

<h2 style="text-align: center;">Test Report</h2> <h3 style="text-align: center;">47 CFR FCC Part 15 subpart C Intentional Radiators</h3>	
Report reference no. ....:	28112302 011
FCC Designation Number .....	IT0008
FCC Test Firm Registration #.....:	804595
Tested by (name + signature).....:	Alessandro Zappa\ Tester 
Approved by (name + signature).....:	Giovanni Molteni \ TM 
Date of issue.....:	13-Feb-2019
Total number of pages.....:	66 Pages
Testing Laboratory.....:	TÜV Rheinland Italia S.r.l.
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Applicant's name.....:	Flextronics International Sweden AB
Address .....	Datalinjen 3A – SE538 30 Linköping – Sweden
Test item description .....	IoT rapid prototyping platform for development within Low Power Wide Area Network Technologies.
Trade Mark.....:	FLEX
Manufacturer .....	Flextronics
FCC ID .....	2AF5R-iENBL111B
Ratings .....	Internal rechargeable battery 3,7V dc
Sample.....:	
Samples received on.....:	06/Nov/2018
TUV reference samples .....	180737 (sampled by the customer)
Samples tested n.....:	2
Testing.....:	
Start Date: .....	08-Nov-2018
End Date: .....	14-Jan-2019
<p style="text-align: center;"><i>The results in this Test Report are exclusively referred to the tested samples. Without the written authorization of TÜV Rheinland Italia S.r.l., this document can be reproduced only integrally Compliance with performed tests and recorded in this technical report does not give presumption of compliance to all requirements of the reference standard</i></p>	

## SUMMARY

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RELEASE CONTROL RECORD		
TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
28112302_005	Original release	07-Feb-2019
28112302_011	Removed RF exposure test. DTS KDB reference updated to version v05r02 2019-04-02	22-Oct-2019

1. Reference Standards	
Standard	Description
FCC Part 15 (Subpart C)	§15.247 Operation within the bands 902-928 MHz, 2400-2483,5 MHz, and 5725-5850 MHz.
FCC Part 15 (Subpart C)	§15.207 Conducted Limits
FCC Part 15 (Subpart C)	§15.209 Radiated emission limits; general requirements
FCC Part 15 (Subpart C)	§15.203 Antenna Requirement
ANSI C63.4:2014	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10:2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
558074 D01 DTS Meas Guidance v05r02 – April,02,2019	Guidance for performing compliance measurements on digital transmission systems (dts) operating under §15.247

<b>2. Summary of testing:</b>			
<b>FCC Rule Part</b>	<b>Test Item</b>	<b>Result</b>	<b>Remarks</b>
15.207	AC POWER CONDUCTED EMISSION	N/A	Battery Operated
15.205 15.209 15.247(d)	RADIATED EMISSIONS	PASS	Meet the requirement of limit
15.247(a)(2)	6dB BANDWIDTH	PASS	Meet the requirement of limit
15.247(b)(3)	OUTPUT POWER	PASS	Meet the requirement of limit
15.247(d)	OUT OF BAND EMISSIONS	PASS	Meet the requirement of limit
15.247(d)	100 kHz Bandwidth of Frequency Band Edges	PASS	Meet the requirement of limit
15.247(e)	POWER SPECTRAL DENSITY	PASS	Meet the requirement of limit
15.203	ANTENNA REQUIREMENT	PASS	Integral Antenna declared gain= +2,44dBi

**Possible test case verdicts:**

- test case does not apply to the test object...: N/A
- test object does meet the requirement.....: PASS
- test object does not meet the requirement...: FAIL

**General remarks:**

**The test results presented in this report relate only to the object tested.**

**The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.**

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  
"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

**3. General product information**

IoT rapid prototyping platform for development within Low Power Wide Area Network Technologies.

**4. General Chipset information**

ST Microelectronics BlueNRG-1

**5. General Antennas information**

Antenna type: Planar inverted F-antenna (PCB trace)

6. Equipment Used During Test				
Use*	Product Type	Manufacturer	Model	Comments
EUT	IoT rapid prototyping platform for development within Low Power Wide Area Network Technologies.	FLEX	iENBL111B	---
AE	PC	Dell	---	Used to set Bluetooth Channels
Note: * Use : EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment, or SIM - Simulator (Not Subjected to Test) No other Auxiliary/Associated Equipment was connected/installed on the EUT				

7. Input/Output Ports				
CONNECTIONS				
Port	Description	Connection	Cable lenght	
1	Enclosure	Non conductive surface	Closed by 4 metallic screws	---
2	AC Power Port	Port not present		
3	DC Power Port	DC	Internal rechargeable battery 3,7V	---
*Note: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical I/O = Signal Input or Output Port (Not Involved in Process Control) WN = Wired Network				

8. Power Interface						
Mode #	Voltage (Vdc)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
1	3,7 dc	--	--	DC	--	---

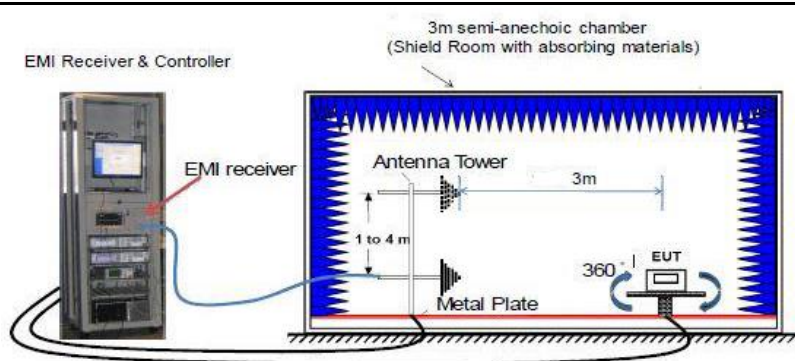
9. EUT Operation Modes	
Operation mode	Description
#1	Continuous Bluetooth Low Energy Modulation RF Transmission RF setting during tests: Frequency: 2402 MHz (low channel); 2440 MHz (mid channel); 2480 MHz (high channel); TX RF Power : set at +5dBm

10. EUT Configuration Modes	
Mode #	Description
1	EUT transmitting by means of PCB antenna (standard configuration)
2	EUT equipped with temporary SMA connector for RF conducted measurements



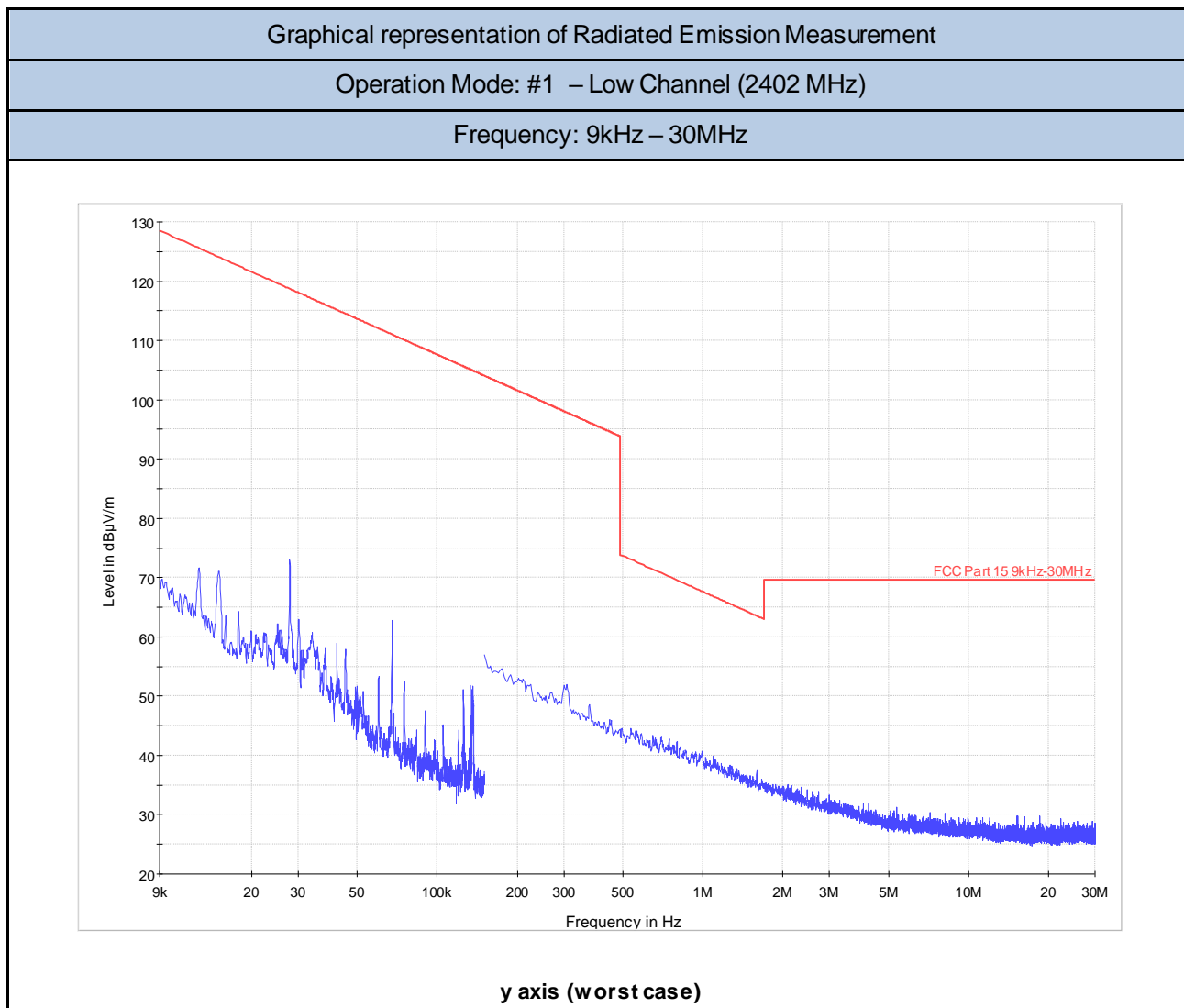
## 11. Test Conditions and Results

11.1 TEST: Antenna requirements		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C
	Relative Humidity (%)	30 to 60 %
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	21°C
	Relative Humidity (%)	56%
	Air pressure (hPa)	1020
—	Power Supply / Frequency	Application Point
Fully configured sample tested at the power line frequency	Batteries Operated	Enclosure
Equipment mode:	Operation mode	#1
FCC Standard	§15.203 § 15.247 (B)(4)(I)	
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.		
Antenna specifications		
N° of authorized antenna types	1	
Antenna type	Planar inverted F-antenna (PCB trace)	
Maximum total gain	+2.44 dBi	
External power amplifiers	Not present	

11.2 TEST: Radiated Emission		PASS																								
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C																								
	Relative Humidity (%)	30 to 60 %																								
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	21°C																								
	Relative Humidity (%)	50%																								
	Air pressure (hPa)	1020																								
—	Power Mode	Application Point																								
Fully configured sample tested at the power line frequency	Batteries Operated	Enclosure																								
Equipment mode: #1	Operation mode	#1																								
FCC Standard	§15.205; §15.209; §15.247																									
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :																										
<table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100**</td><td>3</td></tr><tr><td>88-216</td><td>150**</td><td>3</td></tr><tr><td>216-960</td><td>200**</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table>			Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100**	3	88-216	150**	3	216-960	200**	3	Above 960	500	3
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																								
0.009-0.490	2400/F(kHz)	300																								
0.490-1.705	24000/F(kHz)	30																								
1.705-30.0	30	30																								
30-88	100**	3																								
88-216	150**	3																								
216-960	200**	3																								
Above 960	500	3																								
**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.																										
Remark: In accordance with part 15.31 (f) (2), where the measurement distance was specified to be 30 or 300 meters, a correction factor was applied in order to permit measurement to be performed at a separation distance. The applied formula for limits at 3 meter is: Extrapolation (dB) = 40log (300meter / 3meter) = +80db Extrapolation (dB) = 40log (30meter / 3meter) = +40dB According to KDB 414788 D01v01r01, for emission measurements below 30 MHz semi-anechoic chamber has been characterized so that the measurements correspond to those obtained at an open-field test site. EUT is battery operated and has been tested on all three orthogonal axis positions. Worst case result has been listed																										
Further information to test setup:  For frequencies above 1GHz, the anechoic material is also placed on the metallic floor between EUT and Antenna																										

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
CSSA	ETS Lindgren	FACT3	87020484	06/2017	06/2019
EMI Test Receiver	R&S	ESW44	87020967	06/2018	06/2019
Loop Antenna	EMCO	6512	87020465	02/2017	02/2020
Antenna BiConiLog	ETS Lindgren	3124E	87020457	04/2017	04/2020
Antenna Horn with Preamplifier	ETS Lindgren	3117-PA	87020458	04/2017	04/2020
2xAntenna Horn with Preamplifier	ETS Lindgren	114514 120722	87020459 87020460	04/2017	04/2020
Highpass Filter	Wainwright Instr.	WHKX10-2520- 2800-18000- 40ss	87020799	05/2018	05/2019

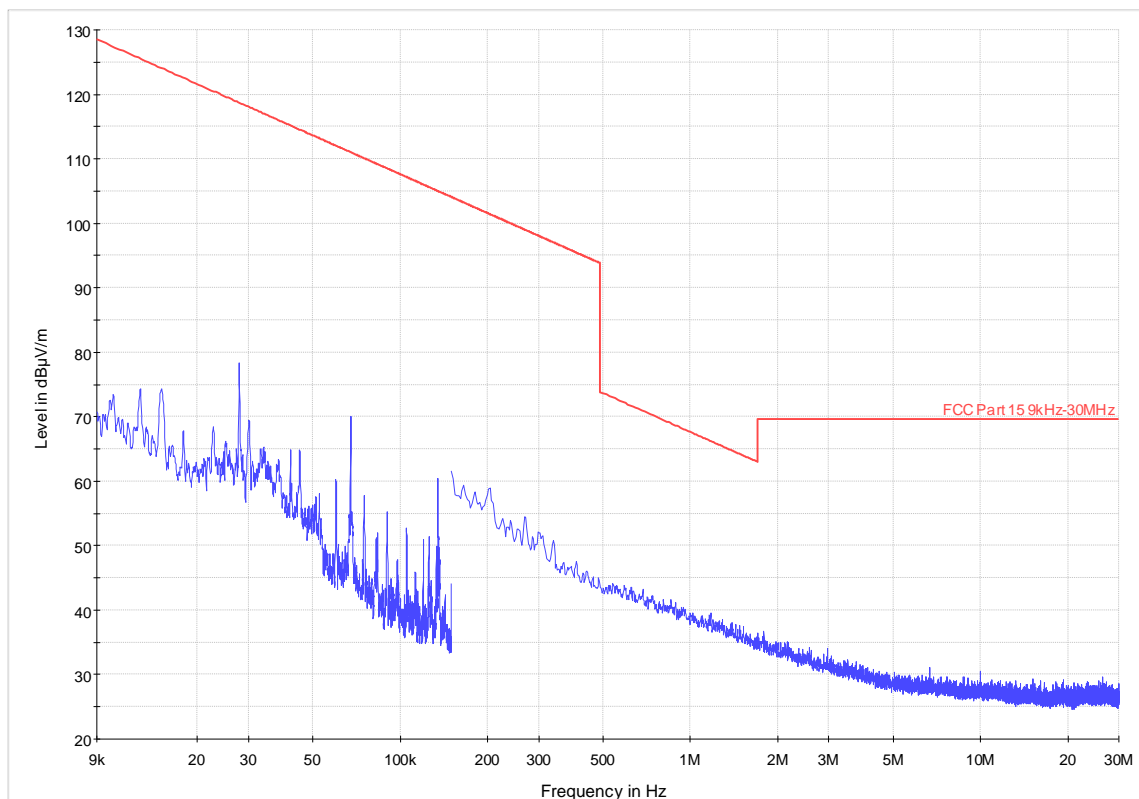
Test Procedure
In accordance to sections 6.3, 6.4, 6.5, 6.6 of ANSI C63.10



