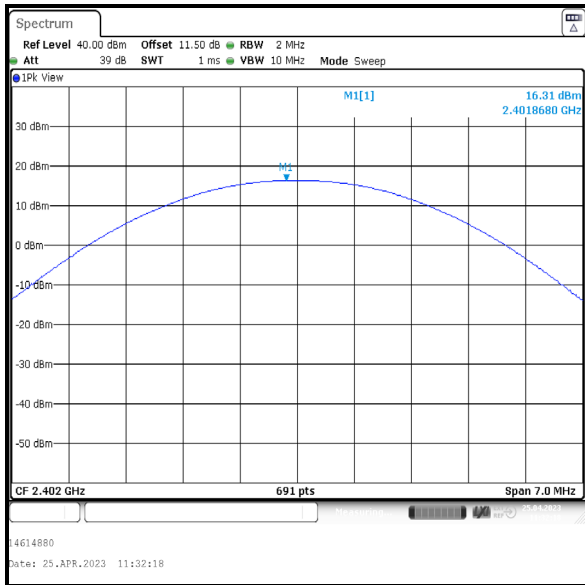
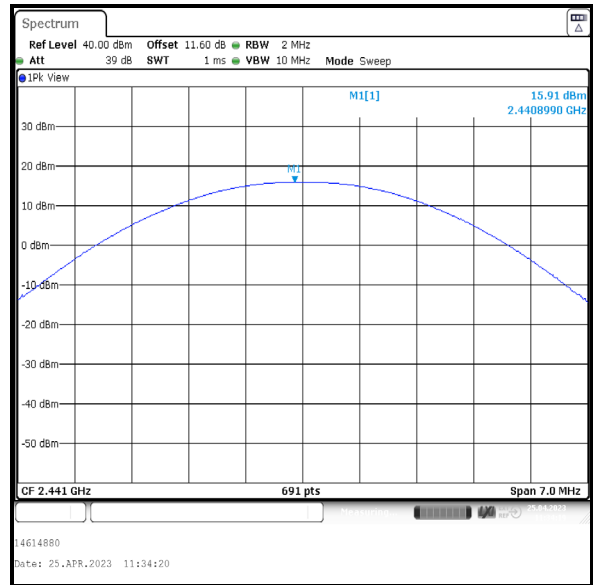


**Transmitter Maximum Peak Output Power (continued)**

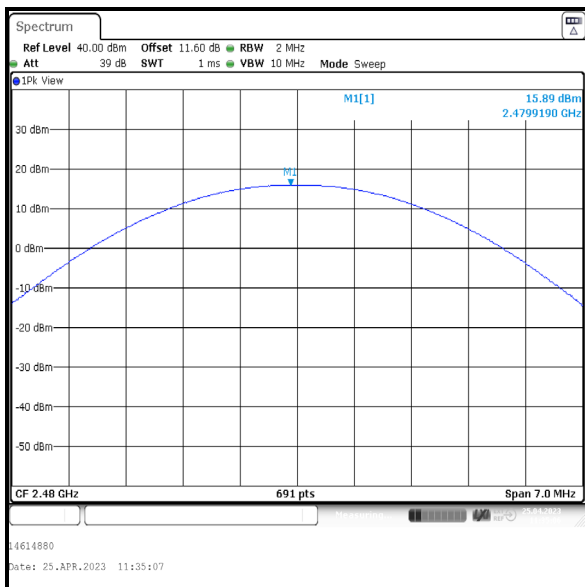
**Results: 2DH5 / Beamforming / Core 0**



**Bottom Channel**



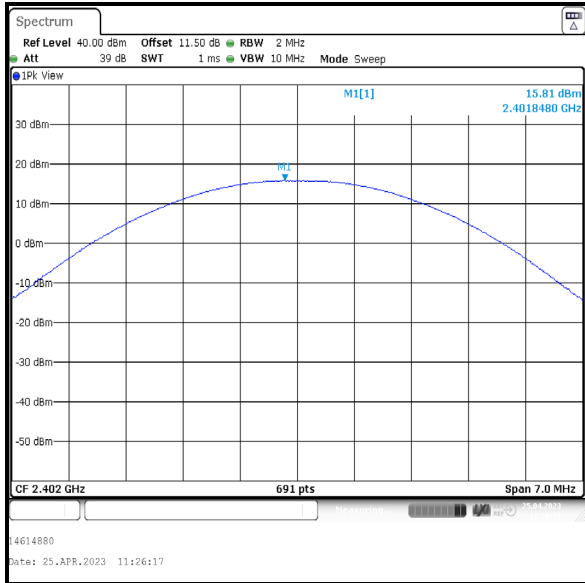
**Middle Channel**



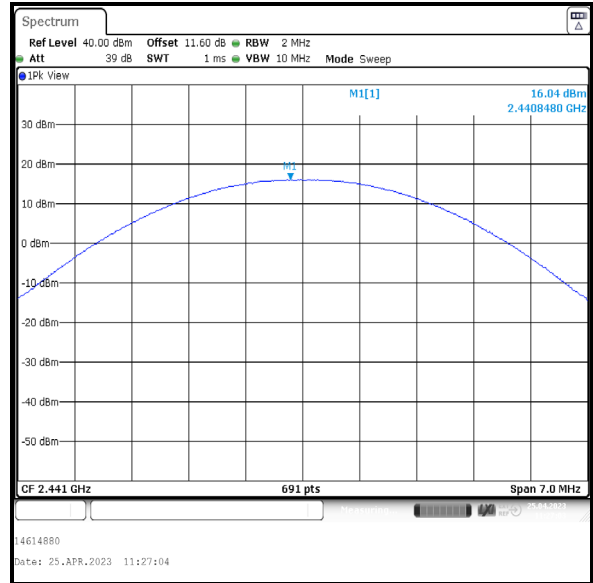
**Top Channel**

**Transmitter Maximum Peak Output Power (continued)**

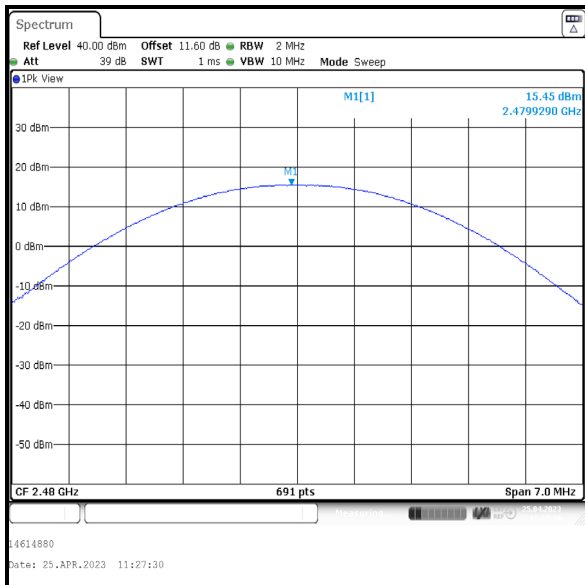
**Results: 2DH5 / Beamforming / Core 1**



**Bottom Channel**



**Middle Channel**



**Top Channel**

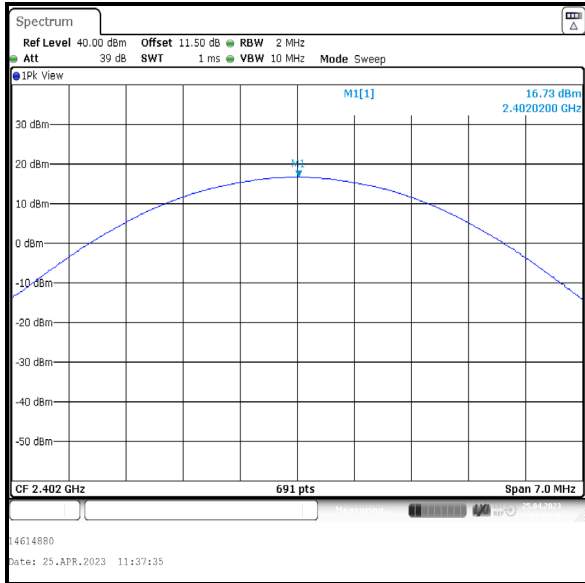
**Transmitter Maximum Peak Output Power (continued)****Results: 3DH5 / Beamforming**

Channel	Conducted Peak Power Core 0 (dBm)	Conducted Peak Power Core 1 (dBm)	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	16.7	16.0	19.4	27.6	8.2	Complied
Middle	16.5	16.1	19.3	27.6	8.3	Complied
Top	16.8	16.3	19.6	27.6	8.0	Complied

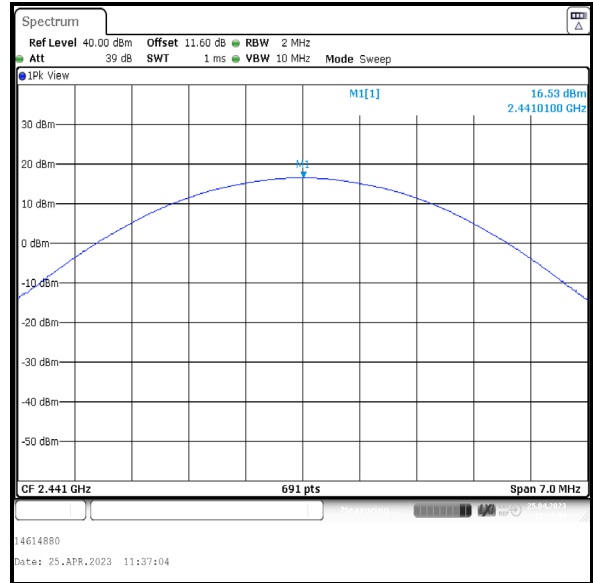
Channel	Combined Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	19.4	8.4	27.8	36.0	8.2	Complied
Middle	19.3	8.4	27.7	36.0	8.3	Complied
Top	19.6	8.4	28.0	36.0	8.0	Complied

