


| | | | | |
|---|---|---|--|--------------------------------|
| Prüfbericht-Nr.: Test report no.: | CN21BLDK 002 | Auftrags-Nr.: Order no.: | 244342625 | Seite 1 von 98 Page 1 of 98 |
| Kunden-Referenz-Nr.: Client reference no.: | P00338203 | Auftragsdatum: Order date: | 2021-06-29 | |
| Auftraggeber: Client: | Beijing Roborock Technology Co., Ltd. Floor 6, Suite 6016, 6017, 6018, Building C, Kangjian Baosheng Plaza, No. 8 Heiquan Road, Haidian District, 100192 Beijing, P. R. China | | | |
| Prüfgegenstand: Test item: | Robotic Vacuum Cleaner | | | |
| Bezeichnung / Typ-Nr.: Identification / Type no.: | roborock S6 Pure, roborock S4 Max FCC ID:2AN20-RSW06 IC:23317-RSW06 | | | |
| Auftrags-Inhalt: Order content: | Complete test | | | |
| Prüfgrundlage: Test specification: | FCC CFR47 Part 15, Subpart C Section 15.247 RSS-Gen Issue 5, Amendment 2, February 2021 RSS-247 Issue 2, February 2017 ANSI C63.10: 2013 | | | |
| Wareneingangsdatum: Date of sample receipt: | 2021-07-06 |  | | |
| Prüfmuster-Nr.: Test sample no.: | A003084721-004 | | | |
| Prüfzeitraum: Testing period: | Refer to test report | | | |
| Ort der Prüfung: Place of testing: | TÜV Rheinland (Shanghai) Co., Ltd. | | | |
| Prüflaboratorium: Testing laboratory: | TÜV Rheinland (Shanghai) Co., Ltd. | | | |
| Prüfergebnis*: Test result*: | Pass | | | |
| geprüft von: tested by: | <u>X Yanli Fan</u> | | | |
| Datum: Date: | 2021-09-23 <small>Signed by: Yanli Fan</small> | Ausstellungsdatum: Issue date: | 2021-09-23 <small>Signed by: Hongfei Wu</small> | |
| Stellung / Position: | PE/Yanli Fan | Stellung / Position: | Reviewer/Hongfei Wu | |
| Sonstiges / Other: | HVIN: 3181A-S The purpose of this report is to perform the C2PC tests since the host of the wireless module and antenna gain were changed, so only the related tests were performed. | | | |
| Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery: | Prüfmuster vollständig und unbeschädigt Test item complete and undamaged | | | |
| * Legende: | P(ass) = entspricht o.g. Prüfgrundlage(n) | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |
| * Legend: | P(ass) = passed a.m. test specification(s) | F(ail) = failed a.m. test specification(s) | N/A = not applicable | N/T = not tested |
| Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark. | | | | |

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.2.1 CONDUCTED EMISSION

RESULT: Pass

5.3.1 RADIATED BAND-EDGE

RESULT: Pass

5.3.2 RADIATED SPURIOUS EMISSION

RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

Null.

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Shanghai) Co., Ltd.
Shanghai TUV Rheinland Building No. 177, 178 Lane 777, West Guangzhong Rd, Jing'an District, Shanghai, China
The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 958801.

The Innovation, Science and Economic Development Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 2932F.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Due Date |
|-----------------------------------|-----------------|----------------------|------------|----------------|
| 3m modified semi-anechoic chamber | Frankonia | SAC3 | G1811378 | 2022-06-27 |
| Bilog antenna | Teseq | CBL 6112D | G1811425 | 2023-03-10 |
| EMI test receiver | Rohde & Schwarz | ESCI | G1811402 | 2021-09-18 |
| Spectrum analyser | Rohde & Schwarz | FSV40 | G1822702 | 2021-11-01 |
| Preamplifier | Taiwan EMCI | EMC184045SE | G1825372 | 2023-03-06 |
| Log periodic antenna | Rohde & Schwarz | HL050 | G1811417 | 2023-03-10 |
| Broadband Horn Antenna | Schwarzbeck | BBHA 9170 | 9170-305 | 2023-07-08 |
| Preamplifier | Taiwan EMCI | EMC051845SE | G1825371 | 2023-03-06 |
| Spectrum Analyzer | Keysight | N9020A | MY54500180 | 2021-09-08 |
| Thermohygrometer | Testo | 608-H1 | 1241320614 | 2021-10-13 |
| EMI test receiver | R&S | ESIB26 | G1811380 | 2023-03-06 |
| Artificial main network | R&S | ENV432 | G1830003 | 2022-11-01 |
| EMC measurement software | R&S | EMC32 (Ver 10.20.01) | G1824845 | N/A |

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

| Measurement Type | Frequency | Uncertainty |
|---------------------------------|----------------|-------------|
| Antenna Port Conducted Emission | < 1GHz | ±0.39dB |
| | > 1GHz | ±0.68dB |
| Conducted Emission | 150kHz - 30MHz | ±3.39dB |
| Radiated Emission | 9kHz - 30MHz | ±2.93dB |
| | 30MHz - 1GHz | ±5.34dB |
| | > 1GHz | ±5.40dB |

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a Robotic Vacuum Cleaner which supports Wi-Fi.

The aim of this report is to evaluate the RF characteristic of the Wi-Fi Part of this EUT.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

| General Description of EUT | |
|----------------------------------|--|
| Product Name: | Robotic Vacuum Cleaner |
| Model No.: | roborock S6 Pure, roborock S4 Max |
| Rated Voltage: | DC 20V, 1.2A |
| Extreme operating temperature: | 4~40°C |
| Technical Specification of W-LAN | |
| Frequency Range: | 2412~2462MHz |
| Modulation Type: | DSSS (CCK, DQPSK, DBPSK) OFDM (QPSK/BPSK/16QAM/64QAM) |
| Antenna Type: | Internal antenna |
| Antenna Gain: | 3.87 dBi |
| Receiver Category: | 1 |

3.3 Independent Operation Modes

Table 4: Independent Operation Modes

| Test Mode Tx | Operating Mode | Channel Number | Channel Frequency [MHz] |
|-----------------|----------------|----------------|----------------------------|
| TM1 | 802.11b | 1 | 2412 |
| TM2 | 802.11b | 6 | 2437 |
| TM3 | 802.11b | 11 | 2462 |
| TM4 | 802.11g | 1 | 2412 |
| TM5 | 802.11g | 6 | 2437 |
| TM6 | 802.11g | 11 | 2462 |
| TM7 | 802.11n-HT20 | 1 | 2412 |
| TM8 | 802.11n-HT20 | 6 | 2437 |
| TM9 | 802.11n-HT20 | 11 | 2462 |
| TM10 | Normal | | |

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

Null.

4.4 Countermeasures to achieve EMC Compliance

Null.

5. Test Results

5.1 Conducted Testing at Antenna Port

5.1.1 Antenna Requirement

RESULT: **Pass**

According to the manufacturer declared, the EUT has one internal antenna, the directional gain of antenna is 3.87 dBi and the antenna is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Table 5: Antenna Requirement

FCC 15.203 – Antenna Requirement 1

| | | |
|--------------|---|------------------|
| Requirement: | No antenna other than that furnished by the responsible party shall be used with the device | |
| Results: | Antenna type: | Internal antenna |
| Verdict: | Pass | |

FCC 15.204 – Antenna Requirement 2

| | | |
|--------------|--|--|
| Requirement: | An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator. | |
| Results: | Only one internal antenna can be used | |
| Verdict: | Pass | |

RSS-Gen 6.4 – External Control

| | | |
|--------------|--|--|
| Requirement: | The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the regulatory requirements, including RSS-Gen and the applicable RSSs | |
| Results: | The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard. | |
| Verdict: | PASS | |

RSS-Gen 6.8 – Antenna Requirement

Requirement: When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

Results:

| | |
|--|------------------|
| a) Antenna Type: | Internal antenna |
| b) Manufacture: | N/A |
| c) Model No.: | N/A |
| d) Gain with reference to an isotropic radiator: | 3.87 dBi |

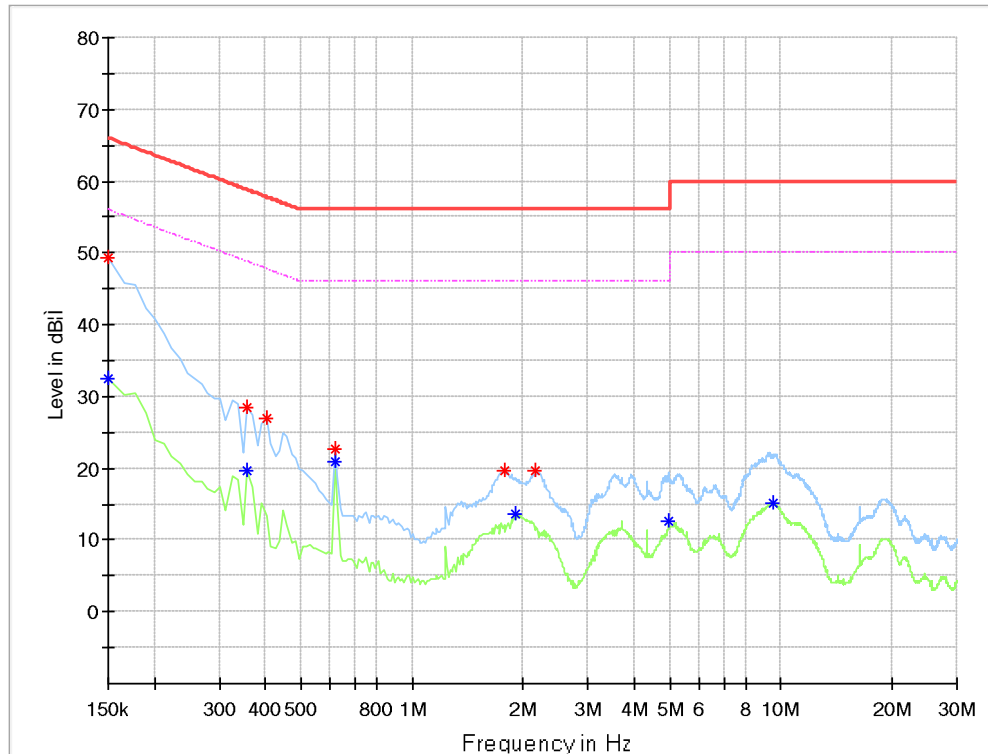
Verdict: PASS

5.2 Emission in the Frequency Range up to 30MHz

5.2.1 Conducted Emission

RESULT:**Pass**

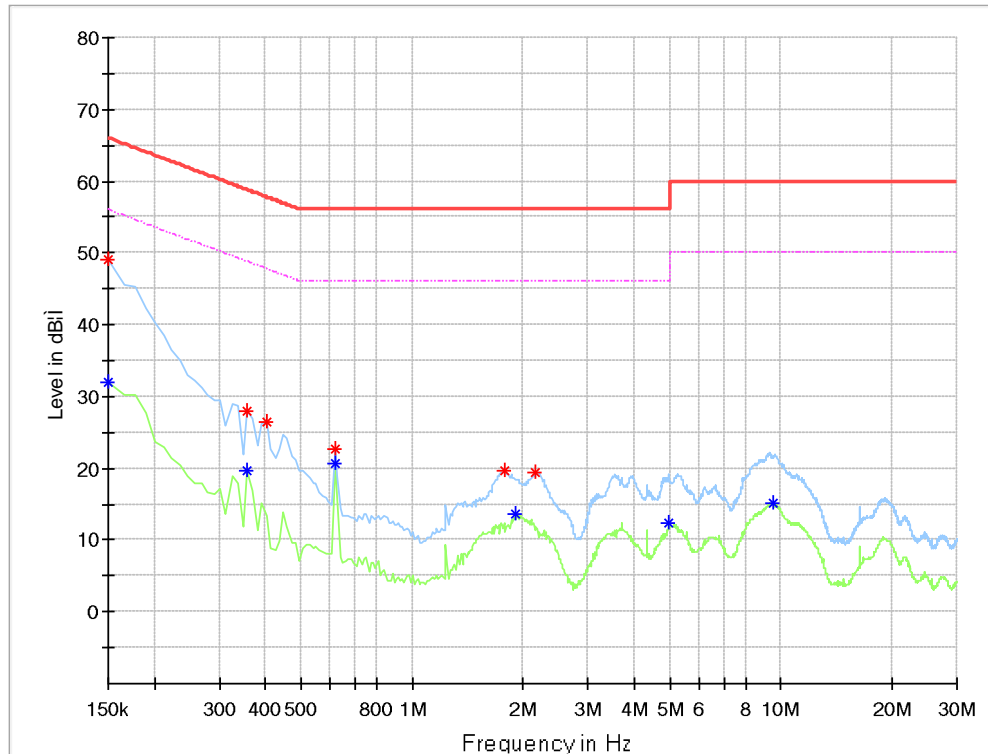
| | | |
|----------------------|---|--|
| Date of testing | : | 2021-08-20 |
| Ambient temperature | : | 26.1°C |
| Relative humidity | : | 32.7% |
| Atmospheric pressure | : | 101kPa |
| Test requirement | : | FCC Part 15.207 (a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.8 |
| Test procedure | : | ANSI C63.10: 2013 |
| Test voltage | : | AC 120V/60Hz |
| Test modes applied | : | TM10 |

Figure 1: Conducted Emission, L

Final_Result_QPK

| Frequency (MHz) | QuasiPeak (dB μ V) | Limit (dB μ V) | Margin (dB) | Line |
|-----------------|------------------------|--------------------|-------------|------|
| 0.150000 | 49.43 | 66.00 | 16.57 | L |
| 0.358125 | 28.35 | 58.77 | 30.42 | L |
| 0.403125 | 26.91 | 57.79 | 30.88 | L |
| 0.616875 | 22.69 | 56.00 | 33.31 | L |
| 1.775625 | 19.61 | 56.00 | 36.39 | L |
| 2.169375 | 19.54 | 56.00 | 36.46 | L |

Final_Result_CAV

| Frequency (MHz) | CAverage (dB μ V) | Limit (dB μ V) | Margin (dB) | Line |
|-----------------|-----------------------|--------------------|-------------|------|
| 4.948125 | 12.51 | 46.00 | 33.49 | L |
| 1.910625 | 13.58 | 46.00 | 32.42 | L |
| 9.526875 | 15.19 | 50.00 | 34.81 | L |
| 0.358125 | 19.56 | 48.77 | 29.21 | L |
| 0.616875 | 20.84 | 46.00 | 25.16 | L |
| 0.150000 | 32.41 | 56.00 | 23.59 | L |

Figure 2: Conducted Emission, N

Final_Result_QPK

| Frequency (MHz) | QuasiPeak (dBμV) | Limit (dBμV) | Margin (dB) | Line |
|-----------------|------------------|--------------|-------------|------|
| 0.150000 | 49.08 | 66.00 | 16.92 | N |
| 0.358125 | 28.08 | 58.77 | 30.69 | N |
| 0.403125 | 26.55 | 57.79 | 31.24 | N |
| 0.616875 | 22.59 | 56.00 | 33.41 | N |
| 1.775625 | 19.61 | 56.00 | 36.39 | N |
| 2.169375 | 19.48 | 56.00 | 36.52 | N |

Final_Result_CAV

| Frequency (MHz) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Line |
|-----------------|-----------------|--------------|-------------|------|
| 4.948125 | 12.45 | 46.00 | 33.55 | N |
| 1.910625 | 13.51 | 46.00 | 32.49 | N |
| 9.526875 | 15.12 | 50.00 | 34.88 | N |
| 0.358125 | 19.56 | 48.77 | 29.21 | N |
| 0.616875 | 20.79 | 46.00 | 25.21 | N |
| 0.150000 | 32.11 | 56.00 | 23.89 | N |

5.3 Emission in the Frequency Range above 30MHz

5.3.1 Radiated Band-Edge

RESULT:**Pass**

| | | |
|----------------------|---|---|
| Date of testing | : | 2021-07-27 |
| Ambient temperature | : | 26.1°C |
| Relative humidity | : | 32.7% |
| Atmospheric pressure | : | 101kPa |
| Test requirement | : | FCC Part 15.247(d) FCC Part 15.205(a) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.10 RSS-247 Issue 2, February 2017, Clause 5.5 |
| Test procedure | : | ANSI C63.10: 2013 |
| Test voltage | : | AC 120V/60Hz |
| Test modes applied | : | TM1, TM3, TM4, TM6, TM7, TM9 |

