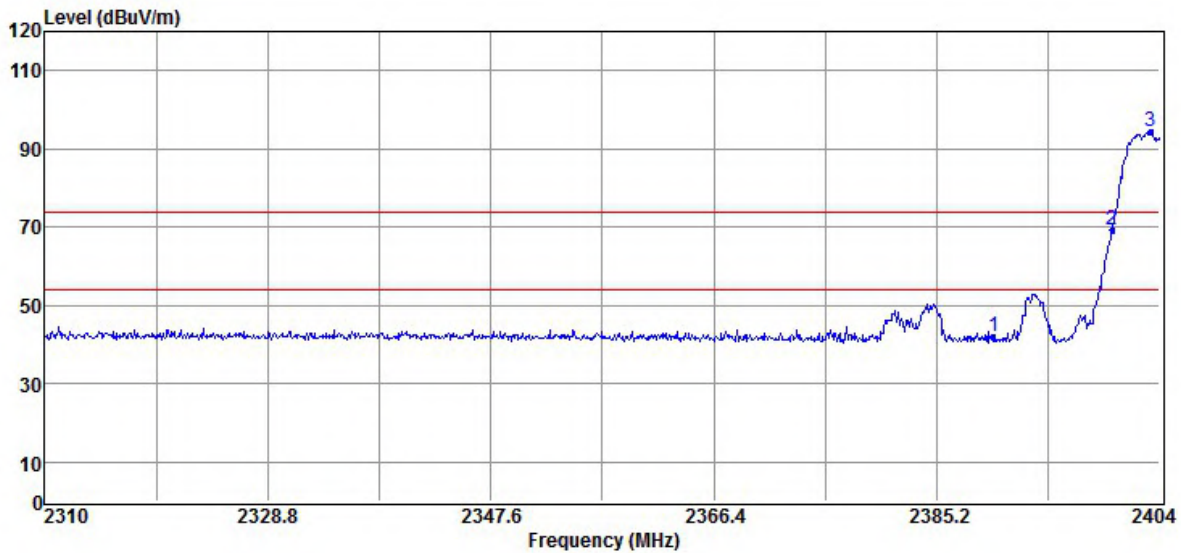


**Radiated Emission (EDR 3M mode):**

Operation Mode TX CH Low  
 Fundamental Frequency 2402 MHz  
 Temperature 25 °C

Test Date 2020/01/21  
 Test By Barry  
 Humidity 60 %

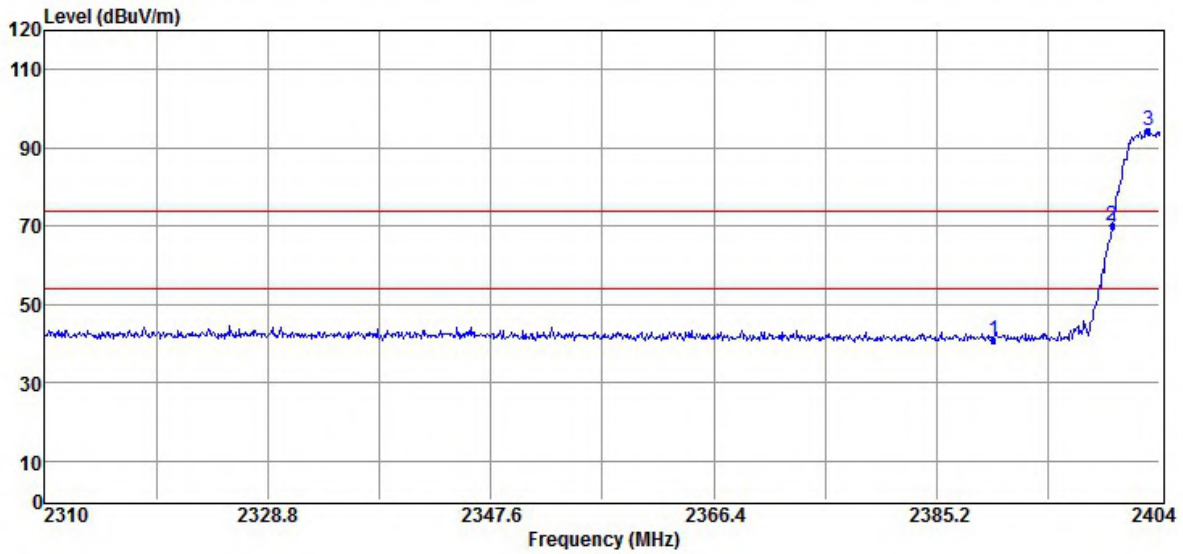


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	57.71	-15.84	41.87	74.00	-32.13	Peak	VERTICAL
2	2400.00	84.99	-15.86	69.13	74.23	-5.1	Peak	VERTICAL
3	2403.25	110.09	-15.86	94.23	F	--	Peak	VERTICAL

**Remark:**

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	56.85	-15.84	41.01	74.00	-32.99	Peak	HORIZONTAL
2	2400.00	85.89	-15.86	70.03	74.52	-4.49	Peak	HORIZONTAL
3	2403.06	110.38	-15.86	94.52	F	--	Peak	HORIZONTAL

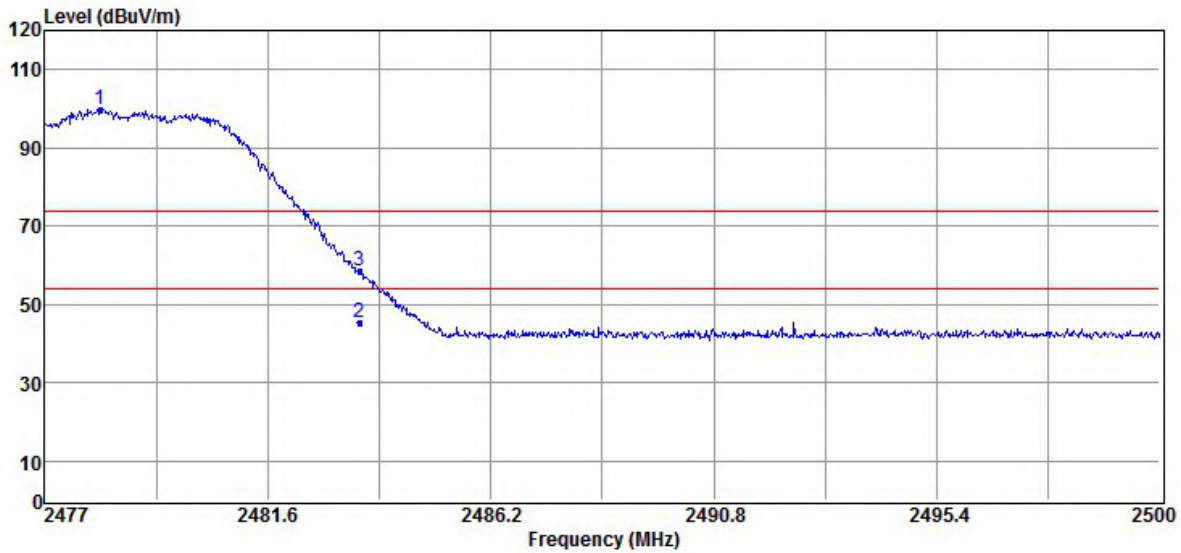
Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**

Operation Mode TX CH High  
 Fundamental Frequency 2480 MHz  
 Temperature 25 °C

Test Date 2020/01/21  
 Test By Barry  
 Humidity 60 %

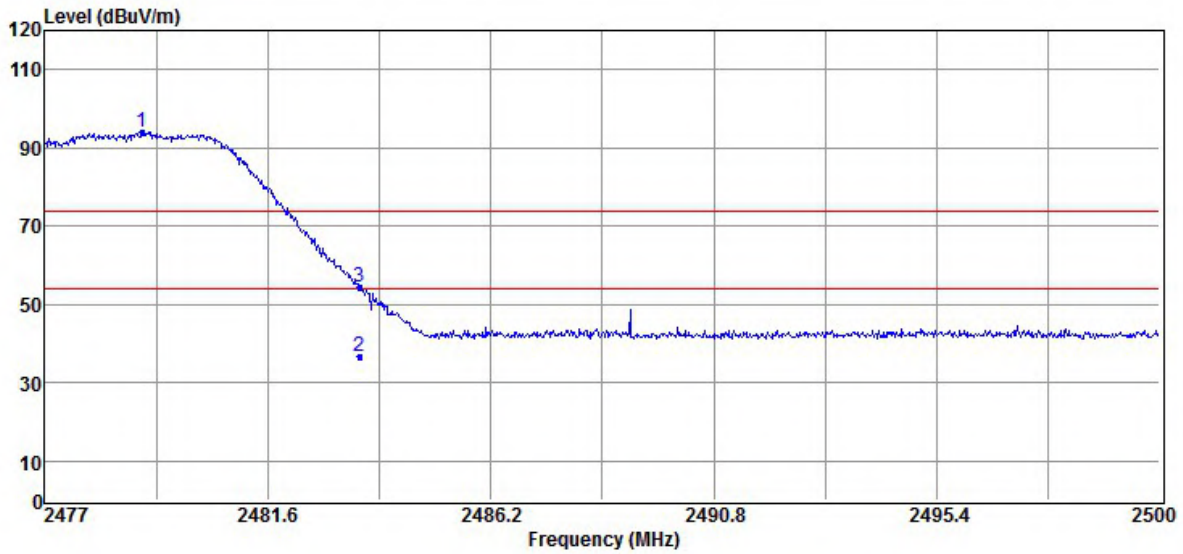


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2478.15	115.53	-15.84	99.69	F	--	Peak	VERTICAL
2	2483.50	61.14	-15.84	45.30	54.00	-8.70	Average	VERTICAL
3	2483.50	74.22	-15.84	58.38	74.00	-15.62	Peak	VERTICAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.00	109.89	-15.84	94.05	F	--	Peak	HORIZONTAL
2	2483.50	52.35	-15.84	36.51	54.00	-17.49	Average	HORIZONTAL
3	2483.50	70.37	-15.84	54.53	74.00	-19.47	Peak	HORIZONTAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**

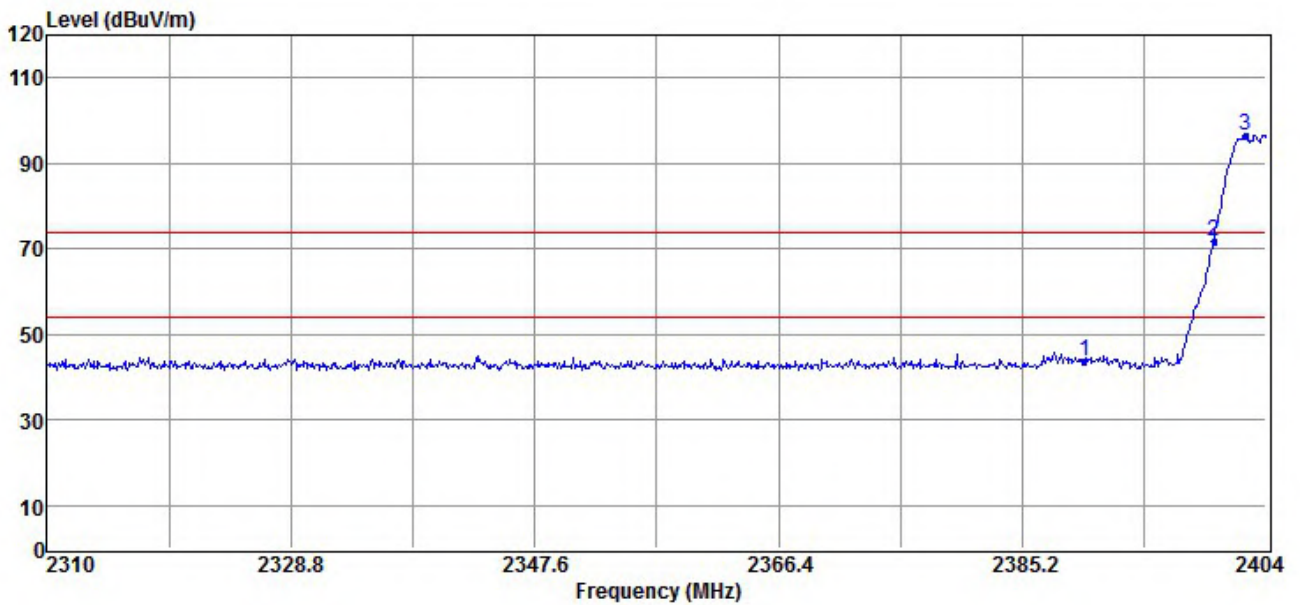
**PIFA Antenna**

**Hopping mode:**

**Radiated Emission: (BDR mode)**

Operation Mode TX CH Low  
 Fundamental Frequency 2402 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