**Transmitter Maximum Peak Output Power (continued)**

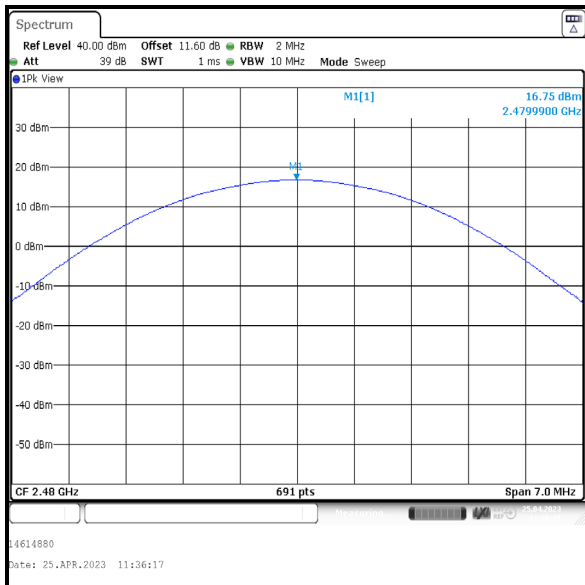
**Results: 3DH5 / Beamforming / Core 0**



**Bottom Channel**



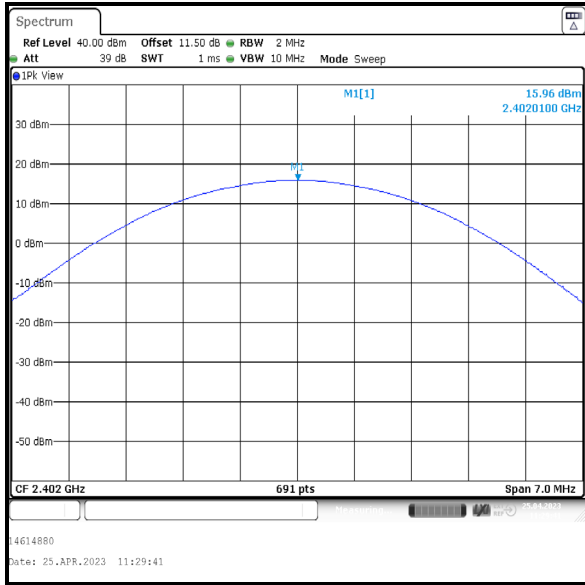
**Middle Channel**



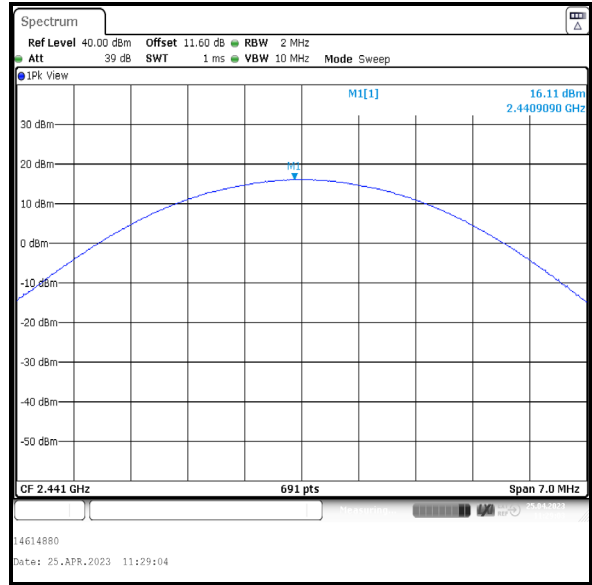
**Top Channel**

**Transmitter Maximum Peak Output Power (continued)**

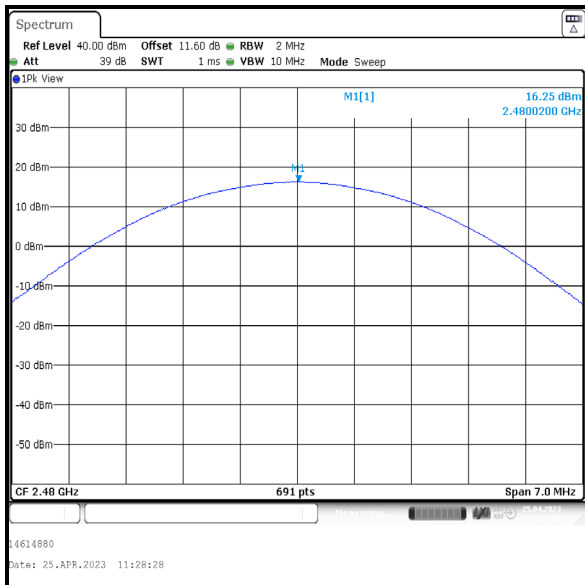
**Results: 3DH5 / Beamforming / Core 1**



**Bottom Channel**



**Middle Channel**



**Top Channel**

## **5 Radiated Test Results**

### **5.1 Transmitter Radiated Emissions <1 GHz**

#### **Test Summary:**

<b>Test Engineer:</b>	Andrew Harding	<b>Test Dates:</b>	30 March 2023 & 31 March 2023
<b>Test Sample Serial Number:</b>	J5047MKVKJ		

<b>FCC Reference:</b>	Parts 15.247(d) & 15.209(a)
<b>ISED Canada Reference:</b>	RSS-Gen 6.13 / RSS-247 5.5
<b>Test Method Used:</b>	ANSI C63.10 Sections 6.3, 6.4 and 6.5
<b>Frequency Range</b>	9 kHz to 1000 MHz

#### **Environmental Conditions:**

<b>Temperature (°C):</b>	22
<b>Relative Humidity (%):</b>	42 to 43

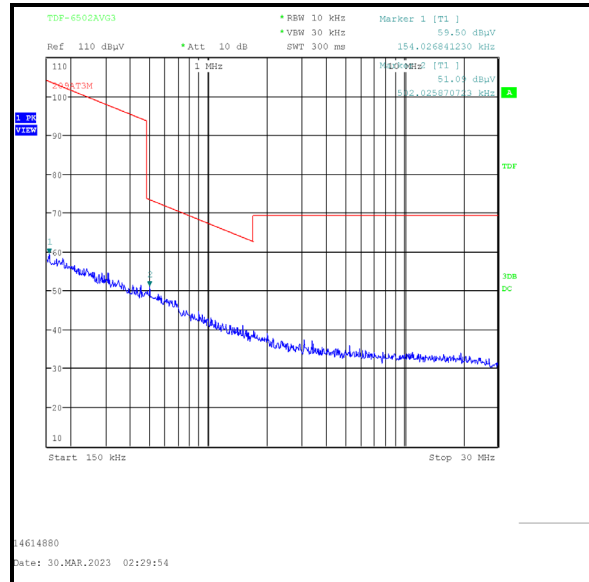
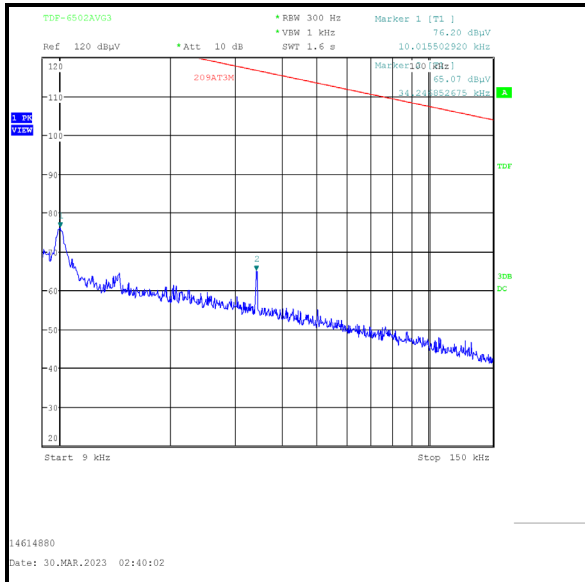
#### **Note(s):**

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the middle channel only.
3. All emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system. Therefore the highest peak noise floor reading of the measuring receiver was recorded in the table below.
4. Measurements below 30 MHz were performed in a semi-anechoic chamber (Asset Number K0001) at 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The limit was extrapolated to 3 metres in accordance with ANSI C63.10 clause 6.4.3 using the method described in clause 6.4.4.2. ANSI C63.10 clause 5.2 states an alternative test site that can demonstrate equivalence to an open area test site may be used for measurements below 30 MHz. Therefore, measurements were performed in a semi-anechoic chamber. The correlation data between semi-anechoic chamber and an open field test site is available upon request.
5. Measurements from 30 MHz to 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
6. Pre-scans were performed and markers placed on the highest measured levels. The test receiver was configured as follows: For 9 kHz to 150 kHz, the resolution bandwidth was set to 300 Hz and video bandwidth 1 kHz. A peak detector was used and trace mode was Max Hold. For 150 kHz to 30 MHz, the resolution bandwidth was set to 10 kHz and video bandwidth 30 kHz, trace mode was Max Hold. For 30 MHz to 1 GHz, the resolution bandwidth was set to 120 kHz and video bandwidth 500 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.

