| EMC TEST REPORT | |
|---|---|
| **TEST REPORT NUMBER** | DBN 1528TEL187-A1 |
| **TEST REPORT DATE** | 17th Aug 2015 |
| **TEST REPORT VERSION** | 1.0 |
| **MANUFACTURER** | Cambium Networks |
| **PRODUCT NAME** | ePMP 2.4GHz Transceiver (Force 200) |
| **PRODUCT MODEL NO.** | C024900P161A |
| **PART NO.** | C024900C161A, 142000001127A, 142000001227A |
| **REV** | 0B |
| **CONDITION OF EUT WHEN RECEIVED** | GOOD and in working condition |
| **ISSUED TO** | **ACCTON TECHNOLOGY CORP**<br>1 creation 3rd RD<br>science-based industrial park hsinchu 300<br>TAIWAN |
| **ISSUED BY** | **TARANG Lab**<br>Wipro Technologies, SJP2, Survey#70,77,78/8A,<br>Dodda Kanelli, Sarjapur road, Bangalore.<br>Karnataka. India - 560 035<br>Tel: +91-80-30292929 Fax: +91-80-30298200<br>Email: tarang.planet@wipro.com<br>Web: www.wipro.com |

## AMENDMENT HISTORY

| Amendment Number | Amendment Date | Author of Amendment | Previous Report Version | Previous Report Date |
|---|---|---|---|---|
| | | | | |
| | | | | |

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# 1. TEST REPORT SUMMARY

| | | | | |
|---|---|---|---|---|
| **Applicant** | Cambium Networks | | | |
| **Manufacturer** | Cambium Networks | | | |
| **Equipment Under Test** | ePMP 2.4GHz Transceiver (Force 200) | | | |
| **Model** | C024900P161A | | | |
| **Serial number** | **Type of test** | **Serial no.** | **Wi-Fi MAC** | **Ethernet MAC** |
| | **Radiated** | AF02016113 | 000456F80375 | 000456F80374 |
| | **Radiated** | AF02016179 | 000456F803F9 | 000456F803F8 |
| | **Conducted** | AF02016179 | 000456F803F9 | 000456F803F8 |
| **Date of Submission** | 20th Apr 2015 | | | |
| **Date of Test** | 20th Apr 2015 to 07 Aug 2015 | | | |
| **Venue of Test** | Tarang Lab | | | |

| **Applicable Standard** | **FCC Section** | **RSS Rule part** | **Description** | **Results** |
|---|---|---|---|---|
| 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C;<br><br>RSS-Gen, Issue 4, Nov 2014 | §15.207 | RSS-Gen, 8.8 | Conducted Emission test | PASS |
| | §15.205, §15.209 | RSS-Gen, 8.1, RSS-Gen, 7.1.2 | Radiated Emissions test | PASS |

**ePMP 2.4GHz Transceiver (Force 200)** was tested by Tarang Lab as per the standards that are listed in the table above. Based on the observations during the test and interpretations by Tarang lab, results have been indicated. The test results produced in this report shall apply only to the above sample that have been tested under the specific conditions and modes of testing as described in the report. Other similar equipment may not necessarily reproduce same result due to production tolerances and measurement uncertainties. Any measurement uncertainties listed in this report are for information purpose only.

The results shall stand invalid, in case there are any modifications / additions / removals to the hardware or software or end use atmosphere to the product tested. This report shall not be modified or in any way revised unless it is expressly permitted and endorsed by Tarang lab, through a duly authorized representative. Particulars on Manufacturer / Supplier / Product configuration / performance criteria, given in this report, are based on the information given by the customer, along with test request. Tarang does not assume any responsibility for the correctness of such information for the above mentioned equipment under test.

Customer acknowledges that this is a test report and not a certificate to gain market access for the product. To gain market access, Customer needs appropriate clearance from the Government or authorized agency for the target market. For markets that allow self-declaration, customer needs to follow the procedure defined by the target market.

| Prepared by | Reviewed by | Approved by |
|---|---|---|
|  |  |  |
| Subhendu J | Albin A | Rajneesh R |
| Test Engineer | Principal EMC Test Engineer | Functional Head |

# 2. GENERAL INFORMATION

## 2.1 TEST DETAILS

The tests documented in this report are performed according to the following standards:

- ANSI C63.4-2014
- 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C
- RSS-Gen, Issue 4, Nov 2014

## 2.2 TEST FACILITY DETAILS

All the tests were carried out at Tarang – Product Qualification and Compliance Planet located at Wipro Limited, SJP2, Dodda Kanelli, Sarjapur road, Bangalore, Karnataka, India. 560035.

Following are the accreditation and listing details for Tarang.

| Accreditation / Listing body | Registration / Company / Certificate Number |
|---|---|
| FCC (Federal Communications Commission) | Registration Number: 799247<br>http://www.fcc.gov/ |
| IC (Industry Canada) | Company Number: 9023A<br>http://www.ic.gc.ca |
| TEC Approval | Certificate Number: TEC/MRA/CAB/IND-D/3<br>CAB Identification: IND003 |
| DGAQA Approval | 1415/F-15/DGAQA/Aircraft |
| CEMILAC approval | Certificate Number: F-07-22<br>Reference Number: CEMILAC/6042/TH-13/TC & S |

## 2.3 MEASUREMENT UNCERTAINTY

The following measurement uncertainties are applicable to the relevant tests that are mentioned below:

| Test performed | Measurement Uncertainty |
|---|---|
| Radiated Emission from 9 kHz to 30MHz at 1meter | ±1.9055 dB |
| Radiated Emission from 30MHz to 1GHz at 3meter | ±4.6670 dB |
| Radiated Emission from 1 GHz to 18 GHz at 3meter | ±3.2271 dB |
| Radiated Emission from 18GHz to 26.5GHz at 3meter | ±3.7810 dB |
| Radiated Emission from 26.5GHz to 40GHz at 3meter | ±3.7940 dB |
| Conducted Emission from 150 kHz to 30MHz | ±1.6322 dB |

# 3. INSTRUMENTATION AND CALIBRATION

## 3.1 TEST AND MEASURING EQUIPMENT

The list of following measuring equipment used for this testing conforms to the applicable standards. Performance of all test and measuring equipment including any accessories are checked periodically to ensure accuracy.

## 3.2 EQUIPMENTS USED

### 3.2.1 RADIATED EMISSION TESTING

| Name of Equipment | Manufacturer | Model No | Serial No | Calibration Due |
|---|---|---|---|---|
| EMI Test Receiver | R&S | ESU8 | 100324 | 10th Mar 2016 |
| EMI Test Receiver | R&S | ESIB40 | 100306 | 04th Jul 2016 |
| Hybrid Log Periodic Antenna | TDK | HLP-3003C | 130334 | 25th Jul 2015 |
| Pre-Amplifier | SONOMA | 310 | 270817 | 14th Apr 2016 |
| Double Ridged BB Horn | SME | BBHA 9120D | 9120D 688 | 05th Aug 2015 |
| Broadband Horn Antenna | SME | BBHA 9170 | 9170 336 | 11th Nov 2015 |
| Preamplifier | TDK RF solutions | PA 02 | 100008 | 14th Apr 2016 |
| Preamplifier | TDK RF solutions | Preamp | 2007331 | 14th Apr 2016 |
| Preamplifier | TDK RF solutions | Preamp | 2007332 | 14th Apr 2016 |
| Active Loop Antenna | ETS Lindgren | 6507 | 00104711 | 22nd Apr 2015 |
| Tunable Band reject/Notch filter | Wainwright Instruments GmbH | WTRCJV8-5150-5850-40-160-50SSK | 01 | NA |

### 3.2.2 CONDUCTED EMISSION TESTING

| | | | | |
|---|---|---|---|---|
| EMI Test Receiver | R&S | ESIB40 | 100306 | 04th Jul 2016 |
| V-LISN | SME | NNLK 8128 | 8128-243 | 08th Aug 2015 |
| Pulse Limiter | Impuls-Bergrelzer | ESH3-Z2 | 100718 | 26th Mar 2016 |

# 4. PRODUCT INFORMATION

## 4.1DESCRIPTION OF THE PRODUCT

EUT is a Point to point & Point to Multipoint Fixed outdoor Transceiver.

| | |
|---|---|
| **Product Category / Type of Equipment** | TEL (Telecom) |
| **EUT Operating AC Voltage** | 120V AC |
| **Max EUT AC Operating Current** | 0.5A |
| **Max EUT AC Power Rating** | 60W |
| **EUT Operating DC Voltage** | 30V DC |
| **Max EUT DC Operating Current** | 0.5A |
| **Max EUT DC Power Rating** | 12W |

## 4.2SOFTWARE AND FIRMWARE DETAILS

The ePMP 2.4GHz Transceiver (Force 200) Radio was configured with test software and configured to have the following settings during the course of testing:

- 40MHz modulation bandwidth for low, mid & high channels
  - Rate - HT40,
  - 54Mbps OFDM, MCS15 / 270 Mbps
  - Interframe spacing is tx100
  - Tx Power is 31.5 for 2.15dBi antenna configuration

- 5MHz modulation bandwidth for low, mid & high channels
  - Rate – HT20,
  - 54Mbps OFDM, MCS15 / 130 Mbps
  - Interframe spacing is tx100
  - Tx Power is 31.5 for 2.15dBi antenna configuration

The unit was monitored for transmission using an auxiliary antenna before and after the radiated tests.

## 4.3PRODUCT CONFIGURATION

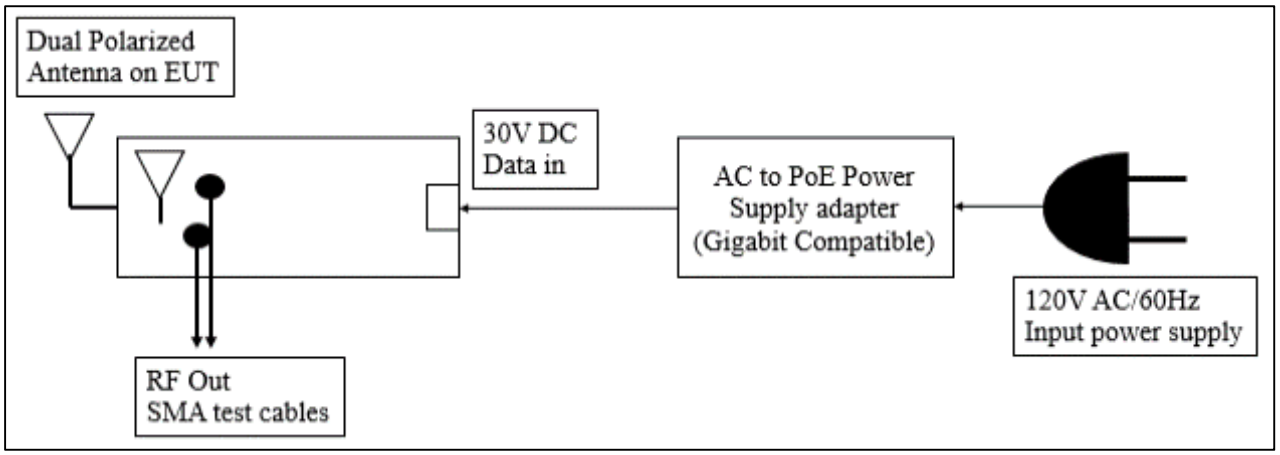


**Figure 1 EUT Configuration**

Figure 1 shows the product configuration during the tests. The EUT was powered through AC power supply (120VAC / 60Hz). The EUT was connected to Ethernet switch by using RJ45 cable. Following power supply module was used during the test to power ON the EUT.

| Name of the Equipment | Manufacturer | Model Number | Serial Number |
|---|---|---|---|
| Switching Power Supply Gigabit Compatible | PHIHONG | PSA15M-300 (AP) | N000900L001A |

During all test, RF ports of EUT were terminated using 50Ω terminations. and EUT was configured to radiate at mentioned operating power, laptop was kept near to the EUT and connection was established in conducted measurements.

The operating frequency range of EUT is from 2400MHz to 2483.5MHz, the channels with their frequency is as follows:

| 5MHz Modulation Bandwidth | 40MHz Modulation Bandwidth |
|---|---|
| • **Low Channel**:2412MHz<br>• **Mid Channel** 2442MHz<br>• **High Channel**:2477MHz | • **Low Channel**: 2427MHz<br>• **Mid Channel** 2427MHz<br>• **High Channel**: 2462MHz |

# 5. TEST SETUP DETAILS

## 5.1SUPPORTING EQUIPMENT

| Name of the Equipment | Manufacturer | Model Number | Serial Number |
|---|---|---|---|
| Laptop | Wipro Technologies Ltd | WLG7E1100 | 1221 |

## 5.2I/O CABLE

| Cable No. | Cable Name | Cable Length | Power / Interconnection cable | Shielded / Unshielded |
|---|---|---|---|---|
| Cable - 1 | Cat. 5E_Ethernet cable | 0.5 meter | Interconnection | Unshielded |
| Cable - 2 | Cat. 5E_Ethernet cable | 2 meter | Interconnection | Unshielded |
| Cable - 3 | RF cable (50 Ω) | 0.125 meter | Interconnection | Shielded |
| Cable - 4 | Power Cord | 1 meter | Power | Unshielded |

# 6. APPLICABLE TESTS

| Applicable Standard | Description | Test level / Test Voltage | Applicability |
|---|---|---|---|
| 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C;<br><br>RSS-Gen, Issue 4, Nov 2014 | Conducted Emission test | 150 kHz to 30MHz | Power lines |
| | Radiated Emissions test | 9kHz to 26.5GHz | Enclosure |

# 7. TEST RESULT

## 7.1 CONDUCTED EMISSION

### 7.1.1 Test Specification

| | |
|---|---|
| **Test Standard** | 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C<br>RSS-Gen, Issue 4, Nov 2014 |
| **Test Procedure** | ANSI C63.4-2014 |
| **Type of Cable (Shielded/Unshielded)** | Unshielded |
| **Frequency Range** | 150 kHz to 30MHz |
| **Resolution Bandwidth** | 9 kHz |
| **Video Bandwidth** | 30 kHz |
| **Step size** | 4 kHz |
| **Pre Scan Measurement Time** | 20ms |
| **Final Measurement Time** | 1 s |
| **Attenuation** | 10 dB |
| **Detector** | Peak, Quasi peak and Average |
| **Input Voltage** | 120V AC |
| **Input Frequency** | 60 Hz |
| **Temperature** | 21.2 ºC |
| **Humidity** | 51.0 % |
| **Tested By** | Narendra |
| **Test Date** | 05th Aug 2015 |

### 7.1.2 Limits

#### 7.1.2.1 Limits for Power Lines

| Standard | Reference section | Frequency range | Quasi Peak Limit (dBµV/m) | Average Limit (dBµV/m) |
|---|---|---|---|---|
| 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C<br><br>RSS-Gen, Issue 4, Nov 2014 | §15.207<br><br>8.8 | 150 kHz to 500 kHz<br>500 kHz to 5 MHz<br>5 MHz to 30 MHz | 66 to 56*<br>56<br>60 | 56 to 46*<br>46<br>50 |

*Note: * Decreases with the logarithm of the frequency*

## 7.1.3 Test Setup

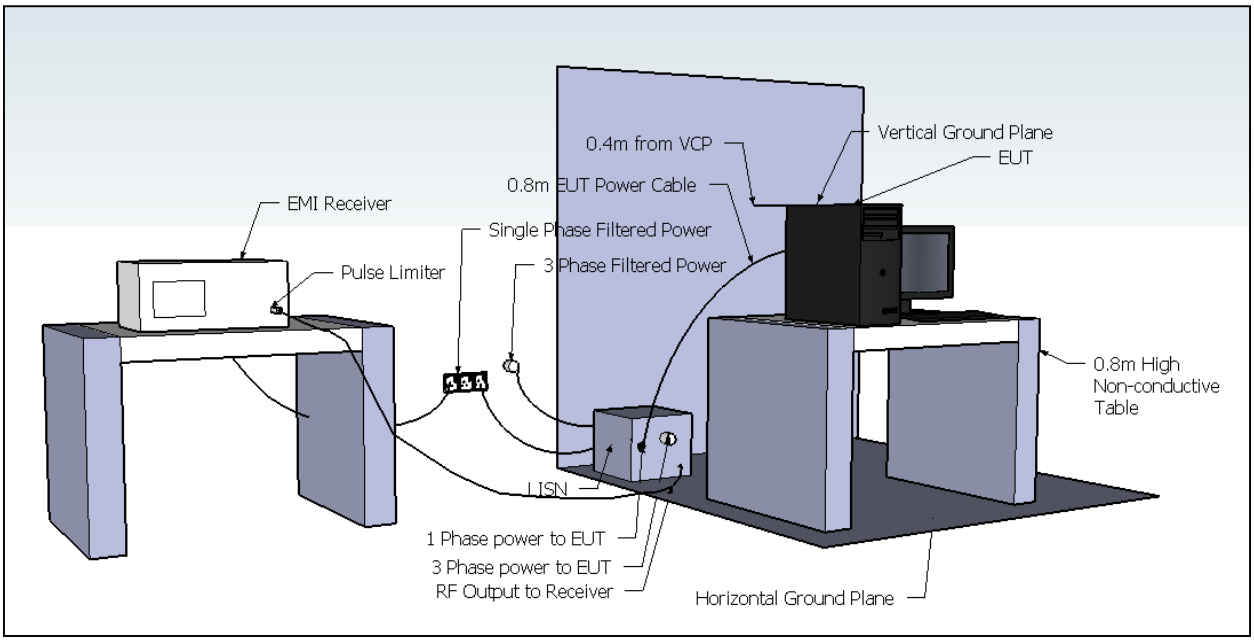


**Figure 2 Typical test setup for conducted Emission test**

## 7.1.4 Test Procedure

The test procedure is in accordance with ANSI C63.4-2014.

The Conducted Emission test was performed in the test site with a horizontal ground reference plane and a vertical ground reference plane bonded together. The EUT was placed on a 0.8m height non-metallic wooden table. The Power supply to the EUT was feed through a LISN (50Ω/50µH). The conducted emission measurement test system was configured through software as per standard. The EUT was powered through power adapter connected to LISN and getting charged by 120 V / 60Hz AC supply and made operational

## 7.1.5 Result (Supporting Graphs / Data) For 40 MHz Modulation Bandwidth

### 7.1.5.1 Low Channel_2427 MHz

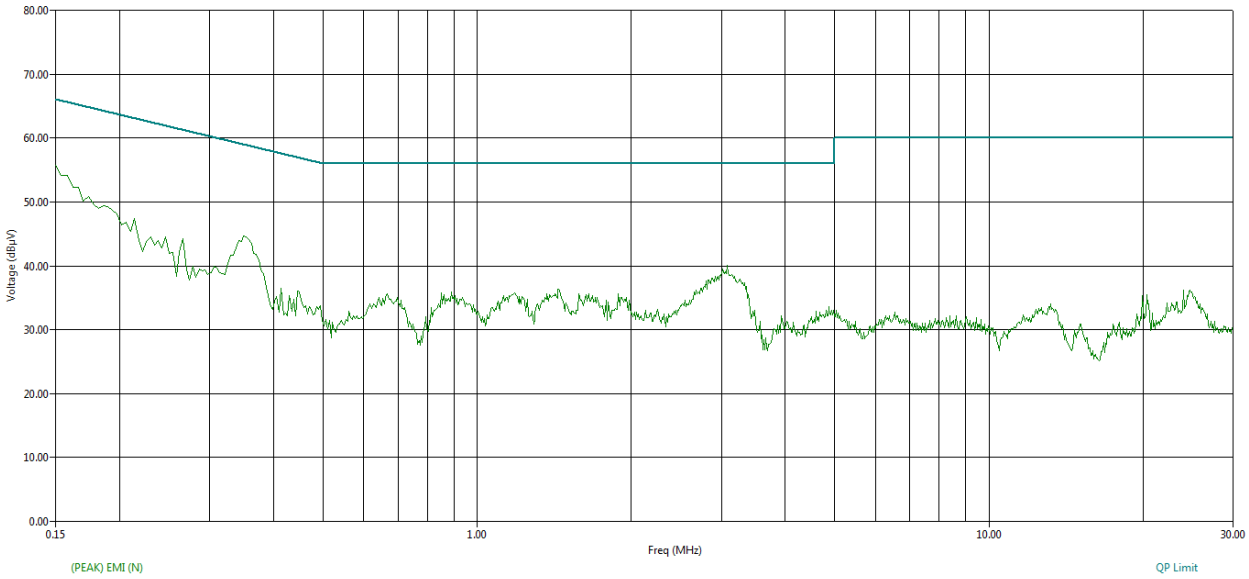


**Figure 3: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

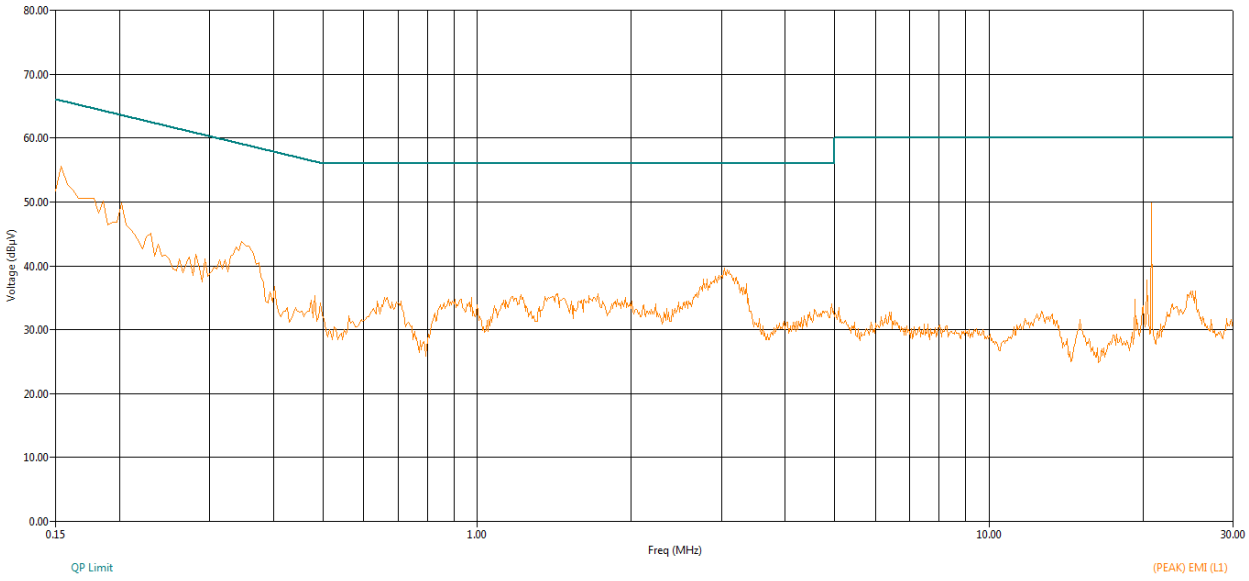


**Figure 4: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 38.06 | 10.11 | 0.10 | 0.00 | 48.26 | 65.82 | -17.56 |
| 0.15 | 0.15 | L1 | 38.10 | 10.11 | 0.00 | 0.07 | 48.27 | 65.94 | -17.67 |
| 0.35 | 0.35 | N | 31.77 | 10.10 | 0.09 | 0.00 | 41.96 | 59.02 | -17.06 |
| 0.35 | 0.36 | L1 | 30.91 | 10.10 | 0.00 | 0.06 | 41.07 | 58.80 | -17.73 |
| 3.04 | 3.04 | L1 | 26.18 | 10.11 | 0.00 | 0.10 | 36.39 | 56.00 | -19.61 |
| 3.08 | 3.08 | N | 26.30 | 10.11 | 0.13 | 0.00 | 36.54 | 56.00 | -19.46 |
| 4.88 | 4.88 | N | 18.24 | 10.11 | 0.16 | 0.00 | 28.50 | 56.00 | -27.50 |
| 12.70 | 12.71 | L1 | 16.05 | 10.27 | 0.00 | 0.24 | 26.57 | 60.00 | -33.43 |
| 13.21 | 13.22 | N | 15.88 | 10.29 | 0.29 | 0.00 | 26.46 | 60.00 | -33.54 |
| 19.34 | 19.33 | L1 | 12.31 | 10.39 | 0.00 | 0.31 | 23.02 | 60.00 | -36.98 |
| 20.36 | 20.36 | L1 | 14.99 | 10.41 | 0.00 | 0.32 | 25.72 | 60.00 | -34.28 |
| 20.39 | 20.39 | N | 15.76 | 10.41 | 0.37 | 0.00 | 26.54 | 60.00 | -33.46 |
| 20.75 | 20.75 | L1 | 13.45 | 10.42 | 0.00 | 0.33 | 24.20 | 60.00 | -35.80 |
| 24.68 | 24.69 | N | 19.77 | 10.51 | 0.39 | 0.00 | 30.67 | 60.00 | -29.33 |
| 25.30 | 25.30 | L1 | 18.88 | 10.52 | 0.00 | 0.37 | 29.77 | 60.00 | -30.23 |

**Table 1 Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

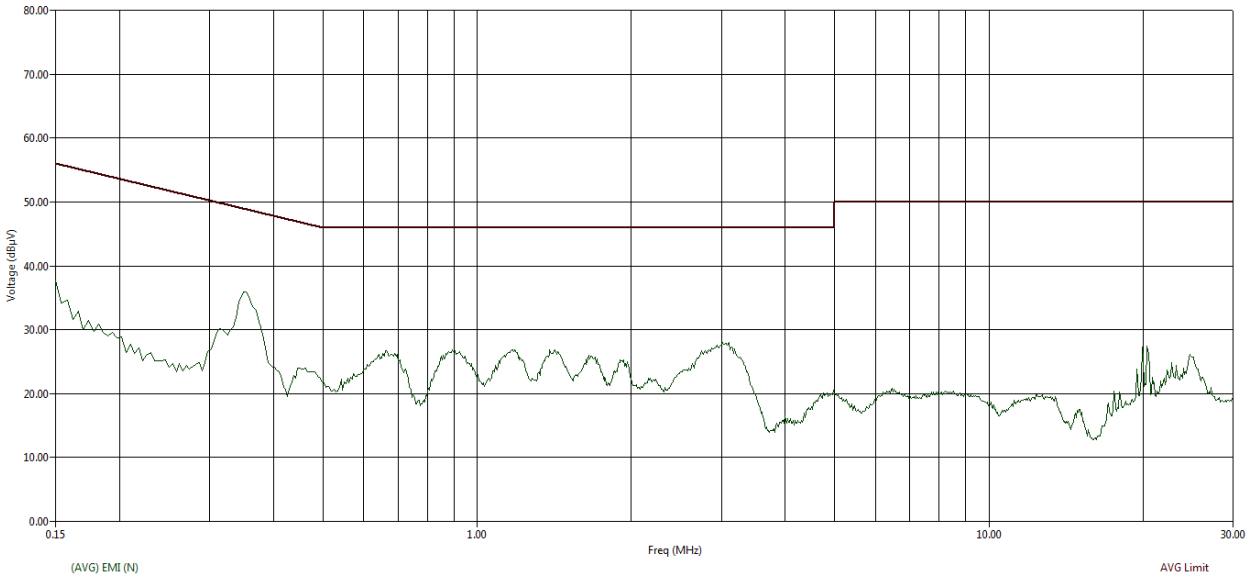


**Figure 5: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

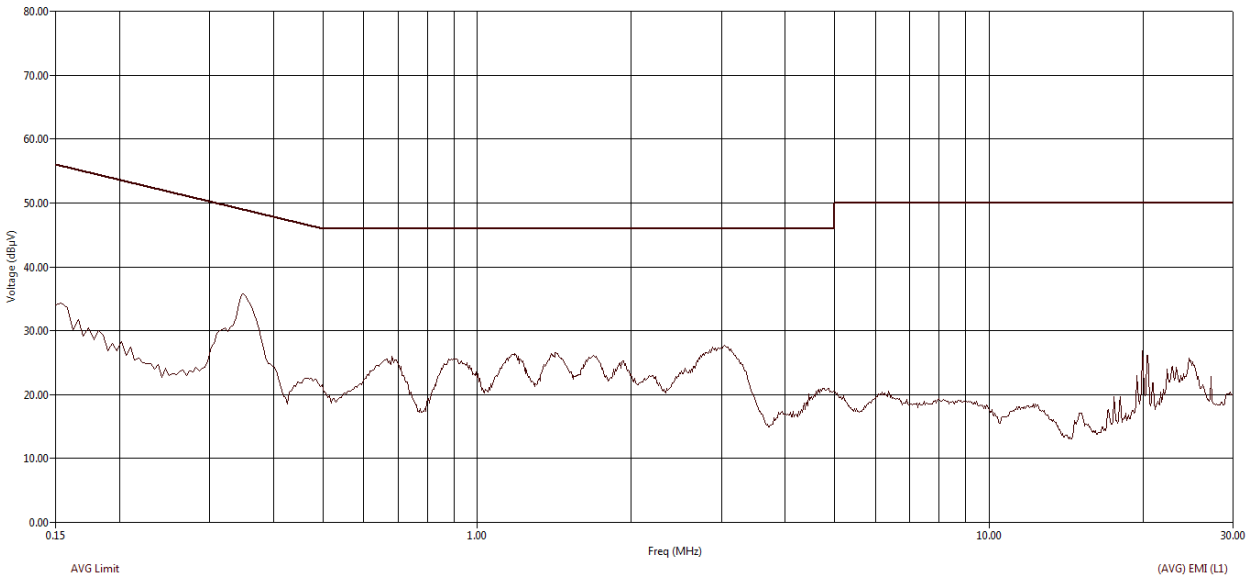


**Figure 6: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 23.57 | 10.11 | 0.10 | 0.00 | 33.77 | 55.82 | -22.05 |
| 0.15 | 0.15 | L1 | 24.58 | 10.11 | 0.00 | 0.07 | 34.76 | 55.94 | -21.18 |
| 0.35 | 0.35 | N | 26.12 | 10.10 | 0.09 | 0.00 | 36.31 | 49.02 | -12.71 |
| 0.35 | 0.36 | L1 | 24.70 | 10.10 | 0.00 | 0.06 | 34.86 | 48.80 | -13.94 |
| 3.04 | 3.04 | L1 | 18.37 | 10.11 | 0.00 | 0.10 | 28.58 | 46.00 | -17.42 |
| 3.08 | 3.08 | N | 18.46 | 10.11 | 0.13 | 0.00 | 28.70 | 46.00 | -17.30 |
| 4.88 | 4.88 | N | 10.81 | 10.11 | 0.16 | 0.00 | 21.08 | 46.00 | -24.92 |
| 12.70 | 12.71 | L1 | 5.60 | 10.27 | 0.00 | 0.24 | 16.12 | 50.00 | -33.88 |
| 13.21 | 13.22 | N | 7.02 | 10.29 | 0.29 | 0.00 | 17.60 | 50.00 | -32.40 |
| 19.34 | 19.33 | L1 | 6.06 | 10.39 | 0.00 | 0.31 | 16.77 | 50.00 | -33.23 |
| 20.36 | 20.36 | L1 | 8.98 | 10.41 | 0.00 | 0.32 | 19.71 | 50.00 | -30.29 |
| 20.39 | 20.39 | N | 9.54 | 10.41 | 0.37 | 0.00 | 20.33 | 50.00 | -29.67 |
| 20.75 | 20.75 | L1 | 7.51 | 10.42 | 0.00 | 0.33 | 18.26 | 50.00 | -31.74 |
| 24.68 | 24.69 | N | 13.78 | 10.51 | 0.39 | 0.00 | 24.67 | 50.00 | -25.33 |
| 25.30 | 25.30 | L1 | 12.58 | 10.52 | 0.00 | 0.37 | 23.47 | 50.00 | -26.53 |

**Table 2: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

### 7.1.5.2 Mid Channel_2442 MHz

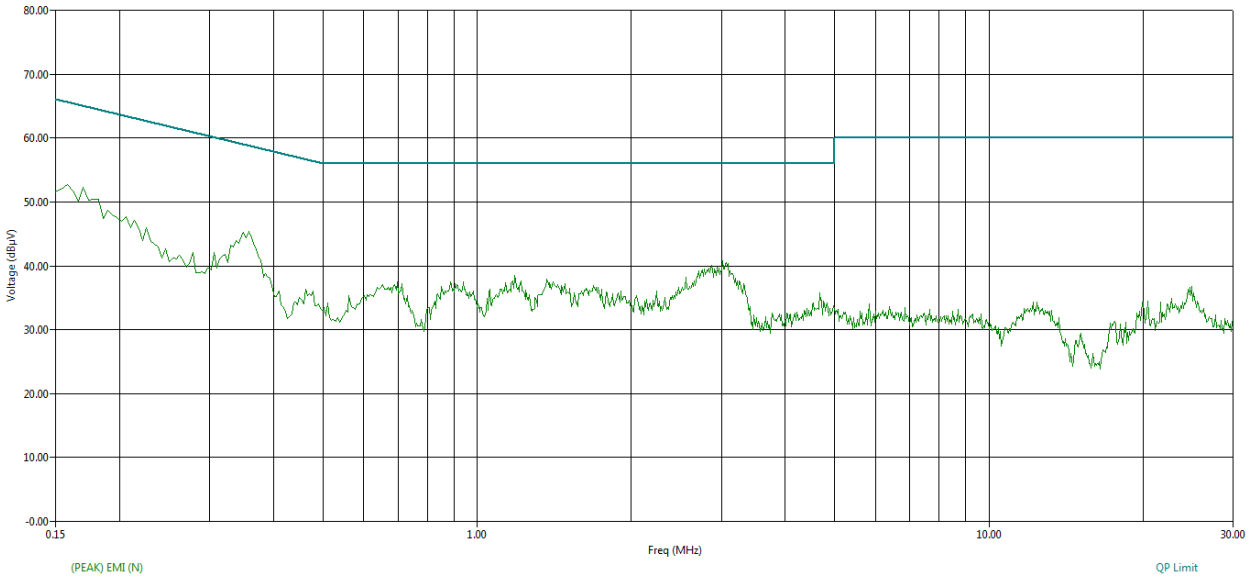


**Figure 7: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

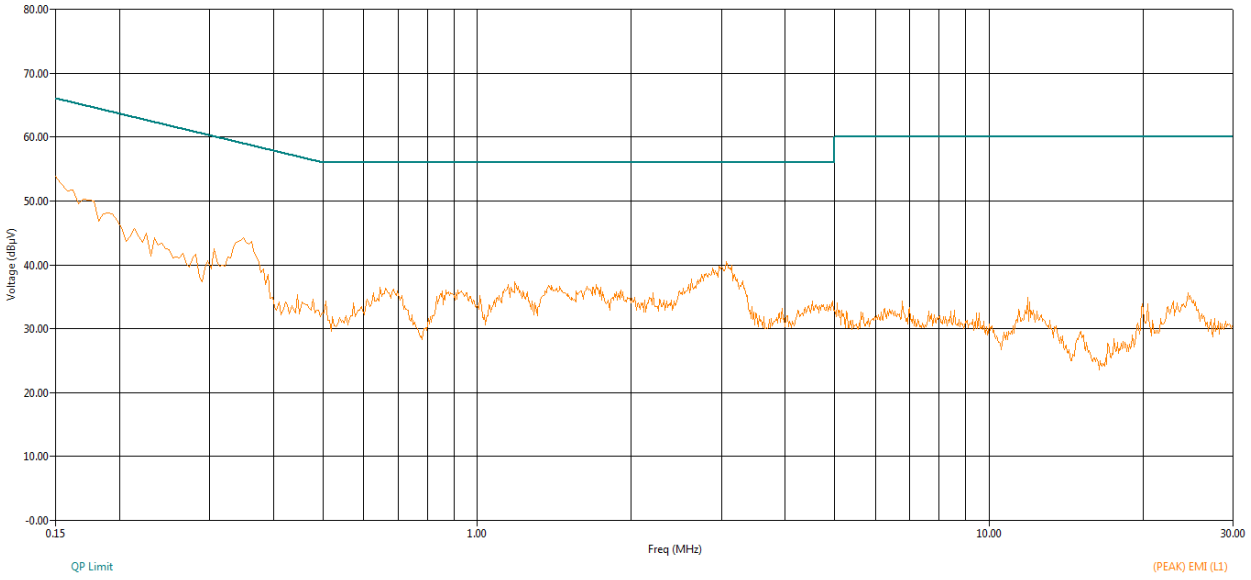


**Figure 8: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | L1 | 36.68 | 10.11 | 0.00 | 0.07 | 46.85 | 66.00 | -19.15 |
| 0.16 | 0.16 | N | 35.89 | 10.11 | 0.10 | 0.00 | 46.10 | 65.57 | -19.47 |
| 0.35 | 0.35 | N | 32.08 | 10.10 | 0.09 | 0.00 | 42.27 | 58.96 | -16.69 |
| 0.35 | 0.35 | L1 | 31.16 | 10.10 | 0.00 | 0.06 | 41.33 | 58.96 | -17.64 |
| 3.02 | 3.01 | N | 25.61 | 10.11 | 0.13 | 0.00 | 35.85 | 56.00 | -20.15 |
| 3.07 | 3.07 | L1 | 25.54 | 10.11 | 0.00 | 0.10 | 35.76 | 56.00 | -20.24 |
| 11.89 | 11.89 | L1 | 16.27 | 10.25 | 0.00 | 0.23 | 26.75 | 60.00 | -33.25 |
| 12.43 | 12.44 | N | 17.11 | 10.27 | 0.28 | 0.00 | 27.65 | 60.00 | -32.35 |
| 24.50 | 24.50 | L1 | 18.27 | 10.51 | 0.00 | 0.37 | 29.15 | 60.00 | -30.85 |
| 24.95 | 24.95 | N | 18.95 | 10.52 | 0.39 | 0.00 | 29.86 | 60.00 | -30.14 |

