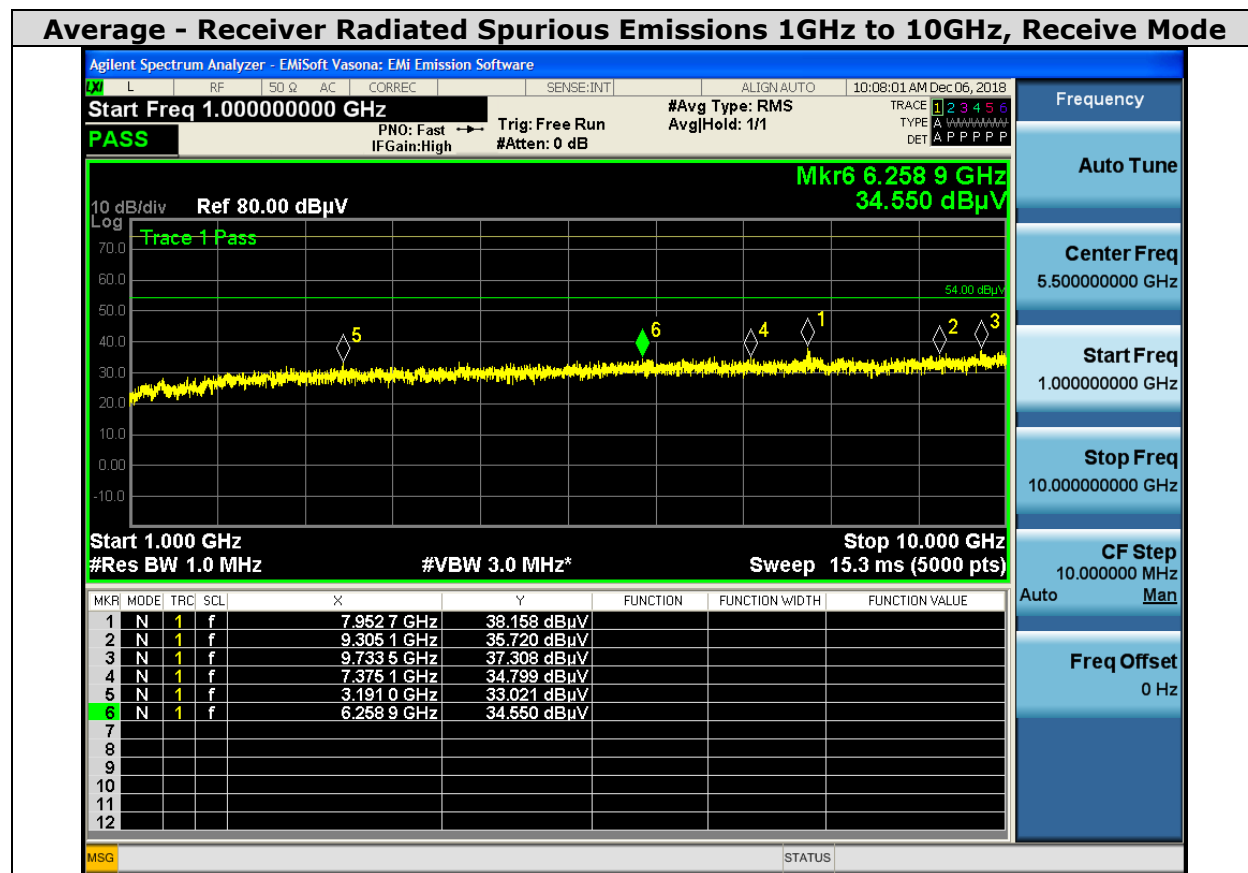
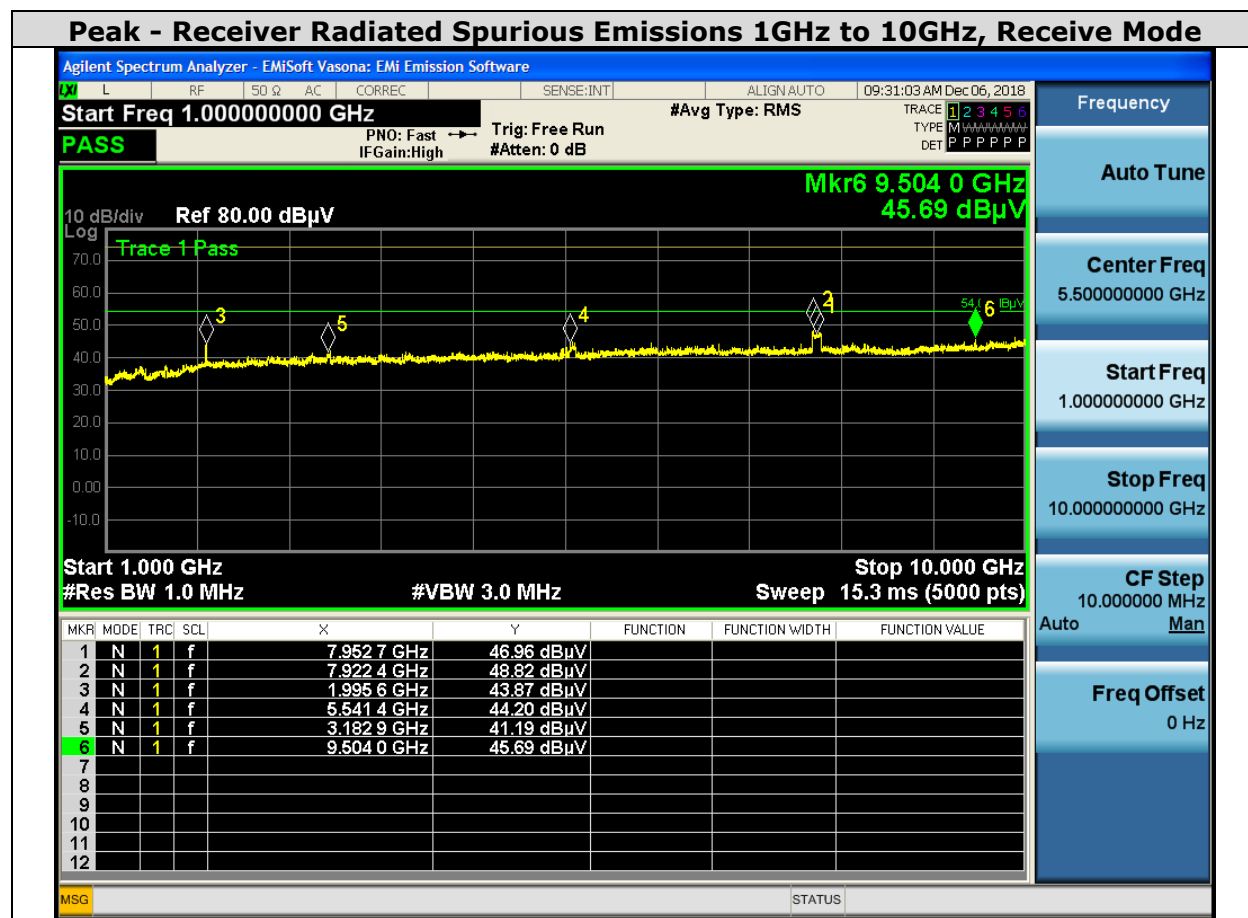