**Transmitter Radiated Emissions (continued)**

**Results: Peak / Middle Channel / 3DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
956.040	Vertical	37.8	46.0	8.2	Complied



**5.2 Transmitter Radiated Emissions >1 GHz**

**Test Summary:**

<b>Test Engineers:</b>	Andrew Harding & John Ferdinand	<b>Test Dates:</b>	28 March 2023 & 29 March 2023
<b>Test Sample Serial Numbers:</b>	J5047MKVKJ		

<b>FCC Reference:</b>	Parts 15.247(d) & 15.209(a)
<b>ISED Canada Reference:</b>	RSS-Gen 6.13 / RSS-247 5.5
<b>Test Method Used:</b>	ANSI C63.10 Sections 6.3 and 6.6
<b>Frequency Range</b>	1 GHz to 25 GHz

**Environmental Conditions:**

<b>Temperature (°C):</b>	22
<b>Relative Humidity (%):</b>	37 to 42

**Note(s):**

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. No spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak and average noise floor readings of the measuring receiver were recorded as shown in the tables below.
3. The emission shown on the 1 GHz to 3 GHz plot at approximately 2441 MHz is the EUT fundamental.
4. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0017) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT.
5. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto. Peak and average measurements were performed with their own appropriate detectors during the pre-scan measurements.

**Results: Peak / Middle Channel / 3DH5 / Beamforming / Core 0 + Core 1**

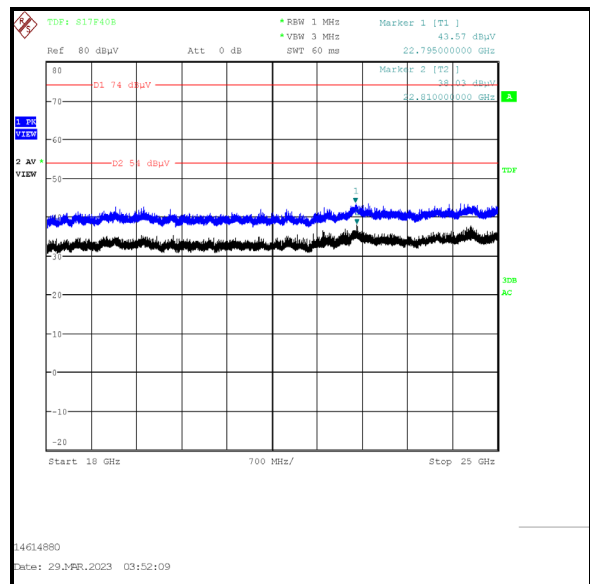
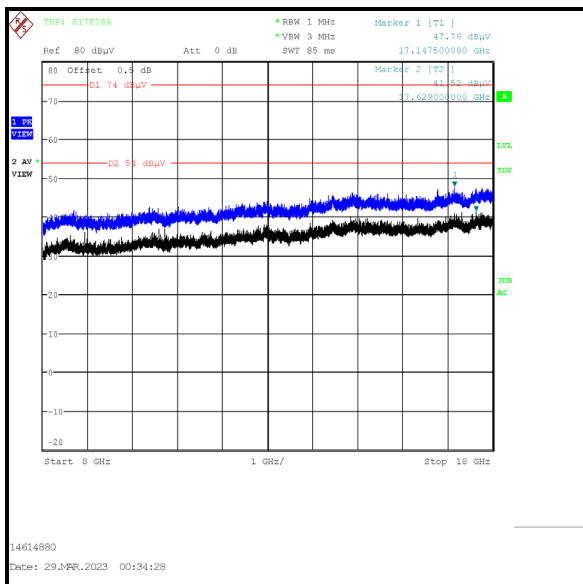
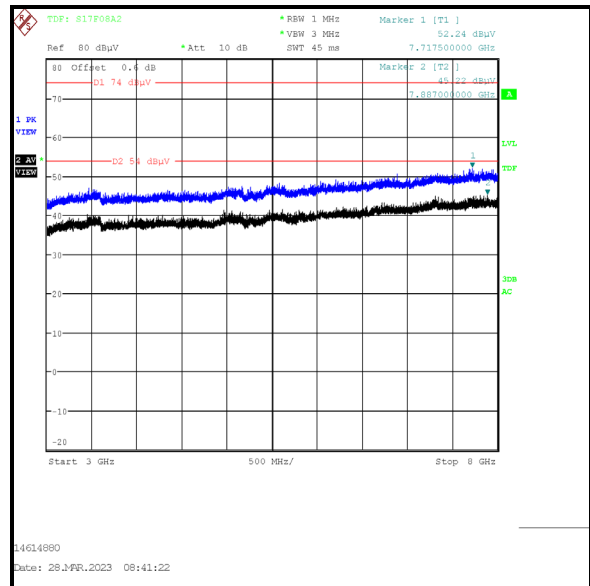
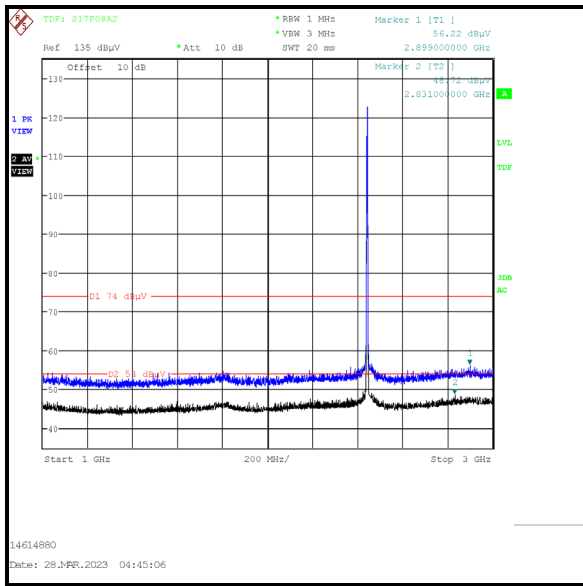
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2899.000	Vertical	56.2	74.0	17.8	Complied

**Results: Average / Middle Channel / 3DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2831.000	Vertical	48.7	54.0	5.3	Complied



### Transmitter Radiated Emissions (continued)



**5.3 Transmitter Band Edge Radiated Emissions**

**Test Summary:**

<b>Test Engineers:</b>	Andrew Harding & John Ferdinand	<b>Test Dates:</b>	17 March 2023 to 22 March 2023
<b>Test Sample Serial Number:</b>	J5047MKVKJ		

<b>FCC Reference:</b>	Parts 15.247(d) & 15.209(a)
<b>ISED Canada Reference:</b>	RSS-Gen 6.13 / RSS-247 5.5
<b>Test Method Used:</b>	ANSI C63.10 Section 6.10 & FCC KDB 558074 Section 9 b)

**Environmental Conditions:**

<b>Temperature (°C):</b>	21 to 22
<b>Relative Humidity (%):</b>	40 to 41

**Note(s):**

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. The lower band edge is adjacent to a non-restricted band. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The test receiver was left to sweep for a sufficient length of time in order to maximise the carrier level and out-of-band emissions. A marker and corresponding reference level line were placed on the peak of the carrier. A marker was placed on the band edge spot frequencies and a second marker placed on the highest emission level in the adjacent band (where a higher level emission was present). Marker frequencies and levels were recorded.
3. The upper band edge is adjacent to a restricted band. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. Peak and average measurements were performed with their respective detectors, sweep time was set to auto and trace mode was Max Hold. The test receiver was left to sweep for a sufficient length of time in order to maximise the carrier level and out-of-band emissions. A marker was placed on the band edge spot frequencies and a second marker placed on the highest emission level in the adjacent band (where a higher level emission was present). Marker frequencies and levels were recorded.
4. There is a restricted band 10 MHz below the lower band edge. The test receiver was set up as follows: the RBW set to 1 MHz, the VBW set to 3 MHz, with the sweep time set to auto couple. Peak and average measurements were performed with their respective detectors. Markers were placed on the highest point on each trace.
5. \* -20 dBc limit.
6. \*\*For the upper band edge the average measurements: The corrected average level has been obtained by subtracting the calculated duty cycle correction factor from the measured peak level for any restricted band emissions related to the fundamental. See Appendix 1 for further information.