**Table 3: Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

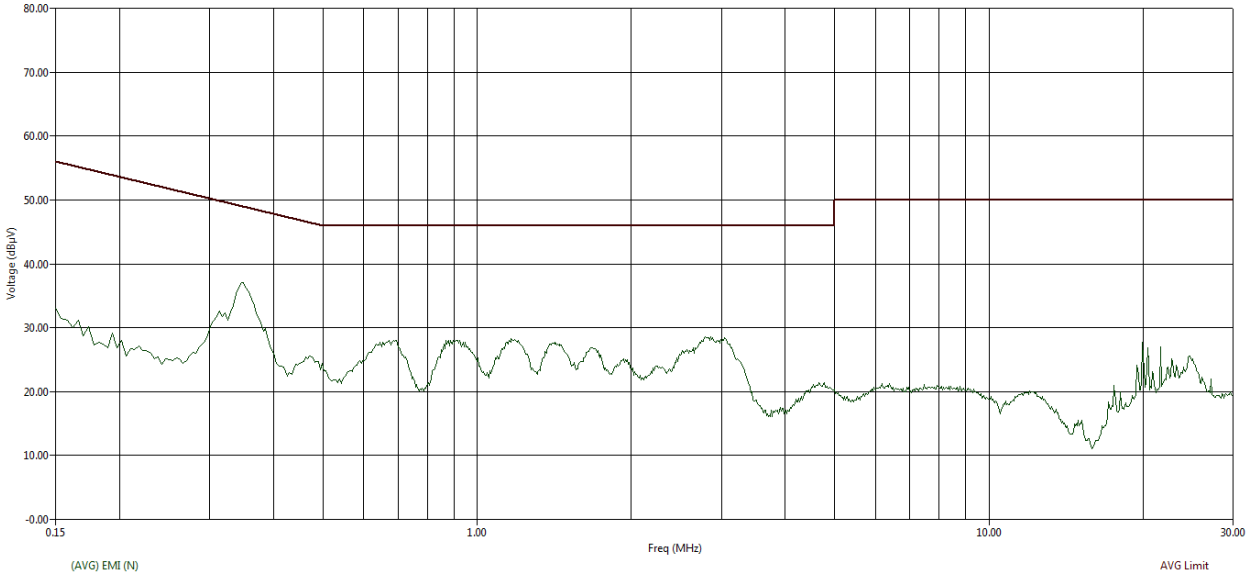


**Figure 9: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

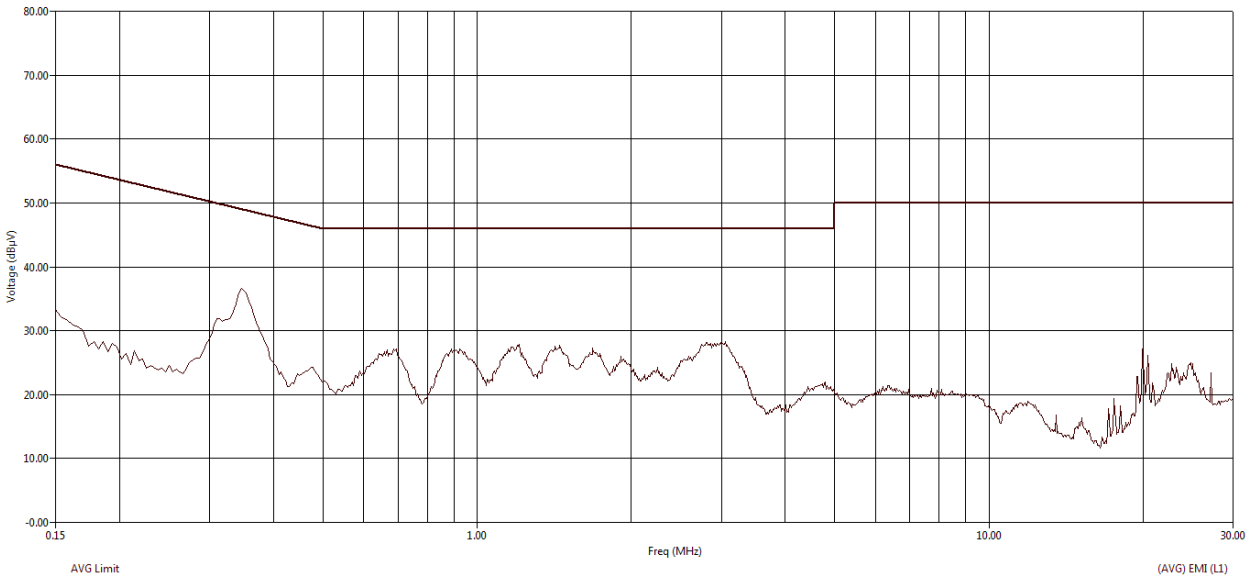


**Figure 10: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | L1 | 23.58 | 10.11 | 0.00 | 0.07 | 33.75 | 56.00 | -22.25 |
| 0.16 | 0.16 | N | 21.51 | 10.11 | 0.10 | 0.00 | 31.71 | 55.57 | -23.86 |
| 0.35 | 0.35 | N | 26.45 | 10.10 | 0.09 | 0.00 | 36.64 | 48.96 | -12.32 |
| 0.35 | 0.35 | L1 | 25.54 | 10.10 | 0.00 | 0.06 | 35.71 | 48.96 | -13.26 |
| 3.02 | 3.01 | N | 17.94 | 10.11 | 0.13 | 0.00 | 28.19 | 46.00 | -17.81 |
| 3.07 | 3.07 | L1 | 17.98 | 10.11 | 0.00 | 0.10 | 28.20 | 46.00 | -17.80 |
| 11.89 | 11.89 | L1 | 7.80 | 10.25 | 0.00 | 0.23 | 18.28 | 50.00 | -31.72 |
| 12.43 | 12.44 | N | 8.23 | 10.27 | 0.28 | 0.00 | 18.77 | 50.00 | -31.23 |
| 24.50 | 24.50 | L1 | 12.12 | 10.51 | 0.00 | 0.37 | 22.99 | 50.00 | -27.01 |
| 24.95 | 24.95 | N | 12.49 | 10.52 | 0.39 | 0.00 | 23.39 | 50.00 | -26.61 |

**Table 4: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

### 7.1.5.3 High Channel_2462 MHz

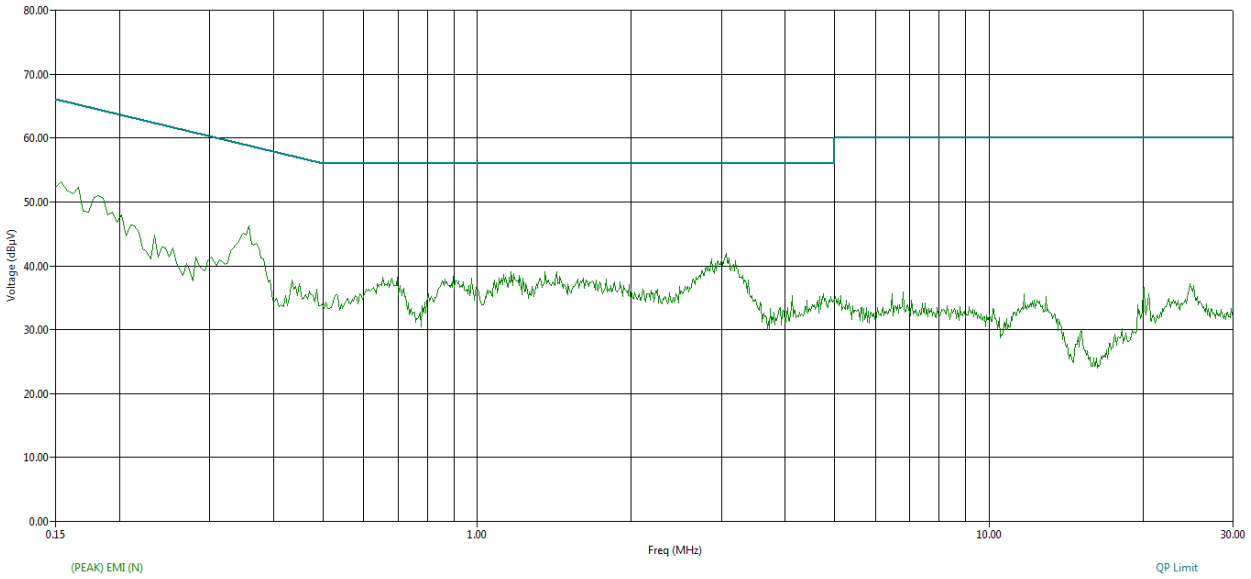


**Figure 11: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

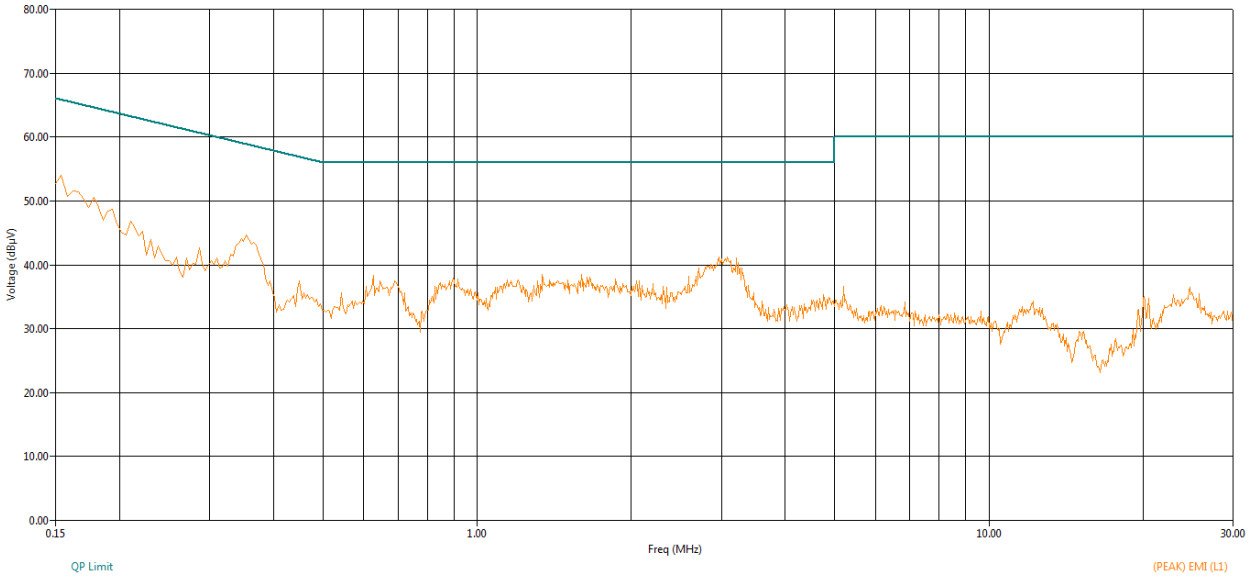


**Figure 12: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 36.16 | 10.11 | 0.10 | 0.00 | 46.37 | 65.97 | -19.61 |
| 0.15 | 0.15 | L1 | 35.60 | 10.11 | 0.00 | 0.07 | 45.77 | 65.89 | -20.12 |
| 0.36 | 0.35 | N | 31.71 | 10.10 | 0.09 | 0.00 | 41.91 | 58.88 | -16.97 |
| 2.97 | 2.96 | L1 | 24.27 | 10.11 | 0.00 | 0.10 | 34.48 | 56.00 | -21.52 |
| 3.07 | 3.07 | N | 24.42 | 10.11 | 0.13 | 0.00 | 34.67 | 56.00 | -21.33 |
| 11.70 | 11.71 | N | 15.67 | 10.24 | 0.27 | 0.00 | 26.18 | 60.00 | -33.82 |
| 12.20 | 12.20 | L1 | 15.73 | 10.26 | 0.00 | 0.23 | 26.22 | 60.00 | -33.78 |
| 20.09 | 20.08 | L1 | 16.92 | 10.40 | 0.00 | 0.32 | 27.64 | 60.00 | -32.36 |
| 20.11 | 20.11 | N | 16.68 | 10.40 | 0.37 | 0.00 | 27.45 | 60.00 | -32.55 |
| 24.69 | 24.70 | L1 | 17.90 | 10.51 | 0.00 | 0.37 | 28.78 | 60.00 | -31.22 |
| 24.70 | 24.71 | N | 18.27 | 10.51 | 0.39 | 0.00 | 29.17 | 60.00 | -30.83 |

**Table 5: Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

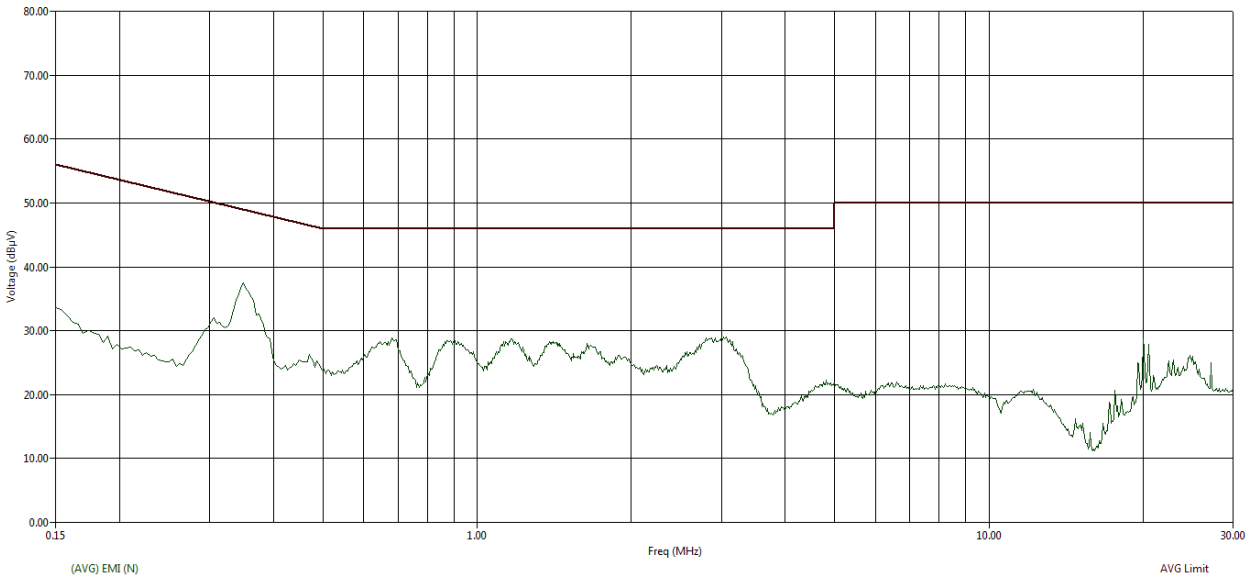


**Figure 13: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

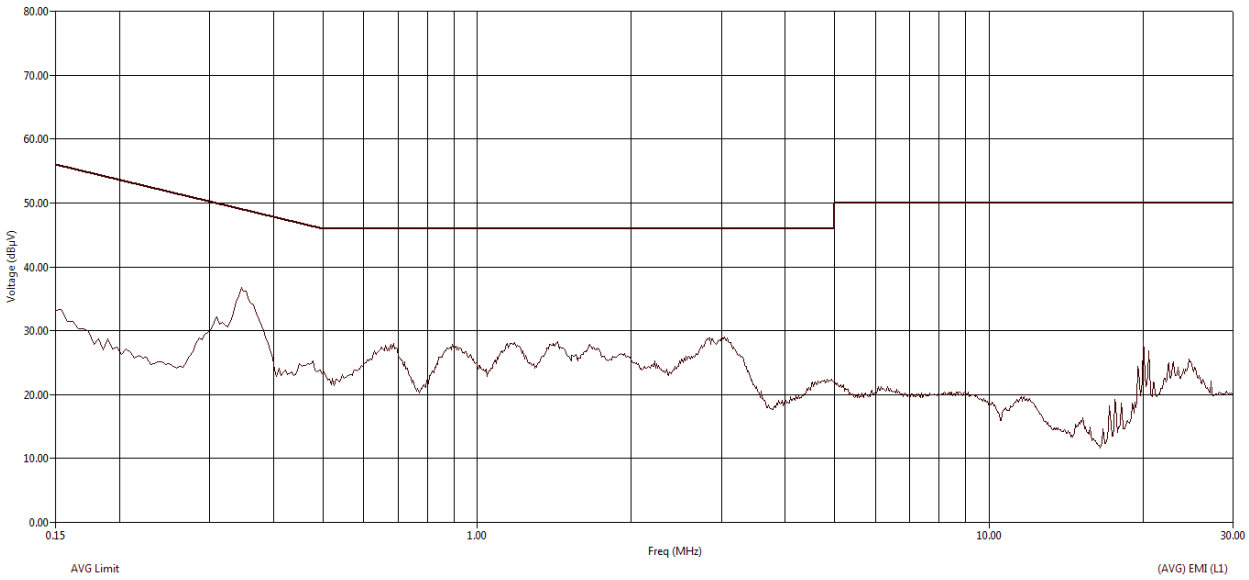


**Figure 14: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 22.88 | 10.11 | 0.10 | 0.00 | 33.09 | 55.97 | -22.88 |
| 0.15 | 0.15 | L1 | 22.62 | 10.11 | 0.00 | 0.07 | 32.79 | 55.89 | -23.10 |
| 0.36 | 0.35 | N | 25.75 | 10.10 | 0.09 | 0.00 | 35.95 | 48.88 | -12.93 |
| 2.97 | 2.96 | L1 | 16.83 | 10.11 | 0.00 | 0.10 | 27.04 | 46.00 | -18.96 |
| 3.07 | 3.07 | N | 16.73 | 10.11 | 0.13 | 0.00 | 26.98 | 46.00 | -19.02 |
| 11.70 | 11.71 | N | 8.18 | 10.24 | 0.27 | 0.00 | 18.69 | 50.00 | -31.31 |
| 12.20 | 12.20 | L1 | 6.52 | 10.26 | 0.00 | 0.23 | 17.02 | 50.00 | -32.98 |
| 20.09 | 20.08 | L1 | 10.76 | 10.40 | 0.00 | 0.32 | 21.48 | 50.00 | -28.52 |
| 20.11 | 20.11 | N | 10.46 | 10.40 | 0.37 | 0.00 | 21.23 | 50.00 | -28.77 |
| 24.69 | 24.70 | L1 | 11.70 | 10.51 | 0.00 | 0.37 | 22.58 | 50.00 | -27.42 |
| 24.70 | 24.71 | N | 12.64 | 10.51 | 0.39 | 0.00 | 23.54 | 50.00 | -26.46 |

**Table 6: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

## 7.1.6 Result (Supporting Graphs / Data) For 5 MHz Modulation Bandwidth

### 7.1.6.1 Low Channel_2412 MHz

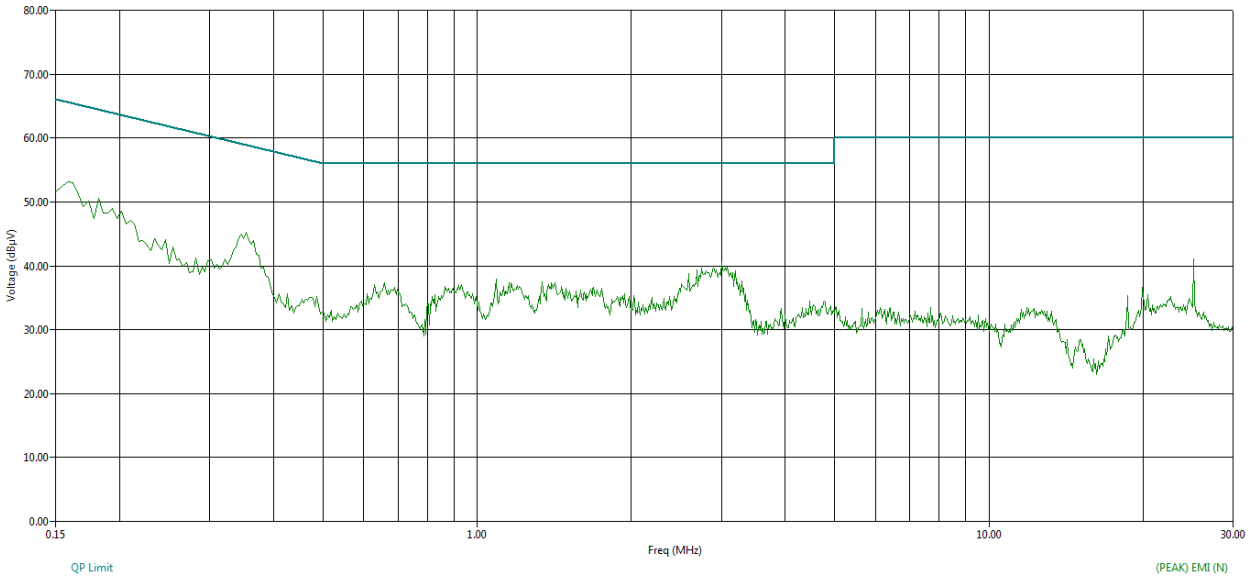


**Figure 15: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

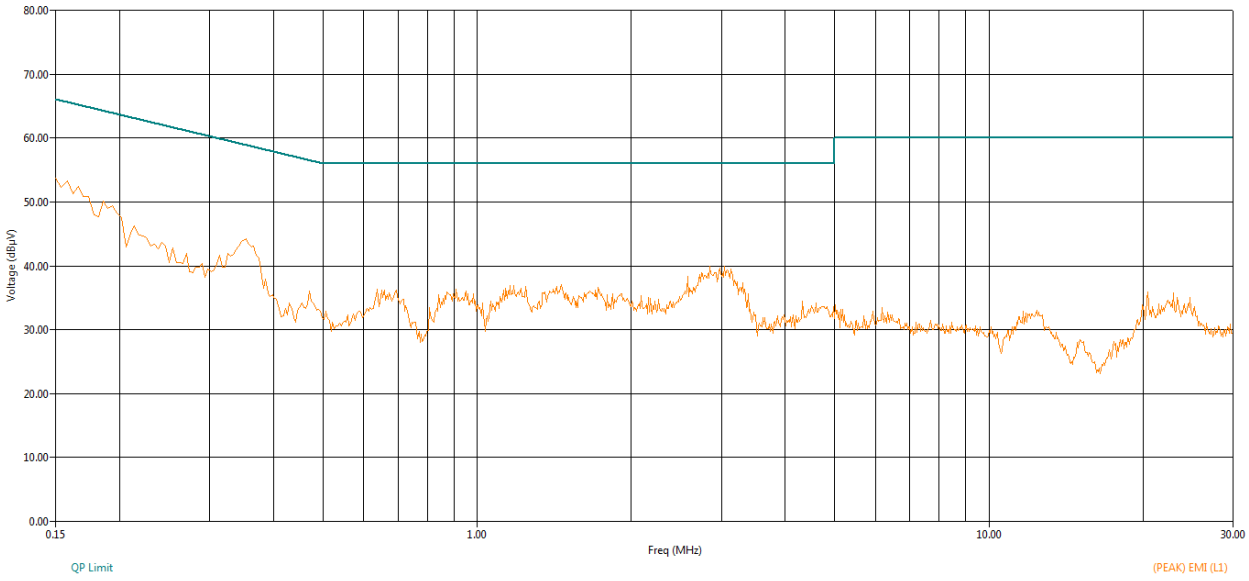


**Figure 16: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | L1 | 35.95 | 10.11 | 0.00 | 0.07 | 46.13 | 65.97 | -19.84 |
| 0.16 | 0.15 | N | 36.05 | 10.11 | 0.10 | 0.00 | 46.25 | 65.99 | -19.74 |
| 0.35 | 0.36 | N | 31.10 | 10.10 | 0.09 | 0.00 | 41.29 | 58.81 | -17.52 |
| 0.35 | 0.35 | L1 | 31.30 | 10.10 | 0.00 | 0.06 | 41.46 | 59.01 | -17.55 |
| 2.85 | 2.86 | L1 | 24.02 | 10.11 | 0.00 | 0.10 | 34.23 | 56.00 | -21.77 |
| 3.01 | 3.02 | N | 24.29 | 10.11 | 0.13 | 0.00 | 34.54 | 56.00 | -21.46 |
| 11.88 | 11.89 | N | 15.81 | 10.25 | 0.27 | 0.00 | 26.32 | 60.00 | -33.68 |
| 12.41 | 12.42 | L1 | 15.12 | 10.27 | 0.00 | 0.24 | 25.62 | 60.00 | -34.38 |
| 18.65 | 18.65 | N | 12.33 | 10.39 | 0.36 | 0.00 | 23.07 | 60.00 | -36.93 |
| 20.46 | 20.46 | L1 | 19.89 | 10.41 | 0.00 | 0.33 | 30.63 | 60.00 | -29.37 |
| 25.12 | 25.12 | N | 16.31 | 10.52 | 0.39 | 0.00 | 27.22 | 60.00 | -32.78 |

**Table 7: Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

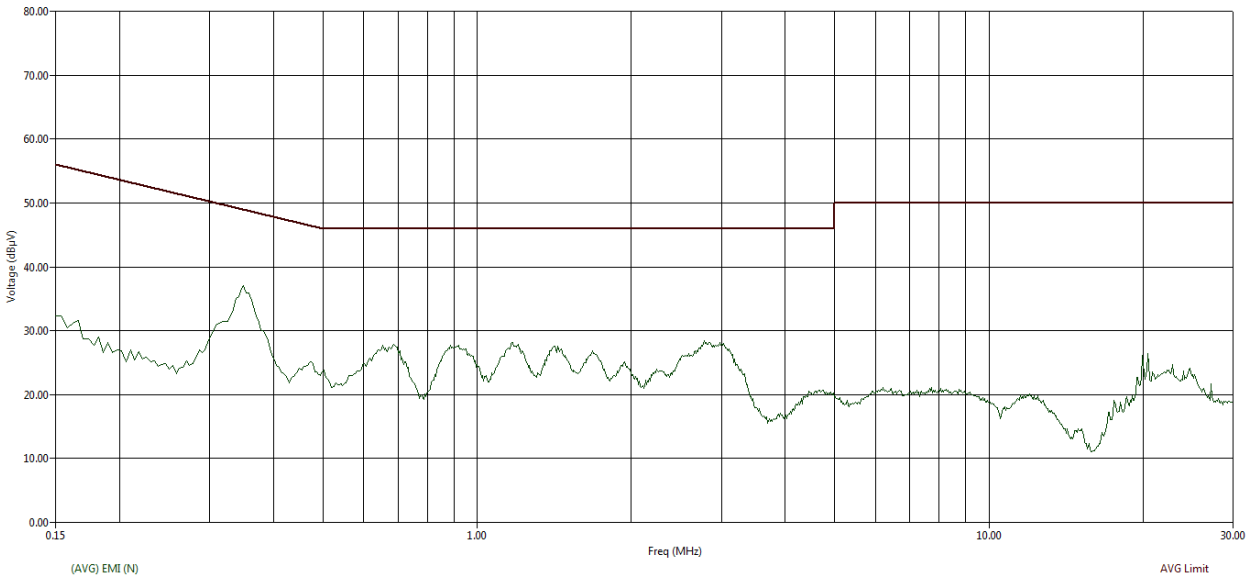


**Figure 17: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

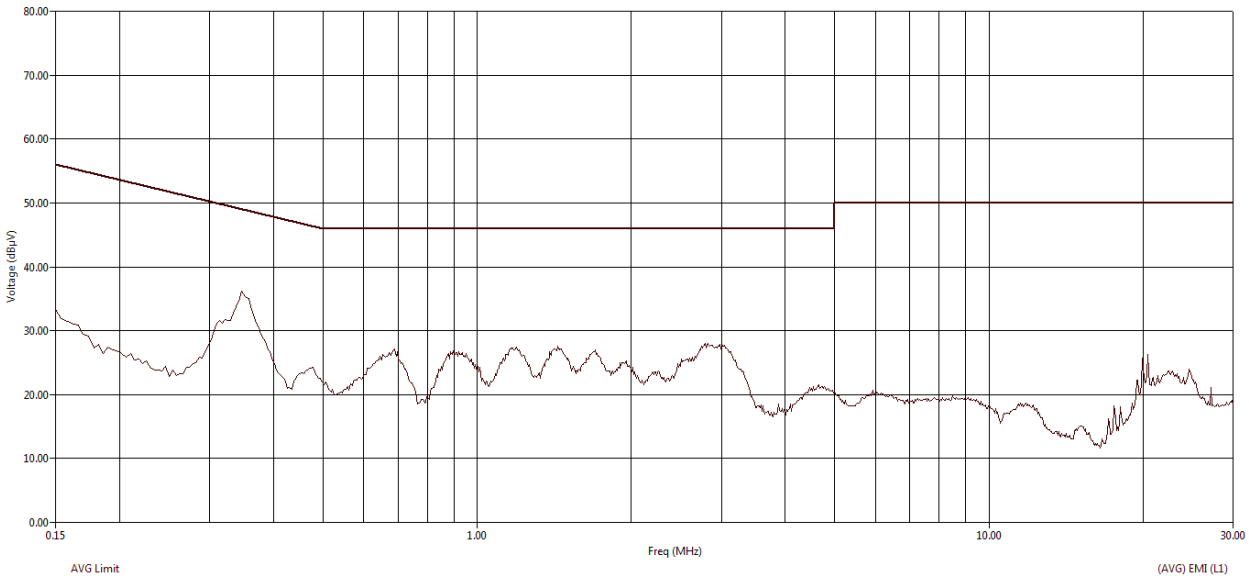


**Figure 18: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | L1 | 22.50 | 10.11 | 0.00 | 0.07 | 32.67 | 55.97 | -23.30 |
| 0.16 | 0.15 | N | 22.19 | 10.11 | 0.10 | 0.00 | 32.39 | 55.99 | -23.59 |
| 0.35 | 0.36 | N | 25.13 | 10.10 | 0.09 | 0.00 | 35.32 | 48.81 | -13.48 |
| 0.35 | 0.35 | L1 | 25.51 | 10.10 | 0.00 | 0.06 | 35.67 | 49.01 | -13.34 |
| 2.85 | 2.86 | L1 | 16.89 | 10.11 | 0.00 | 0.10 | 27.10 | 46.00 | -18.90 |
| 3.01 | 3.02 | N | 16.74 | 10.11 | 0.13 | 0.00 | 26.99 | 46.00 | -19.01 |
| 11.88 | 11.89 | N | 7.96 | 10.25 | 0.27 | 0.00 | 18.48 | 50.00 | -31.52 |
| 12.41 | 12.42 | L1 | 5.74 | 10.27 | 0.00 | 0.24 | 16.24 | 50.00 | -33.76 |
| 18.65 | 18.65 | N | 6.32 | 10.39 | 0.36 | 0.00 | 17.06 | 50.00 | -32.94 |
| 20.46 | 20.46 | L1 | 14.88 | 10.41 | 0.00 | 0.33 | 25.61 | 50.00 | -24.39 |
| 25.12 | 25.12 | N | 10.24 | 10.52 | 0.39 | 0.00 | 21.15 | 50.00 | -28.85 |

**Table 8: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

### 7.1.6.2 Mid Channel_2442 MHz

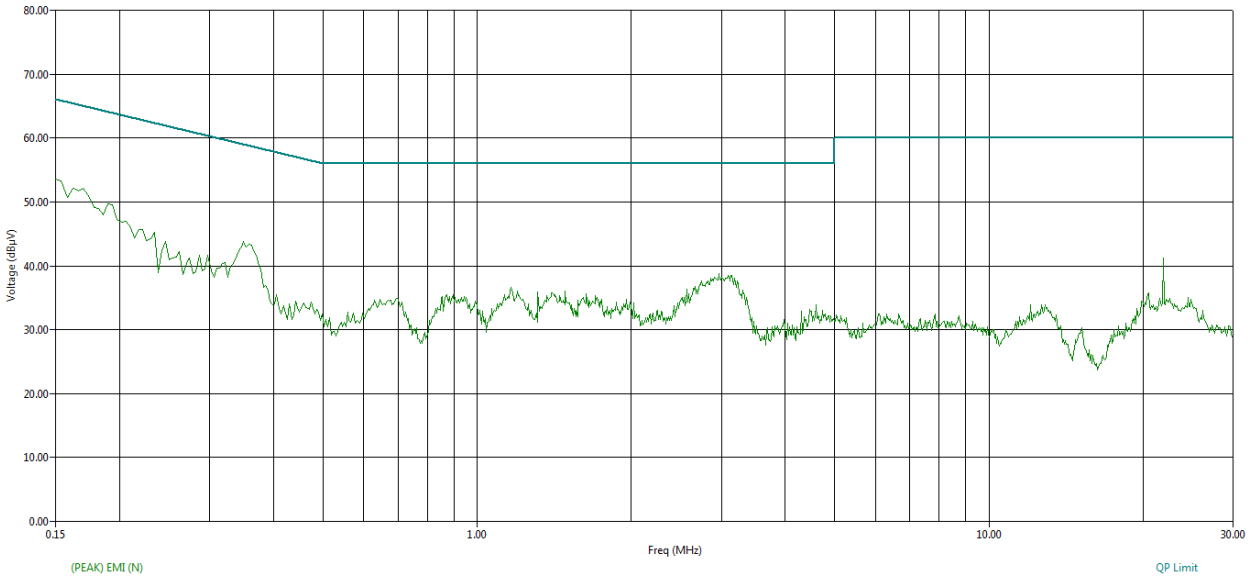


**Figure 19: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

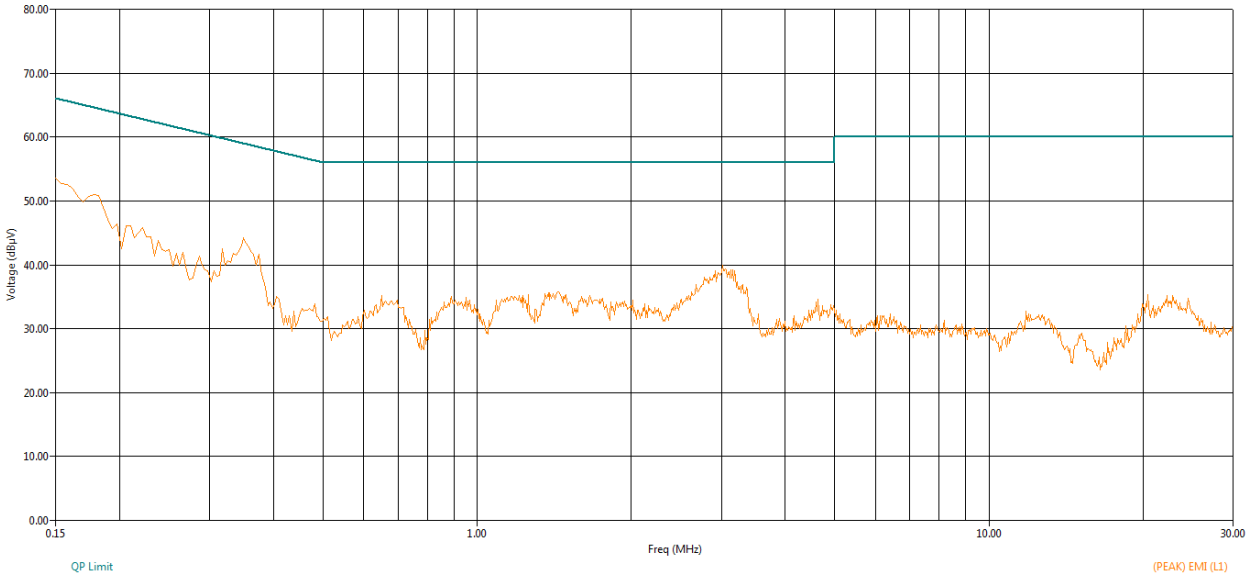


**Figure 20: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 36.42 | 10.11 | 0.10 | 0.00 | 46.63 | 65.88 | -19.26 |
| 0.15 | 0.15 | L1 | 36.47 | 10.11 | 0.00 | 0.07 | 46.65 | 65.85 | -19.21 |
| 0.35 | 0.35 | N | 31.54 | 10.10 | 0.09 | 0.00 | 41.73 | 59.02 | -17.29 |
| 0.35 | 0.34 | L1 | 30.11 | 10.10 | 0.00 | 0.06 | 40.27 | 59.12 | -18.85 |
| 2.97 | 2.97 | N | 24.05 | 10.11 | 0.13 | 0.00 | 34.30 | 56.00 | -21.70 |
| 3.02 | 3.02 | L1 | 24.12 | 10.11 | 0.00 | 0.10 | 34.33 | 56.00 | -21.67 |
| 4.63 | 4.63 | L1 | 17.08 | 10.11 | 0.00 | 0.12 | 27.31 | 56.00 | -28.69 |
| 11.81 | 11.81 | L1 | 14.67 | 10.25 | 0.00 | 0.23 | 25.14 | 60.00 | -34.86 |
| 12.91 | 12.91 | N | 15.73 | 10.28 | 0.28 | 0.00 | 26.30 | 60.00 | -33.70 |
| 20.43 | 20.43 | L1 | 19.36 | 10.41 | 0.00 | 0.32 | 30.10 | 60.00 | -29.90 |
| 21.95 | 21.96 | N | 17.83 | 10.45 | 0.38 | 0.00 | 28.66 | 60.00 | -31.34 |

**Table 9: Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

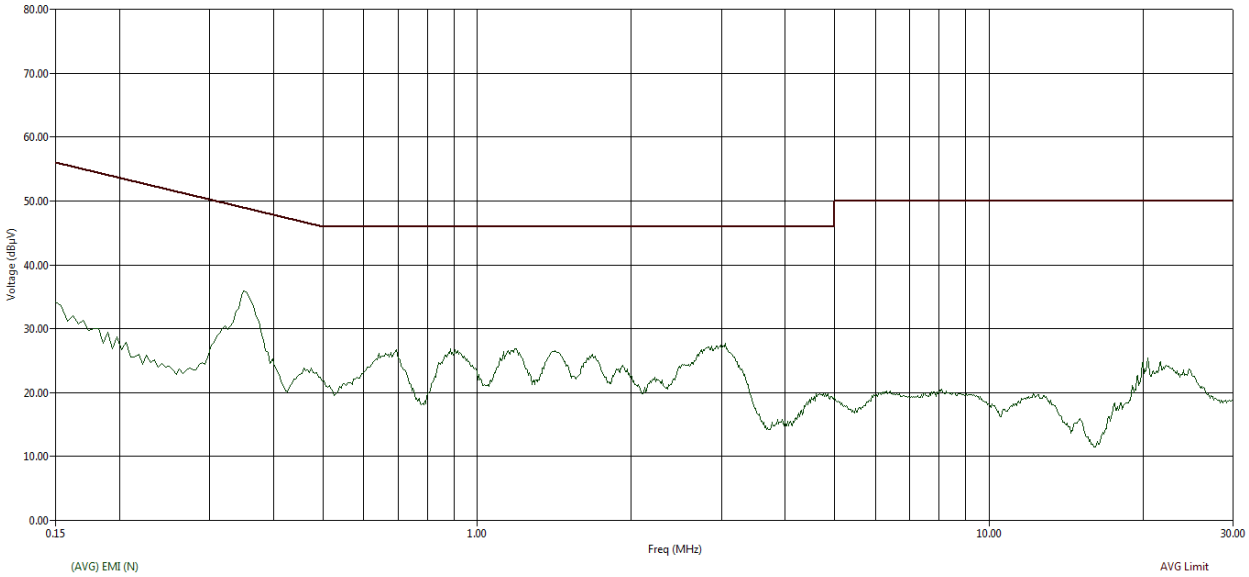


**Figure 21: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

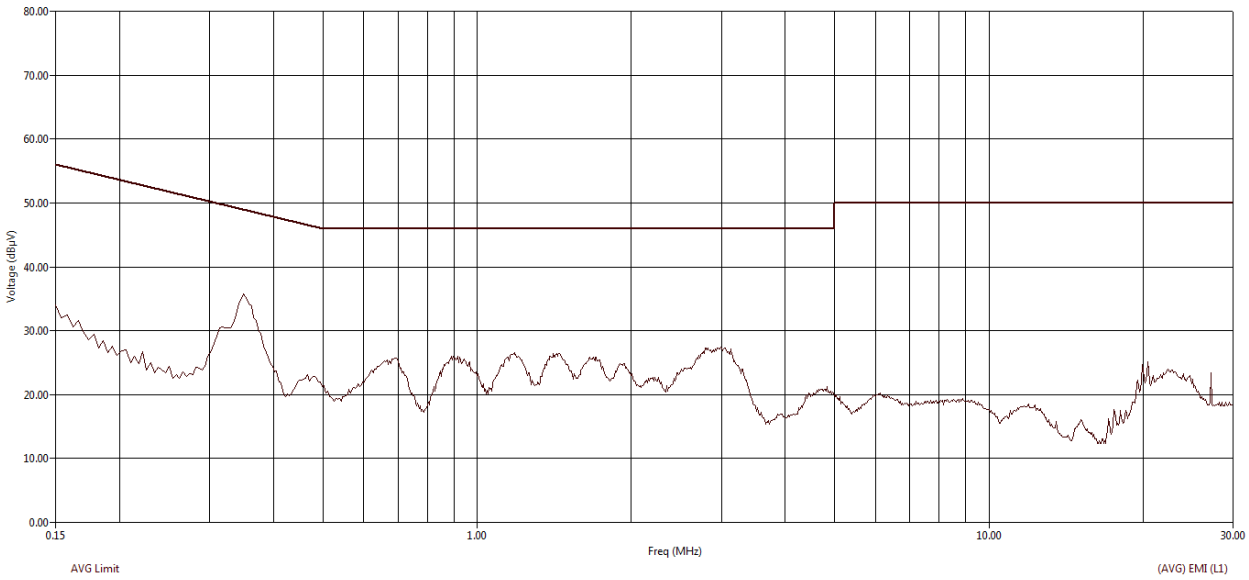


**Figure 22: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 22.27 | 10.11 | 0.10 | 0.00 | 32.48 | 55.88 | -23.41 |
| 0.15 | 0.15 | L1 | 22.12 | 10.11 | 0.00 | 0.07 | 32.30 | 55.85 | -23.55 |
| 0.35 | 0.35 | N | 25.93 | 10.10 | 0.09 | 0.00 | 36.12 | 49.02 | -12.90 |
| 0.35 | 0.34 | L1 | 24.36 | 10.10 | 0.00 | 0.06 | 34.53 | 49.12 | -14.60 |
| 2.97 | 2.97 | N | 16.62 | 10.11 | 0.13 | 0.00 | 26.86 | 46.00 | -19.14 |
| 3.02 | 3.02 | L1 | 16.57 | 10.11 | 0.00 | 0.10 | 26.78 | 46.00 | -19.22 |
| 4.63 | 4.63 | L1 | 9.84 | 10.11 | 0.00 | 0.12 | 20.08 | 46.00 | -25.92 |
| 11.81 | 11.81 | L1 | 6.86 | 10.25 | 0.00 | 0.23 | 17.33 | 50.00 | -32.67 |
| 12.91 | 12.91 | N | 6.91 | 10.28 | 0.28 | 0.00 | 17.47 | 50.00 | -32.53 |
| 20.43 | 20.43 | L1 | 13.63 | 10.41 | 0.00 | 0.32 | 24.36 | 50.00 | -25.64 |
| 21.95 | 21.96 | N | 11.87 | 10.45 | 0.38 | 0.00 | 22.69 | 50.00 | -27.31 |