Graphical representation of Radiated Emission Measurement

Operation Mode: #1 – Middle Channel (2440 MHz)

Frequency: 9kHz – 30MHz

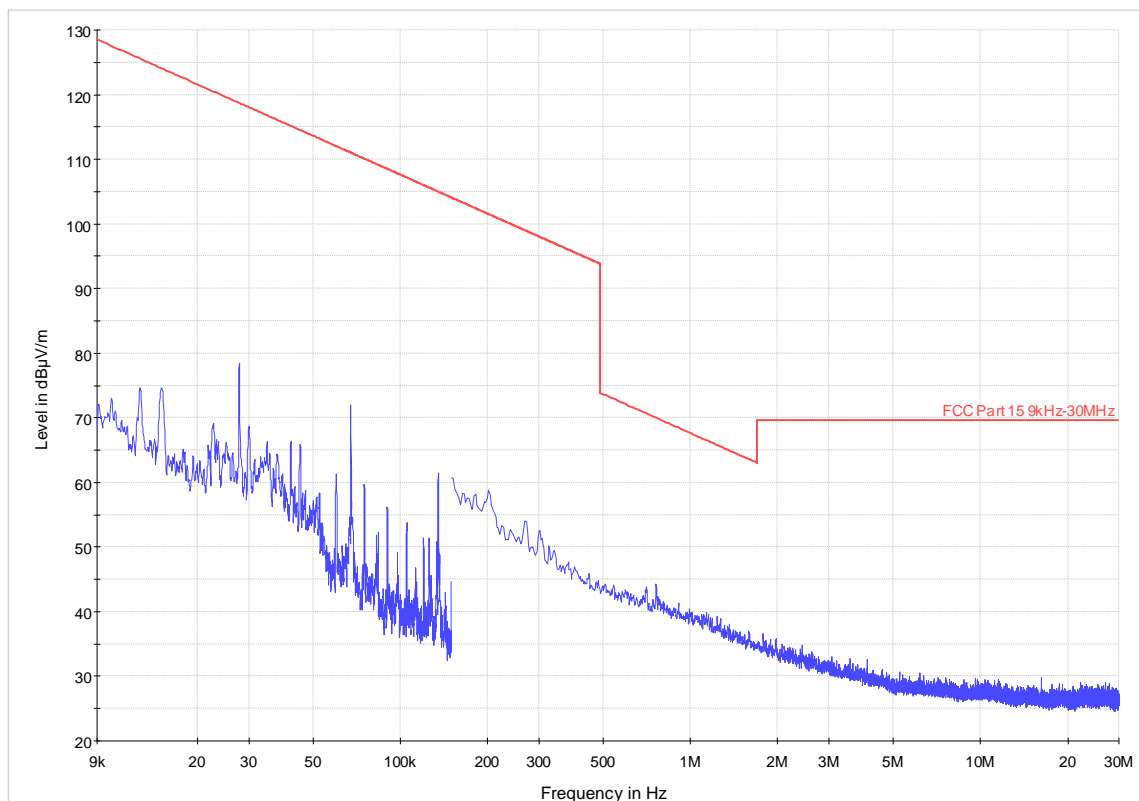


y axis (worst case)

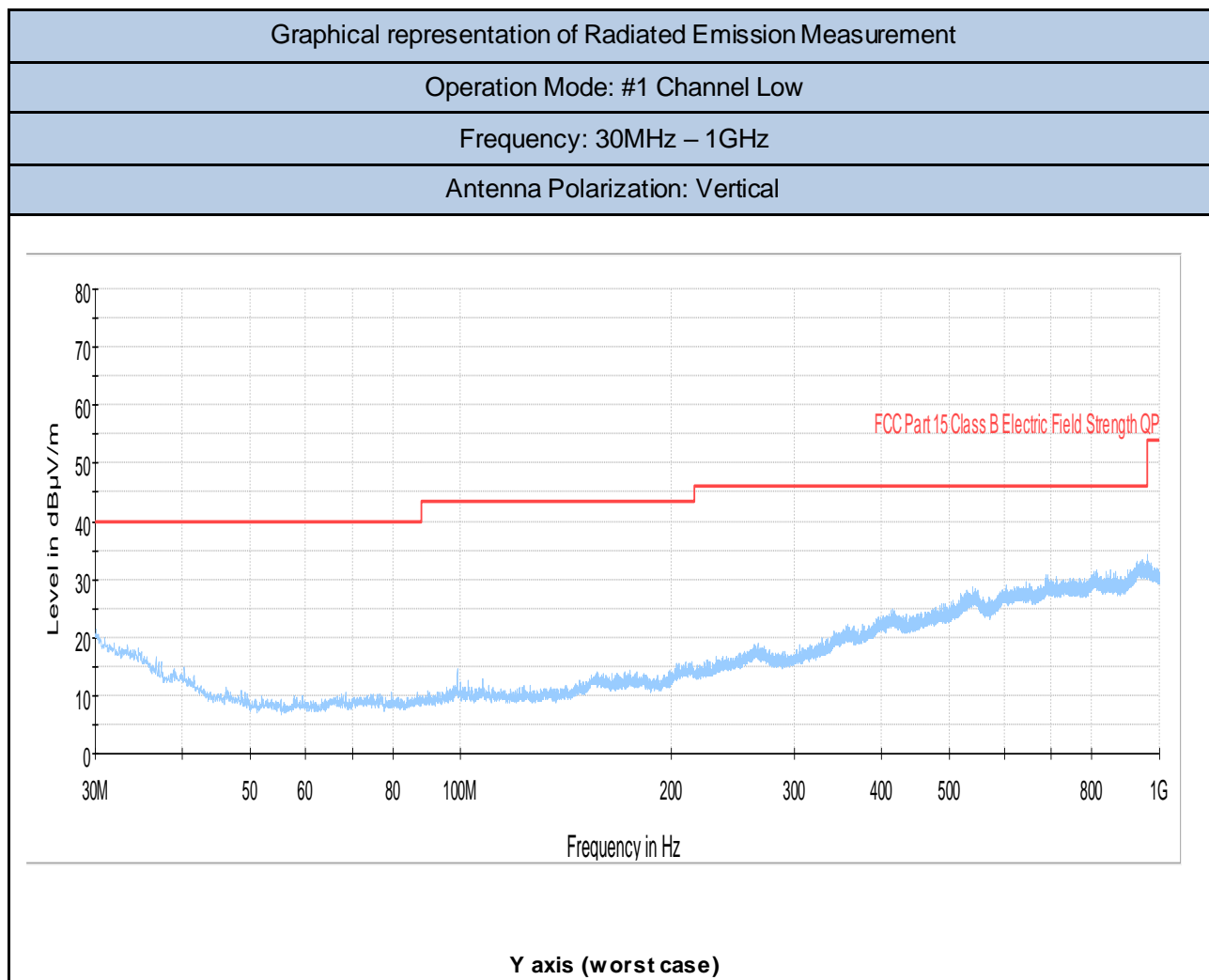
Graphical representation of Radiated Emission Measurement

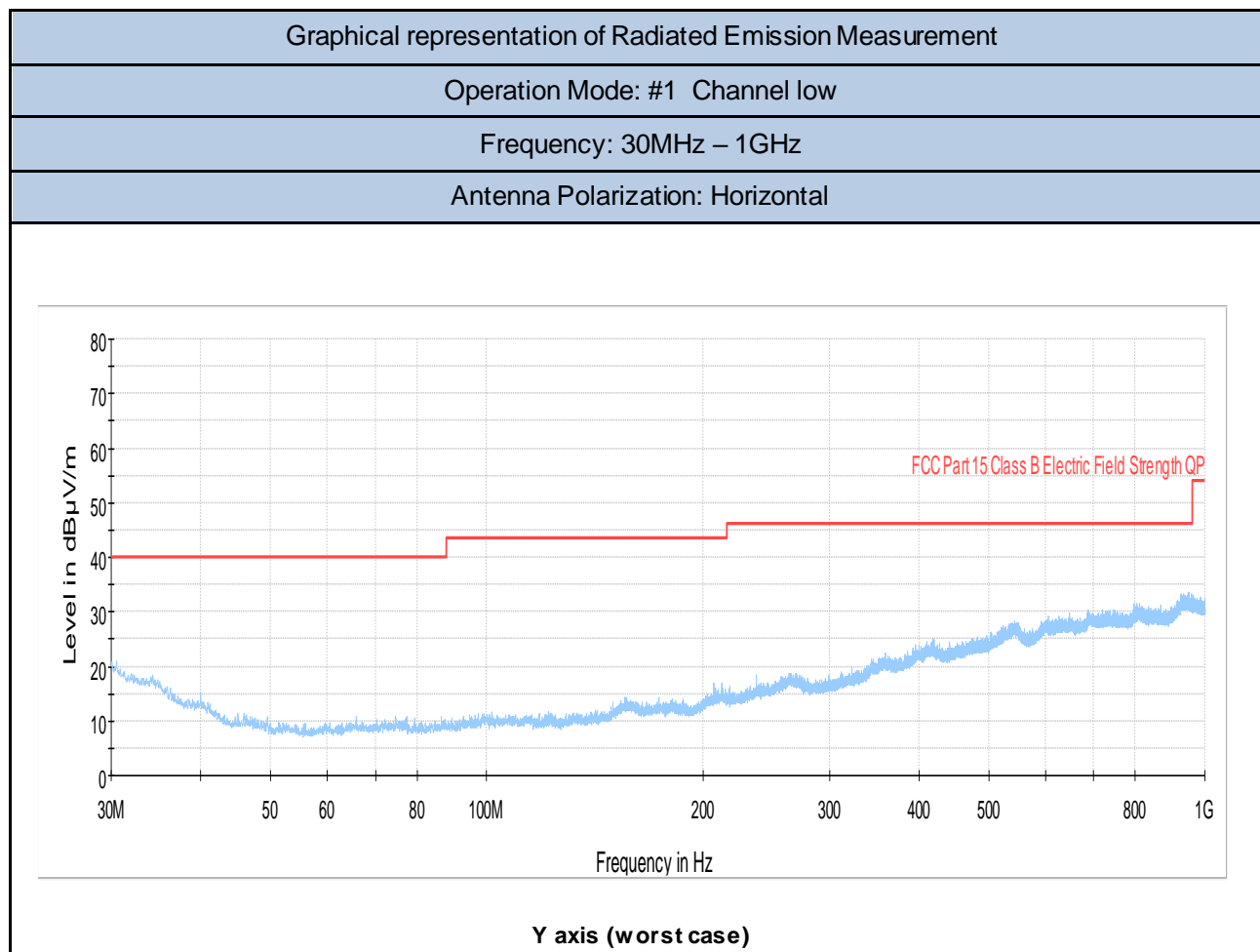
Operation Mode: #1 – High Channel (2480 MHz)

