



FCC ID: P4Q-N635A  
Report No.: T191105W01-RP4

IC: 2420C-N635A

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# RADIO TEST REPORT

## INDUSTRY CANADA RSS-247

|                          |                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard            | FCC Part 15.407<br>IC RSS-247 issue 2 and IC RSS-GEN issue 5                                                                                        |
| Product name             | Chiron pro                                                                                                                                          |
| Brand Name               | Mitac, Mio, Navman, Magellan                                                                                                                        |
| Model No.                | N635                                                                                                                                                |
| Test Result              | Pass                                                                                                                                                |
| Statements of Conformity | Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty. |

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory)

Approved by:

Tested by:

Kevin Tsai  
Deputy Manager

Dally Hong  
Engineer

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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### **Revision History**

| Rev. | Issue Date       | Revisions     | Effect Page | Revised By   |
|------|------------------|---------------|-------------|--------------|
| 00   | January 17, 2020 | Initial Issue | ALL         | Allison Chen |



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## 1. GENERAL INFORMATION

### 1.1 EUT INFORMATION

|                   |                                                                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC Applicant     | Mitac Digital Technology Corporation<br>No.200, Wen Hwa 2nd Rd.,Kuei Shan Dist. Taoyuan, 33383<br>Taiwan                                                             |
| IC Applicant      | MiTAC Digital Technology Corporation<br>No.200, Wenhua 2nd Rd., Guishan Dist. Taoyuan City 333<br>Taiwan                                                             |
| Manufacturer      | MITAC COMPUTER (KUNSHAN) CO., LTD.<br>No. 269, 2nd Avenue, District A, Comprehensive Free Trade<br>Zone, Kunshan, Jiangsu, P.R. China                                |
| Equipment         | Chiron pro                                                                                                                                                           |
| Model No.         | N635                                                                                                                                                                 |
| Model Discrepancy | Difference of the those trade names (list on this report) are just for<br>marketing purpose only.                                                                    |
| Trade Name        | Mitac, Mio, Navman, Magellan                                                                                                                                         |
| Received Date     | November 5, 2019                                                                                                                                                     |
| Date of Test      | November 25 ~ December 31, 2019                                                                                                                                      |
| Power Supply      | 1. Power from Rechargeable Li-ion Polymer Battery.<br>Rating: 3.7VDC, 4000mAh, 14.8Wh<br>2. Power from Adapter.<br>I/P: 100-240VAC, 50/60Hz, 0.5A<br>O/P: 5.0VDC, 2A |
| H/W Version       | R02                                                                                                                                                                  |
| S/W Version       | R15                                                                                                                                                                  |

|              |             |                          |                              |                         |                              |
|--------------|-------------|--------------------------|------------------------------|-------------------------|------------------------------|
| Output Power | <b>Band</b> | <b>Mode</b>              | <b>Frequency Range (MHz)</b> | <b>Output Power (W)</b> | <b>EIRP Output Power (W)</b> |
|              | U-NII-1     | IEEE 802.11a             | 5180 ~ 5240                  | 0.0169                  | 0.0225                       |
|              |             | IEEE 802.11n HT 20 MHz   | 5180 ~ 5240                  | 0.0171                  | 0.0228                       |
|              |             | IEEE 802.11n HT 40 MHz   | 5190 ~ 5230                  | 0.0176                  | 0.0234                       |
|              |             | IEEE 802.11ac VHT 80 MHz | 5210                         | 0.0200                  | 0.0267                       |
|              | U-NII-2a    | IEEE 802.11a             | 5260 ~ 5320                  | 0.0169                  | 0.0225                       |
|              |             | IEEE 802.11n HT 20 MHz   | 5260 ~ 5320                  | 0.0167                  | 0.0222                       |
|              |             | IEEE 802.11n HT 40 MHz   | 5270 ~ 5310                  | 0.0171                  | 0.0228                       |
|              |             | IEEE 802.11ac VHT 80 MHz | 5290                         | 0.0142                  | 0.0189                       |
|              | U-NII-2c    | IEEE 802.11a             | 5500 ~ 5700                  | 0.0136                  | 0.0181                       |
|              |             | IEEE 802.11n HT 20 MHz   | 5500 ~ 5700                  | 0.0137                  | 0.0183                       |
|              |             | IEEE 802.11n HT 40 MHz   | 5510 ~ 5670                  | 0.0135                  | 0.0180                       |
|              |             | IEEE 802.11ac VHT 80 MHz | 5530                         | 0.0108                  | 0.0144                       |
|              | U-NII-3     | IEEE 802.11a             | 5745 ~ 5825                  | 0.0158                  | 0.0211                       |
|              |             | IEEE 802.11n HT 20 MHz   | 5745 ~ 5825                  | 0.0159                  | 0.0212                       |
|              |             | IEEE 802.11n HT 40 MHz   | 5755 ~ 5795                  | 0.0155                  | 0.0207                       |
|              |             | IEEE 802.11ac VHT 80 MHz | 5775                         | 0.0120                  | 0.0160                       |

## 1.2 EUT CHANNEL INFORMATION

|                 |                                                                                                                                                      |                 |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Frequency Range | UNII-1                                                                                                                                               |                 |
|                 | IEEE 802.11a                                                                                                                                         | 5180 ~ 5240 MHz |
|                 | IEEE 802.11n HT 20 MHz                                                                                                                               | 5180 ~ 5240 MHz |
|                 | IEEE 802.11n HT 40 MHz                                                                                                                               | 5190 ~ 5230 MHz |
|                 | IEEE 802.11ac VHT 80 MHz                                                                                                                             | 5210 MHz        |
|                 | UNII-2a                                                                                                                                              |                 |
|                 | IEEE 802.11a                                                                                                                                         | 5260 ~ 5320 MHz |
|                 | IEEE 802.11n HT 20 MHz                                                                                                                               | 5260 ~ 5320 MHz |
|                 | IEEE 802.11n HT 40 MHz                                                                                                                               | 5270 ~ 5310 MHz |
|                 | IEEE 802.11ac VHT 80 MHz                                                                                                                             | 5290 MHz        |
|                 | UNII-2c                                                                                                                                              |                 |
|                 | IEEE 802.11a                                                                                                                                         | 5500 ~ 5700 MHz |
|                 | IEEE 802.11n HT 20 MHz                                                                                                                               | 5500 ~ 5700 MHz |
|                 | IEEE 802.11n HT 40 MHz                                                                                                                               | 5510 ~ 5670 MHz |
|                 | IEEE 802.11ac VHT 80 MHz                                                                                                                             | 5530 MHz        |
|                 | UNII-3                                                                                                                                               |                 |
|                 | IEEE 802.11a                                                                                                                                         | 5745 ~ 5825 MHz |
|                 | IEEE 802.11n HT 20 MHz                                                                                                                               | 5745 ~ 5825 MHz |
|                 | IEEE 802.11n HT 40 MHz                                                                                                                               | 5755 ~ 5795 MHz |
|                 | IEEE 802.11ac VHT 80 MHz                                                                                                                             | 5775 MHz        |
| Modulation Type | 1. IEEE 802.11a mode: OFDM<br>2. IEEE 802.11n HT 20 MHz mode: OFDM<br>3. IEEE 802.11n HT 40 MHz mode: OFDM<br>4. IEEE 802.11ac VHT 80 MHz mode: OFDM |                 |

### Remark:

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels

| Number of frequencies to be tested                   |                       |                                              |
|------------------------------------------------------|-----------------------|----------------------------------------------|
| Frequency range in which device operates             | Number of frequencies | Location in frequency range of operation     |
| <input type="checkbox"/> 1 MHz or less               | 1                     | Middle                                       |
| <input type="checkbox"/> 1 MHz to 10 MHz             | 2                     | 1 near top and 1 near bottom                 |
| <input checked="" type="checkbox"/> More than 10 MHz | 3                     | 1 near top, 1 near middle, and 1 near bottom |

### 1.3 ANTENNA INFORMATION

|                   |                                                                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Type      | <input type="checkbox"/> PIFA <input type="checkbox"/> PCB <input type="checkbox"/> Dipole <input type="checkbox"/> Coils <input checked="" type="checkbox"/> Integral |
| Antenna Gain      | Gain: 1.25 dBi                                                                                                                                                         |
| Antenna Connector | i-pex                                                                                                                                                                  |

### 1.4 MEASUREMENT UNCERTAINTY

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| AC Powerline Conducted Emission       | +/- 1.2575  |
| Emission bandwidth, 20dB bandwidth    | +/- 0.0014  |
| RF output power, conducted            | +/- 1.14    |
| Power density, conducted              | +/- 1.40    |
| 3M Semi Anechoic Chamber / 30M~200M   | +/- 4.12    |
| 3M Semi Anechoic Chamber / 200M~1000M | +/- 4.68    |
| 3M Semi Anechoic Chamber / 1G~8G      | +/- 5.18    |
| 3M Semi Anechoic Chamber / 8G~18G     | +/- 5.47    |
| 3M Semi Anechoic Chamber / 18G~26G    | +/- 3.81    |
| 3M Semi Anechoic Chamber / 26G~40G    | +/- 3.87    |

**Remark:**

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

### 1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

| Test site          | Test Engineer | Remark |
|--------------------|---------------|--------|
| AC Conduction Room | Dally Hong    | -      |
| Radiation          | Jerry Chang   | -      |
| RF Conducted       | Jane Wang     | -      |

**Remark:** The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.



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## 1.6 INSTRUMENT CALIBRATION

| RF Conducted Test Site |              |         |         |            |            |
|------------------------|--------------|---------|---------|------------|------------|
| Equipment              | Manufacturer | Model   | S/N     | Cal Date   | Cal Due    |
| Coaxial Cable          | Woken        | WC12    | CC003   | 06/28/2019 | 06/27/2020 |
| Power Meter            | Anritsu      | ML2495A | 1149001 | 02/12/2019 | 02/11/2020 |
| Power Seneor           | Anritsu      | MA2491A | 030982  | 02/12/2019 | 02/11/2020 |
| Signal Analyzer        | R&S          | FSV 40  | 101073  | 09/25/2019 | 09/24/2020 |
| Software               | N/A          |         |         |            |            |

| 3M 966 Chamber Test Site               |                  |                         |              |            |            |
|----------------------------------------|------------------|-------------------------|--------------|------------|------------|
| Equipment                              | Manufacturer     | Model                   | S/N          | Cal Date   | Cal Due    |
| Bilog Antenna                          | Sunol Sciences   | JB3                     | A030105      | 07/26/2019 | 07/25/2020 |
| Coaxial Cable                          | HUBER SUHNER     | SUCOFLEX<br>104PEA      | 20995        | 02/26/2019 | 02/25/2020 |
| Coaxial Cable                          | EMCI             | EMC105                  | 190914+25111 | 09/20/2019 | 09/19/2020 |
| Digital<br>Thermo-Hygro<br>Meter       | WISEWIND         | 1206                    | D07          | 01/30/2019 | 01/29/2020 |
| double Ridged<br>Guide Horn<br>Antenna | ETC              | MCTD 1209               | DRH13M02003  | 10/04/2019 | 10/03/2020 |
| High Pass Filters                      | MICRO TRONICS    | HPM13195                | 003          | 02/26/2019 | 02/25/2020 |
| Horn Antenna                           | ETS LINDGREN     | 3116                    | 00026370     | 12/26/2018 | 12/25/2019 |
| Loop Ant                               | COM-POWER        | AL-130                  | 121051       | 03/22/2019 | 03/21/2020 |
| Pre-Amplifier                          | EMEC             | EM330                   | 060609       | 02/26/2019 | 02/25/2020 |
| Pre-Amplifier                          | HP               | 8449B                   | 3008A00965   | 02/26/2019 | 02/25/2020 |
| Pre-Amplifier                          | MITEQ            | AMF-6F-260400-<br>40-8P | 985646       | 02/26/2019 | 02/25/2020 |
| PSA Series<br>Spectrum Analyzer        | Agilent          | E4446A                  | MY46180323   | 05/29/2019 | 05/28/2020 |
| Antenna Tower                          | CCS              | CC-A-1F                 | N/A          | N.C.R      | N.C.R      |
| Controller                             | CCS              | CC-C-1F                 | N/A          | N.C.R      | N.C.R      |
| Turn Table                             | CCS              | CC-T-1F                 | N/A          | N.C.R      | N.C.R      |
| Software                               | e3 6.11-20180413 |                         |              |            |            |

**Remark:**

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Request.



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| AC line Conduction Test Room |                    |           |          |            |            |
|------------------------------|--------------------|-----------|----------|------------|------------|
| Equipment                    | Manufacturer       | Model     | S/N      | Cal Date   | Cal Due    |
| CABLE                        | EMCI               | CFD300-NL | CERF     | 06/27/2019 | 06/26/2020 |
| EMI Test Receiver            | R&S                | ESCI      | 100064   | 07/26/2019 | 07/25/2020 |
| LISN                         | SCHWARZBECK        | NSLK 8127 | 8127-541 | 01/31/2019 | 01/30/2020 |
| LISN                         | SCHAFFNER          | NNB 41    | 03/10013 | 02/13/2019 | 02/12/2020 |
| Software                     | EZ-EMC(CCS-3A1-CE) |           |          |            |            |

| DFS Test                |                                                         |            |           |            |            |
|-------------------------|---------------------------------------------------------|------------|-----------|------------|------------|
| Equipment               | Manufacturer                                            | Model      | S/N       | Cal Date   | Cal Due    |
| Attenuator              | E-INSTRUMENT                                            | EPA-600H   | EC1400050 | 07/26/2019 | 07/25/2020 |
| Coaxial Cable           | Woken                                                   | WC12       | DC004     | 06/28/2019 | 06/27/2020 |
| Power Divider           | Solvang Technology                                      | STI08-0015 | 008       | 08/06/2019 | 08/05/2020 |
| Spectrum Analyzer       | R&S                                                     | FSU 26     | 100258    | 06/20/2019 | 06/19/2020 |
| Vector Signal Generator | R&S                                                     | SMU 200A   | 101480    | 03/27/2019 | 03/26/2020 |
| Software                | GPIBShot,DFS-Aggregate-Time FSU,R&S Pulse Sequencer DFS |            |           |            |            |

**Remark:**

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Request.

## 1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

| EUT Accessories Equipment |           |       |       |            |        |       |
|---------------------------|-----------|-------|-------|------------|--------|-------|
| No.                       | Equipment | Brand | Model | Series No. | FCC ID | IC ID |
|                           | N/A       |       |       |            |        |       |

| Support Equipment |           |         |               |            |          |             |
|-------------------|-----------|---------|---------------|------------|----------|-------------|
| No.               | Equipment | Brand   | Model         | Series No. | FCC ID   | IC ID       |
| 1                 | NB(J)     | TOSHIBA | PT345T-00L002 | N/A        | PD97260H | 1000M-7260H |

## 1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02, KDB 905462 D02, RSS-247 Issue 2 and RSS-GEN Issue 5.



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## 2. TEST SUMMARY

| FCC Standard Sec. | IC Standard Sec.                                                             | Chapter | Test Item                   | Result |
|-------------------|------------------------------------------------------------------------------|---------|-----------------------------|--------|
| 15.203            | -                                                                            | 1.3     | Antenna Requirement         | Pass   |
| 15.207            | RSS-Gen(8.8)                                                                 | 4.1     | AC Conducted Emission       | Pass   |
| 15.403(i)         | -                                                                            | 4.2     | 26dB Bandwidth              | Pass   |
| 15.407(e)         | RSS-247(6.2.4)                                                               | 4.2     | 6dB Bandwidth               | Pass   |
| 15.403(i)         | RSS-Gen (6.7)                                                                | 4.2     | Occupied Bandwidth (99%)    | Pass   |
| 15.407(a)         | RSS-247(6.2.1.1)<br>RSS-247(6.2.2.1)<br>RSS-247(6.2.3.1)<br>RSS-247(6.2.4.1) | 4.3     | Output Power Measurement    | Pass   |
| 15.407(a)         | RSS-247(6.2.1.1)<br>RSS-247(6.2.2.1)<br>RSS-247(6.2.3.1)<br>RSS-247(6.2.4.1) | 4.4     | Power Spectral Density      | Pass   |
| 15.407(b)         | RSS-247(6.2.1.2)<br>RSS-247(6.2.2.2)<br>RSS-247(6.2.3.2)<br>RSS-247(6.2.4.2) | 4.5     | Radiation Band Edge         | Pass   |
| 15.407(b)         | RSS-247(6.2.1.2)<br>RSS-247(6.2.2.2)<br>RSS-247(6.2.3.2)<br>RSS-247(6.2.4.2) | 4.5     | Radiation Spurious Emission | Pass   |
| 15.407(g)         | RSS-Gen(6.11)                                                                | 4.6     | Frequency Stability         | Pass   |
| 15.407(h)         | -                                                                            | 4.7     | Dynamic Frequency Selection | Pass   |

### 3. DESCRIPTION OF TEST MODES

#### 3.1 THE WORST MODE OF OPERATING CONDITION

|                                                |                                                                                                                                                       |                          |                       |                    |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|--------------------|
| Operation mode                                 | 1. IEEE 802.11a mode: 6Mbps<br>2. IEEE 802.11n HT 20 MHz mode: MCS0<br>3. IEEE 802.11n HT 40 MHz mode: MCS0<br>4. IEEE 802.11ac VHT 80 MHz mode: MCS0 |                          |                       |                    |
| Operating Frequency Range & Number of Channels |                                                                                                                                                       | Mode                     | Frequency Range (MHz) | Number of Channels |
|                                                | U-NII-1                                                                                                                                               | IEEE 802.11a             | 5180 ~ 5240           | 4 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 20 MHz   | 5180 ~ 5240           | 4 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 40 MHz   | 5190 ~ 5230           | 2 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11ac VHT 80 MHz | 5210                  | 1 Channels         |
|                                                | U-NII-2a                                                                                                                                              | IEEE 802.11a             | 5260 ~ 5320           | 4 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 20 MHz   | 5260 ~ 5320           | 4 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 40 MHz   | 5270 ~ 5310           | 2 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11ac VHT 80 MHz | 5290                  | 1 Channels         |
|                                                | U-NII-2c                                                                                                                                              | IEEE 802.11a             | 5500 ~ 5700           | 8 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 20 MHz   | 5500 ~ 5700           | 8 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 40 MHz   | 5510 ~ 5670           | 3 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11ac VHT 80 MHz | 5530                  | 1 Channels         |
|                                                | U-NII-3                                                                                                                                               | IEEE 802.11a             | 5745 ~ 5825           | 5 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 20 MHz   | 5745 ~ 5825           | 5 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11n HT 40 MHz   | 5755 ~ 5795           | 2 Channels         |
|                                                |                                                                                                                                                       | IEEE 802.11ac VHT 80 MHz | 5775                  | 1 Channels         |

**Remark:**

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. Covered modes are test reduction modes. The output powers on the covered modes are equal to or less than the mode referenced and use the same module
3. For Canada the EUT Frequency Range 5600~5650MHz will be disabled.

