

Peloton Interactive Inc.

TEST REPORT

REPORT NUMBER
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DOCUMENT CONTROL NUMBER

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Radio Spectrum TEST REPORT

| | |
|-------------------------------|--|
| Applicant: | Peloton Interactive Inc. 125 W 25th St, 11th Floor, New York, NY 10001 |
| Product: | Peloton Tread Tablet |
| Model No.: | PLTN-TC1VS |
| Brand Name: | Peloton Console |
| FCC ID: | 2AA3N-TC1VS |
| Test Method/ Standard: | 47 CFR FCC Part 15.249 & ANSI C63.10 2013 |
| Test By: | Intertek Testing Services Taiwan Ltd., Hsinchu Laboratory No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li, Shiang-Shan District, Hsinchu City, Taiwan |



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Revision History

| Report No. | Issue Date | Revision Summary |
|------------------|---------------|------------------|
| 180300422TWN-001 | Jul. 09, 2018 | Original report |

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Summary of Tests

| Test | Reference | Results |
|--------------------------------|-------------------|----------------|
| 20dB Bandwidth | 15.215(c) | Pass |
| Radiated Emission test | 15.249(c), 15.209 | Pass |
| Emission on the Band Edge | 15.249(d) | Pass |
| Conducted Emission of AC Power | 15.207 | Pass |
| Antenna Requirement | 15.203 | Pass |

1. General Information

1.1 Identification of the EUT

| | |
|-------------------------------|-------------------------------|
| Product: | Peloton Tread Tablet |
| Model No.: | PLTN-TC1VS |
| Operating Frequency: | 79 channels |
| Channel Number: | 2402+1k MHz, k = 0~78 |
| Access scheme: | GFSK, $\pi/4$ DQSP, 8DPSK |
| Rated Power: | DC 24V from adapter |
| Power Cord: | N/A |
| Sample receiving date: | Apr. 10, 2018 |
| Sample condition: | Workable |
| Test Date(s): | Apr. 10, 2018 ~ Apr. 27, 2018 |

1.2 Antenna description

Antenna Gain : 2.36 dBi
 Antenna Type : PIFA Antenna
 Connector Type : I-PEX

1.3 Peripherals equipment

| No. | Model no. | Specification |
|---------|--------------|--|
| Adapter | EA10681V-240 | I/P: 100-240V~, 2.0A,50-60Hz O/P: 24V, 3A |

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Paragraph 15.249 for non-spread spectrum devices.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

TX mode: EUT use 「AMPAK RFTestTool.apk」 entering test mode , and Touchscreen to change different channel.

3. 20dB Bandwidth test

3.1 Operating environment

| | | |
|-----------------------|------|-----|
| Temperature: | 25 | |
| Relative Humidity: | 50 | % |
| Atmospheric Pressure: | 1008 | hPa |

3.2 Test setup & procedure

Step 1: The 20dB bandwidth was measured using a 50 ohm spectrum analyzer

Step 2: The span range for the SA display shall be between two times and five times the OBW.

Step 3: The nominal IF filter bandwidth (3 dB RBW) should be approximately 1 % to 5 % of the OBW, unless otherwise specified, depending on the applicable requirement.

Step 4: The test was performed at 1 channel. The maximum 20dB modulation bandwidth is in the following Table.

3.3 Measured data of modulated bandwidth test results

Single TX

| Mode | Frequency (MHz) | 20dB Occupied Bandwidth (MHz) |
|----------------|-----------------|-------------------------------|
| GFSK | 2402 | 1.0073 |
| | 2441 | 1.0095 |
| | 2480 | 1.0072 |
| $\pi/4$ -DQPSK | 2402 | 1.3365 |
| | 2441 | 1.3322 |
| | 2480 | 1.3268 |
| 8DQPSK | 2402 | 1.3316 |
| | 2441 | 1.3307 |
| | 2480 | 1.3298 |

Please see the plot below.

20dB Bandwidth @ GFSK_Channel 0



20dB Bandwidth @ GFSK_Channel 39



20dB Bandwidth @ GFSK_Channel 78



20dB Bandwidth @ $\pi/4$ -DQPSK_Channel 0



20dB Bandwidth @ $\pi/4$ -DQPSK_Channel 39



20dB Bandwidth @ $\pi/4$ -DQPSK_Channel 78



20dB Bandwidth @ 8DQPSK_Channel 0



20dB Bandwidth @ 8DQPSK_Channel 39



20dB Bandwidth @ 8DQPSK_Channel 78



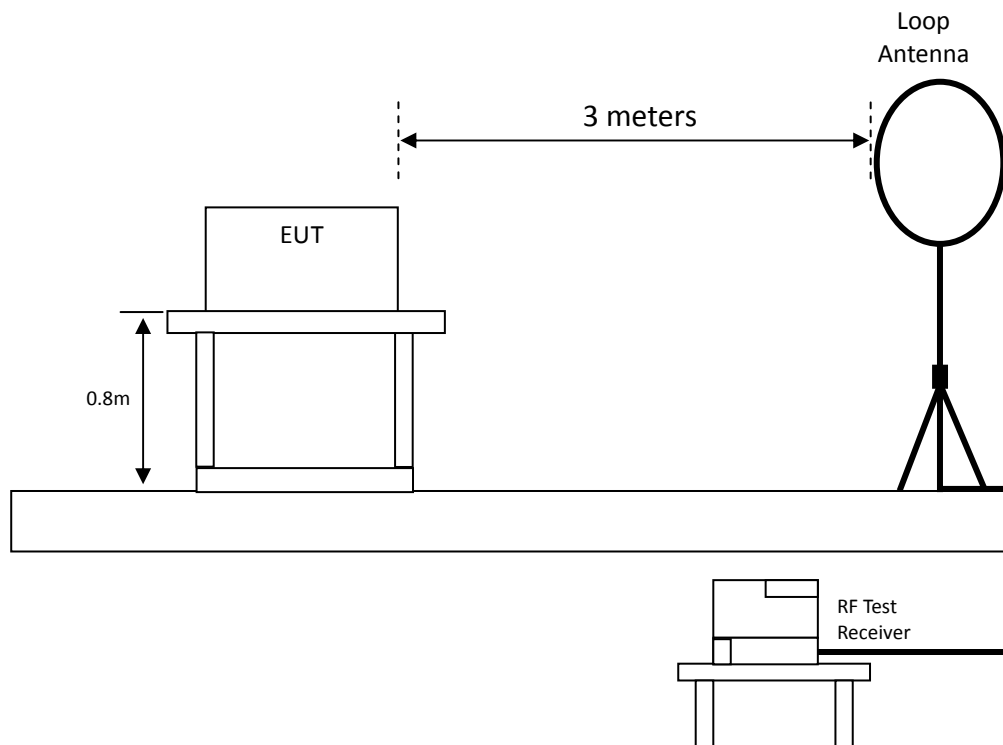
4. Radiated emission test FCC 15.249 (C)