**Table 10: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

### 7.1.6.3 High Channel_2477 MHz

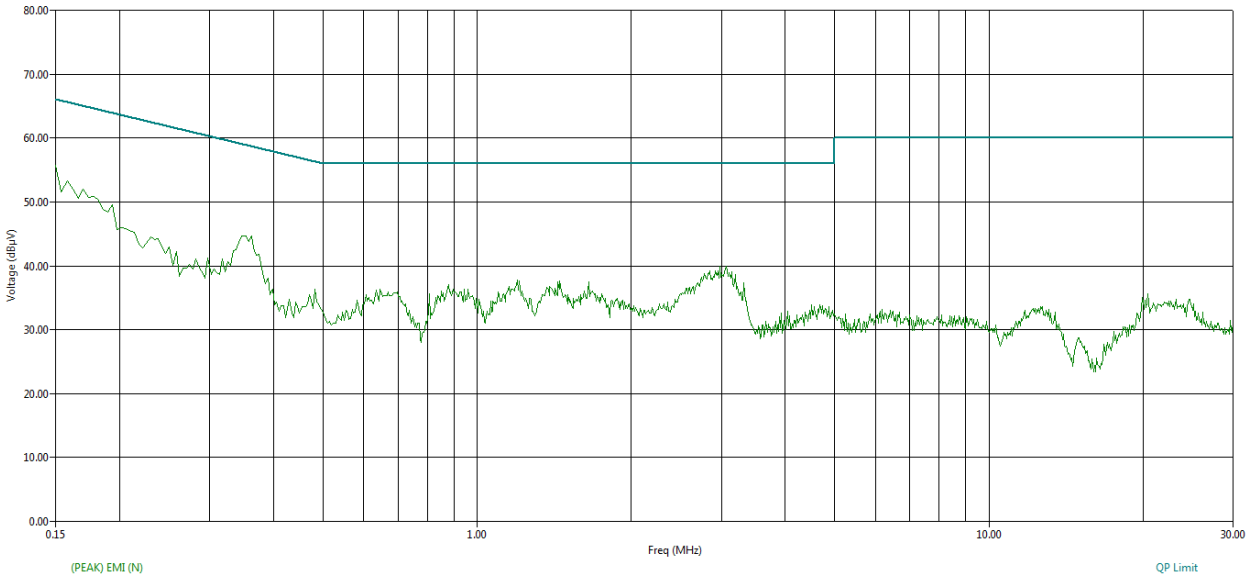


**Figure 23: CE graph from 150 kHz to 30MHz using Peak detector - Neutral**

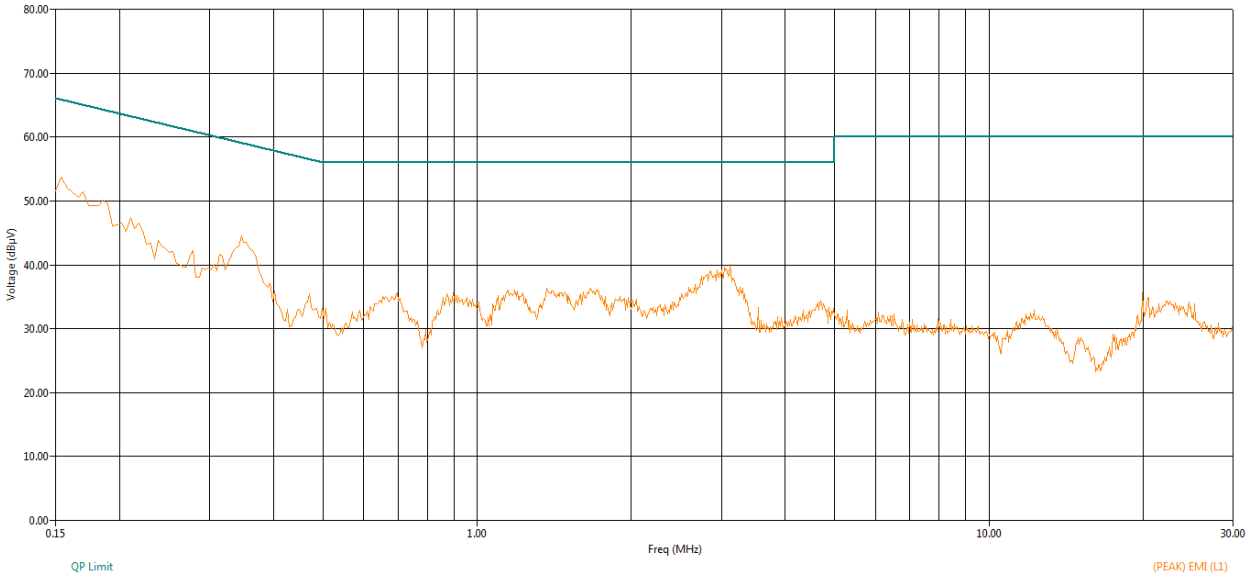


**Figure 24: CE graph from 150 kHz to 30MHz using Peak detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (QP) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (QP) EMI (dBµV) | (QP) Limit (dBµV) | (QP) Margin QPL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 35.85 | 10.11 | 0.10 | 0.00 | 46.06 | 65.90 | -19.84 |
| 0.15 | 0.15 | L1 | 35.71 | 10.11 | 0.00 | 0.07 | 45.89 | 65.94 | -20.05 |
| 0.35 | 0.35 | L1 | 31.17 | 10.10 | 0.00 | 0.06 | 41.33 | 58.95 | -17.62 |
| 0.35 | 0.36 | N | 30.99 | 10.10 | 0.09 | 0.00 | 41.19 | 58.80 | -17.62 |
| 3.07 | 3.08 | N | 23.81 | 10.11 | 0.13 | 0.00 | 34.06 | 56.00 | -21.94 |
| 3.12 | 3.12 | L1 | 23.31 | 10.11 | 0.00 | 0.10 | 33.53 | 56.00 | -22.47 |
| 12.24 | 12.23 | L1 | 15.69 | 10.26 | 0.00 | 0.23 | 26.19 | 60.00 | -33.81 |
| 12.73 | 12.73 | N | 15.95 | 10.28 | 0.28 | 0.00 | 26.50 | 60.00 | -33.50 |
| 19.94 | 19.94 | L1 | 20.62 | 10.40 | 0.00 | 0.32 | 31.34 | 60.00 | -28.66 |
| 20.45 | 20.45 | N | 20.34 | 10.41 | 0.37 | 0.00 | 31.12 | 60.00 | -28.88 |

**Table 11: Quasi peak table for CE from 150 kHz to 30MHz – Line & Neutral**

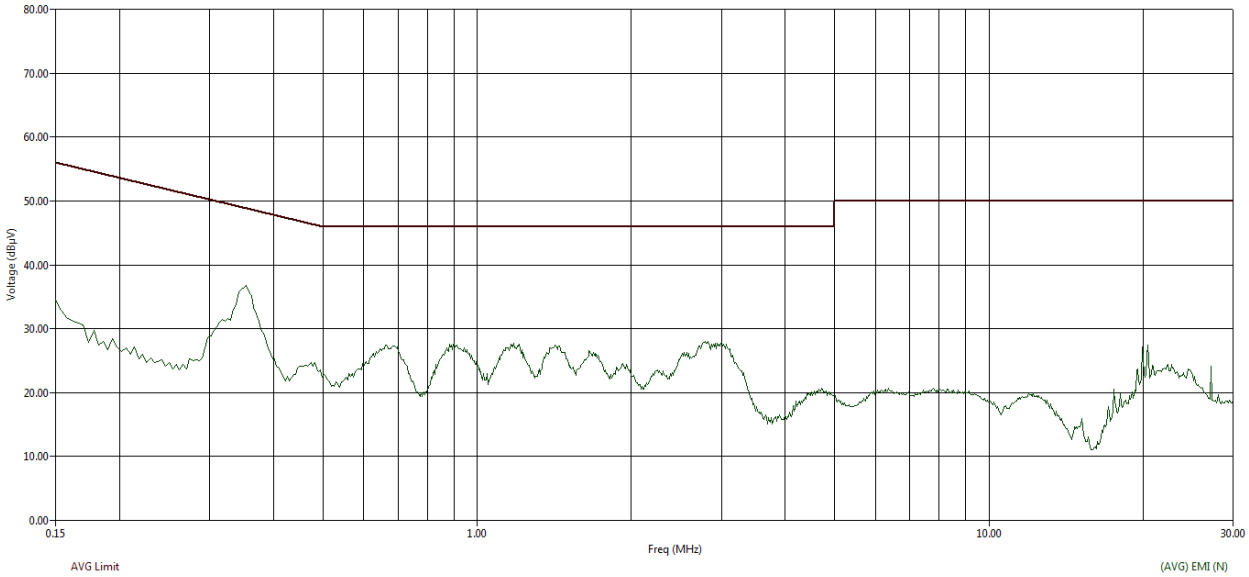


**Figure 25: CE graph from 150 kHz to 30MHz using Average detector - Neutral**

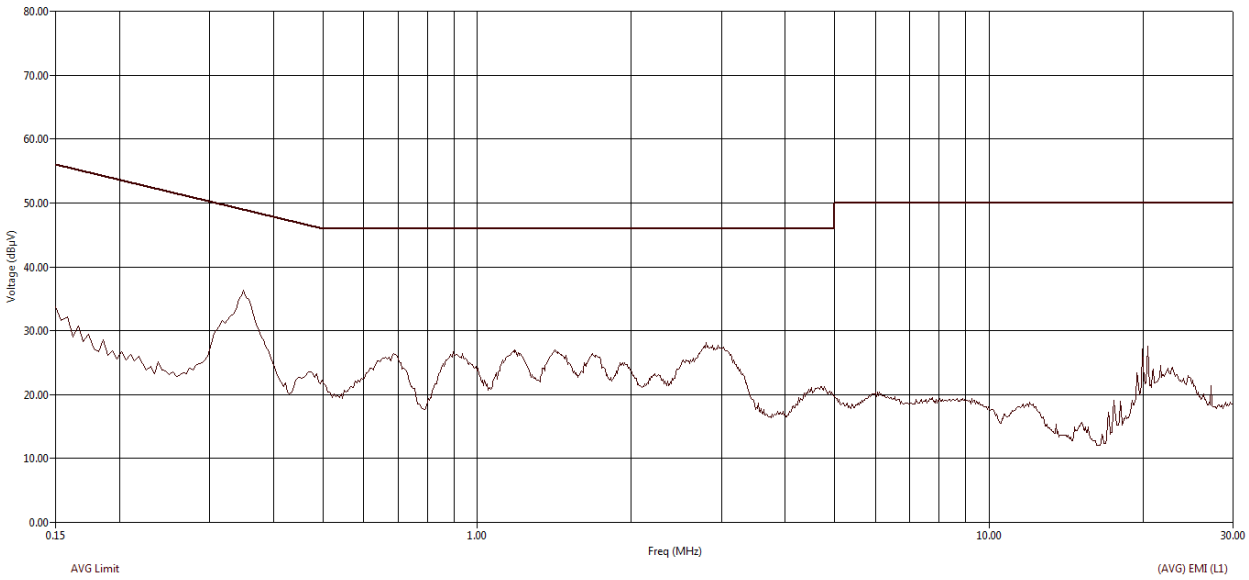


**Figure 26: CE graph from 150 kHz to 30MHz using Average detector - Line**

| Freq (MHz) | Freq (Max) (MHz) | Line | (AVG) Trace (dBµV) | Cable + Pulselimiter (dB) | Transducer N (dB) | Transducer L (dB) | (AVG) EMI (dBµV) | (AVG) Limit (dBµV) | (AVG) Margin AVL (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.15 | N | 21.74 | 10.11 | 0.10 | 0.00 | 31.95 | 55.90 | -23.95 |
| 0.15 | 0.15 | L1 | 22.19 | 10.11 | 0.00 | 0.07 | 32.37 | 55.94 | -23.57 |
| 0.35 | 0.35 | L1 | 25.43 | 10.10 | 0.00 | 0.06 | 35.59 | 48.95 | -13.37 |
| 0.35 | 0.36 | N | 25.08 | 10.10 | 0.09 | 0.00 | 35.27 | 48.80 | -13.53 |
| 3.07 | 3.08 | N | 16.05 | 10.11 | 0.13 | 0.00 | 26.29 | 46.00 | -19.71 |
| 3.12 | 3.12 | L1 | 15.50 | 10.11 | 0.00 | 0.10 | 25.72 | 46.00 | -20.28 |
| 12.24 | 12.23 | L1 | 6.50 | 10.26 | 0.00 | 0.23 | 16.99 | 50.00 | -33.01 |
| 12.73 | 12.73 | N | 6.98 | 10.28 | 0.28 | 0.00 | 17.53 | 50.00 | -32.47 |
| 19.94 | 19.94 | L1 | 16.31 | 10.40 | 0.00 | 0.32 | 27.03 | 50.00 | -22.97 |
| 20.45 | 20.45 | N | 15.22 | 10.41 | 0.37 | 0.00 | 26.01 | 50.00 | -23.99 |

**Table 12: Average table for CE from 150 kHz to 30MHz – Line & Neutral**

***Note:***
*(QP) EMI (dBµV) = (QP) Trace (dBµV) + {Cable + Pulse limiter} (dB) + Cable (dB)*
*QP Margin (dB) = (QP) EMI (dBµV) – (QP) Limit (dBµV)*
*(AVG) EMI (dBµV) = (AVG) Trace (dBµV) + {Cable + Pulse limiter} (dB) + Cable (dB)*
*AVG Margin (dB) = (AVG) EMI (dBµV) – (AVG) Limit (dBµV)*

## 7.1.7 Result

Conducted Emissions from the EUT are within the specified Limit line.

## 7.2 RADIATED EMISSION

### 7.2.1 Test Specification for 40 MHz Modulation Bandwidth

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Standard** | 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C<br>RSS-Gen, Issue 4, Nov 2014 | | | | | |
| **Test Procedure** | ANSI C63.4-2014 | | | | | |
| **Frequency Range** | 9 kHz to 150 kHz | 150 kHz to 30 MHz | 30 MHz to 1 GHz | 1 GHz to 8 GHz | 8 GHz to 18 GHz | 18 GHz to 26.5 GHz |
| **Resolution Bandwidth** | 1 kHz | 10 kHz | 120 kHz | 1MHz | 1MHz | 1MHz |
| **Video Bandwidth** | 3 kHz | 30 kHz | 300 kHz | 3MHz | 3MHz | 3MHz |
| **Step size** | 400Hz | 4 kHz | 40 kHz | 400 kHz | 400 kHz | 400 kHz |
| **Pre Scan Measurement Time** | 50ms | 50ms | 20ms | 5ms | 5ms | 5ms |
| **Final Measurement Time** | 1 s | 1 s | 1 s | 1 s | 1 s | 1 s |
| **Attenuation** | 10 dB | 10 dB | 10 dB | 5 dB | 5 dB | 5 dB |
| **Test Distance** | 3 m | 3 m | 3 m | 3 m | 3 m | 3 m |
| **Polarization** | Parallel & Perpendicular | | Horizontal and Vertical | | | |
| **Detector** | Quasi Peak and Peak | | | Average | | |
| **Input Voltage** | 120V AC | | | | | |
| **Input Frequency** | 60Hz | | | | | |
| **Temperature** | 23.5ºC | | 23.0ºC | 22.0ºC | 23.0ºC | 23.0 º C |
| **Humidity** | 59.4% | | 58.0% | 50.0% | 52.0% | 55.0 % |
| **Tested By** | Arun NC/ Ravi Ranjan | | R Kishore / Nishanth | Suresh G.N/ Ravi Ranjan | Narendra / Sandeep | Suresh G.N/ Ravi Ranjan |
| **Test Date** | 21/04/2015 | | 14/07/2015 | 04/08/2015 | 18/07/2015 | 28/07/2015 |

## 7.2.2 Test Specification for 5 MHz Modulation Bandwidth

| **Test Standard** | 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C<br>RSS-Gen, Issue 4, Nov 2014 | | | | | |
|---|---|---|---|---|---|---|
| **Test Procedure** | ANSI C63.4-2014 | | | | | |
| **Frequency Range** | 9 kHz to 150 kHz | 150 kHz to 30 MHz | 30 MHz to 1 GHz | 1 GHz to 8 GHz | 8 GHz to 18 GHz | 18 GHz to 26.5 GHz |
| **Resolution Bandwidth** | 1 kHz | 10 kHz | 120 kHz | 1MHz | 1MHz | 1MHz |
| **Video Bandwidth** | 3 kHz | 30 kHz | 300 kHz | 3MHz | 3MHz | 3MHz |
| **Step size** | 400Hz | 4 kHz | 40 kHz | 400 kHz | 400 kHz | 400 kHz |
| **Pre Scan Measurement Time** | 50ms | 50ms | 20ms | 5ms | 5ms | 5ms |
| **Final Measurement Time** | 1 s | 1 s | 1 s | 1 s | 1 s | 1 s |
| **Attenuation** | 10 dB | 10 dB | 10 dB | 5 dB | 5 dB | 5 dB |
| **Test Distance** | 3 m | 3 m | 3 m | 3 m | 3 m | 3 m |
| **Polarization** | Parallel & Perpendicular | | Horizontal and Vertical | | | |
| **Detector** | Quasi Peak and Peak | | | Average | | |
| **Input Voltage** | 120V AC | | | | | |
| **Input Frequency** | 60Hz | | | | | |
| **Temperature** | 23.5ºC | | 23.0 º C | 23.0ºC | 23.0 º C | 23.0 º C |
| **Humidity** | 59.4% | | 58.0 % | 58.0% | 55.0 % | 55.0 % |
| **Tested By** | Arun NC/ Ravi Ranjan | | R Kishore / Nishanth | Suresh G.N/ Ravi Ranjan | Suresh G.N/ Ravi Ranjan | Suresh G.N/ Ravi Ranjan |
| **Test Date** | 21/04/2015 | | 15/07/2015 | 10/08/2015 | 28/07/2015 | 28/07/2015 |

## 7.2.3 Limits

| **Standard** | **Reference section** | **Frequency range** | **Limit (dBµV/m) at 3 meter** |
|---|---|---|---|
| 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C | §15.205, §15.209 | 9 kHz to 490 kHz<br>490 kHz to 1.705 MHz<br>1.705 MHz to 30 MHz | 128.5194 to 93.8003*<br>73.8003 to 62.9697*<br>69.5429 |

*Note: * Decreases with the logarithm of the frequency*

| **Standard** | **Reference section** | **Frequency range** | **Limit (dBµV/m) at 3 meter** |
|---|---|---|---|
| 47 CFR Ch. I (10–1–14 Ed), Part 15, Subpart C<br><br>RSS-Gen, Issue 4, Nov 2014 | §15.205, §15.209<br><br>7.1.2 | 30 MHz to 88 MHz<br>88 MHz to 216 MHz<br>216 MHz to 960 MHz<br>960 MHz to 40 GHz | 39.54<br>43.52<br>46.02<br>53.98 |

***Note:*** *This section specifies the test results for both "Restricted Bands of Operation & General Radiated Emission limits"*

## 7.2.4 Test Setup

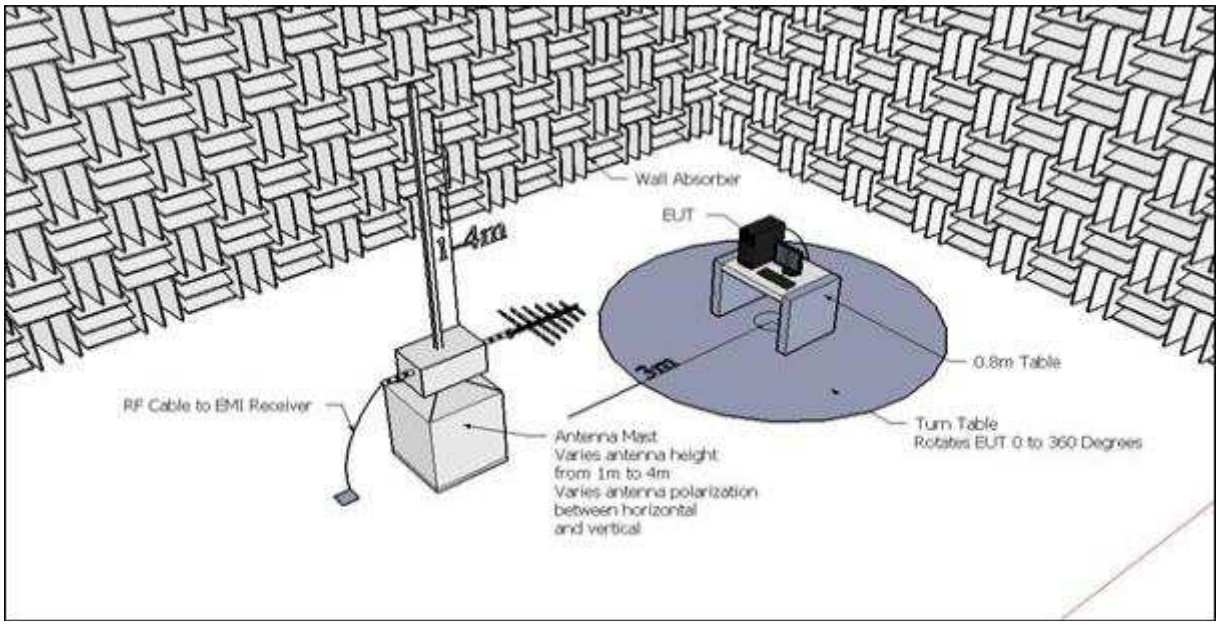


**Figure 27: Typical test setup for Radiated Emission test**

## 7.2.5 Test Procedure

The test procedure is in accordance with ANSI C63.4-2014.

The Radiated Emission test was performed inside a Semi-Anechoic chamber. The EUT was placed on a 0.8m height non-metallic table as specified in the standard. The test setup was placed on a rotating turn table to enable 0 to 360 degree rotation.

The EUT was placed 3 meter away from the receiving antenna for the radiated emission measurement in the frequency range 9 kHz to 40 GHz. The receiving antenna was mounted on an antenna mast to enable height variation from 1 to 4 meter above the ground plane for the frequency range 30MHz to 1GHz & 1 to 2 meter for frequency range 1 GHz to 26.5 GHz. A tunable Band reject filter offering an attenuation of approximately 40dB was used to attenuate the intentional band during the testing.

The radiated emission measurement test system was configured through software as per standard. Pre-scan (Peak) was taken at different angles of EUT at 22.5 degree step, by rotating the turn table from 0 to 360 degree and by varying the antenna height from 1 to 4 meter in both vertical and horizontal polarization from 30 MHz to 1 GHz & 1 to 2 meter for 1 GHz to 26.5 GHz and in parallel & perpendicular orientation for 9 kHz to 30 MHz (using a loop antenna) with fixed height of 1 meter. The measurement was carried out in max hold mode and maximum amplitude of radiated emissions from the EUT was plotted in Graph. The predominant peaks at various frequencies, which are closer to limit line were identified using peak search option and listed. The

Quasi-peak measurement was carried out for the listed frequencies and compared with the limit specified in standard. The average measurement was carried out for the listed frequency in the range of 1 GHz to 40 GHz.

## 7.2.6 Result (Supporting Graphs / Data) For 40 MHz Modulation Bandwidth

### 7.2.6.1 Low Channel_2427 MHz

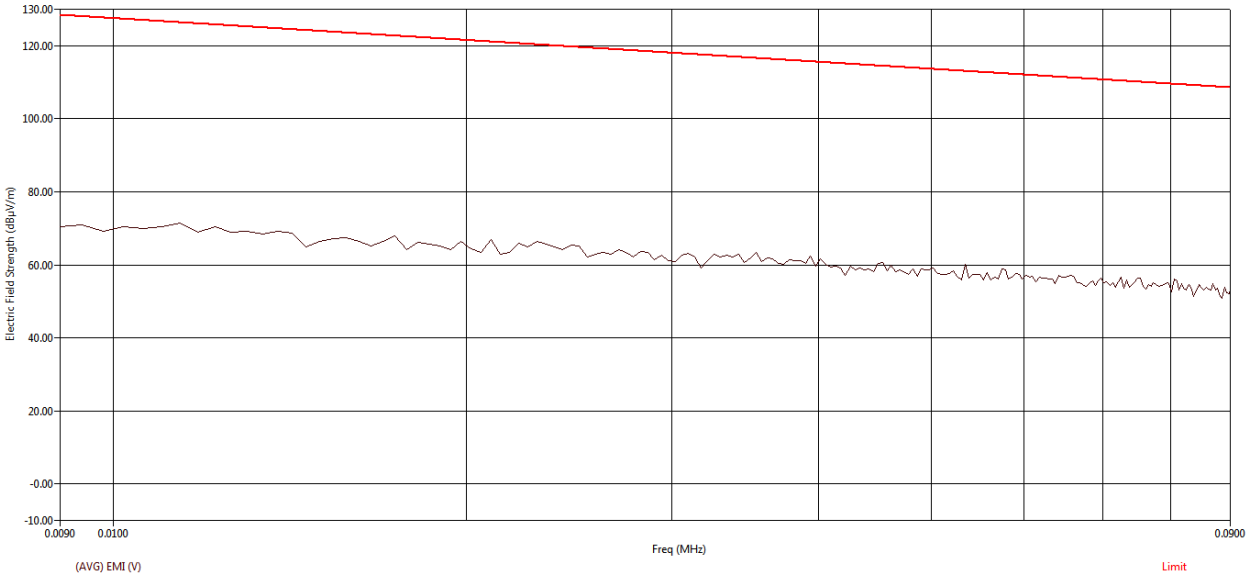


**Figure 28: Average RE from 9 kHz to 90 KHz - Parallel**

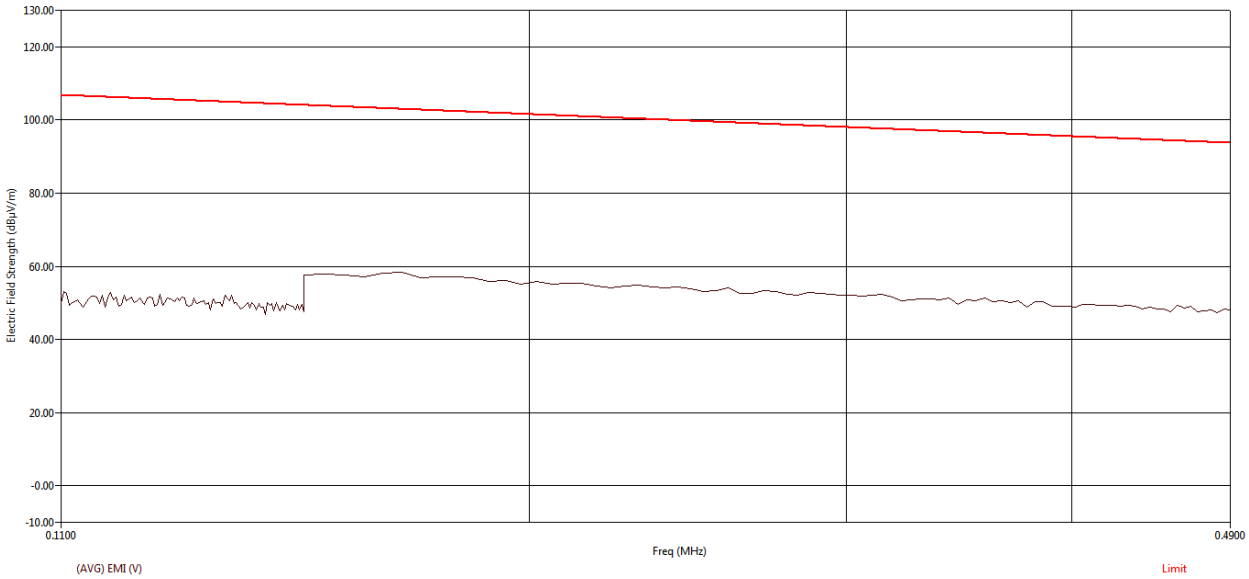


**Figure 29: Average RE from 110 kHz to 490 kHz - Parallel**

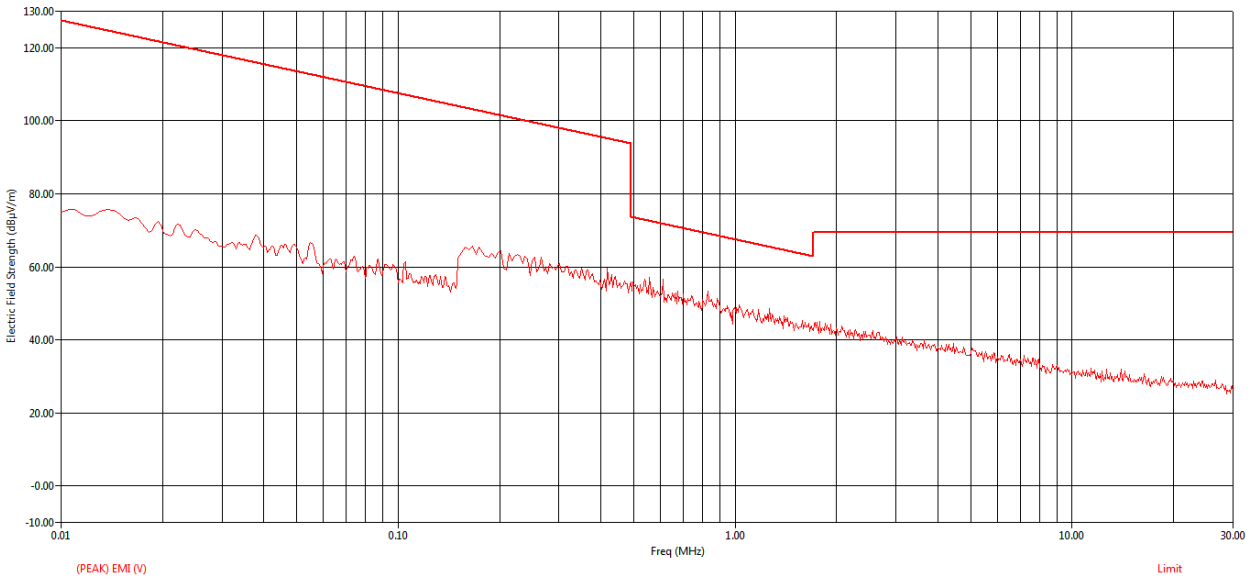


**Figure 30: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.61 | 0.60 | V | 262.30 | 33.83 | 0.23 | 17.45 | 51.52 | 71.99 | -20.47 |
| 16.40 | 16.41 | V | 229.70 | 4.66 | 1.44 | 17.14 | 23.24 | 69.54 | -46.30 |

**Figure 31: Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

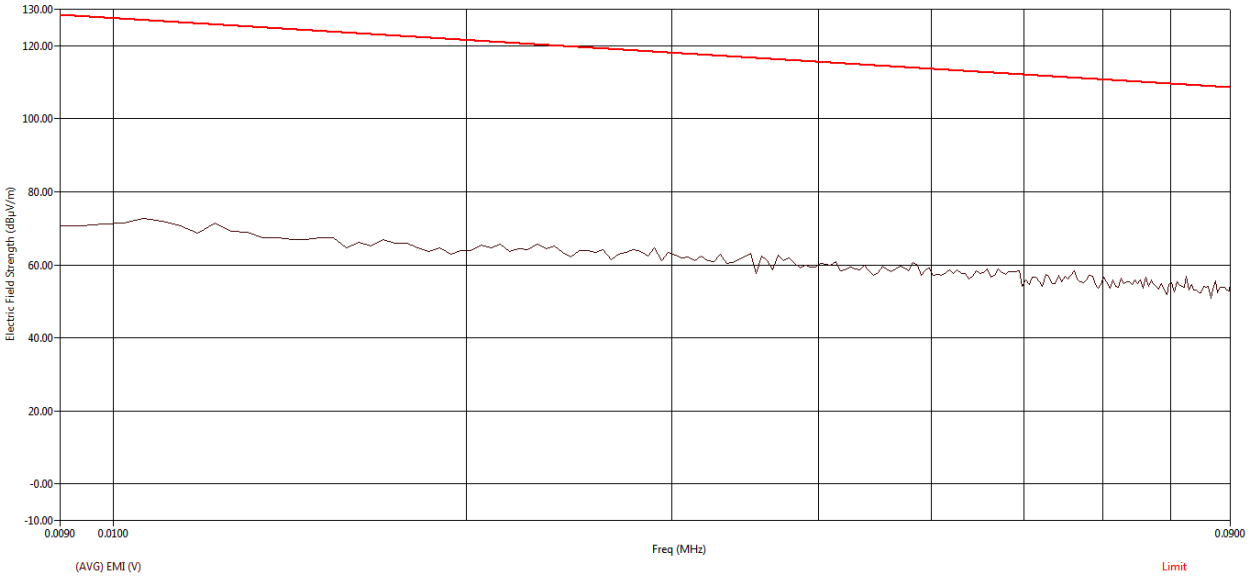


**Figure 32: Average RE from 9 kHz to 90 kHz - Perpendicular**

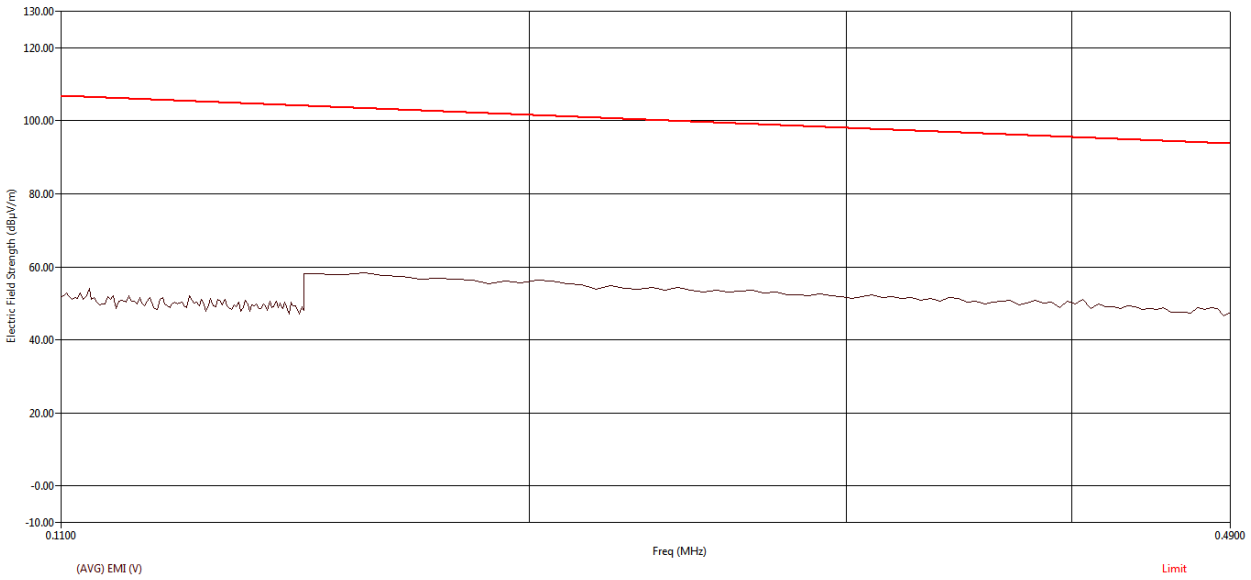


**Figure 33: Average RE from 110 kHz to 490 kHz - Perpendicular**

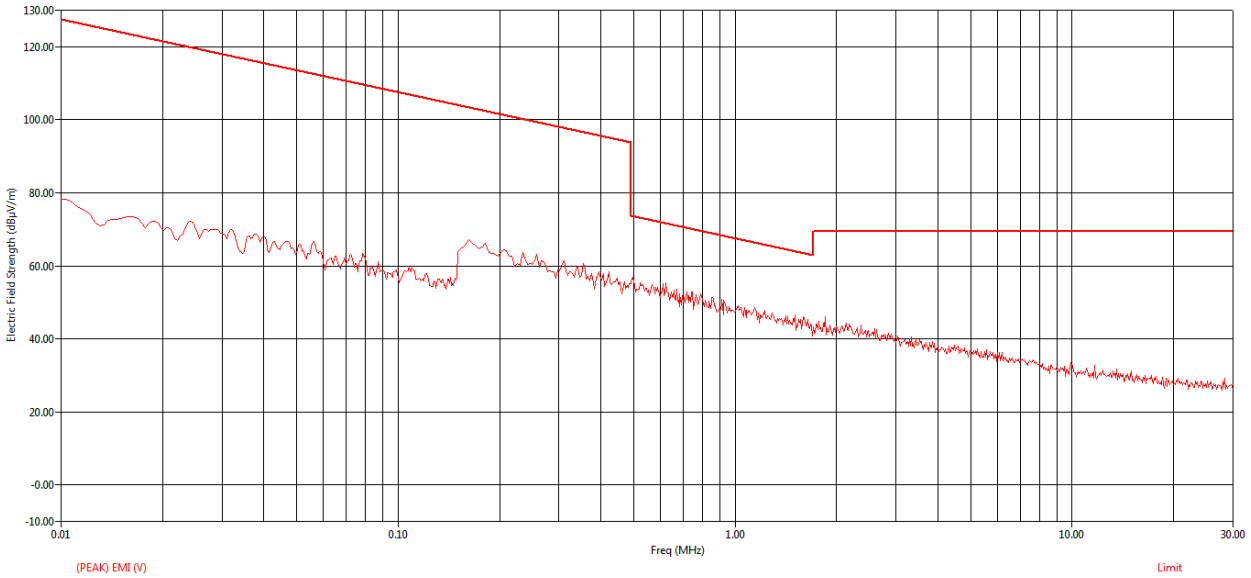


**Figure 34: Peak RE from 9 kHz to 30MHz - Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 1.85 | 1.86 | V | 135.20 | 21.32 | 0.40 | 17.78 | 39.50 | 69.54 | -30.04 |
| 28.35 | 28.35 | V | 341.60 | 1.89 | 1.85 | 16.42 | 20.16 | 69.54 | -49.38 |