### 3.2 THE WORST MODE OF MEASUREMENT

| AC Power Line Conducted Emission |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                   | AC Power line conducted emission for line and neutral                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Power supply Mode                | Mode1: EUT Power by Battery (DC 3V)<br>Mode 2: EUT power by adapter + Type C USB<br>Mode3: EUT Power by Type C USB+ CarCharge (DC12V)<br>Mode4: EUT Power by Cradle(N564)+Micro USB+Adapter<br>Mode5: EUT Power by Cradle(N564)+Micro USB+ CarCharge (DC12V)<br>Mode6: EUT Power by Cradle(N564) + Cable(DC 12V)<br>Mode7: EUT Power by Cradle(N564_TN)+Micro USB+Adapter<br>Mode8: EUT Power by Cradle(N564_TN)+Micro USB+ CarCharge (DC12V)<br>Mode9: EUT Power by Cradle(N564_TN) + Cable(DC 12V)<br>Mode10: EUT Power by Cradle(N635_V)+Micro USB+Adapter<br>Mode11: EUT Power by Cradle(N635_V)+Micro USB+ CarCharge (DC12V)<br>Mode12: EUT Power by Cradle(N635_V) + Cable(DC 12V)<br>Mode13: EUT Power by Cradle(N635_VL)+Micro USB+Adapter<br>Mode14: EUT Power by Cradle(N635_VL)+Micro USB+ CarCharge (DC12V)<br>Mode15: EUT Power by Cradle(N635_VL) + Cable(DC 12V)<br>Mode16: EUT Power by Cradle(N635_VHG) + Cable(DC 12V) |
| Worst Mode                       | <input type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input checked="" type="checkbox"/> Mode 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Radiated Emission Measurement Above 1G |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                         | Radiated Emission Above 1G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Power supply Mode                      | Mode1: EUT Power by Battery (DC 3V)<br>Mode2: EUT Power by Adapter + Type C USB<br>Mode3: EUT Power by Type C USB+ CarCharge (DC12V)<br>Mode4: EUT Power by Cradle(N564)+Micro USB+Adapter<br>Mode5: EUT Power by Cradle(N564)+Micro USB+ CarCharge (DC12V)<br>Mode6: EUT Power by Cradle(N564) + Cable(DC 12V)<br>Mode7: EUT Power by Cradle(N564_TN)+Micro USB+Adapter<br>Mode8: EUT Power by Cradle(N564_TN)+Micro USB+ CarCharge (DC12V)<br>Mode9: EUT Power by Cradle(N564_TN) + Cable(DC 12V)<br>Mode10: EUT Power by Cradle(N635_V)+Micro USB+Adapter<br>Mode11: EUT Power by Cradle(N635_V)+Micro USB+ CarCharge (DC12V)<br>Mode12: EUT Power by Cradle(N635_V) + Cable(DC 12V)<br>Mode13: EUT Power by Cradle(N635_VL)+Micro USB+Adapter<br>Mode14: EUT Power by Cradle(N635_VL)+Micro USB+ CarCharge (DC12V)<br>Mode15: EUT Power by Cradle(N635_VL) + Cable(DC 12V)<br>Mode16: EUT Power by Cradle(N635_VHG) + Cable(DC 12V) |
| Worst Mode                             | <input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Worst Position                         | <input type="checkbox"/> Placed in fixed position.<br><input type="checkbox"/> Placed in fixed position at X-Plane (E2-Plane)<br><input type="checkbox"/> Placed in fixed position at Y-Plane (E1-Plane)<br><input checked="" type="checkbox"/> Placed in fixed position at Z-Plane (H-Plane)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

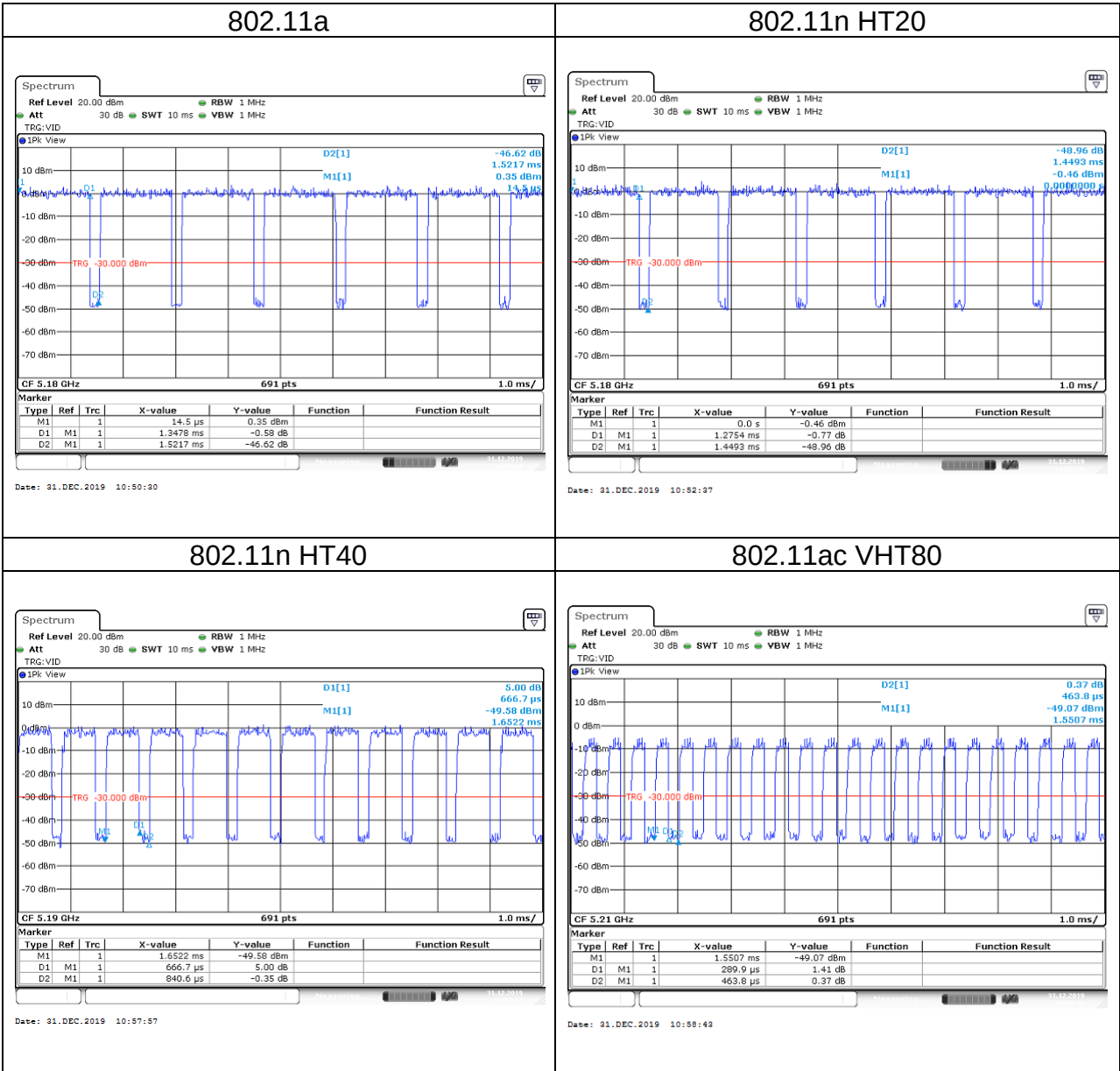
| Radiated Emission Measurement Below 1G |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                         | Radiated Emission Below 1G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Power supply Mode                      | Mode1: EUT Power by Battery (DC 3V)<br>Mode2: EUT Power by Adapter + Type C USB<br>Mode3: EUT Power by Type C USB+ CarCharge (DC12V)<br>Mode4: EUT Power by Cradle(N564)+Micro USB+Adapter<br>Mode5: EUT Power by Cradle(N564)+Micro USB+ CarCharge (DC12V)<br>Mode6: EUT Power by Cradle(N564) + Cable(DC 12V)<br>Mode7: EUT Power by Cradle(N564_TN)+Micro USB+Adapter<br>Mode8: EUT Power by Cradle(N564_TN)+Micro USB+ CarCharge (DC12V)<br>Mode9: EUT Power by Cradle(N564_TN) + Cable(DC 12V)<br>Mode10: EUT Power by Cradle(N635_V)+Micro USB+Adapter<br>Mode11: EUT Power by Cradle(N635_V)+Micro USB+ CarCharge (DC12V)<br>Mode12: EUT Power by Cradle(N635_V) + Cable(DC 12V)<br>Mode13: EUT Power by Cradle(N635_VL)+Micro USB+Adapter<br>Mode14: EUT Power by Cradle(N635_VL)+Micro USB+ CarCharge (DC12V)<br>Mode15: EUT Power by Cradle(N635_VL) + Cable(DC 12V)<br>Mode16: EUT Power by Cradle(N635_VHG) + Cable(DC 12V) |
| Worst Mode                             | <input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Remark:**

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(Z-Plane) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

3.3 EUT DUTY CYCLE

| Duty Cycle     |                |                                            |           |                   |
|----------------|----------------|--------------------------------------------|-----------|-------------------|
| Configuration  | Duty Cycle (%) | Duty Factor (dB)<br>=10*log (1/Duty Cycle) | 1/T (kHz) | VBW setting (kHz) |
| 802.11a        | 88.57%         | 0.53                                       | 0.74      | 1.00              |
| 802.11n HT20   | 88.00%         | 0.56                                       | 0.78      | 1.00              |
| 802.11n HT40   | 85.31%         | 0.69                                       | 1.50      | 2.00              |
| 802.11ac VHT80 | 62.51%         | 2.04                                       | 3.45      | 4.00              |



## 4. TEST RESULT

### 4.1 AC POWER LINE CONDUCTED EMISSION

#### 4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

| Frequency Range<br>(MHz) | Limits(dB $\mu$ V) |           |
|--------------------------|--------------------|-----------|
|                          | Quasi-peak         | Average   |
| 0.15 to 0.50             | 66 to 56*          | 56 to 46* |
| 0.50 to 5                | 56                 | 46        |
| 5 to 30                  | 60                 | 50        |

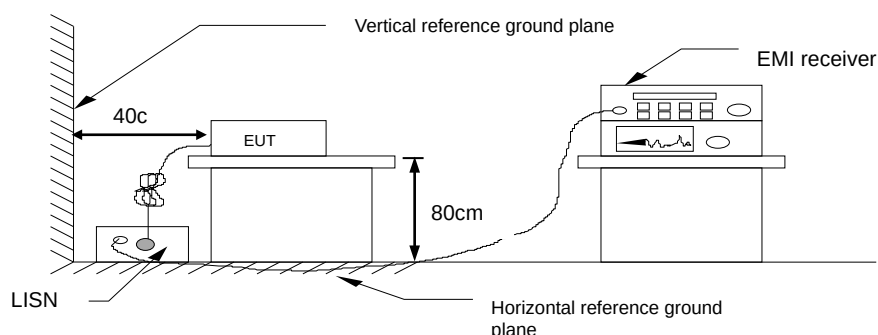
\* Decreases with the logarithm of the frequency.

#### 4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

#### 4.1.3 Test Setup

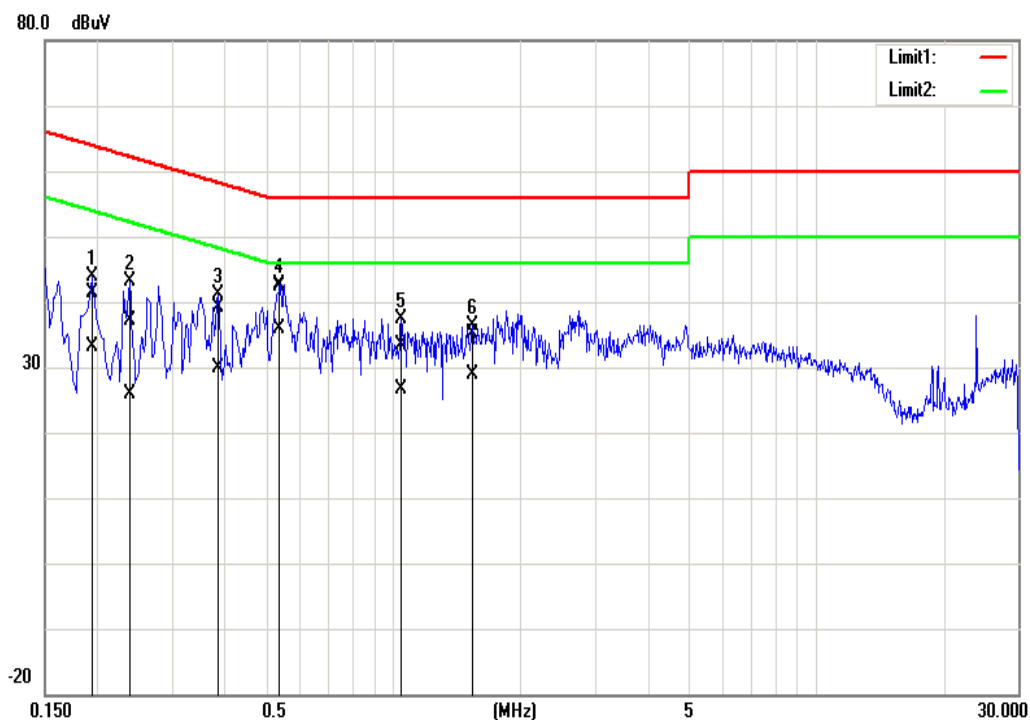


#### 4.1.4 Test Result

Pass.

## Test Data

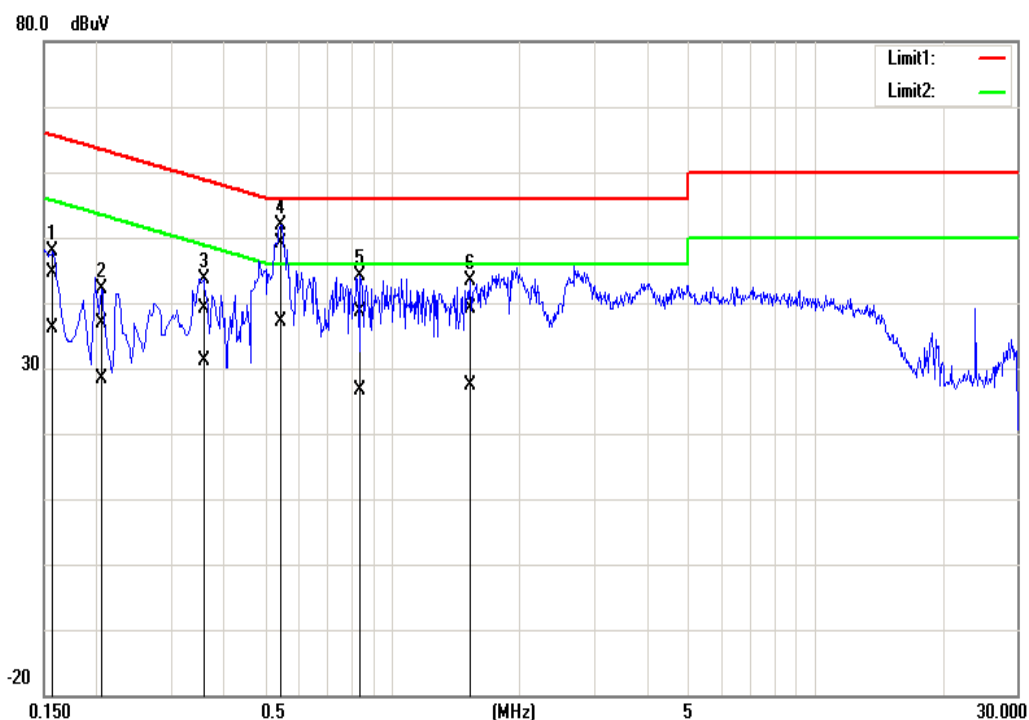
|            |        |               |               |
|------------|--------|---------------|---------------|
| Test Mode: | Mode 4 | Temp/Hum      | 24(°C)/ 50%RH |
| Phase:     | Line   | Test Date     | 2019/11/25    |
|            |        | Test Engineer | Dally Hong    |



| Frequency (MHz) | Quasi Peak reading (dBuV) | Average reading (dBuV) | Correction factor (dB) | Quasi Peak result (dBuV) | Average result (dBuV) | Quasi Peak limit (dBuV) | Average limit (dBuV) | Quasi Peak margin (dB) | Average margin (dB) | Remark |
|-----------------|---------------------------|------------------------|------------------------|--------------------------|-----------------------|-------------------------|----------------------|------------------------|---------------------|--------|
| 0.1940          | 31.16                     | 23.05                  | 10.13                  | 41.29                    | 33.18                 | 63.86                   | 53.86                | -22.57                 | -20.68              | Pass   |
| 0.2380          | 26.89                     | 15.69                  | 10.13                  | 37.02                    | 25.82                 | 62.17                   | 52.17                | -25.15                 | -26.35              | Pass   |
| 0.3860          | 29.02                     | 19.84                  | 10.14                  | 39.16                    | 29.98                 | 58.15                   | 48.15                | -18.99                 | -18.17              | Pass   |
| 0.5380          | 32.14                     | 25.66                  | 10.14                  | 42.28                    | 35.80                 | 56.00                   | 46.00                | -13.72                 | -10.20              | Pass   |
| 1.0460          | 23.27                     | 16.34                  | 10.17                  | 33.44                    | 26.51                 | 56.00                   | 46.00                | -22.56                 | -19.49              | Pass   |
| 1.5420          | 24.85                     | 18.81                  | 10.19                  | 35.04                    | 29.00                 | 56.00                   | 46.00                | -20.96                 | -17.00              | Pass   |



|            |         |               |               |
|------------|---------|---------------|---------------|
| Test Mode: | Mode 4  | Temp/Hum      | 24(°C)/ 50%RH |
| Phase:     | Neutral | Test Date     | 2019/11/25    |
|            |         | Test Engineer | Dally Hong    |



| Frequency (MHz) | Quasi Peak reading (dBuV) | Average reading (dBuV) | Correction factor (dB) | Quasi Peak result (dBuV) | Average result (dBuV) | Quasi Peak limit (dBuV) | Average limit (dBuV) | Quasi Peak margin (dB) | Average margin (dB) | Remark |
|-----------------|---------------------------|------------------------|------------------------|--------------------------|-----------------------|-------------------------|----------------------|------------------------|---------------------|--------|
| 0.1580          | 34.51                     | 26.01                  | 10.02                  | 44.53                    | 36.03                 | 65.57                   | 55.57                | -21.04                 | -19.54              | Pass   |
| 0.2060          | 26.92                     | 18.45                  | 10.02                  | 36.94                    | 28.47                 | 63.37                   | 53.37                | -26.43                 | -24.90              | Pass   |
| 0.3580          | 29.11                     | 21.09                  | 10.03                  | 39.14                    | 31.12                 | 58.77                   | 48.77                | -19.63                 | -17.65              | Pass   |
| 0.5460          | 39.02                     | 27.22                  | 10.03                  | 49.05                    | 37.25                 | 56.00                   | 46.00                | -6.95                  | -8.75               | Pass   |
| 0.8420          | 28.62                     | 16.71                  | 10.04                  | 38.66                    | 26.75                 | 56.00                   | 46.00                | -17.34                 | -19.25              | Pass   |
| 1.5300          | 28.95                     | 17.37                  | 10.06                  | 39.01                    | 27.43                 | 56.00                   | 46.00                | -16.99                 | -18.57              | Pass   |

## 4.2 26dB BANDWIDTH, 6dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

### 4.2.1 Test Limit

**26 dB Bandwidth** : For reporting purposes only.

**6 dB Bandwidth** : At least 500kHz.

**Occupied Bandwidth(99%)** : For reporting purposes only.

### 4.2.2 Test Procedure

#### 26dB

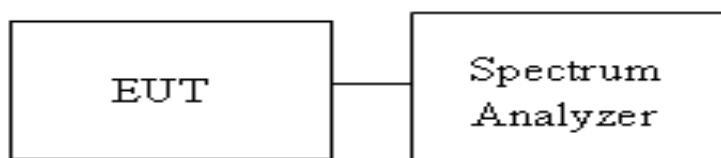
1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW: approximately 1% of the emission bandwidth.
3. Set the VBW>RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with the RBW setting of the analyser. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### 6dB