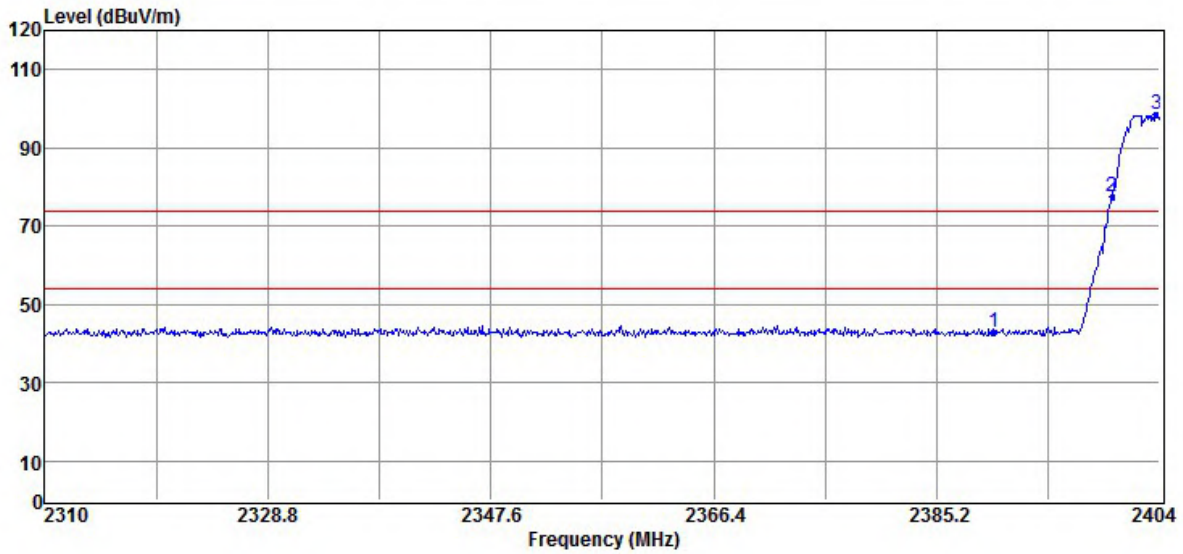


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	59.58	-15.70	43.88	74.00	-30.12	Peak	VERTICAL
2	2400.00	87.67	-15.72	71.95	76.48	-4.53	Peak	VERTICAL
3	2402.40	112.19	-15.71	96.48	F	--	Peak	VERTICAL

**Remark:**

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	58.65	-15.70	42.95	74.00	-31.05	Peak	HORIZONTAL
2	2400.00	93.23	-15.72	77.51	78.66	-1.15	Peak	HORIZONTAL
3	2403.72	114.37	-15.71	98.66	F	--	Peak	HORIZONTAL

Remark:

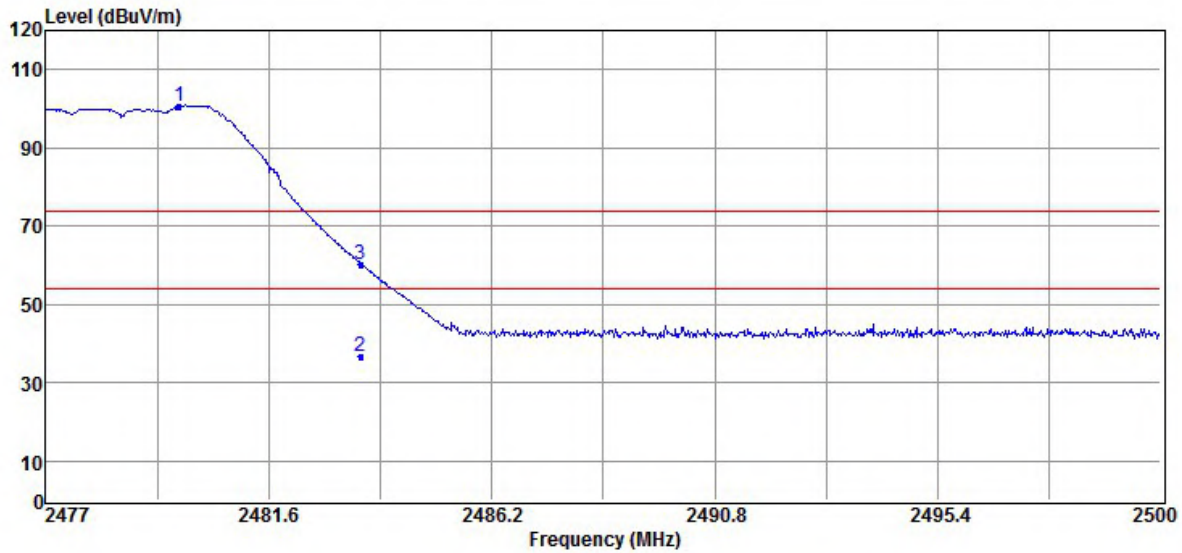
- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



Operation Mode TX CH High  
 Fundamental Frequency 2480 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

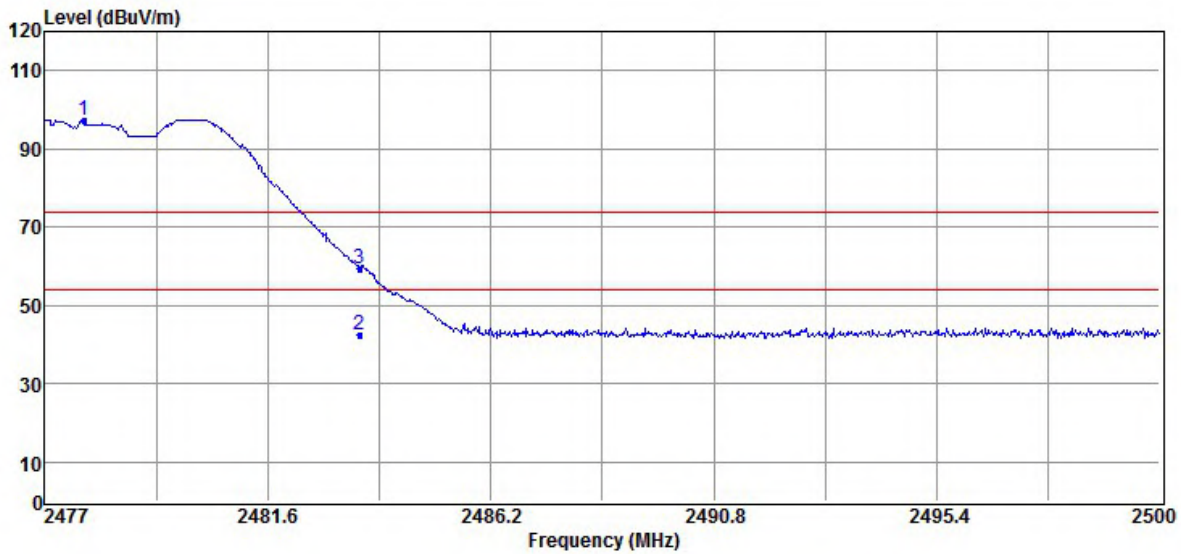


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.76	116.31	-15.69	100.62	F	--	Peak	VERTICAL
2	2483.50	52.45	-15.84	36.61	54.00	-17.39	Average	VERTICAL
3	2483.50	76.11	-15.84	60.27	74.00	-13.73	Peak	VERTICAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2477.81	112.90	-15.69	97.21	F	--	Peak	HORIZONTAL
2	2483.50	58.31	-15.69	42.62	54.00	-11.38	Average	HORIZONTAL
3	2483.50	75.10	-15.69	59.41	74.00	-14.59	Peak	HORIZONTAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

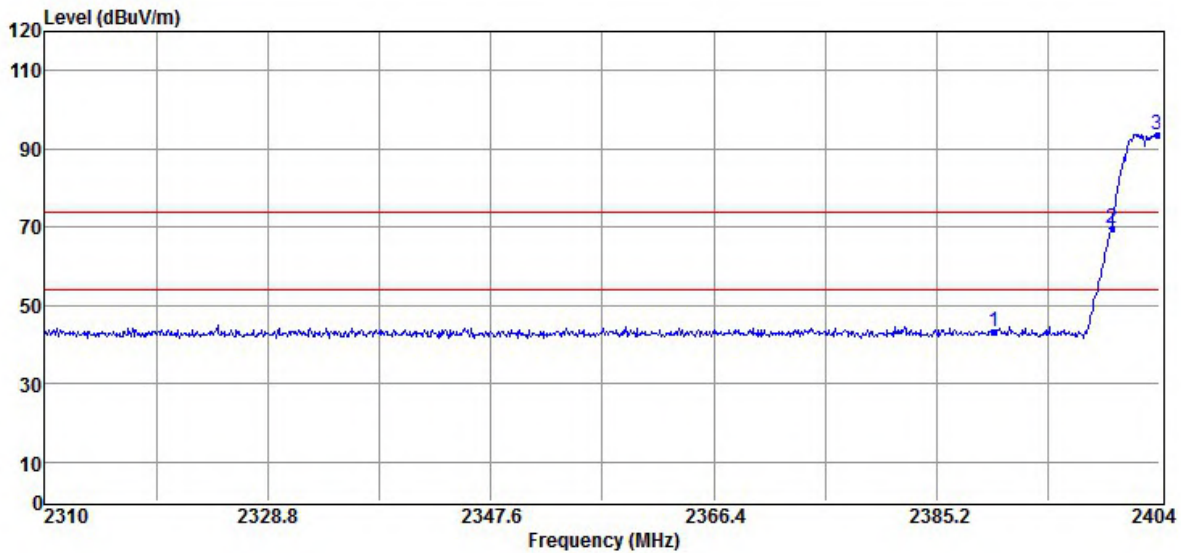
**Note: “F” denotes fundamental frequency**



**Radiated Emission (EDR 2M mode):**

Operation Mode TX CH Low  
 Fundamental Frequency 2402 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

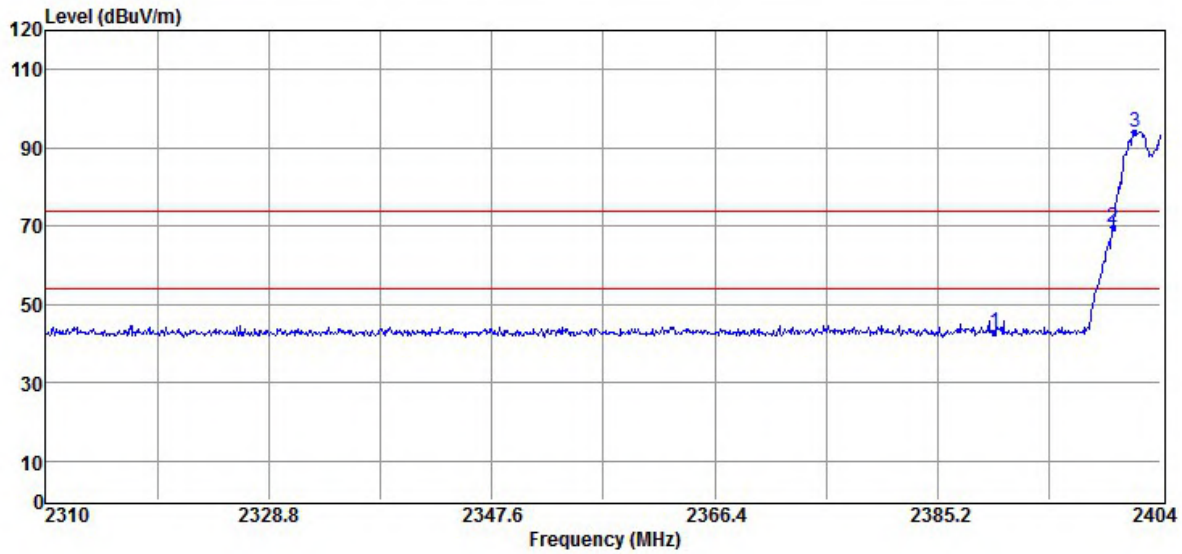


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	59.07	-15.70	43.37	74.00	-30.63	Peak	VERTICAL
2	2400.00	85.52	-15.72	69.80	73.75	-3.95	Peak	VERTICAL
3	2403.81	109.46	-15.71	93.75	F	--	Peak	VERTICAL

