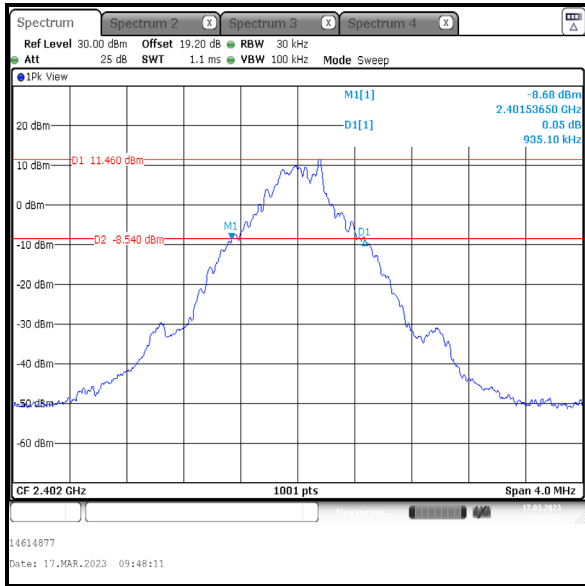


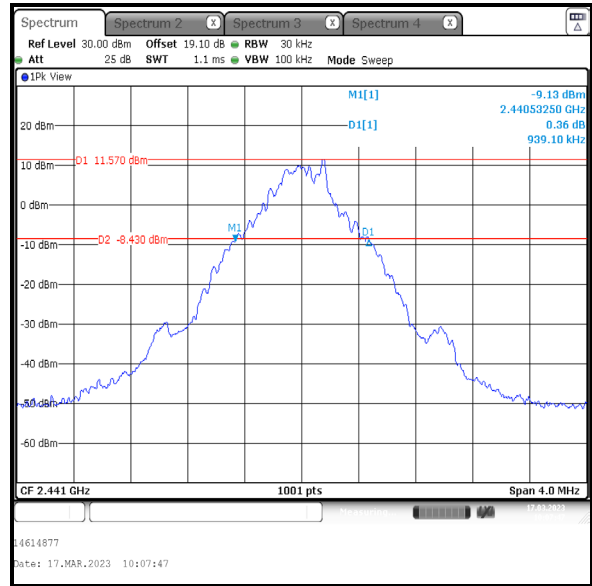
**Transmitter 20 dB Bandwidth (continued)**

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

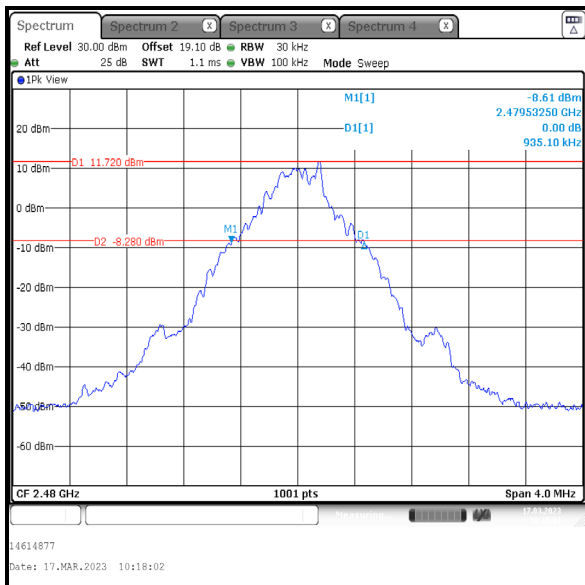
Channel	20 dB Bandwidth (kHz)
Bottom	935.100
Middle	939.100
Top	935.100



Bottom Channel



Middle Channel

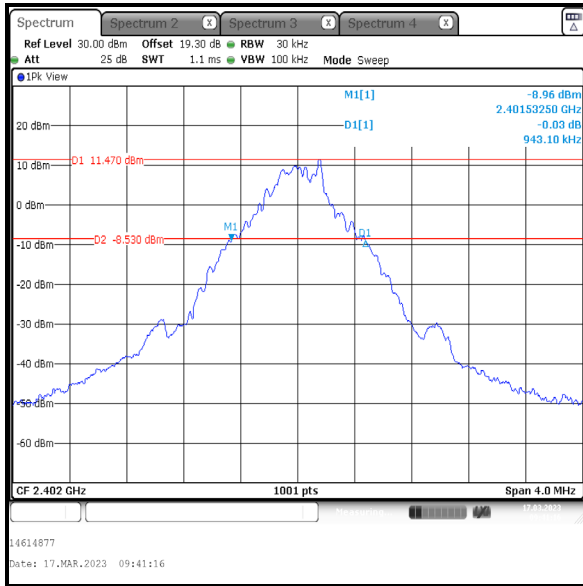


Top Channel

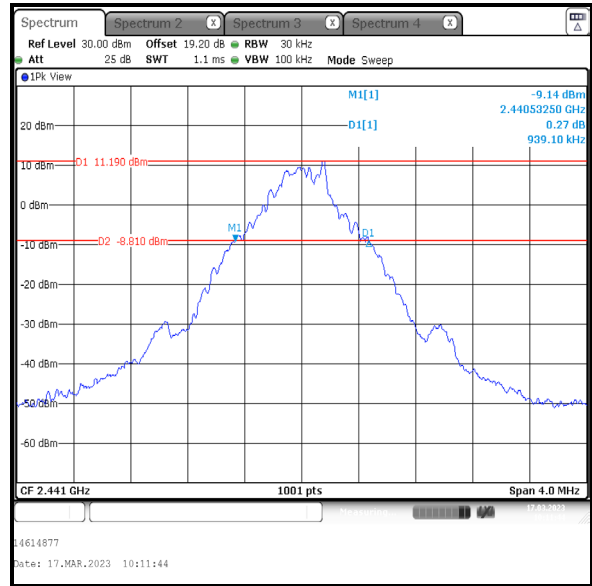
**Transmitter 20 dB Bandwidth (continued)**

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

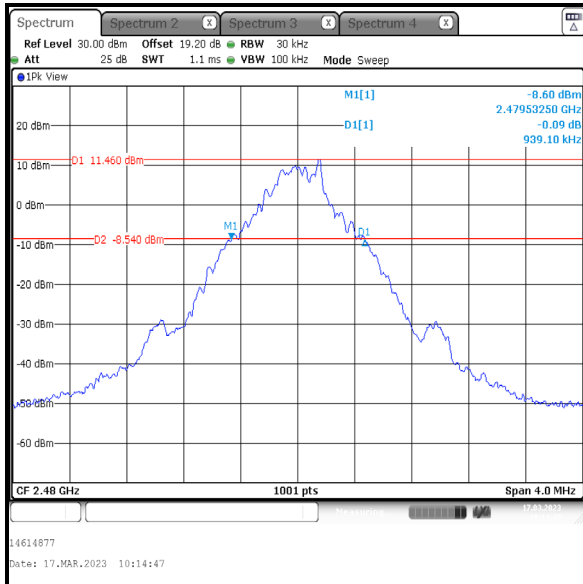
Channel	20 dB Bandwidth (kHz)
Bottom	943.100
Middle	939.100
Top	939.100



Bottom Channel



Middle Channel

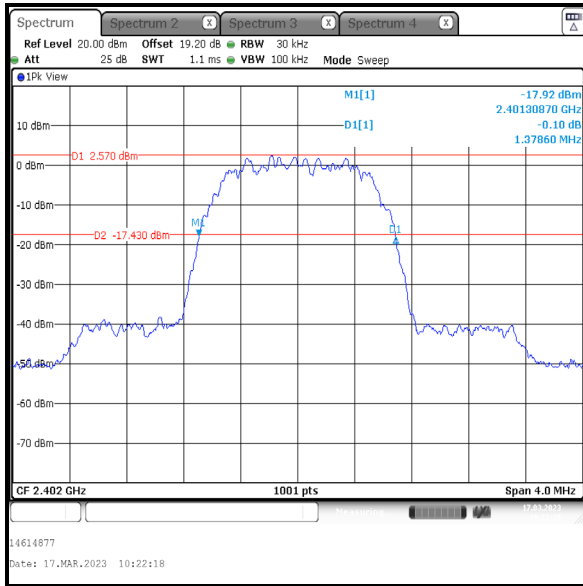


Top Channel

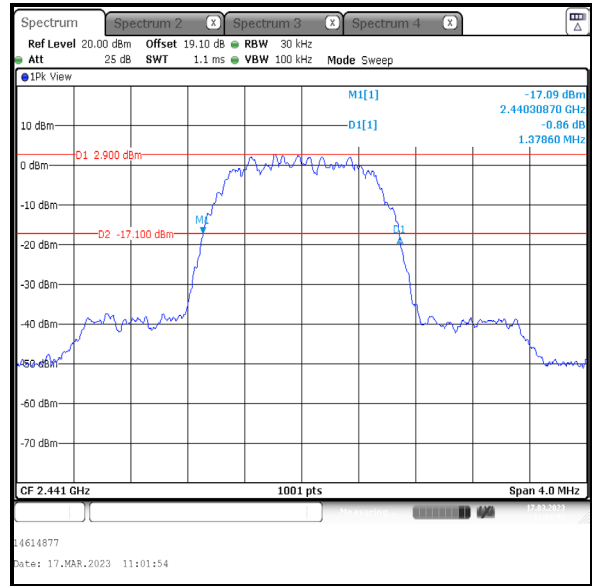
**Transmitter 20 dB Bandwidth (continued)**

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

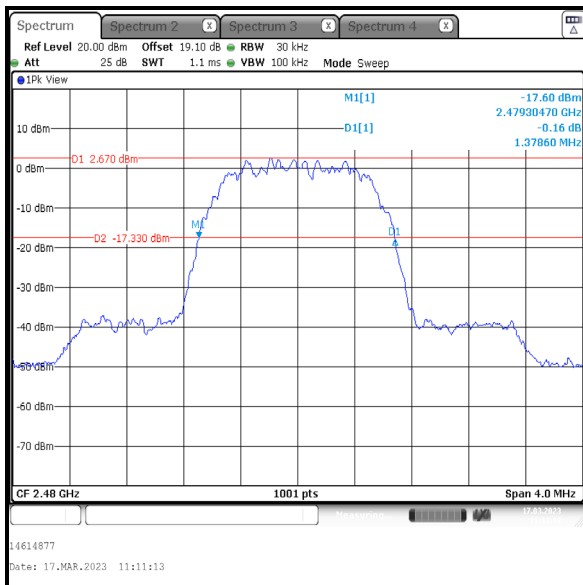
Channel	20 dB Bandwidth (kHz)
Bottom	1378.600
Middle	1378.600
Top	1378.600



