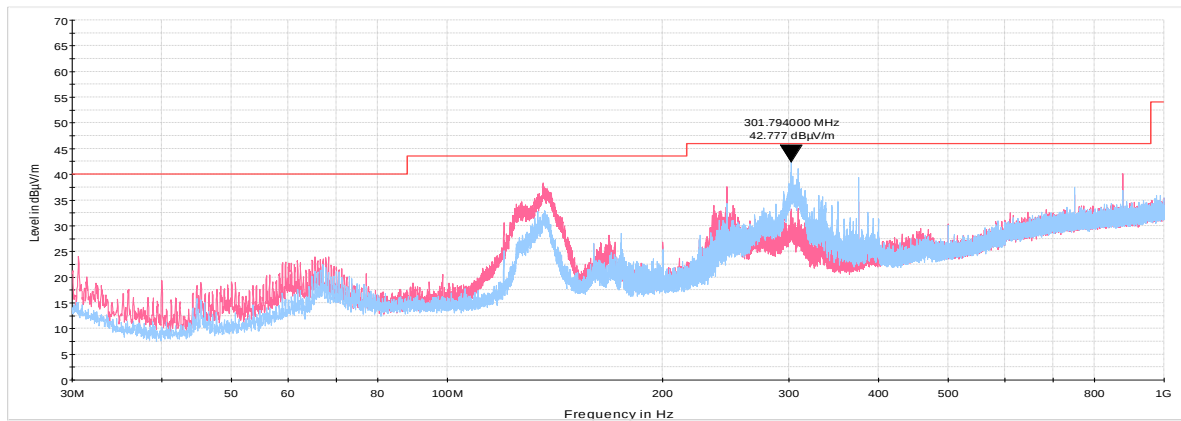




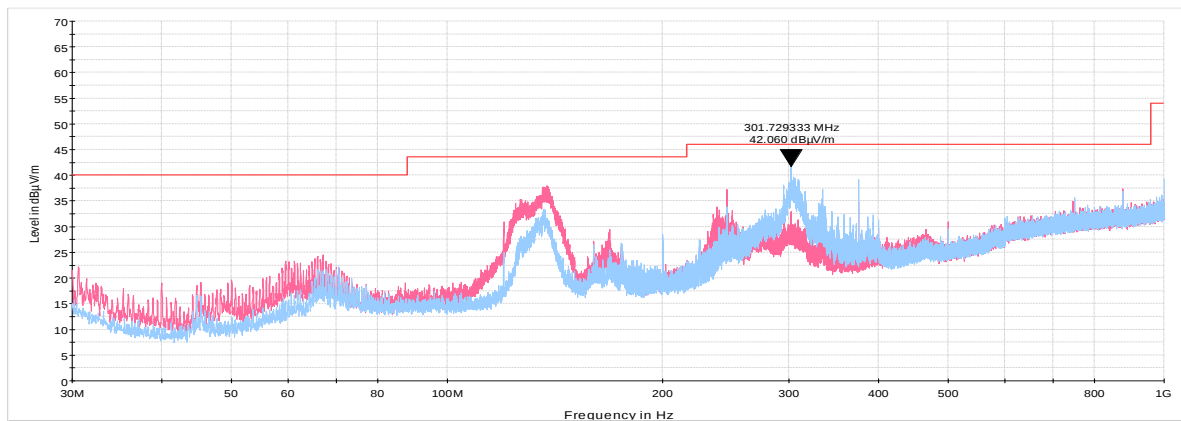
|                            |                                |                                                                                              |                               |                      |  |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|-------------------------------|----------------------|--|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                               |                      |  |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                               |                      |  |
| <b>Test mode:</b>          |                                | Compliance                                                                                   |                               | <b>Verdict:</b> PASS |  |
| <b>Date(s):</b>            |                                | 07-Feb-19                                                                                    |                               |                      |  |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % |                                                                                              | <b>Air Pressure:</b> 1012 hPa | <b>Power:</b> 48 VDC |  |
| <b>Remarks:</b>            |                                |                                                                                              |                               |                      |  |

**Plot 7.13.4 Radiated emission measurements from 30 MHz to 1000 MHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

**Plot 7.13.5 Radiated emission measurements from 30 MHz to 1000 MHz at the mid carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





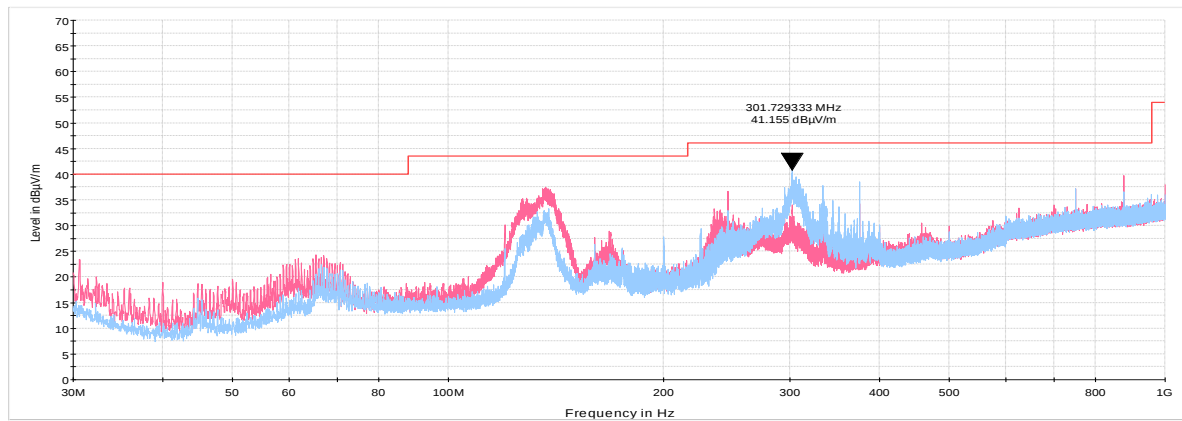
|                            |                                |                                                                                              |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                      |
| <b>Test mode:</b>          |                                | <b>Verdict:</b> PASS                                                                         |                      |
| <b>Date(s):</b>            |                                |                                                                                              |                      |
| 07-Feb-19                  |                                |                                                                                              |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                                | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                              |                      |

**Plot 7.13.6 Radiated emission measurements from 30 MHz to 1000 MHz at the high carrier frequency**

TEST SITE: Semi Anechoic chamber

TEST DISTANCE: 3 m

ANTENNA POLARIZATION: Vertical and Horizontal





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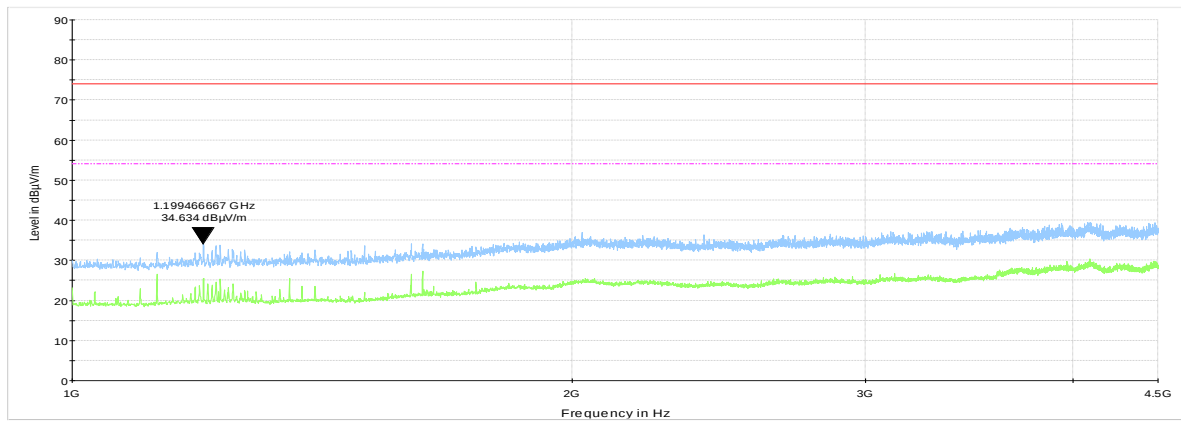
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|                            |                                |                                                                                              |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                      |
| <b>Test mode:</b>          |                                | Compliance                                                                                   | <b>Verdict:</b> PASS |
| <b>Date(s):</b>            |                                | 07-Feb-19                                                                                    |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                                | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                              |                      |

