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<i>Client:</i>	MYLAPS BV Zuiderhoutlaan 4, 2012PJ Haarlem, Netherlands	
<i>Test Item:</i>	<b>Digital Transmission System (DTS)</b>	
<i>Identification:</i>	<b>X2 RaceLink</b>	<i>Serial Number:</i> <b>0189378 (radiated) &amp; 192461 (Conducted tests)</b>
<i>Project No.:</i>	<b>18120402</b>	<i>Date of Receipt:</i> <b>March 25, 2019</b>
<i>Testing Location:</i>	<b>TÜV Rheinland Nederland B.V.</b> Eiberkamp 10 9351VT Leek	
<i>Test Specification:</i>	FCC 47 CFR Part 15, Subpart C, Section 15.247 (10-1-18 Edition)  ANSI C63.10-2013 KDB 558074 D01 DTS Meas Guidance v05.02	
<i>Test Result:</i>	The test item <b>passed</b> the test specification(s).	
<i>Testing Laboratory:</i>	<b>TÜV Rheinland Nederland B.V.</b> Eiberkamp 10 9351 VT Leek	
<i>Tested by:</i>	<i>Reviewed &amp; Approved by:</i>	
2019-12-11	R. van der Meer / Inspector	2019-12-11 E. van der Wal
<i>Date</i>	<i>Name/Position</i>	<i>Signature</i>
<i>Other Aspects:-.</i>		
<i>Abbreviations:</i> P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested		
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## TEST SUMMARY

### **5.1.1 CONDUCTED MEASUREMENTS AT ANTENNA PORT**

*RESULT: PASS*

### **5.1.2 6dB AND 20 dB BANDWIDTH**

*RESULT: PASS*

### **5.1.3 PEAK POWER SPECTRAL DENSITY**

*RESULT: PASS*

### **5.1.4 CONDUCTED OUT OF BAND SPURIOUS EMISSIONS**

*RESULT: Pass*

### **5.1.5 RADIATED SPURIOUS EMISSIONS OF TRANSMITTER**

*RESULT: PASS*

### **5.2.1 AC POWER LINE CONDUCTED EMISSION OF TRANSMITTER**

*RESULT: Not Applicable*

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## **1. General Remarks**

### **1.1 Complementary Materials**

There is no attachment to this test report.

## **2. Test Sites**

### **2.1 Test Facilities**

The Federal Communications Commission and Industry Canada has reviewed the technical characteristics of the test facilities at TÜV Rheinland Nederland B.V., located in Leek, 9351VT Eiberkamp 10, The Netherlands, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948.

The description of the test facilities has been filed at the Office of the Federal Communications Commission under registration number 786213. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

The description of the test facilities has been filed to Industry Canada under registration number 2932G-2. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

Normal test conditions:

Temperature (\*) : +15°C to +35°C  
Relative humidity(\*) : 20 % to 75 %  
Supply voltage : 7-18 Vdc (typical 12 Vdc vehicle battery operation).

*(\*)When it was impracticable to carry out the tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests are stated separately.*

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## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

Kind of Equipment	Manufacturer	Model Name	Inventory number	Calibration date (mm/yyyy)	Calibration due date (mm/yyyy)
<b>For Antenna Port Conducted Emissions</b>					
Temperature-Humiditymeter	Extech	SD500	2789216 (A00446)	07/2019	07/2020
Spectrum Analyzer	Rohde & Schwarz	FSV	2790260 (A01744)	07/2018	07/2020
RF Cable	Huber + Suhner	Sucoflex 102	A00347	07/2019	07/2020
7-18Vdc Power Supply	Voltcraft	PS 303 Pro	A00264	12/2018	12/2019
<b>For Radiated Emissions</b>					
Measurement Receiver	Rohde & Schwarz	ERC7	2790497 (A01980)	07/2018	07/2020
RF Cable S-AR	Gigalink	APG0500	2789217 (A00447)	03/2019	03/2020
Controller	Maturo	SCU/088/8090811	2789220 (A00450)	N/A	N/A
Controller	EMCS	DOC202	2789031 (A00257)	N/A	N/A
Test facility	Comtest	FCC listed: 786213 IC: 2932G-2	A00235	10/2017	10/2020
Spectrum Analyzer	Rohde & Schwarz	FSV	2790260 (A01744)	07/2018	07/2020
Antenna mast	EMCS	AP-4702C	A00258	N/A	N/A
Temperature-Humiditymeter	Extech	SD500	2789214 (A00444)	06/2018	06/2020
Guidehorn 1-18 GHz	EMCO	3115	2788776 (A00008)	12/2017	12/2020
Guidehorn 18-40 GHz	EMCO	RA42-K-F-4B-C	A00012	01/2018	01/2021
Biconilog Testantenna	Teseq	CBL 6111D	2789237 (A00466)	11/2018	11/2019
7-18Vdc Power Supply	Voltcraft	PS 303 Pro	A00264	12/2018	12/2019
2.4 GHz bandreject filter	BSC	XN-1783	A00065	N/A	N/A
Bandpass filter 4-10 GHz	Reactel	7AS-7G-6G-511	A00131	N/A	N/A
Bandpass filter 10-26 GHz	Reactel	9HS-10G/26.5G-S11	A00151	N/A	N/A
Preamplifier 0.5 - 18 GHz	Miteq	AMF-5D-005180-28-13p	A00247	N/A	N/A
Filterbox	EMCS	RFS06S	2789029 (A00255)	04/2018	04/2020

Conformance of the used measurement and test equipment with the requirements of ISO/IEC 17025:2005 has been confirmed before testing. NA= Not Applicable

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## 2.3 Measurement Uncertainty

**Table 2: Emission Measurement Uncertainty**

Measurement Type	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1.3GHz	1.7dB
	1.3 - 40GHz	2.9 – 3.4dB
Radiated Emission	150kHz - 30MHz	±5.0dB
	30MHz - 1GHz	±5.22dB
	> 1GHz	±5.22dB

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### **3. General Product Information**

#### **3.1 Product Function and Intended Use**

The brand MYLAPS model X2 RaceLink, hereafter referred to as EUT, is a propriety protocol transmitter used in sports timing.

The content of this report and measurement results have not been changed other than the way of presenting the data.

#### **3.2 System Details**

Details and an overview of the system and all of its components, as it has been tested, may be found below.

EUT	:	Digital Transmission System, BLE
Manufacturer	:	MYLAPS BV
Brand	:	MYLAPS
Model(s)	:	X2 RaceLink
Firmware version	:	0.20
hardware version	:	7
Voltage input rating	:	7-18 Vdc (typical 12 Vdc vehicle battery operated)

Antenna	:	External
Antenna Gain	:	+ 1.6 dBi
Operating frequency	:	2403 MHz-2478 MHz.
Modulation	:	GFSK
Data-rate	:	1 Mbps
Remarks	:	n.a.

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### **Table 3: Interfaces present on the EUT**

There are no interface ports present on the EUT.

### **3.3 Countermeasures to achieve compliance**

No additional measures were employed to achieve compliance.



## 4. Test Set-up and Operation Modes

### 4.1 Test Methodology

The test methodology used is based on the requirements of 47 CFR Part 15, Sections 15.31, 15.33, 15.35, 15.205, 15.207, 15.209, 15.247.

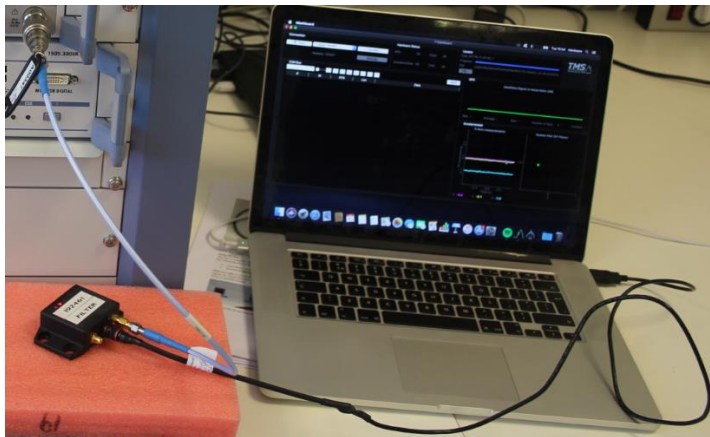
The test methods, which have been used, are based on ANSI C63.10-2013 and KDB 558074.

### 4.2 Operation Modes

Testing was performed at the lowest operating frequency (2403 MHz), at the operating frequency in the middle of the specified frequency band (2443 MHz) and at the highest operating frequency (2478 MHz). These operation modes were selected after review of the capabilities and characteristics of the EUT. The test software as mentioned in section 4.4 enabled the settings of these modes.

The EUT has been tested in the modes as described in table below

Operation Mode	EUT Status	Frequency (MHz)	TX power control setting
Transmit (Tx)	On	2403	2
Transmit (Tx)	On	2443	2
Transmit (Tx)	On	2478	2



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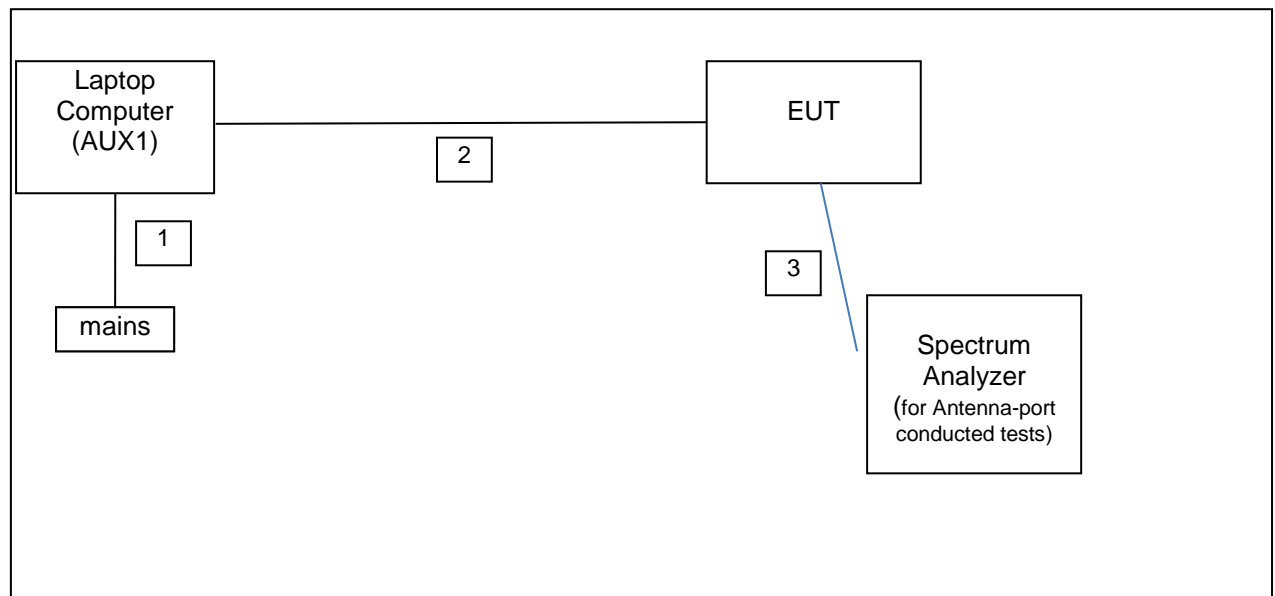
### 4.3 Physical Configuration for Testing

For programming purposes only the EUT was connected to the usb port of a laptop computer. The laptop computer was used to configure the EUT to continuously transmit at a specified output power and channel as specified in the test data. See section 4.5 for Auxiliary details.

The EUT was tested with a GPS antenna and external antenna for radiated tests, for antenna port conducted tests the GPS antenna and external antenna were omitted. The EUT is intended for racing vehicles and will be powered by vehicle battery at 12Vdc. This is simulated for testing purposes by using a 12Vdc power supply (AUX4). Supply varied over 7-18Vdc, final tests done at 12 Vdc.

The justification and manipulation of cables and equipment in order to simulate a worst-case behavior of the test setup has been carried out as prescribed in ANSI C63.10-2013.