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

**99%**

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5% of the OBW.
5. Set VBW  $\geq 3 \times$  RBW

**4.2.3 Test Setup**

## 4.2.4 Test Result

| UNII-1 5150-5250 MHz                |                 |                |               |
|-------------------------------------|-----------------|----------------|---------------|
| Test mode: IEEE 802.11a mode        |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5180            | 22.2141        | 38.3333       |
| Mid                                 | 5220            | 19.2474        | 40.0000       |
| High                                | 5240            | 19.6092        | 39.2029       |
| Test mode: IEEE 802.11n HT20 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5180            | 22.0694        | 43.5507       |
| Mid                                 | 5220            | 21.4905        | 43.9855       |
| High                                | 5240            | 21.0564        | 40.0725       |
| Test mode: IEEE 802.11n HT40 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5190            | 36.7004        | 65.8550       |
| High                                | 5230            | 36.4688        | 59.7100       |
| Test mode: IEEE 802.11ac VHT80 mode |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Mid                                 | 5210            | 75.7163        | 128.696       |



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| UNII-2a 5250-5350 MHz               |                 |                |               |
|-------------------------------------|-----------------|----------------|---------------|
| Test mode: IEEE 802.11a mode        |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5260            | 19.8263        | 40.5797       |
| Mid                                 | 5280            | 19.3921        | 40.5072       |
| High                                | 5320            | 18.6685        | 39.2754       |
| Test mode: IEEE 802.11n HT20 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5260            | 20.9117        | 43.9855       |
| Mid                                 | 5280            | 20.9840        | 43.7681       |
| High                                | 5320            | 19.6816        | 41.3043       |
| Test mode: IEEE 802.11n HT40 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5270            | 36.4688        | 62.493        |
| High                                | 5310            | 36.4688        | 61.217        |
| Test mode: IEEE 802.11ac VHT80 mode |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Mid                                 | 5290            | 75.4848        | 128.696       |



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| UNII-2c 5475-5725 MHz               |                 |                |               |
|-------------------------------------|-----------------|----------------|---------------|
| Test mode: IEEE 802.11a mode        |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5500            | 19.6092        | 40.3623       |
| Mid                                 | 5580            | 21.8523        | 41.1594       |
| High                                | 5700            | 18.3068        | 39.058        |
| Test mode: IEEE 802.11n HT20 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5500            | 21.6353        | 41.7391       |
| Mid                                 | 5580            | 23.3719        | 41.3768       |
| High                                | 5700            | 18.8856        | 40.7971       |
| Test mode: IEEE 802.11n HT40 mode   |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Low                                 | 5510            | 36.8162        | 73.623        |
| Mid                                 | 5550            | 36.5846        | 71.768        |
| High                                | 5670            | 36.9319        | 78.377        |
| Test mode: IEEE 802.11ac VHT80 mode |                 |                |               |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 26dB BW (MHz) |
| Mid                                 | 5530            | 75.9479        | 132.174       |



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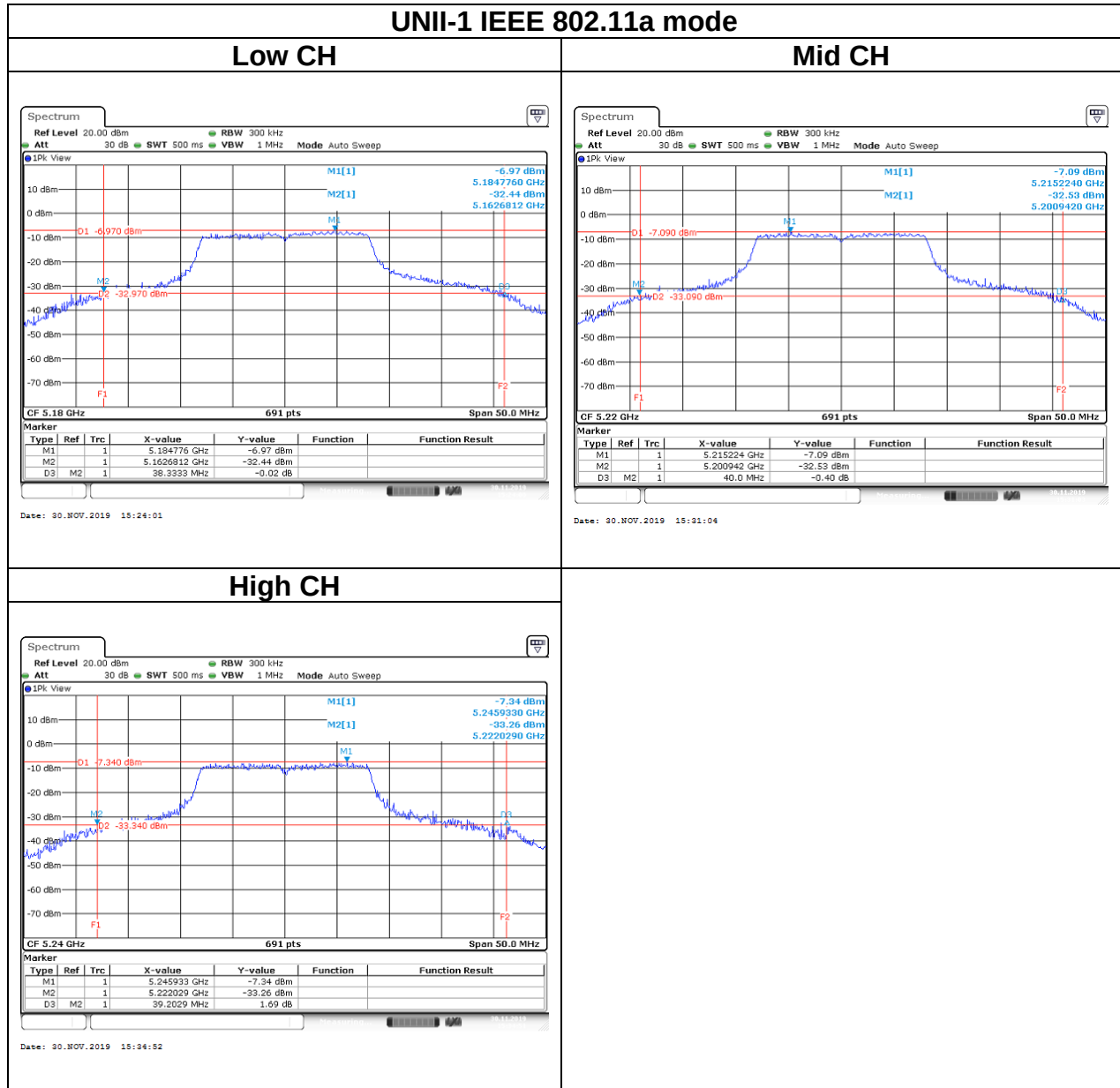
| UNII-3 5725-5825MHz                 |                 |                |              |
|-------------------------------------|-----------------|----------------|--------------|
| Test mode: IEEE 802.11a mode        |                 |                |              |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 6dB BW (MHz) |
| Low                                 | 5745            | 18.1620        | 16.3478      |
| Mid                                 | 5785            | 18.1620        | 16.3478      |
| High                                | 5825            | 18.0897        | 16.3478      |
| Test mode: IEEE 802.11n HT20 mode   |                 |                |              |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 6dB BW (MHz) |
| Low                                 | 5745            | 19.0303        | 17.5652      |
| Mid                                 | 5785            | 18.9580        | 17.5652      |
| High                                | 5825            | 18.6685        | 17.5652      |
| Test mode: IEEE 802.11n HT40 mode   |                 |                |              |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 6dB BW (MHz) |
| Low                                 | 5755            | 36.7004        | 35.246       |
| High                                | 5795            | 36.5846        | 35.246       |
| Test mode: IEEE 802.11ac VHT80 mode |                 |                |              |
| Channel                             | Frequency (MHz) | OBW(99%) (MHz) | 6dB BW (MHz) |
| Mid                                 | 5775            | 75.9479        | 73.739       |



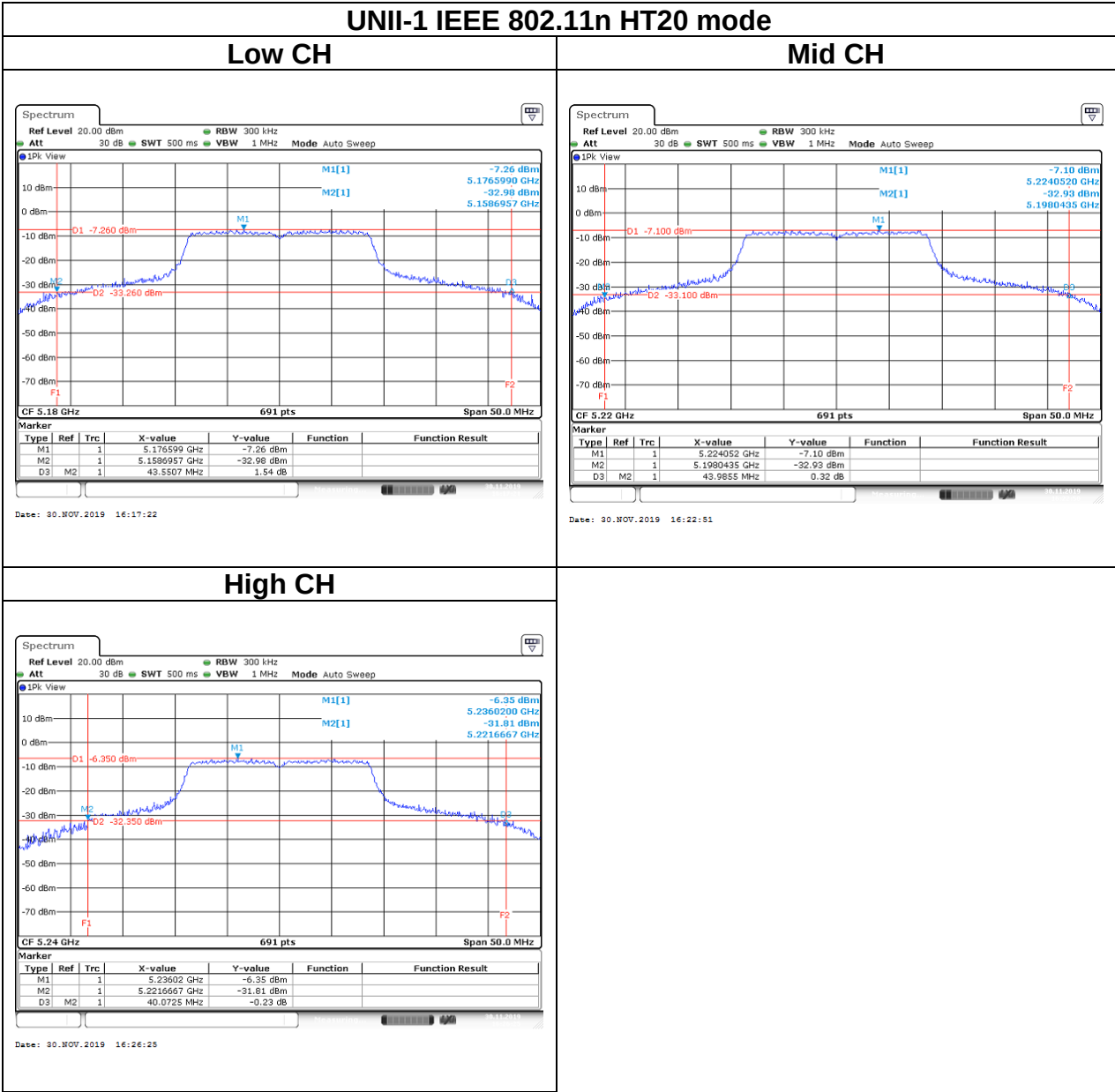
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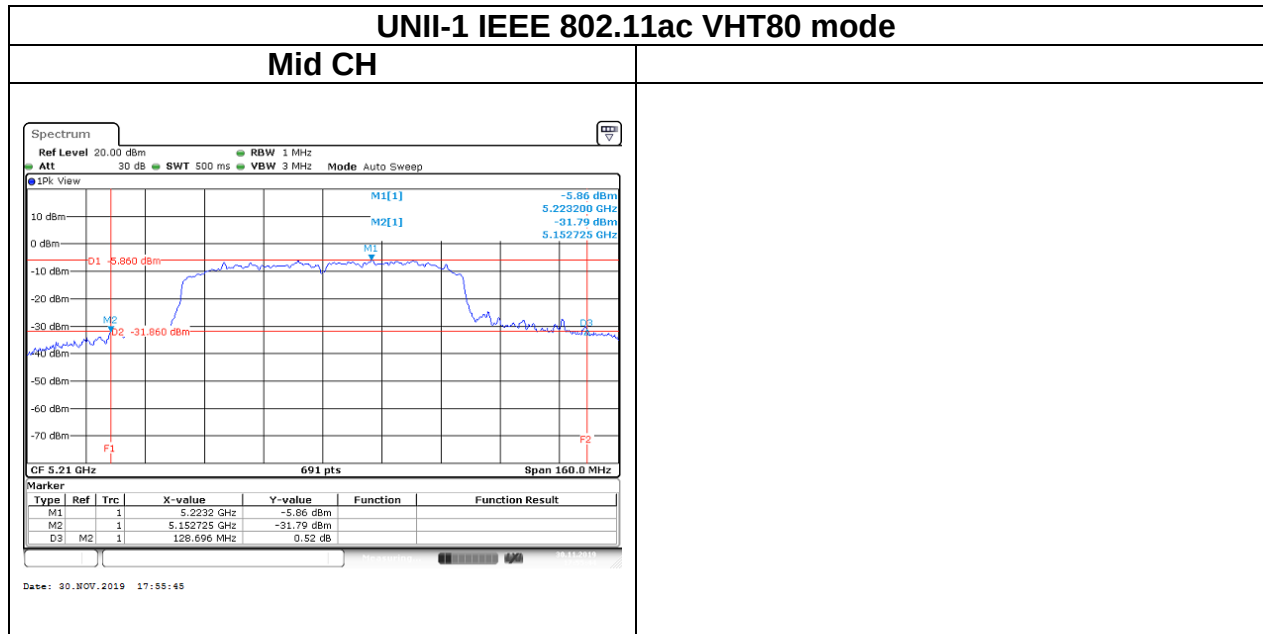
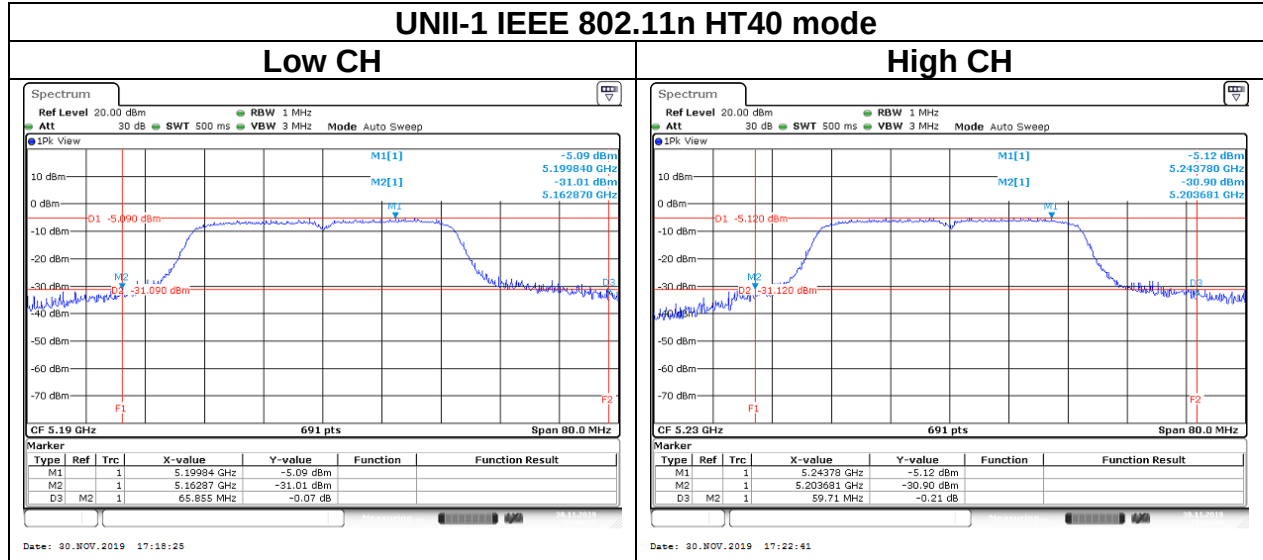
## Test Data

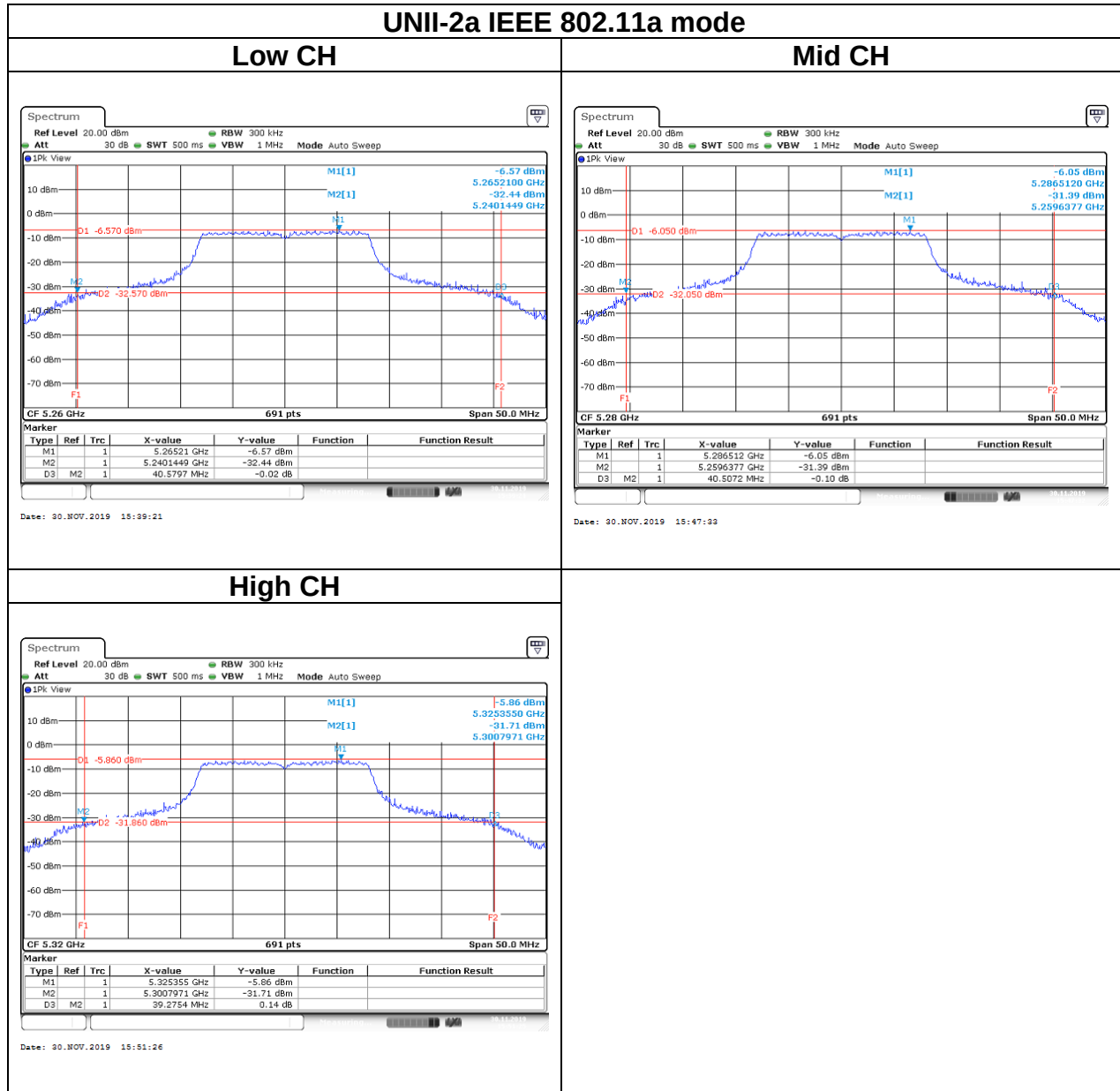
### 26dB







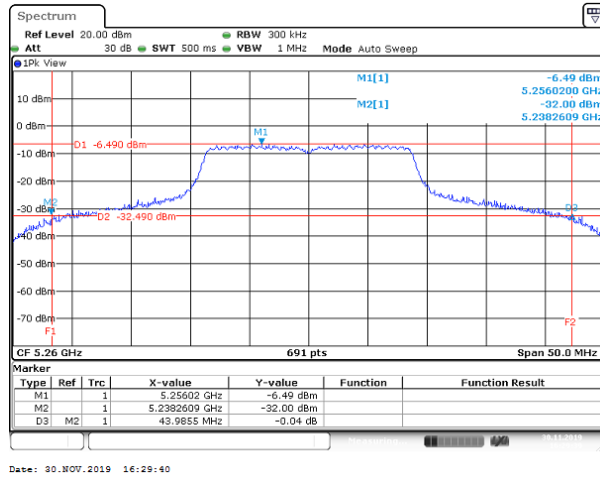




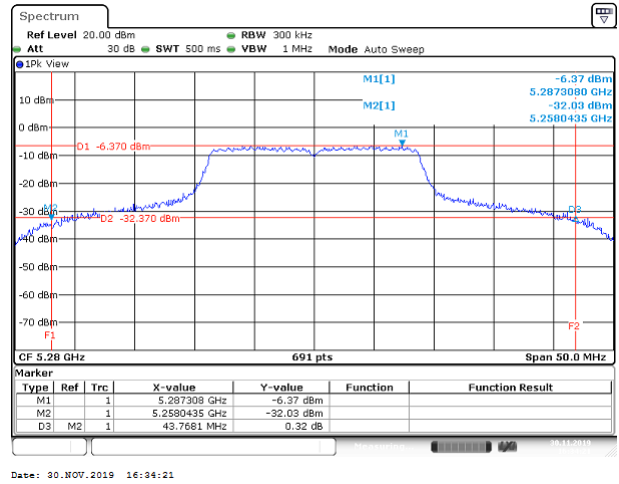
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## UNII-2a IEEE 802.11n HT20 mode

