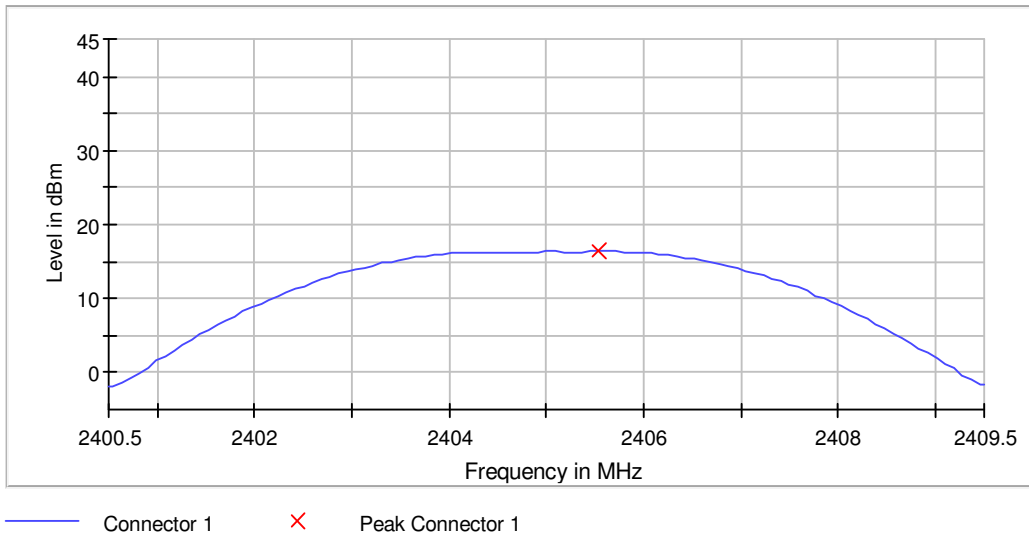


## 9 Appendix

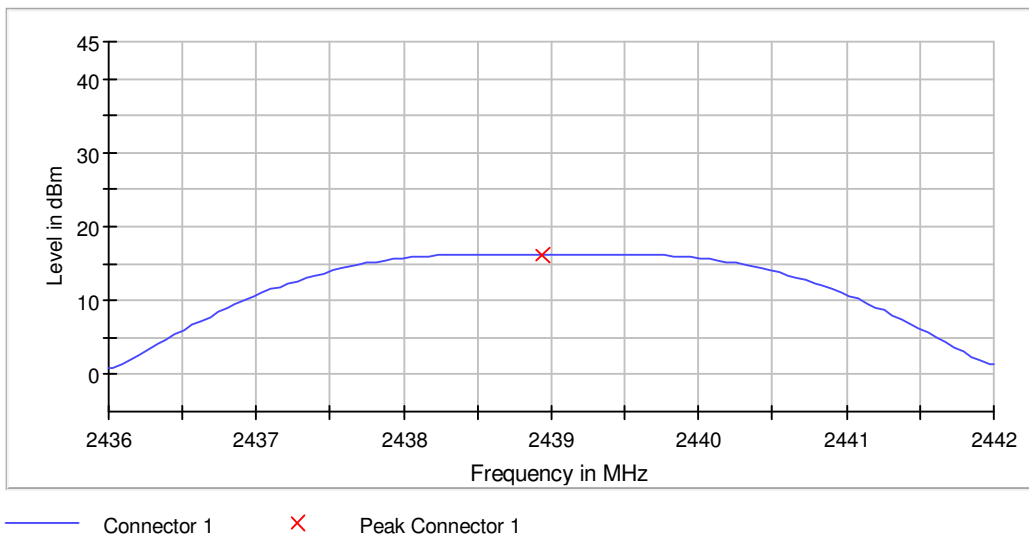
### Appendix 15.247

#### Conducted Peak Output Power

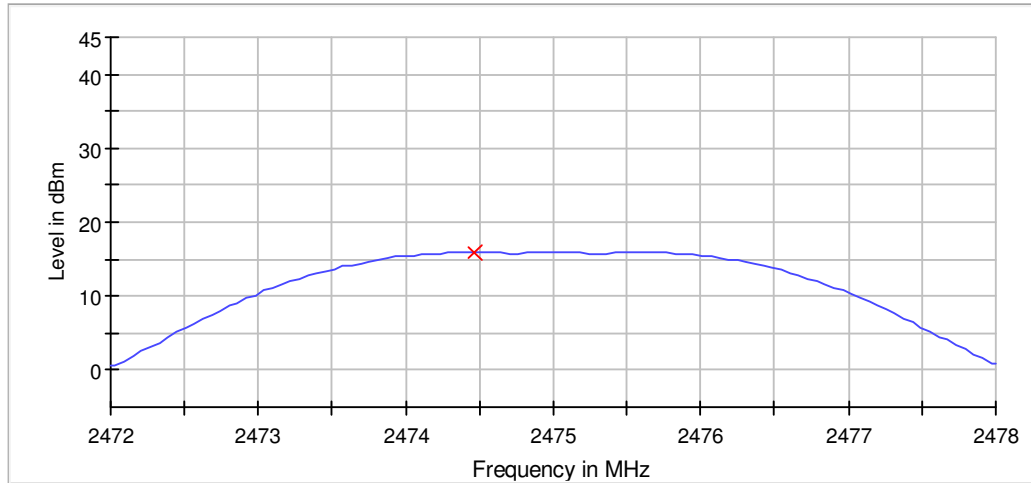
DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2405.000000	16.5	21.0	PASS



DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2439.000000	16.5	21.0	PASS



DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2475.000000	16.2	21.0	PASS



— Connector 1      × Peak Connector 1

## Measurement

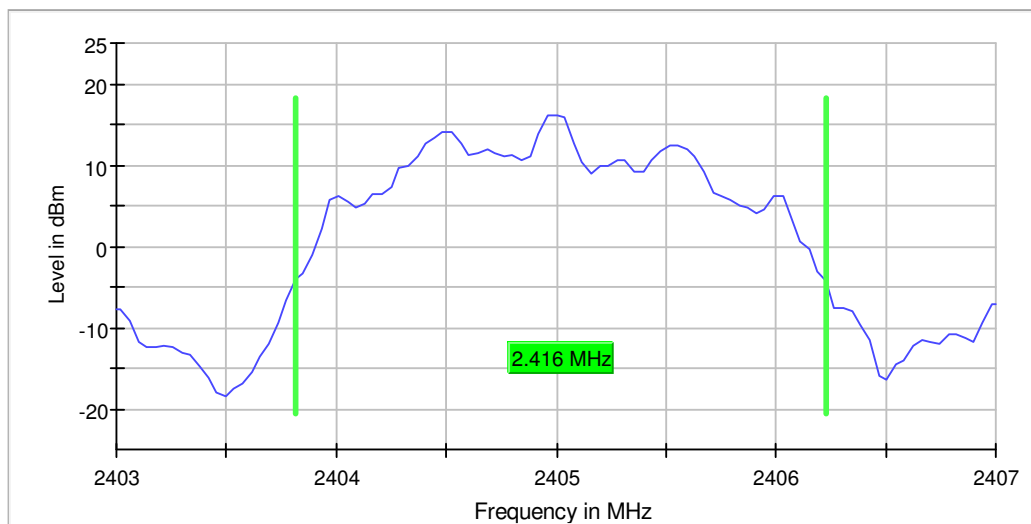
Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40950 GHz	2.40950 GHz
Span	9.000 MHz	9.000 MHz
RBW	3.000 MHz	>= 2.000 MHz
VBW	10.000 MHz	>= 9.000 MHz
SweepPoints	101	~ 101
SweepTime	1.000 ms	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.02 dB	0.50 dB

### 20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2405.000000	2.415842	---	---	2403.811881	2406.227723

(continuation of the "20 dB Bandwidth" table from column 6 ...)

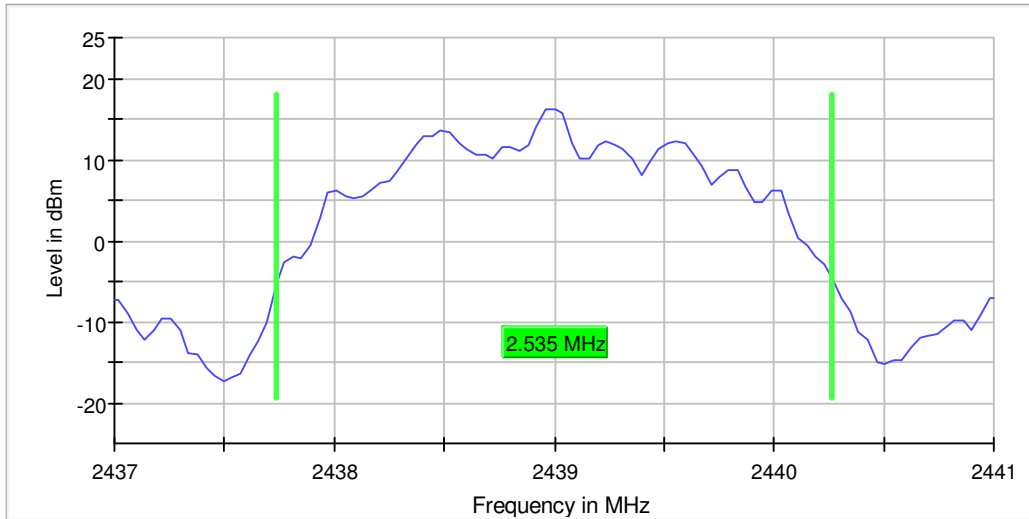
DUT Frequency (MHz)	Max Level (dBm)	Result
2405.000000	16.2	PASS



DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2439.000000	2.534654	---	---	2437.732673	2440.267327

(continuation of the "20 dB Bandwidth" table from column 6 ...)

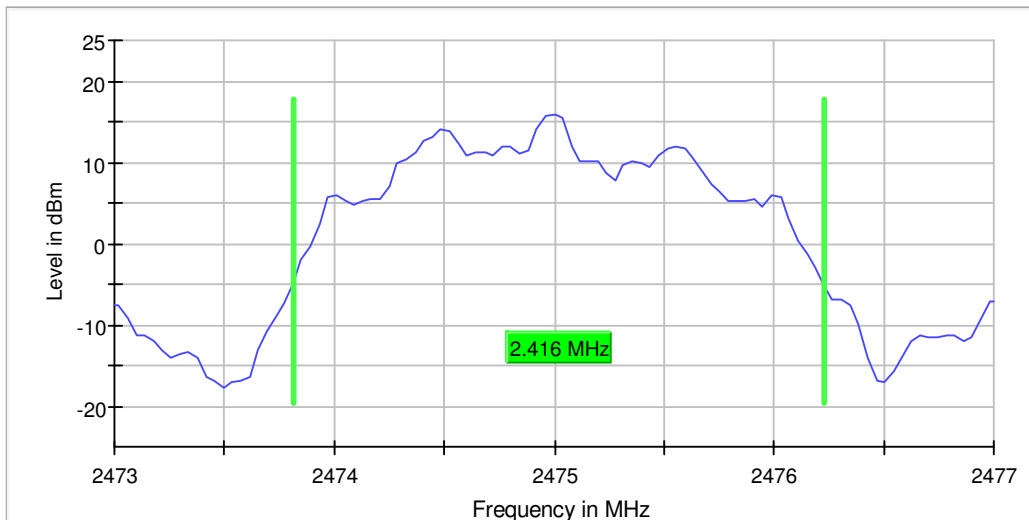
DUT Frequency (MHz)	Max Level (dBm)	Result
2439.000000	16.1	PASS



DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2475.000000	2.415842	---	---	2473.811881	2476.227723

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2475.000000	15.9	PASS



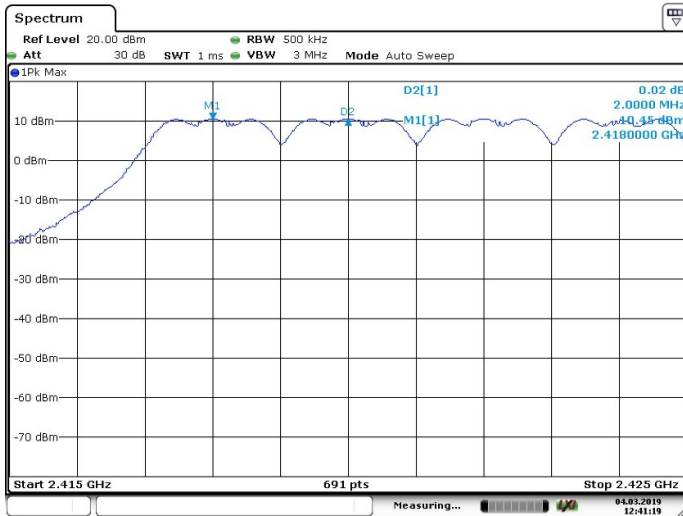
## Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40300 GHz	2.40300 GHz
Stop Frequency	2.40700 GHz	2.40700 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz

VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 80
SweepTime	18.938 us	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	15 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.06 dB	0.50 dB

### Carrier Frequency Separation

DUT Frequency (MHz)	Separation (kHz)	Limit Min (kHz)	Limit Max (kHz)	Result
2415.000000	2000.0	1611	--	PASS



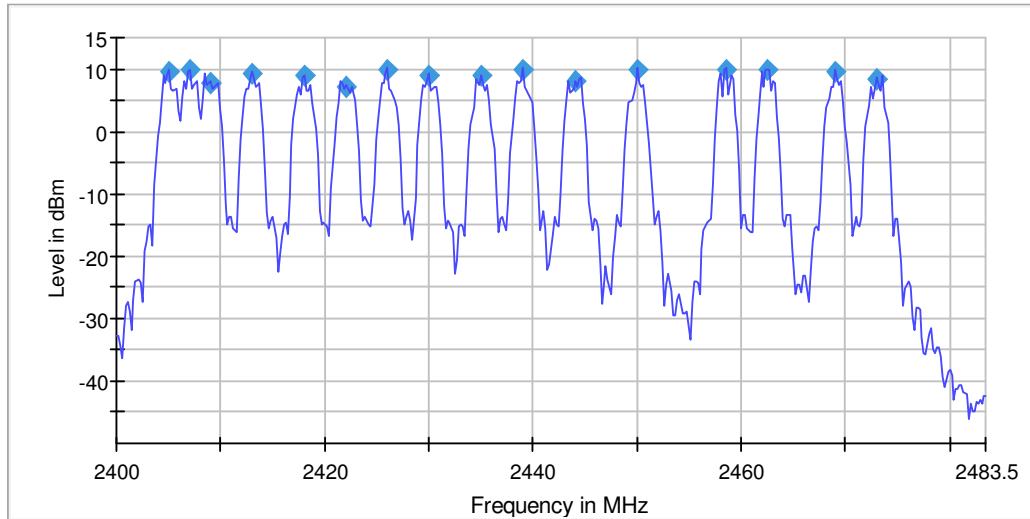
Date: 4.MAR.2019 12:41:20

### Hopping Frequencies

Hopping Frequencies	Limit Min	Limit Max	Result
16	15	---	PASS

### Band Allocation

Band Allocation (MHz)	Band Allocation Low Frequency (MHz)	Band Allocation High Frequency (MHz)	Limit Min	Limit Max	Result
70.788060	2403.614179	2474.402239	---	---	PASS

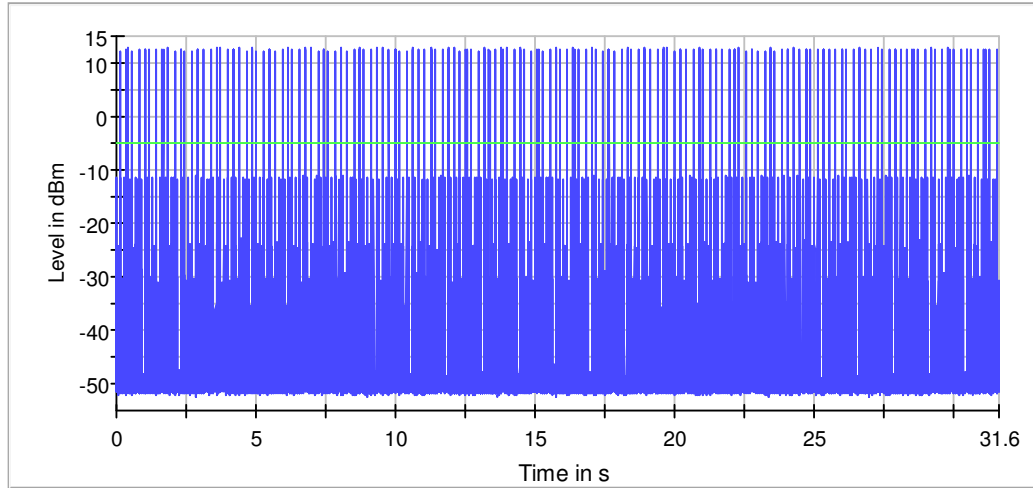


## Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	200.000 kHz	<= 299.000 kHz
VBW	200.000 kHz	>= 200.000 kHz
SweepPoints	418	~ 418
SweepTime	1.060 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	76 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.05 dB	0.50 dB