**Figure 1a: Test Setup Diagram – antenna port conducted tests and programming.**



No.	Port	From	To	Remarks
1.	Mains	Mains	Laptop (AUX1)	Through a power supply
2.	Data com.	Laptop USB	EUT	--
3.	GPS antenna	EUT	AUX2	-
4.	External antenna	EUT	AUX3	-

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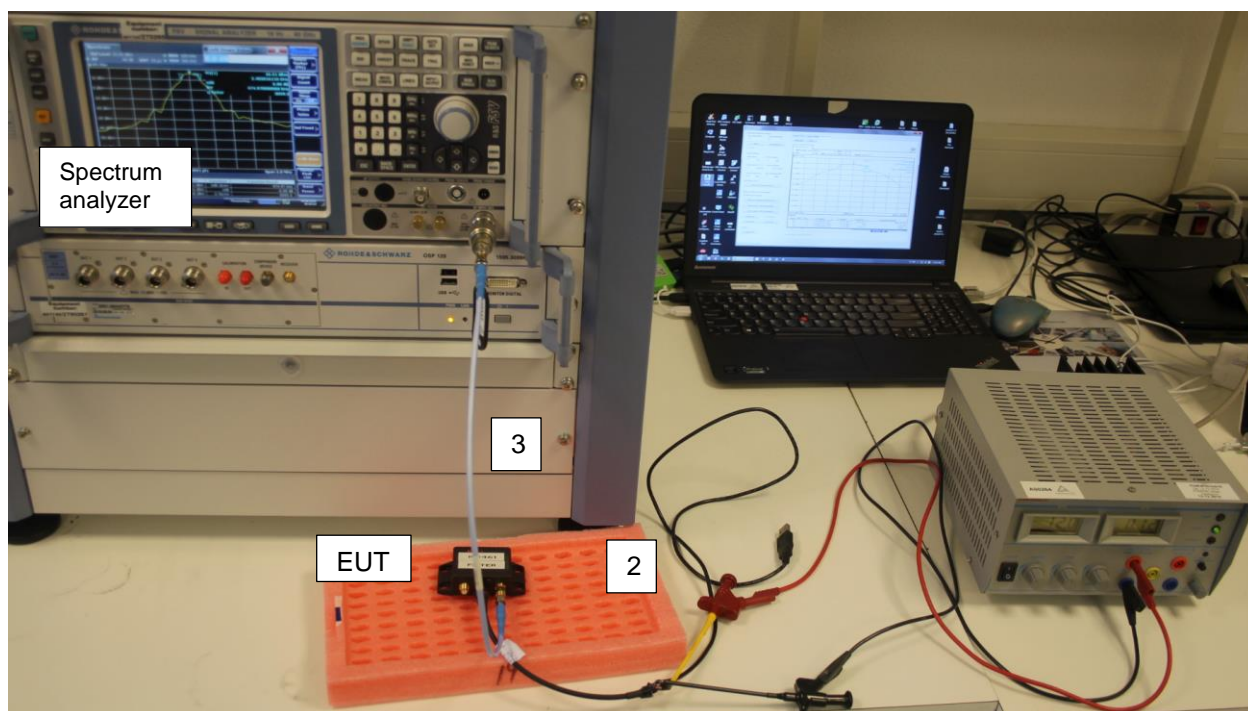


Figure 2: Test Setup Photos – conducted tests

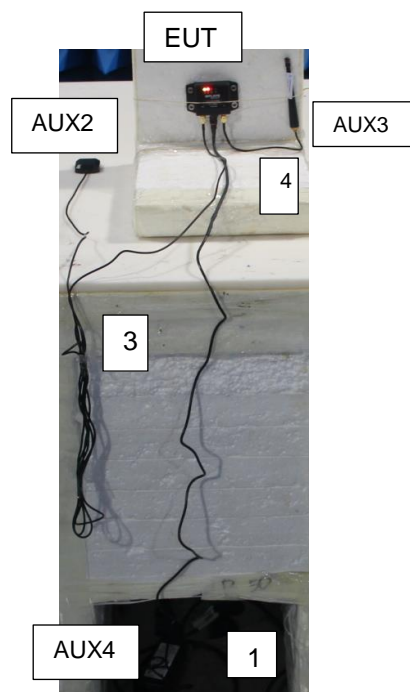


Figure 3: Test Setup Photos – radiated tests

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## 4.4 Test Software

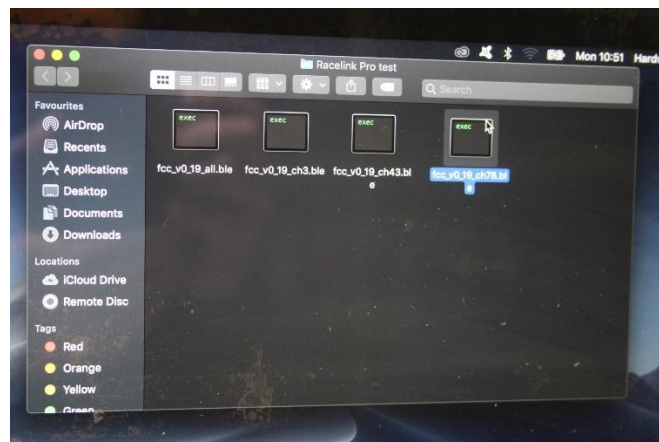
A continuous transmit mode could be initiated by using test software as supplied by the applicant. The test software was used to define various different operational modes of the EUT for the purpose of compliance testing. The version of the test software, as supplied by the applicant and used during all tests is:

Test software : TMS T-Dashboard 0v12

This software was running on a laptop computer (AUX1). It was used to enable the test operation modes listed in section 4.2 as appropriate.



Screenshot of the software as used on AUX1



Firmware files as programmed in the EUT

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## 4.5 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

The auxiliary items were not used during testing, but instead are only used to make the required settings for testing. For setting the transmit frequency, enable modulation etc.

1. AUX1

Product: Laptop Computer  
Brand: Apple  
Model: MacBook Pro  
Serial Number: C02P288YG3QC  
Remark: host for test software, property applicant



2. AUX2

Product: GPS Antenna  
Brand: -  
Model: -  
Serial Number: A143506  
Remark: part of the system, as marketed with EUT



3. AUX3

Product: External Antenna  
Brand: -  
Model: -  
Serial Number: -  
Remark: part of the system, as marketed with EUT

4. AUX4

Product: Power supply  
Brand: DVE  
Model: DSA-42PFB-12 1  
Serial Number: 0217HB  
Remark: connects to EUT , for radiated tests



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## 5. Test Results

### 5.1 Conducted Measurements at Antenna Port

#### 5.1.1 Conducted Output Power

##### **RESULT: PASS**

Date of testing: 2019-08-21

Requirements:

FCC 15.247(b)(3)

For systems using digital modulation in the 2400-2483.5 MHz band, the maximum peak output power is 1W (+30dBm).

Test procedure:

The Peak Conducted Output Power was measured using the method according to section 11.9.1.1 in ANSI C63.10-2013.

The maximum peak output power (conducted) was measured at the antenna connector with a spectrum analyzer. The final measurement takes into account the loss generated by all the involved cables.

Measurement uncertainty is +/- 2.5 dB.

Notes:  $\text{mW} = 10^{(\text{dBm}/10)}$   
 $\text{dBm} = 10 \times \log(\text{mW})$

**plots : Peak power plots,**

Figures 1a, 1b and 1c show plots of the Peak Power outputs, correction factors included in the reading.

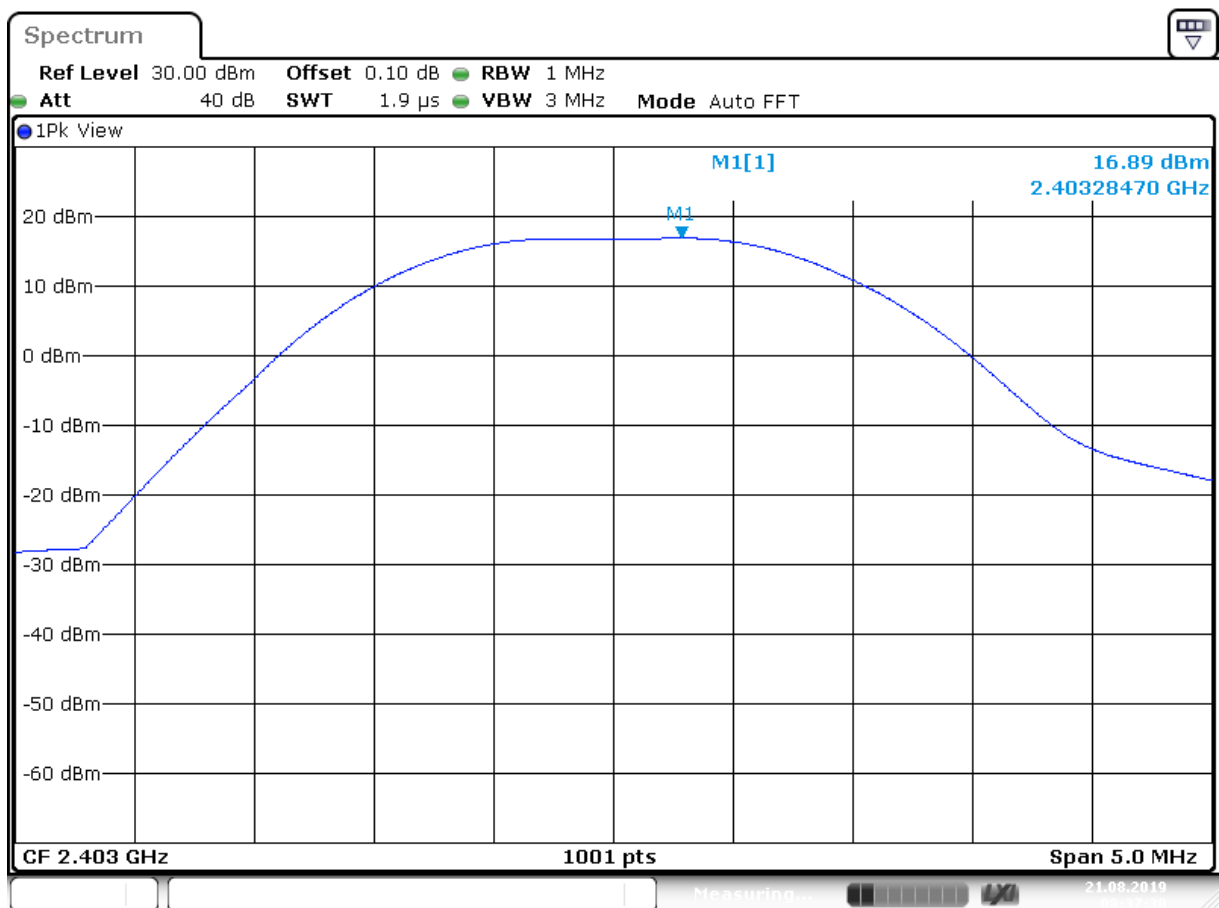
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## Conducted Output Power

Frequency [MHz]	Output Power [dBm] ( W)	Limit [dBm] (W)	Verdict [Pass/Fail]	Plot number
2403	16.9 ( 0.049 W)	+30 (1W)	Pass	A
2443	18.5 (0.071 W)	+30 (1W)	Pass	B
2478	17.4 (0.055 W)	+30 (1W)	Pass	C



Date: 21 AUG 2019 08:37:30

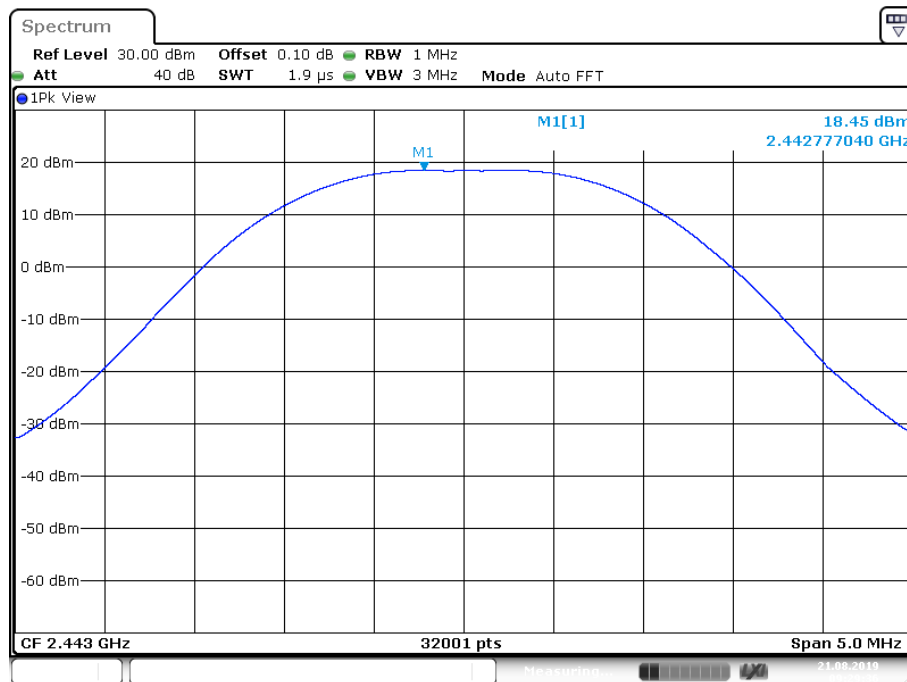
Plot A



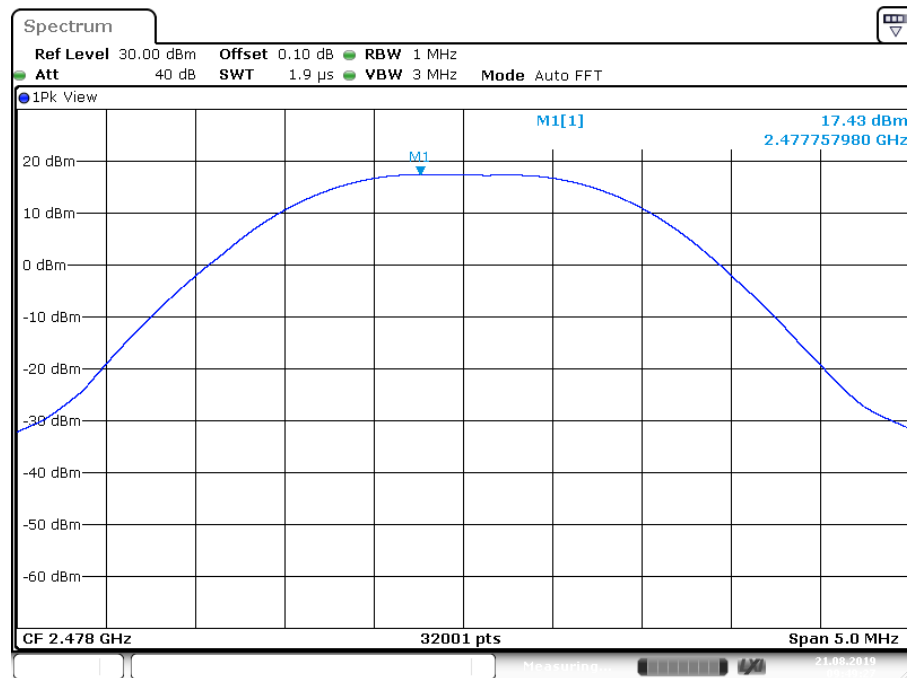
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Plot B



Plot C



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## **5.1.2 DTS (6dB) and 20 dB Bandwidth**

### **RESULT: Pass**

Date of testing:

2019-08-21

Requirements:

FCC 15.247(a)(2)

For systems using digital modulation in the 2400-2483.5MHz band, the 6dB bandwidth shall be at least 500kHz.

Test procedure 6dB bandwidth:

ANSI C63.10-2013 section 11.8.1 Option 1

A spectrum analyzer was connected to the antenna port of the EUT. The spectrum analyzer resolution bandwidth was set to 100kHz, video bandwidth to 300kHz and the span wide enough to capture the modulated carrier.