**Remark:**

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2389.99	58.52	-15.70	42.82	74.00	-31.18	Peak	HORIZONTAL
2	2399.96	85.50	-15.72	69.78	74.03	-4.25	Peak	HORIZONTAL
3	2401.84	109.74	-15.71	94.03	F	--	Peak	HORIZONTAL

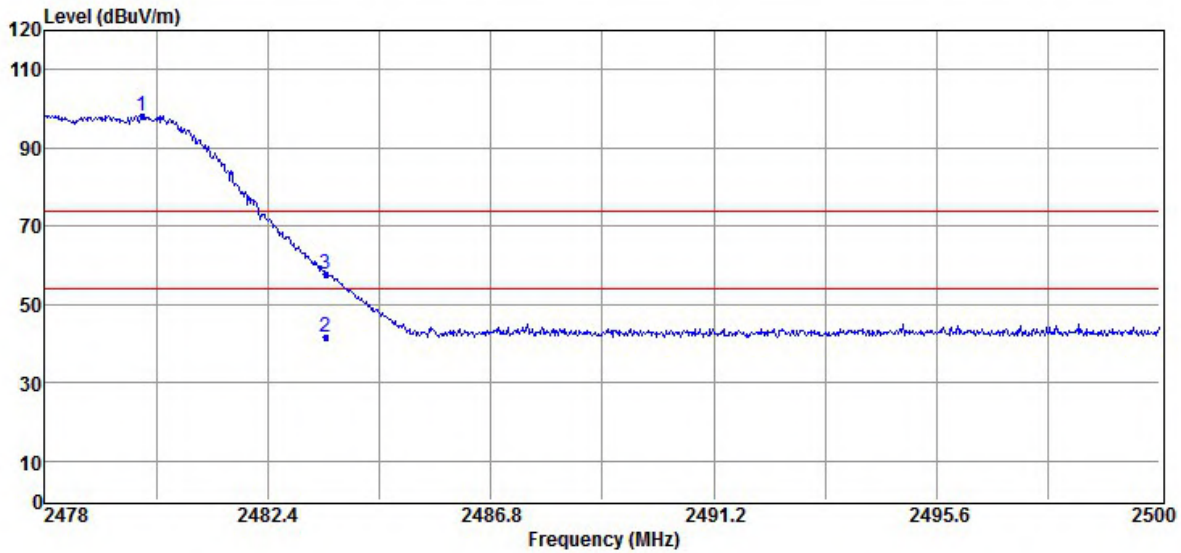
Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**

Operation Mode TX CH High  
 Fundamental Frequency 2480 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

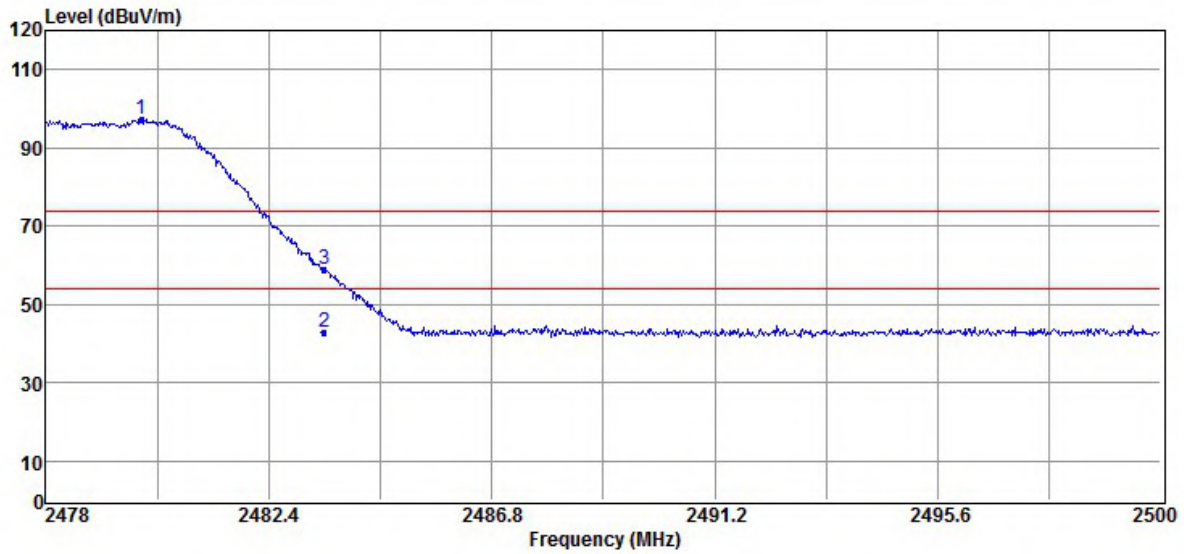


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.91	113.91	-15.69	98.22	F	--	Peak	VERTICAL
2	2483.54	57.42	-15.69	41.73	54.00	-12.27	Average	VERTICAL
3	2483.54	73.41	-15.69	57.72	74.00	-16.28	Peak	VERTICAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.89	113.08	-15.84	97.24	F	--	Peak	HORIZONTAL
2	2483.50	58.43	-15.69	42.74	54.00	-11.26	Average	HORIZONTAL
3	2483.50	74.52	-15.69	58.83	74.00	-15.17	Peak	HORIZONTAL

Remark:

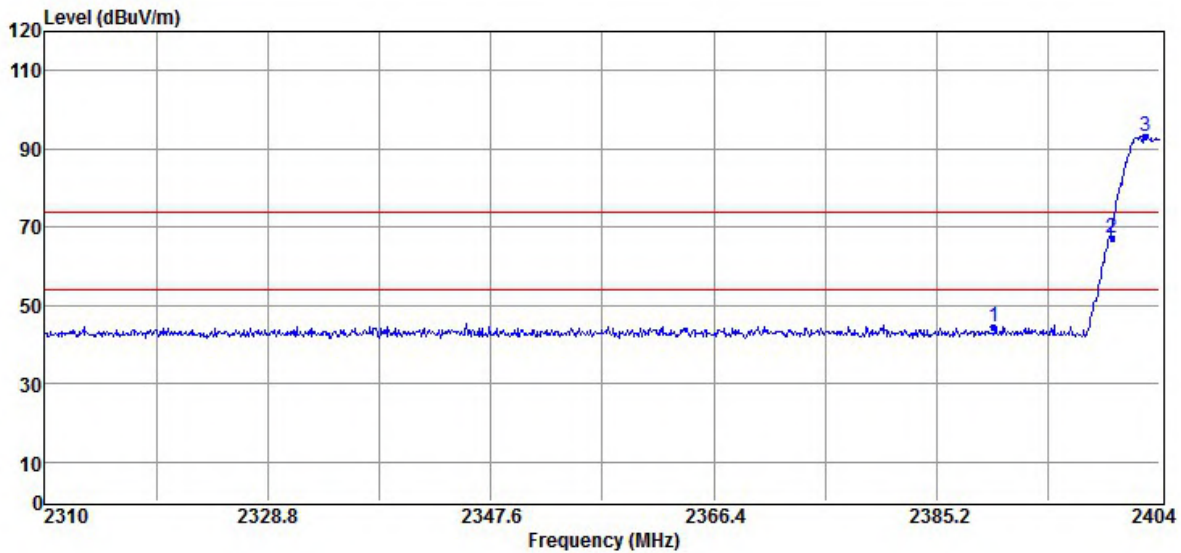
- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**

**Radiated Emission (EDR 3M mode):**

Operation Mode TX CH Low  
 Fundamental Frequency 2402 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

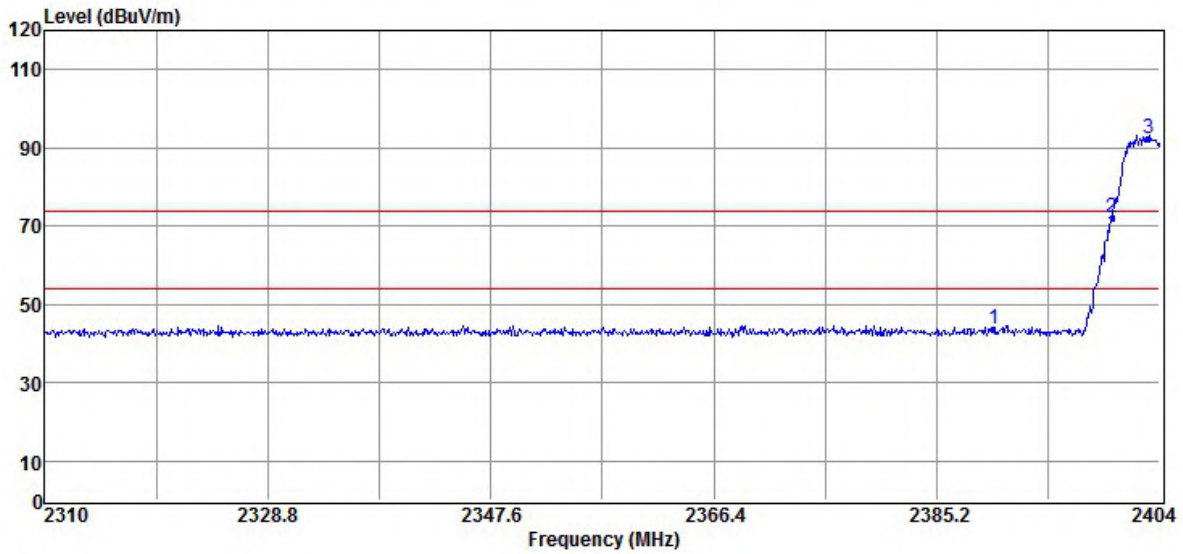


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	60.07	-15.70	44.37	74.00	-29.63	Peak	VERTICAL
2	2400.00	82.81	-15.72	67.09	73.25	-6.16	Peak	VERTICAL
3	2402.78	108.96	-15.71	93.25	F	--	Peak	VERTICAL

**Remark:**

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	59.56	-15.84	43.72	74.00	-30.28	Peak	HORIZONTAL
2	2400.00	86.92	-15.72	71.20	72.52	-1.32	Peak	HORIZONTAL
3	2403.06	108.23	-15.71	92.52	F	--	Peak	HORIZONTAL

Remark:

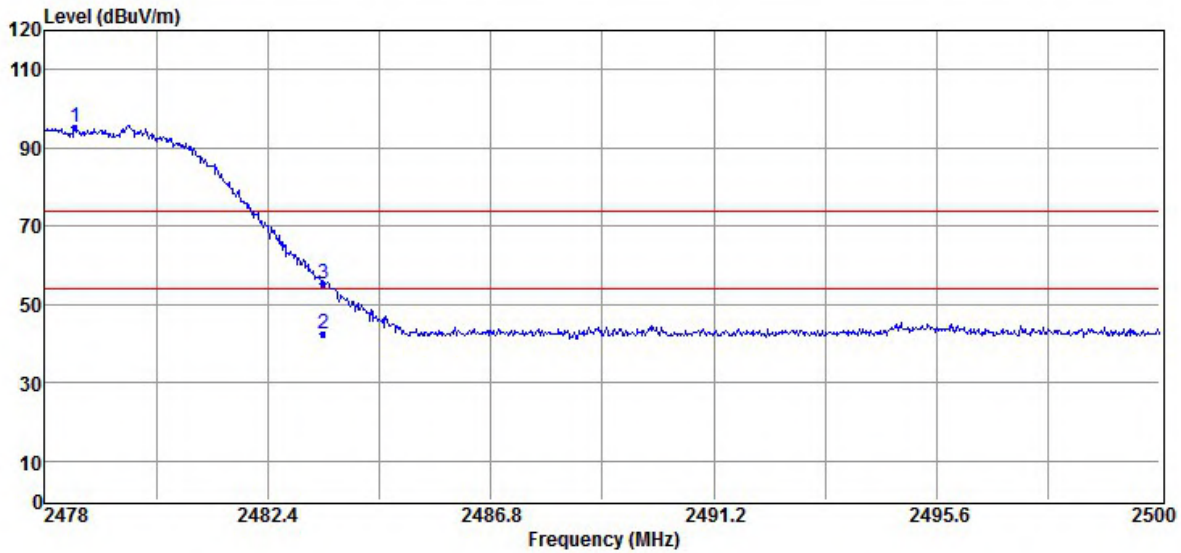
- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