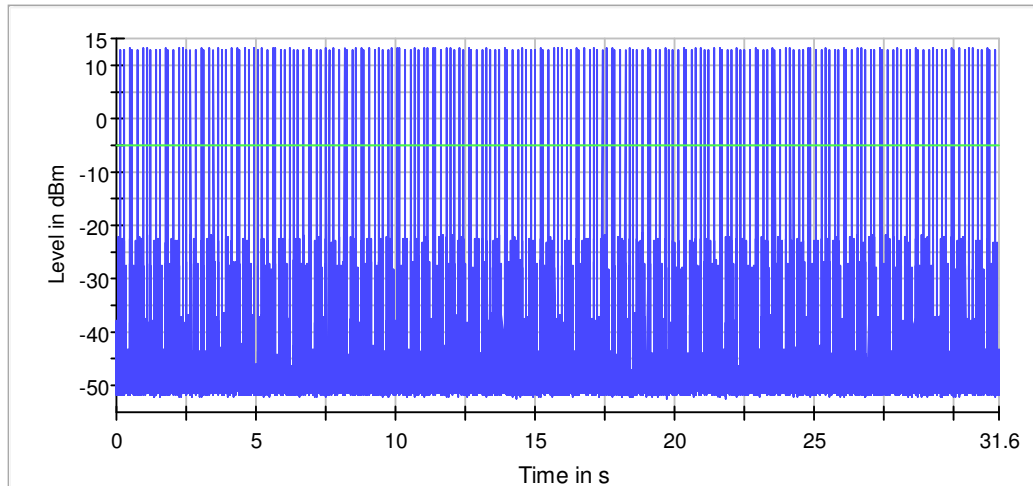
### Dwell Time

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2405.000000	171.060	400.000	0.000	-5.0	PASS



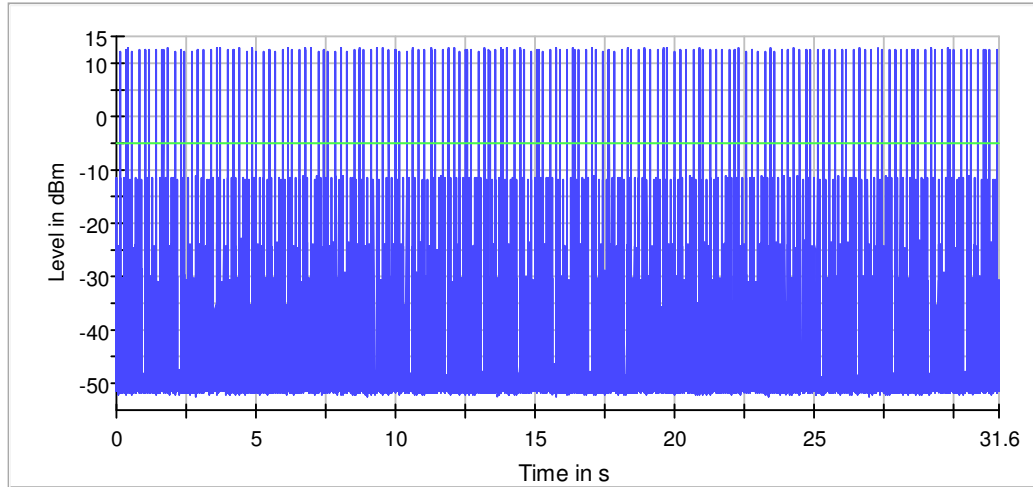
— Trace — Threshold

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2439.000000	171.250	400.000	0.000	-5.0	PASS



— Trace — Threshold

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2475.000000	171.120	400.000	0.000	-5.0	PASS



— Trace      — Threshold

### Measurement

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	External	External
Trigger Offset	0.000 ms	0.000 ms

### Band Edge (Non-hopping mode)

DUT Frequency (MHz)	Result
2405.000000	PASS

### Inband Peak

Frequency (MHz)	Level (dBm)
2405.025000	16.0

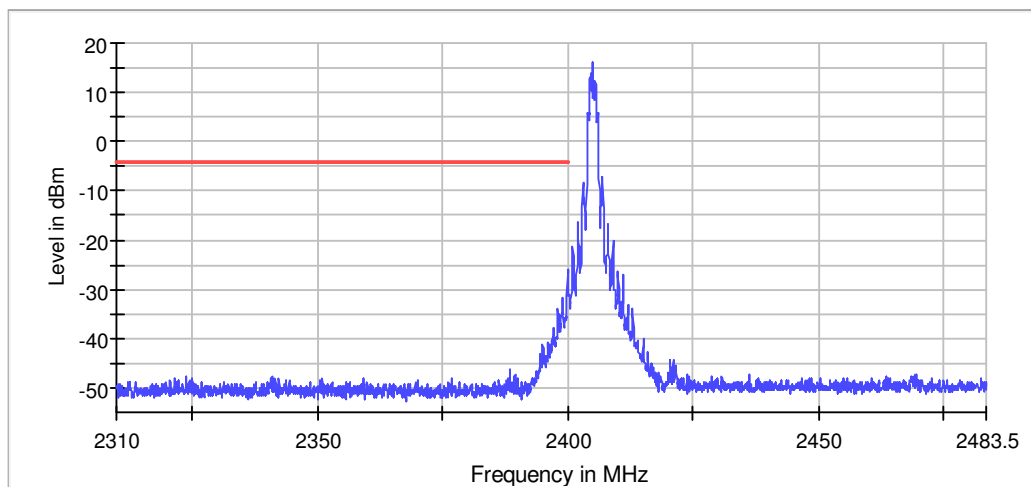
### Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-26.3	22.2	-4.0	PASS
2399.925000	-31.2	27.1	-4.0	PASS
2399.075000	-31.6	27.6	-4.0	PASS