**Bottom Channel**



**Middle Channel**

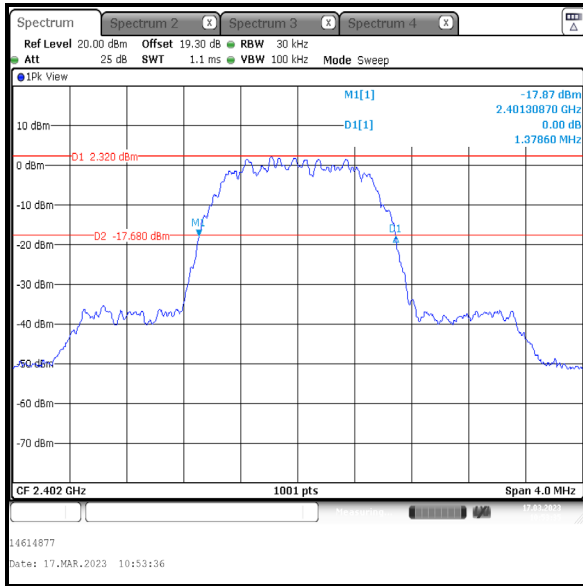


**Top Channel**

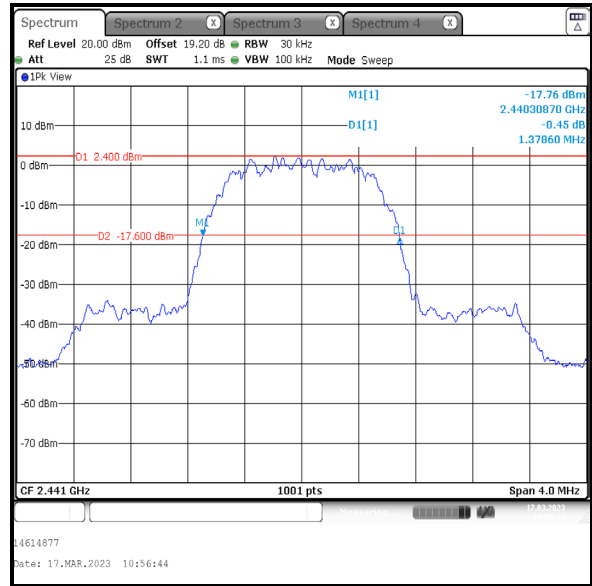
**Transmitter 20 dB Bandwidth (continued)**

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

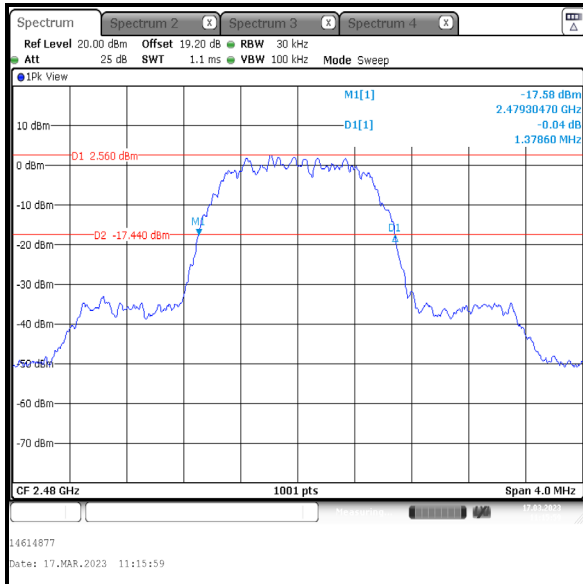
Channel	20 dB Bandwidth (kHz)
Bottom	1378.600
Middle	1378.600
Top	1378.600



**Bottom Channel**



**Middle Channel**

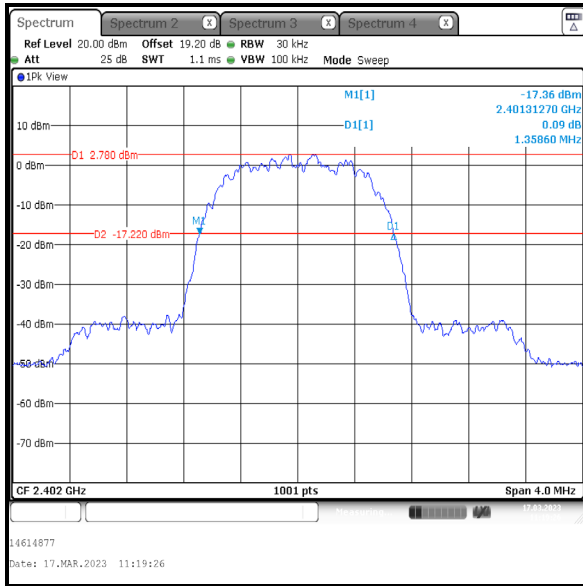


**Top Channel**

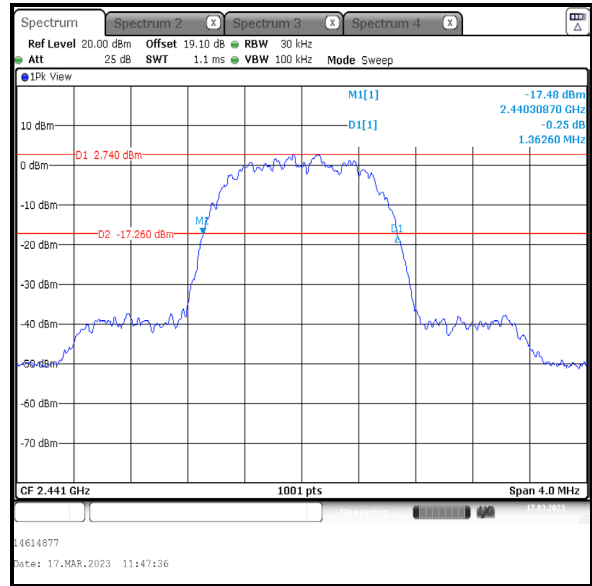
**Transmitter 20 dB Bandwidth (continued)**

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

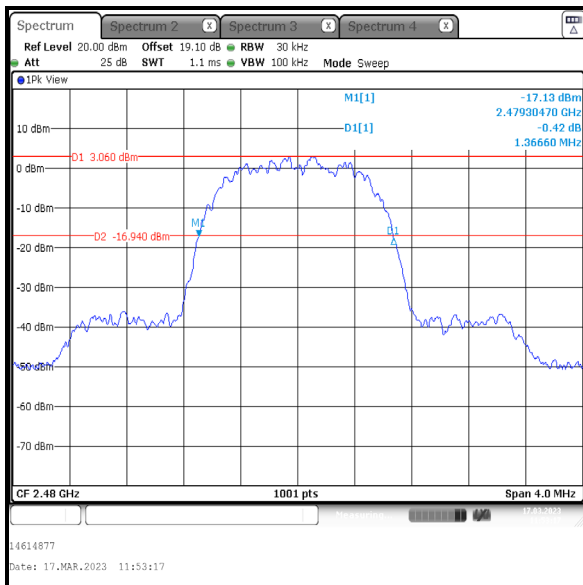
Channel	20 dB Bandwidth (kHz)
Bottom	1358.600
Middle	1362.600
Top	1366.600



**Bottom Channel**



**Middle Channel**

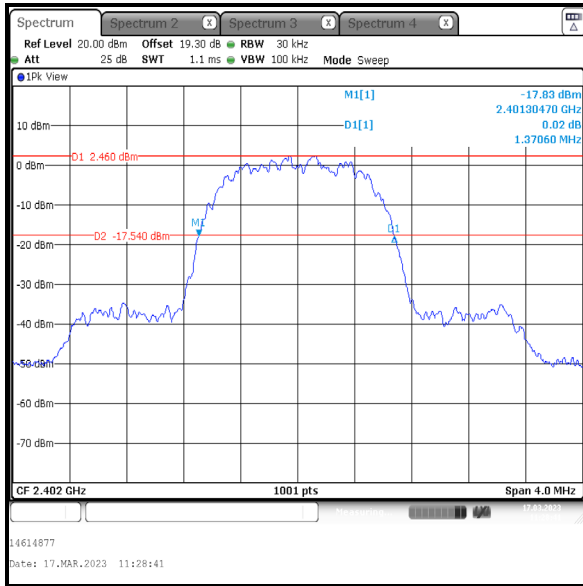


**Top Channel**

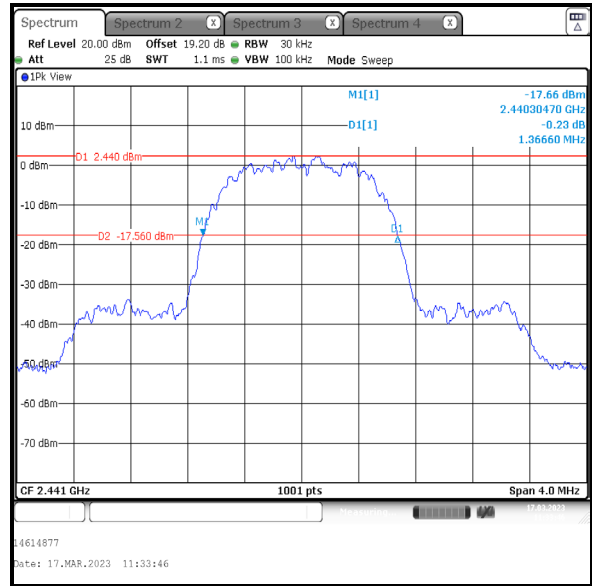
**Transmitter 20 dB Bandwidth (continued)**