Frequency: 9kHz – 30MHz

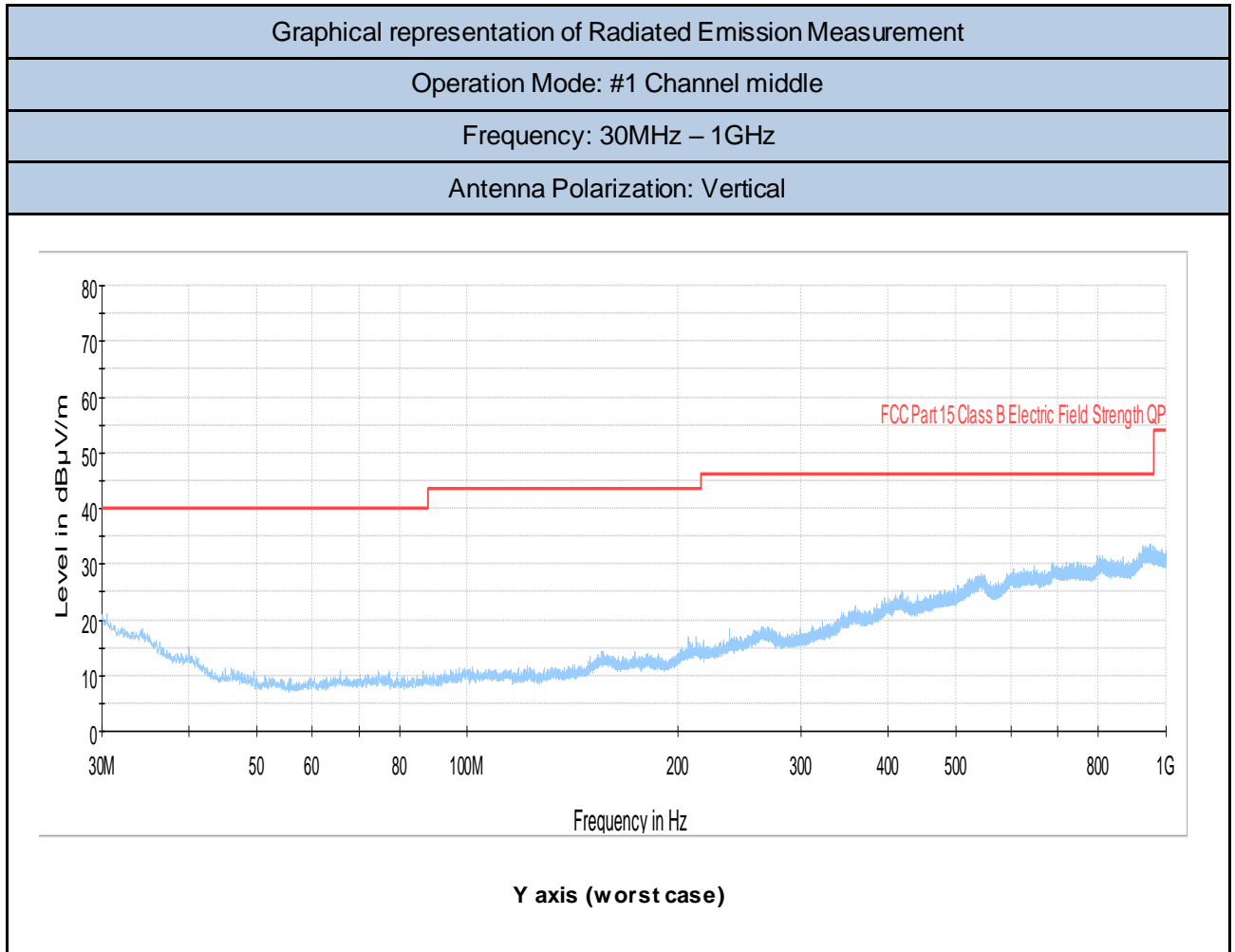


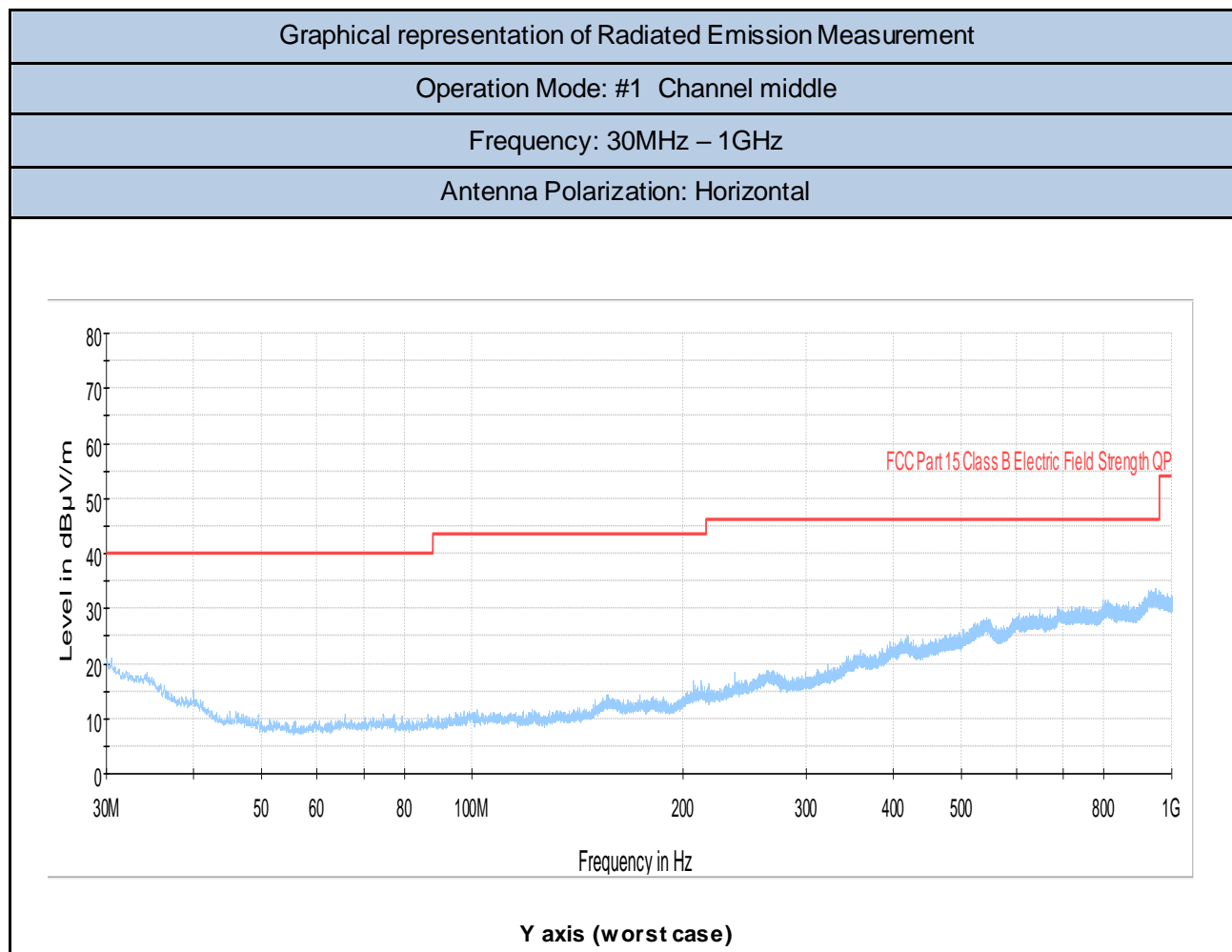
y axis (worst case)