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2399.025000	-31.7	27.7	-4.0	PASS
2398.975000	-32.0	28.0	-4.0	PASS
2399.875000	-33.5	29.5	-4.0	PASS
2398.025000	-33.9	29.9	-4.0	PASS
2399.125000	-33.9	29.9	-4.0	PASS
2398.925000	-34.3	30.3	-4.0	PASS
2397.975000	-34.4	30.4	-4.0	PASS
2398.825000	-34.8	30.8	-4.0	PASS
2398.875000	-35.0	31.0	-4.0	PASS
2398.175000	-35.0	31.0	-4.0	PASS
2399.175000	-35.3	31.2	-4.0	PASS
2399.825000	-35.5	31.5	-4.0	PASS



— Limit    — Sum Level    × Fail

### Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.31000 GHz	2.31000 GHz
Stop Frequency	2.40000 GHz	2.40000 GHz
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	1.800 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

### Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz



Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
Sweeptime	1.670 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	15 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.27 dB	0.50 dB

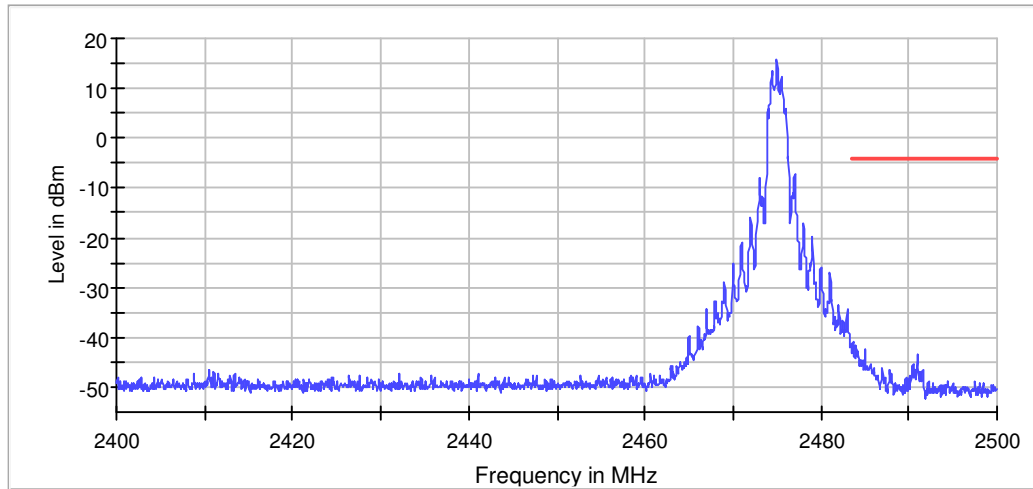
DUT Frequency (MHz)	Result
2475.000000	PASS

### Inband Peak

Frequency (MHz)	Level (dBm)
2475.025000	15.8

### Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.625000	-40.7	36.5	-4.2	PASS
2483.675000	-41.2	37.0	-4.2	PASS
2483.725000	-41.4	37.3	-4.2	PASS
2483.975000	-41.5	37.4	-4.2	PASS
2483.575000	-41.6	37.4	-4.2	PASS
2484.025000	-42.2	38.0	-4.2	PASS
2485.025000	-42.2	38.1	-4.2	PASS
2484.975000	-42.2	38.1	-4.2	PASS
2483.925000	-42.4	38.3	-4.2	PASS
2483.775000	-42.5	38.3	-4.2	PASS
2484.075000	-42.7	38.6	-4.2	PASS
2484.175000	-42.9	38.7	-4.2	PASS
2483.525000	-43.2	39.0	-4.2	PASS
2484.225000	-43.2	39.1	-4.2	PASS
2490.975000	-43.6	39.5	-4.2	PASS



— Limit    — Sum Level    × Fail

## Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	1.670 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	23 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.14 dB	0.50 dB