Figure 3: Radiated Band-Edge, TM1, H

RE_1-18GHz_HL050_FSV40_Pre

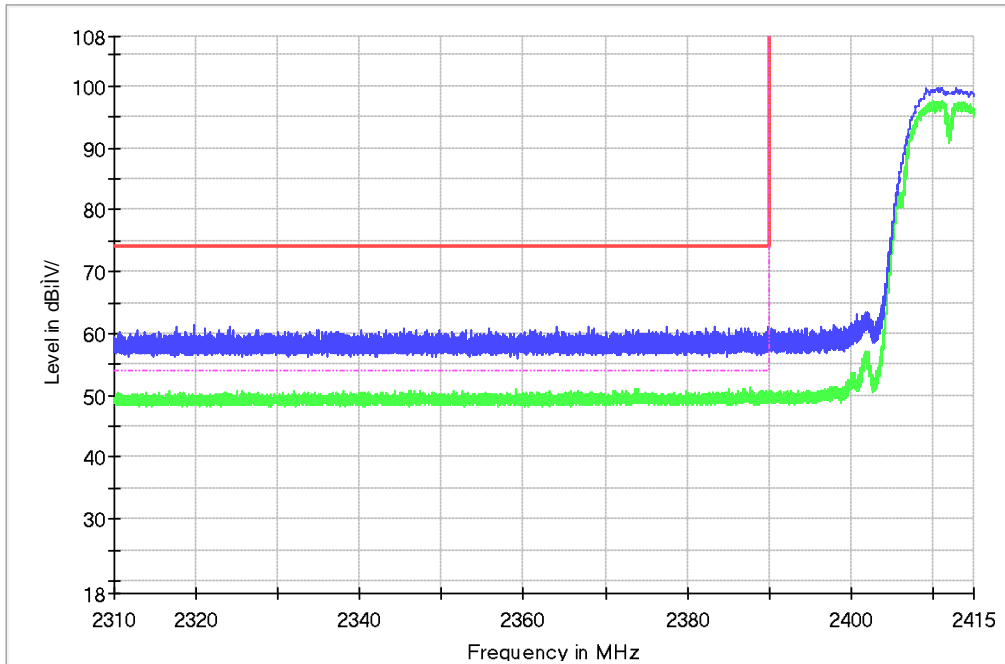


Figure 4: Radiated Band-Edge, TM1, V

RE_1-18GHz_HL050_FSV40_Pre

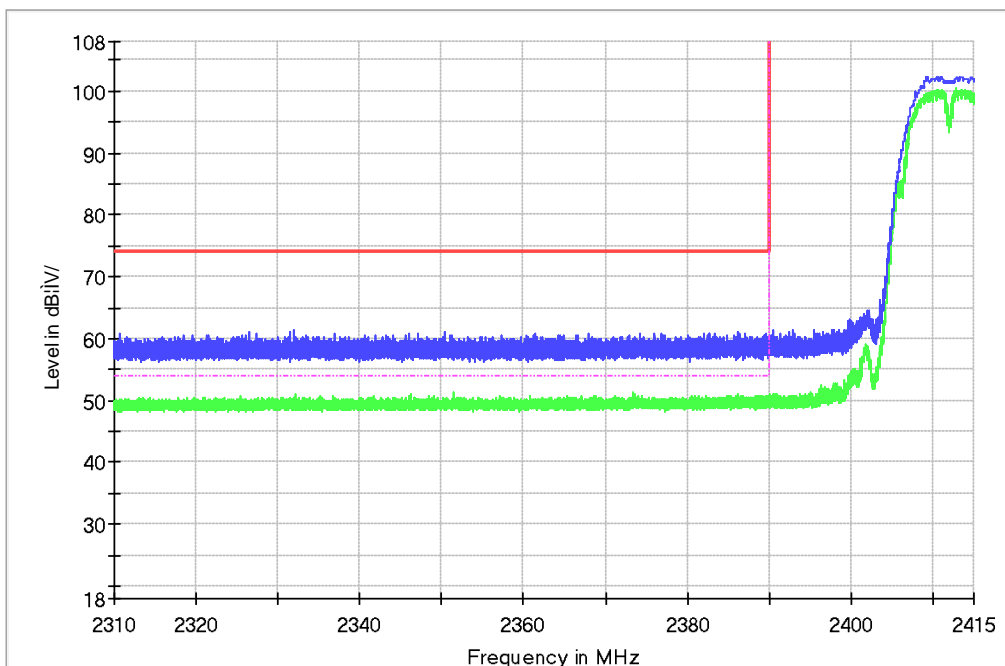


Figure 5: Radiated Band-Edge, TM3, H

RE_1-18GHz_HL050_FSV40_Pre

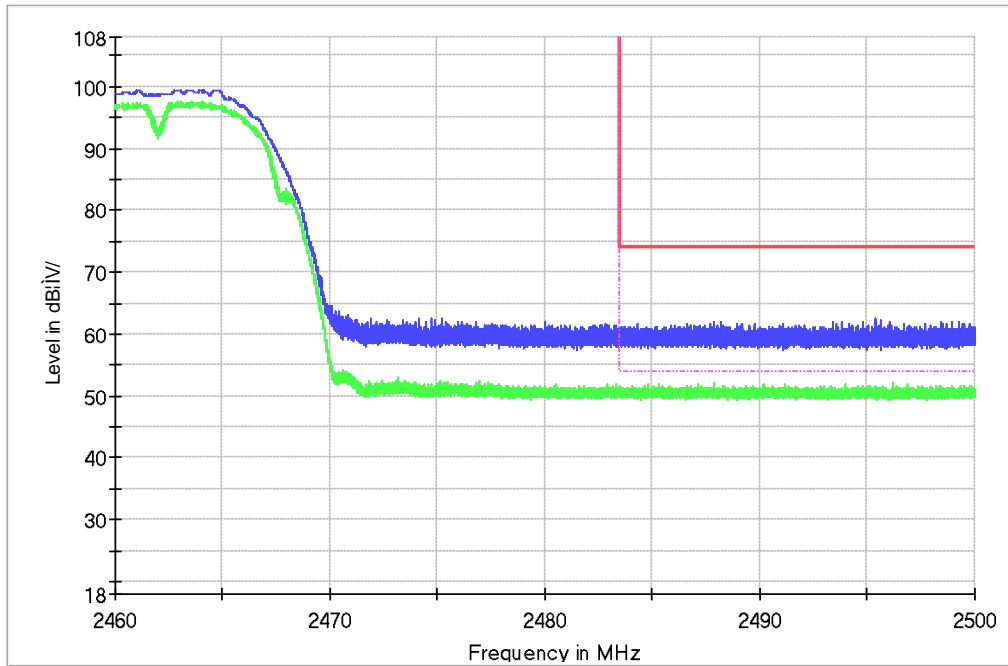


Figure 6: Radiated Band-Edge, TM3, V

RE_1-18GHz_HL050_FSV40_Pre

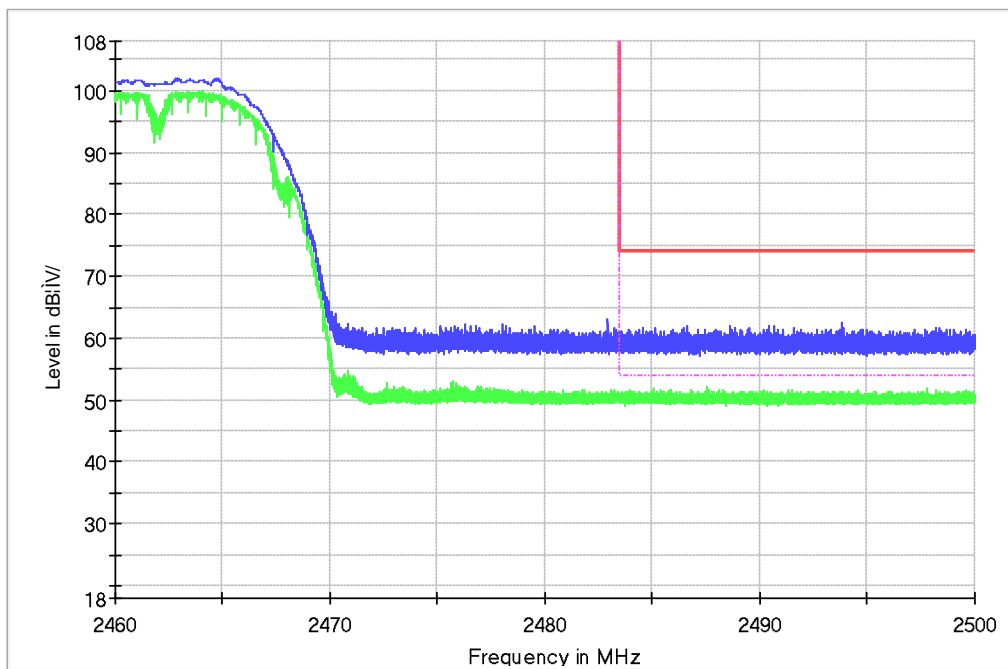
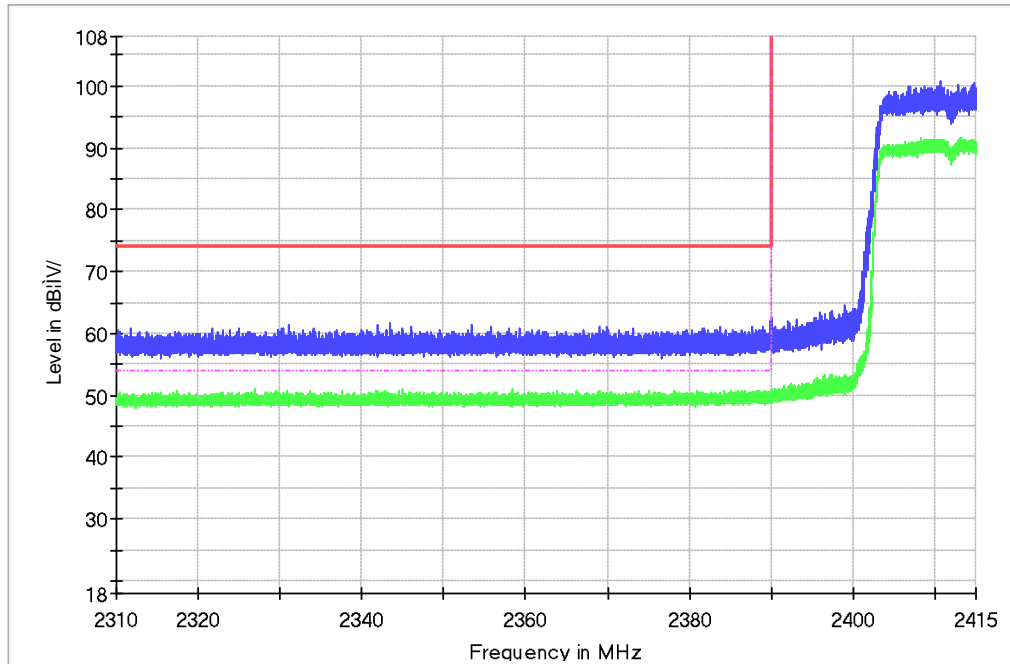


Figure 7: Radiated Band-Edge, TM4, H

RE_1-18GHz_HL050_FSV40_Pre


Figure 8: Radiated Band-Edge, TM4, V

RE_1-18GHz_HL050_FSV40_Pre

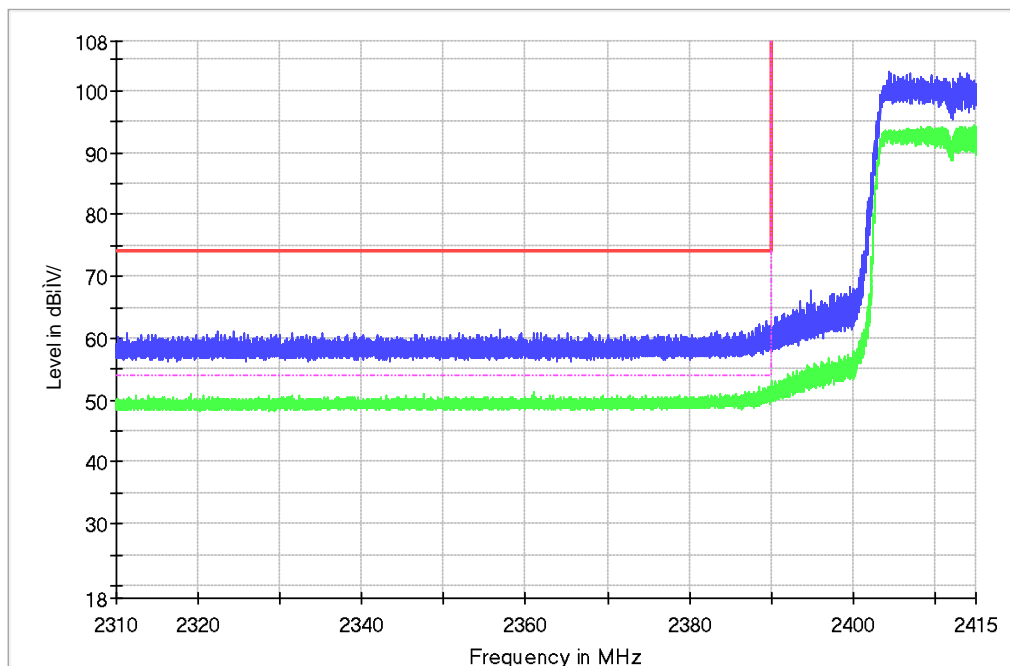
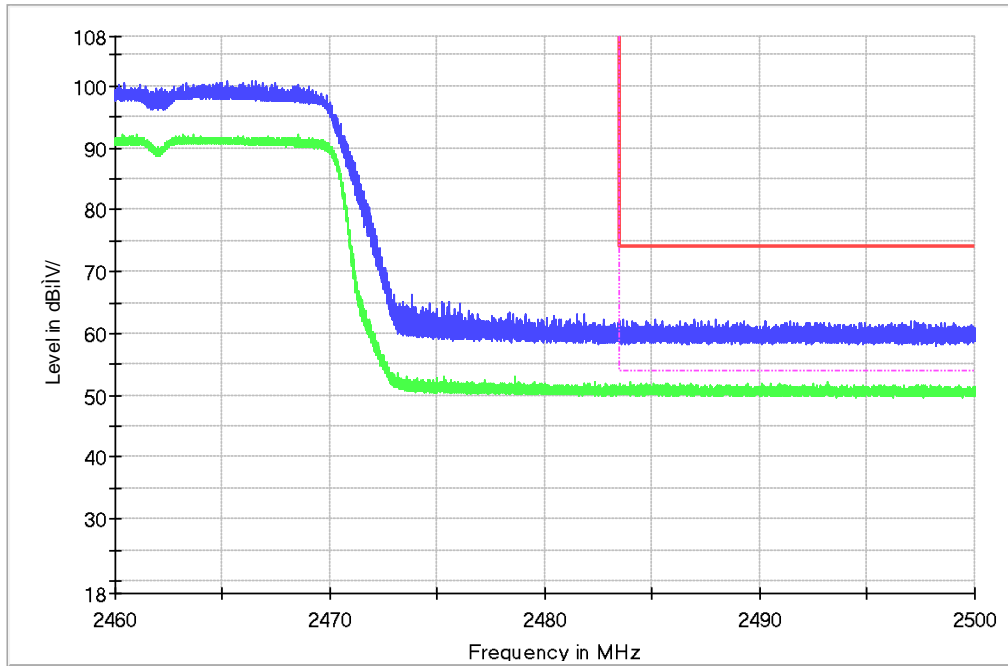