For 20 dB Bandwidth:

The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual.

A spectrum analyzer was connected to the antenna port of the EUT. The spectrum analyzer resolution bandwidth was set to 1% of the selected span, Video bandwidth was set to 3 times the resolution bandwidth. The span was set to capture the whole modulation process. Measurement uncertainty is +/- 26kHz.

Plots A1,B1 and C1 shown on the next pages are of the 6 dB bandwidth.  
Plots A2,B2 and C2 shown on the next pages are of the 20 dB bandwidth

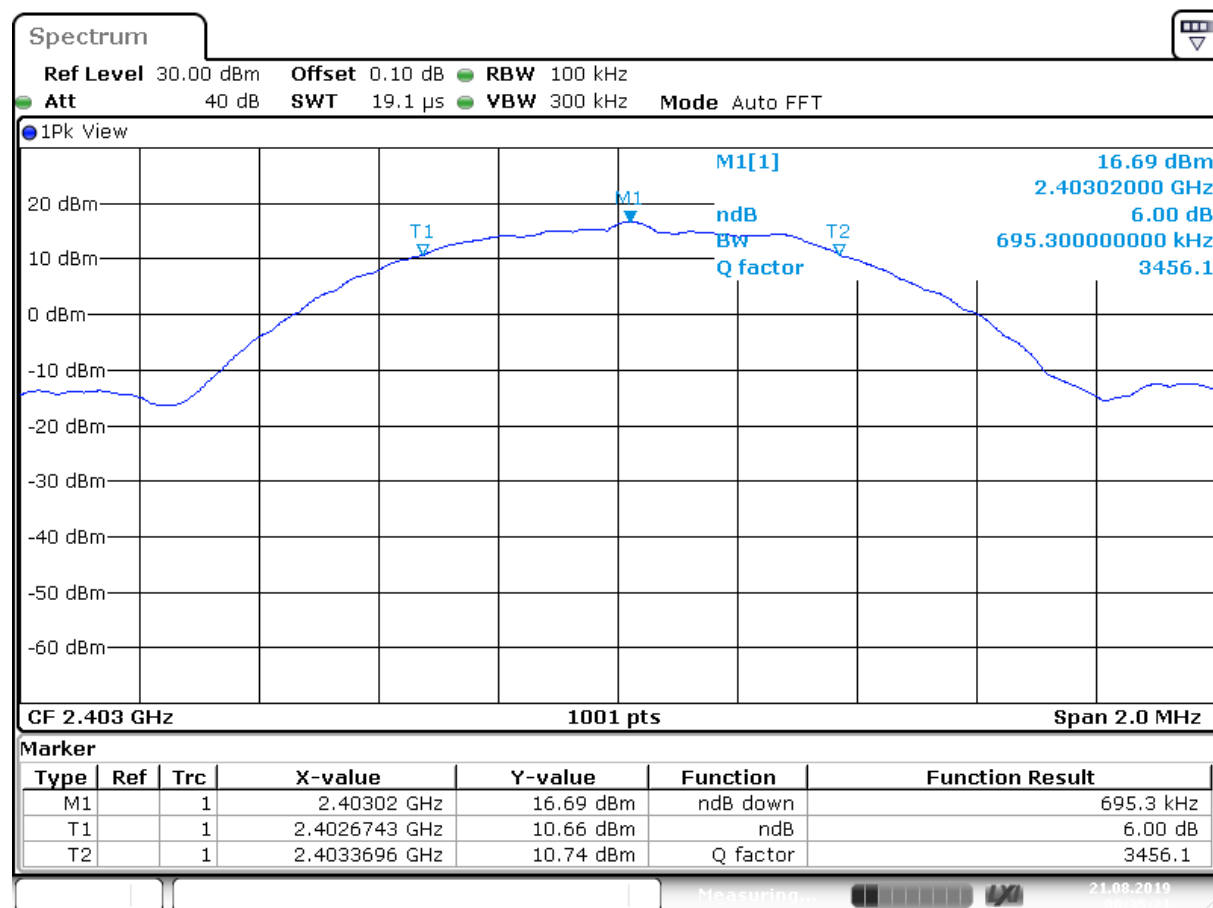
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## 6dB Bandwidth

Operating Frequency [MHz]	20 dB Bandwidth [kHz]	6dB Bandwidth [kHz]	Limit 6dB BW [kHz]	Verdict [Pass/Fail]	Plot number
2403	1142.9	695.3	>500	Pass	A1/A2
2443	1140.8	690.6	>500	Pass	B1/B2
2478	1142.7	690.7	>500	Pass	C1/C2



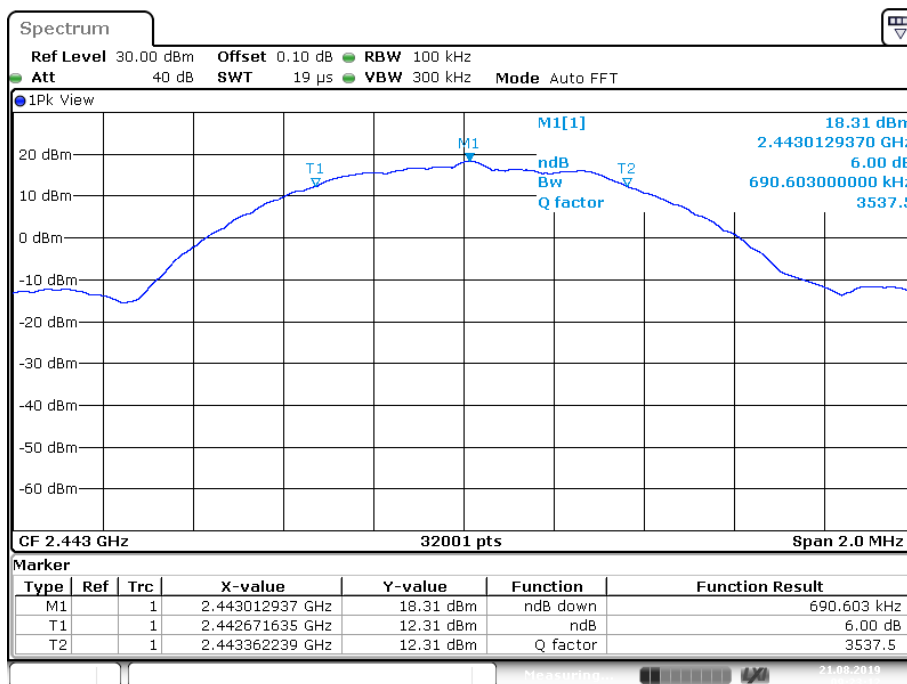
Date: 21.AUG.2019 08:35:22

Plot A1

Test Report No.:

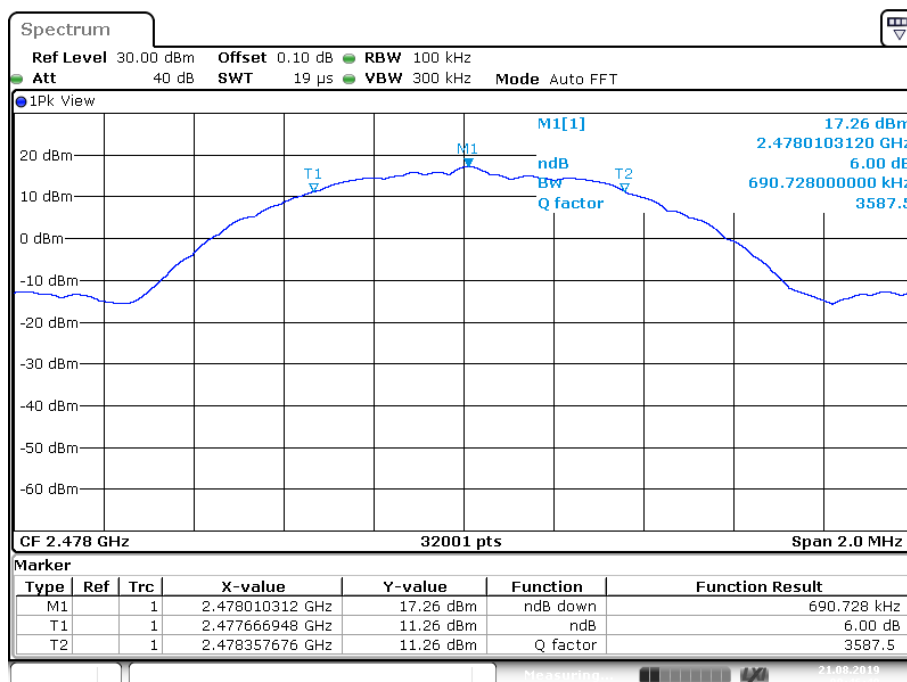
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Date: 21.AUG.2019 09:23:12

Plot B1



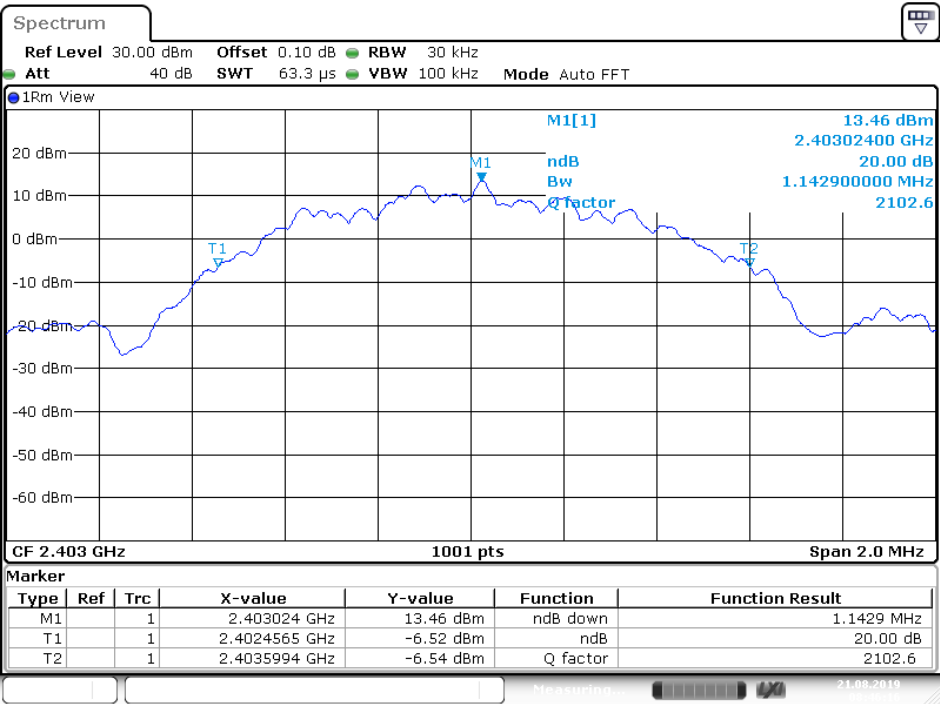
Date: 21.AUG.2019 09:46:40

Plot C1

Test Report No.:

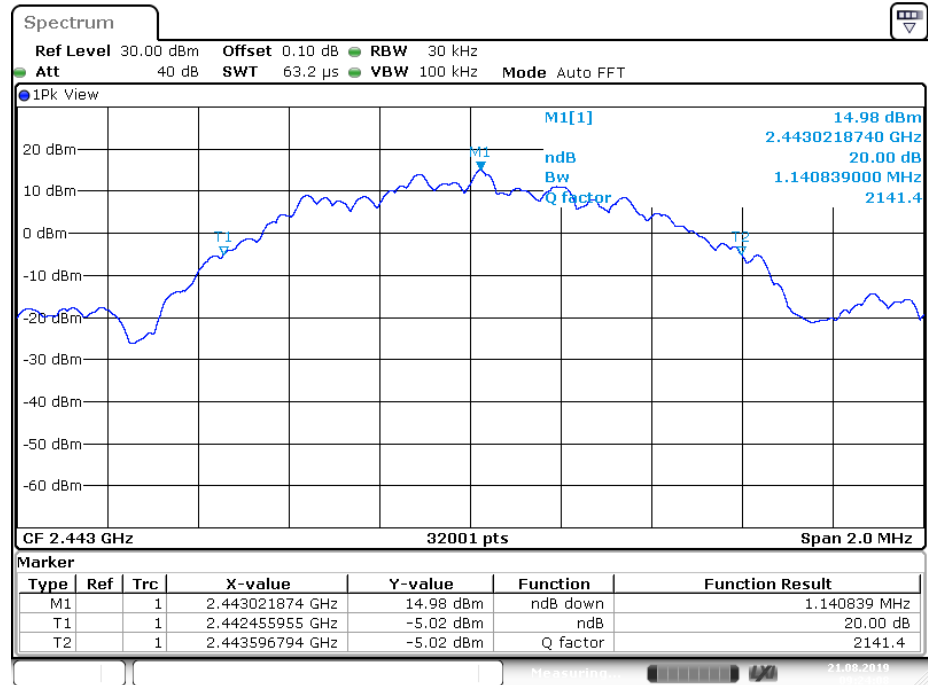
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Date: 21 AUG 2019 08:46:17