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

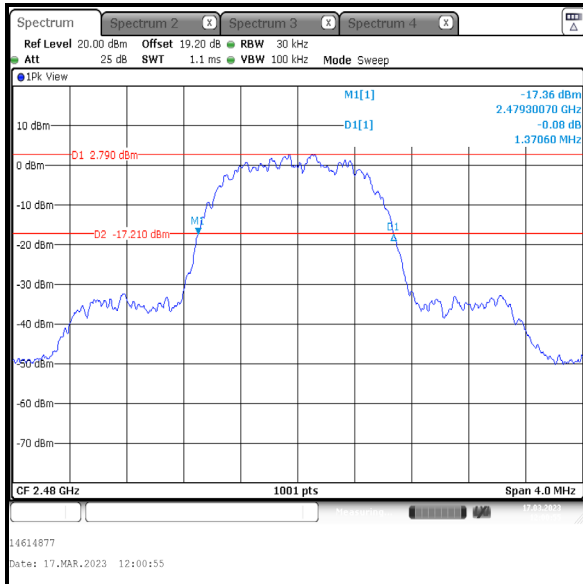
Channel	20 dB Bandwidth (kHz)
Bottom	1370.600
Middle	1366.600
Top	1370.600



**Bottom Channel**



**Middle Channel**



**Top Channel**

### **4.3 Transmitter Carrier Frequency Separation**

#### **Test Summary:**

<b>Test Engineer:</b>	Raghavendra Katti	<b>Test Dates:</b>	16 March 2023 & 17 March 2023
<b>Test Sample Serial Number:</b>	NNYGG3YVCT		

<b>FCC Reference:</b>	Part 15.247(a)(1)
<b>ISED Canada Reference:</b>	RSS-247 5.1(b)
<b>Test Method Used:</b>	ANSI C63.10 Section 7.8.2

#### **Environmental Conditions:**

<b>Temperature (°C):</b>	23
<b>Relative Humidity (%):</b>	40 to 42

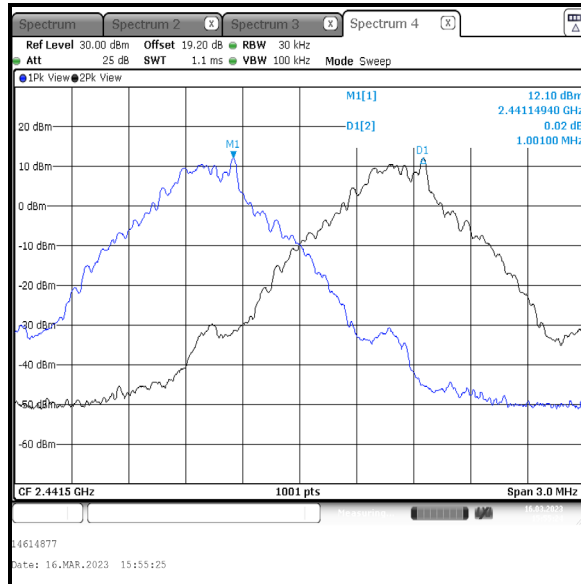
#### **Note(s):**

1. The 20 dB bandwidth measured for the middle channel operating at 2441 MHz was used to calculate the limit.
2. The signal analyser resolution bandwidth was set to 30 kHz and video bandwidth 100 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 3 MHz. A marker was placed at the centre of one signal and then a delta marker was placed in the same place on the second signal.
3. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

**Transmitter Carrier Frequency Separation (continued)**

**Results: DH5 / SISO / Core 1**

Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1001.000	623.400	377.600	Complied

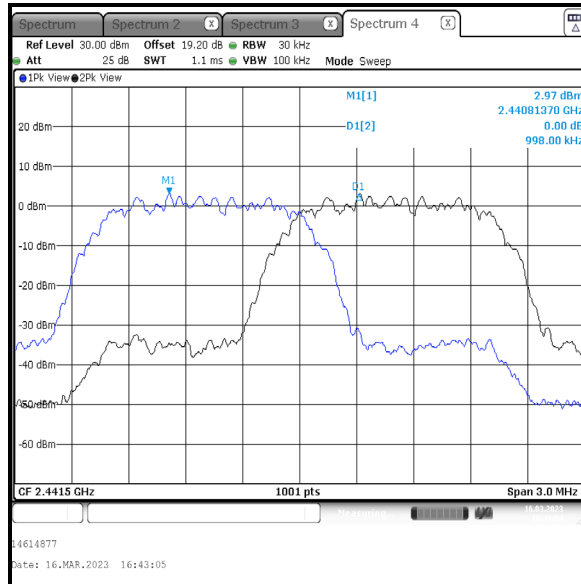




**Transmitter Carrier Frequency Separation (continued)**

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

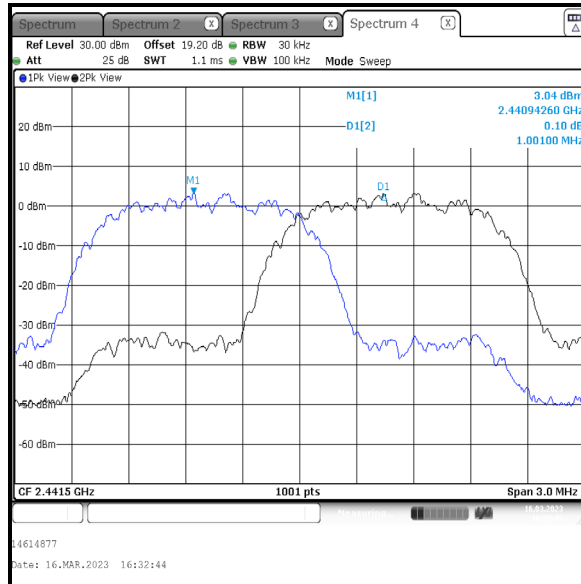
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
998.000	924.400	73.600	Complied



**Transmitter Carrier Frequency Separation (continued)**

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

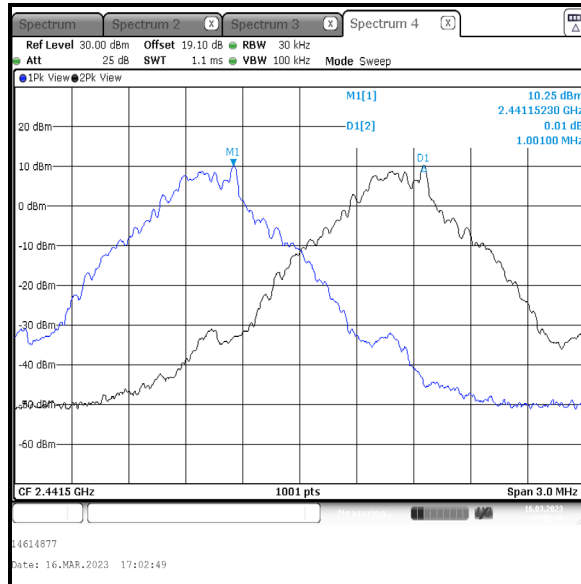
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1001.000	916.400	84.600	Complied



**Transmitter Carrier Frequency Separation (continued)**

**Results: DH5 / SISO / Core 2**

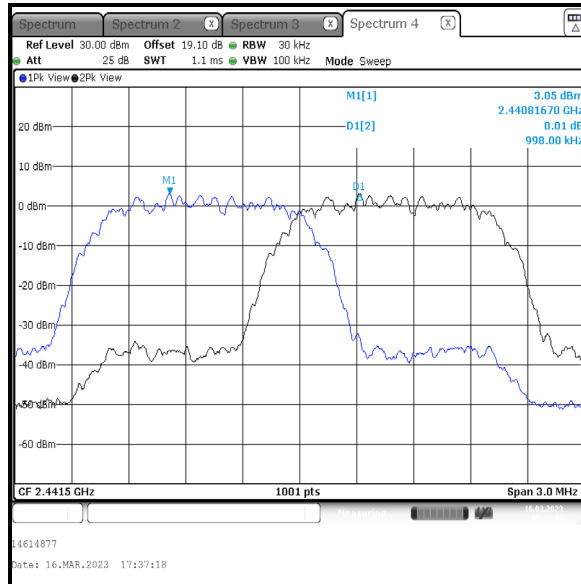
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1001.000	623.400	377.600	Complied



**Transmitter Carrier Frequency Separation (continued)**

**Results: 2DH5 / SISO / Core 2**

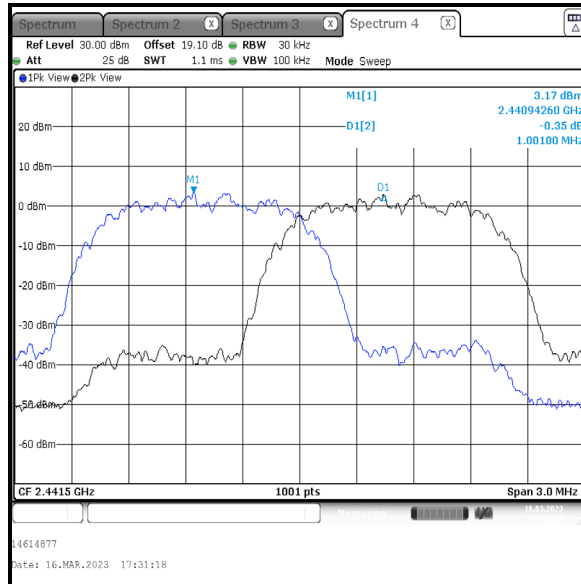
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
998.000	919.067	78.933	Complied



**Transmitter Carrier Frequency Separation (continued)**

**Results: 3DH5 / SISO / Core 2**

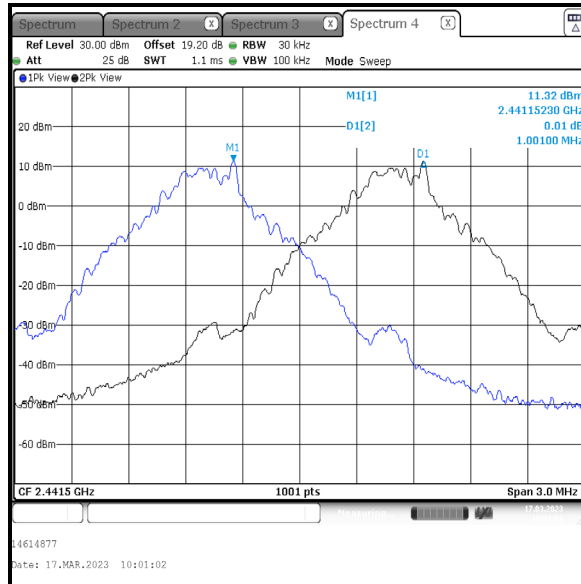
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1001.000	908.400	92.600	Complied