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 2DH5 / SISO / Core 0**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2400.0	Vertical	50.8	92.8*	42.0	Complied
2483.5	Vertical	57.0	74.0	17.0	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	38.0**	54.0	16.0	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

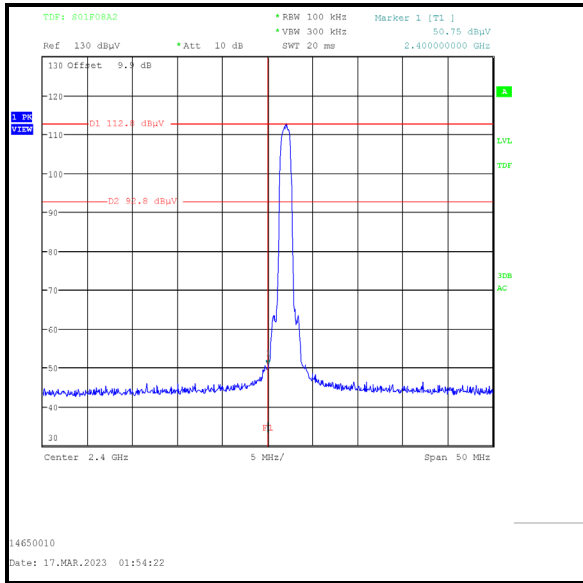
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2383.840	Vertical	54.3	74.0	19.7	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

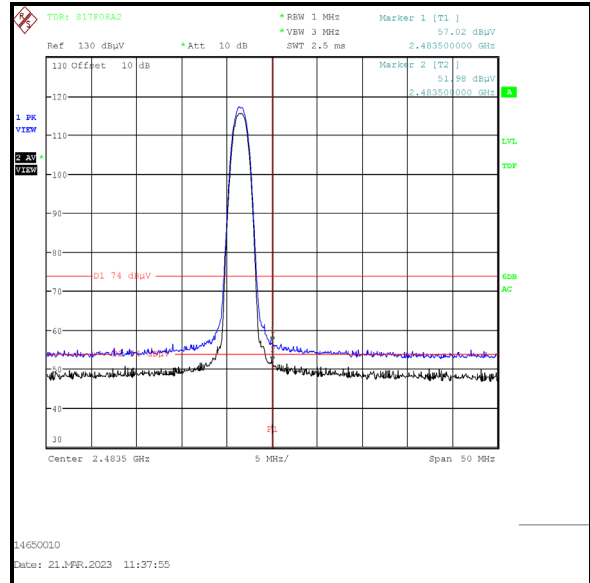
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.760	Vertical	47.3	54.0	6.7	Complied

### Transmitter Band Edge Radiated Emissions (continued)

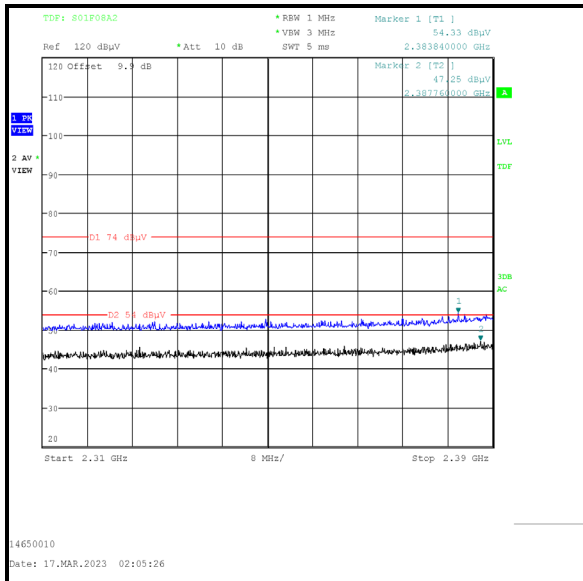
#### Results: Static Mode / 2DH5 / SISO / Core 0



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 2DH5 / SISO / Core 0**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.760	Vertical	53.9	95.3*	41.4	Complied
2400.0	Vertical	50.9	95.3*	44.4	Complied
2483.5	Vertical	54.7	74.0	19.3	Complied
2483.580	Vertical	56.0	74.0	18.0	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	35.7**	54.0	18.3	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

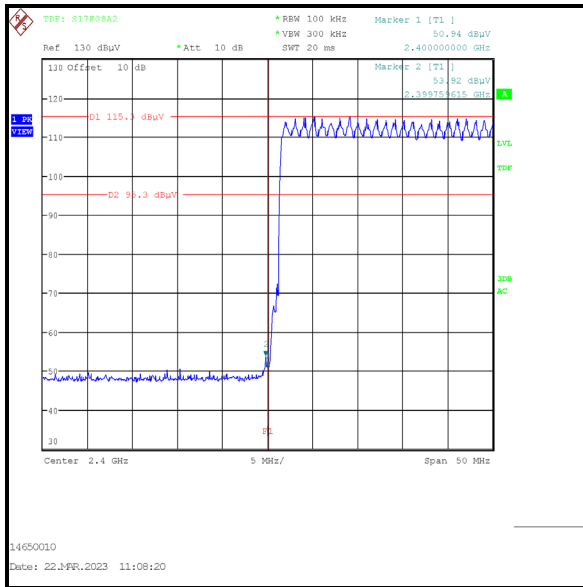
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2371.795	Vertical	54.2	74.0	19.8	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

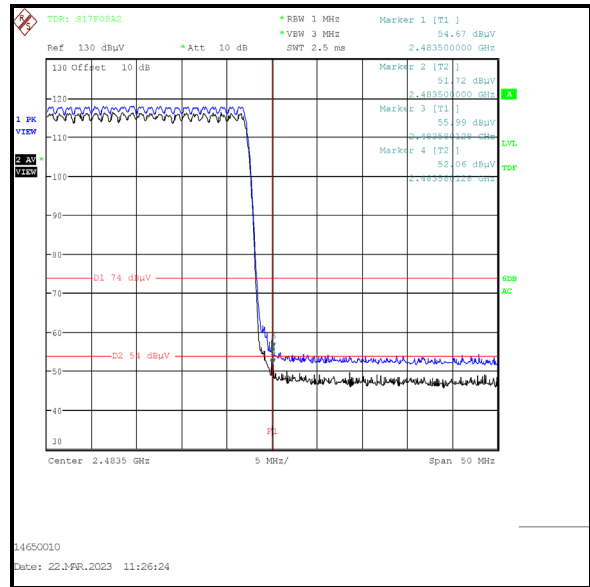
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2384.231	Vertical	48.3	54.0	5.7	Complied

### Transmitter Band Edge Radiated Emissions (continued)

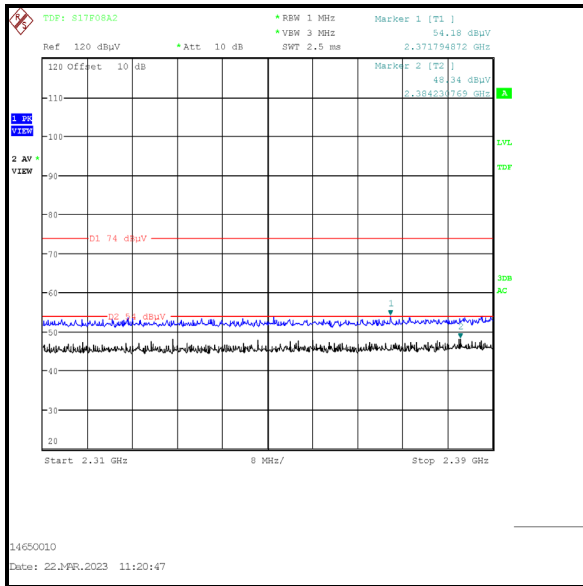
### Results: Hopping Mode / 2DH5 / SISO / Core 0



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 3DH5 / SISO / Core 0**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.850	Vertical	51.2	93.9*	42.7	Complied
2400.0	Vertical	50.5	93.9*	43.4	Complied
2483.5	Vertical	57.0	74.0	17.0	Complied
2483.740	Vertical	58.0	74.0	16.0	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	38.0**	54.0	16.0	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

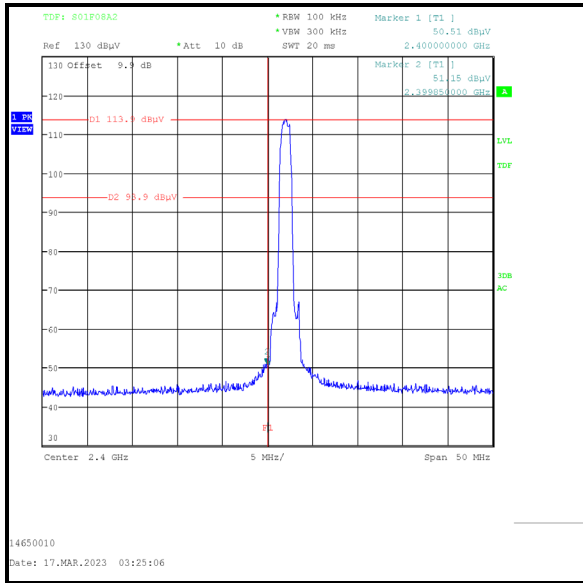
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2389.280	Vertical	54.8	74.0	19.2	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

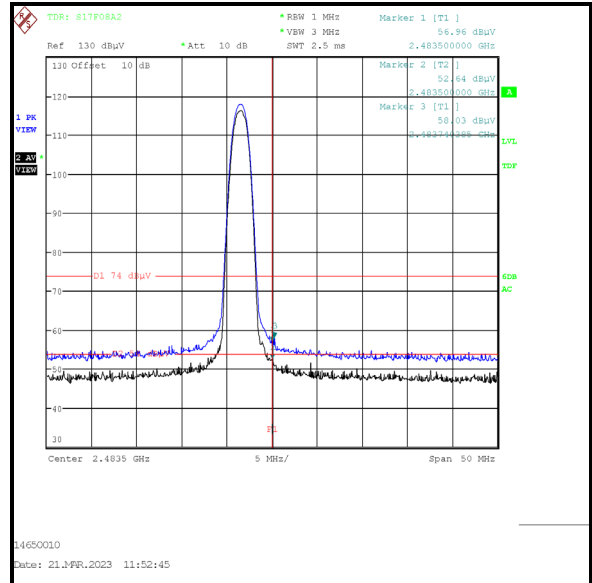
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2383.680	Vertical	47.6	54.0	6.4	Complied