Figure 9: Radiated Band-Edge, TM6, H

RE_1-18GHz_HL050_FSV40_Pre


Figure 10: Radiated Band-Edge, TM6, V

RE_1-18GHz_HL050_FSV40_Pre

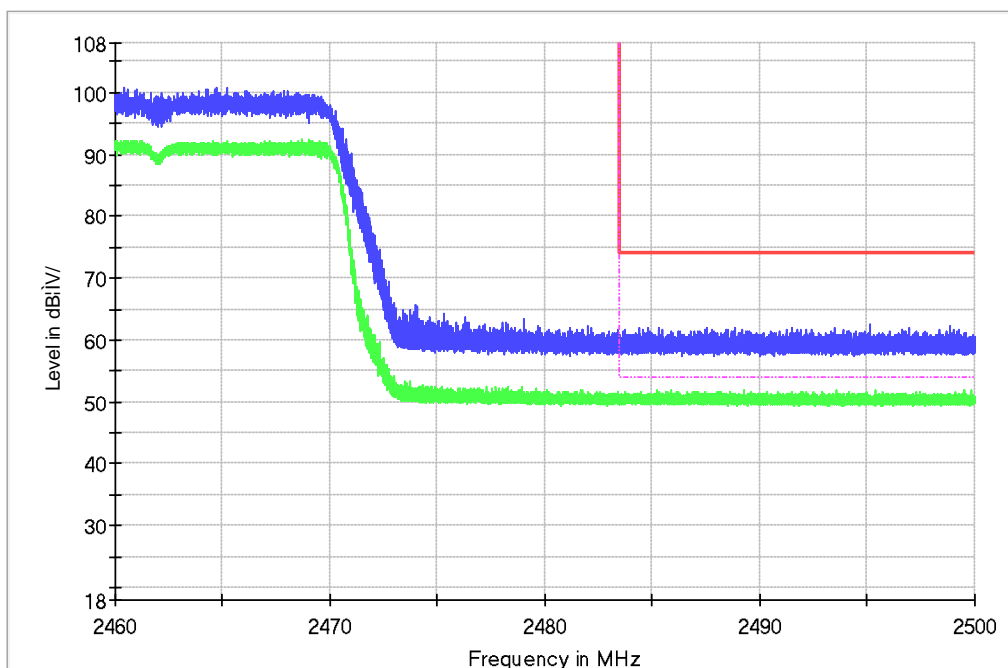
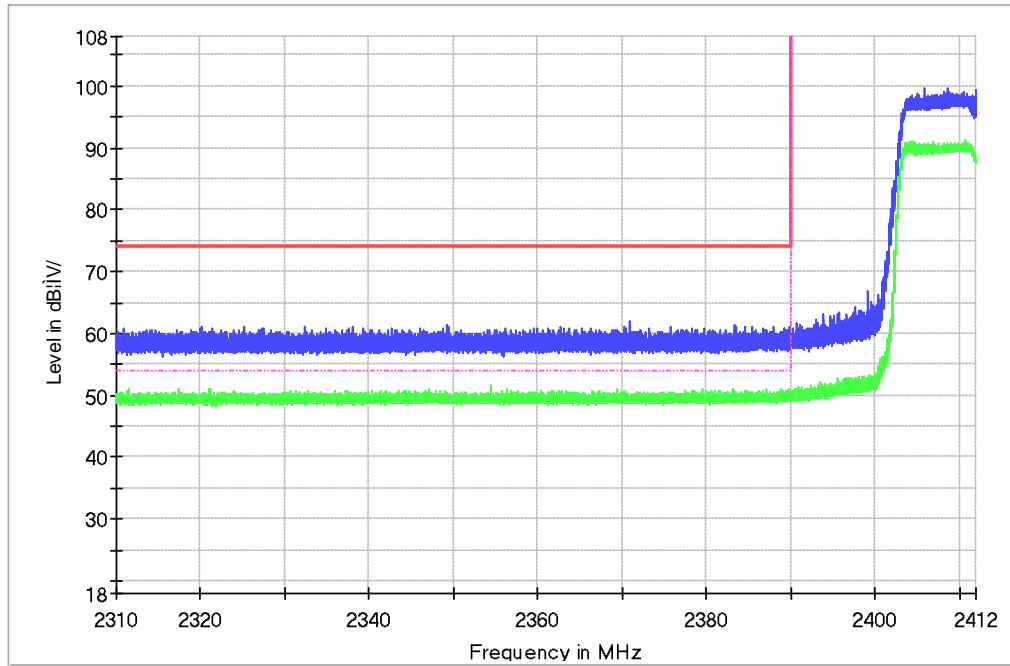


Figure 11: Radiated Band-Edge, TM7, H

RE_1-18GHz_HL050_FSV40_Pre


Figure 12: Radiated Band-Edge, TM7, V

RE_1-18GHz_HL050_FSV40_Pre

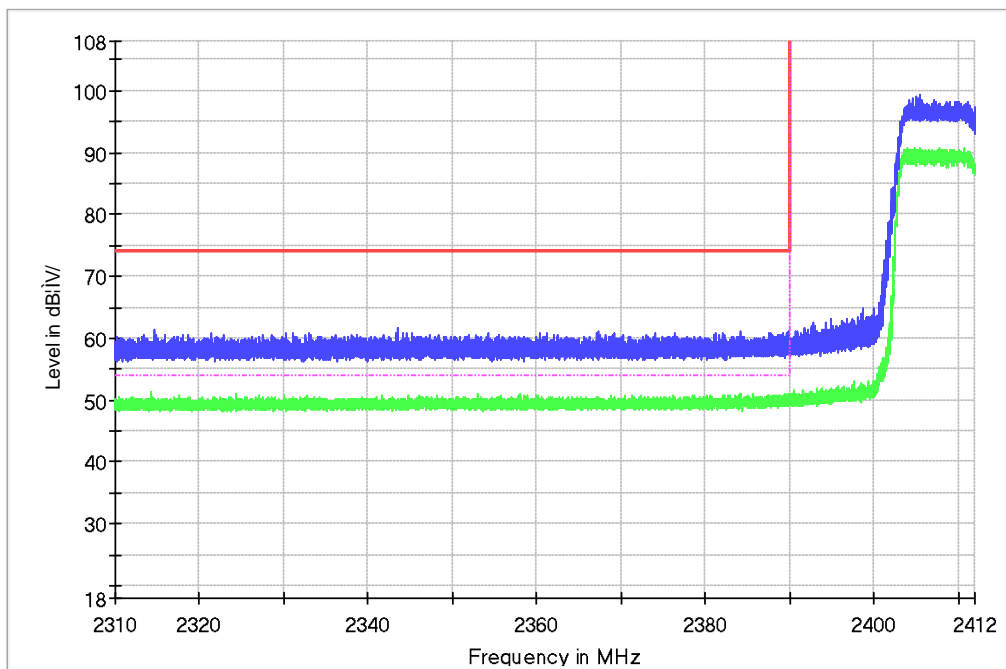
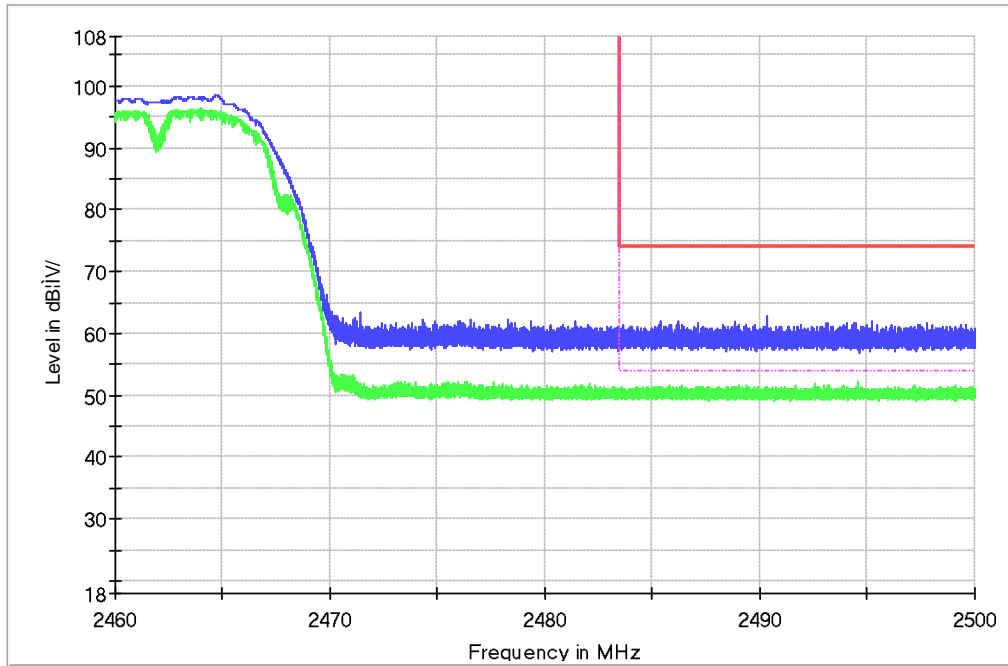
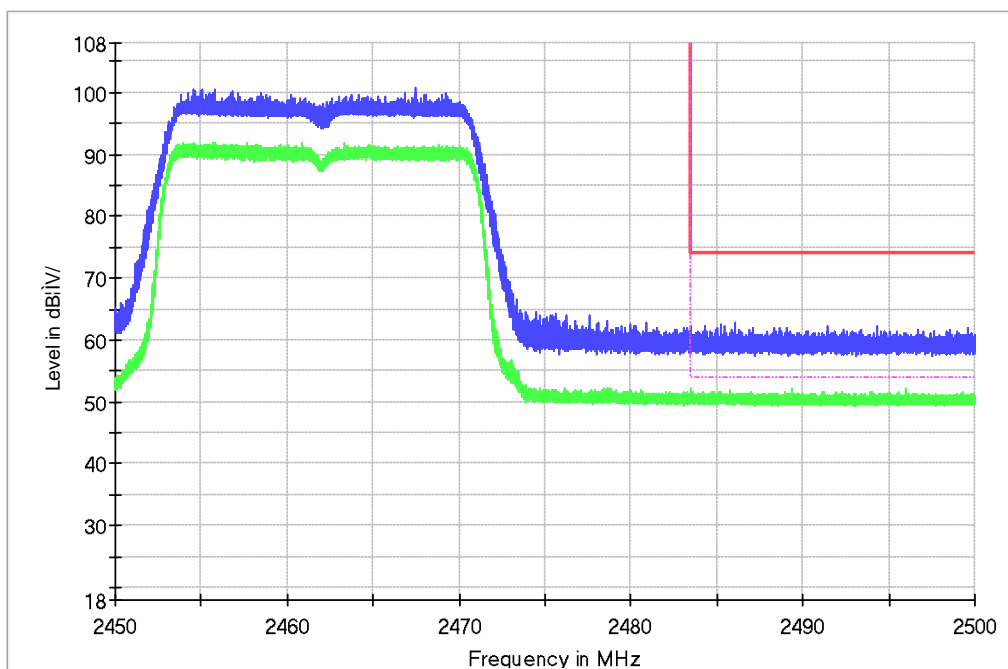


Figure 13: Radiated Band-Edge, TM9, H

RE_1-18GHz_HL050_FSV40_Pre


Figure 14: Radiated Band-Edge, TM9, V

RE_1-18GHz_HL050_FSV40_Pre



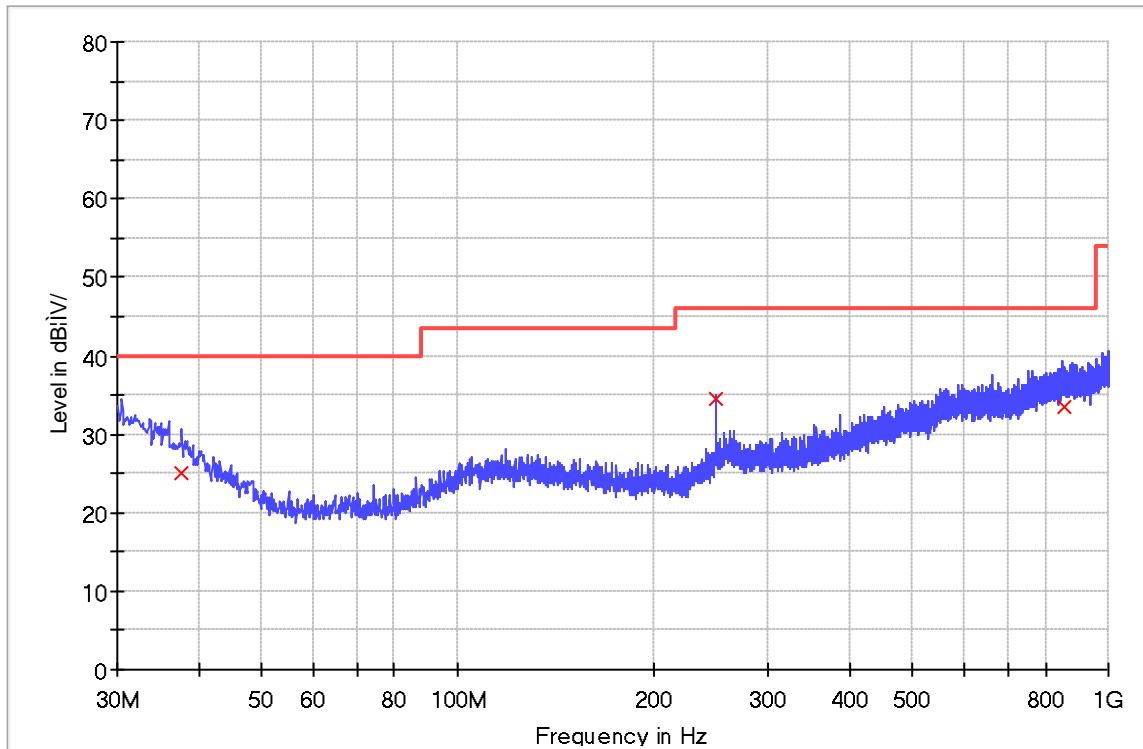
5.3.2 Radiated Spurious Emission

RESULT:**Pass**

| | | |
|----------------------|---|---|
| Date of testing | : | 2021-08-18 |
| Ambient temperature | : | 26.1°C |
| Relative humidity | : | 32.7% |
| Atmospheric pressure | : | 101kPa |
| Test requirement | : | FCC Part 15.247(d) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-247 Issue 2, February 2017, Clause 5.5 |
| Test procedure | : | ANSI C63.10: 2013 |
| Test voltage | : | AC 120V/60Hz |
| Test modes applied | : | TM1 to TM9 |

Figure 15: Radiated Spurious Emission, TM1, 30MHz to 1GHz, H

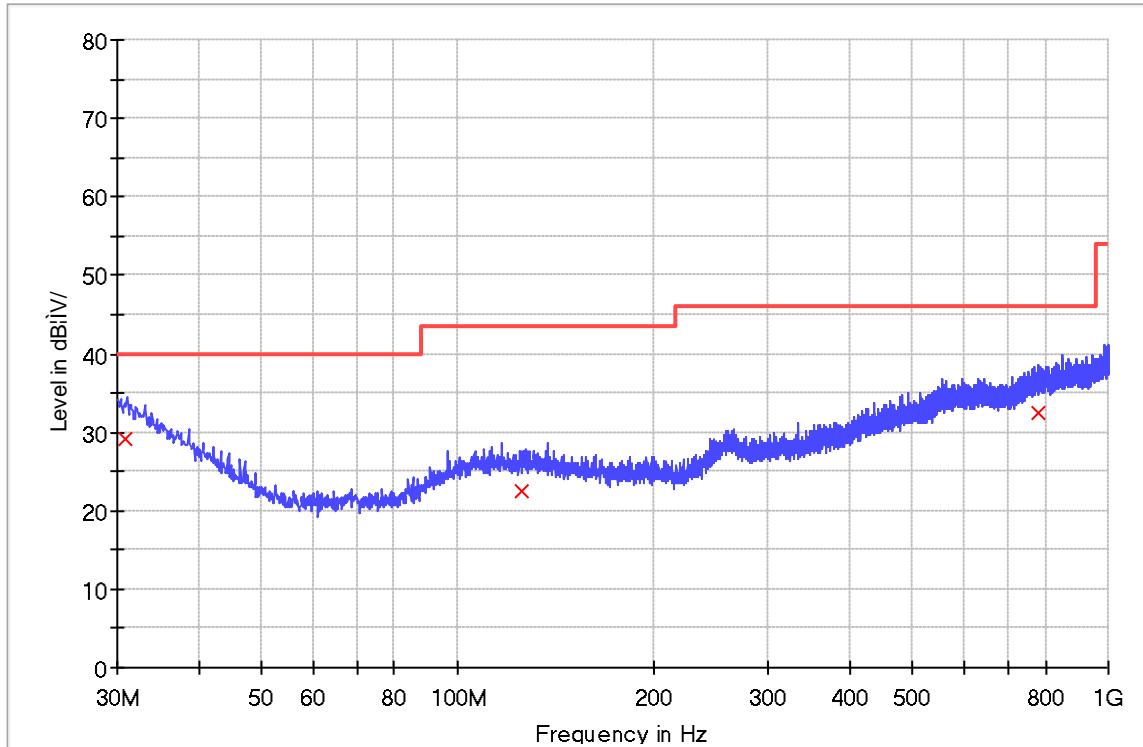
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 37.638750 | 25.2 | H | 21.2 | 14.8 | 40.0 |
| 249.947500 | 34.5 | H | 19.3 | 11.5 | 46.0 |
| 858.380000 | 33.5 | H | 28.0 | 12.5 | 46.0 |