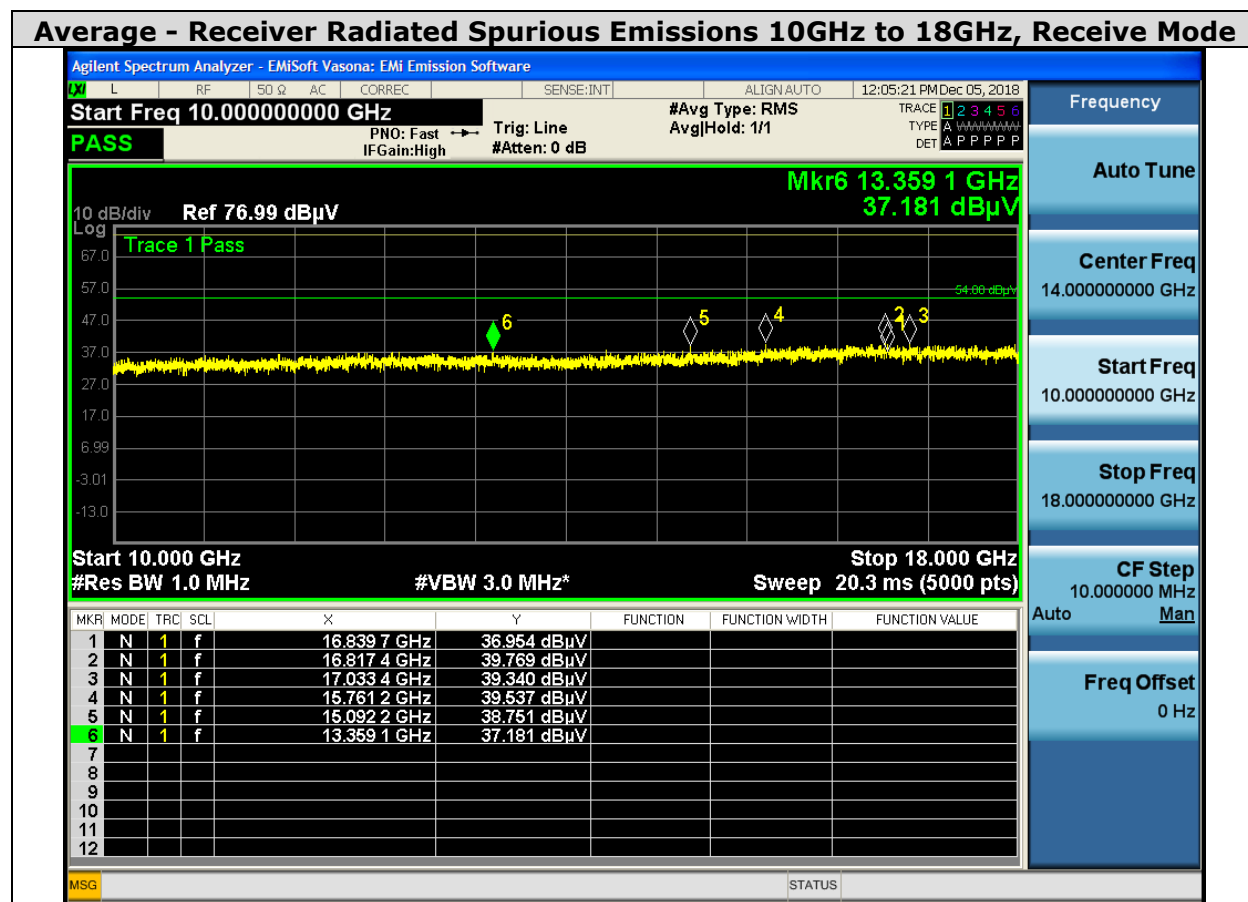