Operation Mode TX CH High  
 Fundamental Frequency 2480 MHz  
 Temperature 25 °C

Test Date 2020/04/07  
 Test By Barry  
 Humidity 60 %

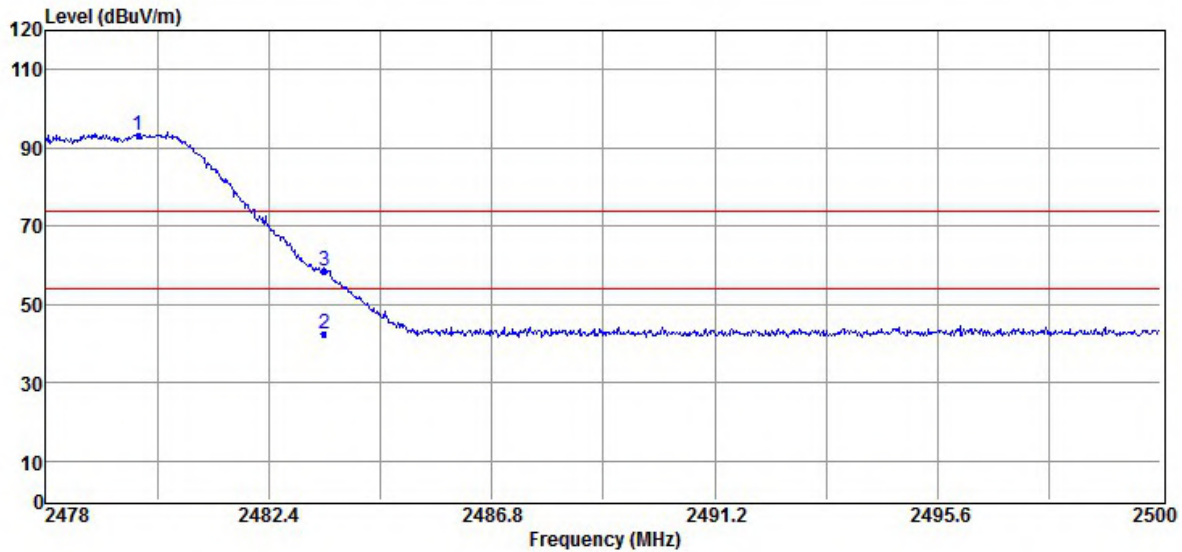


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2478.59	111.04	-15.69	95.35	F	--	Peak	VERTICAL
2	2483.50	58.23	-15.69	42.54	54.00	-11.46	Average	VERTICAL
3	2483.50	70.98	-15.69	55.29	74.00	-18.71	Peak	VERTICAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW ≥1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.83	108.91	-15.69	93.22	F	--	Peak	HORIZONTAL
2	2483.50	58.23	-15.69	42.54	54.00	-11.46	Average	HORIZONTAL
3	2483.50	74.16	-15.69	58.47	74.00	-15.53	Peak	HORIZONTAL

Remark:

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 4 Spectrum AV mode if bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW  $\geq$  1/Ton, Sweep time= 200 ms.

**Note: “F” denotes fundamental frequency**

## 9. FREQUENCY SEPARATION

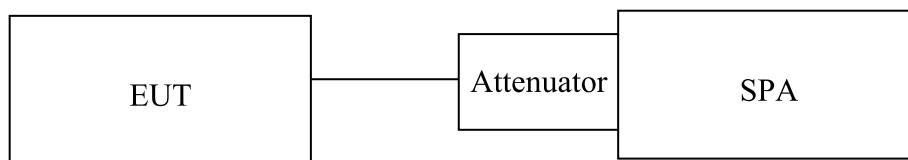
### 9.1 Standard Applicable:

According to §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

### 9.2 Measurement Equipment Used:

Refer to section 6.2 for details.

### 9.3 Test Set-up:



### 9.4 Measurement Procedure:

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = middle of hopping channel .
4. Set the spectrum analyzer as RBW,VBW=100kHz, Adjust Span to 3.0 MHz, Sweep = auto.
5. Max hold. Mark 3 Peaks of hopping channel and record the 3 peaks frequency.

### 9.5 Measurement Result:

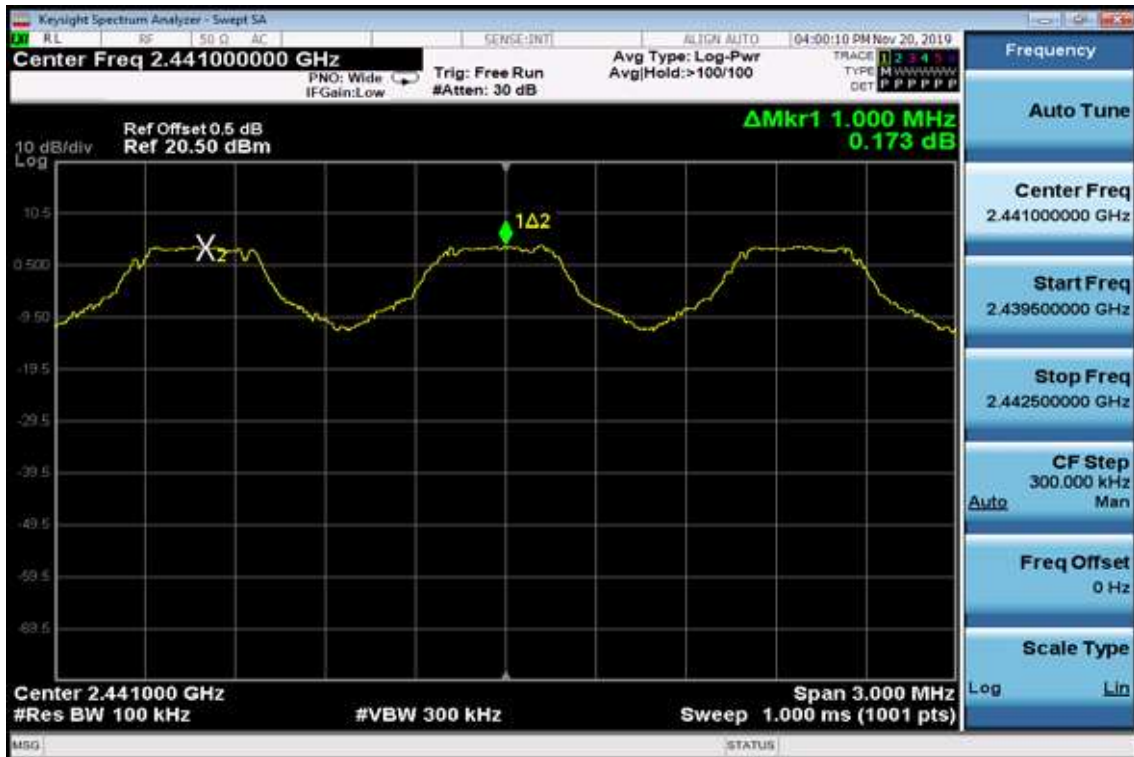
Channel separation (MHz)	Limit	Result
1	$\geq 25\text{kHz}$ or 2/3 times 20dB bandwidth	PASS

Note: Refer to next page for plots.

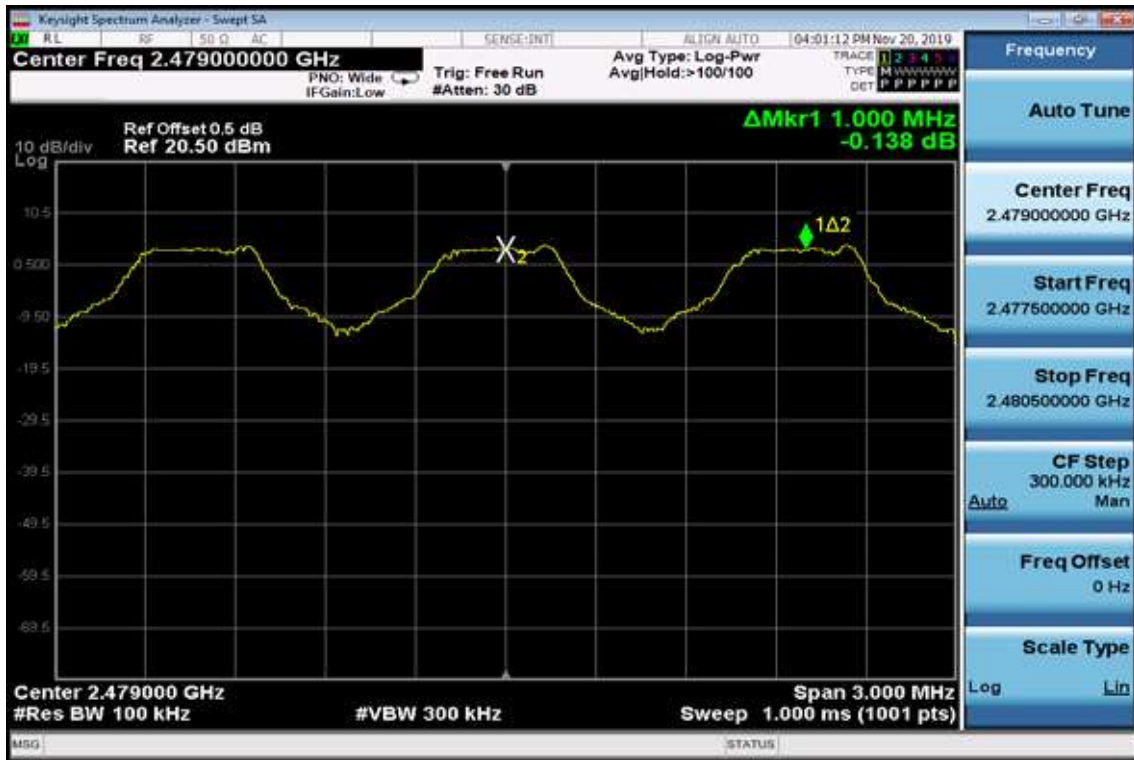
*Frequency Separation Test Data*  
*Low*



*Mid*



*High*



## 10. Number of Hopping Frequency

### 10.1 Standard Applicable:

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz bands shall use at least 15 hopping frequencies.

### 10.2 Measurement Equipment Used:

Refer to section 6.2 for details.

### 10.3 Test Set-up:

Refer to section 9.3 for details.

### 10.4 Measurement Procedure:

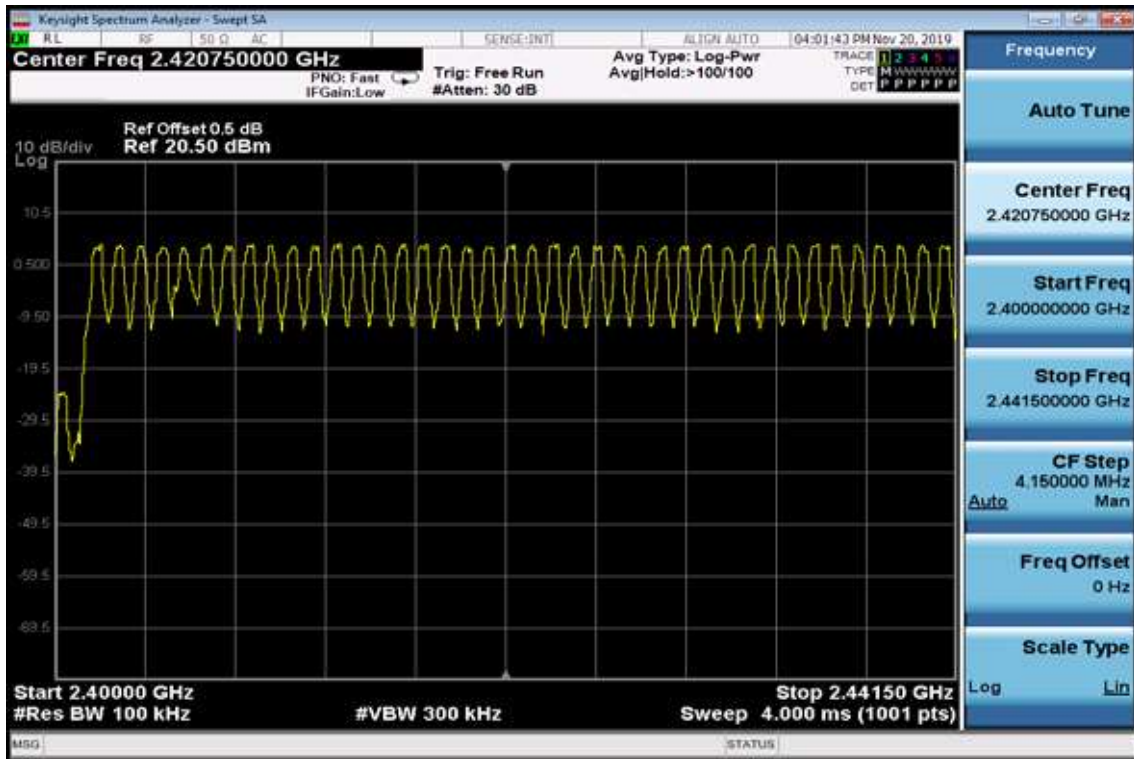
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set spectrum analyzer Start=2400MHz, Stop = 2441.5MHz and Start=2441.5MHz, Stop = 2483.5MHz, Sweep = auto.
4. Set the spectrum analyzer as RBW=100kHz, VBW=300kHz
5. Max hold, view and count how many channel in the band.

