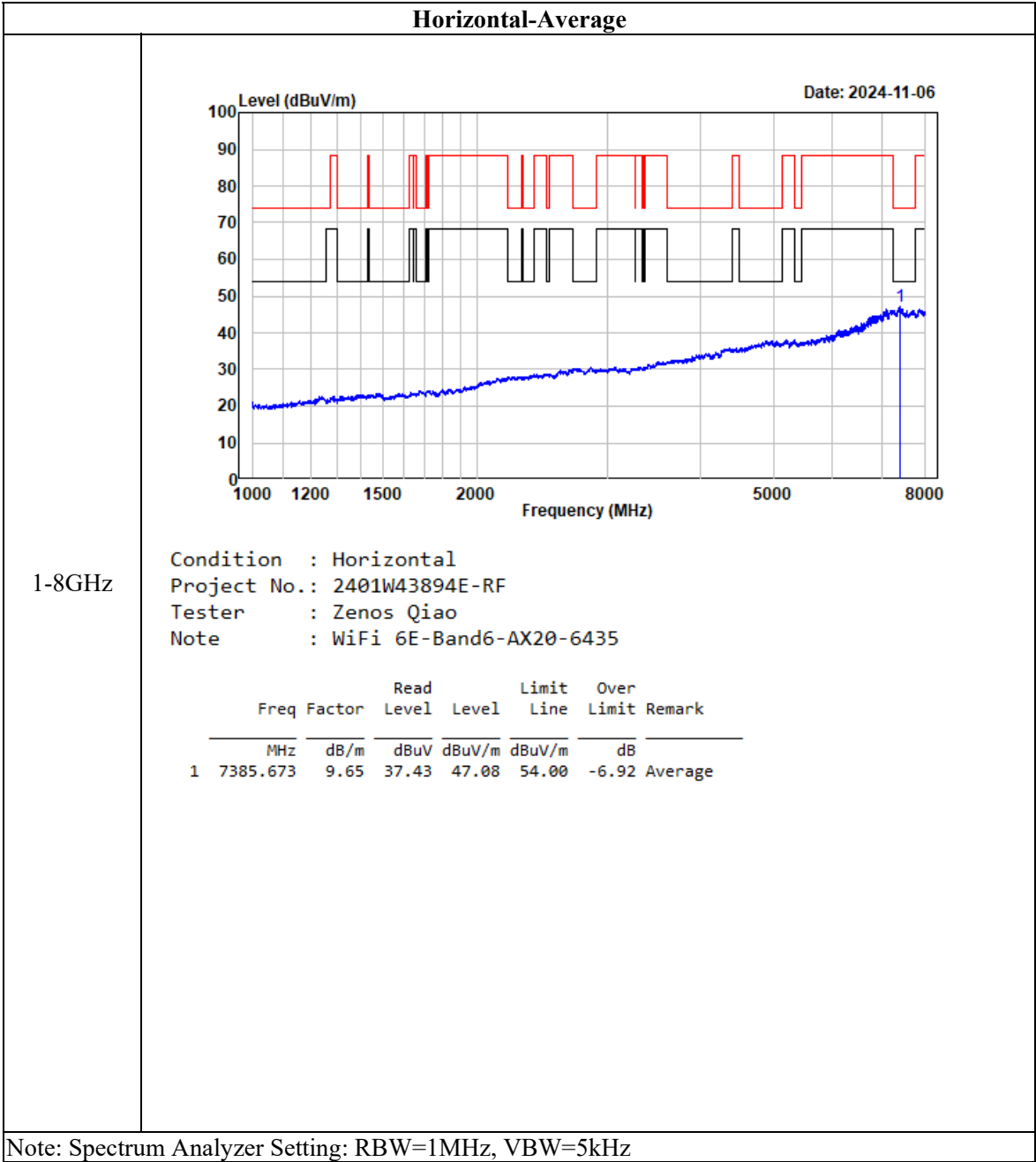


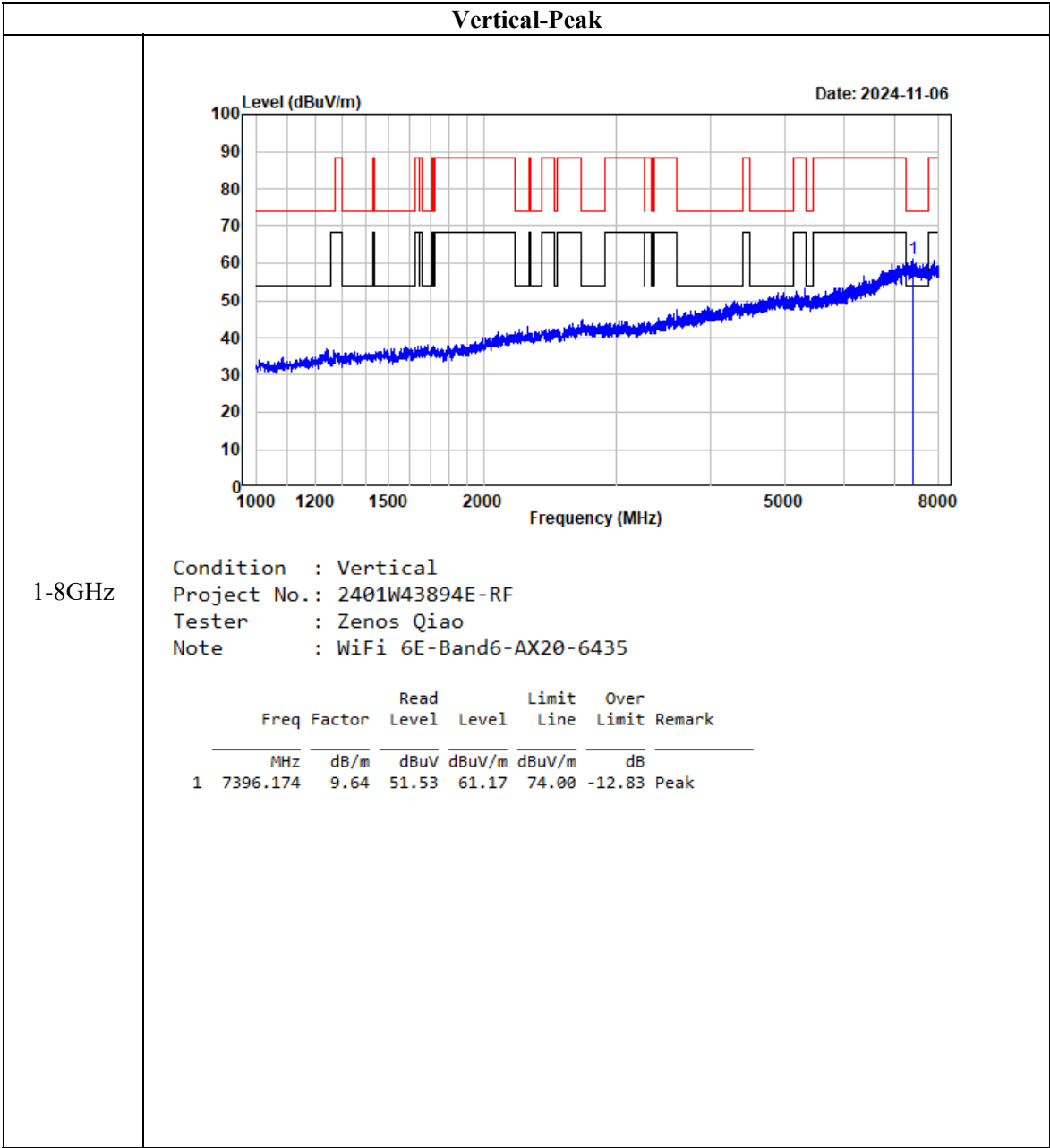


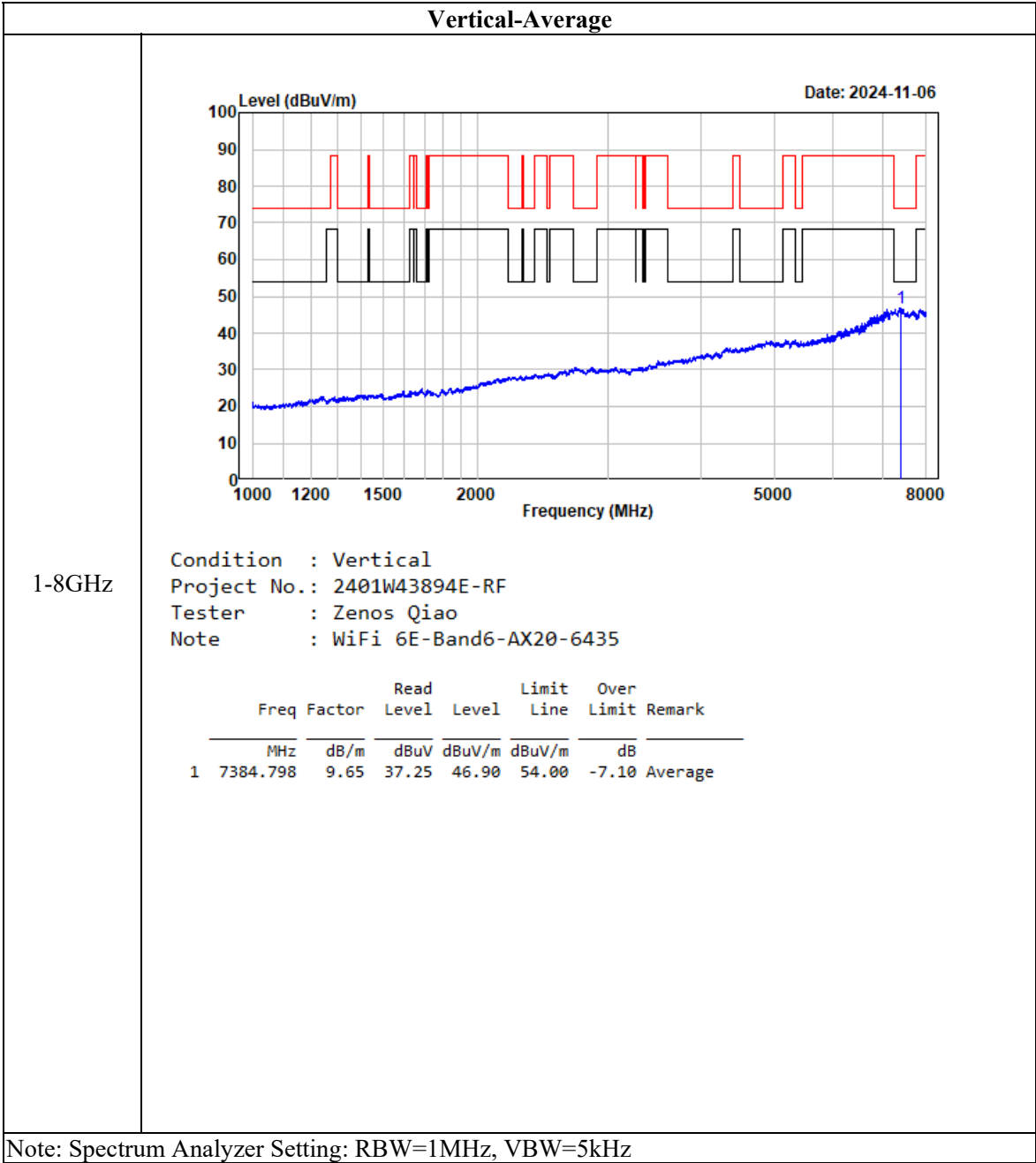


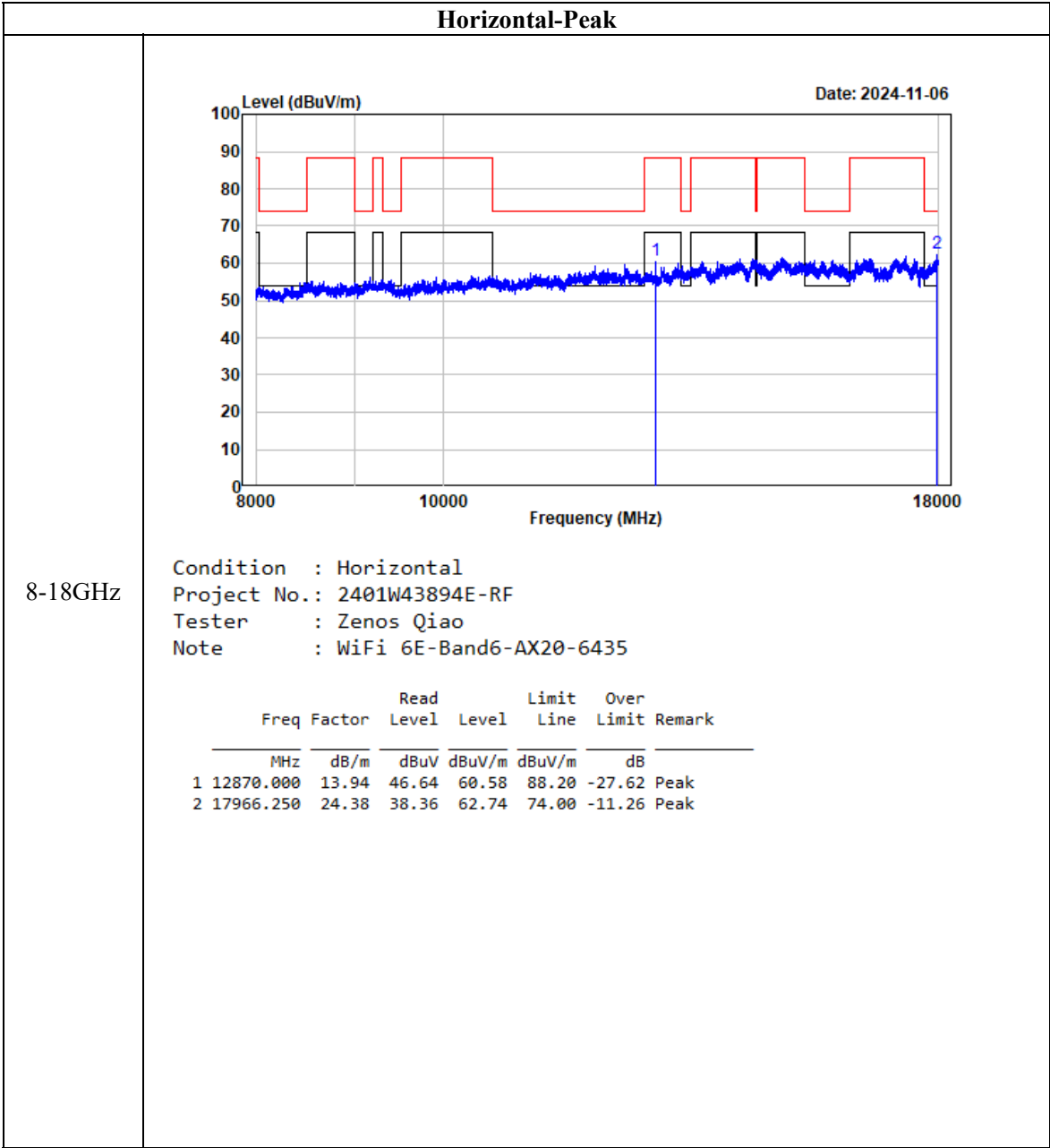
802.11ax20, 6435MHz

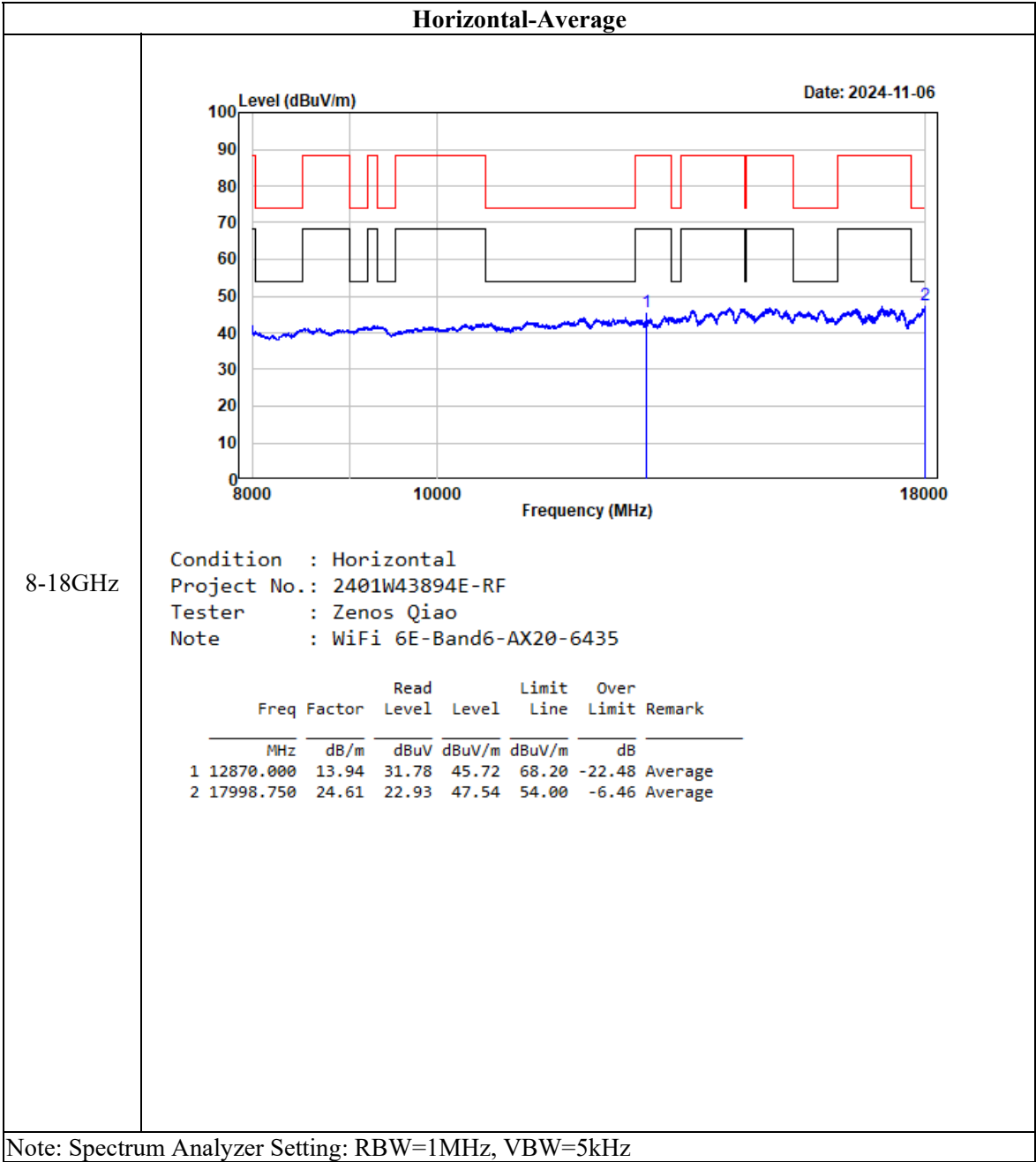


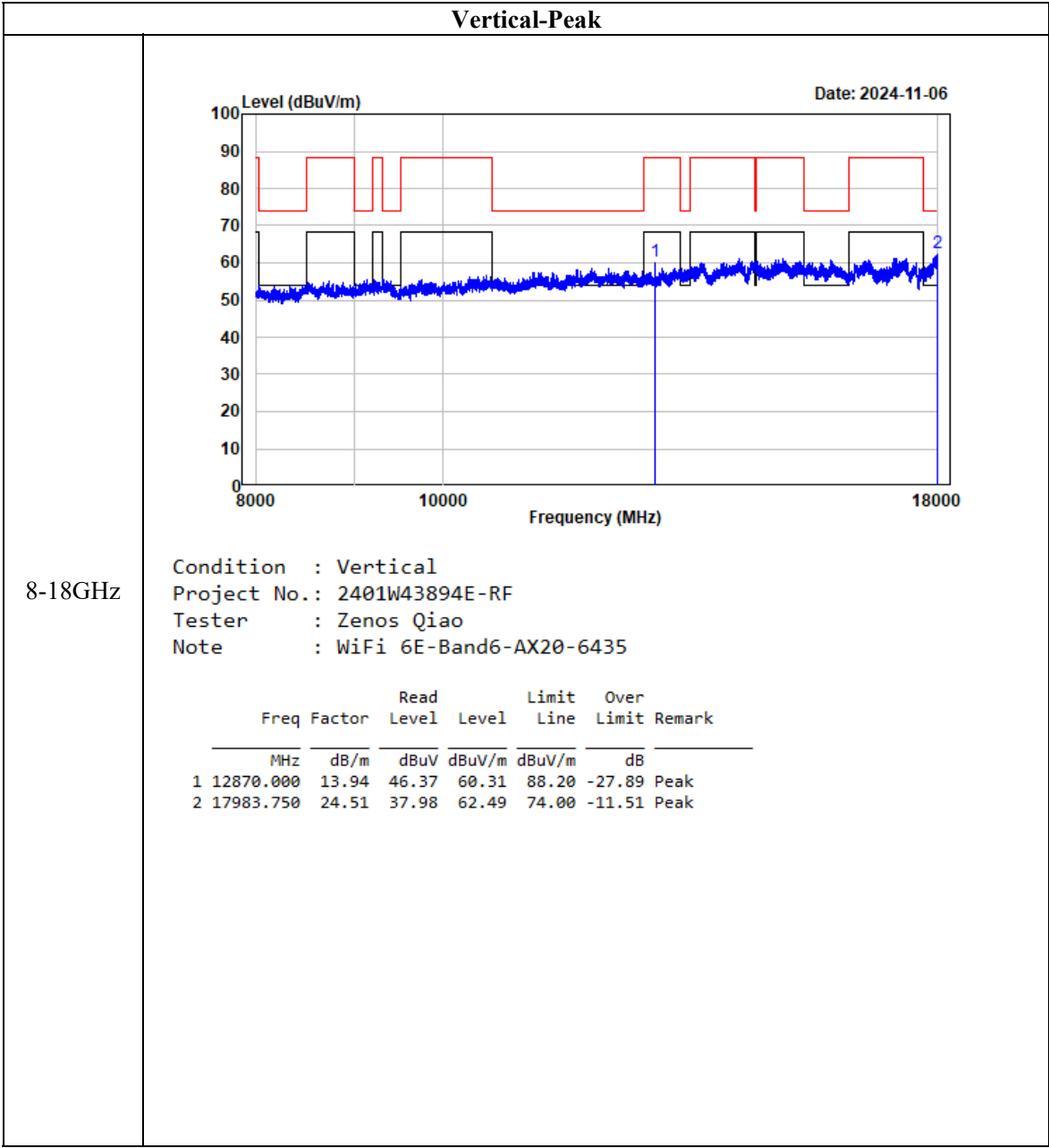




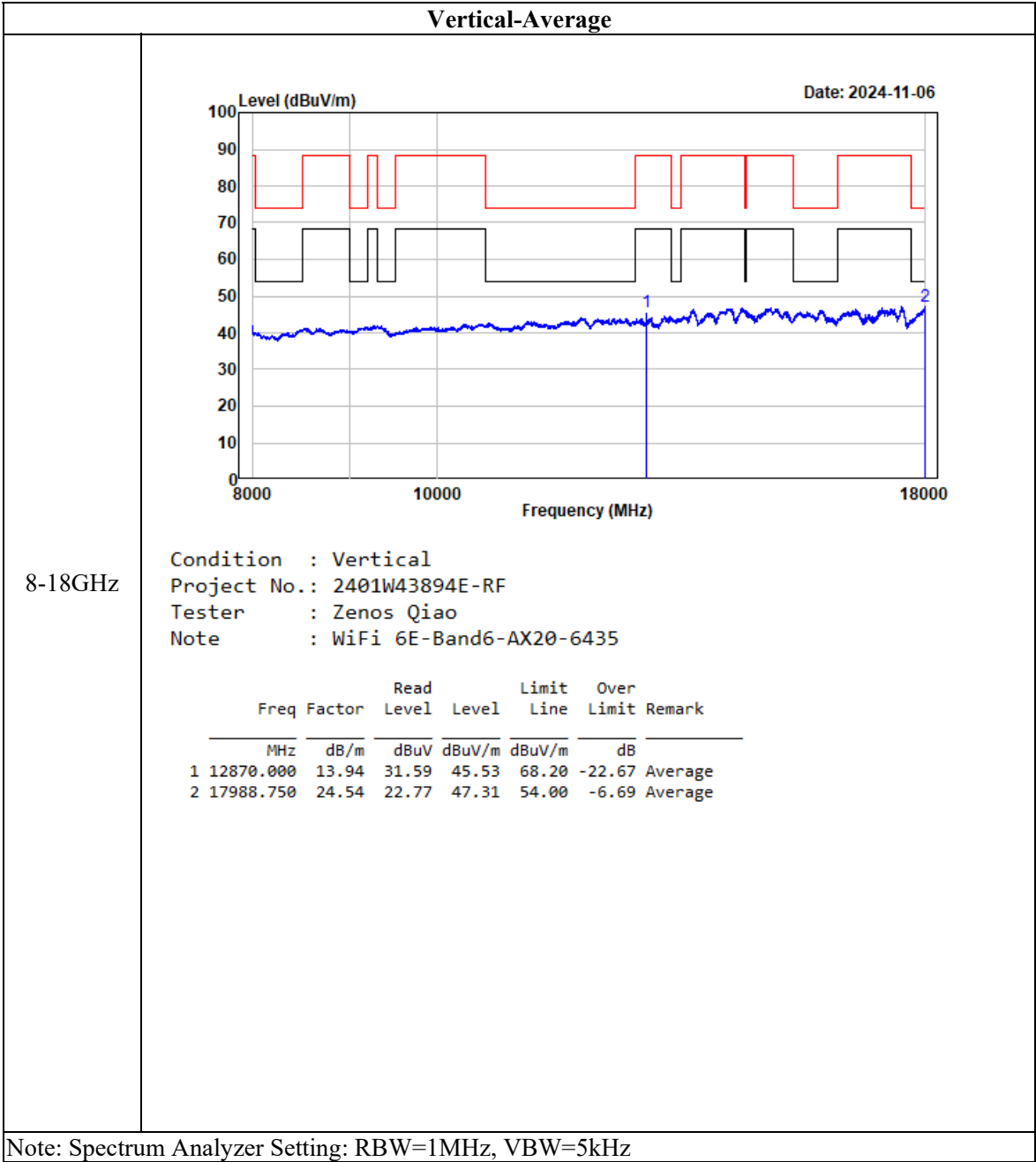




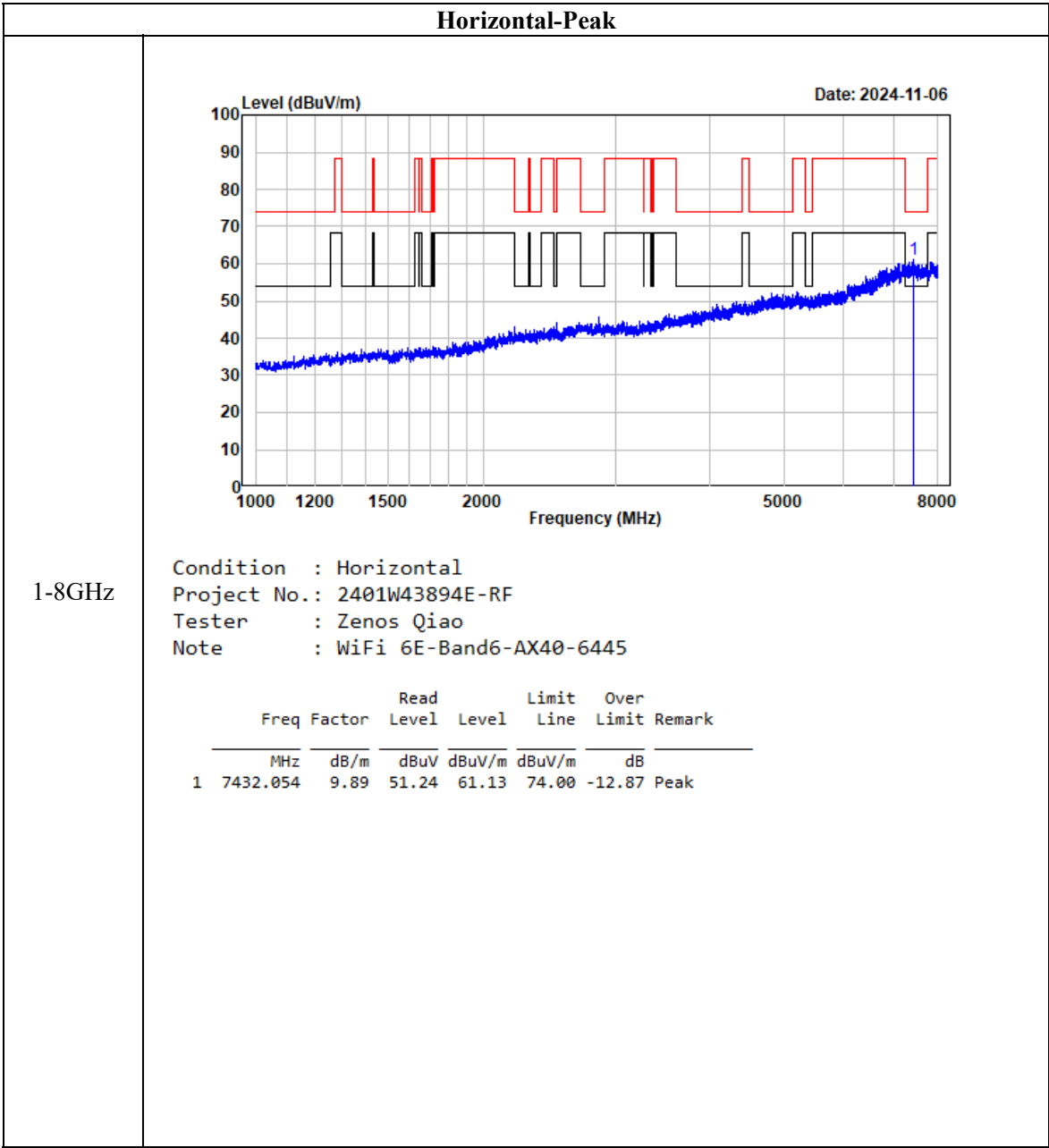


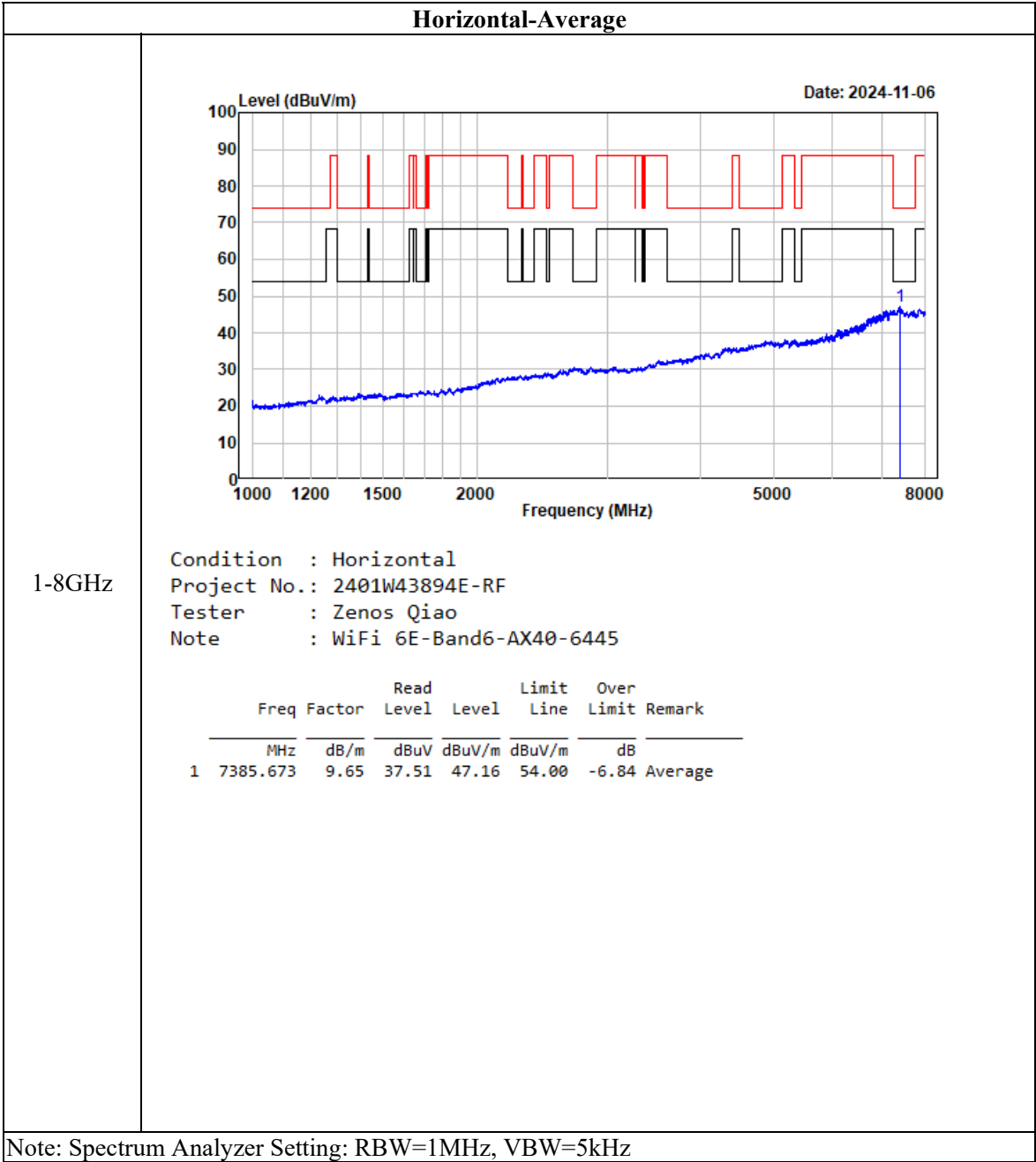


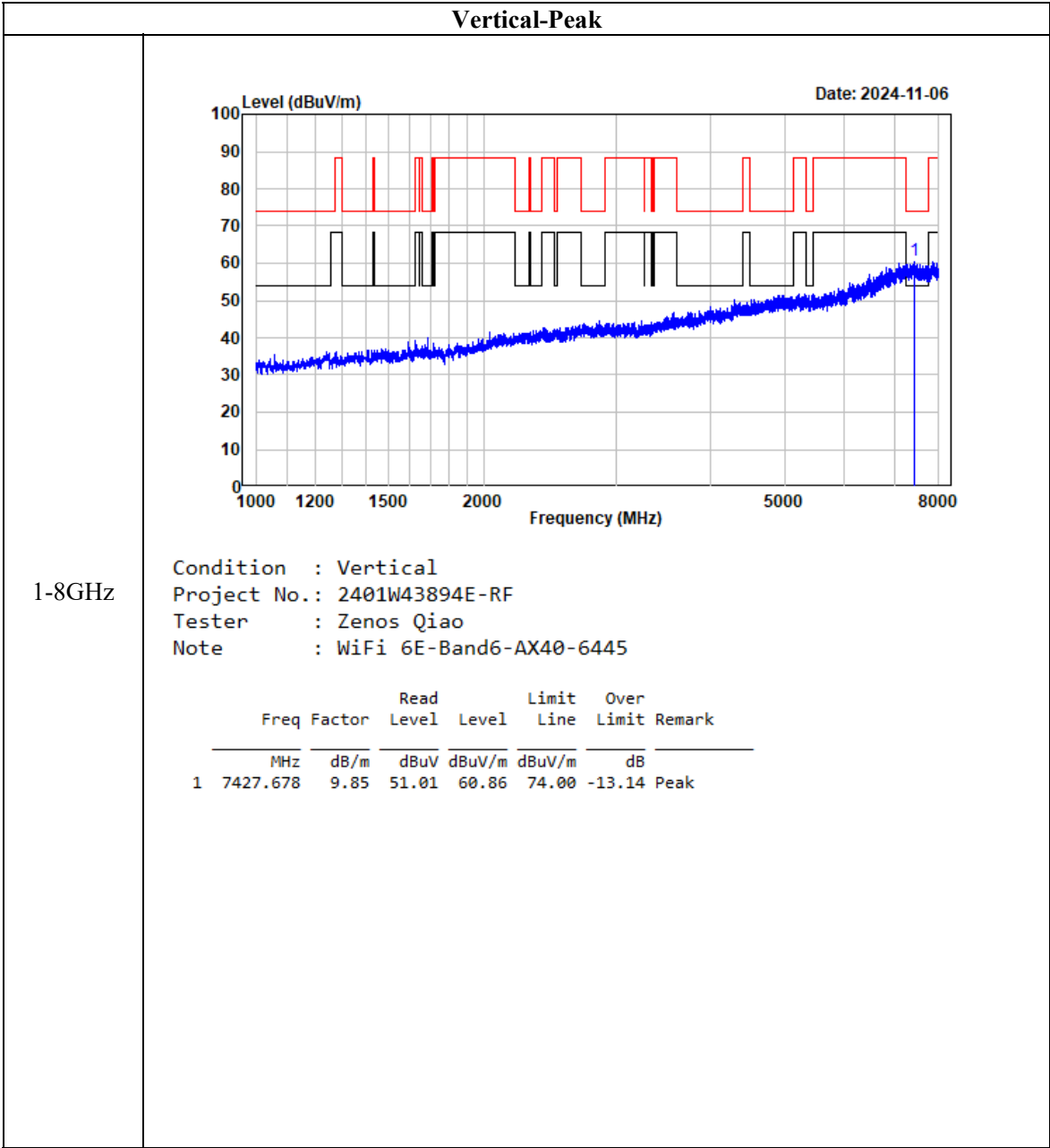


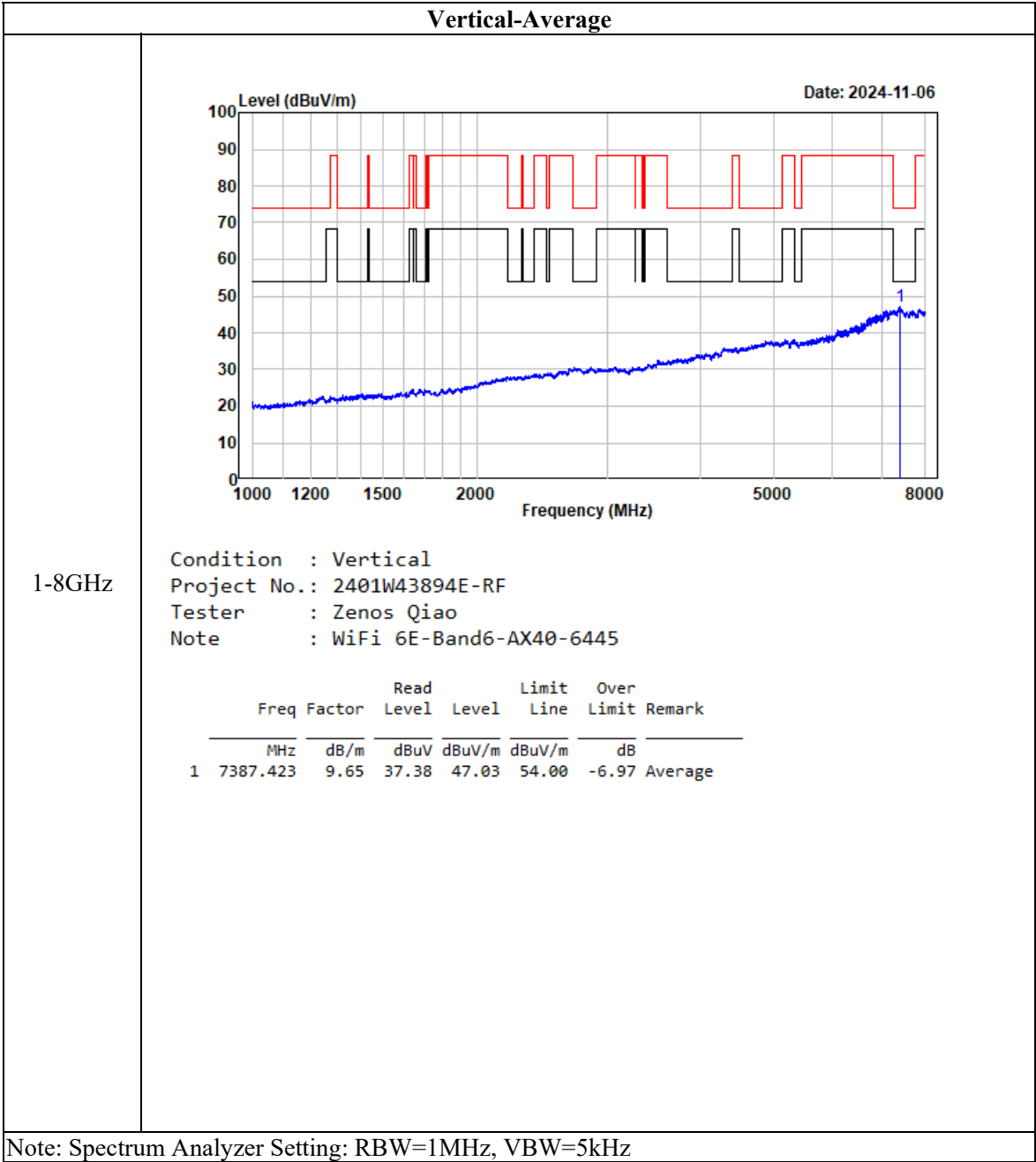


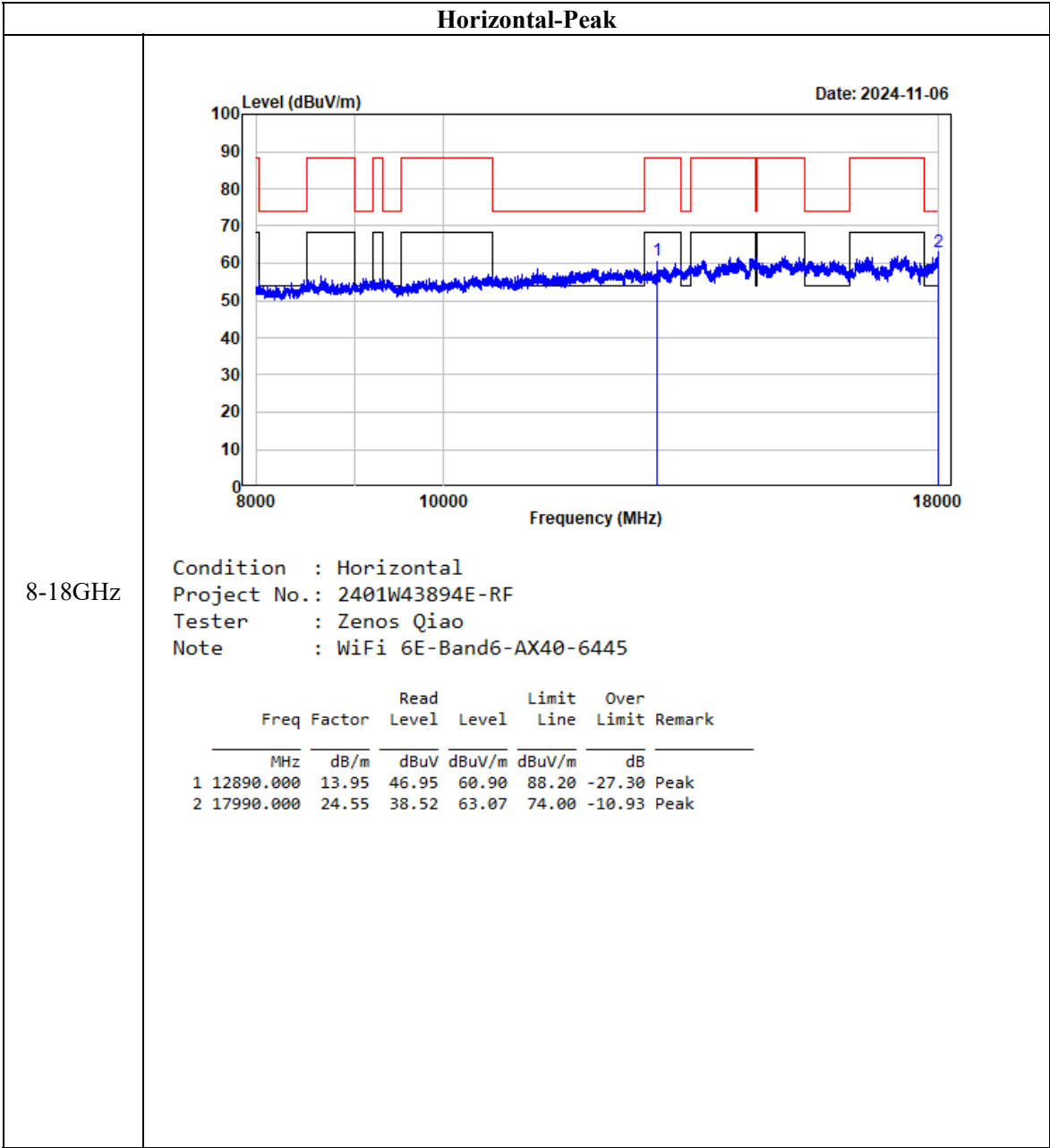
802.11ax40, 6445MHz

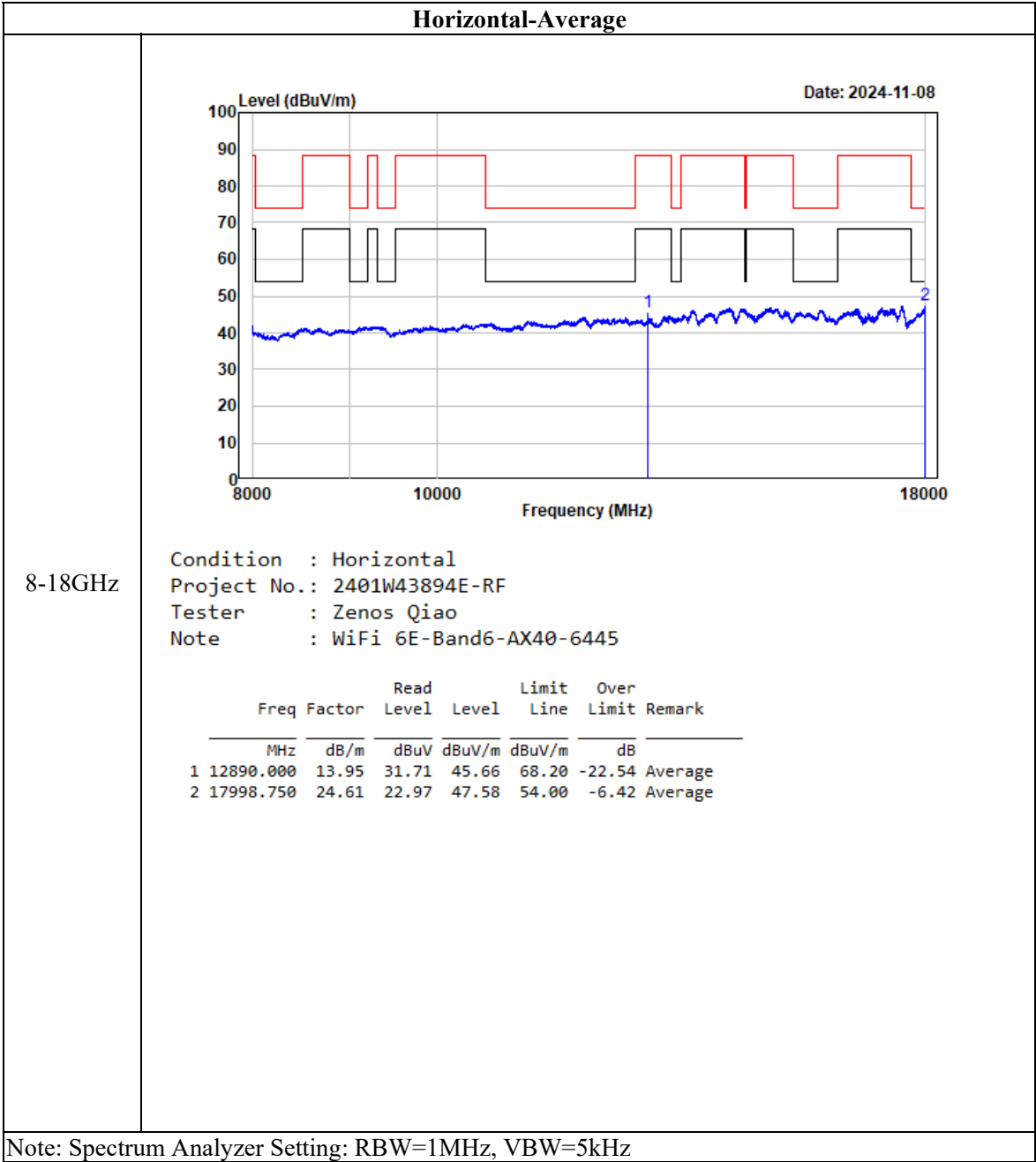


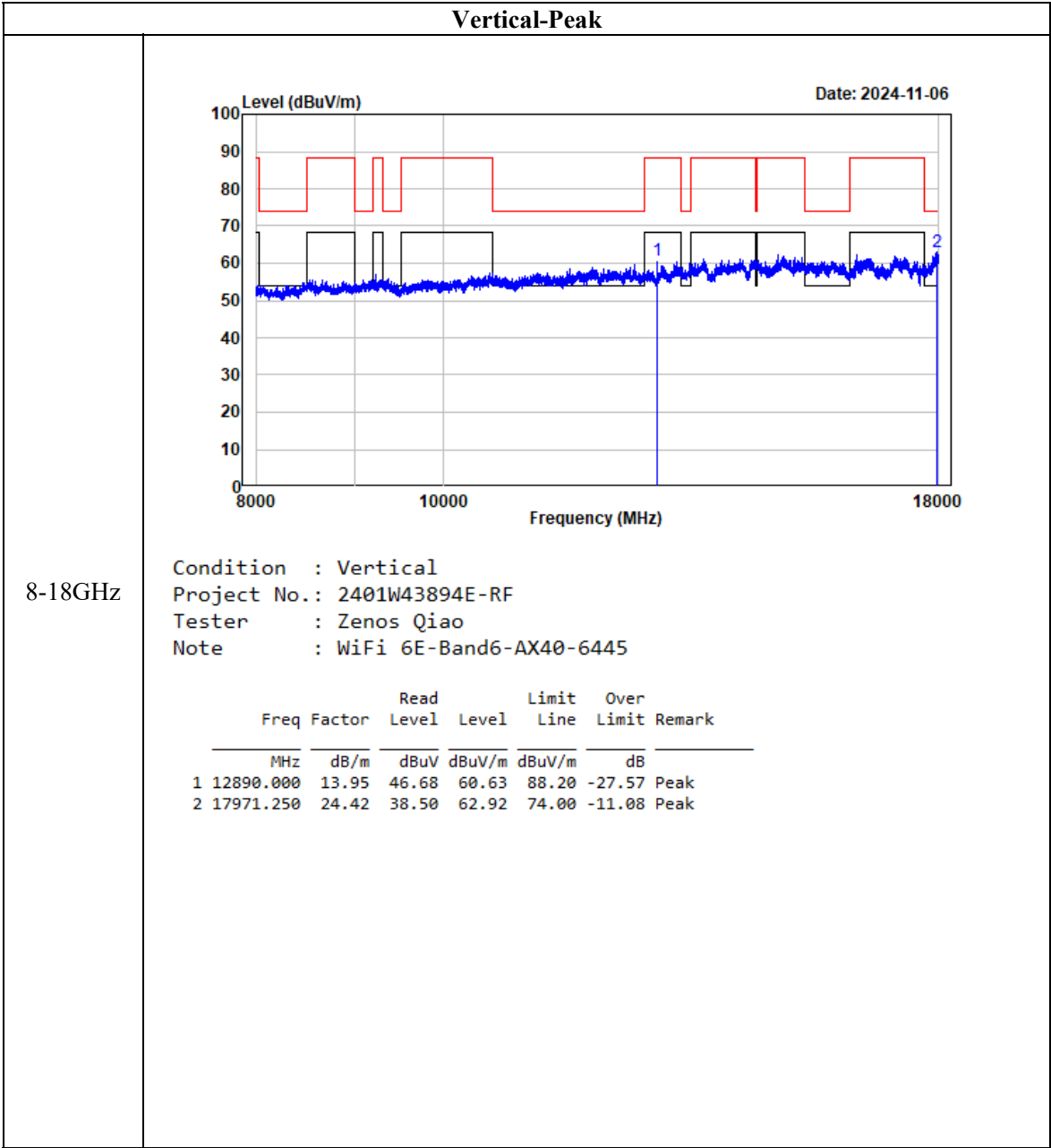




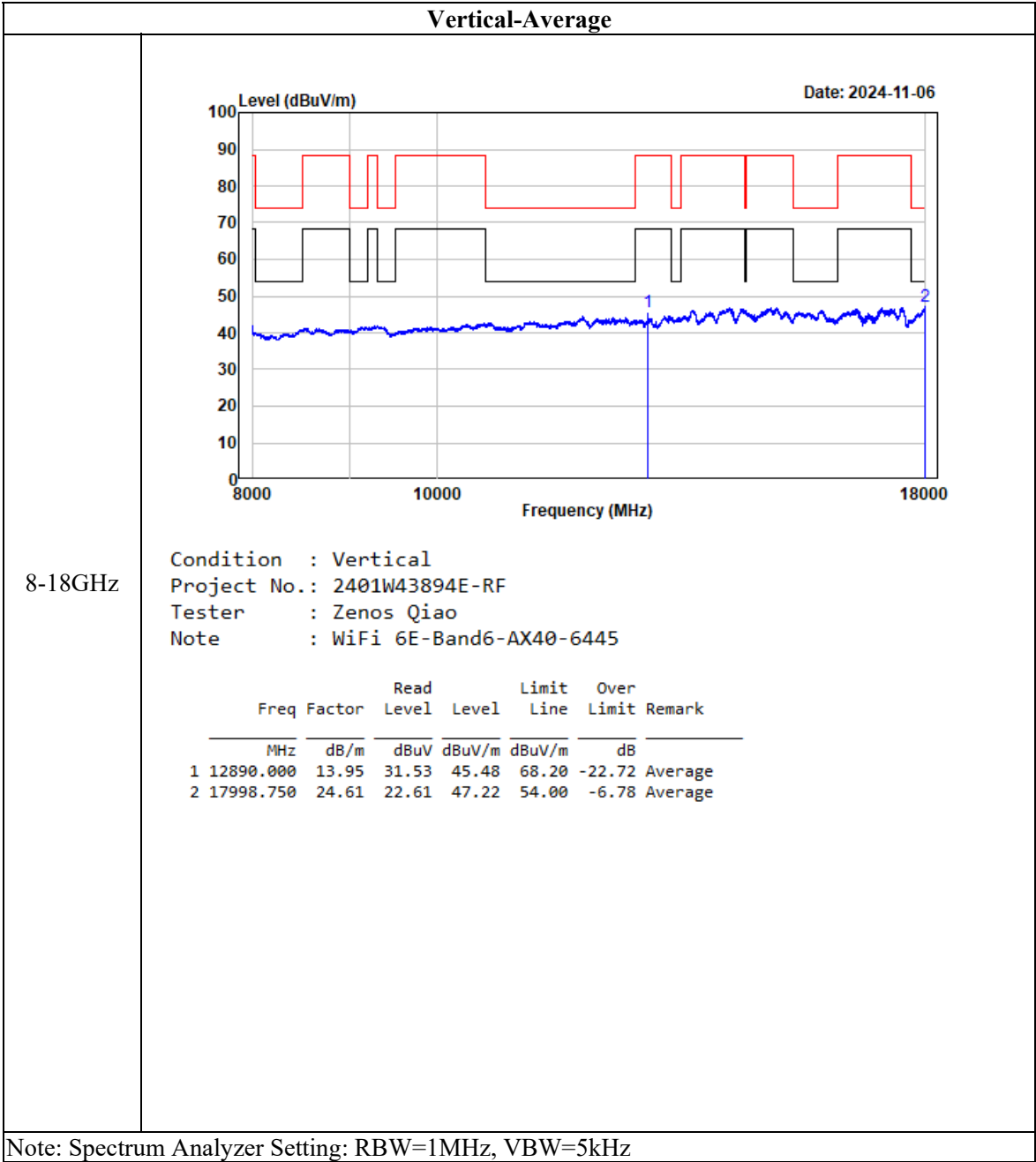




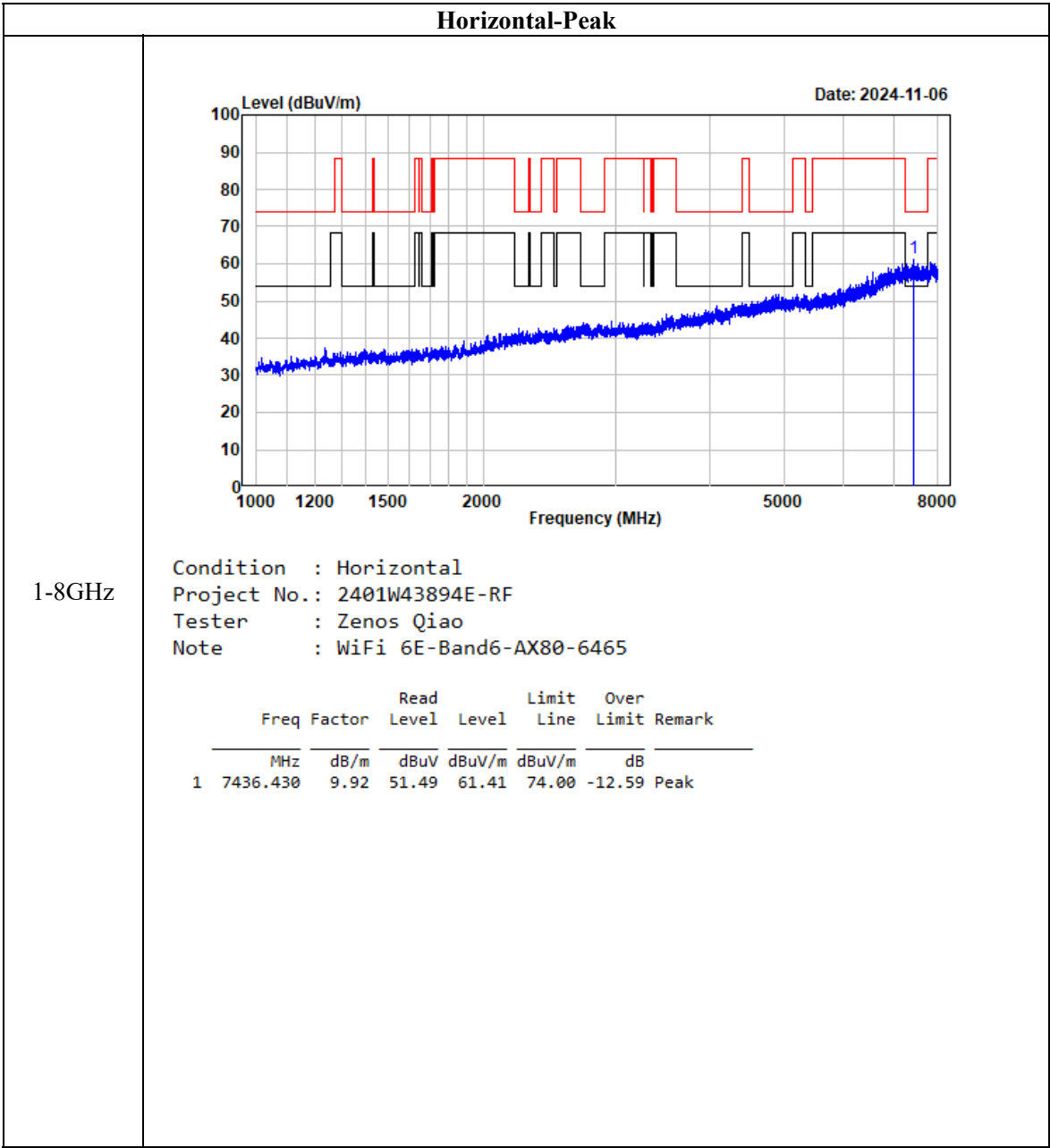


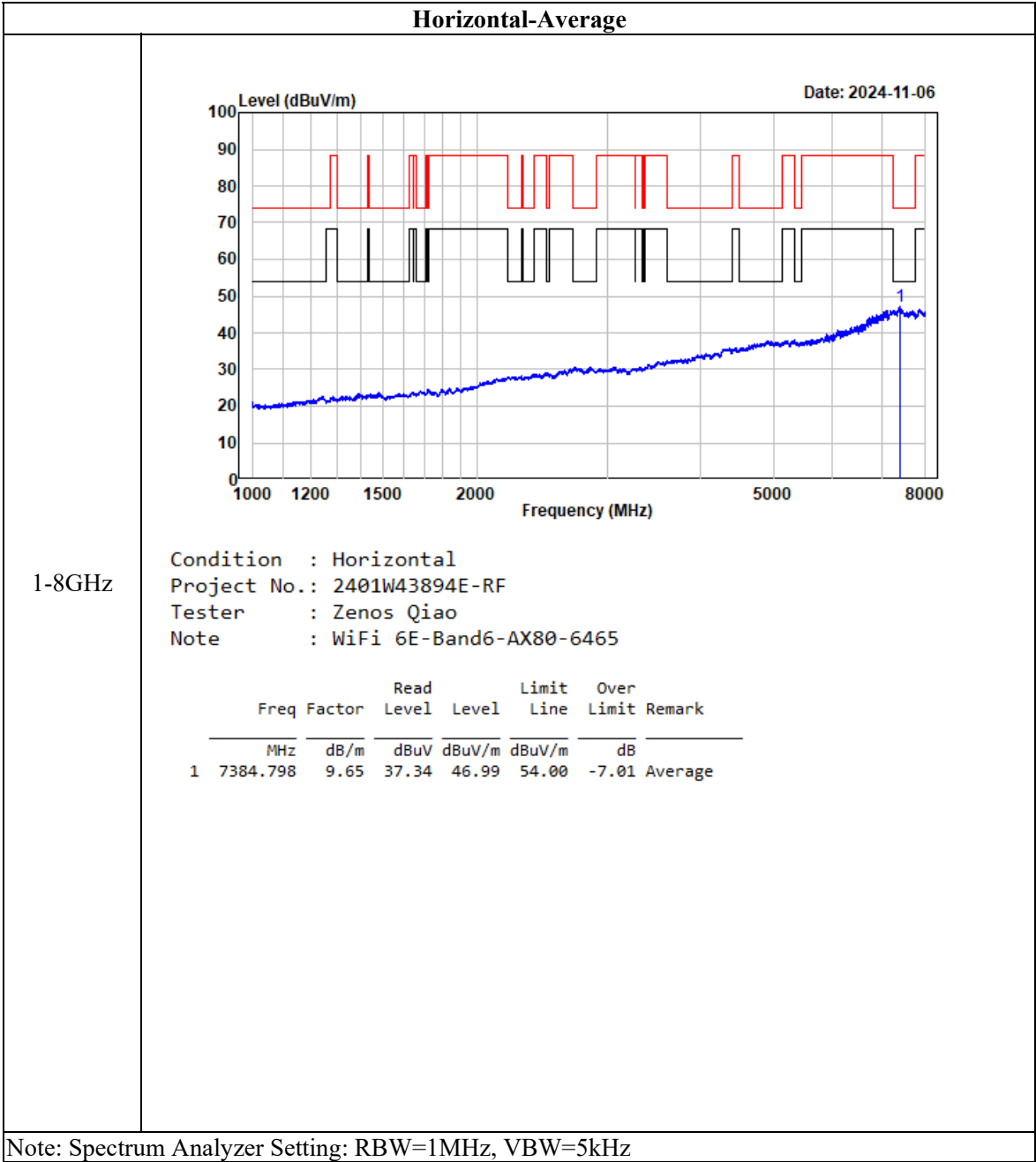


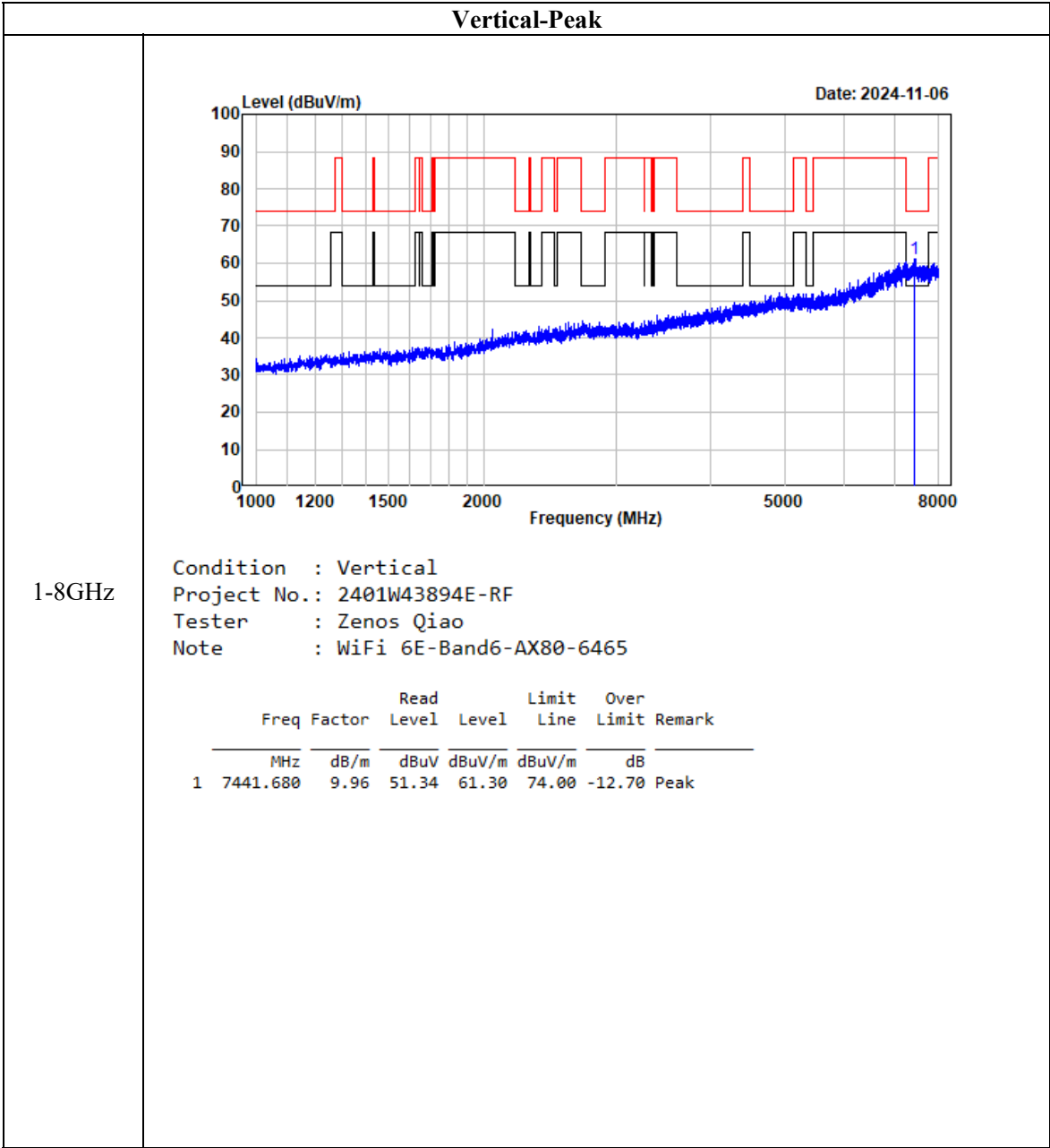


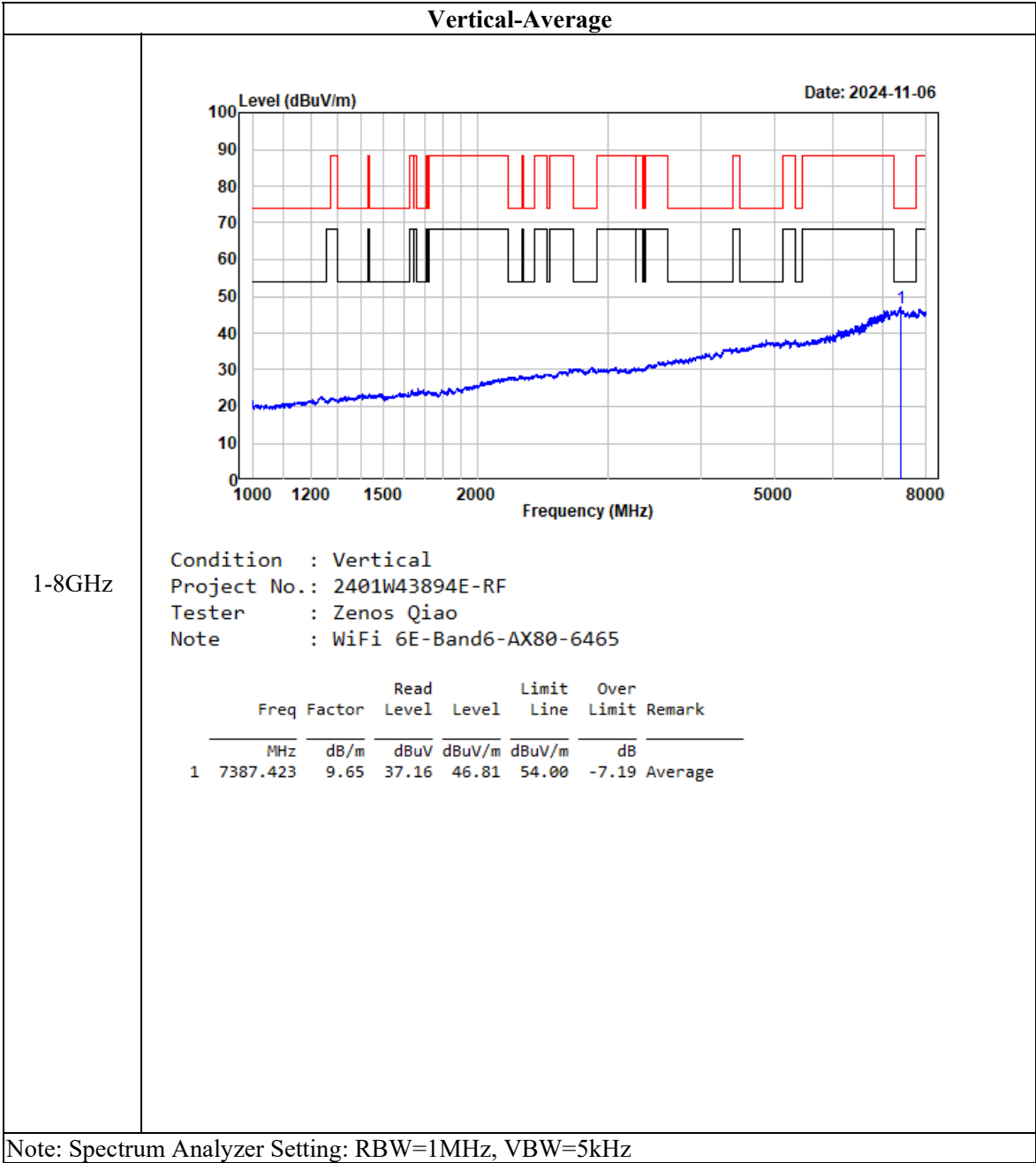


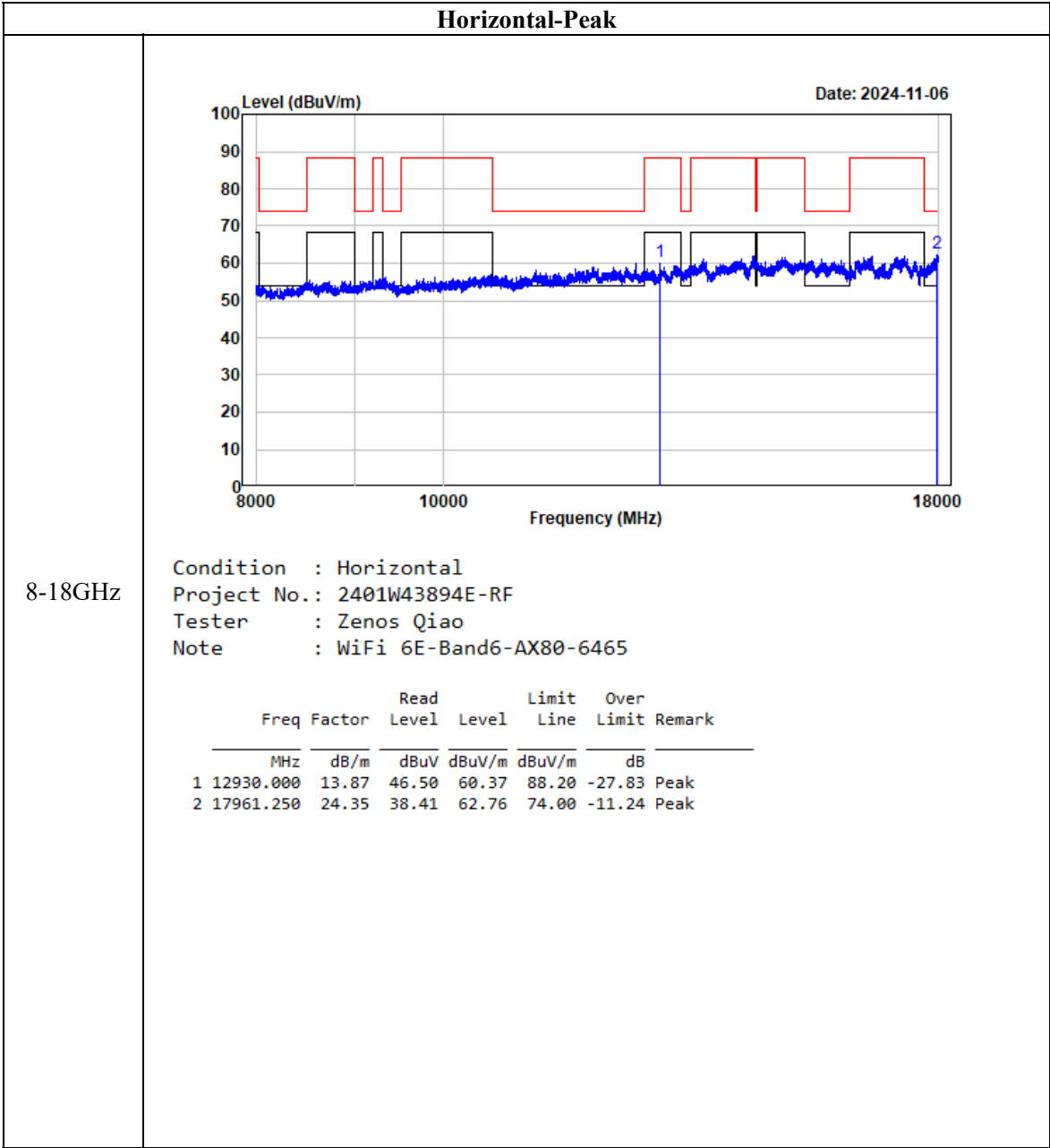
802.11ax80, 6465MHz

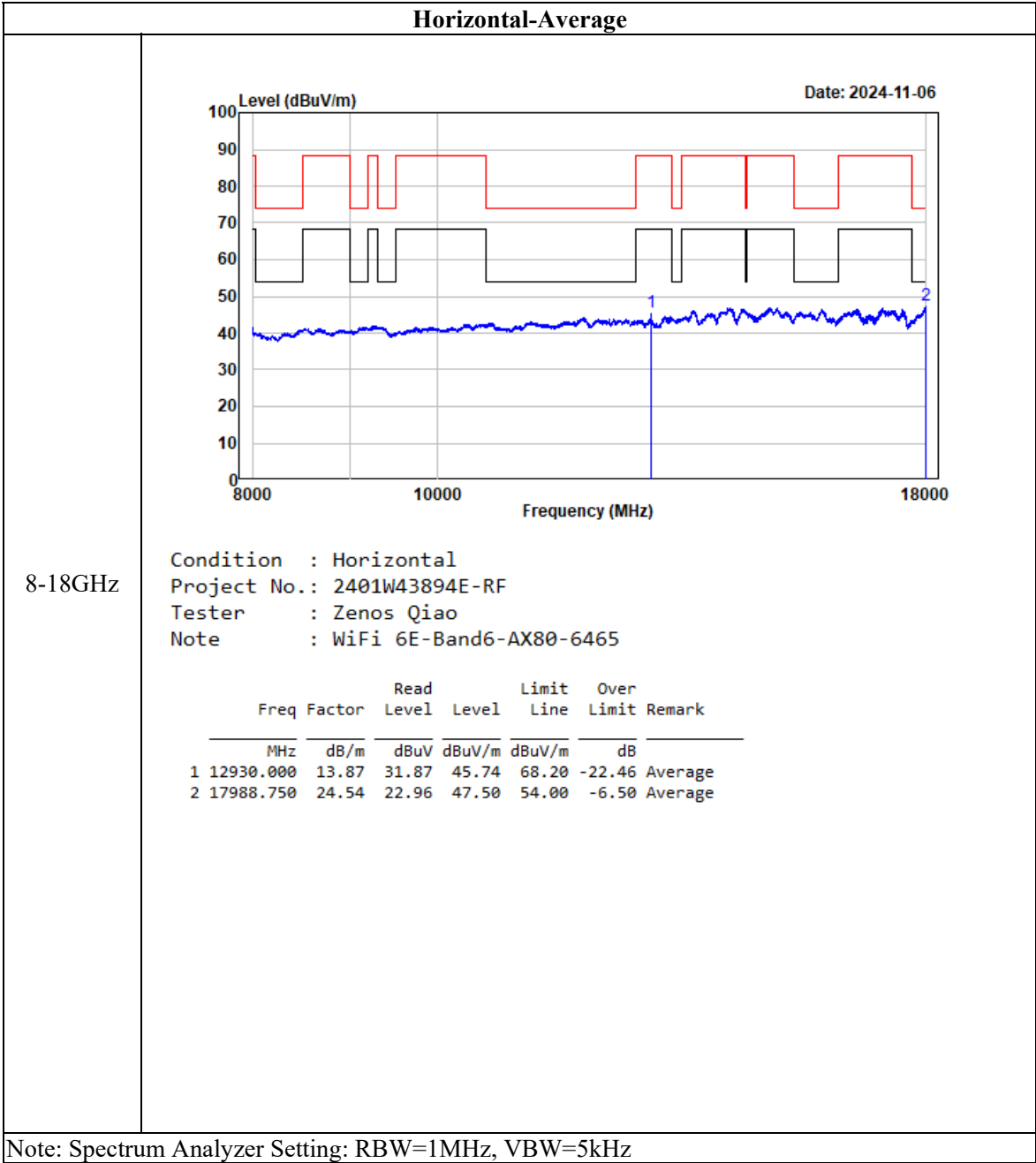


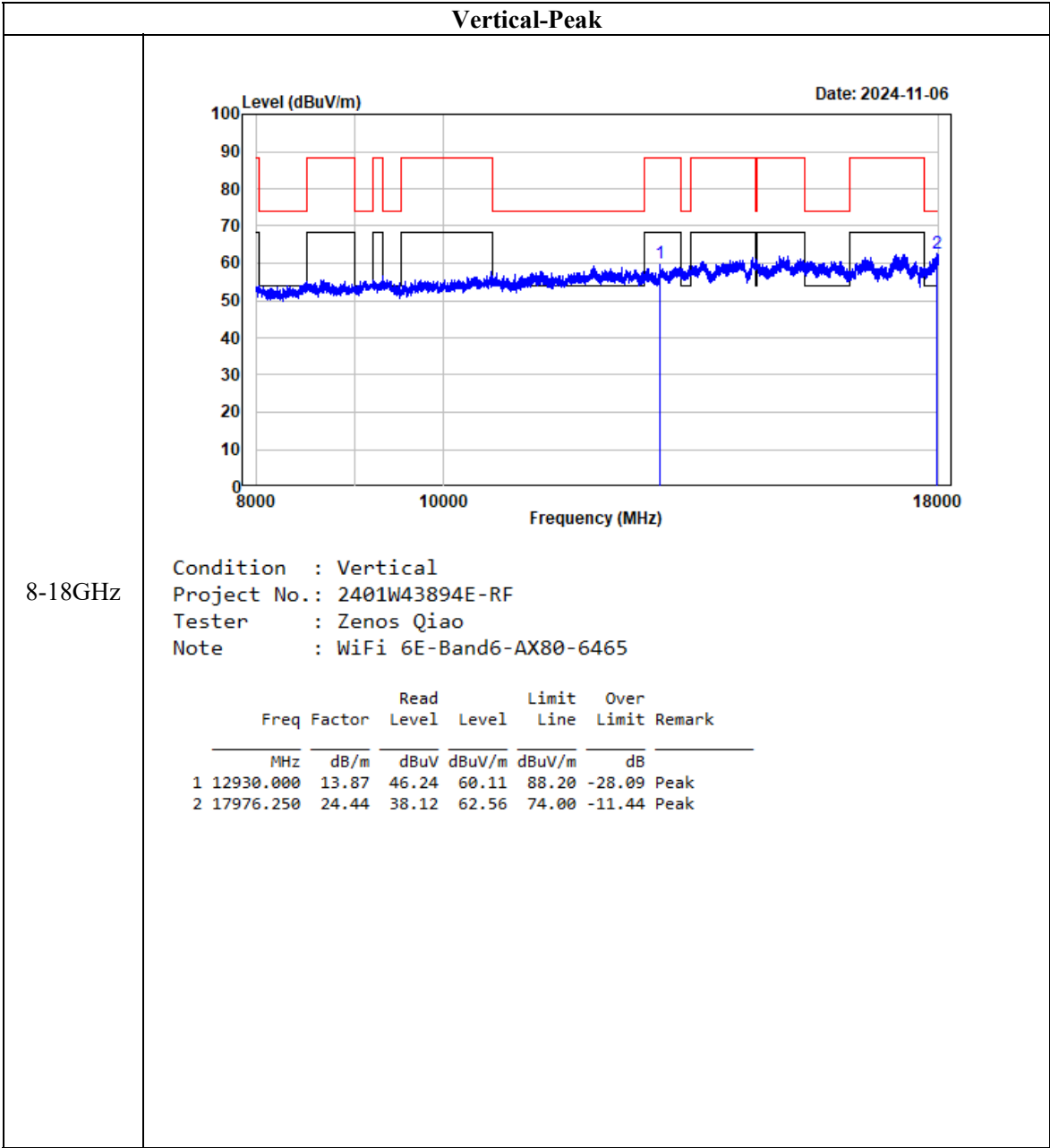




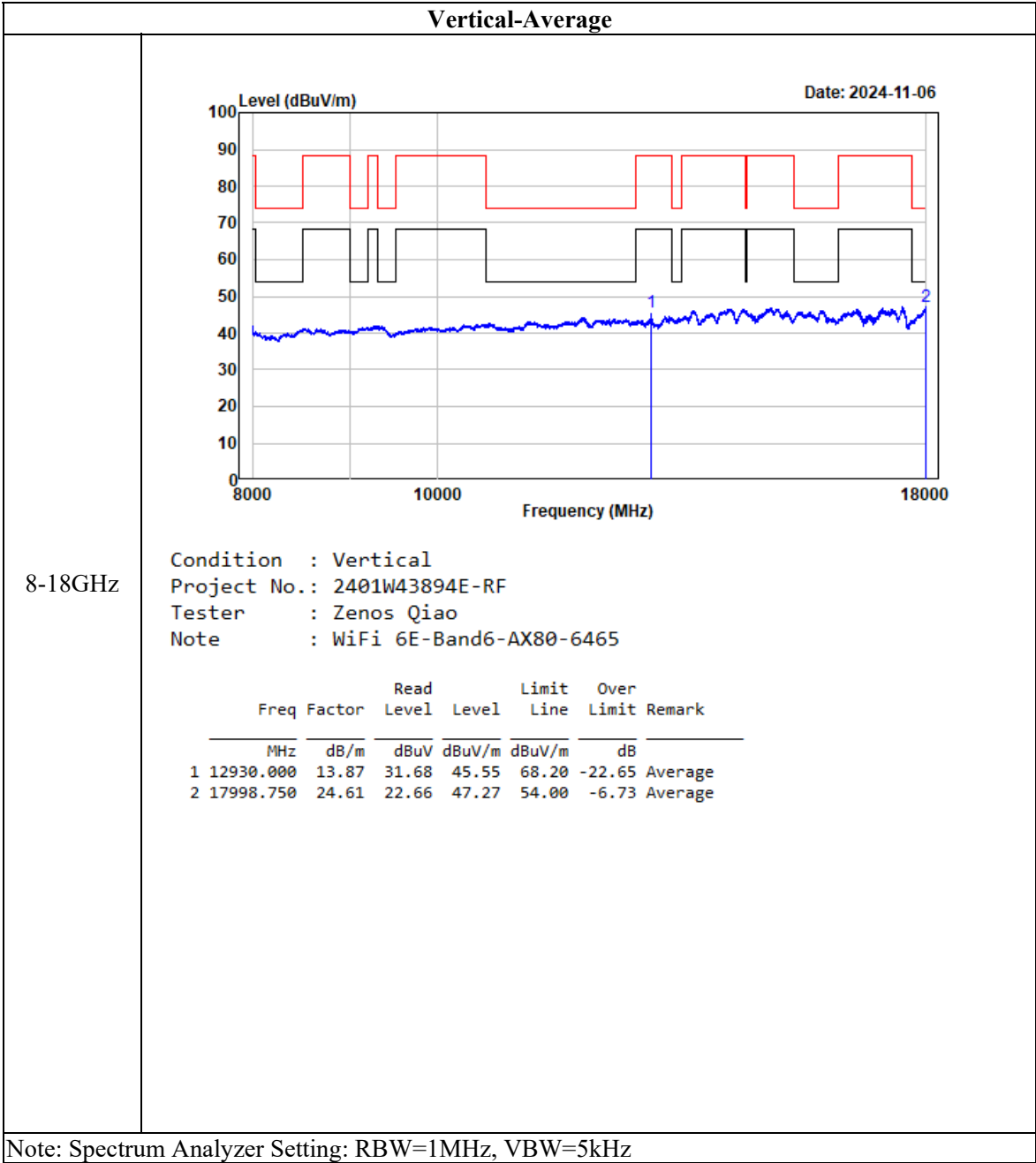