### Transmitter Band Edge Radiated Emissions (continued)

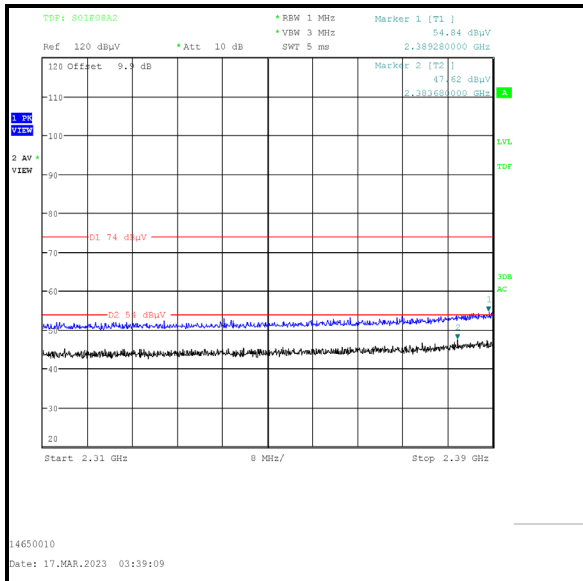
#### Results: Static Mode / 3DH5 / SISO / Core 0



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band



**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 3DH5 / SISO / Core 0**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.599	Vertical	51.6	95.4*	43.8	Complied
2400.0	Vertical	50.8	95.4*	44.6	Complied
2483.5	Vertical	53.8	74.0	20.2	Complied
2484.301	Vertical	54.8	74.0	19.2	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	34.8**	54.0	19.2	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

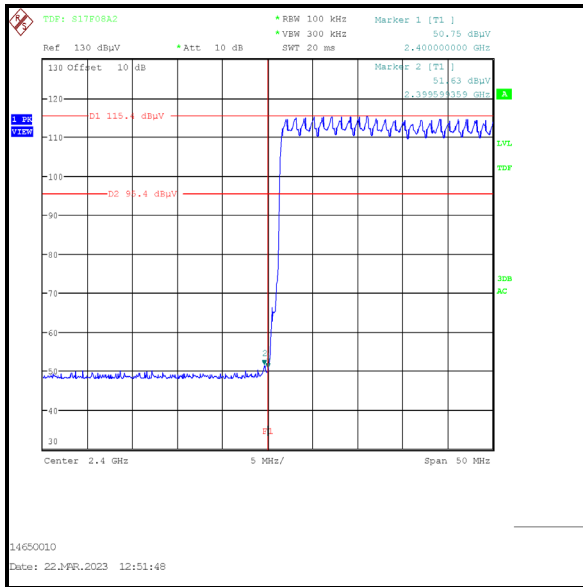
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.436	Vertical	54.8	74.0	19.2	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

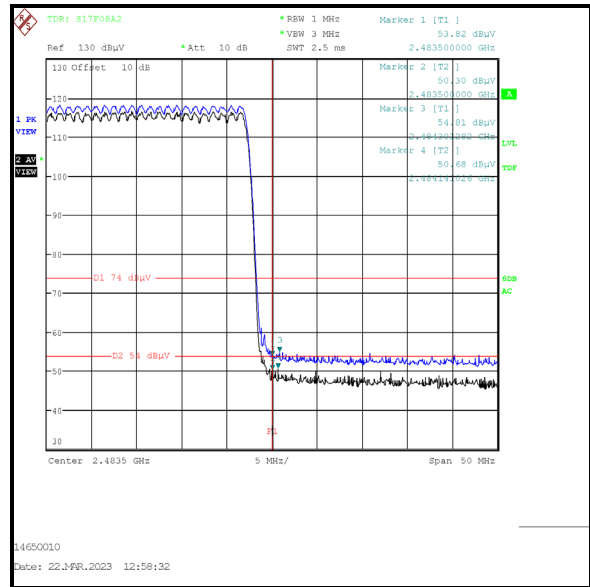
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2378.462	Vertical	48.4	54.0	5.6	Complied

### Transmitter Band Edge Radiated Emissions (continued)

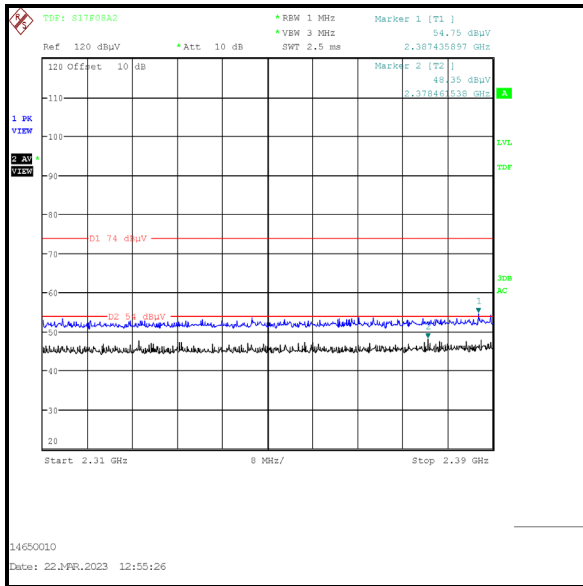
#### Results: Hopping Mode / 3DH5 / SISO / Core 0



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 2DH5 / SISO / Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.950	Vertical	51.3	92.2*	40.9	Complied
2400.0	Vertical	51.2	92.2*	41.0	Complied
2483.5	Vertical	56.9	74.0	17.1	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	37.9**	54.0	16.1	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

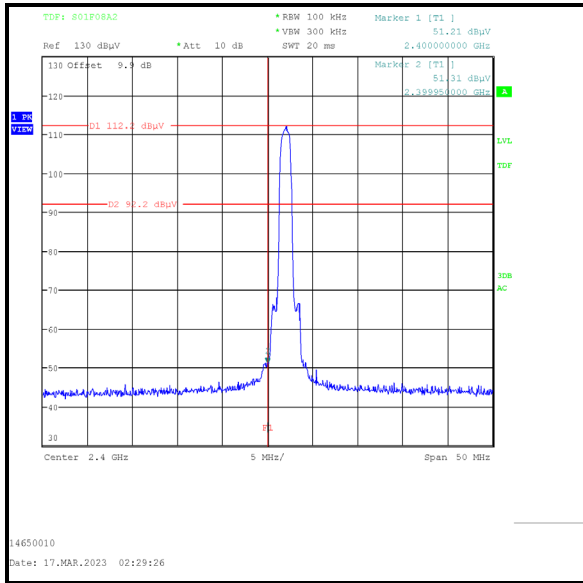
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2389.680	Vertical	54.9	74.0	19.1	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

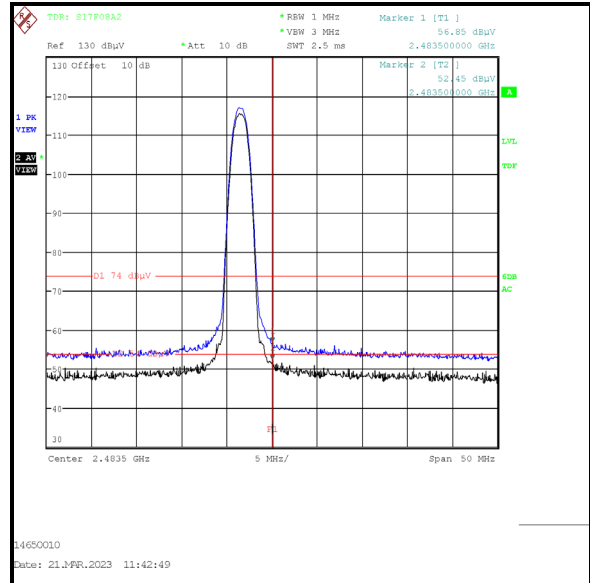
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2378.960	Vertical	47.2	54.0	6.8	Complied

**Transmitter Band Edge Radiated Emissions (continued)**

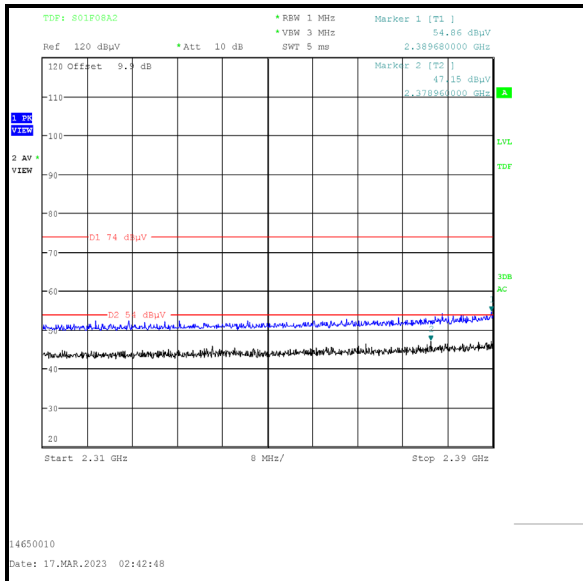
**Results: Static Mode / 2DH5 / SISO / Core 1**



**Lower Band Edge**



**Upper Band Edge**



**2310 MHz to 2390 MHz Restricted Band**

**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 2DH5 / SISO / Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2400.0	Vertical	53.4	95.6*	42.2	Complied
2483.5	Vertical	55.1	74.0	18.9	Complied
2487.026	Vertical	55.8	74.0	18.2	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	36.1**	54.0	17.9	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