4.1 Operating environment

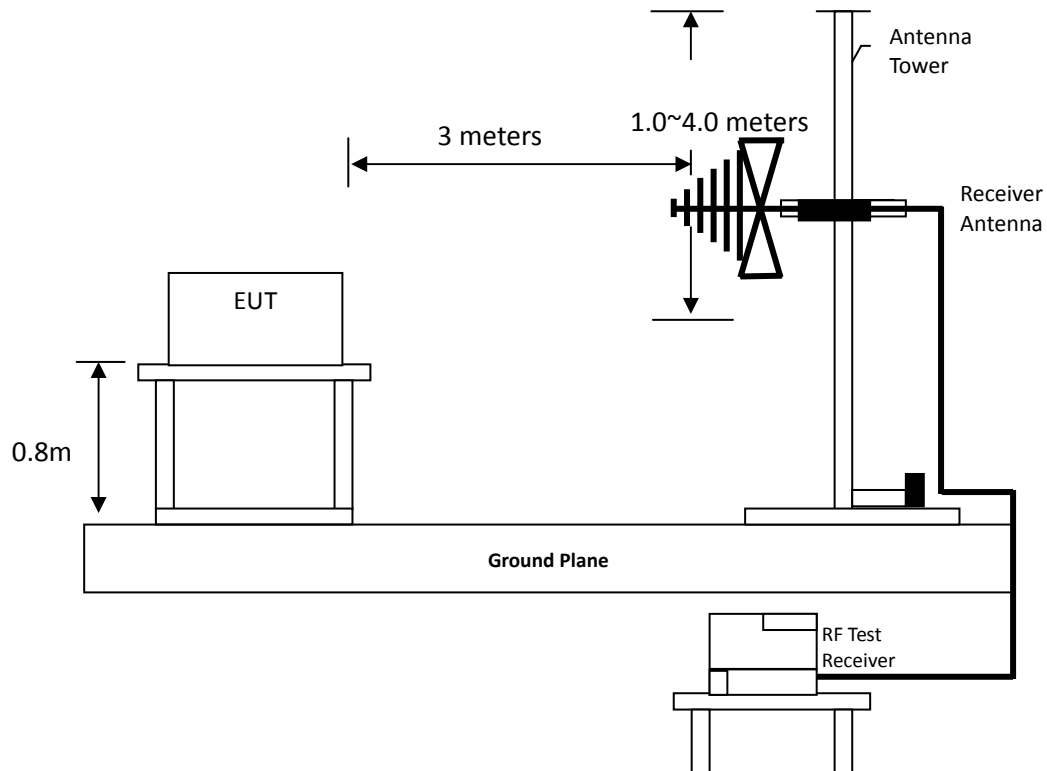
| | | |
|-----------------------|------|-----|
| Temperature: | 25 | |
| Relative Humidity: | 50 | % |
| Atmospheric Pressure: | 1008 | hPa |

4.2 Test setup & procedure

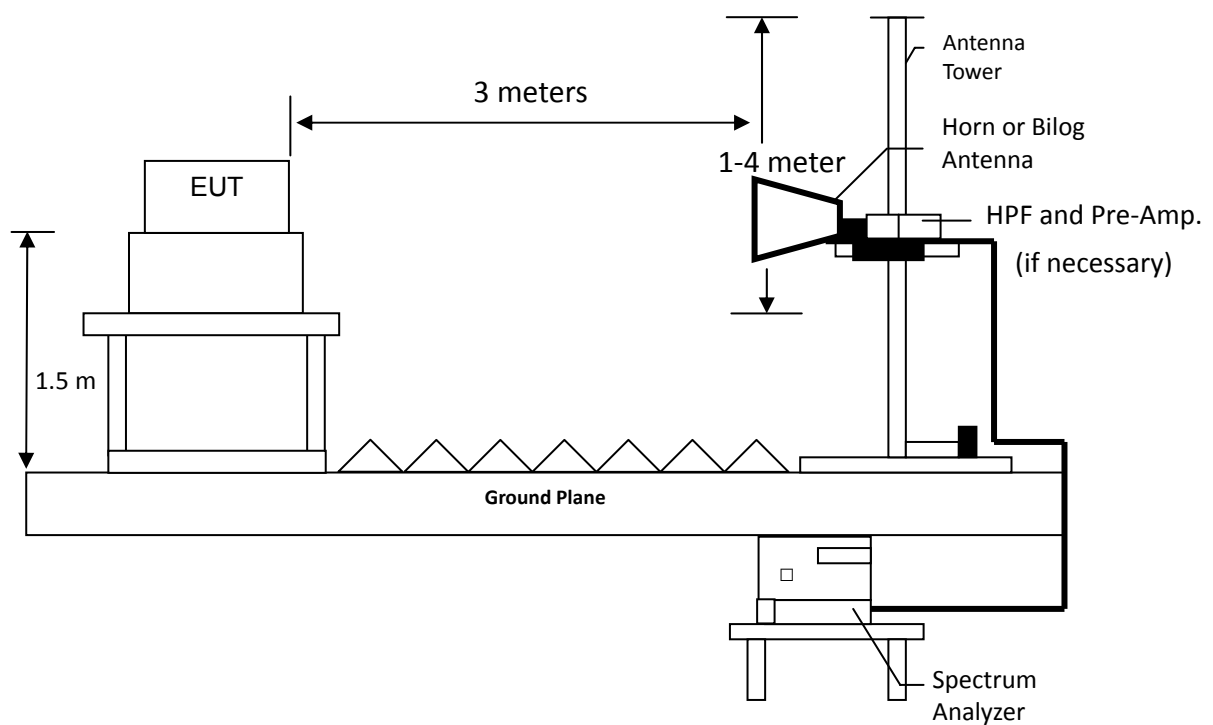
Radiated emission from 9kHz to 30MHz uses Loop Antenna:



Radiated emission below 1GHz using Bilog Antenna



Radiated emission above 1GHz using Horn Antenna



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Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1 MHz RBW/ 3 MHz VBW) recorded also on the report.

The EUT for testing is arranged on a turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

4.3 Emission limit**4.3.1 Fundamental and harmonics emission limits**

| Frequency (MHz) | Field Strength of Fundamental | | Field Strength of Harmonics | |
|--------------------|-------------------------------|-------------|-----------------------------|-------------|
| | (mV/m@3m) | (dBuV/m@3m) | (uV/m@3m) | (dBuV/m@3m) |
| 2400-2483.5 | 50 | 94 | 500 | 54 |

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4.3.2 General radiated emission limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

| Frequency MHz | 15.209 Limits (dBµV/m@3m) |
|---------------|---------------------------|
| 30-88 | 40 |
| 88-216 | 43.5 |
| 216-960 | 46 |
| Above 960 | 54 |

Remark:

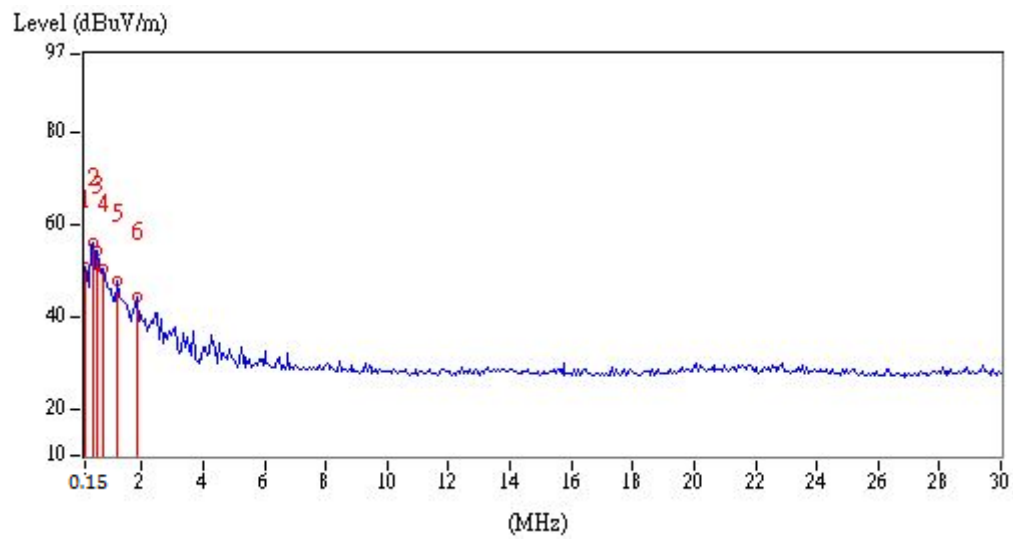
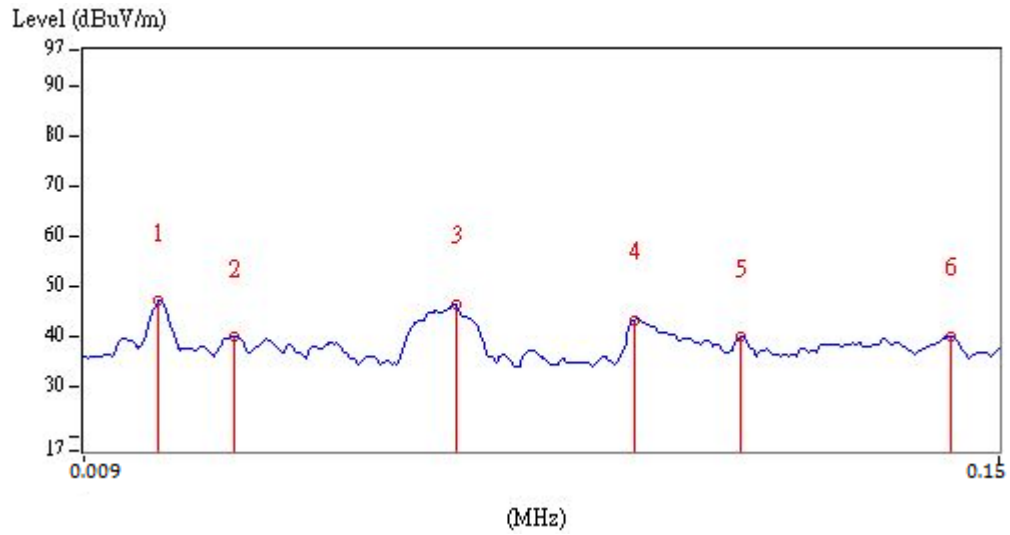
1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