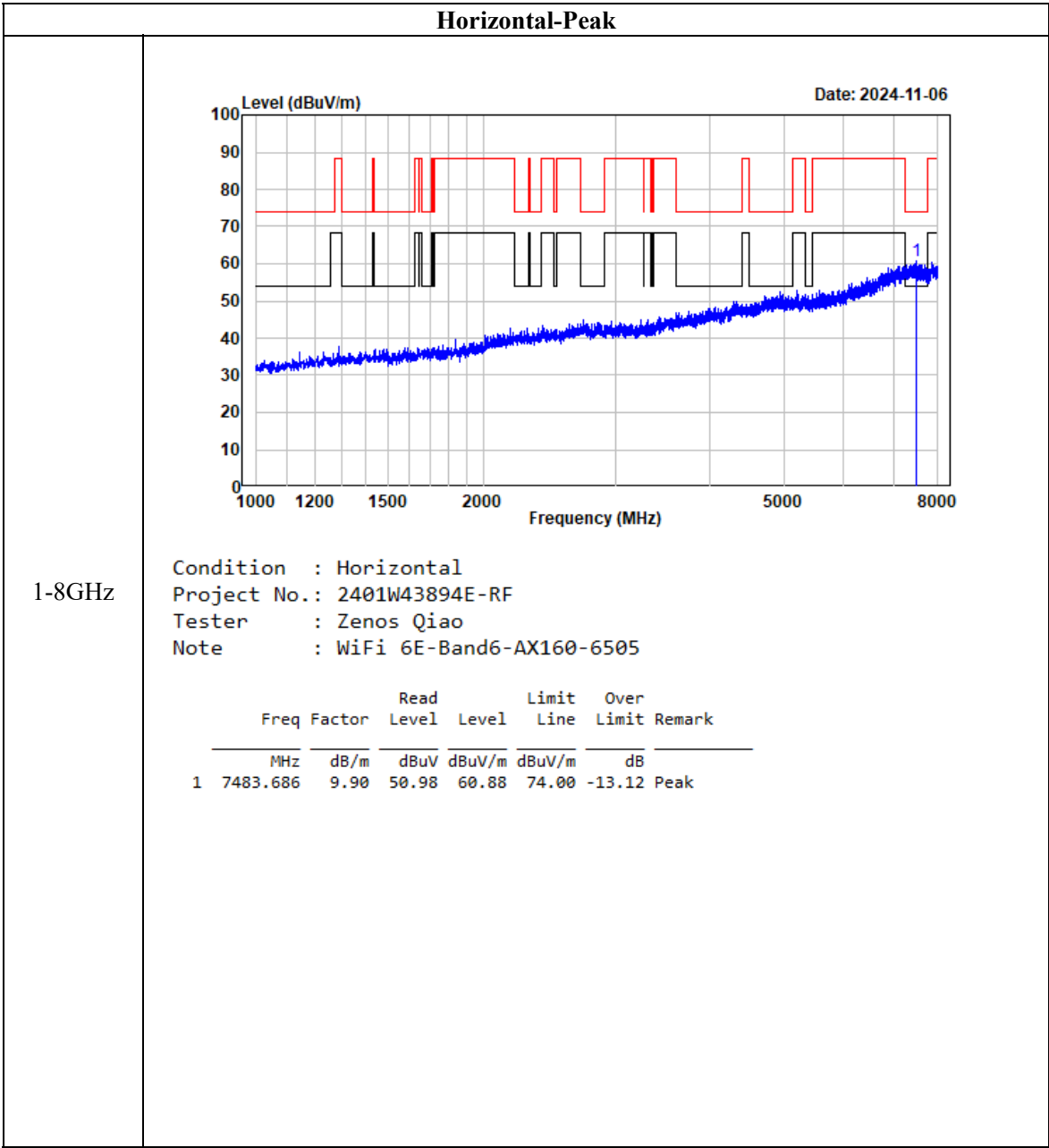


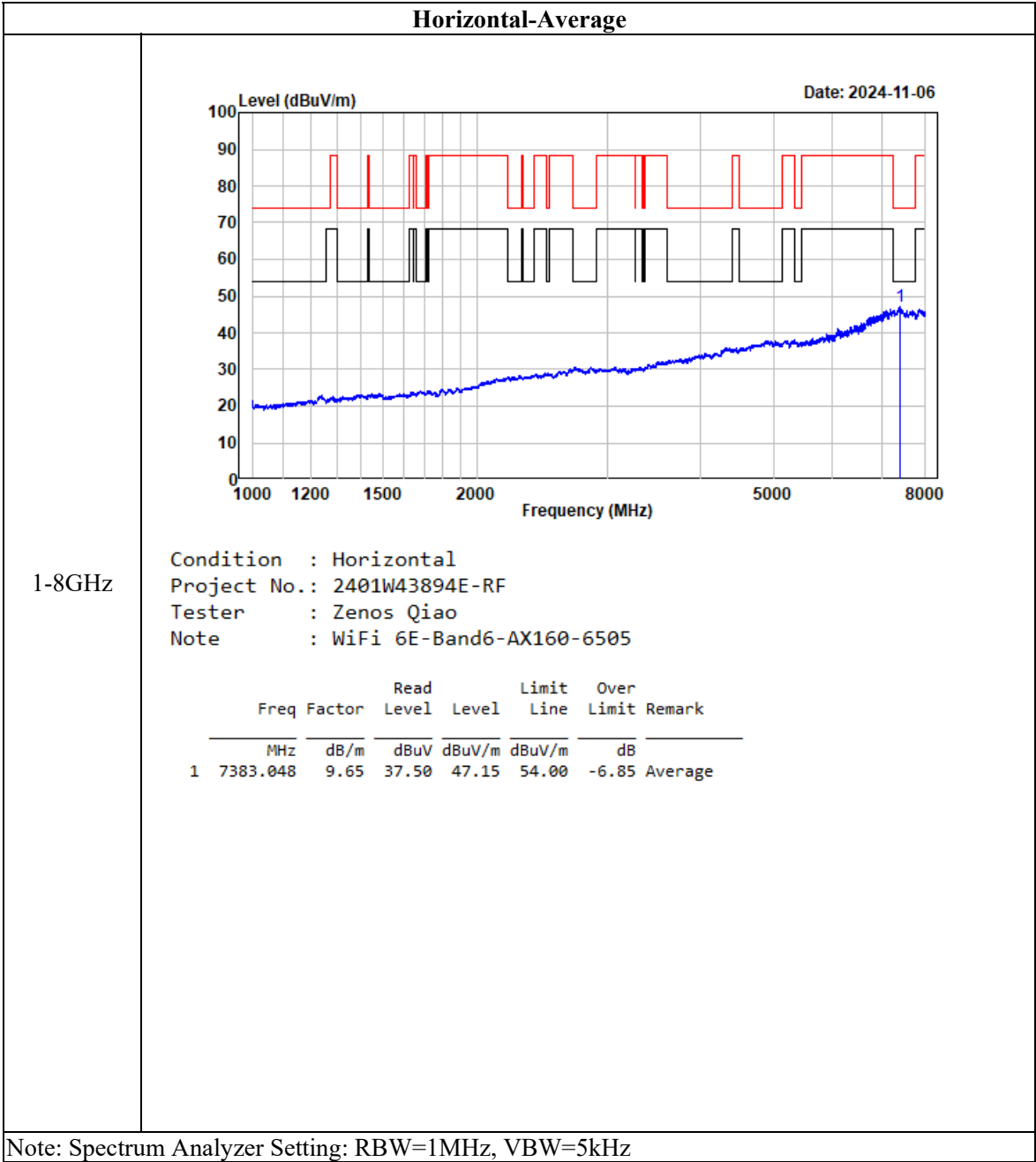


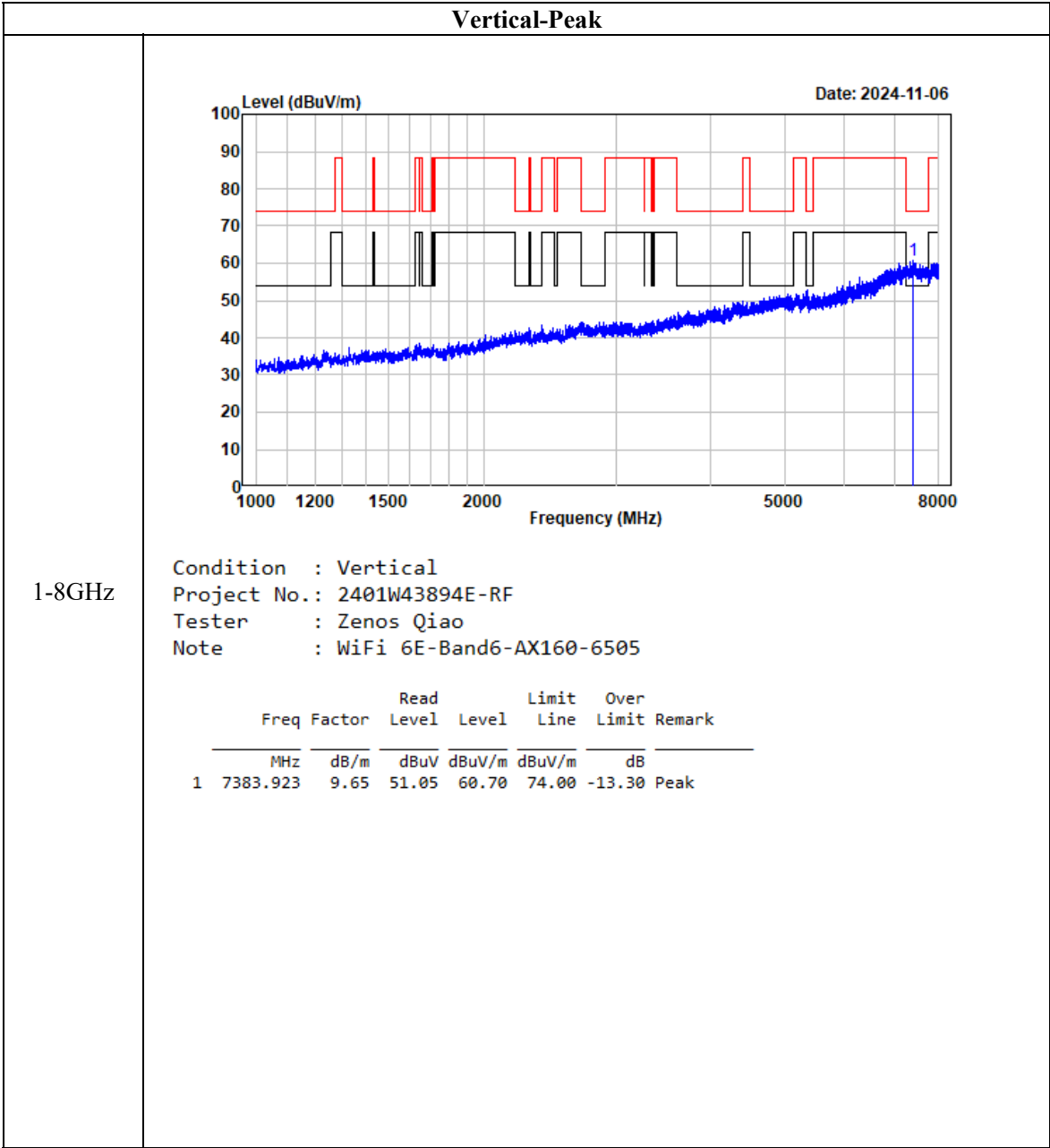


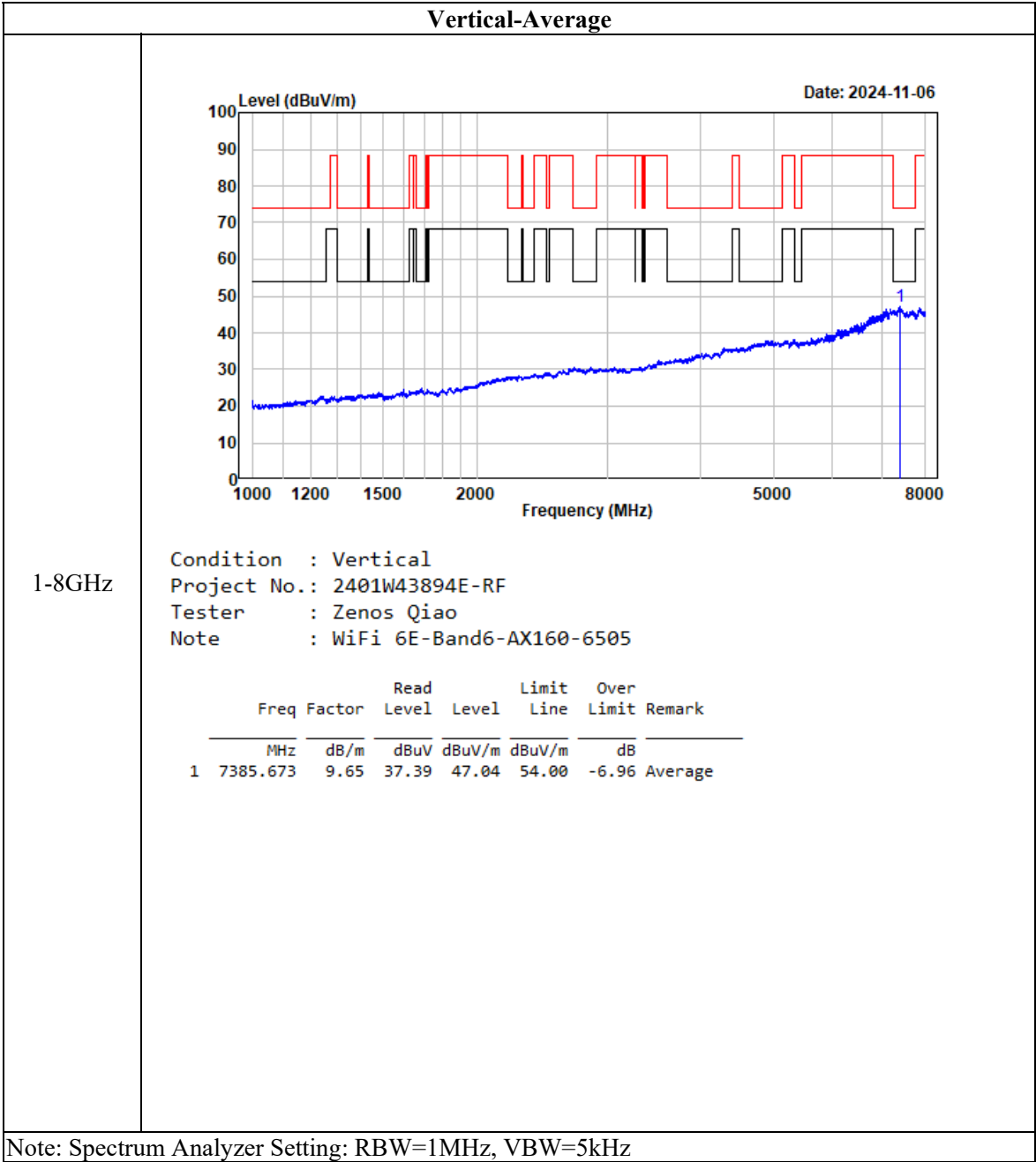


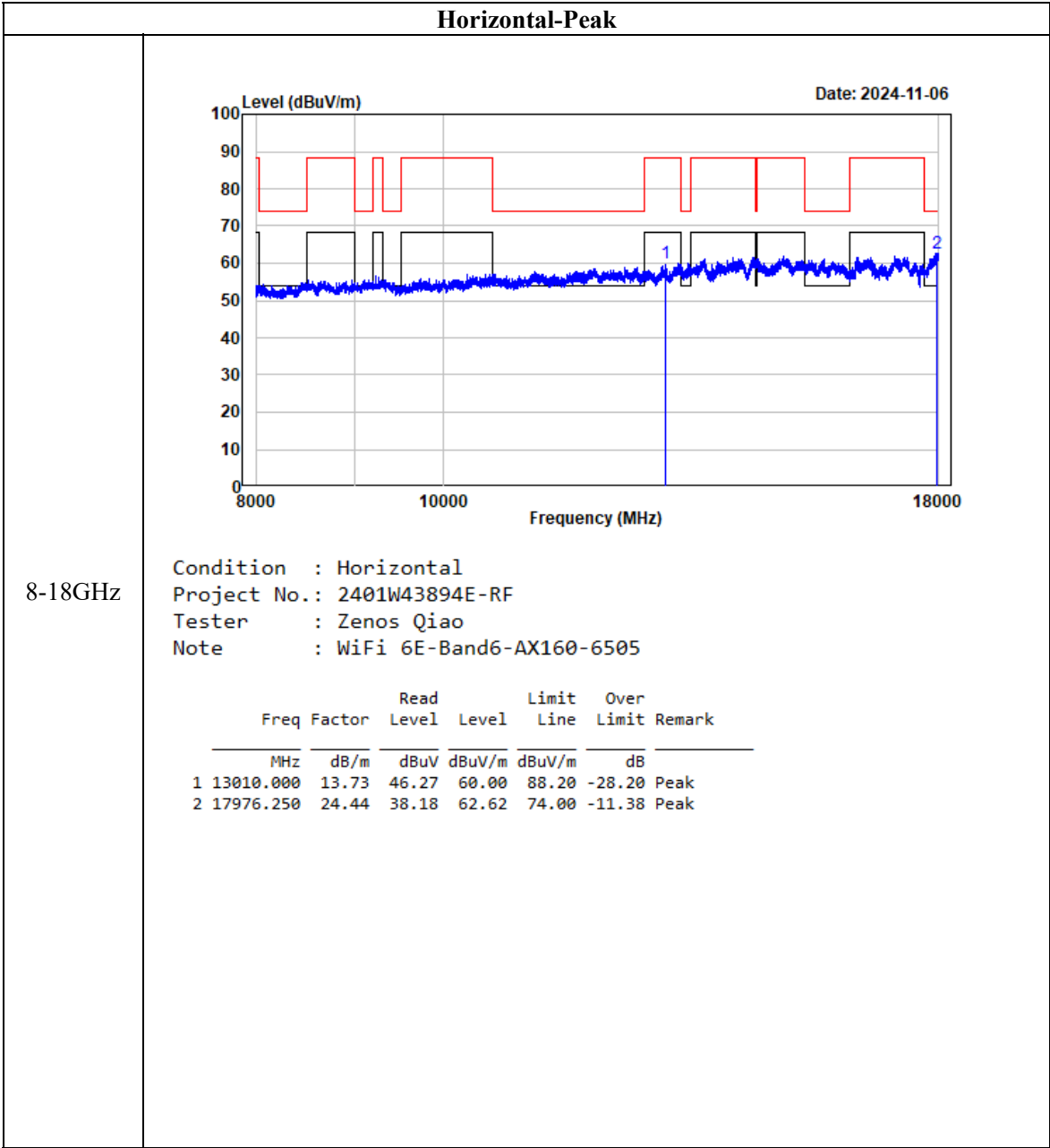
802.11ax160, 6505MHz

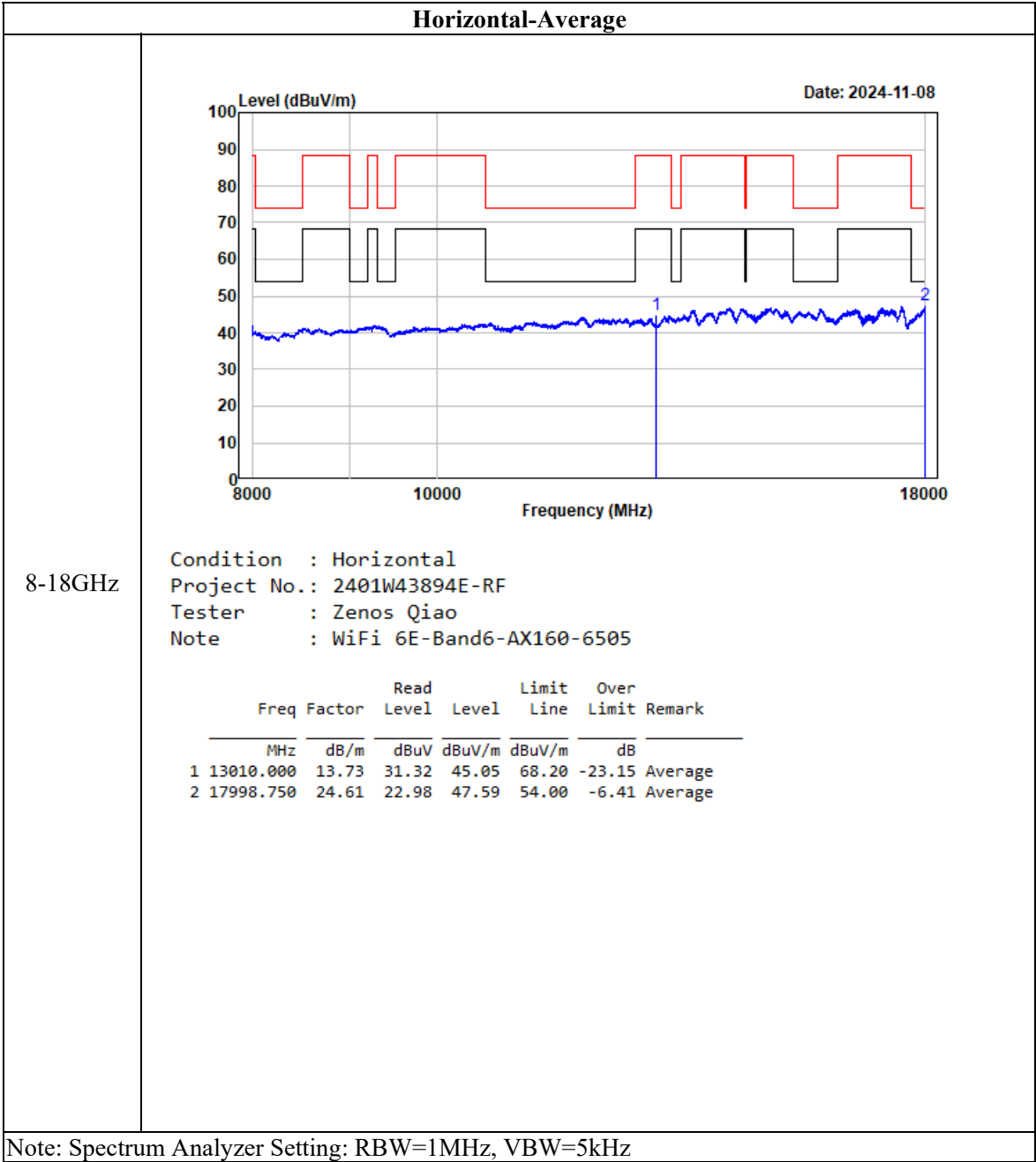


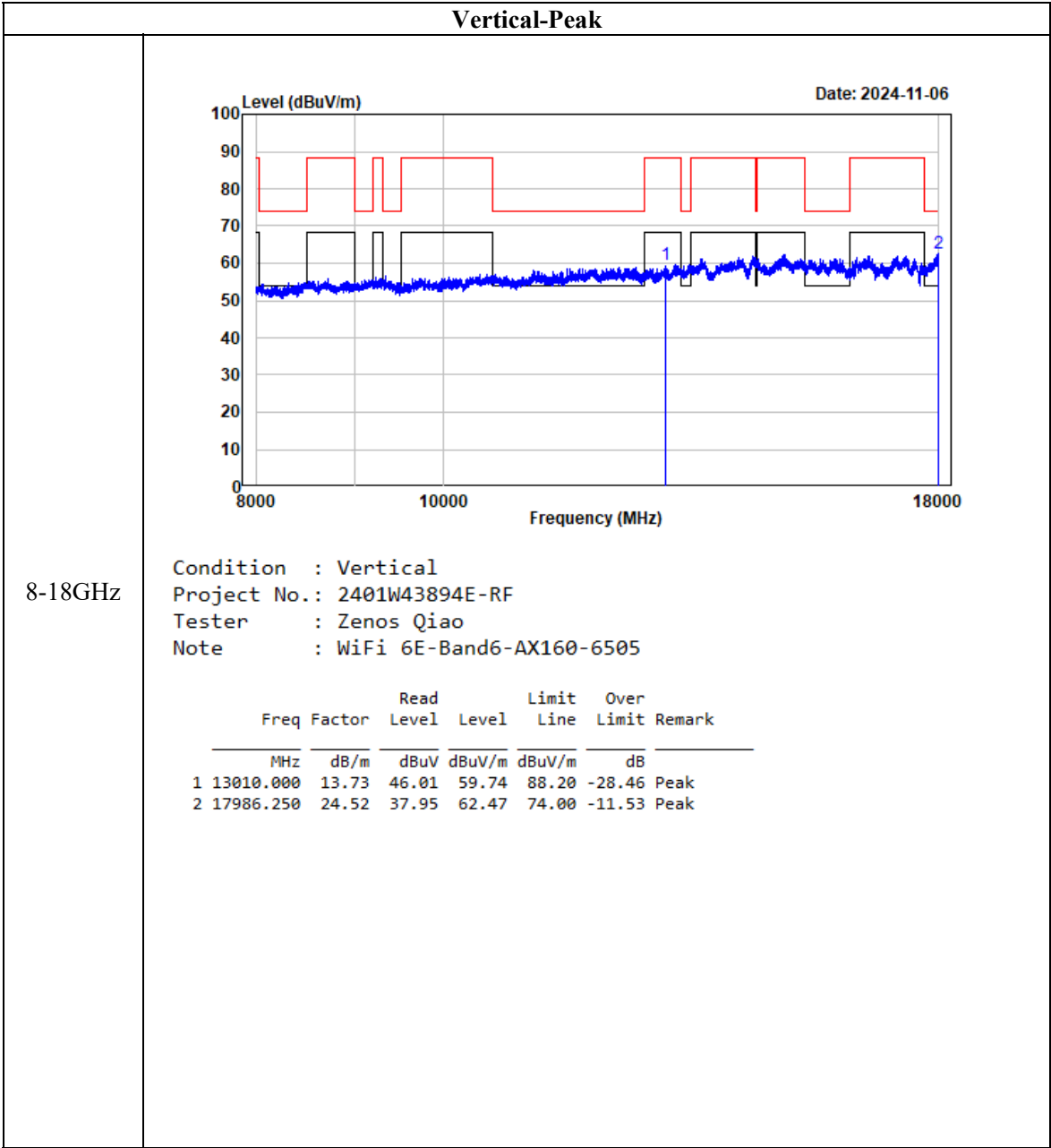






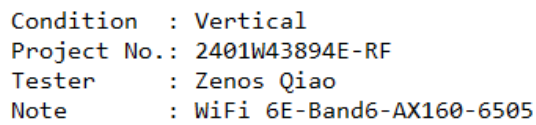








## 8-18GHz

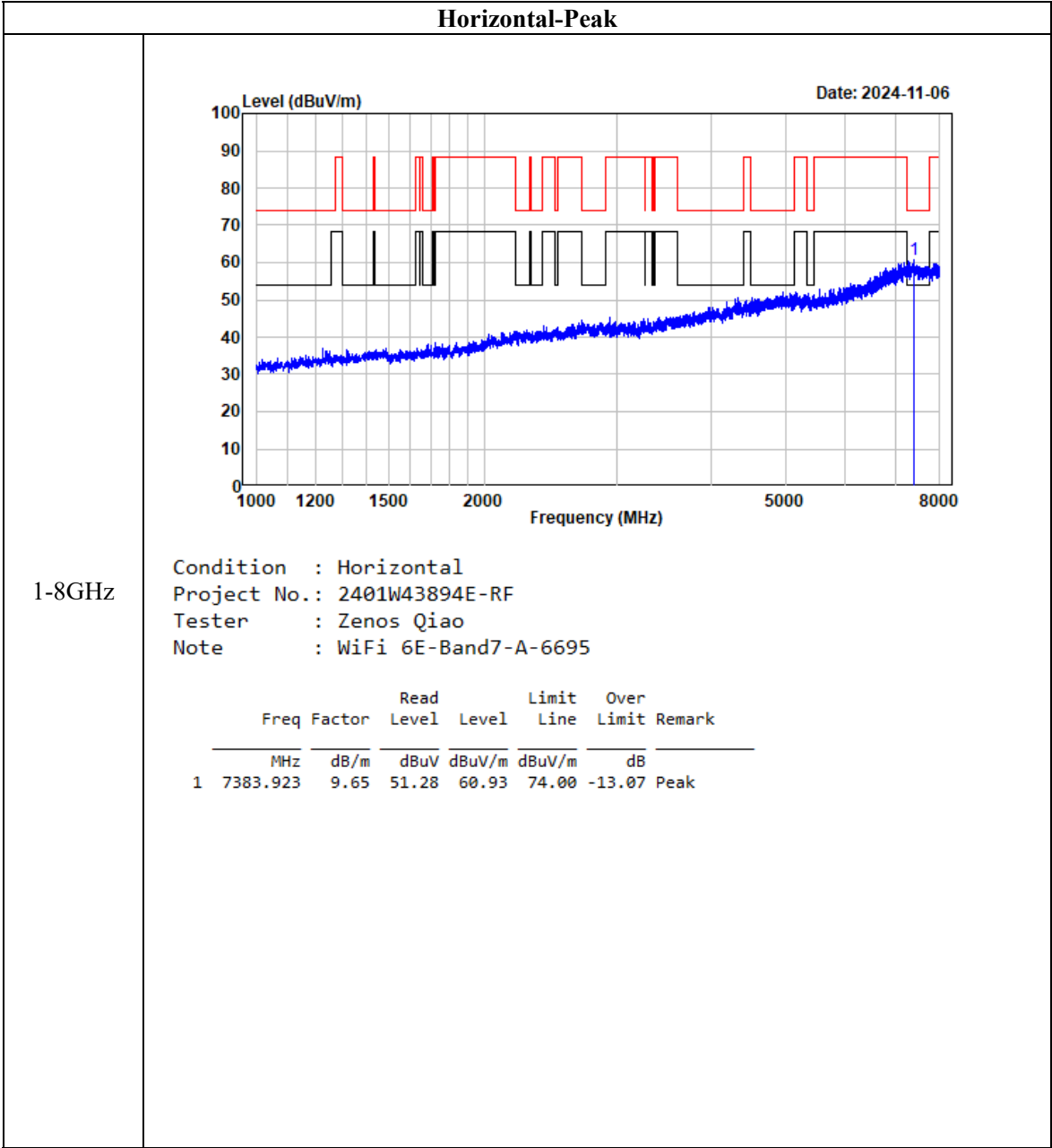


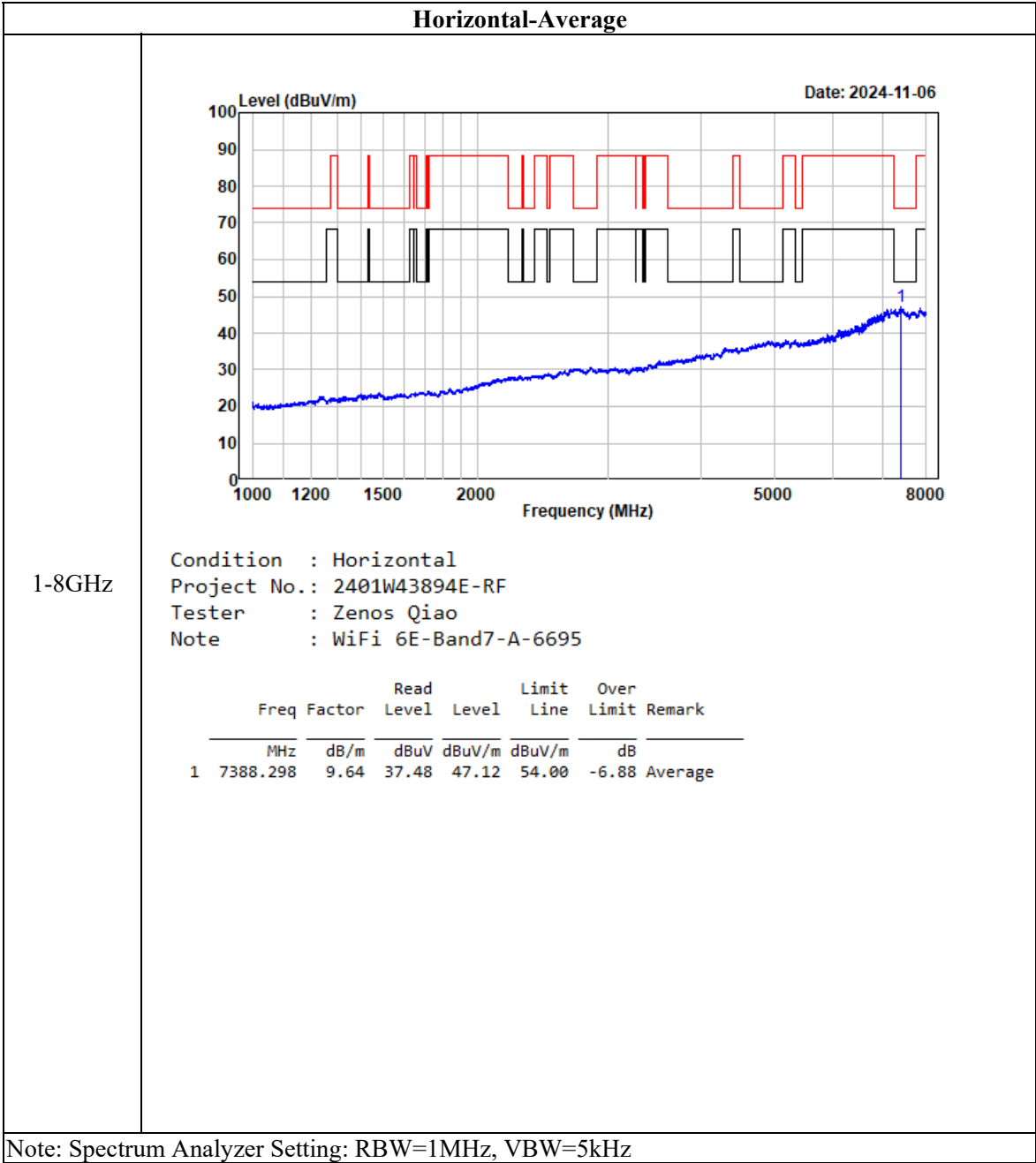
|   | Freq      | Factor | Read Level | Level  | Limit Line | Over Limit | Remark  |
|---|-----------|--------|------------|--------|------------|------------|---------|
|   | MHz       | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |         |
| 1 | 13010.000 | 13.73  | 31.16      | 44.89  | 68.20      | -23.31     | Average |
| 2 | 17992.500 | 24.57  | 22.87      | 47.44  | 54.00      | -6.56      | Average |

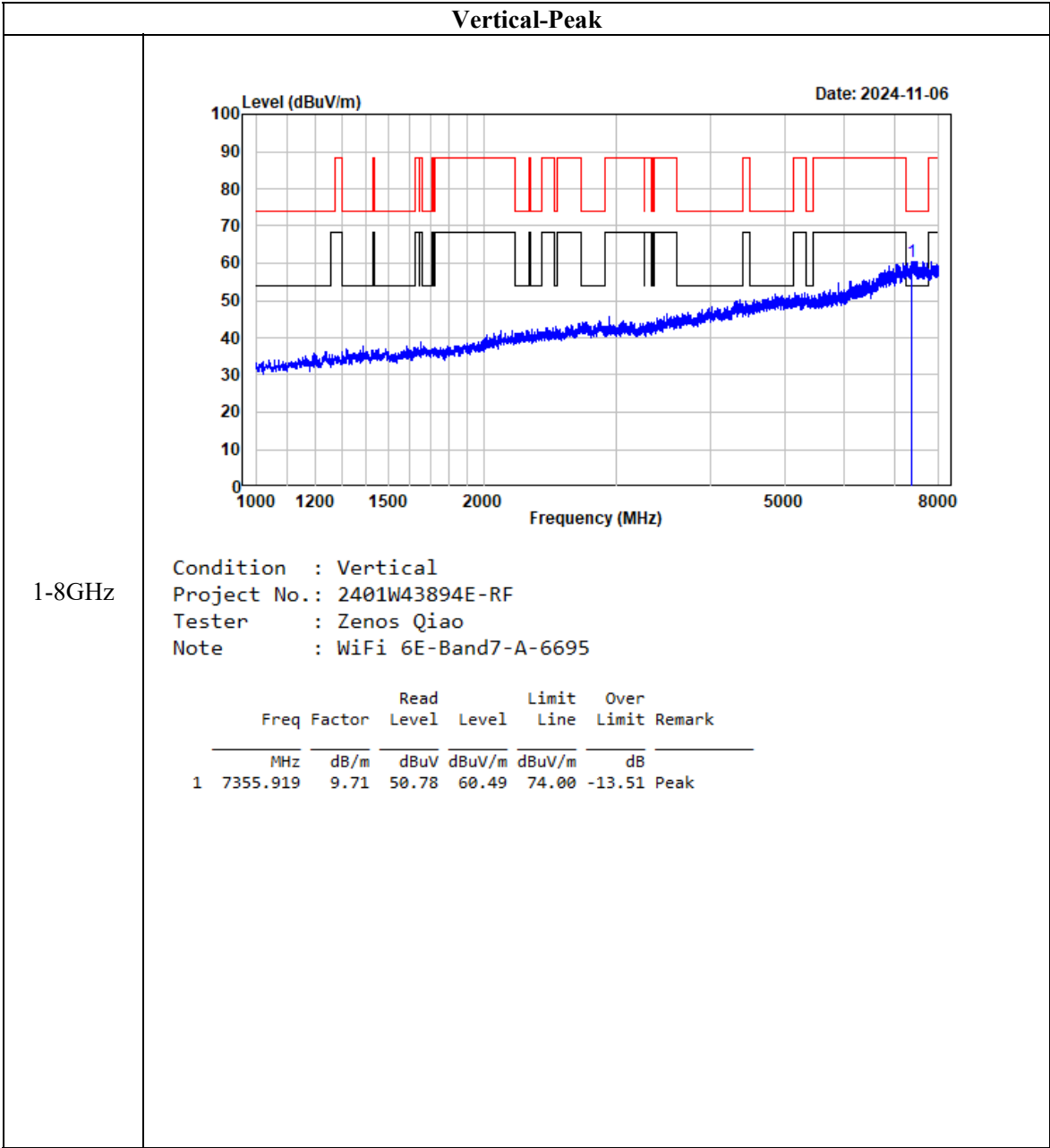
Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

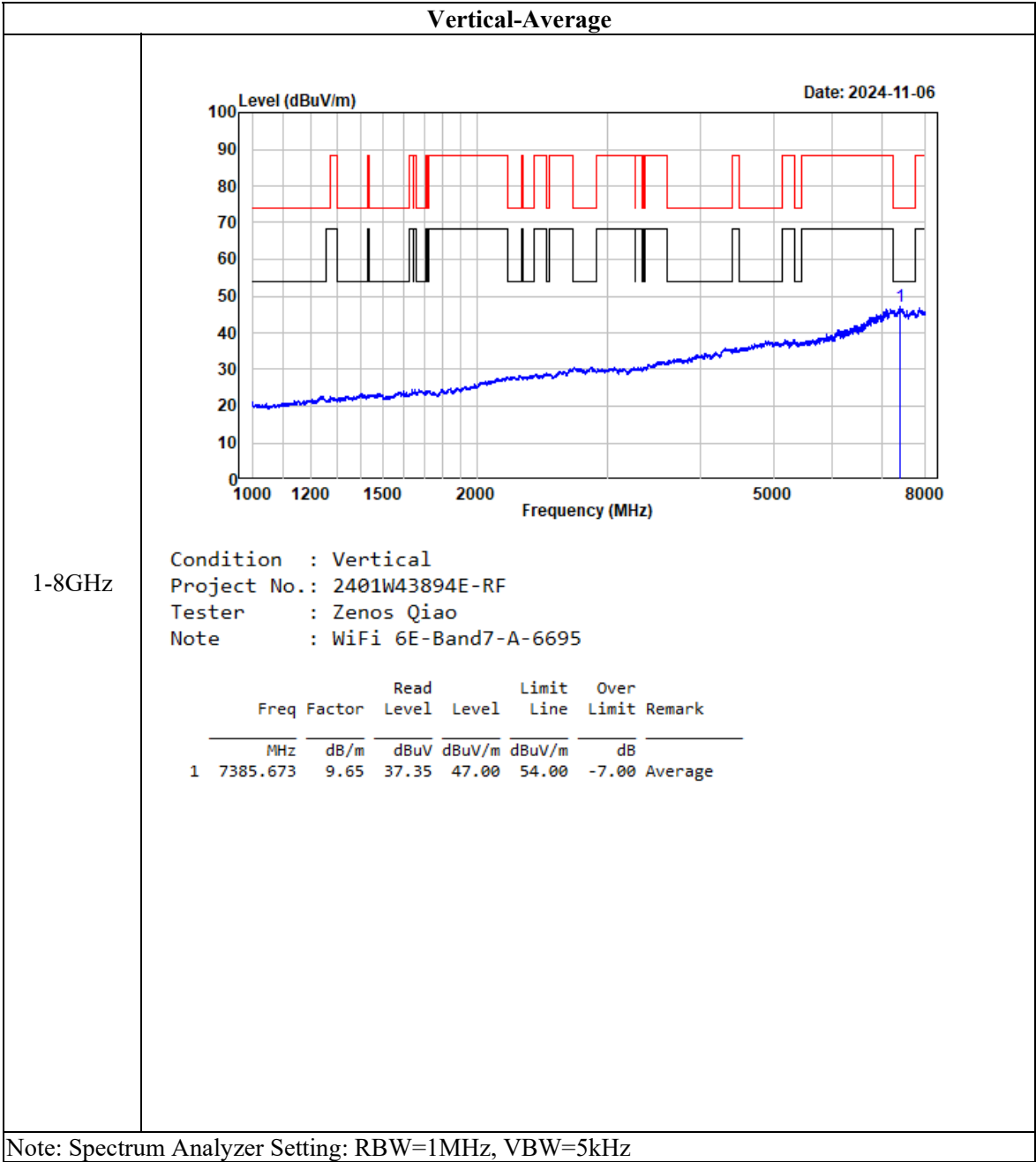
Wi-Fi 6E\_ U-NII 7:

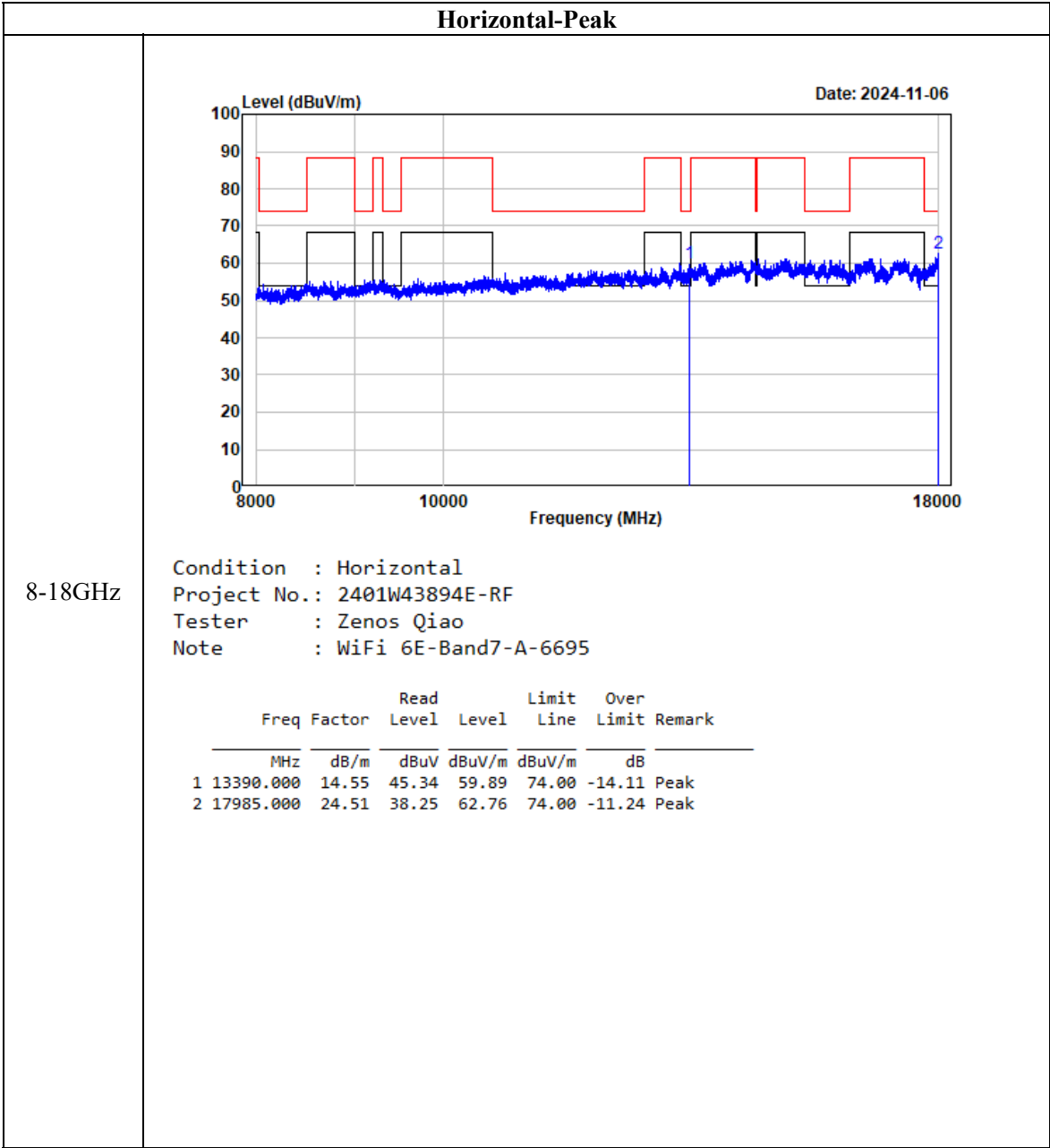
802.11a, 6695MHz

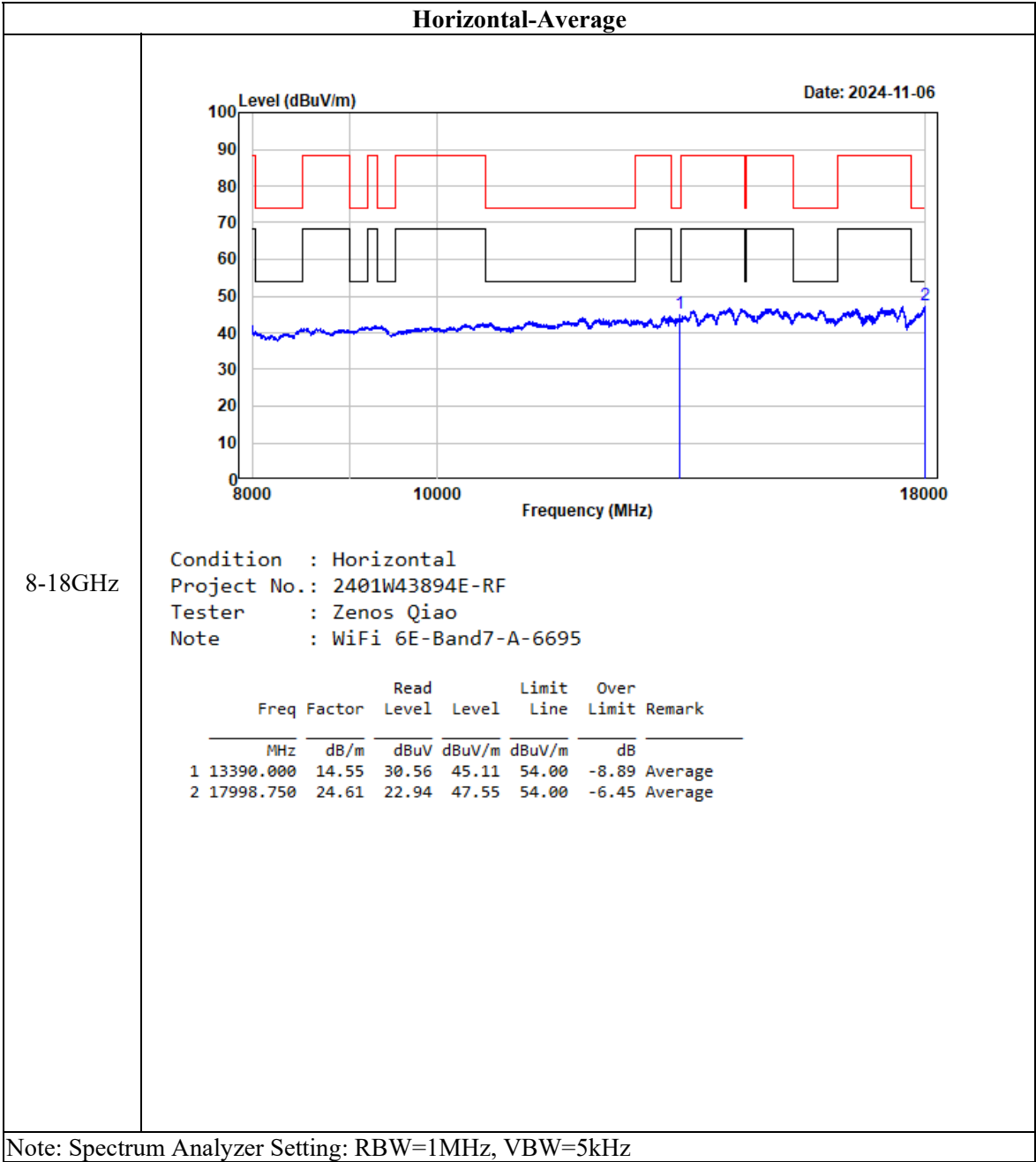


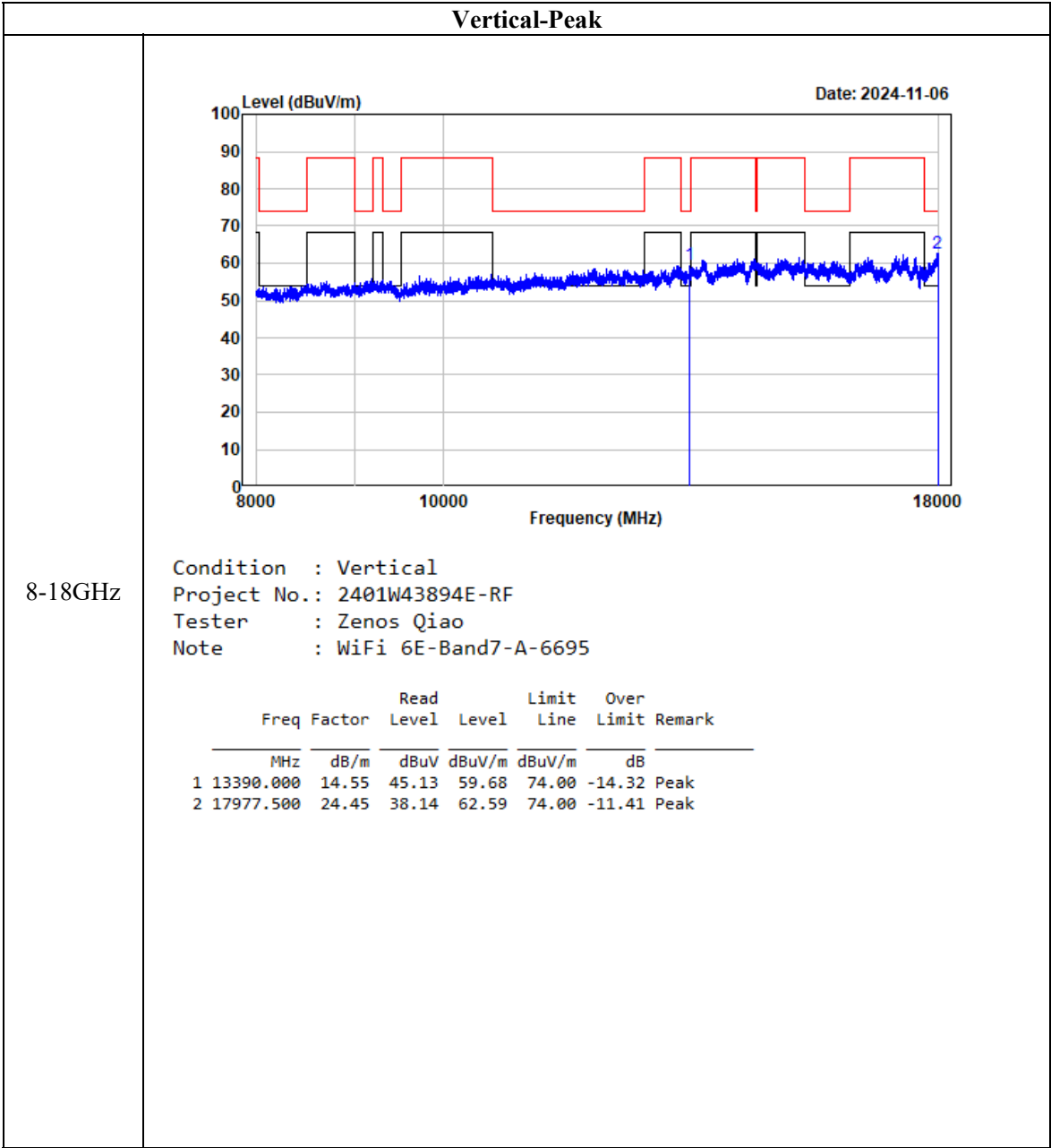




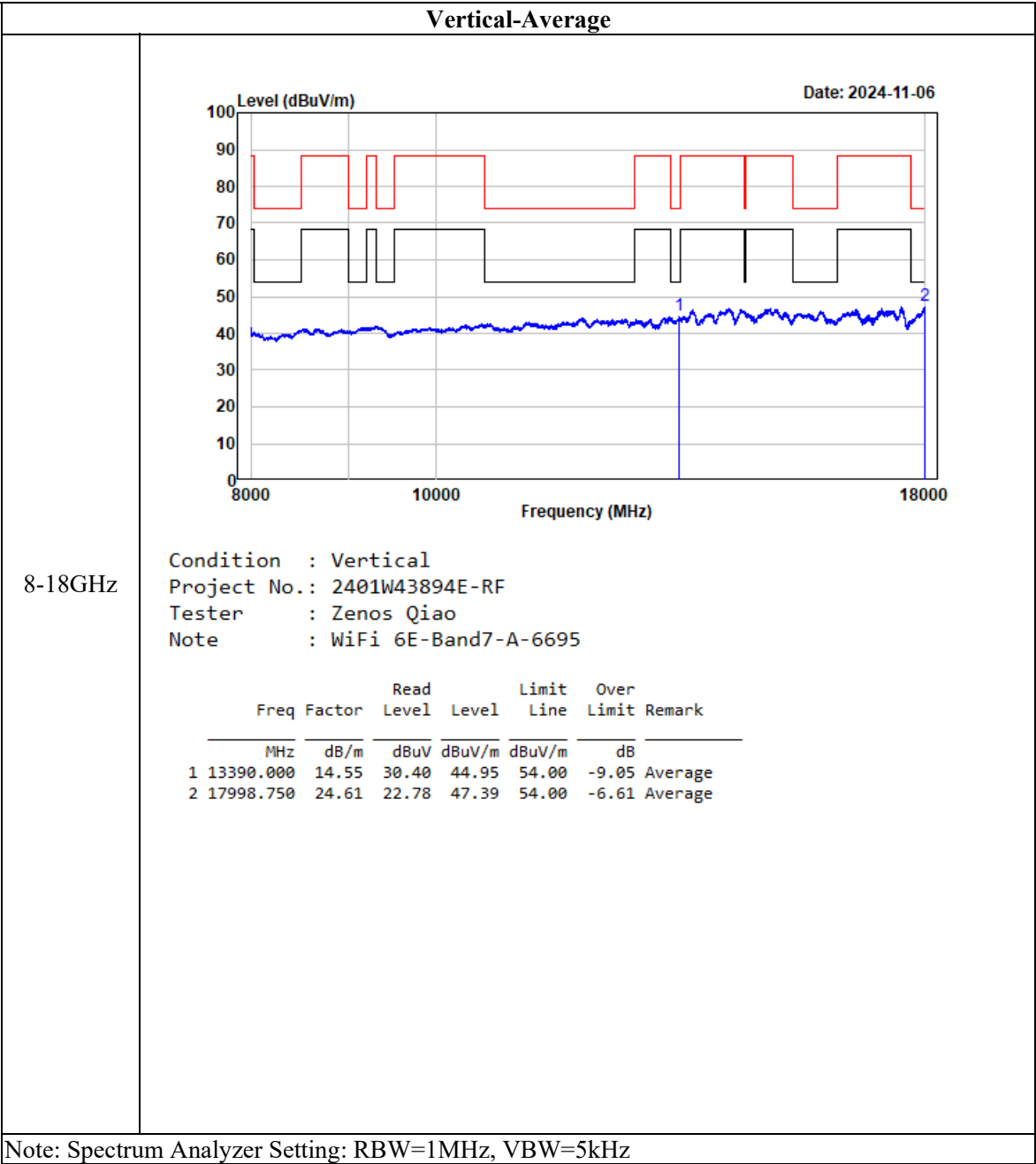




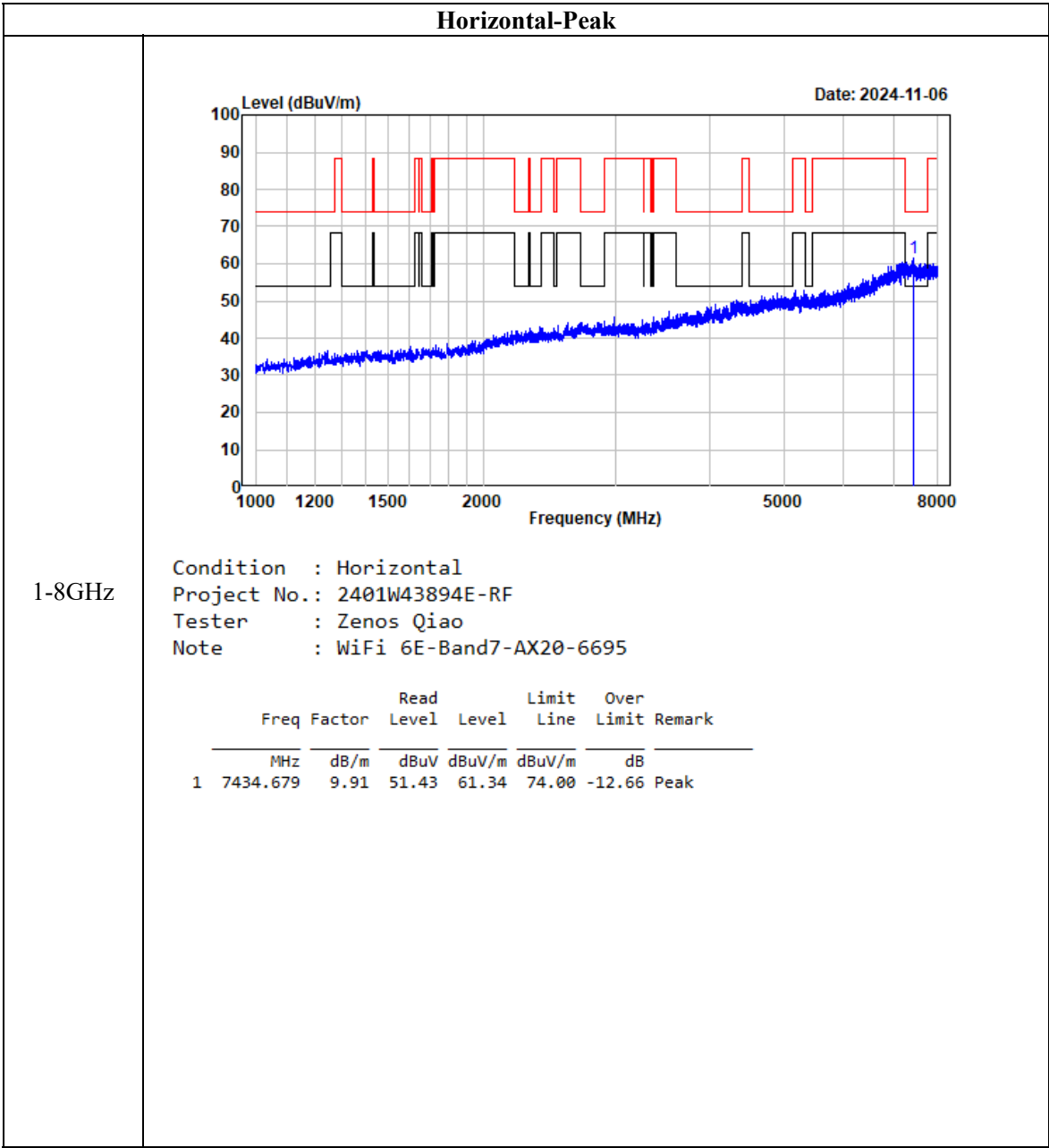


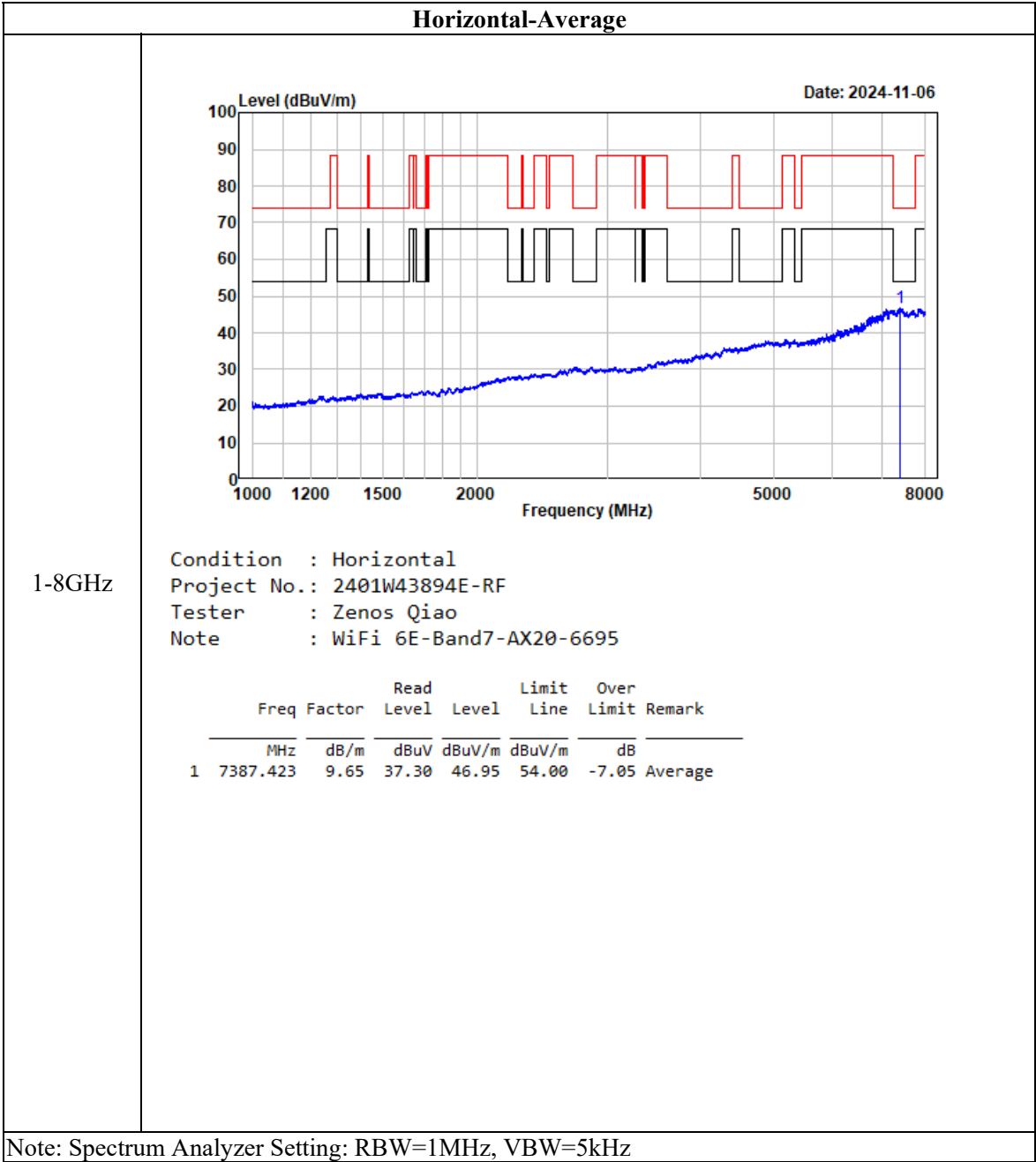


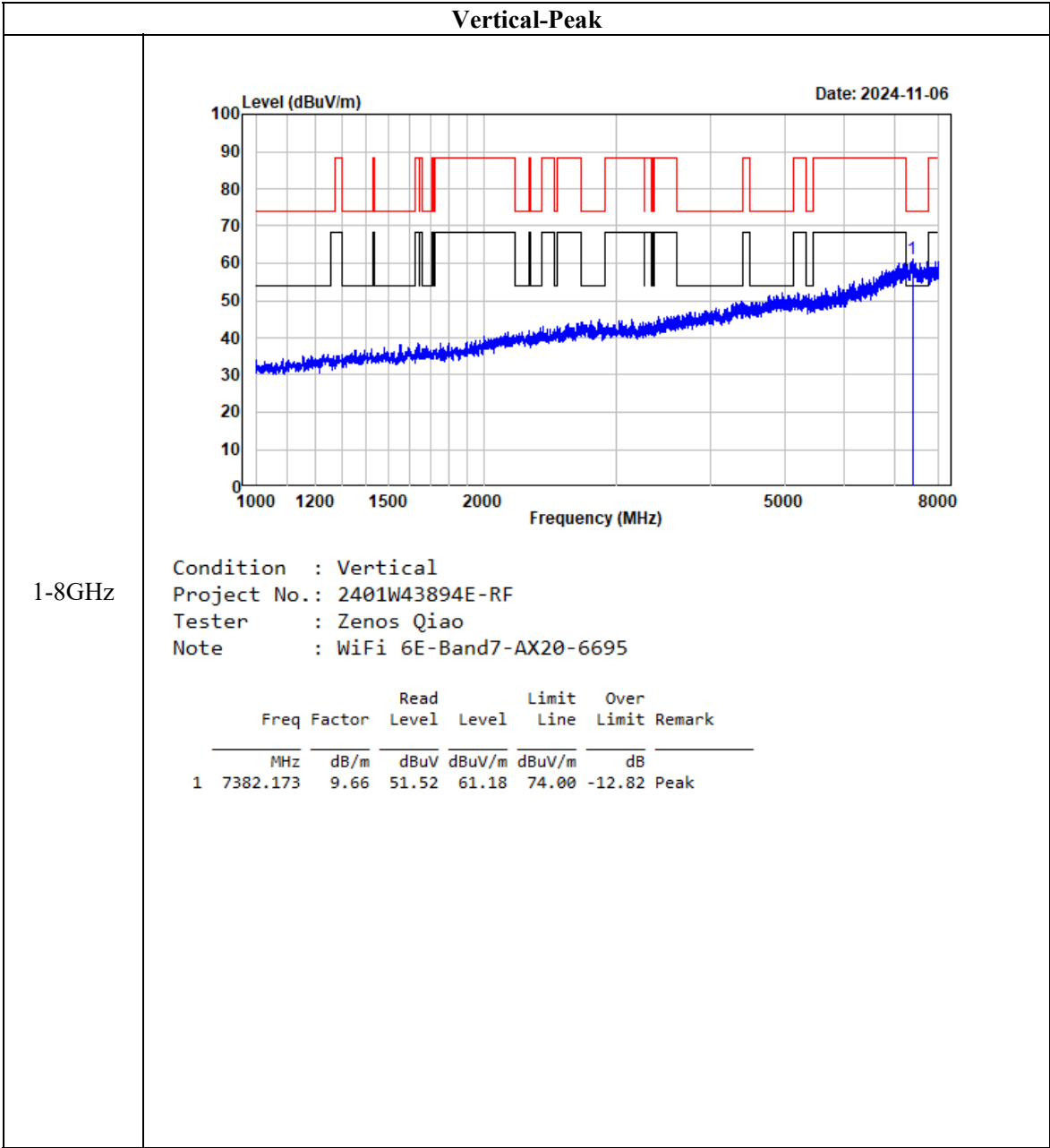


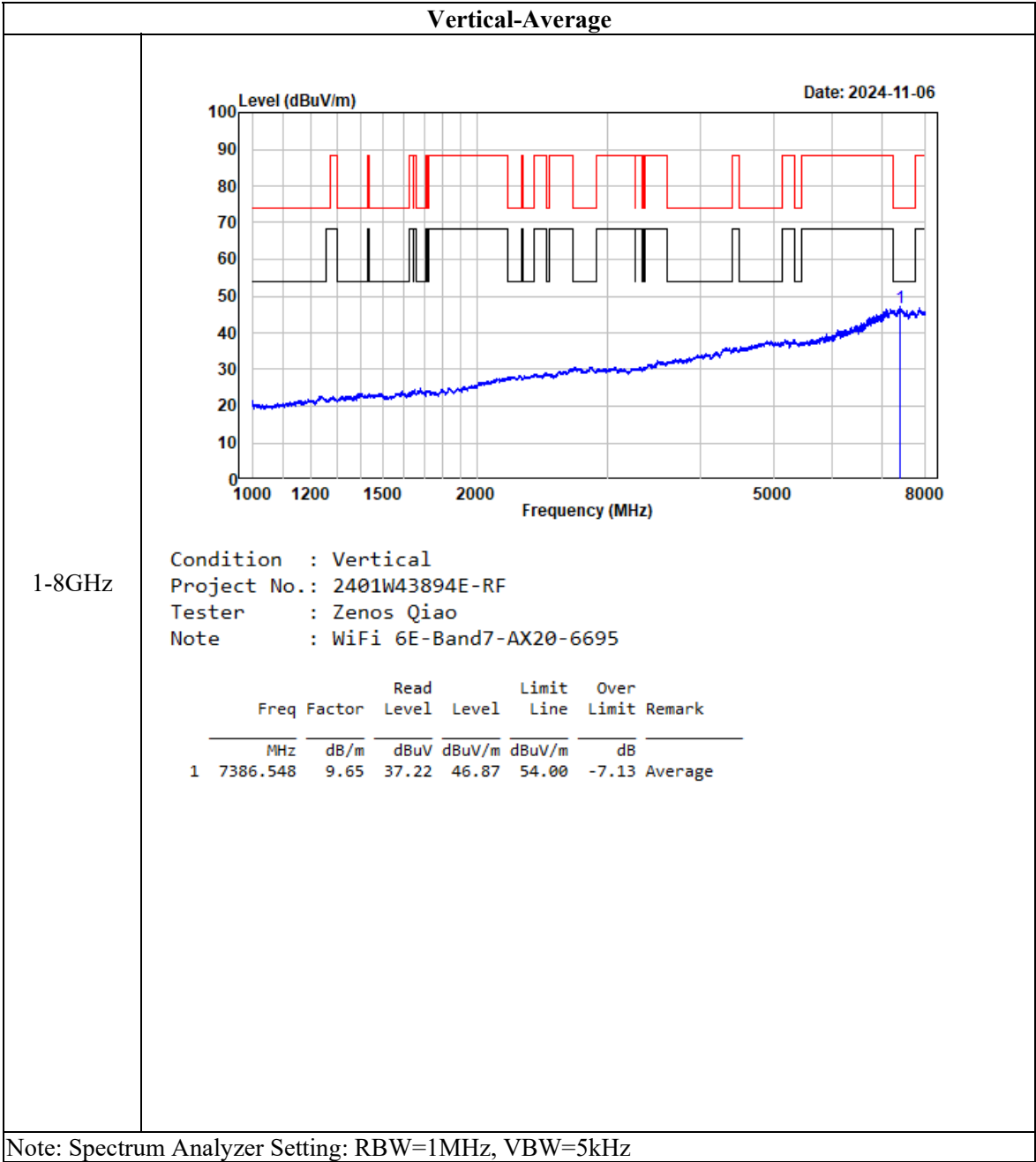


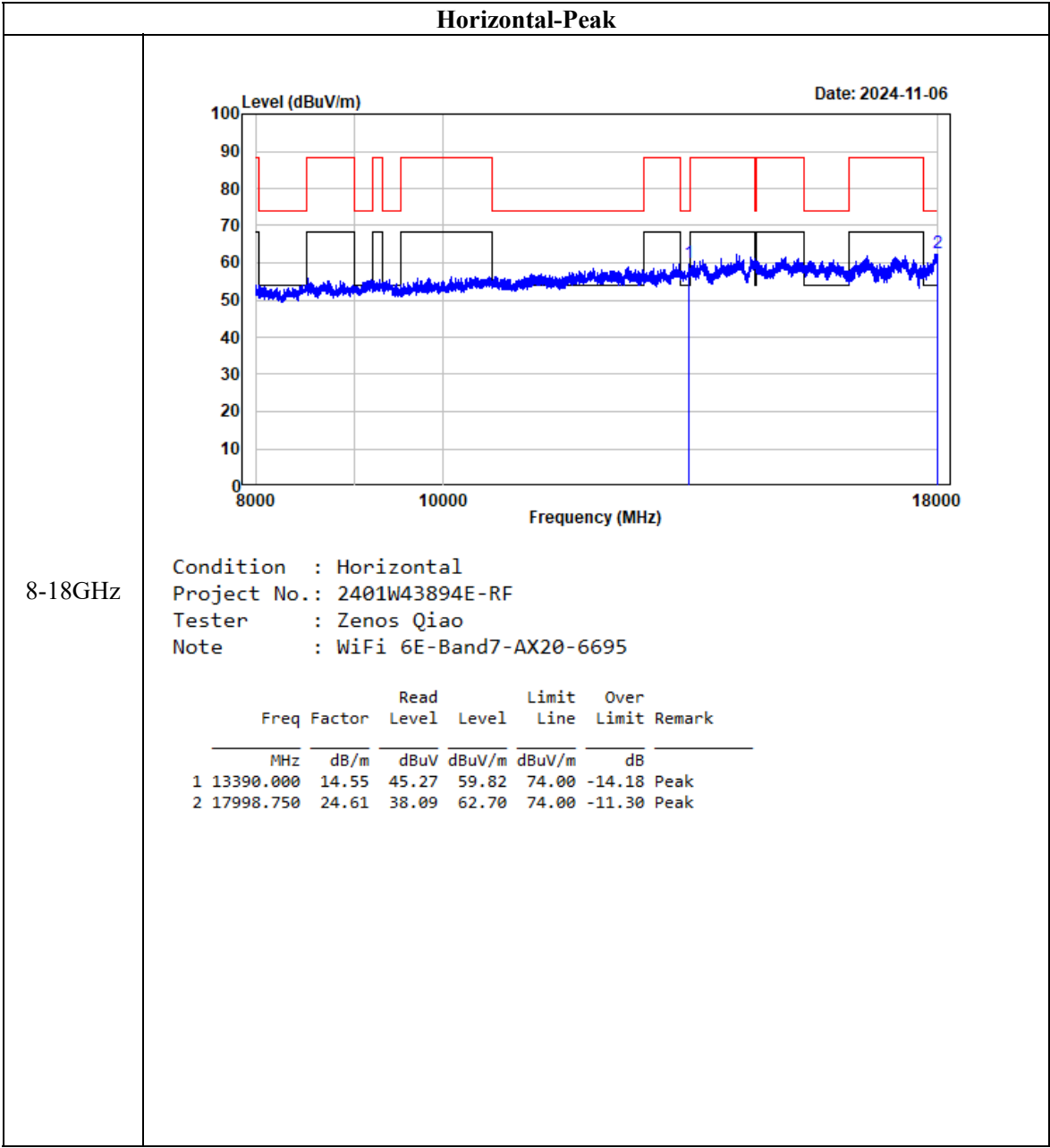
802.11ax20, 6695MHz

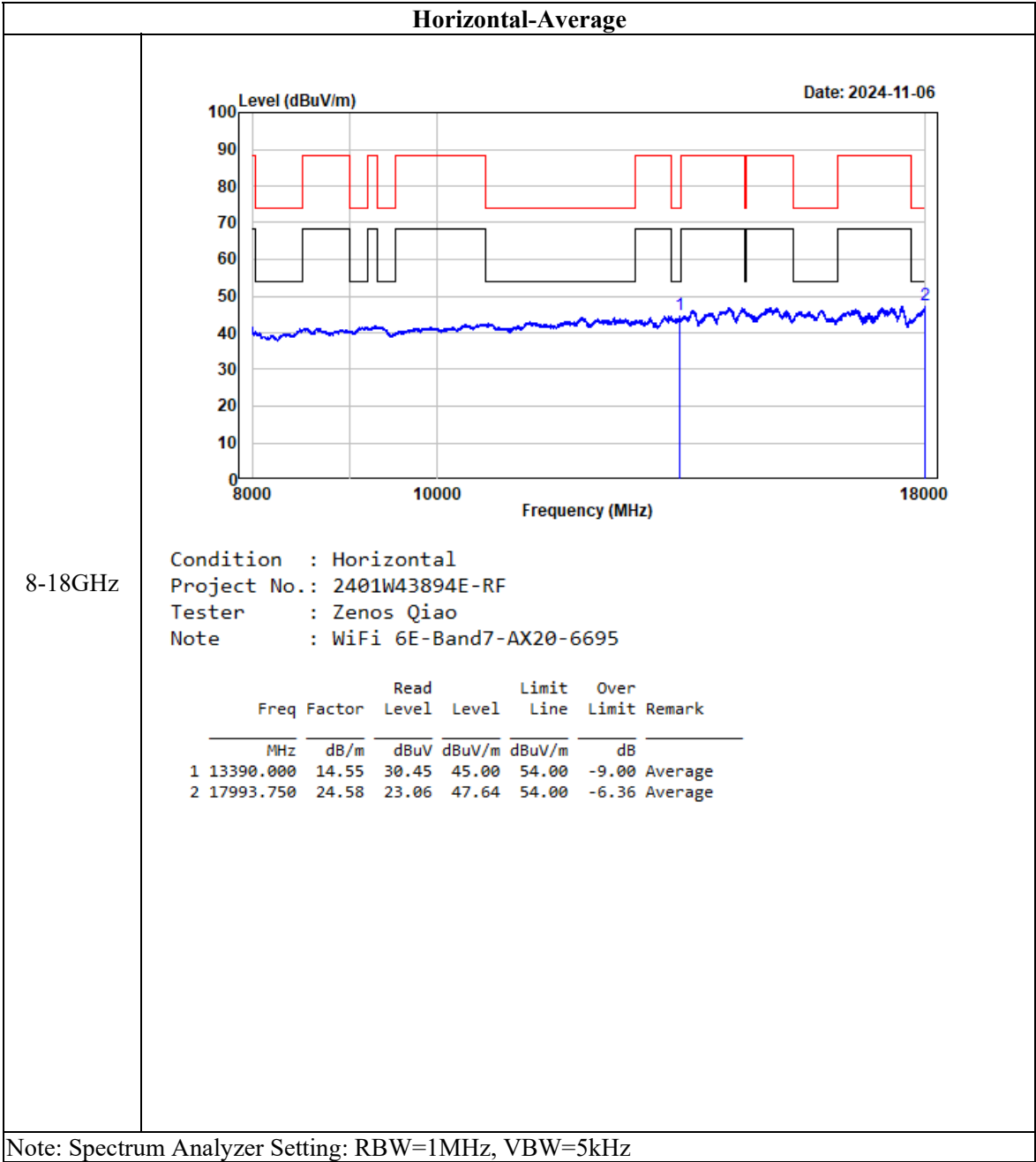


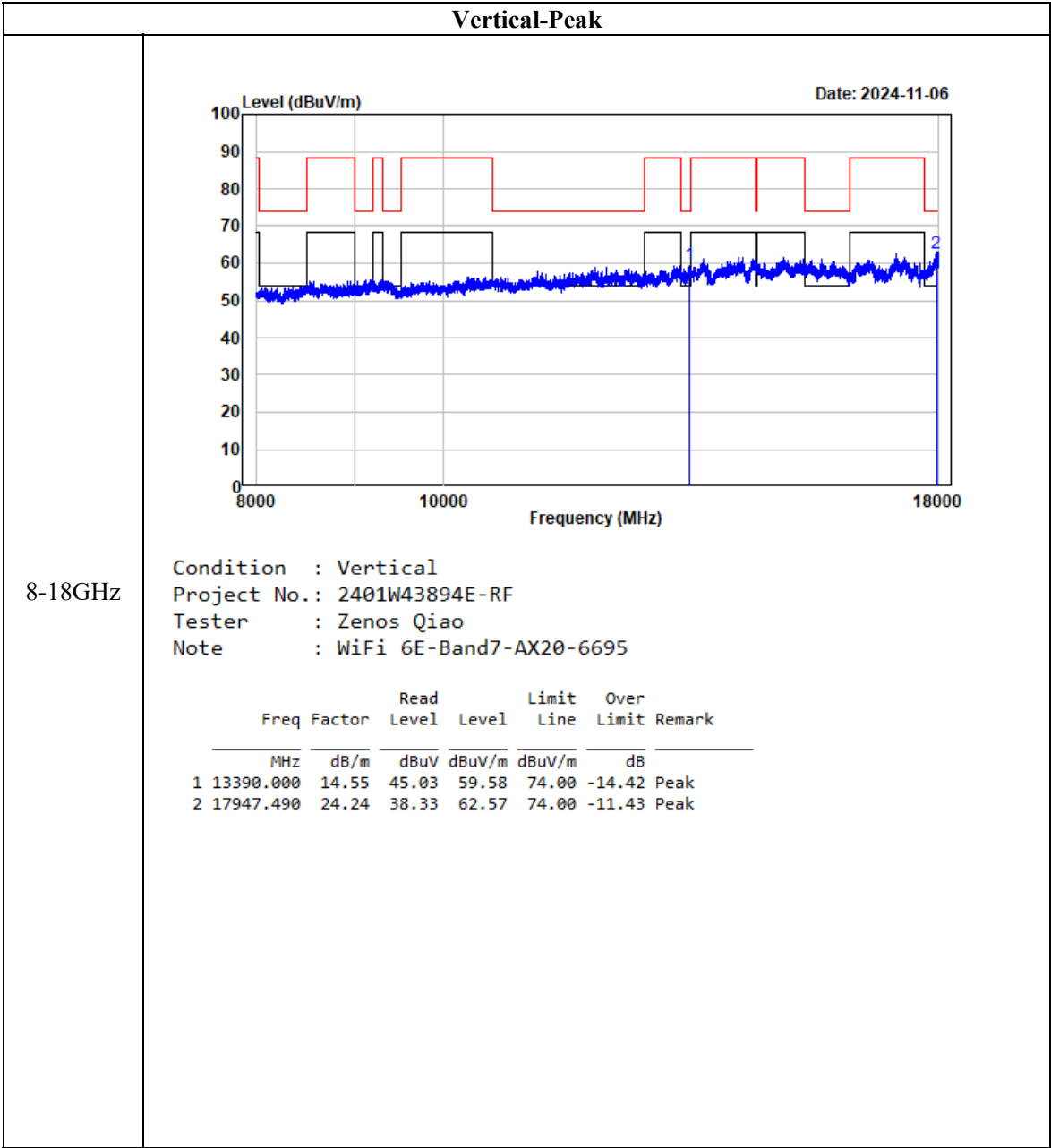




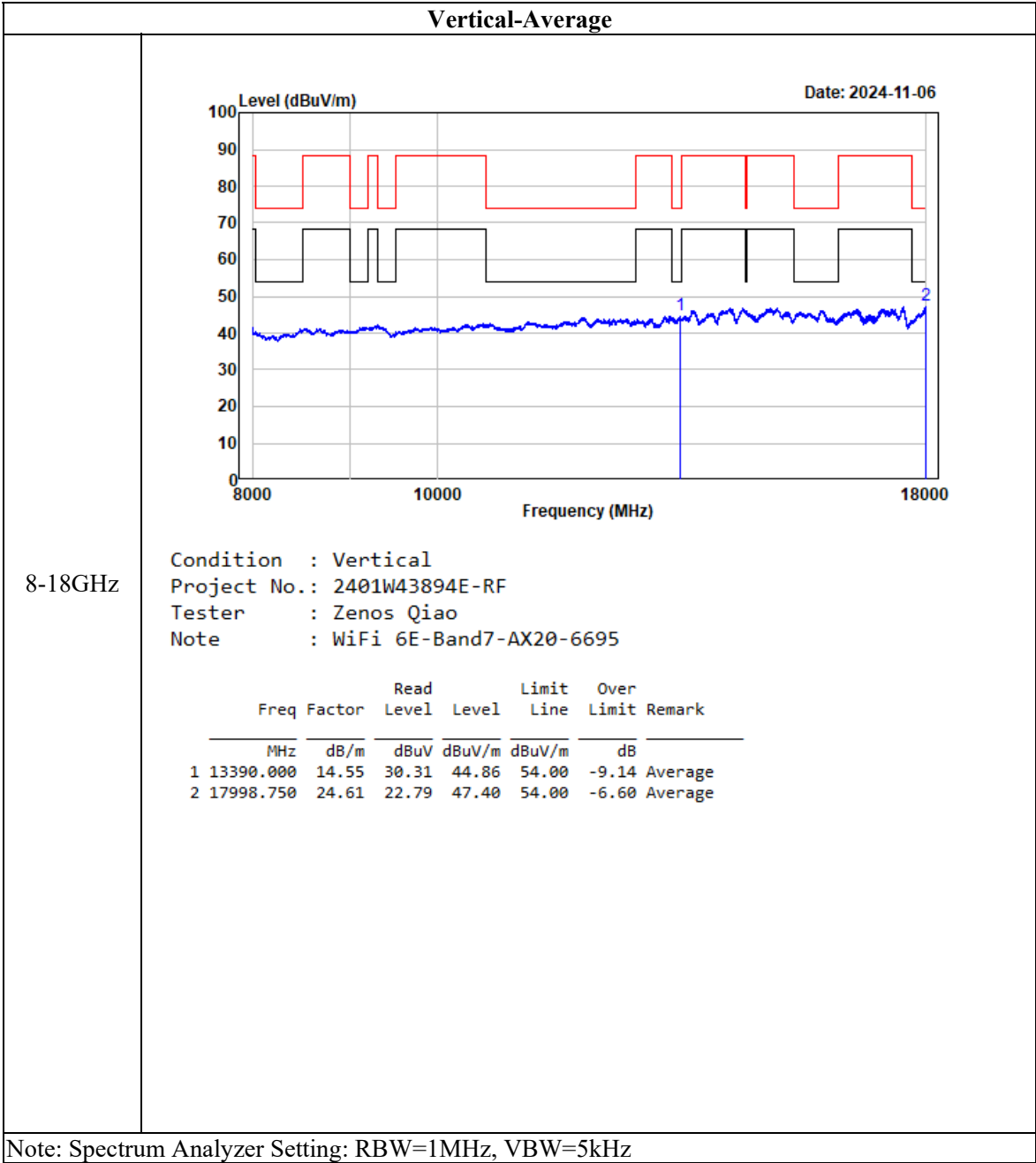




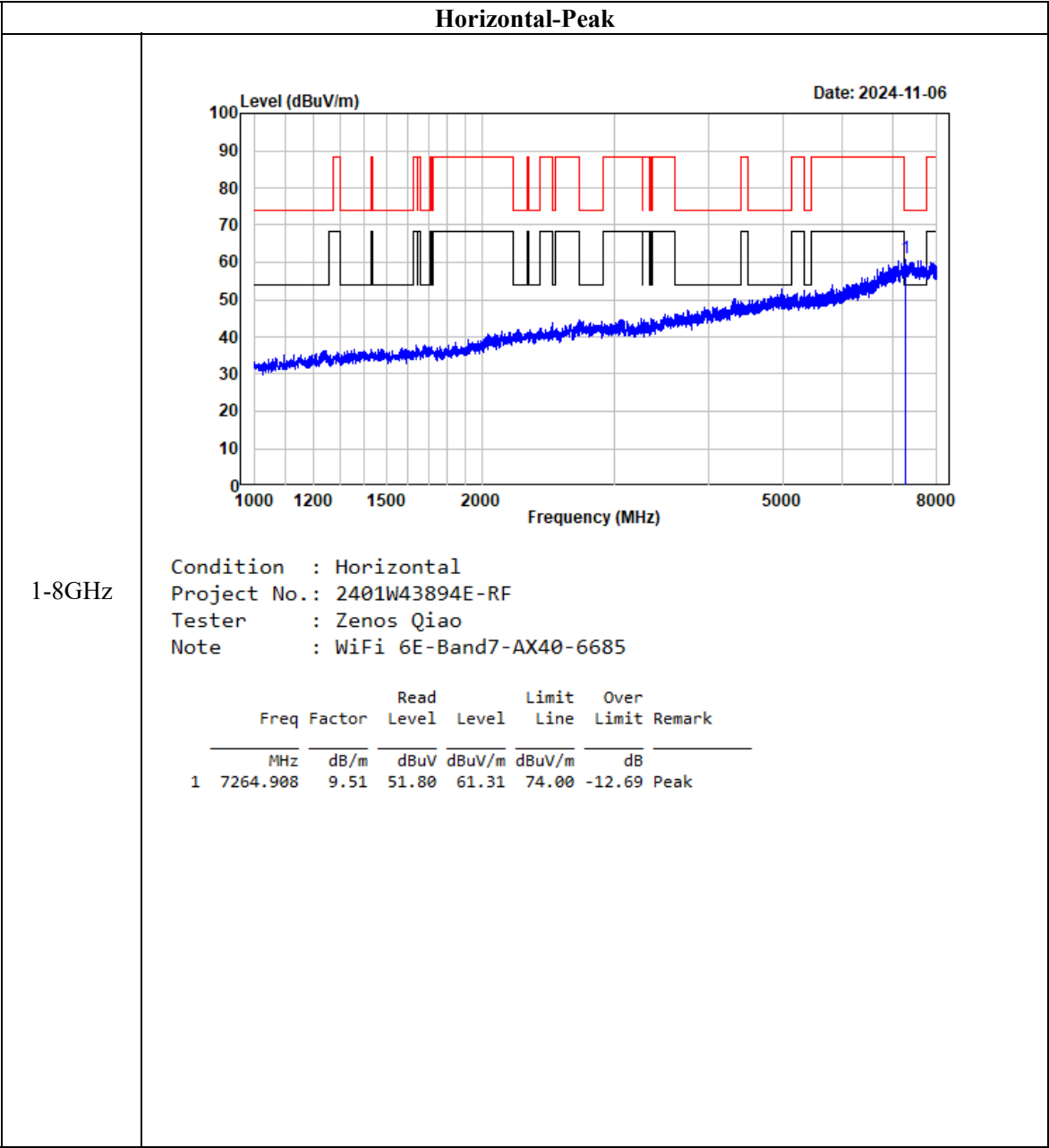