**Figure 35: Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

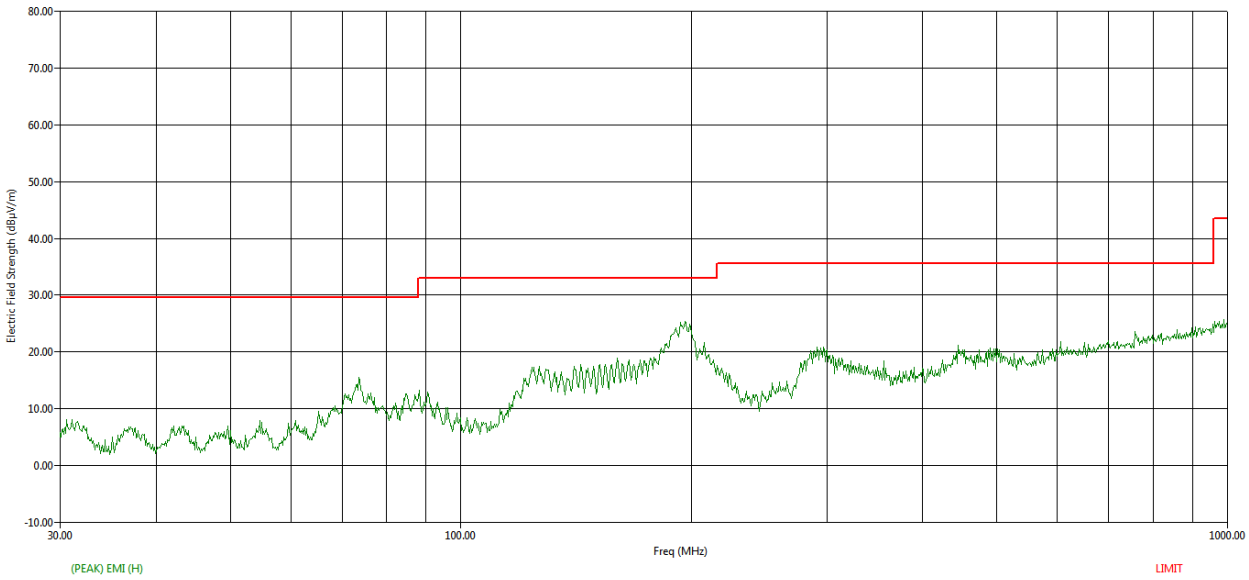


**Figure 36: Peak RE from 30MHz to 1GHz - Horizontal polarization**

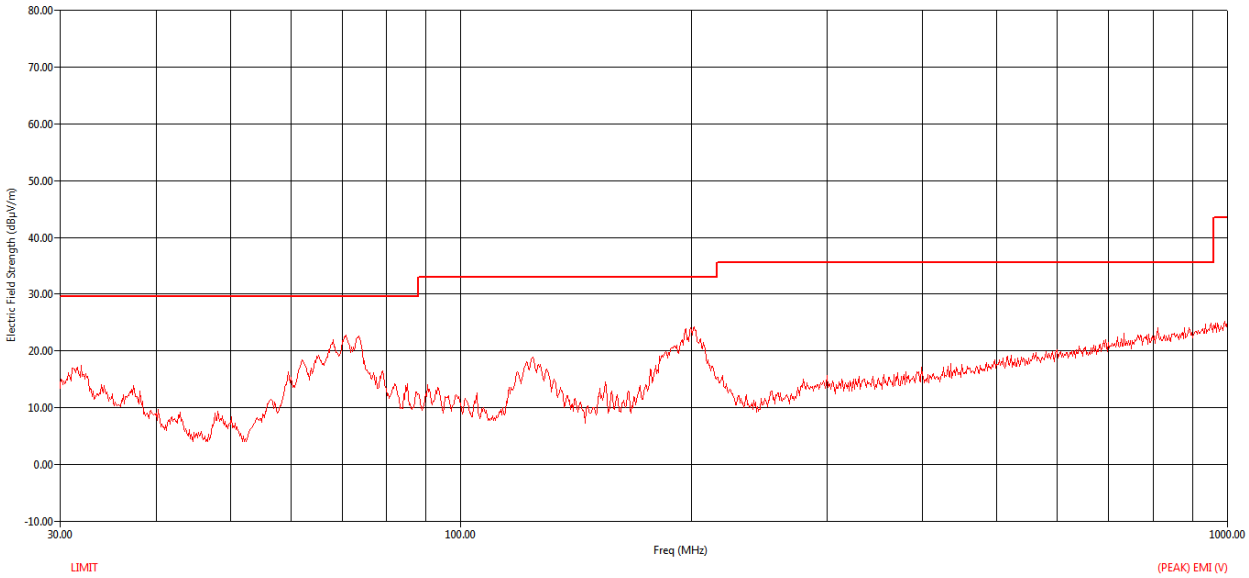


**Figure 37: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 68.16 | 68.18 | V | 214.30 | 201.00 | 41.49 | 1.67 | 9.11 | 32.41 | 19.86 | 29.54 | -9.68 |
| 70.84 | 70.87 | V | 190.40 | 182.00 | 42.79 | 1.68 | 8.88 | 32.40 | 20.95 | 29.54 | -8.59 |
| 73.55 | 73.52 | V | 216.70 | 241.00 | 43.62 | 1.74 | 8.63 | 32.39 | 21.60 | 29.54 | -7.94 |
| 124.04 | 124.05 | V | 281.20 | 164.00 | 36.44 | 2.19 | 10.74 | 32.24 | 17.14 | 33.06 | -15.92 |
| 193.51 | 193.63 | H | 159.00 | 105.00 | 31.48 | 2.72 | 12.89 | 32.11 | 14.98 | 33.06 | -18.08 |
| 196.20 | 196.35 | H | 168.00 | 111.00 | 32.42 | 2.74 | 13.04 | 32.11 | 16.10 | 33.06 | -16.96 |
| 201.44 | 201.46 | V | 136.00 | 280.00 | 35.43 | 2.79 | 13.14 | 32.10 | 19.26 | 33.06 | -13.80 |

**Table 13: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

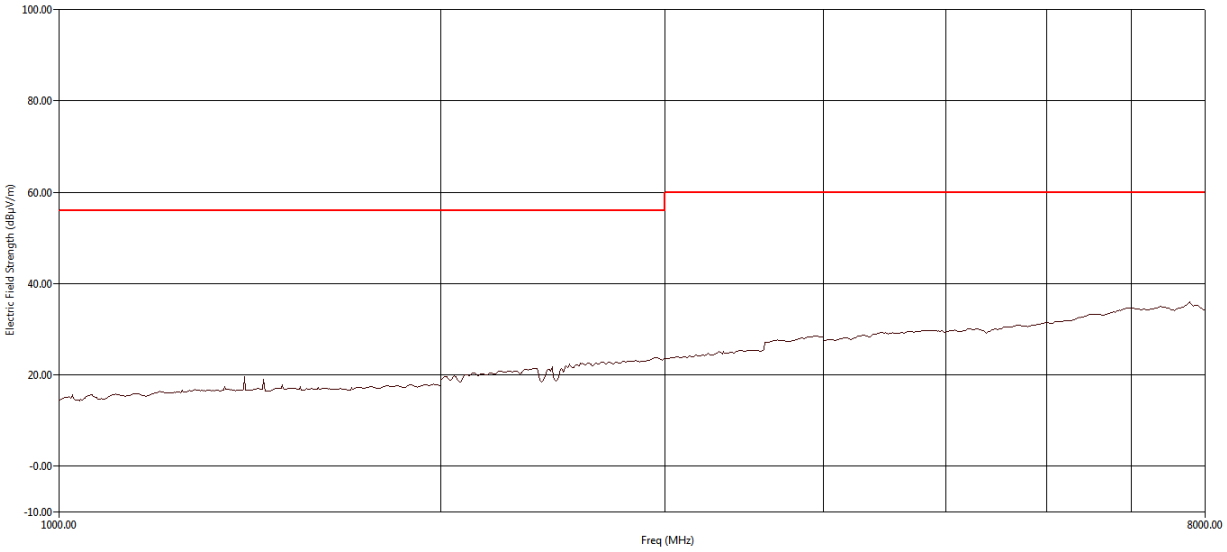


**Figure 38: Average RE from 1GHz to 8GHz - Horizontal polarization**

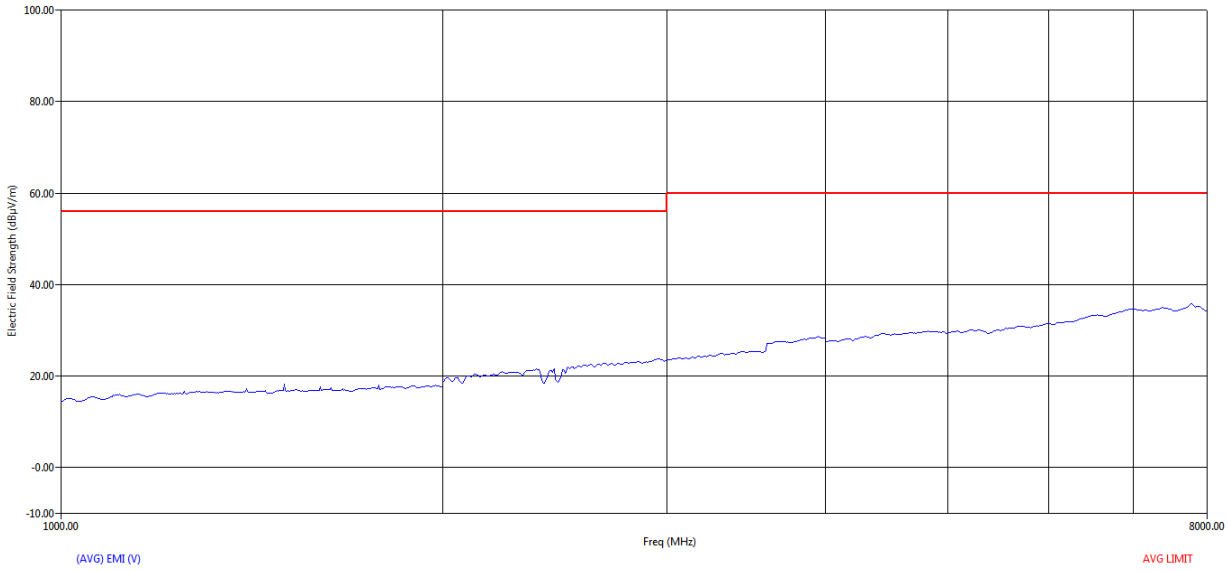


**Figure 39: Average RE from 1GHz to 8GHz - Vertical polarization**

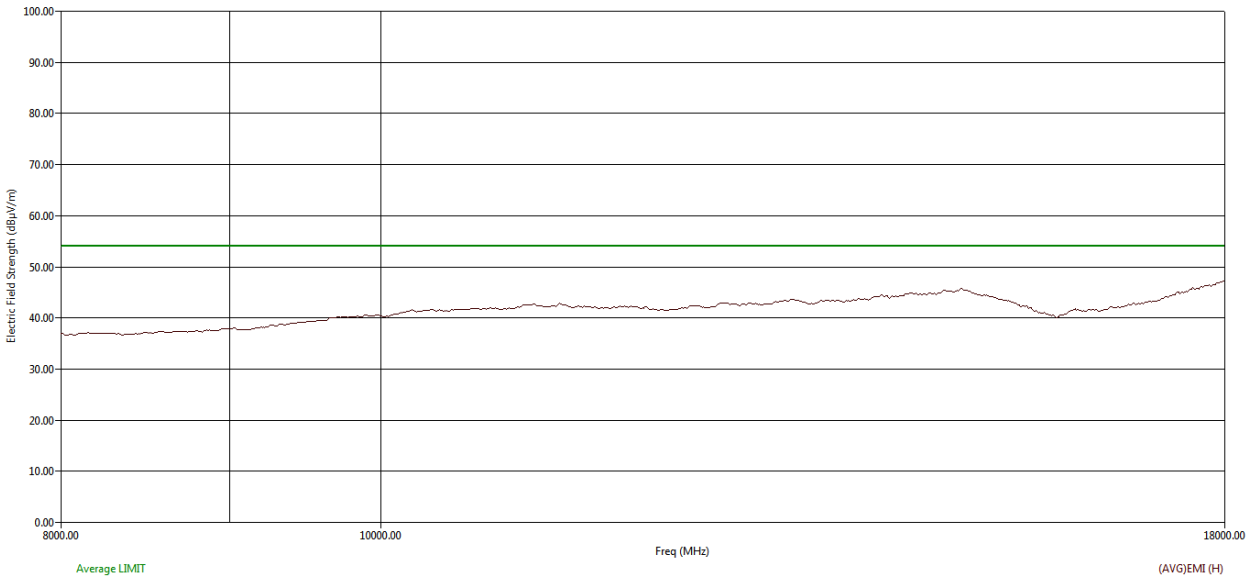


**Figure 40: Average RE from 8GHz to 18GHz - Horizontal polarization**

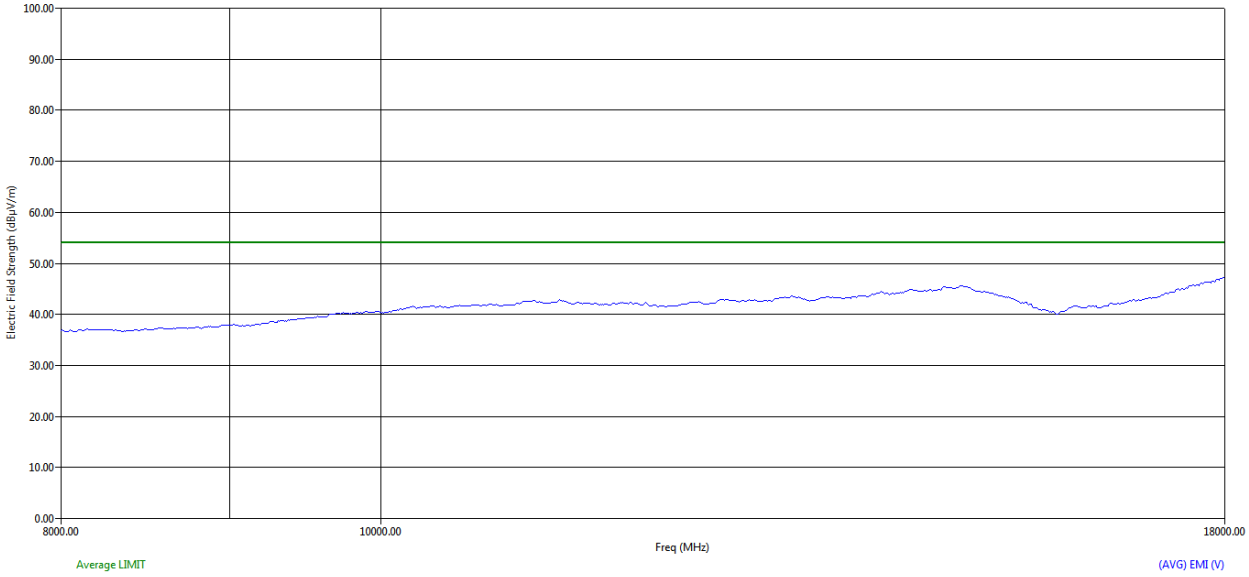


**Figure 41: Average RE from 8GHz to 18GHz - Vertical polarization**

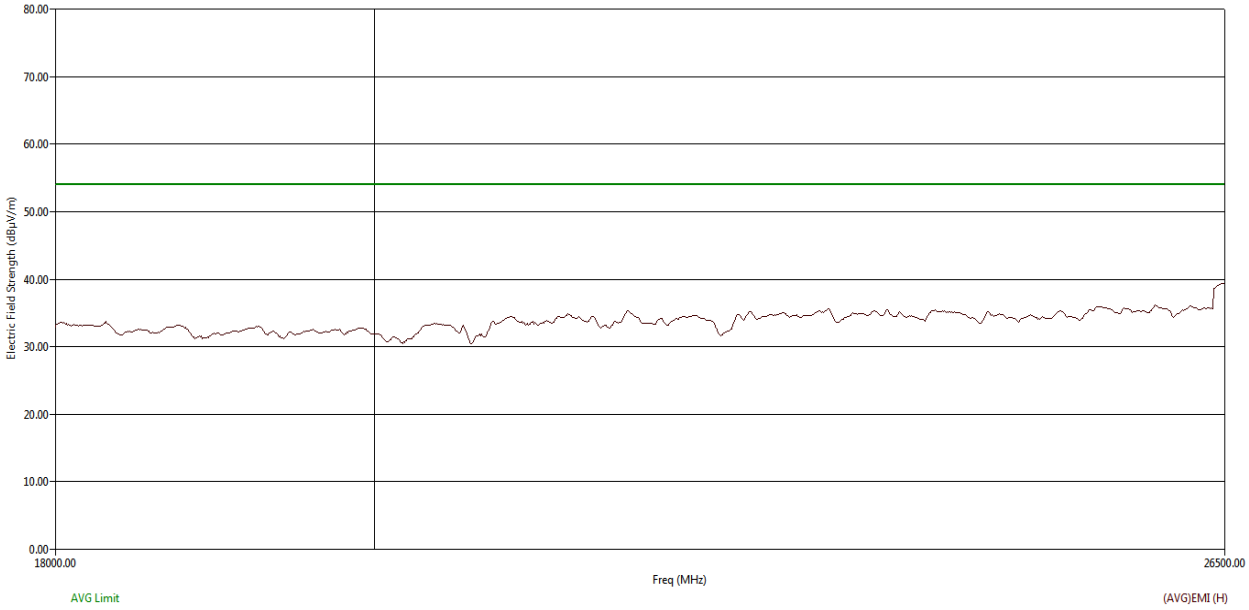


**Figure 42: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

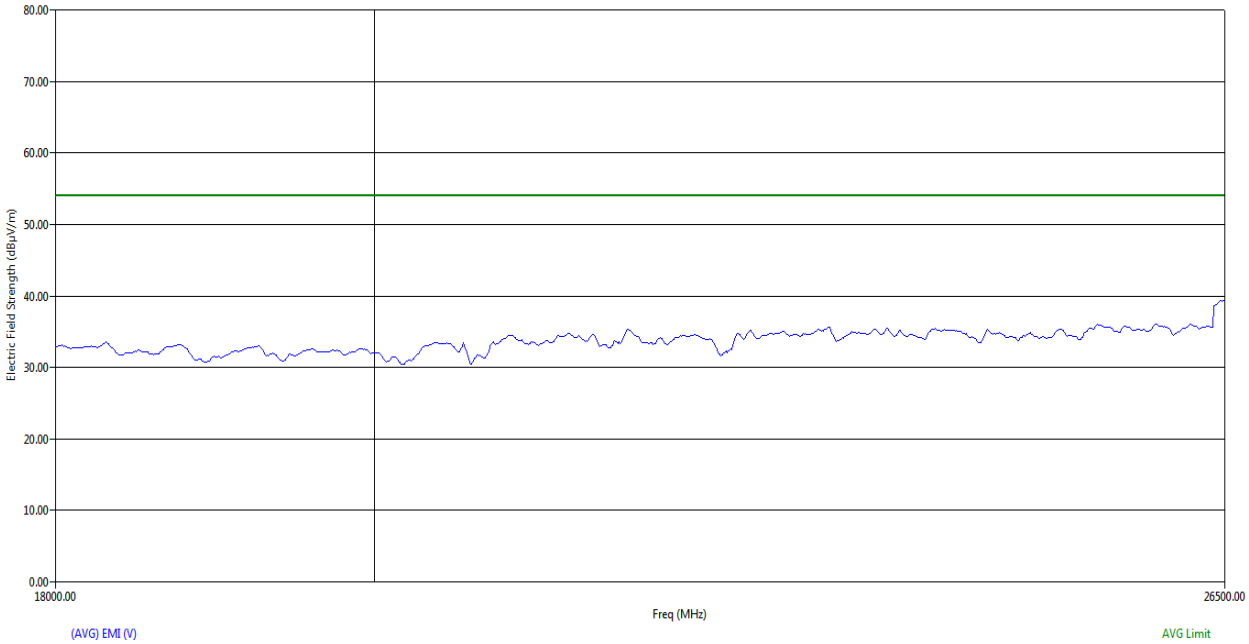


**Figure 43: Average RE from 18GHz to 26.5GHz - Vertical polarization**

## 7.2.6.2 Mid Channel_2442 MHz

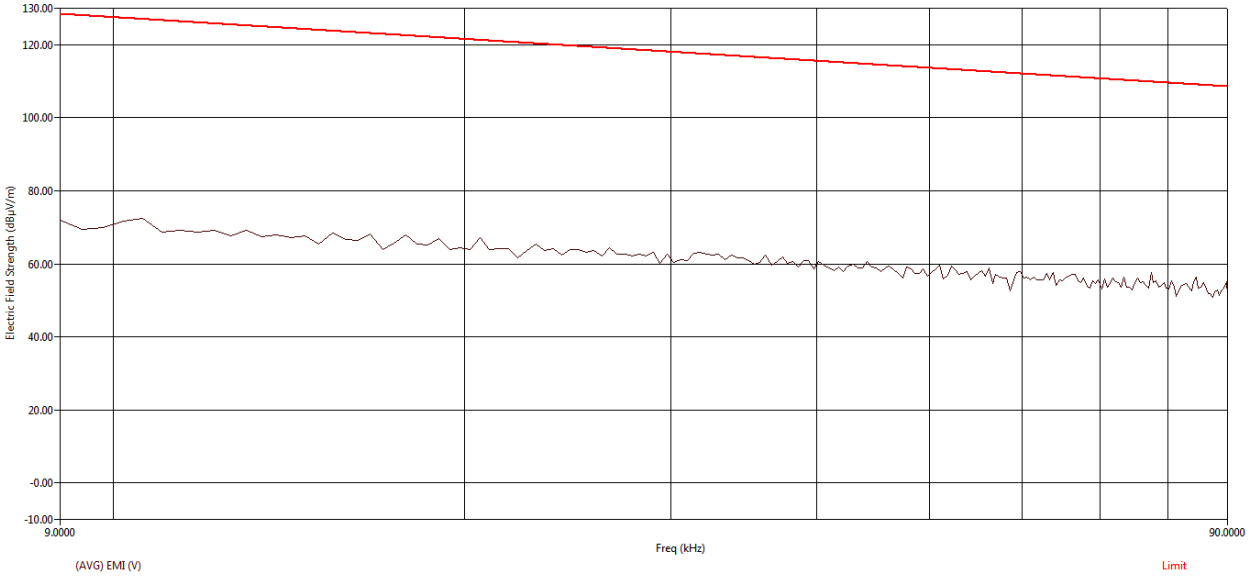


**Figure 44: Average RE from 9 kHz to 90 kHz - Parallel**

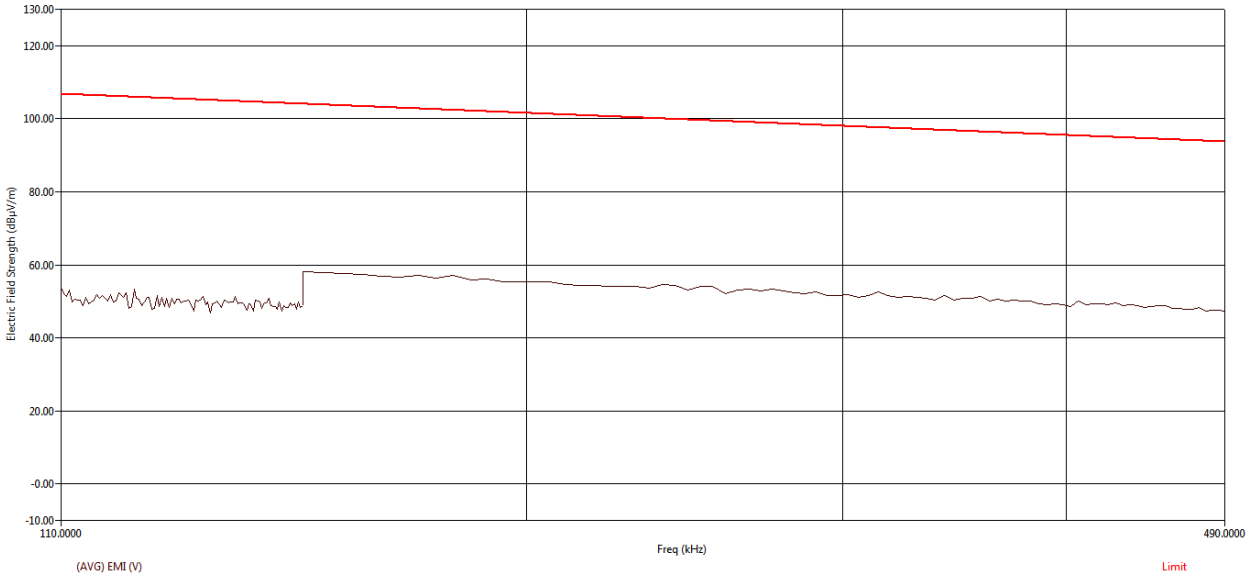


**Figure 45: Average RE from 110 kHz to 490 kHz - Parallel**

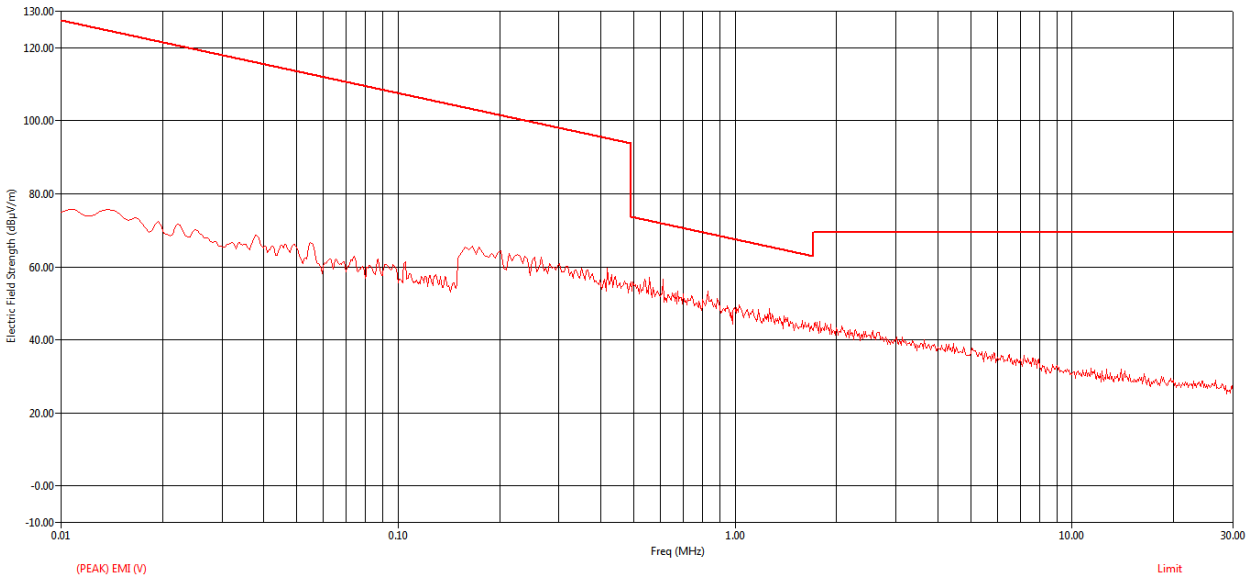


**Figure 46: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.16 | 0.15 | V | 45.12 | 0.16 | 17.60 | 62.88 | 104.08 | -41.20 |
| 0.42 | 0.41 | V | 36.46 | 0.20 | 17.50 | 54.16 | 95.25 | -41.09 |
| 0.83 | 0.83 | V | 29.69 | 0.26 | 17.47 | 47.42 | 69.24 | -21.82 |

**Table 14 Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

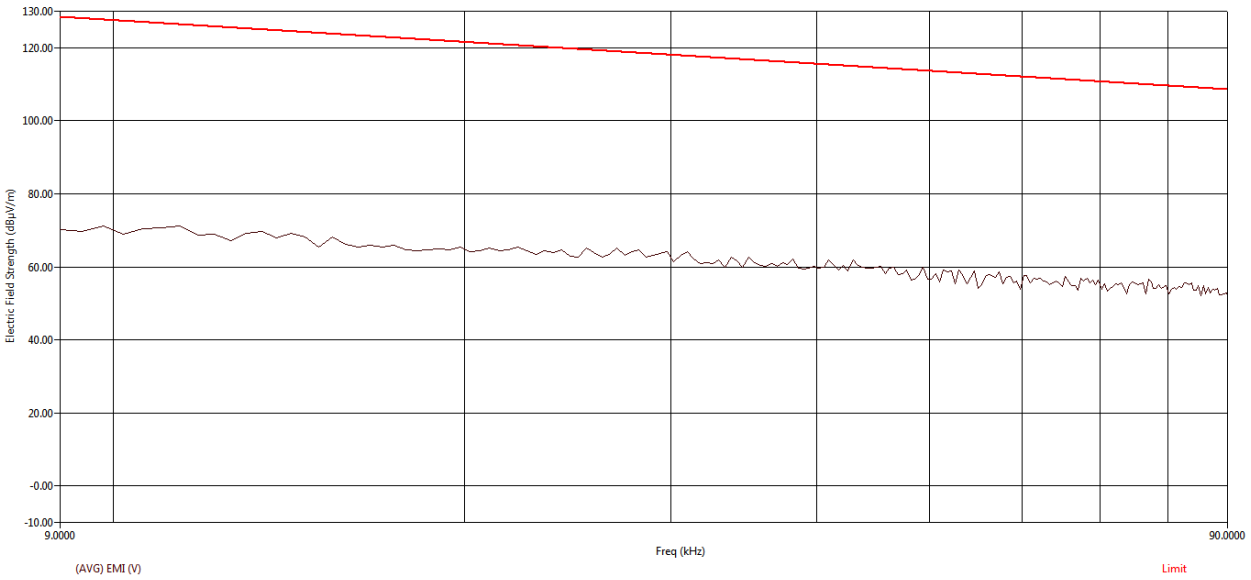


**Figure 47: Average RE from 9 kHz to 90 kHz - Perpendicular**

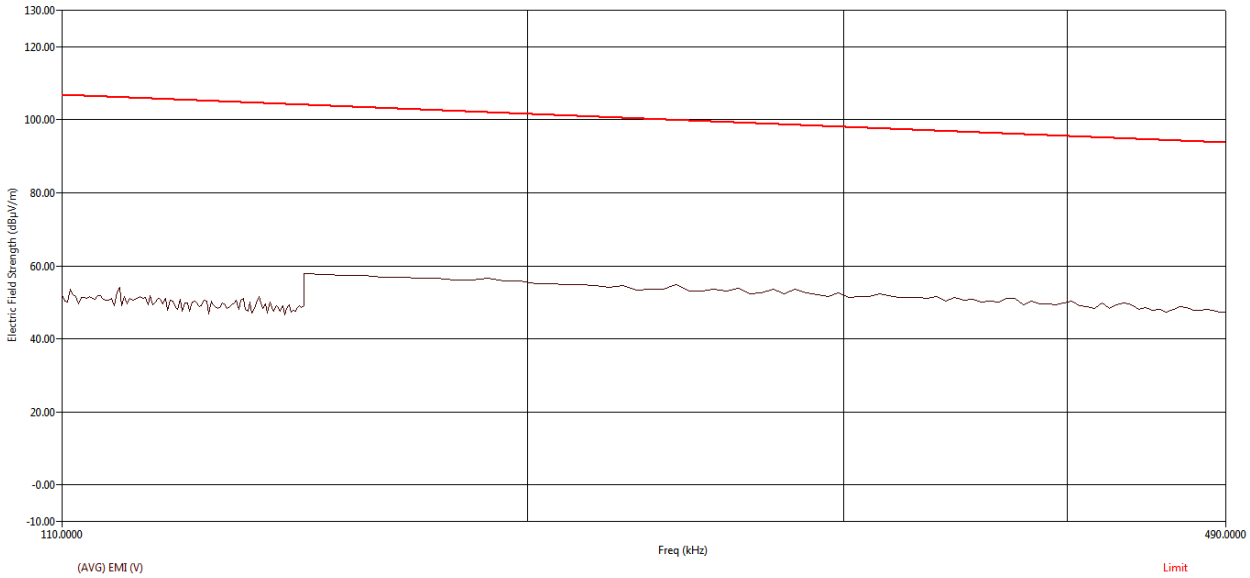


**Figure 48: Average RE from 110 kHz to 490 kHz - Perpendicular**

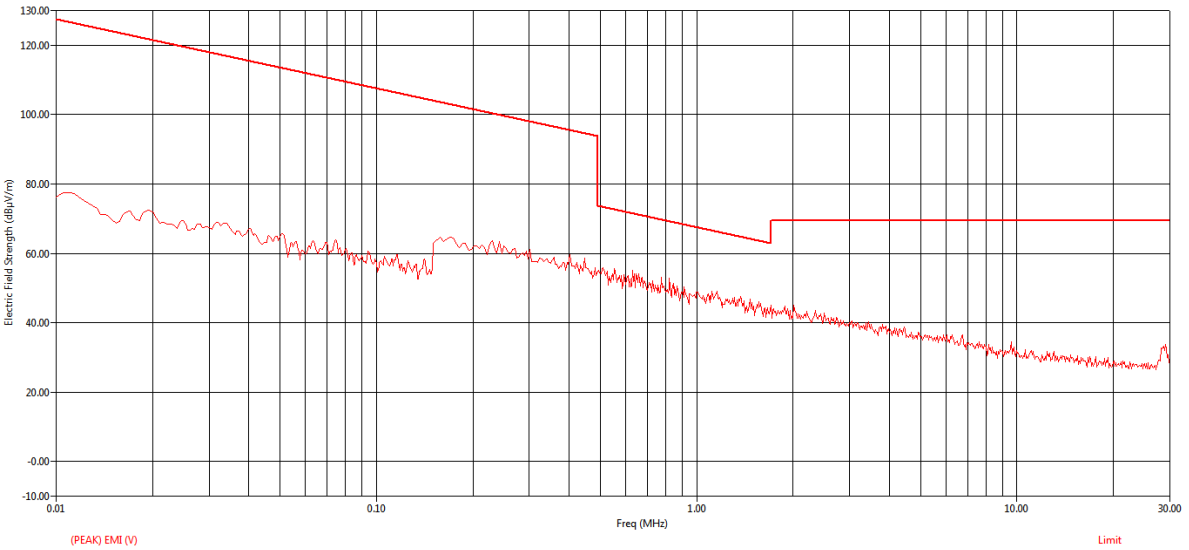


**Figure 49: Peak RE from 9 kHz to 30MHz - Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.17 | 0.15 | V | 45.13 | 0.16 | 17.60 | 62.88 | 103.00 | -40.11 |
| 0.23 | 0.24 | V | 41.39 | 0.16 | 17.51 | 59.06 | 100.37 | -41.31 |
| 0.40 | 0.40 | V | 36.72 | 0.20 | 17.50 | 54.42 | 95.56 | -41.15 |