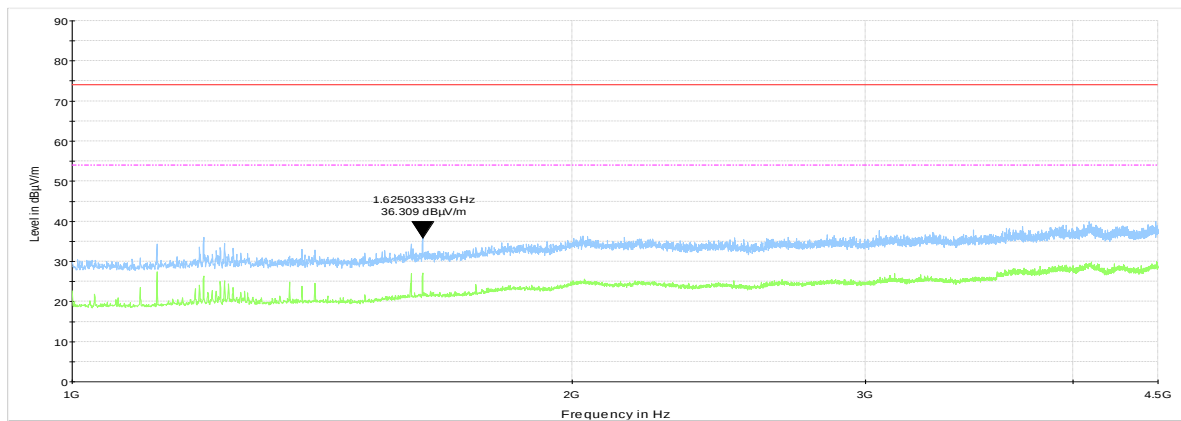
**Plot 7.13.7 Radiated emission measurements from 1.0 to 4.5 GHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal



**Plot 7.13.8 Radiated emission measurements from 1.0 to 4.5 GHz at the mid carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





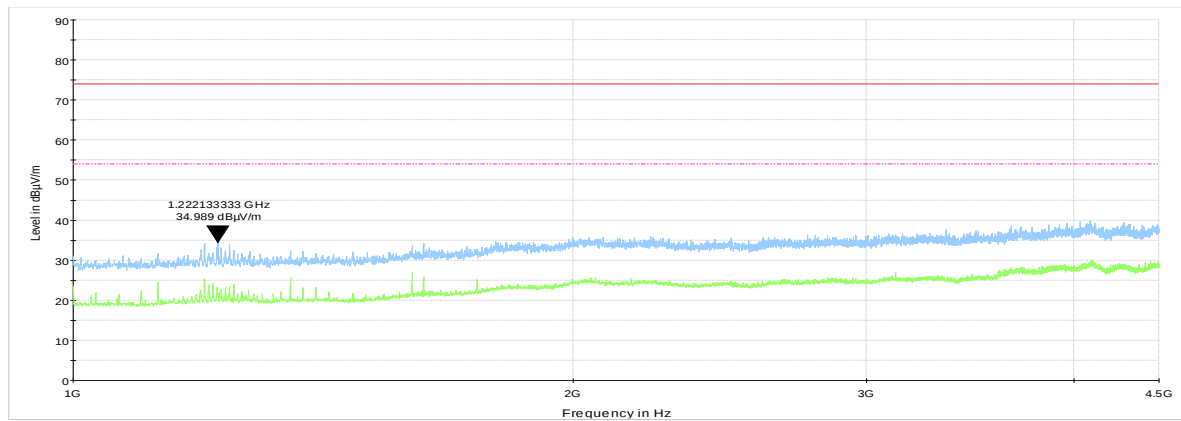
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Date of Issue: 25-Jun-19

|                     |                         |                                                                                       |               |
|---------------------|-------------------------|---------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                          |               |
| Test mode:          |                         | Verdict: PASS                                                                         |               |
| Date(s):            |                         |                                                                                       |               |
| 07-Feb-19           |                         |                                                                                       |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                | Power: 48 VDC |
| Remarks:            |                         |                                                                                       |               |

**Plot 7.13.9 Radiated emission measurements from 1.0 to 4.5 GHz at the high carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

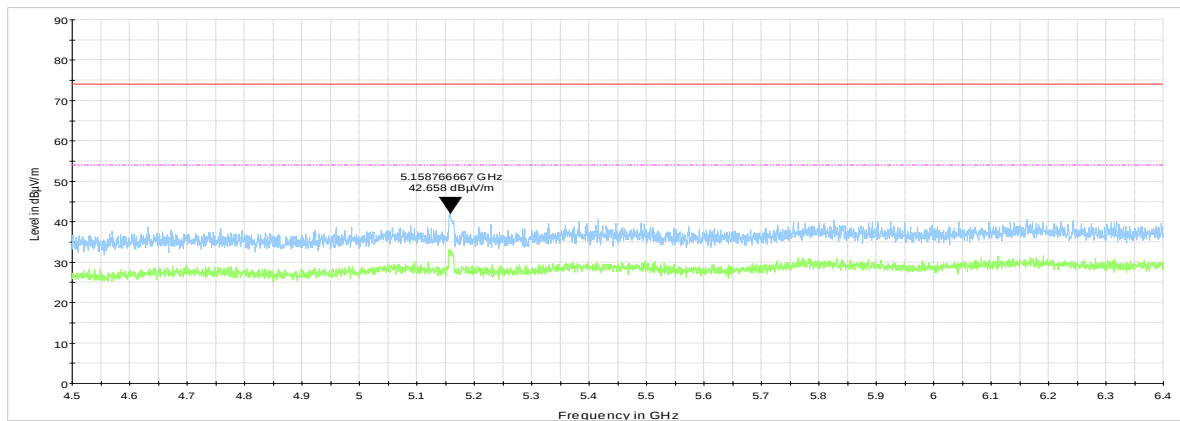




|                     |                         |                                                                                       |               |
|---------------------|-------------------------|---------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                          |               |
| Test mode:          |                         | Compliance                                                                            | Verdict: PASS |
| Date(s):            |                         | 07-Feb-19                                                                             |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                | Power: 48 VDC |
| Remarks:            |                         |                                                                                       |               |

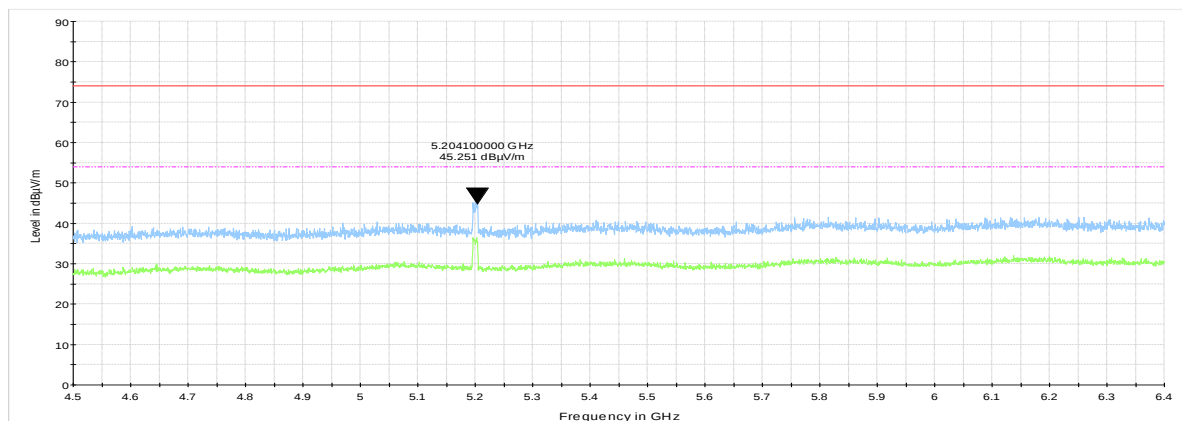
Plot 7.13.10 Radiated emission measurements from 4.5 to 6.4 GHz at the low carrier frequency with TX output ports terminated

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal



Plot 7.13.11 Radiated emission measurements from 4.5 to 6.4 GHz at the mid carrier frequency with TX output ports terminated

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

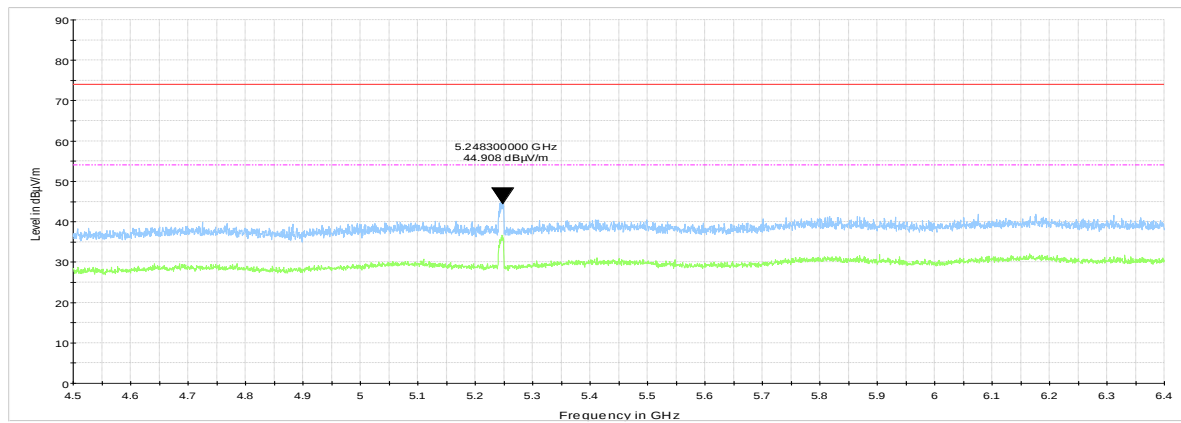




|                     |                         |                                                                                       |               |
|---------------------|-------------------------|---------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                          |               |
| Test mode:          |                         | Verdict: PASS                                                                         |               |
| Date(s):            |                         |                                                                                       |               |
| 07-Feb-19           |                         |                                                                                       |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                | Power: 48 VDC |
| Remarks:            |                         |                                                                                       |               |