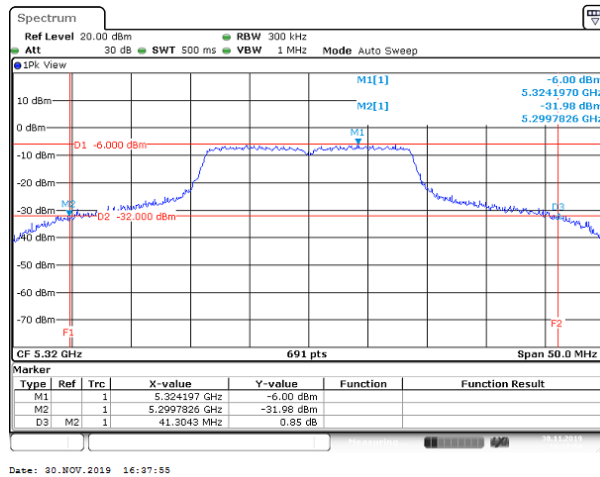
### Low CH



### Mid CH



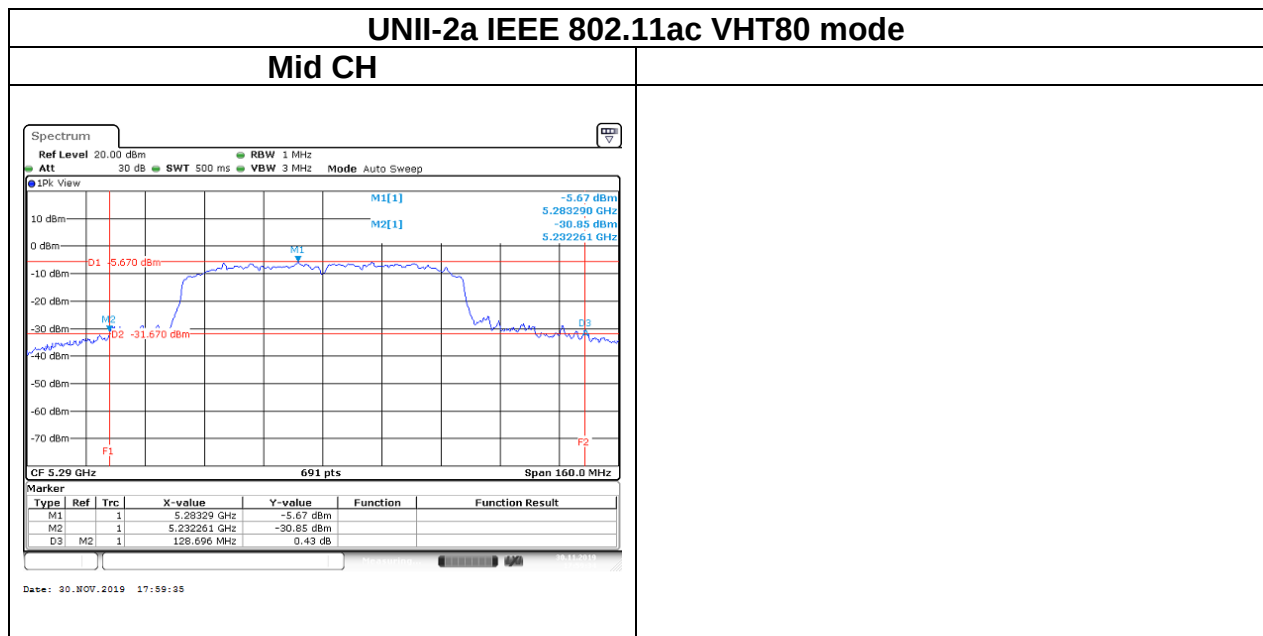
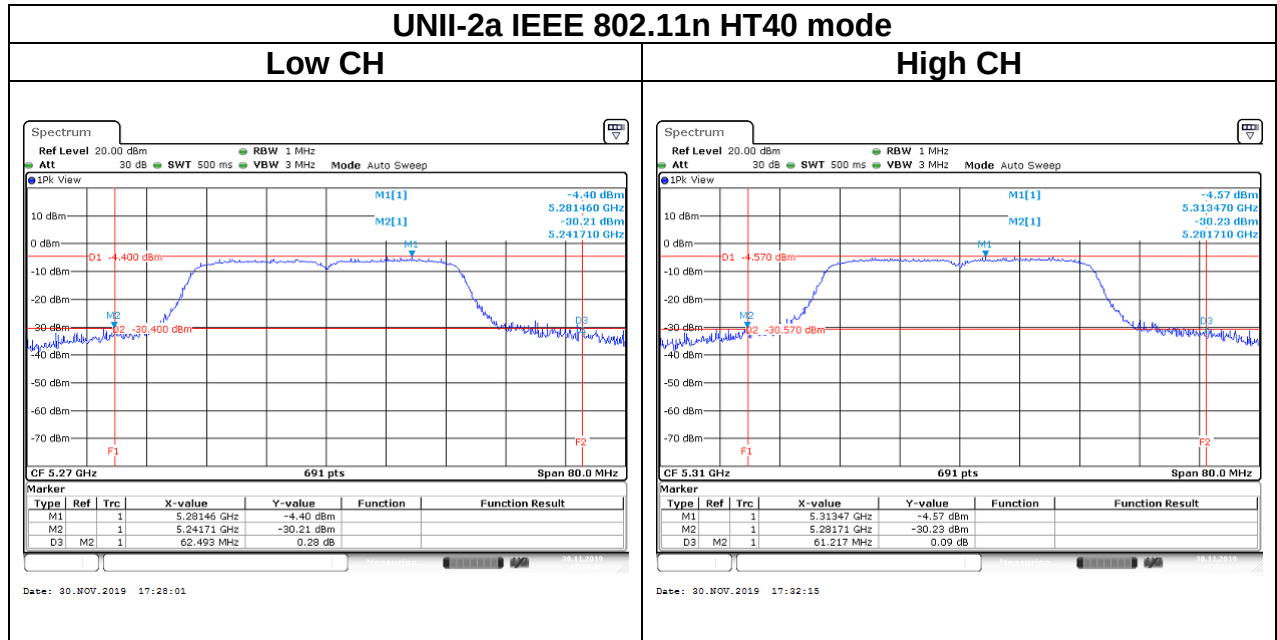
### High CH

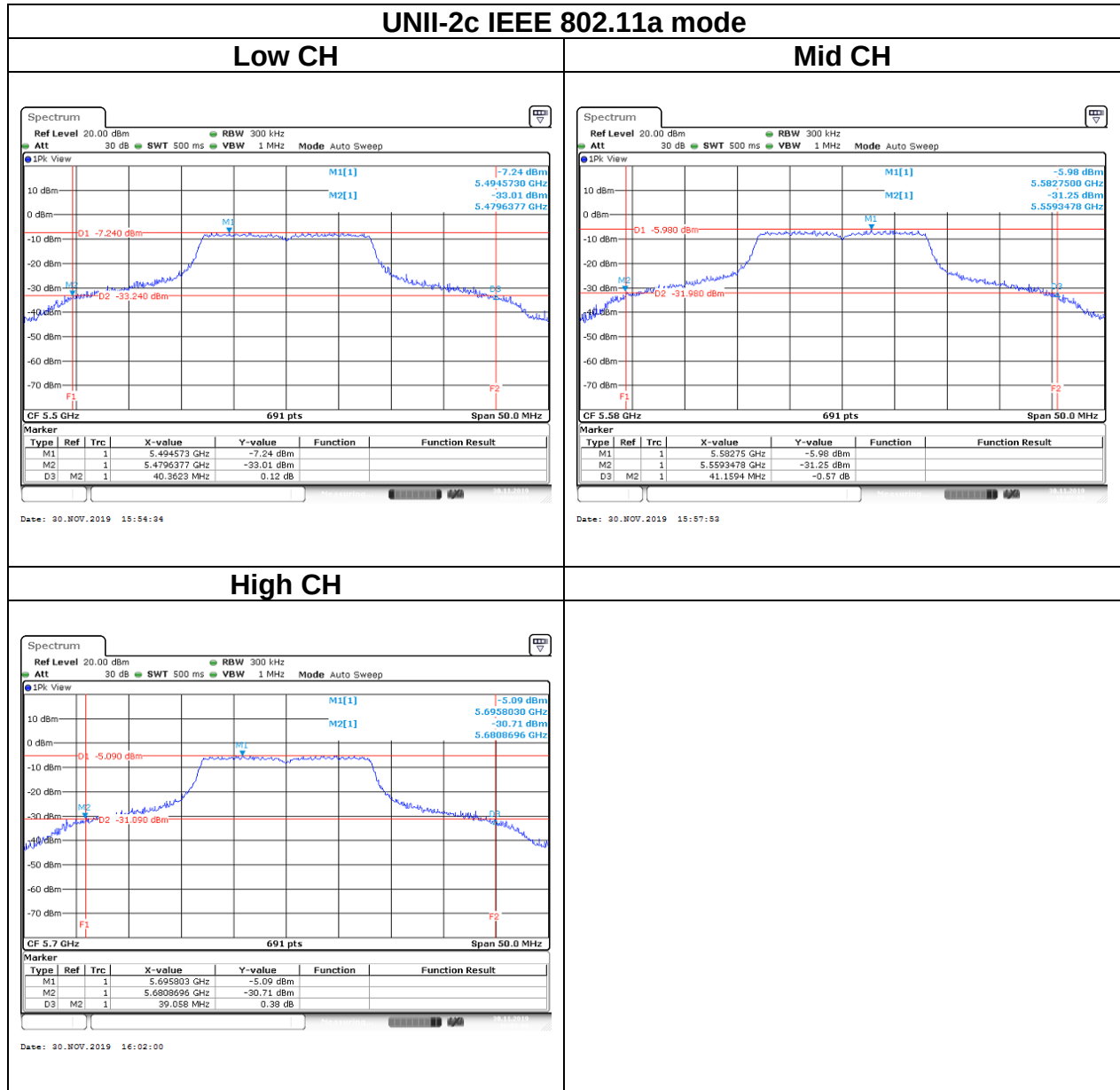




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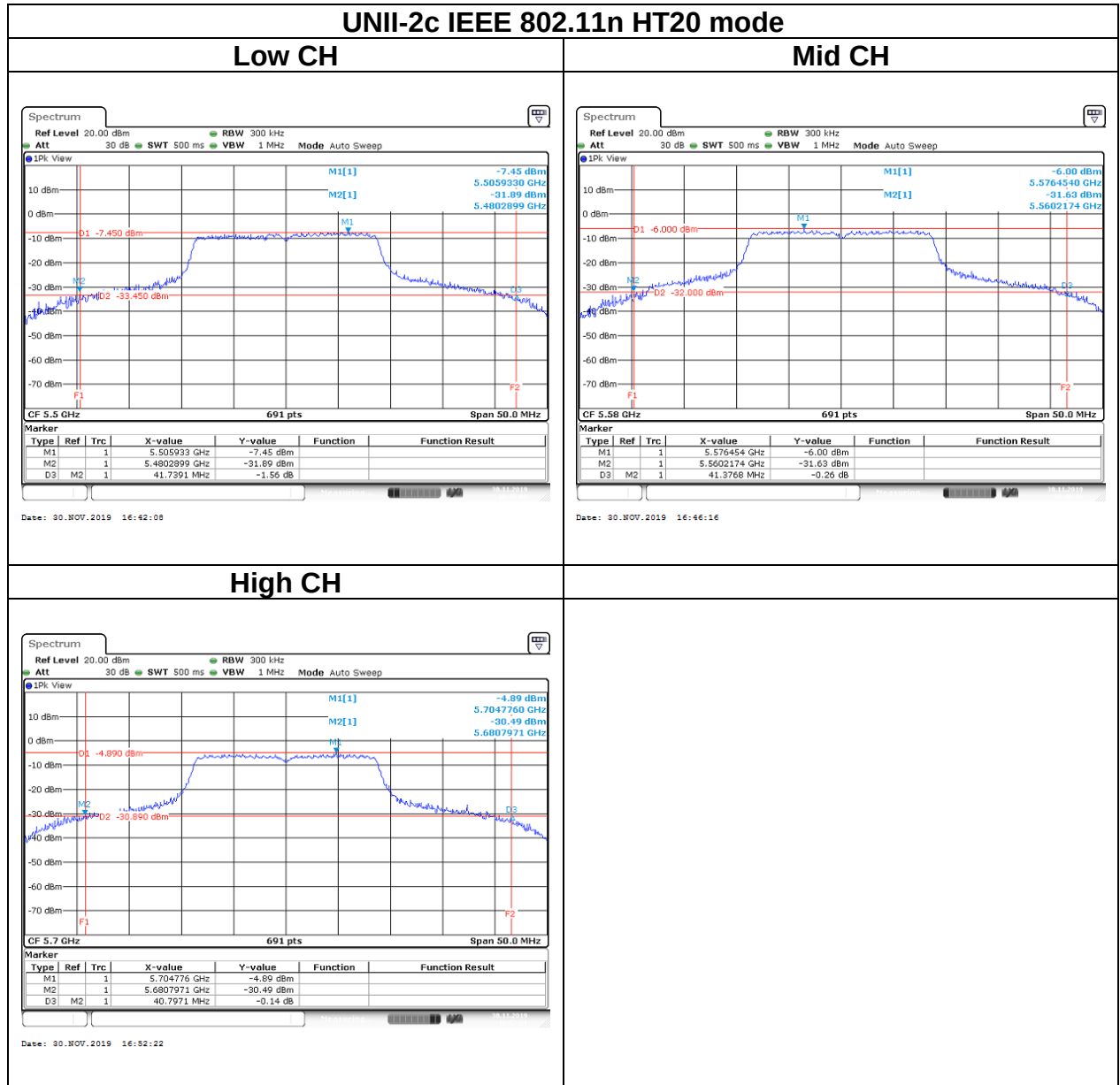