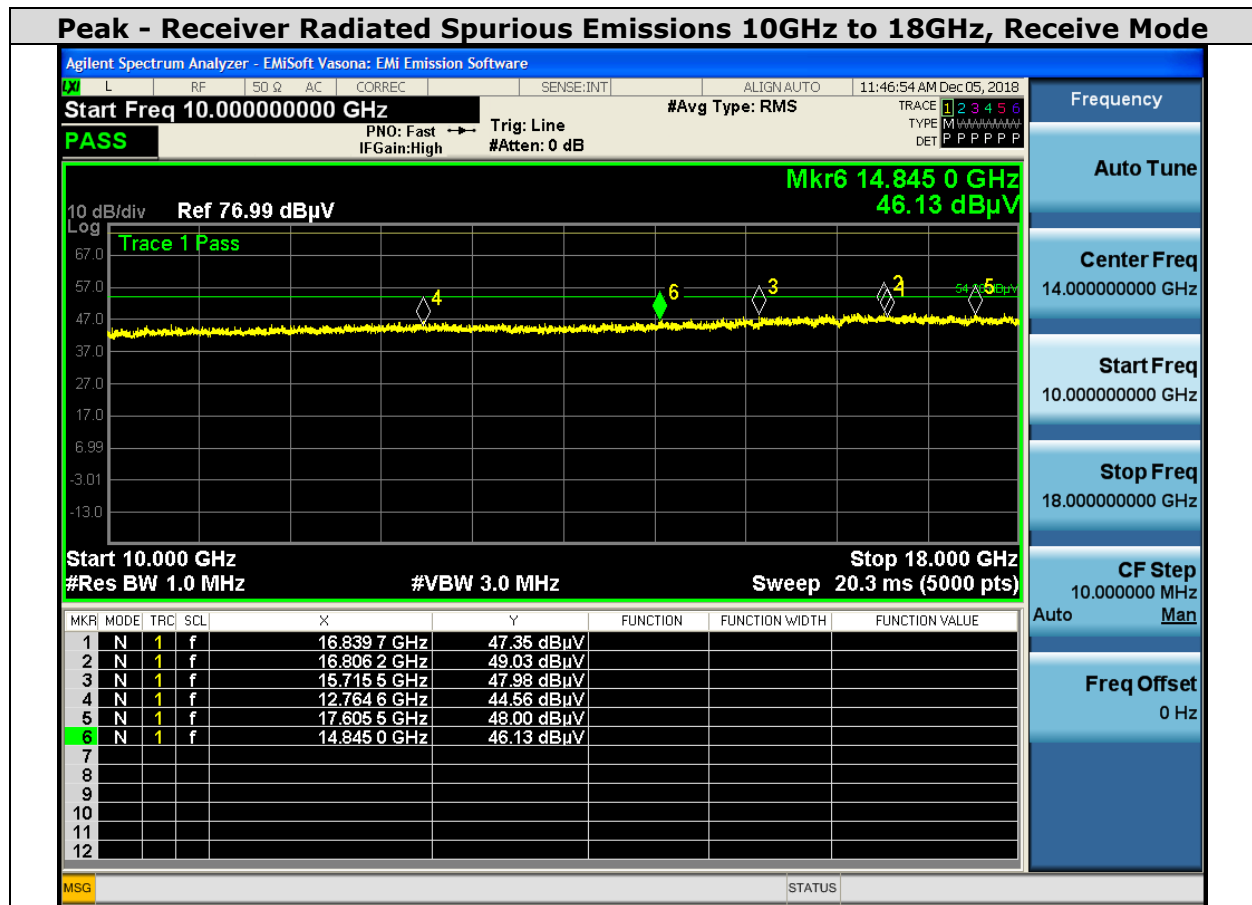
## 6.2.5 Receiver Spurious Emissions – 1GHz-10GHz