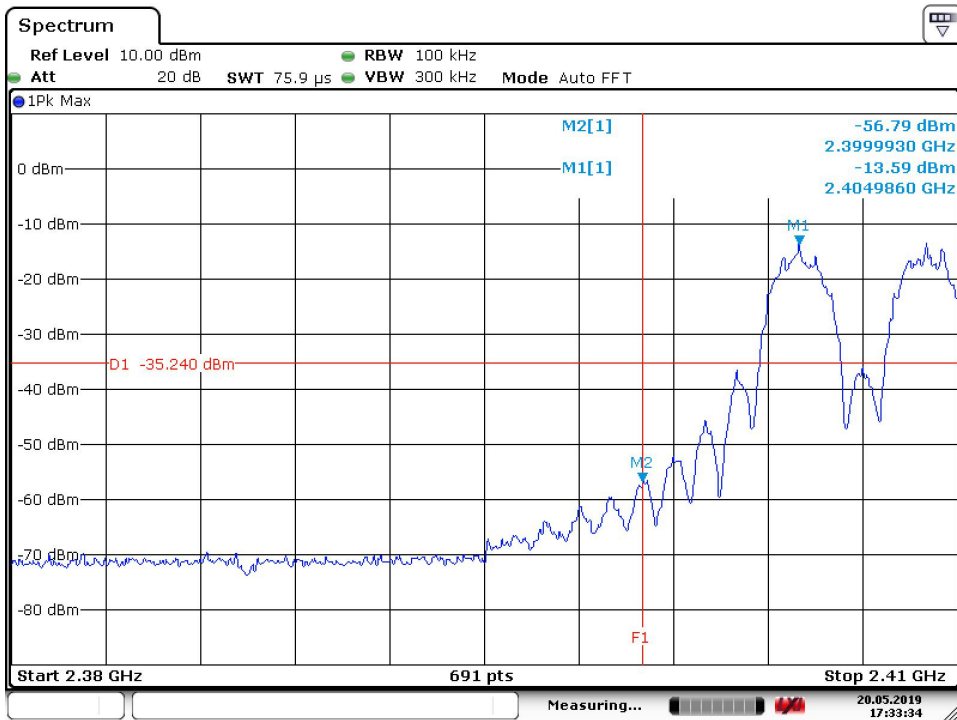
## Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.48350 GHz	2.48350 GHz
Stop Frequency	2.50000 GHz	2.50000 GHz
Span	16.500 MHz	16.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	330	~ 330
SweepTime	37.969 us	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO

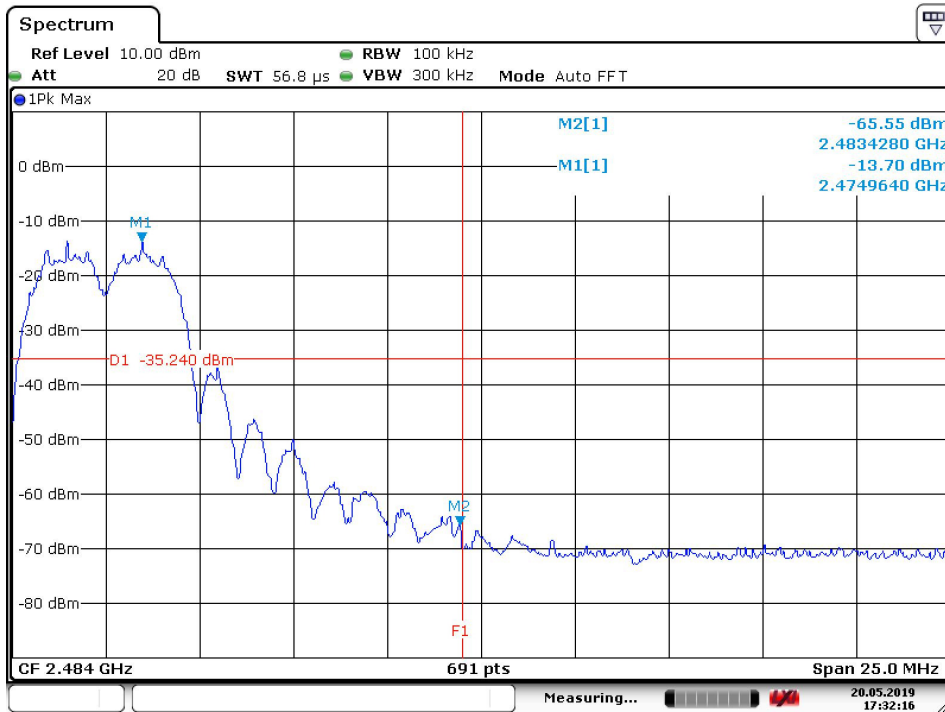
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