### 10.5 Measurement Result:

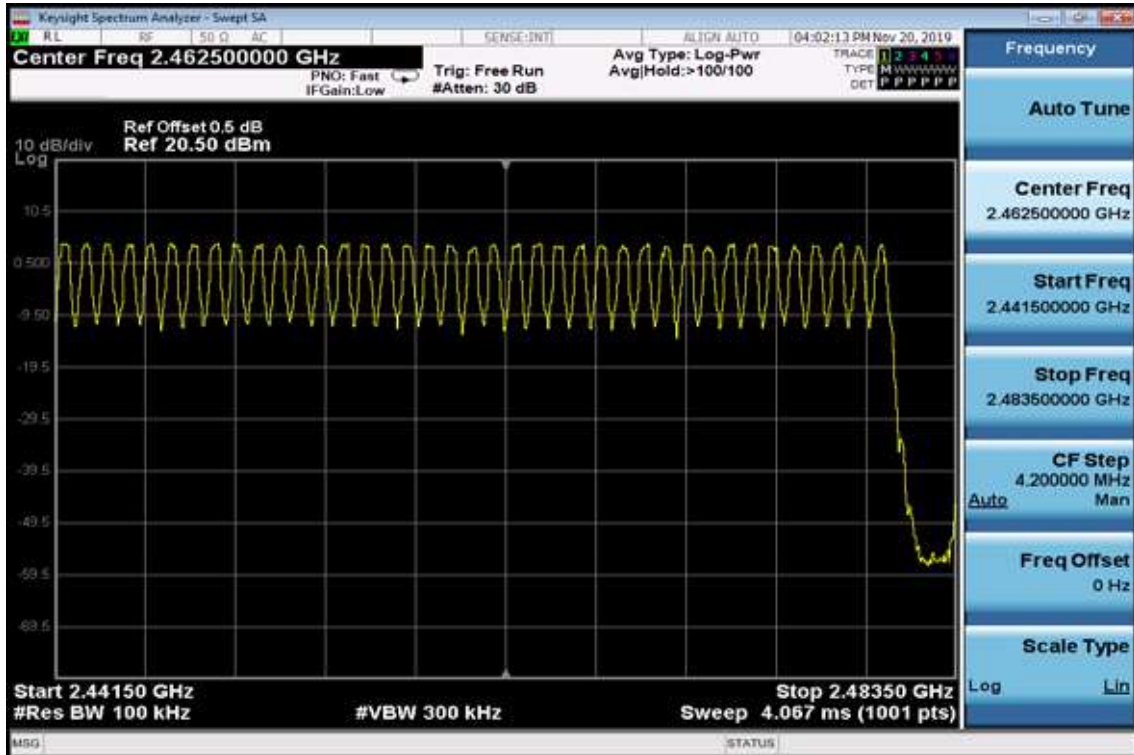
Note: Refer to next page for plots.



**Channel Number**  
**2.4 GHz – 2.441.5GHz**



**2.441.5 GHz – 2.4835GHz**



## 11. Time of Occupancy (Dwell Time)

### 11.1 Standard Applicable:

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 seconds multiplied by the number of hopping channel employed.

### 11.2 Measurement Equipment Used:

Refer to section 6.2 for details.

### 11.3 Test Set-up:

Refer to section 9.3 for details.

### 11.4 Measurement Procedure:

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = operating frequency.
4. Set the spectrum analyzer as RBW / VBW = 1MHz, Span = 0Hz ,
5. Repeat above procedures until all frequency measured were complete.

## 11.5 Measurement Result:

A period time = 0.4 (ms) \* 79 = 31.6 (s)

CH Low	DH1 time slot	=	0.384 (ms)	*	(1600/2/79)	*	31.6 =	122.88	(ms)
	DH3 time slot	=	1.620 (ms)	*	(1600/4/79)	*	31.6 =	259.20	(ms)
	DH5 time slot	=	2.880 (ms)	*	(1600/6/79)	*	31.6 =	307.20	(ms)

CH Mid	DH1 time slot	=	0.380 (ms)	*	(1600/2/79)	*	31.6 =	121.60	(ms)
	DH3 time slot	=	1.640 (ms)	*	(1600/4/79)	*	31.6 =	262.40	(ms)
	DH5 time slot	=	2.900 (ms)	*	(1600/6/79)	*	31.6 =	309.33	(ms)

CH High	DH1 time slot	=	0.380 (ms)	*	(1600/2/79)	*	31.6 =	121.60	(ms)
	DH3 time slot	=	1.640 (ms)	*	(1600/4/79)	*	31.6 =	262.40	(ms)
	DH5 time slot	=	2.880 (ms)	*	(1600/6/79)	*	31.6 =	307.20	(ms)

### AFH Mode

A period time = 0.4 (ms) \* 20 = 8 (s)

CH Low	DH1 time slot	=	0.384 (ms)	*	(800/2/20)	*	8 =	61.44	(ms)
	DH3 time slot	=	1.620 (ms)	*	(800/4/20)	*	8 =	129.60	(ms)
	DH5 time slot	=	2.880 (ms)	*	(800/6/20)	*	8 =	153.60	(ms)

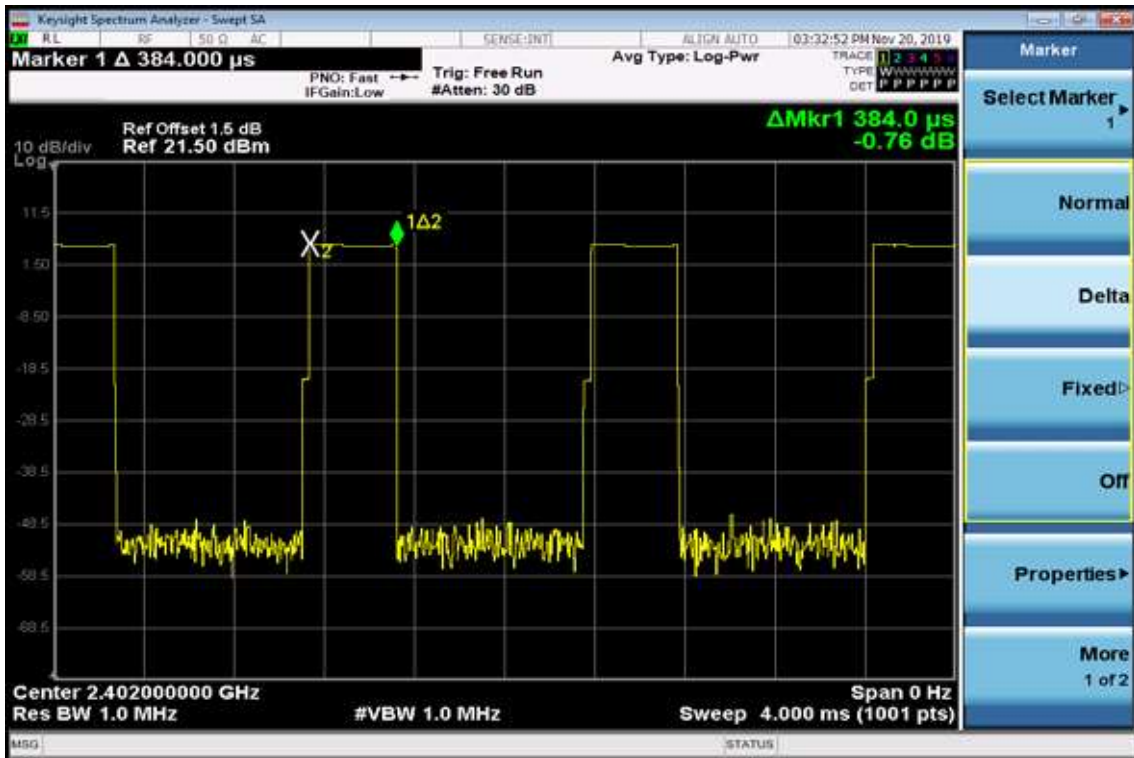
CH Mid	DH1 time slot	=	0.380 (ms)	*	(800/2/20)	*	8 =	60.80	(ms)
	DH3 time slot	=	1.640 (ms)	*	(800/4/20)	*	8 =	131.20	(ms)
	DH5 time slot	=	2.900 (ms)	*	(800/6/20)	*	8 =	154.67	(ms)

CH High	DH1 time slot	=	0.380 (ms)	*	(800/2/20)	*	8 =	60.80	(ms)
	DH3 time slot	=	1.640 (ms)	*	(800/4/20)	*	8 =	131.20	(ms)
	DH5 time slot	=	2.880 (ms)	*	(800/6/20)	*	8 =	153.60	(ms)

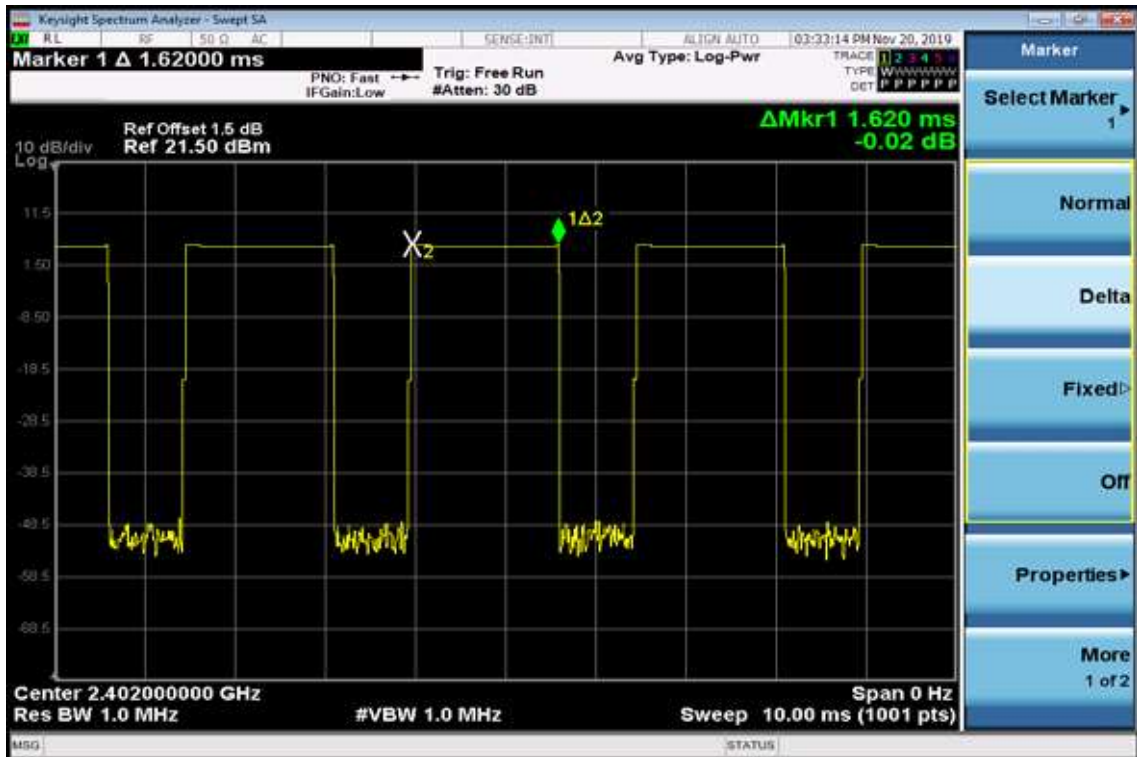
Note: Refer to next page for plots.