4.4 Radiated spurious emission test data

4.4.1 Measurement results: frequency range from 9 kHz to 30 MHz

EUT: PLTN-TC1VS

| Polarity (circle) | Frequency (MHz) | Detection value | Factor (dB/m) | Reading (dBµV) | Value (dBµV/m) | Limit @ 3m (dBµV/m) | Tolerance (dB) |
|-------------------|-----------------|-----------------|---------------|----------------|----------------|---------------------|----------------|
| Plane | 0.02 | PK | 19.26 | 27.68 | 46.94 | 121.58 | -74.64 |
| Plane | 0.03 | PK | 19.49 | 20.28 | 39.77 | 118.06 | -78.29 |
| Plane | 0.07 | PK | 18.94 | 27.28 | 46.22 | 110.70 | -64.48 |
| Plane | 0.09 | QP | 18.78 | 24.41 | 43.19 | 108.52 | -65.33 |
| Plane | 0.11 | PK | 18.74 | 21.05 | 39.79 | 106.78 | -66.99 |
| Plane | 0.14 | PK | 18.74 | 21.25 | 39.99 | 104.68 | -64.69 |
| Plane | 0.15 | PK | 18.73 | 32.16 | 50.89 | 104.08 | -53.19 |
| Plane | 0.39 | PK | 18.71 | 37.37 | 56.08 | 95.78 | -39.70 |
| Plane | 0.57 | PK | 18.63 | 35.68 | 54.31 | 72.49 | -18.18 |
| Plane | 0.75 | QP | 18.61 | 31.79 | 50.40 | 70.10 | -19.70 |
| Plane | 1.22 | QP | 18.59 | 29.36 | 47.95 | 65.88 | -17.93 |
| Plane | 1.82 | QP | 18.54 | 25.77 | 44.31 | 69.54 | -25.23 |



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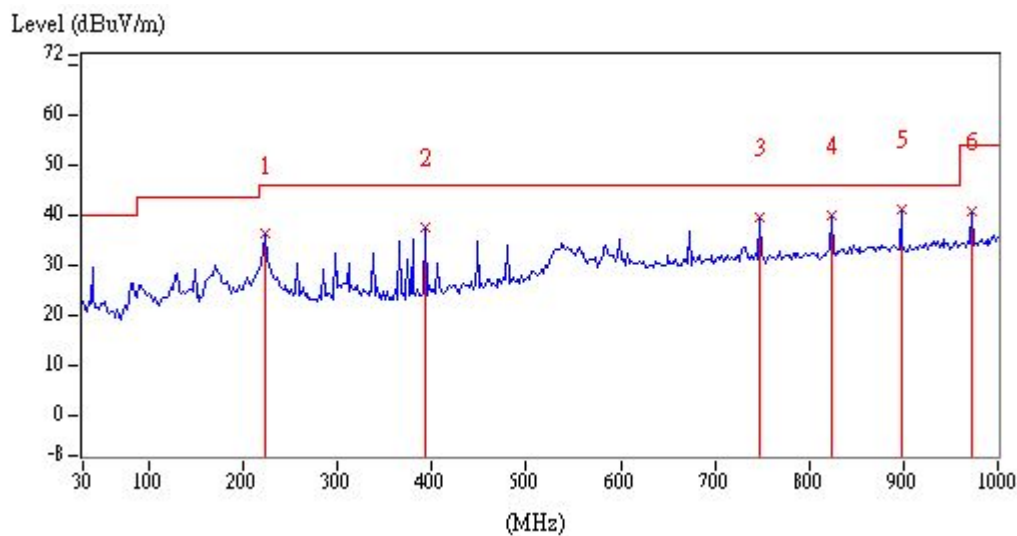
4.4.2 Measurement results: frequencies equal to or less than 1 GHz

The test was performed on EUT under GFSK, $\pi/4$ DQSP, & 8-DPSK continuously transmitting mode. Channel 0, 39, 78 were verified. The worst case occurred at 8-DPSK TX Channel 0

EUT: PLTN-TC1VS
 Worst case: 8-DPSK TX Channel 0

| Ant. Pol. (H/V) | Frequency (MHz) | Spectrum Analyzer Detector | Correction Factor (dB/m) | Reading (dB μ V) | Corrected Reading (dB μ V/m) | Limit @ 3 m (dB μ V/m) | Margin (dB) |
|-----------------|-----------------|----------------------------|--------------------------|----------------------|----------------------------------|----------------------------|-------------|
| Vertical | 224.00 | QP | 18.85 | 17.43 | 36.28 | 46.00 | -9.72 |
| Vertical | 392.78 | QP | 24.15 | 13.50 | 37.65 | 46.00 | -8.35 |
| Vertical | 747.80 | QP | 31.55 | 8.15 | 39.70 | 46.00 | -6.30 |
| Vertical | 823.46 | QP | 32.40 | 7.73 | 40.13 | 46.00 | -5.87 |
| Vertical | 897.18 | QP | 33.47 | 7.89 | 41.36 | 46.00 | -4.64 |
| Vertical | 972.84 | QP | 34.47 | 6.43 | 40.90 | 54.00 | -13.10 |

Remark: Corr. Factor = Antenna Factor + Cable Loss

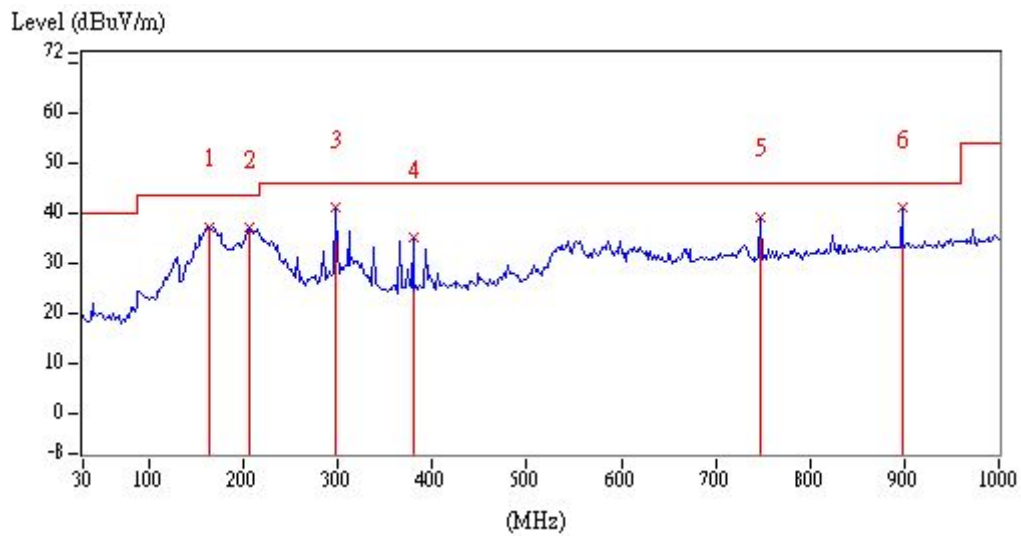


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EUT: PLTN-TC1VS
 Worst case: 8-DPSK TX Channel 0