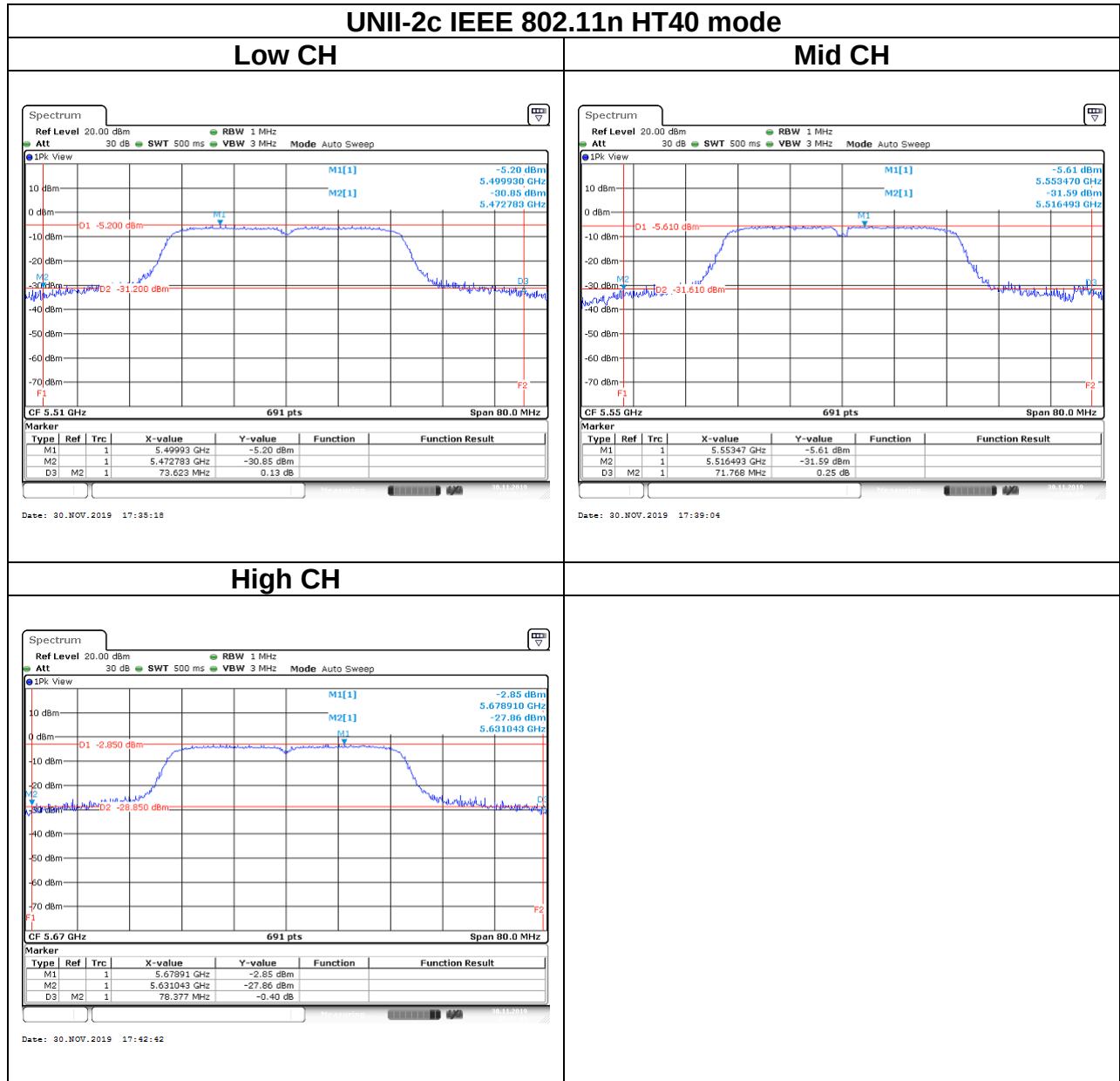




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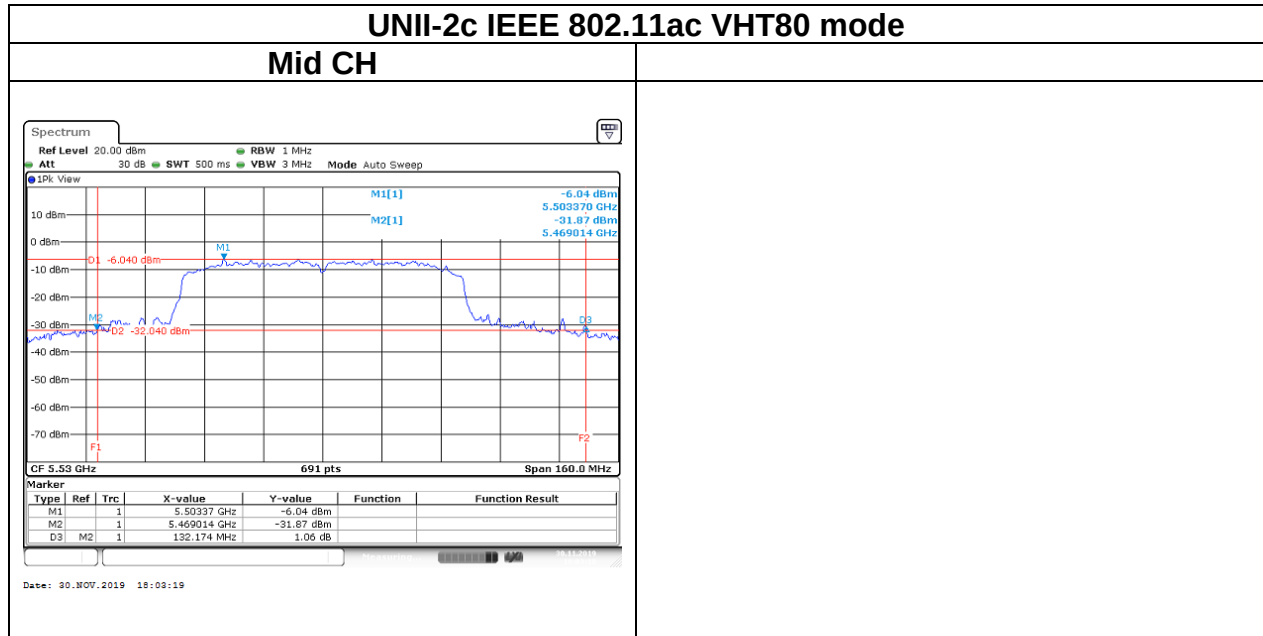




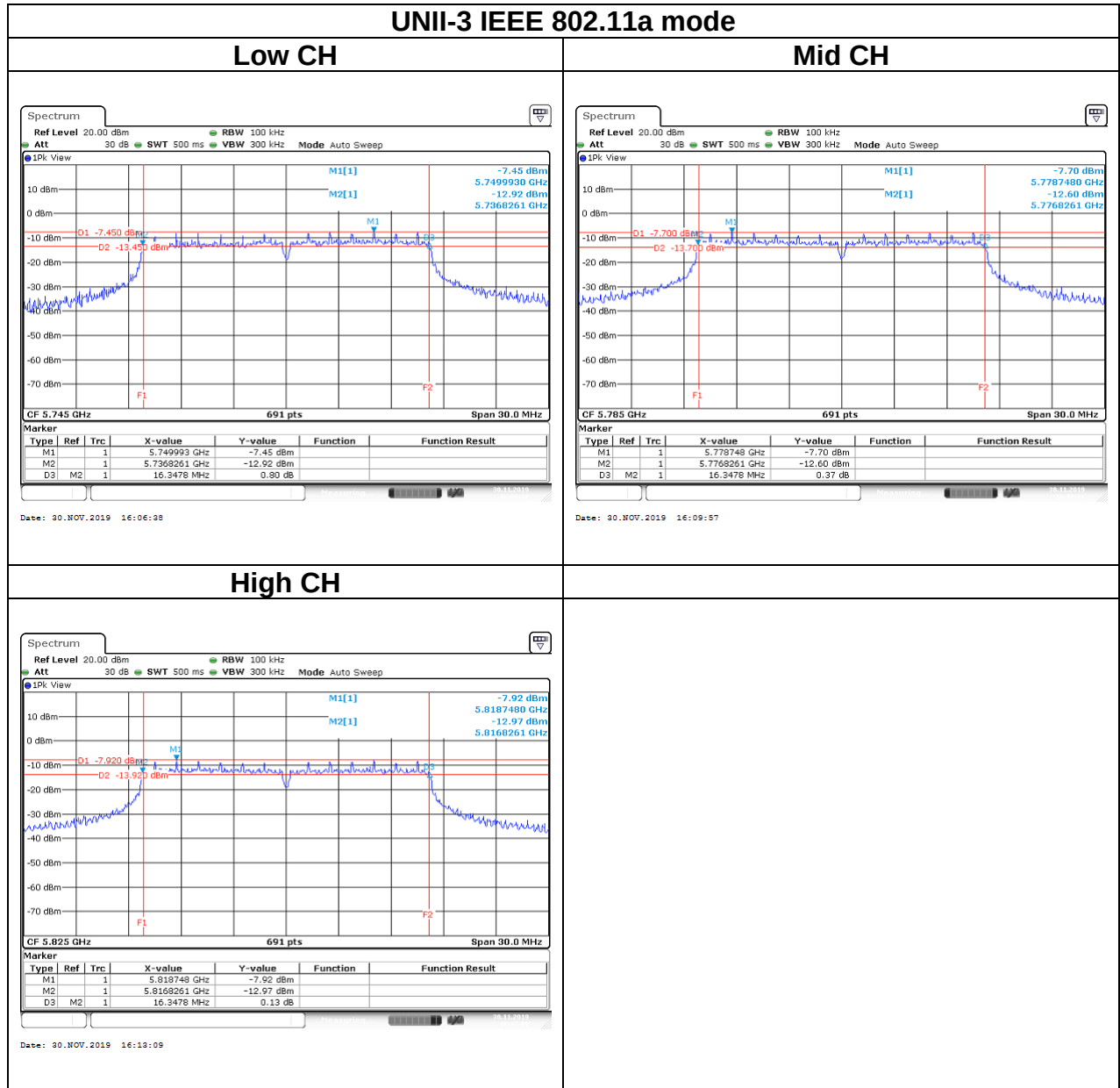


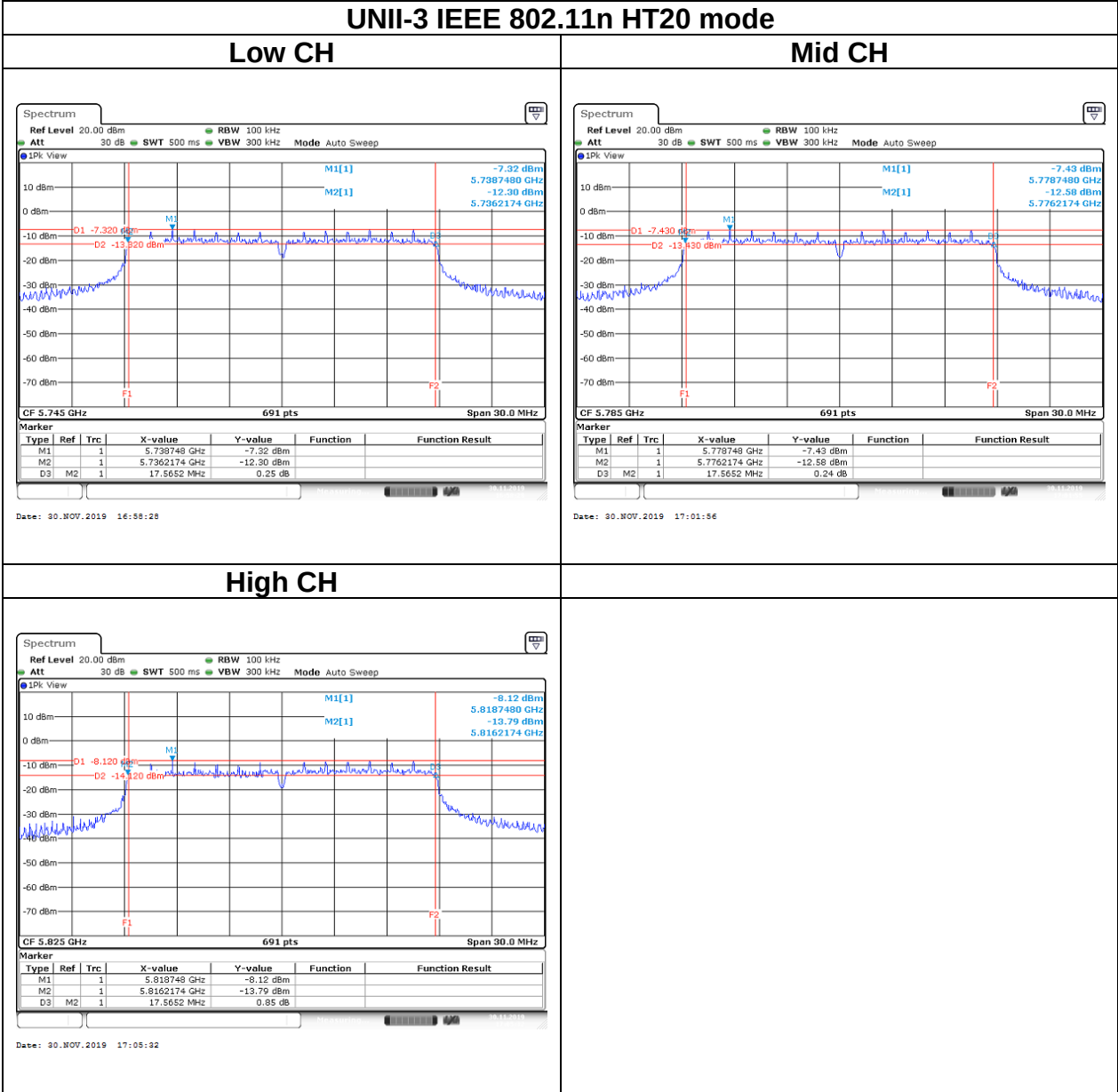
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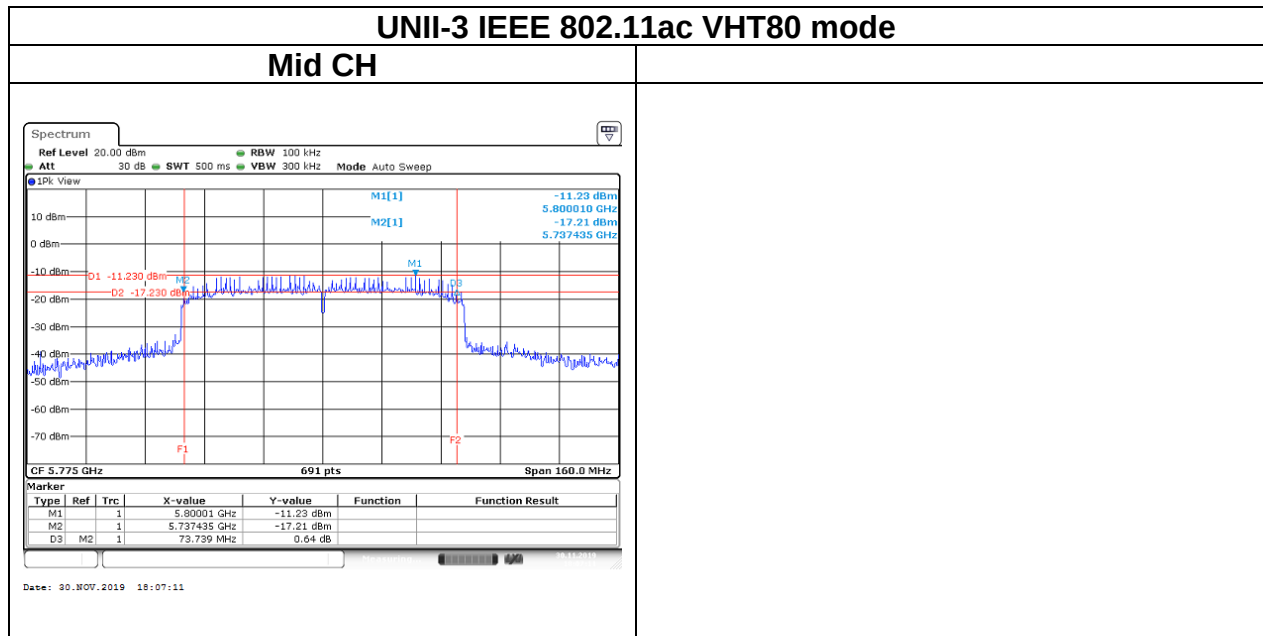
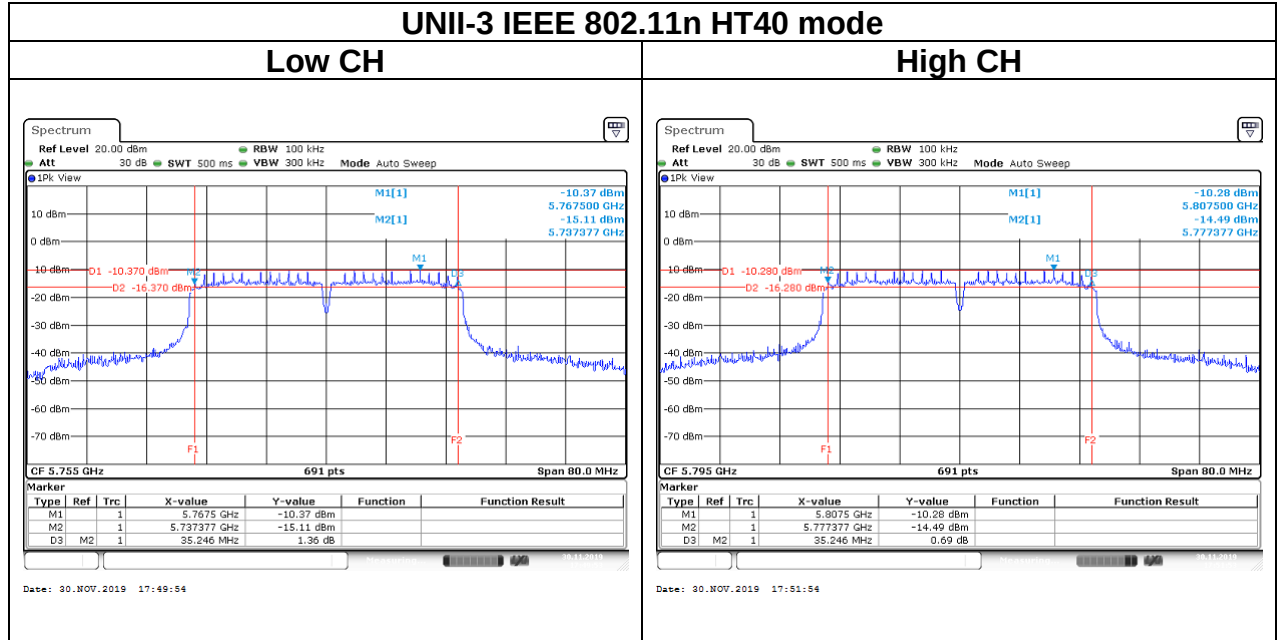
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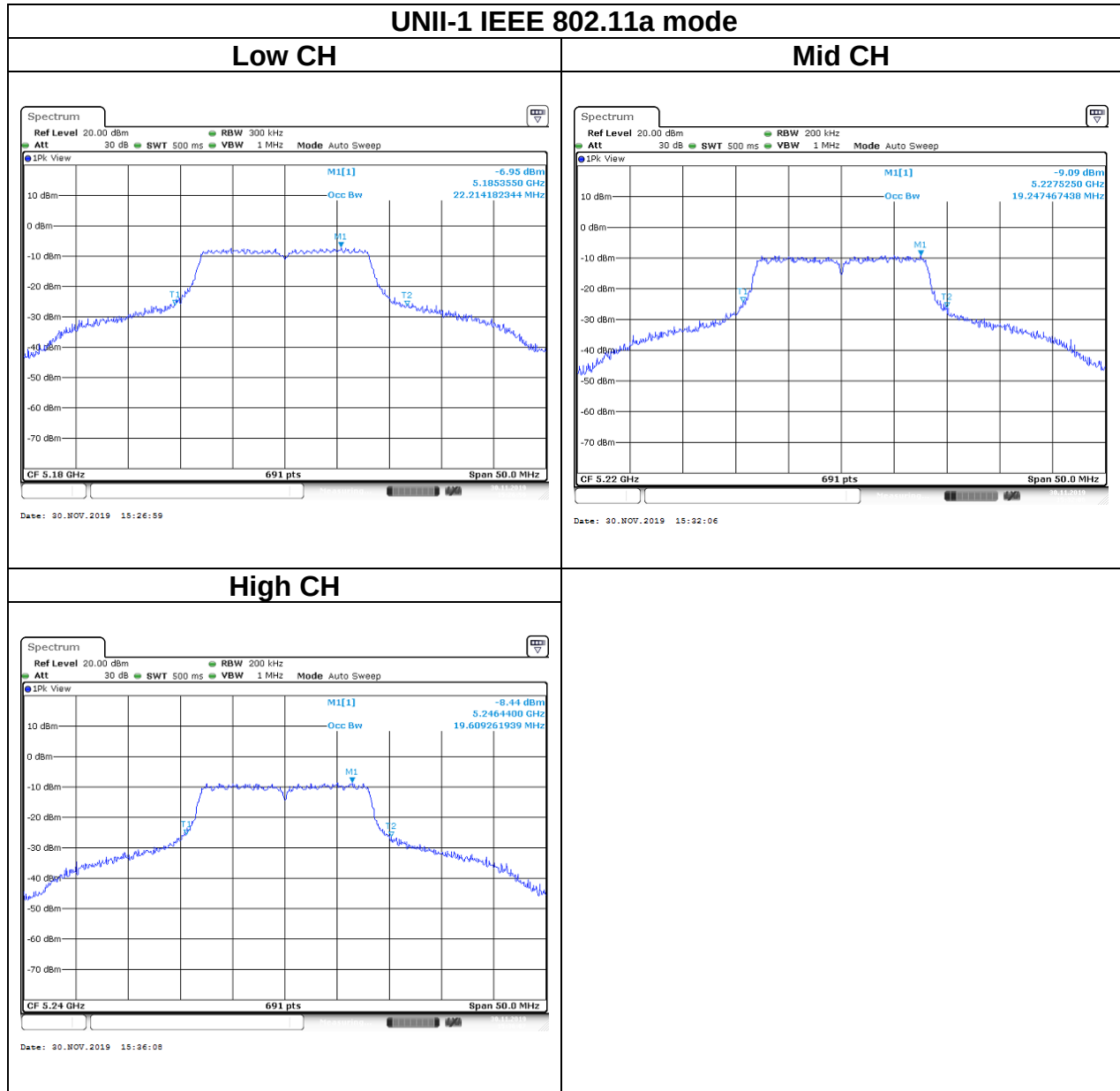
## 6dB