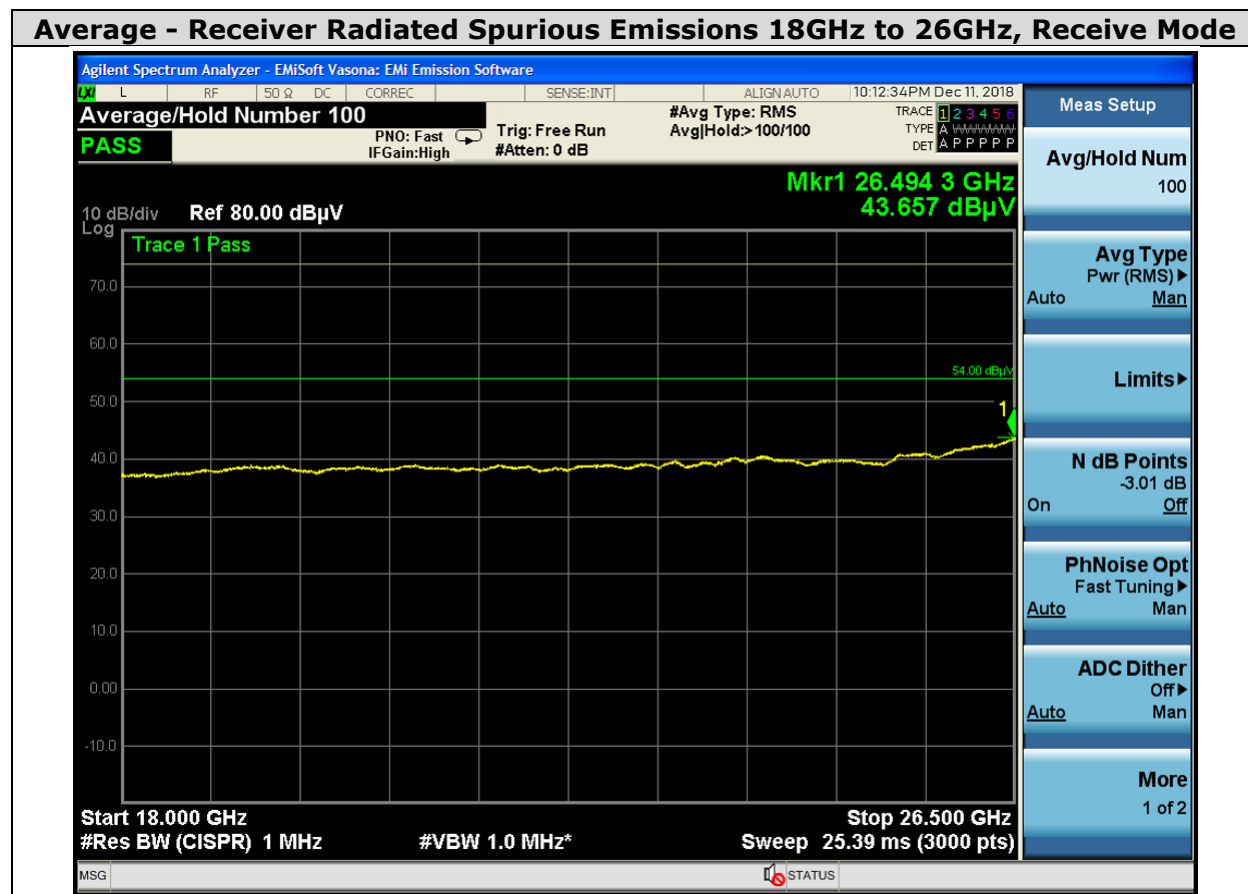


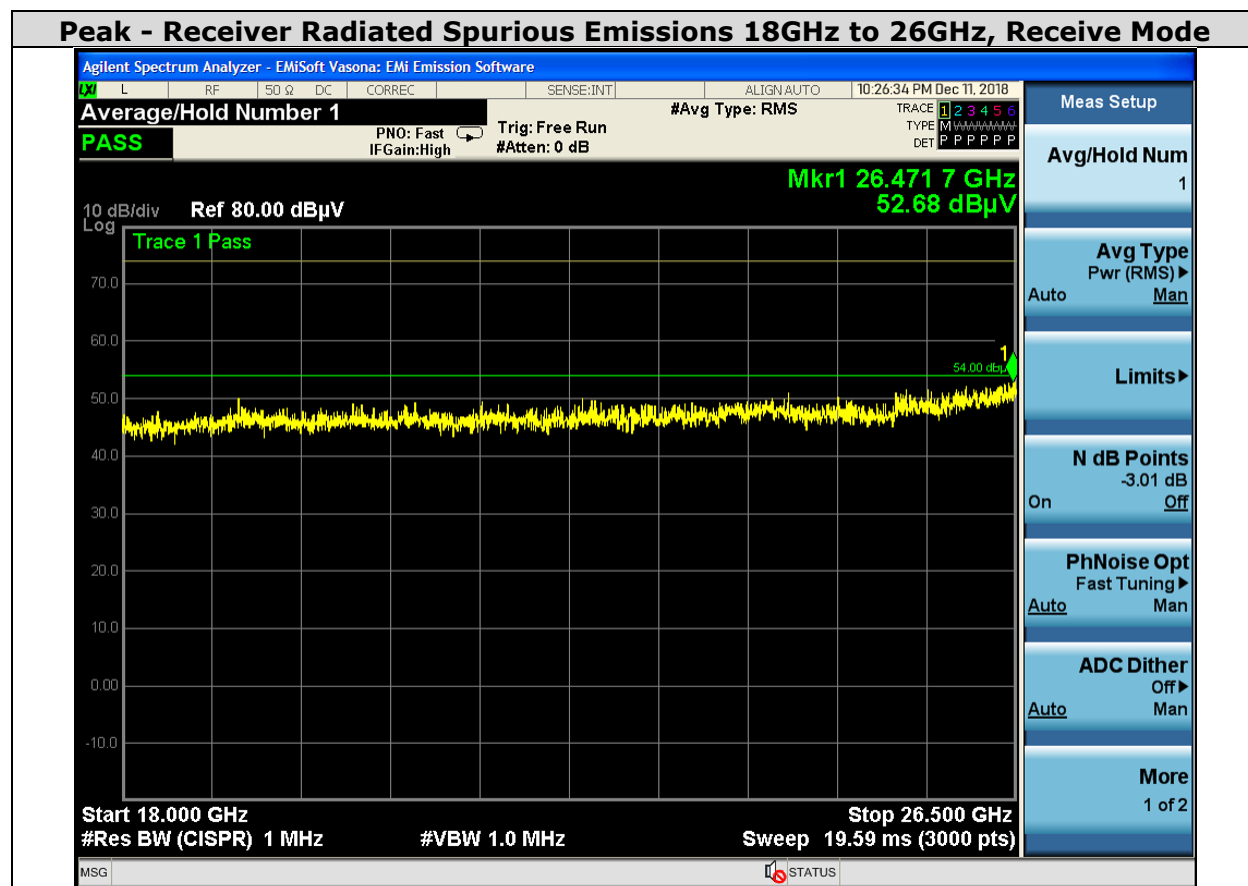
### 6.2.6 Receiver Spurious Emissions – 10GHz-18GHz