| Ant. Pol. (H/V) | Frequency (MHz) | Spectrum Analyzer Detector | Correction Factor (dB/m) | Reading (dBμV) | Corrected Reading (dBμV/m) | Limit @ 3 m (dBμV/m) | Margin (dB) |
|-----------------|-----------------|----------------------------|--------------------------|----------------|----------------------------|----------------------|-------------|
| Horizontal | 163.86 | QP | 20.64 | 16.63 | 37.27 | 43.50 | -6.23 |
| Horizontal | 206.54 | QP | 18.26 | 18.79 | 37.05 | 43.50 | -6.45 |
| Horizontal | 297.72 | QP | 21.70 | 19.41 | 41.11 | 46.00 | -4.89 |
| Horizontal | 379.20 | QP | 23.79 | 11.32 | 35.11 | 46.00 | -10.89 |
| Horizontal | 747.80 | QP | 31.55 | 7.69 | 39.24 | 46.00 | -6.76 |
| Horizontal | 897.18 | QP | 33.47 | 7.70 | 41.17 | 46.00 | -4.83 |

Remark: Corr. Factor = Antenna Factor + Cable Loss



4.4.3 Measurement results: frequency above 1GHz

EUT: PLTN-TC1VS

| Mode | Frequency (MHz) | Spectrum Analyzer Detector | Ant. Pol. (H/V) | Correction Factor (dB/m) | Reading (dBμV) | Corrected Reading (dBμV/m) | Limit @ 3 m (dBμV/m) | Margin (dB) |
|----------------|-----------------|----------------------------|-----------------|--------------------------|----------------|----------------------------|----------------------|-------------|
| GFSK_Ch0 | 3360 | PK | V | 1.75 | 39.79 | 41.54 | 74.00 | -32.46 |
| | 4804 | PK | V | 5.68 | 33.44 | 39.12 | 74.00 | -34.88 |
| | 3360 | PK | H | 1.75 | 43.79 | 45.54 | 74.00 | -28.46 |
| | 4035 | PK | H | 3.60 | 35.99 | 39.59 | 74.00 | -34.41 |
| GFSK_Ch39 | 3360 | PK | V | 1.75 | 44.40 | 46.15 | 74.00 | -27.85 |
| | 3585 | PK | V | 2.06 | 40.91 | 42.97 | 74.00 | -31.03 |
| | 3960 | PK | V | 3.39 | 36.36 | 39.75 | 74.00 | -34.25 |
| | 3360 | PK | H | 1.75 | 41.62 | 43.37 | 74.00 | -30.63 |
| | 3585 | PK | H | 2.06 | 40.62 | 42.68 | 74.00 | -31.32 |
| | 4035 | PK | H | 3.60 | 37.00 | 40.60 | 74.00 | -33.40 |
| GFSK_Ch78 | 3360 | PK | V | 1.75 | 45.62 | 47.37 | 74.00 | -26.63 |
| | 3960 | PK | V | 3.39 | 36.20 | 39.59 | 74.00 | -34.41 |
| | 4410 | PK | V | 4.25 | 36.00 | 40.25 | 74.00 | -33.75 |
| | 3585 | PK | H | 2.06 | 41.16 | 43.22 | 74.00 | -30.78 |
| | 3810 | PK | H | 2.86 | 37.46 | 40.32 | 74.00 | -33.68 |
| | 4035 | PK | H | 3.60 | 38.14 | 41.74 | 74.00 | -32.26 |
| π/4-DQPSK_Ch0 | 3360 | PK | V | 1.75 | 45.99 | 47.74 | 74.00 | -26.26 |
| | 3960 | PK | V | 3.39 | 36.58 | 39.97 | 74.00 | -34.03 |
| | 4335 | PK | V | 4.12 | 35.66 | 39.78 | 74.00 | -34.22 |
| | 3585 | PK | H | 2.06 | 41.78 | 43.84 | 74.00 | -30.16 |
| | 4035 | PK | H | 3.60 | 36.61 | 40.21 | 74.00 | -33.79 |
| π/4-DQPSK_Ch39 | 3585 | PK | V | 2.06 | 39.16 | 41.22 | 74.00 | -32.78 |
| | 4035 | PK | V | 3.60 | 35.81 | 39.41 | 74.00 | -34.59 |
| | 3435 | PK | H | 1.76 | 43.24 | 45.00 | 74.00 | -29.00 |
| | 4035 | PK | H | 3.60 | 38.83 | 42.43 | 74.00 | -31.57 |
| π/4-DQPSK_Ch78 | 3510 | PK | V | 1.80 | 41.51 | 43.31 | 74.00 | -30.69 |
| | 4035 | PK | V | 3.60 | 37.67 | 41.27 | 74.00 | -32.73 |
| | 3585 | PK | H | 2.06 | 39.48 | 41.54 | 74.00 | -32.46 |
| | 4035 | PK | H | 3.60 | 35.64 | 39.24 | 74.00 | -34.76 |

Remark: Correction Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Pre_Amplifier Gain

| Mode | Frequency (MHz) | Spectrum Analyzer Detector | Ant. Pol. (H/V) | Correction Factor (dB/m) | Reading (dBμV) | Corrected Reading (dBμV/m) | Limit @ 3 m (dBμV/m) | Margin (dB) |
|------------|-----------------|----------------------------|-----------------|--------------------------|----------------|----------------------------|----------------------|-------------|
| 8DPSK_Ch0 | 3360 | PK | V | 1.75 | 40.08 | 41.83 | 74.00 | -32.17 |
| | 4560 | PK | V | 4.66 | 36.27 | 40.93 | 74.00 | -33.07 |
| | 3360 | PK | H | 1.75 | 43.00 | 44.75 | 74.00 | -29.25 |
| | 3585 | PK | H | 2.06 | 40.25 | 42.31 | 74.00 | -31.69 |
| | 4035 | PK | H | 3.60 | 36.54 | 40.14 | 74.00 | -33.86 |
| 8DPSK_Ch39 | 3360 | PK | V | 1.75 | 42.34 | 44.09 | 74.00 | -29.91 |
| | 4800 | PK | V | 5.66 | 33.48 | 39.14 | 74.00 | -34.86 |
| | 3060 | PK | H | 1.72 | 40.20 | 41.92 | 74.00 | -32.08 |
| | 4800 | PK | H | 5.66 | 34.06 | 39.72 | 74.00 | -34.28 |
| 8DPSK_Ch78 | 3435 | PK | V | 1.76 | 40.16 | 41.92 | 74.00 | -32.08 |
| | 4800 | PK | V | 5.66 | 34.25 | 39.91 | 74.00 | -34.09 |
| | 3585 | PK | H | 2.06 | 40.50 | 42.56 | 74.00 | -31.44 |
| | 3810 | PK | H | 2.86 | 37.20 | 40.06 | 74.00 | -33.94 |

Remark: Correction Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Pre_Amplifier Gain