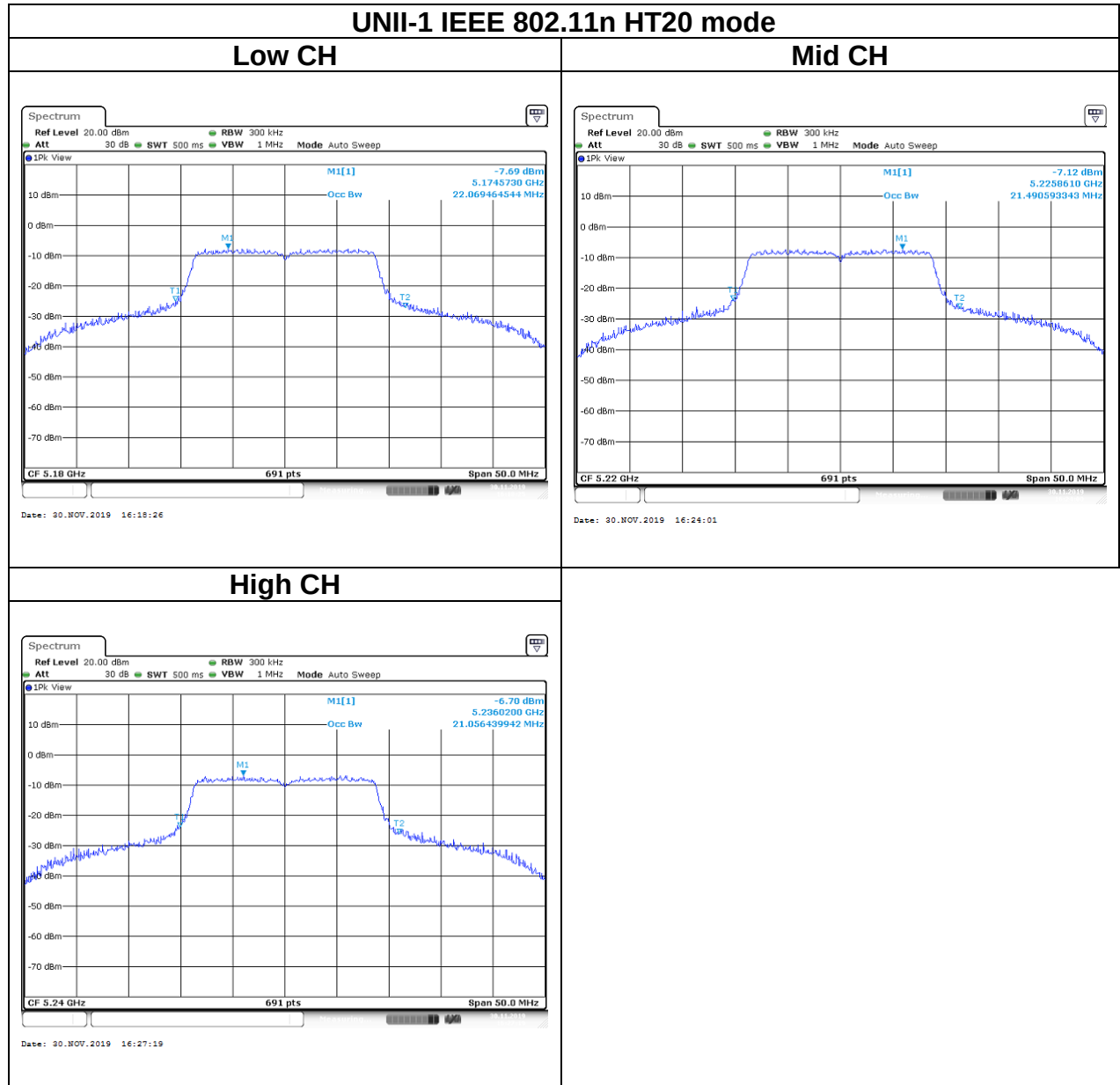






## OBW (99%)

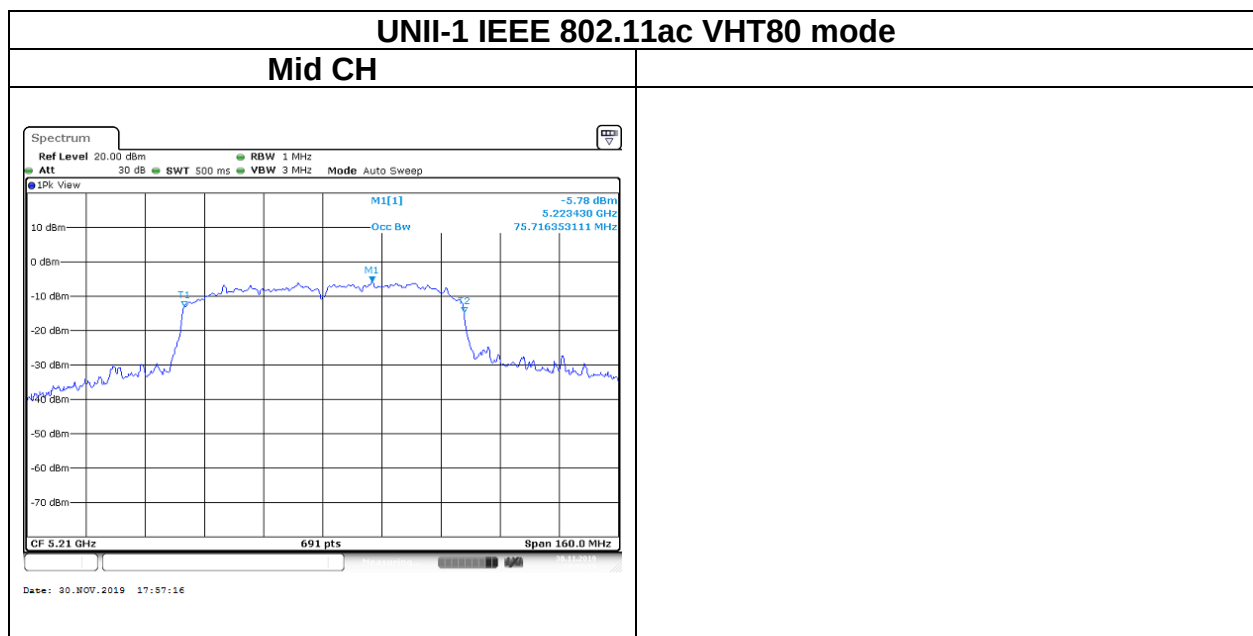
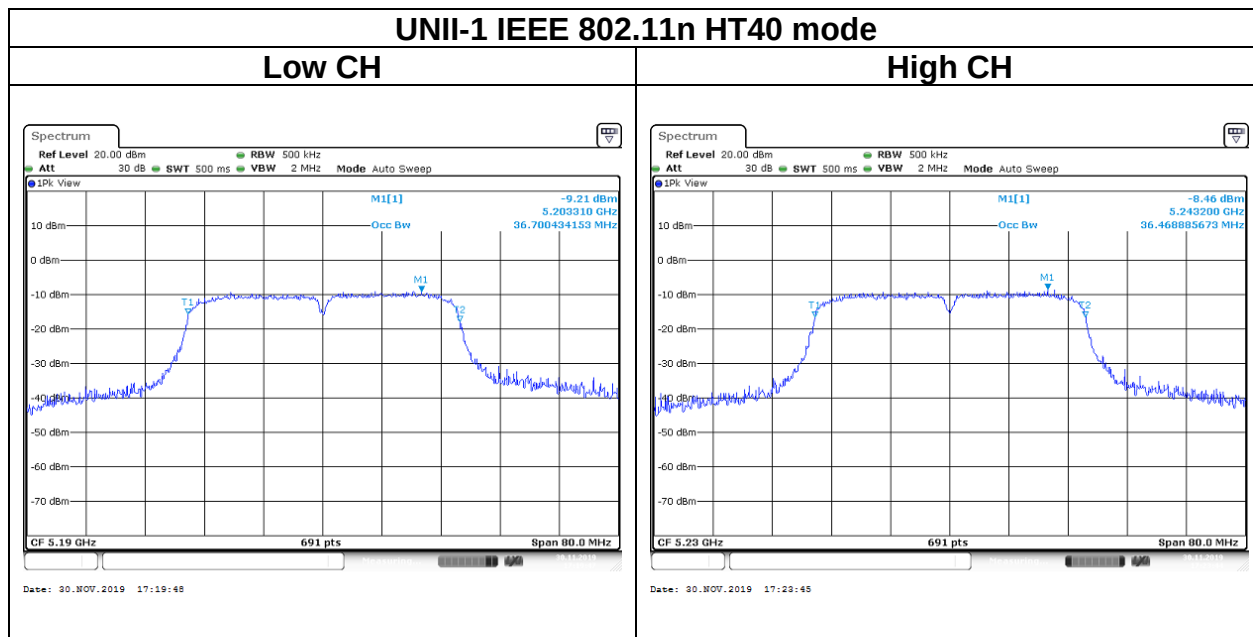






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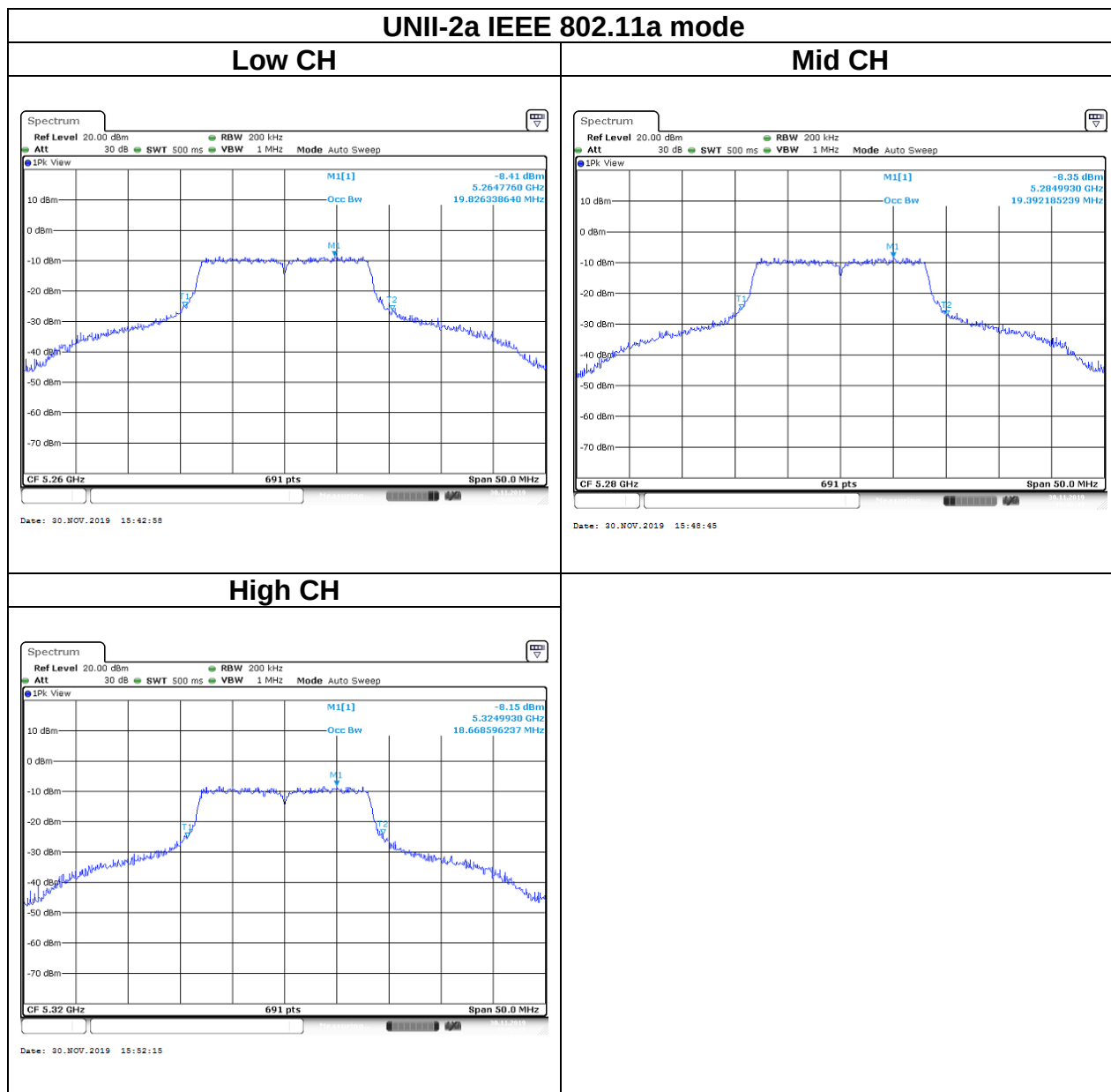
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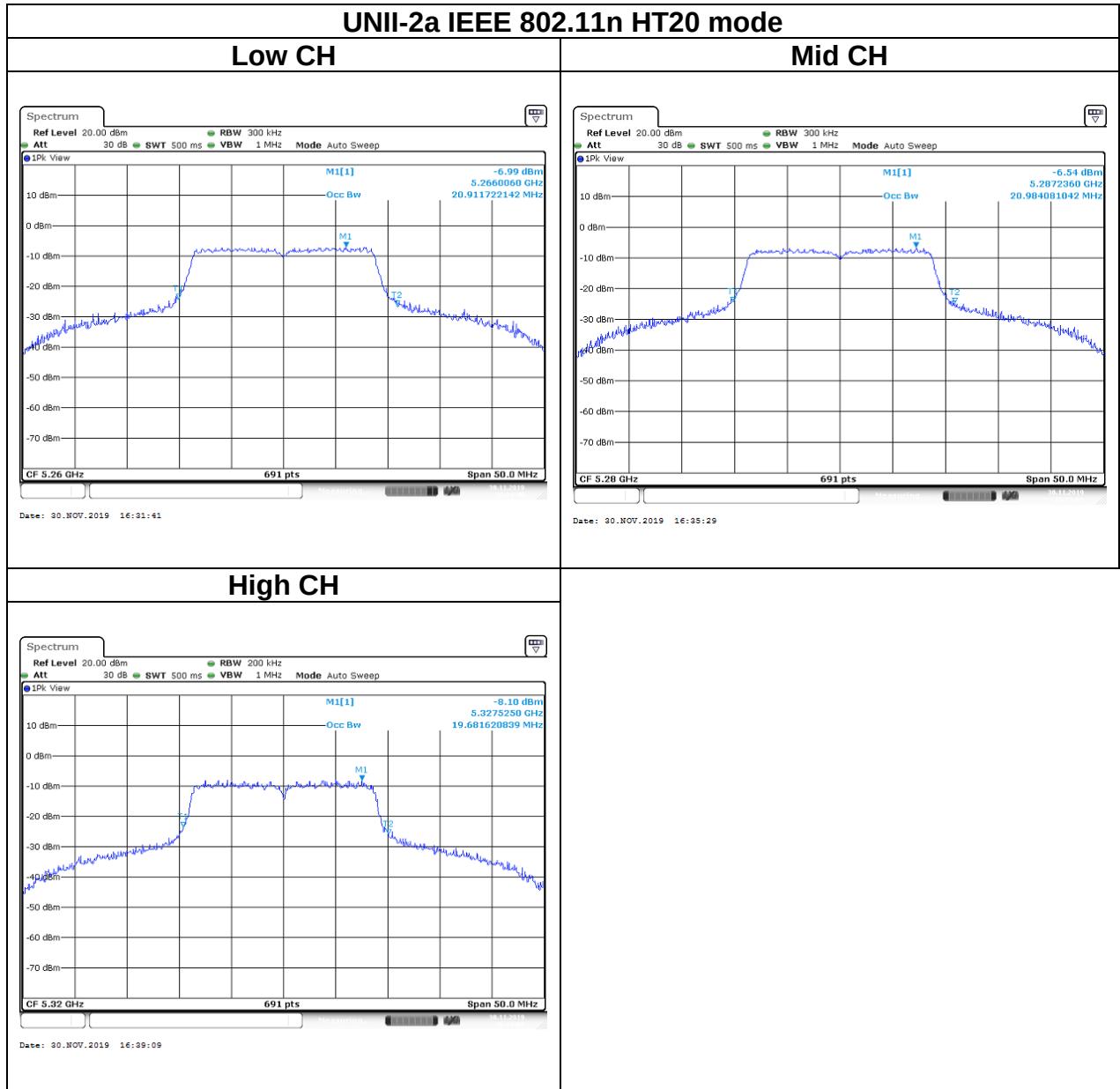