### 6.2.7 Receiver Spurious Emissions – 18GHz-26GHz





### **6.3 AC Conducted Emissions**

Note: Only DC power is supplied to the unit.

## Appendix A: List of Test Equipment Used to perform the test

| Equip#                                                                   | Manufacturer/ Model                   | Description                           | Last Cal          | Next Due          |
|--------------------------------------------------------------------------|---------------------------------------|---------------------------------------|-------------------|-------------------|
| <b>Test Equipment used for Radiated Emissions 10/3/2018 – 10/5/2018</b>  |                                       |                                       |                   |                   |
| 3038                                                                     | Keysight (Agilent/HP) / 8447F         | Amplifier                             | 20 Jun. 2018      | 20 Jun. 2019      |
| 4729                                                                     | Fluke / 77 III                        | Digital Multimeter                    | 01 May 2018       | 01 May 2019       |
| 20975                                                                    | Micro-Coax / UFB311A-0-1344-520520    | Coaxial Cable-18GHz                   | 19 Feb. 2018      | 19 Feb. 2019      |
| 25001                                                                    | Micro-Coax / UFB197C-1-0240-504504    | Coaxial RF Cable, 26.5 GHz            | 24 Apr. 2018      | 24 Apr. 2019      |
| 27233                                                                    | York / CNE V                          | Comparison Noise Emitter              | Cal. not required | Cal. not required |
| 30652                                                                    | Sunol Sciences / JB1                  | Combination Antenna, 30MHz-2GHz       | 20 Apr. 2018      | 20 Apr. 2019      |
| 44940                                                                    | Rhode & Schwarz ESU 40                | EMI Receiver, 40GHz                   | 13 Dec. 2018      | 13 Dec. 2019      |
| 45166                                                                    | Stanley / 33-428                      | 26' Tape Measure                      | Cal. not required | Cal. not required |
| 55936                                                                    | Huber + Suhner / Sucoflex 106PA       | RF Type N Antenna Cable 18GHz 8.5m    | 19 Oct. 2017      | 19 Oct. 2018      |
| 56154                                                                    | Huber + Suhner / Sucoflex 104PEA      | Sucoflex N Type blue 7ft Cable        | 18 Jan. 2018      | 18 Jan. 2019      |
| <b>Test Equipment used for Radiated Emissions 12/5/2018 – 12/11/2018</b> |                                       |                                       |                   |                   |
| 5687                                                                     | Fluke / 73 III                        | Digital Multimeter                    | 02 Nov. 2018      | 02 Nov. 2019      |
| 8171                                                                     | Keysight (Agilent/HP) / 8491B Opt 010 | Attenuator                            | 25 Apr. 2018      | 25 Apr. 2019      |
| 21117                                                                    | Micro-Coax / UFB311A-0-2484-520520    | Coaxial Cable – 18GHz                 | 13 Aug. 2018      | 13 Aug. 2019      |
| 27233                                                                    | York / CNE V                          | Comparison Noise Emitter              | Cal. not required | Cal. not required |
| 30654                                                                    | Sunol Sciences / JB1                  | Combination Antenna, 30MHz – 2GHz     | 20 Apr. 2018      | 20 Apr. 2019      |
| 32544                                                                    | ETS Lindgren / 3117                   | Double Ridged Horn Antenna            | 20 Sep. 2018      | 20 Sep. 2019      |
| 34075                                                                    | Schaffner / RSG 2000                  | Reference Spectrum Generator, 1-18GHz | Cal. not required | Cal. not required |
| 34304                                                                    | Micro-Tronics / BRM50702-02           | Band Reject Filter                    | 26 Jun. 2018      | 26 Jun. 2019      |
| 35608                                                                    | Micro-Tronics / BRC50703-02           | Notch Filter                          | 17 Aug. 2018      | 17 Aug. 2019      |
| 35616                                                                    | Micro-Tronics / HPM50112-02           | Notch Filter                          | 03 Jul. 2018      | 03 Jul. 2019      |
| 39123                                                                    | Cisco / TH0118                        | Mast Mount Preamp Array, 1-18GHz      | 02 Apr. 2018      | 02 Apr. 2019      |
| 42015                                                                    | ETS Lindgren / 3117                   | Double Ridged Horn Antenna            | 03 Mar. 2018      | 03 Mar. 2019      |
| 47286                                                                    | Huber + Suhner / Sucoflex 102E        | 40GHz Cable K Connector               | 04 Sep. 2018      | 04 Sep. 2019      |
| 47300                                                                    | Keysight (Agilent/HP) / N9038A        | EMI Receiver                          | 19 Apr. 2018      | 19 Apr. 2019      |
| 49563                                                                    | Huber + Suhner / Sucoflex 106A        | Coaxial Cable, 8m                     | 13 Aug. 2018      | 13 Aug. 2019      |
| 54611                                                                    | Megaphase / RA08-S1S1-12              | SMA Cable                             | 31 Jul. 2018      | 31 Jul. 2019      |
| 54624                                                                    | Megaphase / RA08-S1S1-18              | SMA Cable                             | 31 Jul. 2018      | 31 Jul. 2019      |
| 54654                                                                    | Micro-Tronics / BRC50703-02           | Notch Filter                          | 07 Aug. 2018      | 07 Aug. 2019      |
| 55594                                                                    | Megaphase / GC12-8181-16              | SMA Cable                             | 10 May 2018       | 10 May 2019       |
| 56066                                                                    | Miteq / TTA1800-30-HG-S               | 18GHz SMA Pre-Amplifier               | 21 May 2018       | 21 May 2019       |