## Band Edge (Hopping mode)

Lower band edge



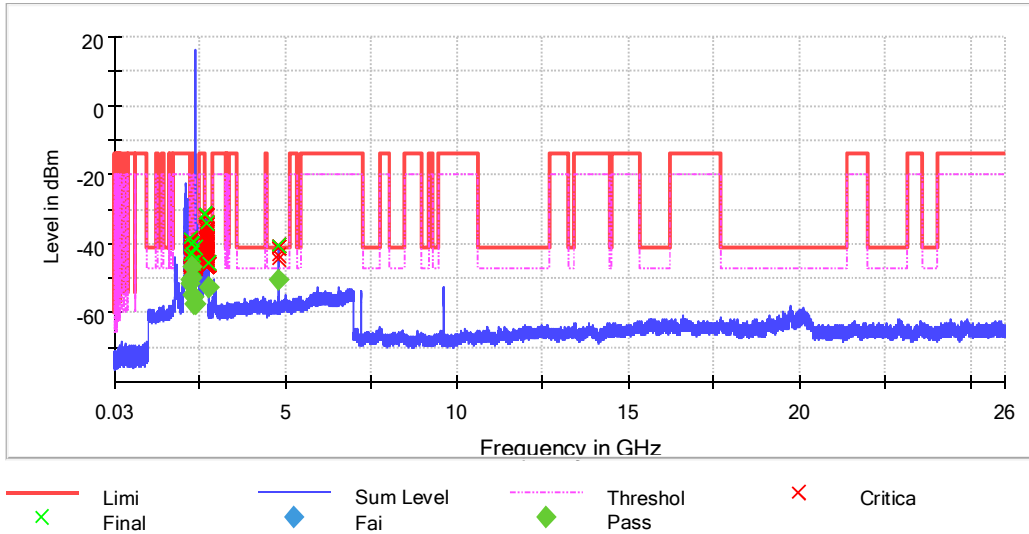
Upper band edge



**Tx Spurious Emission**

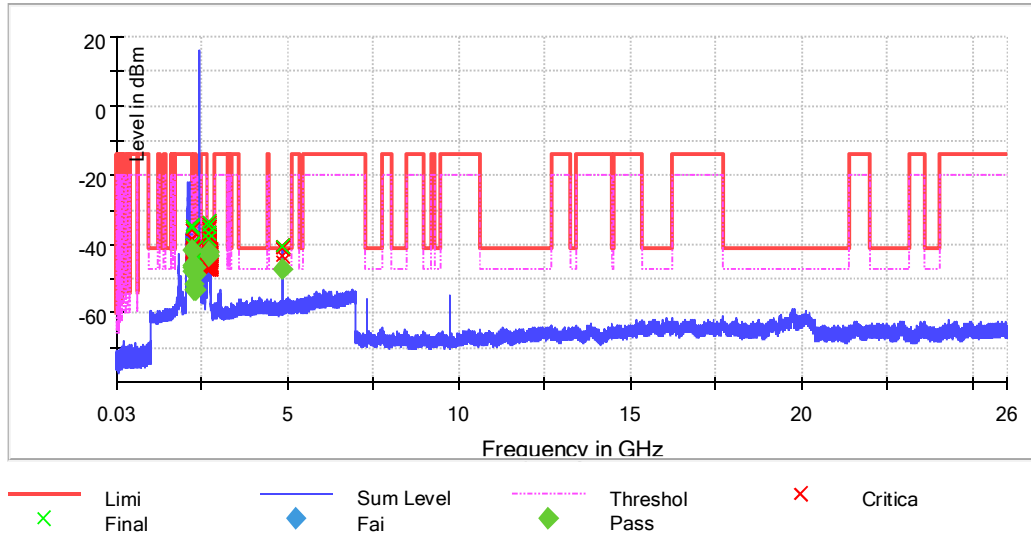
DUT Frequency (MHz)	Result
2405.000000	Pass

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2211.750000	-38.3	-51.6	-41.2	10.4	PASS
2244.750000	-43.5	-50.4	-41.2	9.2	PASS
2261.750000	-45.5	-54.9	-41.2	13.7	PASS
2277.750000	-39.9	-46.4	-41.2	5.2	PASS
2293.750000	-43.0	-50.0	-41.2	8.8	PASS
2310.250000	-45.4	-57.8	-41.2	16.6	PASS
2341.750000	-47.2	-55.6	-41.2	14.4	PASS
2389.750000	-41.0	-57.5	-41.2	16.3	PASS
2757.250000	-45.8	-52.9	-41.2	11.7	PASS
4811.750000	-40.7	-50.5	-41.2	9.3	PASS



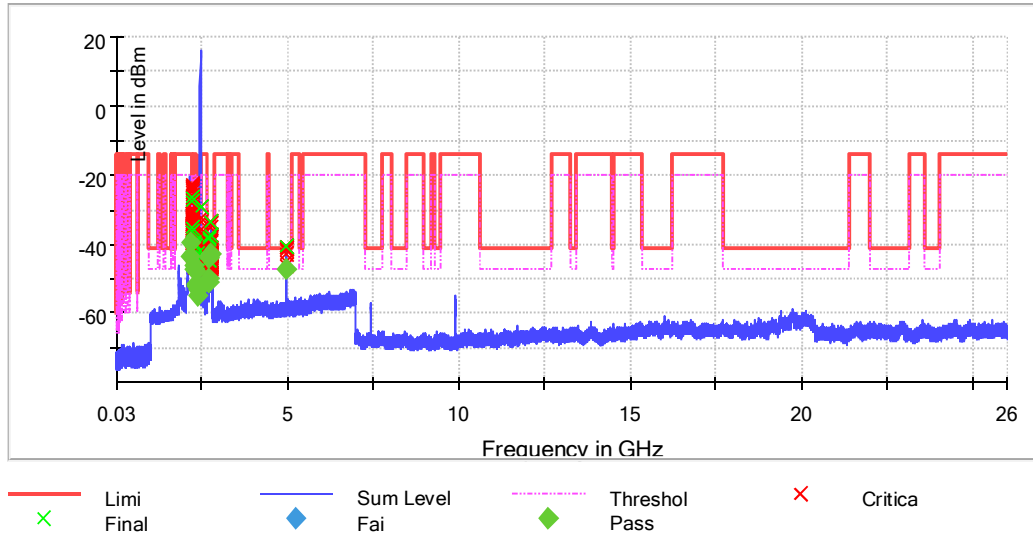
DUT Frequency (MHz)	Result
2439.000000	PASS

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2200.250000	-34.6	-46.4	-41.2	5.2	PASS
2215.750000	-35.4	-41.8	-41.2	0.6	PASS
2230.750000	-39.9	-46.3	-41.2	5.1	PASS
2247.750000	-40.0	-47.9	-41.2	6.7	PASS
2278.750000	-44.2	-51.6	-41.2	10.4	PASS
2294.750000	-45.2	-53.0	-41.2	11.8	PASS
2311.250000	-41.0	-46.7	-41.2	5.5	PASS
2326.750000	-43.1	-49.1	-41.2	7.9	PASS
2343.250000	-45.2	-53.4	-41.2	12.2	PASS
2695.250000	-37.0	-42.4	-41.2	1.2	PASS
2710.750000	-38.3	-43.2	-41.2	2.0	PASS
4877.250000	-40.5	-47.2	-41.2	6.0	PASS