**Table 15 Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

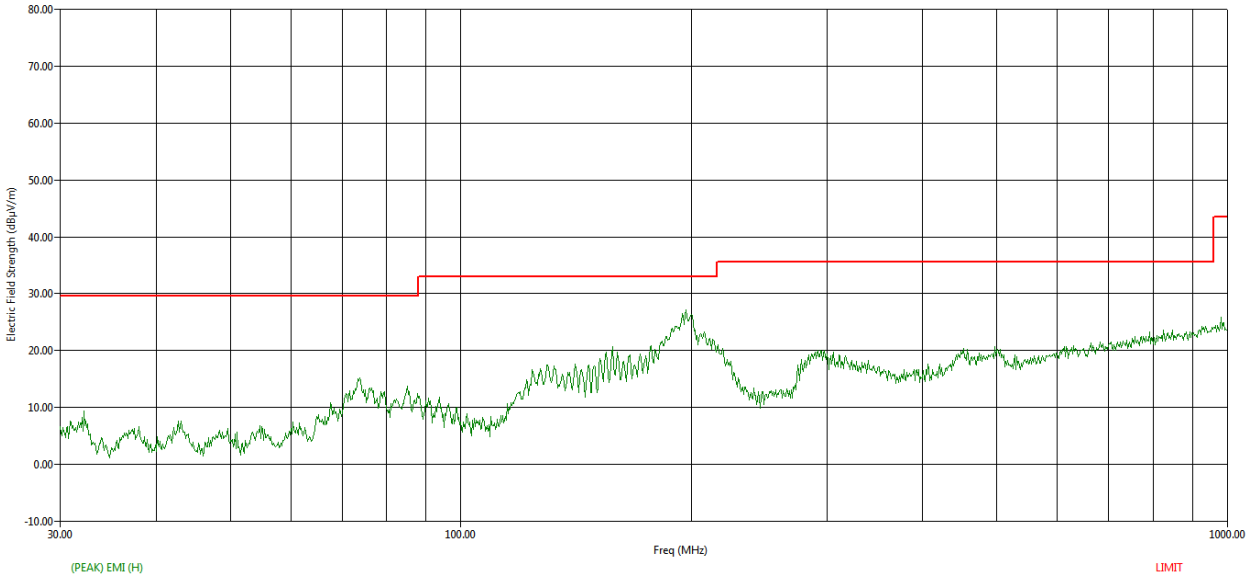


**Figure 50: Peak RE from 30MHz to 1GHz - Horizontal polarization**

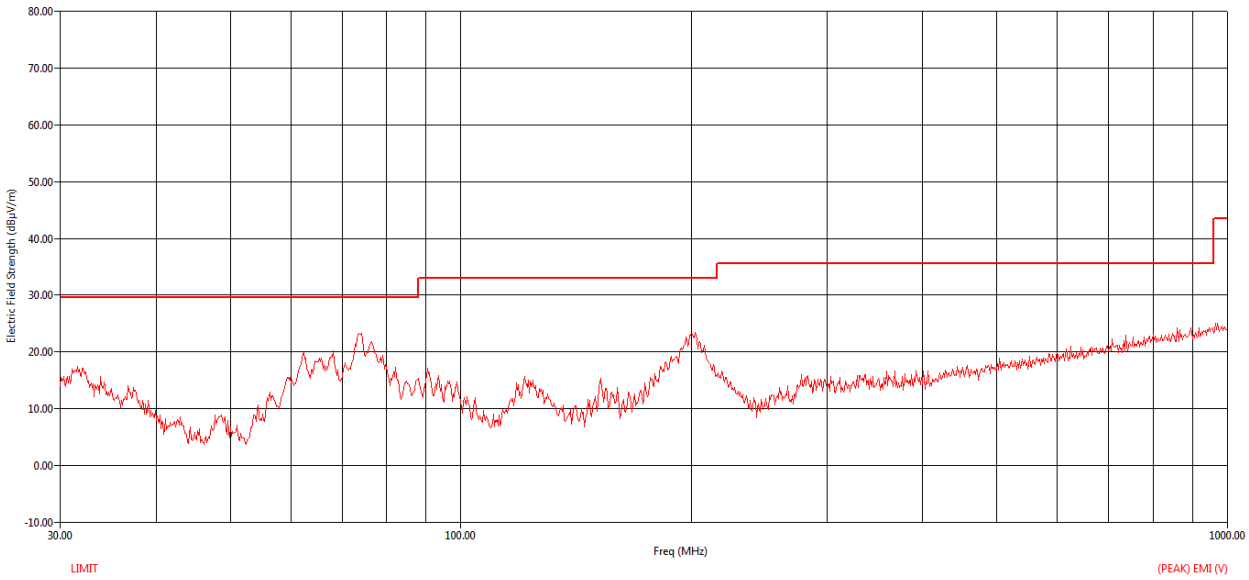


**Figure 51: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 73.60 | 73.66 | V | 335.90 | 226.00 | 38.95 | 1.74 | 8.61 | 32.39 | 16.91 | 29.54 | -12.63 |
| 76.27 | 76.32 | V | 279.50 | 102.00 | 39.17 | 1.76 | 8.37 | 32.38 | 16.93 | 29.54 | -12.61 |
| 196.68 | 196.59 | H | 129.50 | 243.00 | 37.28 | 2.74 | 13.05 | 32.10 | 20.96 | 33.06 | -12.10 |
| 199.16 | 199.16 | H | 149.70 | 281.00 | 38.17 | 2.77 | 13.19 | 32.10 | 22.03 | 33.06 | -11.03 |
| 199.18 | 199.10 | V | 184.70 | 272.00 | 28.20 | 2.77 | 13.18 | 32.10 | 12.05 | 33.06 | -21.01 |
| 202.04 | 201.99 | V | 109.80 | 175.00 | 38.01 | 2.79 | 13.11 | 32.10 | 21.81 | 33.06 | -11.25 |

**Table 16: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

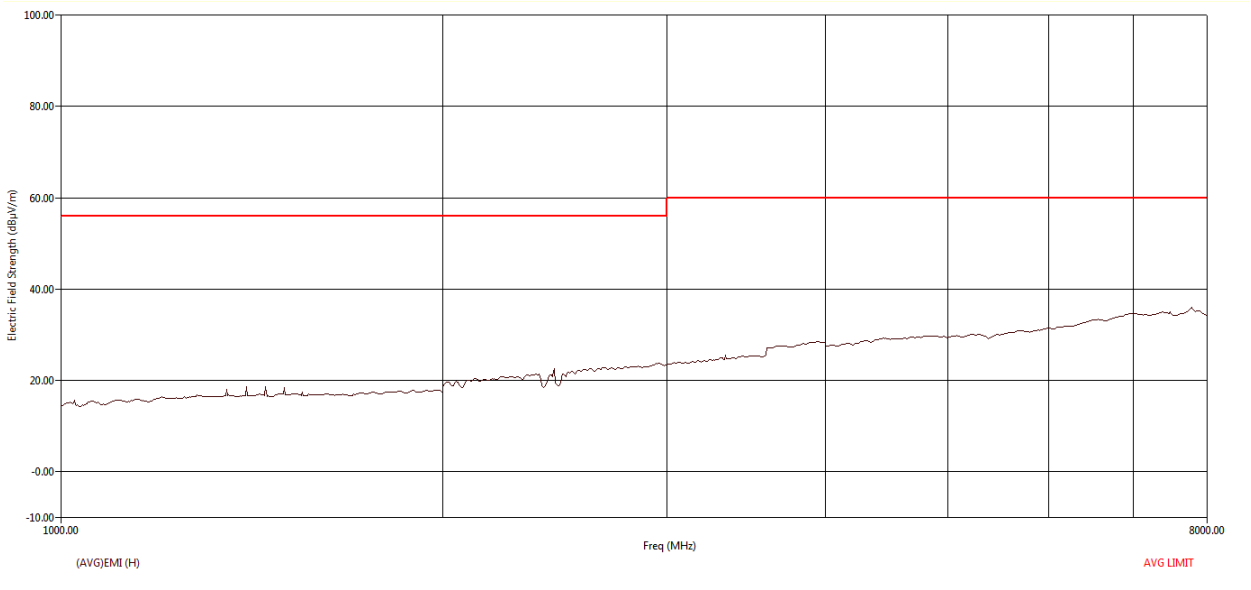


**Figure 52: Average RE from 1GHz to 8GHz - Horizontal polarization**

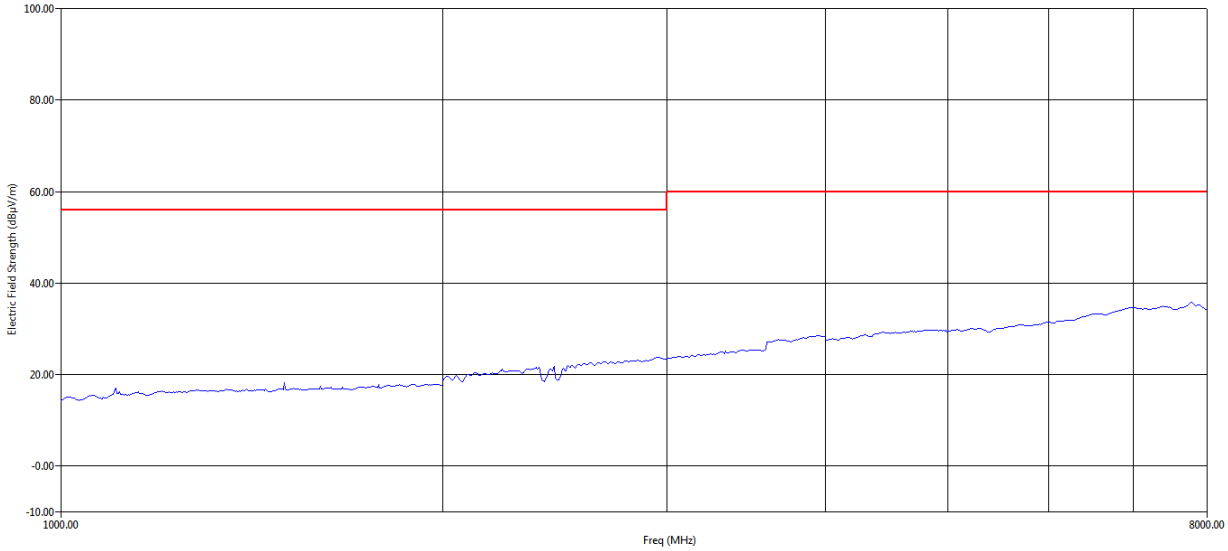


**Figure 53: Average RE from 1GHz to 8GHz - Vertical polarization**

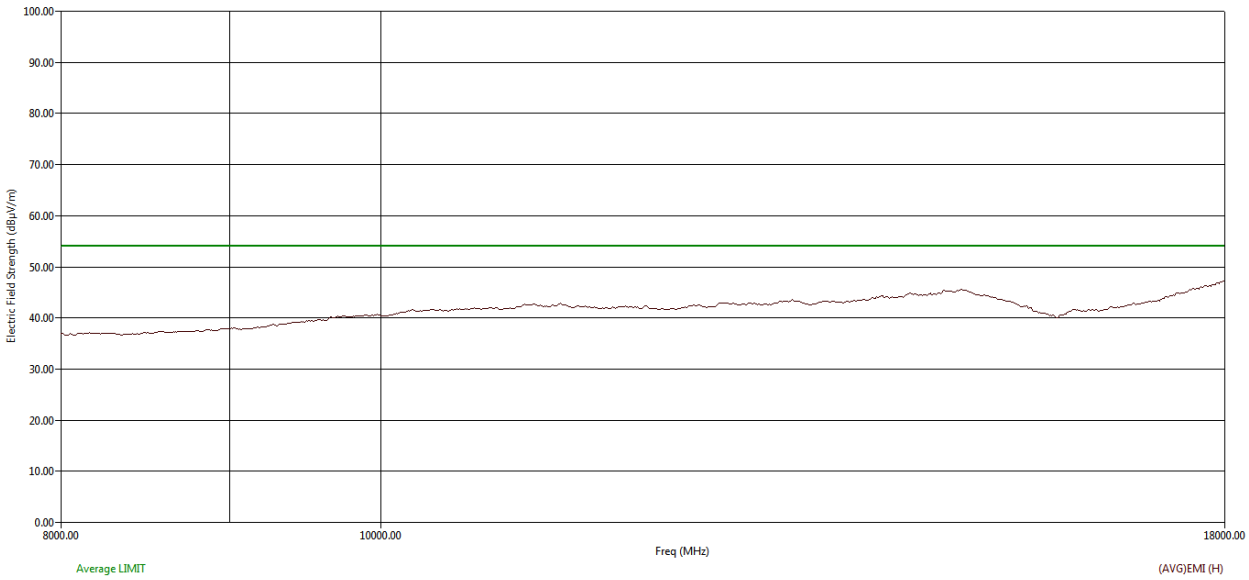


**Figure 54: Average RE from 8GHz to 18GHz - Horizontal polarization**

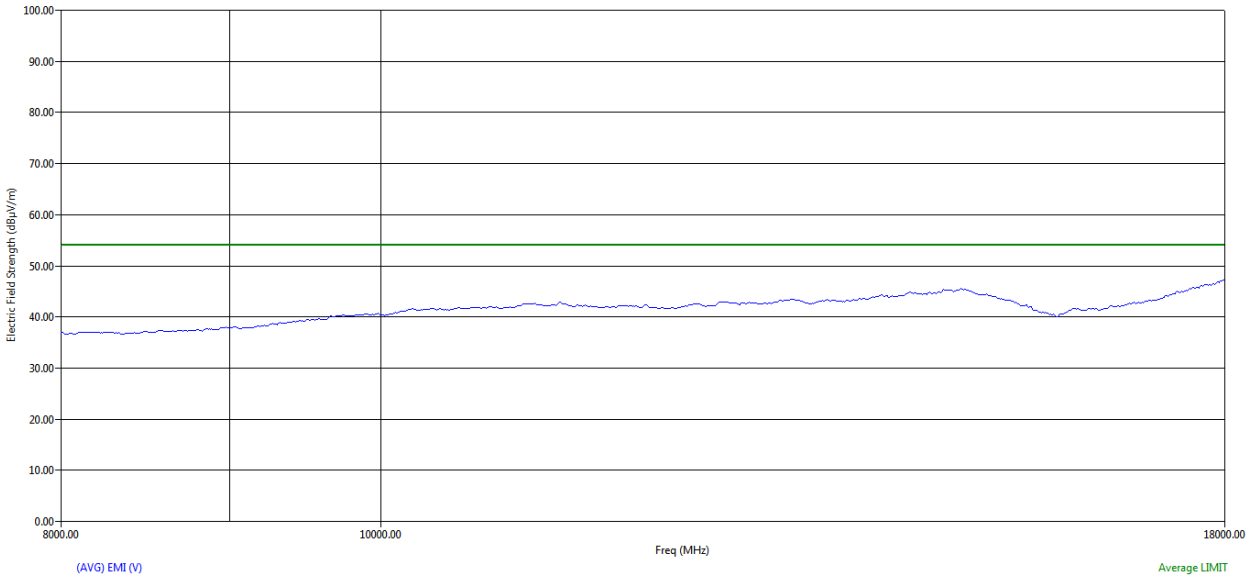


**Figure 55: Average RE from 8GHz to 18GHz - Vertical polarization**

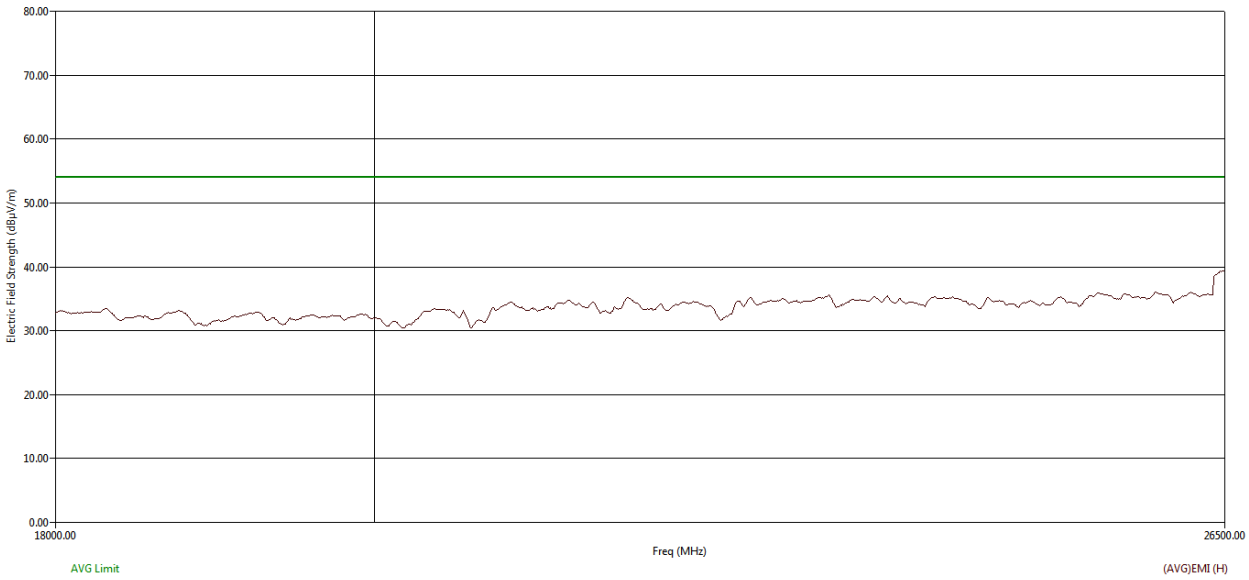


**Figure 56: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

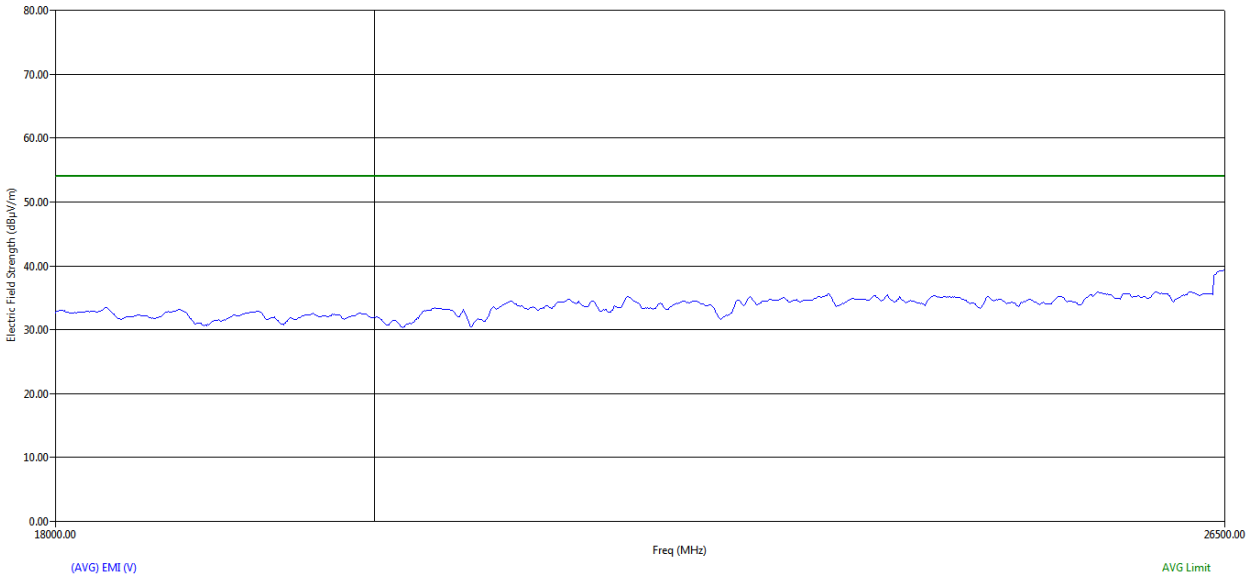


**Figure 57: Average RE from 18GHz to 26.5GHz - Vertical polarization**

## 7.2.6.3 High Channel_2462 MHz

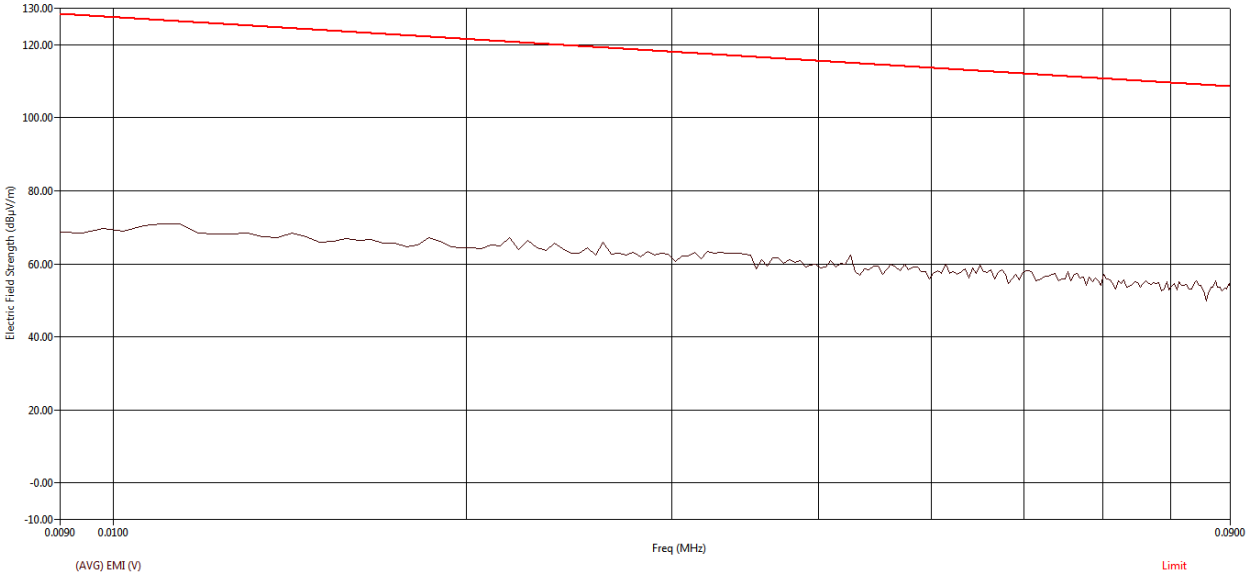


**Figure 58: Average RE from 9 kHz to 90 kHz - Parallel**

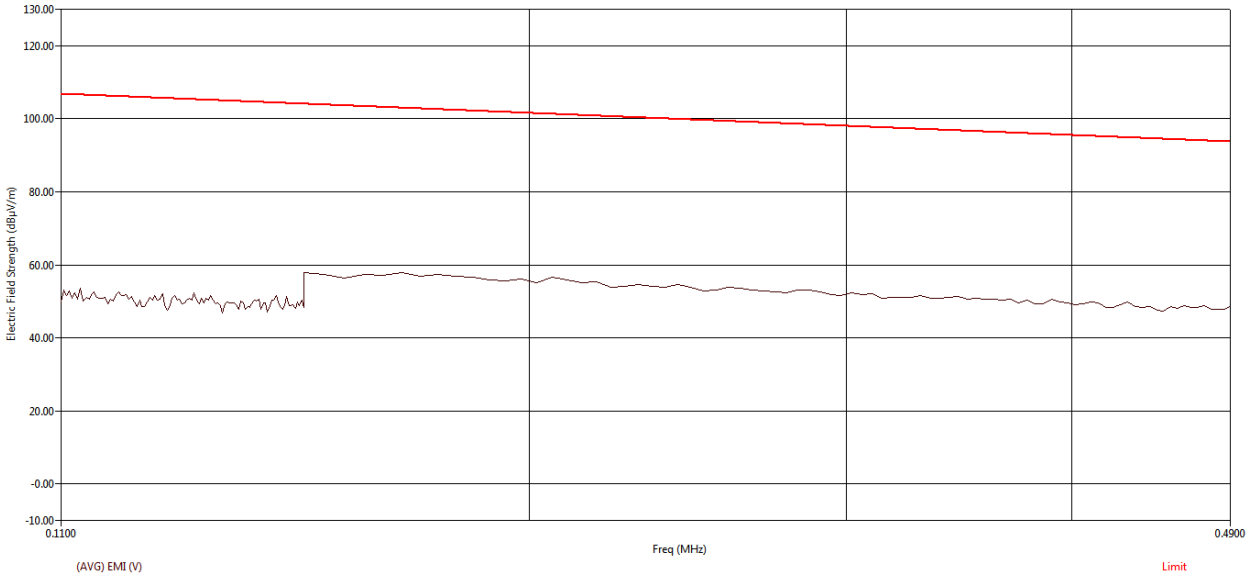


**Figure 59: Average RE from 110 kHz to 490 kHz - Parallel**

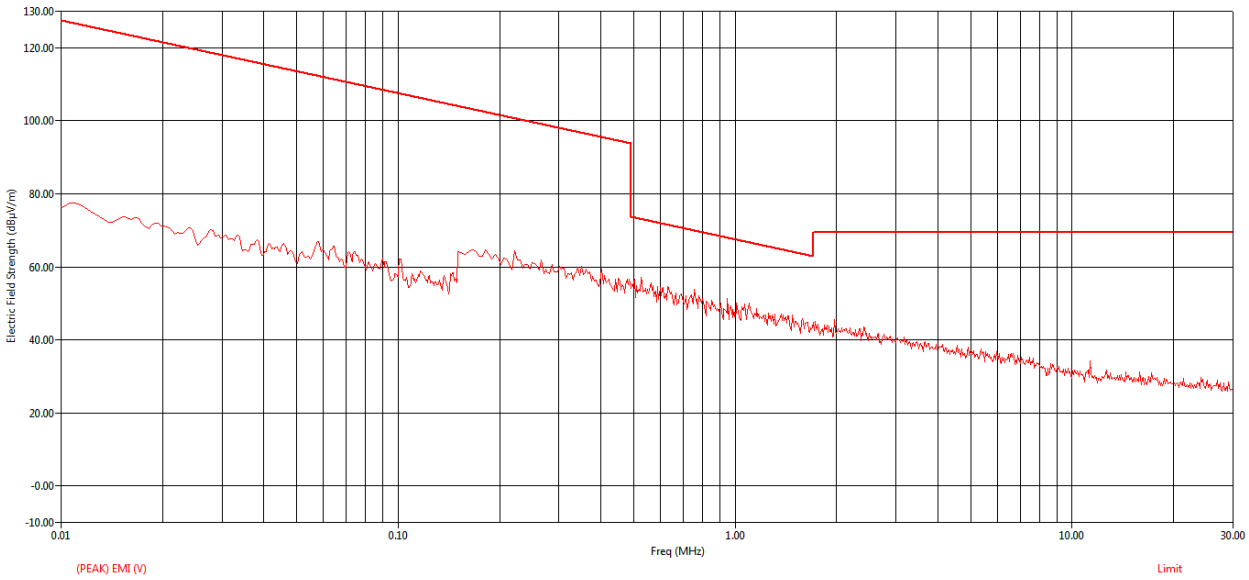


**Figure 60: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.75 | 0.75 | V | 154.70 | 30.75 | 0.25 | 17.40 | 48.40 | 70.13 | -21.73 |
| 11.31 | 11.31 | V | 197.60 | 7.07 | 1.21 | 17.20 | 25.48 | 69.54 | -44.06 |

**Table 17 Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

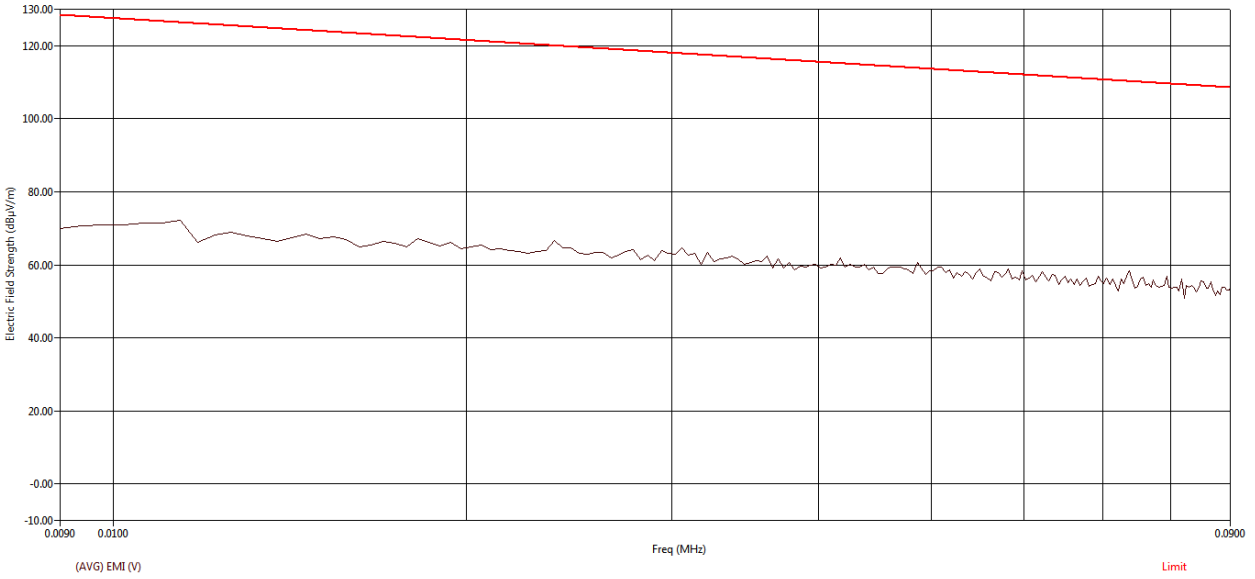


**Figure 61: Average RE from 9 kHz to 90 kHz - Perpendicular**

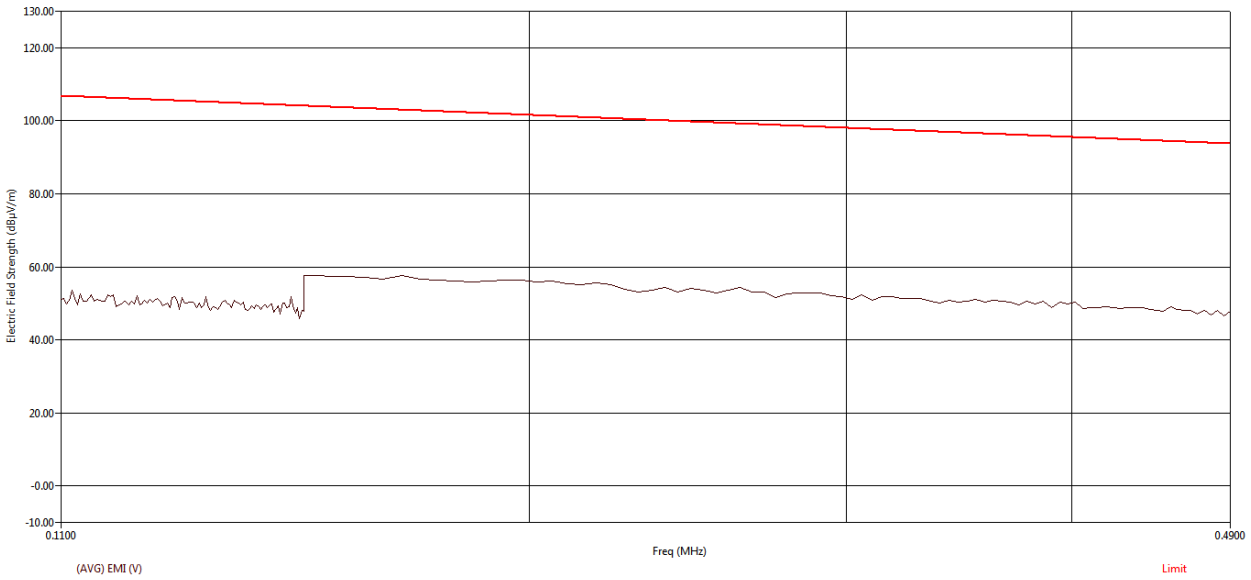


**Figure 62: Average RE from 110 kHz to 490 kHz - Perpendicular**

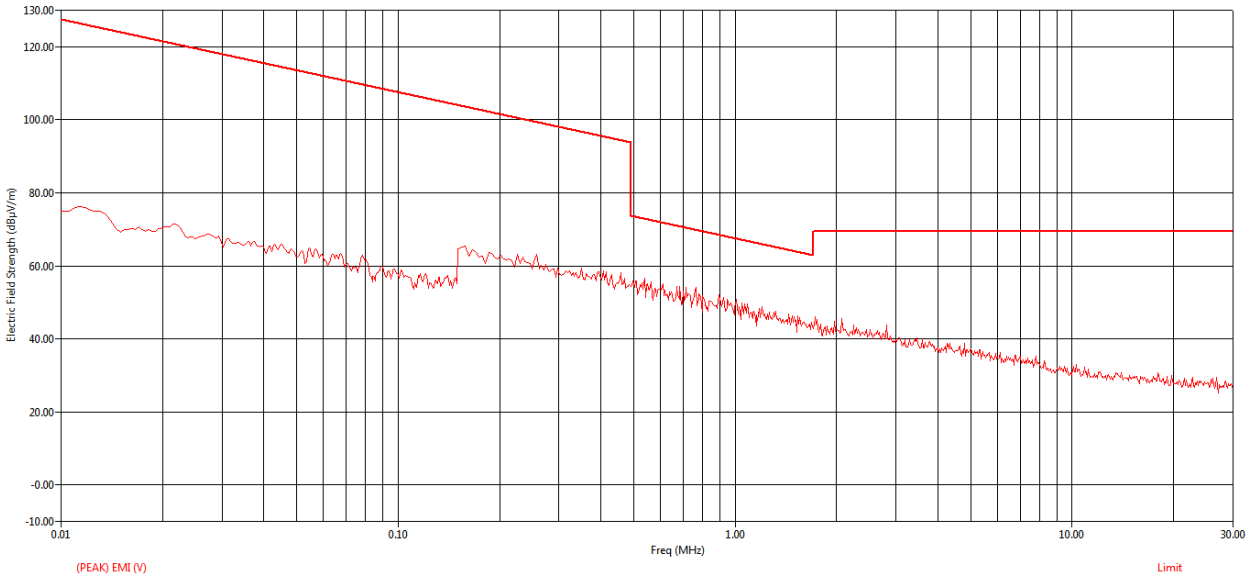


**Figure 63: Peak RE from 9 kHz to 30MHz - Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.54 | 0.53 | V | 175.80 | 34.20 | 0.22 | 17.49 | 51.91 | 73.11 | -21.20 |
| 18.07 | 18.06 | V | 64.80 | 4.04 | 1.50 | 17.07 | 22.61 | 69.54 | -46.93 |

**Table 18 Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

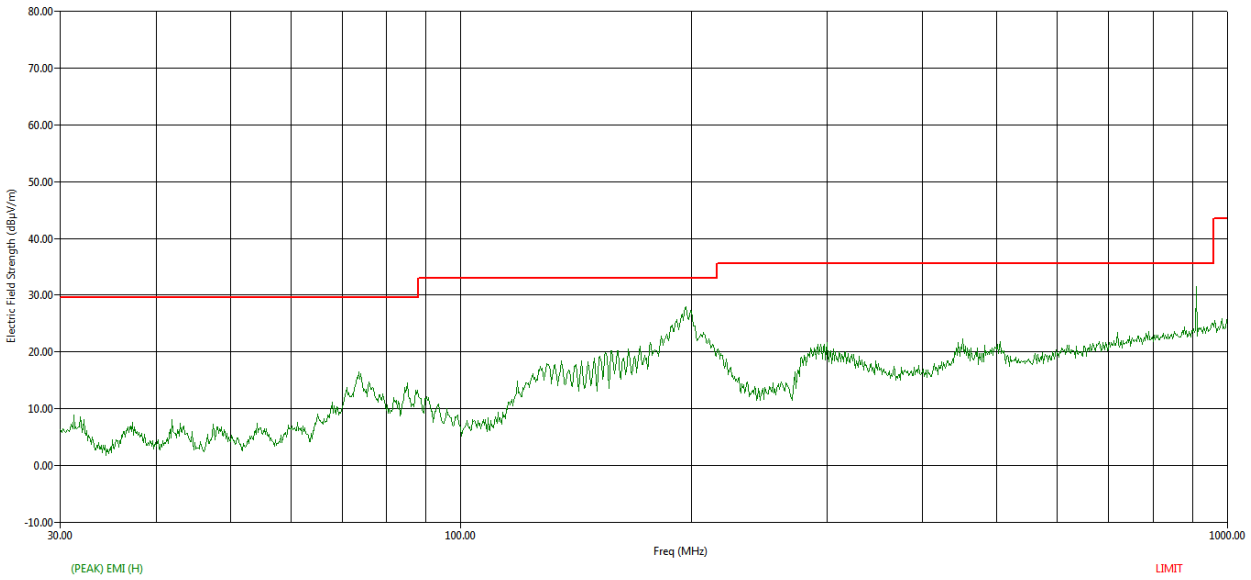


**Figure 64: Peak RE from 30MHz to 1GHz - Horizontal polarization**

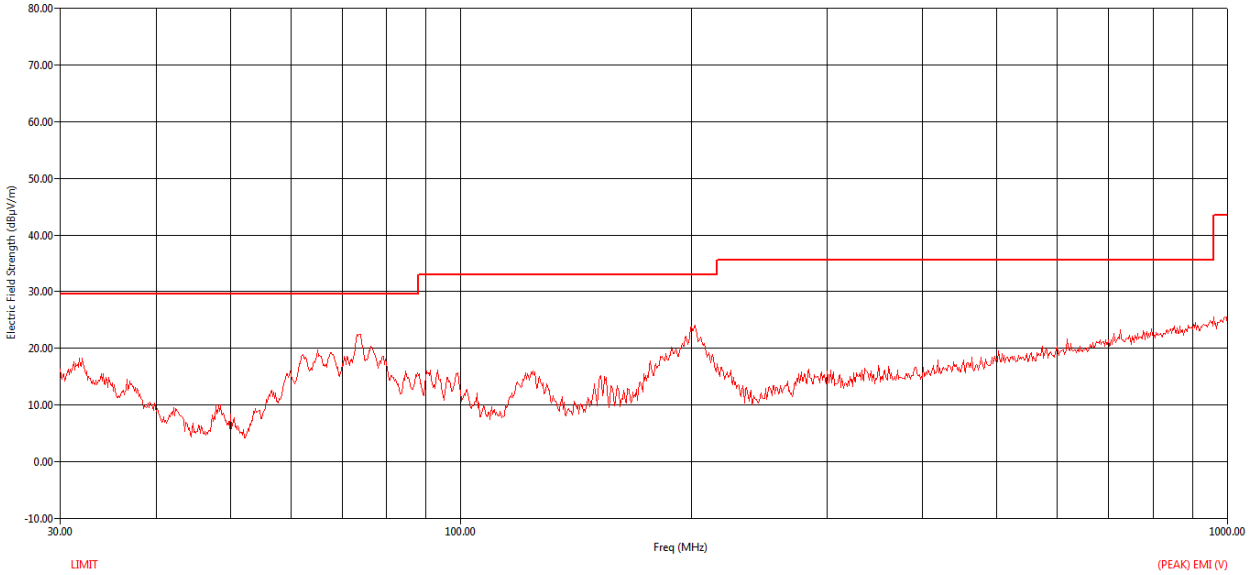


**Figure 65: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 73.60 | 73.52 | V | 65.00 | 234.00 | 40.23 | 1.74 | 8.63 | 32.39 | 18.21 | 29.54 | -11.33 |
| 76.27 | 76.27 | V | 55.40 | 265.00 | 39.56 | 1.76 | 8.38 | 32.38 | 17.32 | 29.54 | -12.22 |
| 196.68 | 196.56 | H | 292.20 | 101.00 | 28.78 | 2.74 | 13.05 | 32.10 | 12.46 | 33.06 | -20.60 |
| 199.16 | 199.06 | H | 161.90 | 400.00 | 40.16 | 2.77 | 13.18 | 32.10 | 24.01 | 33.06 | -9.05 |
| 199.18 | 199.25 | V | 105.40 | 127.00 | 36.81 | 2.78 | 13.19 | 32.10 | 20.68 | 33.06 | -12.38 |
| 202.04 | 202.02 | V | 93.40 | 245.00 | 37.77 | 2.80 | 13.10 | 32.10 | 21.57 | 33.06 | -11.49 |