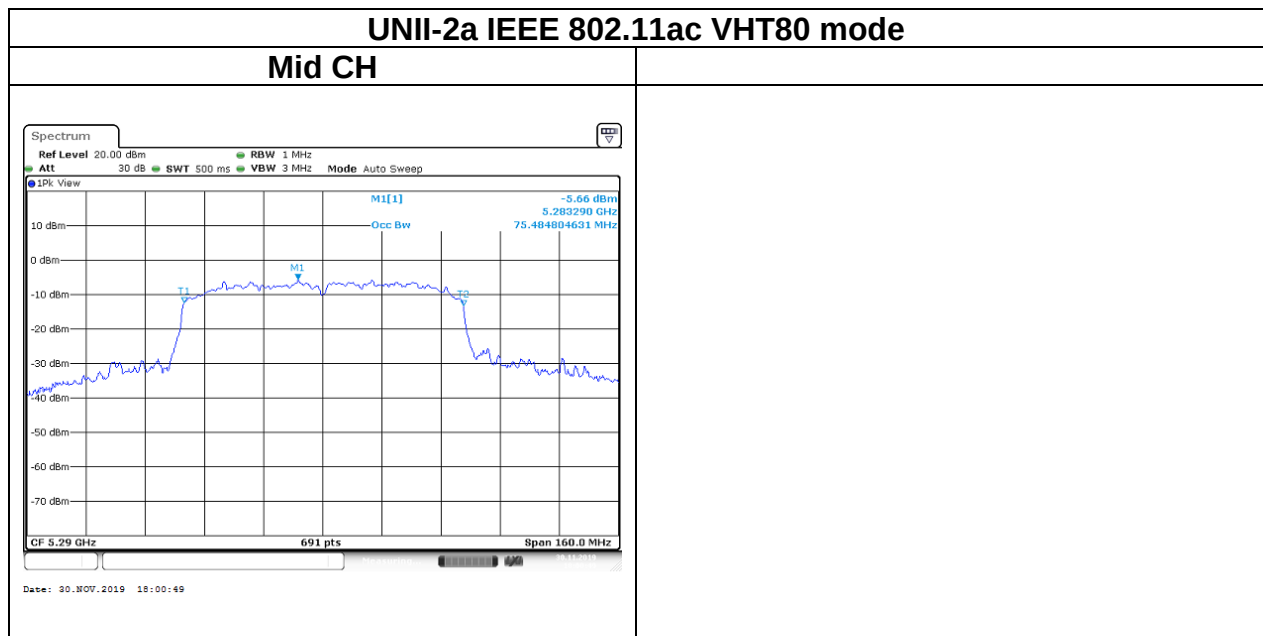
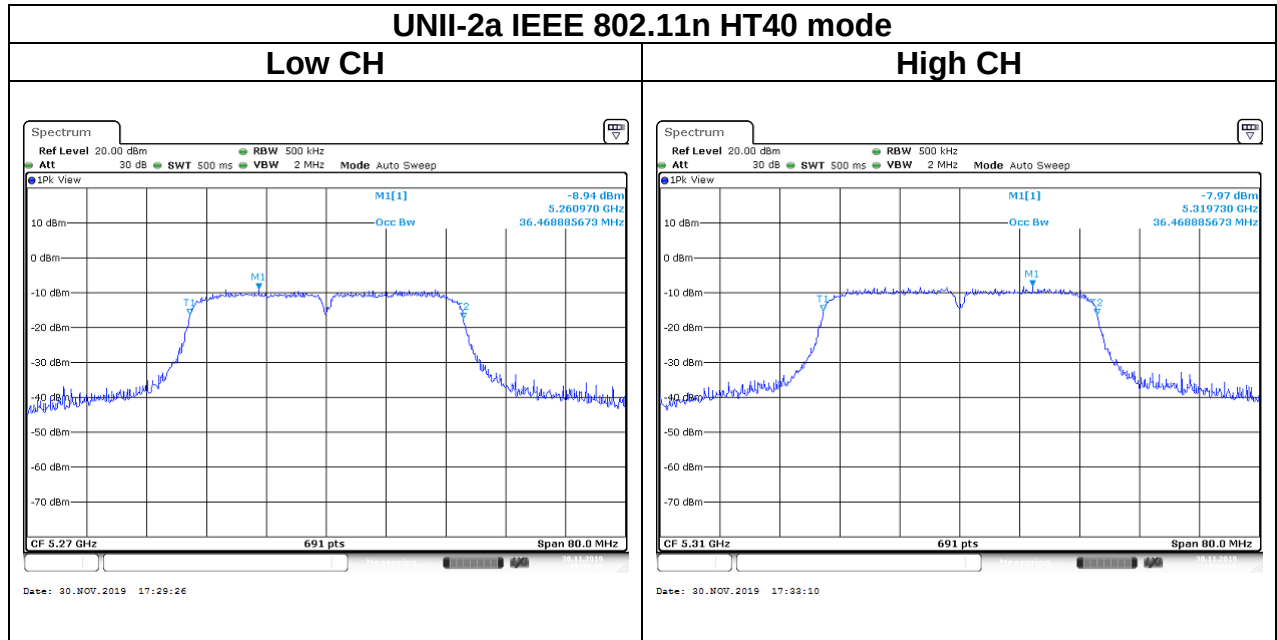
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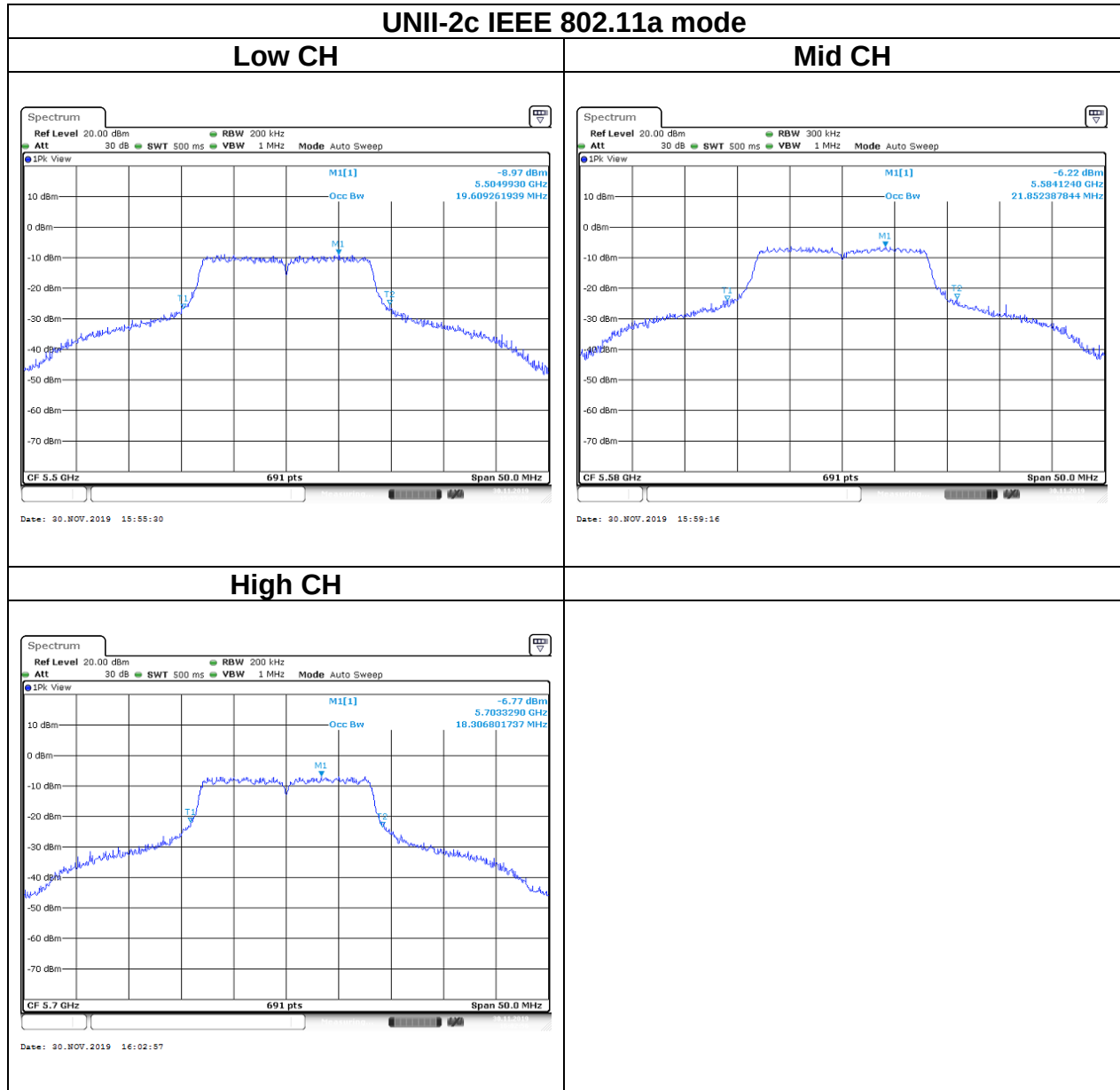
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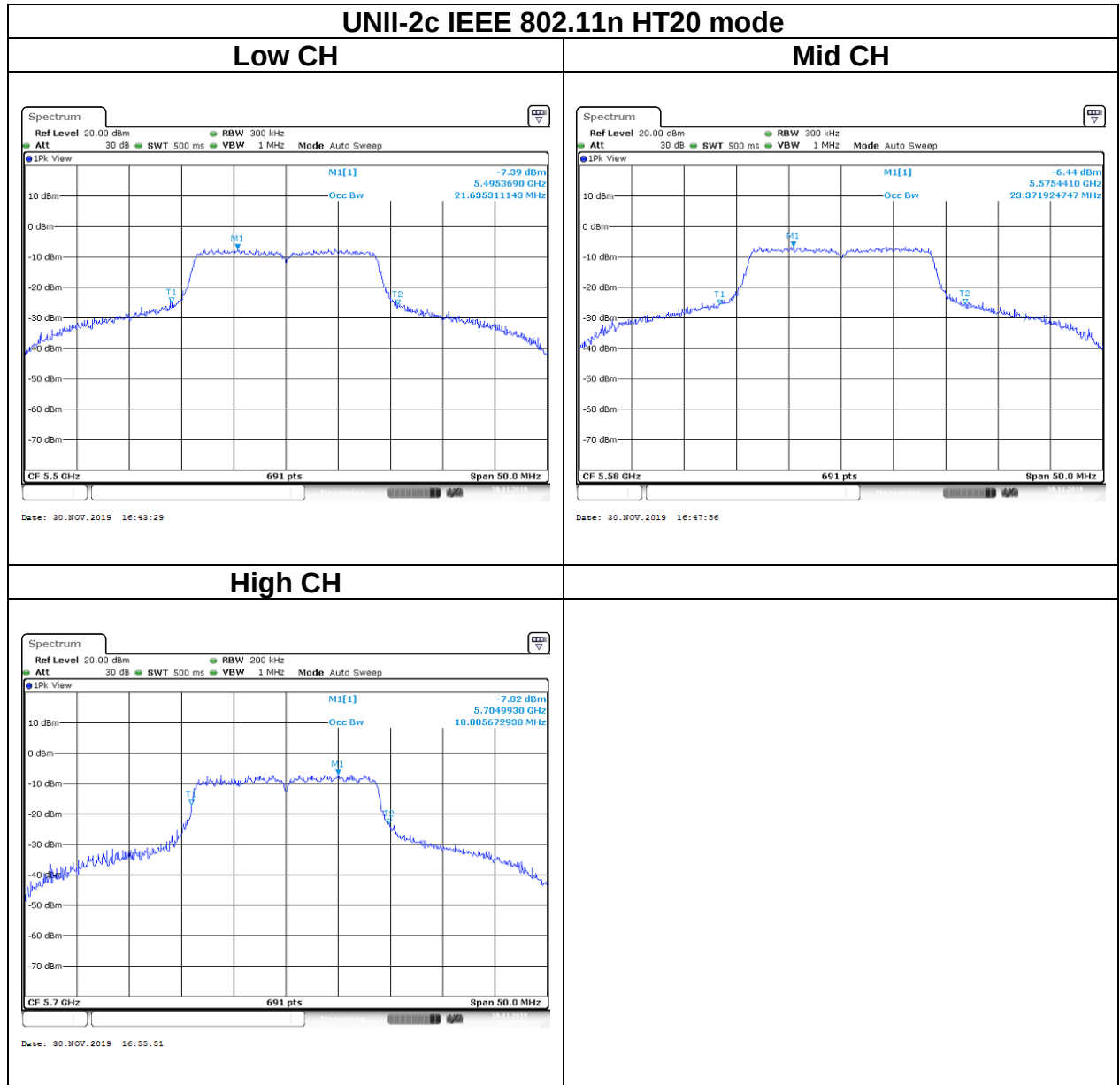