Plot A2



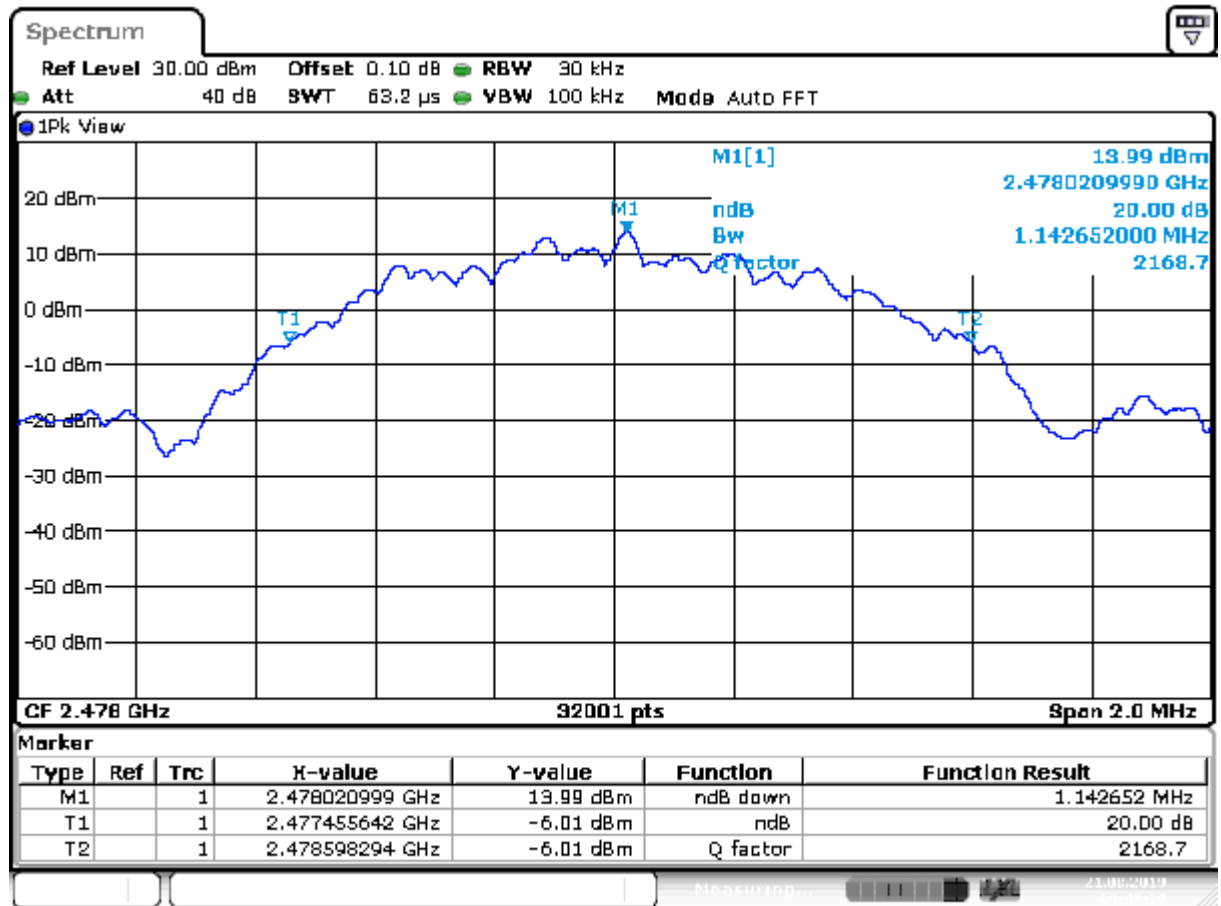
Date: 21 AUG 2019 09:24:08

Plot B2

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Date: 21.AUG.2019 09:47:29

Plot C2

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### **5.1.3 Peak Power Spectral Density**

**RESULT: Pass**

Date of testing:

2019-08-21

Requirements:

FCC 15.247(e)

For digitally modulated systems, the power spectral density (PSD) conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

Test procedure:

ANSI C63.10-2013

The section 11.10.2 PKPSD peak PSD procedure was used. A spectrum analyzer was connected to the antenna port of the EUT. The analyzer resolution bandwidth was set to 3kHz and the video bandwidth was set to 10kHz. The sweep time was set to auto couple and the trace was allowed to stabilize before making the final measurement. By using the Peak marker function the maximum amplitude was determined. The final measurement takes into account the loss generated by all the involved cables.

Measurement uncertainty is +/- 1.1 dB.

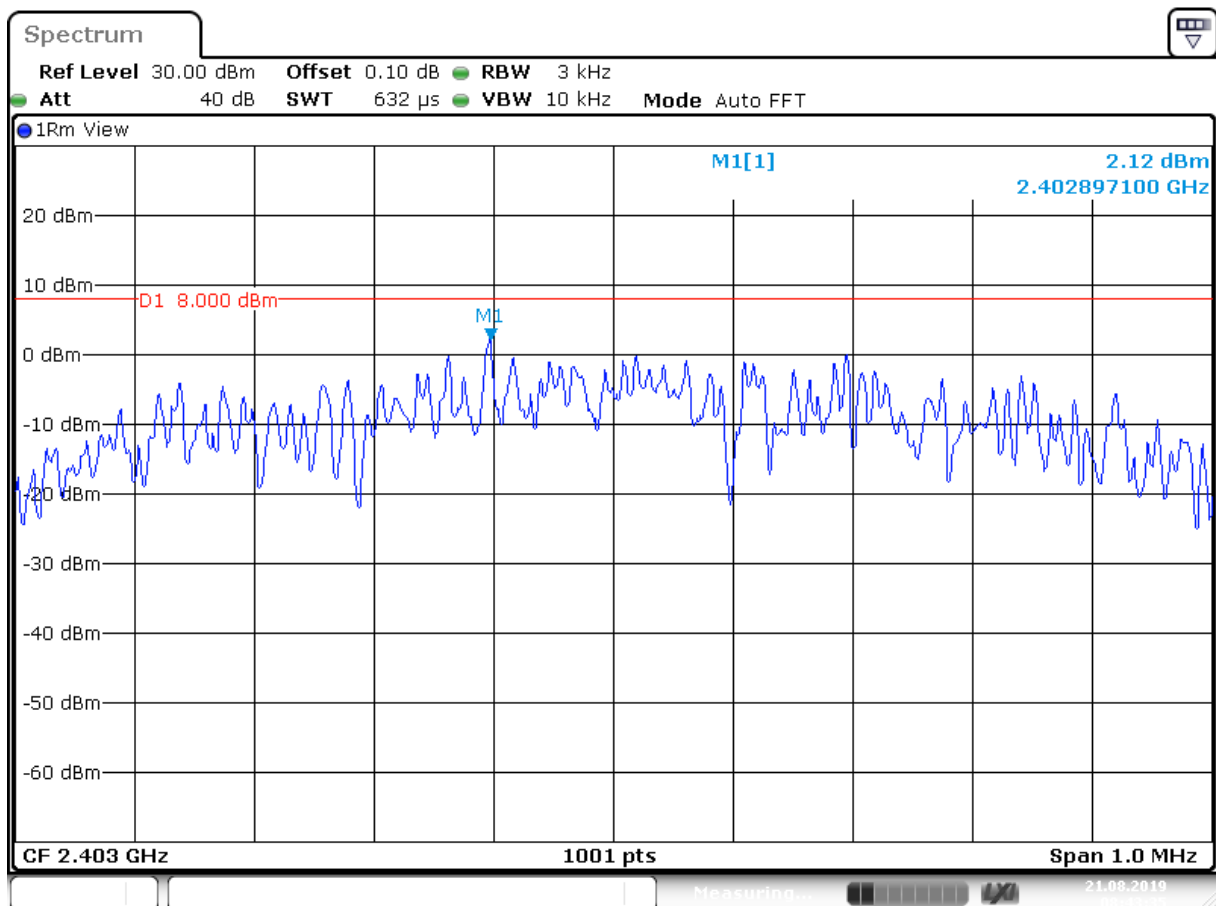
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## Peak Power Spectral Density

Operating Frequency [MHz]	Max PSD [dBm]	Limit [dBm]	Verdict [Pass/Fail]	Plot
2403	2.12	8	Pass	A
2443	3.81	8	Pass	B
2478	2.95	8	Pass	C



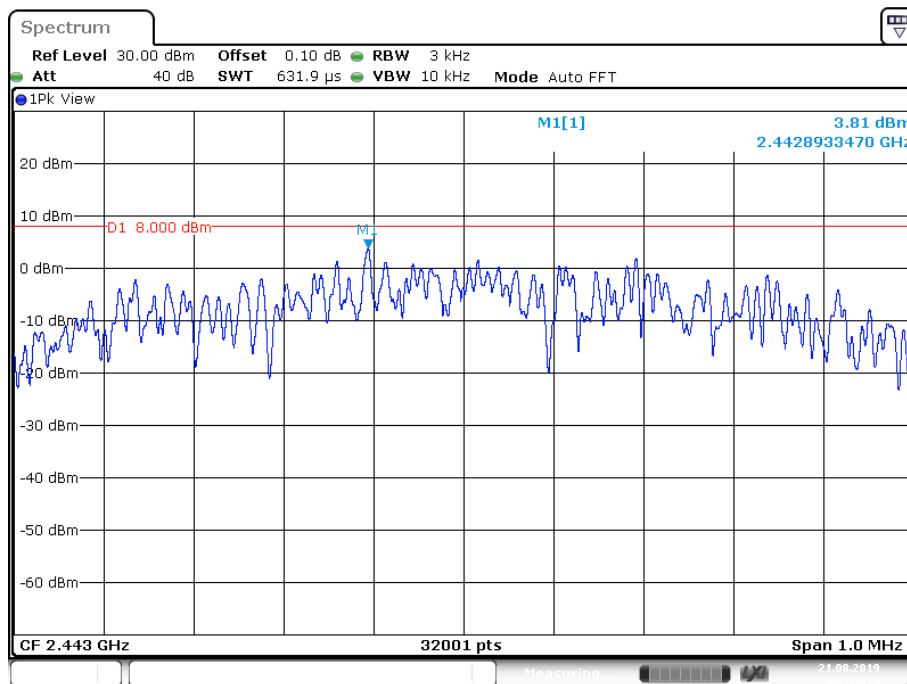
Date: 21 AUG 2019 08:43:35

Plot A

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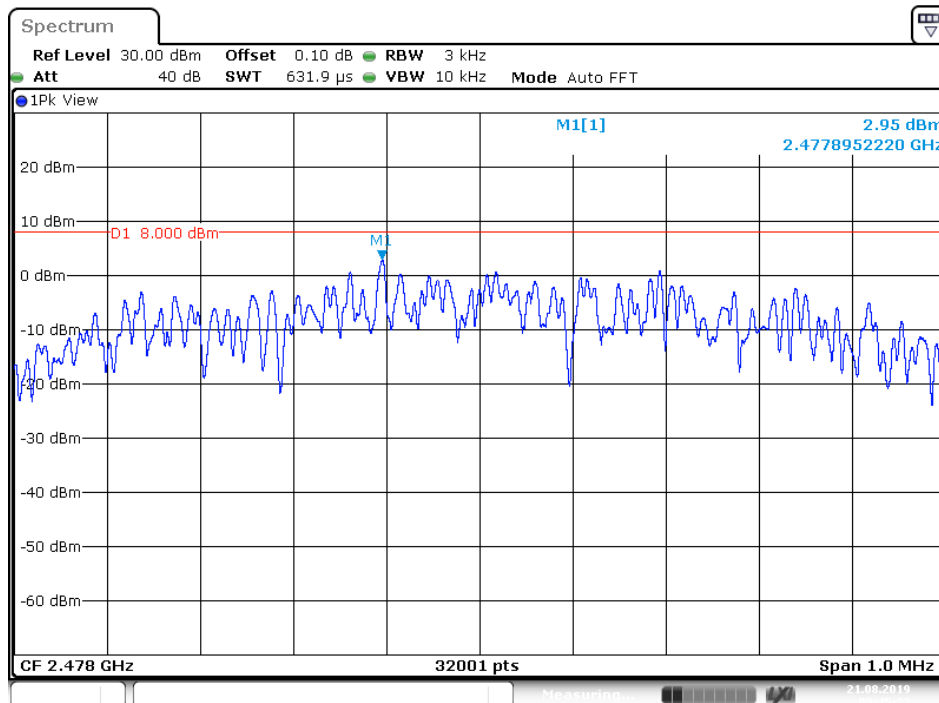
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Date: 21.AUG.2019 09:33:14

Plot B



Date: 21.AUG.2019 09:45:24

Plot C



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#### **5.1.4 Conducted Out of band spurious emissions**

**RESULT: Pass**

Date of testing: 2019-08-21

Requirements:

FCC 15.205, FCC 15.209, FCC 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test procedure:

ANSI C63.10-2013

KDB 558074 D01 DTS Meas Guidance v05.02

An RF conducted measurement was done using the marker-delta method, as described in ANSI C63.10.

Measurements were performed using a spectrum analyzer with a suitable span to encompass the peak of the fundamental and using the following settings:

RBW = 100kHz, VBW = 300kHz.

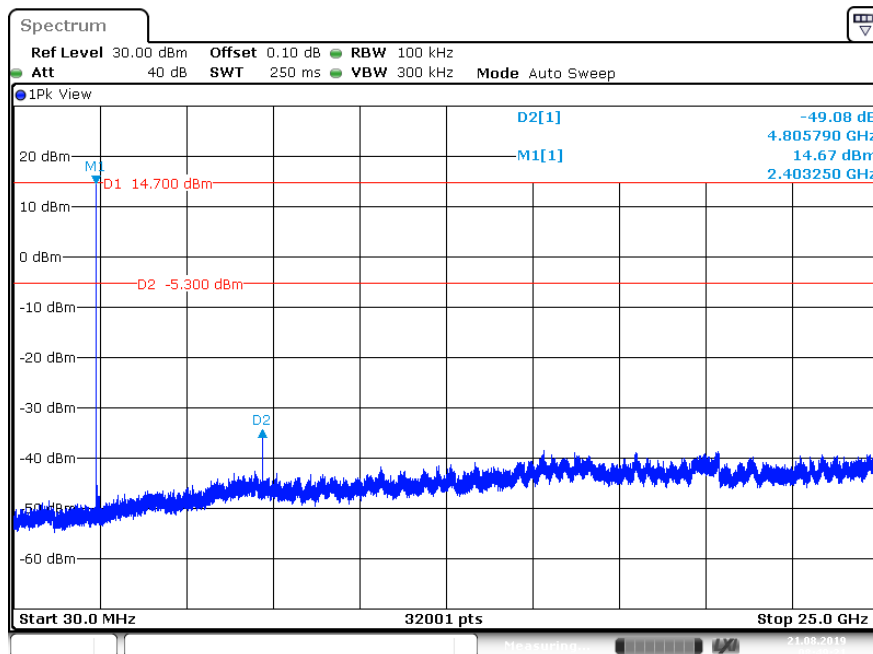
The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report. Measurement uncertainty is +/- 2.5 dB.