Figure 16: Radiated Spurious Emission, TM1, 30MHz to 1GHz, V

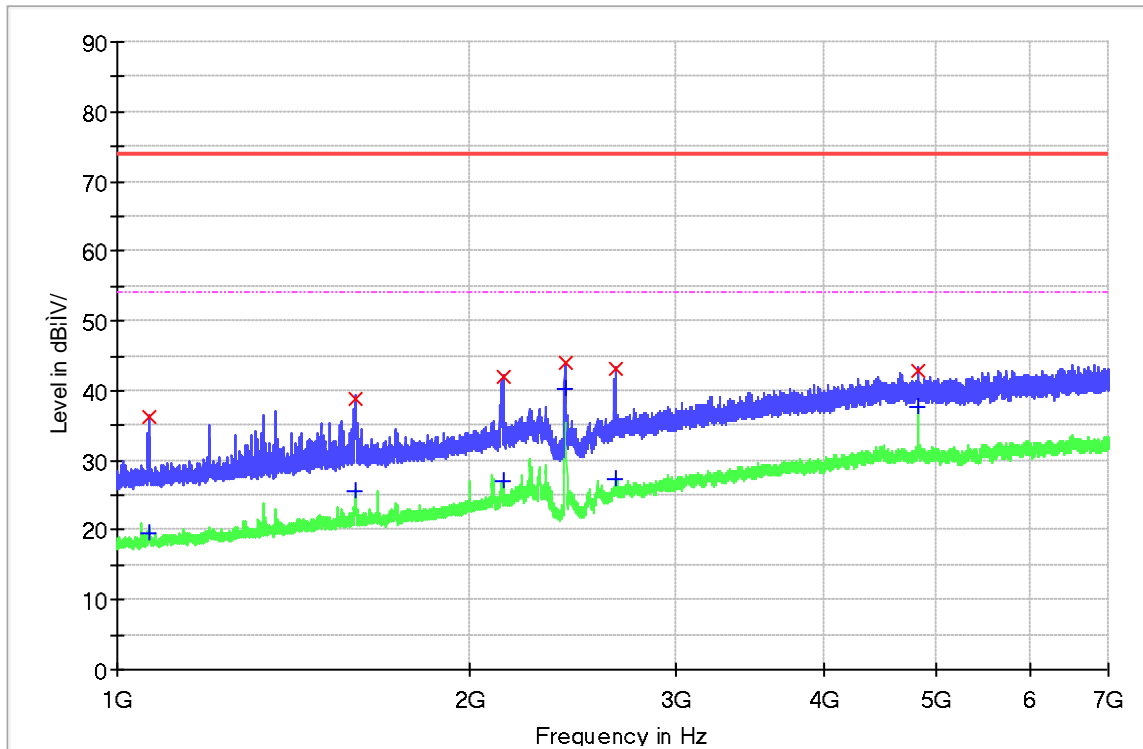
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 30.848750 | 29.1 | V | 25.0 | 10.9 | 40.0 |
| 125.060000 | 22.4 | V | 18.8 | 21.1 | 43.5 |
| 777.991250 | 32.5 | V | 27.2 | 13.5 | 46.0 |

Figure 17: Radiated Spurious Emission, TM1, 1GHz to 7GHz, H

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

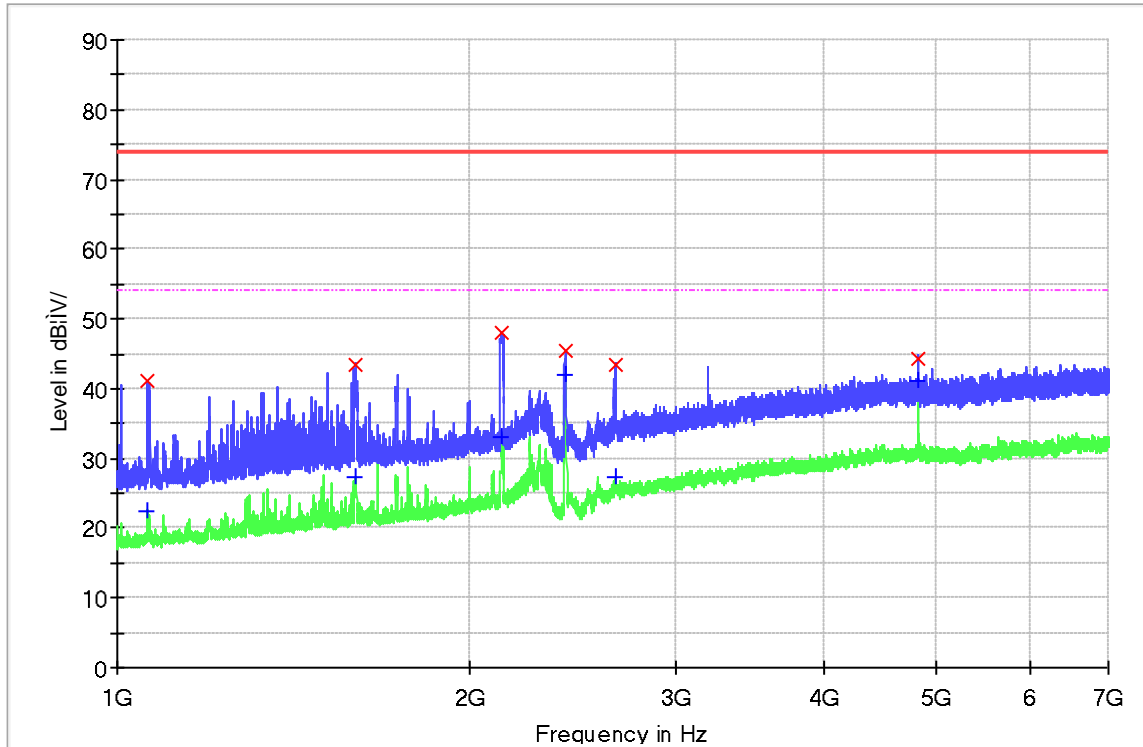
| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1063.750000 | 36.2 | H | -22.1 | 37.8 | 74.0 |
| 1595.875000 | 38.8 | H | -18.3 | 35.2 | 74.0 |
| 2131.937500 | 42.1 | H | -15.7 | 31.9 | 74.0 |
| 2409.062500 | 44.1 | H | -14.4 | 29.9 | 74.0 |
| 2663.312500 | 43.2 | H | -13.3 | 30.8 | 74.0 |
| 4824.062500 | 42.9 | H | -6.5 | 31.1 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1063.750000 | 19.5 | H | -22.1 | 34.5 | 54.0 |
| 1595.875000 | 25.5 | H | -18.3 | 28.5 | 54.0 |
| 2131.937500 | 27.0 | H | -15.7 | 27.0 | 54.0 |
| 2409.062500 | 40.2 | H | -14.4 | 13.8 | 54.0 |
| 2663.312500 | 27.3 | H | -13.3 | 26.7 | 54.0 |
| 4824.062500 | 37.7 | H | -6.5 | 16.3 | 54.0 |

Figure 18: Radiated Spurious Emission, TM1, 1GHz to 7GHz, V

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1062.812500 | 41.1 | V | -22.1 | 32.9 | 74.0 |
| 1595.312500 | 43.5 | V | -18.4 | 30.5 | 74.0 |
| 2129.687500 | 48.0 | V | -15.7 | 26.0 | 74.0 |
| 2409.062500 | 45.3 | V | -14.4 | 28.7 | 74.0 |
| 2659.375000 | 43.3 | V | -13.3 | 30.7 | 74.0 |
| 4824.062500 | 44.3 | V | -6.5 | 29.7 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1062.812500 | 22.5 | V | -22.1 | 31.5 | 54.0 |
| 1595.312500 | 27.4 | V | -18.4 | 26.6 | 54.0 |
| 2129.687500 | 33.1 | V | -15.7 | 20.9 | 54.0 |
| 2409.062500 | 42.1 | V | -14.4 | 11.9 | 54.0 |
| 2659.375000 | 27.2 | V | -13.3 | 26.8 | 54.0 |
| 4824.062500 | 41.2 | V | -6.5 | 12.8 | 54.0 |