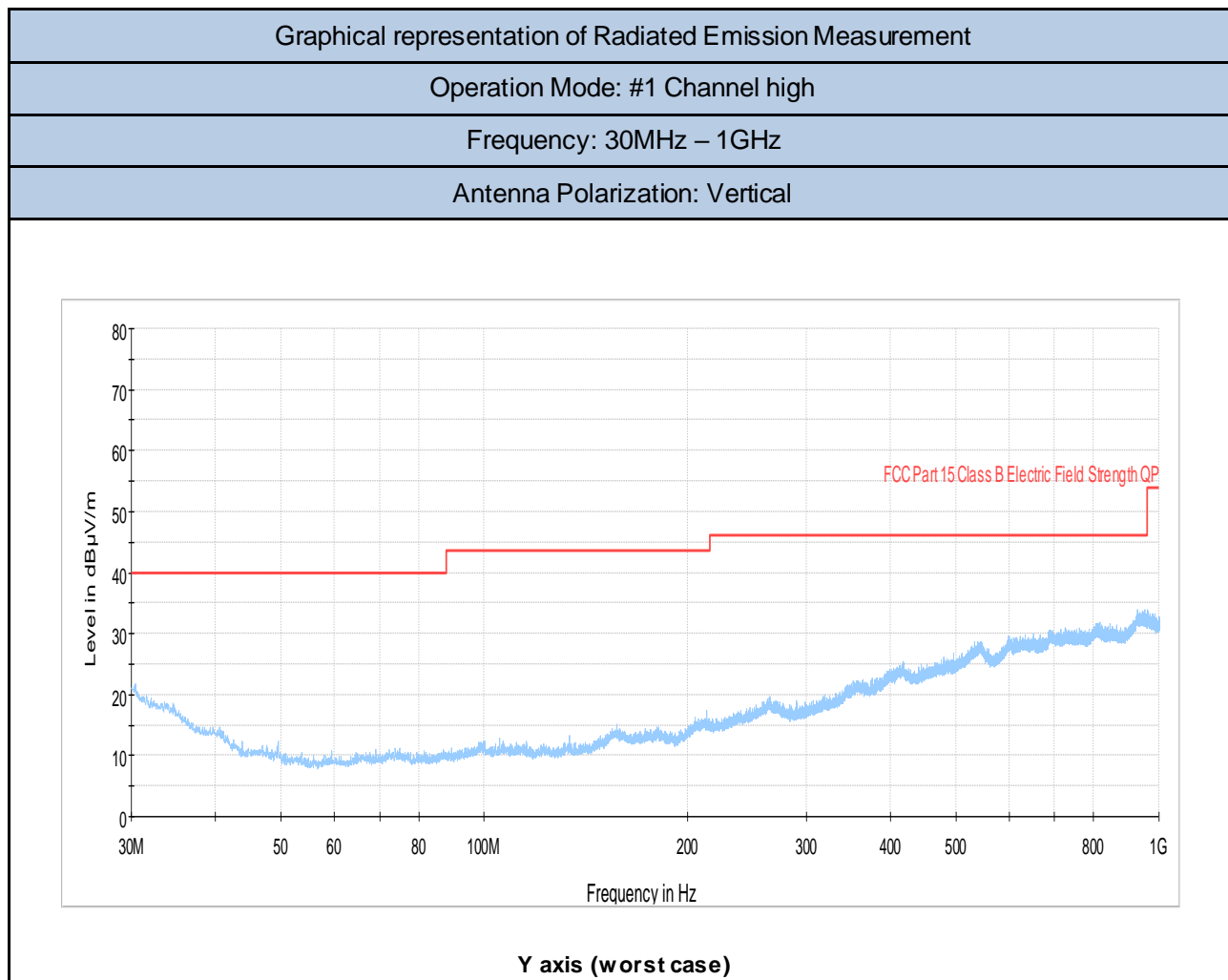


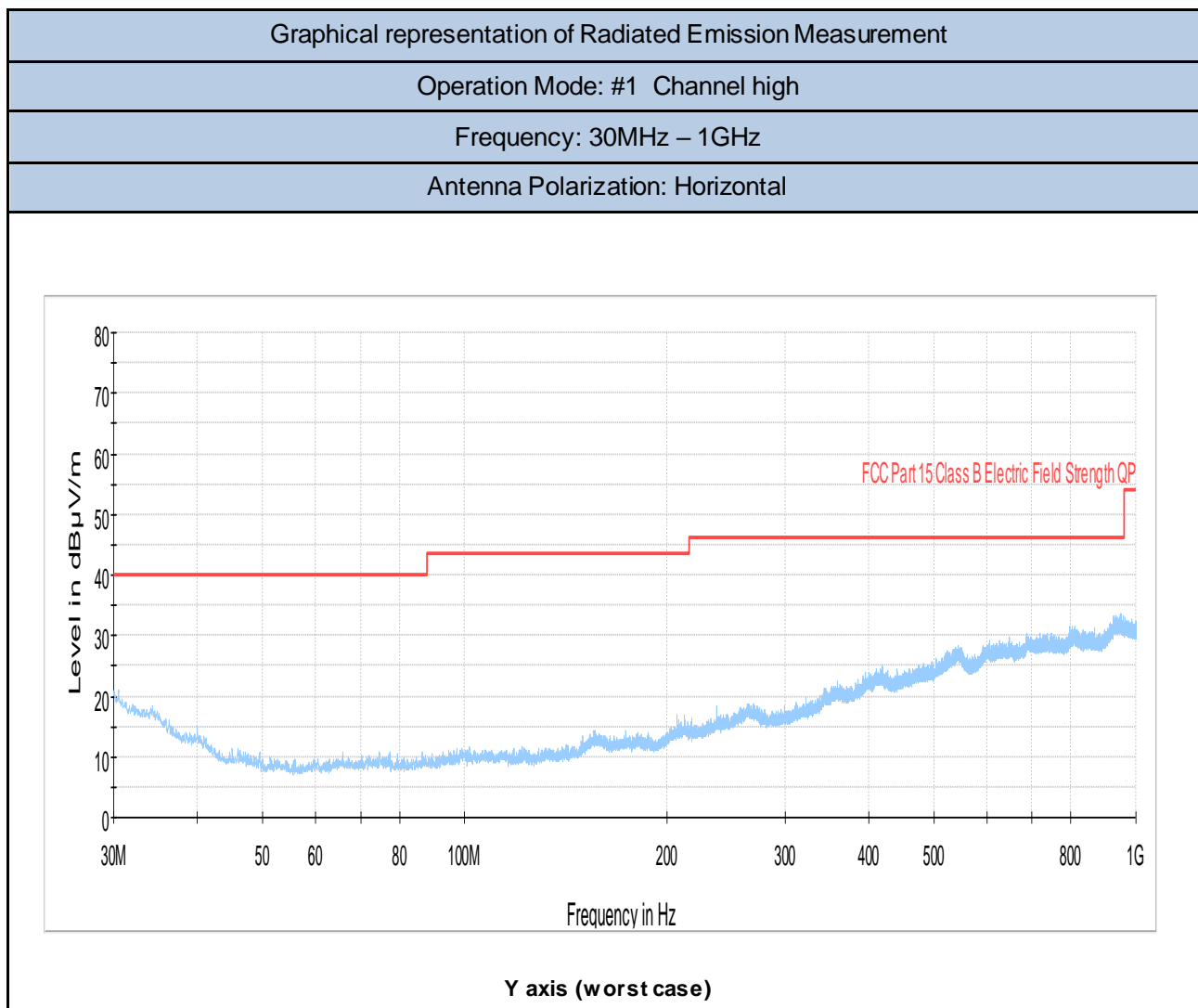


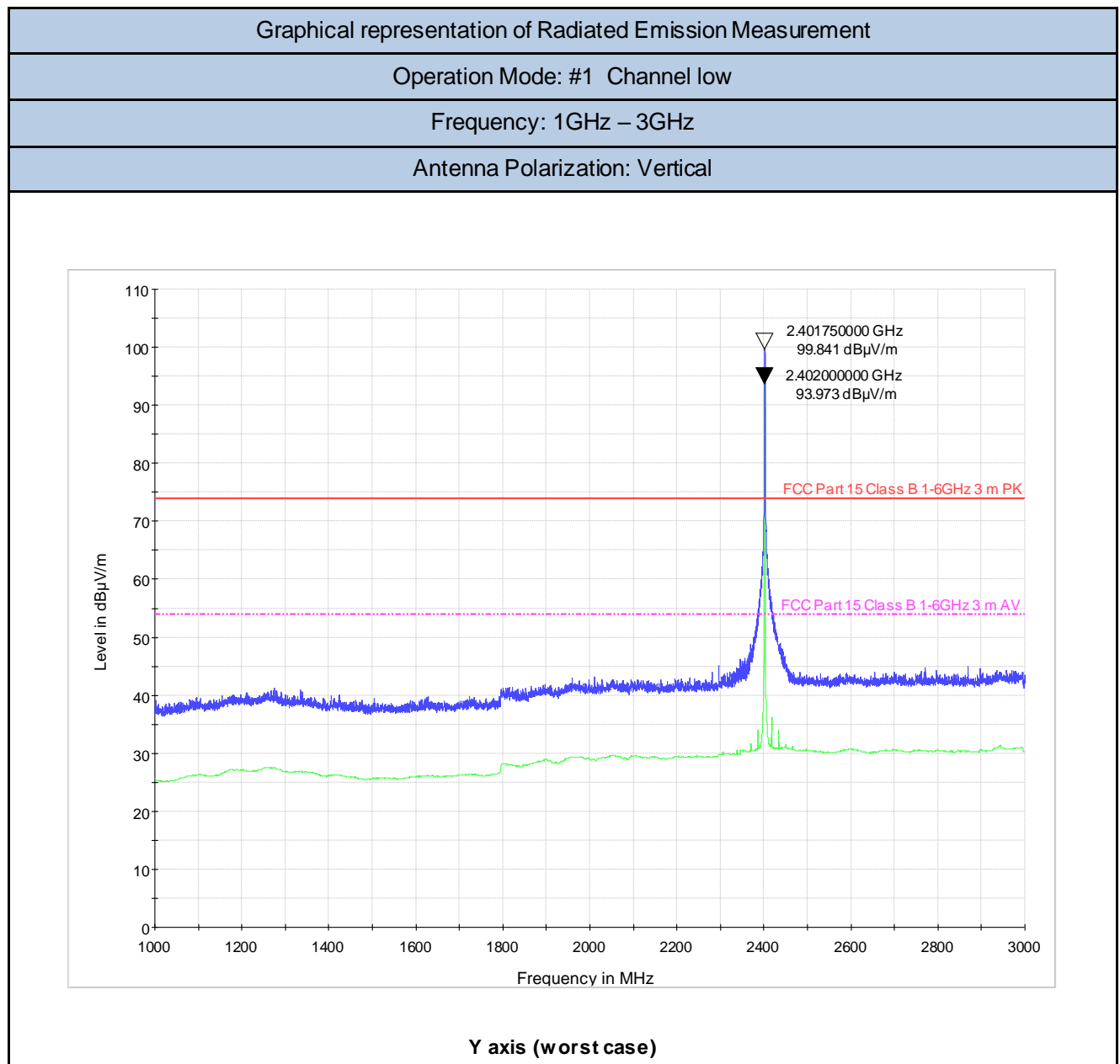




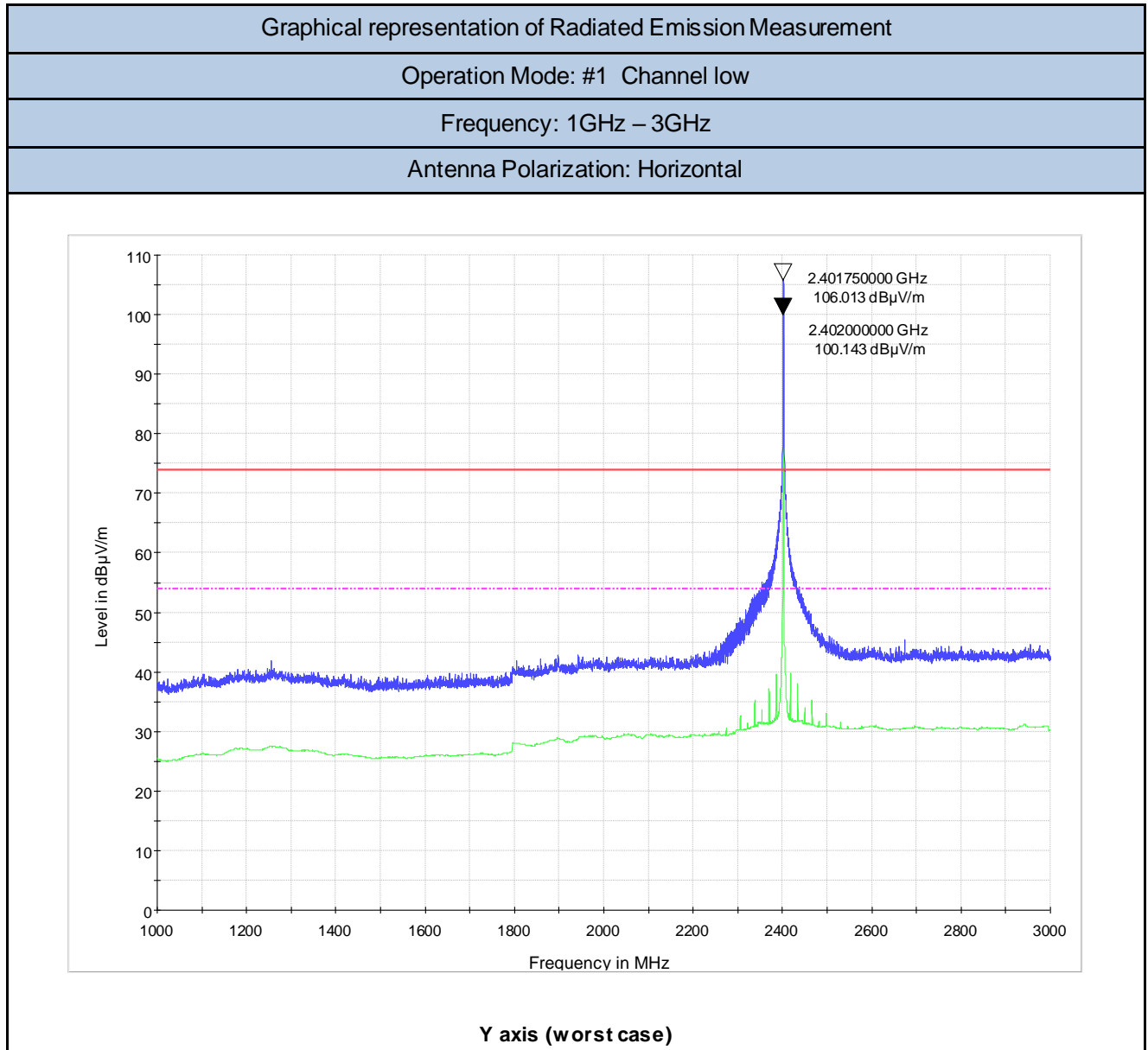




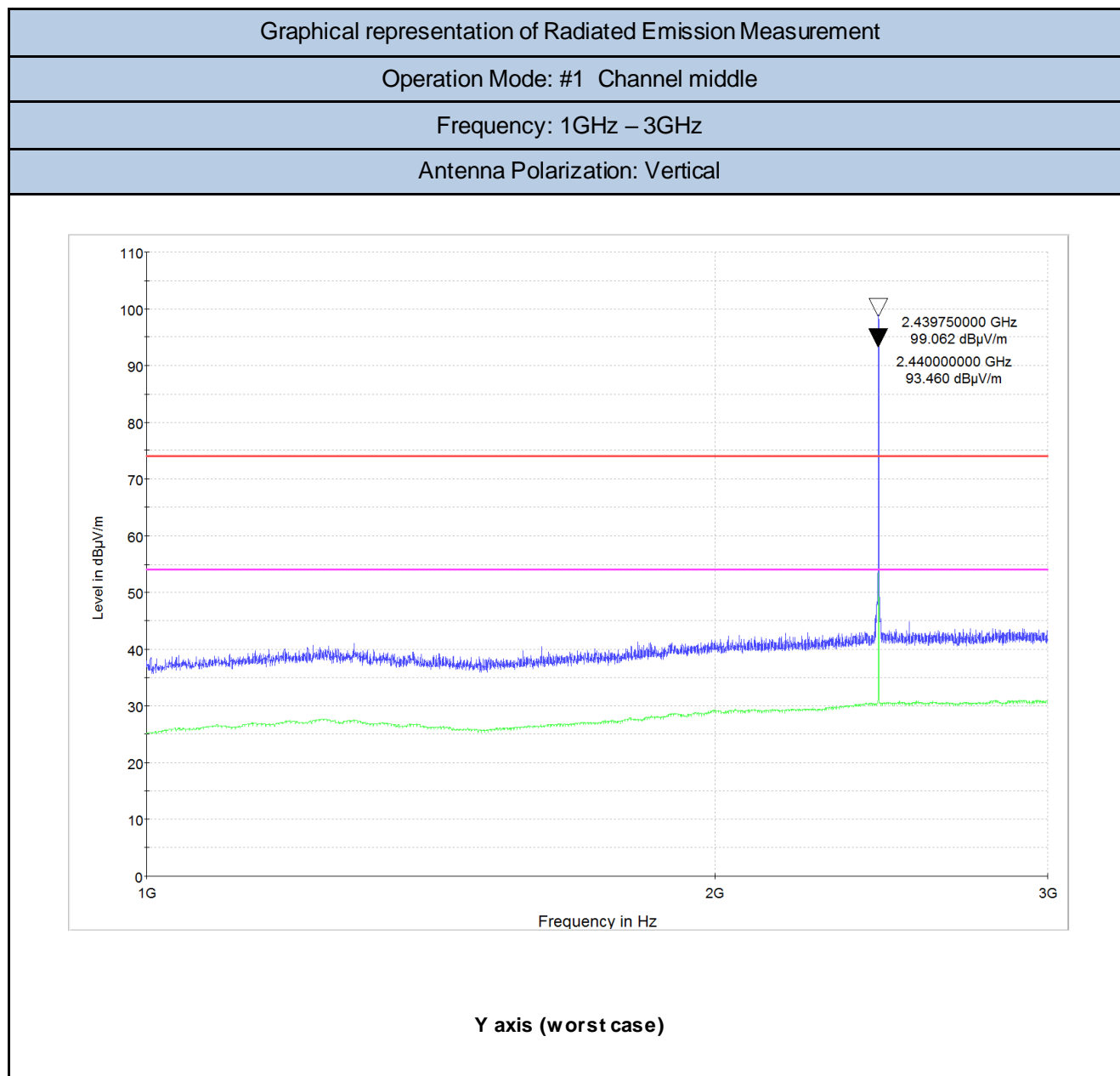




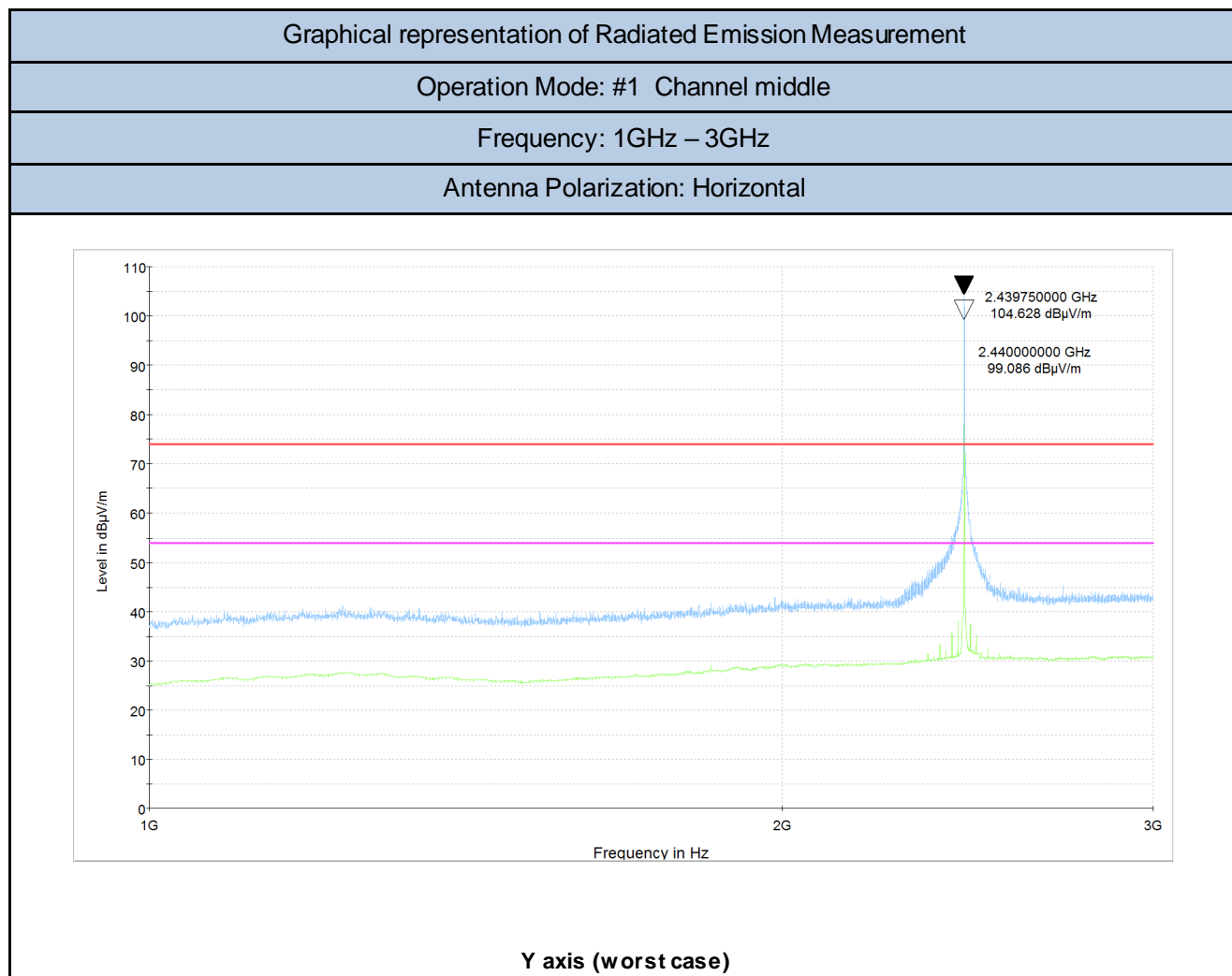
Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel Low
Frequency: 1GHz – 3GHz Vertical
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Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel Low
Frequency: 1 – 3GHz Horizontal
---

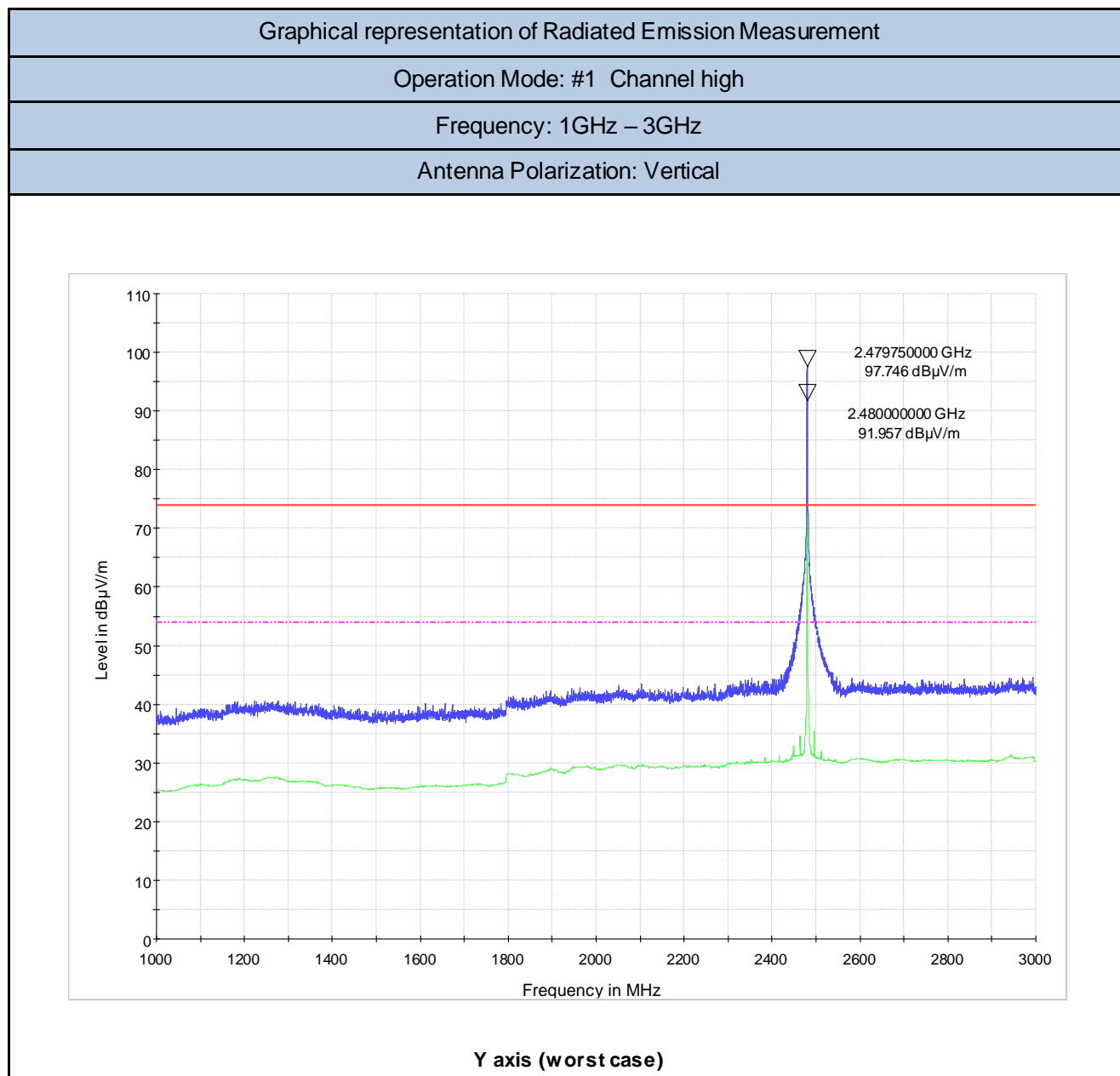


Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel middle
Frequency: 1GHz - 3GHz Vertical
---

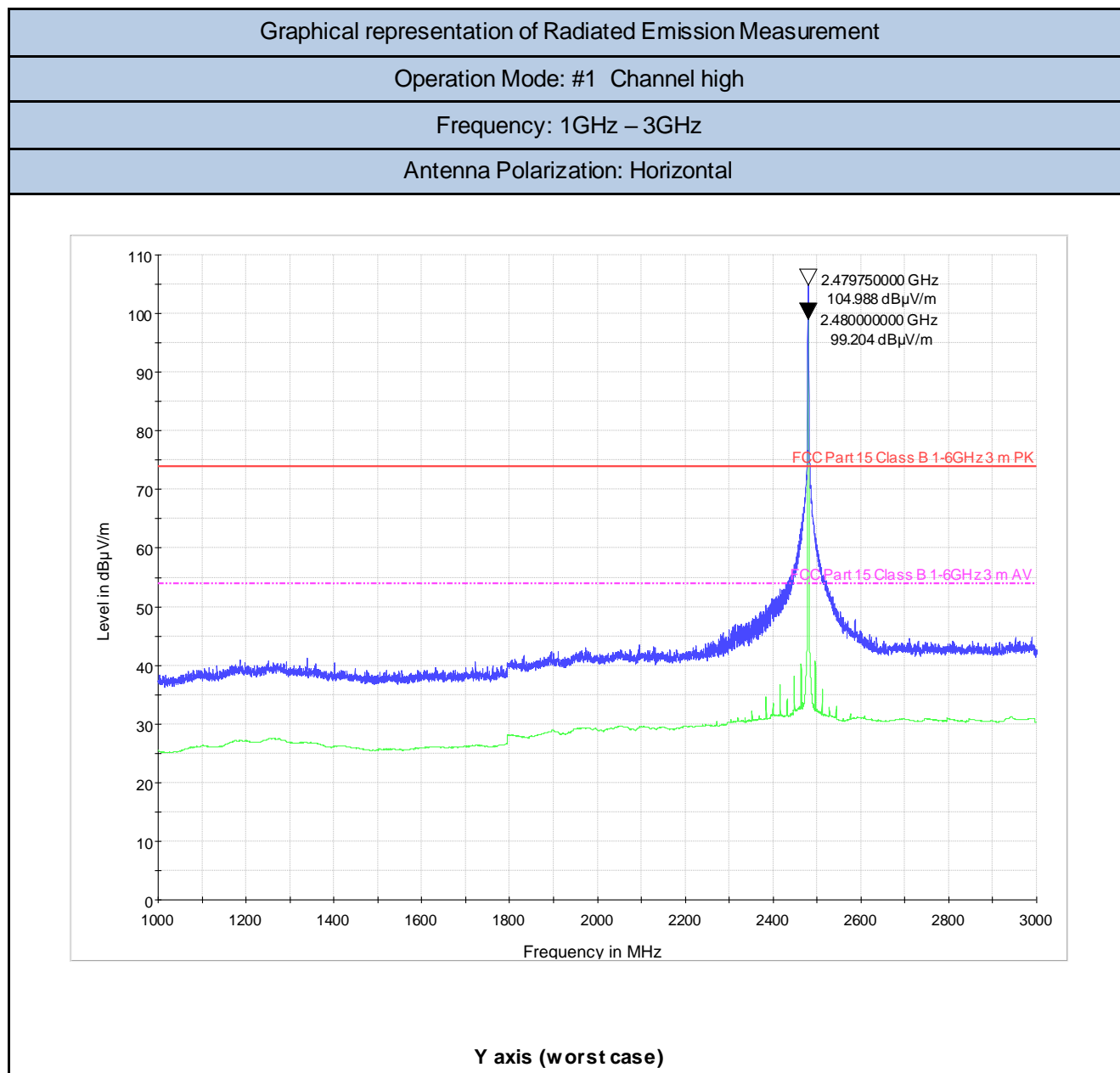


Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel middle
Frequency: 1GHz - 3GHz Horizontal
---