4.4.4 Measurement results: Fundamental

EUT: PLTN-TC1VS

| Mode | Frequency (MHz) | Spectrum Analyzer Detector | Ant. Pol. (H/V) | Correction Factor (dB/m) | Reading (dBμV) | Corrected Reading (dBμV/m) | Limit @ 3 m (dBμV/m) | Margin (dB) |
|----------------|-----------------|----------------------------|-----------------|--------------------------|----------------|----------------------------|----------------------|-------------|
| GFSK_Ch0 | 2402 | PK | V | 35.35 | 42.70 | 78.05 | 114.00 | -35.95 |
| | | PK | H | 35.35 | 42.37 | 77.72 | 114.00 | -36.28 |
| GFSK_Ch39 | 2441 | PK | V | 35.29 | 40.58 | 75.87 | 114.00 | -38.13 |
| | | PK | H | 35.29 | 42.47 | 77.76 | 114.00 | -36.24 |
| GFSK_Ch78 | 2480 | PK | V | 35.23 | 35.12 | 70.35 | 114.00 | -43.65 |
| | | PK | H | 35.23 | 37.42 | 72.65 | 114.00 | -41.35 |
| π/4-DQPSK_Ch0 | 2402 | PK | V | 35.35 | 41.88 | 77.23 | 114.00 | -36.77 |
| | | PK | H | 35.35 | 42.42 | 77.77 | 114.00 | -36.23 |
| π/4-DQPSK_Ch39 | 2441 | PK | V | 35.29 | 39.10 | 74.39 | 114.00 | -39.61 |
| | | PK | H | 35.29 | 40.32 | 75.61 | 114.00 | -38.39 |
| π/4-DQPSK_Ch78 | 2480 | PK | V | 35.23 | 38.35 | 73.58 | 114.00 | -40.42 |
| | | PK | H | 35.23 | 39.22 | 74.45 | 114.00 | -39.55 |
| 8DPSK_Ch0 | 2402 | PK | V | 35.35 | 43.63 | 78.98 | 114.00 | -35.02 |
| | | PK | H | 35.35 | 42.93 | 78.28 | 114.00 | -35.72 |
| 8DPSK_Ch39 | 2441 | PK | V | 35.29 | 40.64 | 75.93 | 114.00 | -38.07 |
| | | PK | H | 35.29 | 41.78 | 77.07 | 114.00 | -36.93 |
| 8DPSK_Ch78 | 2480 | PK | V | 35.23 | 38.07 | 73.30 | 114.00 | -40.70 |
| | | PK | H | 35.23 | 39.40 | 74.63 | 114.00 | -39.37 |

Remark: Correction Factor = Antenna Factor + Cable Loss

5. Radiated emission on the band edge FCC 15.249(d)

5.1 Operating environment

| | | |
|-----------------------|------|-----|
| Temperature: | 25 | |
| Relative Humidity: | 50 | % |
| Atmospheric Pressure: | 1008 | hPa |

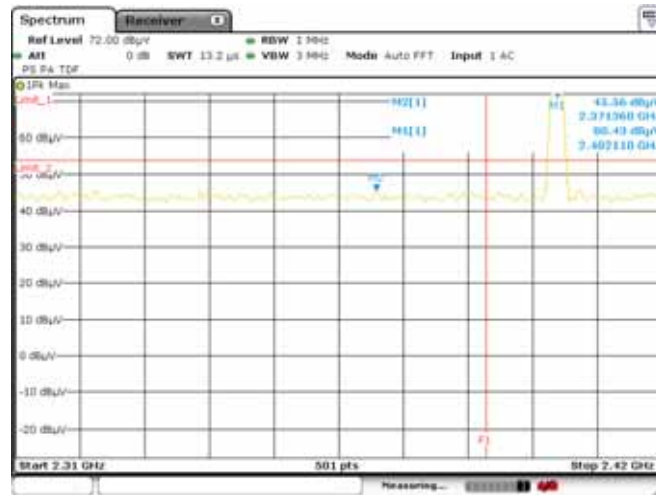
5.2 Radiated emission on the band edge test data

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental (2470MHz) or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

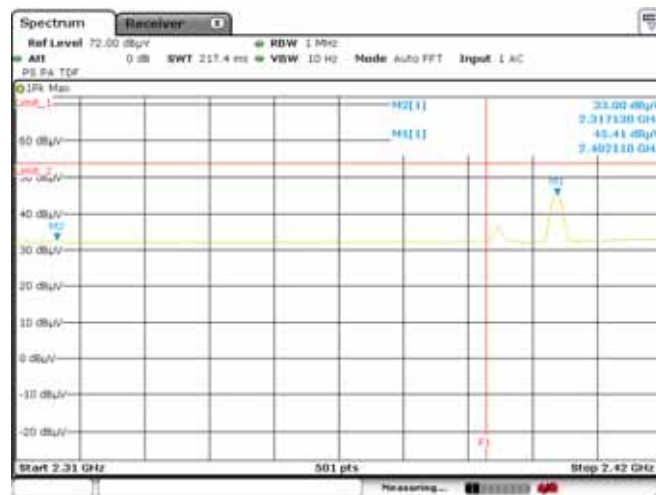
| Mode | Frequency (MHz) | Spectrum Analyzer Detector | Ant. Pol. (H/V) | Correction Factor (dB/m) | Reading (dBμV) | Corrected Reading (dBμV/m) | Limit @ 3 m (dBμV/m) | Margin (dB) | Restricted band (MHz) |
|-----------|-----------------|----------------------------|-----------------|--------------------------|----------------|----------------------------|----------------------|-------------|-----------------------|
| GFSK | 2371.36 | PK | H | 35.39 | 10.17 | 45.56 | 74 | -28.44 | 2310~2390 |
| | 2317.13 | AV | H | 35.47 | -2.47 | 33.00 | 54 | -21.00 | |
| | 2483.50 | PK | H | 35.23 | 16.94 | 52.17 | 74 | -21.83 | 2483.5~2500 |
| | 2487.34 | AV | H | 35.22 | -2.89 | 32.33 | 54 | -21.67 | |
| π/4-DQPSK | 2315.81 | PK | H | 35.47 | 11.01 | 46.48 | 74 | -27.52 | 2310~2390 |
| | 2317.13 | AV | H | 35.47 | -2.37 | 33.10 | 54 | -20.90 | |
| | 2491.94 | PK | H | 35.21 | 10.67 | 45.88 | 74 | -28.12 | 2483.5~2500 |
| | 2487.30 | AV | H | 35.22 | -2.89 | 32.33 | 54 | -21.67 | |
| 8DQPSK | 2338.42 | PK | H | 35.44 | 11.08 | 46.52 | 74 | -27.48 | 2310~2390 |
| | 2317.13 | AV | H | 35.47 | -2.20 | 33.27 | 54 | -20.73 | |
| | 2490.79 | PK | H | 35.21 | 11.30 | 46.51 | 74 | -27.49 | 2483.5~2500 |
| | 2493.14 | AV | H | 35.21 | -2.90 | 32.31 | 54 | -21.69 | |