**Transmitter Carrier Frequency Separation (continued)**

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

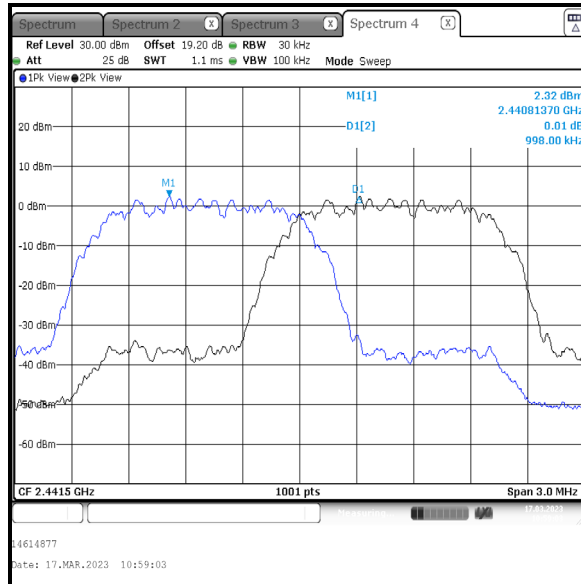
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1001.000	626.067	374.933	Complied



**Transmitter Carrier Frequency Separation (continued)**

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

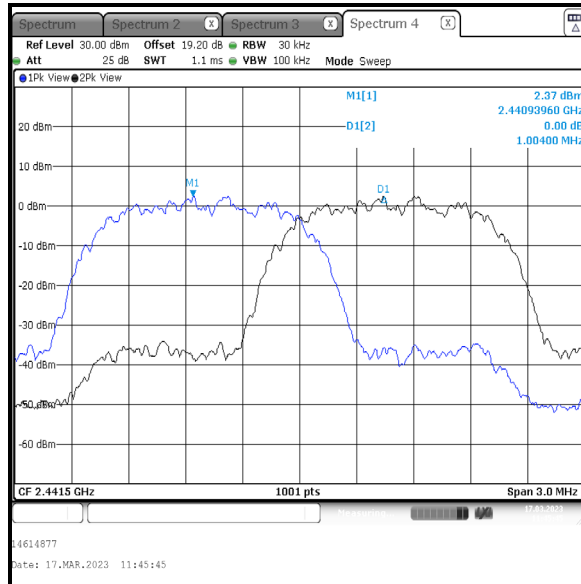
Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
998.000	919.067	78.933	Complied



**Transmitter Carrier Frequency Separation (continued)**

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

Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1004.000	911.067	92.933	Complied





#### **4.4 Transmitter Number of Hopping Frequencies and Average Time of Occupancy**

##### **Test Summary:**

<b>Test Engineer:</b>	Raghavendra Katti	<b>Test Date:</b>	17 March 2023
<b>Test Sample Serial Number:</b>	NNYGG3YVCT		

<b>FCC Reference:</b>	Part 15.247(a)(1)(iii)
<b>ISED Canada Reference:</b>	RSS-247 5.1(d)
<b>Test Method Used:</b>	ANSI C63.10 Sections 7.8.3 & 7.8.4

##### **Environmental Conditions:**

<b>Temperature (°C):</b>	23
<b>Relative Humidity (%):</b>	40

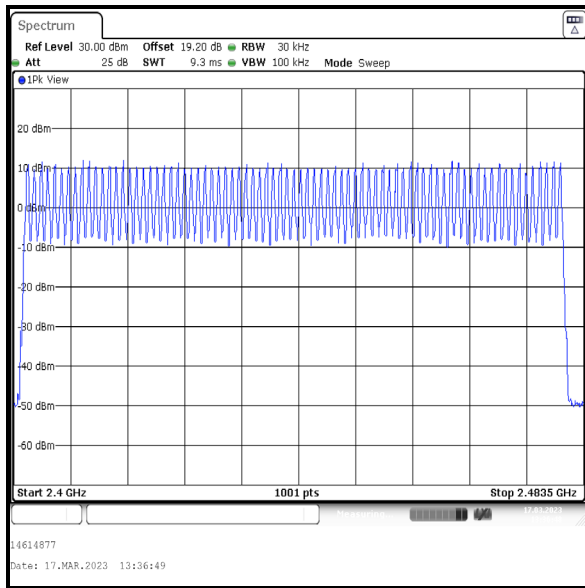
##### **Note(s):**

1. Tests were performed to identify the average time of occupancy in number of channels (79) x 0.4 seconds. The calculated period is 31.6 seconds.
2. The signal analyser was set up for the Number of Hopping Frequencies measurement as follows: the resolution bandwidth was set to 30 kHz and video bandwidth of 100 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 83.5 MHz.
3. The signal analyser was set up for the Emission Width measurement as follows: the resolution bandwidth was set to 30 kHz and video bandwidth of 100 kHz. A peak detector was used and sweep time was set to auto with a span of zero Hz. The signal analyser was set to trigger at 1 ms, with a marker placed at the start of the emission and a delta marked place at the end of the emission. The emission width is recorded in the table below
4. The signal analyser was set up for the Number of Hopping Frequencies in 32 seconds measurement as follows: the resolution bandwidth was set to 30 kHz and video bandwidth of 100 kHz. A peak detector was used and sweep time was set to 32 seconds. The EUT was set to transmit in a hopping frequency mode with zero span. The total number of hopping frequencies were recorded in the table below.
5. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

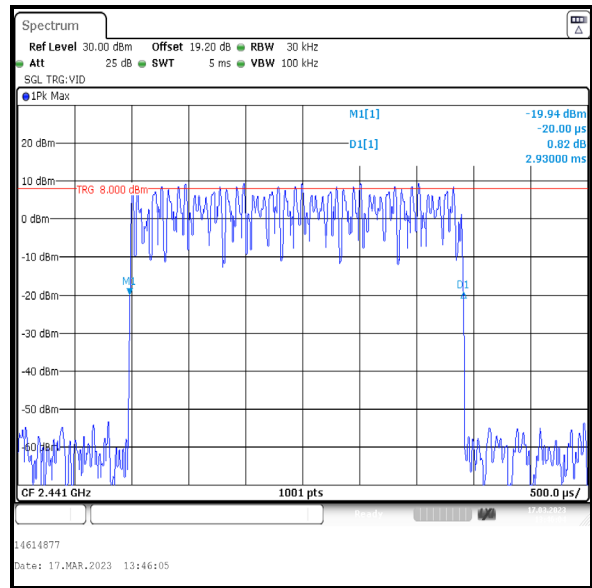
**Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)**

**Results: SISO / Core 1**

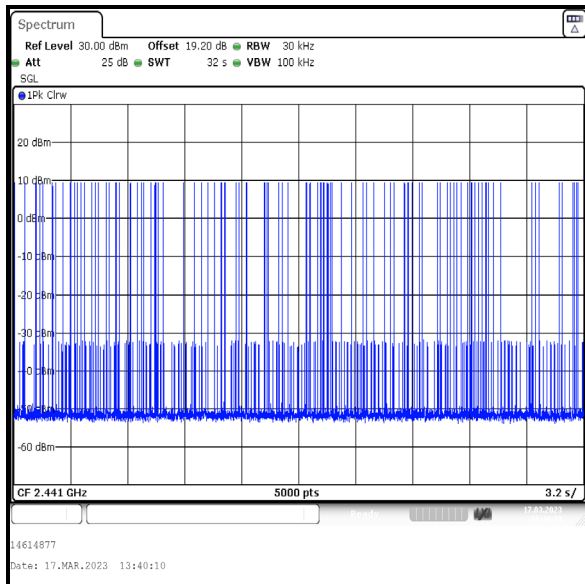
Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2930.0	108	0.316	0.4	0.086	Complied



**Number of Hopping Frequencies**



**Emission Width**

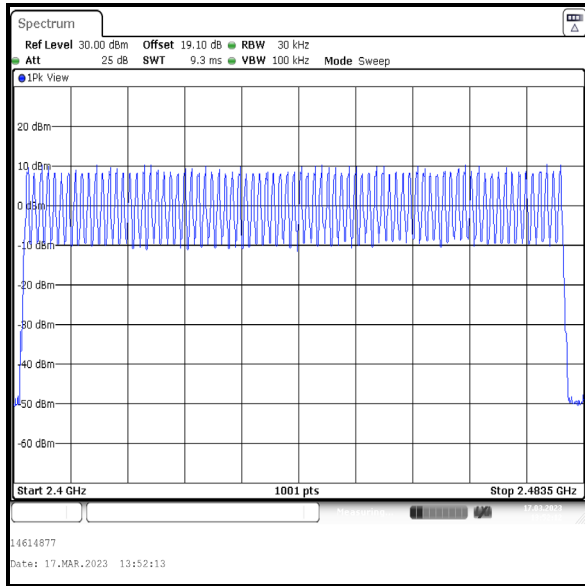


**Number of Hopping Frequencies in 32 s**

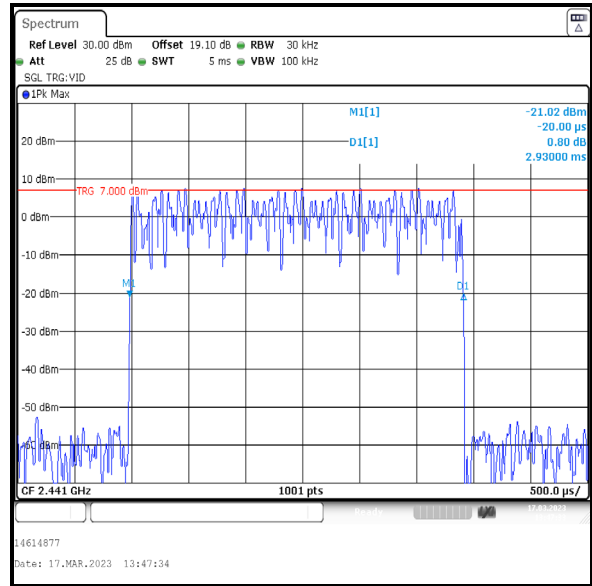
**Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)**