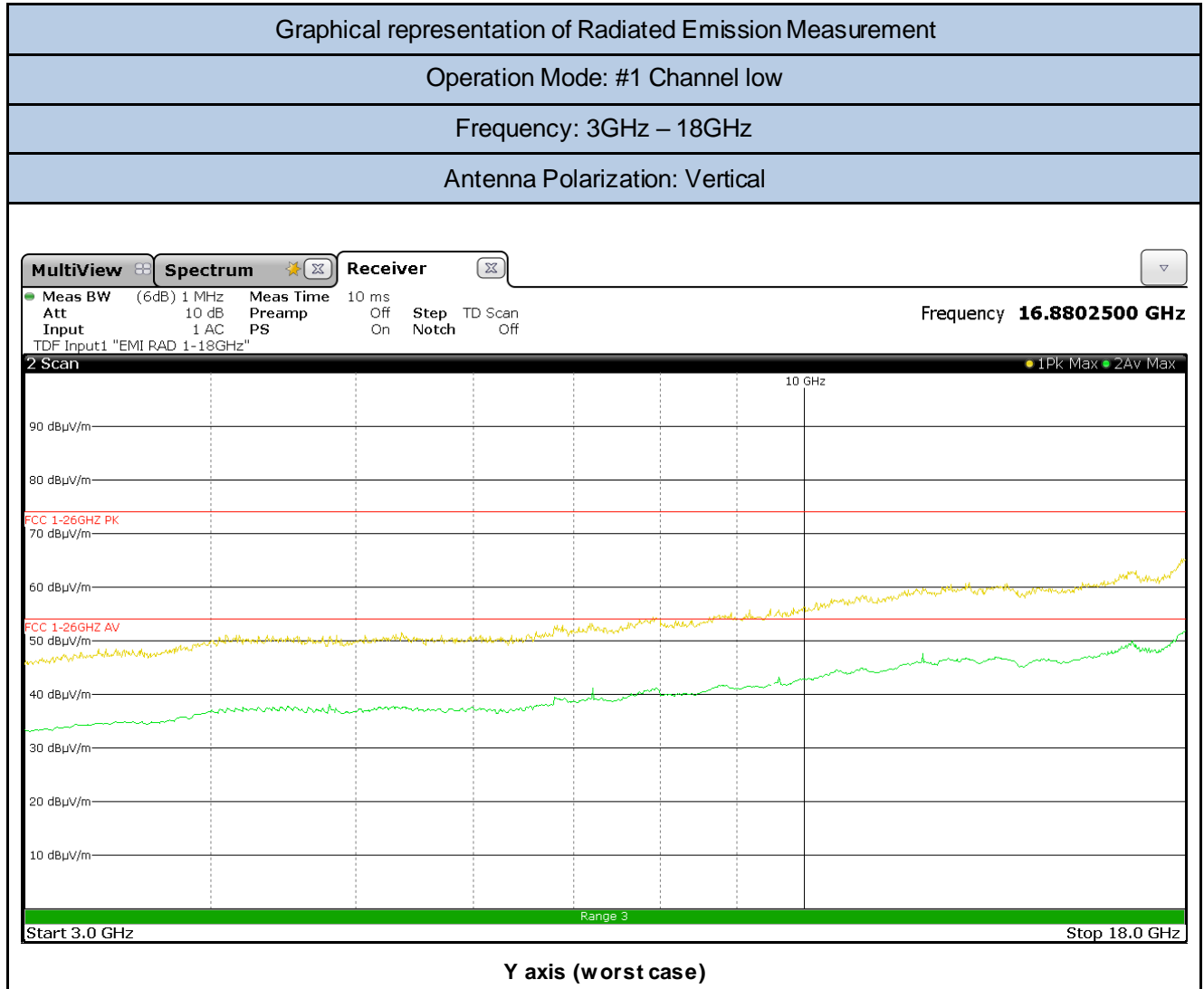


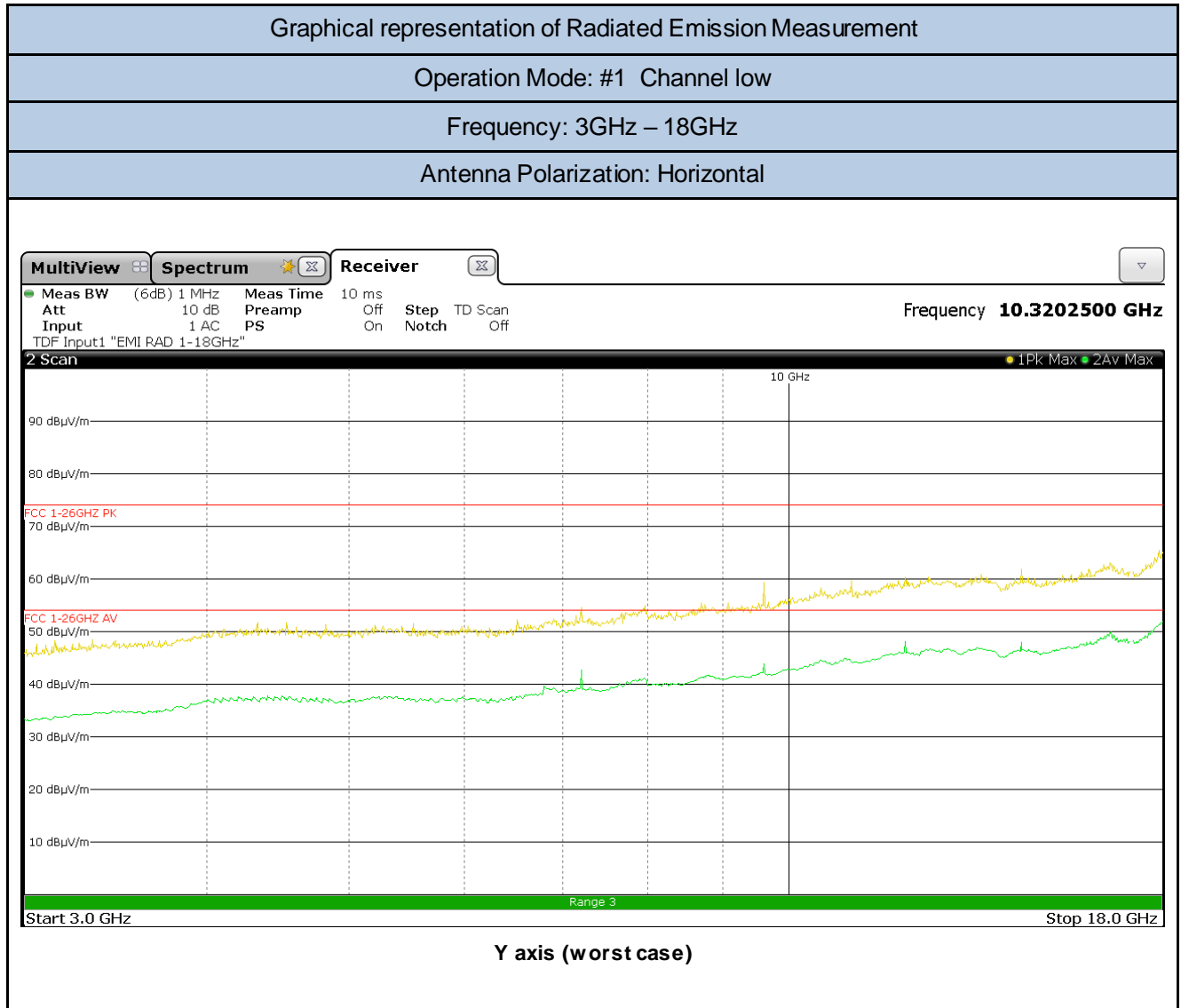


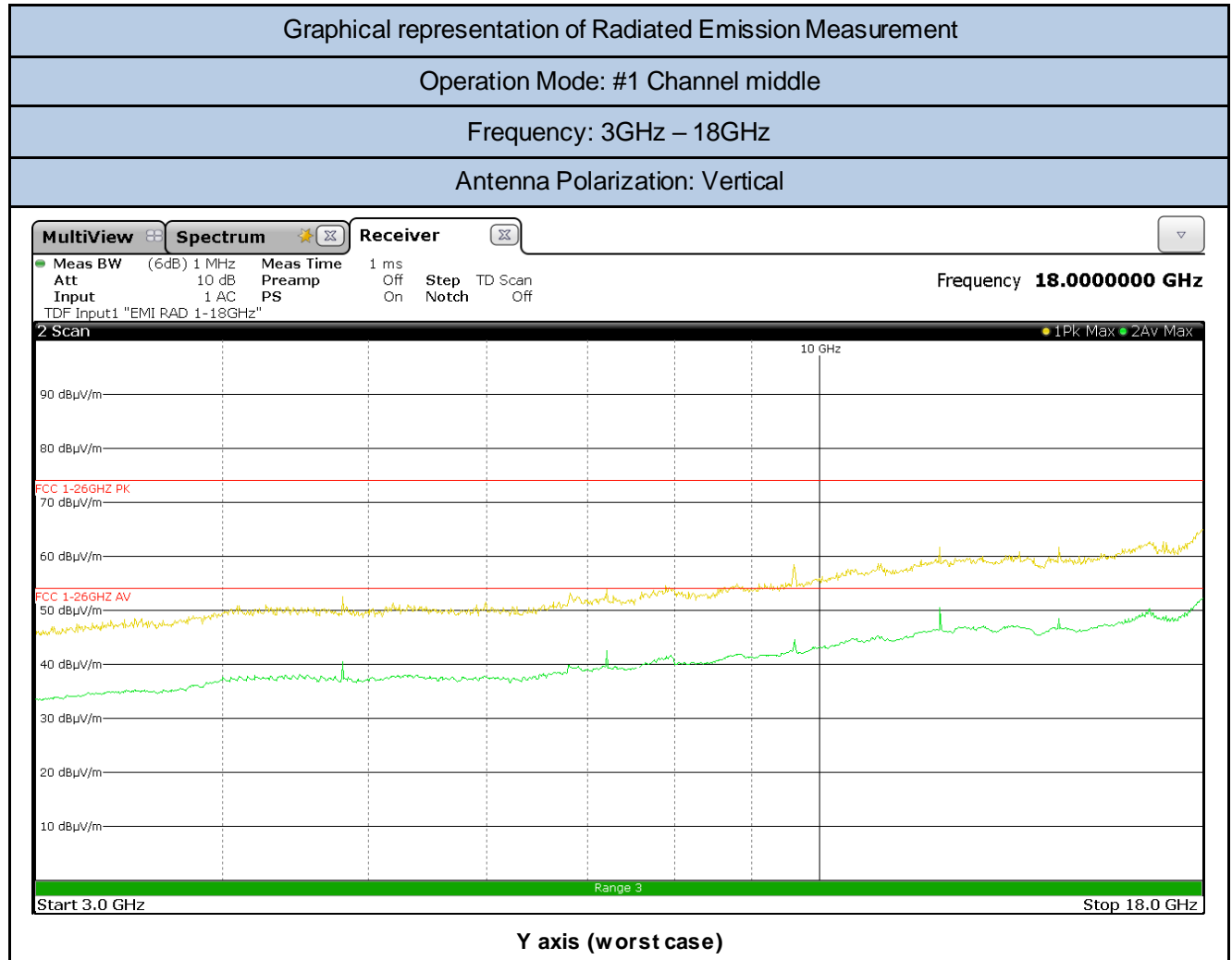
Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel high
Frequency: 1GHz - 3GHz Vertical