|                                                          |                                        |                                   |                      |                      |
|----------------------------------------------------------|----------------------------------------|-----------------------------------|----------------------|----------------------|
| 56159                                                    | Huber + Suhner / Sucoflex<br>104PEA    | Sucoflex N Type blue7ft cable     | 18 Jan. 2018         | 18 Jan. 2019         |
| <b>RF Conducted test equipment 11/5/2018 – 11/8/2018</b> |                                        |                                   |                      |                      |
| 53614                                                    | Keysight (Agilent/HP) / N9030A-<br>550 | PXA Signal Analyzer, 3Hz to 50GHz | 17 Jul. 2018         | 17 Jul. 2019         |
| 57477                                                    | Cisco                                  | Automated Radio Testing Station   | Verify Before<br>Use | Verify Before<br>Use |
| 06325                                                    | Lufft / 5063-33W                       | Dial Hygrometer                   | 27 Aug. 2018         | 27 Aug. 2019         |
| 56330                                                    | Pasternack / PE5019-1                  | Torque Wrench                     | 28 Feb. 2018         | 28 Feb. 2019         |
| <b>RF Conducted test equipment 1/17/2019 – 1/29/2019</b> |                                        |                                   |                      |                      |
| 53614                                                    | Keysight (Agilent/HP) / N9030A-<br>550 | PXA Signal Analyzer, 3Hz to 50GHz | 17 Jul. 2018         | 17 Jul. 2019         |
| 57475                                                    | Cisco                                  | Automated Radio Testing Station   | Verify Before<br>Use | Verify Before<br>Use |
| 54237                                                    | Pasternack / PE5011-1                  | Preset Torque Wrench, 8in/lbs     | 23 Feb. 2018         | 23 Feb. 2019         |
| 06325                                                    | Lufft / 5063-33W                       | Dial Hygrometer                   | 27 Aug. 2018         | 27 Aug. 2019         |