Remark: Correction Factor = Antenna Factor + Cable Loss

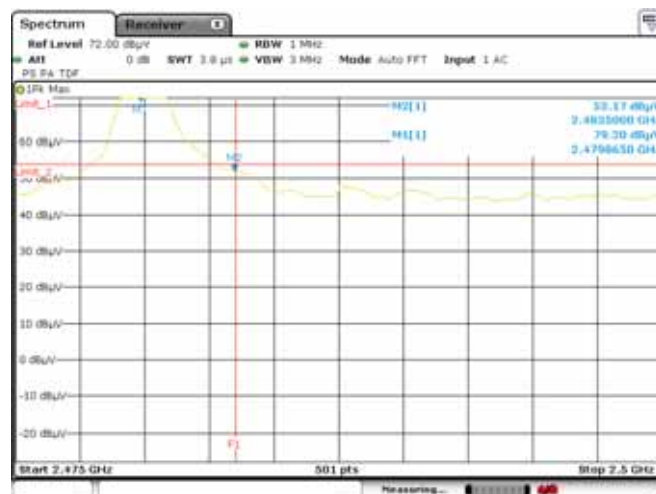
Bandedge @ mode GFSK Ch0 Peak



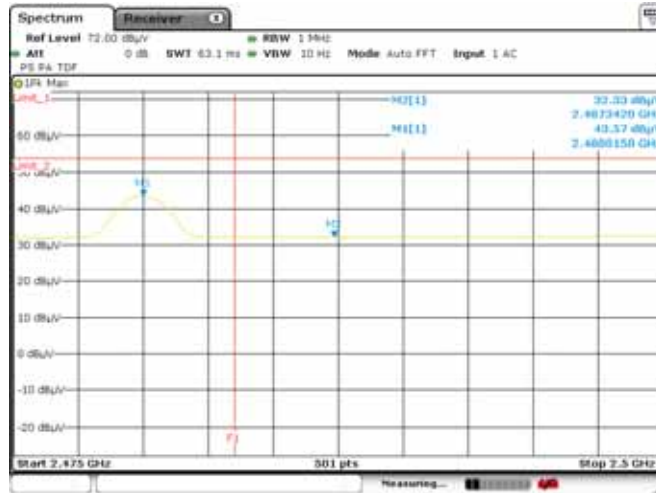
Bandedge @ mode GFSK Ch0 Average



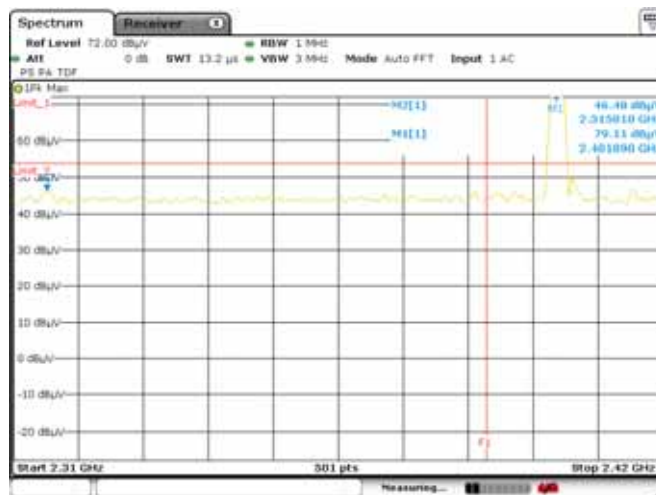
Bandedge @ mode GFSK Ch78 Peak



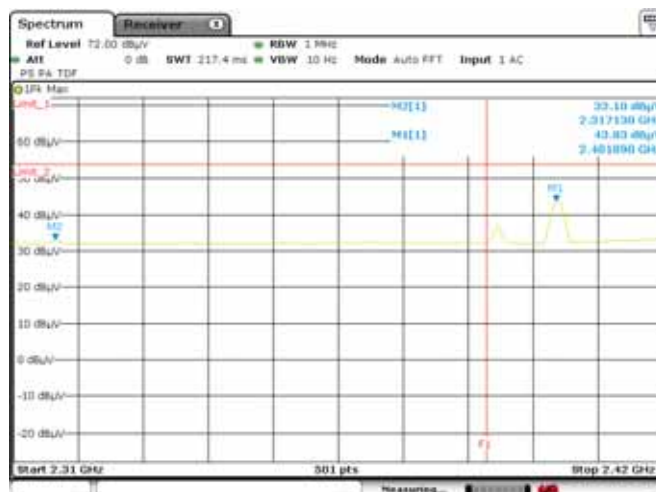
Bandedge @ mode GFSK Ch78 Average



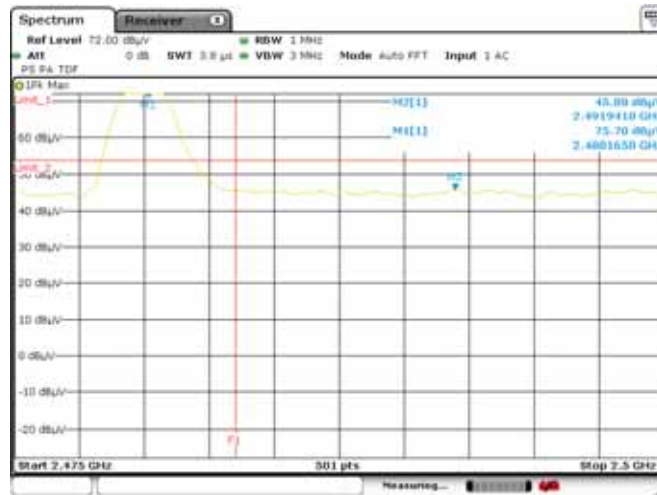
Bandedge @ mode $\pi/4$ -DQPSK Ch0 Peak



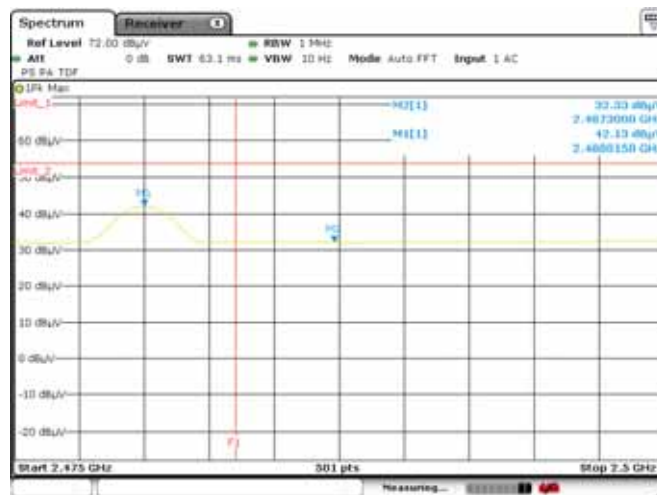
Bandedge @ mode $\pi/4$ -DQPSK Ch0 Average



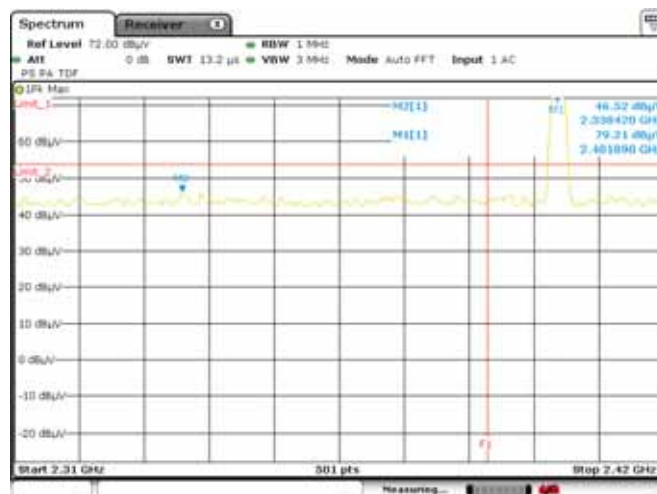
Bandedge @ mode $\pi/4$ -DQPSK Ch78 Peak



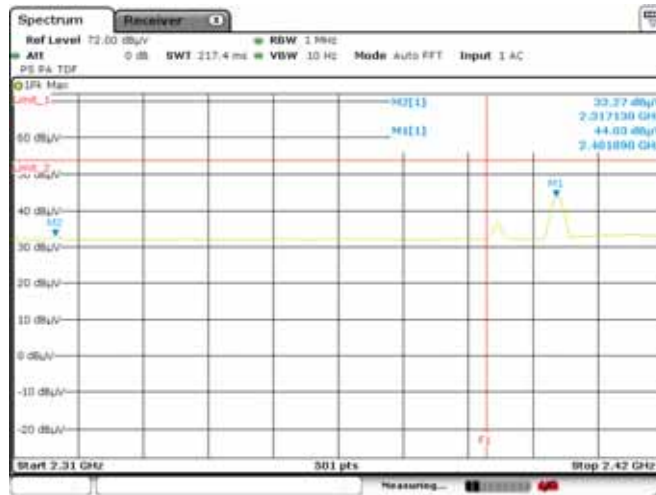
Bandedge @ mode $\pi/4$ -DQPSK Ch78 Average