Figure 19: Radiated Spurious Emission, TM1, 7GHz to 18GHz, H

RE_1-18GHz_HL050_FSV40_Pre

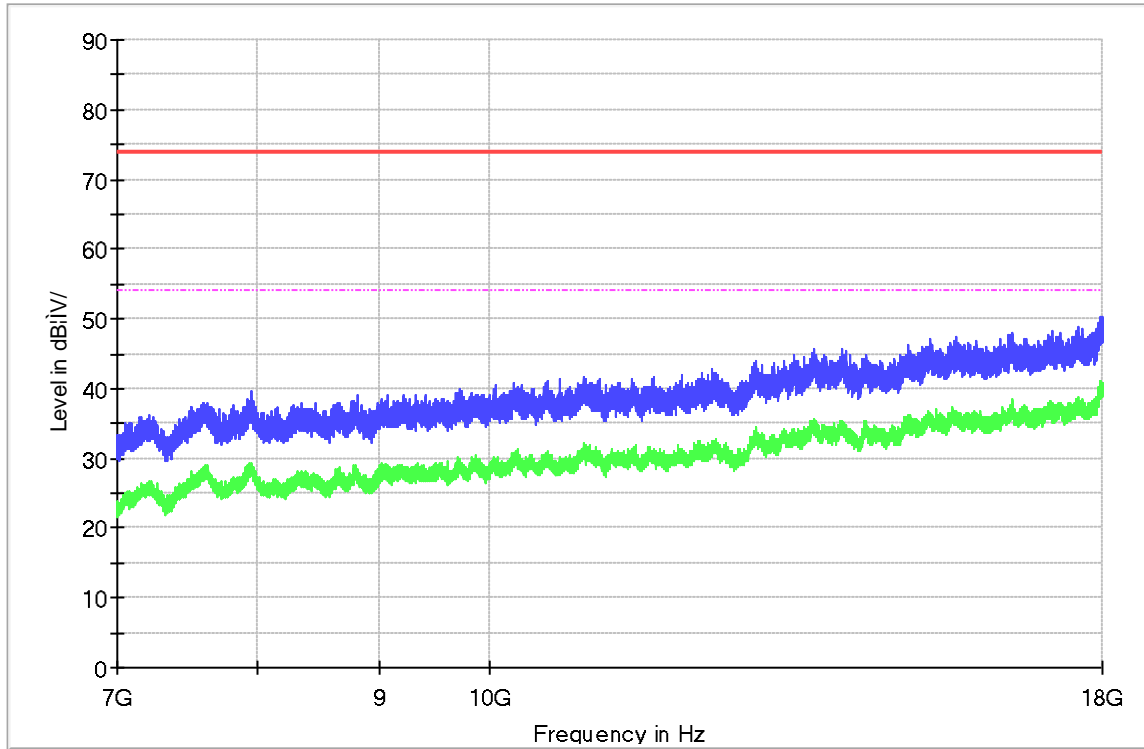


Figure 20: Radiated Spurious Emission, TM1, 7GHz to 18GHz, V

RE_1-18GHz_HL050_FSV40_Pre

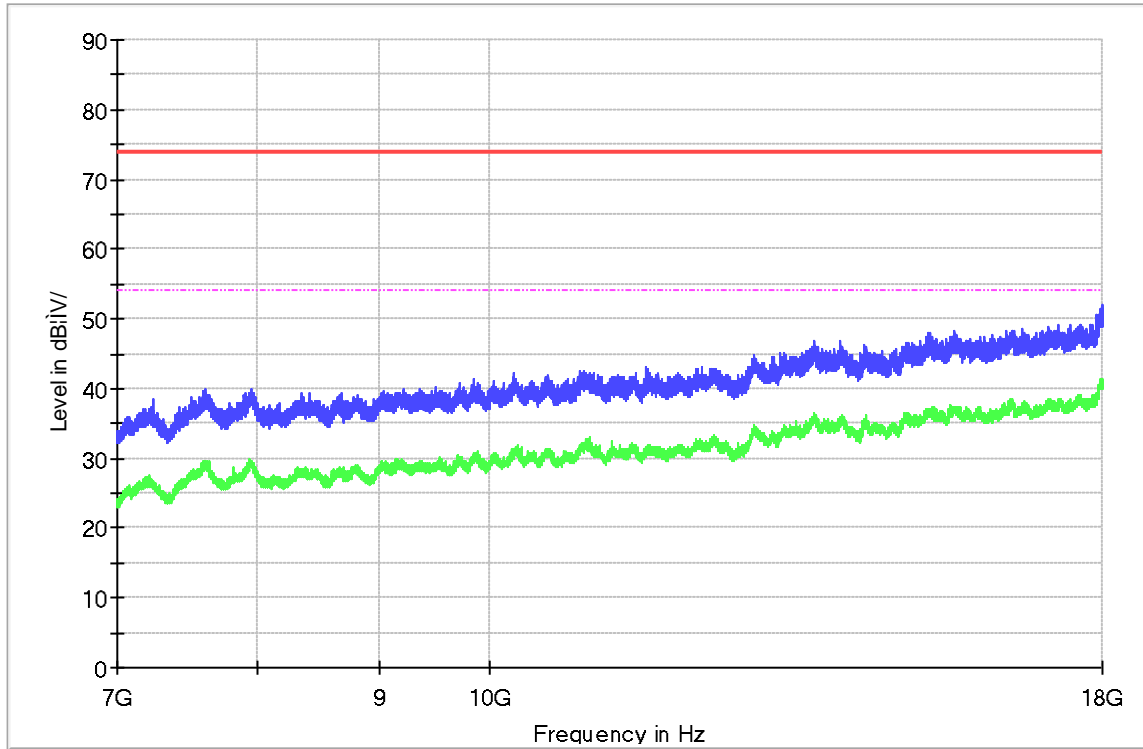


Figure 21: Radiated Spurious Emission, TM1, 18GHz to 25GHz, H

RE_18-40GHz_9170_FSV40_Pre

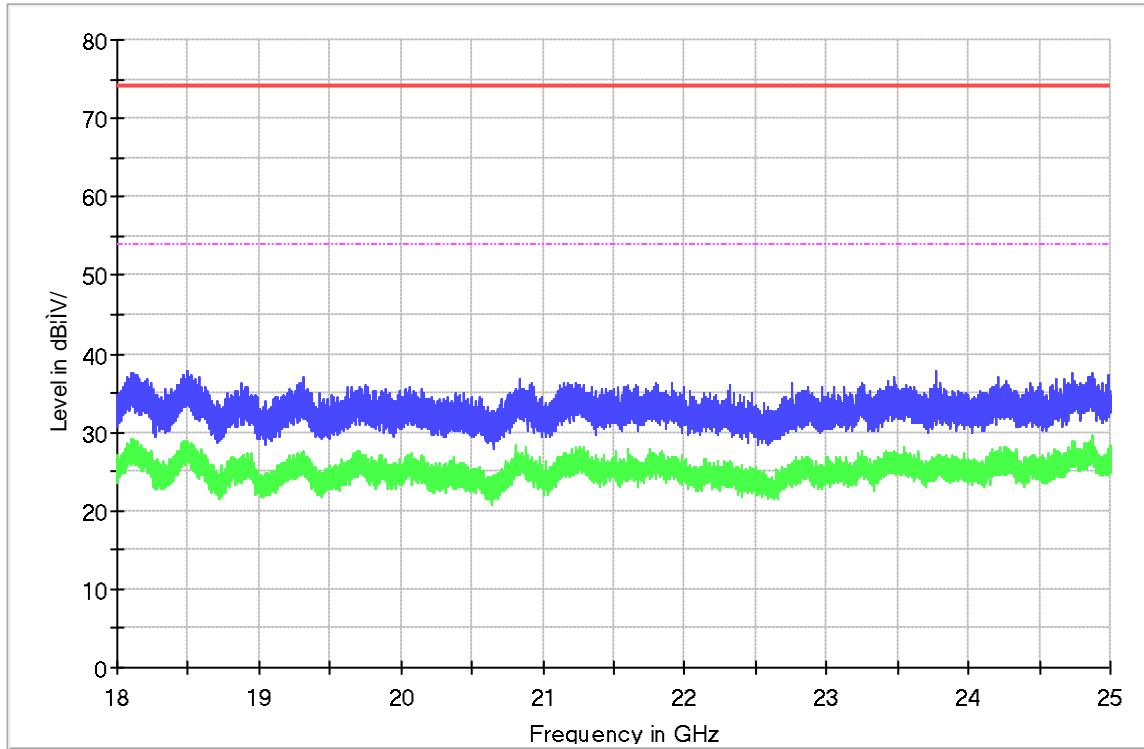


Figure 22: Radiated Spurious Emission, TM1, 18GHz to 25GHz, V

RE_18-40GHz_9170_FSV40_Pre

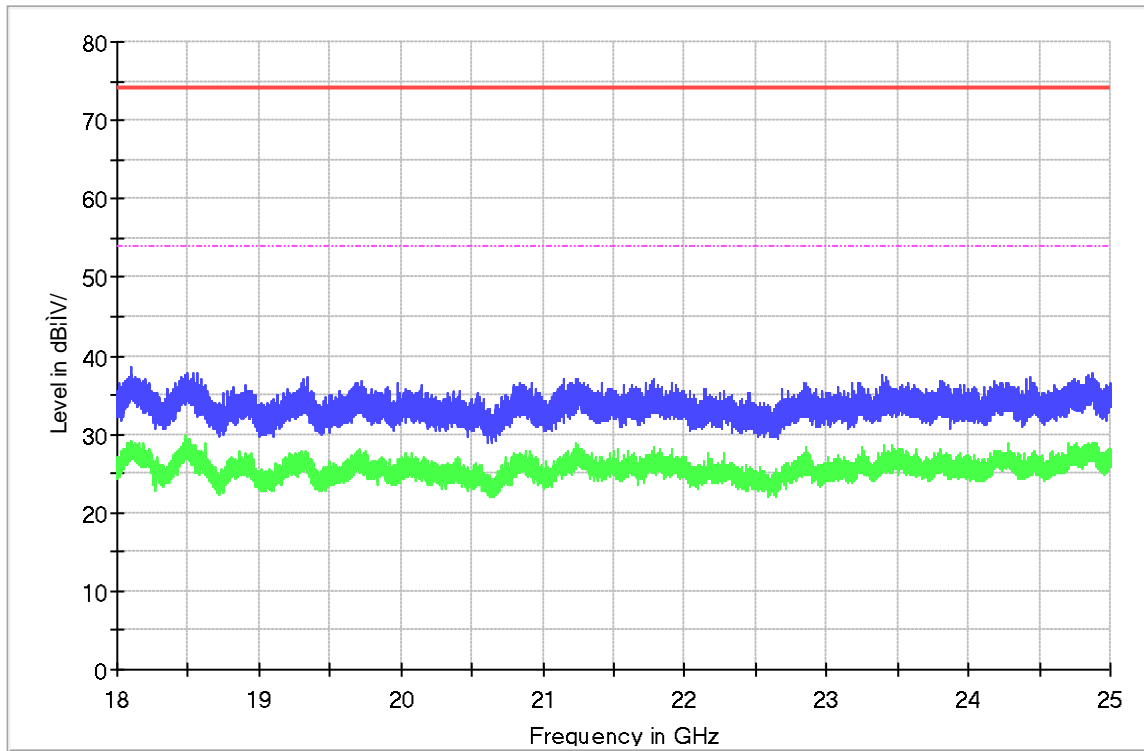
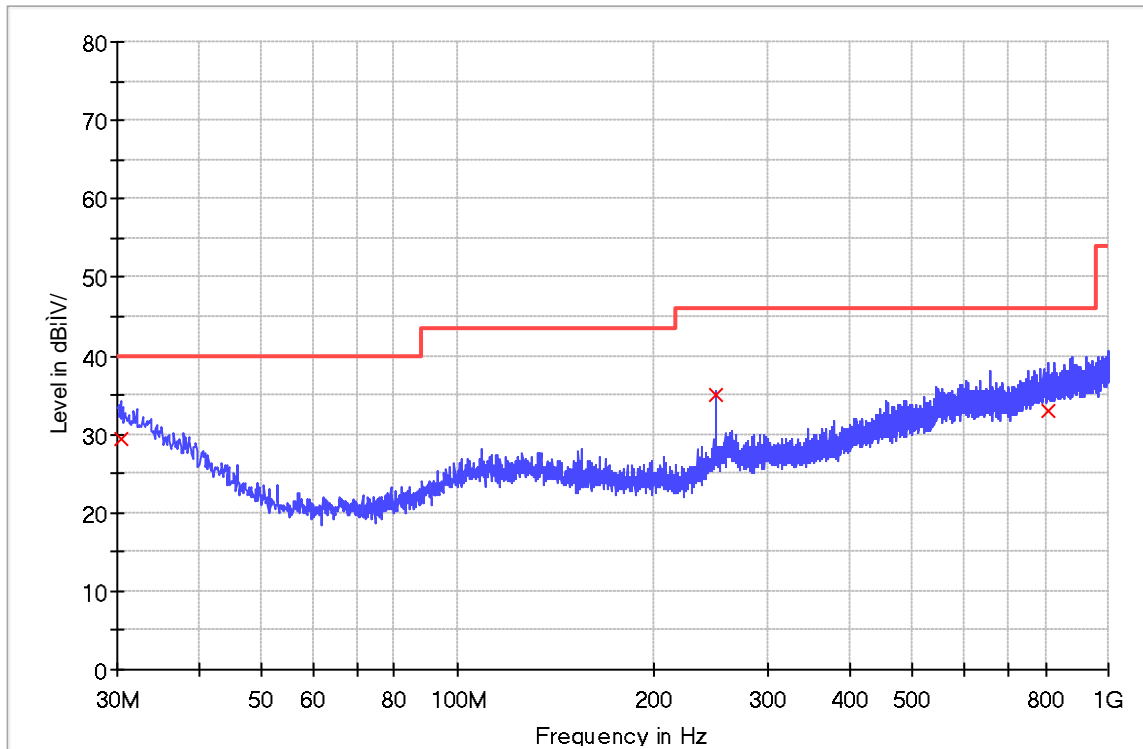


Figure 23: Radiated Spurious Emission, TM2, 30MHz to 1GHz, H

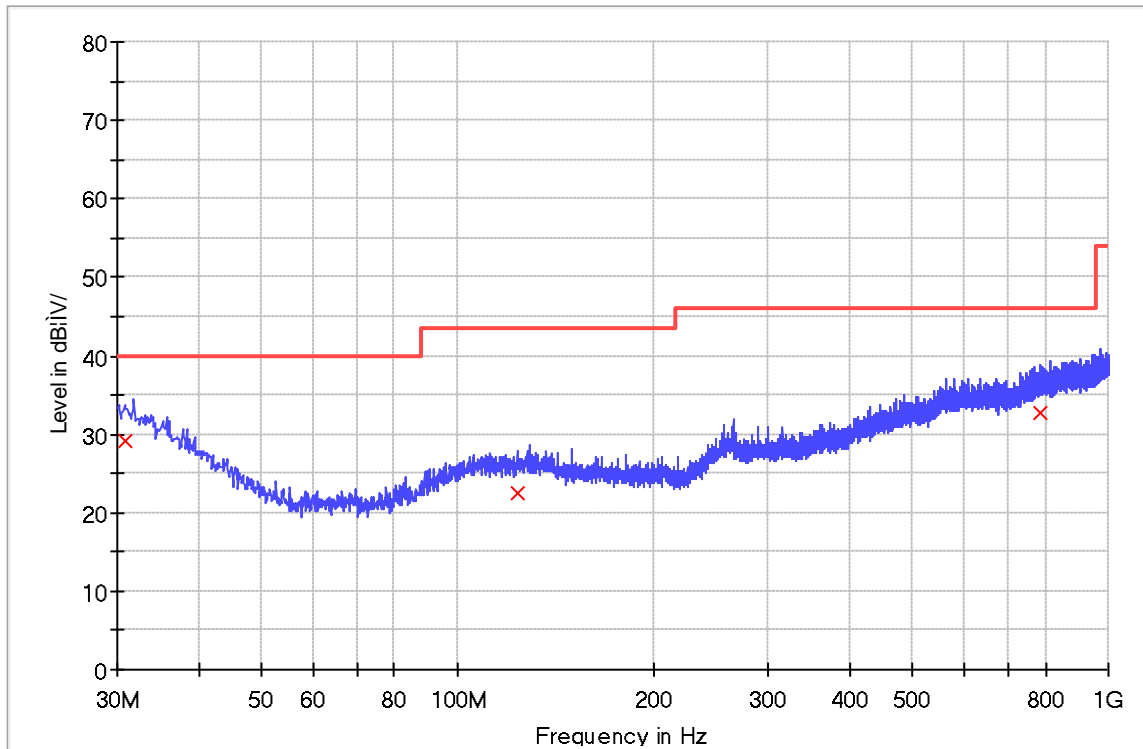
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 30.363750 | 29.3 | H | 25.2 | 10.7 | 40.0 |
| 250.068750 | 35.1 | H | 19.3 | 10.9 | 46.0 |
| 809.758750 | 33.0 | H | 27.5 | 13.0 | 46.0 |

Figure 24: Radiated Spurious Emission, TM2, 30MHz to 1GHz, V

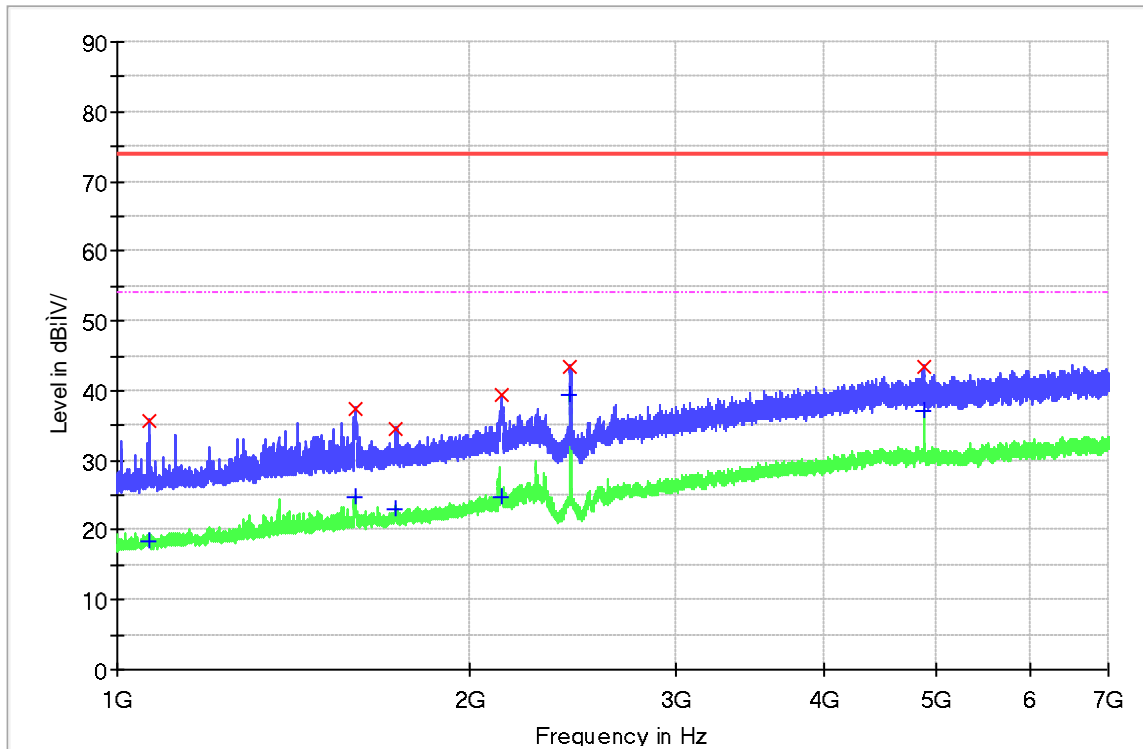
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 30.970000 | 29.0 | V | 24.9 | 11.0 | 40.0 |
| 123.605000 | 22.4 | V | 18.7 | 21.1 | 43.5 |
| 784.417500 | 32.7 | V | 27.4 | 13.3 | 46.0 |

Figure 25: Radiated Spurious Emission, TM2, 1GHz to 7GHz, H

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

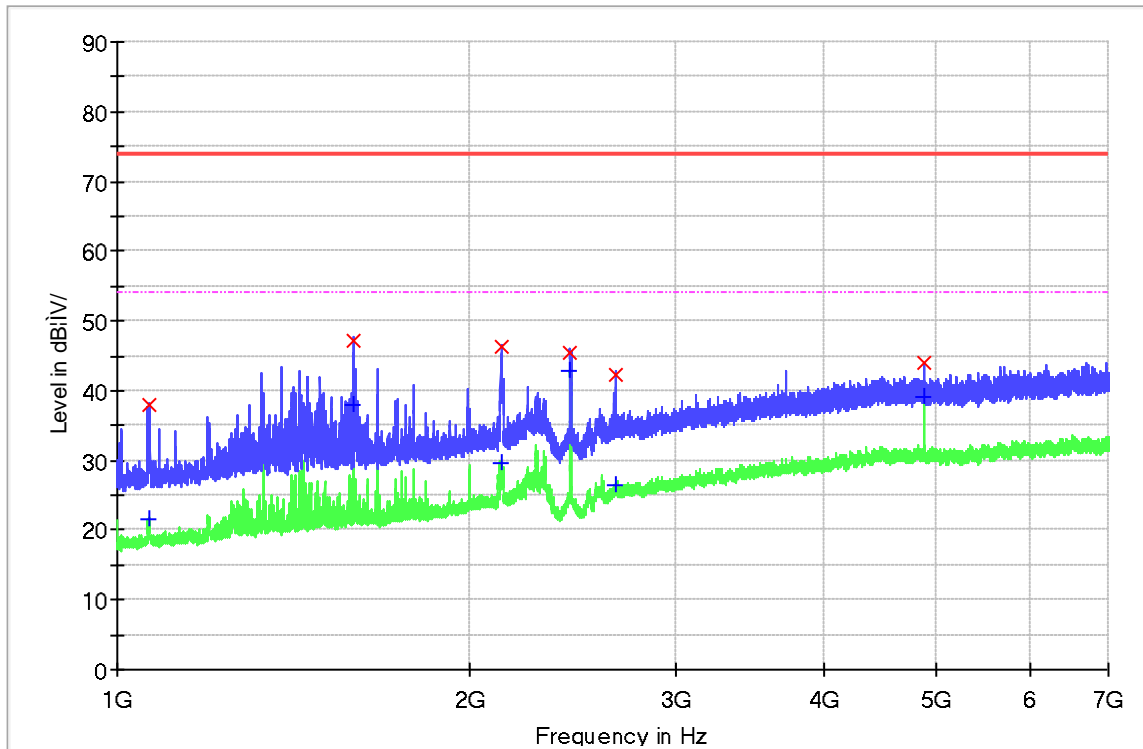
| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.875000 | 35.6 | H | -22.1 | 38.4 | 74.0 |
| 1597.562500 | 37.4 | H | -18.3 | 36.6 | 74.0 |
| 1727.312500 | 34.5 | H | -17.7 | 39.5 | 74.0 |
| 2128.750000 | 39.3 | H | -15.7 | 34.7 | 74.0 |
| 2435.312500 | 43.4 | H | -14.3 | 30.6 | 74.0 |
| 4873.937500 | 43.5 | H | -6.5 | 30.5 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.875000 | 18.5 | H | -22.1 | 35.5 | 54.0 |
| 1597.562500 | 24.7 | H | -18.3 | 29.3 | 54.0 |
| 1727.312500 | 23.1 | H | -17.7 | 30.9 | 54.0 |
| 2128.750000 | 24.6 | H | -15.7 | 29.4 | 54.0 |
| 2435.312500 | 39.5 | H | -14.3 | 14.5 | 54.0 |
| 4873.937500 | 37.2 | H | -6.5 | 16.8 | 54.0 |

Figure 26: Radiated Spurious Emission, TM2, 1GHz to 7GHz, V

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1065.250000 | 38.0 | V | -22.1 | 36.0 | 74.0 |
| 1591.000000 | 47.3 | V | -18.4 | 26.7 | 74.0 |
| 2128.750000 | 46.4 | V | -15.7 | 27.6 | 74.0 |
| 2434.000000 | 45.4 | V | -14.3 | 28.6 | 74.0 |
| 2662.000000 | 42.3 | V | -13.3 | 31.7 | 74.0 |
| 4874.125000 | 43.9 | V | -6.5 | 30.1 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1065.250000 | 21.5 | V | -22.1 | 32.5 | 54.0 |
| 1591.000000 | 38.0 | V | -18.4 | 16.0 | 54.0 |
| 2128.750000 | 29.7 | V | -15.7 | 24.3 | 54.0 |
| 2434.000000 | 42.8 | V | -14.3 | 11.2 | 54.0 |
| 2662.000000 | 26.4 | V | -13.3 | 27.6 | 54.0 |
| 4874.125000 | 39.0 | V | -6.5 | 15.0 | 54.0 |