**Results: SISO / Core 2**

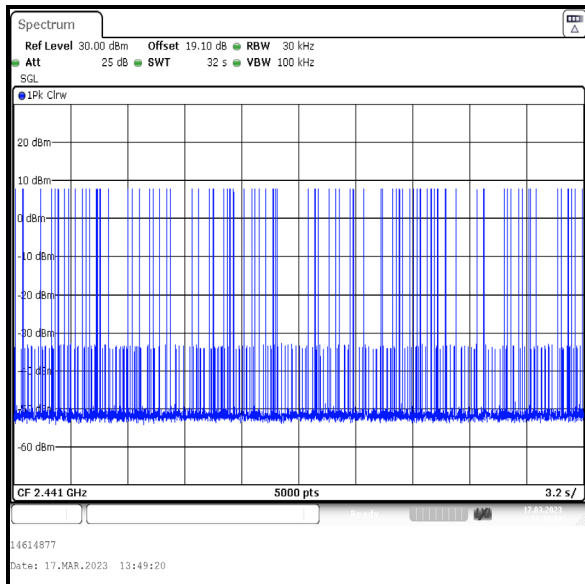
Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2930.0	98	0.287	0.4	0.113	Complied



**Number of Hopping Frequencies**



**Emission Width**

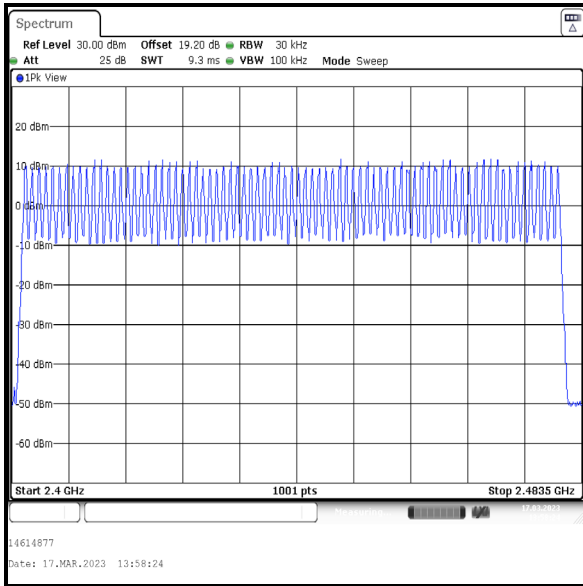


**Number of Hopping Frequencies in 32 s**

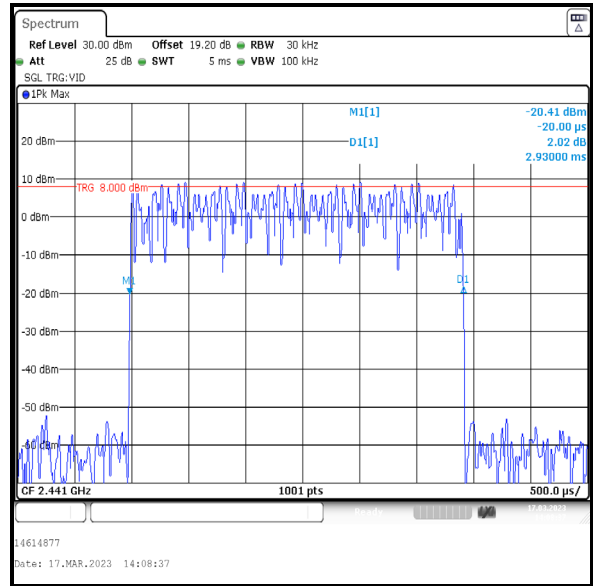
**Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)**

**Results: Beamforming / Core 1**

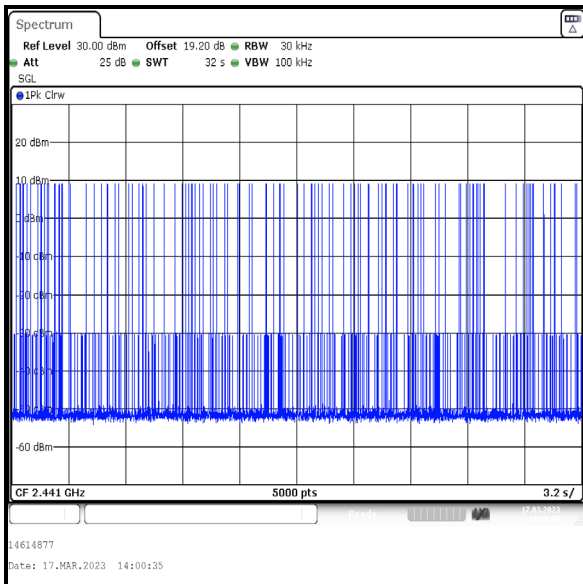
Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2930.0	110	0.322	0.4	0.078	Complied



**Number of Hopping Frequencies**



**Emission Width**



**Number of Hopping Frequencies in 32 s**

## **4.5 Transmitter Maximum Peak Output Power**

### **Test Summary:**

<b>Test Engineer:</b>	Raghavendra Katti	<b>Test Dates:</b>	16 March 2023 & 17 March 2023
<b>Test Sample Serial Number:</b>	NNYGG3YVCT		

<b>FCC Reference:</b>	Part 15.247(b)(1)
<b>ISED Canada Reference:</b>	RSS-Gen 6.12 / RSS-247 5.4(b)
<b>Test Method Used:</b>	ANSI C63.10 Section 7.8.5

### **Environmental Conditions:**

<b>Temperature (°C):</b>	23
<b>Relative Humidity (%):</b>	40 to 42

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

1. For BDR, the signal analyser resolution bandwidth was set to 2 MHz (>20 dB bandwidth) and video bandwidth of 10 MHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 5 MHz. A marker was placed at the peak of the signal and the results recorded in the tables below.
2. For EDR, the signal analyser resolution bandwidth was set to 2 MHz (>20 dB bandwidth) and video bandwidth of 10 MHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 7 MHz. A marker was placed at the peak of the signal and the results recorded in the tables below.
3. For beamforming modes, conducted power was measured on Core 0 & Core 1 and then combined using the measure-and-sum technique stated in FCC KDB 662911 D01 Section E)1). For EIRP, the directional antenna gain was added to the conducted output power.
4. For beamforming modes, the limit for conducted output power has been reduced by the same amount in dB that the directional gain of the antenna exceeds 6 dBi, in accordance with 15.247(b)(4).
5. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable. An RF offset level was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.

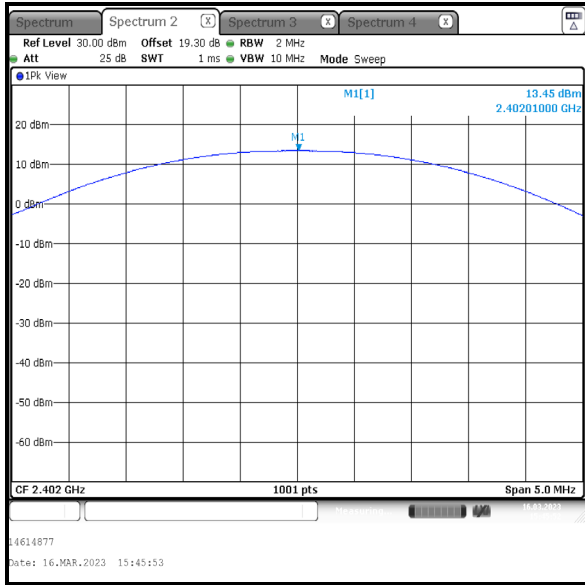
**Transmitter Maximum Peak Output Power (continued)****Results: DH5 / SISO / Core 1**

Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	13.5	21.0	7.5	Complied
Middle	13.5	21.0	7.5	Complied
Top	13.3	21.0	7.7	Complied

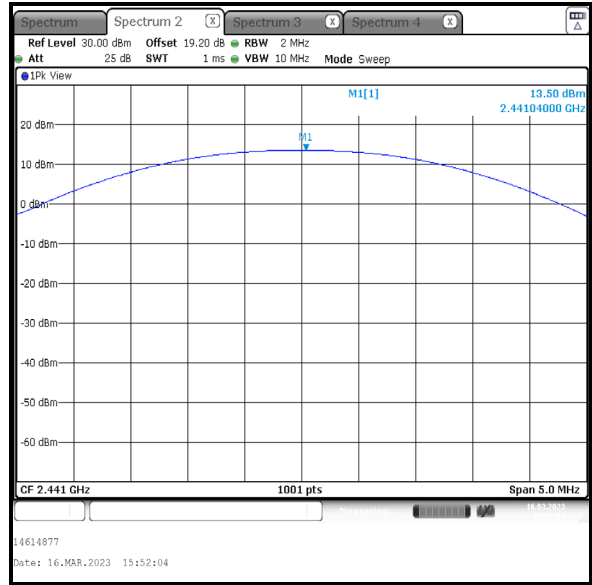
Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	13.5	3.5	17.0	36.0	19.0	Complied
Middle	13.5	3.5	17.0	36.0	19.0	Complied
Top	13.3	3.5	16.8	36.0	19.2	Complied

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

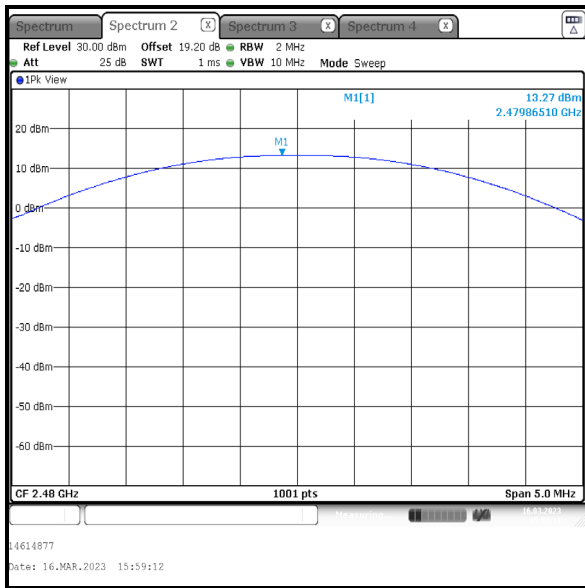
**Results: DH5 / SISO / Core 1**



**Bottom Channel**



**Middle Channel**



**Top Channel**

**Transmitter Maximum Peak Output Power (continued)****Results: 2DH5 / SISO / Core 1**

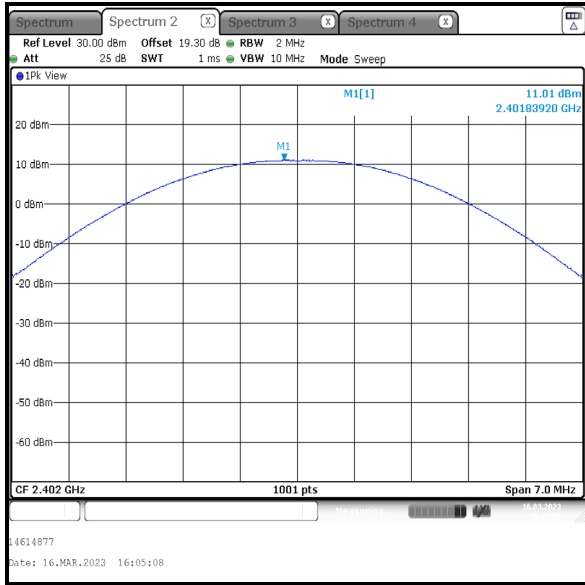
Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	11.0	21.0	10.0	Complied
Middle	11.2	21.0	9.8	Complied
Top	11.3	21.0	9.7	Complied

Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	11.0	3.5	14.5	36.0	21.5	Complied
Middle	11.2	3.5	14.7	36.0	21.3	Complied
Top	11.3	3.5	14.8	36.0	21.2	Complied

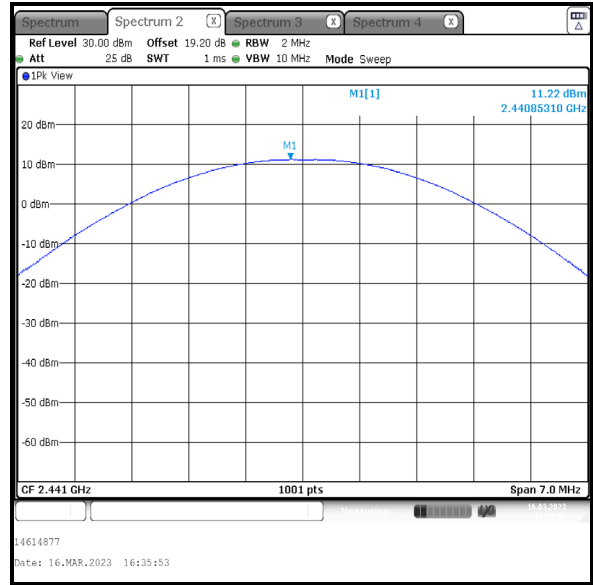


**Transmitter Maximum Peak Output Power (continued)**

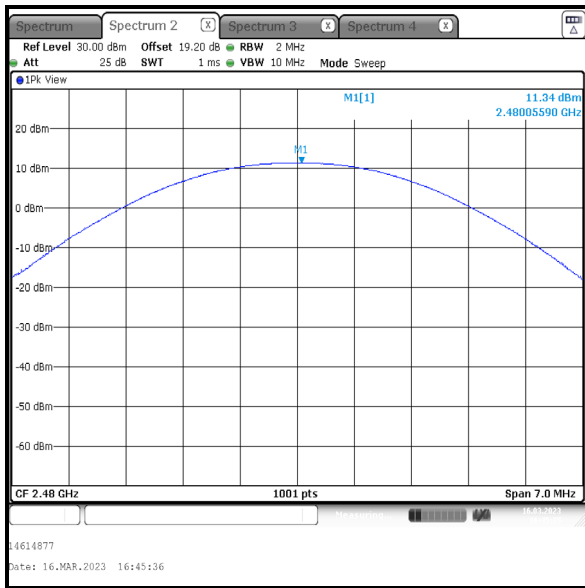
**Results: 2DH5 / SISO / Core 1**



**Bottom Channel**



**Middle Channel**



**Top Channel**

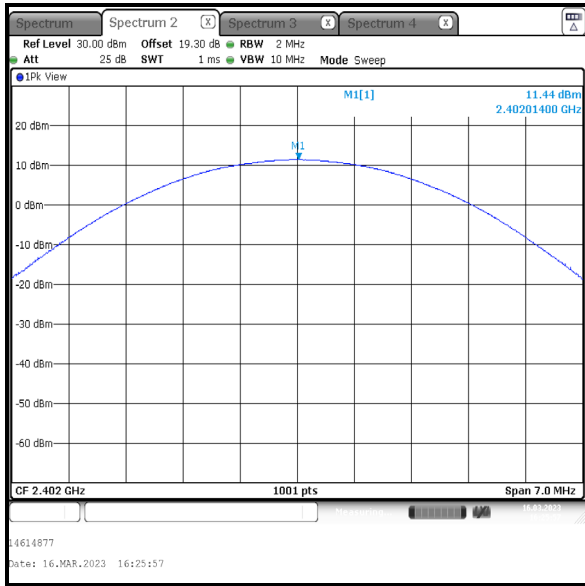
**Transmitter Maximum Peak Output Power (continued)****Results: 3DH5 / SISO / Core 1**

Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	11.4	21.0	9.6	Complied
Middle	11.6	21.0	9.4	Complied
Top	11.5	21.0	9.5	Complied

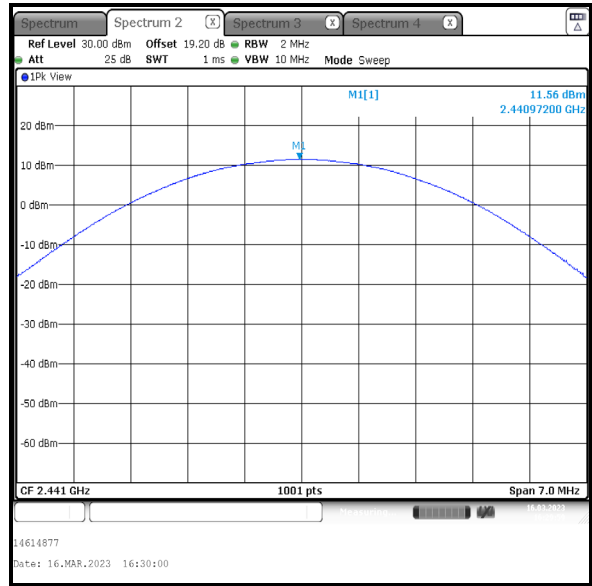
Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	11.4	3.5	14.9	36.0	21.1	Complied
Middle	11.6	3.5	15.1	36.0	20.9	Complied
Top	11.5	3.5	15.0	36.0	21.0	Complied

### Transmitter Maximum Peak Output Power (continued)

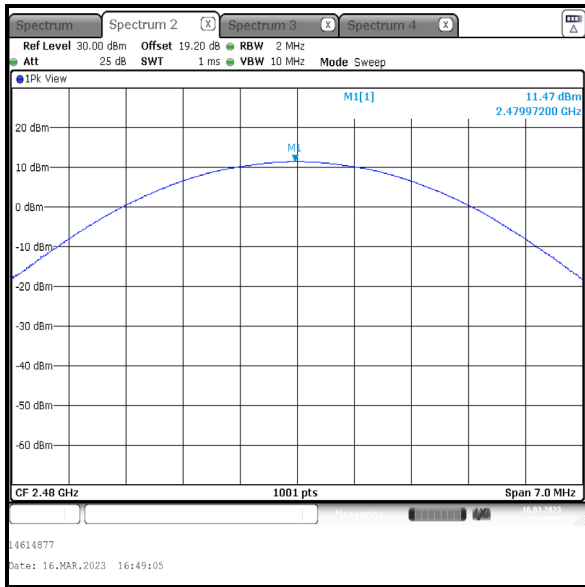
#### Results: 3DH5 / SISO / Core 1



Bottom Channel



Middle Channel



Top Channel

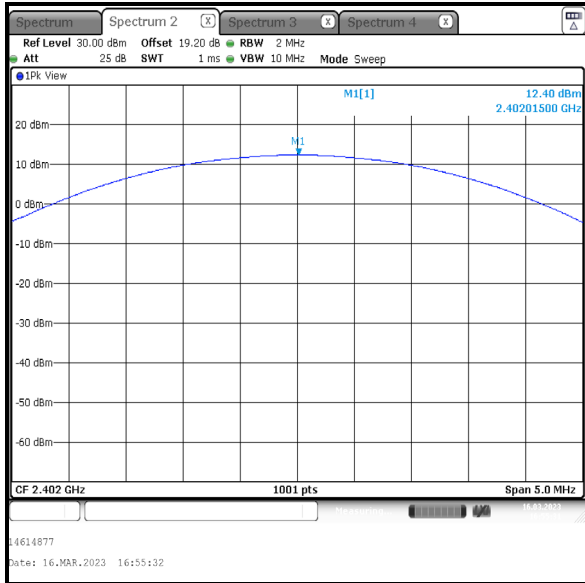
**Transmitter Maximum Peak Output Power (continued)****Results: DH5 / SISO / Core 2**

Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	12.4	21.0	8.6	Complied
Middle	12.6	21.0	8.4	Complied
Top	12.6	21.0	8.4	Complied

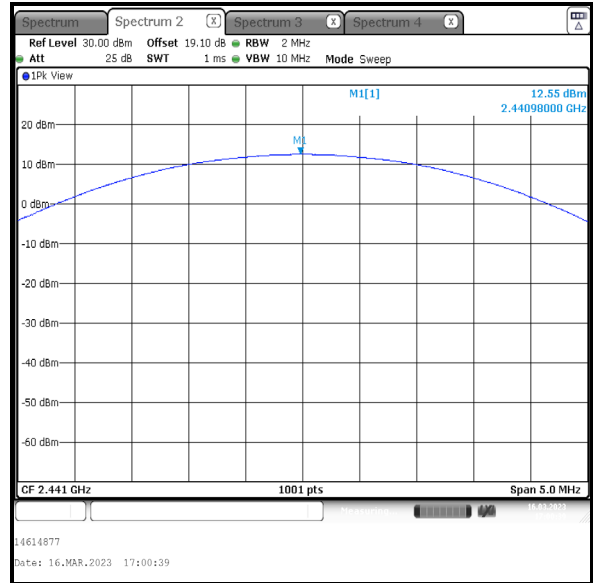
Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	12.4	1.0	13.4	36.0	22.6	Complied
Middle	12.6	1.0	13.6	36.0	22.4	Complied
Top	12.6	1.0	13.6	36.0	22.4	Complied