Results: All out of band spurious emissions are more than 20 dB below the fundamental. See the figures on the following pages.

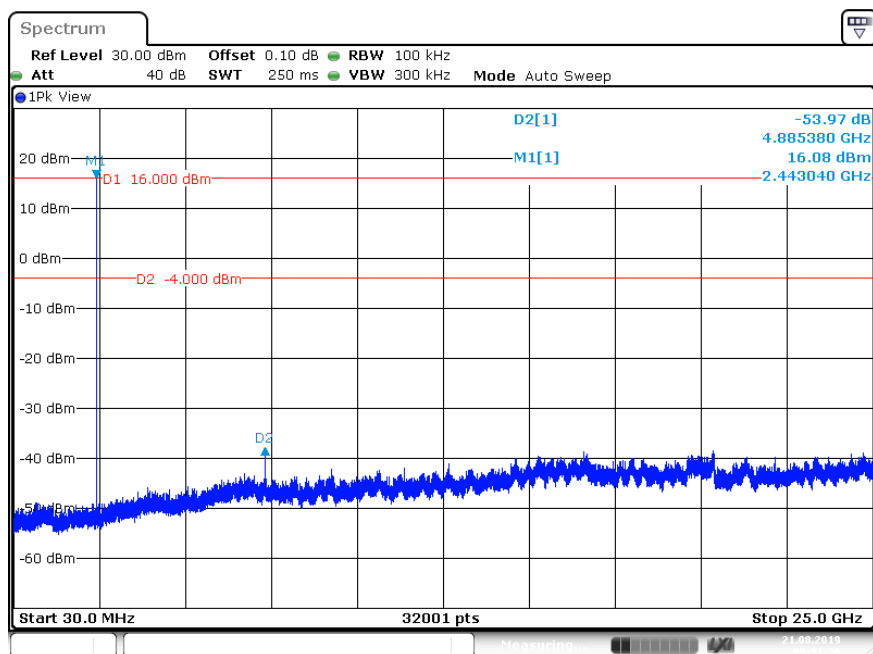
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Plot: Conducted out of band spurious emissions in 100 kHz bandwidth, @2403 MHz, Peak values

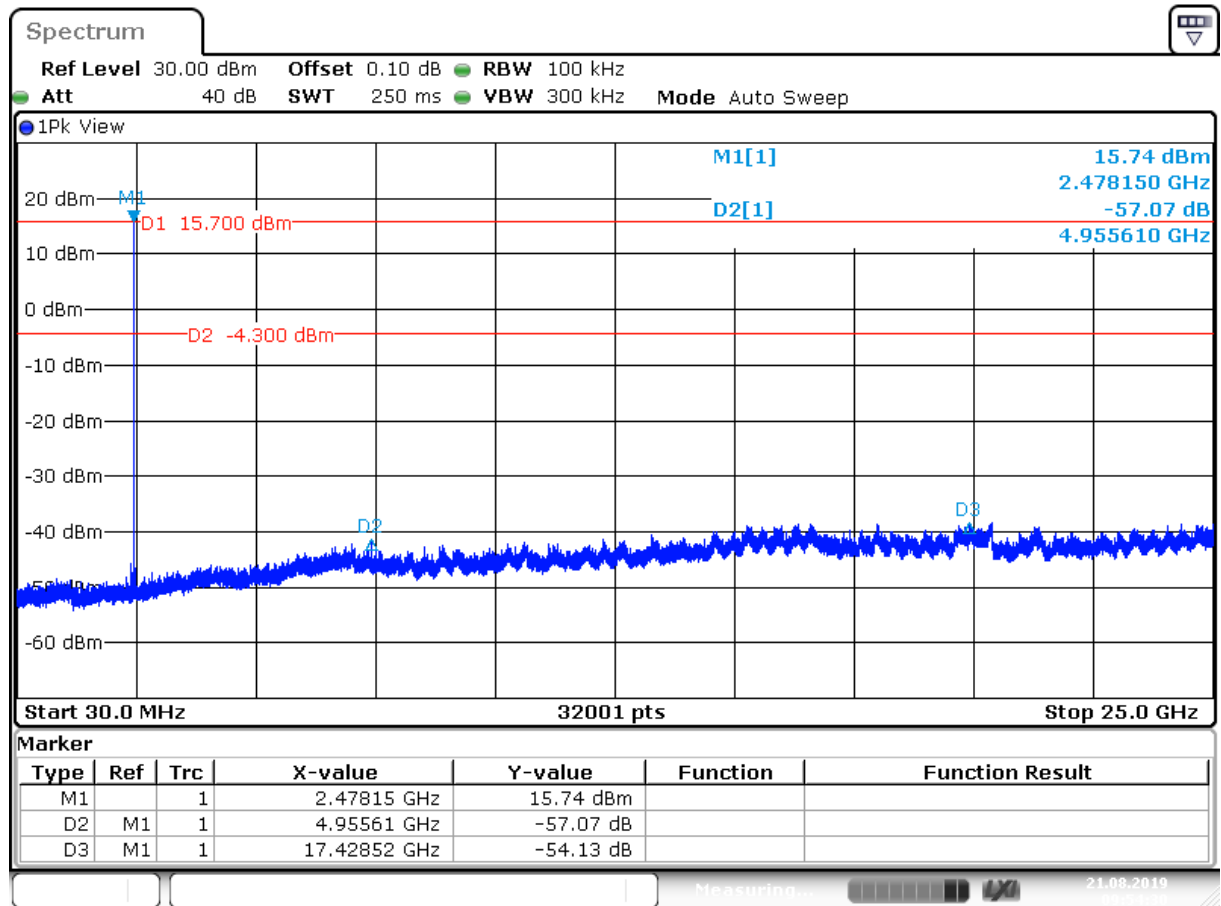


Plot: Conducted out of band spurious emissions in 100 kHz bandwidth, @2443 MHz. Peak values

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Date: 21 AUG 2019 09:54:30

Plot: Conducted out of band spurious emissions in 100 kHz bandwidth, @2478 MHz. Peak values.

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### **5.1.5 Radiated Spurious Emissions of Transmitter**

#### **RESULT: Pass**

Date of testing: 2019-03-27 and 2019-08-01&05

Frequency range: 30MHz - 25GHz

#### Requirements:

FCC 15.209 and FCC 15.247(d)

Radiated emissions which fall in the restricted bands, as defined in FCC 15.205(a), must comply with the radiated emission limits specified in FCC 15.209(a).

#### Test procedure:

ANSI C63.10-2013

KDB 558074 D01 DTS Meas Guidance v05.02

The EUT was placed on the test site turntable. Before final measurements of radiated emissions were performed, the EUT was scanned to determine its emission spectrum profile. The physical arrangement of the test system, the associated cabling were varied in order to ensure that maximum emission amplitudes were attained.

The spectrum was examined from 30MHz to the 10th harmonic of the highest fundamental transmitter frequency (25GHz). Final radiated emission measurements were made at 3m distance.

At each frequency where a spurious emission was found, the EUT was rotated 360° and the antenna was raised and lowered from 1 to 4m in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations.

The highest emission amplitudes relative to the appropriate limit were recorded in this report. Field strength values of radiated emissions at frequencies not listed in the tables are more than 20 dB below the applicable limit. Where Peak (Pk) values were at least 6 dB under the Average (Av) limits, Av value was not tested. Where Average values were tested, Average values were measured using at least 10 kHz Video Bandwidth.

Test Report No.:

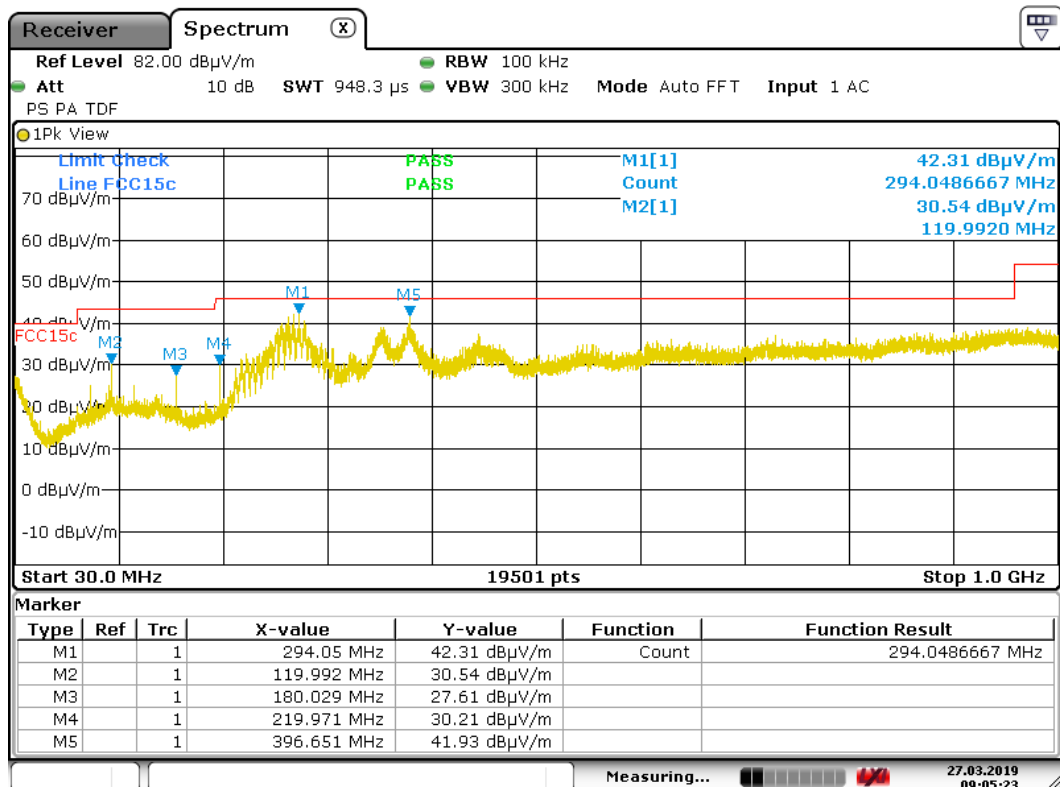
**18120402.r01**

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**Radiated Emissions, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations**

Frequency [MHz]	EUT Orientation	EUT Frequency (MHz)	Antenna Orientation	Level QP [dBµV/m]	Limit QP [dBµV/m]	Verdict [Pass/Fail]
180	Horizontal	2403	Horizontal	31.3	43.5	Pass
283.4	Vertical	2479	Vertical	37.5	43.5	Pass
294	Horizontal	2403	Horizontal	39.2	46.0	Pass
410	Vertical	2443	Vertical	31.2	46.0	Pass
570.2	Horizontal	2479	Horizontal	37.2	46.0	Pass
800-960 noise	Vertical	-	Vertical	35.0	46.0	Pass

- Notes:
- Level QP = Reading QP + Factor
  - Tested in modes as described in section 4.2, the 6 highest values noted.
- Preliminary measurements indicated that the radiated emissions from EUT were not affected by the EUT's operating mode or frequency.
- \*R refers to a frequency in a restricted band
  - Quasi Peak detector used with a bandwidth of 120 kHz.
  - Measurement uncertainty is +/- 5.22 dB.



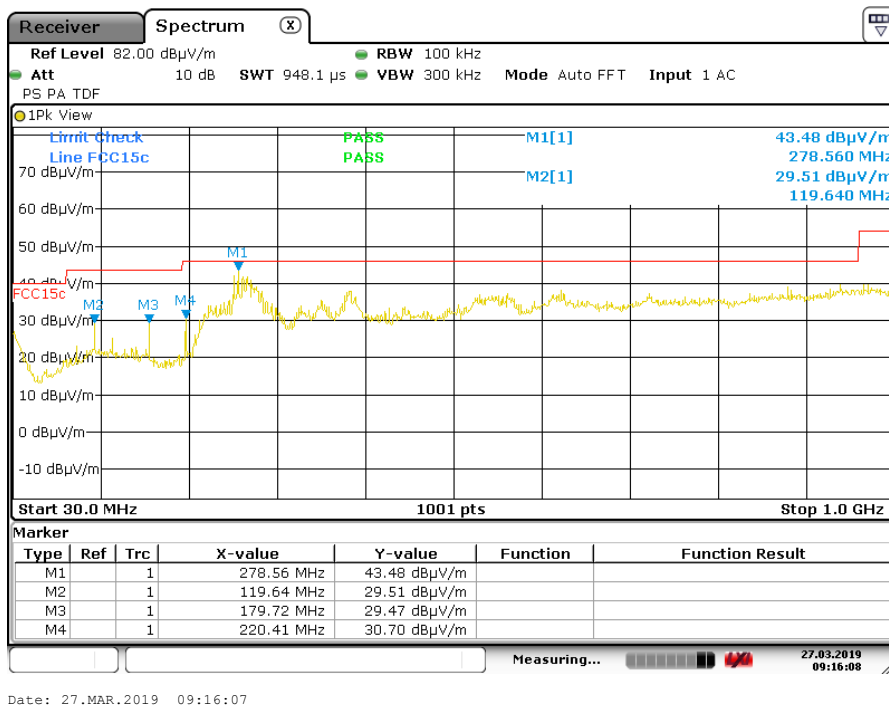
Date: 27.MAR.2019 09:05:23

Plot of the emissions (Peak detector values shown)  
EUT Horizontal-Antenna Horizontal- EUT Ch03