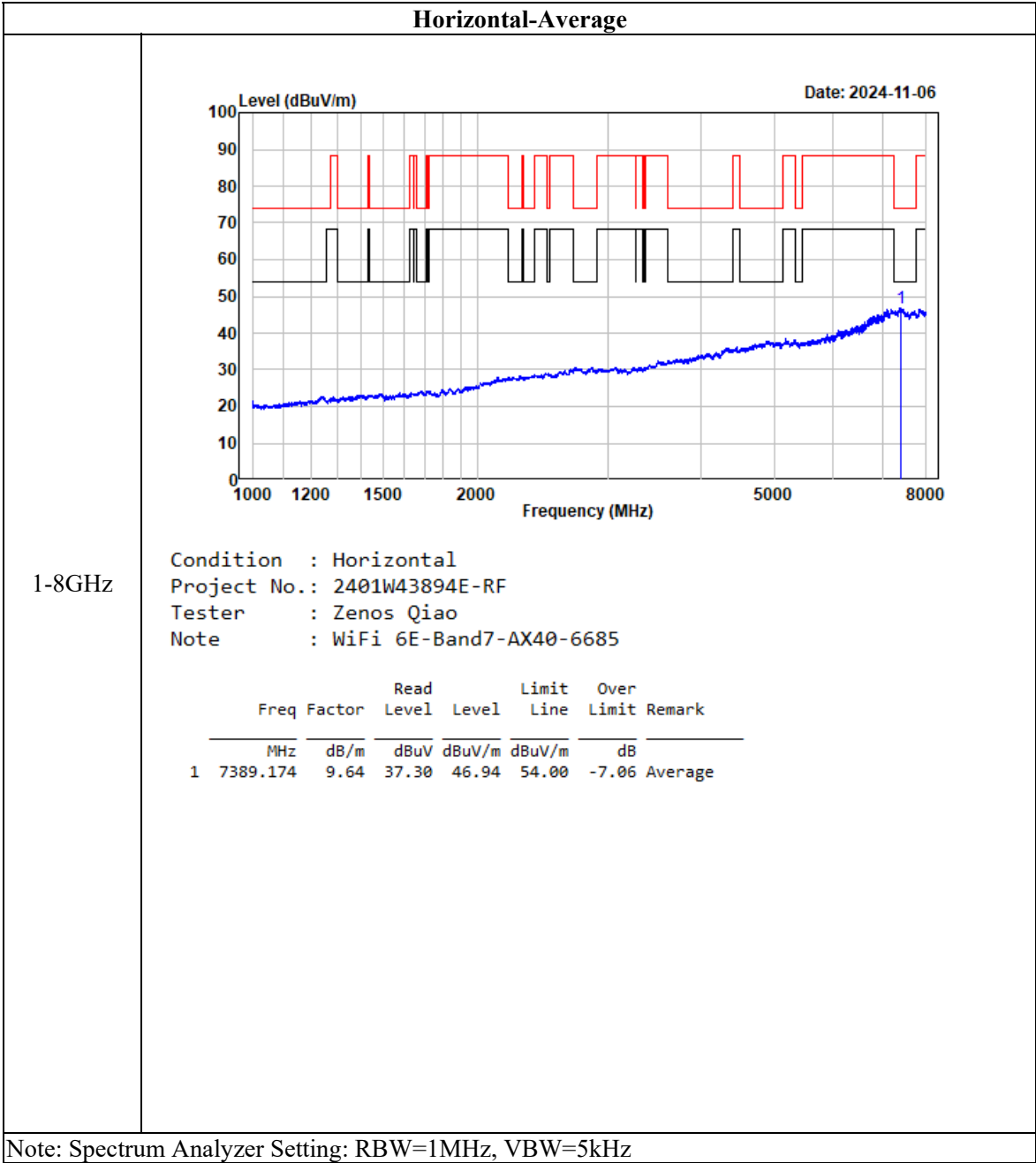


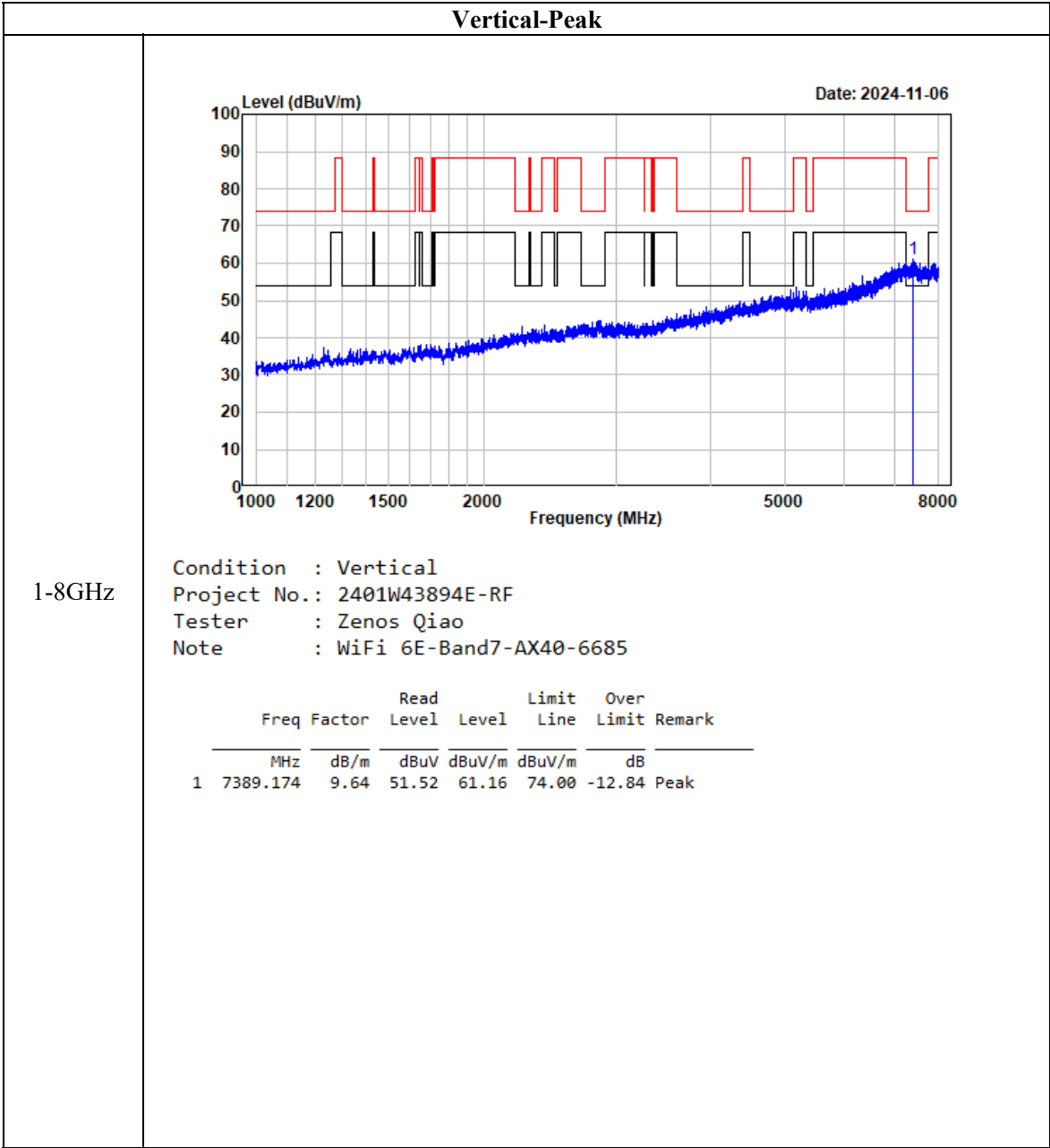


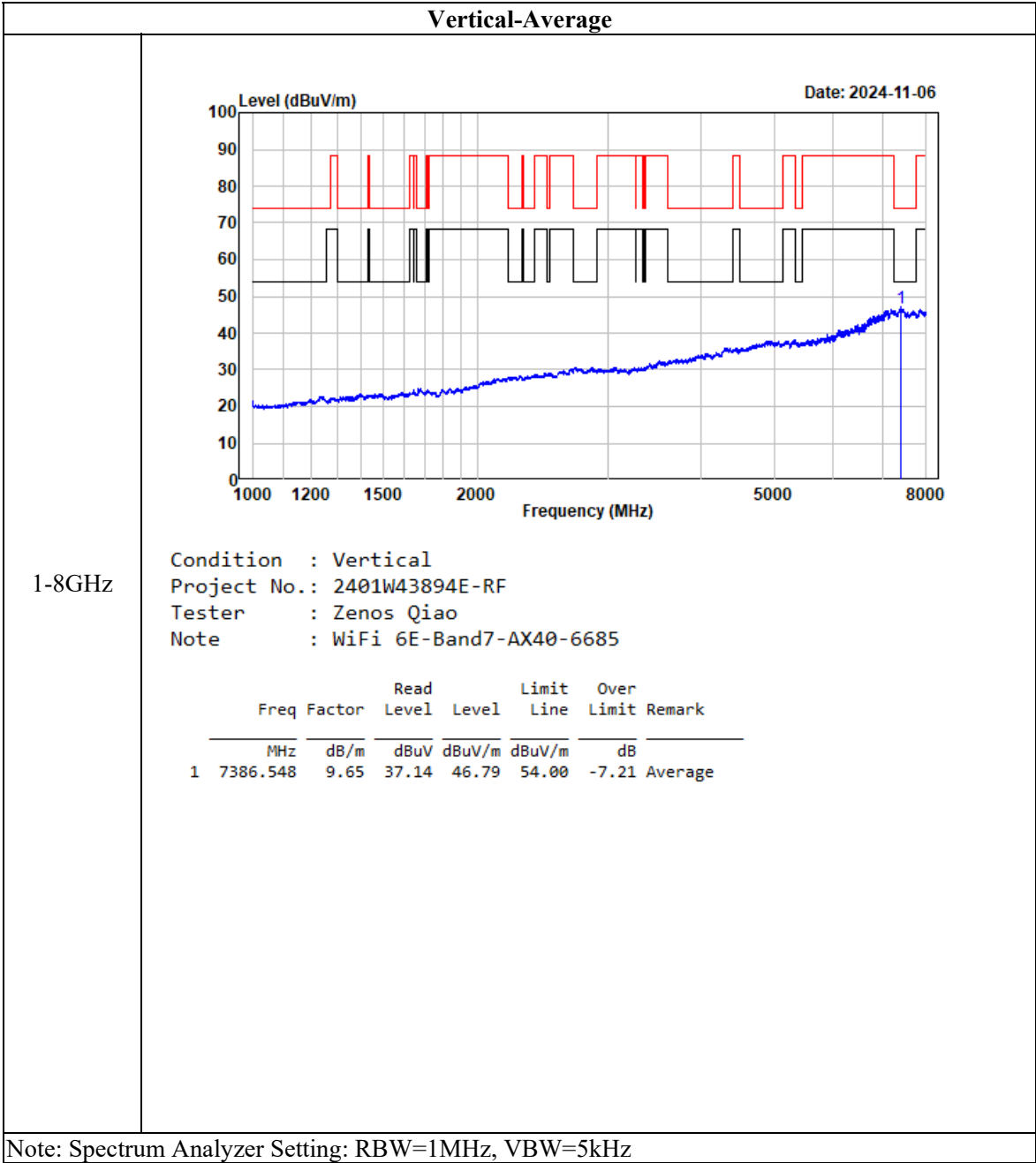


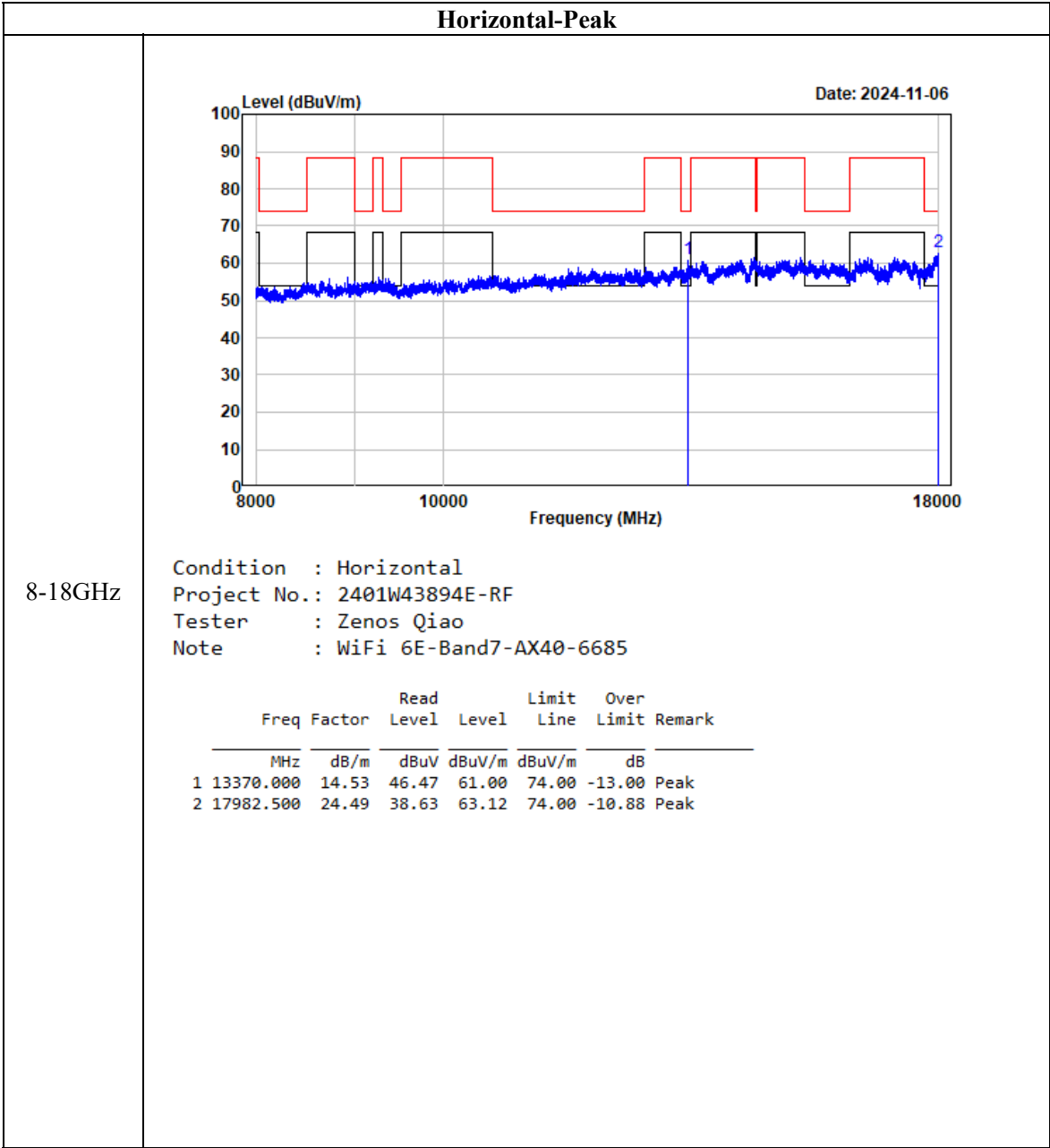
802.11ax40, 6685MHz

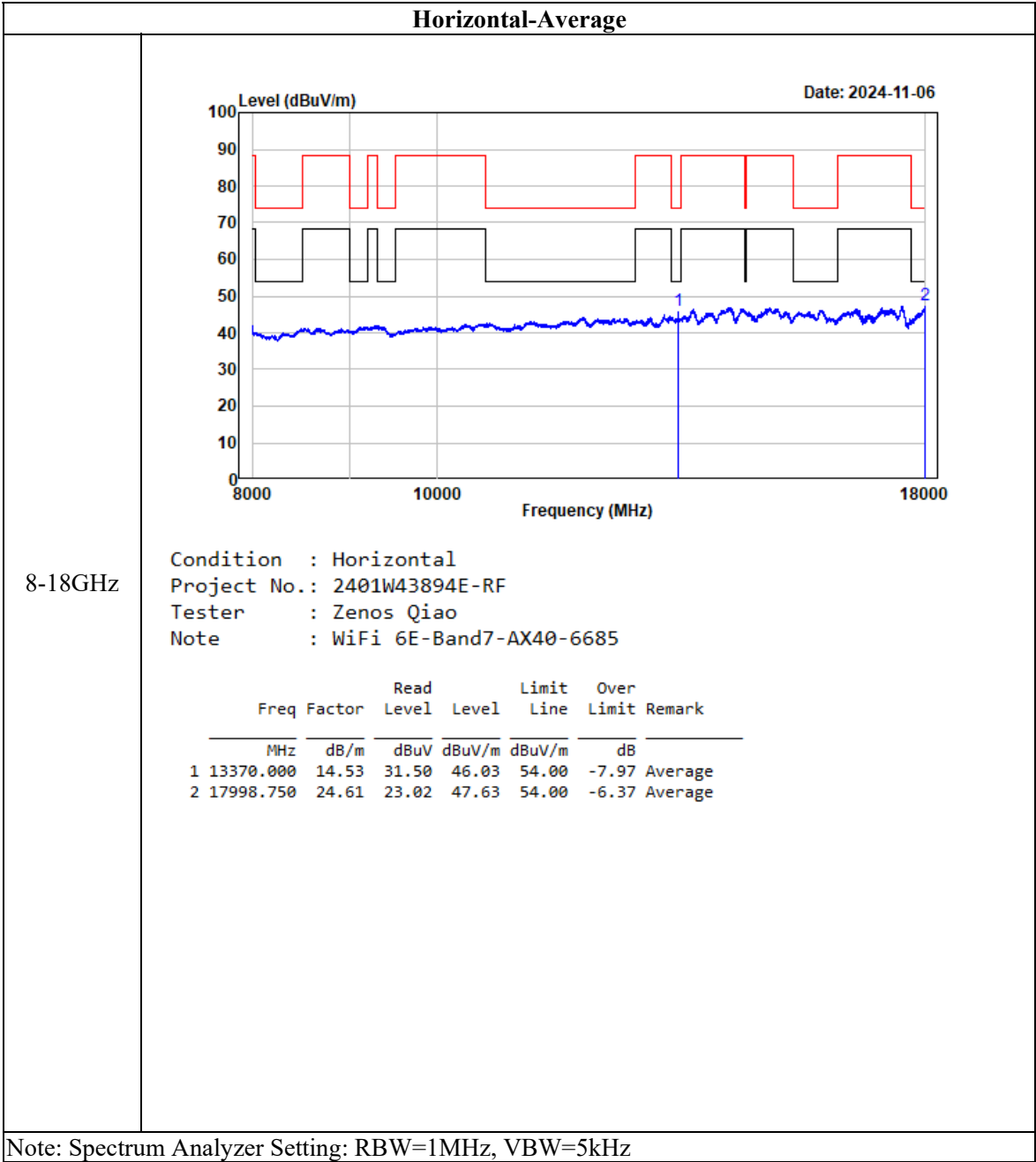


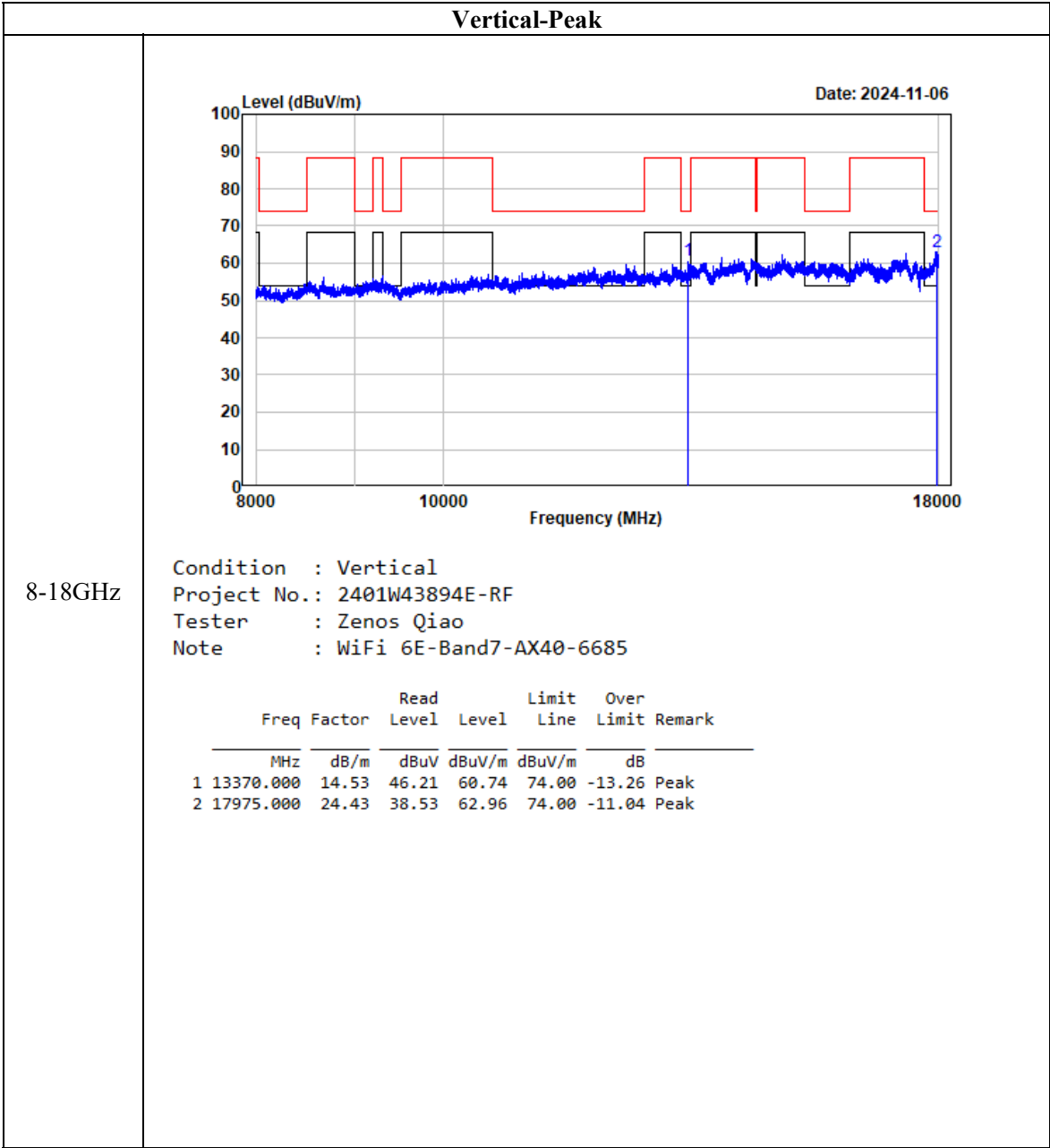




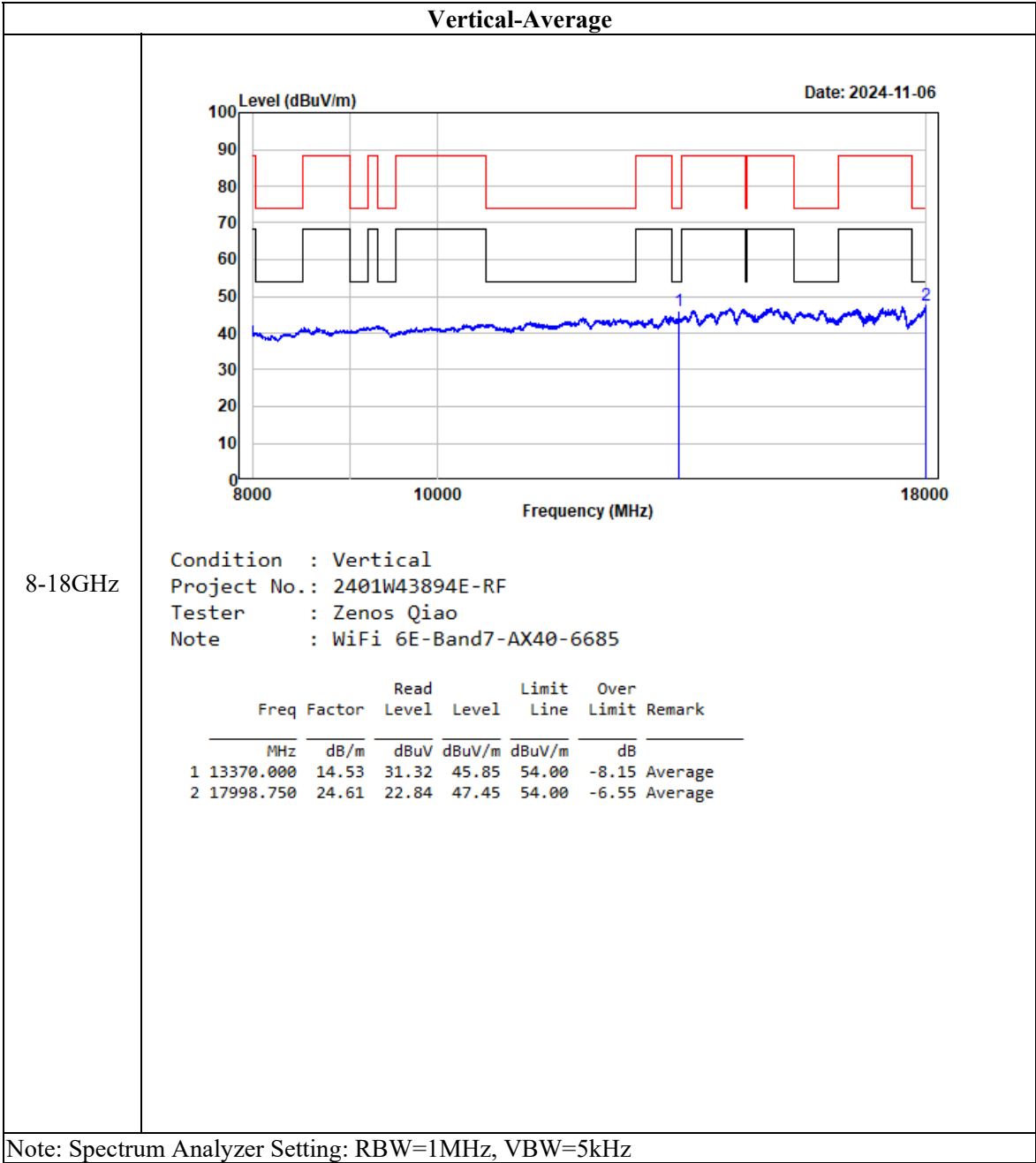




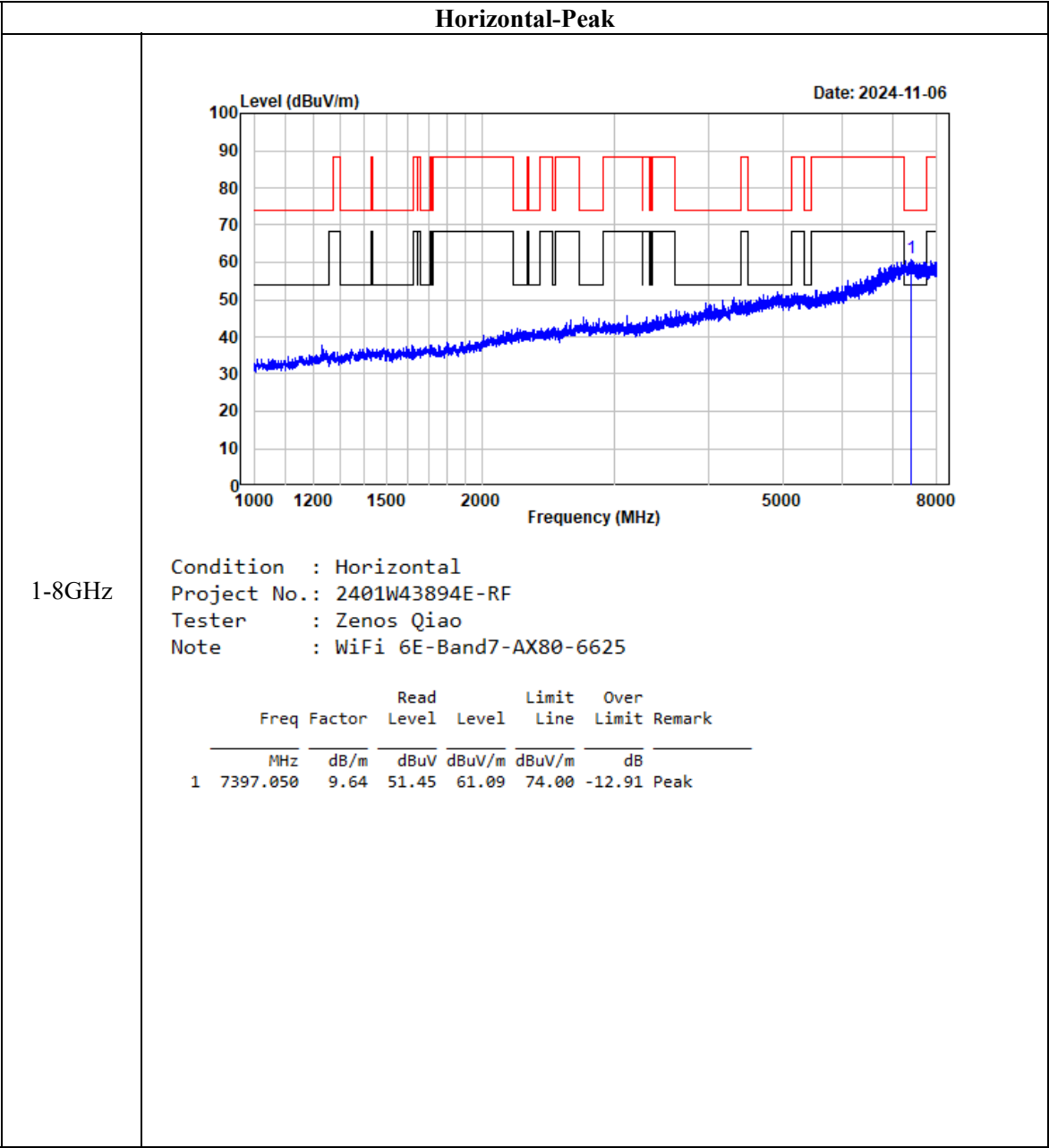


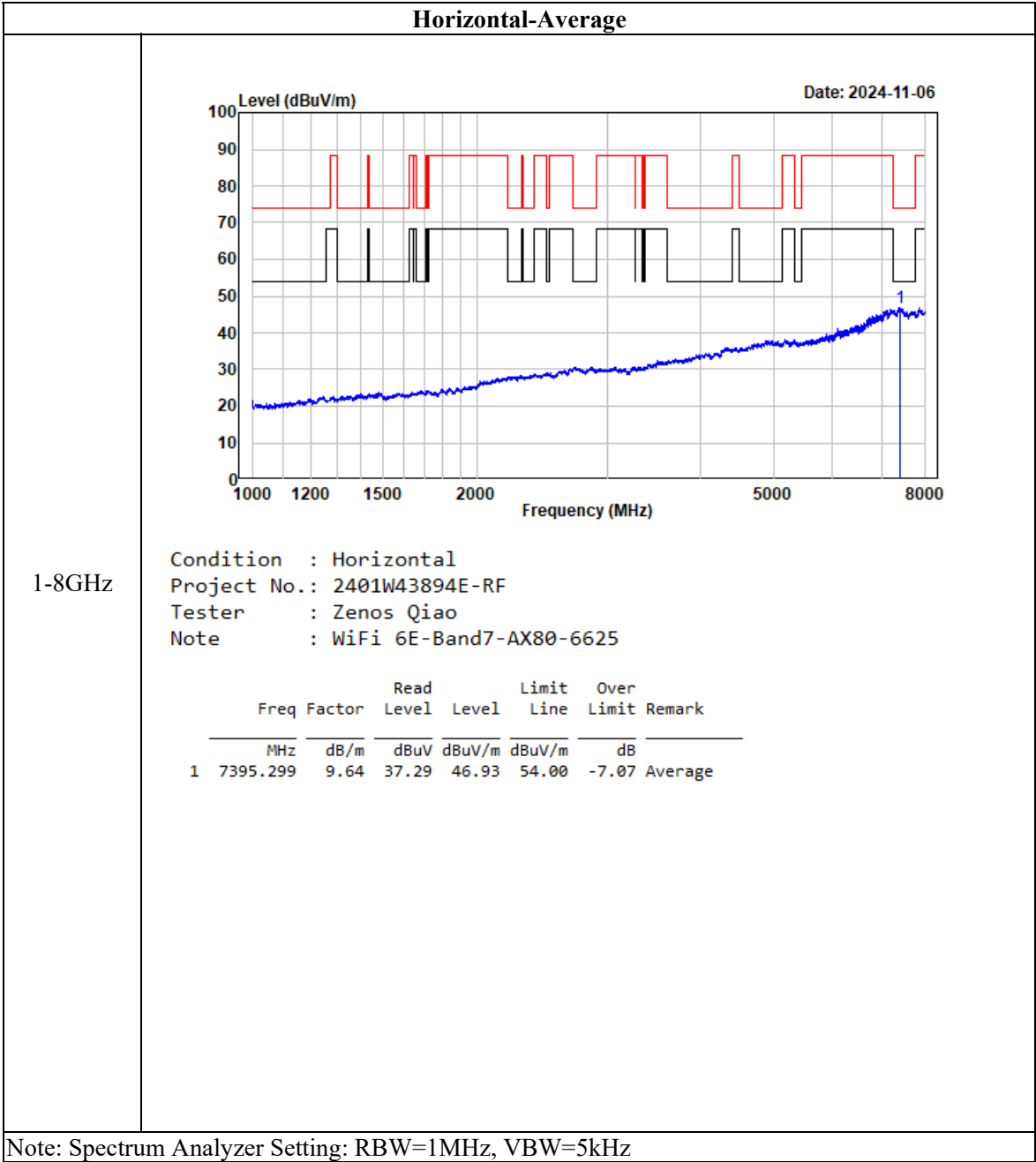


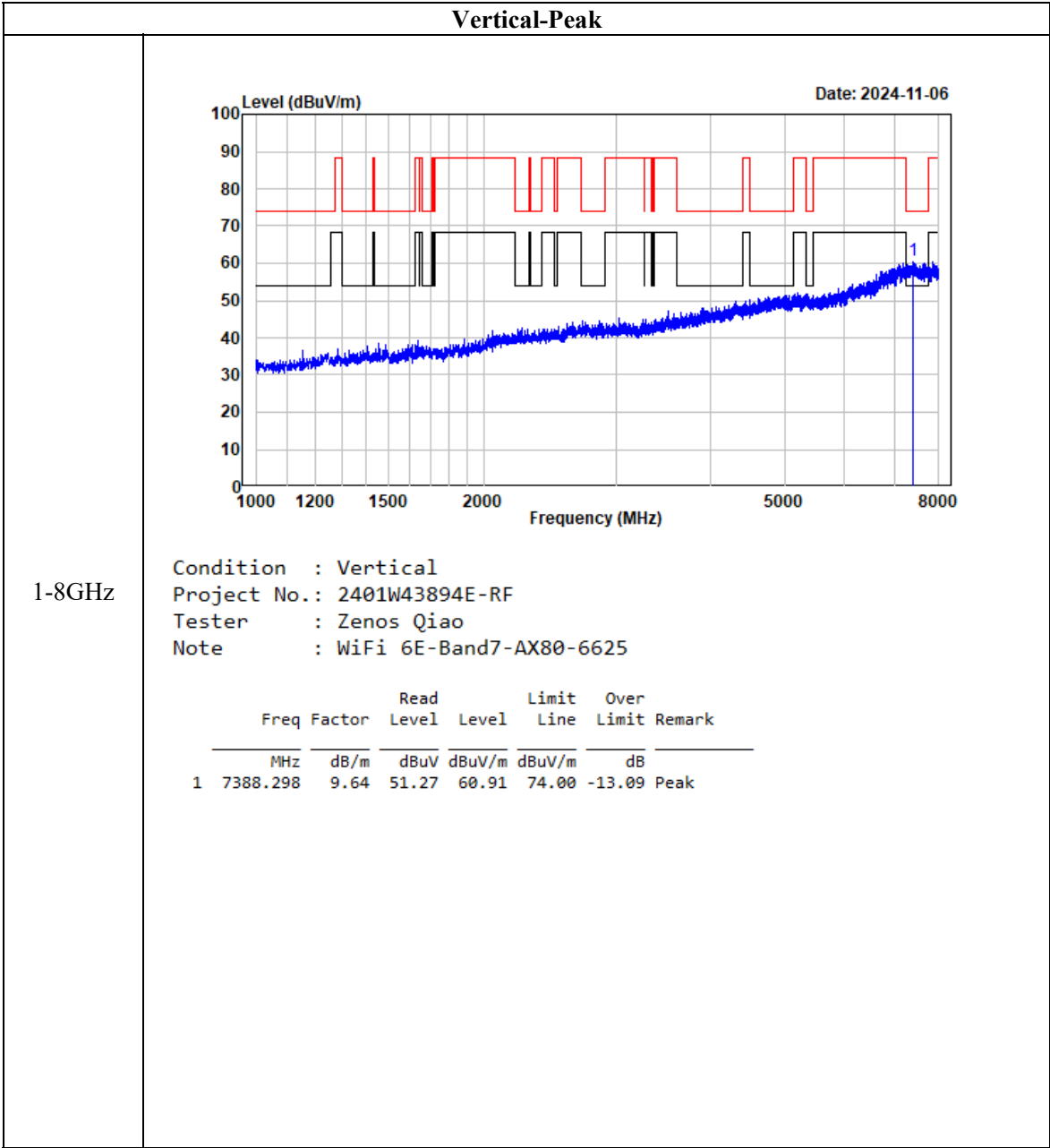


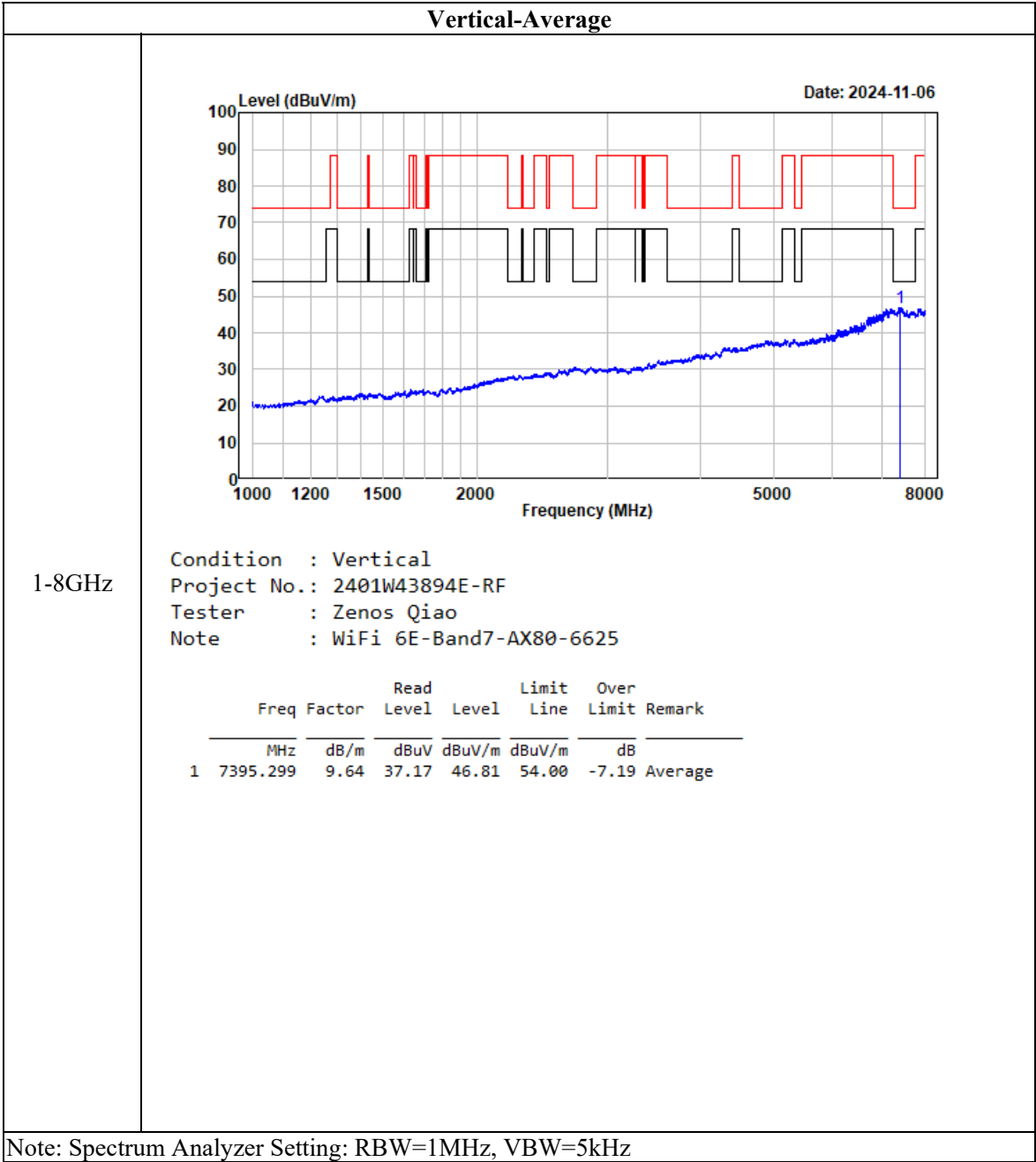


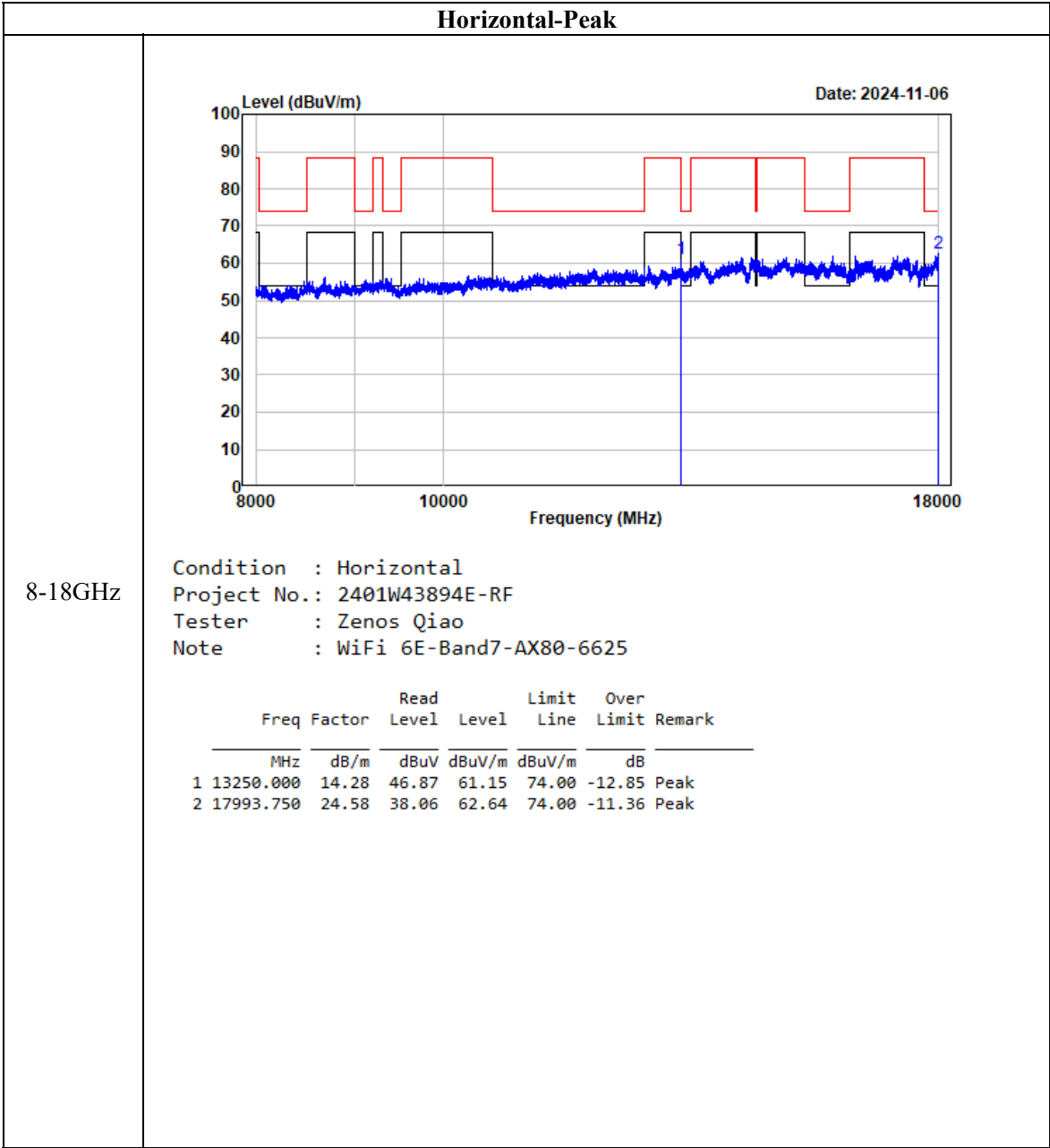
802.11ax80, 6625MHz

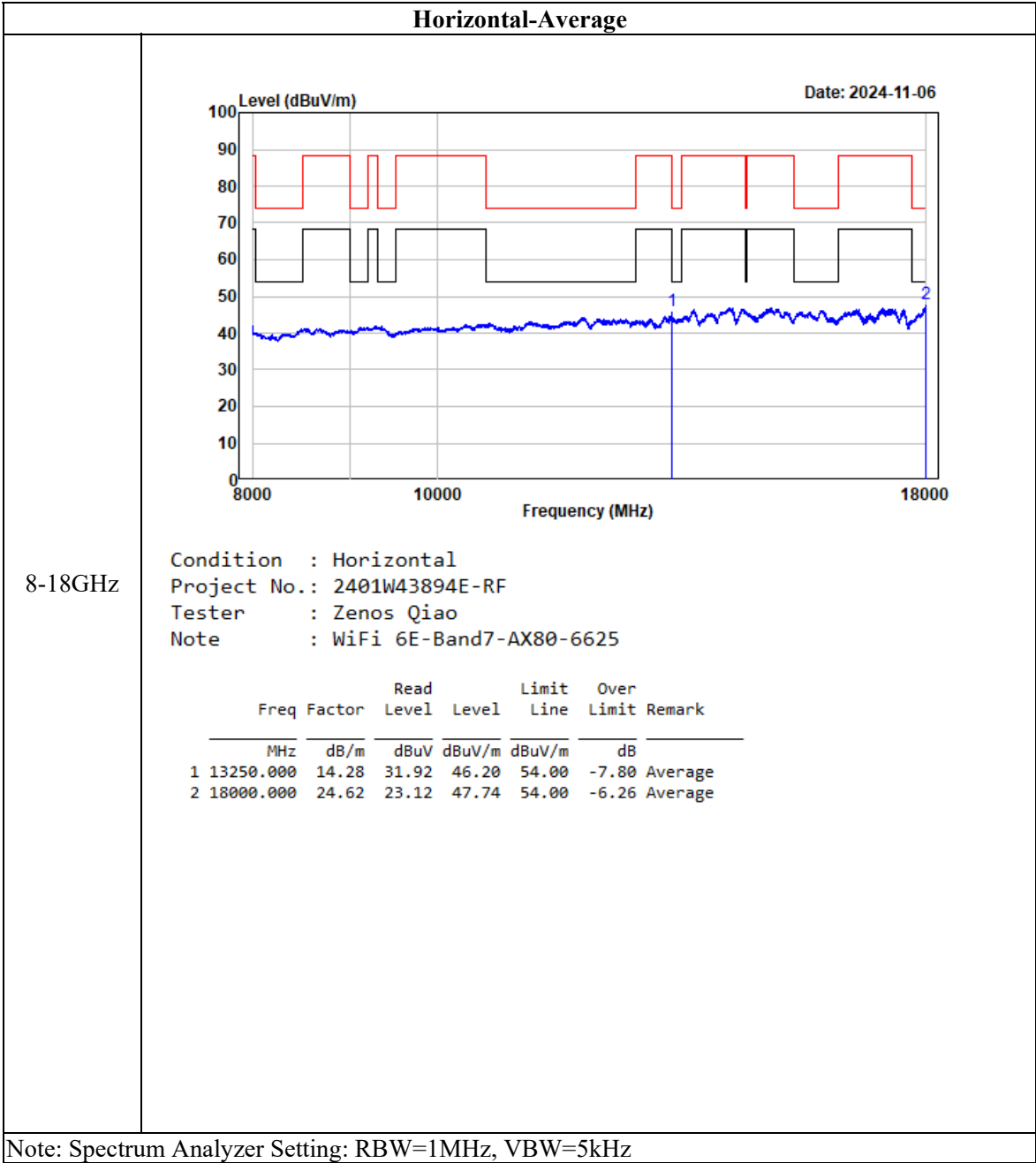


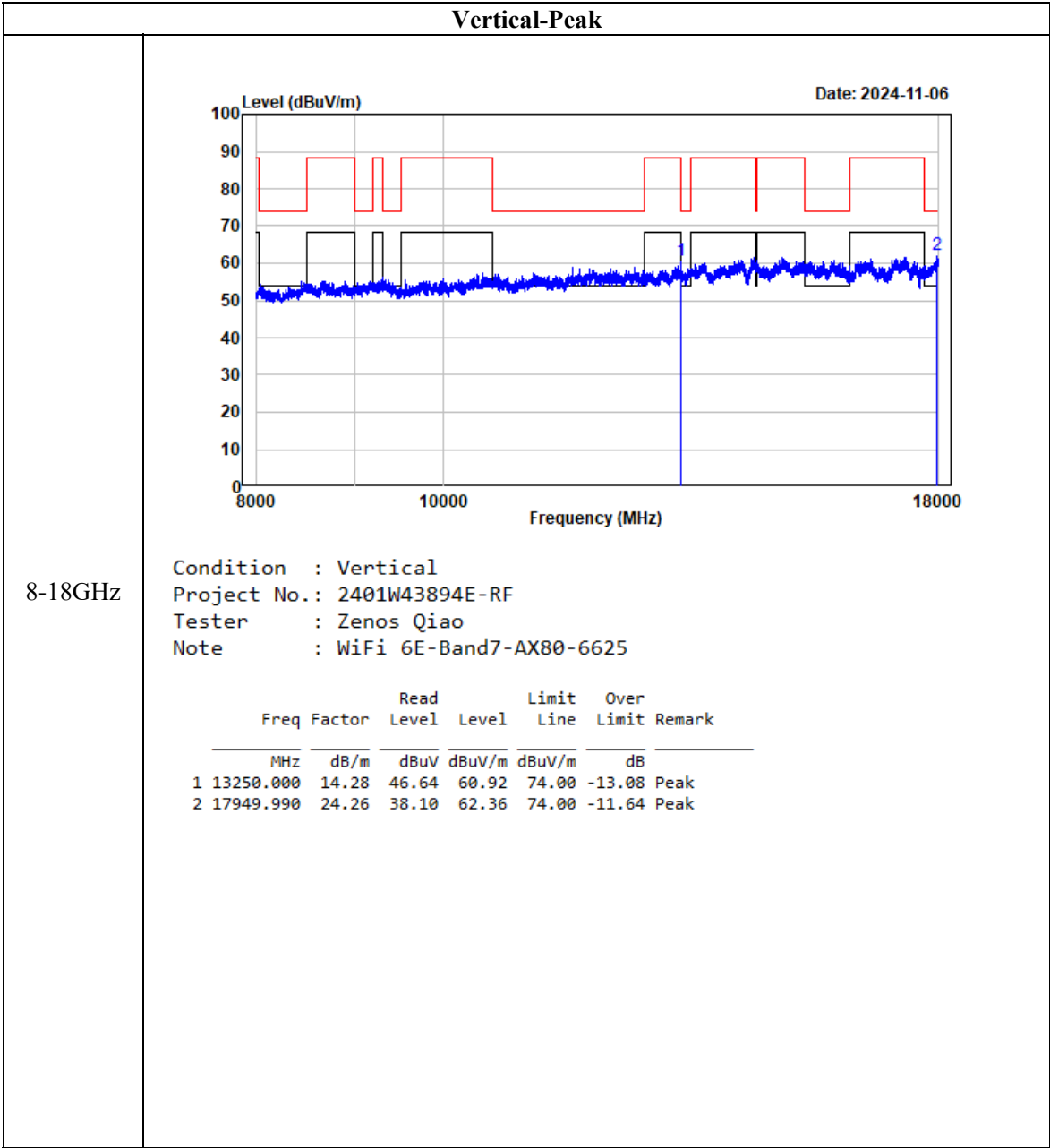