Plot 7.13.12 Radiated emission measurements from 4.5 to 6.4 GHz at the high carrier frequency with TX output ports terminated

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

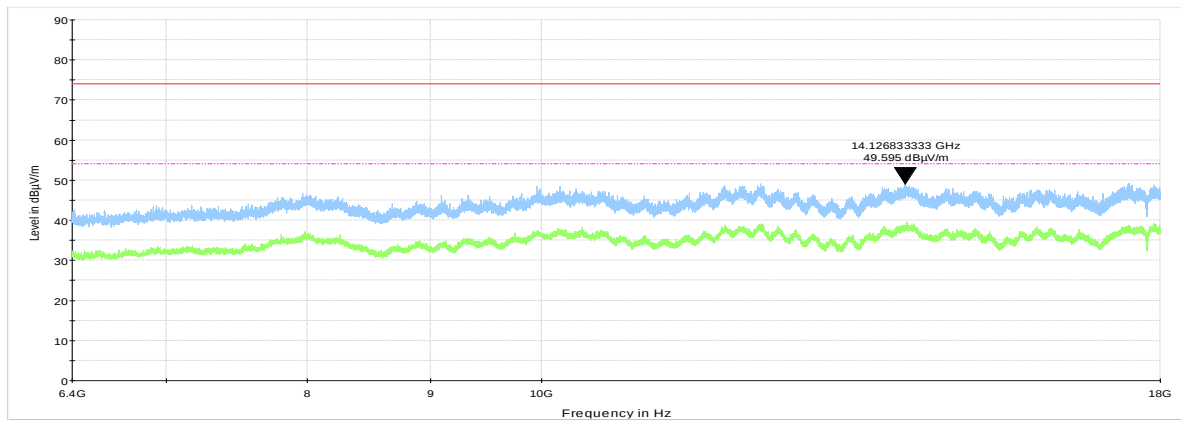




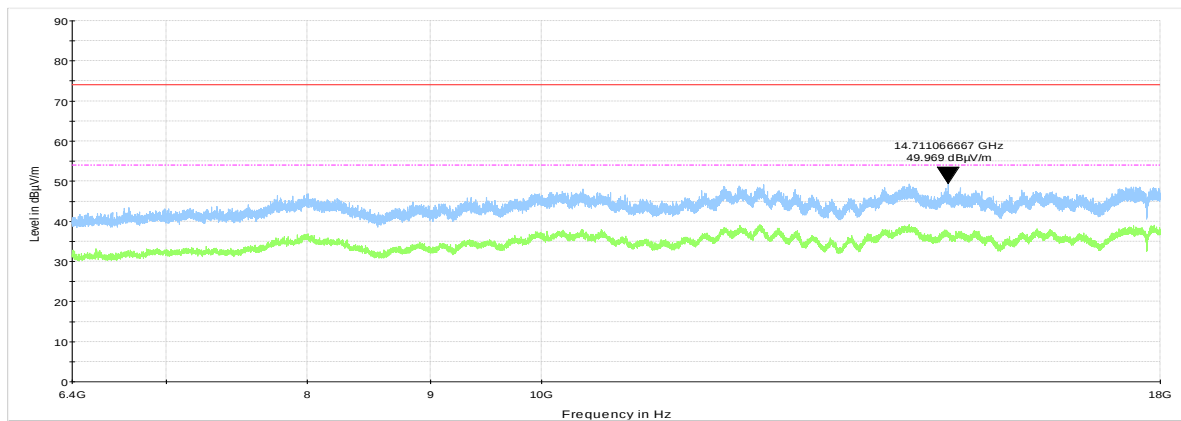
|                            |                                |                                                                                              |                               |                      |  |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|-------------------------------|----------------------|--|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                               |                      |  |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                               |                      |  |
| <b>Test mode:</b>          |                                | Compliance                                                                                   |                               | <b>Verdict:</b> PASS |  |
| <b>Date(s):</b>            |                                | 07-Feb-19                                                                                    |                               |                      |  |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % |                                                                                              | <b>Air Pressure:</b> 1012 hPa | <b>Power:</b> 48 VDC |  |
| <b>Remarks:</b>            |                                |                                                                                              |                               |                      |  |

**Plot 7.13.13 Radiated emission measurements from 6.4 to 18 GHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

**Plot 7.13.14 Radiated emission measurements from 6.4 to 18 GHz at the mid carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

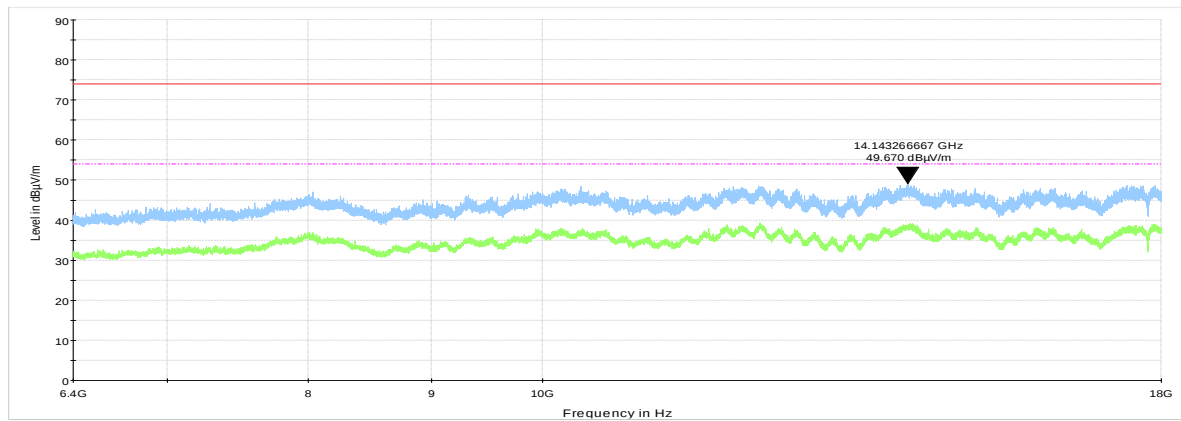




|                            |                                |                                                                                              |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                      |
| <b>Test mode:</b>          |                                | Compliance                                                                                   | <b>Verdict:</b> PASS |
| <b>Date(s):</b>            |                                | 07-Feb-19                                                                                    |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                                | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                              |                      |

**Plot 7.13.15 Radiated emission measurements from 6.4 to 18 GHz at the high carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