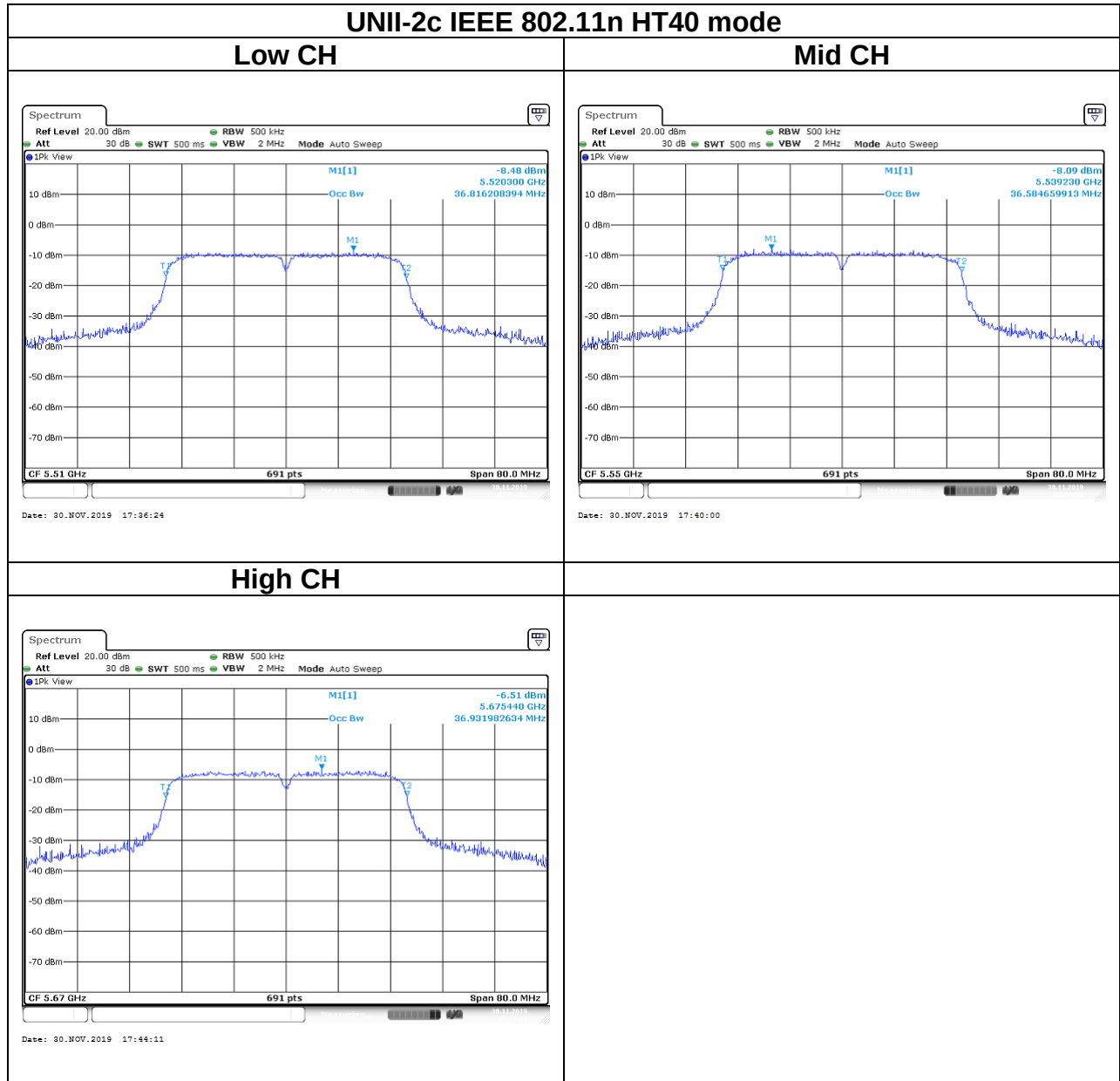








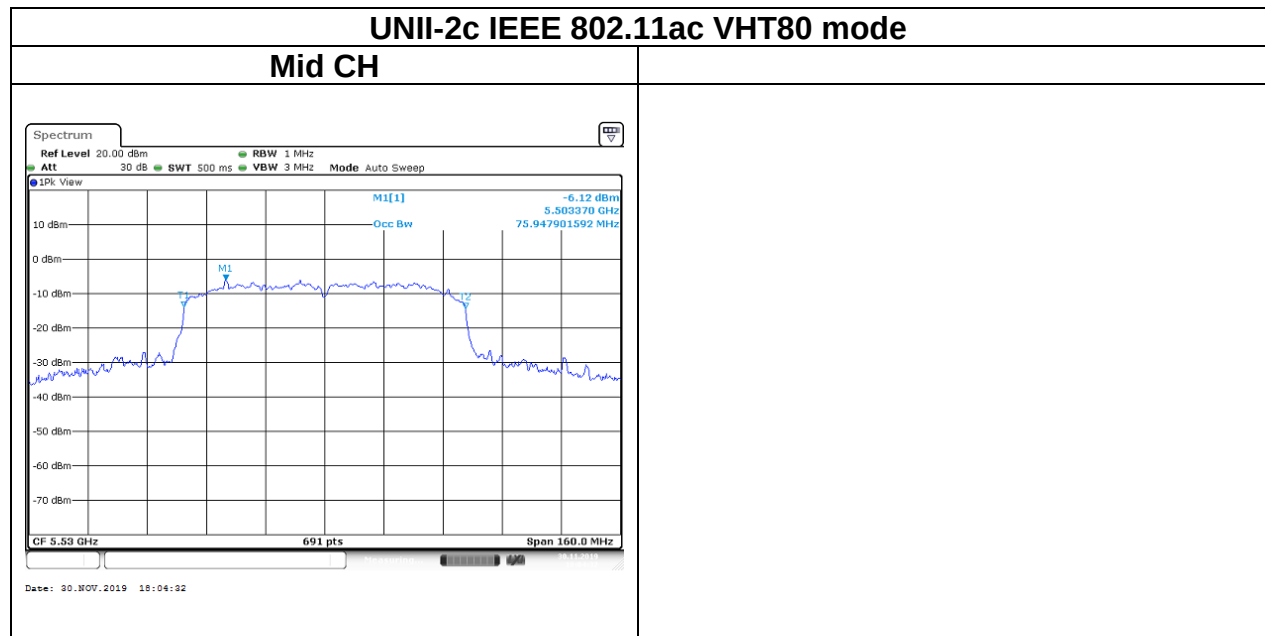


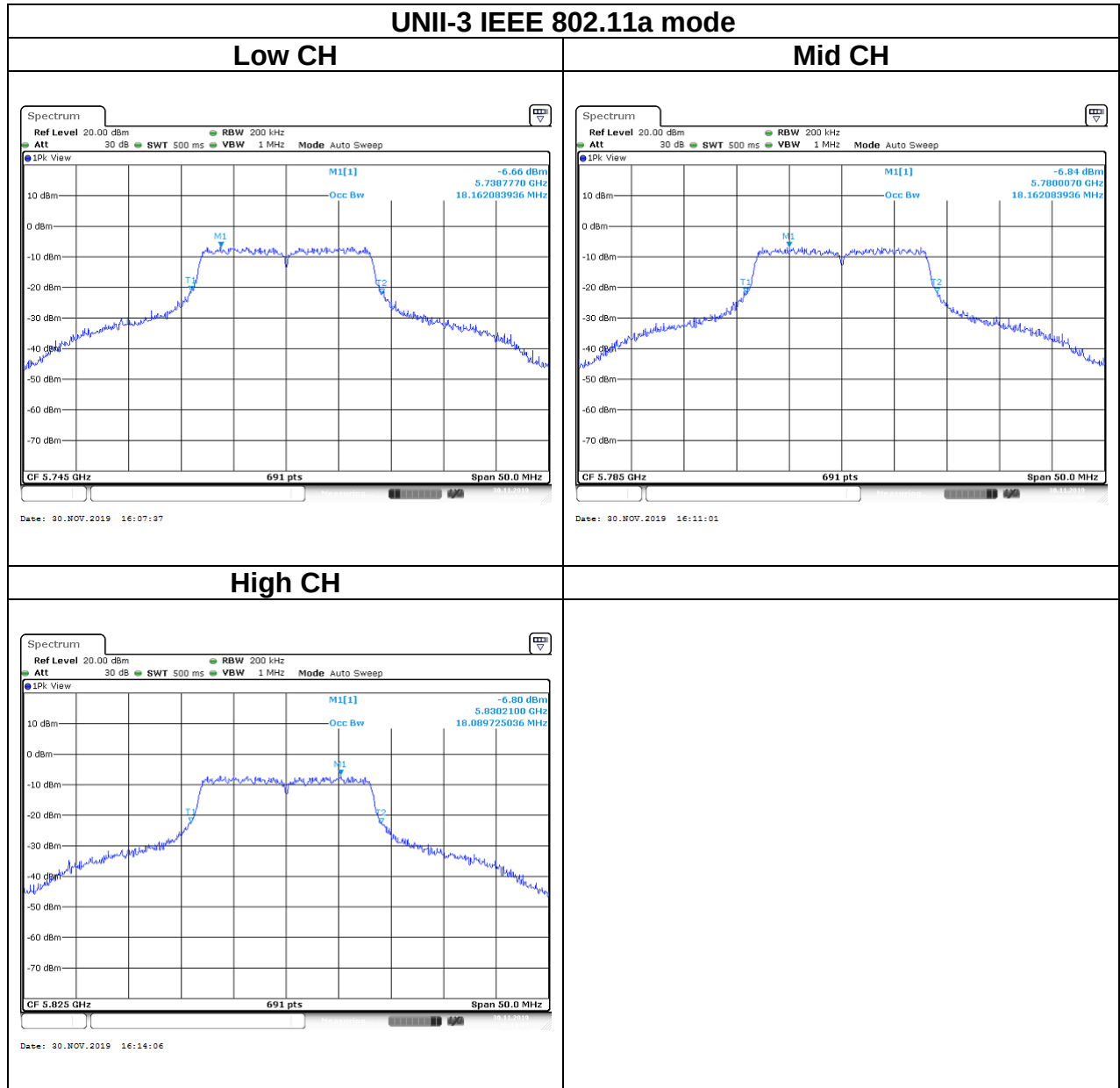


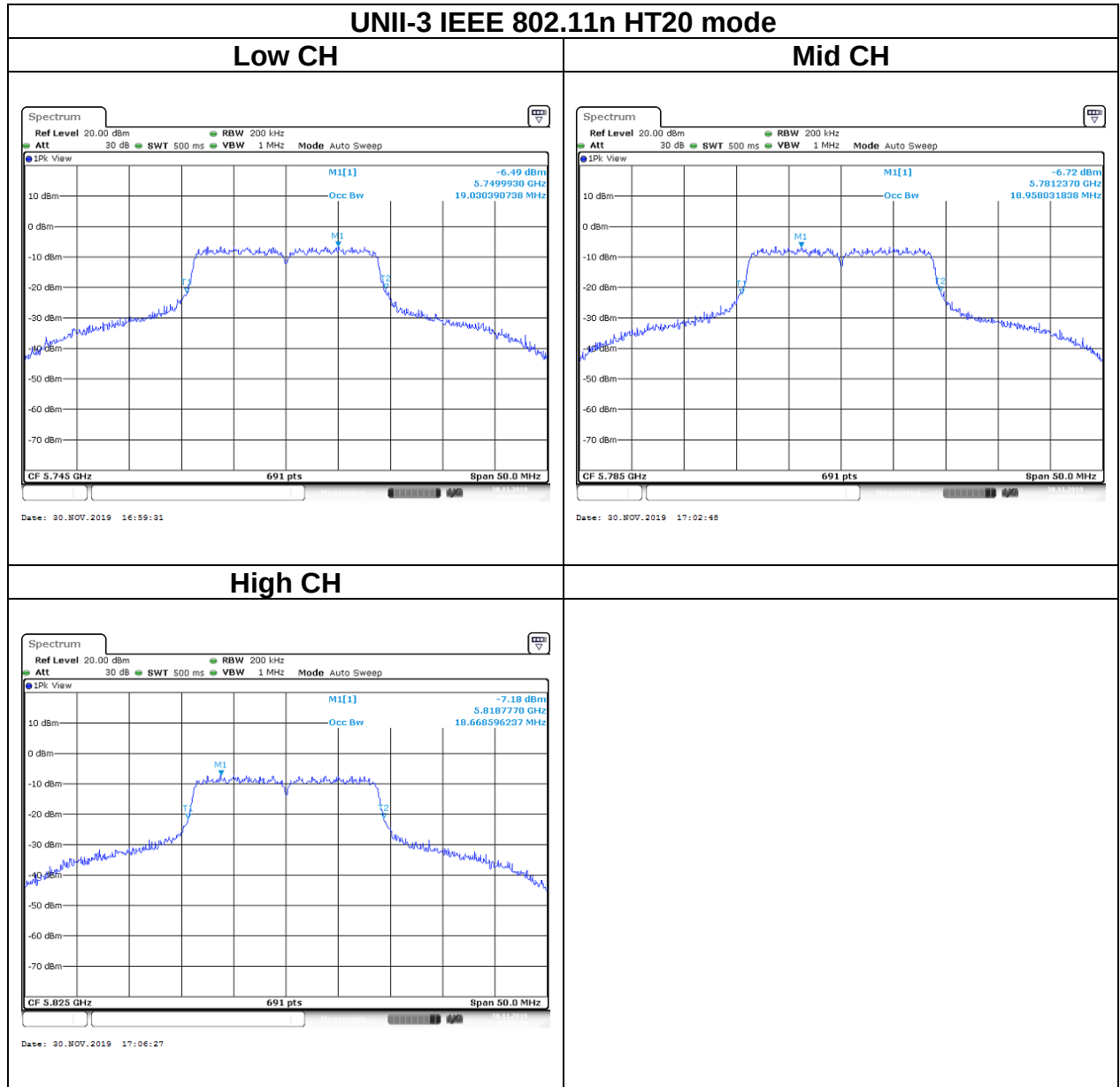


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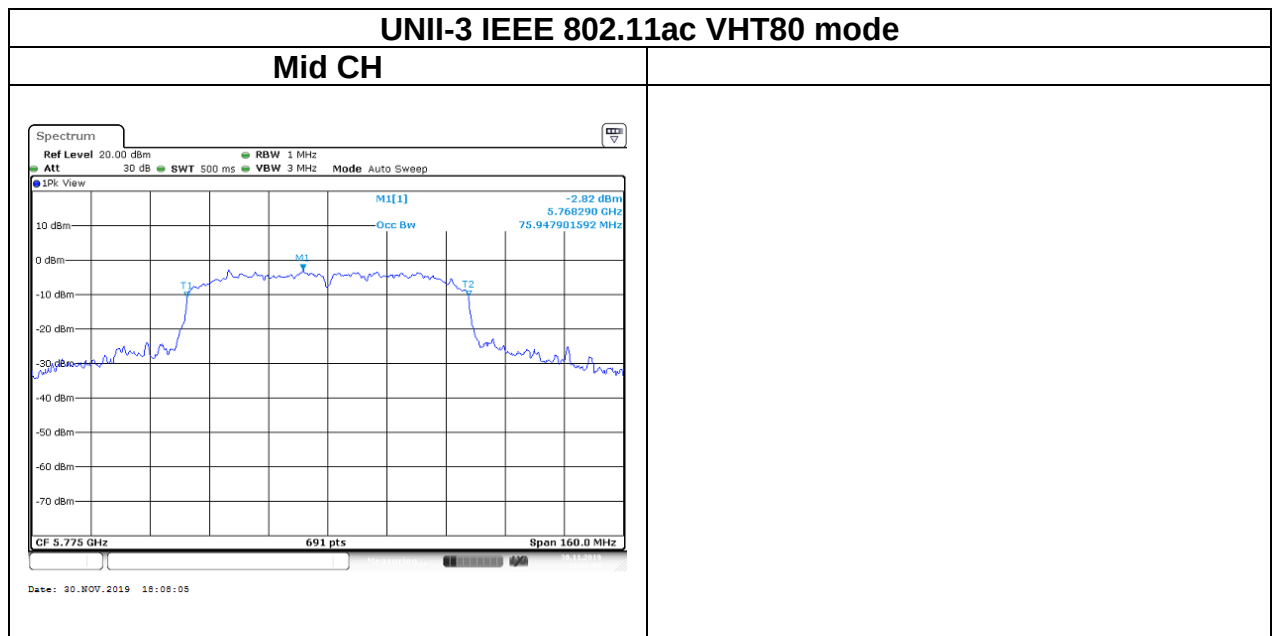
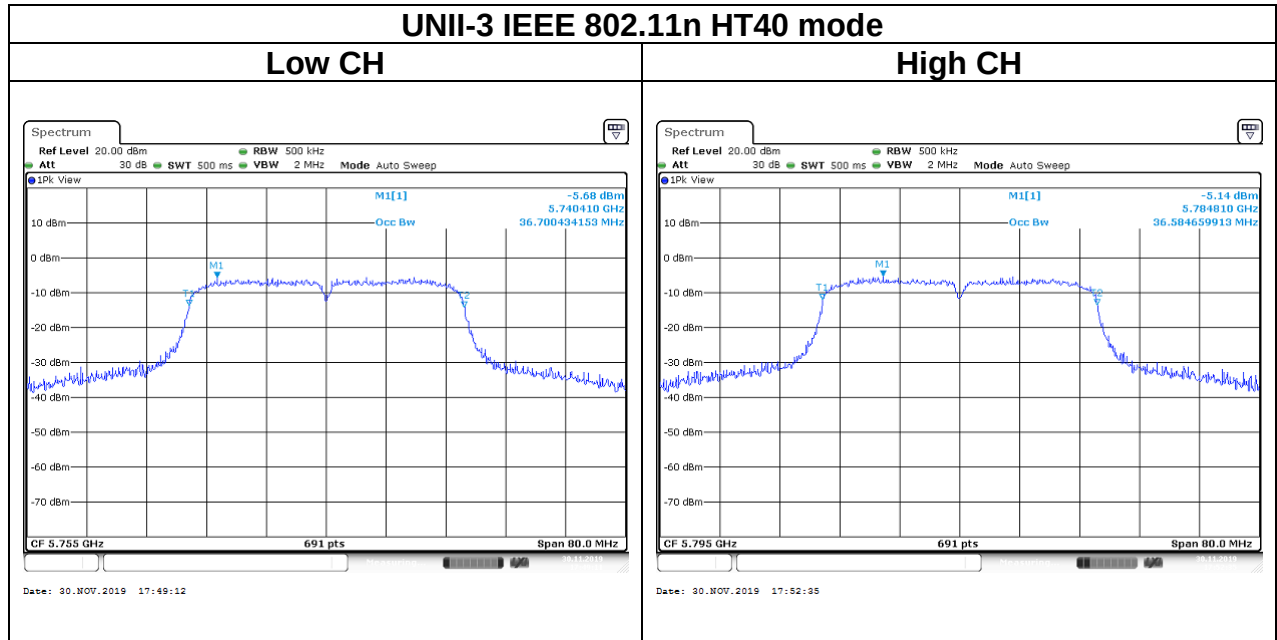
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## 4.3 OUTPUT POWER MEASUREMENT

### 4.3.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3), and RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

#### FCC:

##### UNII-1 :

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW(24 dBm), whichever power is less. B is the 99% emission bandwidth in megahertz, provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### UNII-2a and 2c:

the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. and The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever power is less. B is the 99% emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**IC:****UNII-1 :**

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or  $1.76 + 10 \log_{10} B$ , dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or  $10 + 10 \log_{10} B$ , dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

**UNII-2a and 2c:**

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or  $1.76 + 10 \log_{10} B$ , dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

**UNII-2c (5470-5600 MHz and 5650-5725 MHz)**

The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

**UNII-3:**

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

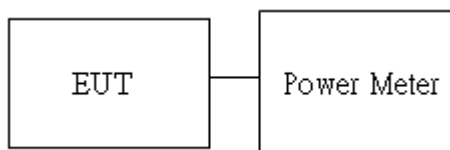
|                  |                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNII-1 Limit     | <input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 24dBm (EIRP: 23dBm)<br><input type="checkbox"/> Antenna with DG greater than 6 dBi :<br>[Limit = 30 – (DG – 6)] |
| UNII-2a/2c Limit | <input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 24dBm (EIRP: 30dBm)<br><input type="checkbox"/> Antenna with DG greater than 6 dBi :<br>[Limit = 30 – (DG – 6)] |
| UNII-3 Limit     | <input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 30dBm<br><input type="checkbox"/> Antenna with DG greater than 6 dBi :<br>[Limit = 30 – (DG – 6)]               |

### 4.3.2 Test Procedure

Test method Refer as KDB 789033 D02,

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Average output power. in the test report.

### 4.3.3 Test Setup



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### 4.3.4 Test Result

#### Conducted output power :

| UNII-1              |    |             |           |                |                      |                           |                    |                         |          |             |                  |
|---------------------|----|-------------|-----------|----------------|----------------------|---------------------------|--------------------|-------------------------|----------|-------------|------------------|
| Config              | CH | Freq. (MHz) | Power Set | AV Power (dBm) | AV Total Power (dBm) | EIRP AV Total Power (dBm) | AV Total Power (W) | EIRP AV Total Power (W) | DG (dBi) | Limit (dBm) | EIRP Limit (dBm) |
| IEEE 802.11a        | 36 | 5180        | 15.5      | 12.04          | 12.04                | 13.29                     | 0.0160             | 0.0213                  | 1.25     | 24          | 23               |
|                     | 44 | 5220        | 15.0      | 12.02          | 12.02                | 13.27                     | 0.0159             | 0.0212                  |          |             |                  |
|                     | 48 | 5240        | 15.5      | 12.27          | 12.27                | 13.52                     | 0.0169             | 0.0225                  |          |             |                  |
| IEEE 802.11n HT20   | 36 | 5180        | 15.5      | 12.33          | 12.33                | 13.58                     | 0.0171             | 0.0228                  |          |             |                  |
|                     | 44 | 5220        | 15.5      | 12.32          | 12.32                | 13.57                     | 0.0170             | 0.0227                  |          |             |                  |
|                     | 48 | 5240        | 17        | 12.13          | 12.13                | 13.38                     | 0.0163             | 0.0218                  |          |             |                  |
| IEEE 802.11n HT40   | 38 | 5190        | 15.0      | 12.25          | 12.25                | 13.50                     | 0.0168             | 0.0224                  |          |             |                  |
|                     | 46 | 5230        | 15.5      | 12.45          | 12.45                | 13.70                     | 0.0176             | 0.0234                  |          |             |                  |
| IEEE 802.11ac VHT80 | 42 | 5210        | 14.0      | 13.01          | 13.01                | 14.26                     | 0.0200             | 0.0267                  |          |             |                  |



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| UNII-2a                   |    |                |              |                   |                            |                                    |                          |                                  |             |                |                        |
|---------------------------|----|----------------|--------------|-------------------|----------------------------|------------------------------------|--------------------------|----------------------------------|-------------|----------------|------------------------|
| Config                    | CH | Freq.<br>(MHz) | Power<br>Set | AV Power<br>(dBm) | AV Total<br>Power<br>(dBm) | EIRP AV<br>Total<br>Power<br>(dBm) | AV Total<br>Power<br>(W) | EIRP AV<br>Total<br>Power<br>(W) | DG<br>(dBi) | Limit<br>(dBm) | EIRP<br>Limit<br>(dBm) |
| IEEE<br>802.11a           | 52 | 5260           | 14.0         | 12.06             | 12.06                      | 13.31                              | 0.0161                   | 0.0214                           | 1.25        | 24             | 30                     |
|                           | 56 | 5280           | 14.5         | 12.27             | 12.27                      | 13.52                              | 0.0169                   | 0.0225                           |             |                |                        |
|                           | 64 | 5320           | 14.5         | 12.07             | 12.07                      | 13.32                              | 0.0161                   | 0.0215                           |             |                |                        |
| IEEE<br>802.11n<br>HT20   | 52 | 5260           | 14.0         | 12.09             | 12.09                      | 13.34                              | 0.0162                   | 0.0216                           |             |                |                        |
|                           | 56 | 5280           | 14.5         | 12.22             | 12.22                      | 13.47                              | 0.0167                   | 0.0222                           |             |                |                        |
|                           | 64 | 5320           | 14.5         | 11.97             | 11.97                      | 13.22                              | 0.0157                   | 0.0210                           |             |                |                        |
| IEEE<br>802.11n<br>HT40   | 54 | 5270           | 14.5         | 12.31             | 12.31                      | 13.56                              | 0.0170                   | 0.0227                           |             |                |                        |
|                           | 62 | 5310           | 17.0         | 12.33             | 12.33                      | 13.58                              | 0.0171                   | 0.0228                           |             |                |                        |
| IEEE<br>802.11ac<br>VHT80 | 58 | 5290           | 15.0         | 11.51             | 11.51                      | 12.76                              | 0.0142                   | 0.0189                           |             |                |                        |



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| UNII-2c             |     |             |           |                |                      |                           |                    |                         |          |             |                  |
|---------------------|-----|-------------|-----------|----------------|----------------------|---------------------------|--------------------|-------------------------|----------|-------------|------------------|
| Config              | CH  | Freq. (MHz) | Power Set | AV Power (dBm) | AV Total Power (dBm) | EIRP AV Total Power (dBm) | AV Total Power (W) | EIRP AV Total Power (W) | DG (dBi) | Limit (dBm) | EIRP Limit (dBm) |
| IEEE 802.11a        | 100 | 5500        | 15.0      | 11.34          | 11.34                | 12.59                     | 0.0136             | 0.0181                  | 1.25     | 24          | 30               |
|                     | 116 | 5580        | 14.0      | 11.21          | 11.21                | 12.46                     | 0.0132             | 0.0176                  |          |             |                  |
|                     | 140 | 5700        | 12.5      | 11.32          | 11.32                | 12.57                     | 0.0135             | 0.0181                  |          |             |                  |
| IEEE 802.11n HT20   | 100 | 5500        | 15.0      | 11.38          | 11.38                | 12.63                     | 0.0137             | 0.0183                  |          |             |                  |
|                     | 116 | 5580        | 14.0      | 11.27          | 11.27                | 12.52                     | 0.0134             | 0.0179                  |          |             |                  |
|                     | 140 | 5700        | 12.5      | 11.29          | 11.29                | 12.54                     | 0.0135             | 0.0179                  |          |             |                  |
| IEEE 802.11n HT40   | 102 | 5510        | 15.0      | 11.25          | 11.25                | 12.50                     | 0.0133             | 0.0178                  |          |             |                  |
|                     | 110 | 5550        | 14.5      | 11.15          | 11.15                | 12.40                     | 0.0130             | 0.0174                  |          |             |                  |
|                     | 134 | 5670        | 13.0      | 11.30          | 11.30                | 12.55                     | 0.0135             | 0.0180                  |          |             |                  |
| IEEE 802.11ac VHT80 | 106 | 5530        | 12.0      | 10.32          | 10.32                | 11.57                     | 0.0108             | 0.0144                  |          |             |                  |



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| UNII-3              |     |             |           |                |                      |                           |                    |                         |          |             |
|---------------------|-----|-------------|-----------|----------------|----------------------|---------------------------|--------------------|-------------------------|----------|-------------|
| Config              | CH  | Freq. (MHz) | Power Set | AV Power (dBm) | AV Total Power (dBm) | EIRP AV Total Power (dBm) | AV Total Power (W) | EIRP AV Total Power (W) | DG (dBi) | Limit (dBm) |
| IEEE 802.11a        | 149 | 5745        | 12.5      | 11.53          | 11.53                | 12.78                     | 0.0142             | 0.0190                  | 1.25     | 30          |
|                     | 157 | 5785        | 13.0      | 11.99          | 11.99                | 13.24                     | 0.0158             | 0.0211                  |          |             |
|                     | 165 | 5825        | 13.0      | 11.97          | 11.97                | 13.22                     | 0.0157             | 0.0210                  |          |             |
| IEEE 802.11n HT20   | 149 | 5475        | 12.5      | 11.48          | 11.48                | 12.73                     | 0.0141             | 0.0187                  |          |             |
|                     | 157 | 5785        | 12.5      | 11.54          | 11.54                | 12.79                     | 0.0143             | 0.0190                  |          |             |
|                     | 165 | 5825        | 13.0      | 12.01          | 12.01                | 13.26                     | 0.0159             | 0.0212                  |          |             |
| IEEE 802.11n HT40   | 151 | 5755        | 13.0      | 11.68          | 11.68                | 12.93                     | 0.0147             | 0.0196                  |          |             |
|                     | 159 | 5795        | 13.5      | 11.90          | 11.90                | 13.15                     | 0.0155             | 0.0207                  |          |             |
| IEEE 802.11ac VHT80 | 155 | 5775        | 11.5      | 10.80          | 10.80                | 12.05                     | 0.0120             | 0.0160                  |          |             |