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

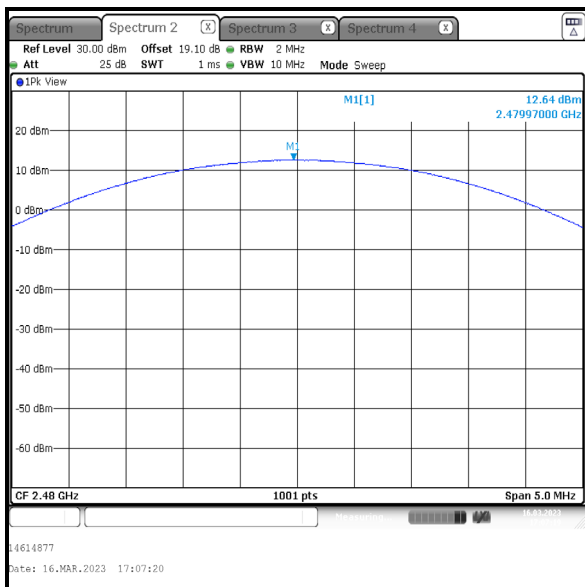
**Results: DH5 / SISO / Core 2**



**Bottom Channel**



**Middle Channel**



**Top Channel**

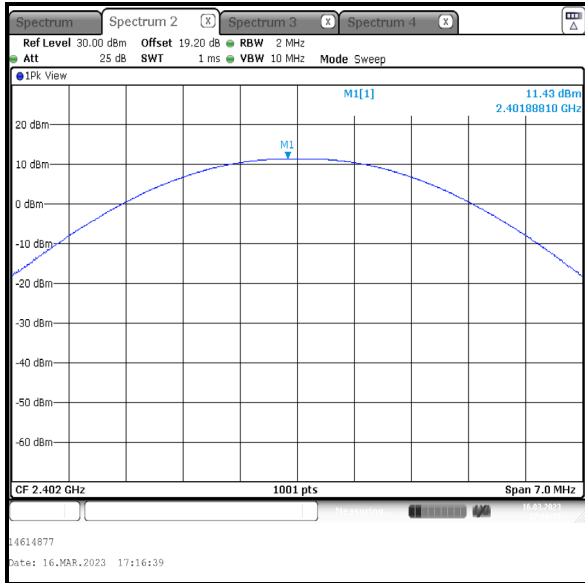
**Transmitter Maximum Peak Output Power (continued)****Results: 2DH5 / SISO / Core 2**

Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	11.4	21.0	9.6	Complied
Middle	11.4	21.0	9.6	Complied
Top	11.2	21.0	9.8	Complied

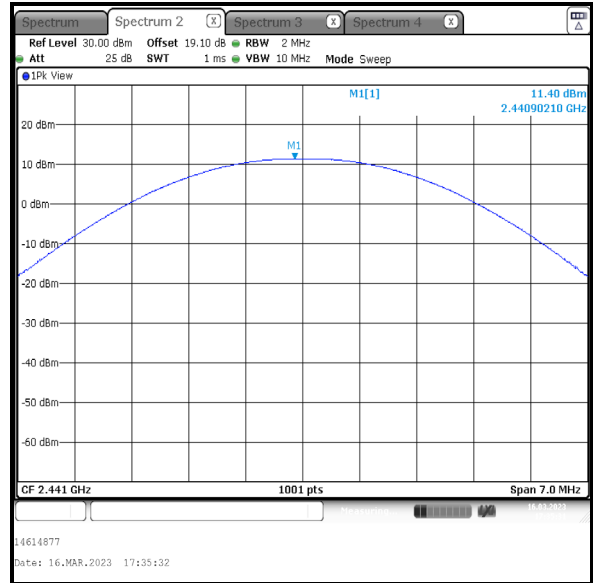
Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	11.4	1.0	12.4	36.0	23.6	Complied
Middle	11.4	1.0	12.4	36.0	23.6	Complied
Top	11.2	1.0	12.2	36.0	23.8	Complied

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

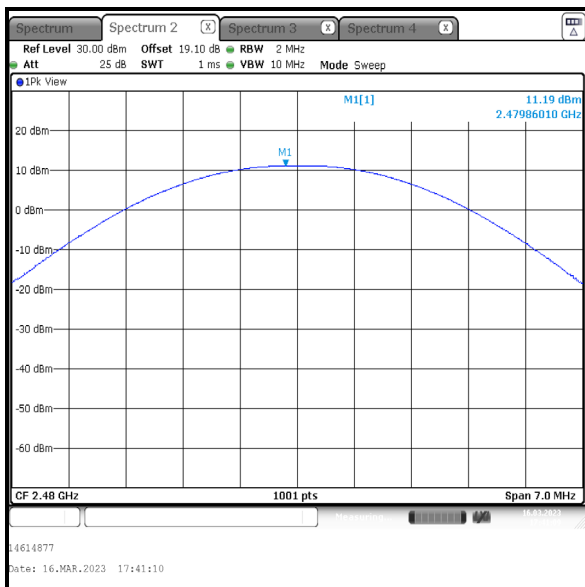
**Results: 2DH5 / SISO / Core 2**



**Bottom Channel**



**Middle Channel**



**Top Channel**

**Transmitter Maximum Peak Output Power (continued)****Results: 3DH5 / SISO / Core 2**

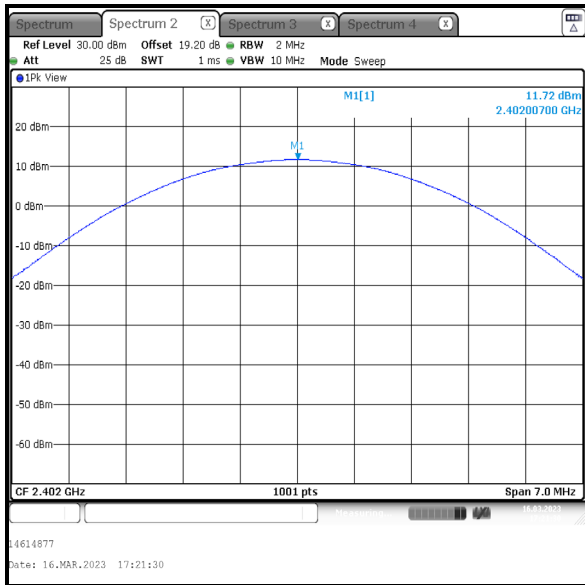
Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	11.7	21.0	9.3	Complied
Middle	11.8	21.0	9.2	Complied
Top	11.6	21.0	9.4	Complied

Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	11.7	1.0	12.7	36.0	23.3	Complied
Middle	11.8	1.0	12.8	36.0	23.2	Complied
Top	11.6	1.0	12.6	36.0	23.4	Complied

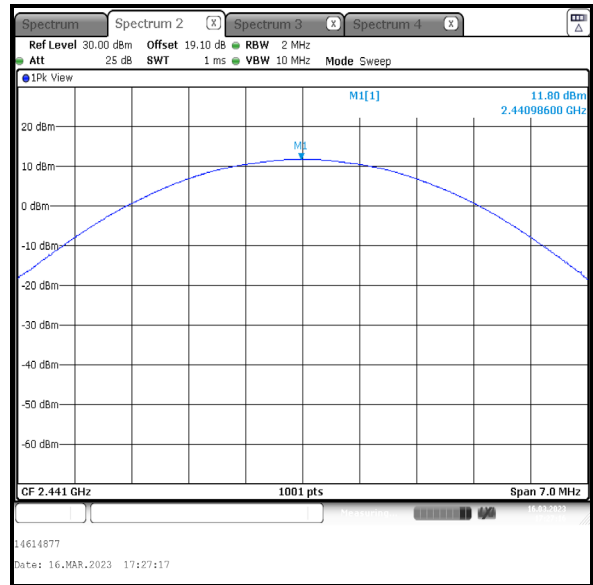


### Transmitter Maximum Peak Output Power (continued)

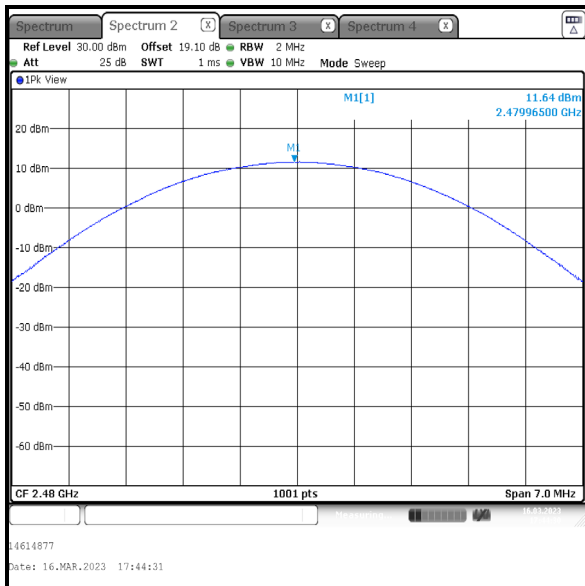
#### Results: 3DH5 / SISO / Core 2



Bottom Channel



Middle Channel



Top Channel

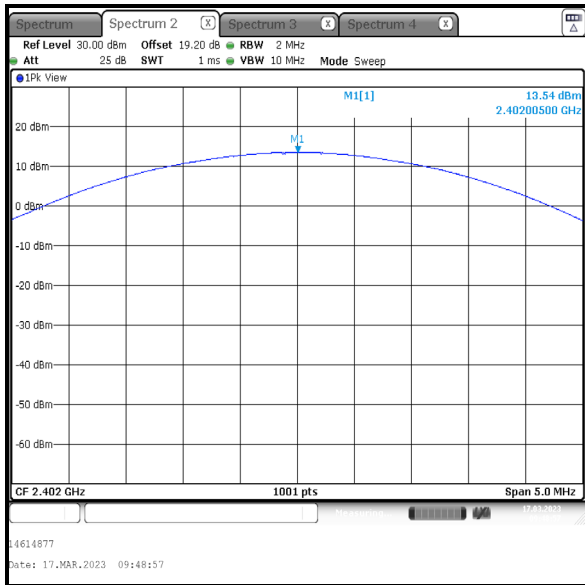
**Transmitter Maximum Peak Output Power (continued)****Results: DH5 / Beamforming**