*Low Channel*

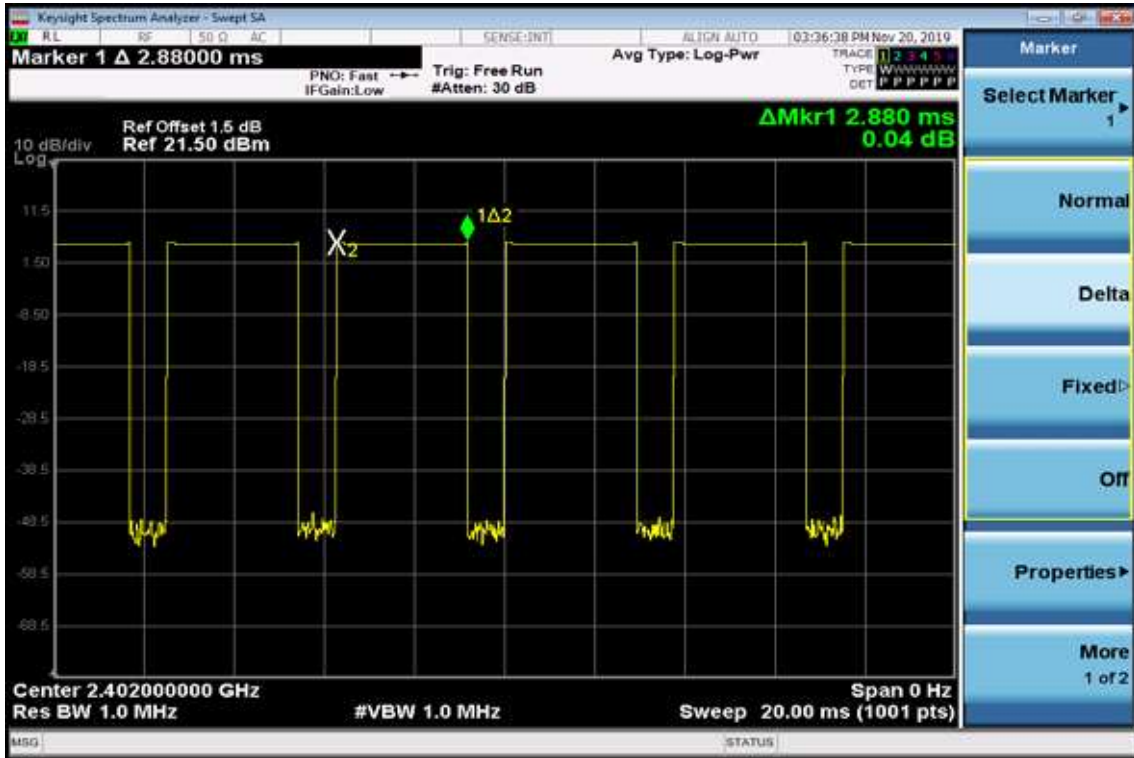
*DH1*



*DH3*

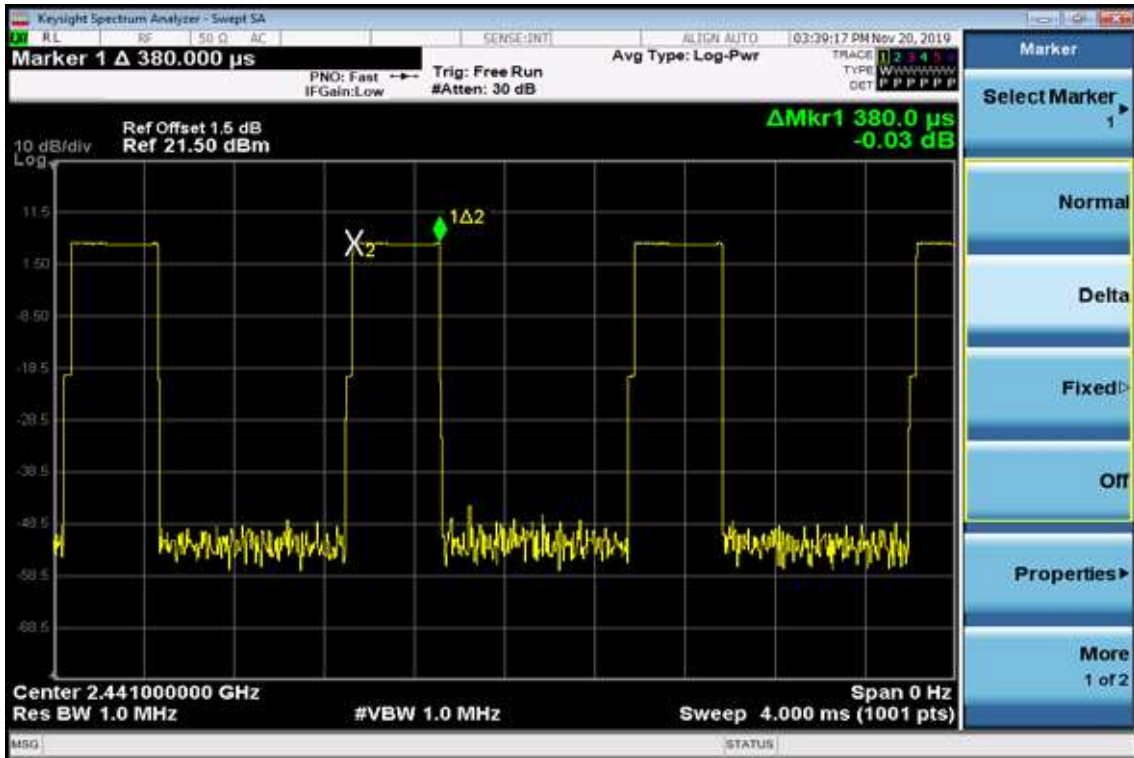


*DH5*



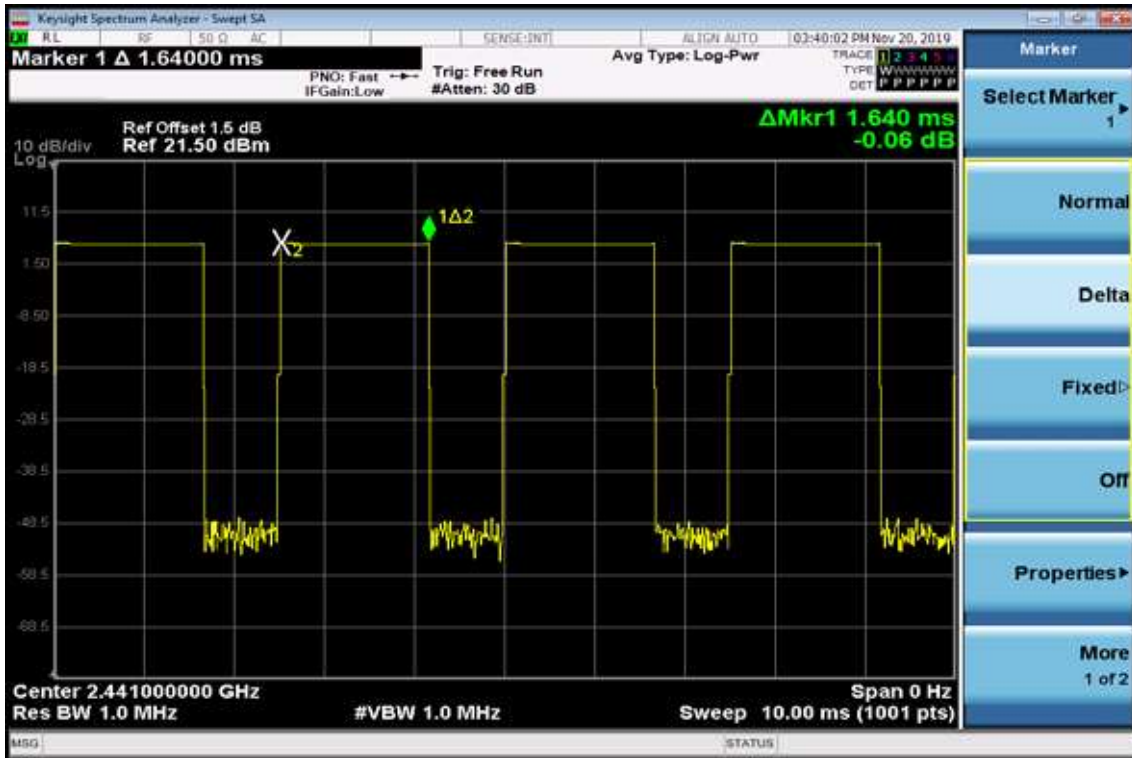
*Mid Channel*

*DH1*

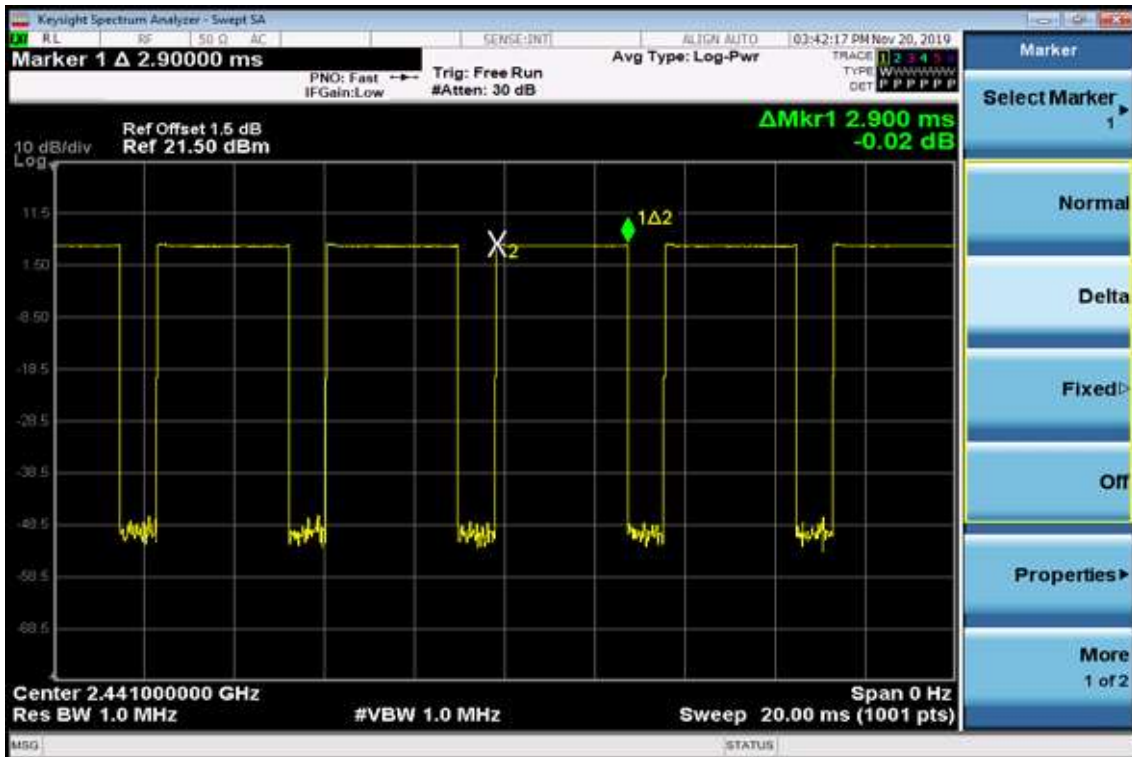




**DH3**

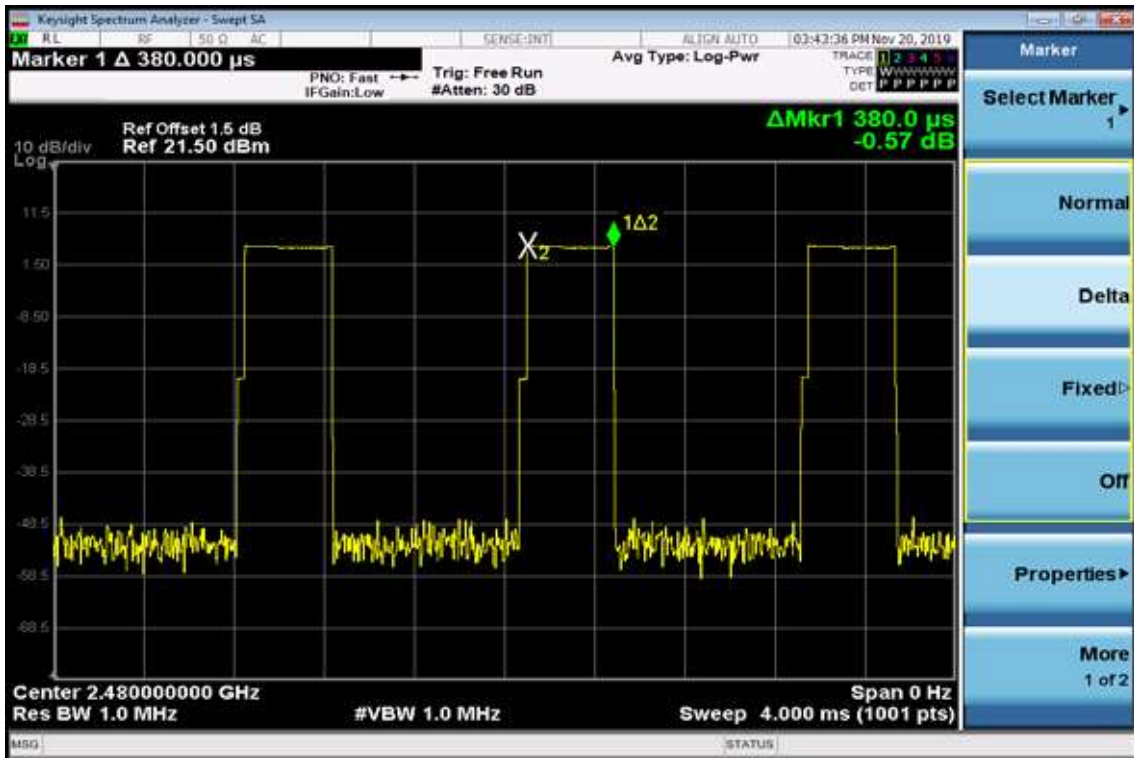


**DH5**

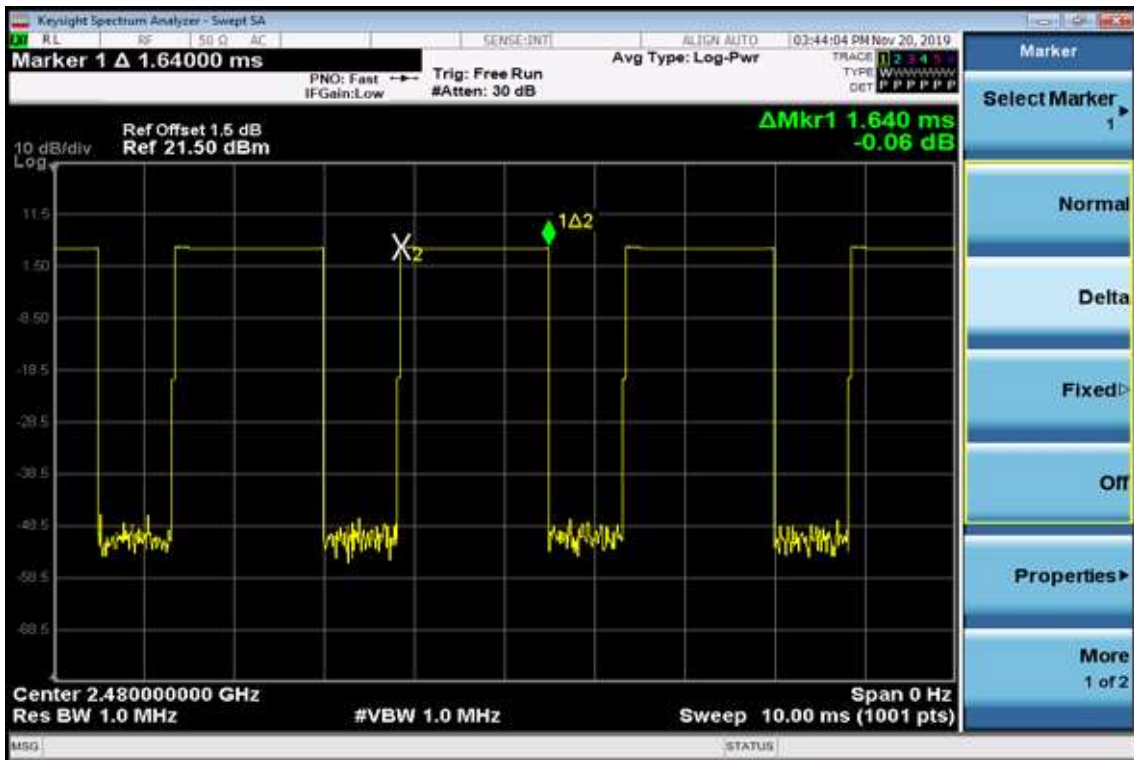




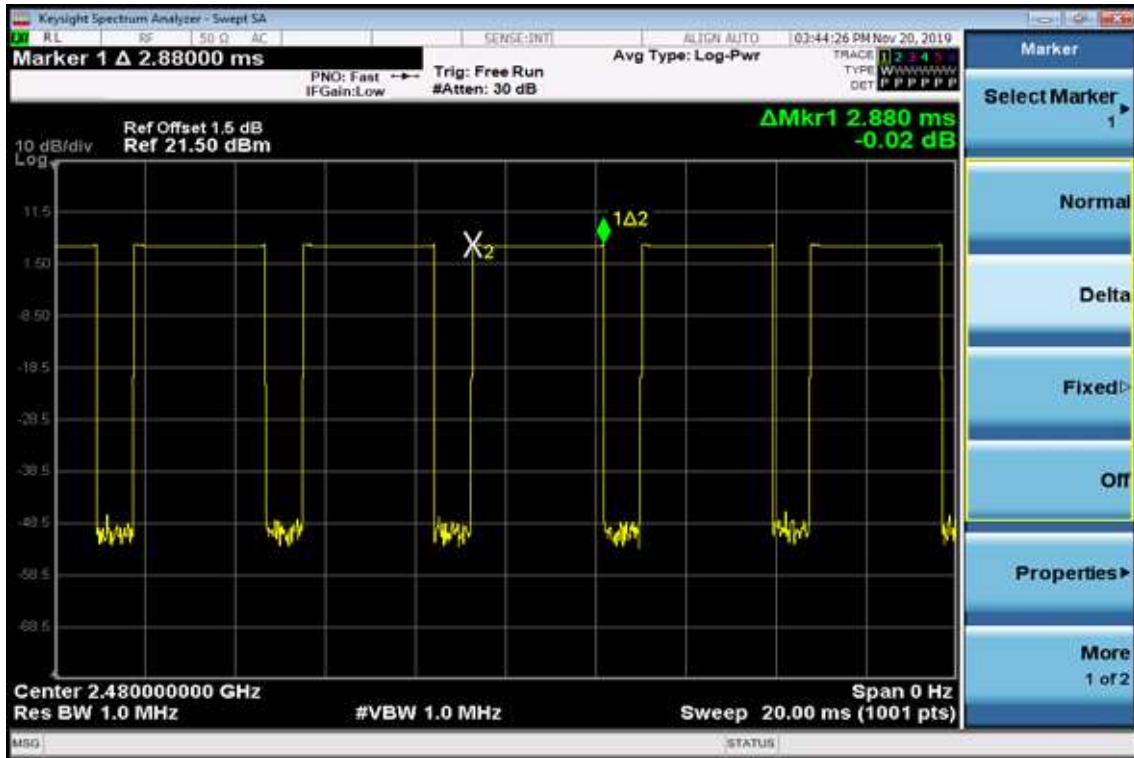
**High Channel  
 DH1**



**DH3**



DH5



## 12. 20dB Bandwidth

### 12.1 Standard Applicable:

According to §15.247(a)(1),and RSS210 A8.1(b) for frequency hopping systems operating in the 2400MHz-2483.5 MHz no limit for 20dB bandwidth.

### 12.2 Measurement Equipment Used:

Refer to section 6.2 for details.

### 12.3 Test Set-up:

Refer to section 9.3 for details.

### 12.4 Measurement Procedure:

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW= 1 % - 5% of Bandwidth., Span= 3MHz, Sweep=auto
4. Mark the peak frequency and -20dB (upper and lower) frequency.
5. Repeat above procedures until all frequency measured were complete.

**12.5 Measurement Result:**

**BDR Mode**

<b>CH</b>	<b>20dB Bandwidth (MHz)</b>
Low	0.574
Mid	0.572
High	0.572

**EDR 2M Mode**

<b>CH</b>	<b>20dB Bandwidth (MHz)</b>	<b>2/3* 20dB Bandwidth (MHz)</b>
Lower	1.160	0.773
Mid	1.172	0.782
Higher	1.177	0.785

**EDR 3M Mode**

<b>CH</b>	<b>20dB Bandwidth (MHz)</b>	<b>2/3* 20dB Bandwidth (MHz)</b>
Lower	1.115	0.743
Mid	1.114	0.743
Higher	1.113	0.742

Note: Refer to next page for plots.