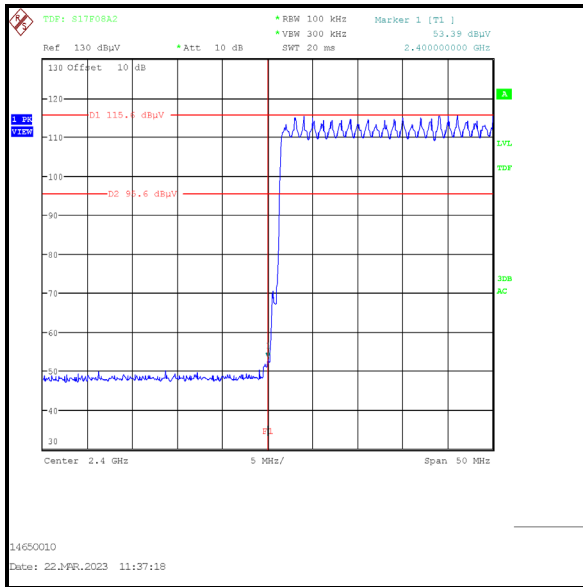
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2386.410	Vertical	56.7	74.0	17.3	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

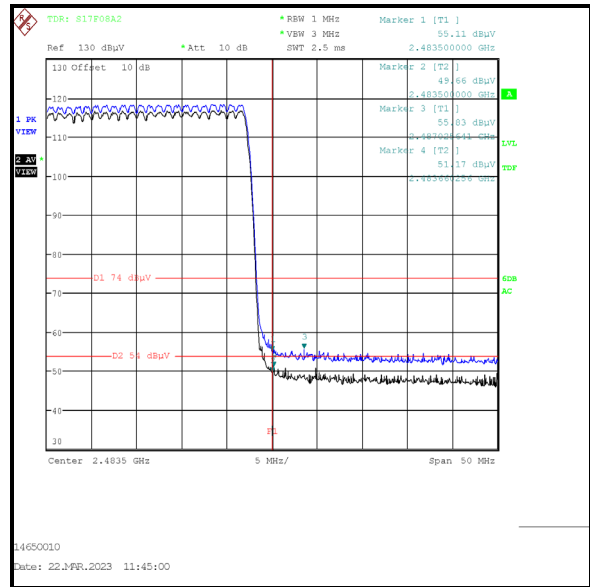
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.949	Vertical	50.1	54.0	3.9	Complied

### Transmitter Band Edge Radiated Emissions (continued)

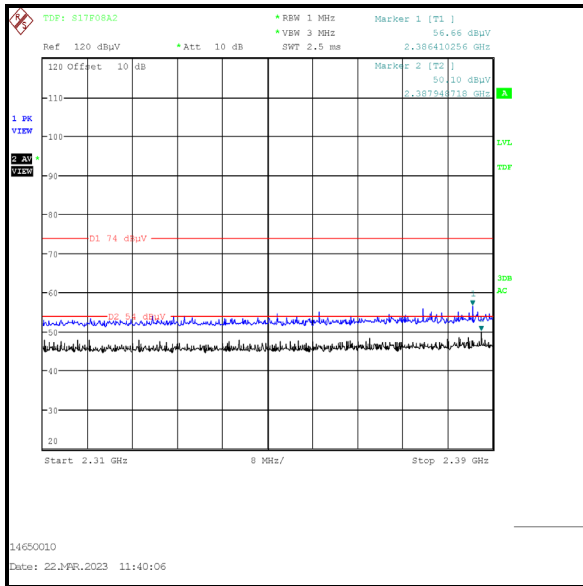
#### Results: Hopping Mode / 2DH5 / SISO / Core 1



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 3DH5 / SISO / Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.850	Vertical	51.7	92.0*	40.3	Complied
2400.0	Vertical	51.3	92.0*	40.7	Complied
2483.5	Vertical	56.0	74.0	18.0	Complied
2483.580	Vertical	56.1	74.0	17.9	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	37.0**	54.0	17.0	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

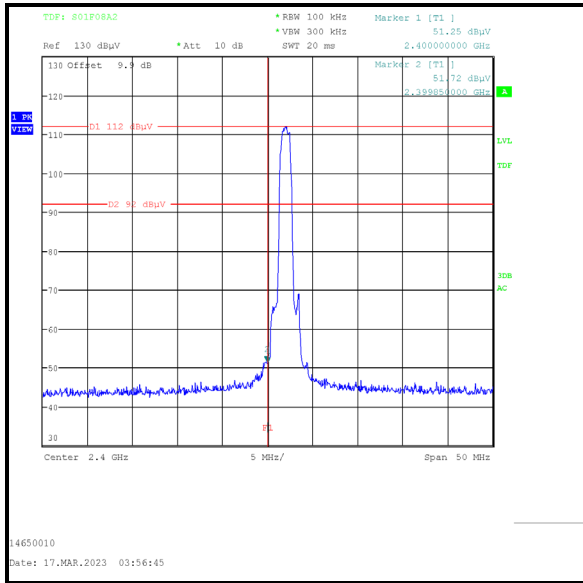
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2384.400	Vertical	53.7	74.0	20.3	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

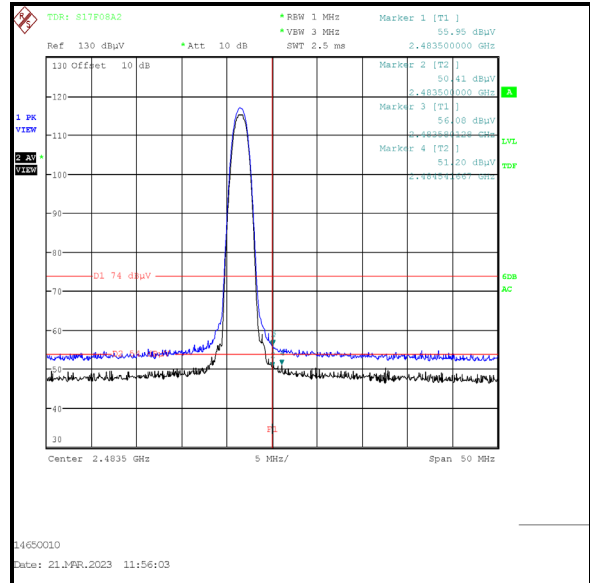
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.600	Vertical	46.7	54.0	7.3	Complied

### Transmitter Band Edge Radiated Emissions (continued)

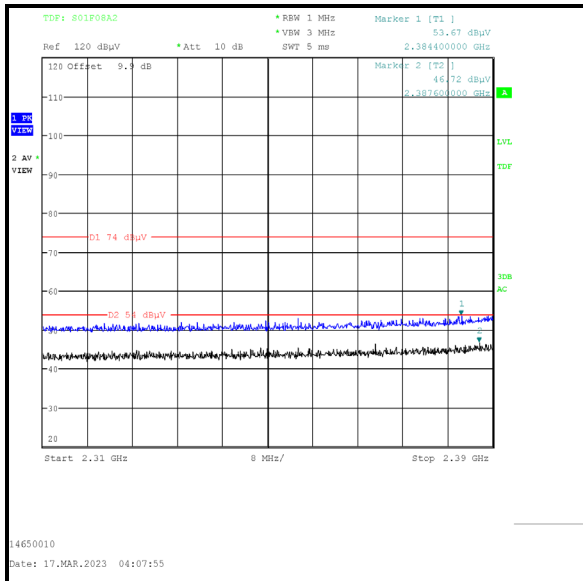
#### Results: Static Mode / 3DH5 / SISO / Core 1



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band



**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 3DH5 / SISO / Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.599	Vertical	53.0	95.5*	42.5	Complied
2400.0	Vertical	50.4	95.5*	45.1	Complied
2483.5	Vertical	56.5	74.0	17.5	Complied
2483.580	Vertical	57.5	74.0	16.5	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	37.5**	54.0	16.5	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

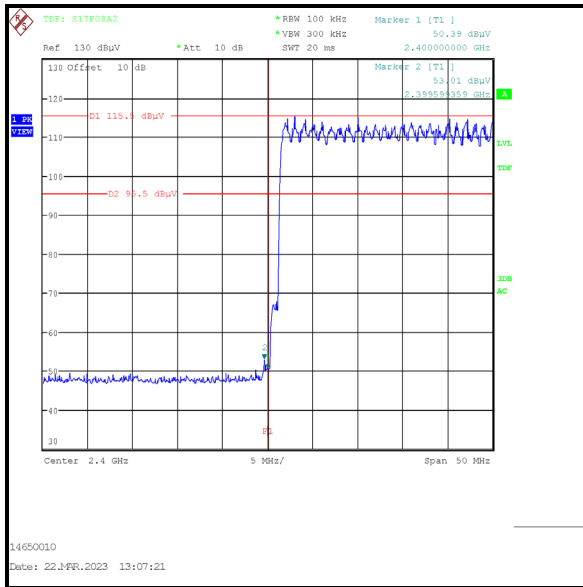
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2369.872	Vertical	57.5	74.0	16.5	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

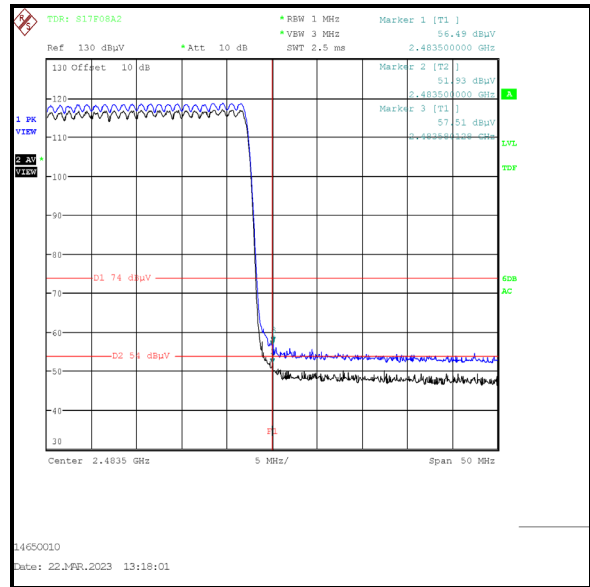
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2380.513	Vertical	49.8	54.0	4.2	Complied