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	13.5	13.0	16.3	20.8	4.5	Complied
Middle	13.3	12.8	16.1	20.8	4.7	Complied
Top	13.0	12.8	15.9	20.8	4.9	Complied

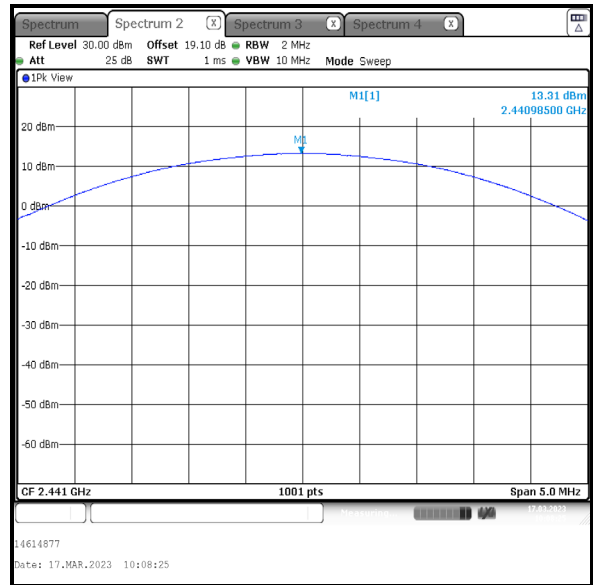
Channel	Combined Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	16.3	6.2	22.5	36.0	13.5	Complied
Middle	16.1	6.2	22.3	36.0	13.7	Complied
Top	15.9	6.2	22.1	36.0	13.9	Complied

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

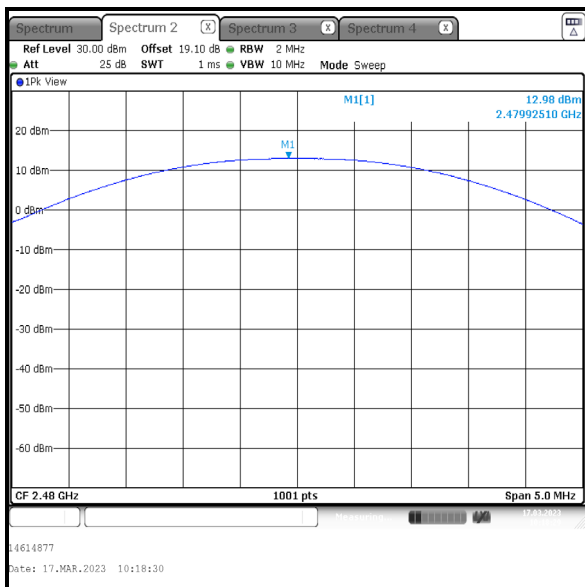
**Results: DH5 / Beamforming / Core 0**



**Bottom Channel**



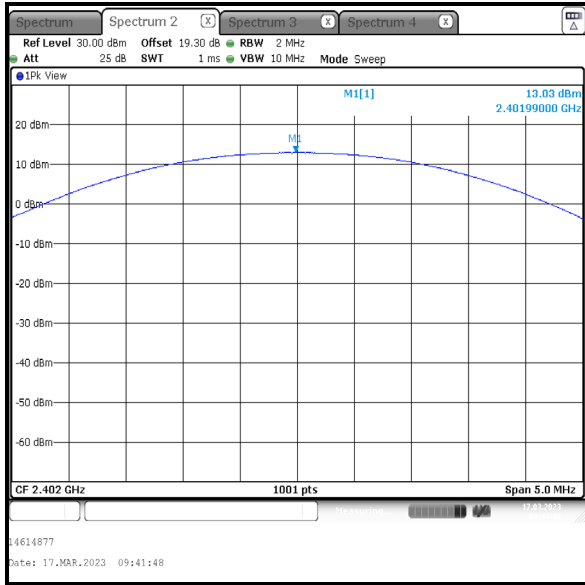
**Middle Channel**



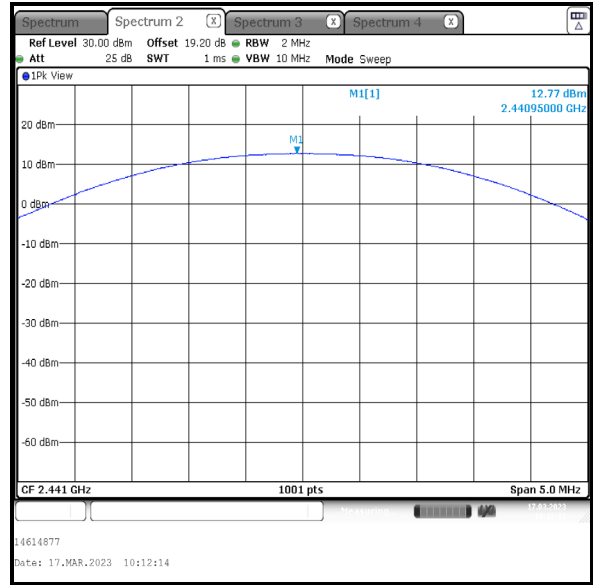
**Top Channel**

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

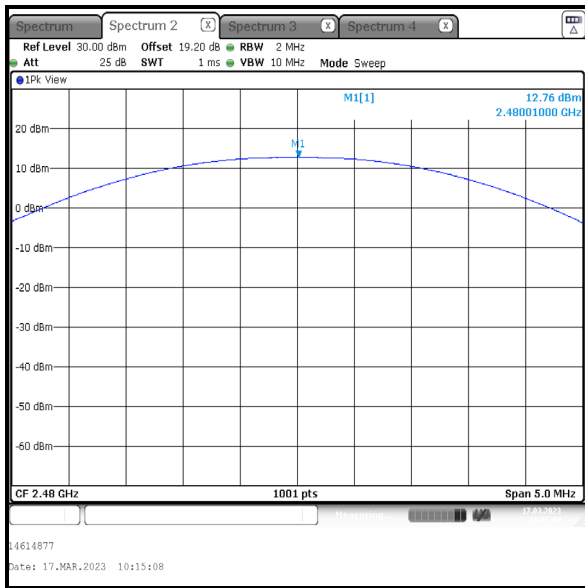
**Results: DH5 / Beamforming / Core 1**



**Bottom Channel**



**Middle Channel**



**Top Channel**

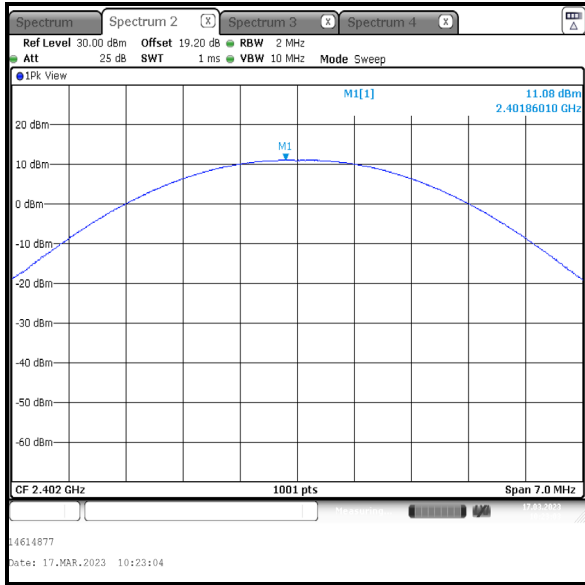
**Transmitter Maximum Peak Output Power (continued)****Results: 2DH5 / Beamforming**

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	11.1	10.7	13.9	20.8	6.9	Complied
Middle	11.3	10.7	14.0	20.8	6.8	Complied
Top	11.1	10.8	14.0	20.8	6.8	Complied

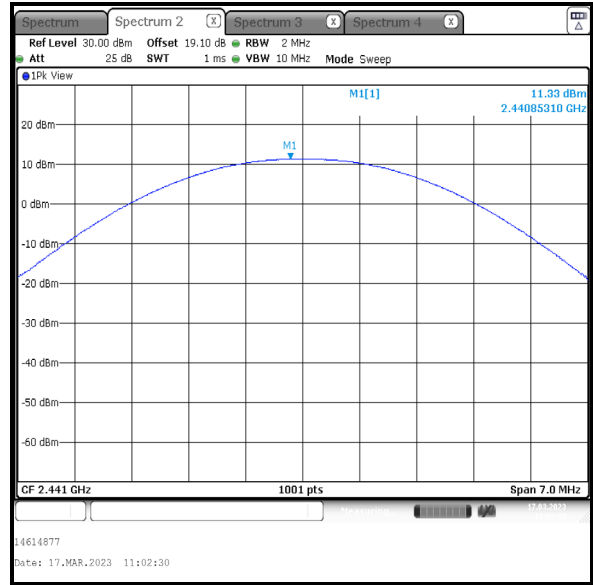
Channel	Combined Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)	Result
Bottom	13.9	6.2	20.1	36.0	15.9	Complied
Middle	14.0	6.2	20.2	36.0	15.8	Complied
Top	14.0	6.2	20.2	36.0	15.8	Complied

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

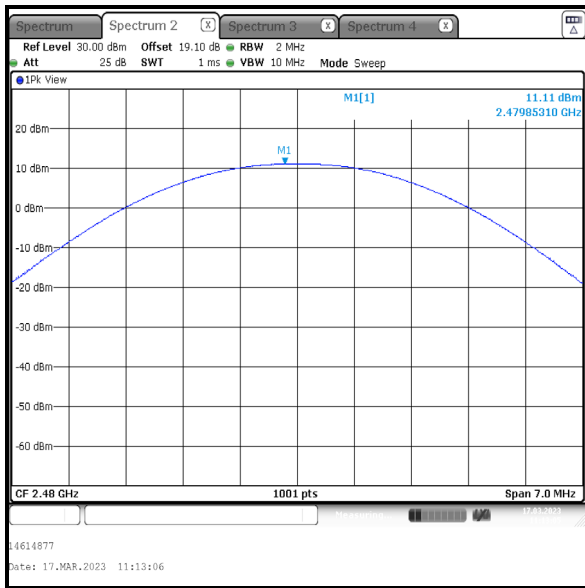
**Results: 2DH5 / Beamforming / Core 0**



**Bottom Channel**



**Middle Channel**



**Top Channel**