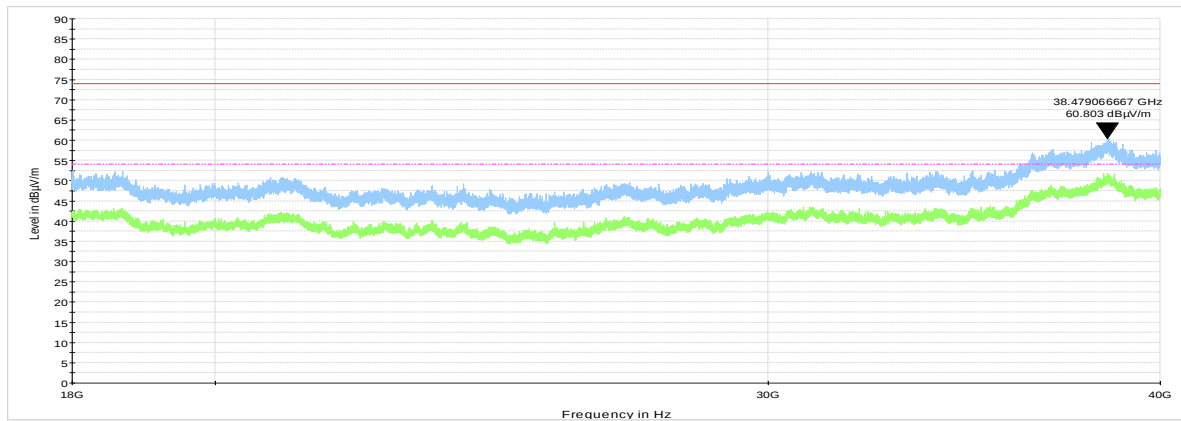




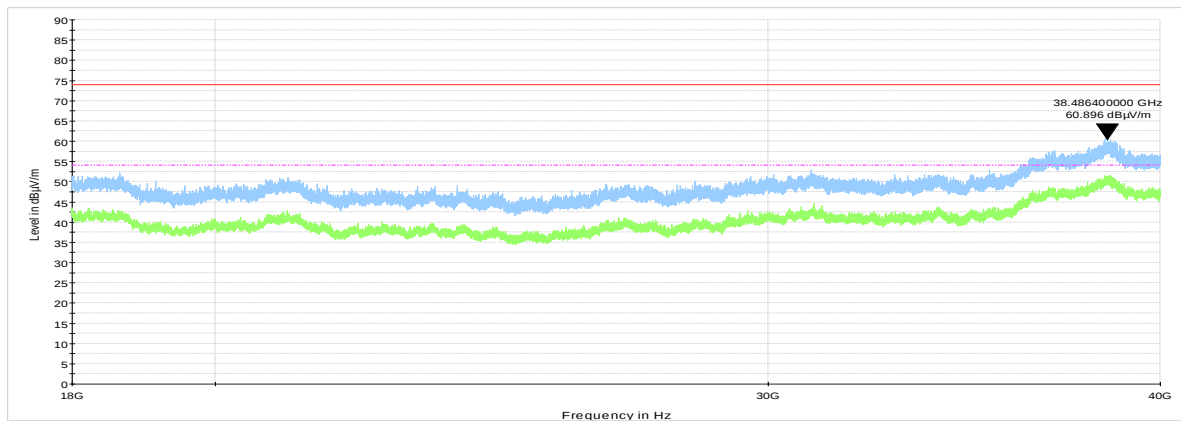
|                            |                                |                                                                                              |                               |                      |  |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------------|-------------------------------|----------------------|--|
| <b>Test specification:</b> |                                | <b>FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions</b> |                               |                      |  |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                                 |                               |                      |  |
| <b>Test mode:</b>          |                                | Compliance                                                                                   |                               | <b>Verdict:</b> PASS |  |
| <b>Date(s):</b>            |                                | 07-Feb-19                                                                                    |                               |                      |  |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % |                                                                                              | <b>Air Pressure:</b> 1012 hPa | <b>Power:</b> 48 VDC |  |
| <b>Remarks:</b>            |                                |                                                                                              |                               |                      |  |

**Plot 7.13.16 Radiated emission measurements from 18 to 40 GHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

**Plot 7.13.17 Radiated emission measurements from 18 to 40 GHz at the mid carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





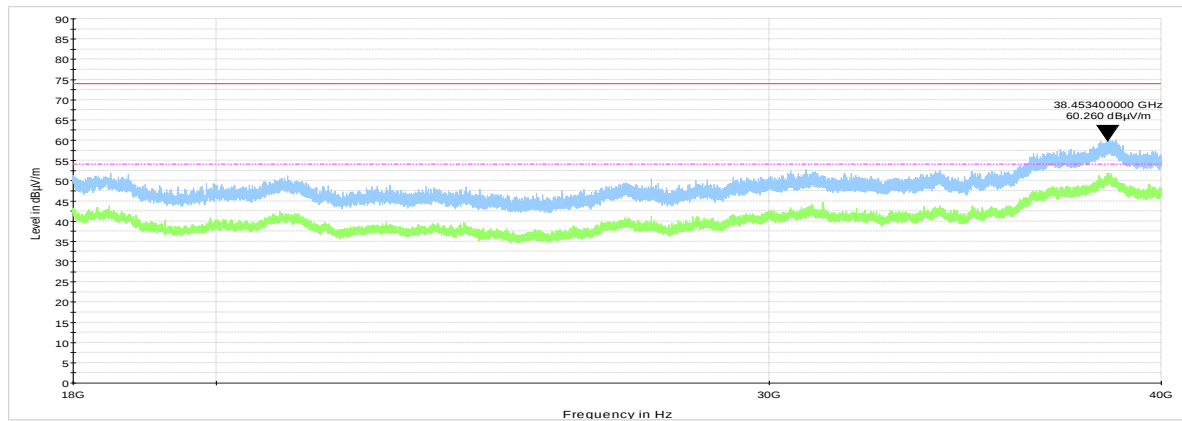
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|                     |                         |                                                                                       |               |
|---------------------|-------------------------|---------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)1, RSS-247 section 6.2.4 Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                          |               |
| Test mode:          |                         | Compliance                                                                            | Verdict: PASS |
| Date(s):            |                         | 07-Feb-19                                                                             |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                | Power: 48 VDC |
| Remarks:            |                         |                                                                                       |               |

**Plot 7.13.18 Radiated emission measurements from 18 to 40 GHz at the high carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





|                            |                                |                                                                                        |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |                      |
| <b>Test mode:</b>          |                                | <b>Verdict:</b> PASS                                                                   |                      |
| <b>Date(s):</b>            |                                |                                                                                        |                      |
| 07-Feb-19                  |                                |                                                                                        |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                          | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                        |                      |

## 7.14 Field strength of undesirable emissions at 5725 – 5850 MHz range

### 7.14.1 General

This test was performed to measure field strength of spurious emissions from the EUT. Specification test limits are given in Table 7.14.1, Table 7.14.2.

**Table 7.14.1 Unwanted emissions limits below 1 GHz and within restricted bands above 1 GHz**

| Frequency, MHz | Field strength at 3 m, dB(μV/m)* |                 |                 |
|----------------|----------------------------------|-----------------|-----------------|
|                | Peak                             | Quasi Peak      | Average         |
| 0.009 – 0.090  | 148.5 – 128.5                    | NA              | 128.5 – 108.5** |
| 0.090 – 0.110  | NA                               | 108.5 – 106.8** | NA              |
| 0.110 – 0.490  | 126.8 – 113.8                    | NA              | 106.8 – 93.8**  |
| 0.490 – 1.705  | NA                               | 73.8 – 63.0**   | NA              |
| 1.705 – 30.0*  |                                  | 69.5            |                 |
| 30 – 88        |                                  | 40.0            |                 |
| 88 – 216       |                                  | 43.5            |                 |
| 216 – 960      |                                  | 46.0            |                 |
| 960 – 1000     |                                  | 54.0            |                 |
| 1000 – 40000   | 74.0                             | NA              | 54.0            |

\*- The limit for 3 m test distance was calculated using the inverse square distance extrapolation factor as follows:  

$$\text{Lim}_{S2} = \text{Lim}_{S1} + 40 \log (S_1/S_2),$$

where  $S_1$  and  $S_2$  – standard defined and test distance respectively in meters.

\*\* - The limit decreases linearly with the logarithm of frequency.

**Table 7.14.2 EIRP of undesirable emission limits outside restricted bands (above 1 GHz)**

| Operating frequency band, GHz | EIRP of spurious, dBm/MHz                                                   | Field strength at 3 m, dB(μV/m) |
|-------------------------------|-----------------------------------------------------------------------------|---------------------------------|
| 5.150 – 5.250                 | -27                                                                         | 68.23                           |
| 5.250 – 5.350                 | -27                                                                         | 68.23                           |
| 5.470 – 5.725                 | -27                                                                         | 68.23                           |
| 5.725 – 5.850                 | -27 (below 5.650 GHz and above 5.925 GHz)                                   | 68.23                           |
|                               | -27 increasing linearly to 10 (in 5.650 - 5.700 GHz and 5.875 - 5.925 GHz)  | 68.23 - 105.23*                 |
|                               | 10 increasing linearly to 15.6 (in 5.700 - 5.720 GHz and 5.855 - 5.875 GHz) | 105.23 - 110.83*                |
|                               | 15.6 increasing linearly to 27 (in 5.720 - 5.725 GHz and 5.850 - 5.855 GHz) | 110.83 - 122.23*                |



|                            |                                |                                                                                        |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |                      |
| <b>Test mode:</b>          |                                | <b>Verdict:</b> PASS                                                                   |                      |
| <b>Date(s):</b>            |                                |                                                                                        |                      |
| 07-Feb-19                  |                                |                                                                                        |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                          | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                        |                      |

**Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band**

**7.14.1.1** The EUT was set up as shown in Figure 7.14.1, energized and the performance check was conducted.

**7.14.1.2** The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360° and the measuring antenna was rotated around its vertical axis.

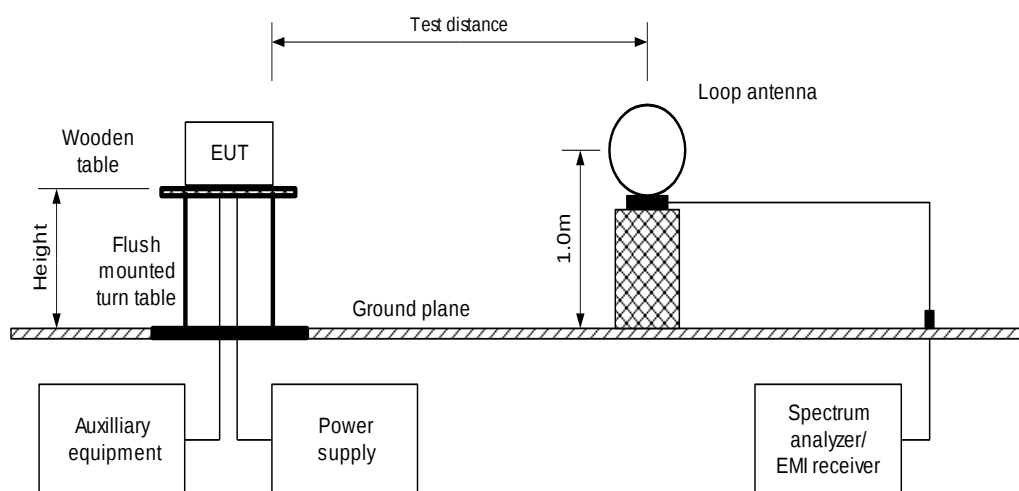
**7.14.1.3** The worst test results (the lowest margins) were recorded and shown in the associated plots.