**Table 19: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

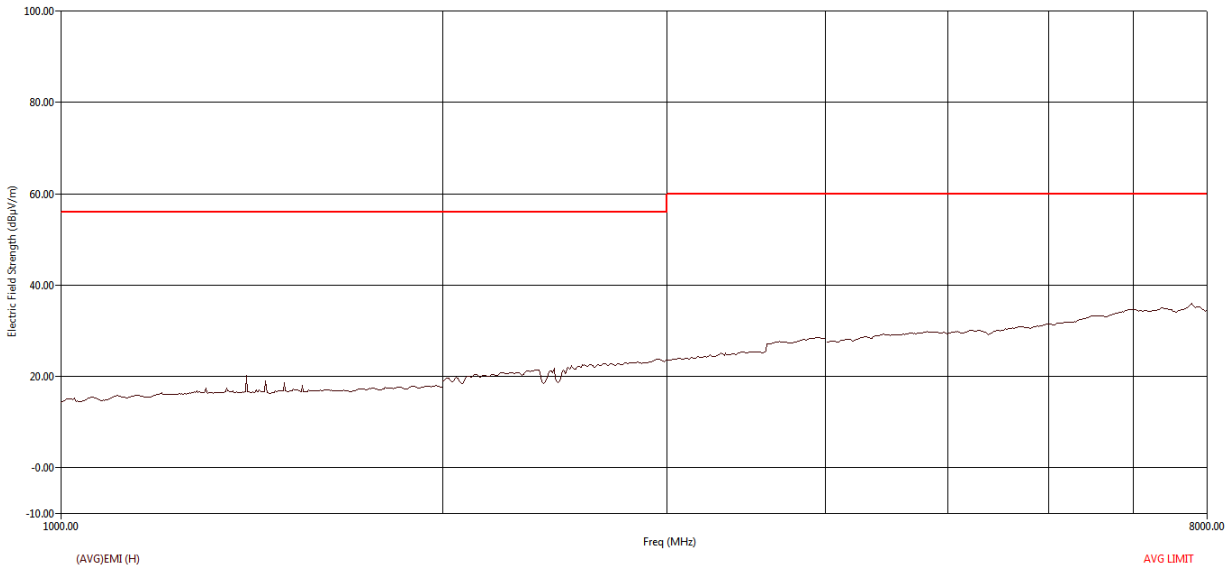


**Figure 66: Average RE from 1GHz to 8GHz - Horizontal polarization**

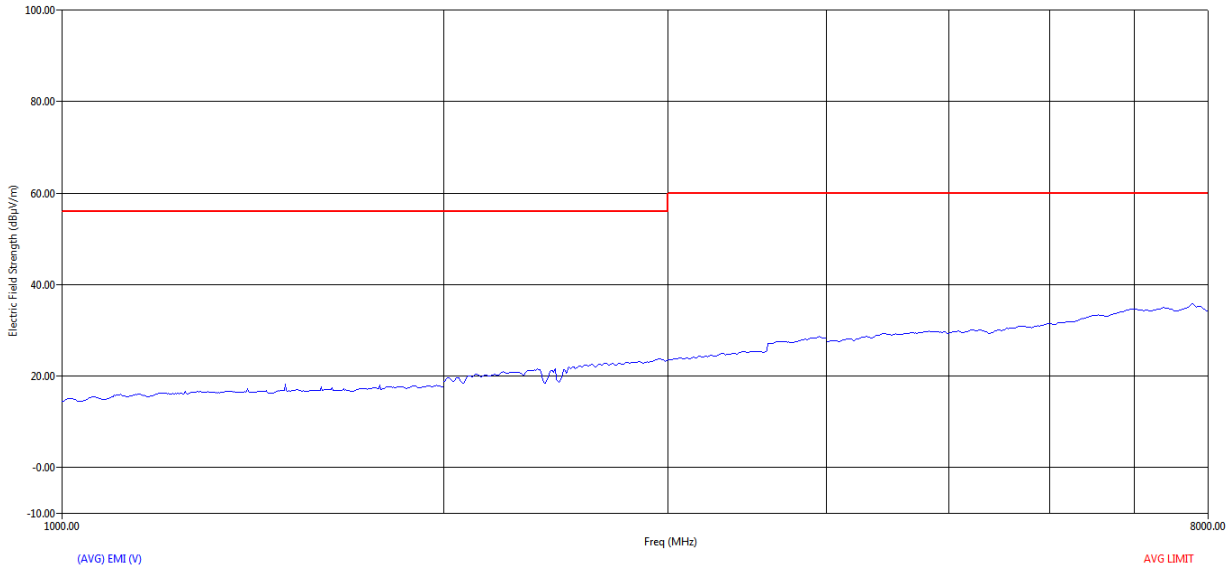


**Figure 67: Average RE from 1GHz to 8GHz - Vertical polarization**

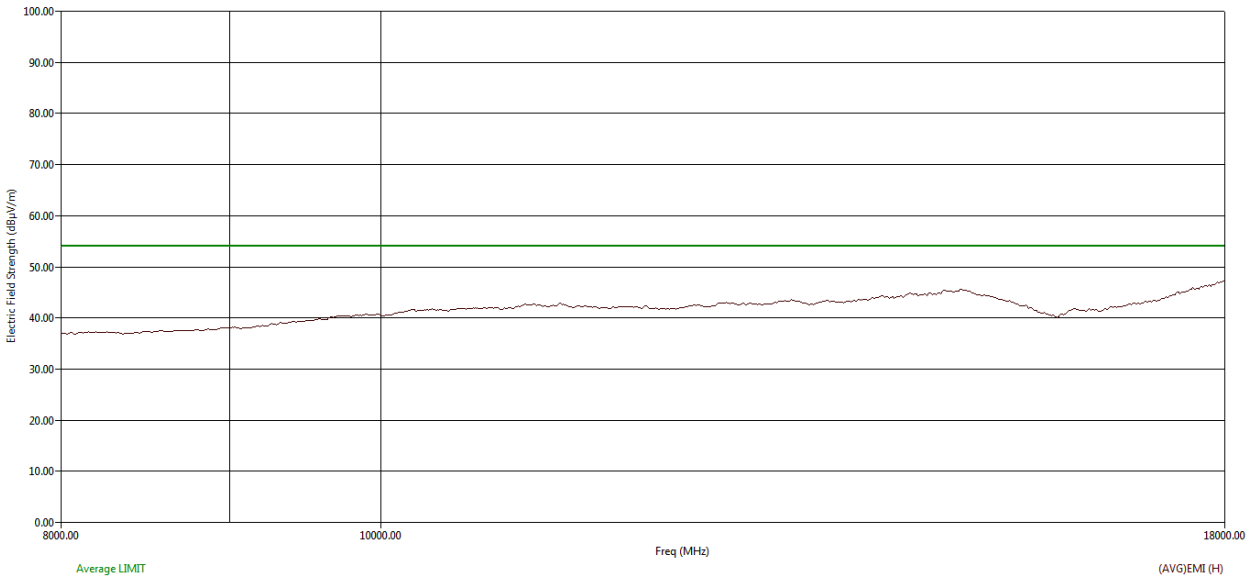


**Figure 68: Average RE from 8GHz to 18GHz - Horizontal polarization**

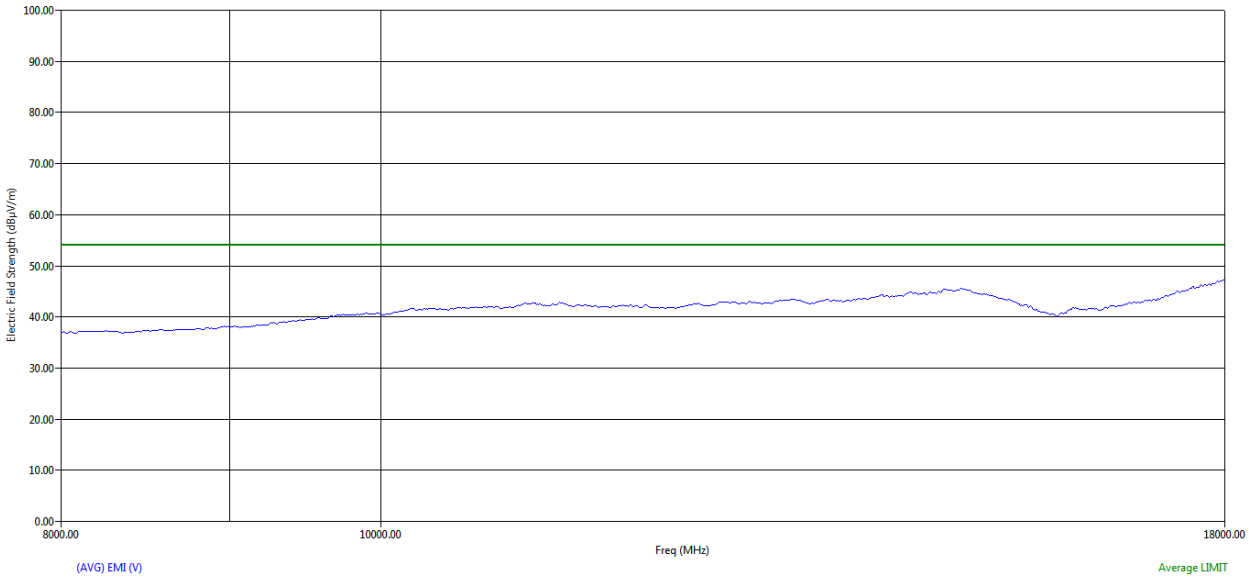


**Figure 69: Average RE from 8GHz to 18GHz - Vertical polarization**

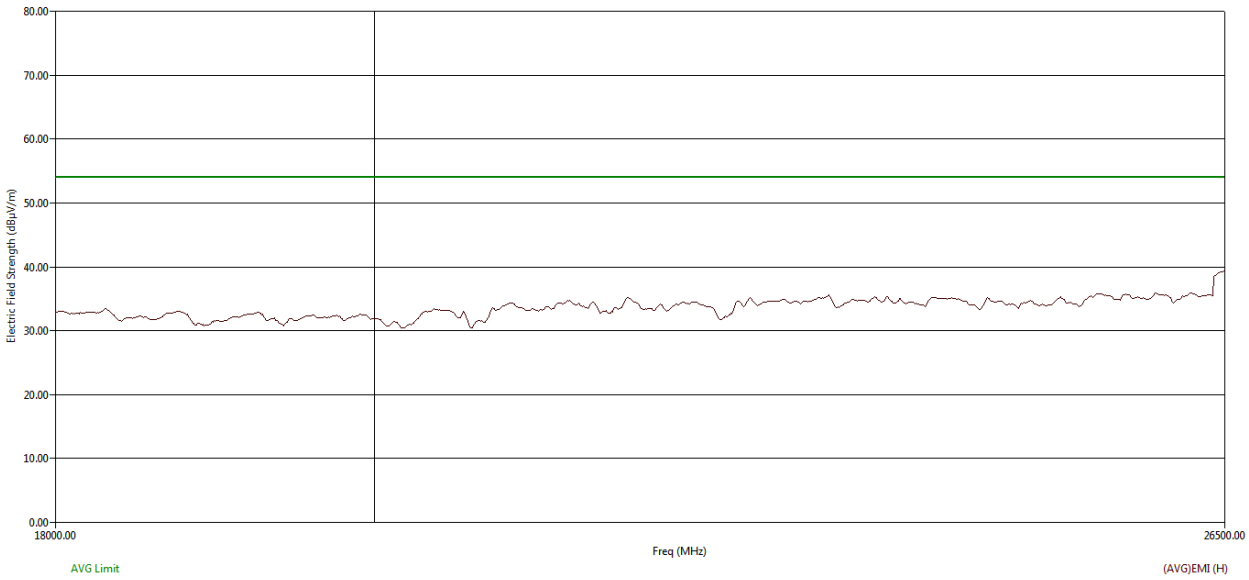


**Figure 70: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

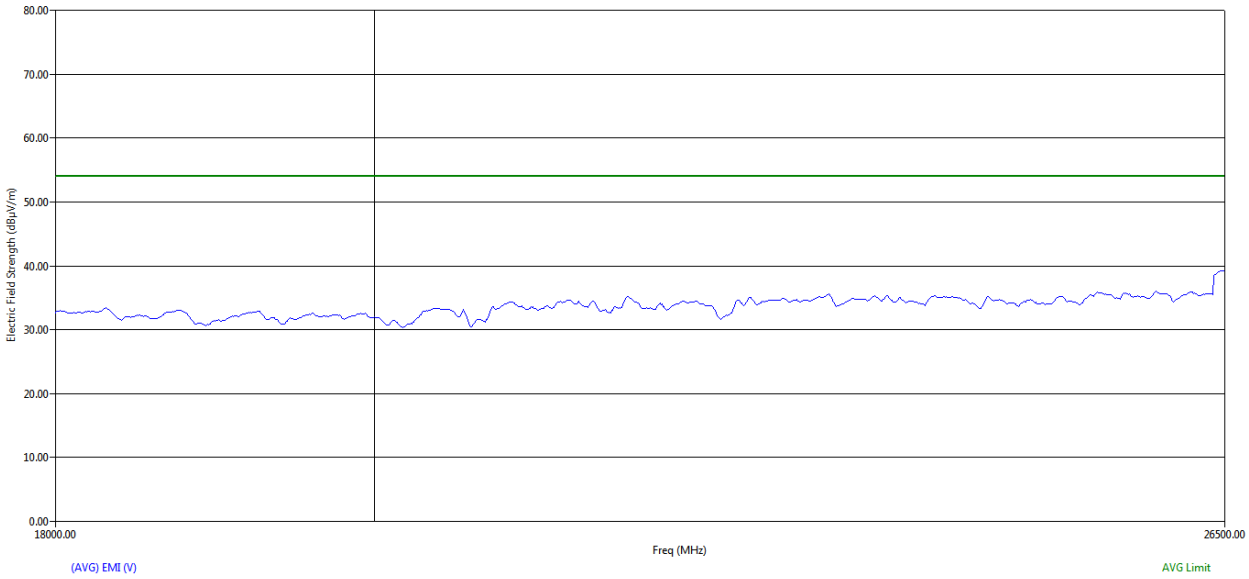


**Figure 71: Average RE from 18GHz to 26.5GHz - Vertical polarization**

## 7.2.7 Result (Supporting Graphs / Data) For 5 MHz Modulation Bandwidth

### 7.2.7.1 Low Channel_2412 MHz

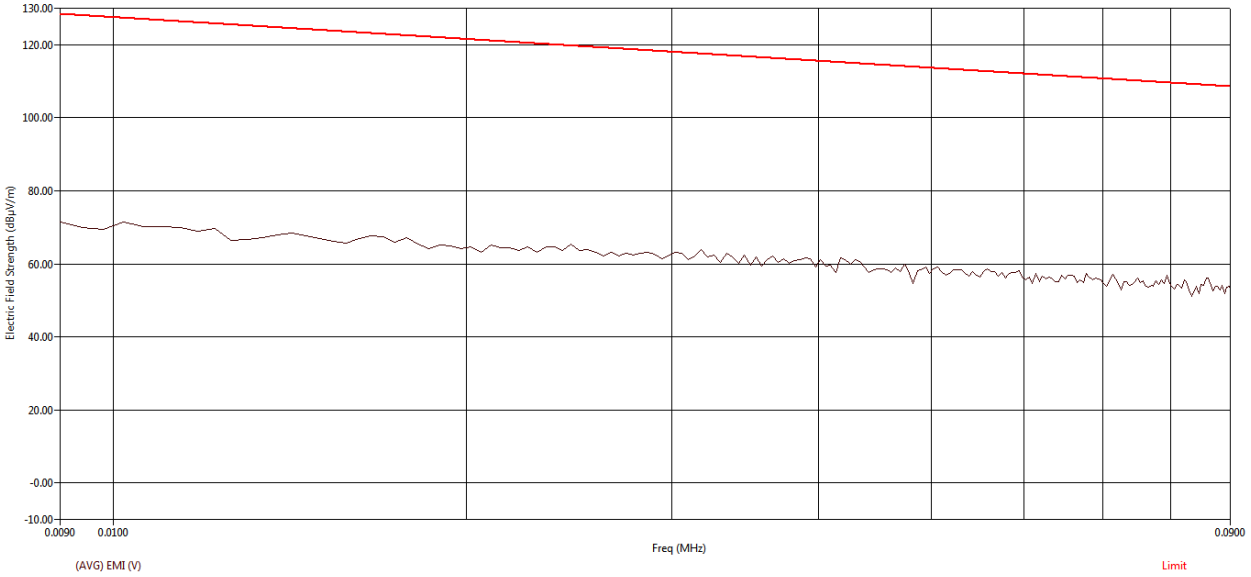


**Figure 72: Average RE from 9 kHz to 90 kHz - Parallel**

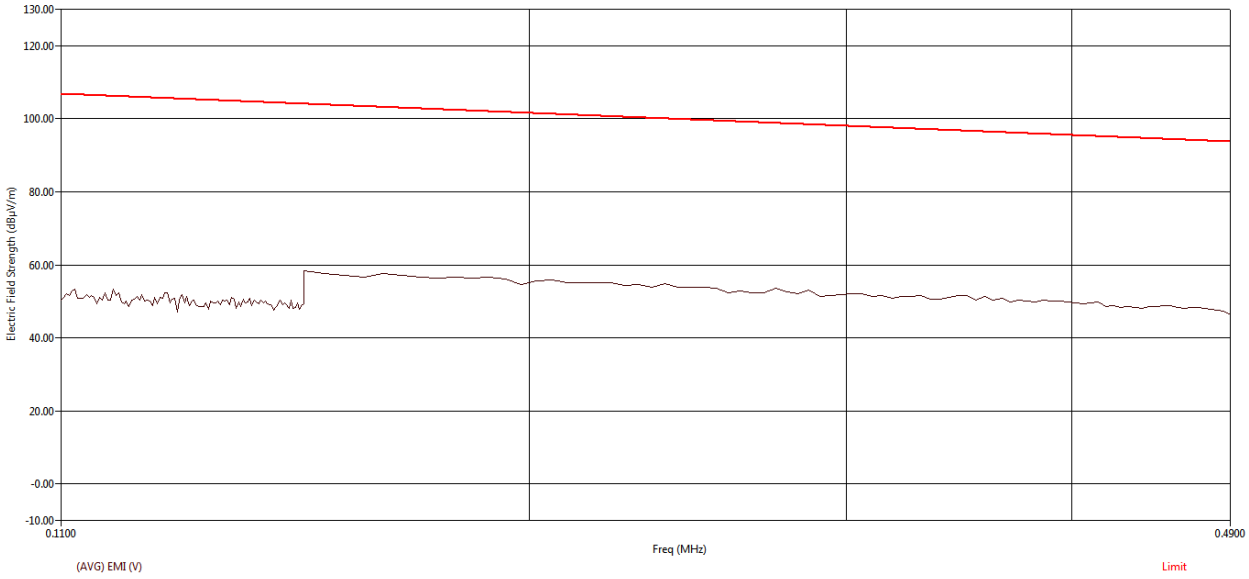


**Figure 73: Average RE from 110 kHz to 490 kHz - Parallel**

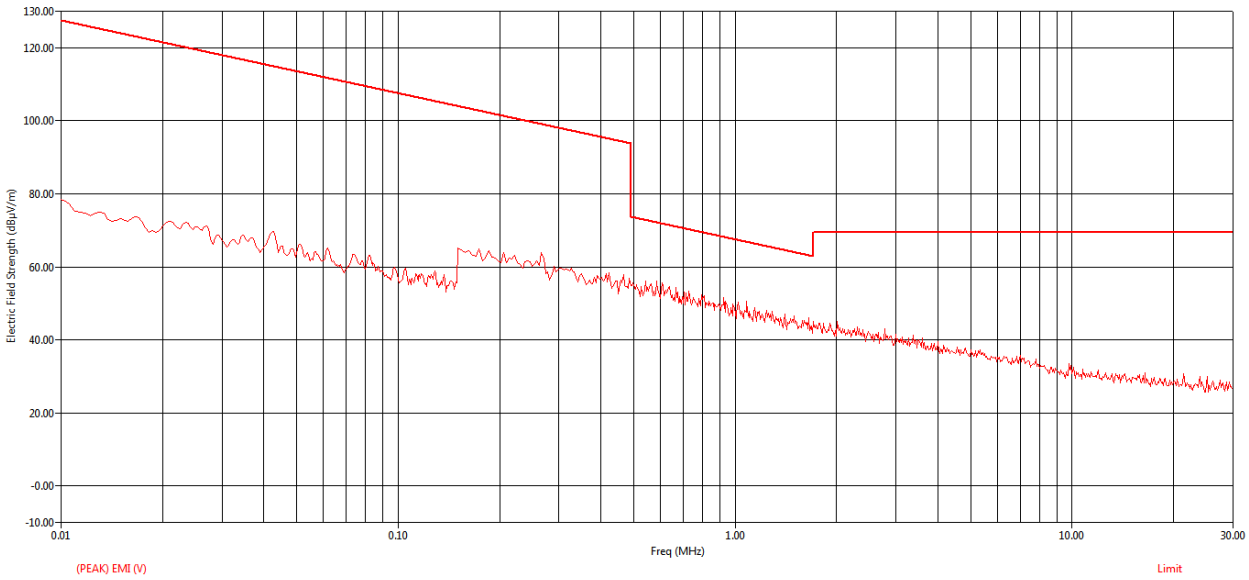


**Figure 74: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 21.46 | 21.46 | V | 184.60 | 2.92 | 1.62 | 16.91 | 21.44 | 69.54 | -48.10 |
| 25.18 | 25.17 | V | 43.80 | 5.19 | 1.75 | 16.68 | 23.63 | 69.54 | -45.91 |

**Table 20 Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

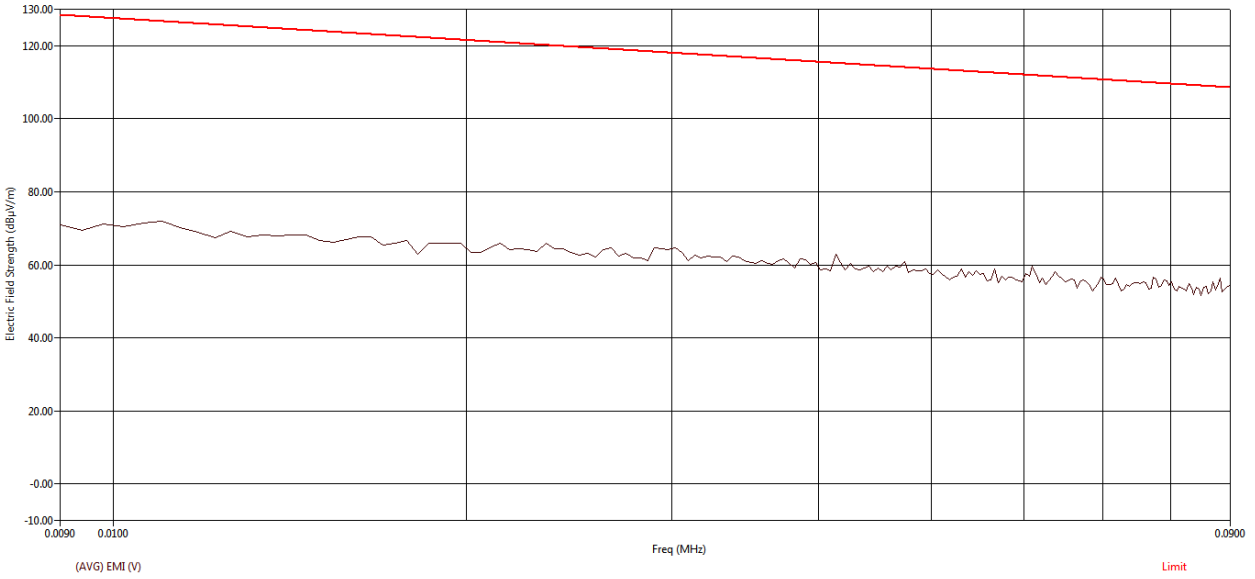


**Figure 75: Average RE from 9 kHz to 90 kHz - Perpendicular**

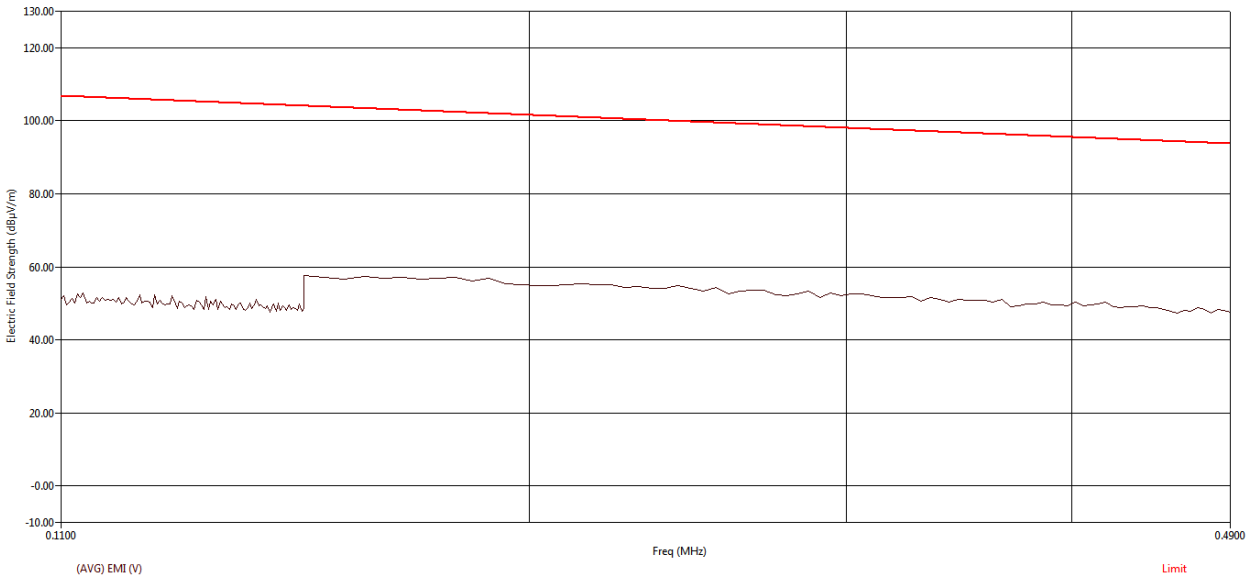


**Figure 76: Average RE from 110 kHz to 490 kHz - Perpendicular**

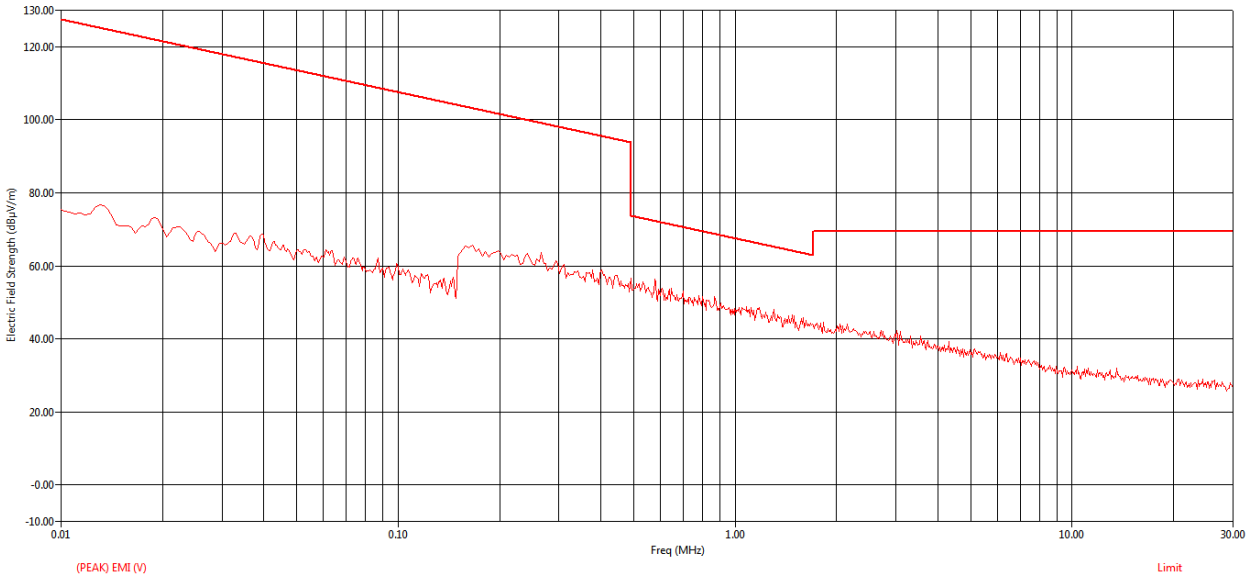


**Figure 77: Peak RE from 9 kHz to 30MHz - Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.58 | 0.57 | V | 299.80 | 33.48 | 0.23 | 17.47 | 51.18 | 72.43 | -21.25 |
| 13.55 | 13.56 | V | 282.70 | 7.39 | 1.32 | 17.20 | 25.92 | 69.54 | -43.62 |

**Table 21 Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

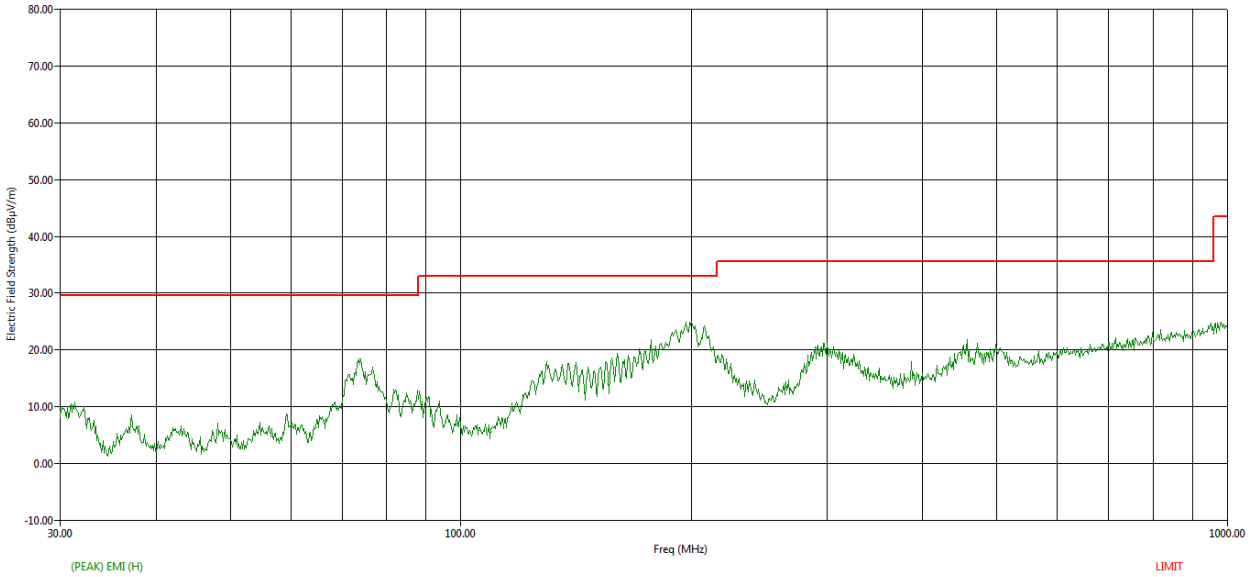


**Figure 78: Peak RE from 30MHz to 1GHz - Horizontal polarization**

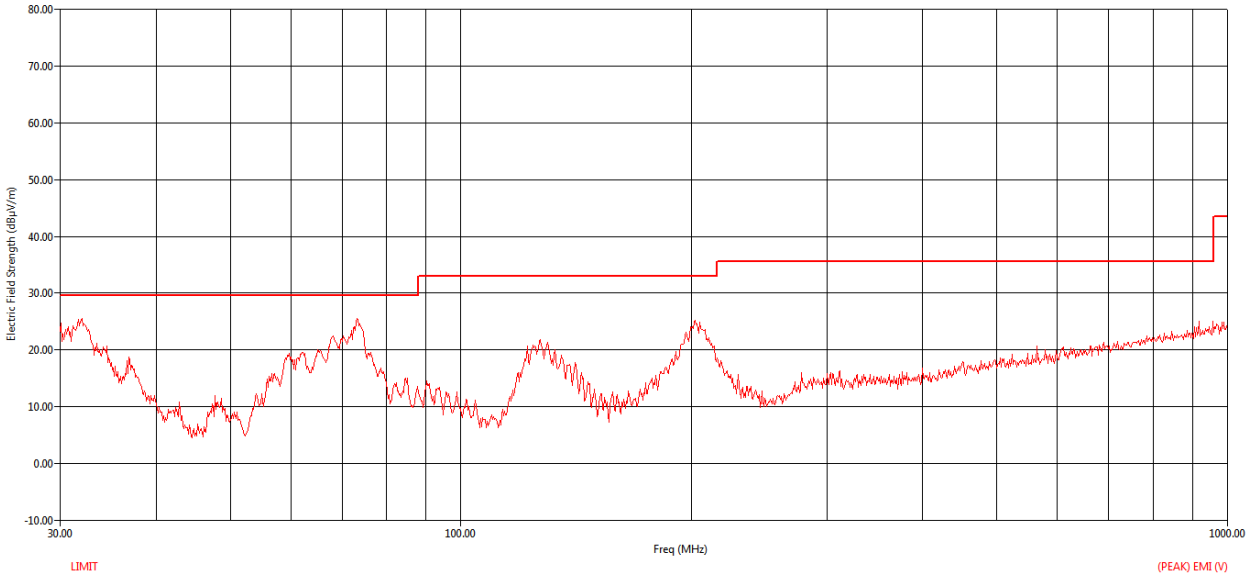


**Figure 79: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32.84 | 32.95 | V | 173.80 | 196.00 | 25.65 | 1.16 | 10.04 | 32.53 | 4.32 | 29.54 | -25.22 |
| 55.01 | 55.05 | V | 251.00 | 166.00 | 22.93 | 1.50 | 9.93 | 32.47 | 1.88 | 29.54 | -27.66 |
| 90.96 | 91.05 | H | 34.90 | 204.00 | 22.50 | 1.89 | 8.16 | 32.33 | 0.23 | 33.06 | -32.83 |
| 122.57 | 122.60 | H | 241.10 | 252.00 | 22.24 | 2.20 | 10.75 | 32.24 | 2.95 | 33.06 | -30.11 |