### Transmitter Band Edge Radiated Emissions (continued)

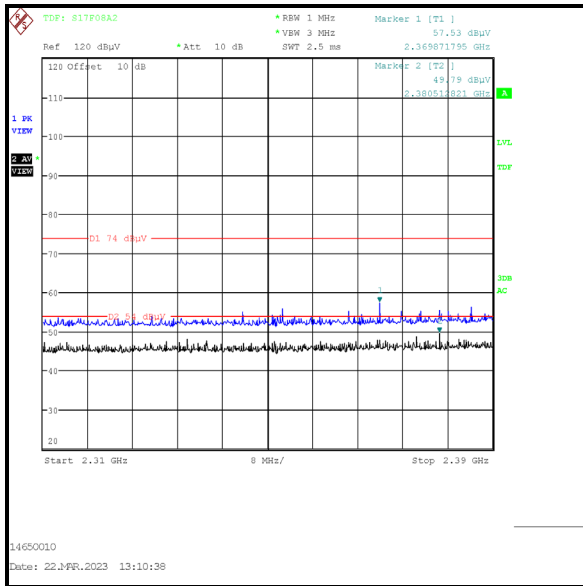
#### Results: Hopping Mode / 3DH5 / SISO / Core 1



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 2DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.650	Vertical	53.6	96.4*	42.8	Complied
2400.0	Vertical	53.4	96.4*	43.0	Complied
2483.5	Vertical	57.2	74.0	16.8	Complied
2483.660	Vertical	58.2	74.0	15.8	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	38.2**	54.0	15.8	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

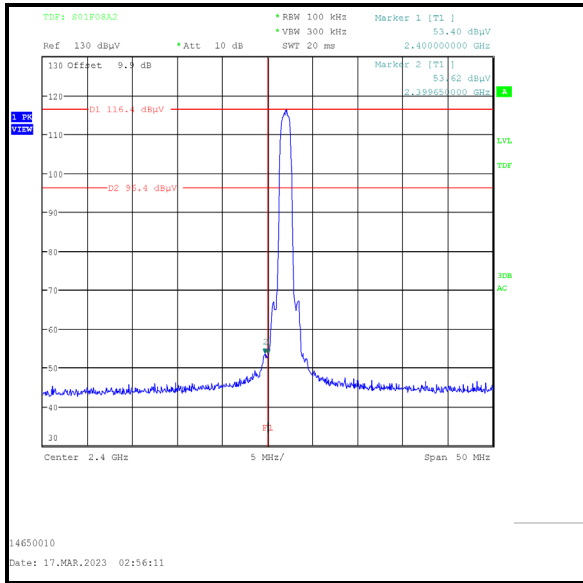
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.440	Vertical	54.8	74.0	19.2	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

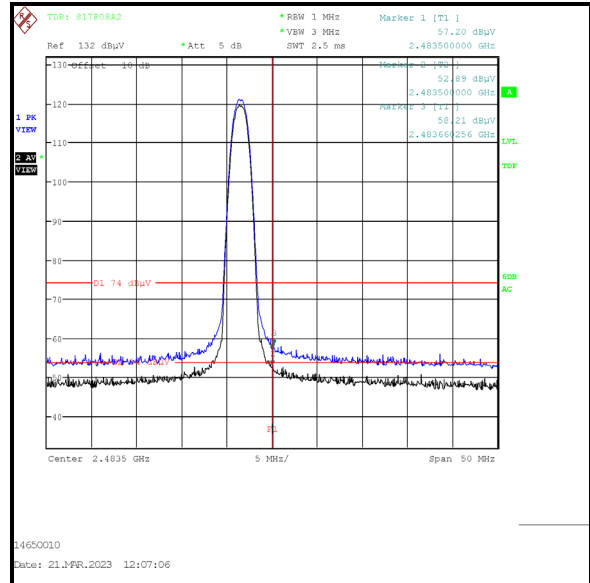
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2389.600	Vertical	47.6	54.0	6.4	Complied

**Transmitter Band Edge Radiated Emissions (continued)**

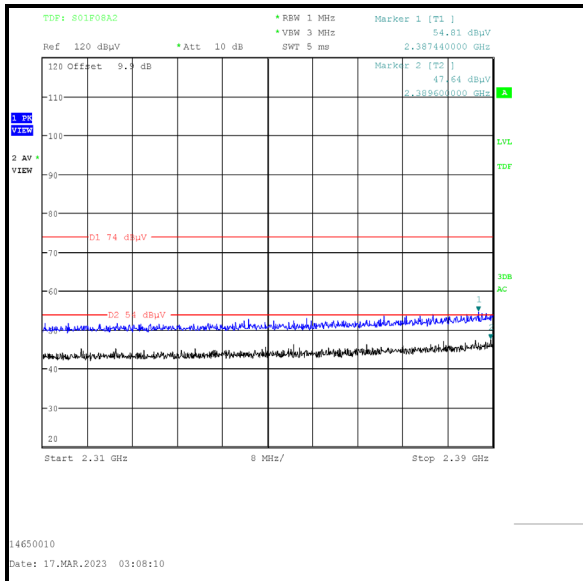
**Results: Static Mode / 2DH5 / Beamforming / Core 0 + Core 1**



**Lower Band Edge**



**Upper Band Edge**



**2310 MHz to 2390 MHz Restricted Band**

**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 2DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.679	Vertical	54.6	99.1*	44.5	Complied
2400.0	Vertical	54.2	99.1*	44.9	Complied
2483.5	Vertical	57.2	74.0	16.8	Complied
2485.904	Vertical	58.5	74.0	15.5	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	38.2**	54.0	15.8	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

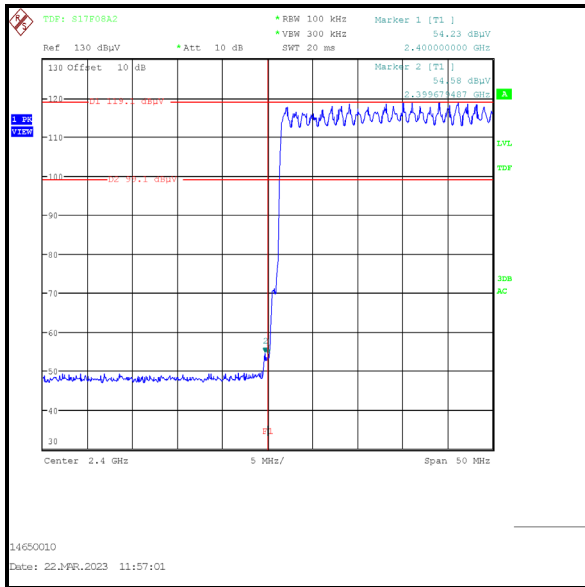
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2367.949	Vertical	55.4	74.0	18.6	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

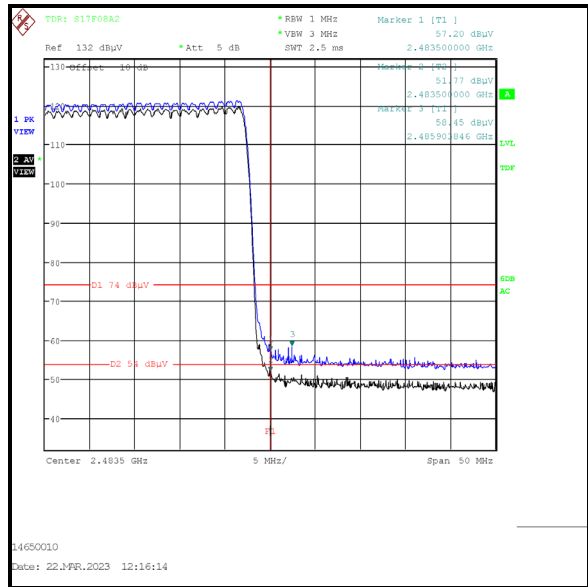
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2377.821	Vertical	48.6	54.0	5.4	Complied

**Transmitter Band Edge Radiated Emissions (continued)**

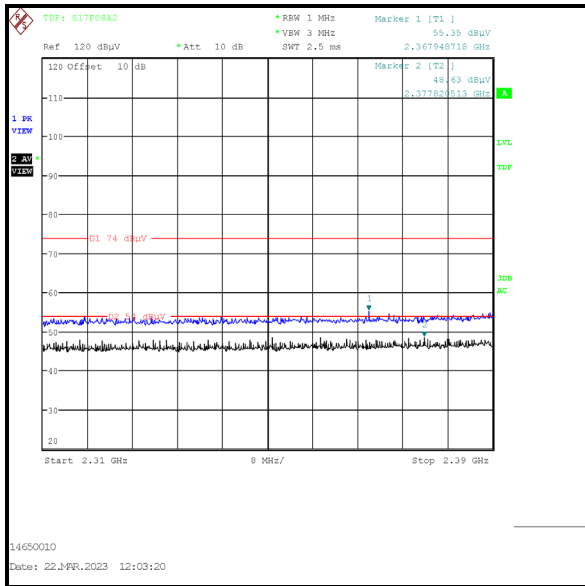
**Results: Hopping Mode / 2DH5 / Beamforming / Core 0 + Core 1**