**Test procedure for spurious emission field strength measurements above 30 MHz**

**7.14.1.4** The EUT was set up as shown in Figure 7.14.2, Figure 7.14.3, energized and the performance check was conducted.

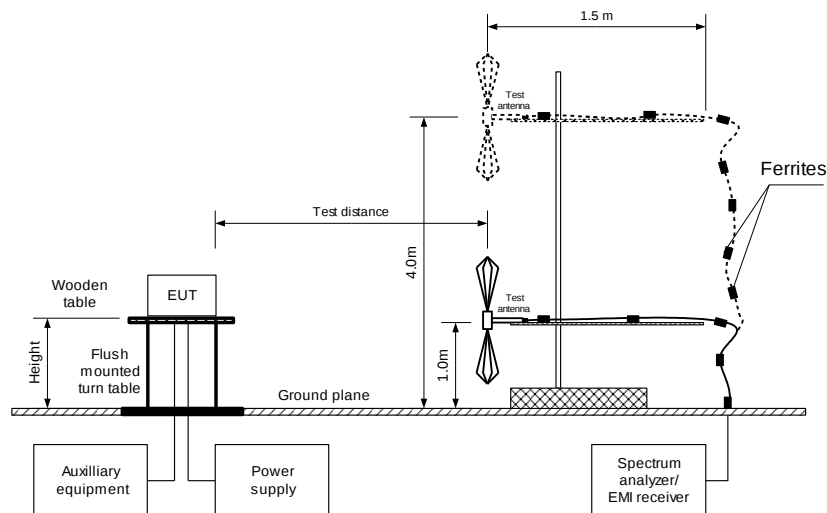
**7.14.1.5** The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal.

**7.14.1.6** The worst test results (the lowest margins) were recorded and shown in the associated plots.

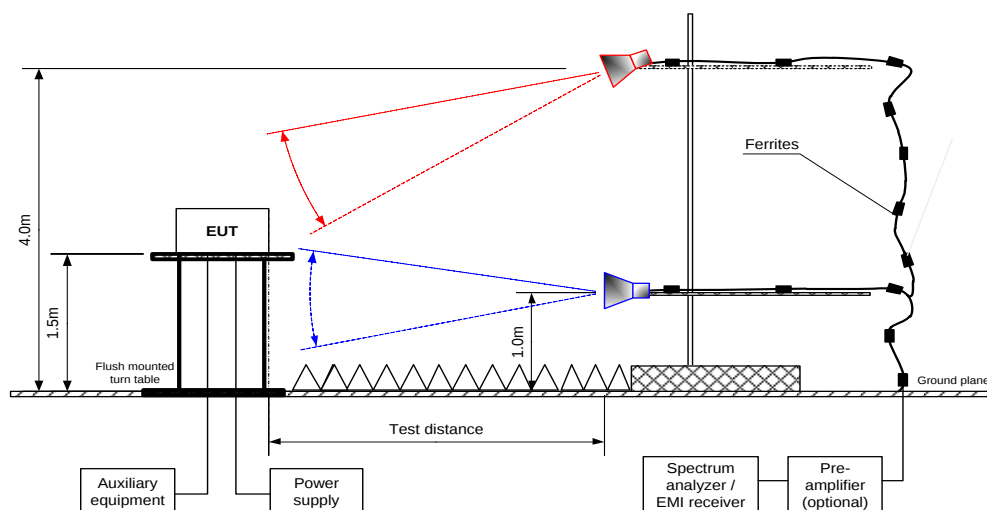
**Figure 7.14.1 Setup for spurious emission field strength measurements below 30 MHz**

|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Figure 7.14.2 Setup for spurious emission field strength measurements from 30 to 1000 MHz**



**Figure 7.14.3 Setup for spurious emission field strength measurements above 1000 MHz**





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|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Table 7.14.3 Field strength of spurious emissions below 1 GHz**

ASSIGNED FREQUENCY BAND: 5.725 – 5.850 GHz  
 INVESTIGATED FREQUENCY RANGE: 0.009 – 1000 MHz  
 TEST DISTANCE: 3 m  
 CHANNEL SPACING: 10MHz  
 MODULATION: QPSK  
 TRANSMITTER OUTPUT POWER: Maximum  
 RESOLUTION BANDWIDTH: 1 kHz (9 kHz – 150 kHz)  
 9.0 kHz (150 kHz – 30 MHz)  
 120 kHz (30 MHz – 1000 MHz)  
 VIDEO BANDWIDTH: > Resolution bandwidth  
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)  
 Biconilog (30 MHz – 1000 MHz)

| Frequency, MHz                   | Peak emission, dB(μV/m) | Quasi-peak                  |                 |             | Antenna polarization | Antenna height, m | Turn-table position**, degrees | Verdict |
|----------------------------------|-------------------------|-----------------------------|-----------------|-------------|----------------------|-------------------|--------------------------------|---------|
|                                  |                         | Measured emission, dB(μV/m) | Limit, dB(μV/m) | Margin, dB* |                      |                   |                                |         |
| Low, mid, high carrier frequency |                         |                             |                 |             |                      |                   |                                |         |
| 67.176                           | 27.21                   | 24.02                       | 40.0            | -15.98      | Vertical             | 184               | -8                             | Pass    |
| 94.499                           | 28.56                   | 23.81                       | 43.5            | -19.69      | Vertical             | 100               | -157                           |         |
| 129.058                          | 37.29                   | 32.09                       | 43.5            | -11.41      | Vertical             | 104               | -8                             |         |
| 139.324                          | 39.70                   | 34.28                       | 43.5            | -9.22       | Vertical             | 178               | -180                           |         |
| 245.751                          | 44.77                   | 41.60                       | 46.0            | -4.40       | Vertical             | 102               | 165                            |         |
| 301.725                          | 44.86                   | 38.39                       | 46.0            | -7.61       | Horizontal           | 102               | -180                           |         |
| 374.990                          | 41.26                   | 38.67                       | 46.0            | -7.33       | Horizontal           | 102               | -173                           |         |
| 875.014                          | 42.93                   | 39.11                       | 46.0            | -6.89       | Vertical             | 132               | -145                           |         |

\*- Margin = Measured emission - specification limit.

\*\* - EUT front panel refer to 0 degrees position of turntable.

**Table 7.14.4 Field strength of emissions above 1 GHz outside restricted bands**

ASSIGNED FREQUENCY BAND: 5.725 – 5.850 GHz  
 INVESTIGATED FREQUENCY RANGE: 1000 – 40000 MHz  
 TEST DISTANCE: 3 m  
 MODULATION: QPSK  
 TRANSMITTER OUTPUT POWER: Maximum  
 DETECTOR: USED: Peak  
 RESOLUTION BANDWIDTH: 1000 kHz  
 TEST ANTENNA TYPE: Biconilog (30 MHz – 1000 MHz)  
 Double ridged guide (above 1000 MHz)

| Frequency, MHz                                    | Antenna polarization | Antenna height, m | Azimuth, degrees* | Field strength of spurious, dB(μV/m) | Limit, dBμV/m | Margin, dB** | Verdict |
|---------------------------------------------------|----------------------|-------------------|-------------------|--------------------------------------|---------------|--------------|---------|
| <b>Low, mid, high carrier frequency</b>           |                      |                   |                   |                                      |               |              |         |
| All emissions are more than 20 dB below the limit |                      |                   |                   |                                      |               |              | Pass    |

\*- EUT front panel refers to 0 degrees position of turntable.