**Table 22: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

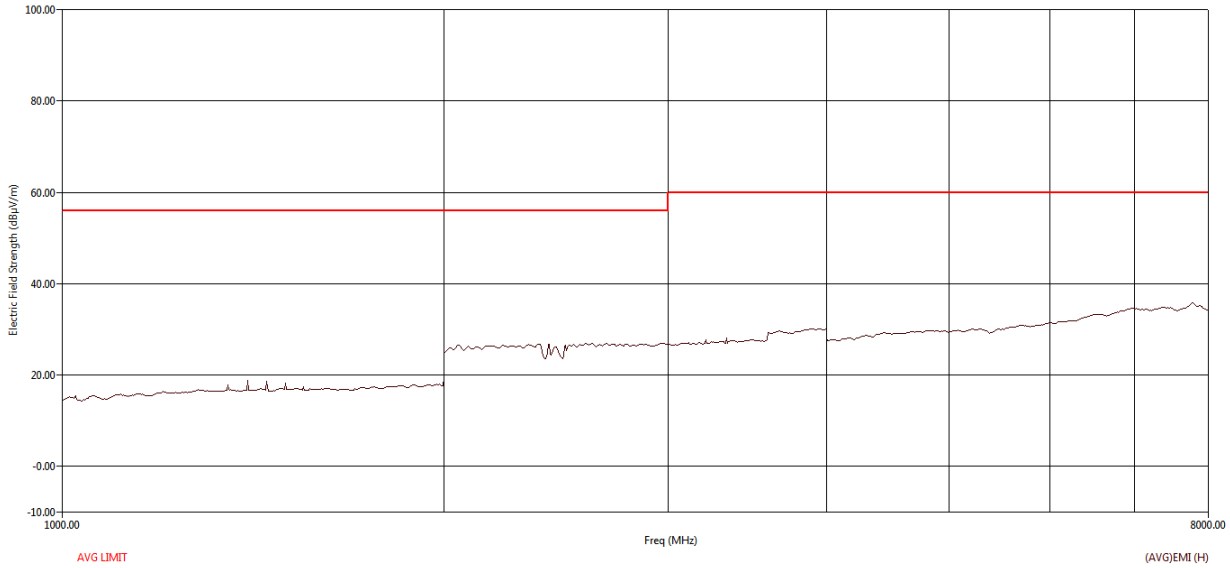


**Figure 80: Average RE from 1GHz to 8GHz - Horizontal polarization**

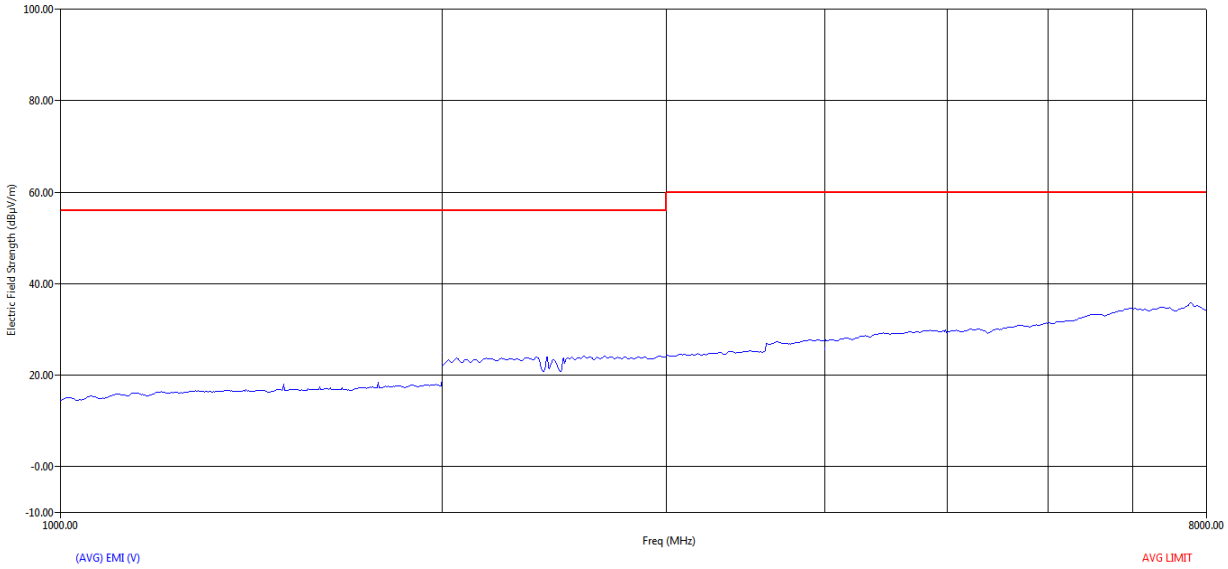


**Figure 81: Average RE from 1GHz to 8GHz - Vertical polarization**

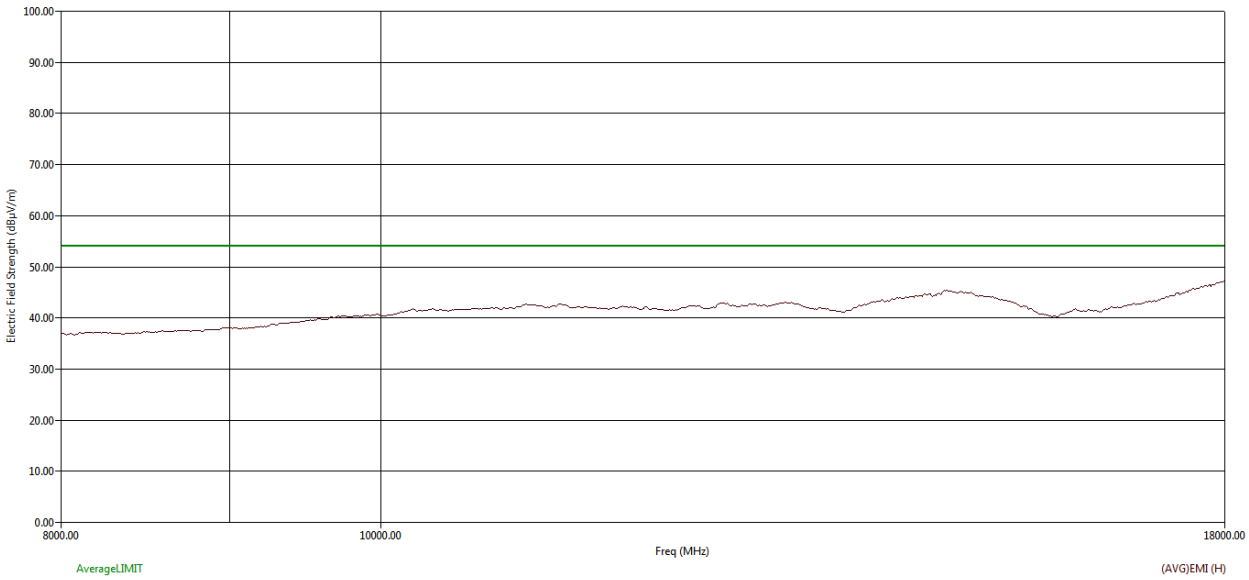


**Figure 82: Average RE from 8GHz to 18GHz - Horizontal polarization**

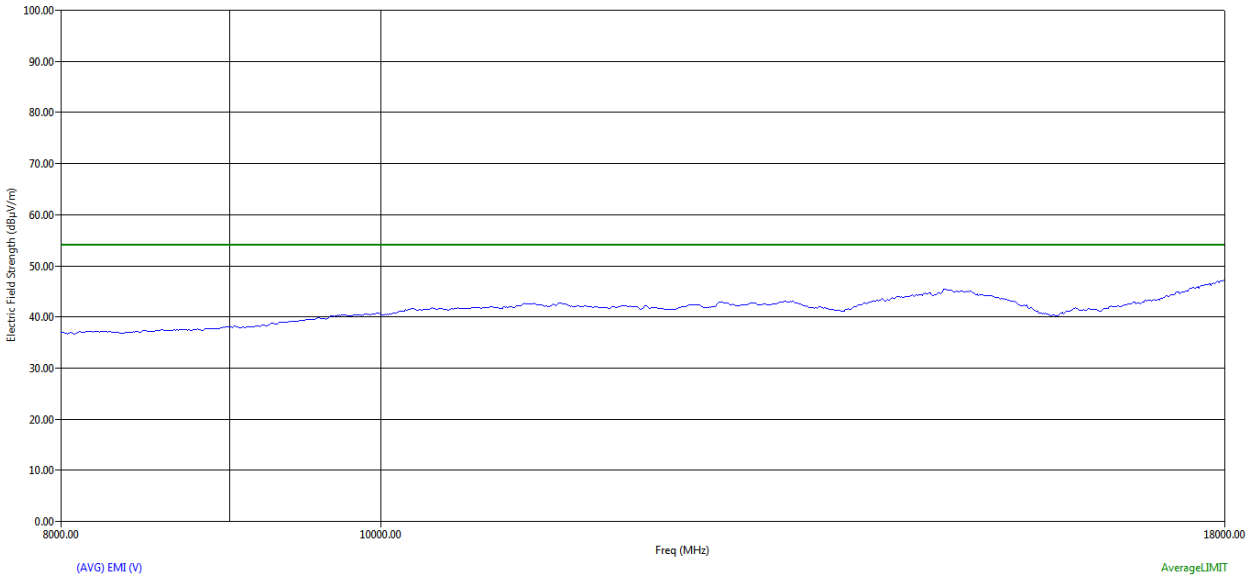


**Figure 83: Average RE from 8GHz to 18GHz - Vertical polarization**

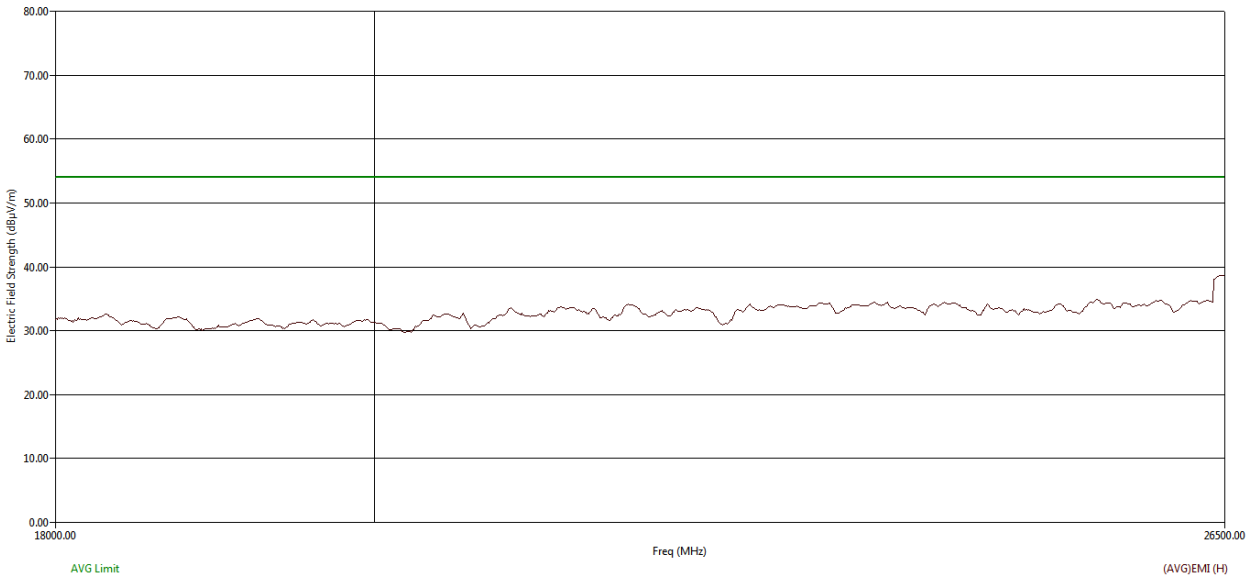


**Figure 84: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

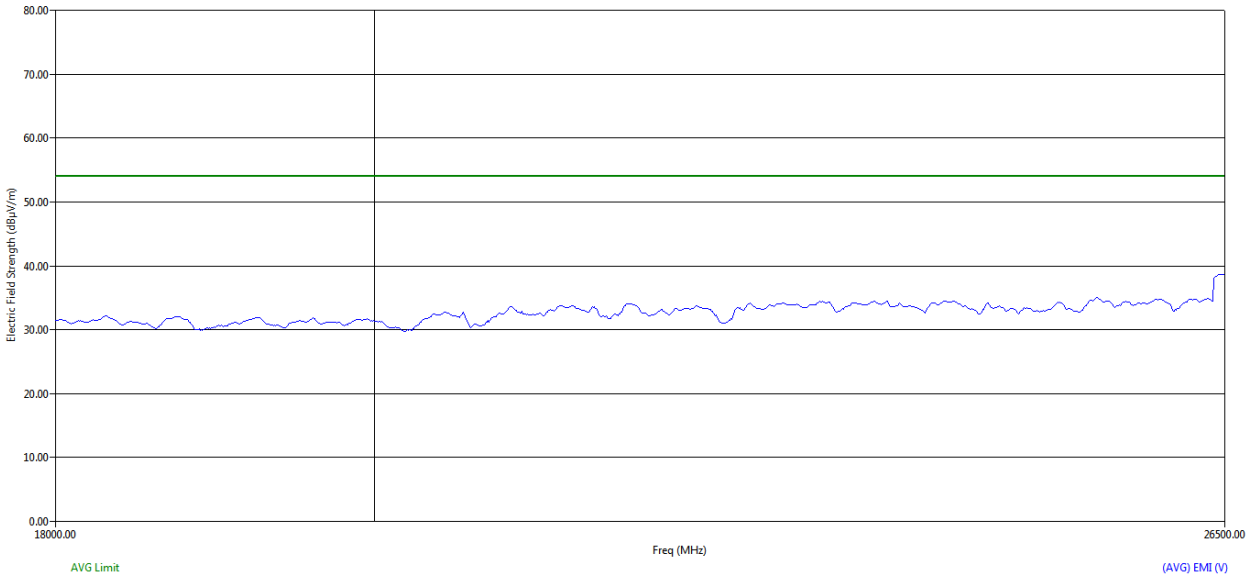


**Figure 85: Average RE from 18GHz to 26.5GHz - Vertical polarization**

## 7.2.7.2 Mid Channel_2442 MHz

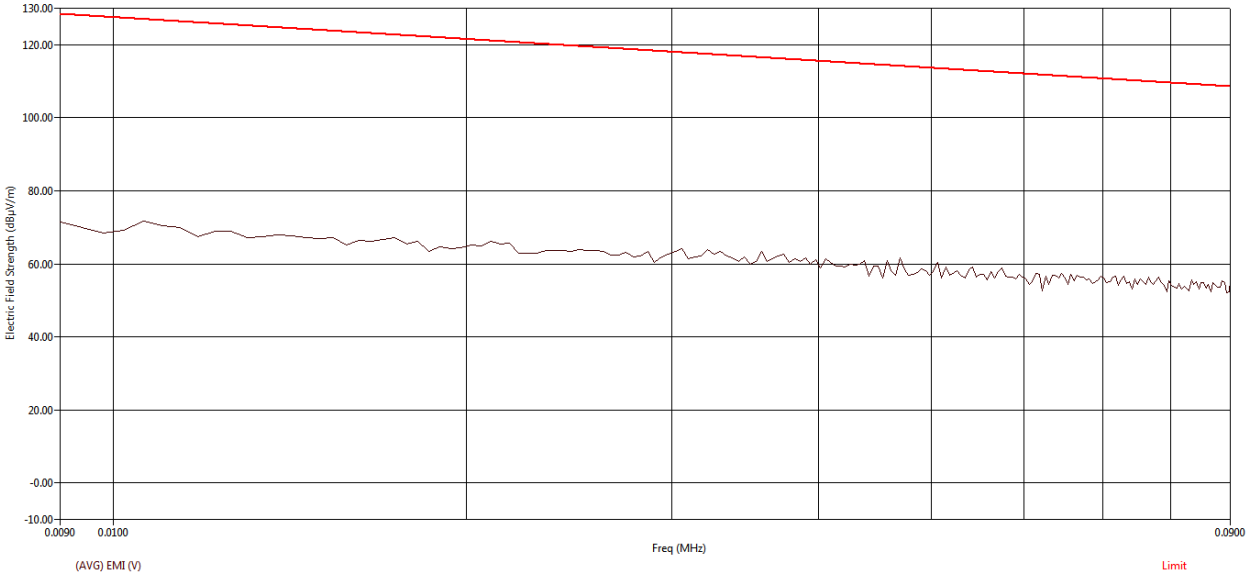


**Figure 86: Average RE from 9 kHz to 90 kHz - Parallel**

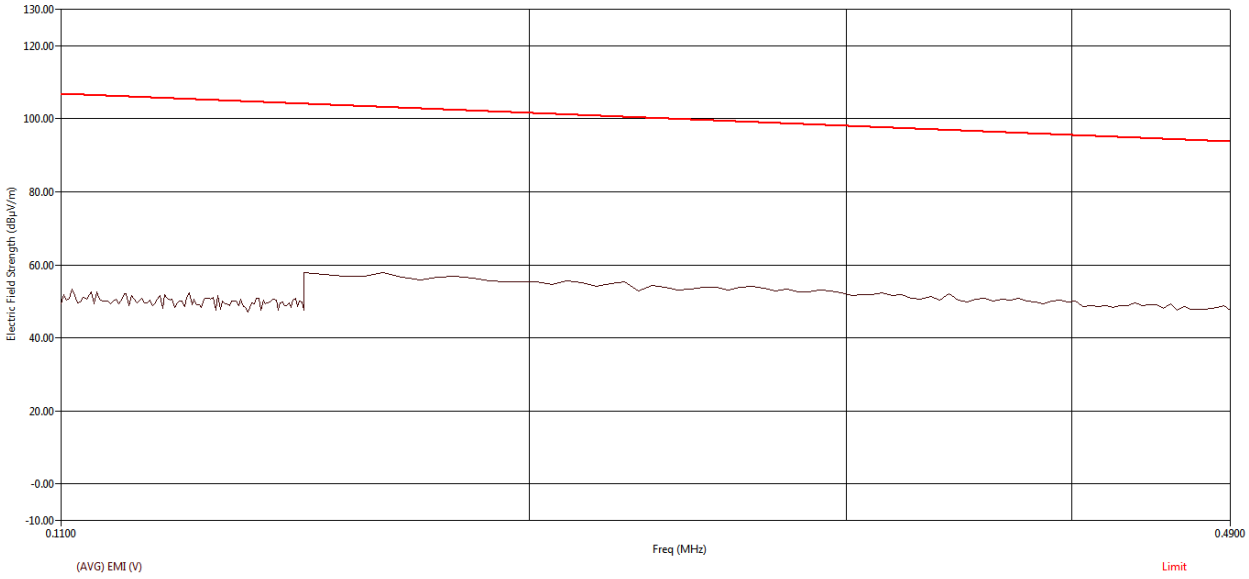


**Figure 87: Average RE from 110 kHz to 490 kHz - Parallel**

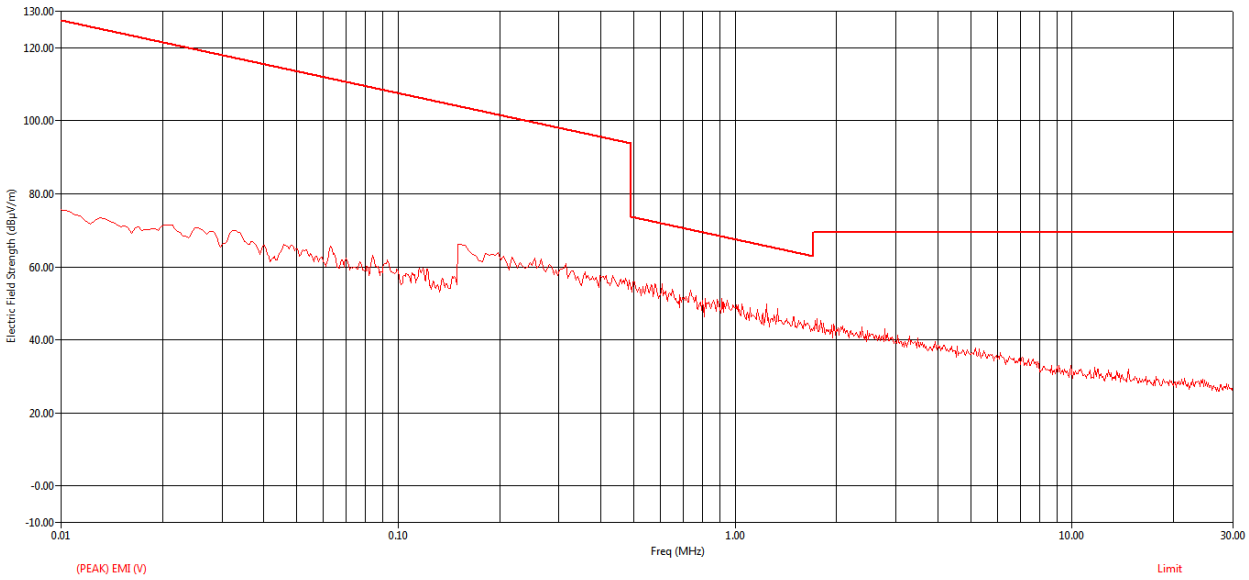


**Figure 88: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 0.50 | V | 127.60 | 34.68 | 0.22 | 17.50 | 52.39 | 73.56 | -21.17 |
| 14.70 | 14.71 | V | 45.30 | 5.31 | 1.37 | 17.20 | 23.88 | 69.54 | -45.66 |

**Table 23 Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

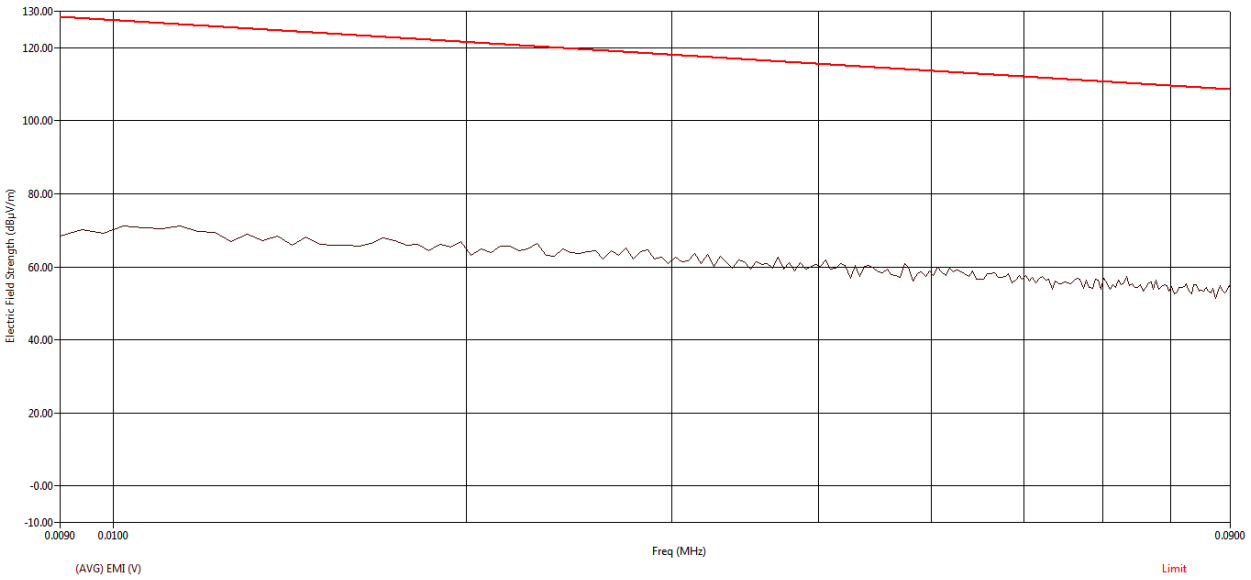


**Figure 89: Average RE from 9 kHz to 90 kHz - Perpendicular**

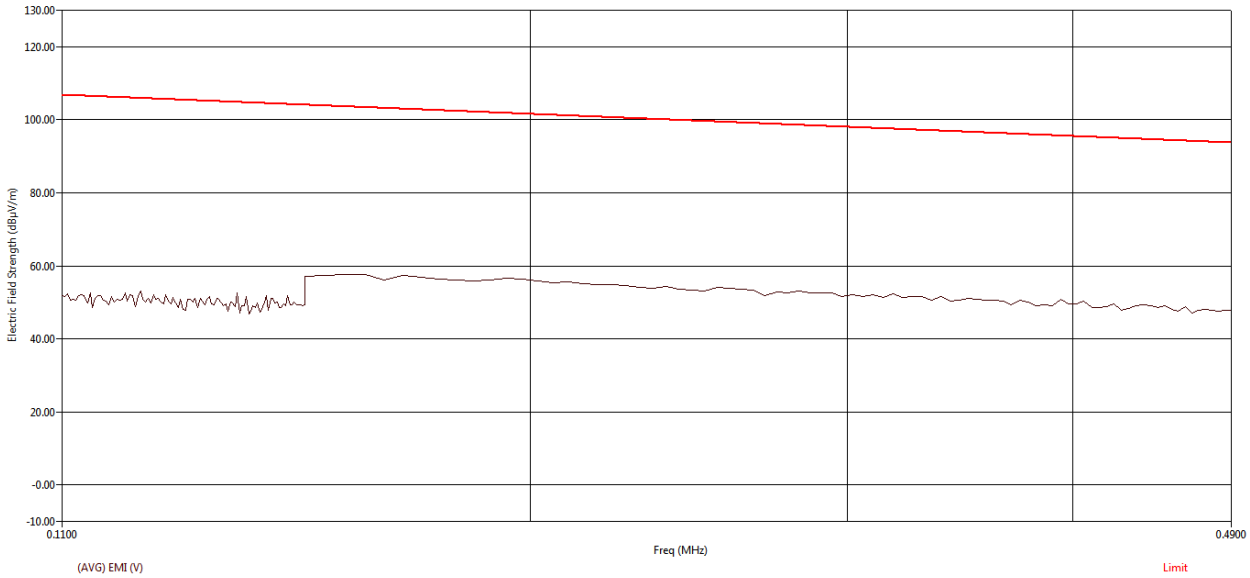


**Figure 90: Average RE from 110 kHz to 490 kHz - Perpendicular**

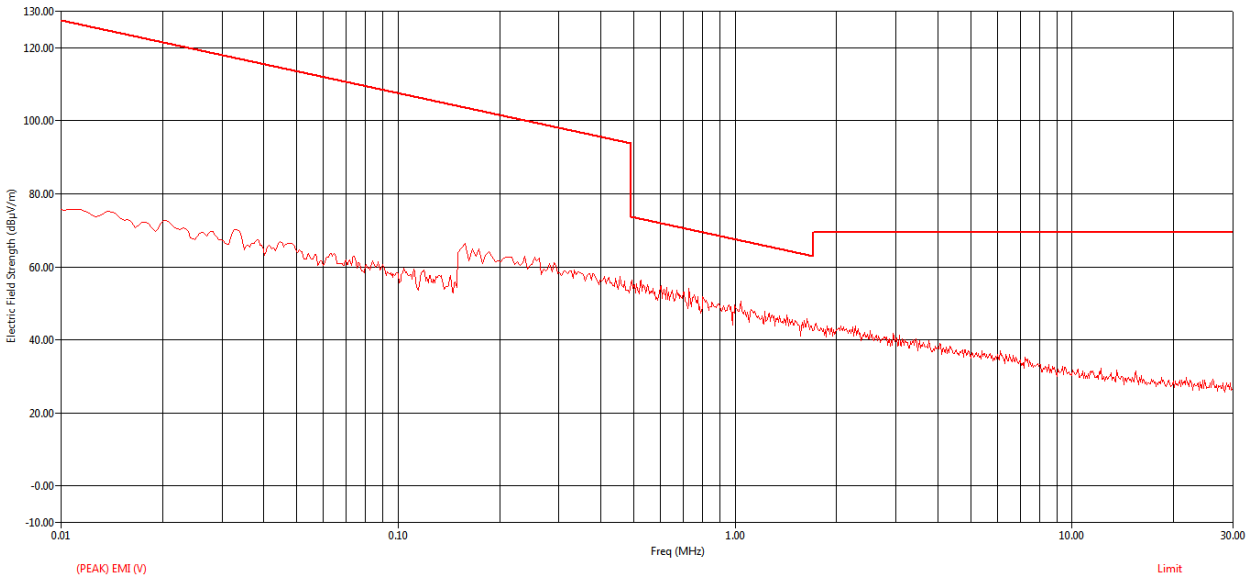


**Figure 91: Peak RE from 9 kHz to 30MHz-Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.73 | 0.72 | V | 81.00 | 31.13 | 0.25 | 17.41 | 48.79 | 70.41 | -21.63 |
| 15.45 | 15.45 | V | 334.30 | 5.02 | 1.40 | 17.18 | 23.60 | 69.54 | -45.94 |

**Table 24 Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

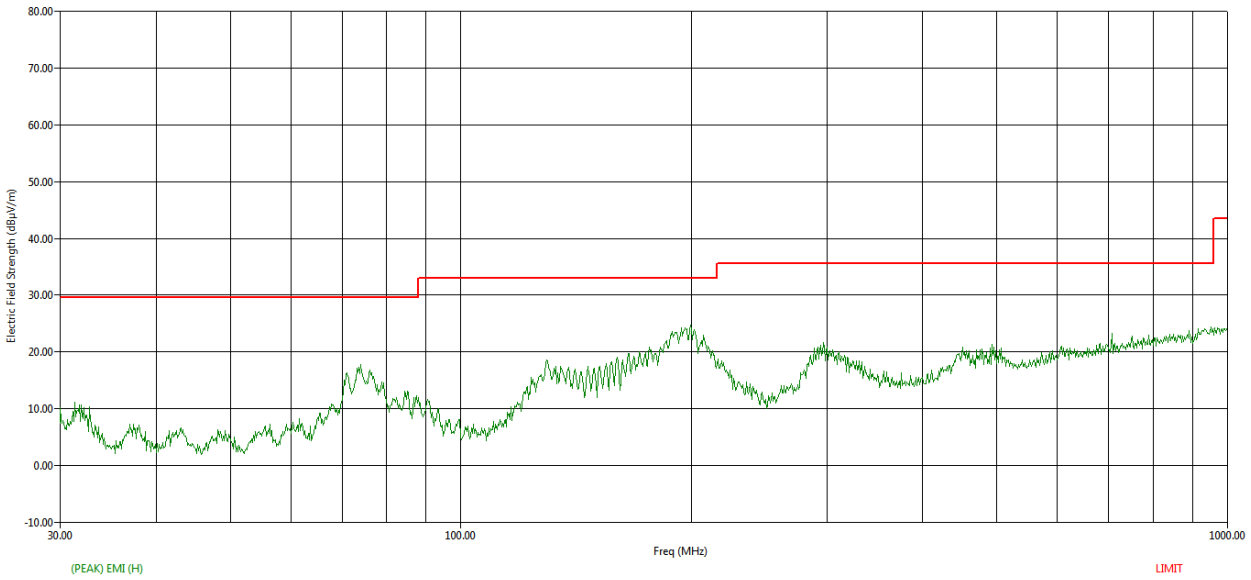


**Figure 92: Peak RE from 30MHz to 1GHz - Horizontal polarization**

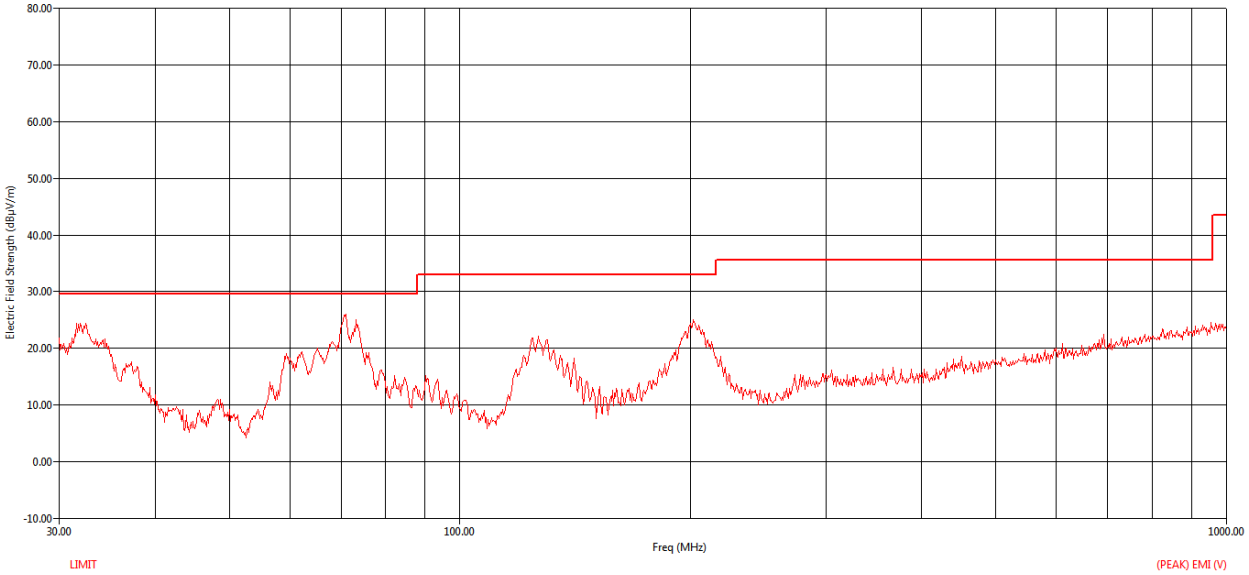


**Figure 93: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32.00 | 32.06 | V | 301.60 | 156.00 | 39.72 | 1.17 | 10.11 | 32.53 | 18.46 | 29.54 | -11.08 |
| 70.96 | 70.90 | V | 235.40 | 377.00 | 38.86 | 1.68 | 8.87 | 32.40 | 17.01 | 29.54 | -12.53 |
| 74.00 | 73.89 | H | 162.00 | 362.00 | 32.83 | 1.74 | 8.59 | 32.39 | 10.77 | 29.54 | -18.77 |
| 126.40 | 126.44 | V | 309.40 | 190.00 | 37.49 | 2.24 | 10.73 | 32.23 | 18.23 | 33.06 | -14.83 |
| 199.36 | 199.42 | H | 206.90 | 261.00 | 35.42 | 2.78 | 13.20 | 32.10 | 19.30 | 33.06 | -13.76 |
| 201.76 | 201.79 | V | 158.50 | 219.00 | 39.66 | 2.79 | 13.12 | 32.10 | 23.47 | 33.06 | -9.59 |