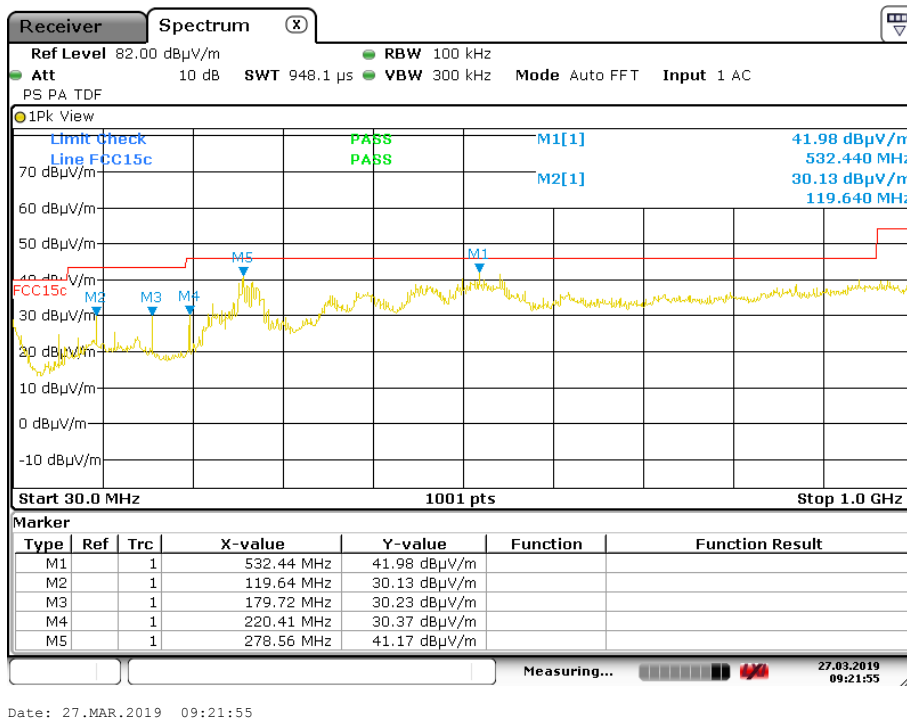
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Plot of the emissions (Peak detector values shown) EUT Horizontal-Antenna Horizontal- EUT Ch43

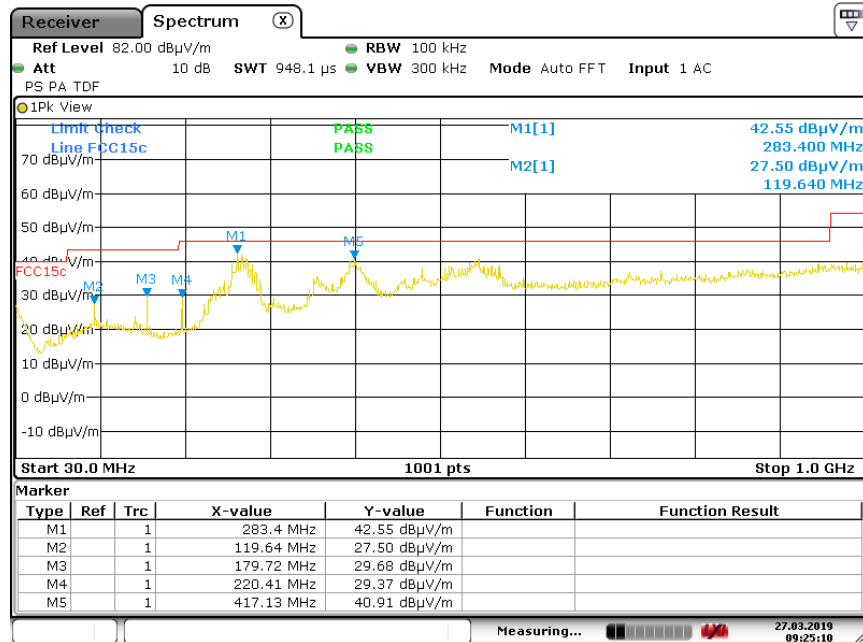


Plot of the emissions (Peak detector values shown) EUT Horizontal-Antenna Horizontal- EUT Ch79

Test Report No.:

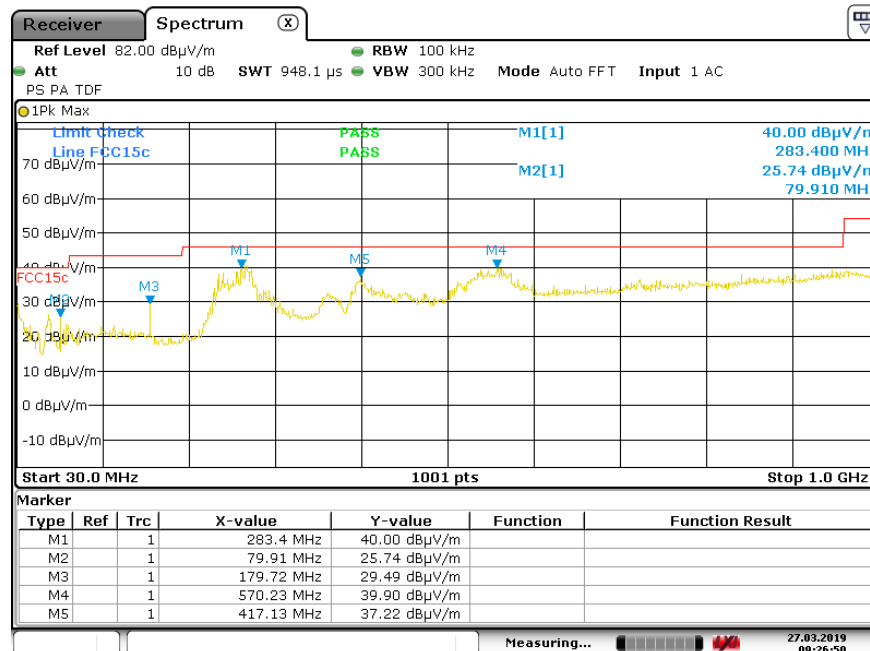
**18120402.r01**

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Date: 27.MAR.2019 09:25:10

Plot of the emissions (Peak detector values shown) EUT Vertical -Antenna Horizontal- EUT Ch79



Date: 27.MAR.2019 09:26:50

Plot of the emissions (Peak detector values shown) EUT Vertical -Antenna Vertical- EUT Ch79

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### Radiated Emissions, 1 - 25GHz, 2403 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Bandwidth (MHz)	Level [dBμV/m]	Limit [dBμV/m]	Result
1440 <sup>*R</sup>	Vertical	Pk	1	46.2	54 (Av) 74 (Pk)	Pass
2247 <sup>*R</sup>	Vertical	Pk	1	45.3	54 (Av) 74 (Pk)	Pass
7209 <sup>*H</sup>	Horizontal	Pk / Av	1	58.9 Pk 51.5 Av	54 (Av) 74 (Pk)	Pass
10829 <sup>*H*R</sup>	Horizontal	Pk / Av	1	55.7 PK 42.1 Av	54 (Av) 74 (Pk)	Pass

### Radiated Emissions, 1 - 25GHz, 2443 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Bandwidth (MHz)	Level [dBμV/m]	Limit [dBμV/m]	Result
1440 <sup>*R</sup>	Vertical	Pk	1	47.2	54 (Av) 74 (Pk)	Pass
4886 <sup>*H*R</sup>	Horizontal	Pk / Av	1	53.5 Pk 52.5 Av	54 (Av) 74 (Pk)	Pass
7330 <sup>*H*R</sup>	Horizontal	Pk / Av	1	61.2 Pk 53.2 Av	54 (Av) 74 (Pk)	Pass
12349 <sup>*R</sup>	Vertical	Pk / Av	1	55.9 Pk 48.4 Av	54 (Av) 74 (Pk)	Pass

### Radiated Emissions, 1 - 25GHz, 2478 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Bandwidth (MHz)	Level [dBμV/m]	Limit [dBμV/m]	Result
1439.8 <sup>*R</sup>	Horizontal	Pk	1	44.5	54 (Av) 74 (Pk)	Pass
2015.6	Horizontal	Pk	1	45.7	54 (Av) 74 (Pk)	Pass
4960 <sup>*H*R</sup>	Horizontal	Pk	1	47.9	54 (Av) 74 (Pk)	Pass
7434 <sup>*H*R</sup>	Horizontal	Pk	1	50.8	54 (Av) 74 (Pk)	Pass
12244 <sup>*R</sup> noise	Horizontal	Pk	1	51.9	54 (Av) 74 (Pk)	Pass
14657 noise	Horizontal	Pk	1	53.7	54 (Av) 74 (Pk)	Pass

Notes:

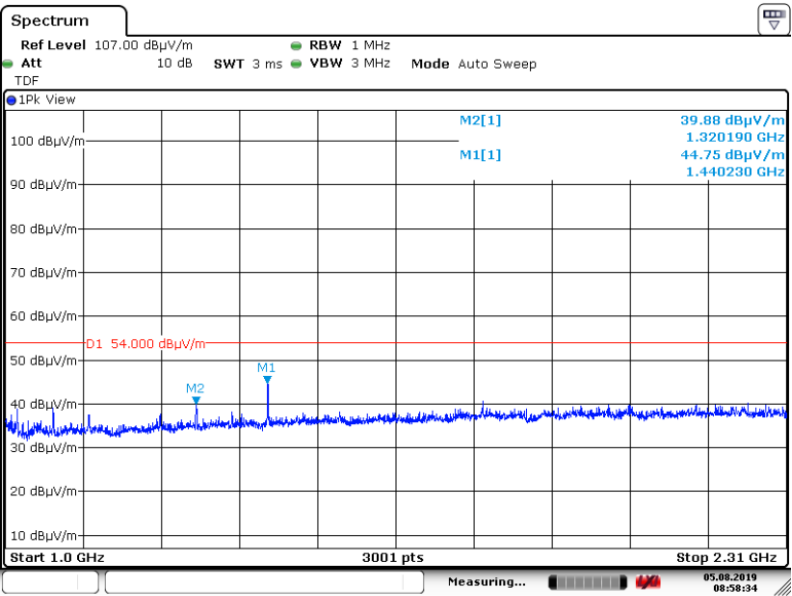
- \*R refers to a frequency in a restricted band,
- \*H refers to a frequency which is a harmonic of the fundamental.
- Field strength values of radiated emissions not listed in the tables above are more than 20 dB below the applicable limit.
- Measurement uncertainty is +/- 5.5 dB.
- a selection of plots is provided on the next pages



Test Report No.: **18120402.r01**

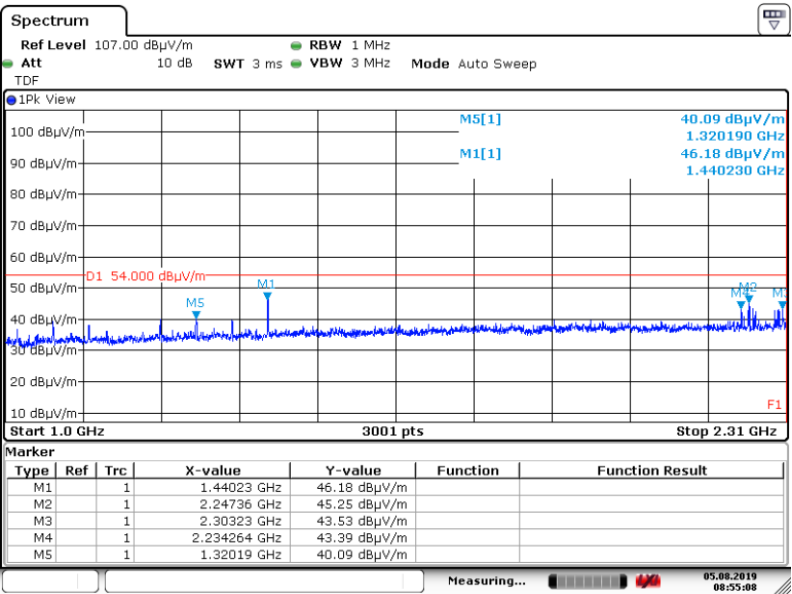
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Plots of the radiated emissions



Date: 5.AUG.2019 08:58:34

Plot of the emissions at 2403 MHz, EUT Hor, EUT Ant Hor- meas Ant. Hor polarization, Peak values shown



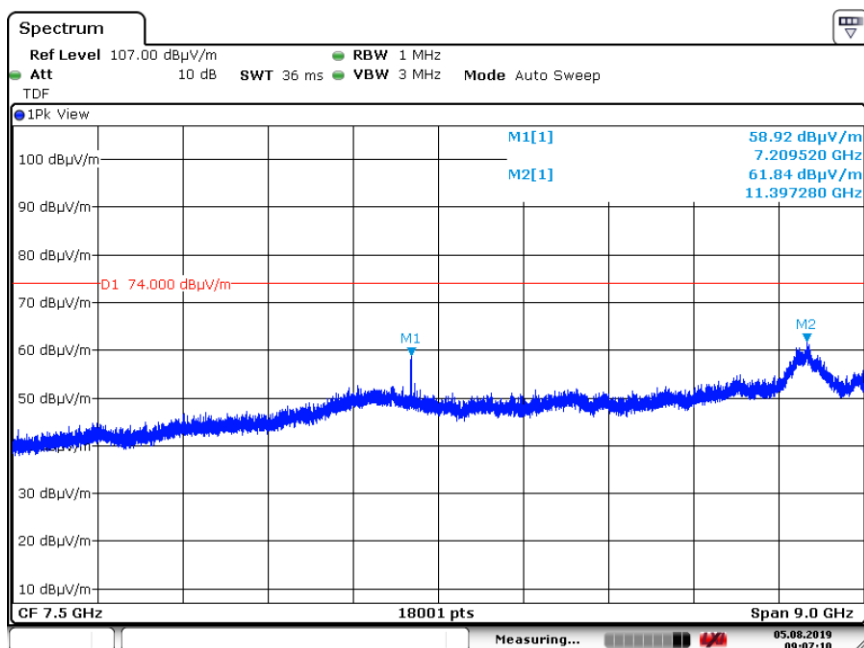
Date: 5.AUG.2019 08:55:08

Plot of the emissions at 2403 MHz, EUT Hor, EUT Ant Hor- meas Ant. Vertical polarization, Average value shown

Test Report No.:

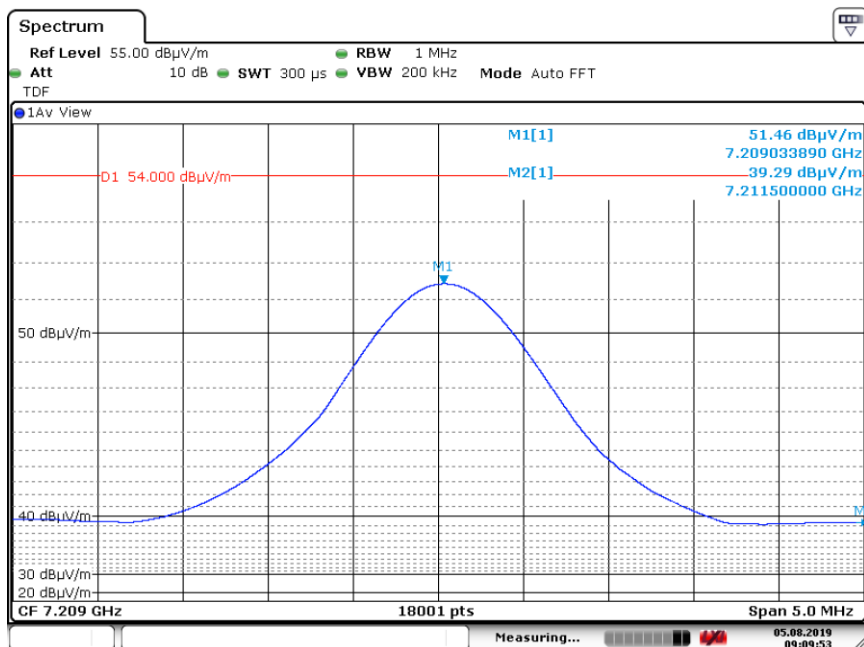
**18120402.r01**

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Date: 5.AUG.2019 09:07:10

Plot of the emissions at 2403 MHz, range 3 to 12 GHz, EUT Ver-Ant Ver-Meas Ant. Vertical polarization, worst case pos. Peak values shown



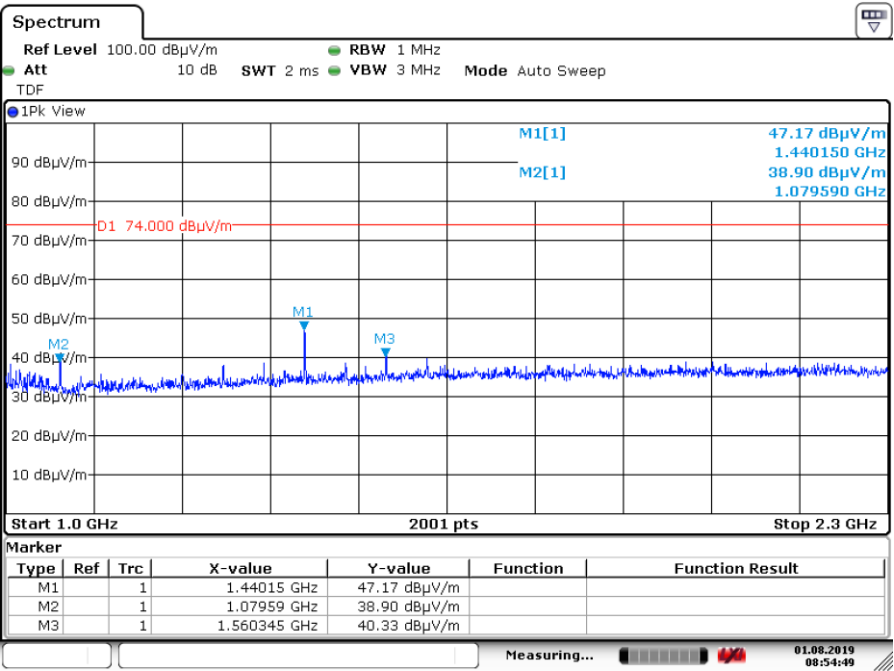
Date: 5.AUG.2019 09:09:54

Plot of the emissions at 2403 MHz, Horizontal polarization, 7.2 GHz, Average value shown

Test Report No.:

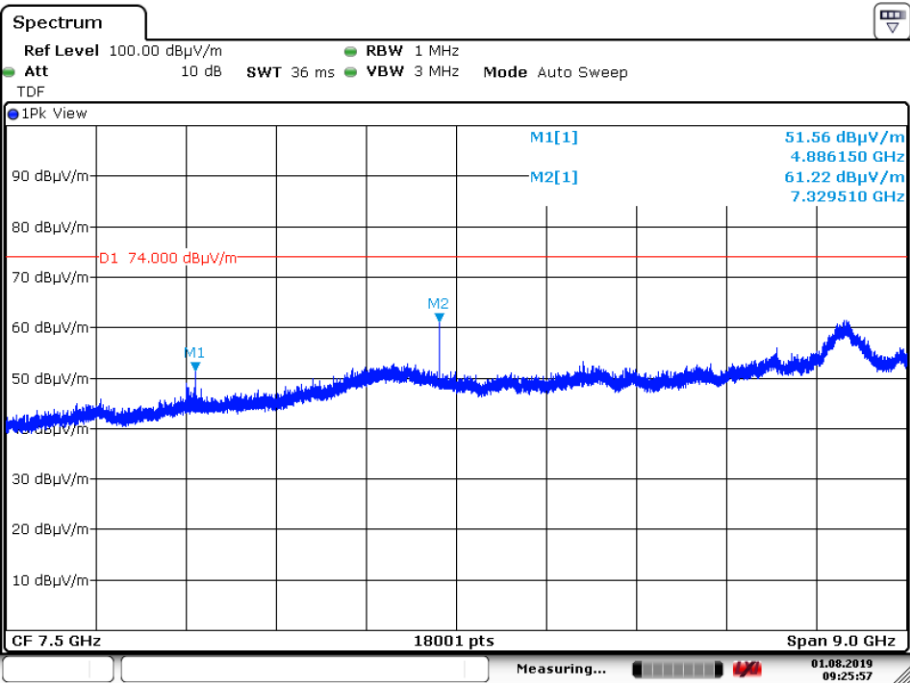
18120402.r01

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Date: 1.AUG.2019 08:54:49

Plot of the emissions at 2443 MHz, EUT Ver-Ant Ver polarization , Peak values shown



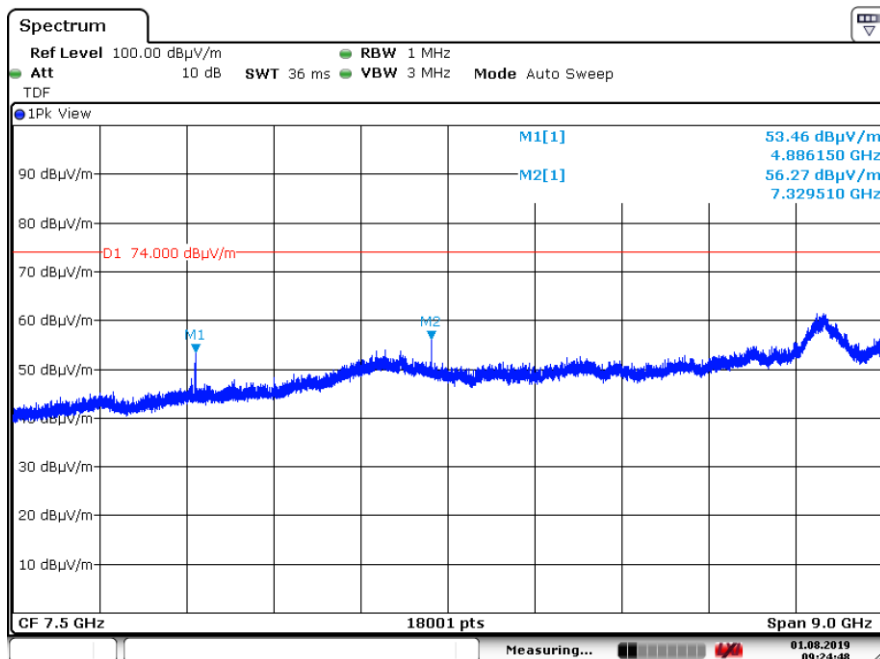
Date: 1.AUG.2019 09:25:58

Plot of the emissions at 2443 MHz, in the range 3 to 12 GHz, EUT Hor-Ant Hor polarization, Peak values shown

Test Report No.:

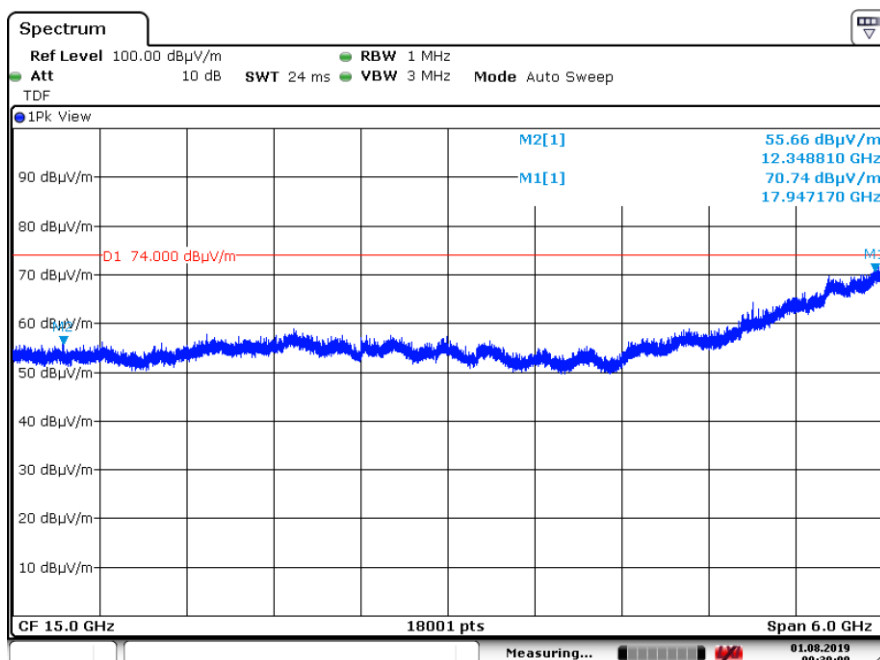
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Date: 1.AUG.2019 09:24:48

Plot of the emissions at 2443 MHz, EUT Ver-Ant Hor polarization, Peak values shown



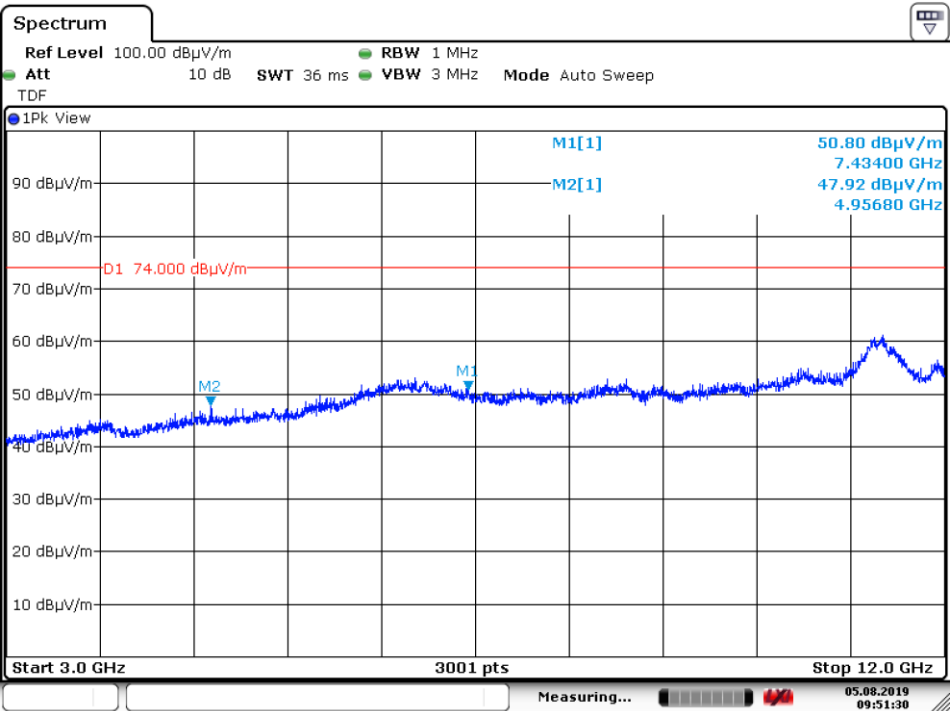
Date: 1.AUG.2019 09:30:09

Plot of the emissions at 2443 MHz, in the range 12 to 18 GHz, EUT Hor-Ant Hor polarization, Noise floor  
Peak values shown

Test Report No.:

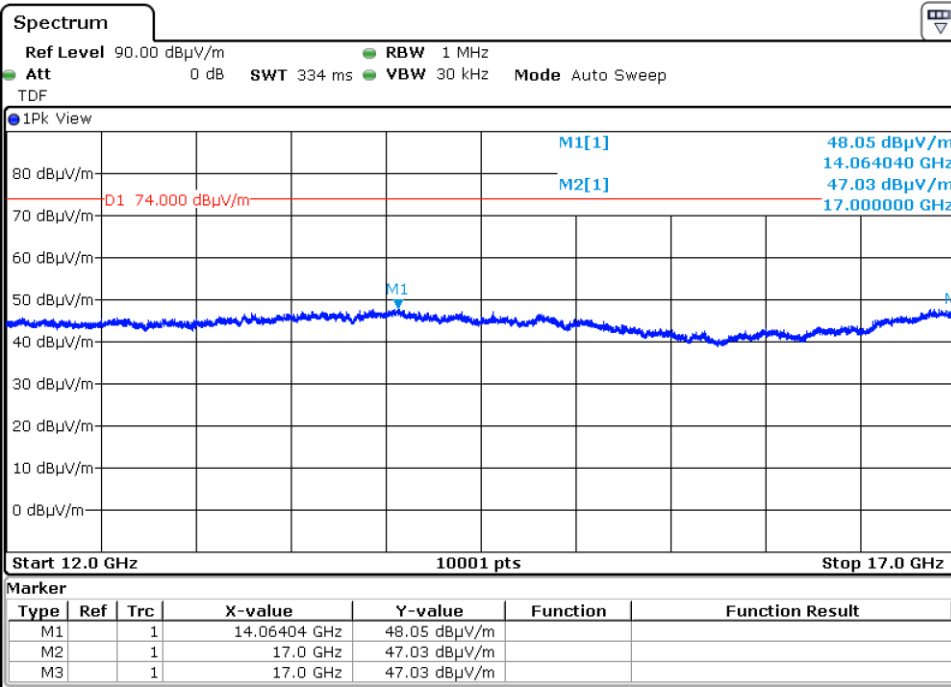
**18120402.r01**

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Date: 5.AUG.2019 09:51:30

Plot of the emissions at 2478 MHz, in the range 3 to 12 GHz, EUT Hor-Ant Hor-Meas Ant Hor. polarization, Peak values shown