**Lower Band Edge**



**Upper Band Edge**



**2310 MHz to 2390 MHz Restricted Band**

**Transmitter Band Edge Radiated Emissions (continued)****Results: Static Mode / 3DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.850	Vertical	55.0	96.8*	41.8	Complied
2400.0	Vertical	54.4	96.8*	42.4	Complied
2483.5	Vertical	59.2	74.0	14.8	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	40.2**	54.0	13.8	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

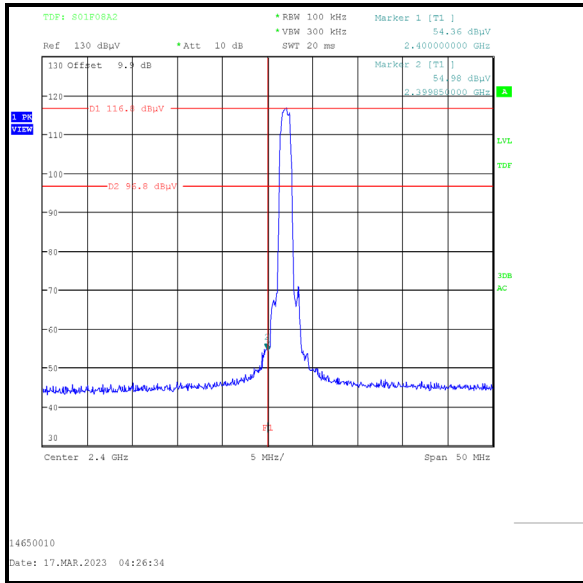
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2386.320	Vertical	55.1	74.0	18.9	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

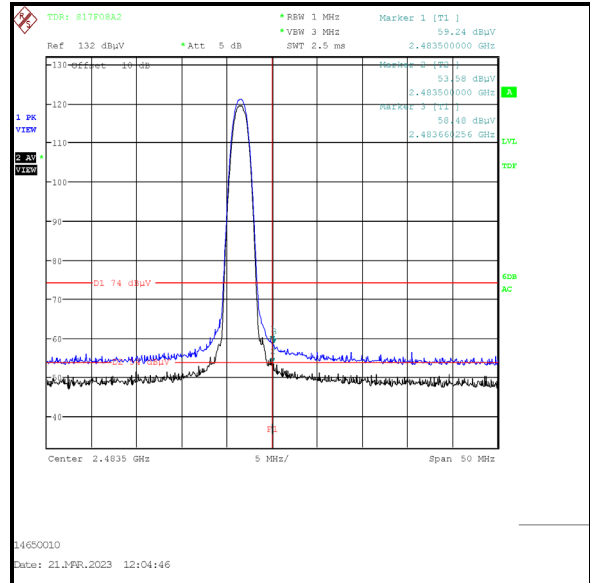
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2389.840	Vertical	48.0	54.0	6.0	Complied

**Transmitter Band Edge Radiated Emissions (continued)**

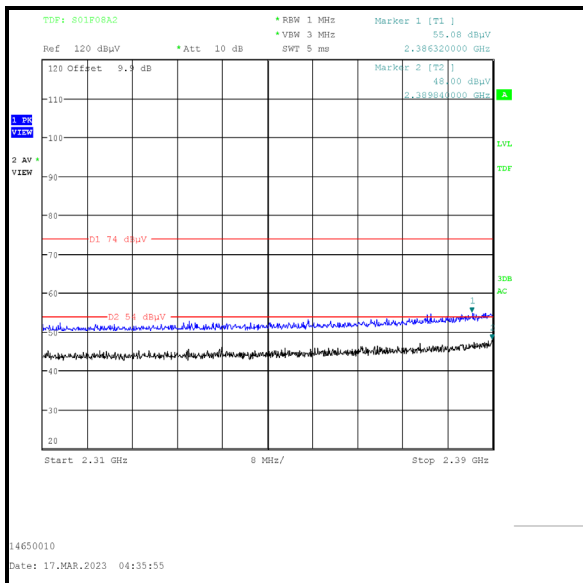
**Results: Static Mode / 3DH5 / Beamforming / Core 0 + Core 1**



**Lower Band Edge**



**Upper Band Edge**



**2310 MHz to 2390 MHz Restricted Band**



**Transmitter Band Edge Radiated Emissions (continued)****Results: Hopping Mode / 3DH5 / Beamforming / Core 0 + Core 1**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2399.760	Vertical	53.3	99.4*	46.1	Complied
2400.0	Vertical	53.2	99.4*	46.2	Complied
2483.5	Vertical	58.6	74.0	15.4	Complied
2484.222	Vertical	60.1	74.0	13.9	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	39.6**	54.0	14.4	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

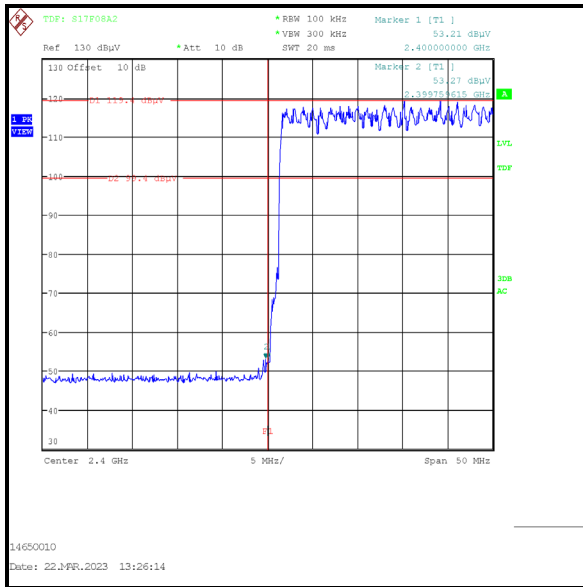
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2383.205	Vertical	55.3	74.0	18.7	Complied

**Results: 2310 MHz to 2390 MHz Restricted Band / Average**

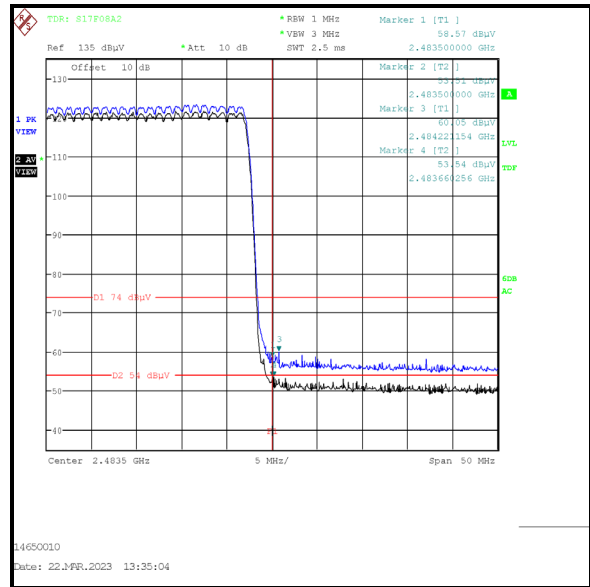
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2387.949	Vertical	48.6	54.0	5.4	Complied

### Transmitter Band Edge Radiated Emissions (continued)

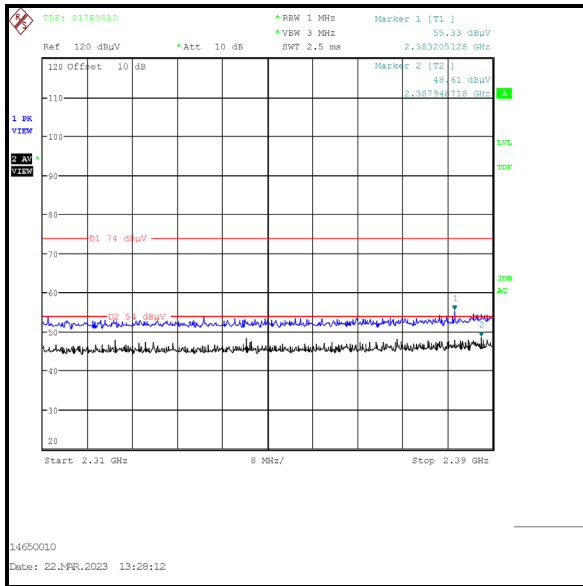
### Results: Hopping Mode / 3DH5 / Beamforming / Core 0 + Core 1



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

## **Appendix 1**

### **FHSS Duty Cycle Correction Factor Calculation**

In accordance with KDB 558074 section 9 and ANSI C63.10 section 7.5, a duty cycle correction factor may be applied to calculate the average radiated field strength emission levels for an FHSS device.

For 2DH5 and 3DH5 *Bluetooth* signals, the following values were taken from the *Bluetooth Core Specification V5.0* to give the worst case correction:

Modulation	2DH5 and 3DH5
Channel Hopping Rate (Hops/s)	1600
Tx Timeslots	5
Rx Timeslots	1
Adjusted Hopping Rate for Adaptive Frequency Hopping (Hops/s)	266.667
Time per Hop (ms)	3.75
Minimum Number of Channels	20
Time per Hop Sequence (ms)	75
Maximum Number of Hops on One Channel in any 100 ms Observation Period	3
Maximum Dwell Time on One Channel in any 100 ms Observation Period (ms)	11.25
Calculated Duty cycle correction factor applied (dB)	19.0
Maximum Duty cycle correction factor applied (dB)	19.0

\*Note: If the duty cycle correction factor is calculated to be > 20 dB then 20 dB correction factor applies.

The duty cycle correction factor was calculated based on the above values:

$$2DH5 \text{ and } 3DH5: 20 * \text{Log}(11.25 \text{ ms} / 100 \text{ ms}) = 19.0 \text{ dB}$$

**--- END OF REPORT ---**