## Appendix B: Abbreviation Key and Definitions

The following table defines abbreviations used within this test report.

| Abbreviation | Description                                                          | Abbreviation | Description                         |
|--------------|----------------------------------------------------------------------|--------------|-------------------------------------|
| EMC          | Electro Magnetic Compatibility                                       | °F           | Degrees Fahrenheit                  |
| EMI          | Electro Magnetic Interference                                        | °C           | Degrees Celsius                     |
| EUT          | Equipment Under Test                                                 | Temp         | Temperature                         |
| ITE          | Information Technology Equipment                                     | S/N          | Serial Number                       |
| TAP          | Test Assessment Schedule                                             | Qty          | Quantity                            |
| ESD          | Electro Static Discharge                                             | emf          | Electromotive force                 |
| EFT          | Electric Fast Transient                                              | RMS          | Root mean square                    |
| EDCS         | Engineering Document Control System                                  | Qp           | Quasi Peak                          |
| Config       | Configuration                                                        | Av           | Average                             |
| CIS#         | Cisco Number (unique identification number for Cisco test equipment) | Pk           | Peak                                |
| Cal          | Calibration                                                          | kHz          | Kilohertz ( $1 \times 10^3$ )       |
| EN           | European Norm                                                        | MHz          | MegaHertz ( $1 \times 10^6$ )       |
| IEC          | International Electro technical Commission                           | GHz          | Gigahertz ( $1 \times 10^9$ )       |
| CISPR        | International Special Committee on Radio Interference                | H            | Horizontal                          |
| CDN          | Coupling/Decoupling Network                                          | V            | Vertical                            |
| LISN         | Line Impedance Stabilization Network                                 | dB           | decibel                             |
| PE           | Protective Earth                                                     | V            | Volt                                |
| GND          | Ground                                                               | kV           | Kilovolt ( $1 \times 10^3$ )        |
| L1           | Line 1                                                               | $\mu$ V      | Microvolt ( $1 \times 10^{-6}$ )    |
| L2           | Line2                                                                | A            | Amp                                 |
| L3           | Line 3                                                               | $\mu$ A      | Micro Amp ( $1 \times 10^{-6}$ )    |
| DC           | Direct Current                                                       | mS           | Milli Second ( $1 \times 10^{-3}$ ) |
| RAW          | Uncorrected measurement value, as indicated by the measuring device  | $\mu$ S      | Micro Second ( $1 \times 10^{-6}$ ) |
| RF           | Radio Frequency                                                      | $\mu$ S      | Micro Second ( $1 \times 10^{-6}$ ) |
| SLCE         | Signal Line Conducted Emissions                                      | m            | Meter                               |
| Meas dist    | Measurement distance                                                 | Spec dist    | Specification distance              |
| N/A or NA    | Not Applicable                                                       | SL           | Signal Line (or Telecom Line)       |
| P            | Power Line                                                           | L            | Live Line                           |
| N            | Neutral Line                                                         | R            | Return                              |
| S            | Supply                                                               | AC           | Alternating Current                 |

## **Appendix C: Software Used to Perform Testing**

EMIsoft Vasona: version 6.047

Automated Testing Software: RF\_Automation.vi version 44

## Appendix D: Test Procedures

Measurements were made in accordance with

- KDB 558074 - D01 DTS Meas. Guidance v04
- KDB 662911 - MIMO
- ANSI C63.4 2014 Unintentional Radiators
- ANSI C63.10 2013 Intentional Radiators

Test procedures are summarized below

|                                |                |
|--------------------------------|----------------|
| FCC 2.4GHz Test Procedures     | EDCS # 1445042 |
| FCC 2.4GHz RSE Test Procedures | EDCS # 1480386 |

## **Appendix E: Scope of Accreditation (A2LA certificate number 1178-01)**

The scope of accreditation of Cisco Systems, Inc. can be found on the A2LA web page at:

<http://www.a2la.org/scopepdf/1178-01.pdf>

## **Appendix F: Test Assessment Plan**

Test Plan EDCS# 15438021  
Power Tables EDCS# 11793772