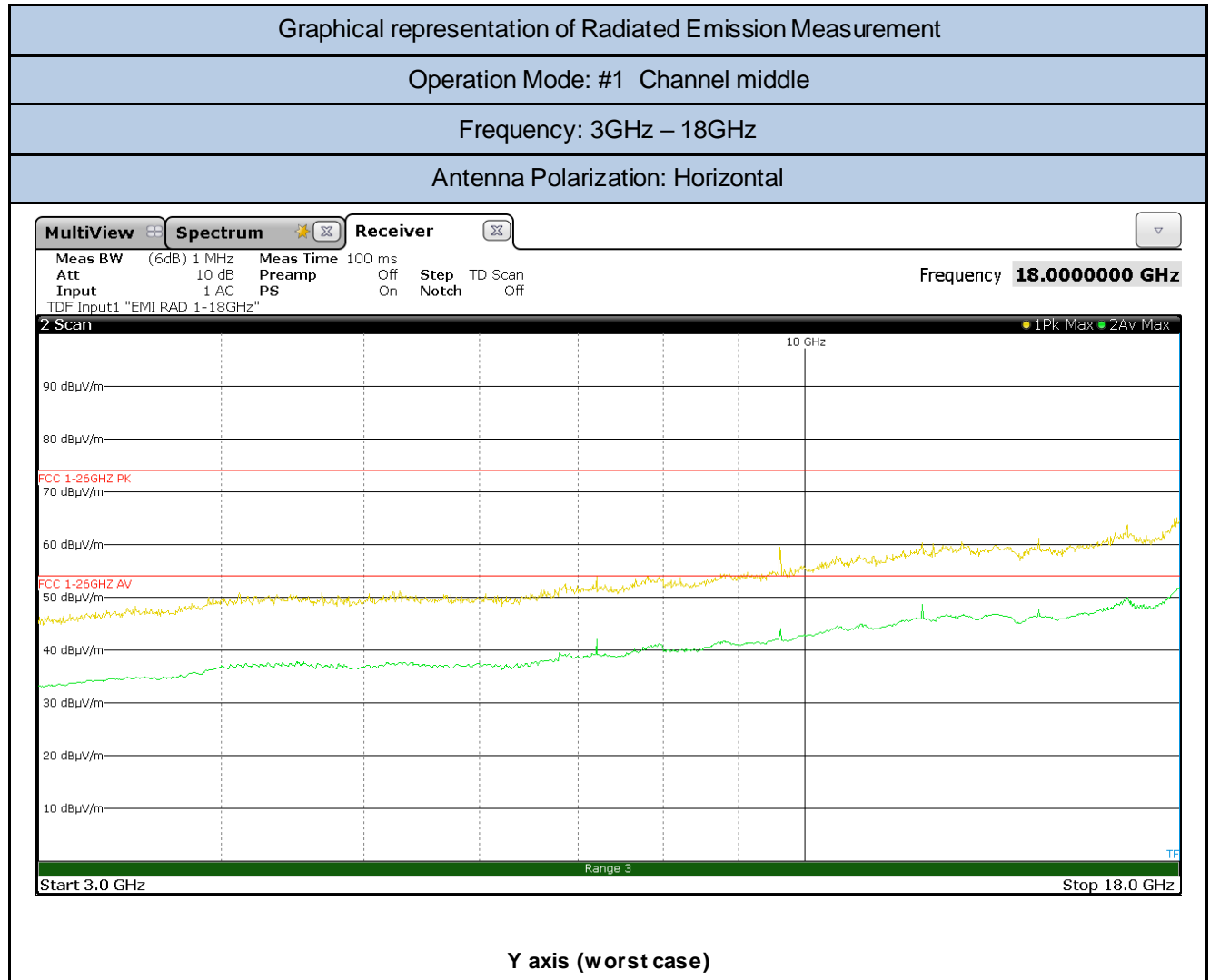


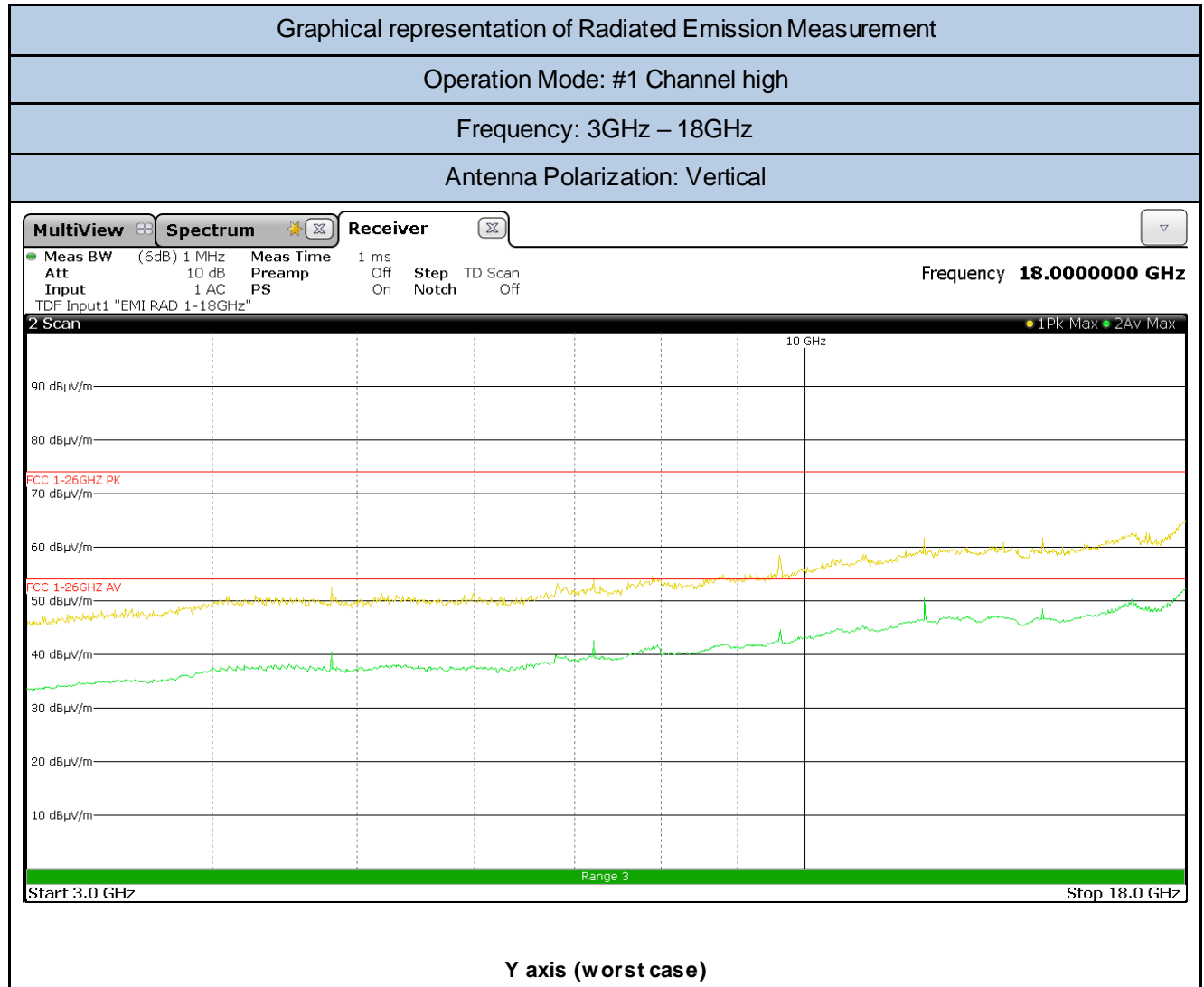
Tabulated results of Radiated Emission Measurement
Operation Mode: #1 Channel high
Frequency: 1GHz - 3GHz Horizontal