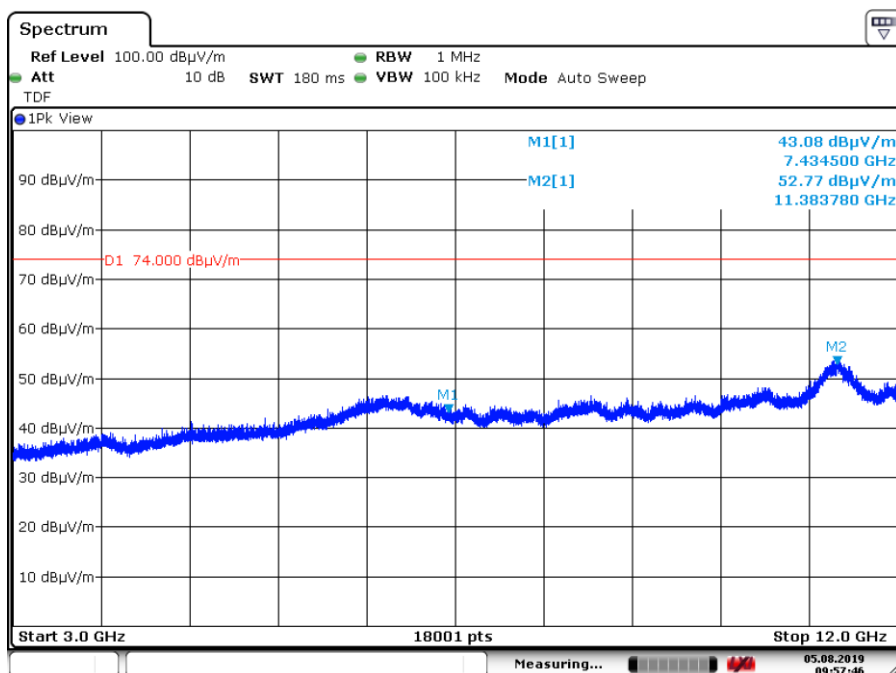


Plot of the emissions at 2478 MHz, in the range 12 to 18 GHz, EUT Ver-Ant Ver-Meas Ant. Vertical polarization, Noise - Peak values shown, reduced VBW

Test Report No.:

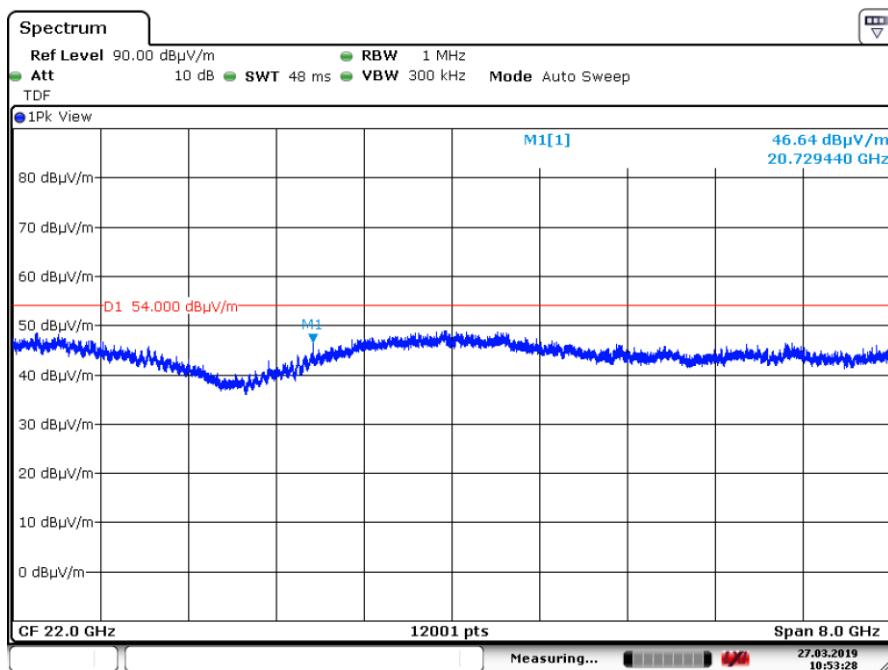
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Date: 5.AUG.2019 09:57:46

Plot of the emissions at 2478 MHz, in the range 3 to 12 GHz, EUT Ver-Ant Ver-Meas Ant Ver. polarization, (reduced VBW to show Pk value is below Av limit)



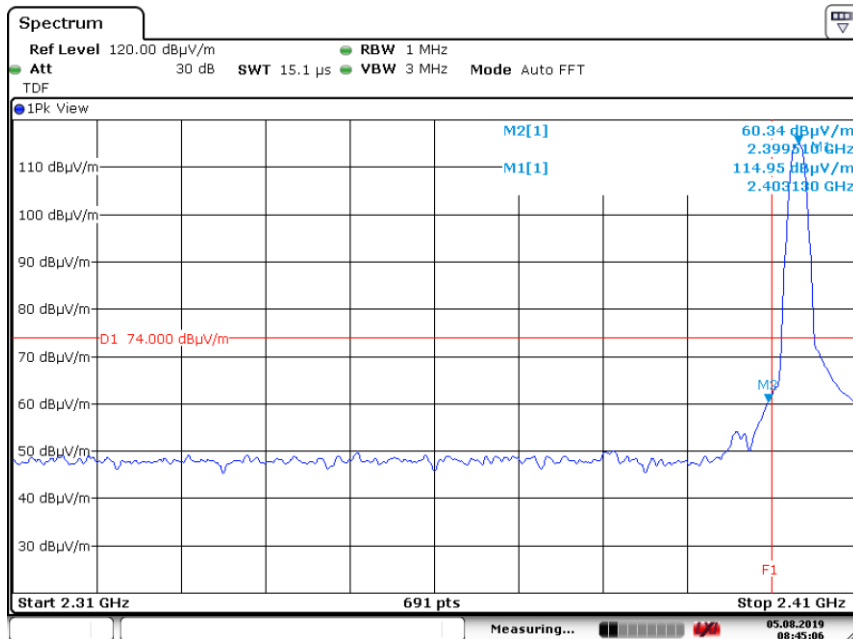
Date: 27.MAR.2019 10:53:28

Plot Radiated unwanted emissions in the range 18 – 25 GHz at 2478 MHz, noise (reduced VBW to show Pk value is below Av limit)

Test Report No.:

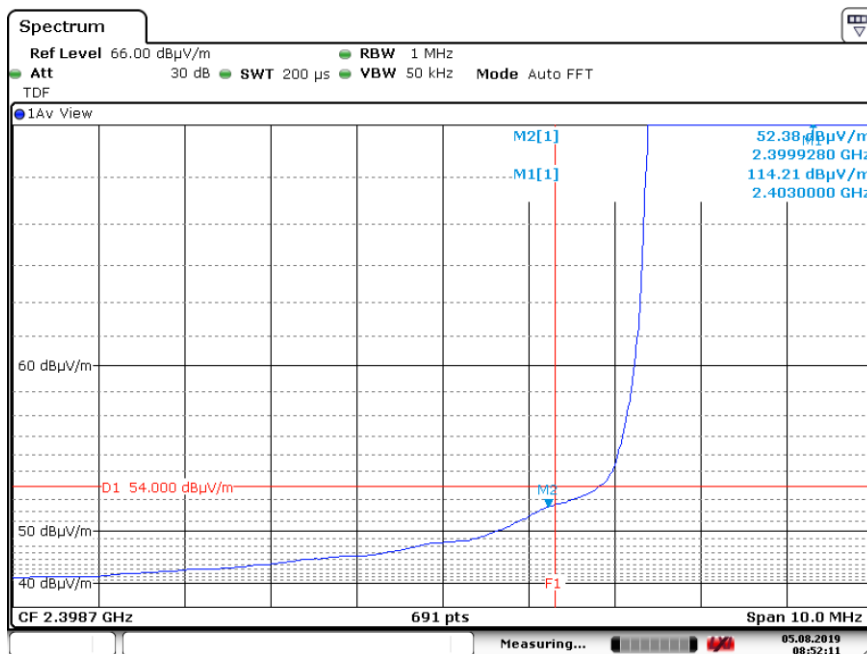
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Date: 5.AUG.2019 08:45:06

Plot Radiated emissions Band Edge Low, at 2403 MHz,  
(Peak values, EUT Ver-Ant Ver-meas Antenna Vertical position shown).  
F1 denotes the band edge of 2400 MHz. M2 denotes the highest out of band emission.  
All emission in the restricted band 2310 – 2390 MHz are below 60 dBμV/m Pk.



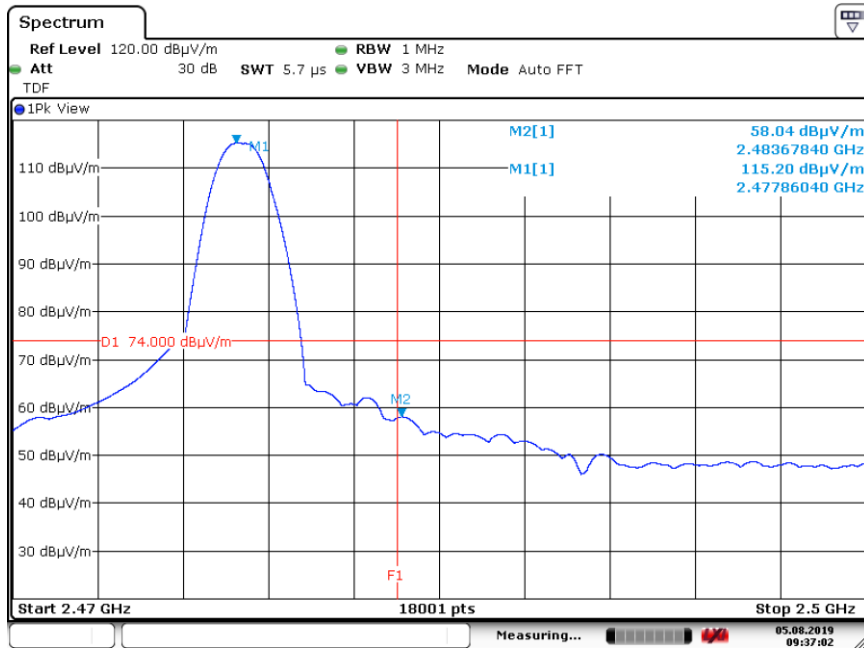
Date: 5.AUG.2019 08:52:11

Plot Radiated emissions Band Edge Low, at 2403 MHz, reduced Video BW  
(Average values, EUT Ver-Ant Ver-meas Antenna Vertical position shown).  
F1 denotes the band edge of 2400 MHz. M2 denotes the highest out of band emission.  
All emission in the restricted band 2310 – 2390 MHz are below 54 dBμV/m Average.

Test Report No.:

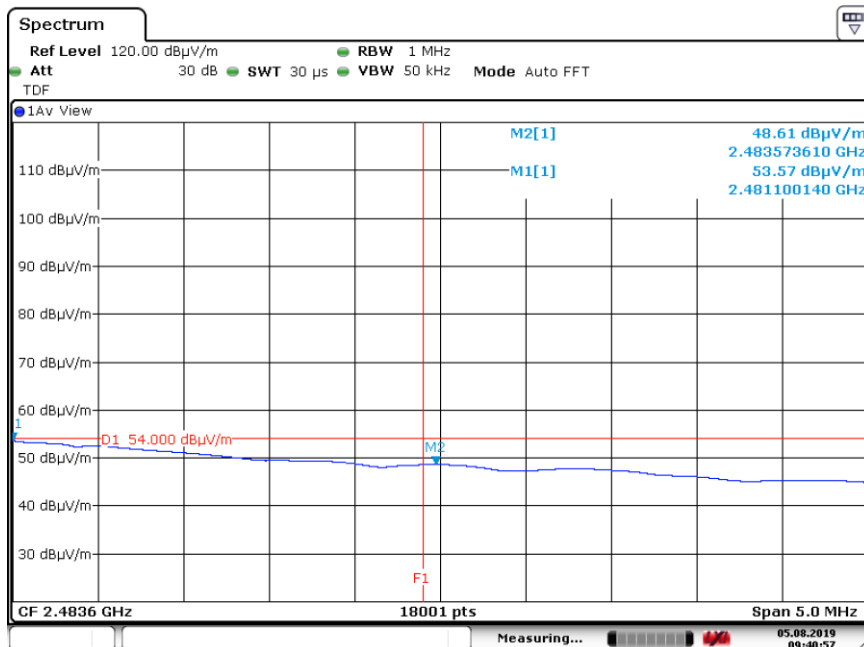
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Date: 5.AUG.2019 09:37:02

Plot Radiated emissions Band Edge High, at 2478 MHz, reduced Video BW  
(Average values, , EUT Ver-Ant Ver-meas Antenna Vertical position shown).  
F1 denotes the band edge of 2483.5 MHz. M2 denotes the highest out of band emission.  
All Peak emission in the restricted band 2483.5 – 2500 MHz are below 60 dBμV/m.



Date: 5.AUG.2019 09:40:57

Plot Radiated emissions Band Edge High, at 2478 MHz, reduced Video BW  
(Average values, , EUT Ver-Ant Ver-meas Antenna Vertical position shown).  
F1 denotes the band edge of 2483.5 MHz. M2 denotes the highest out of band emission.  
All Average emission in the restricted band 2483.5 – 2500 MHz are below 50 dBμV/m.



*Test Report No.:*

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**End of report**