\*\* - Margin = Measured emission - specification limit.



|                            |                                |                                                                                        |                      |
|----------------------------|--------------------------------|----------------------------------------------------------------------------------------|----------------------|
| <b>Test specification:</b> |                                | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |                      |
| <b>Test procedure:</b>     |                                | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |                      |
| <b>Test mode:</b>          |                                | <b>Verdict:</b> PASS                                                                   |                      |
| <b>Date(s):</b>            |                                |                                                                                        |                      |
| 07-Feb-19                  |                                |                                                                                        |                      |
| <b>Temperature:</b> 25 °C  | <b>Relative Humidity:</b> 46 % | <b>Air Pressure:</b> 1012 hPa                                                          | <b>Power:</b> 48 VDC |
| <b>Remarks:</b>            |                                |                                                                                        |                      |

**Table 7.14.5 Field strength of spurious emissions above 1 GHz within restricted bands**

ASSIGNED FREQUENCY: 5.725 – 5.850 GHz  
 INVESTIGATED FREQUENCY RANGE: 1000 - 40000 MHz  
 TEST DISTANCE: 3 m  
 MODULATION: QPSK  
 DUTY CYCLE: 100 %  
 TRANSMITTER OUTPUT POWER: Maximum  
 DETECTOR USED: Peak  
 RESOLUTION BANDWIDTH: 1000 kHz  
 TEST ANTENNA TYPE: Double ridged guide

| Antenna                                           |              |           | Azimuth, degrees* | Peak field strength(VBW=3 MHz) |                 |              | Average field strength(VBW=1 kHz) |                      |                 |               | Verdict |  |
|---------------------------------------------------|--------------|-----------|-------------------|--------------------------------|-----------------|--------------|-----------------------------------|----------------------|-----------------|---------------|---------|--|
| Frequency, MHz                                    | Polarization | Height, m |                   | Measured, dB(μV/m)             | Limit, dB(μV/m) | Margin, dB** | Measured, dB(μV/m)                | Calculated, dB(μV/m) | Limit, dB(μV/m) | Margin, dB*** |         |  |
| Low, mid, high carrier frequency                  |              |           |                   |                                |                 |              |                                   |                      |                 |               |         |  |
| All emissions are more than 20 dB below the limit |              |           |                   |                                |                 |              |                                   |                      |                 |               |         |  |
|                                                   |              |           |                   |                                |                 |              |                                   |                      |                 |               | Pass    |  |

\*- EUT front panel refers to 0 degrees position of turntable.

\*\* - Margin, dB = Measured, dB(μV/m) – Limit, dB(μV/m)

\*\*\* - Margin, dB = Calculated, dB(μV/m) – Limit, dB(μV/m)

**Reference numbers of test equipment used**

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HL 0446 | HL 0604 | HL 3903 | HL 4355 | HL 4360 | HL 4933 | HL 4956 | HL 5405 |
|---------|---------|---------|---------|---------|---------|---------|---------|

Full description is given in Appendix A.

**Table 7.14.6 Restricted bands according to FCC section 15.205**

| MHz               | MHz                 | MHz                   | MHz             | MHz           | GHz           |
|-------------------|---------------------|-----------------------|-----------------|---------------|---------------|
| 0.09 - 0.11       | 8.37625 - 8.38675   | 73 - 74.6             | 399.9 - 410     | 2690 - 2900   | 10.6 - 12.7   |
| 0.495 - 0.505     | 8.41425 - 8.41475   | 74.8 - 75.2           | 608 - 614       | 3260 - 3267   | 13.25 - 13.4  |
| 2.1735 - 2.1905   | 12.29 - 12.293      | 108 - 121.94          | 960 - 1240      | 3332 - 3339   | 14.47 - 14.5  |
| 4.125 - 4.128     | 12.51975 - 12.52025 | 123 - 138             | 1300 - 1427     | 3345.8 - 3358 | 15.35 - 16.2  |
| 4.17725 - 4.17775 | 12.57675 - 12.57725 | 149.9 - 150.05        | 1435 - 1626.5   | 3600 - 4400   | 17.7 - 21.4   |
| 4.20725 - 4.20775 | 13.36 - 13.41       | 156.52475 - 156.52525 | 1645.5 - 1646.5 | 4500 - 5150   | 22.01 - 23.12 |
| 6.215 - 6.218     | 16.42 - 16.423      | 156.7 - 156.9         | 1660 - 1710     | 5350 - 5460   | 23.6 - 24     |
| 6.26775 - 6.26825 | 16.69475 - 16.69525 | 162.0125 - 167.17     | 1718.8 - 1722.2 | 7250 - 7750   | 31.2 - 31.8   |
| 6.31175 - 6.31225 | 16.80425 - 16.80475 | 167.72 - 173.2        | 2200 - 2300     | 8025 - 8500   | 36.43 - 36.5  |
| 8.291 - 8.294     | 25.5 - 25.67        | 240 - 285             | 2310 - 2390     | 9000 - 9200   | Above 38.6    |
| 8.362 - 8.366     | 37.5 - 38.25        | 322 - 335.4           | 2483.5 - 2500   | 9300 - 9500   |               |

**Table 7.14.7 Restricted bands according to RSS-Gen**

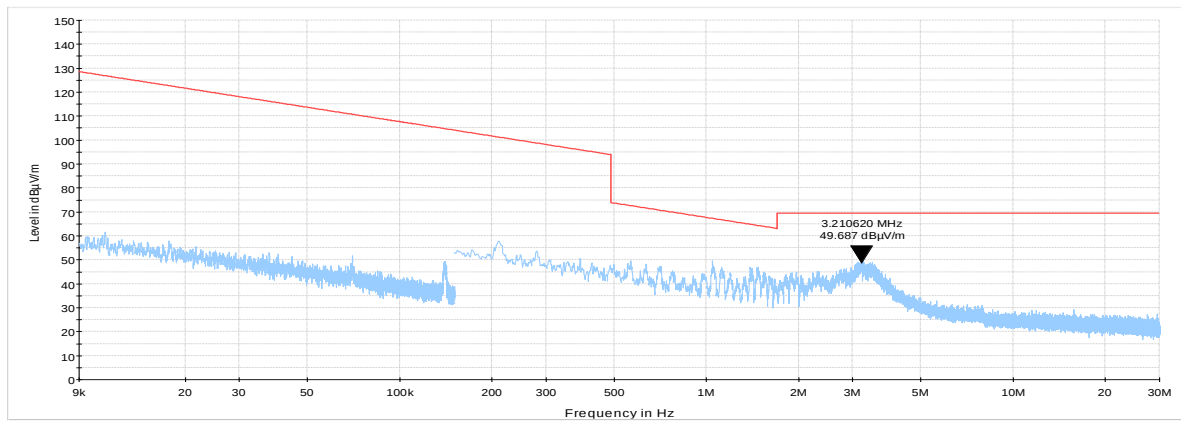
| MHz               | MHz                 | MHz                   | MHz             | MHz           | GHz           |
|-------------------|---------------------|-----------------------|-----------------|---------------|---------------|
| 0.09 - 0.11       | 8.291 - 8.294       | 16.80425 - 16.80475   | 399.9 - 410     | 3260 - 3267   | 10.6 - 12.7   |
| 2.1735 - 2.1905   | 8.362 - 8.366       | 25.5 - 25.67          | 608 - 614       | 3332 - 3339   | 13.25 - 13.4  |
| 3.020 - 3.026     | 8.37625 - 8.38675   | 37.5 - 38.25          | 960 - 1427      | 3345.8 - 3358 | 14.47 - 14.5  |
| 4.125 - 4.128     | 8.41425 - 8.41475   | 73 - 74.6             | 1435 - 1626.5   | 3500 - 4400   | 15.35 - 16.2  |
| 4.17725 - 4.17775 | 12.29 - 12.293      | 74.8 - 75.2           | 1645.5 - 1646.5 | 4500 - 5150   | 17.7 - 21.4   |
| 4.20725 - 4.20775 | 12.51975 - 12.52025 | 108 - 138             | 1660 - 1710     | 5350 - 5460   | 22.01 - 23.12 |
| 5.677 - 5.683     | 12.57675 - 12.57725 | 156.52475 - 156.52525 | 1718.8 - 1722.2 | 7250 - 7750   | 23.6 - 24     |
| 6.215 - 6.218     | 13.36 - 13.41       | 156.7 - 156.9         | 2200 - 2300     | 8025 - 8500   | 31.2 - 31.8   |
| 6.26775 - 6.26825 | 16.42 - 16.423      | 240 - 285             | 2310 - 2390     | 9000 - 9200   | 36.43 - 36.5  |
| 6.31175 - 6.31225 | 16.69475 - 16.69525 | 322 - 335.4           | 2655 - 2900     | 9300 - 9500   | Above 38.6    |



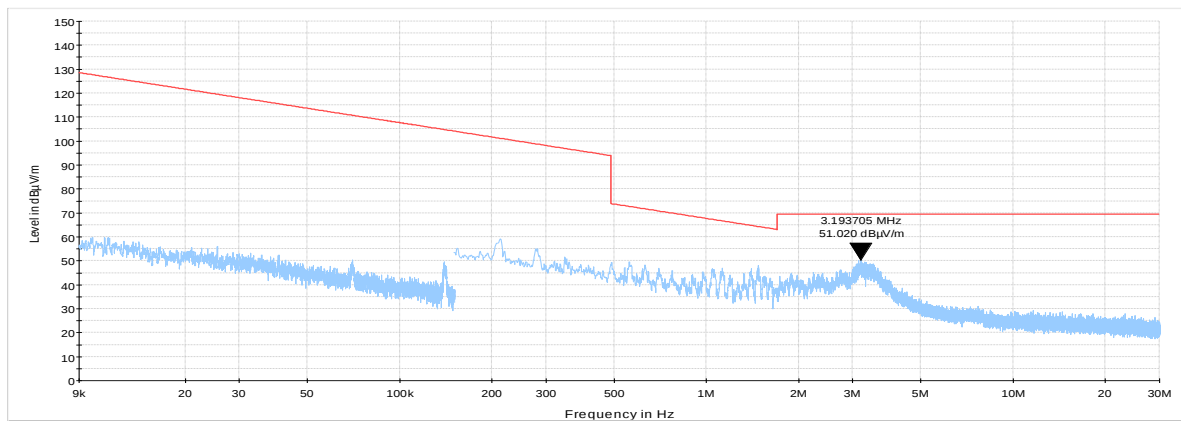
|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.1 Radiated emission measurements from 9 kHz to 30 MHz at the low carrier frequency**