Figure 27: Radiated Spurious Emission, TM2, 7GHz to 18GHz, H

RE_1-18GHz_HL050_FSV40_Pre

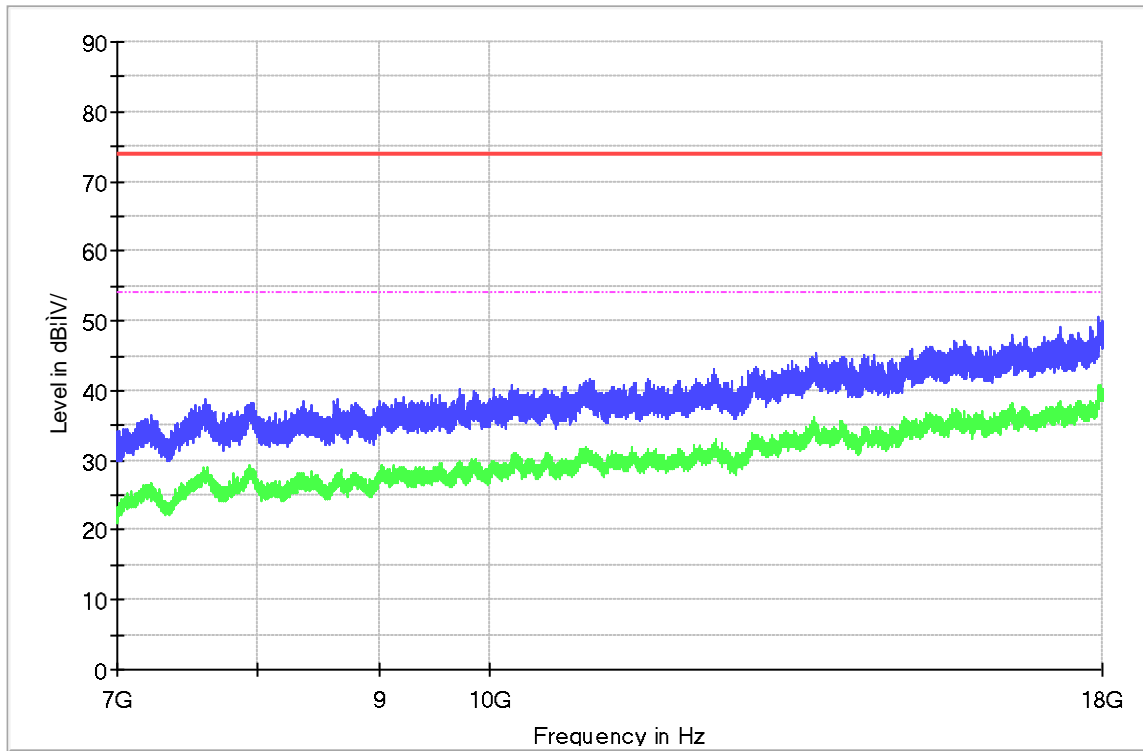


Figure 28: Radiated Spurious Emission, TM2, 7GHz to 18GHz, V

RE_1-18GHz_HL050_FSV40_Pre

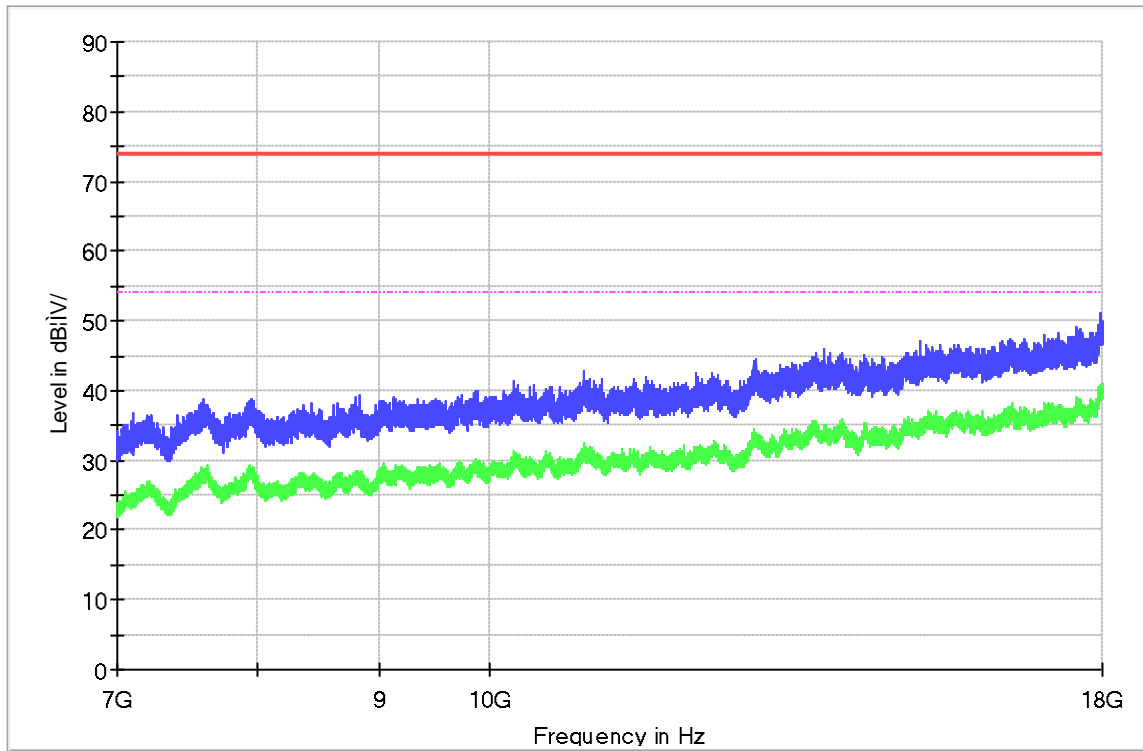


Figure 29: Radiated Spurious Emission, TM2, 18GHz to 25GHz, H

RE_18-40GHz_9170_FSV40_Pre

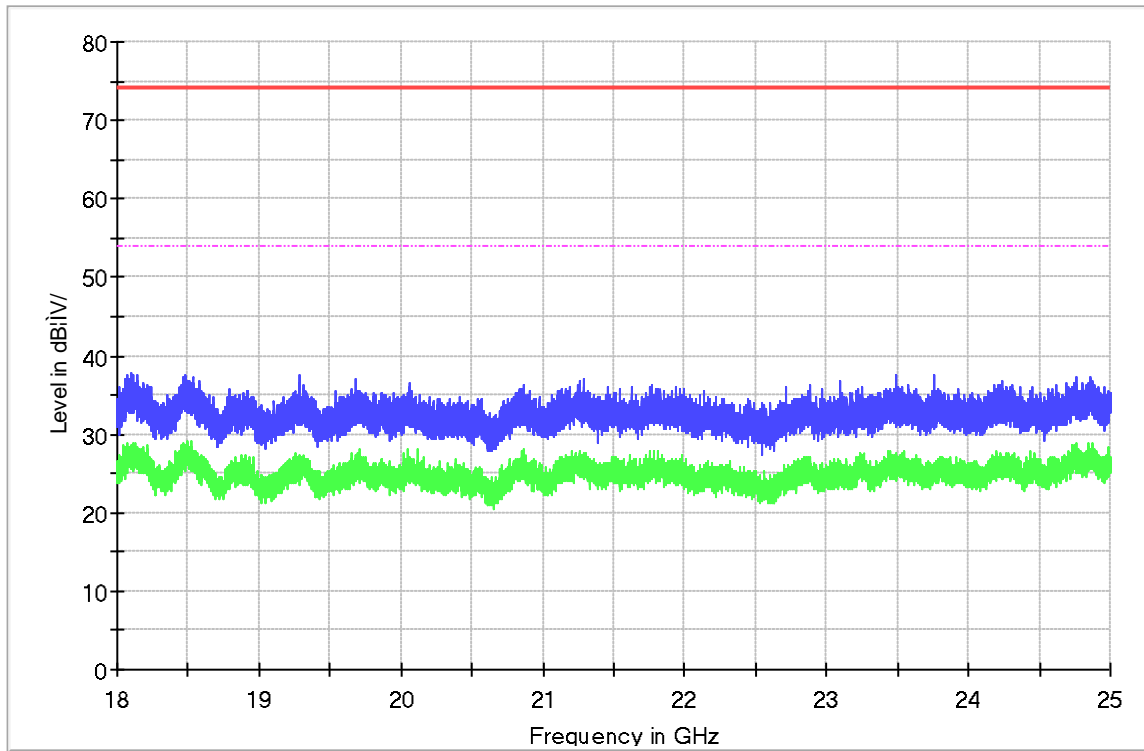


Figure 30: Radiated Spurious Emission, TM2, 18GHz to 25GHz, V

RE_18-40GHz_9170_FSV40_Pre

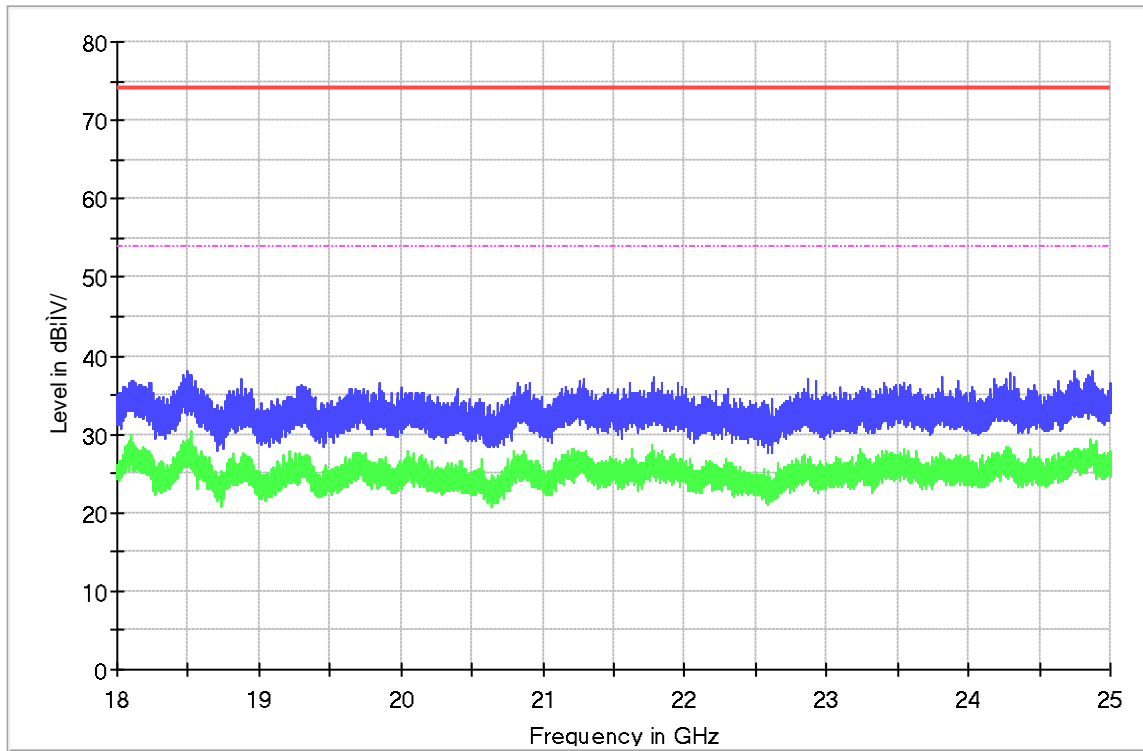
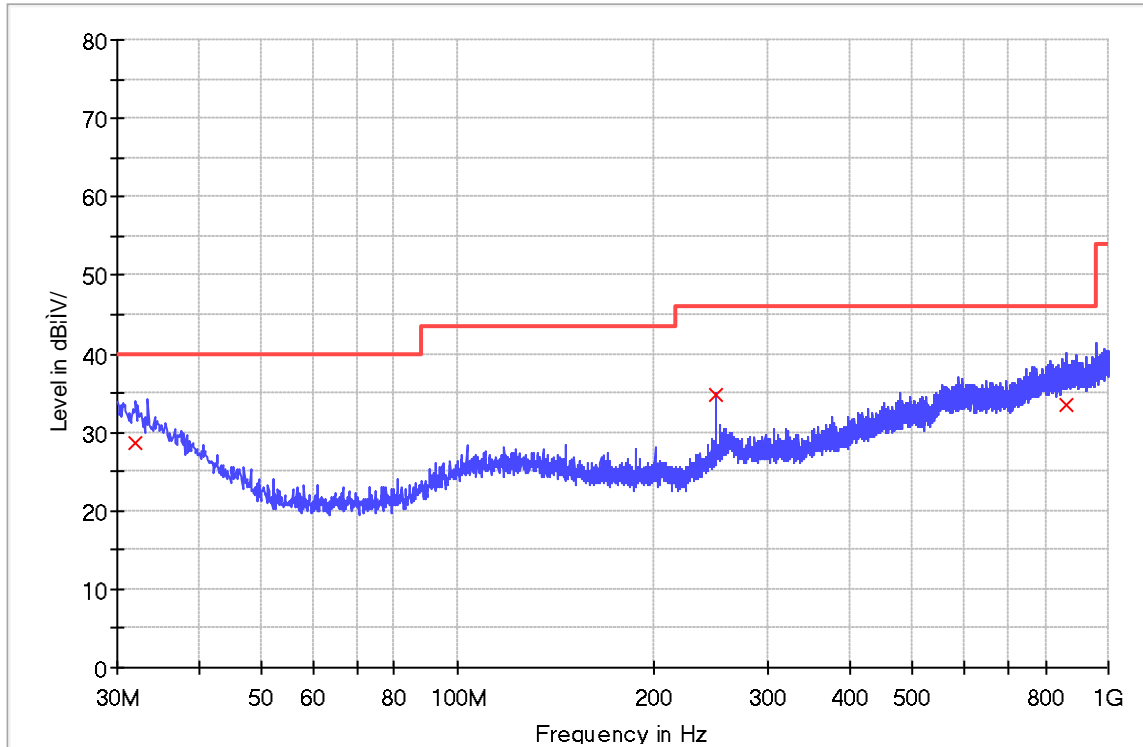


Figure 31: Radiated Spurious Emission, TM3, 30MHz to 1GHz, H

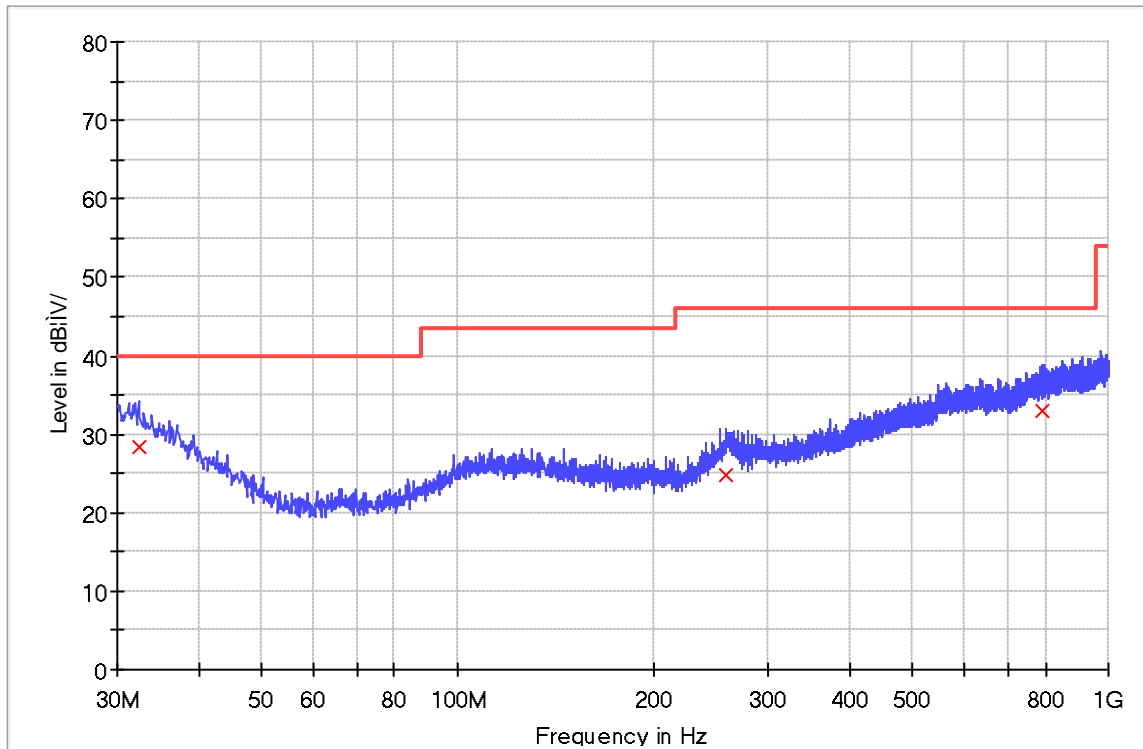
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 32.061250 | 28.6 | H | 24.5 | 11.4 | 40.0 |
| 249.947500 | 34.8 | H | 19.3 | 11.2 | 46.0 |
| 859.350000 | 33.6 | H | 28.0 | 12.4 | 46.0 |