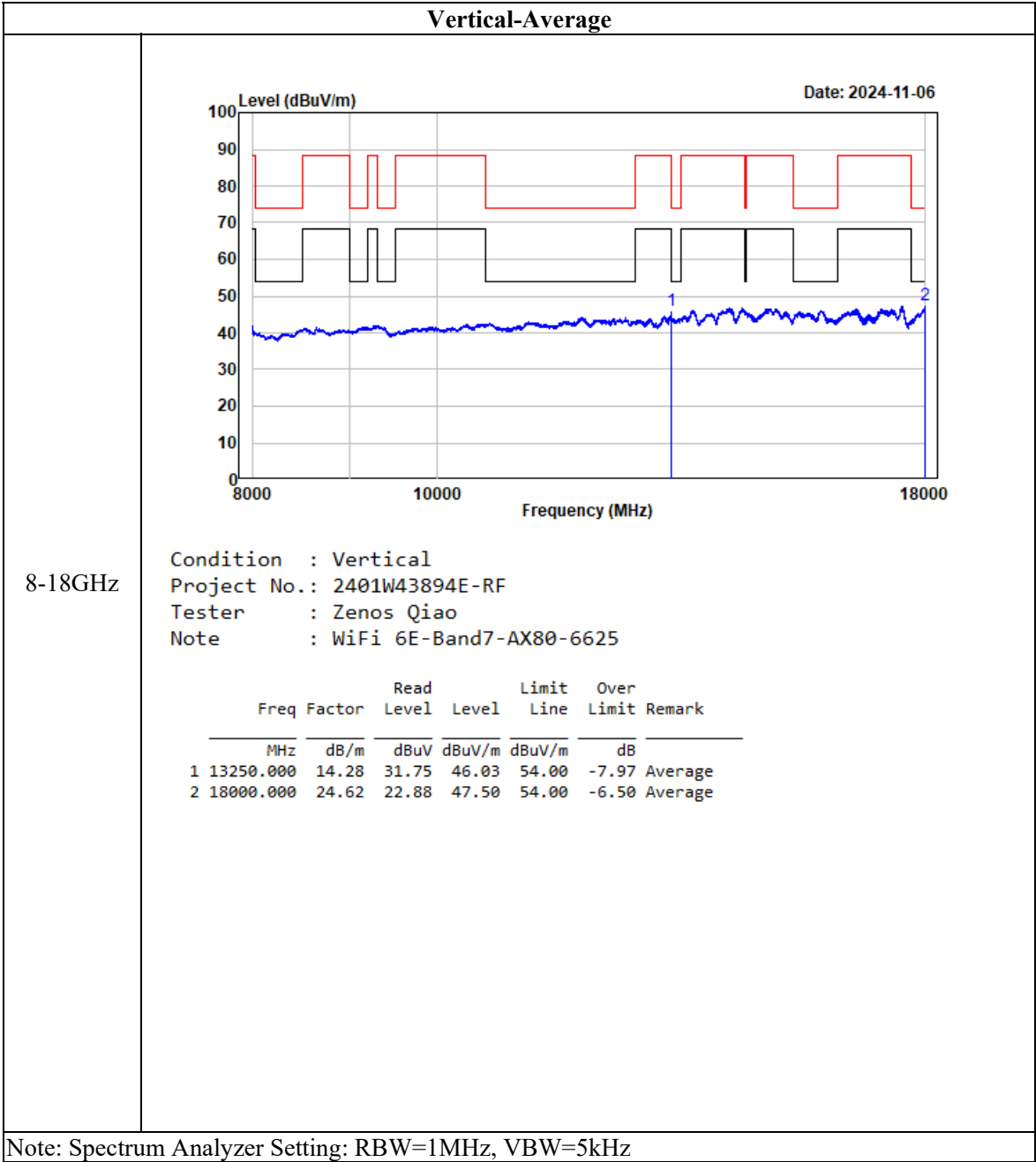




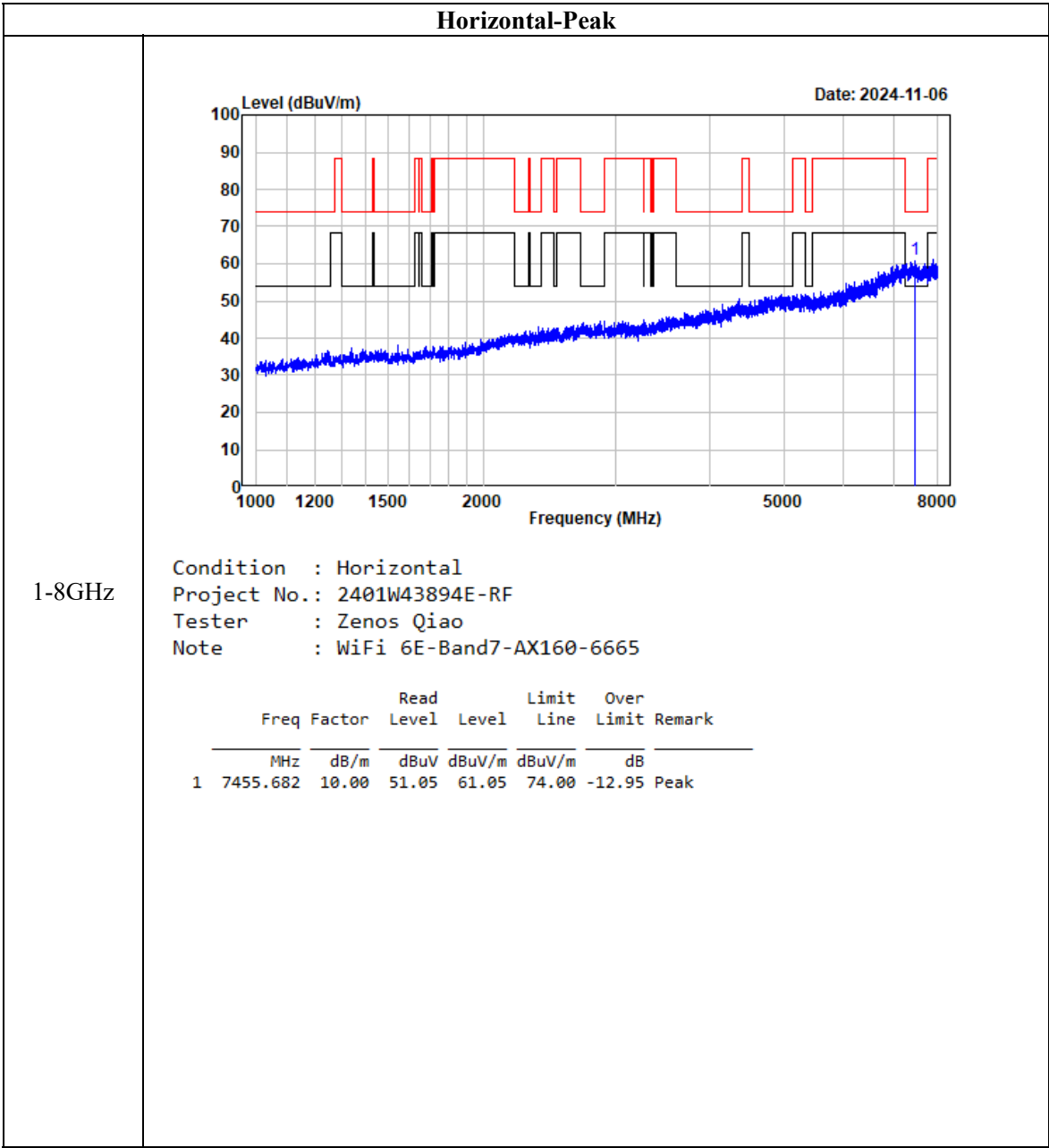


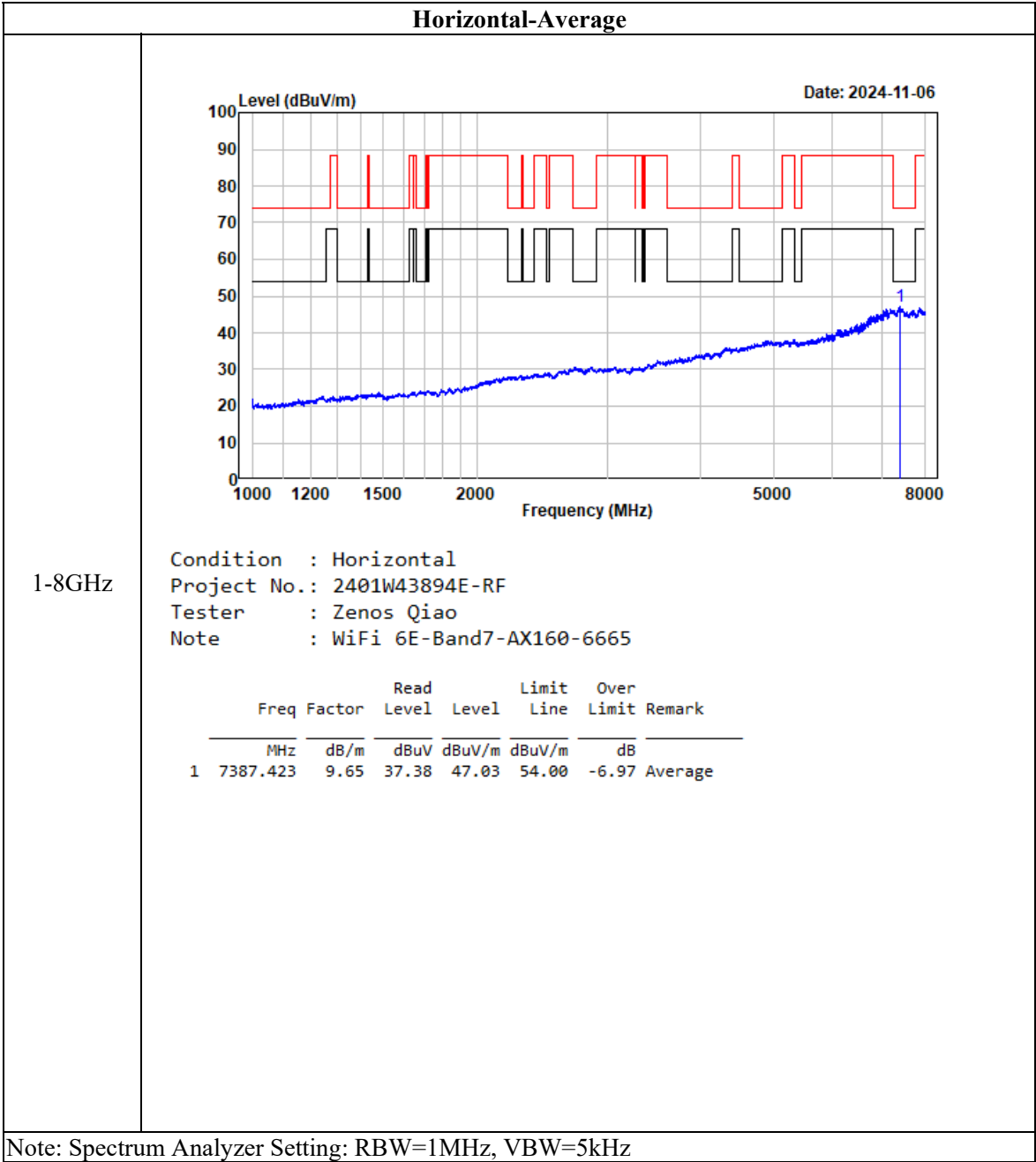


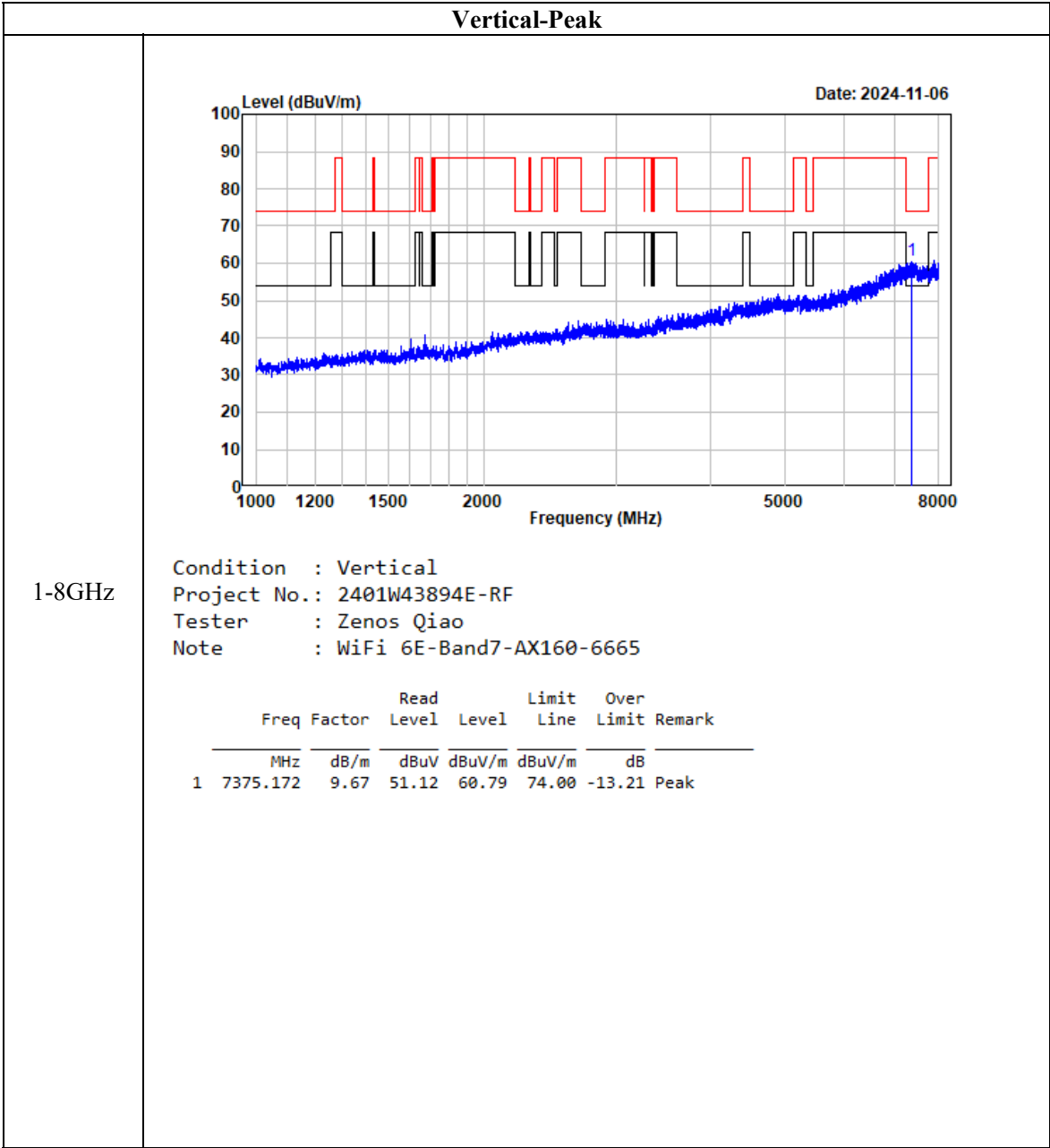


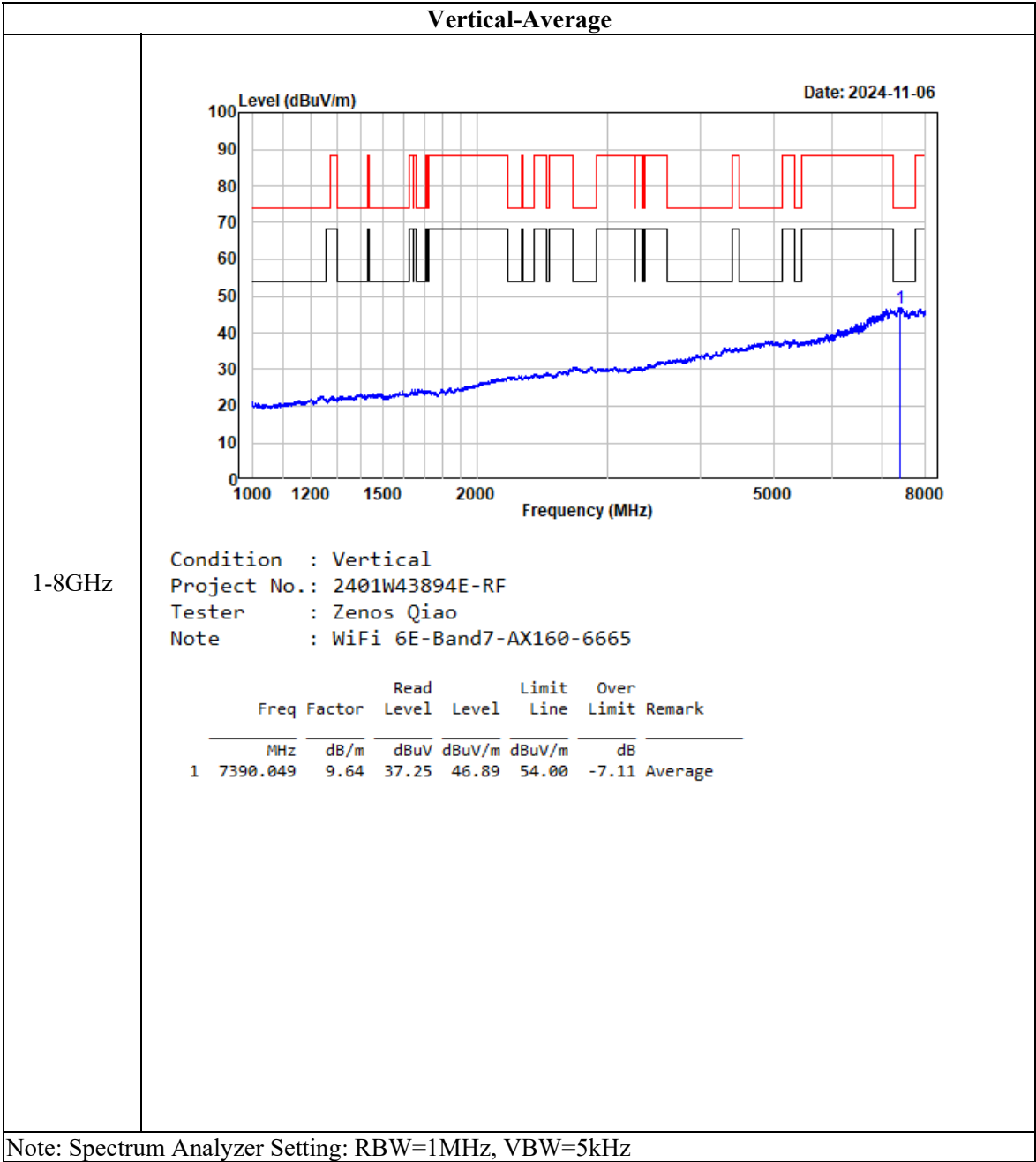


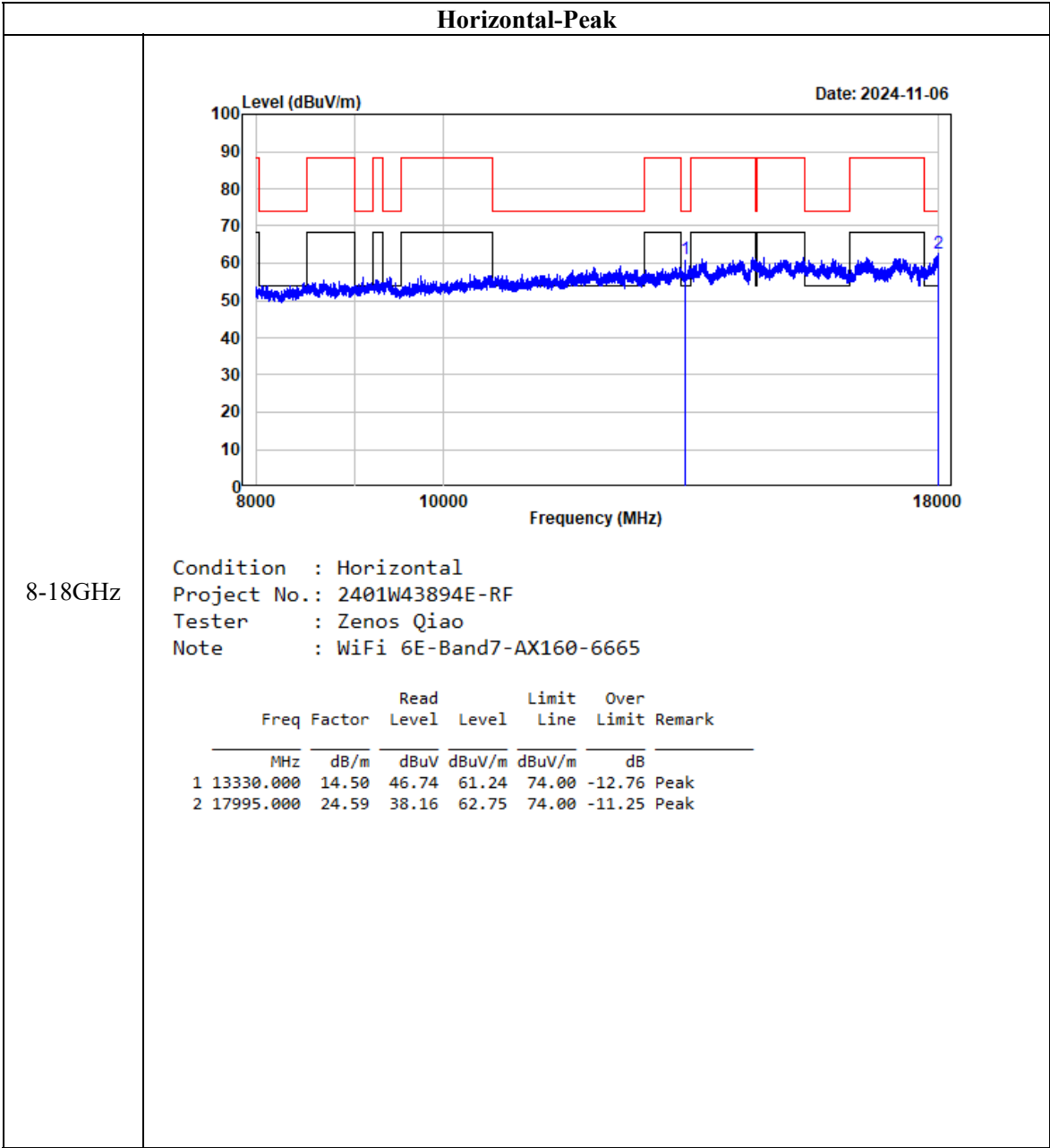
802.11ax160, 6665MHz

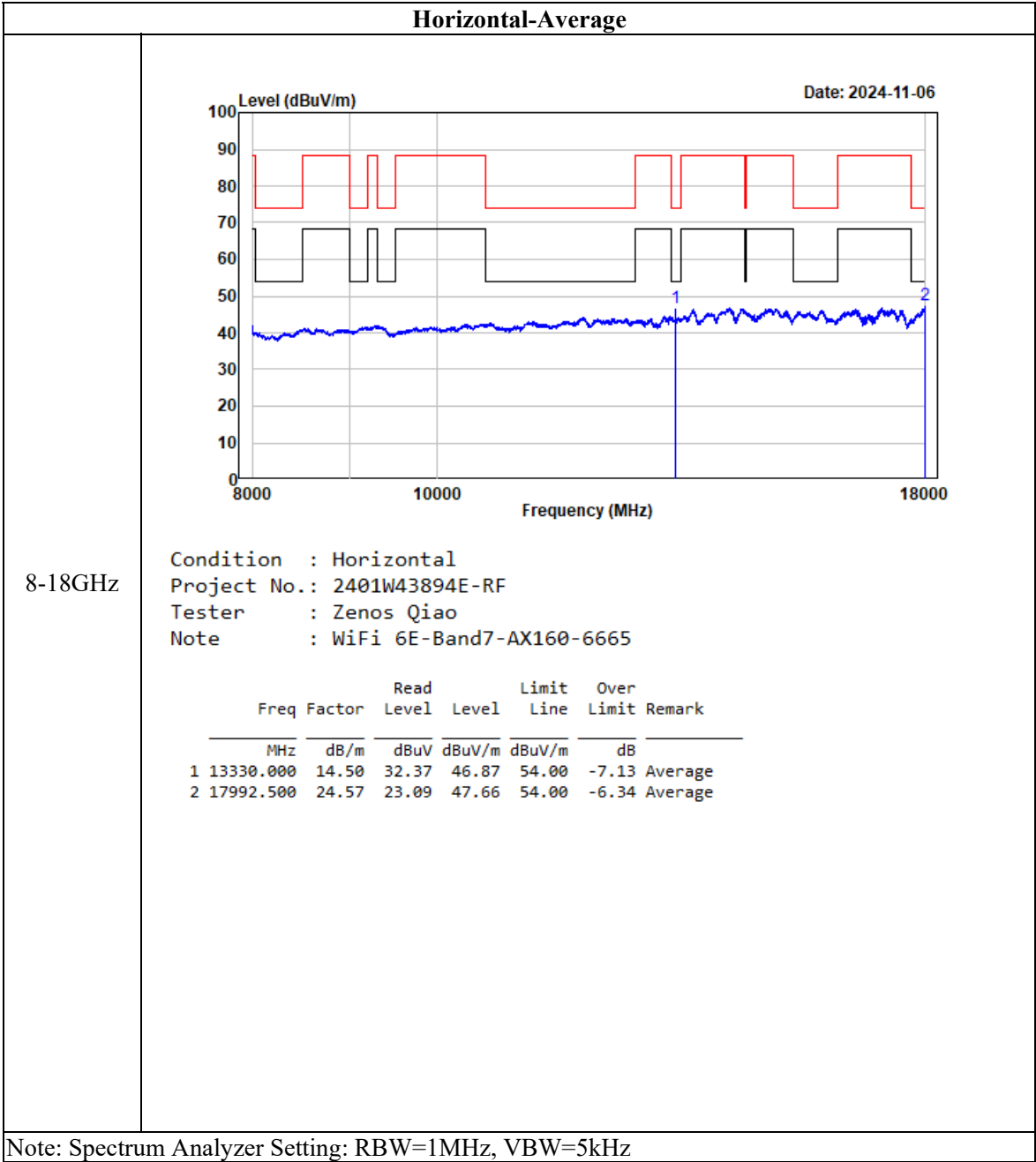


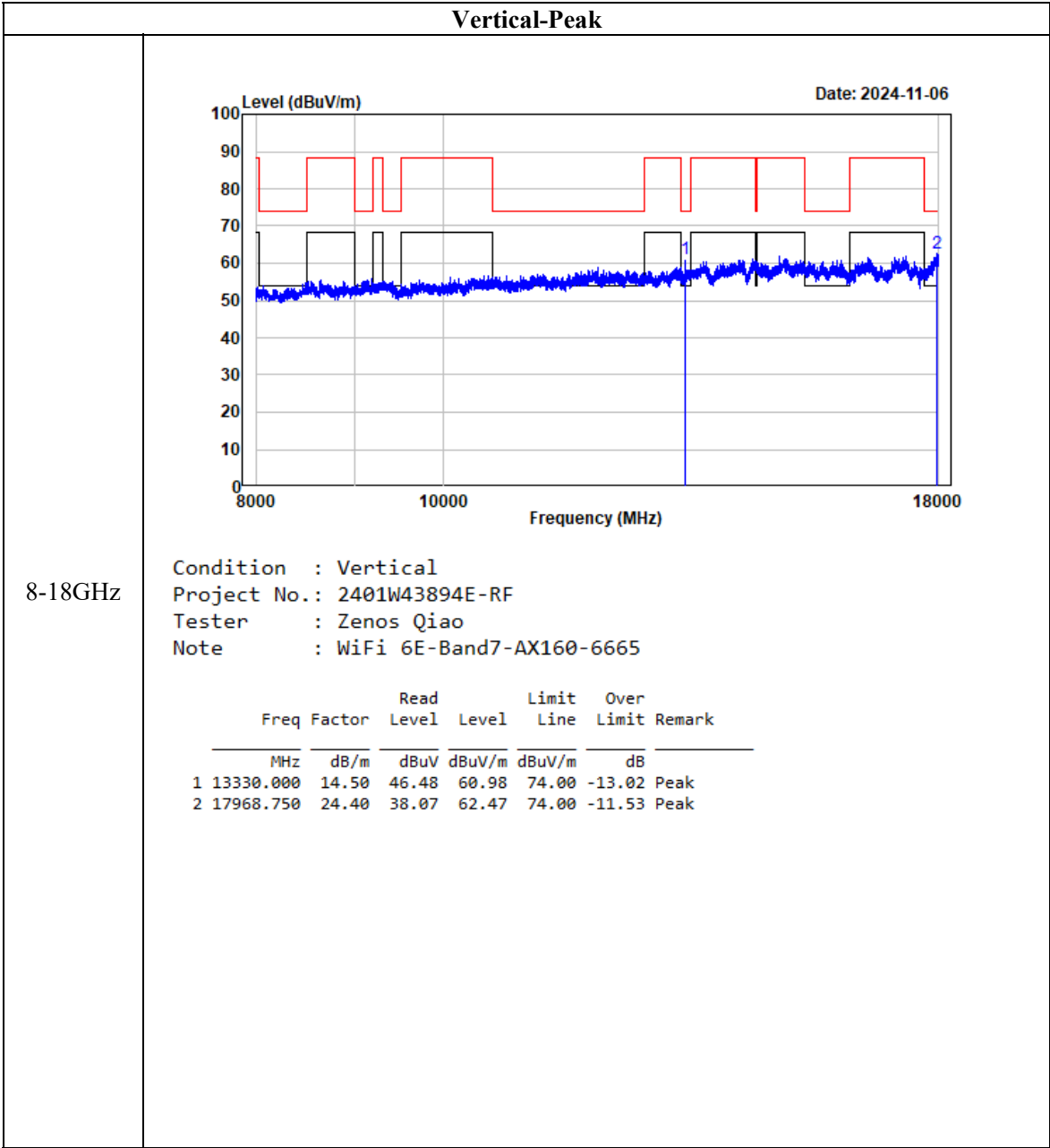




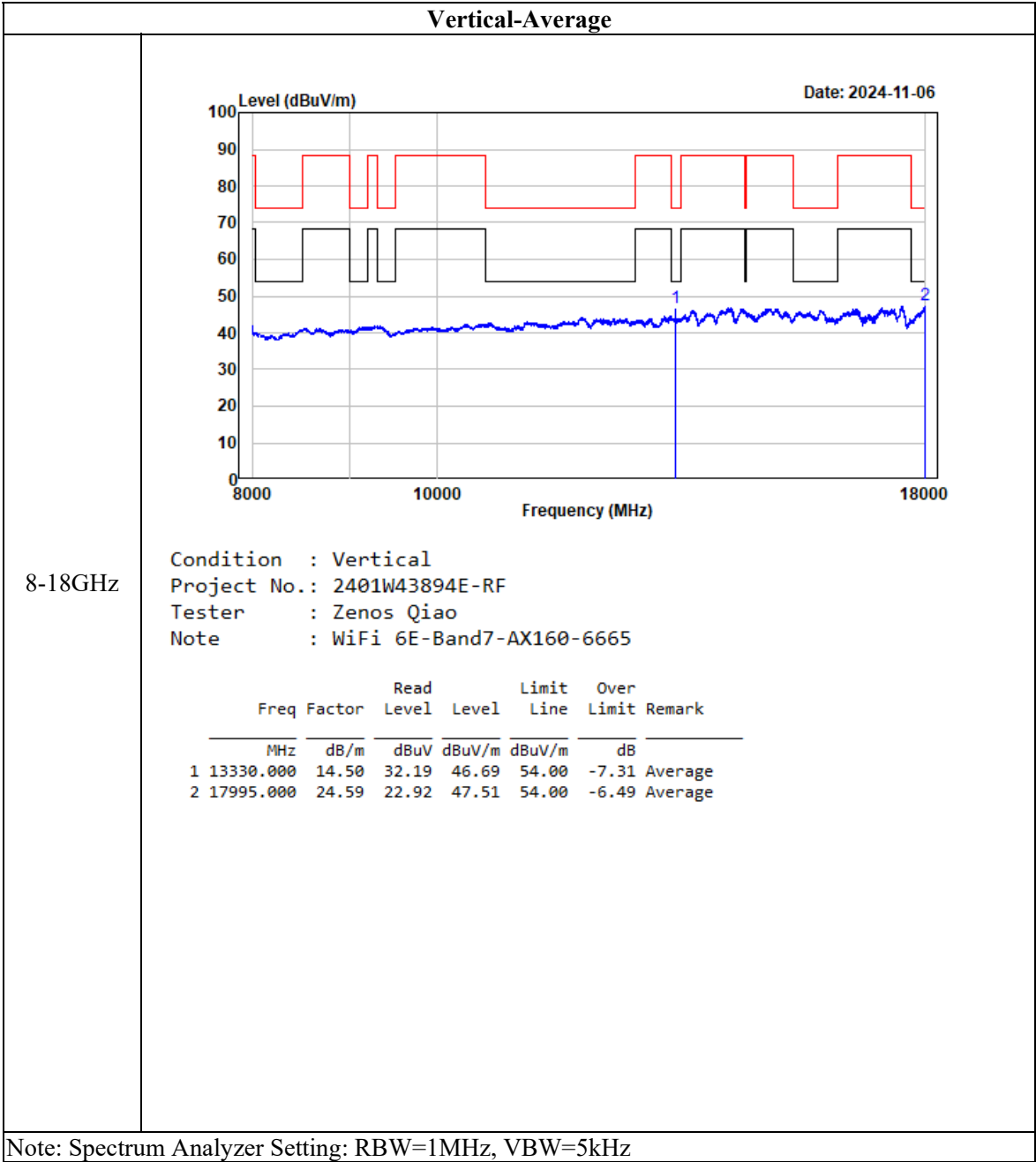






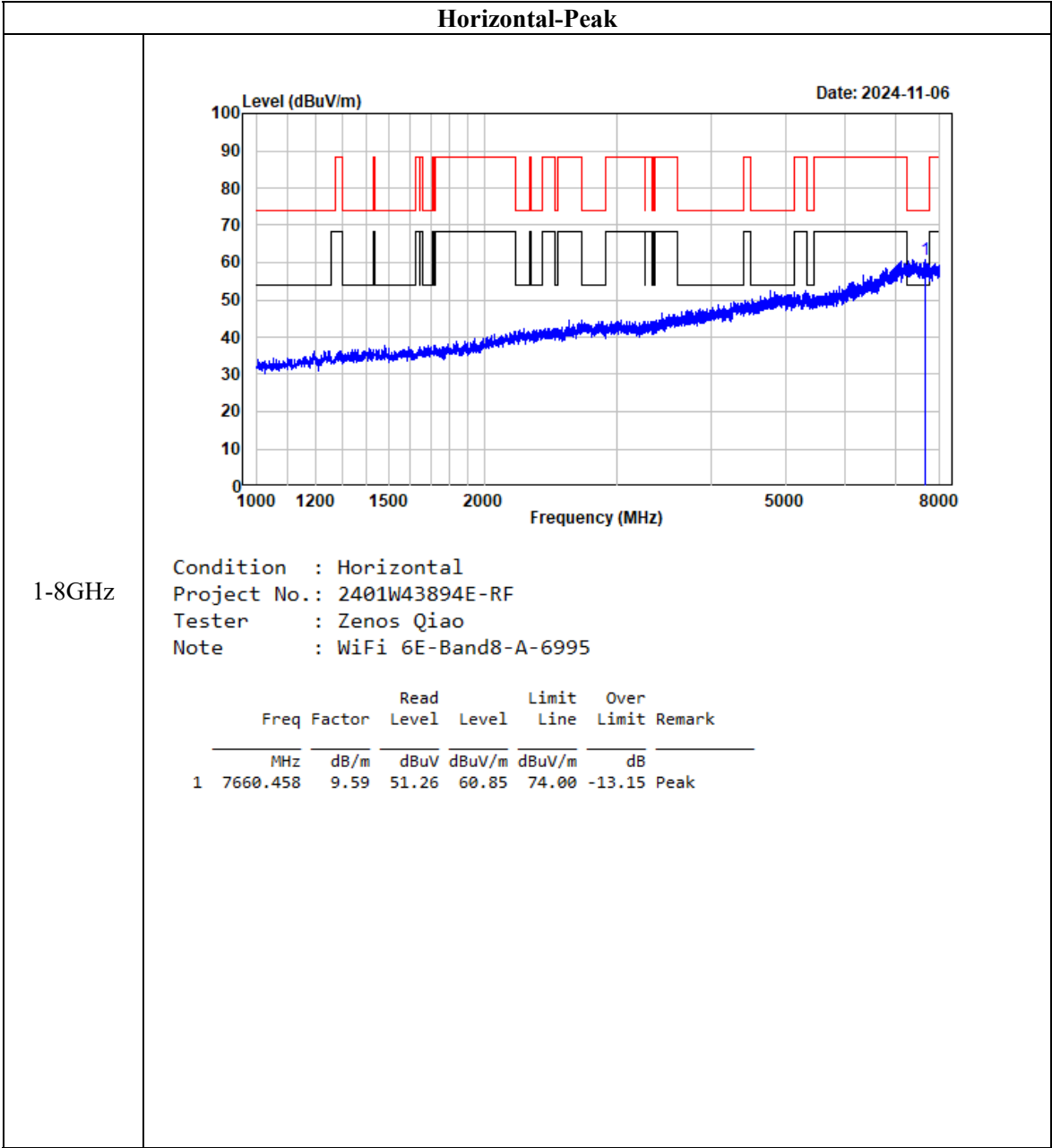


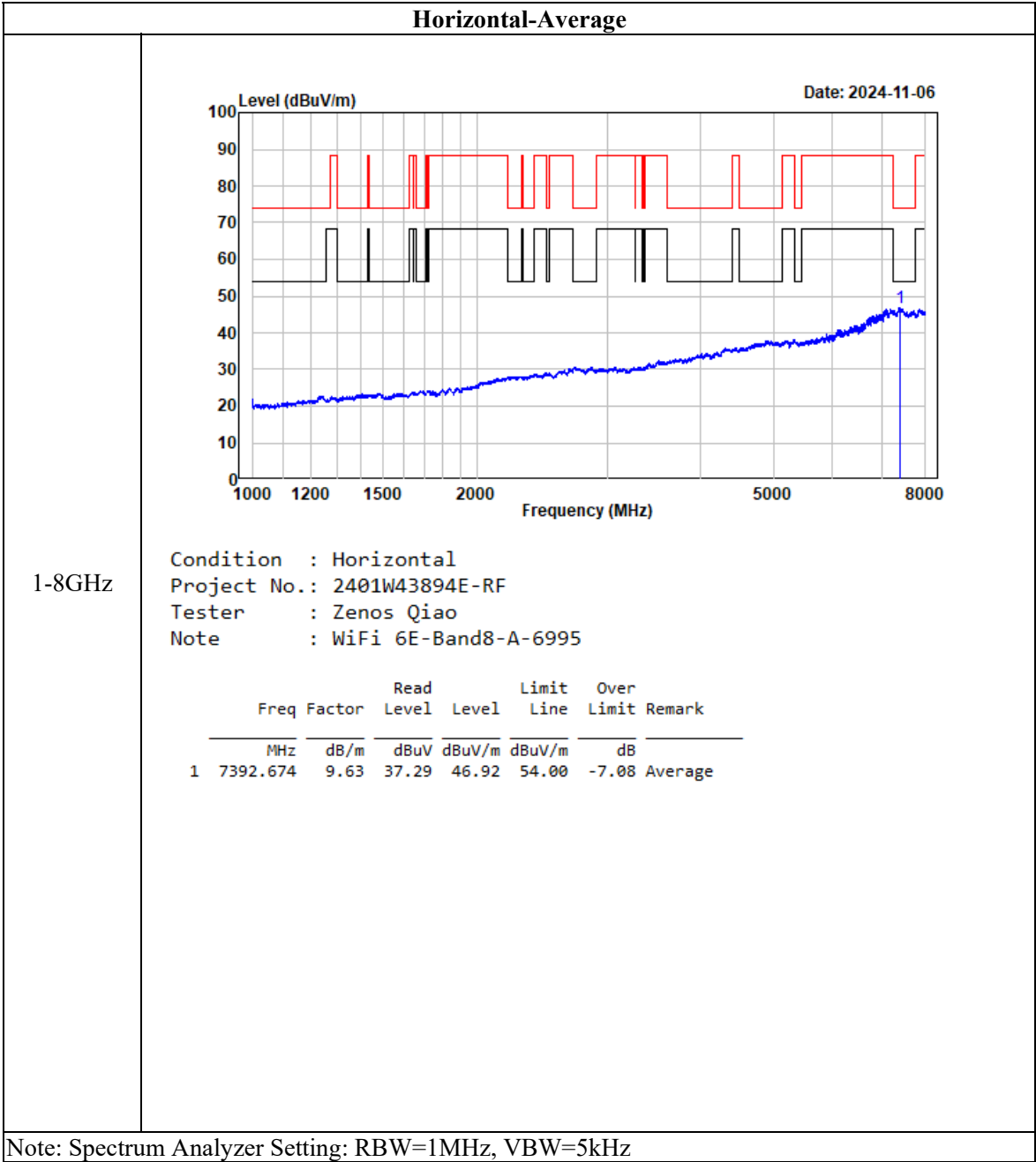


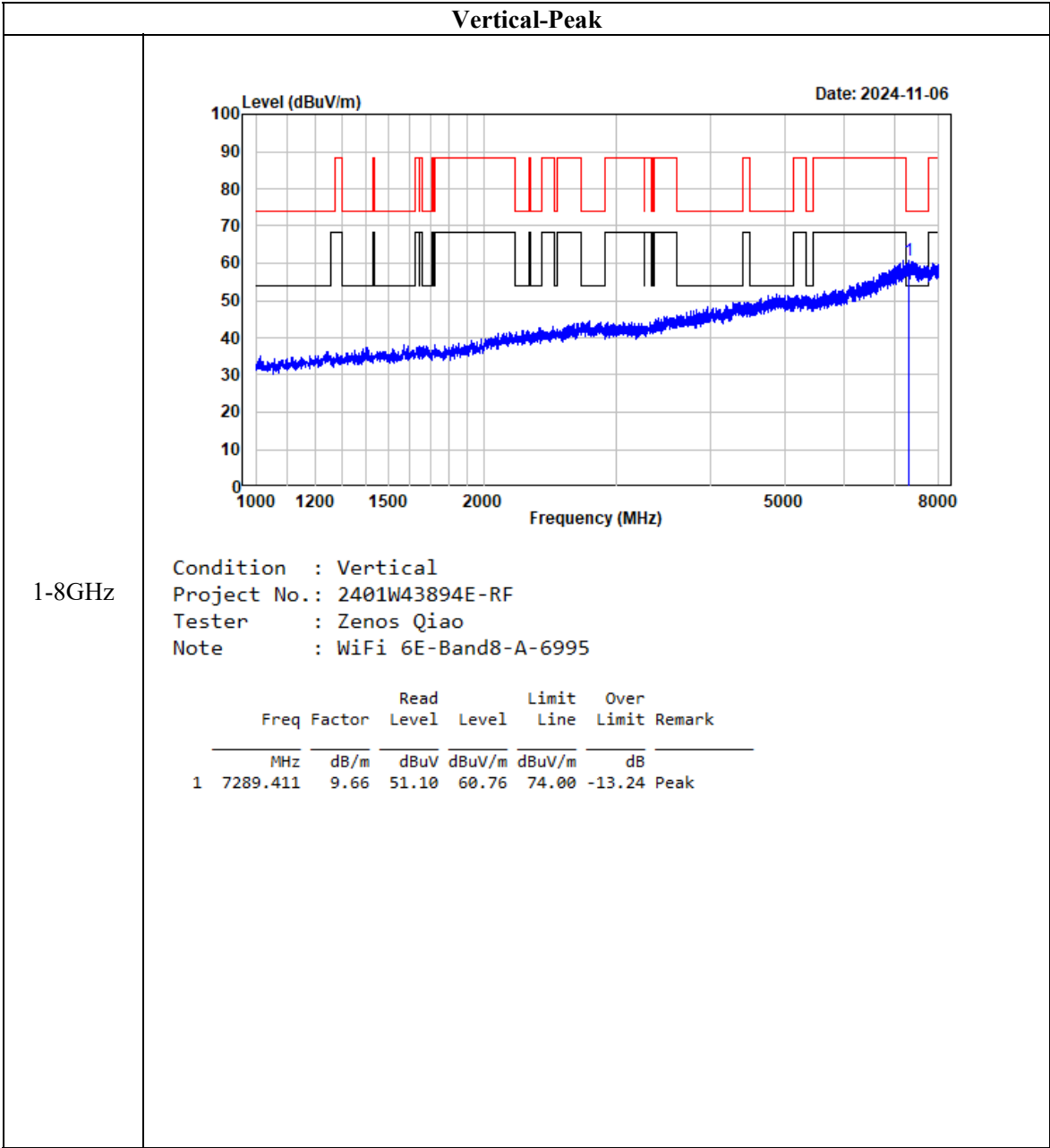


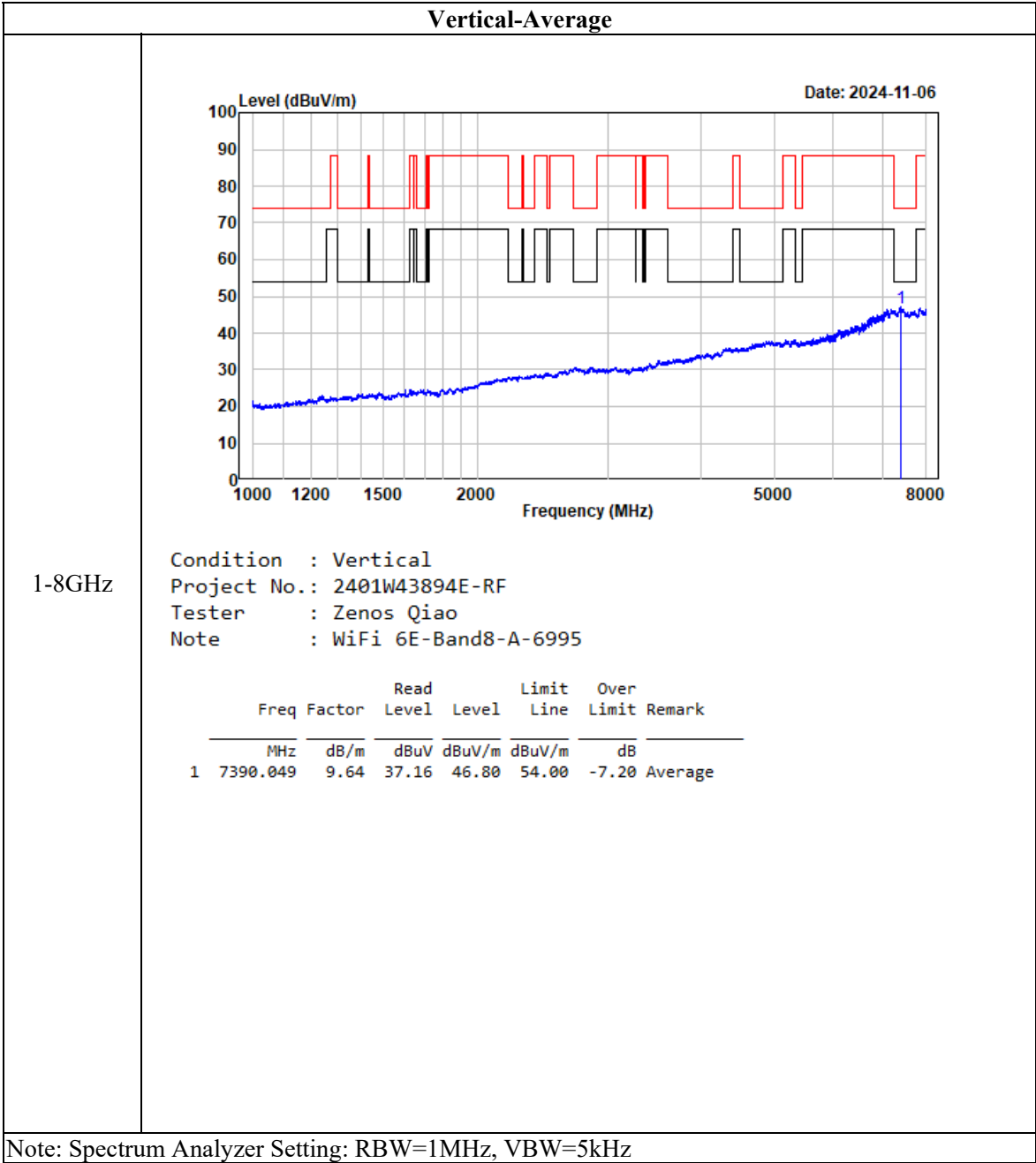
Wi-Fi 6E\_ U-NII 8:

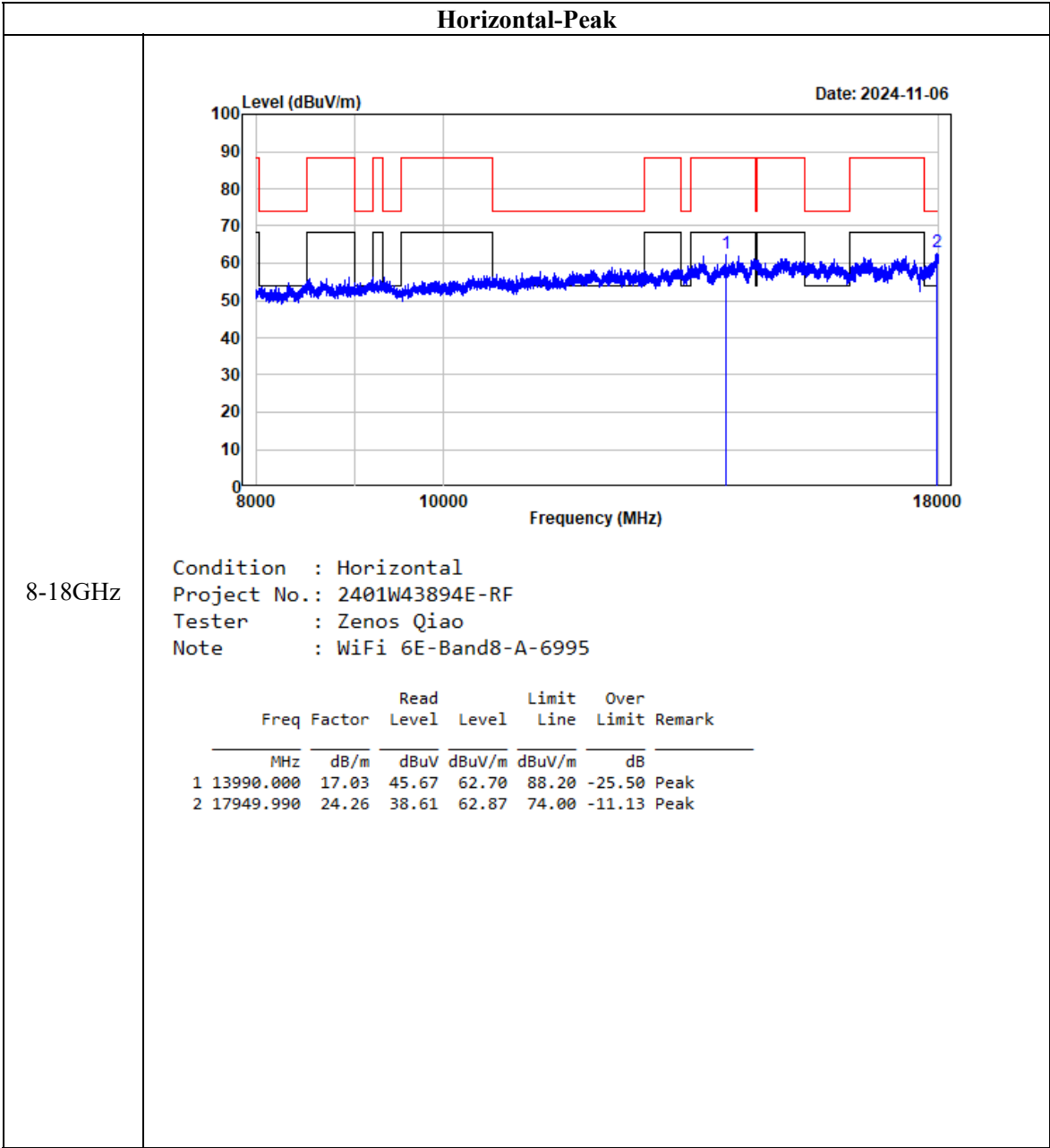
802.11a, 6995MHz

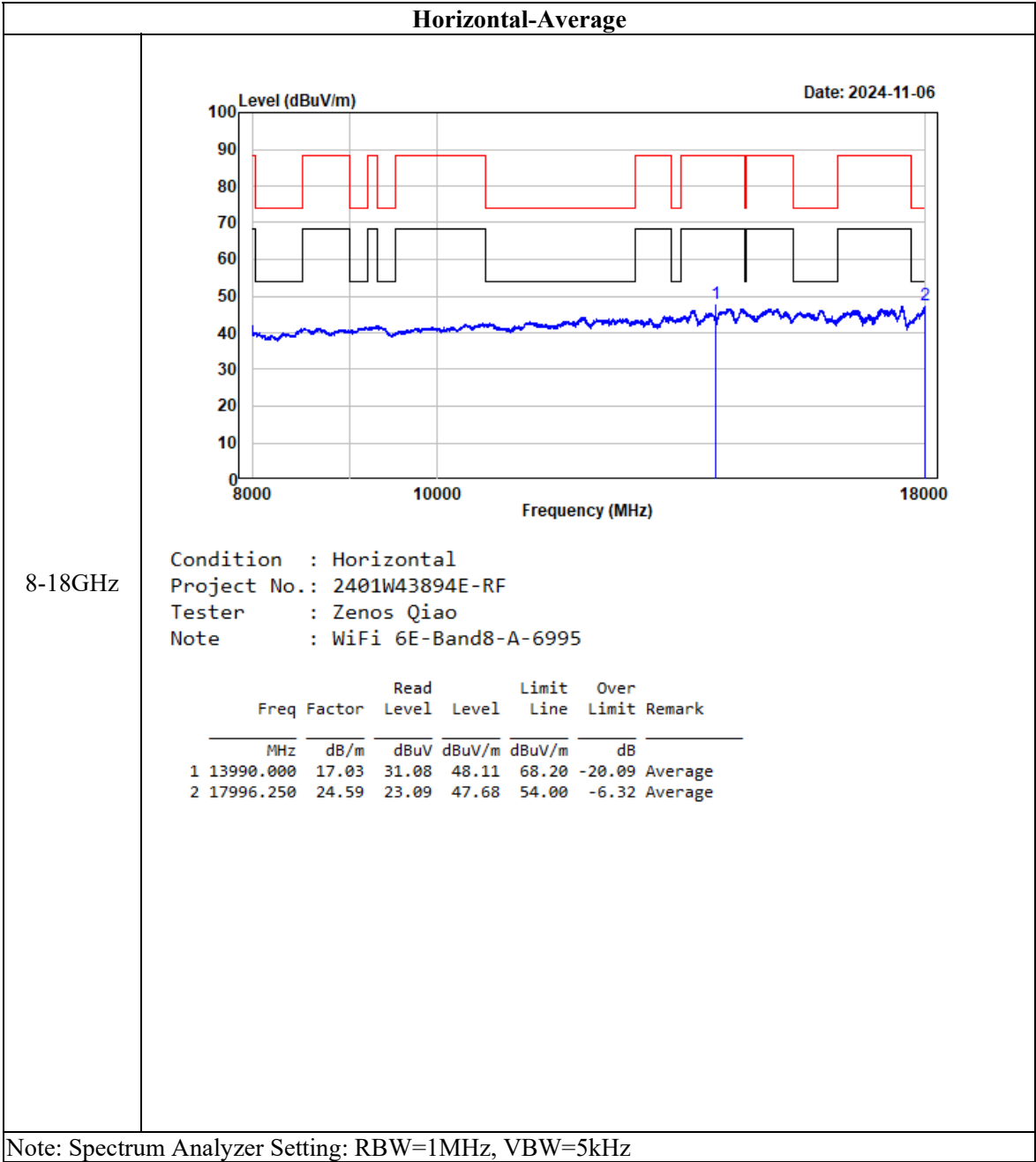


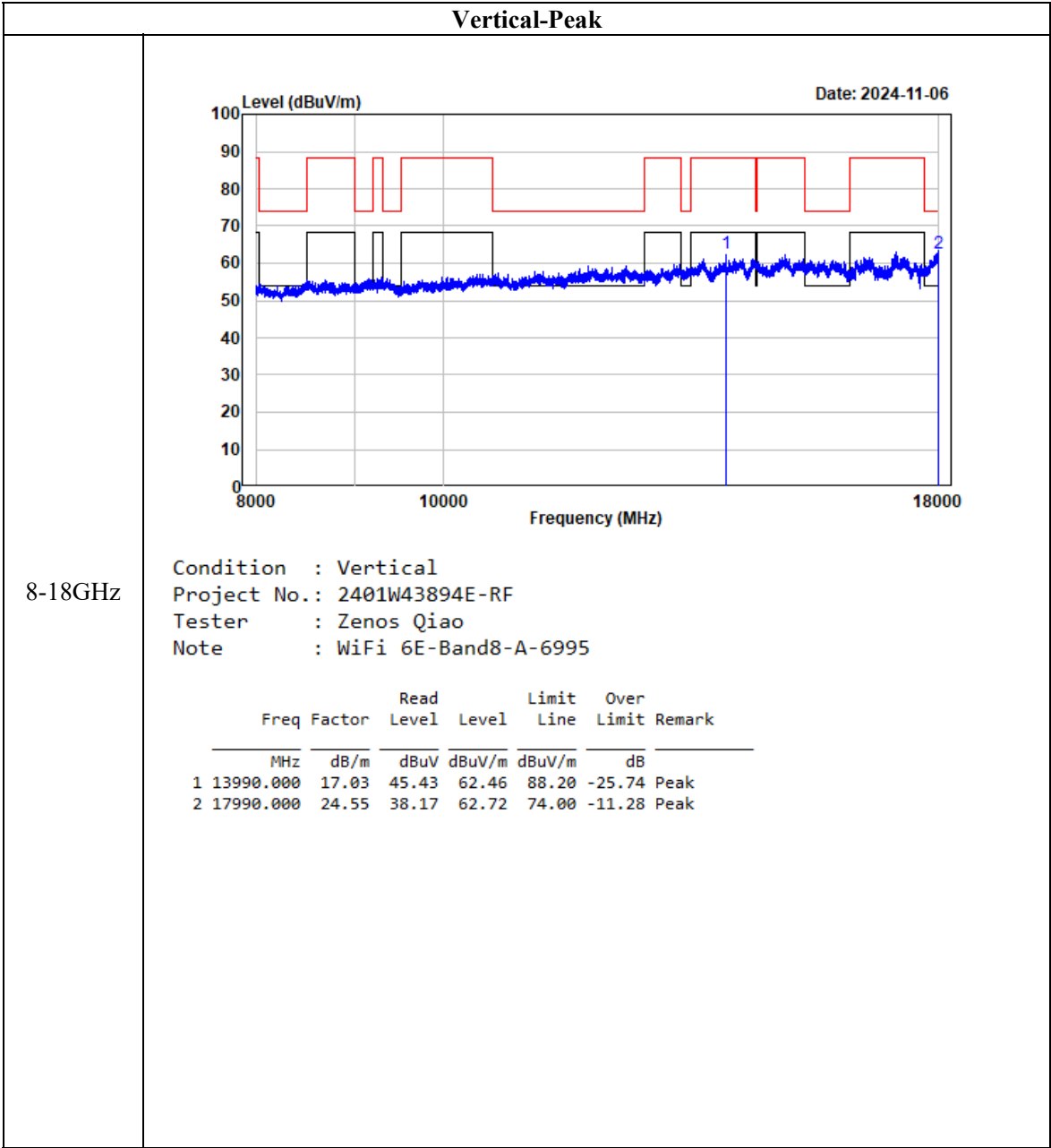




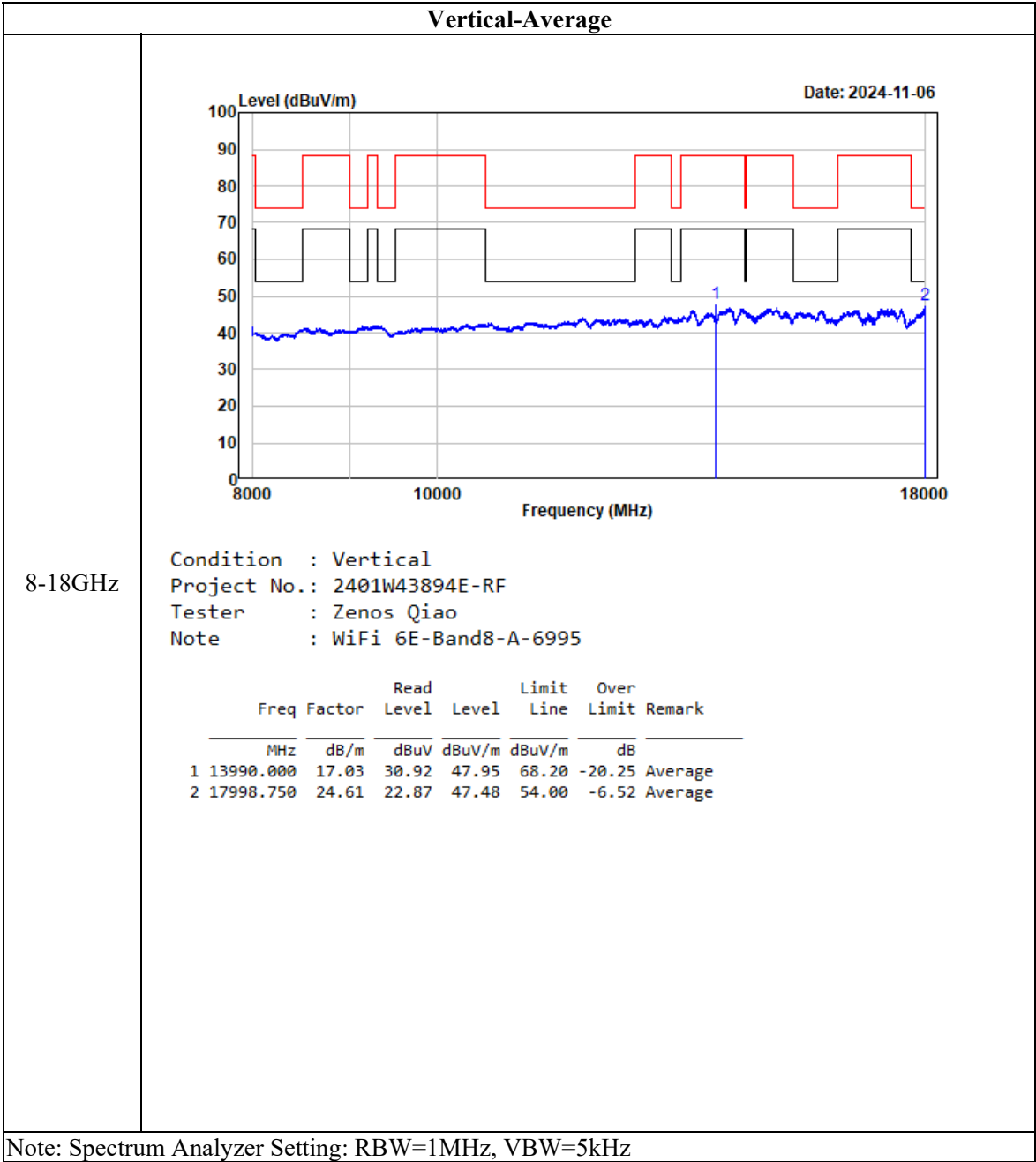




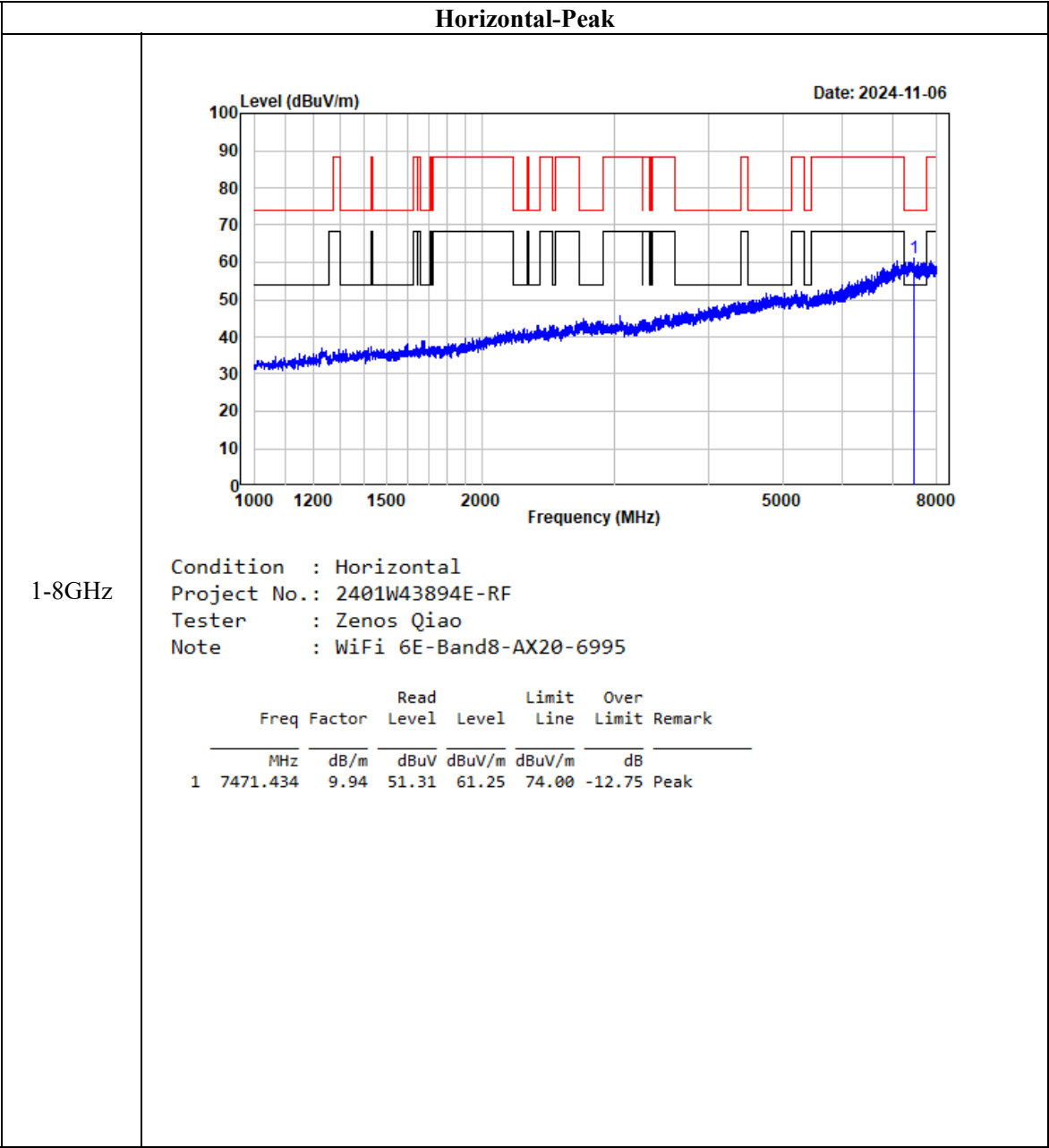


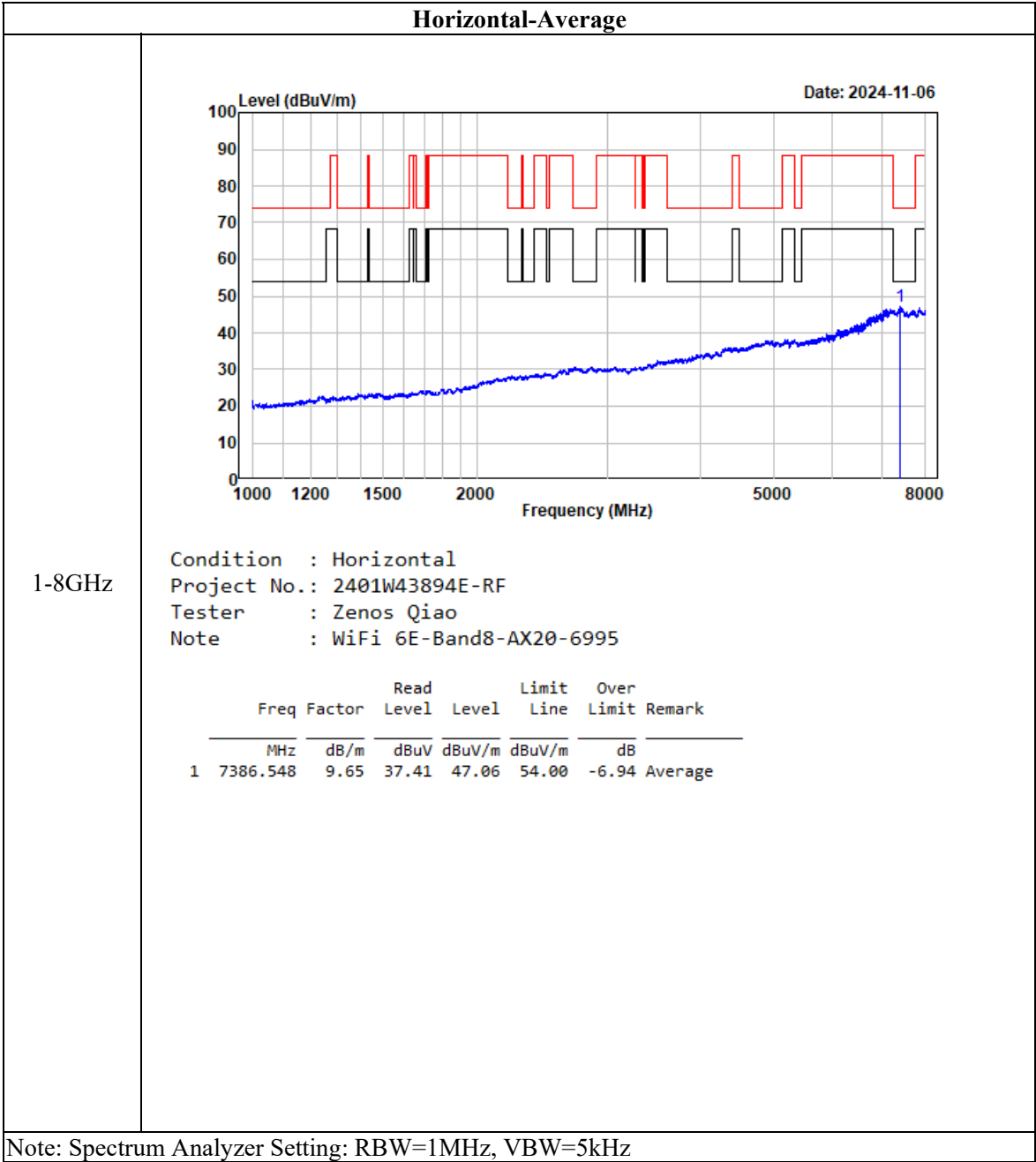


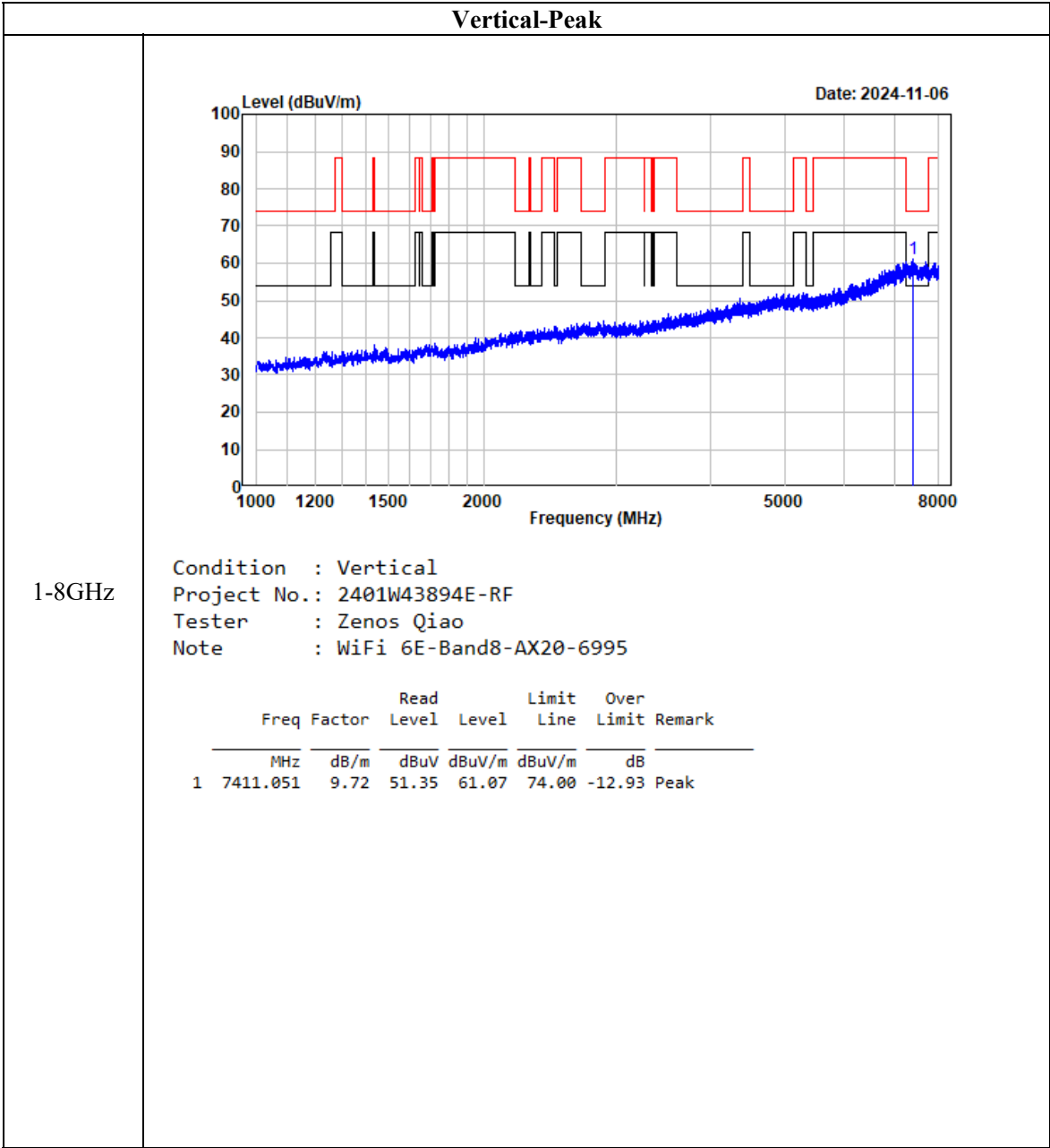


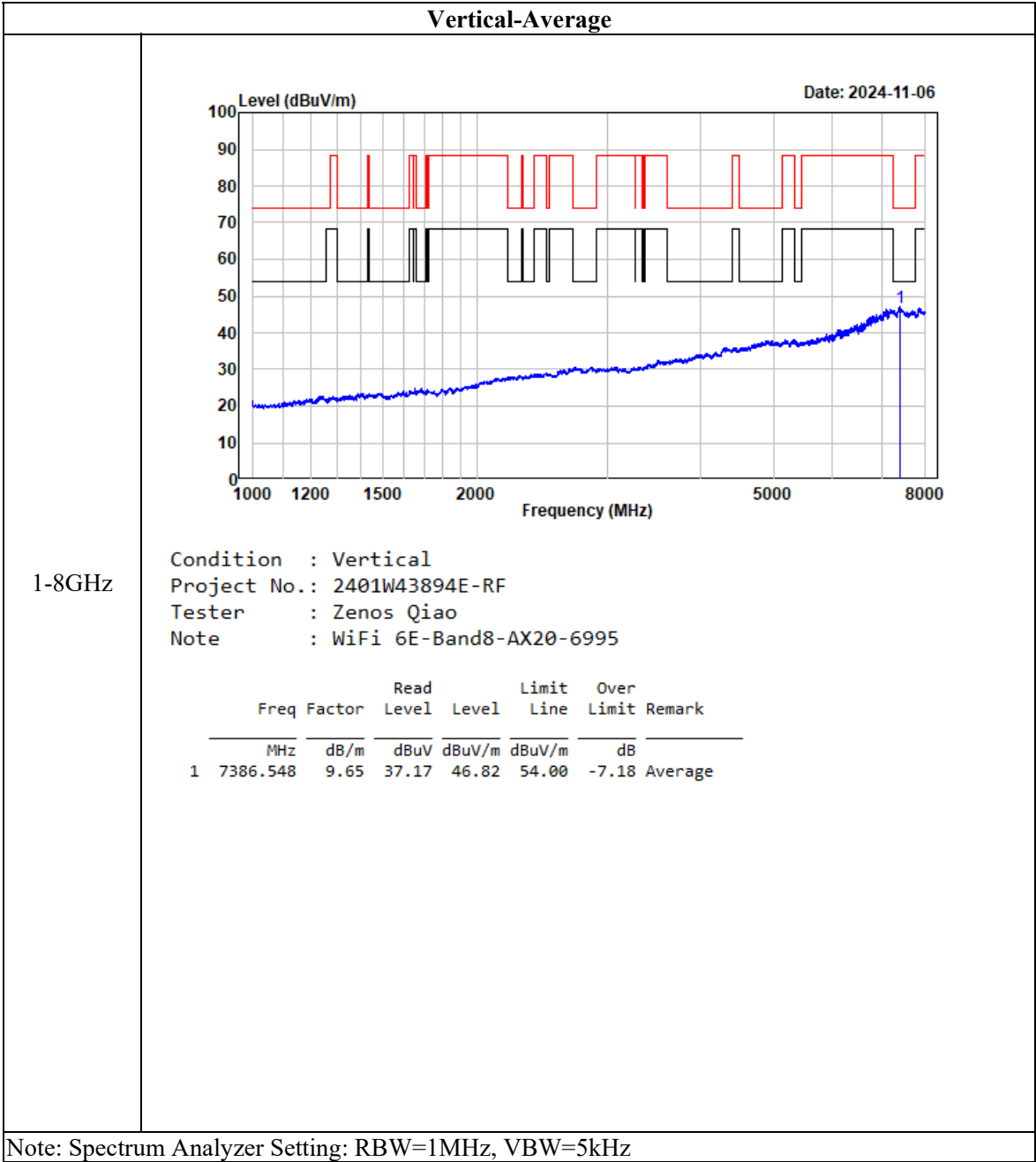


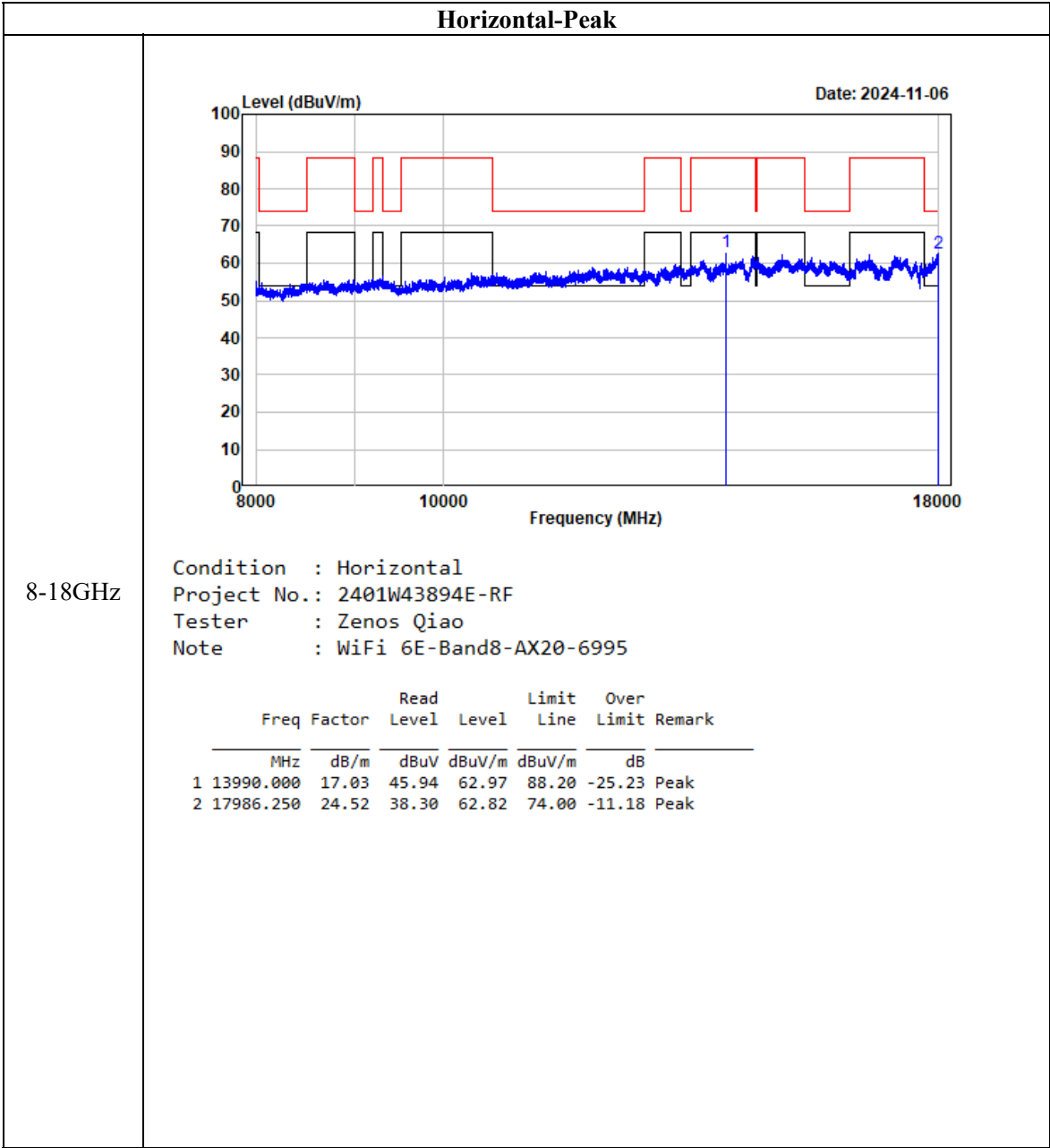
802.11ax20, 6995MHz

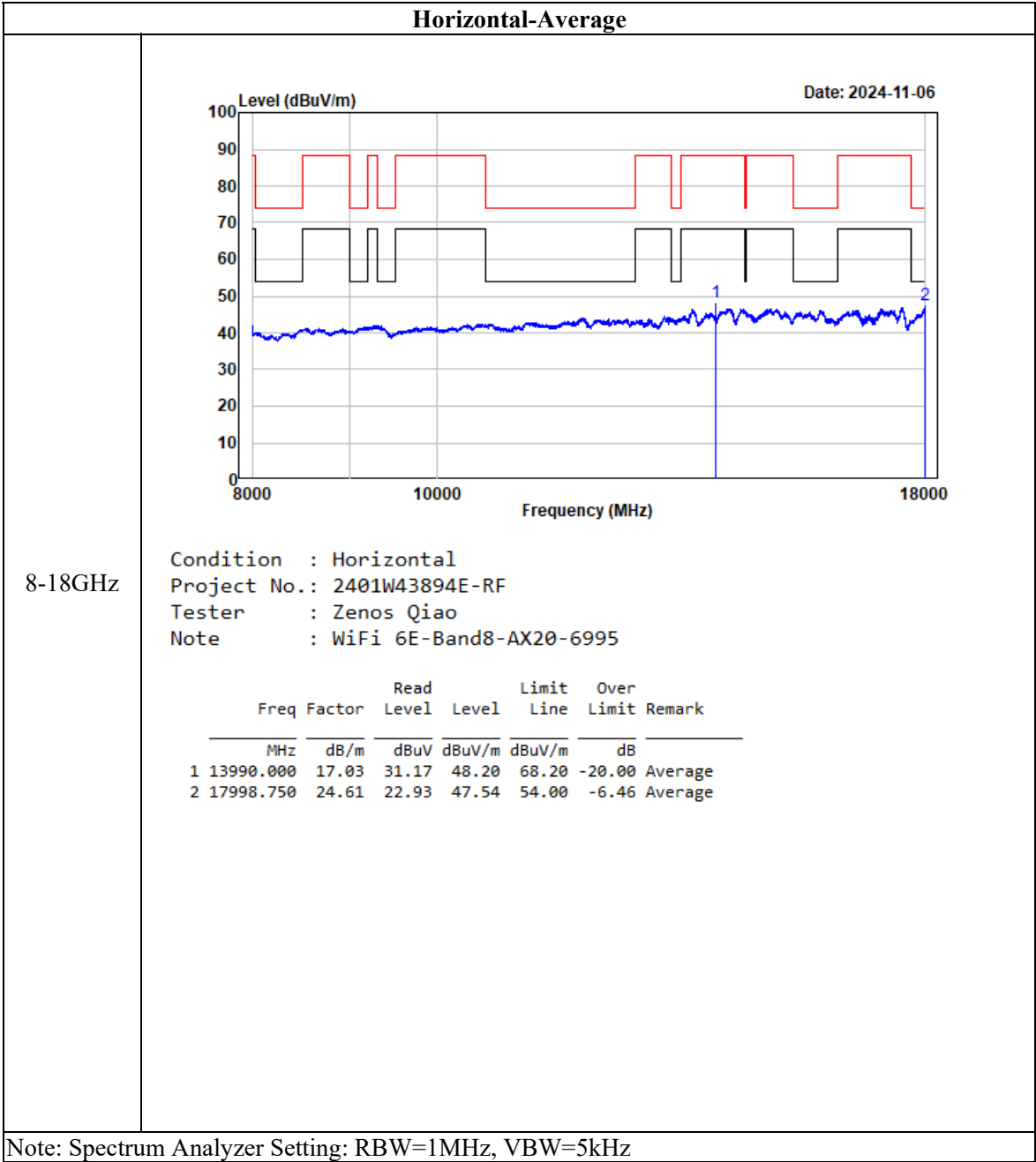


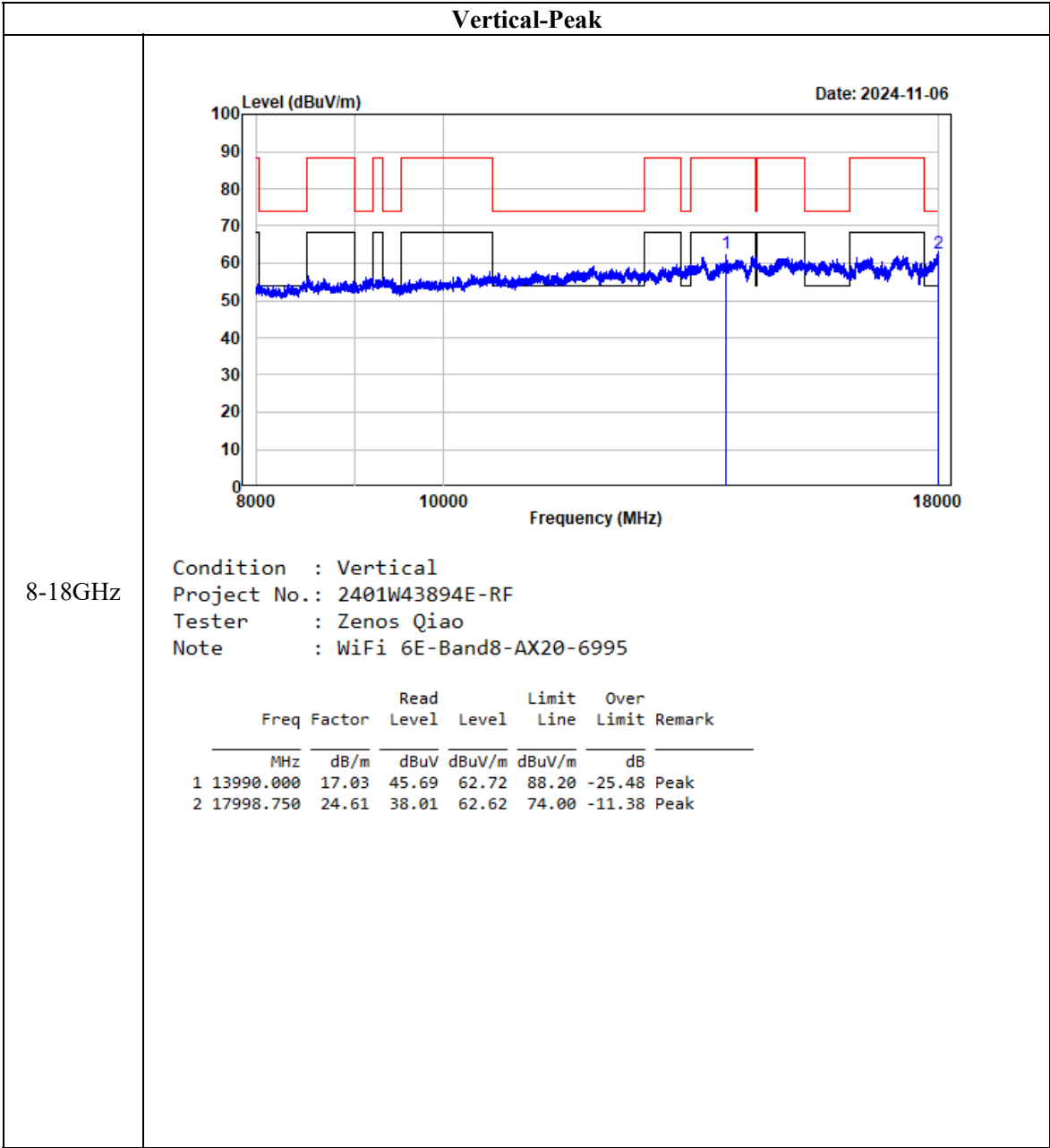




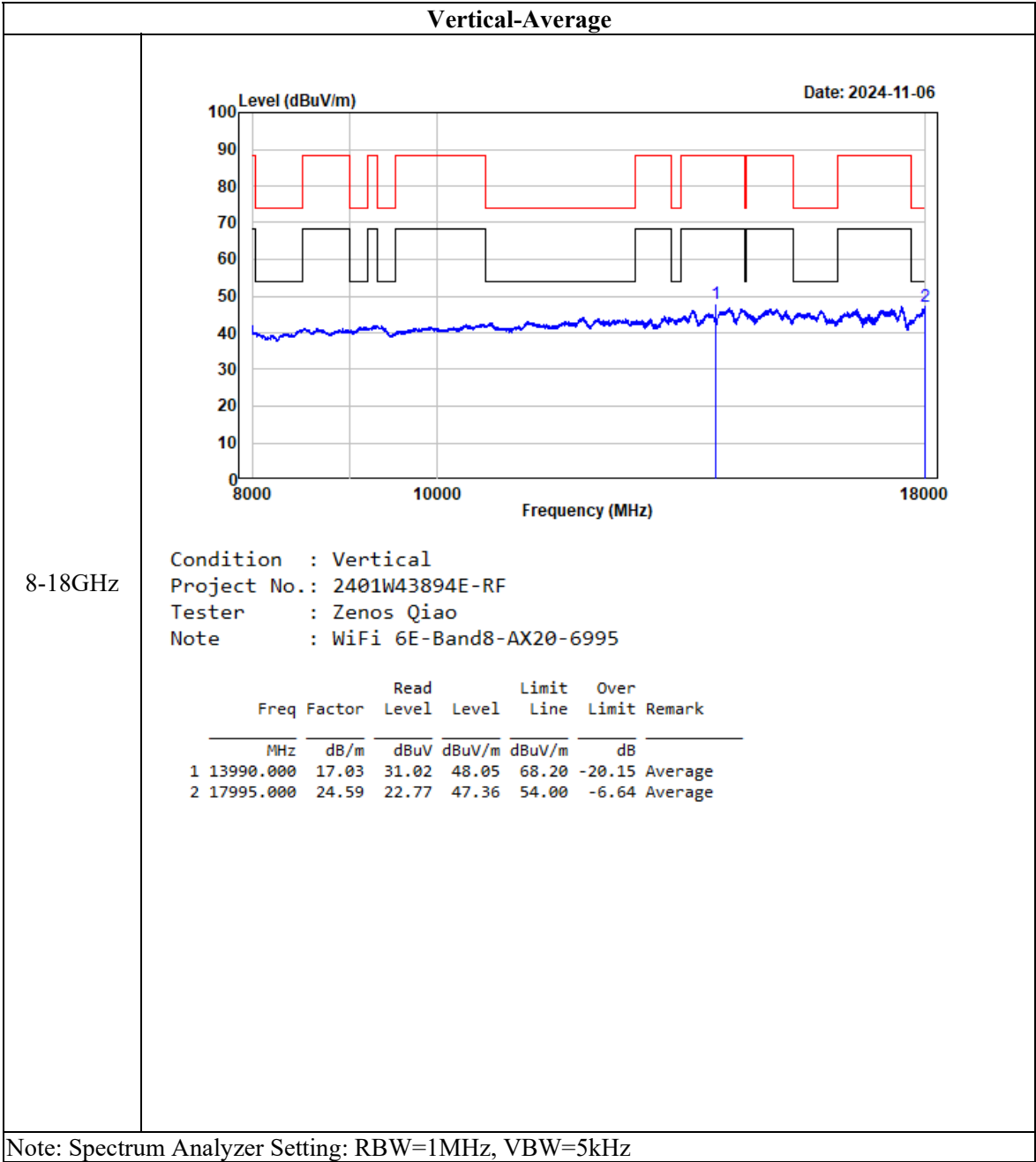




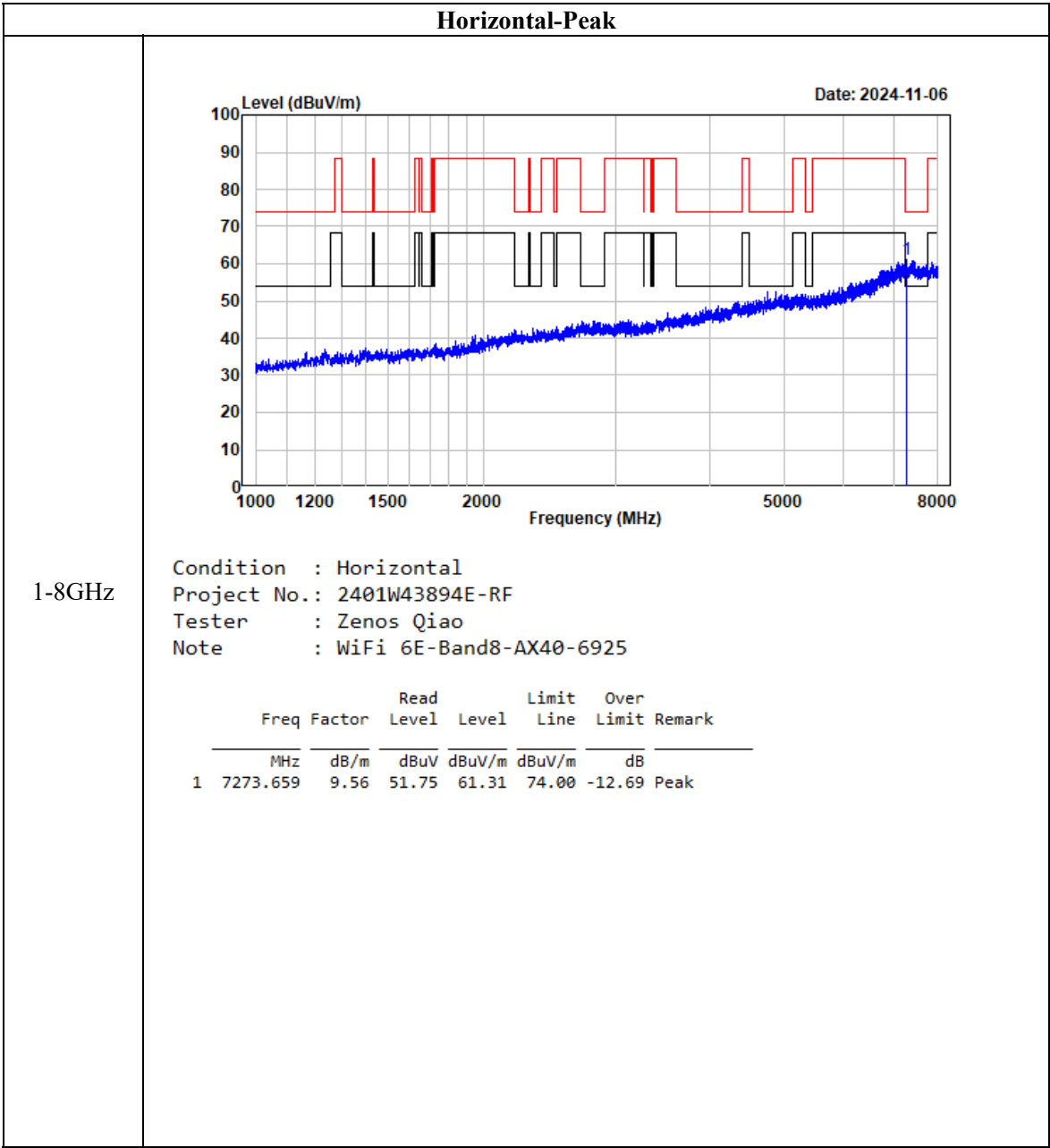


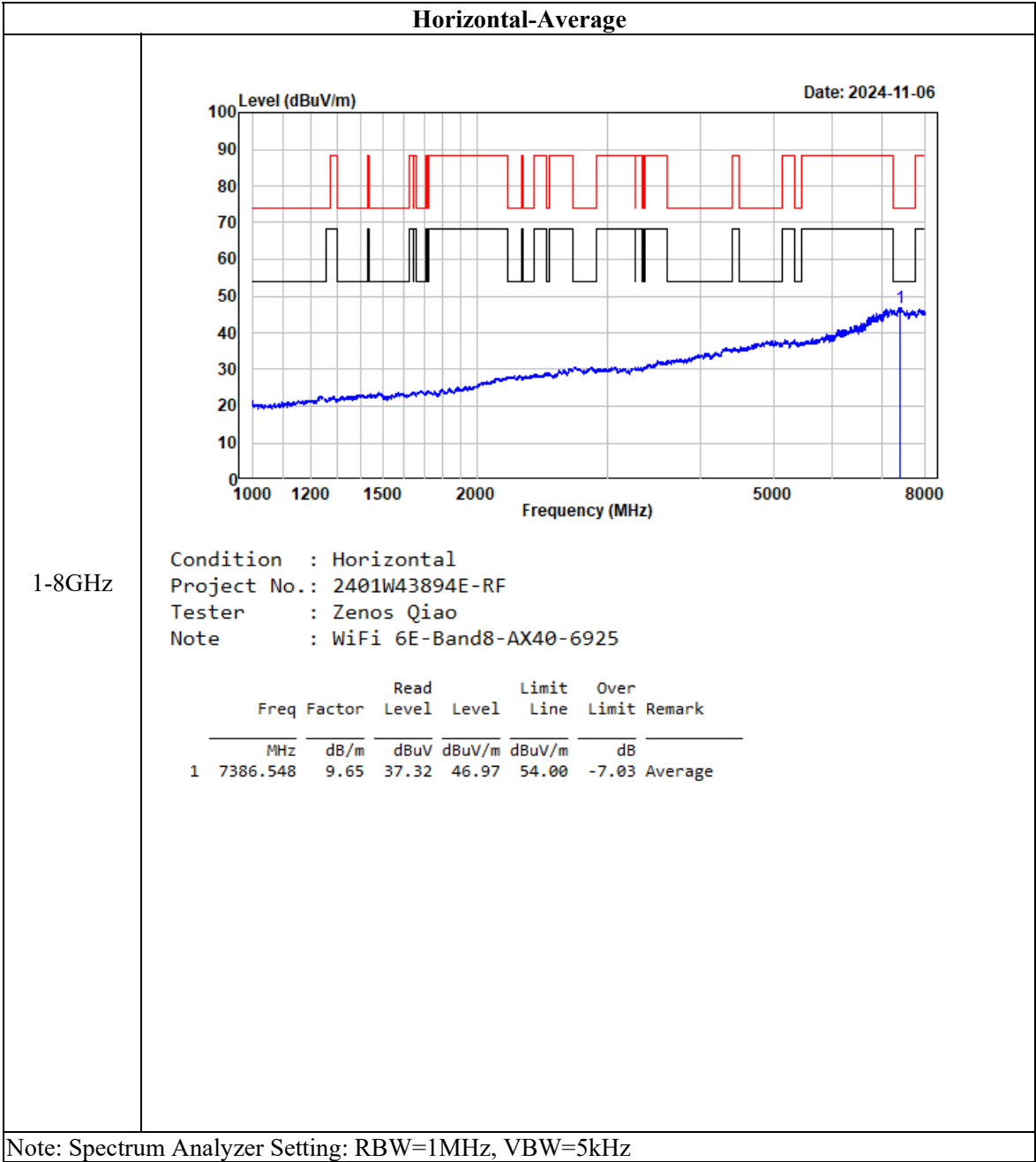


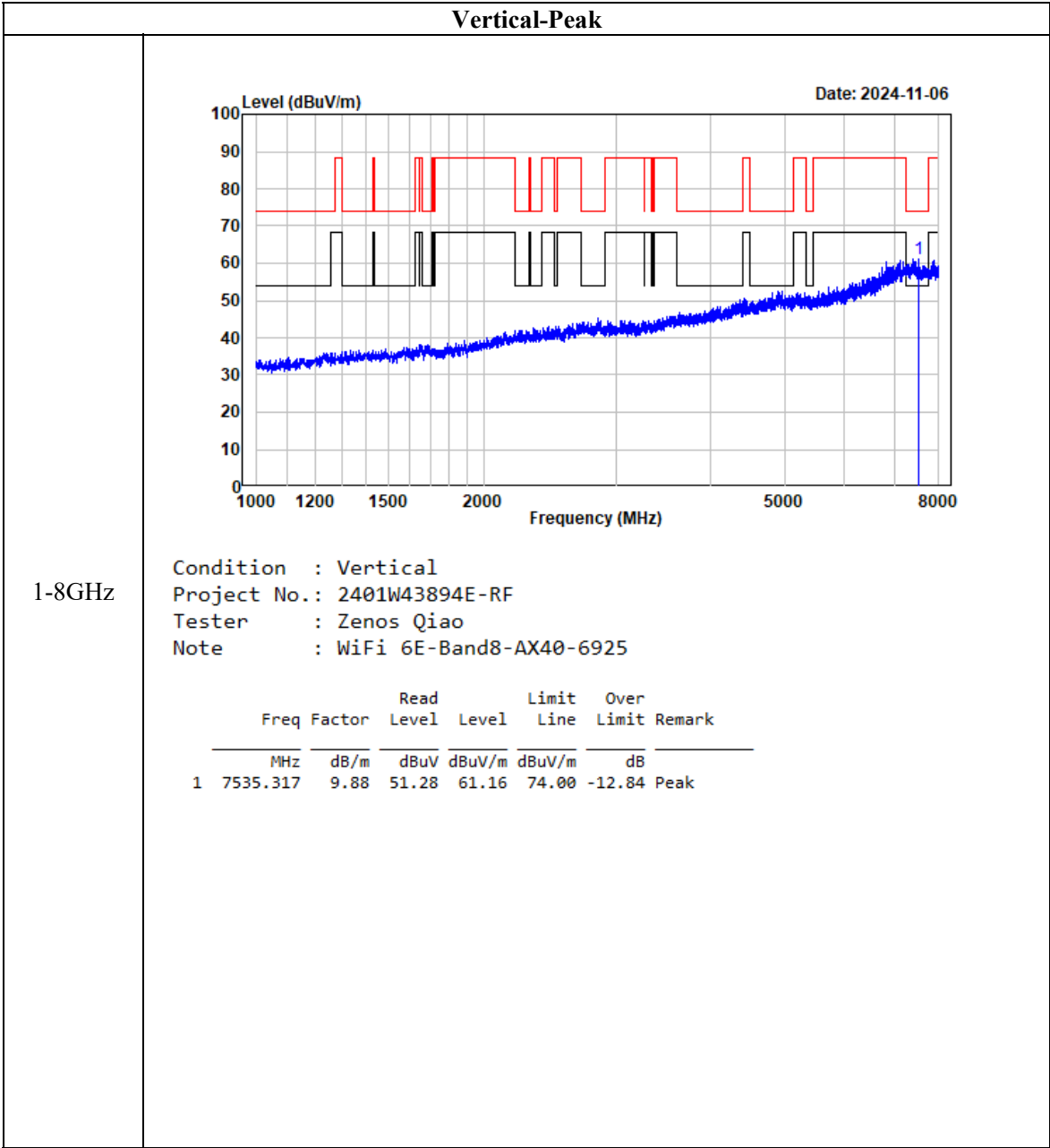


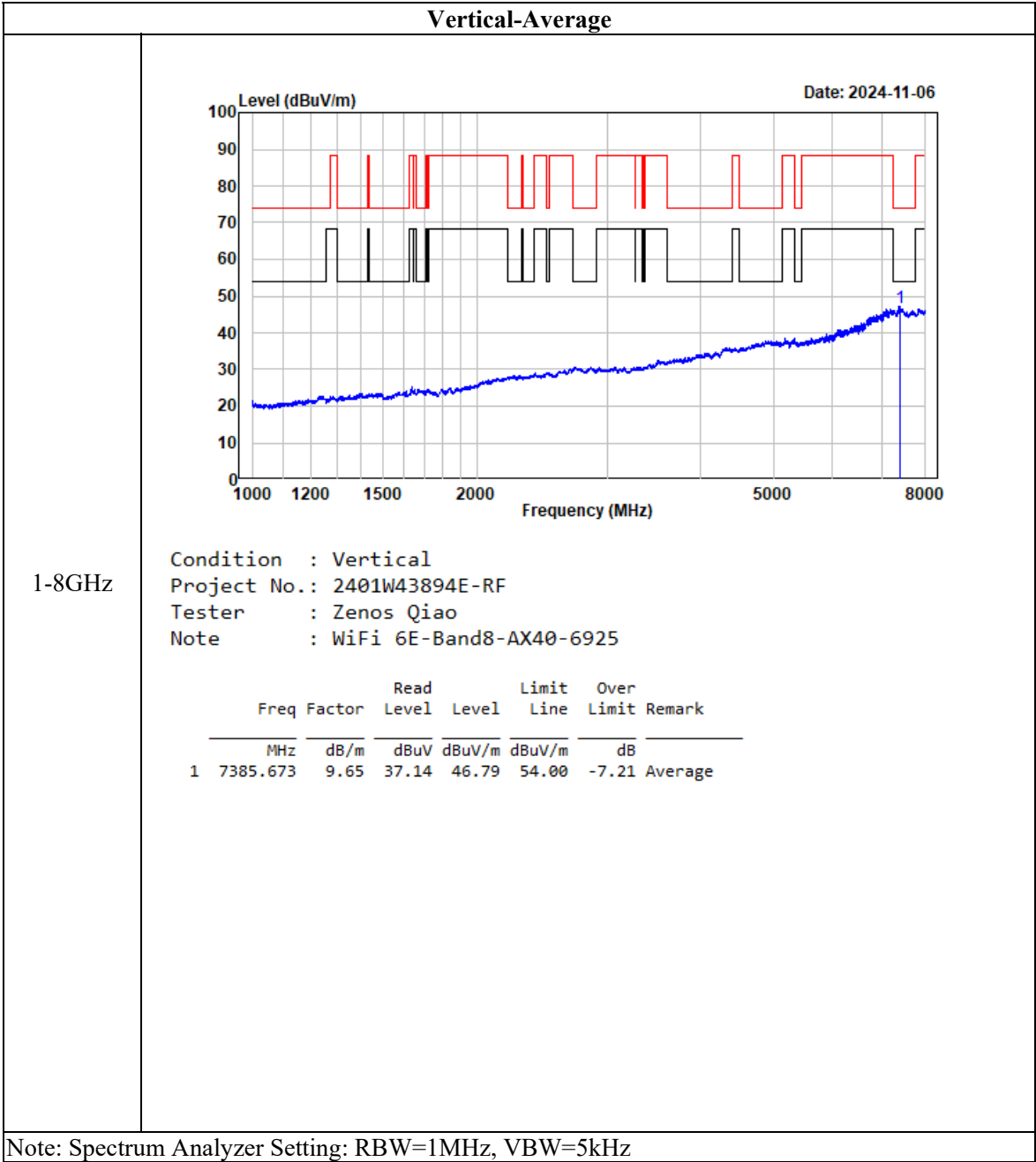


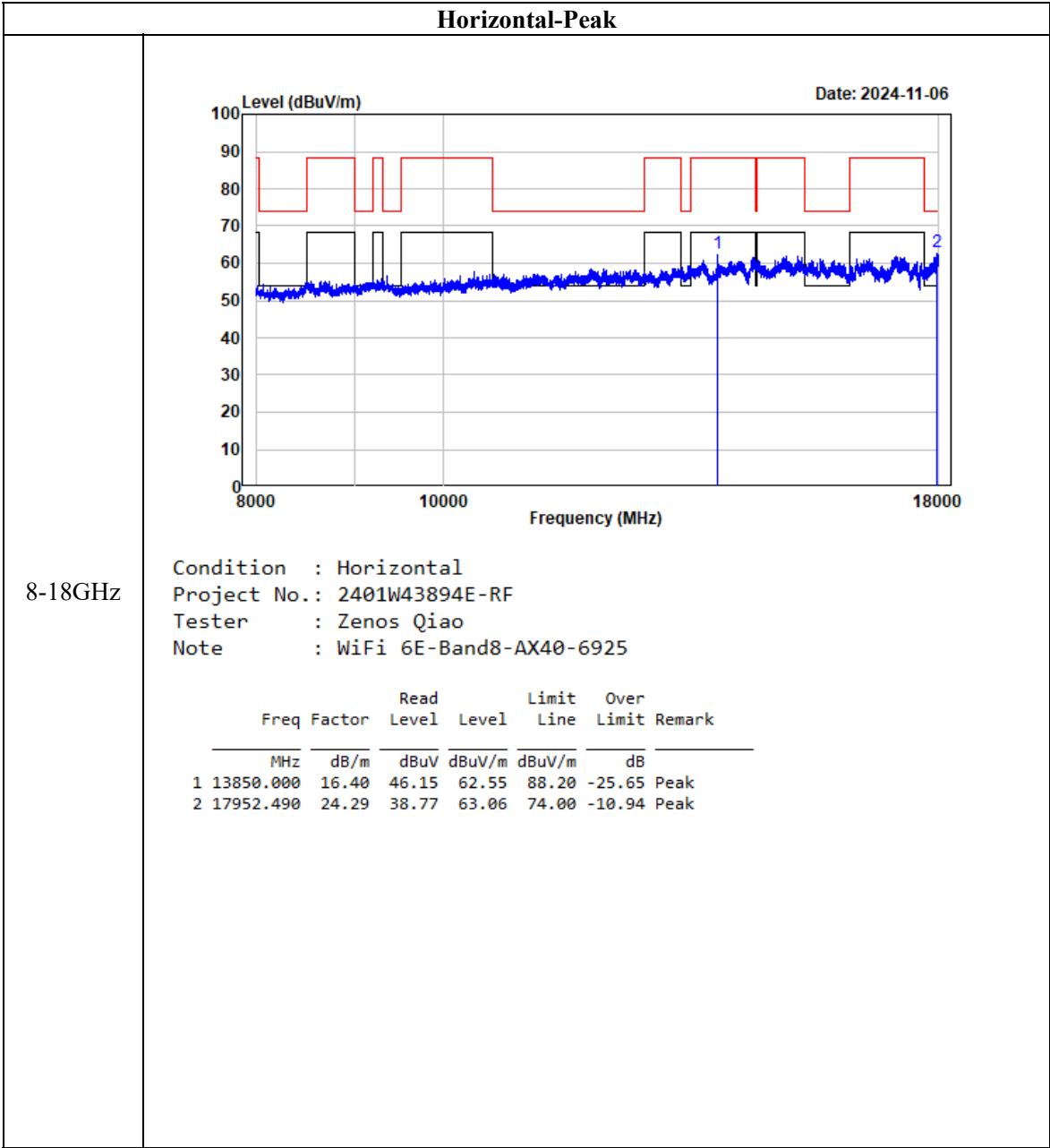
802.11ax40, 6925MHz

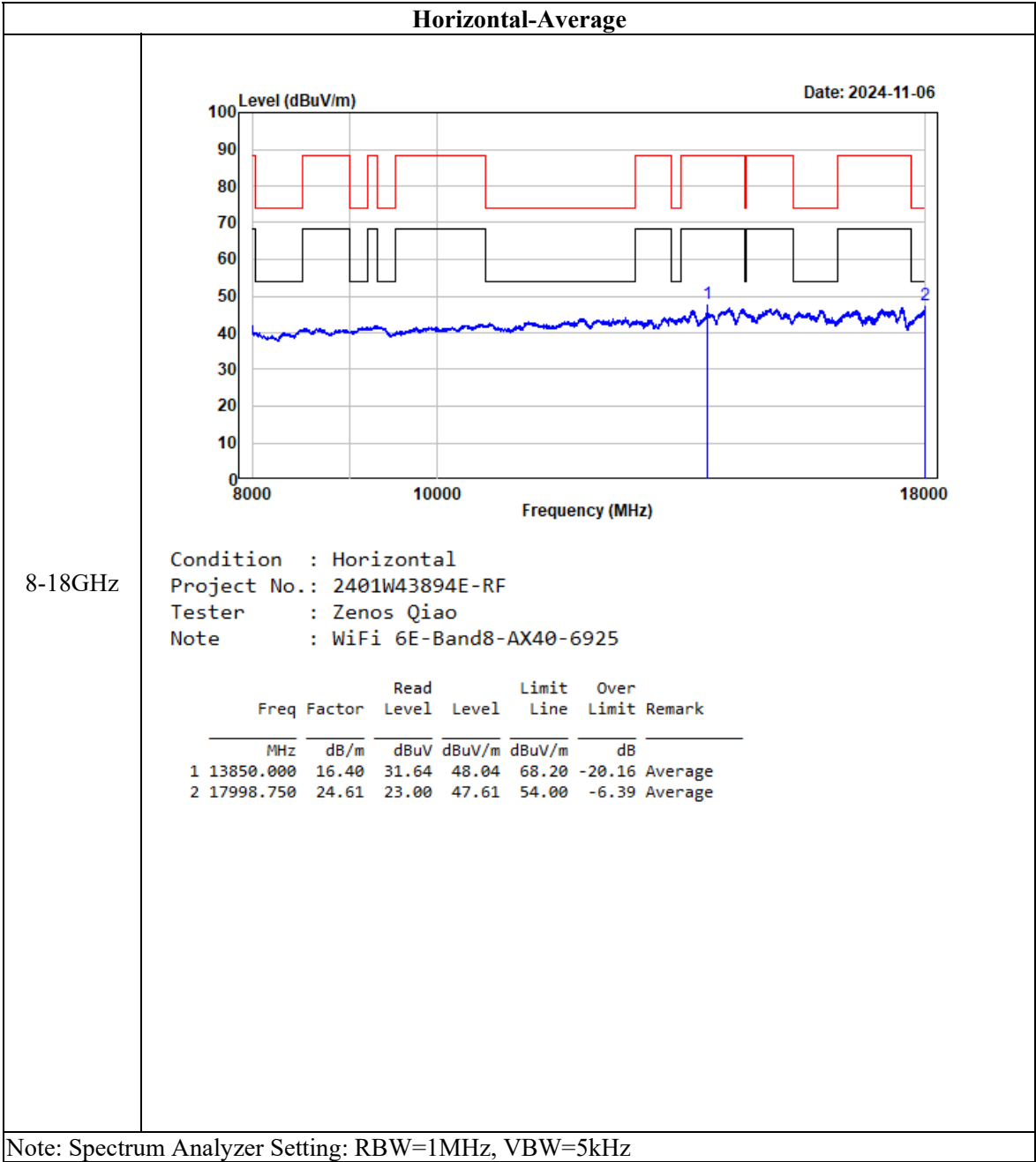


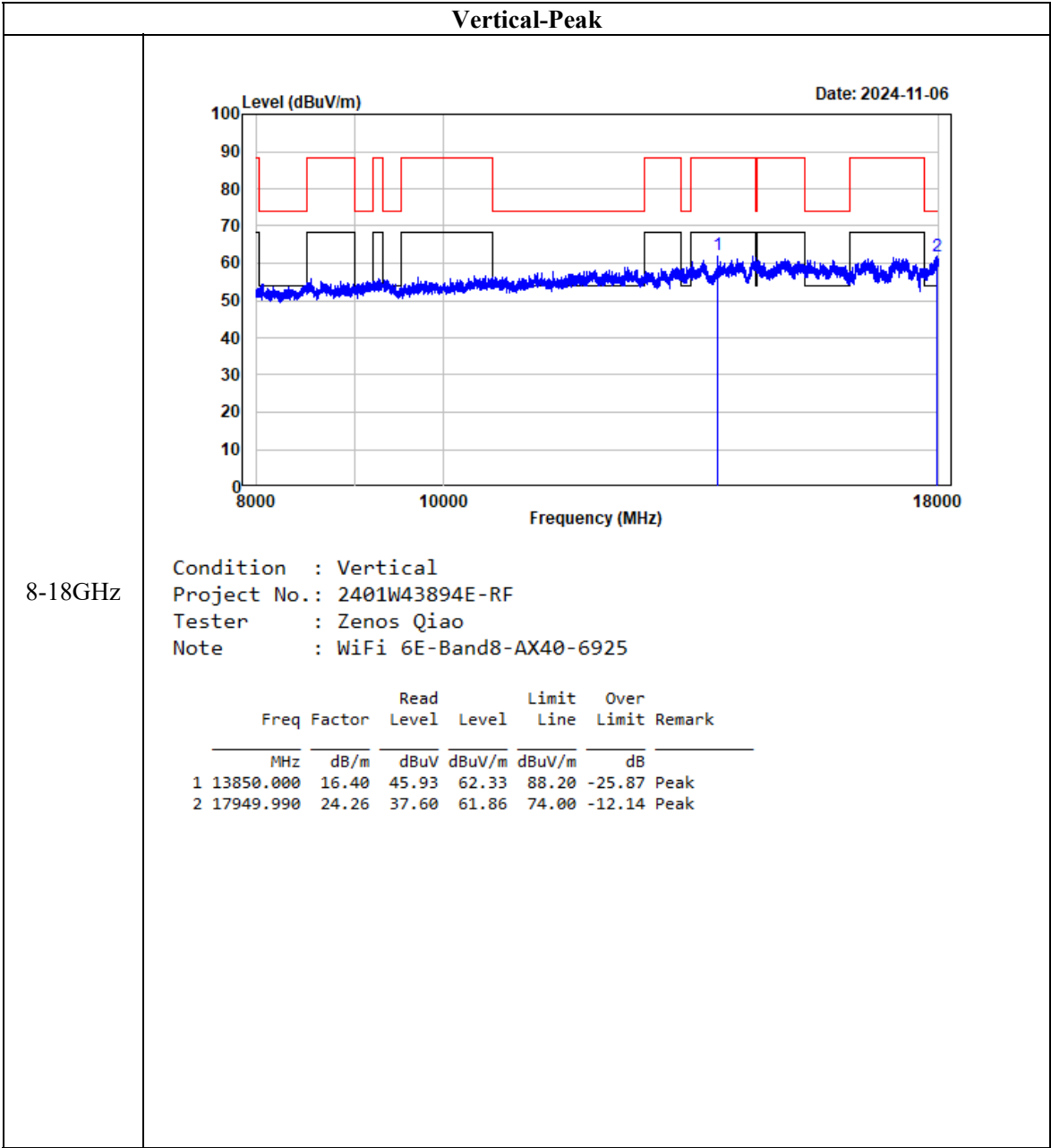




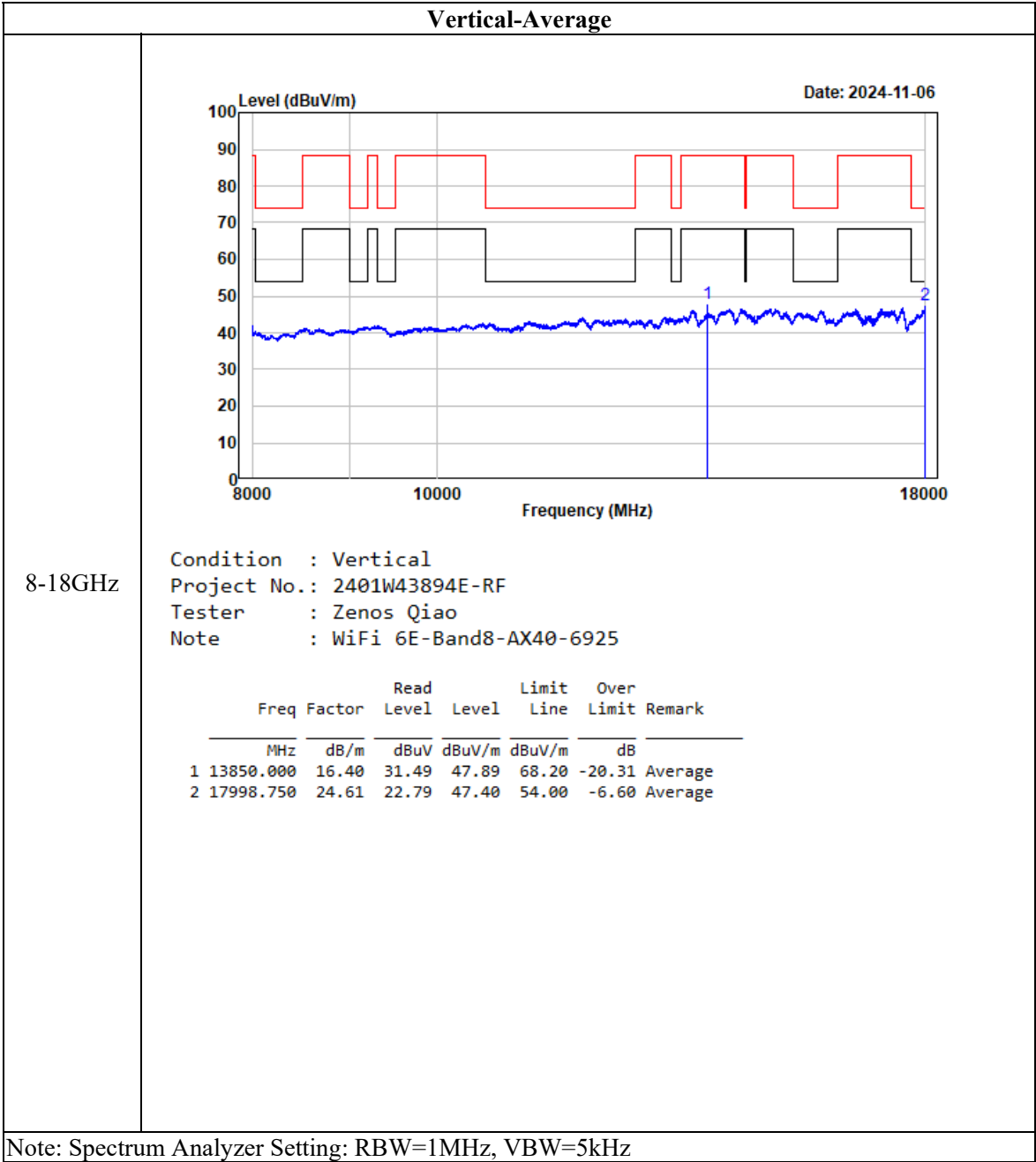




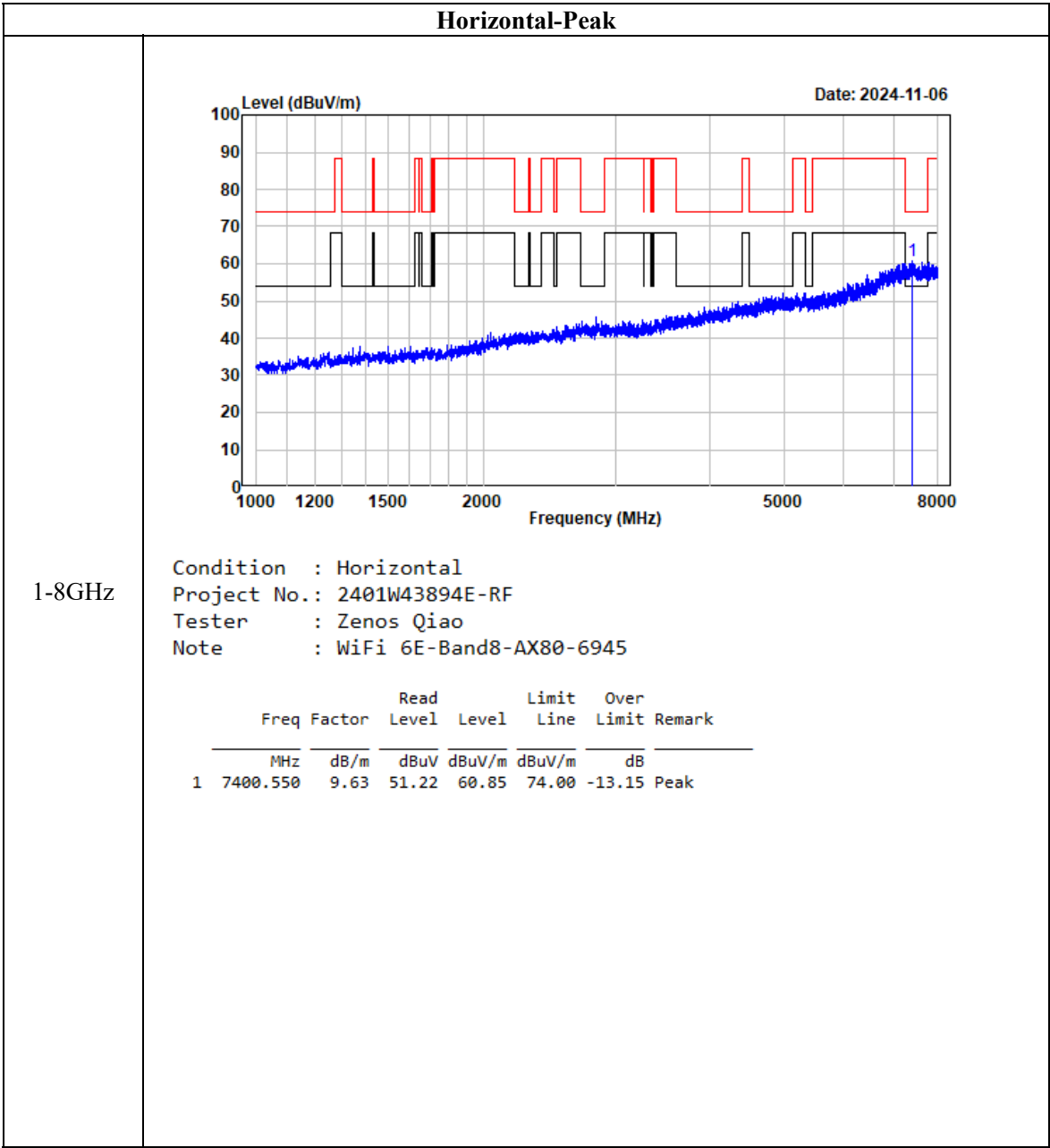


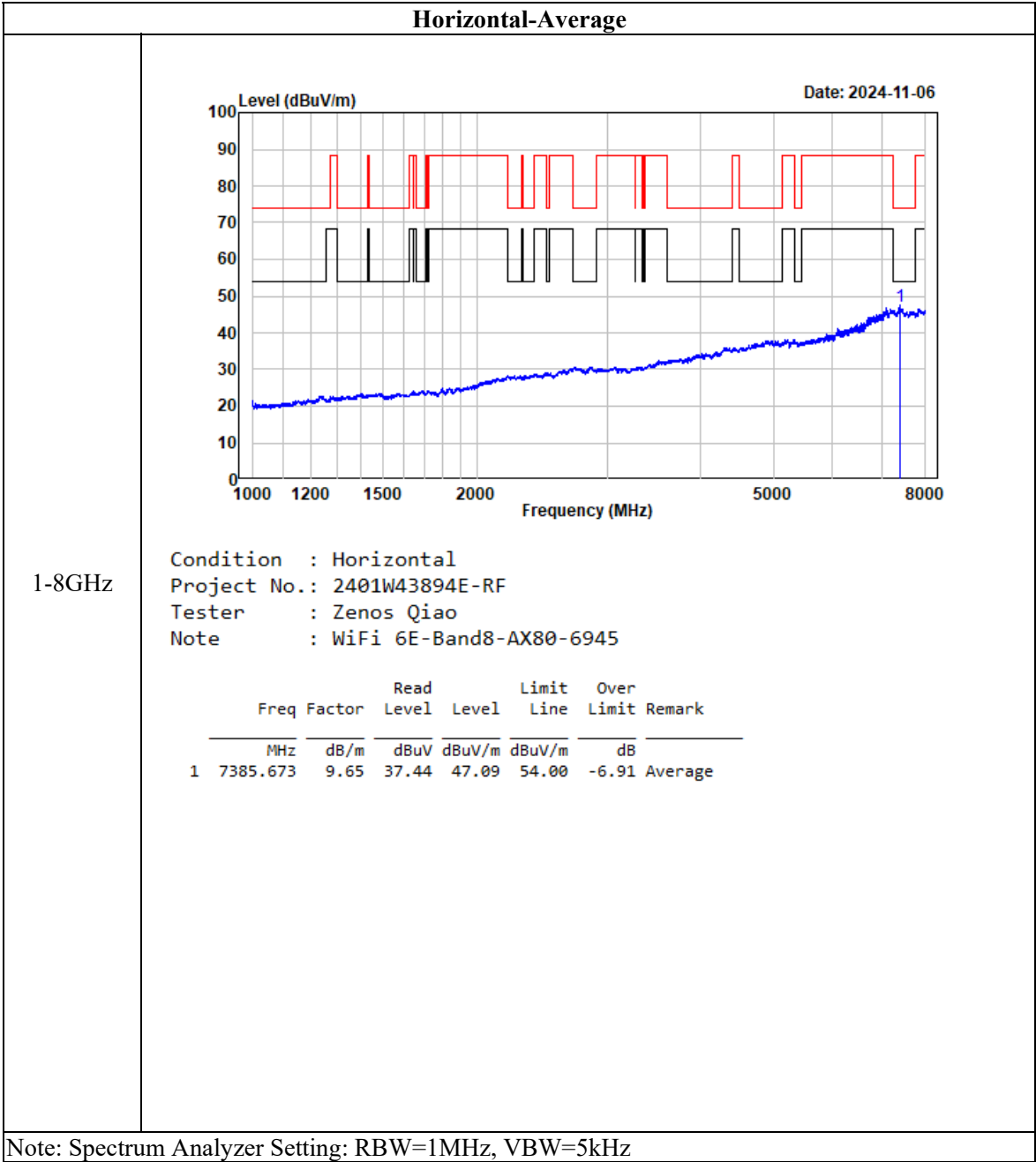


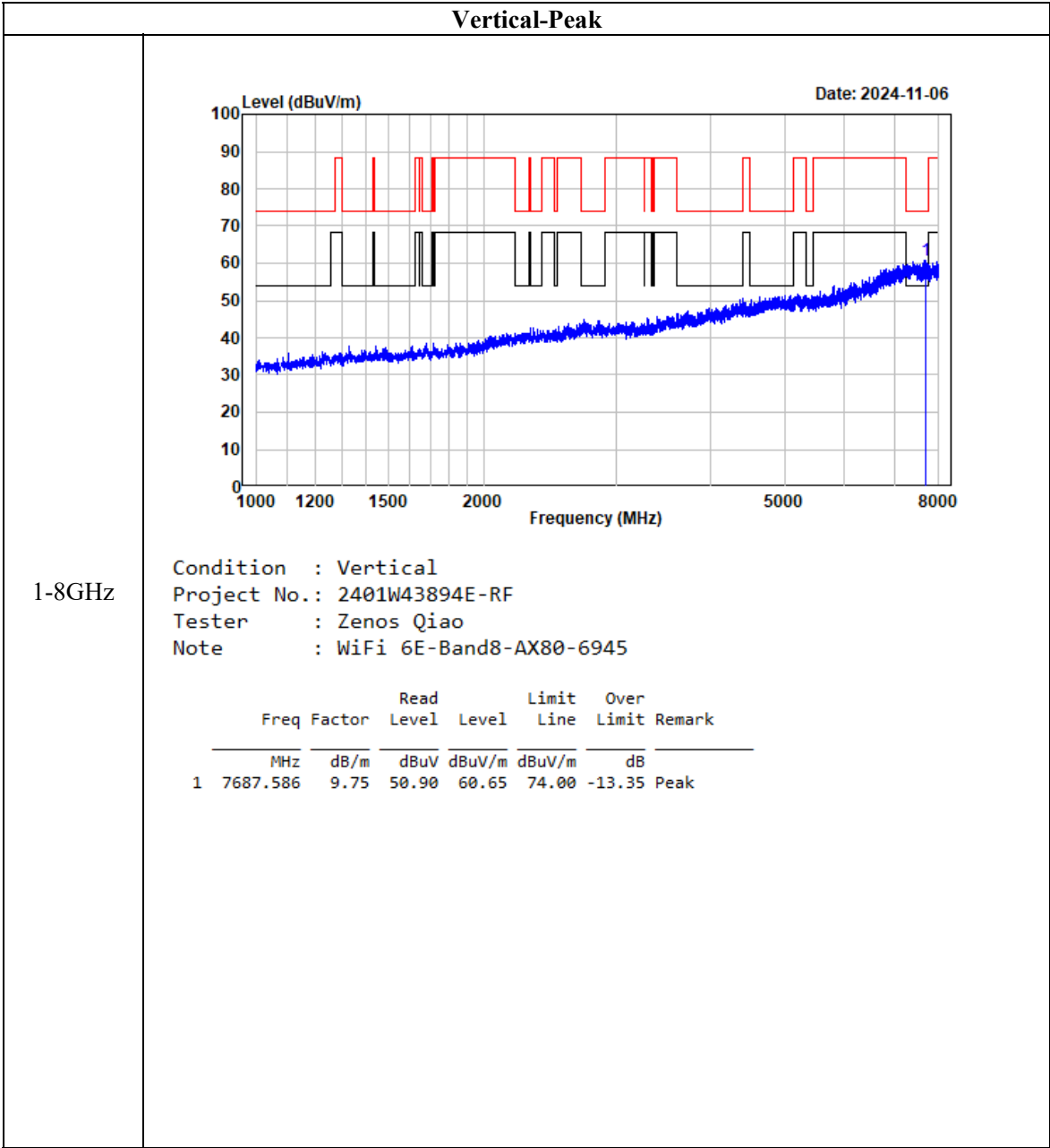


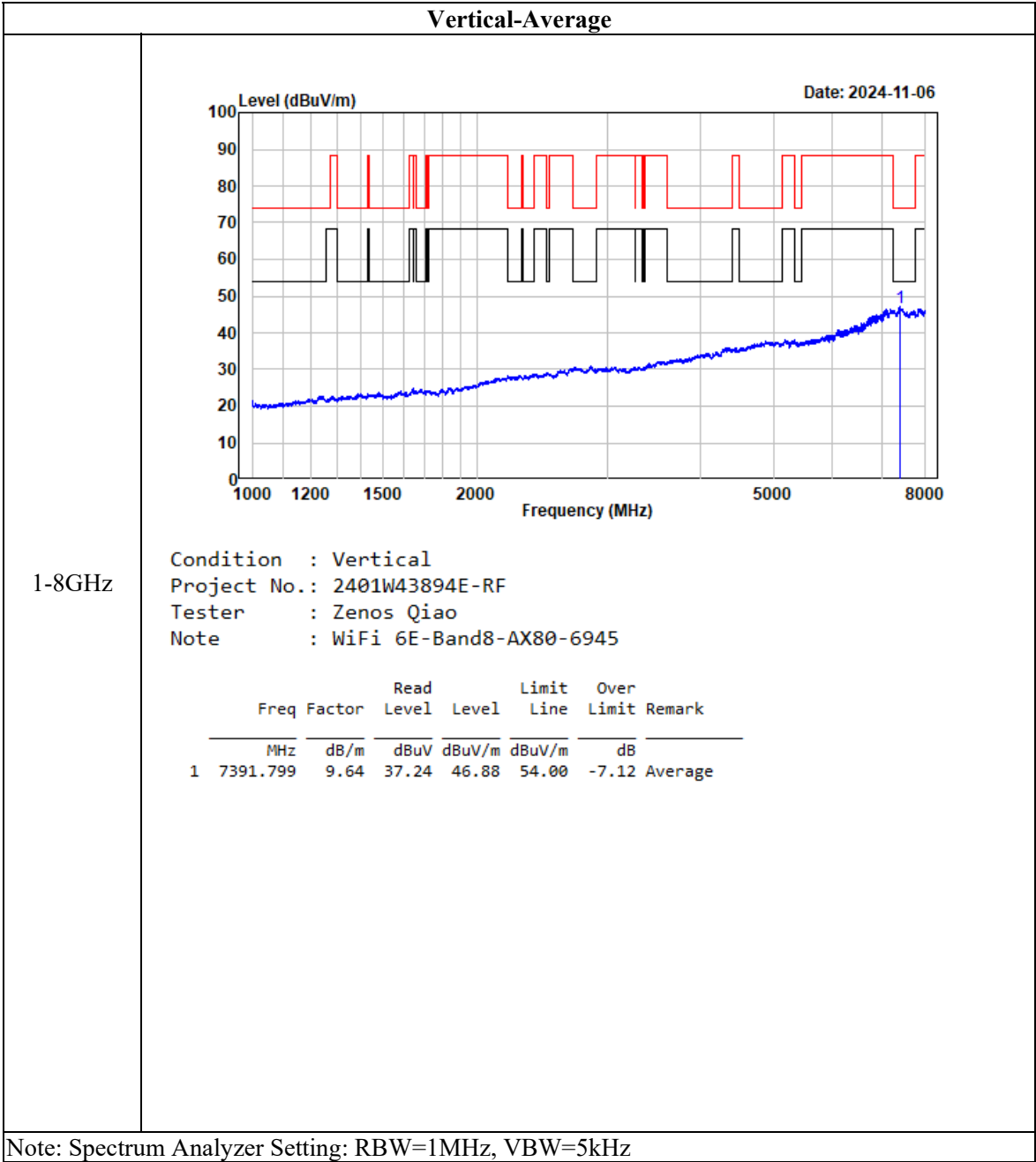


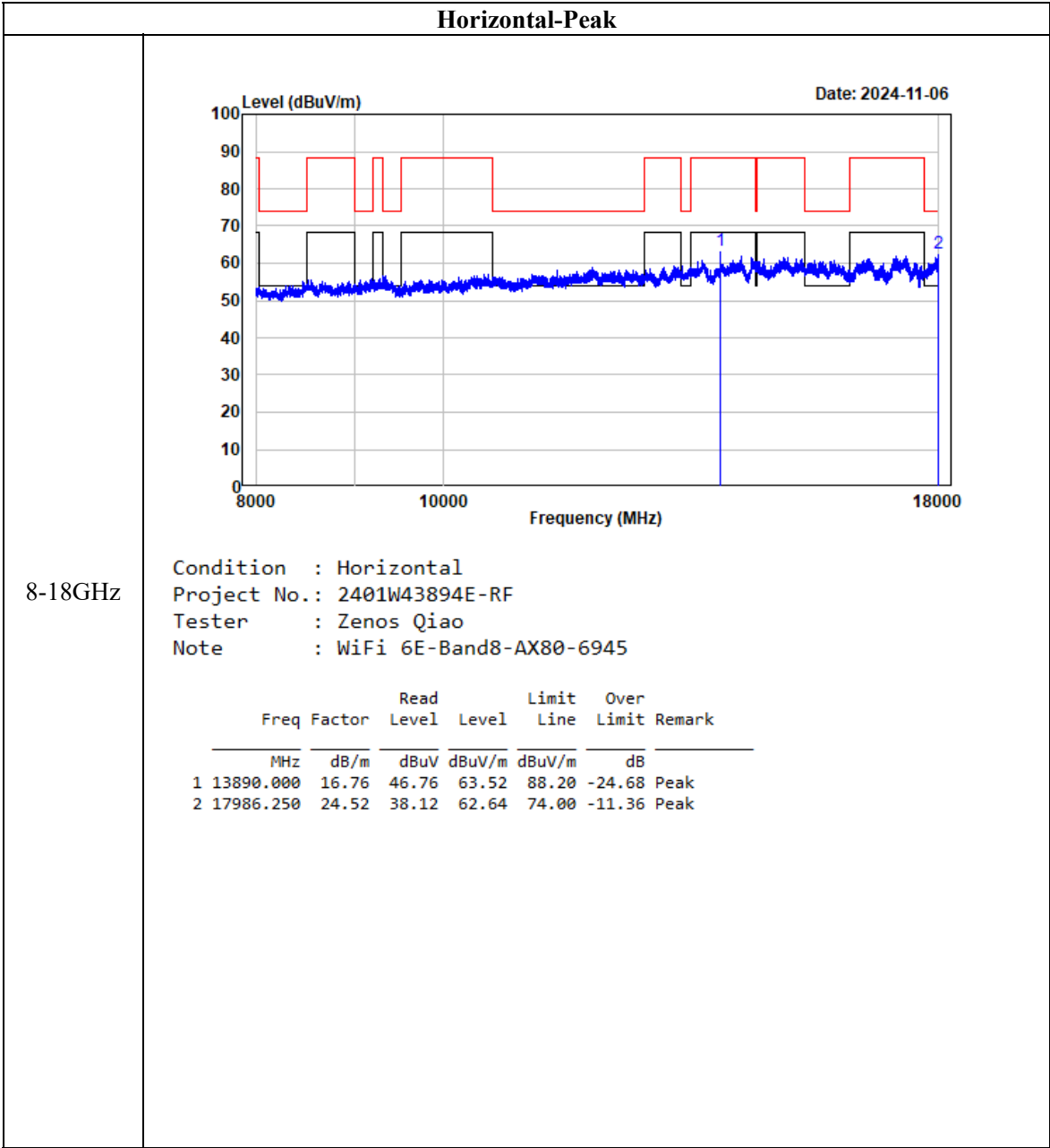
802.11ax80, 6945MHz

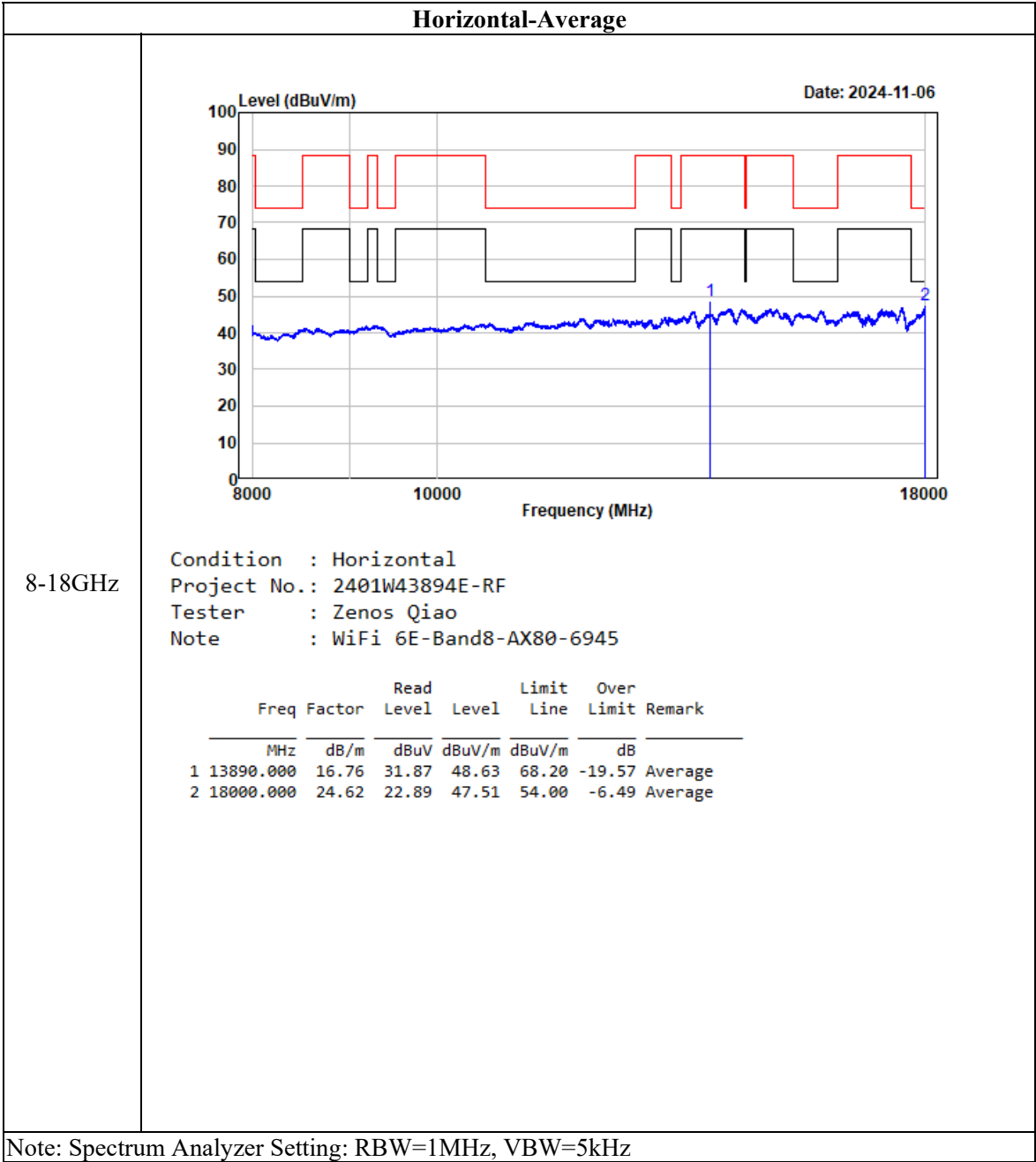


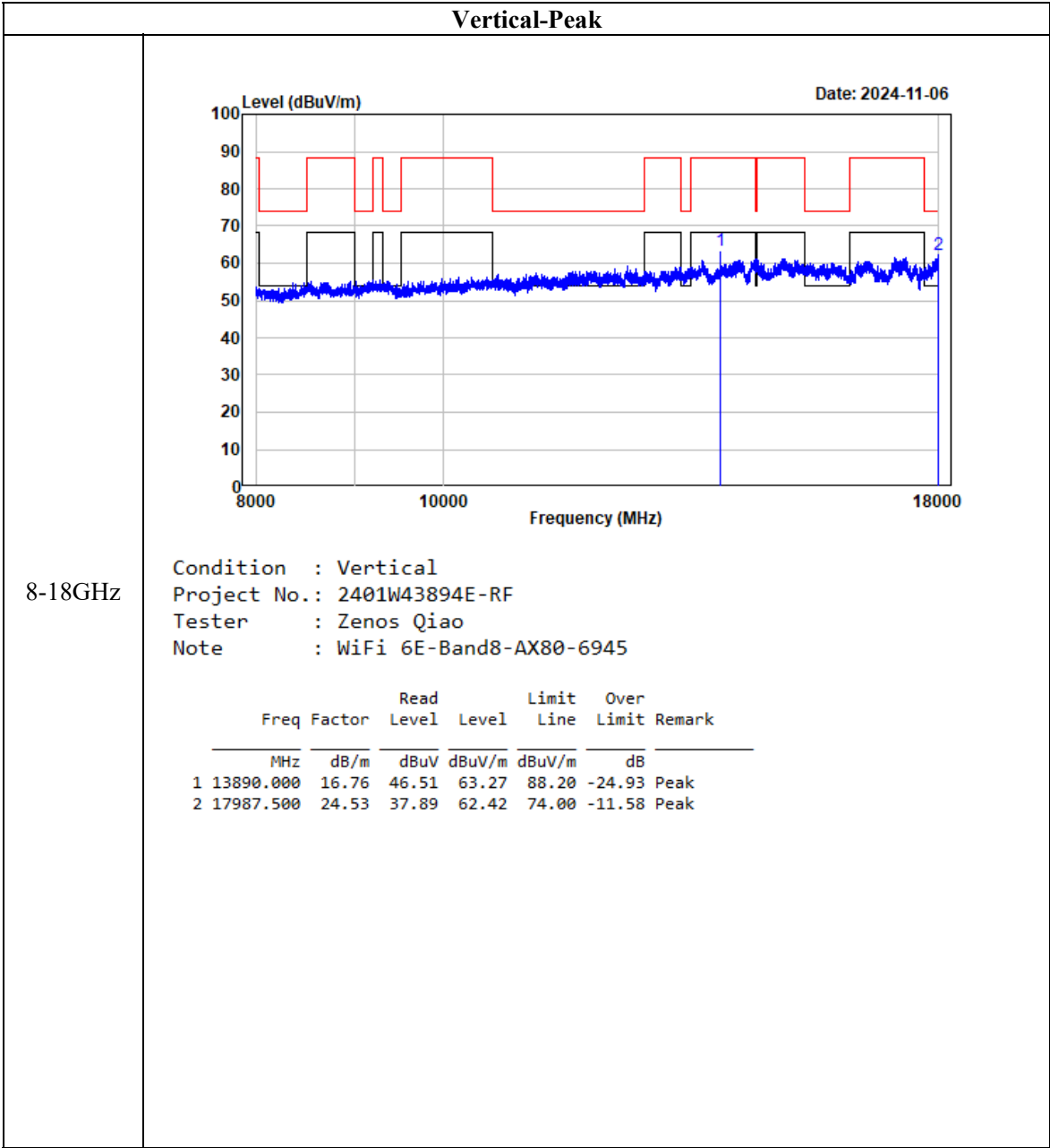




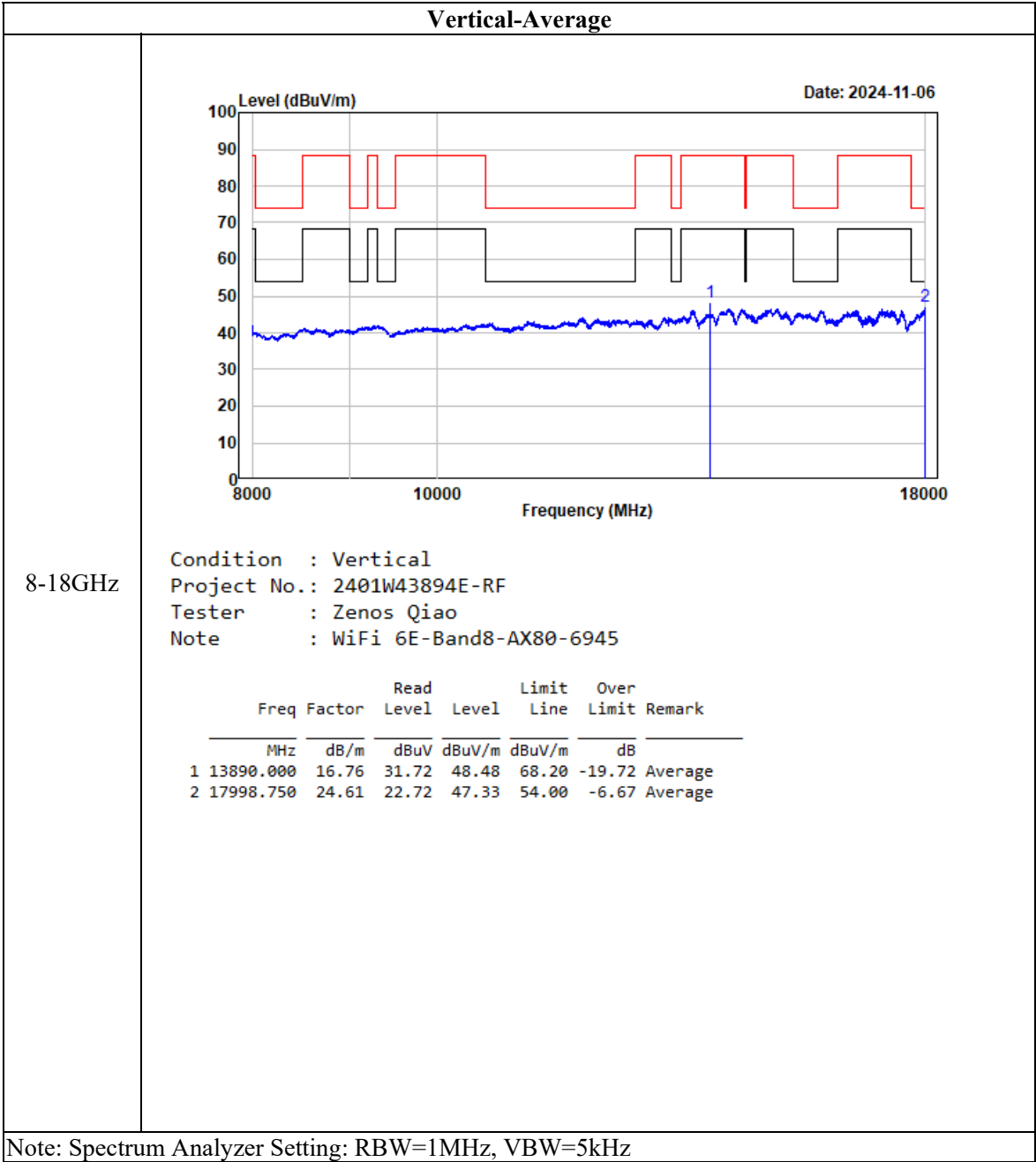




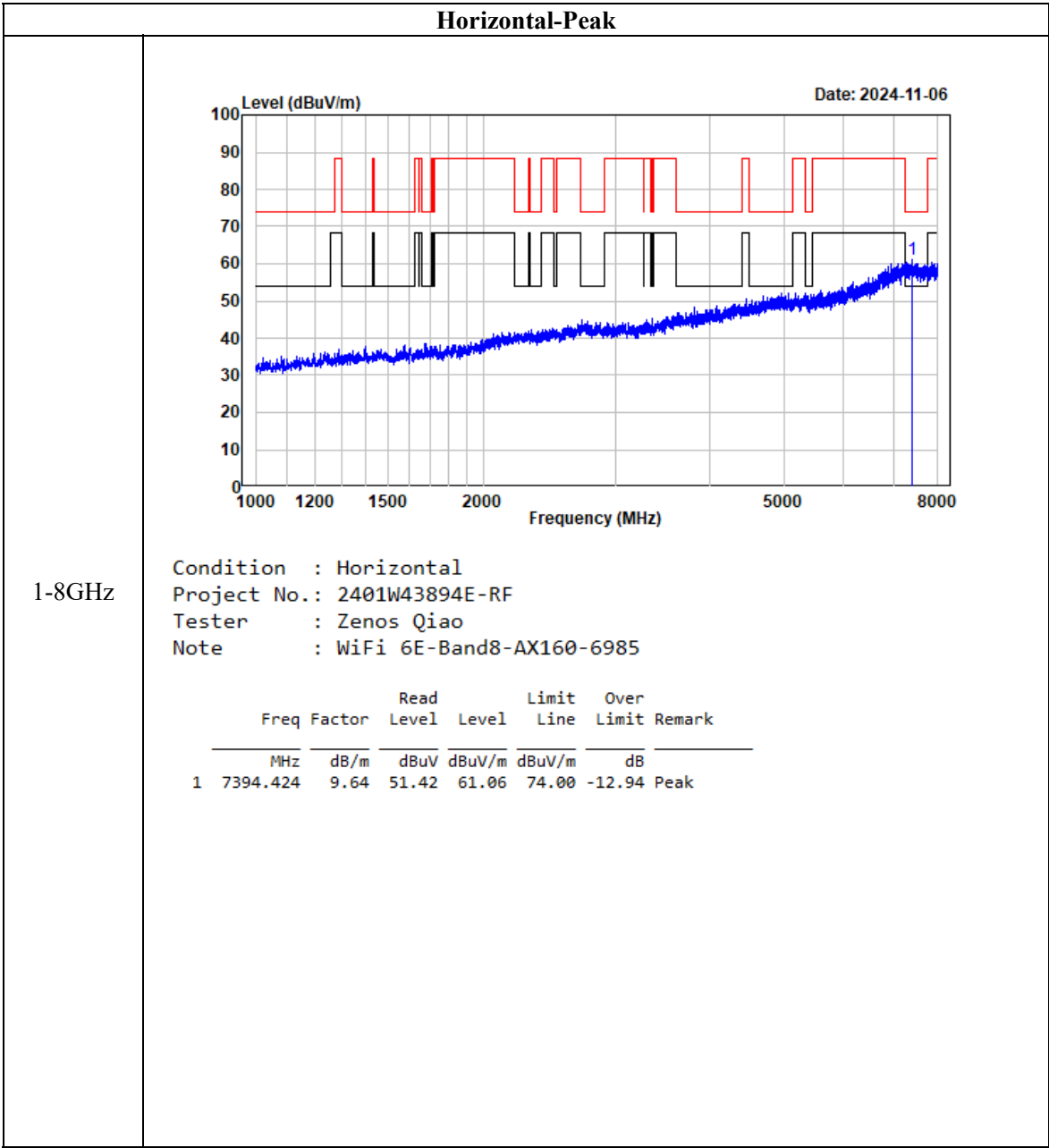


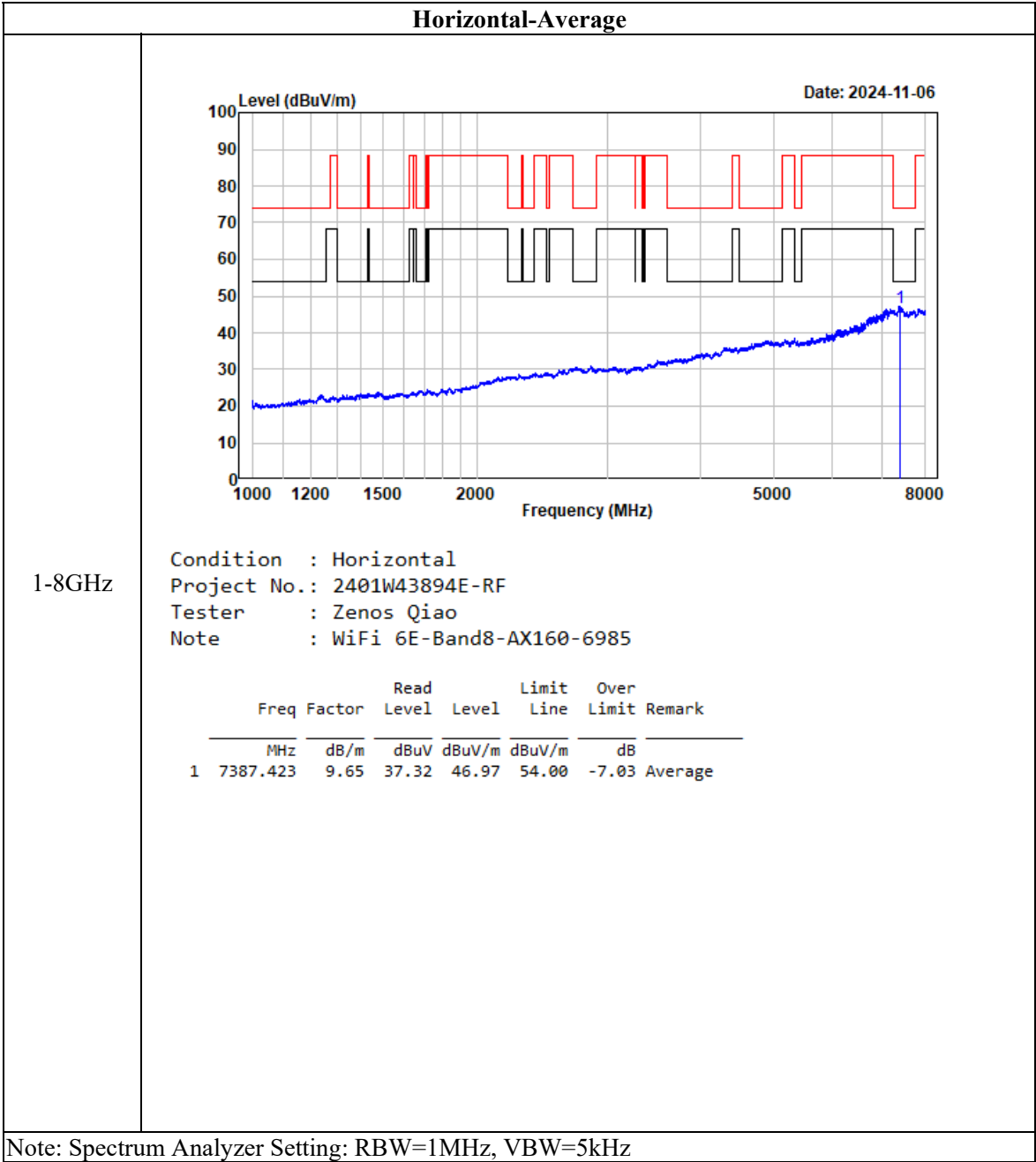


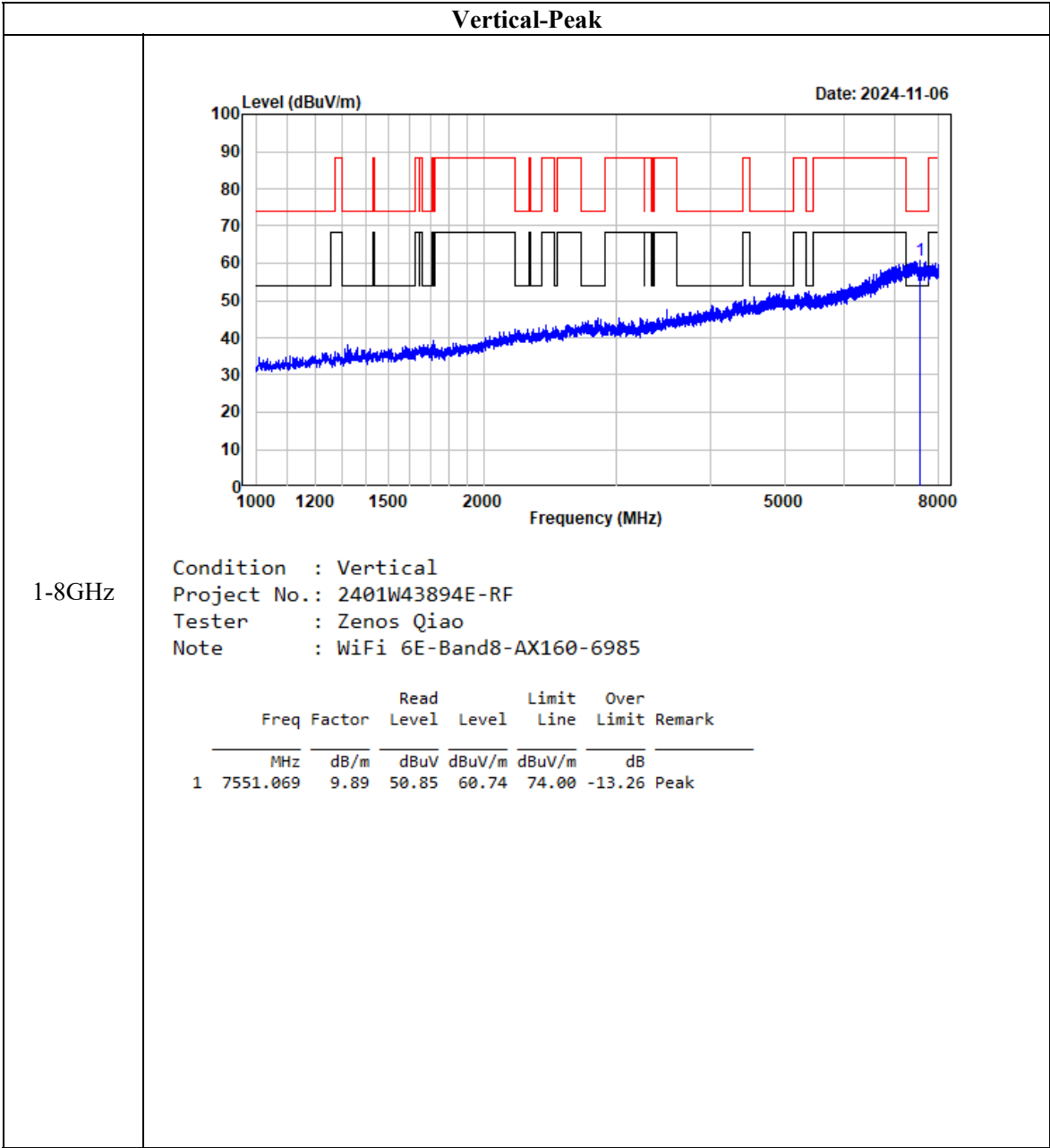


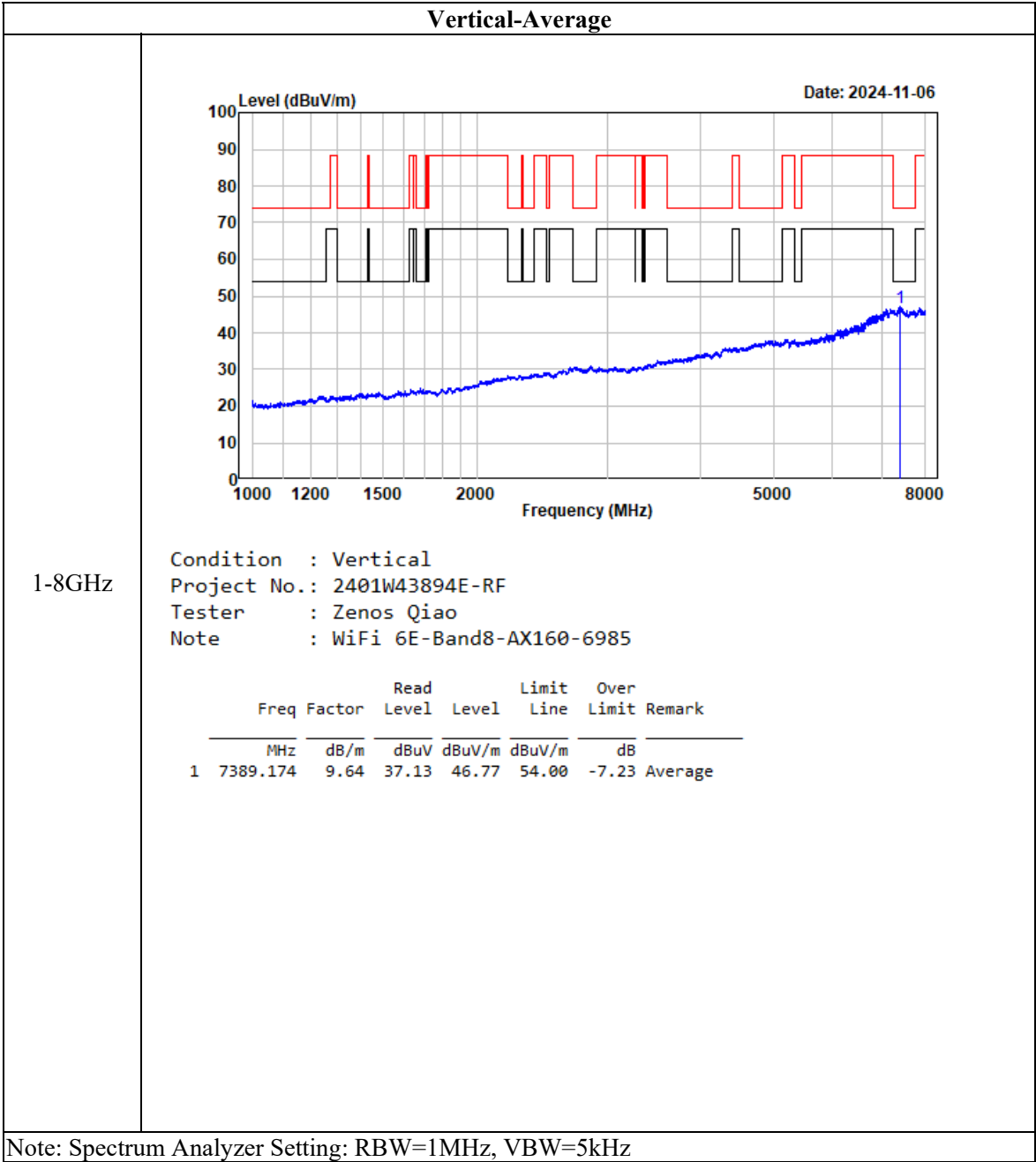


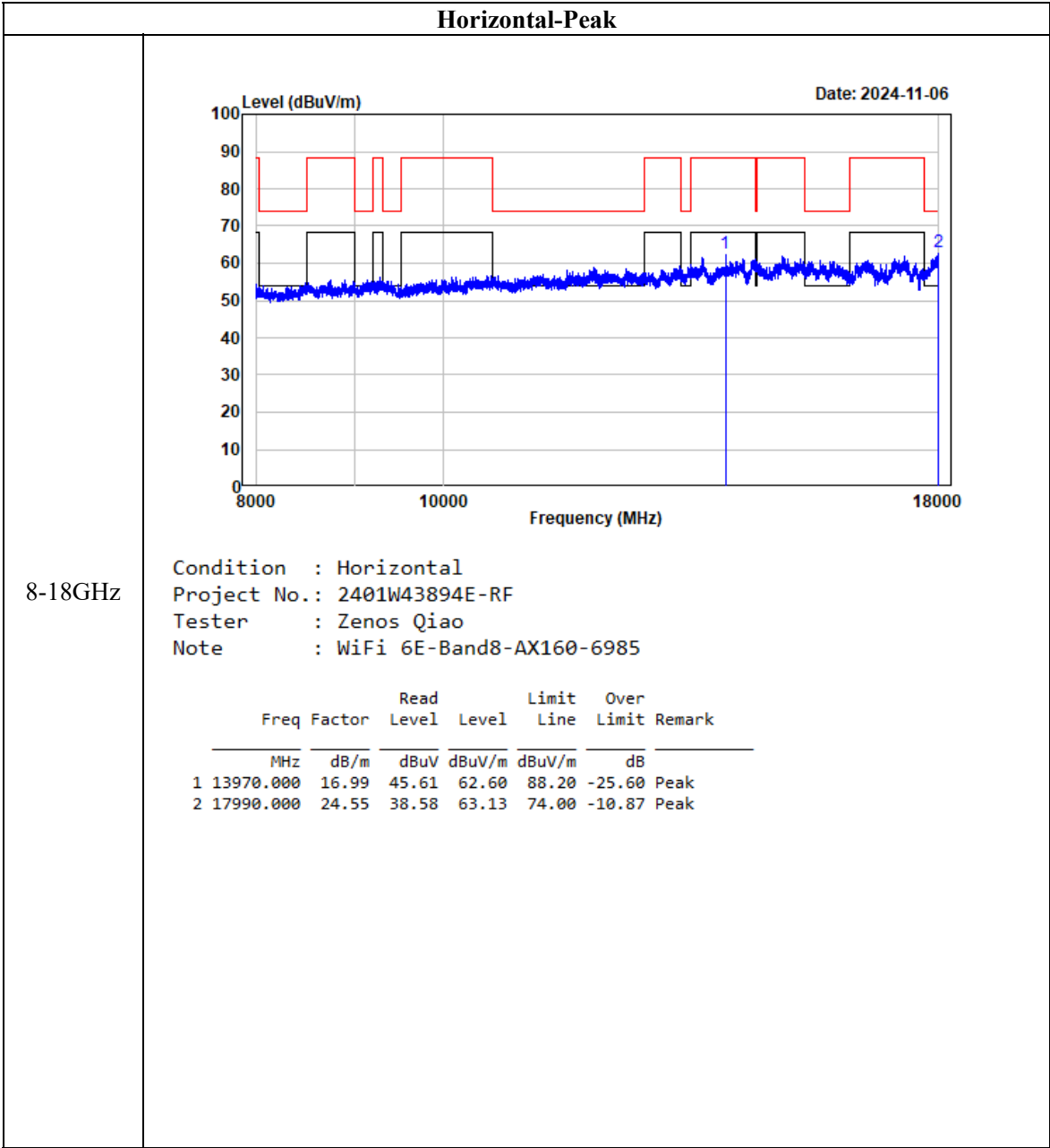
802.11ax160, 6985MHz

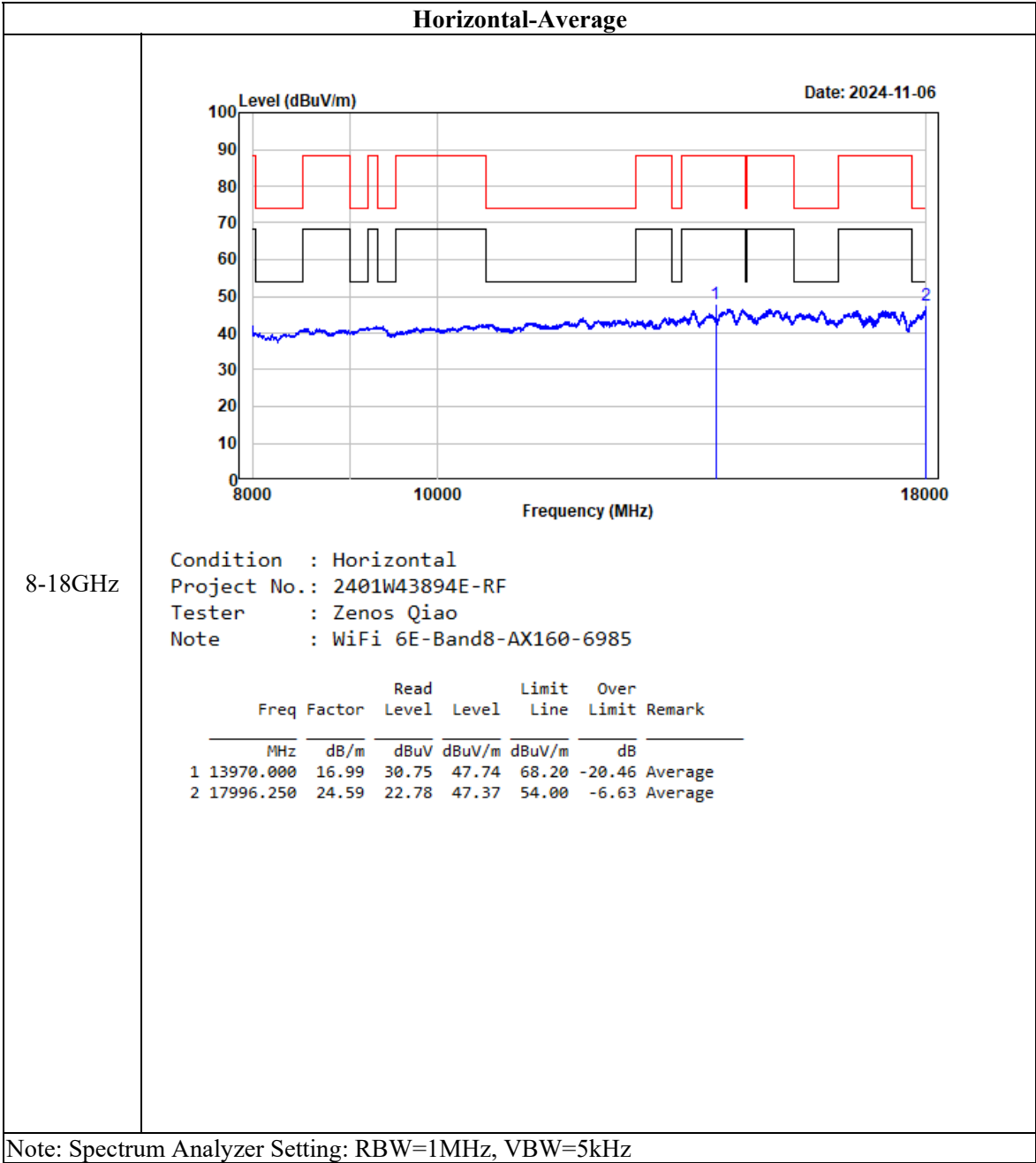


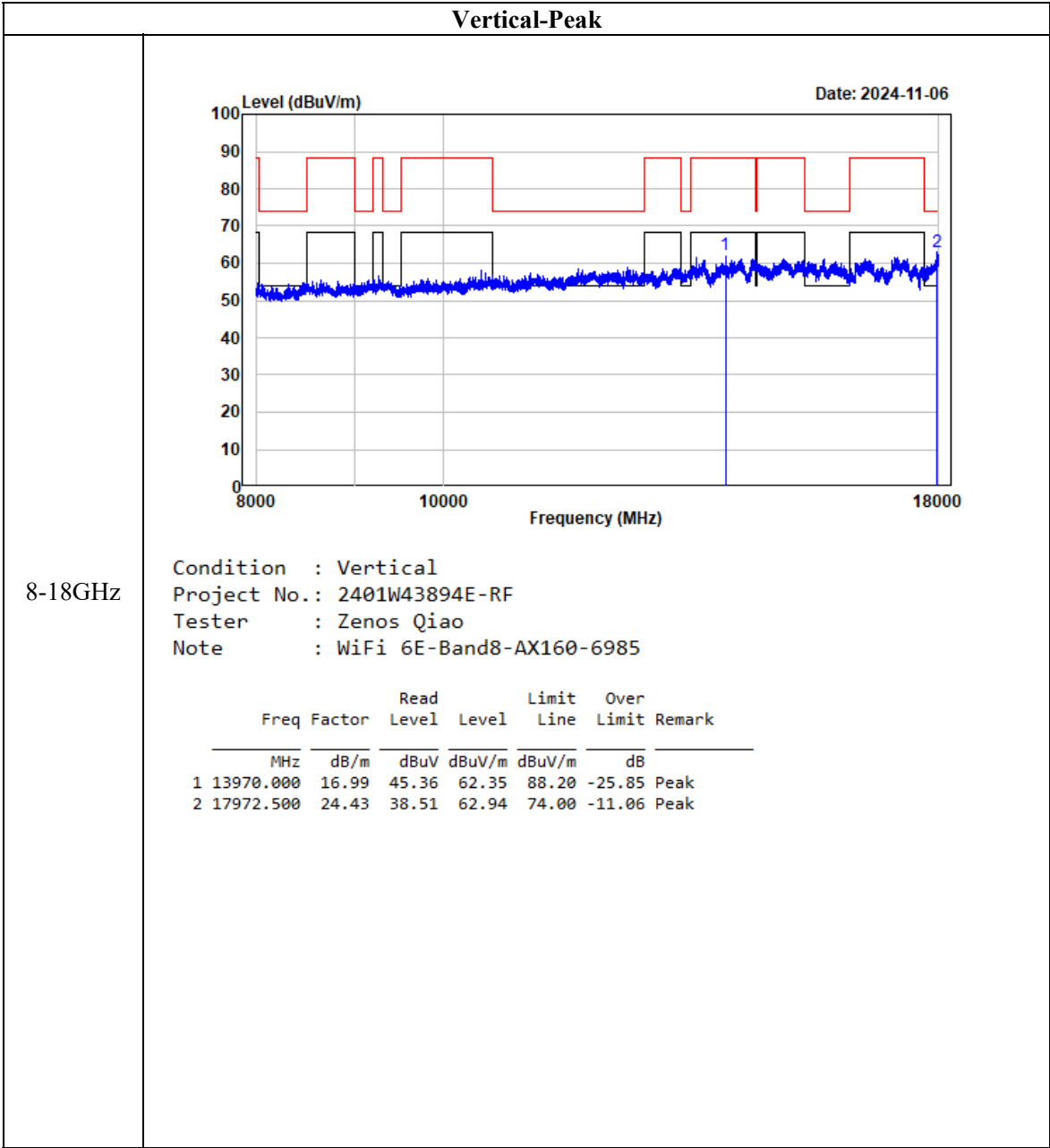




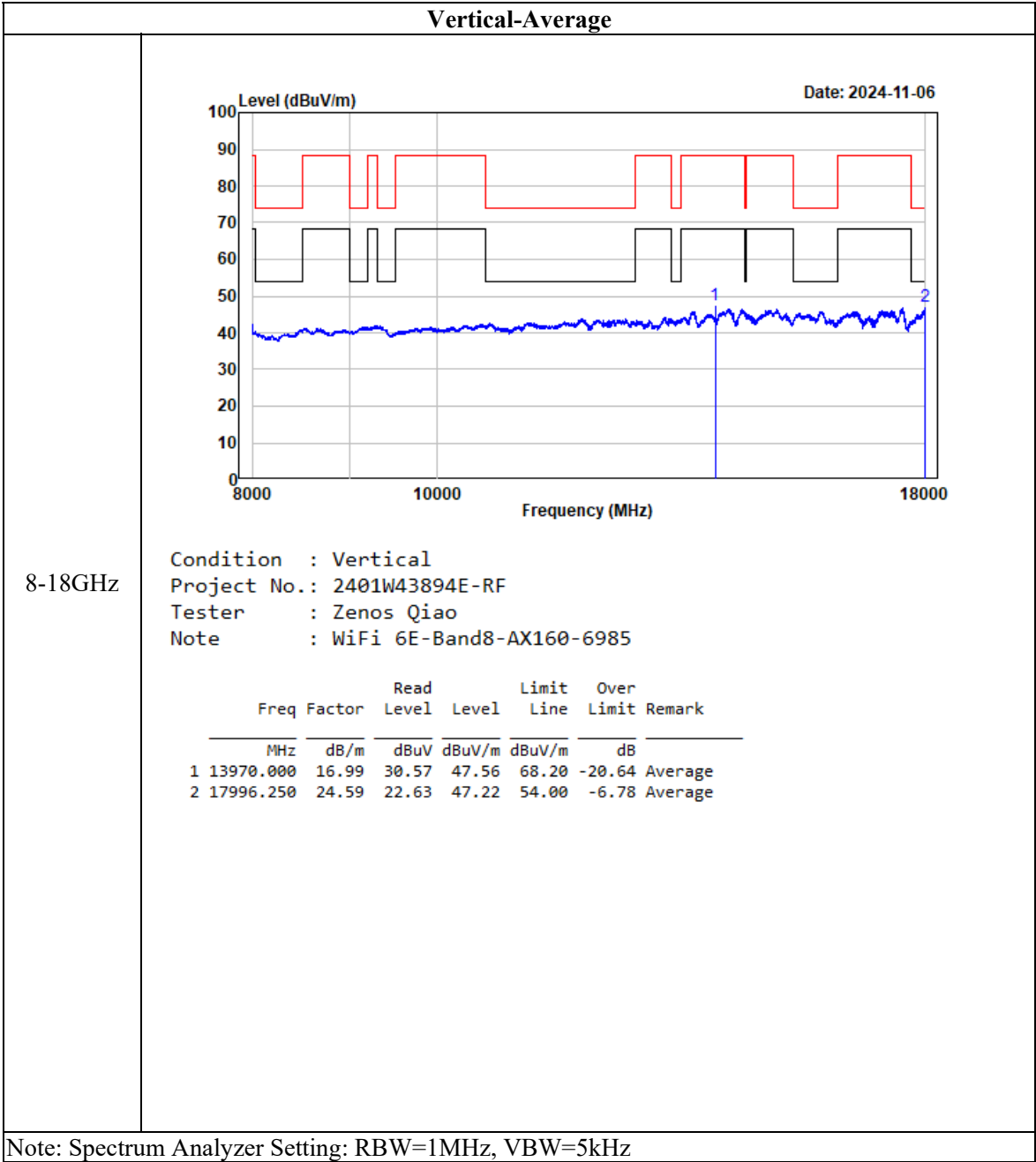




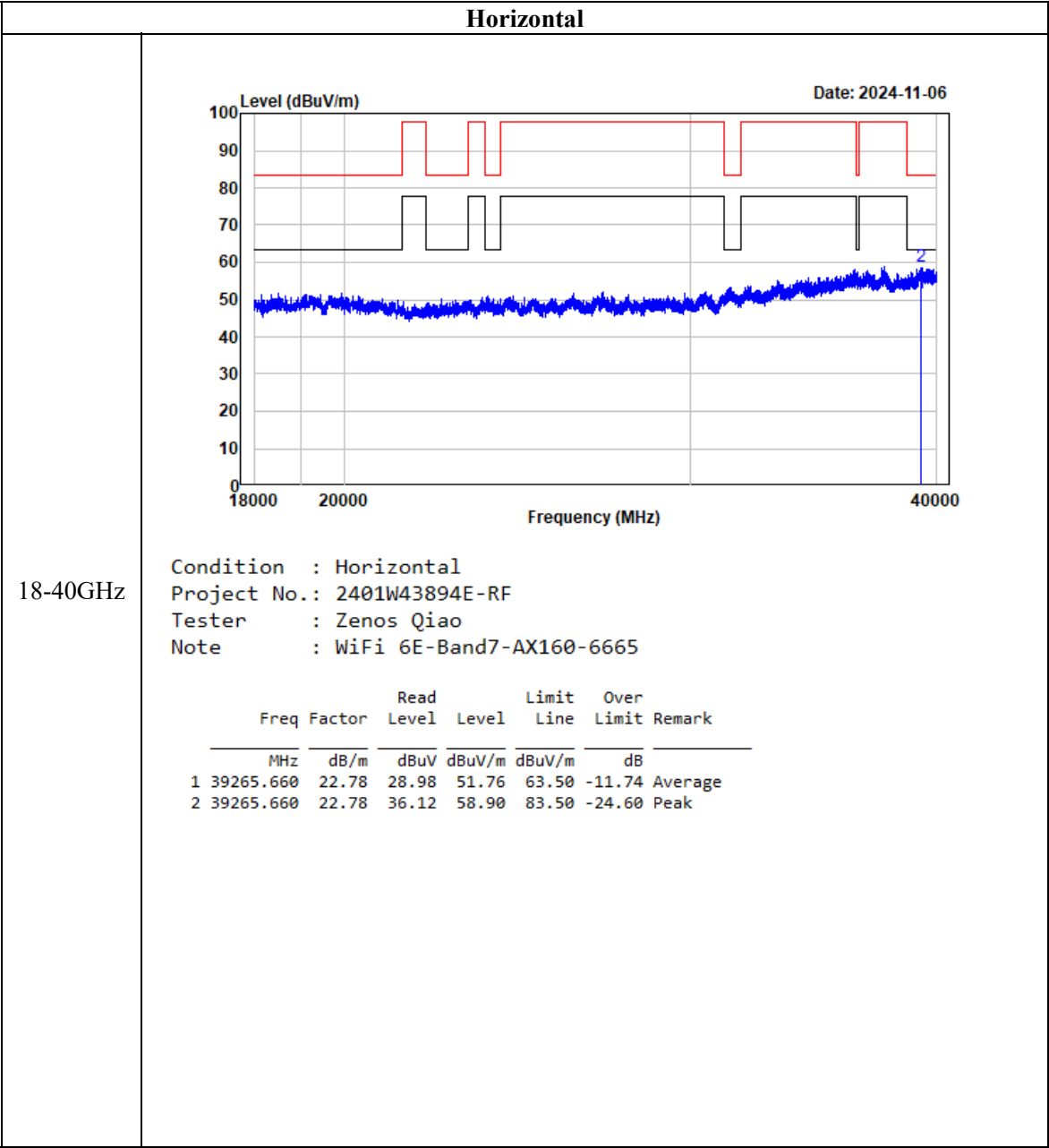


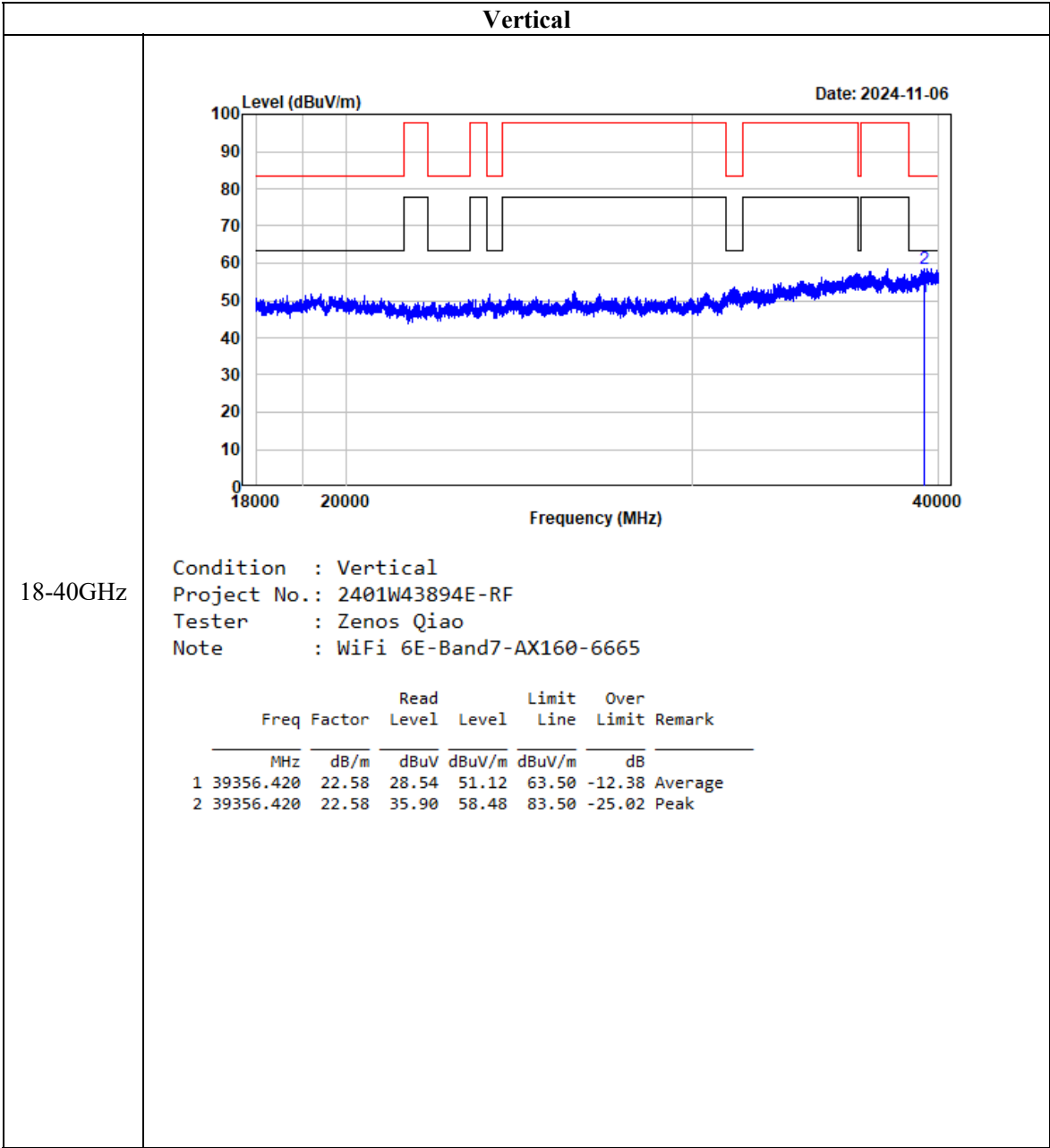






18-40GHz (Only with worst case margin mode plot):





**FCC §15.407(a)(11) – 26 dB Emission Bandwidth & 99% Occupied bandwidth****Applicable Standard**

According to FCC§15.407(a)(11), The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz..

**Test Procedure****1. Emission Bandwidth (EBW)**

Test Method: KDB789033 D02 Clause II.C

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- f) For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW)  $\geq 3 \times$  RBW.
- g) Measure and record the results in the test report.

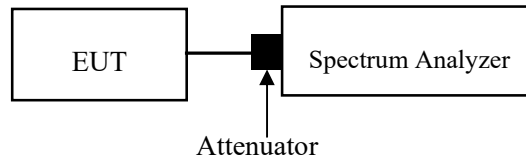
**2. 99% Occupied Bandwidth:**

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (OBW/RBW)]$  below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



## Test Data

### Environmental Conditions

|                    |          |
|--------------------|----------|
| Temperature:       | 26~28 °C |
| Relative Humidity: | 54~58 %  |
| ATM Pressure:      | 101 kPa  |

*The testing was performed by Cheeb Huang from 2024-11-12 to 2024-11-14.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

**The test data please refer to the Appendix E1&E2.**

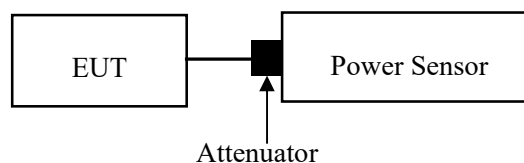
**FCC §15.407(a)(8) –CONDUCTED TRANSMITTER OUTPUT POWER****Applicable Standard**

According to the FCC §15.407(a)(8), For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed  $-1$  dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

**Test Procedure**

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method PM should be applied

- Place the EUT on a bench and set it in transmitting mode.
- Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
- Add a correction factor to the display.



Note: A short RF cable with low cable loss connected to the EUT antenna port, which was provided by client or lab, the cable loss was add with offset into test equipment, the total offset consists of attenuator and/or RF cable and/or power splitter loss.

**Test Data****Environmental Conditions**

|                           |          |
|---------------------------|----------|
| <b>Temperature:</b>       | 26~28 °C |
| <b>Relative Humidity:</b> | 54~58 %  |
| <b>ATM Pressure:</b>      | 101 kPa  |