**BDR Mode**

**20dB Bandwidth Test Data CH-Low**



**20dB Bandwidth Test Data CH-Mid**

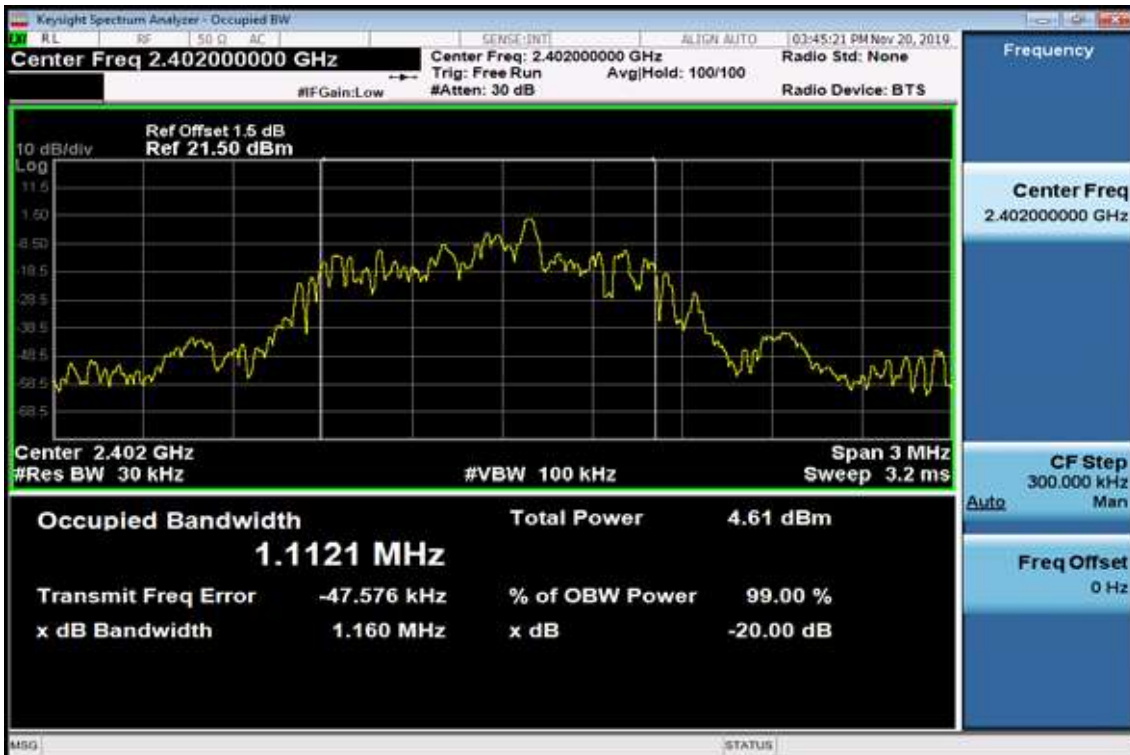


### 20dB Bandwidth Test Data CH-High



### EDR 2M Mode

### 20dB Bandwidth Test Data CH-Low

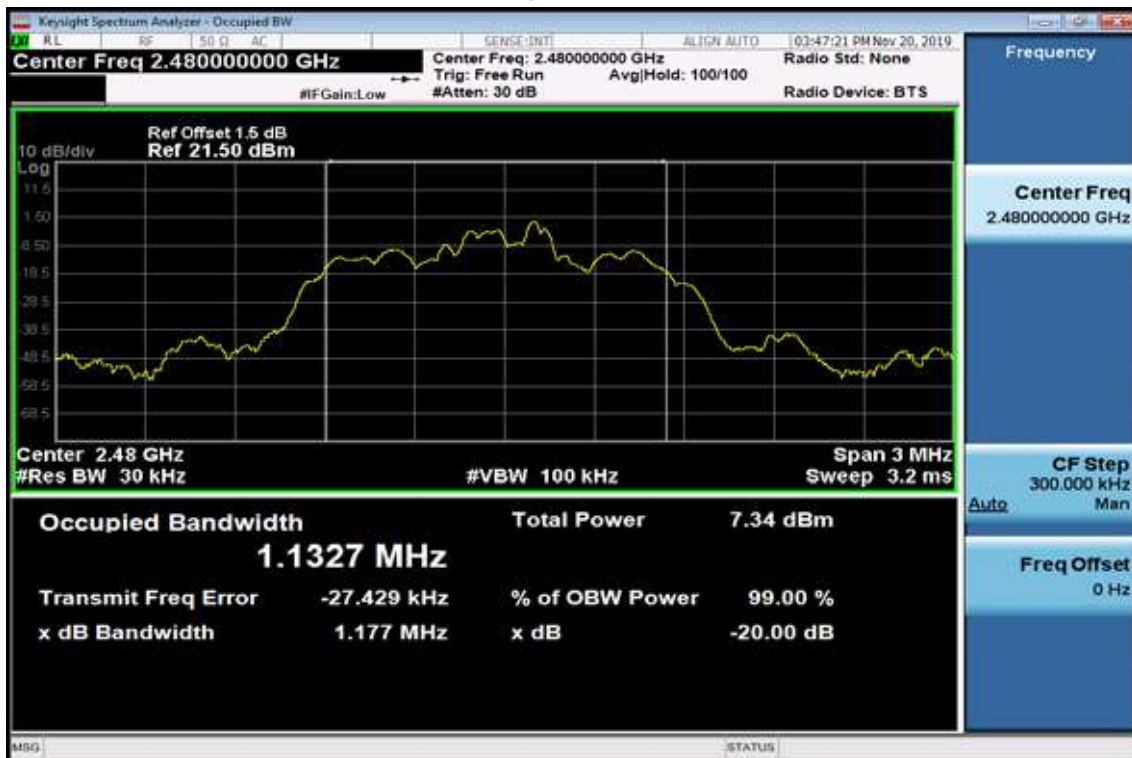




### 20dB Bandwidth Test Data CH-Mid

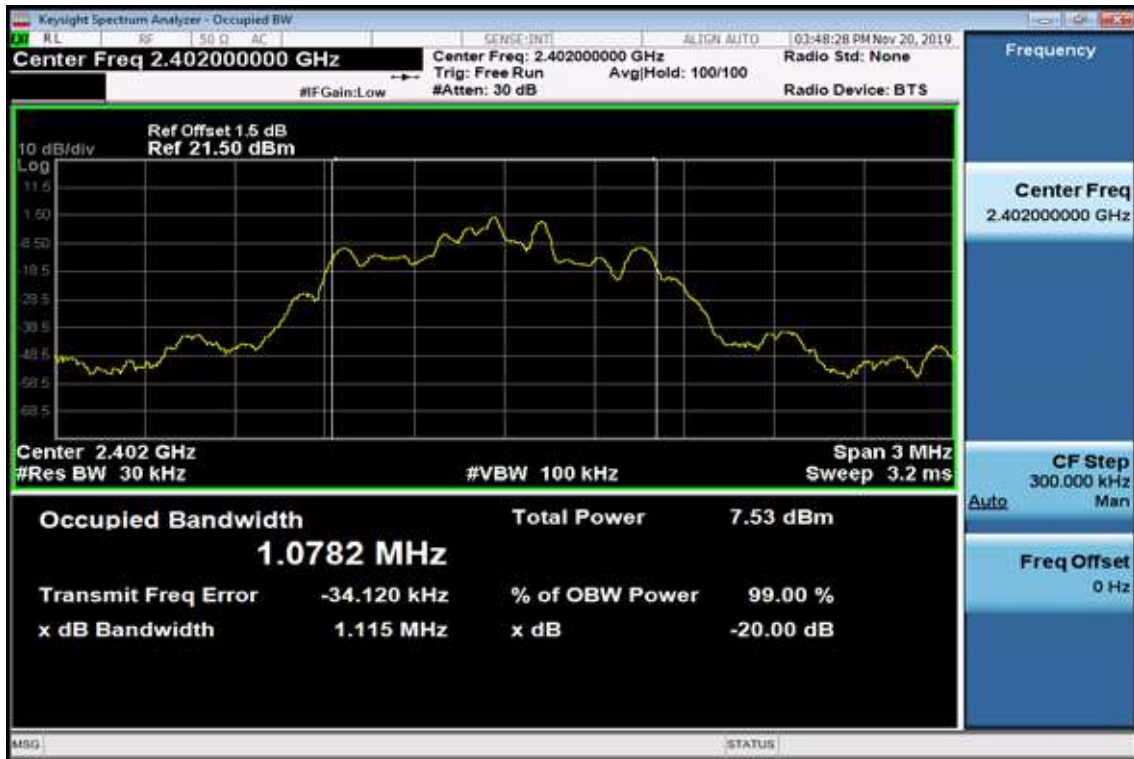


### 20dB Bandwidth Test Data CH-High

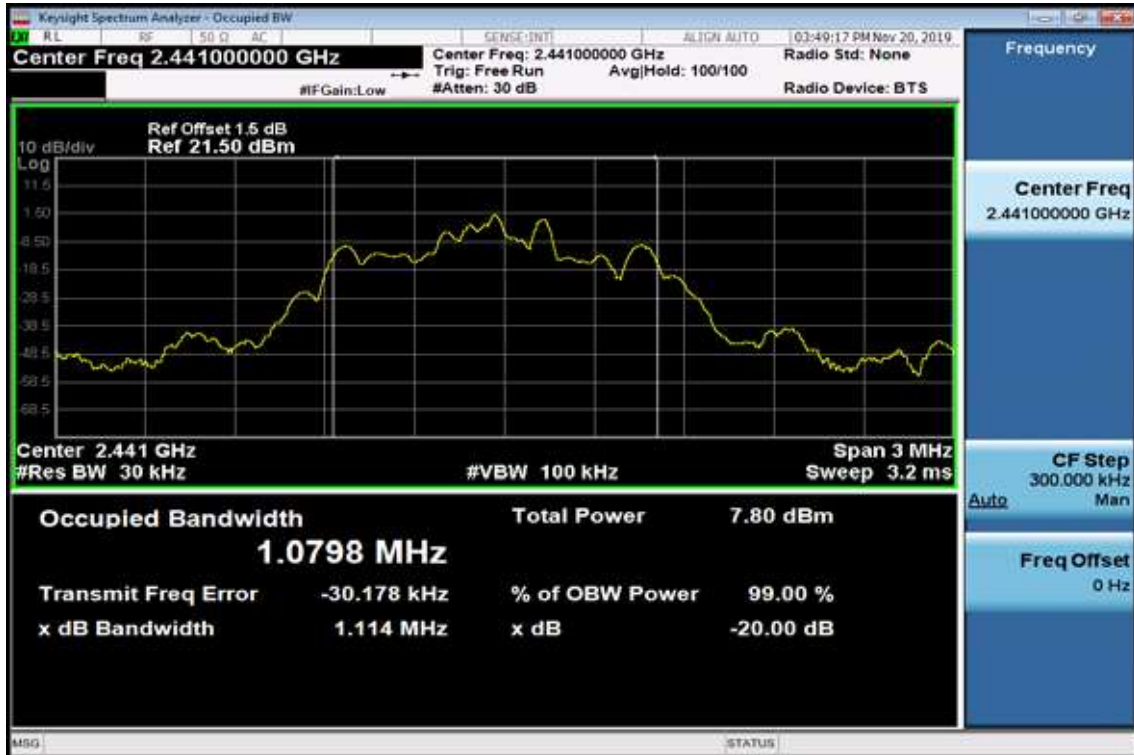


**EDR 3M Mode**

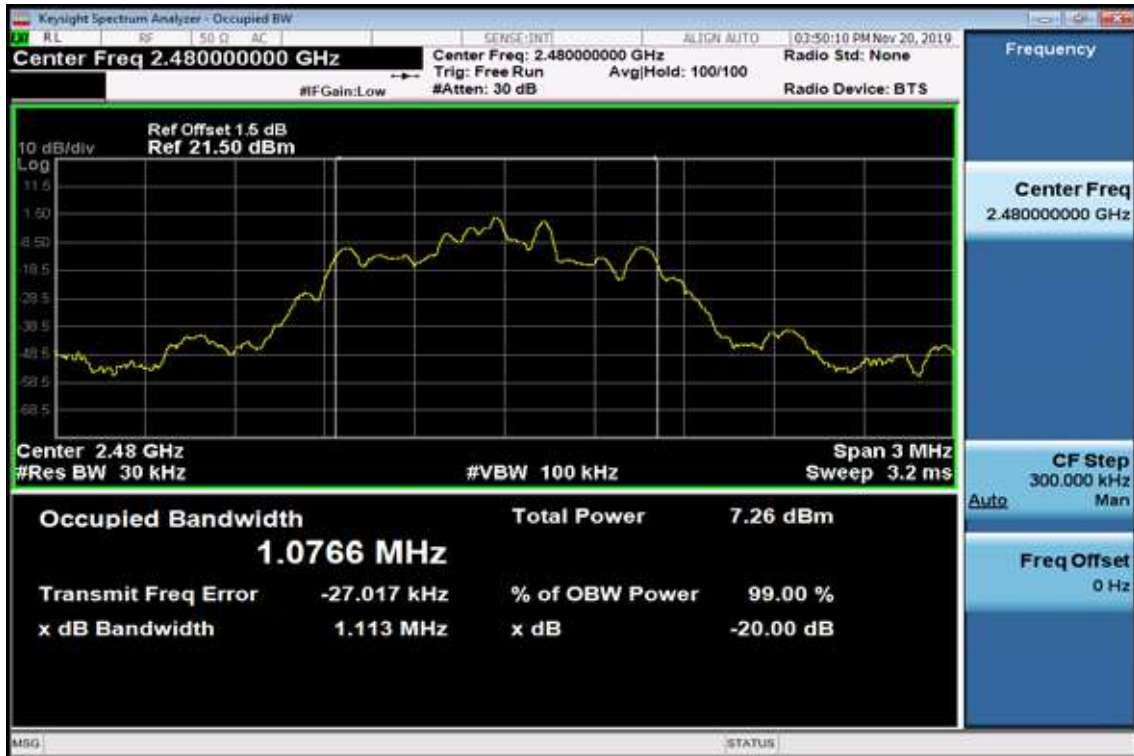
**20dB Bandwidth Test Data CH-Low**



**20dB Bandwidth Test Data CH-Mid**



### 20dB Bandwidth Test Data CH-High



## 13. Antenna Requirement

### 13.1 Standard Applicable:

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

And according to §15.247(c), if transmitting antennas of directional gain greater than 6dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### 13.2 Antenna Connected Construction:

The directional gains of antenna used for transmitting is below table, and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

Antenna Designation:

	Type	Part No.	Gain (2.4GHz)
Ant 1	Reversed SMA type dipole Antenna	F1B-204904-052	1.5dBi
Ant 2	Reversed SMA type PIFA Antenna	T-543-9291048-1	-1.16dBi