**Table 25: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

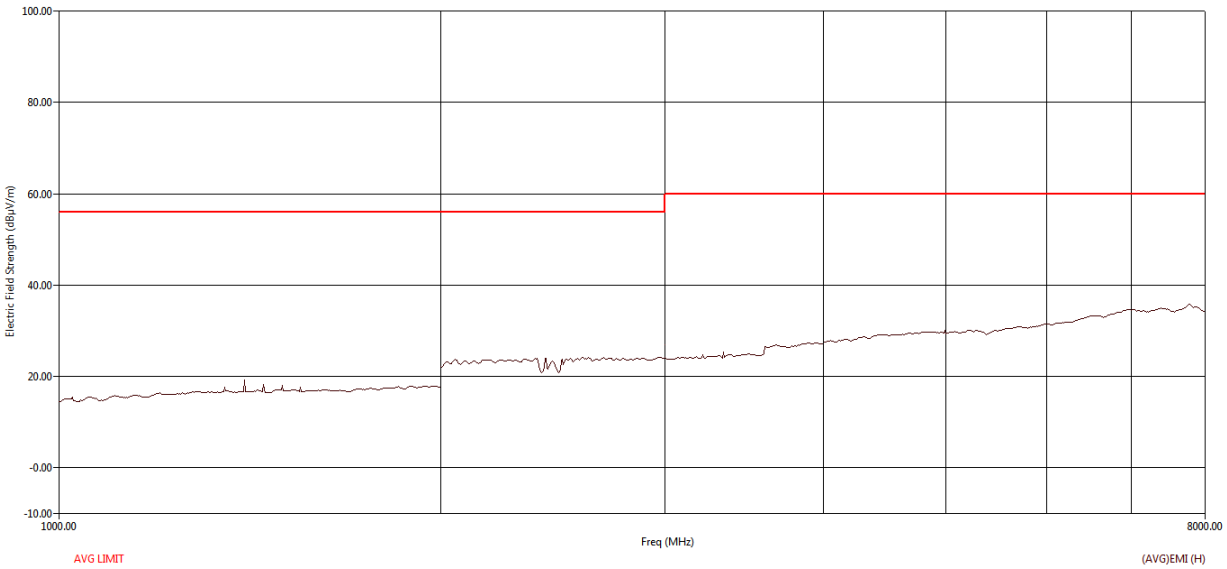


**Figure 94: Average RE from 1GHz to 8GHz - Horizontal polarization**

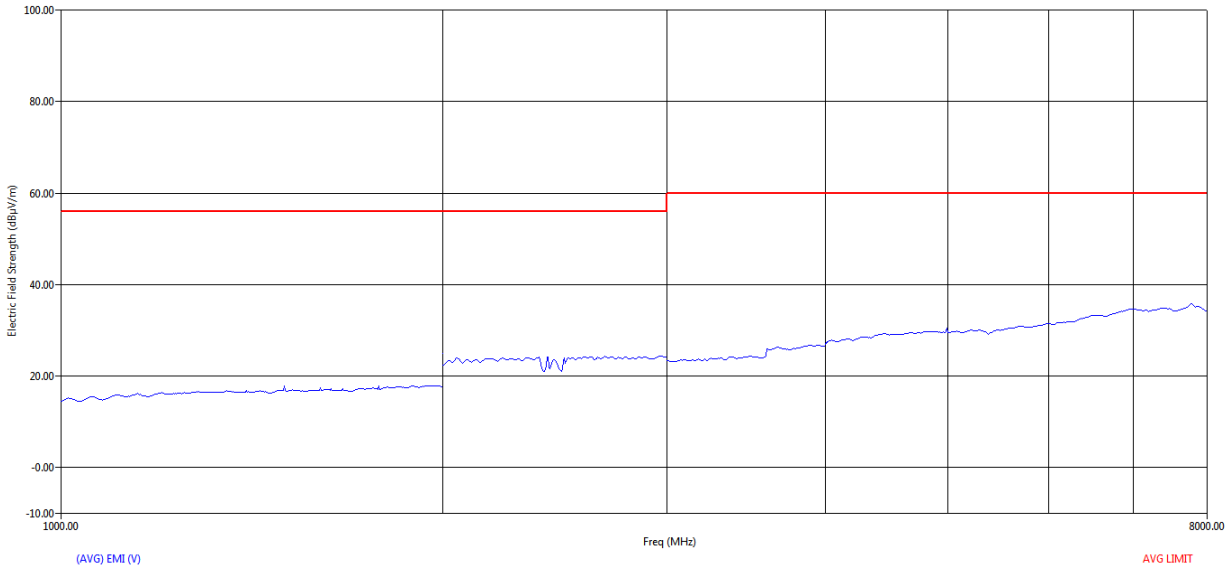


**Figure 95: Average RE from 1GHz to 8GHz - Vertical polarization**

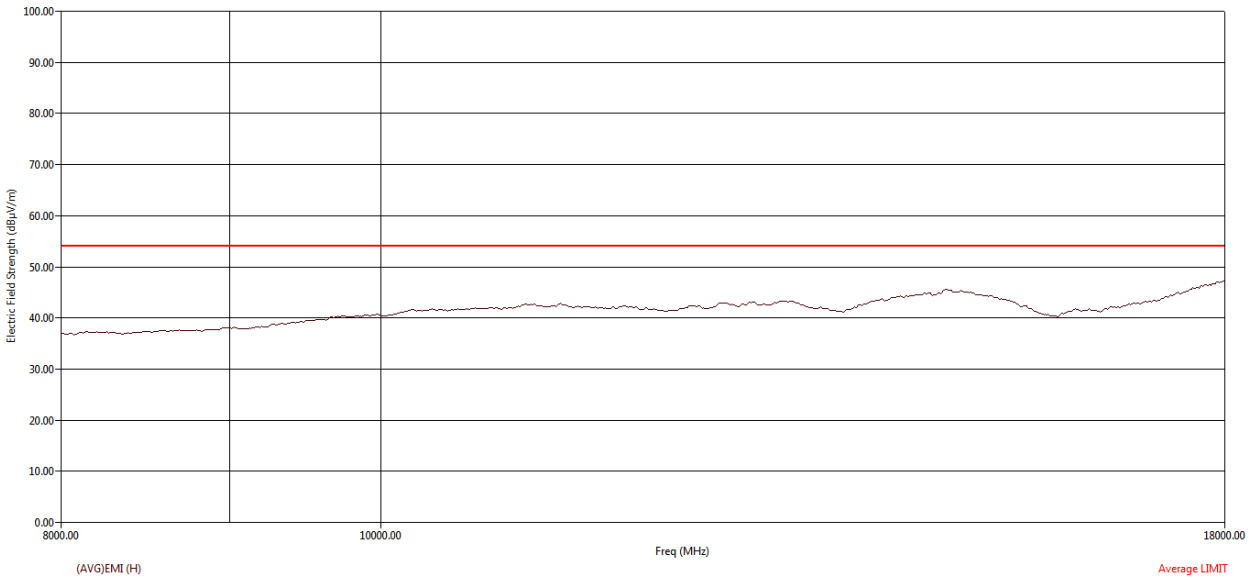


**Figure 96: Average RE from 8GHz to 18GHz - Horizontal polarization**

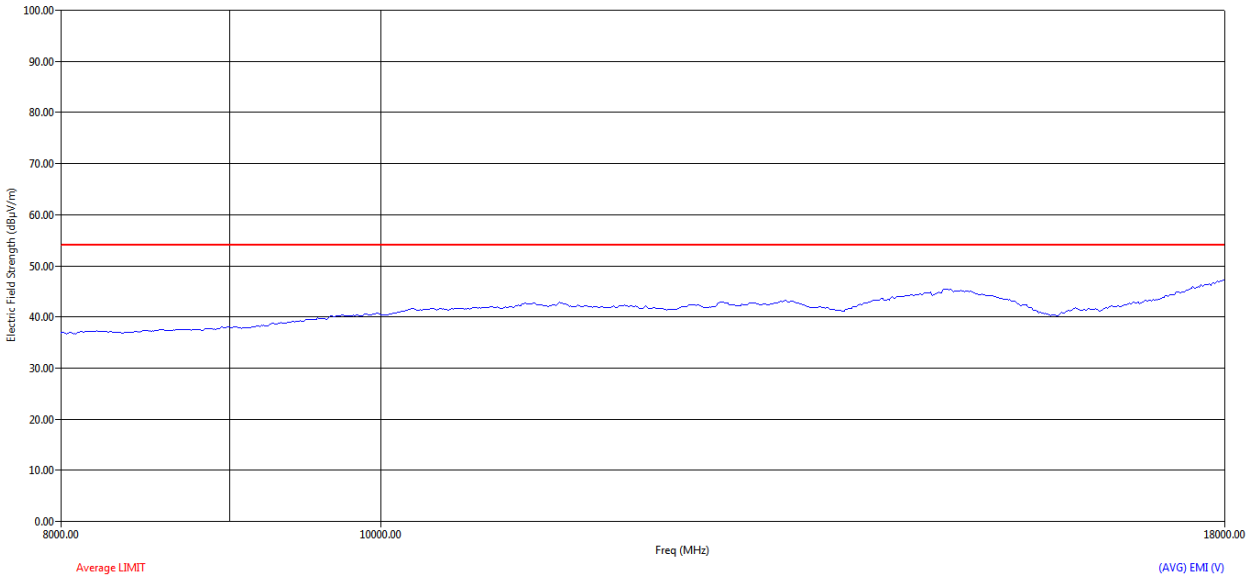


**Figure 97: Average RE from 8GHz to 18GHz - Vertical polarization**

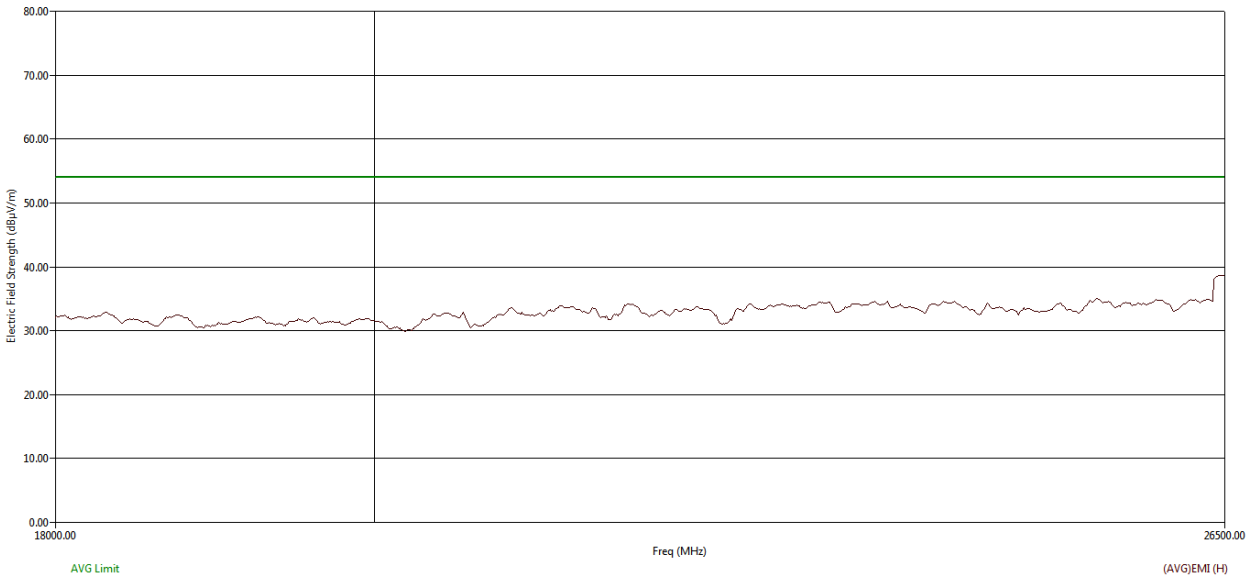


**Figure 98: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

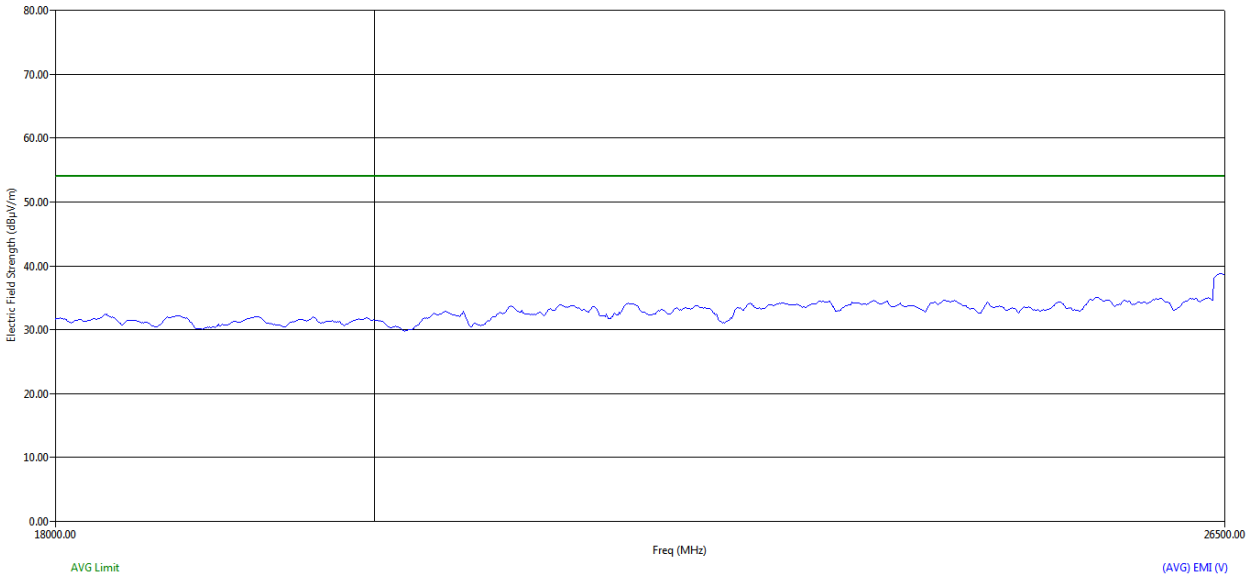


**Figure 99: Average RE from 18GHz to 26.5GHz - Vertical polarization**

### 7.2.7.3 High Channel_2477 MHz

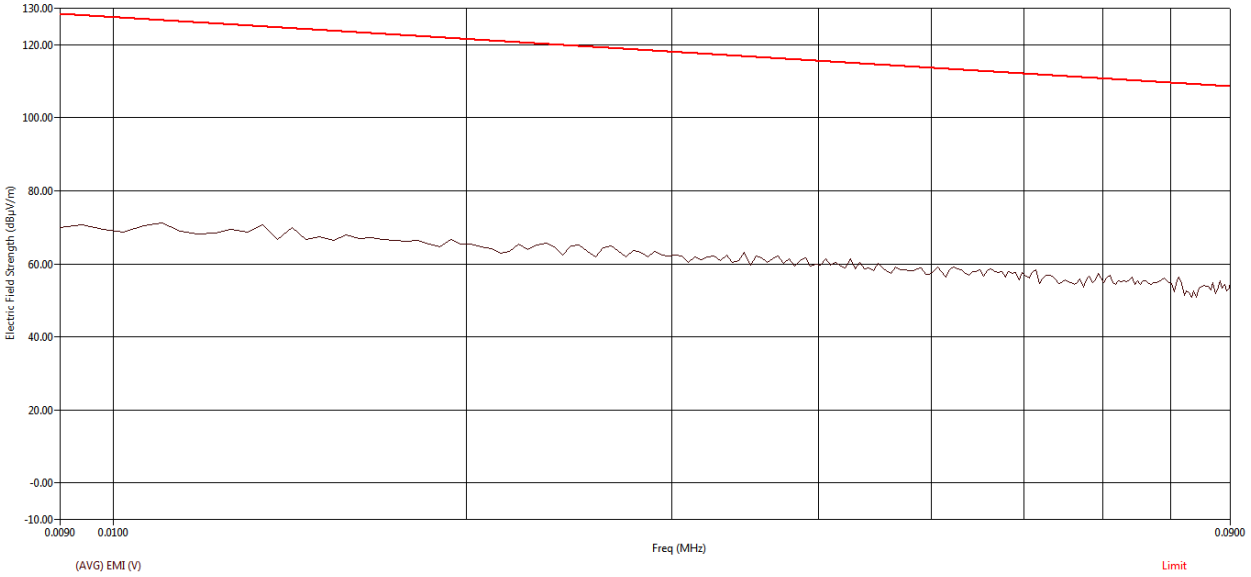


**Figure 100: Average RE from 9 kHz to 90 kHz - Parallel**

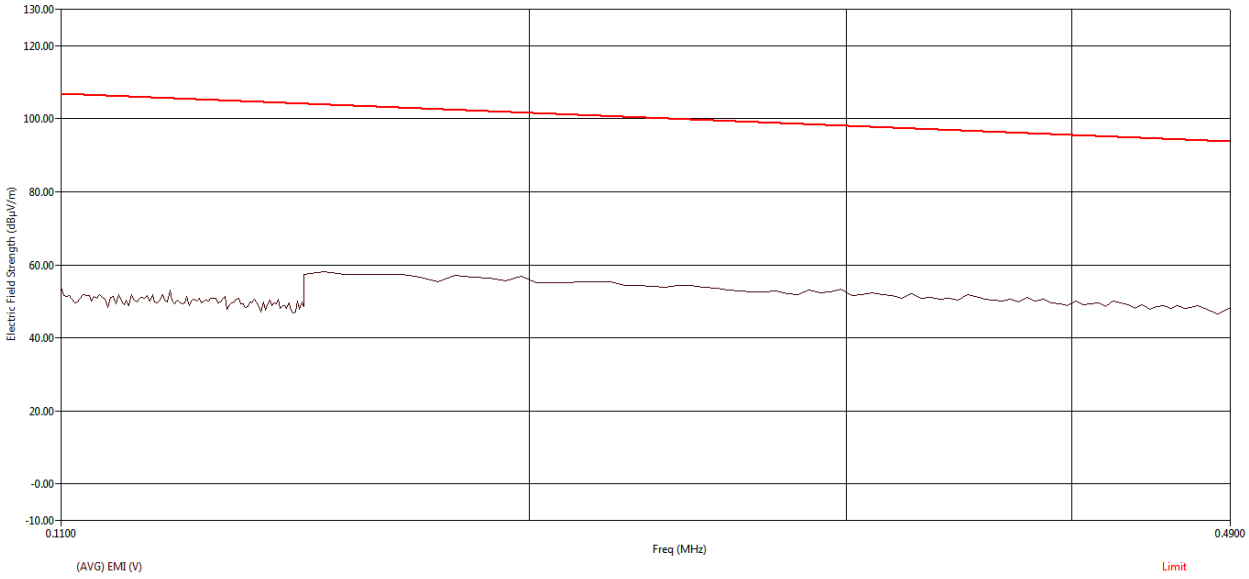


**Figure 101: Average RE from 110 kHz to 490 kHz - Parallel**

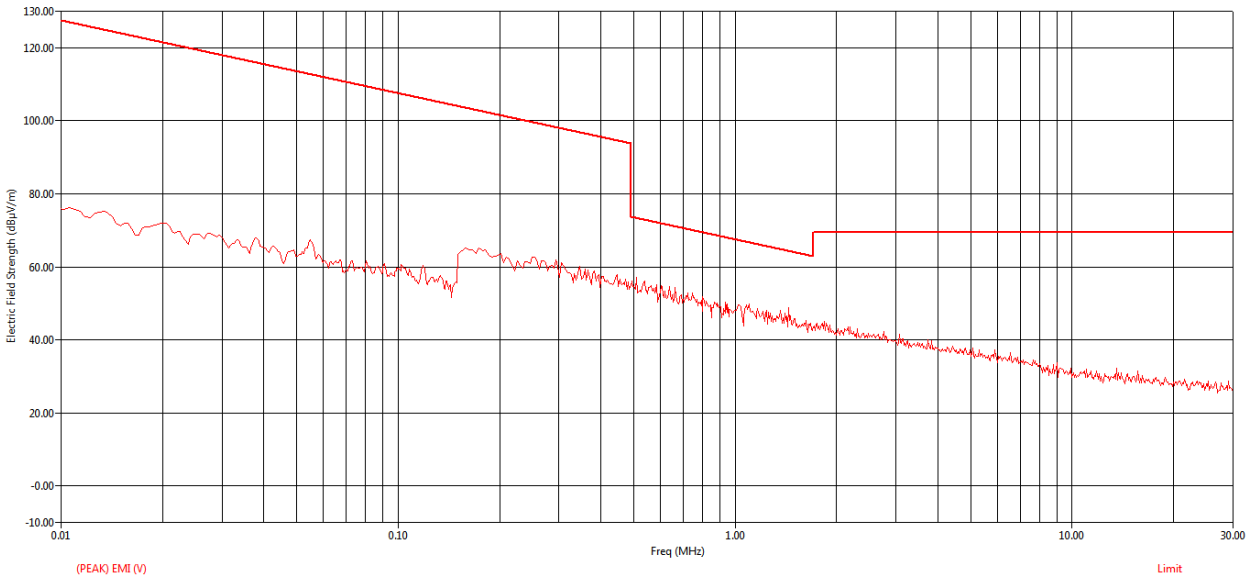


**Figure 102: Peak RE from 9 kHz to 30MHz - Parallel**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.84 | 0.84 | V | 191.20 | 29.56 | 0.27 | 17.48 | 47.30 | 69.13 | -21.83 |
| 13.56 | 13.56 | V | 17.50 | 9.13 | 1.32 | 17.20 | 27.65 | 69.54 | -41.89 |

**Table 26 Quasi Peak table for RE from 9 kHz to 30MHz - Parallel**

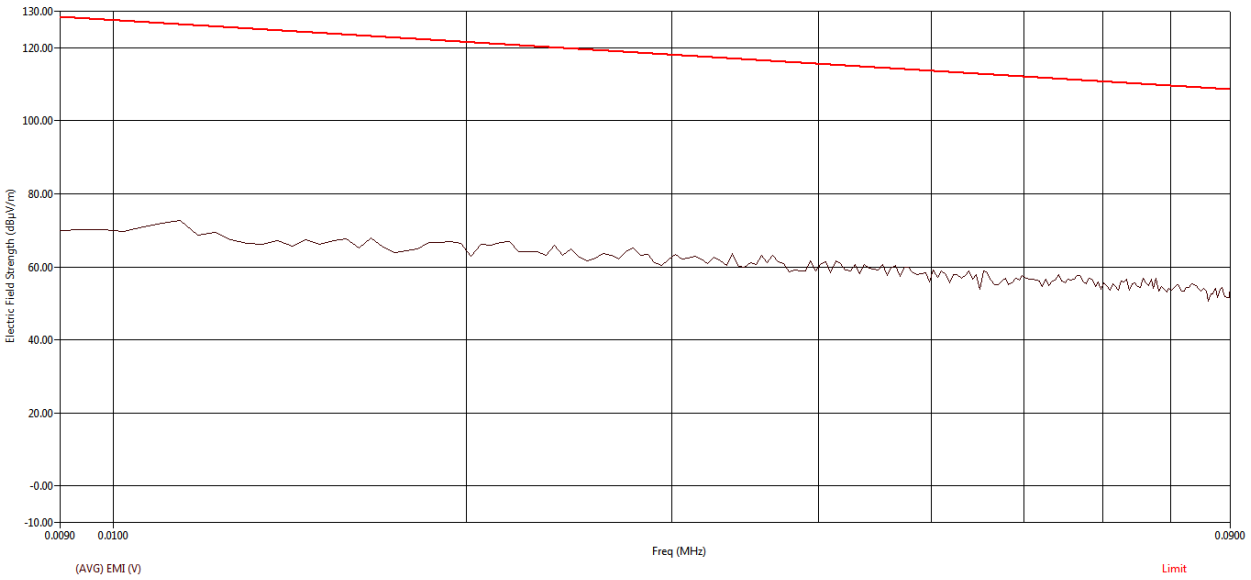


**Figure 103: Average RE from 9 kHz to 90 kHz - Perpendicular**

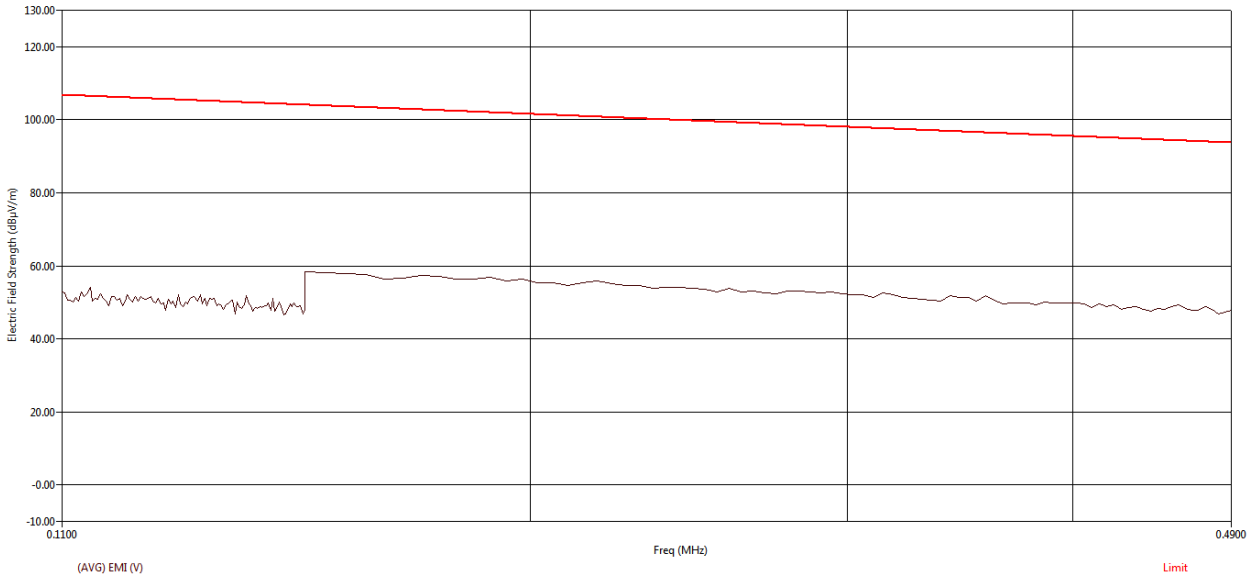


**Figure 104: Average RE from 110 kHz to 490 kHz - Perpendicular**

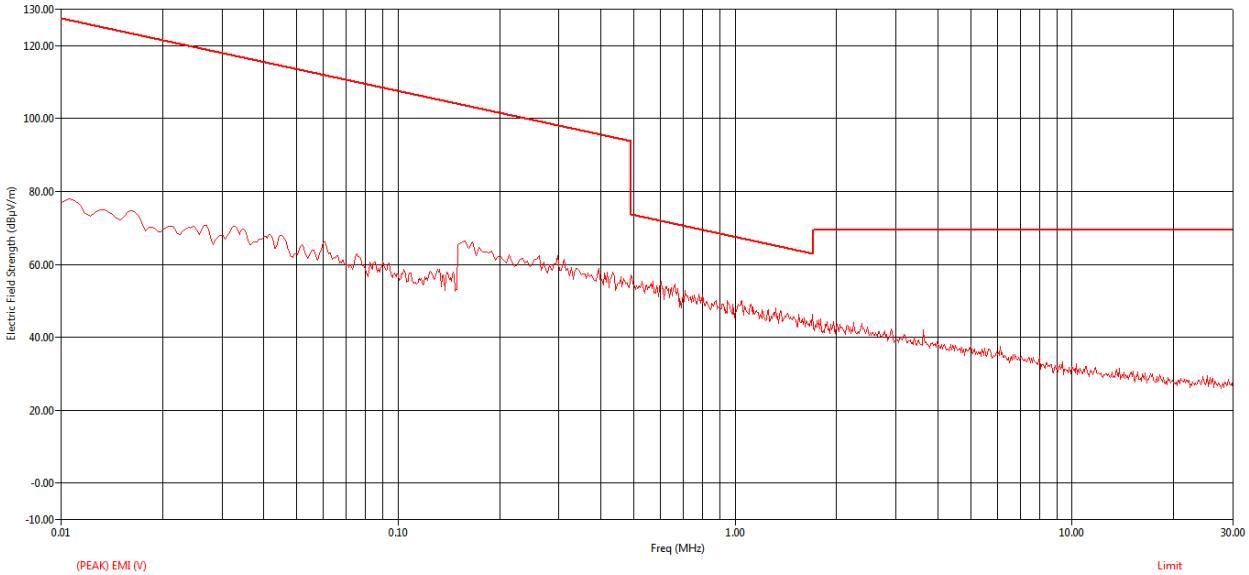


**Figure 105: Peak RE from 9 kHz to 30MHz – Perpendicular**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.66 | 0.66 | V | 62.30 | 32.11 | 0.24 | 17.43 | 49.78 | 71.24 | -21.46 |
| 3.61 | 3.61 | V | 189.90 | 15.47 | 0.62 | 17.84 | 33.92 | 69.54 | -35.62 |

**Table 27 Quasi Peak table for RE from 9 kHz to 30MHz - Perpendicular**

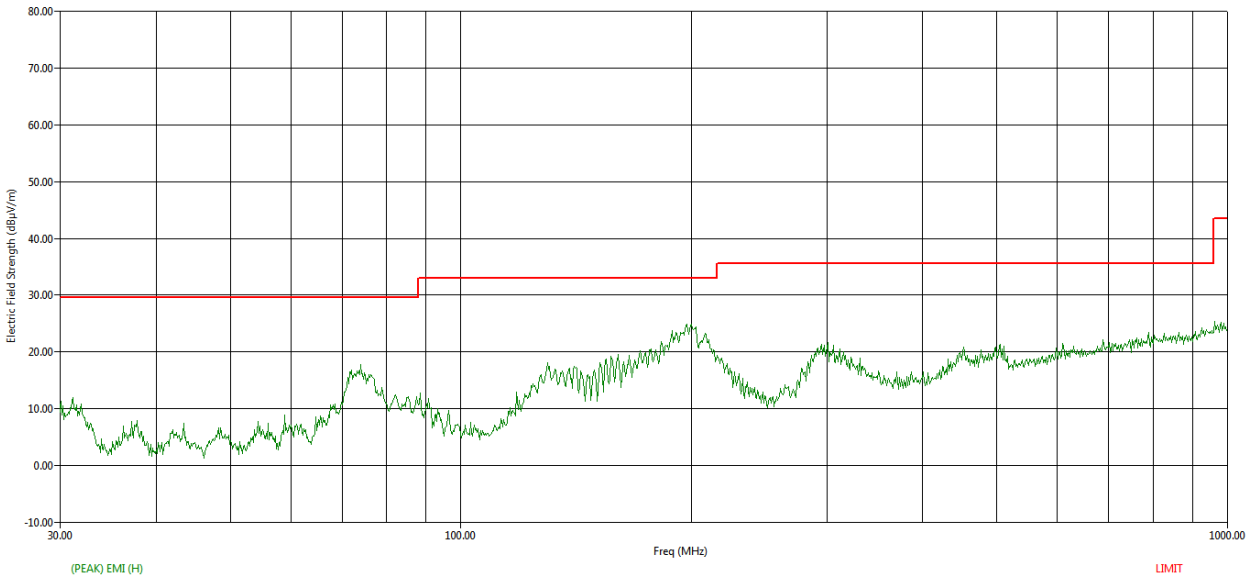


**Figure 106: Peak RE from 30MHz to 1GHz - Horizontal polarization**

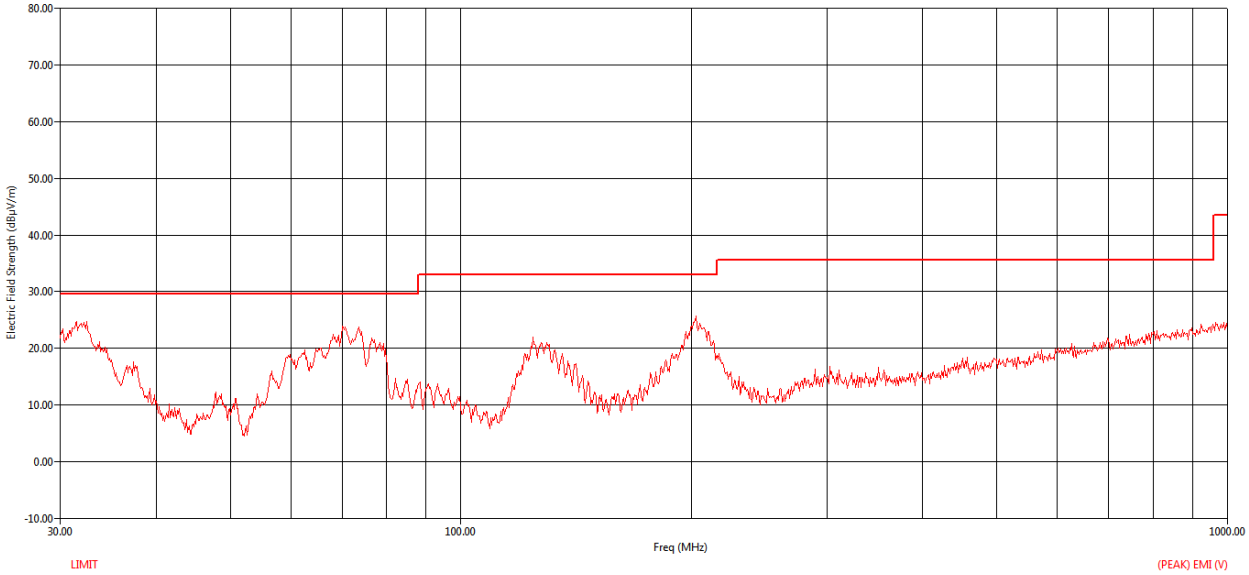


**Figure 107: Peak RE from 30MHz to 1GHz - Vertical polarization**

| Freq (MHz) | Freq (Max) (MHz) | Pol | EUT Ttbl Agl (deg) | Twr Ht (cm) | (QP) Trace (dBµV) | Cable (dB) | Transducer (dB) | Preamp (dB) | (QP) EMI (dBµV/m) | Limit (dBµV/m) | (QP) Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32.52 | 32.63 | V | 164.60 | 305.00 | 41.71 | 1.16 | 10.06 | 32.53 | 20.41 | 29.54 | -9.13 |
| 70.12 | 70.02 | V | 97.70 | 140.00 | 38.58 | 1.69 | 8.96 | 32.40 | 16.83 | 29.54 | -12.71 |
| 73.92 | 73.88 | H | 169.10 | 101.00 | 37.61 | 1.74 | 8.59 | 32.39 | 15.56 | 29.54 | -13.98 |
| 124.16 | 124.23 | V | 255.90 | 248.00 | 35.99 | 2.19 | 10.74 | 32.24 | 16.69 | 33.06 | -16.37 |
| 199.60 | 199.64 | H | 252.70 | 201.00 | 30.29 | 2.78 | 13.21 | 32.10 | 14.18 | 33.06 | -18.88 |
| 202.60 | 202.64 | V | 110.80 | 100.00 | 39.71 | 2.81 | 13.06 | 32.10 | 23.49 | 33.06 | -9.57 |

**Table 28: Radiated Emission – Quasi Peak table – 30 MHz to 1 GHz**

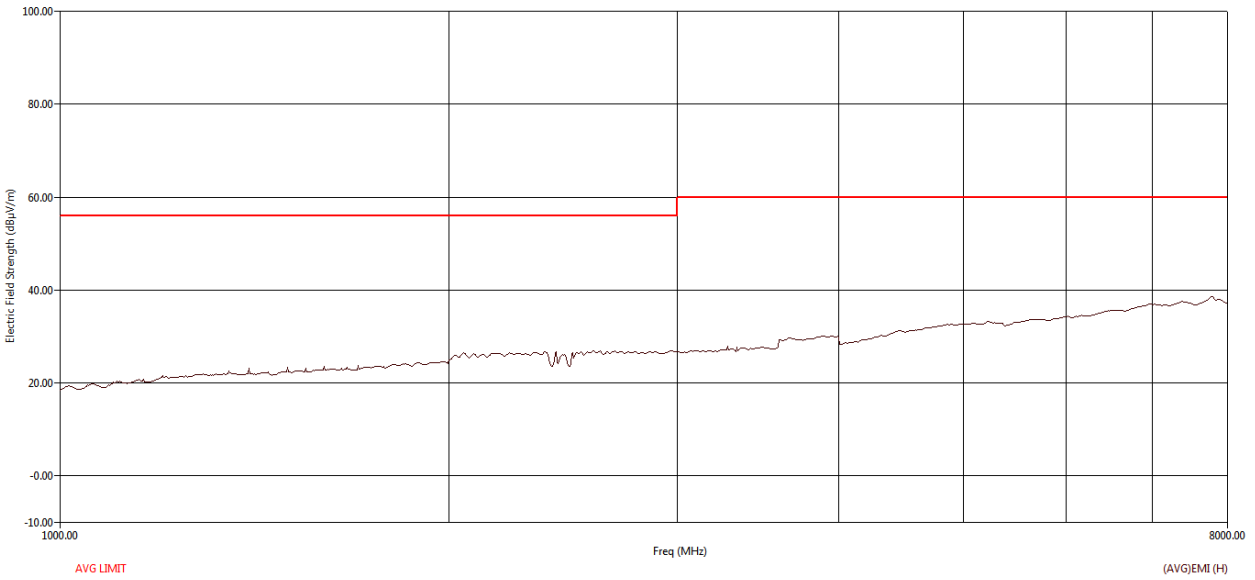


**Figure 108: Average RE from 1GHz to 8GHz - Horizontal polarization**

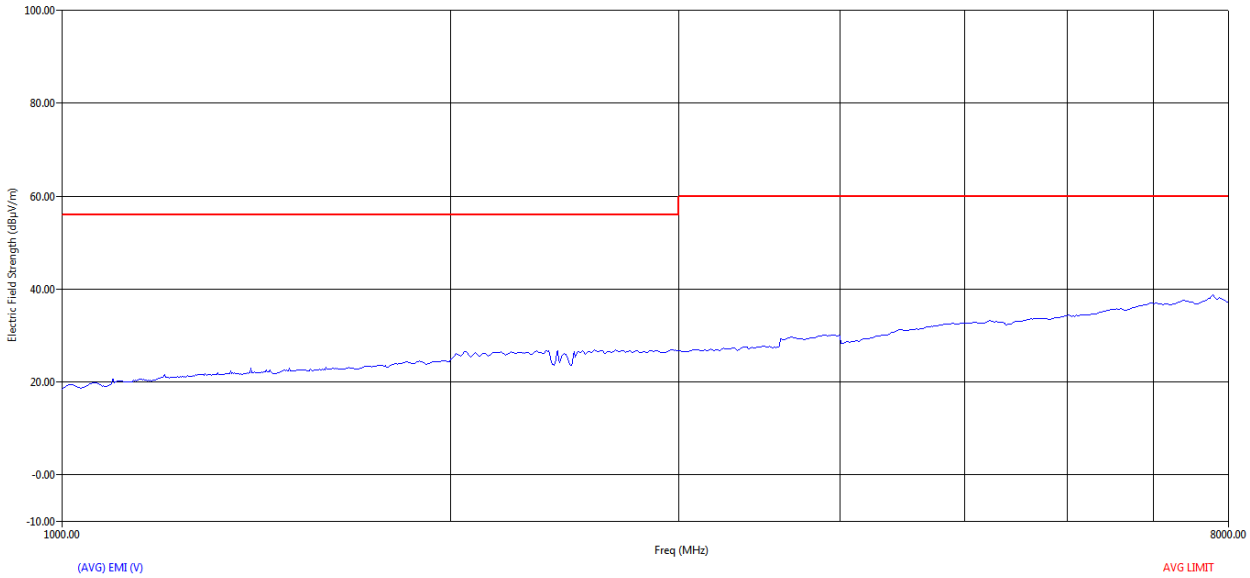


**Figure 109: Average RE from 1GHz to 8GHz - Vertical polarization**

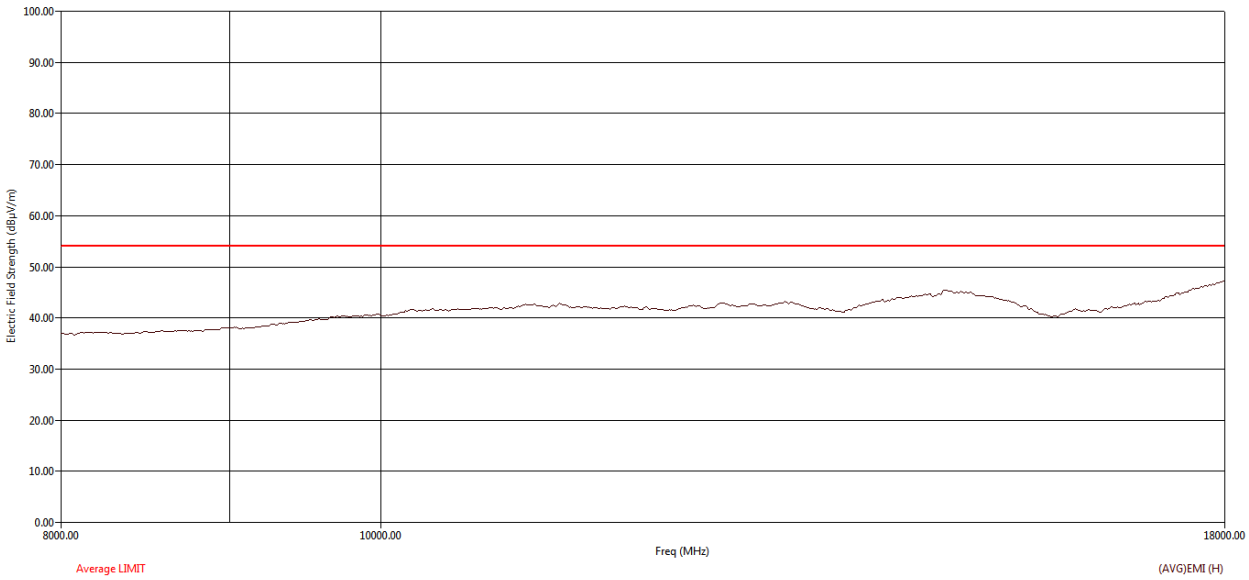


**Figure 110: Average RE from 8GHz to 18GHz - Horizontal polarization**

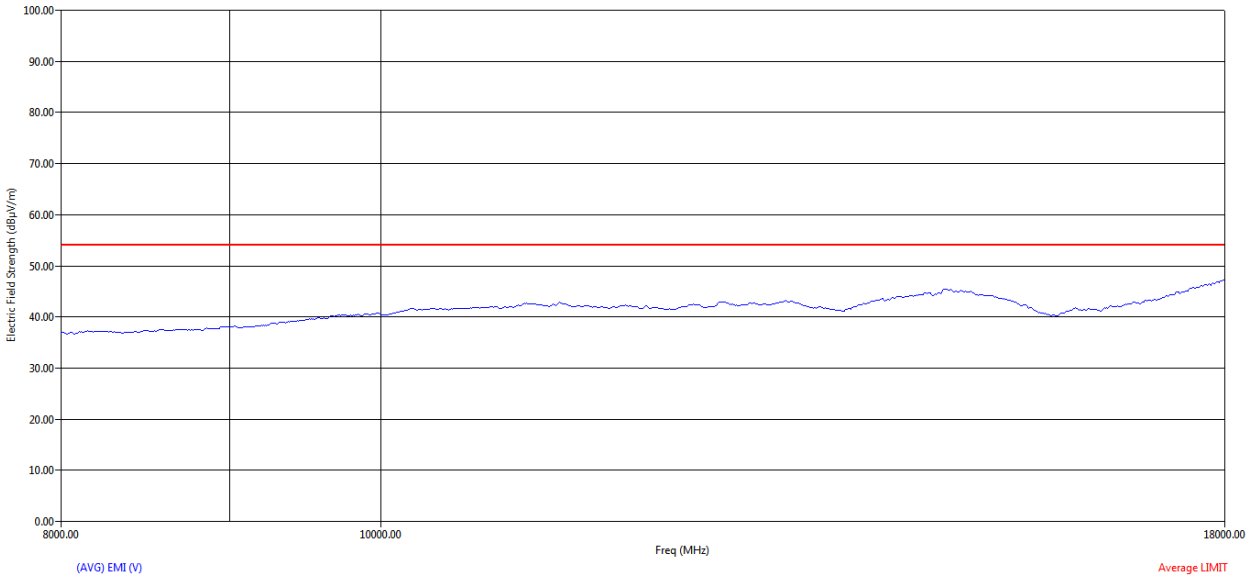


**Figure 111: Average RE from 8GHz to 18GHz - Vertical polarization**

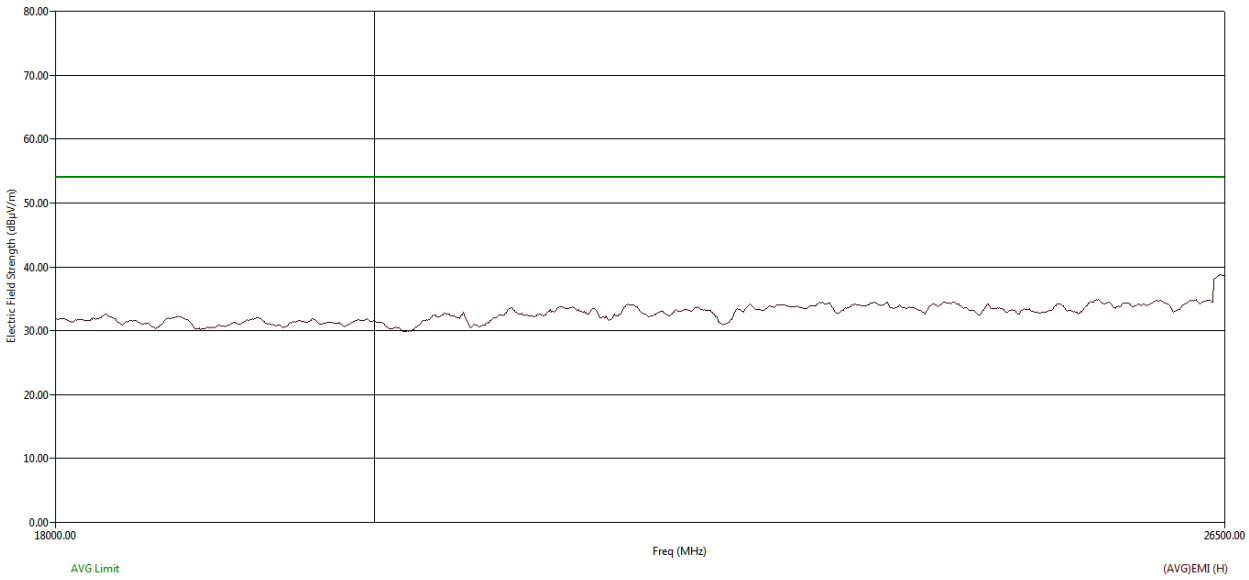


**Figure 112: Average RE from 18GHz to 26.5GHz - Horizontal polarization**

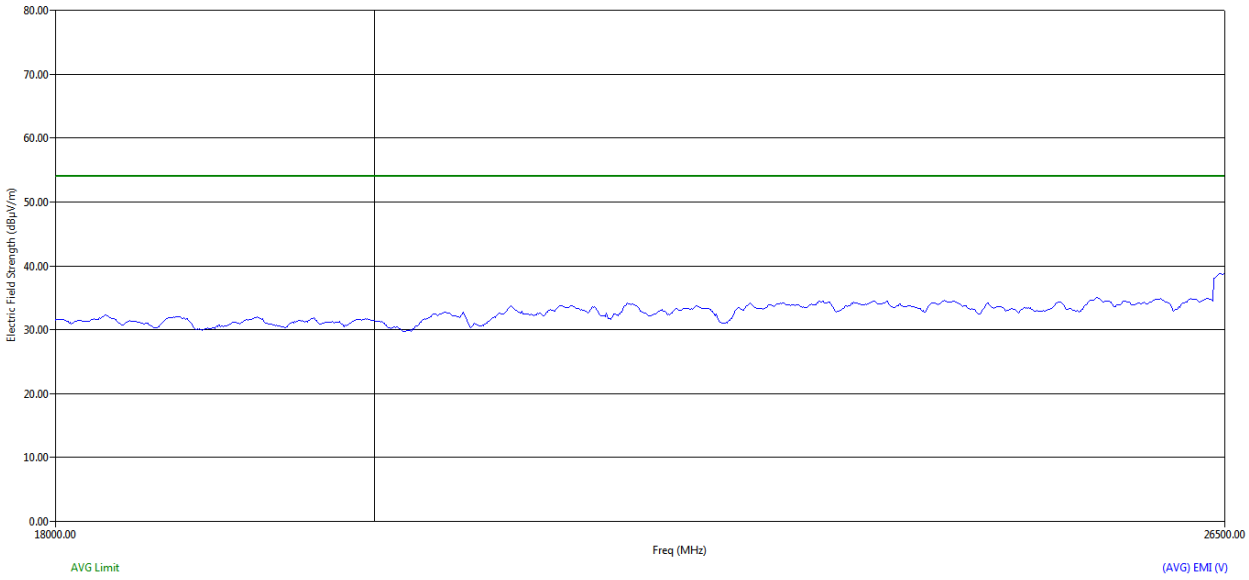


**Figure 113: Average RE from 18GHz to 26.5GHz - Vertical polarization**

***Note:***
*QP EMI (dBµV/m) = QP Trace (dBµV) + Cable (dB) + Transducer (dB/m) – Preamp (dB)*
*QP Margin (dB) = QP EMI (dBµV/m) – Limit (dBµV/m)*
*Avg EMI (dBµV/m) = Avg Trace (dBµV) + Cable (dB) + Transducer (dB/m) – Preamp (dB)*
*Avg Margin (dB) = Avg EMI (dBµV/m) – Limit (dBµV/m)*

### 7.2.8 Result

Radiated Emissions from the EUT are **within the** specified Limit line.

# APPENDIX I – ACRONYMS

| | |
|---|---|
| dBµV | Decibel micro Volts |
| EUT | Equipment Under Test |
| FCC | Federal Communications Commission |
| GHz | Giga Hertz |
| kHz | Kilo Hertz |
| LISN | Line Impedance Stabilization Network |
| MHz | Mega Hertz |
| QP | Quasi Peak |

**END OF REPORT**