TEST SITE: Semi anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

**Plot 7.14.2 Radiated emission measurements from 9 kHz to 30 MHz at the mid carrier frequency**

TEST SITE: Semi anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





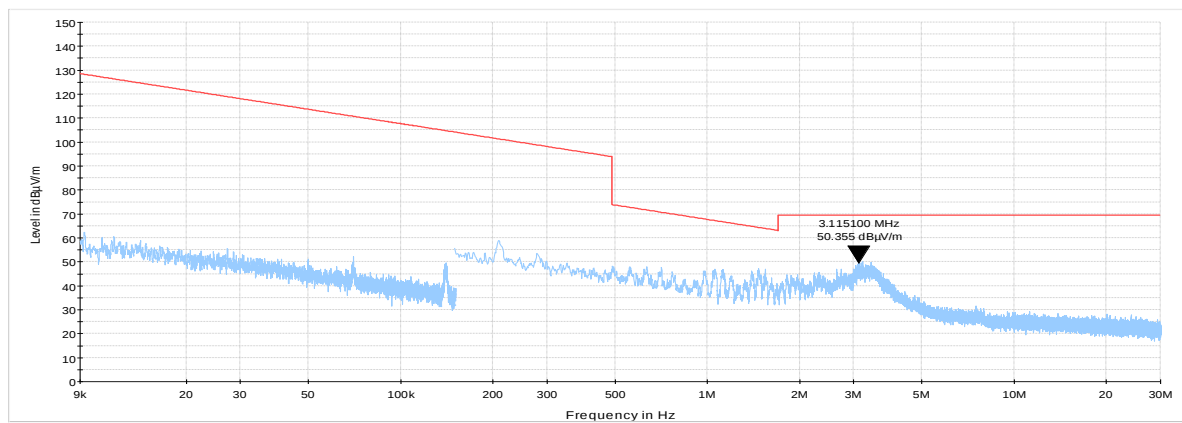
|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.3 Radiated emission measurements from 9 kHz to 30 MHz at the high carrier frequency**

TEST SITE: Semi anechoic chamber

TEST DISTANCE: 3 m

ANTENNA POLARIZATION: Vertical and Horizontal





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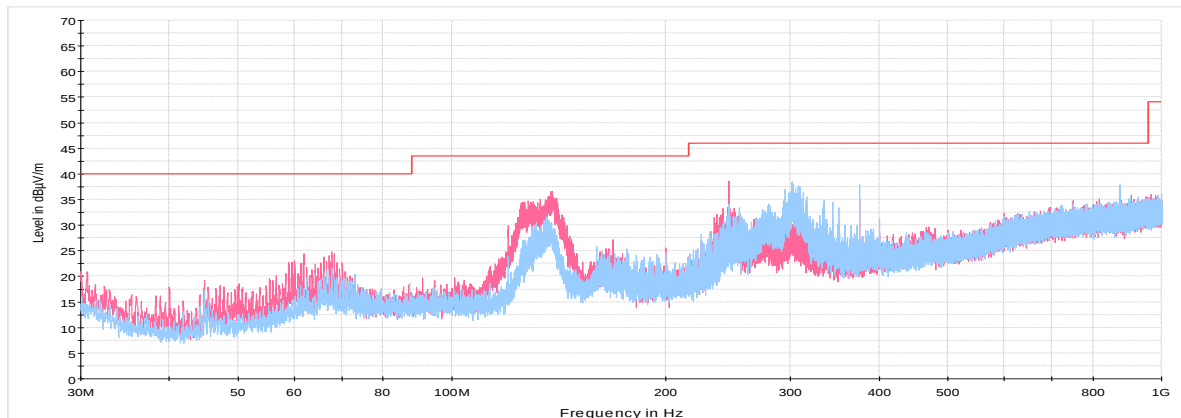
|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.4 Radiated emission measurements from 30 MHz to 1000 MHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber

TEST DISTANCE: 3 m

ANTENNA POLARIZATION: Vertical and Horizontal

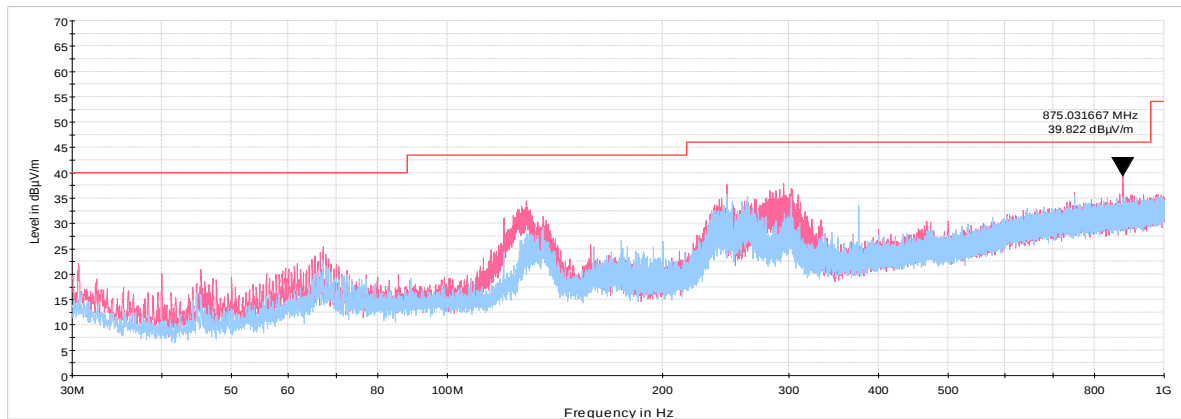


**Plot 7.14.5 Radiated emission measurements from 30 MHz to 1000 MHz at the mid carrier frequency**

TEST SITE: Semi Anechoic chamber

TEST DISTANCE: 3 m

ANTENNA POLARIZATION: Vertical and Horizontal

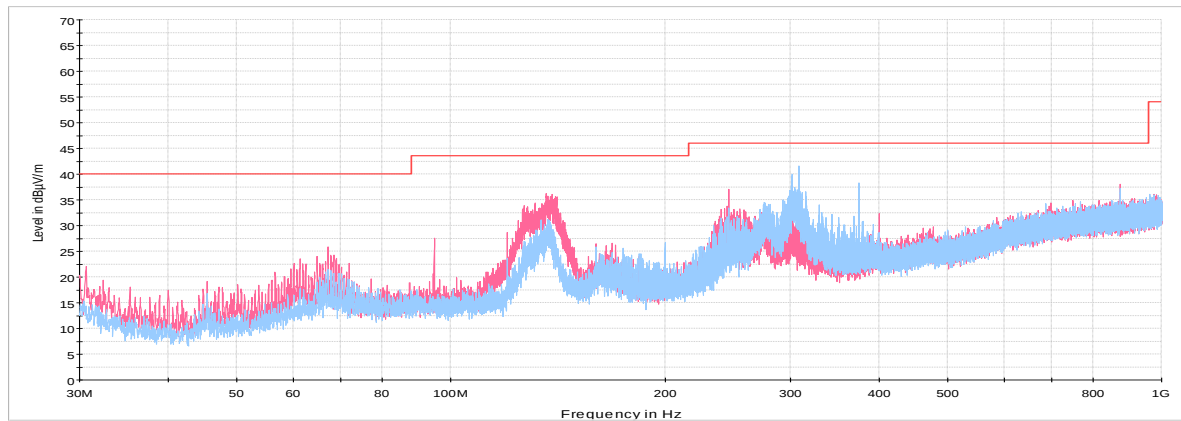




|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.6 Radiated emission measurements from 30 MHz to 1000 MHz at the high carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