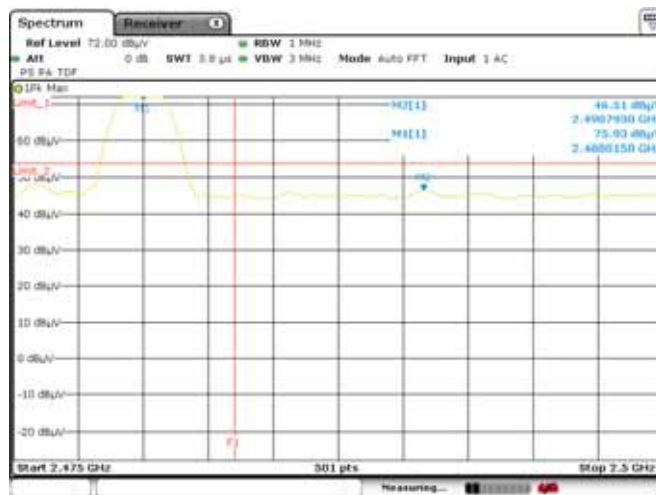
Bandedge @ mode 8DPSK Ch0 Peak



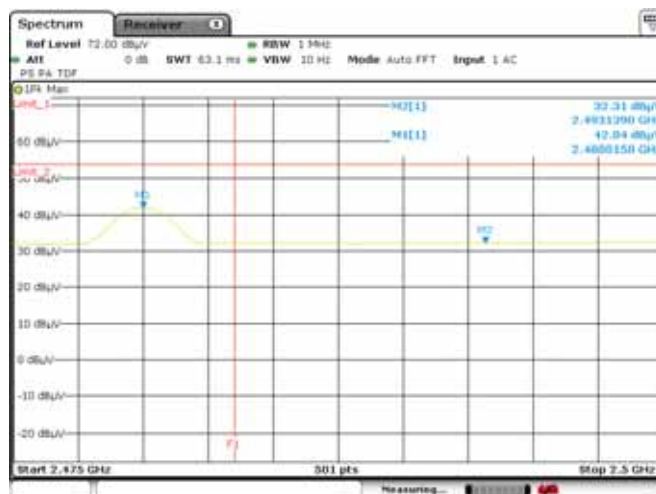
Bandedge @ mode 8DPSK Ch0 Average



Bandedge @ mode 8DPSK Ch78 Peak



Bandedge @ mode 8DPSK Ch78 Average



6. AC Power Line Conducted Emission

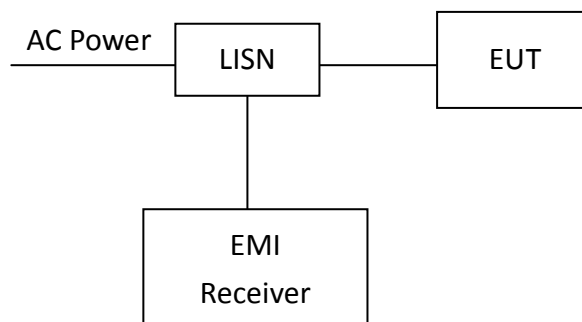
6.1 Measuring instrument setting

| Receiver Function | Setting |
|-------------------|---------|
| Detector | QP |
| Start frequency | 0.15MHz |
| Stop frequency | 30MHz |
| IF bandwidth | 9 kHz |
| Attenuation | 10dB |

6.2 Test Procedure

| | |
|--------|---|
| Step 1 | Configure the EUT according to ANSI C63.10:2013. The EUT or host of EHT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface. |
| Step 2 | Connect EUT or host of EUT to the power mains through a line impedance stabilization network. |
| Step 3 | All the companion devices are connected to the other LISN. The LISN should provide 50Uh/50ohms coupling impedance. |
| Step 4 | The frequency range from 150 kHz to 30MHz was searched. |
| Step 5 | Set the test-receiver system to peak detector and specified bandwidth with maximum hold mode. |
| Step 6 | The measurement has to be done between each power line and ground at the power terminal. |

6.3 Test Diagram



6.4 Limit

| Frequency (MHz) | Conducted Limit (dBuV) | |
|--------------------|------------------------|---------|
| | Q.P. | Ave. |
| 0.15~0.50 | 66 – 56 | 56 – 46 |
| 0.50~5.00 | 56 | 46 |
| 5.00~30.0 | 60 | 50 |

6.5 Operating Environment Condition

| | |
|------------------------------|------------|
| Temperature () : | 26 |
| Relative Humidity (%) : | 68 |
| Atmospheric Pressure (hPa) : | 1010 |
| Test Date : | 2018/04/27 |

TEST REPORT

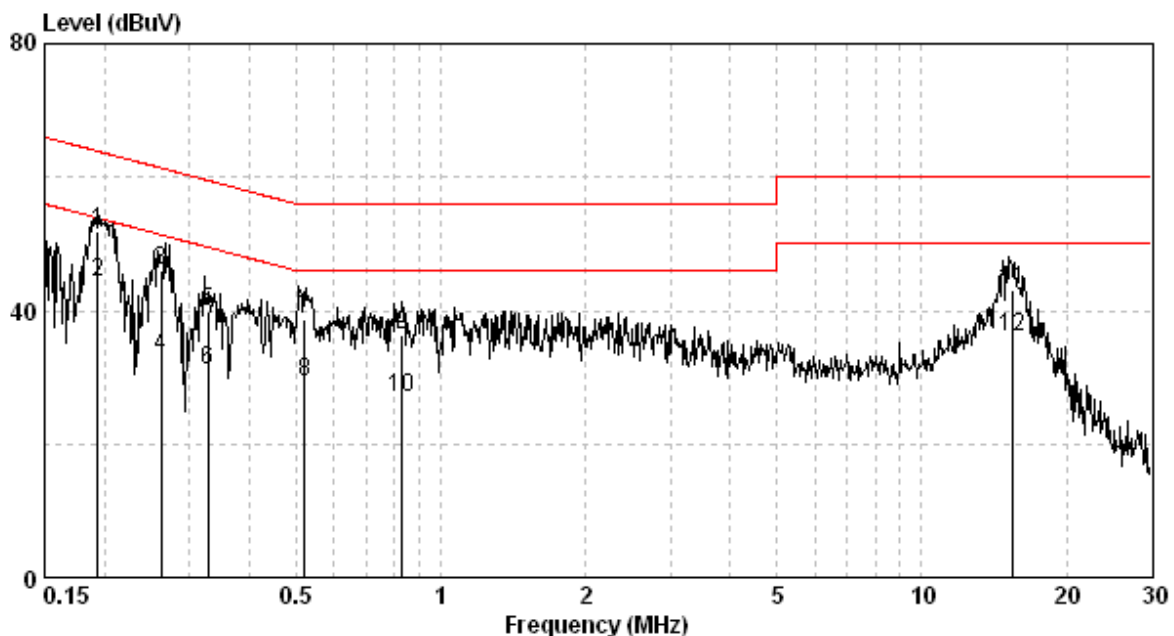
6.6 Test Results

Phase: Live Line
 Model No.: PLTN-TC1VS
 Test Condition: Tx mode

| Frequency (MHz) | Corr. Factor (dB) | Reading QP (dBuV) | Level QP (dBuV) | Limit QP (dBuV) | Reading AV (dBuV) | Level AV (dBuV) | Limit AV (dBuV) | Margin (dB) | |
|-----------------|-------------------|-------------------|-----------------|-----------------|-------------------|-----------------|-----------------|-------------|--------|
| | | | | | | | | QP | AV |
| 0.193 | 9.34 | 42.65 | 51.99 | 63.89 | 34.96 | 44.30 | 53.89 | -11.90 | -9.59 |
| 0.262 | 9.35 | 36.70 | 46.05 | 61.38 | 23.87 | 33.22 | 51.38 | -15.33 | -18.16 |
| 0.329 | 9.36 | 30.55 | 39.90 | 59.49 | 21.75 | 31.11 | 49.49 | -19.58 | -18.38 |
| 0.521 | 9.38 | 29.39 | 38.77 | 56.00 | 19.83 | 29.21 | 46.00 | -17.23 | -16.79 |
| 0.830 | 9.40 | 26.95 | 36.35 | 56.00 | 17.67 | 27.07 | 46.00 | -19.65 | -18.93 |
| 15.470 | 9.54 | 33.51 | 43.05 | 60.00 | 26.59 | 36.13 | 50.00 | -16.95 | -13.87 |

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)