*The testing was performed by Cheeb Huang from 2024-11-13 to 2024-11-16.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

**The test data please refer to the Appendix G.**

**FCC §15.407(a)(8) –POWER SPECTRAL DENSITY****Applicable Standard**

According to the FCC §15.407(a)(8), For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed  $-1$  dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

**Test Procedure**

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle  $\geq 98\%$

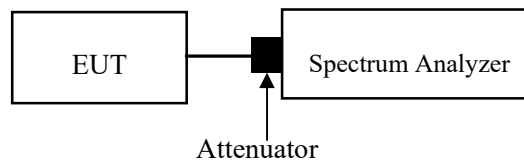
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle  $< 98\%$ , duty cycle variations are less than  $\pm 2\%$

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle  $< 98\%$ , duty cycle variations exceed  $\pm 2\%$

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

**Test Data****Environmental Conditions**

|                    |          |
|--------------------|----------|
| Temperature:       | 26~28 °C |
| Relative Humidity: | 54~58 %  |
| ATM Pressure:      | 101 kPa  |

*The testing was performed by Cheeb Huang from 2024-11-13 to 2024-11-18.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

**The test data please refer to the Appendix F.**

## FCC §15.407(b) (7) IN-BAND EMISSIONS

### Applicable Standard

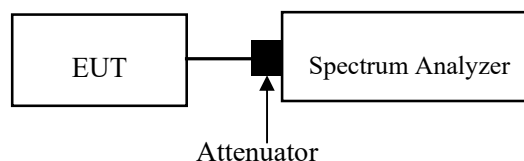
According to FCC§15.407(b) (7),

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

### Test Procedure

Test Method: KDB 987594 D02 Clause J

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
3. Take nominal bandwidth as reference channel bandwidth provided that 26 dB emission bandwidth is always larger than nominal bandwidth.
4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
  - a) Set the span to encompass the entire 26 dB EBW of the signal.
  - b) Set RBW = same RBW used for 26 dB EBW measurement.
  - c) Set VBW  $\geq 3 \times$  RBW
  - d) Number of points in sweep  $\geq [2 \times \text{span} / \text{RBW}]$ .
  - e) Sweep time = auto.
  - f) Detector = RMS (i.e., power averaging)
  - g) Trace average at least 100 traces in power averaging (rms) mode.
  - h) Use the peak search function on the instrument to find the peak of the spectrum.
5. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
  - a. Suppressed by 20 dB at 1 MHz outside of the channel edge.
  - b. Suppressed by 28 dB at one channel bandwidth from the channel center.
  - c. Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
6. Adjust the span to encompass the entire mask as necessary.
7. Clear trace.
8. Trace average at least 100 traces in power averaging (rms) mode.
9. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.





**Test Data****Environmental Conditions**

|                           |          |
|---------------------------|----------|
| <b>Temperature:</b>       | 26~28 °C |
| <b>Relative Humidity:</b> | 54~58 %  |
| <b>ATM Pressure:</b>      | 101 kPa  |

*The testing was performed by Cheeb Huang from 2024-11-13 to 2024-11-16.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

**The test data please refer to the Appendix H.**

## FCC §15.407(d) (6) CONTENTION BASED PROTOCOL

### Applicable Standard

According to FCC15.407(d) (6) &KDB 98754 D02.

Indoor access points , subordinate devices and client devices operating in the 5.925-7.125 GHz band ( herein referred to as unlicensed devices ) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band . To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower . Upon detection of energy in the band , unlicensed low power indoor devices must vacate the channel ( in which incumbent signal is transmitted ) and stay off the incumbent channel as long as detected radio frequency power is equal to or greater than the threshold (-62dBm)1. The -62dBm(or lower) Threshold is referenced to a 0dBi antenna gain.

To ensure incumbent operations are reliably detected in the band , low power indoor devices must detect RF energy throughout intended operating channel . For example , an 802 .device that plans to transmit a 40 MHz-wide signal ( on a primary 20 MHz channel and a secondary 20 MHz channel ) must detect energy throughout the entire 40 MHz channel. Additionally , low-power indoor devices must detect co-channel energy with 90% or greater certainty .