Figure 32: Radiated Spurious Emission, TM3, 30MHz to 1GHz, V

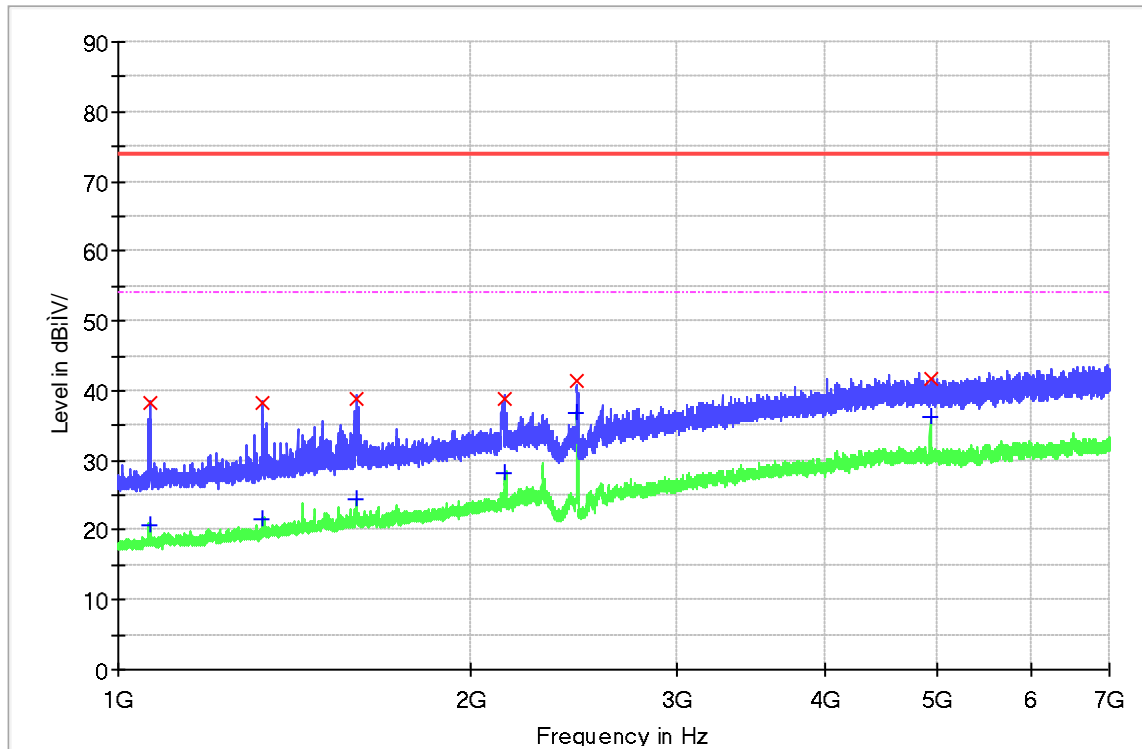
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 32.425000 | 28.4 | V | 24.2 | 11.6 | 40.0 |
| 258.192500 | 24.9 | V | 20.4 | 21.1 | 46.0 |
| 792.905000 | 32.9 | V | 27.6 | 13.1 | 46.0 |

Figure 33: Radiated Spurious Emission, TM3, 1GHz to 7GHz, H

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

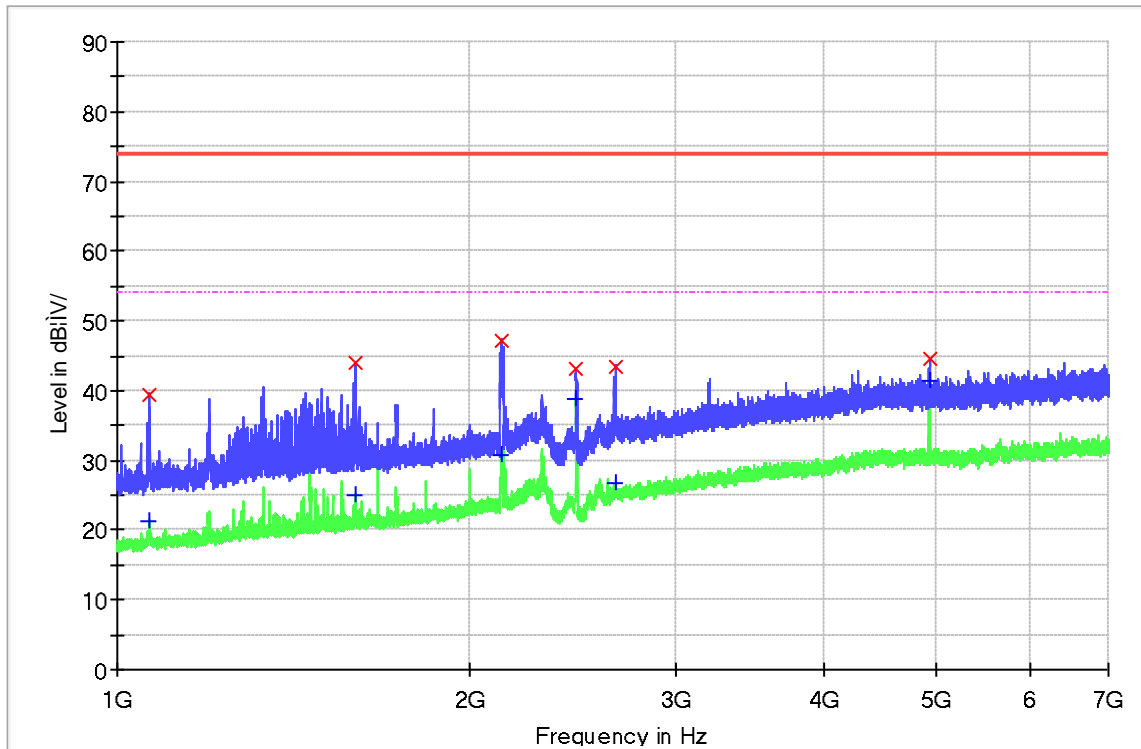
| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.687500 | 38.2 | H | -22.1 | 35.8 | 74.0 |
| 1328.500000 | 38.2 | H | -20.2 | 35.8 | 74.0 |
| 1598.875000 | 38.8 | H | -18.3 | 35.2 | 74.0 |
| 2132.875000 | 38.9 | H | -15.7 | 35.1 | 74.0 |
| 2460.062500 | 41.3 | H | -14.3 | 32.7 | 74.0 |
| 4923.800000 | 41.8 | H | -6.7 | 32.2 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.687500 | 20.6 | H | -22.1 | 33.4 | 54.0 |
| 1328.500000 | 21.5 | H | -20.2 | 32.5 | 54.0 |
| 1598.875000 | 24.3 | H | -18.3 | 29.7 | 54.0 |
| 2132.875000 | 28.1 | H | -15.7 | 25.9 | 54.0 |
| 2460.062500 | 36.7 | H | -14.3 | 17.3 | 54.0 |
| 4923.800000 | 36.1 | H | -6.7 | 17.9 | 54.0 |

Figure 34: Radiated Spurious Emission, TM3, 1GHz to 7GHz, V

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1066.000000 | 39.5 | V | -22.1 | 34.5 | 74.0 |
| 1596.812500 | 44.0 | V | -18.3 | 30.0 | 74.0 |
| 2126.312500 | 47.1 | V | -15.8 | 26.9 | 74.0 |
| 2462.875000 | 43.0 | V | -14.3 | 31.0 | 74.0 |
| 2664.062500 | 43.4 | V | -13.3 | 30.6 | 74.0 |
| 4924.000000 | 44.6 | V | -6.6 | 29.4 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1066.000000 | 21.4 | V | -22.1 | 32.6 | 54.0 |
| 1596.812500 | 24.9 | V | -18.3 | 29.1 | 54.0 |
| 2126.312500 | 30.7 | V | -15.8 | 23.3 | 54.0 |
| 2462.875000 | 38.7 | V | -14.3 | 15.3 | 54.0 |
| 2664.062500 | 26.8 | V | -13.3 | 27.2 | 54.0 |
| 4924.000000 | 41.4 | V | -6.6 | 12.6 | 54.0 |