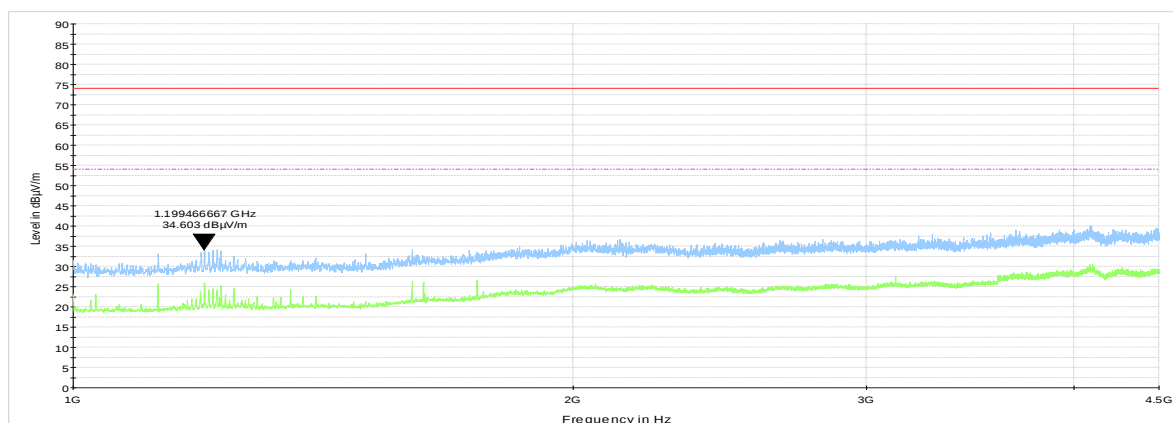




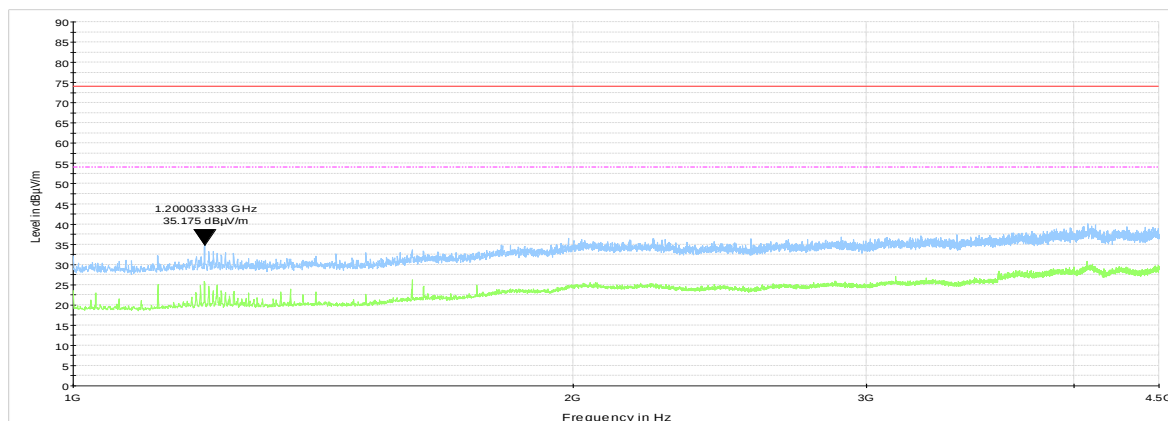
|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.7 Radiated emission measurements from 1.0 to 4.5 GHz at the low carrier frequency**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

**Plot 7.14.8 Radiated emission measurements from 1.0 to 4.5 GHz at the mid carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

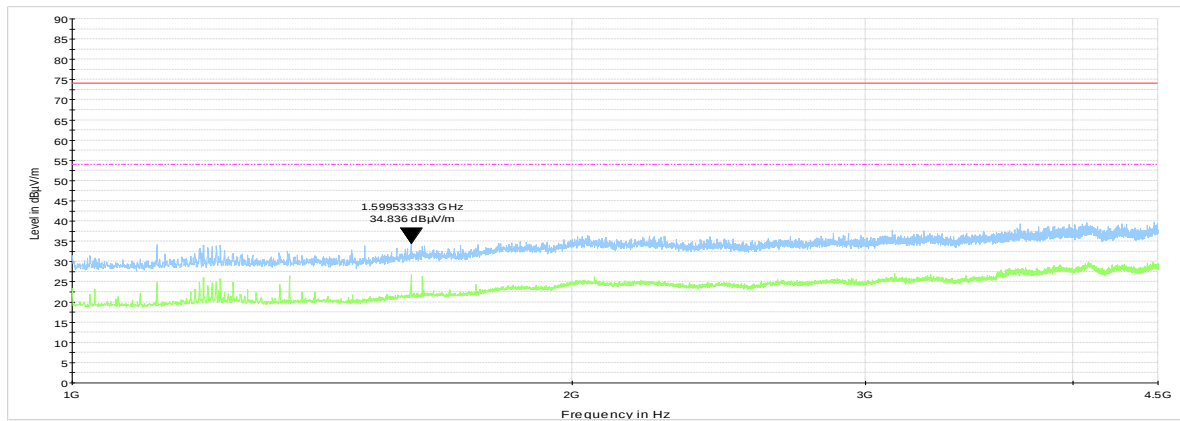




|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.9 Radiated emission measurements from 1.0 to 4.5 GHz at the high carrier frequency**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





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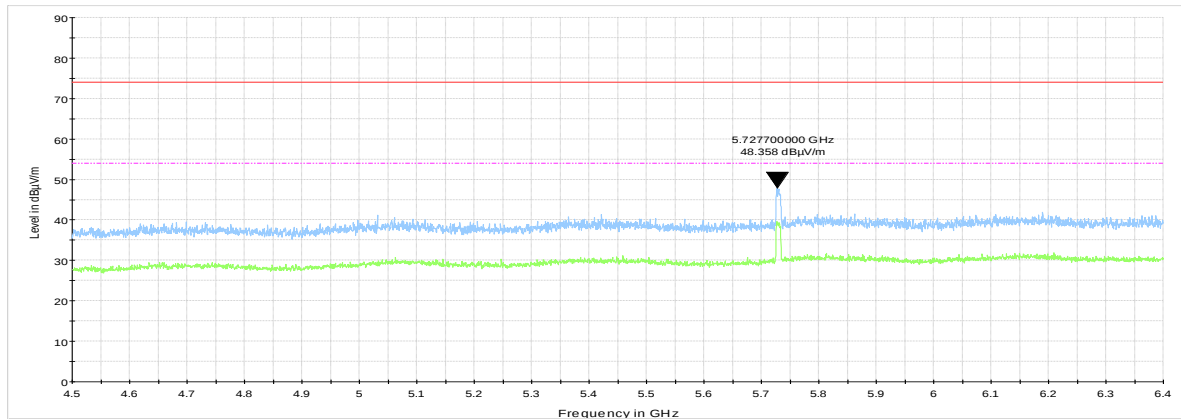
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|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

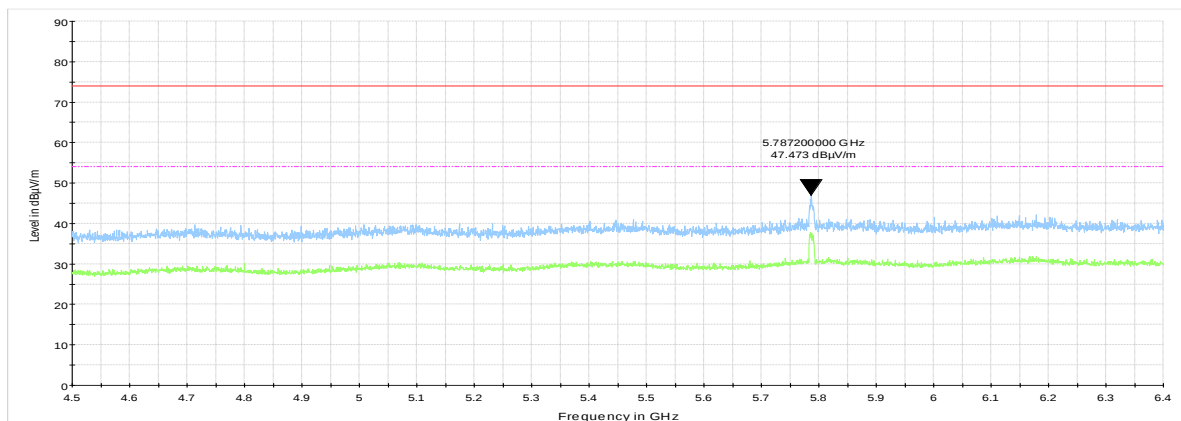
**Plot 7.14.10 Radiated emission measurements from 4.5 to 6.4 GHz at the low carrier frequency with TX output ports terminated**

TEST SITE: Semi Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal



**Plot 7.14.11 Radiated emission measurements from 4.5 to 6.4 GHz at the mid carrier frequency with TX output ports terminated**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal





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|                     |                         |                                                                                        |               |
|---------------------|-------------------------|----------------------------------------------------------------------------------------|---------------|
| Test specification: |                         | FCC section 15.407(b)4, RSS-247 section 6.2.4, Field strength of undesirable emissions |               |
| Test procedure:     |                         | KDB 662911; KDB 789033, ANSI C63.10, section 12.7.6 & 12.7.7                           |               |
| Test mode:          |                         | Verdict: PASS                                                                          |               |
| Date(s):            |                         |                                                                                        |               |
| 07-Feb-19           |                         |                                                                                        |               |
| Temperature: 25 °C  | Relative Humidity: 46 % | Air Pressure: 1012 hPa                                                                 | Power: 48 VDC |
| Remarks:            |                         |                                                                                        |               |

**Plot 7.14.12 Radiated emission measurements from 4.5 to 6.4 GHz at the high carrier frequency with TX output ports terminated**

TEST SITE: Anechoic chamber  
TEST DISTANCE: 3 m  
ANTENNA POLARIZATION: Vertical and Horizontal