**Table 1. Criteria to determine number of times detection threshold test may be performed**

| If                                    | Number of Tests                                              | Placement of Incumbent Transmission                                                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $BW_{EUT} \leq BW_{Inc}$              | Once                                                         | Tune incumbent and EUT transmissions ( $f_{c1} = f_{c2}$ )                                                                                                                                   |
| $BW_{Inc} < BW_{EUT} \leq 2BW_{Inc}$  | Once                                                         | Incumbent transmission is contained within $BW_{EUT}$                                                                                                                                        |
| $2BW_{Inc} < BW_{EUT} \leq 4BW_{Inc}$ | Twice. Incumbent transmission is contained within $BW_{EUT}$ | Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel                                                                  |
| $BW_{EUT} > 4BW_{Inc}$                | Three times                                                  | Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel |

where:

$BW_{EUT}$ : Transmission bandwidth of EUT signal

$BW_{Inc}$ : Transmission bandwidth of the simulated incumbent signal (10 MHz wide AWGN signal)

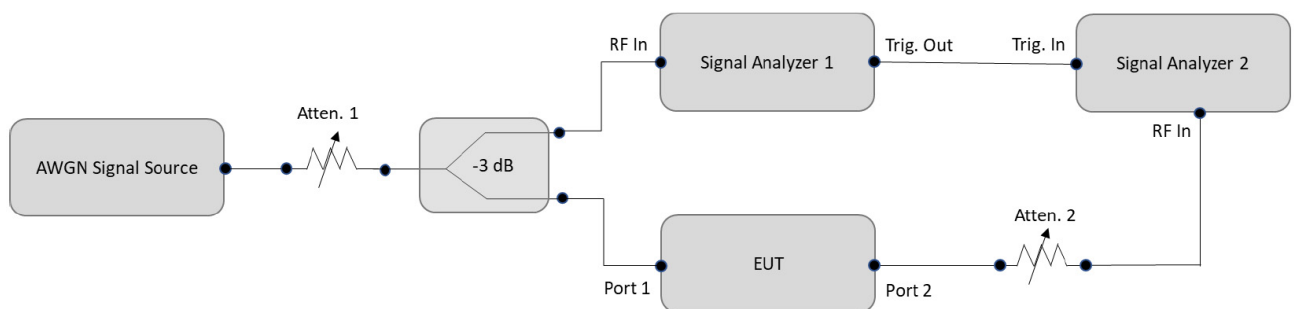
$f_{c1}$ : Center frequency of EUT transmission

$f_{c2}$ : Center frequency of simulated incumbent signal

## Test Procedure

Test Method: KDB 987594 D02 Clause I

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.
3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.  
Connect the output port of the EUT to the signal analyzer 2, as shown in Figure 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
6. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
10. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal and repeat the process.



**Figure 2. Contention-based protocol test setup, conducted method Step-by-Step Procedure, Conducted Setup**

Test Data

Environmental Conditions

|                    |          |
|--------------------|----------|
| Temperature:       | 26~28 °C |
| Relative Humidity: | 54~58 %  |
| ATM Pressure:      | 101 kPa  |

*The testing was performed by Navilite Cai from 2024-12-05 to 2024-12-13.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

**The test data please refer to the Appendix J.**

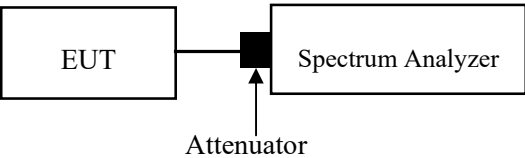
C63.10 §11.6- DUTY CYCLE

Test Procedure

According to ANSI C63.10-2013 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set  $RBW \geq OBW$  if possible; otherwise, set RBW to the largest available value.
- 3) Set  $VBW \geq RBW$ . Set detector = peak or average.
- 4) The zero-span measurement method shall not be used unless both RBW and VBW are  $> 50/T$  and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if  $T \leq 16.7 \mu s$ .)



Test Data

Environmental Conditions

|                    |          |
|--------------------|----------|
| Temperature:       | 26~28 °C |
| Relative Humidity: | 54~58 %  |
| ATM Pressure:      | 101 kPa  |

The testing was performed by Cheeb Huang from 2024-11-13 to 2024-11-14.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix I.

## **EUT PHOTOGRAPHS**

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Please refer to the attachment 2401W43894E-RF External photo and 2401W43894E-RF Internal photo.

## **TEST SETUP PHOTOGRAPHS**

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Please refer to the attachment 2401W43894E-RFB Test Setup photo.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***