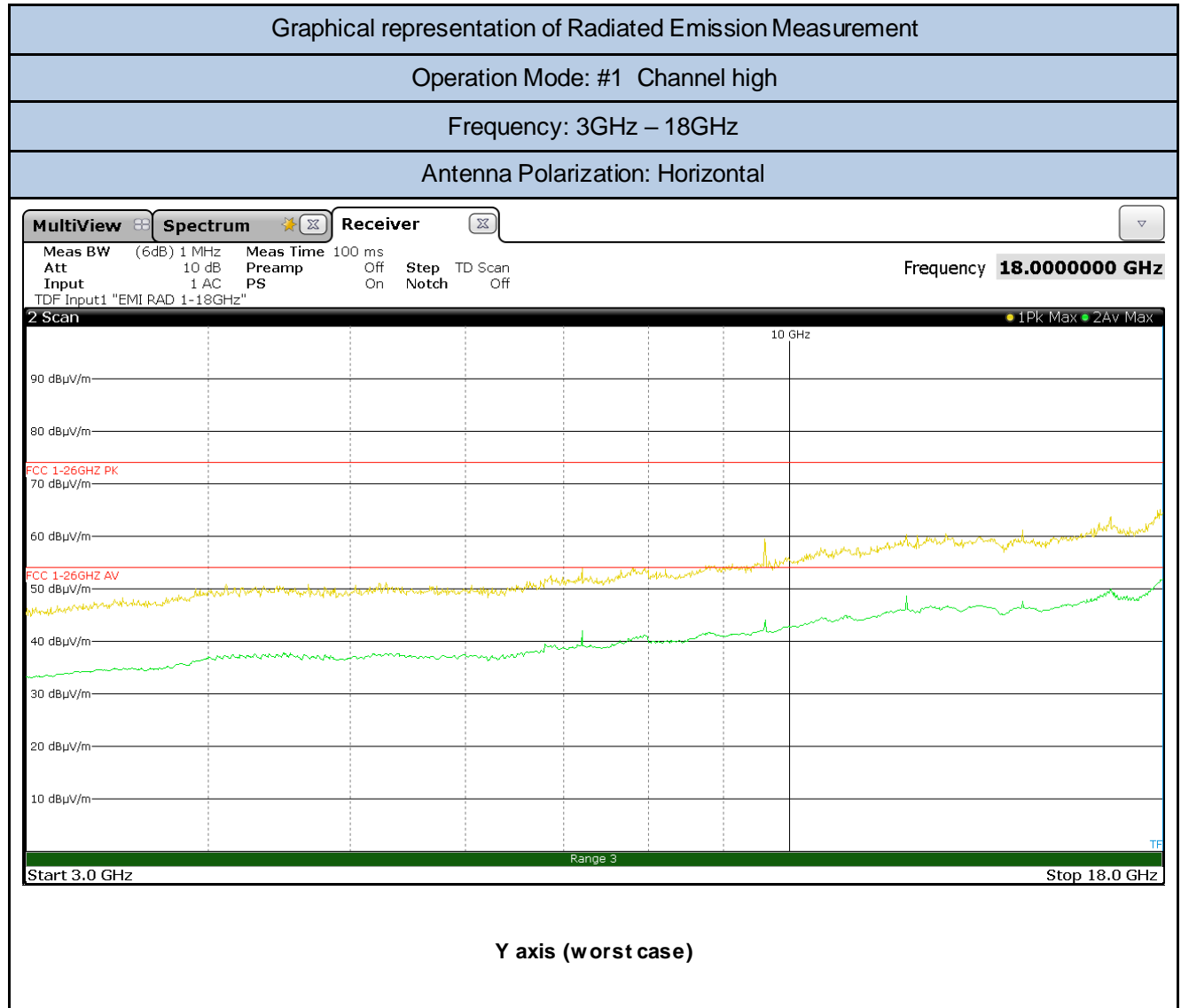




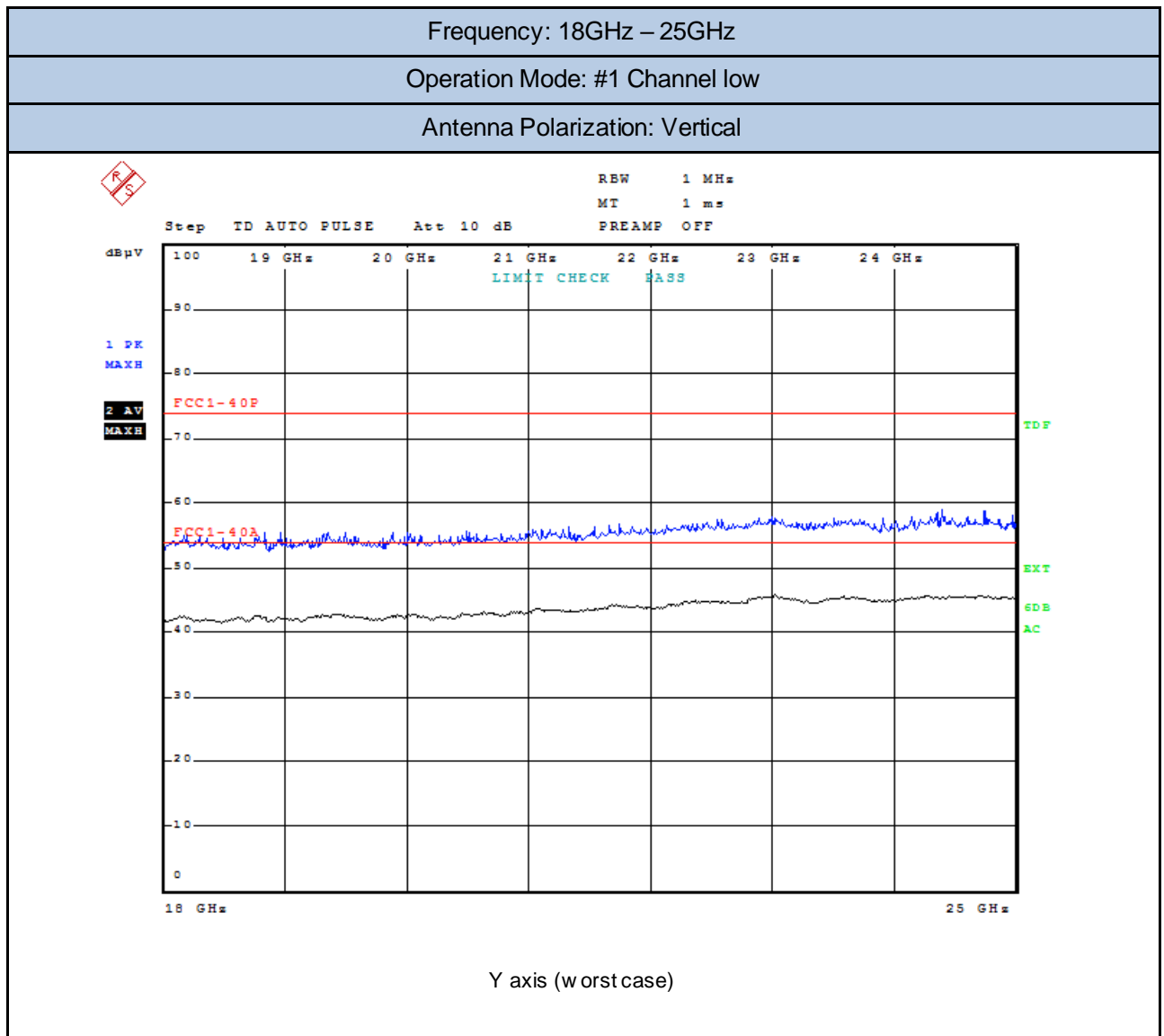


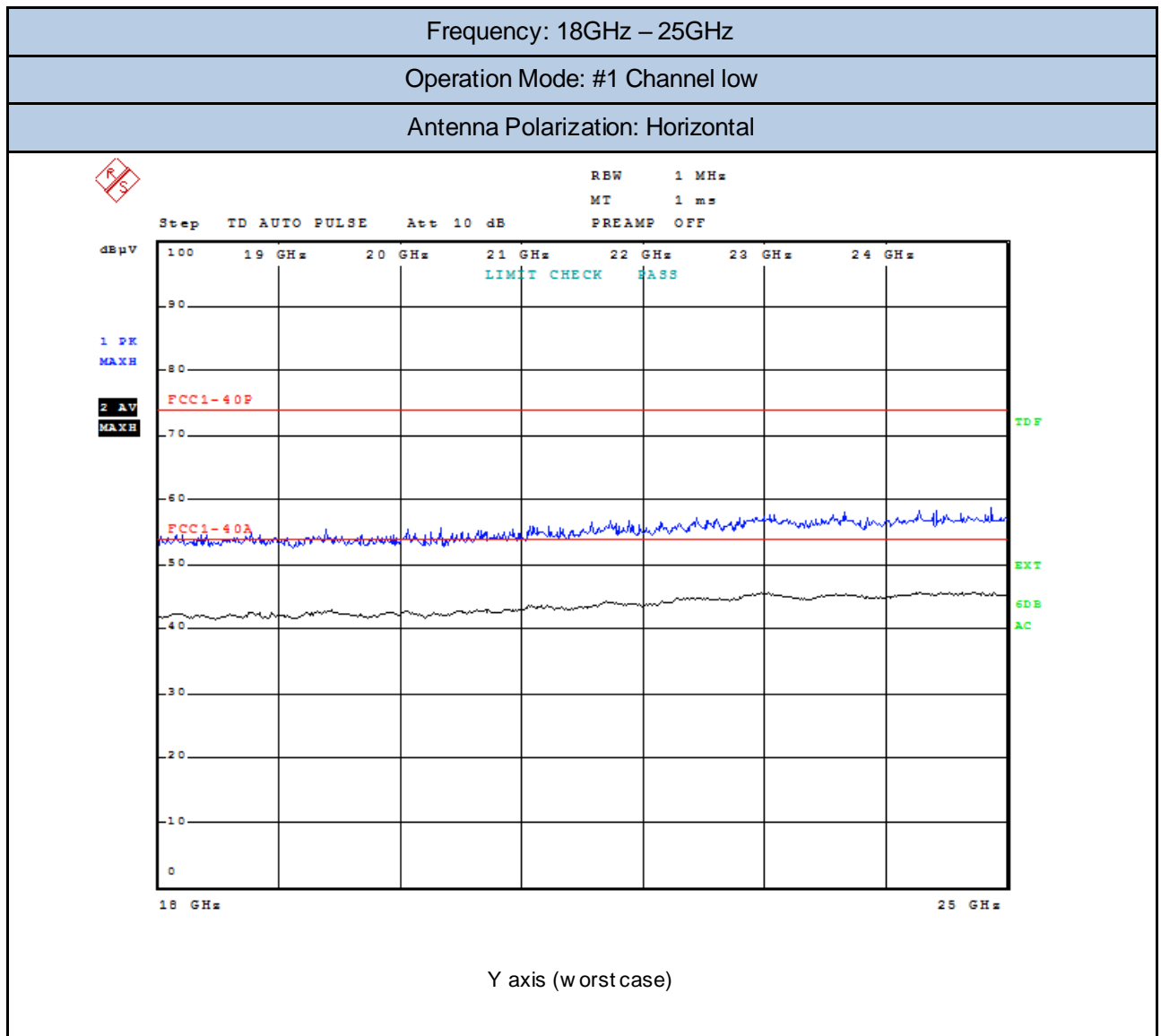


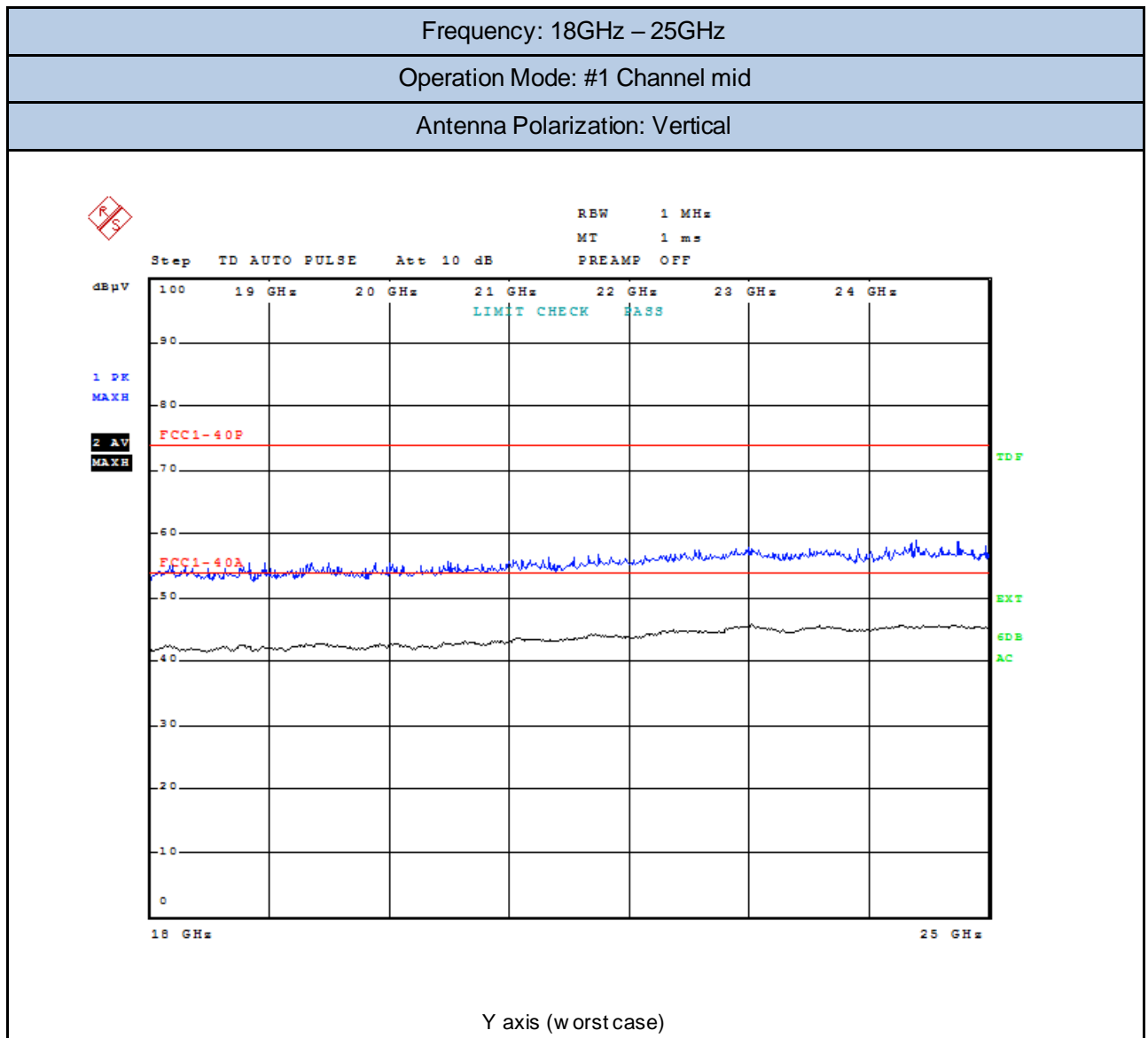


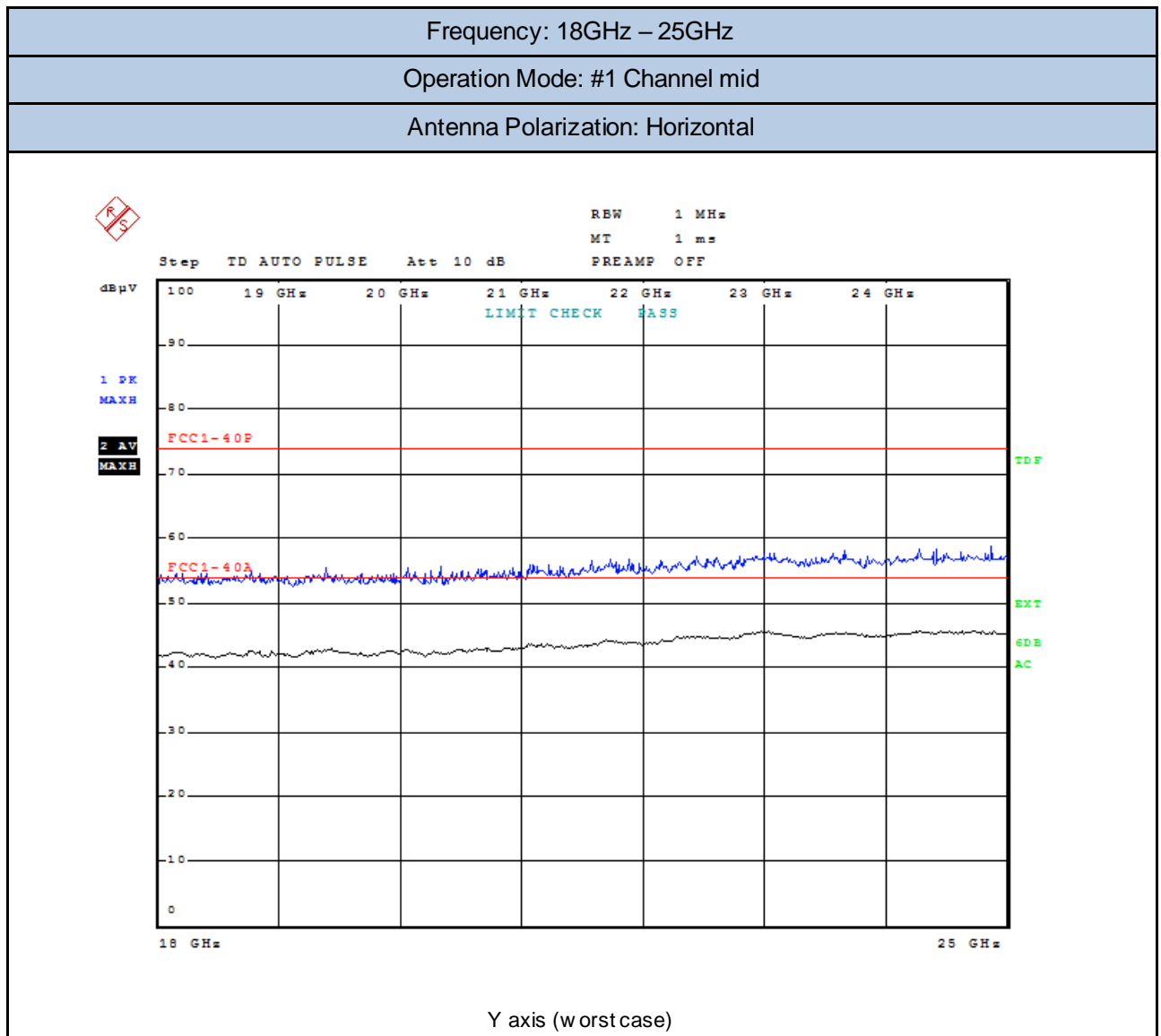


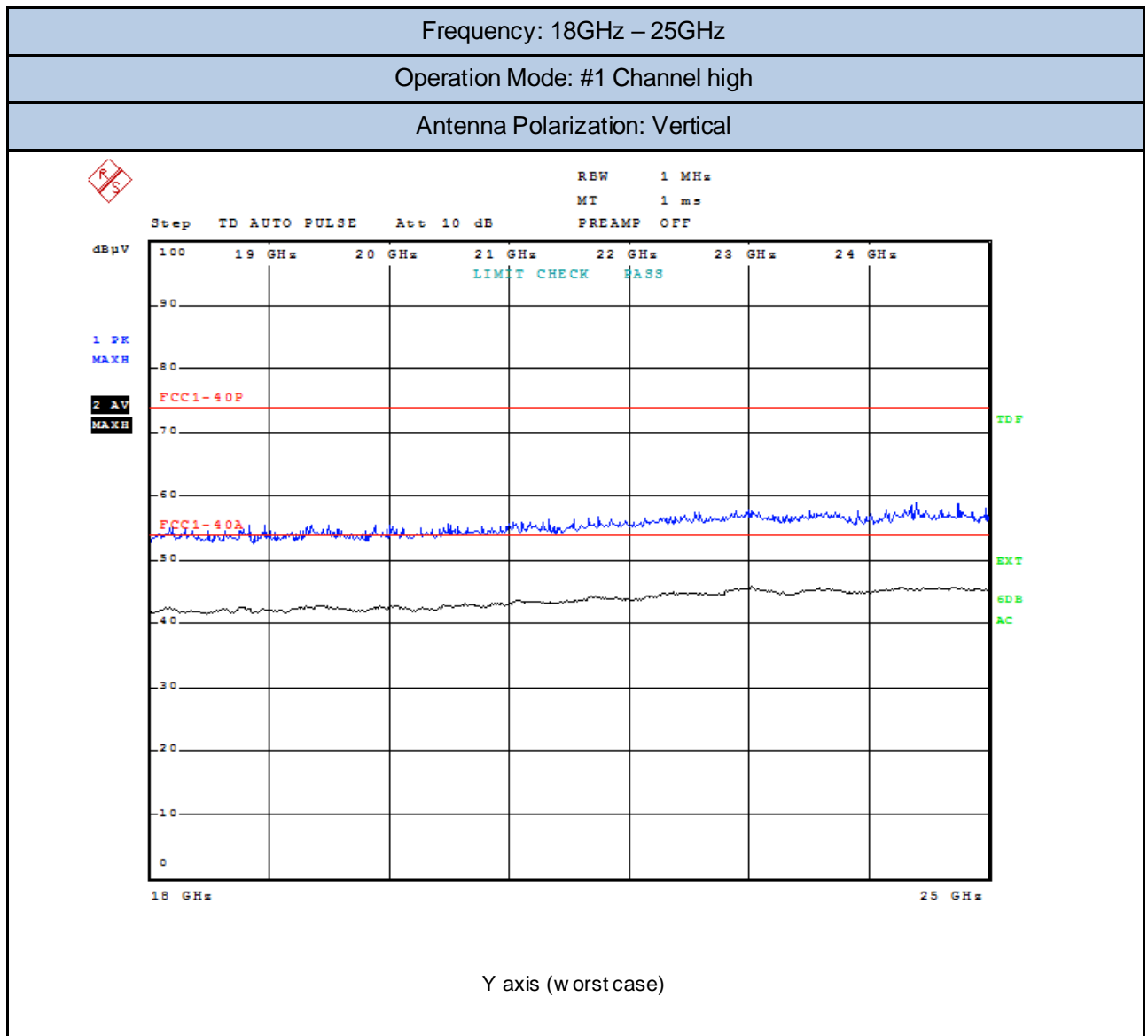


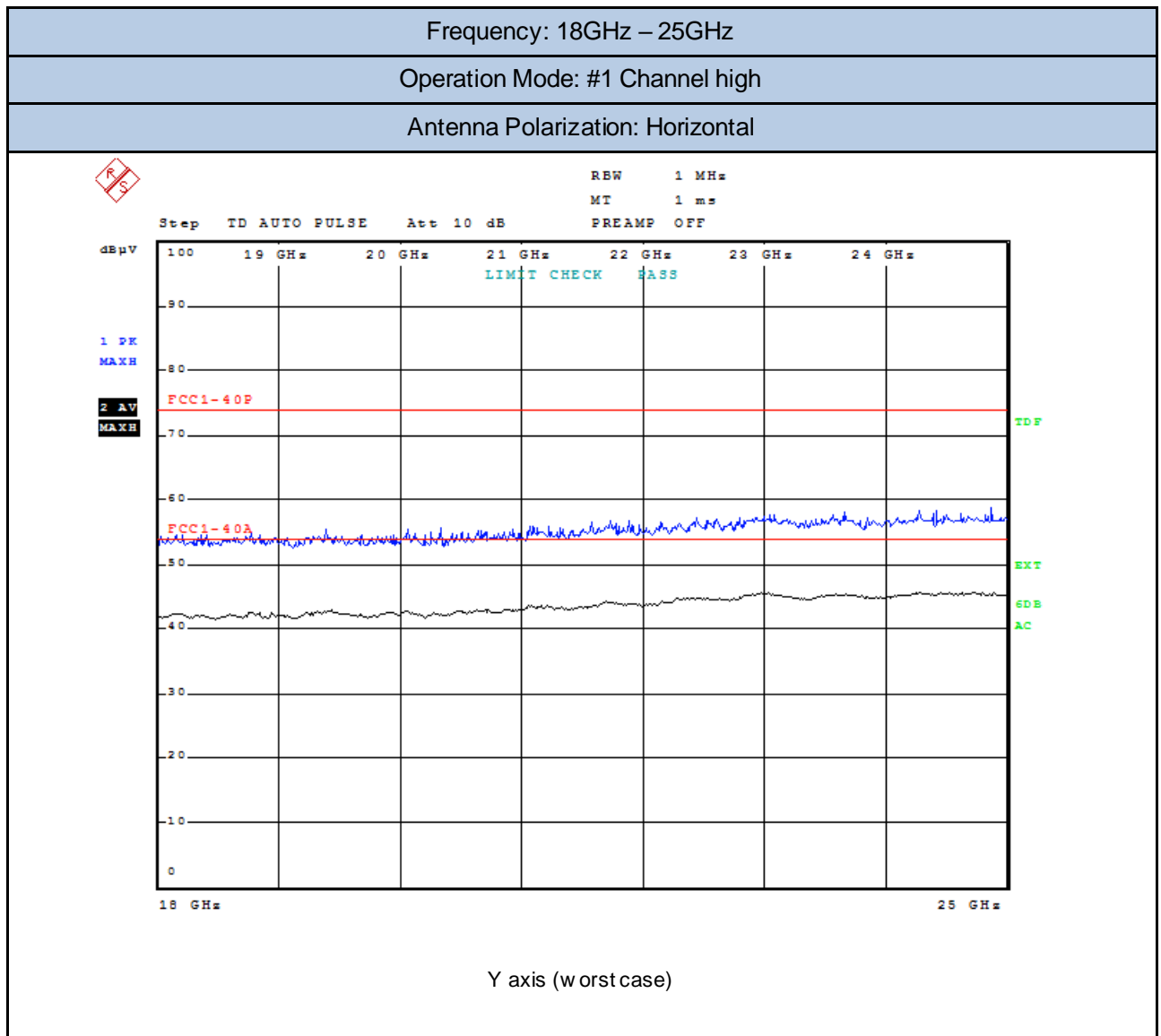


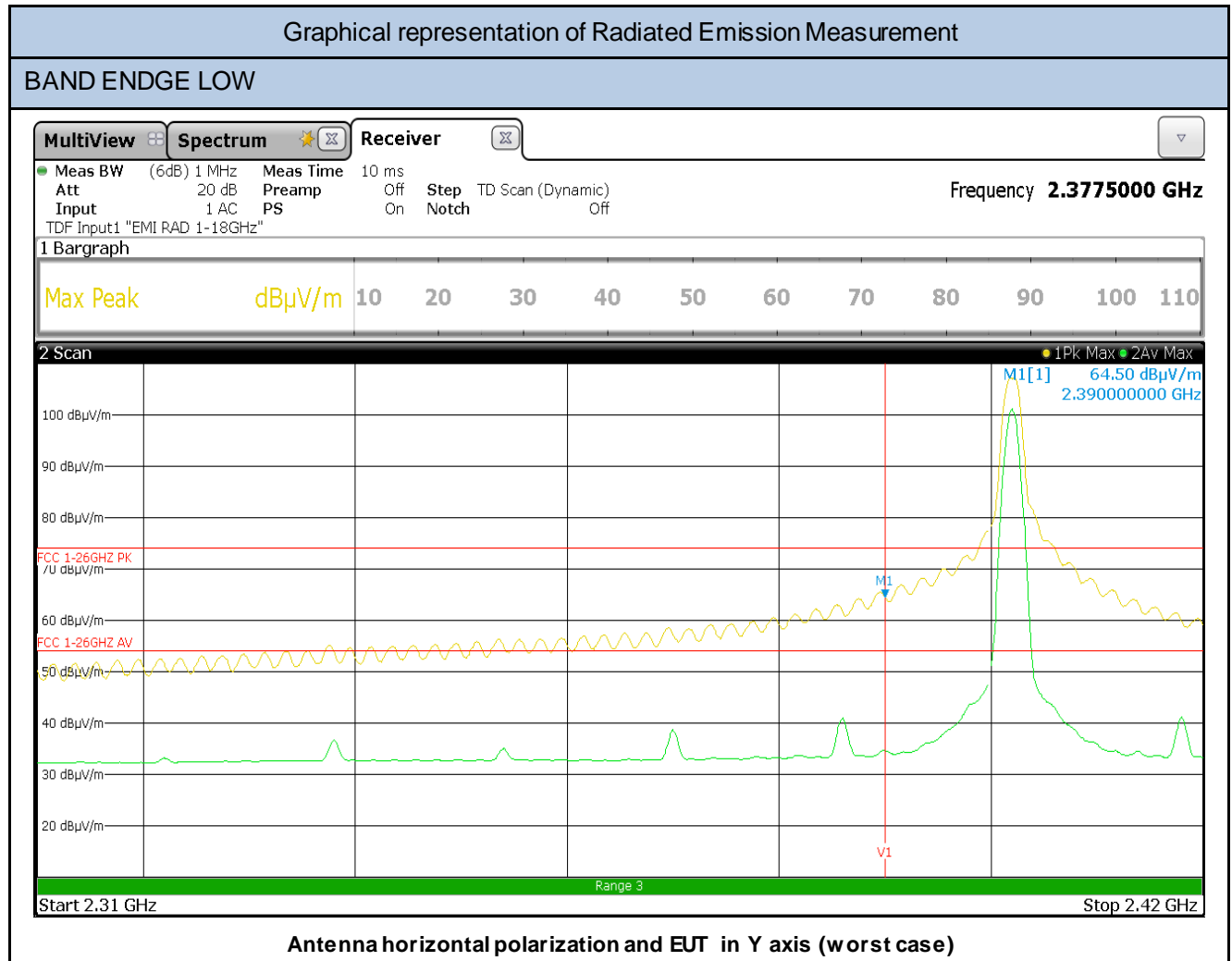










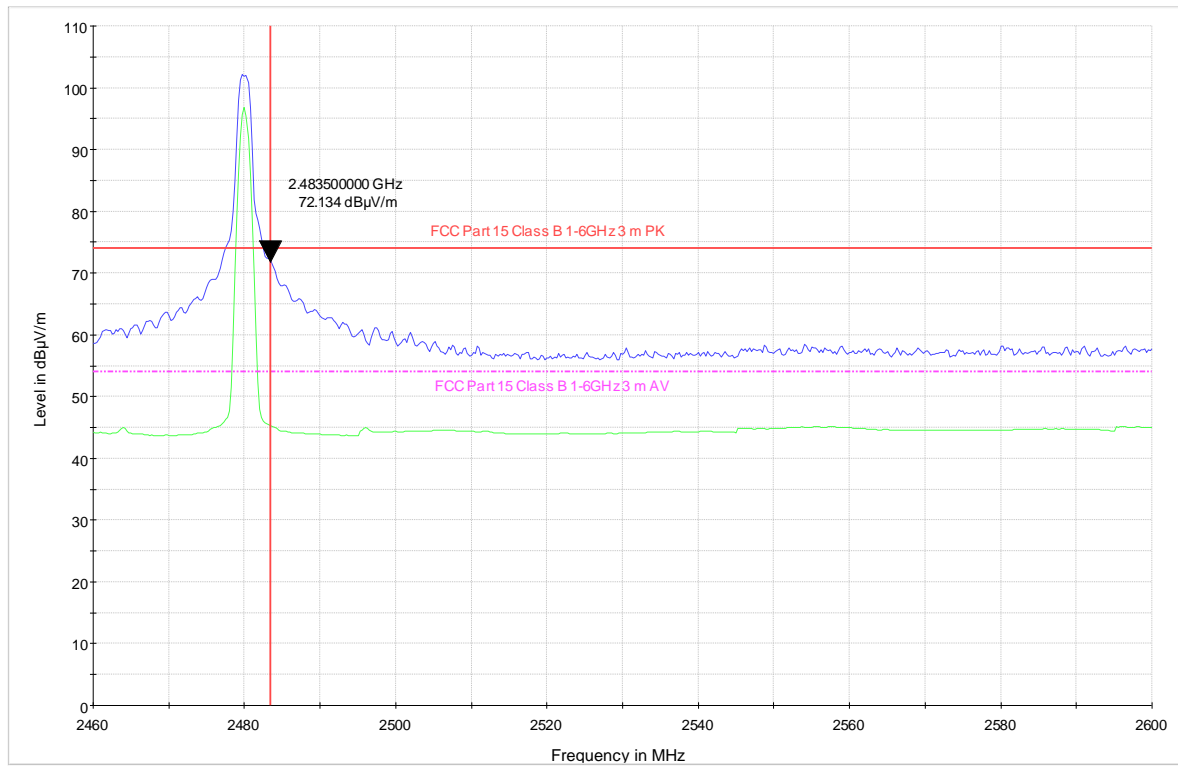


PEAK RESULT (RBW=1MHz)							
Frequency	Reading value	Antenna Factor	Cable Loss	Correcting reading	Restricted band	PK Limit (AV Limit + 20dB)	Margin
(MHz)	(dBµV)	(dB3/m)	(dB)	(dBµV/m)	/	(dBµV/m)	(dB)
2390	31,32	29,63	3,55	<b>64,50</b>	yes	74,00	9,50

AVERAGE RESULT (RBW=1MHz)							
Frequency	Reading value	Antenna Factor	Cable Loss	Correcting reading	Restricted band	AV Limit	Margin