Figure 35: Radiated Spurious Emission, TM3, 7GHz to 18GHz, H

RE_1-18GHz_HL050_FSV40_Pre

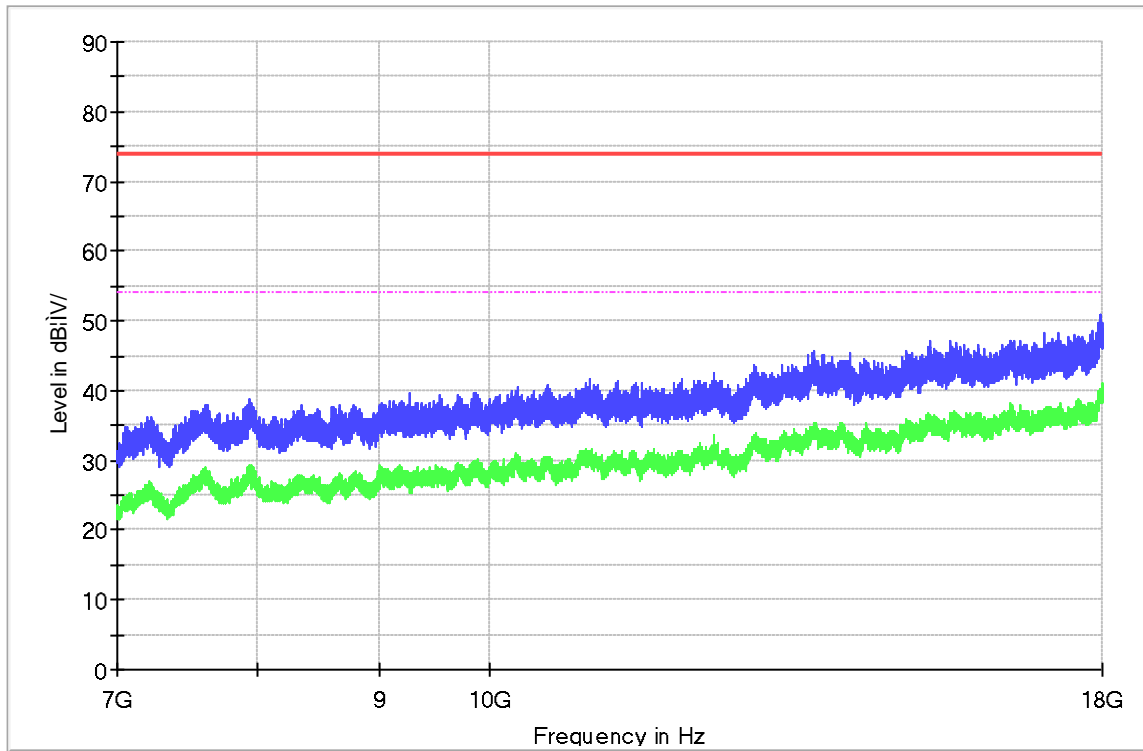


Figure 36: Radiated Spurious Emission, TM3, 7GHz to 18GHz, V

RE_1-18GHz_HL050_FSV40_Pre

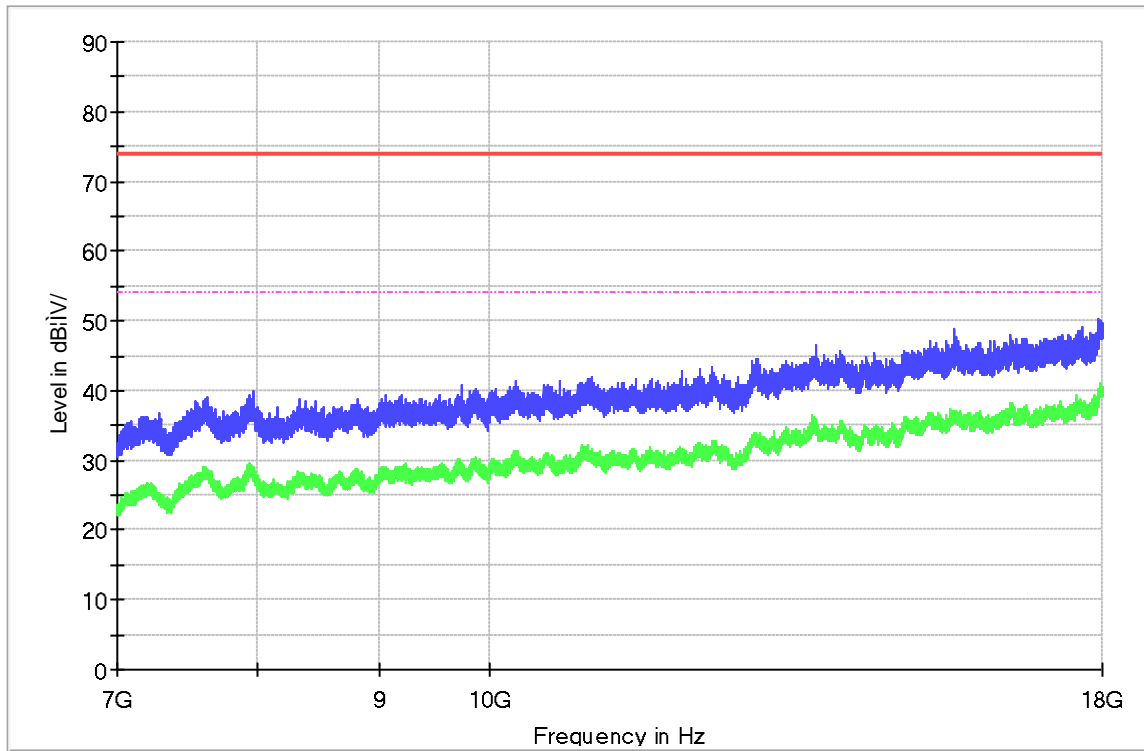


Figure 37: Radiated Spurious Emission, TM3, 18GHz to 25GHz, H

RE_18-40GHz_9170_FSV40_Pre

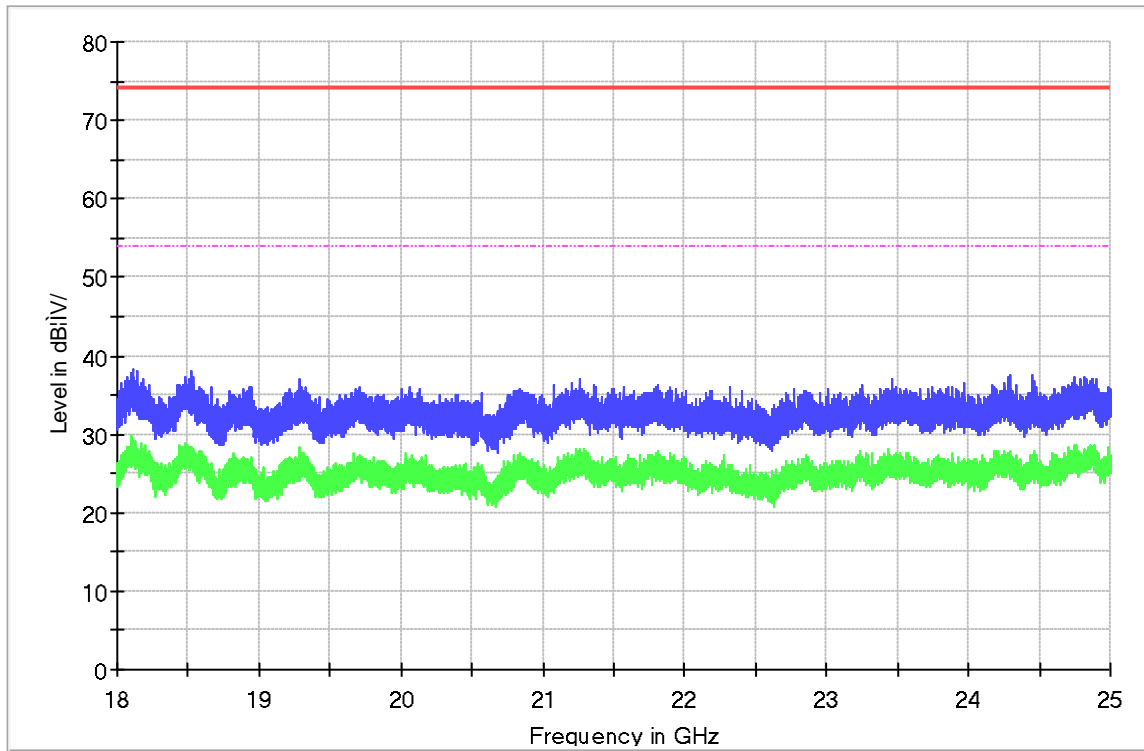


Figure 38: Radiated Spurious Emission, TM3, 18GHz to 25GHz, V

RE_18-40GHz_9170_FSV40_Pre

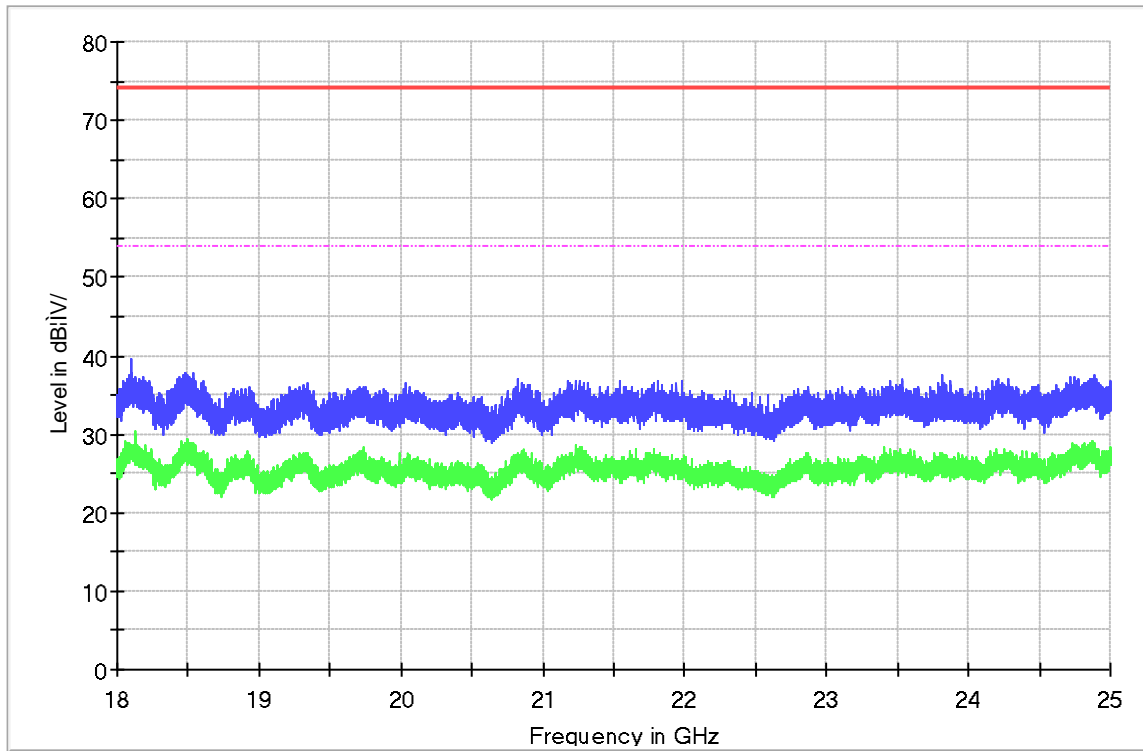
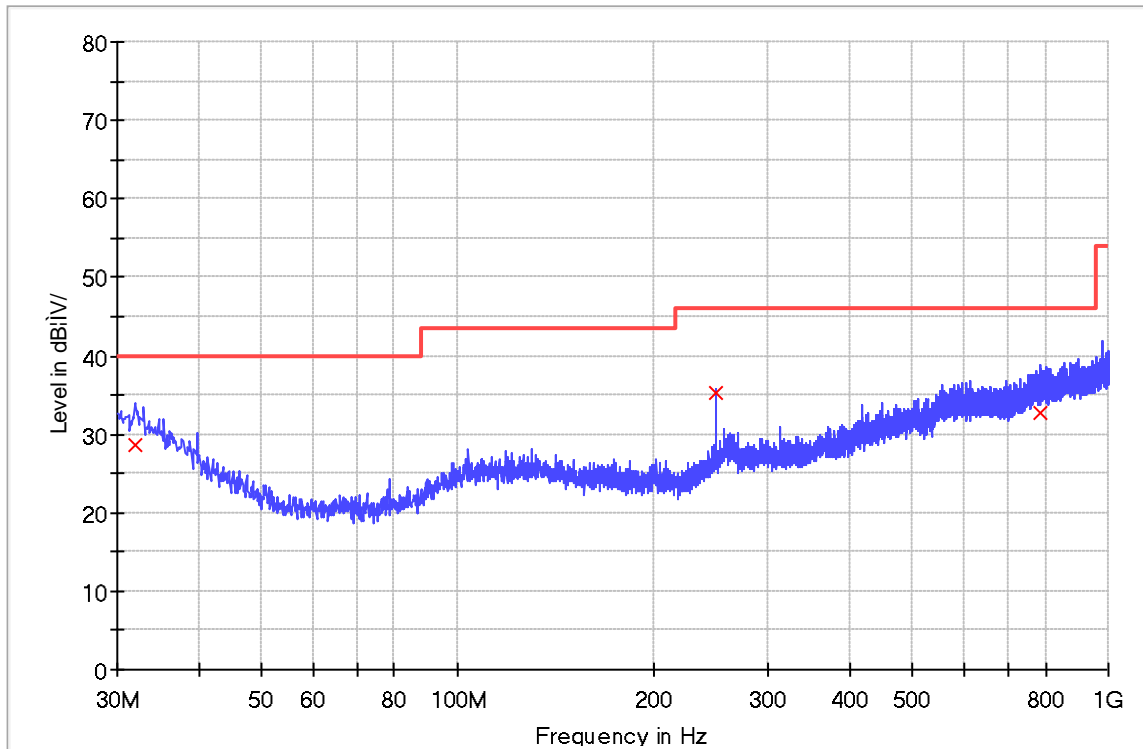


Figure 39: Radiated Spurious Emission, TM4, 30MHz to 1GHz, H

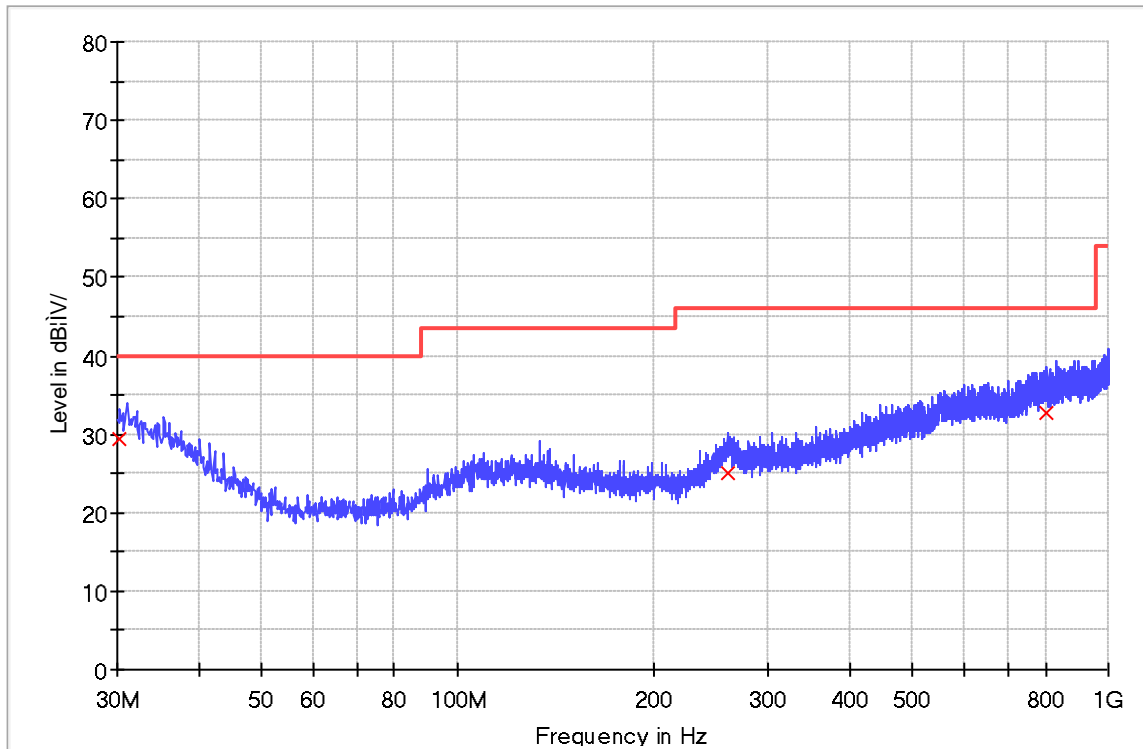
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 31.940000 | 28.6 | H | 24.5 | 11.4 | 40.0 |
| 249.947500 | 35.2 | H | 19.3 | 10.8 | 46.0 |
| 783.447500 | 32.6 | H | 27.4 | 13.4 | 46.0 |

Figure 40: Radiated Spurious Emission, TM4, 30MHz to 1GHz, V

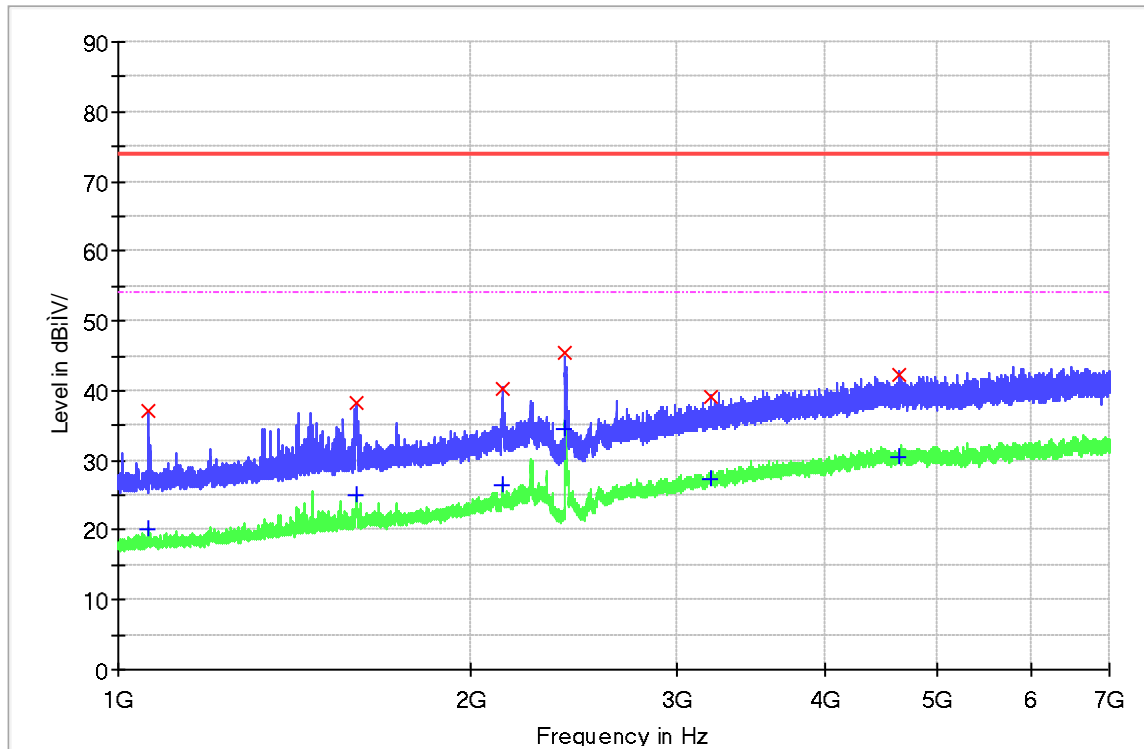
_Radiated emission (30M-1GHz) 1 Range


Limit and Margin

| Frequency (MHz) | QuasiPeak (dBµV/m) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|--------------------|-----|------------|-------------------|----------------------|
| 30.242500 | 29.4 | V | 25.3 | 10.6 | 40.0 |
| 259.405000 | 25.1 | V | 20.6 | 20.9 | 46.0 |
| 801.877500 | 32.8 | V | 27.4 | 13.2 | 46.0 |

Figure 41: Radiated Spurious Emission, TM4, 1GHz to 7GHz, H

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

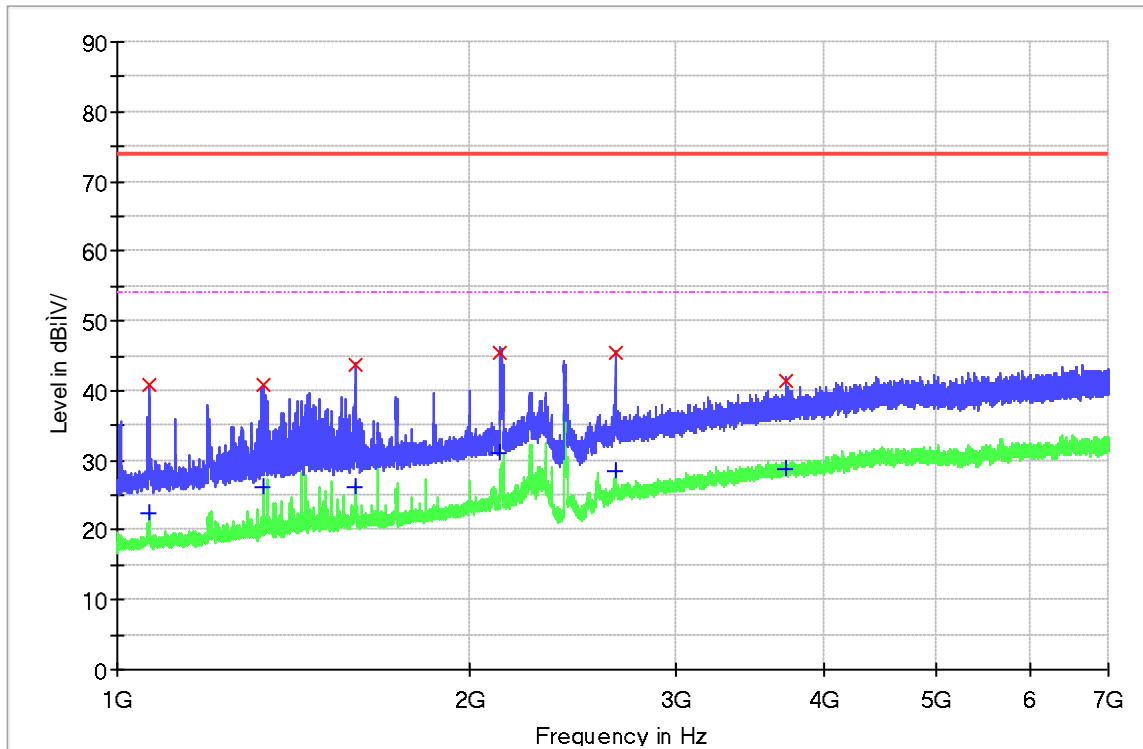
| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1061.875000 | 37.0 | H | -22.1 | 37.0 | 74.0 |
| 1595.125000 | 38.1 | H | -18.4 | 35.9 | 74.0 |
| 2129.500000 | 40.2 | H | -15.7 | 33.8 | 74.0 |
| 2404.937500 | 45.3 | H | -14.4 | 28.7 | 74.0 |
| 3202.375000 | 39.0 | H | -10.8 | 35.0 | 74.0 |
| 4628.500000 | 42.1 | H | -6.5 | 31.9 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1061.875000 | 20.1 | H | -22.1 | 33.9 | 54.0 |
| 1595.125000 | 25.0 | H | -18.4 | 29.0 | 54.0 |
| 2129.500000 | 26.5 | H | -15.7 | 27.5 | 54.0 |
| 2404.937500 | 34.4 | H | -14.4 | 19.6 | 54.0 |
| 3202.375000 | 27.4 | H | -10.8 | 26.6 | 54.0 |
| 4628.500000 | 30.4 | H | -6.5 | 23.6 | 54.0 |

Figure 42: Radiated Spurious Emission, TM4, 1GHz to 7GHz, V

RE_1-18GHz_HL050_FSV40_Pre


Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBµV/m) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.125000 | 40.9 | V | -22.1 | 33.1 | 74.0 |
| 1331.125000 | 40.7 | V | -20.2 | 33.3 | 74.0 |
| 1594.375000 | 43.7 | V | -18.4 | 30.3 | 74.0 |
| 2122.937500 | 45.4 | V | -15.8 | 28.6 | 74.0 |
| 2665.375000 | 45.3 | V | -13.3 | 28.7 | 74.0 |
| 3723.062500 | 41.5 | V | -8.8 | 32.5 | 74.0 |

Limit and Margin AV

| Frequency (MHz) | Average (dBµV/m) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|------------------|-----|------------|-------------------|----------------------|
| 1064.125000 | 22.3 | V | -22.1 | 31.7 | 54.0 |
| 1331.125000 | 26.1 | V | -20.2 | 27.9 | 54.0 |
| 1594.375000 | 26.1 | V | -18.4 | 27.9 | 54.0 |
| 2122.937500 | 31.1 | V | -15.8 | 22.9 | 54.0 |
| 2665.375000 | 28.6 | V | -13.3 | 25.4 | 54.0 |
| 3723.062500 | 28.8 | V | -8.8 | 25.2 | 54.0 |