DUT Frequency (MHz)	Result
2475.000000	PASS

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2250.750000	-36.2	-41.8	-41.2	0.6	PASS
2266.750000	-40.1	-46.4	-41.2	5.2	PASS
2283.250000	-39.8	-47.0	-41.2	5.8	PASS
2315.750000	-44.5	-51.8	-41.2	10.6	PASS
2330.750000	-45.2	-52.2	-41.2	11.0	PASS
2347.750000	-40.9	-48.0	-41.2	6.8	PASS
2364.250000	-42.8	-54.9	-41.2	13.7	PASS
2378.750000	-45.2	-53.4	-41.2	12.2	PASS
2483.750000	-29.3	-42.4	-41.2	1.2	PASS
2495.750000	-43.2	-61.8	-41.2	20.6	PASS
2699.750000	-44.3	-50.8	-41.2	9.6	PASS
2714.750000	-44.4	-50.0	-41.2	8.8	PASS
2731.250000	-38.7	-43.7	-41.2	2.5	PASS
2746.750000	-38.2	-43.4	-41.2	2.2	PASS
2778.750000	-37.4	-42.8	-41.2	1.6	PASS
4949.250000	-40.5	-47.4	-41.2	6.2	PASS



### Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	19400	~ 19400
SweepTime	19.400 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

### Pre Measurement 2

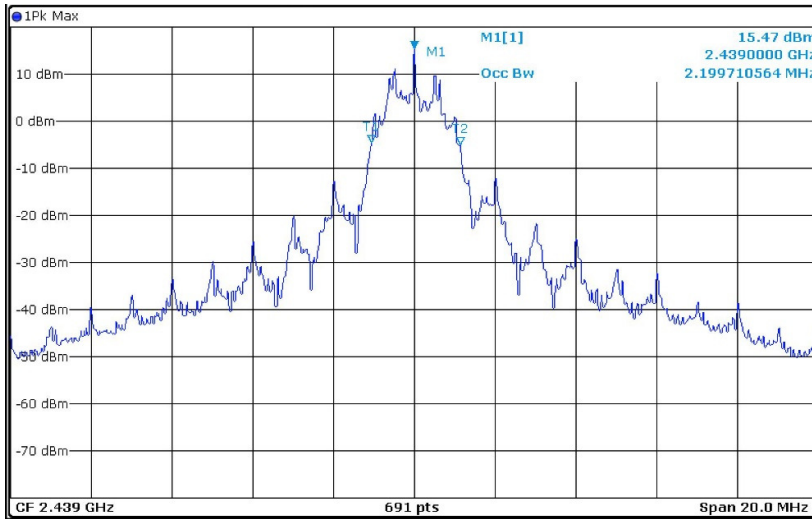
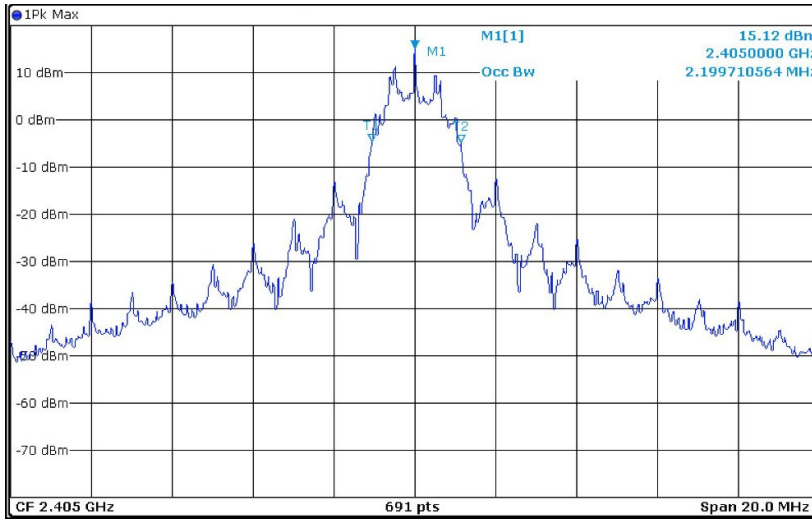
Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	41 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.16 dB	0.50 dB

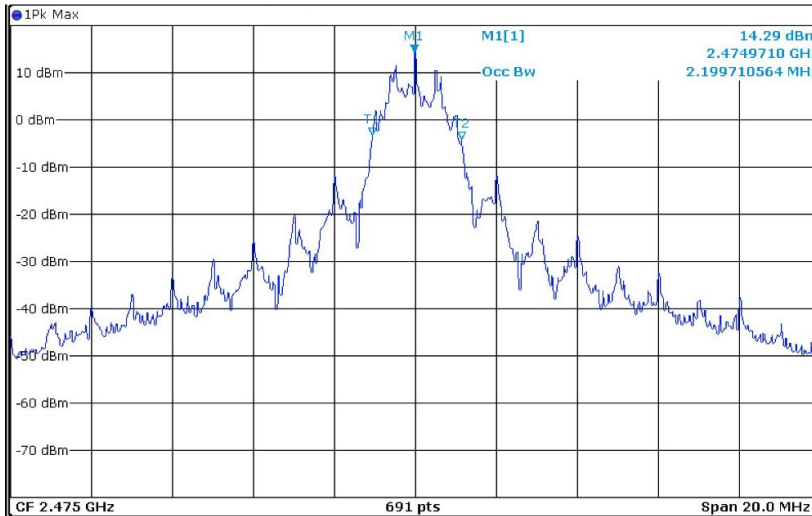




### 99% Bandwidth

Frequency (MHz)	Bandwidth (MHz)
2405.0	2.20
2439.0	2.20
2475.0	2.20





## Measurement

Setting	Instrument Value	Target Value
RBW	100.000 kHz	>= 60.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	121	~ 121
Sweeptime	1.000 s	1.000 s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB

- End of the Report -