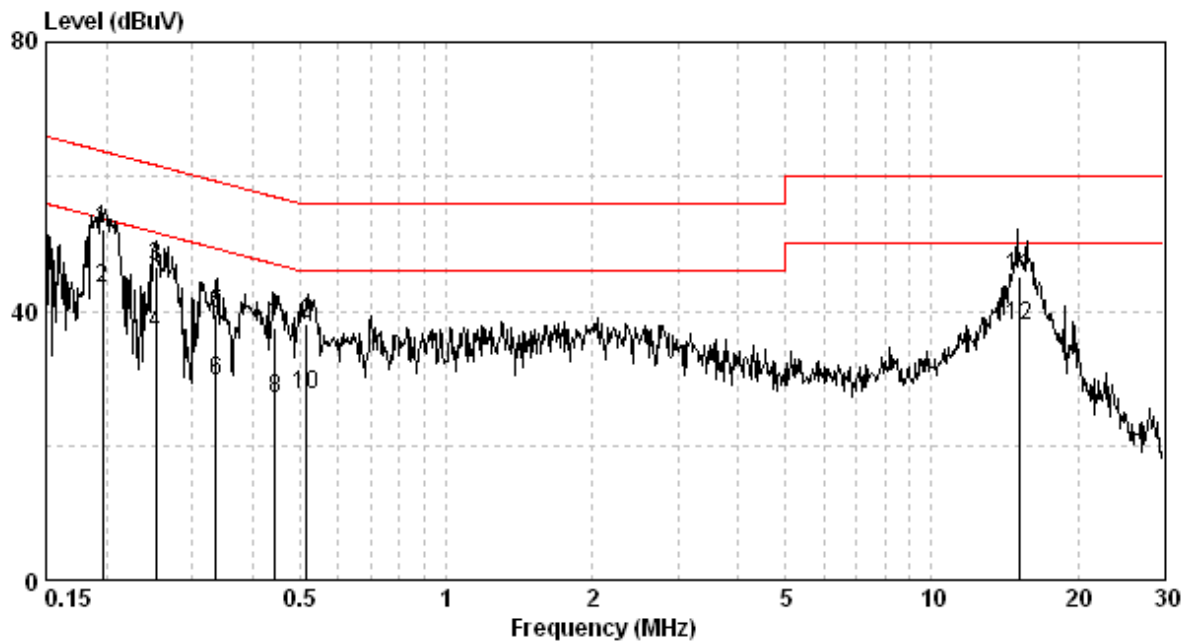
TEST REPORT

Phase: Neutral Line
 Model No.: PLTN-TC1VS
 Test Condition: Tx mode

| Frequency (MHz) | Corr. Factor (dB) | Reading QP (dBuV) | Level QP (dBuV) | Limit QP (dBuV) | Reading AV (dBuV) | Level AV (dBuV) | Limit AV (dBuV) | Margin (dB) | |
|-----------------|-------------------|-------------------|-----------------|-----------------|-------------------|-----------------|-----------------|-------------|--------|
| | | | | | | | | QP | AV |
| 0.197 | 9.60 | 42.49 | 52.09 | 63.76 | 33.75 | 43.35 | 53.76 | -11.66 | -10.41 |
| 0.252 | 9.61 | 37.02 | 46.63 | 61.69 | 26.88 | 36.48 | 51.69 | -15.06 | -15.20 |
| 0.336 | 9.61 | 30.09 | 39.70 | 59.31 | 20.03 | 29.64 | 49.31 | -19.61 | -19.67 |
| 0.444 | 9.62 | 27.86 | 37.48 | 56.98 | 17.23 | 26.85 | 46.98 | -19.50 | -20.13 |
| 0.516 | 9.62 | 28.52 | 38.15 | 56.00 | 17.89 | 27.51 | 46.00 | -17.85 | -18.49 |
| 15.146 | 9.85 | 35.19 | 45.04 | 60.00 | 27.81 | 37.66 | 50.00 | -14.96 | -12.34 |

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)



Appendix A: Test equipment list

| Test Equipment/ Test site | Brand | Model No. | Serial No. | Calibration Date | Next Calibration Date |
|--------------------------------|-----------------|---------------------|-------------|---------------------|-----------------------------|
| ESCI EMI Test Receiver | Rohde & Schwarz | ESCI | 100018 | 2017/11/21 | 2018/11/20 |
| Spectrum Analyzer | Rohde & Schwarz | FSP30 | 100245 | 2018/02/23 | 2019/02/22 |
| Horn Antenna (1-18G) | SHWARZBECK | BBHA 9120 D | 9120D-456 | 2018/01/23 | 2019/01/22 |
| Horn Antenna (14-42G) | SHWARZBECK | BBHA 9170 | BBHA9170159 | 2017/09/04 | 2020/09/02 |
| Broadband Antenna | SHWARZBECK | VULB 9168 | 9168-172 | 2017/04/05 | 2018/04/04 |
| Broadband Antenna | SHWARZBECK | VULB 9168 | 9168-172 | 2018/04/23 | 2019/04/22 |
| Pre-Amplifier | EMC Co. | EMC12635SE | 980205 | 2017/11/28 | 2018/11/27 |
| Pre-Amplifier | MITEQ | JS4-26004000--27-8A | 828825 | 2017/08/23 | 2018/08/22 |
| Power Meter | Anritsu | ML2495A | 0844001 | 2017/10/18 | 2018/10/17 |
| Power Sensor | Anritsu | MA2411B | 0738452 | 2017/05/23 | 2018/05/22 |
| Signal Analyzer | Agilent | N9030A | MY51380492 | 2017/08/29 | 2018/08/28 |
| 966-2(A) Cable 9kHz~26.5GHz | SUHNER | SMA / EX 100 | N/A | 2017/08/15 | 2018/08/14 |
| 966-2(B) Cable 9kHz~26.5GHz | SUHNER | SUCOFLEX 104P | CB0005 | 2017/08/15 | 2018/08/14 |
| RF Cable 9kHz~26.5GHz | SUHNER | SUCOFLEX 102 | CB0006 | 2017/05/04 | 2018/05/03 |

Note: No Calibration Required (NCR).

| Test Equipment/ Test site | Brand | Model No. | Serial No. | Calibration Date | Next Calibration Date |
|--------------------------------------|--------------------------------|----------------------|-------------|---------------------|-----------------------------|
| 966-2_3m Semi-Anechoic Chamber | 966_2 | CEM-966_2 | N/A | 2017/03/29 | 2018/03/28 |
| 966-2_3m Semi-Anechoic Chamber | 966_2 | CEM-966_2 | N/A | 2018/03/28 | 2019/03/27 |
| High Pass Filter | Wainwright | WHKX3.0/ 18G-12SS | N/A | 2017/06/02 | 2018/06/01 |
| Active Loop Antenna | SCHWARZBECK MESS-ELEKTRONIC | FMZB1519 | 1519-067 | 2017/03/30 | 2018/03/29 |
| Active Loop Antenna | SCHWARZBECK MESS-ELEKTRONIC | FMZB1519 | 1519-067 | 2018/04/17 | 2019/04/16 |
| EMI Receiver | R&S | ESCI | 100059 | 2017/11/13 | 2018/11/12 |
| Two-Line V-Network | R&S | ENV216 | 101159 | 2017/06/03 | 2018/06/02 |
| Two-Line -V-Network | R&S | ESH3-Z5 | 825562/003 | 2017/09/04 | 2018/09/03 |
| CON-1 Shielded Room | N/A | N/A | N/A | NCR | NCR |
| CON-1 Cable | SUHNER | SUCOFLEX-104 | 26438414 | 2018/05/03 | 2019/05/02 |
| Test software | Audix | e3 | 4.20040112L | NCR | NCR |

Note: No Calibration Required (NCR).

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k=2$.

| Item | Uncertainty |
|--|-------------|
| Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m | 5.14 dB |
| Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m | 5.22 dB |
| Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m | 3.64 dB |
| Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m | 3.64 dB |
| Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m | 2.68 dB |
| Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m | 2.68 dB |
| Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m | 3.54 dB |
| Emission on the Band Edge Test | 3.64 dB |
| 20dB Bandwidth | 1.22 dB |
| AC Power Line Conducted Emission | 2.48 dB |