(MHz)	(dBµV)	(dB3/m)	(dB)	(dBµV/m)	/	(dBµV/m)	(dB)
2390	2,32	29,63	3,55	<b>35,50</b>	yes	54,00	18,50

## Graphical representation of Radiated Emission Measurement

## BAND EDGE HIGH



Y axis (worst case)

## PEAK RESULT (RBW=1MHz)

Frequency	Reading value	Antenna Factor.	Cable Loss	Correcting reading	Restricted band	PK Limit (AV Limit + 20dB)	Margin
(MHz)	(dBµV)	(dB3/m)	(dB)	(dBµV/m)	/	(dBµV/m)	(dB)
2483,5	38,69	29,80	3,64	<b>72,13</b>	yes	74,00	1,87

## AVERAGE RESULT (RBW=1MHz)

Frequency	Reading value	Antenna Factor	Cable Loss	Correcting reading	Restricted band	AV Limit	Margin
(MHz)	(dBµV)	(dB3/m)	(dB)	(dBµV/m)	/	(dBµV/m)	(dB)
2483,5	11,56	29,80	3,64	<b>45,00</b>	yes	54,00	9,00

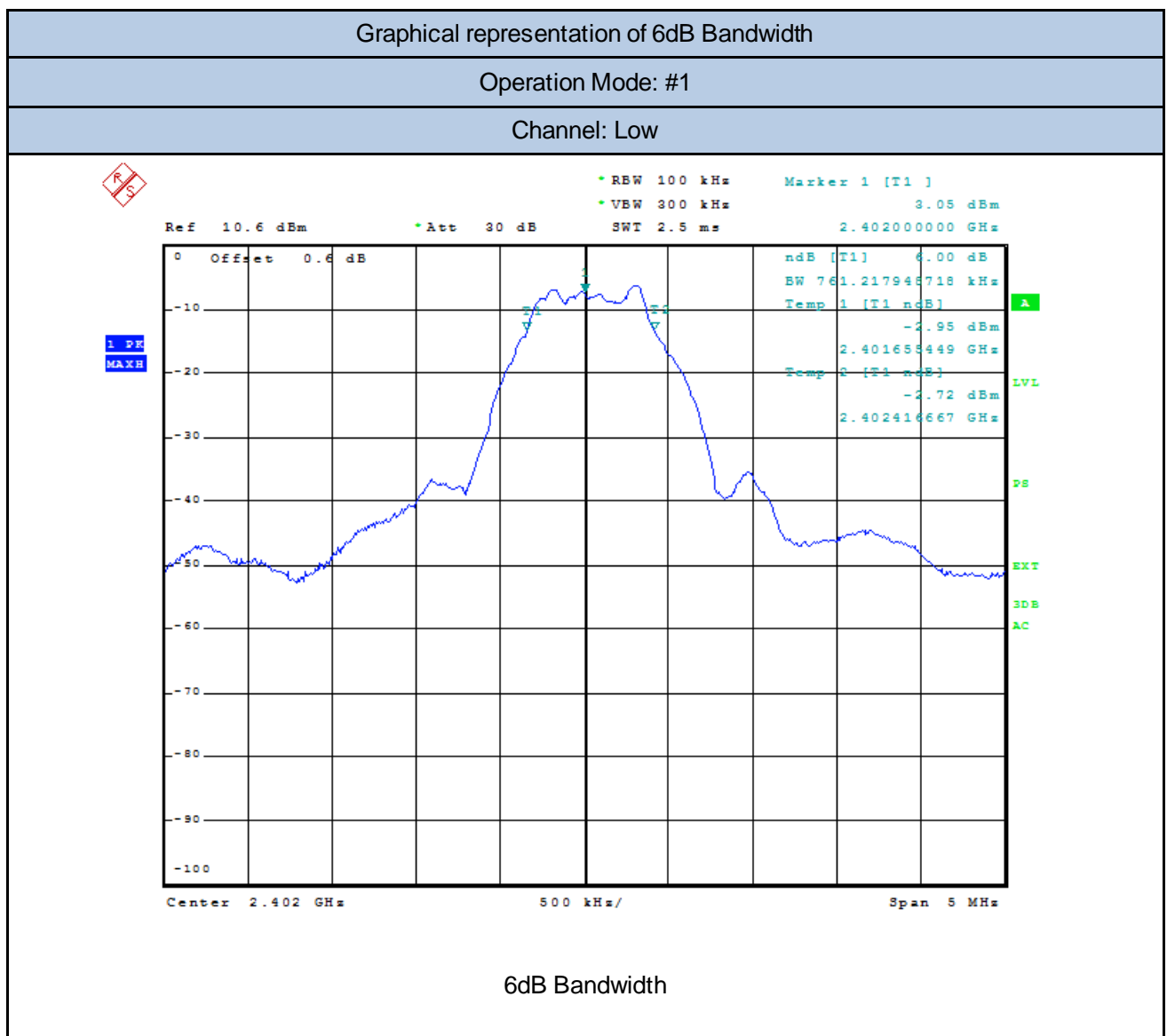


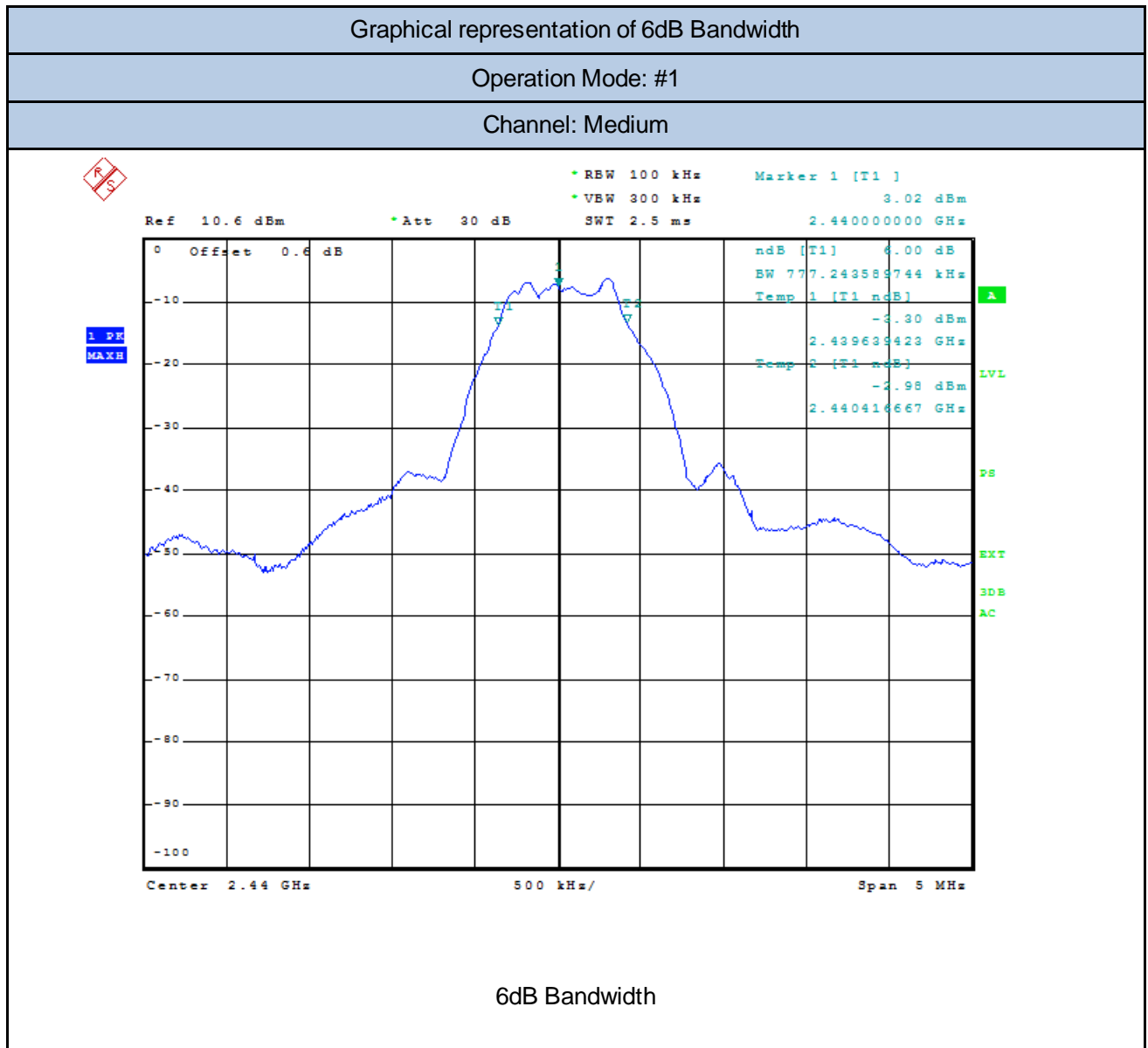
## 12. Test Conditions and Results – 6dB BANDWIDTH

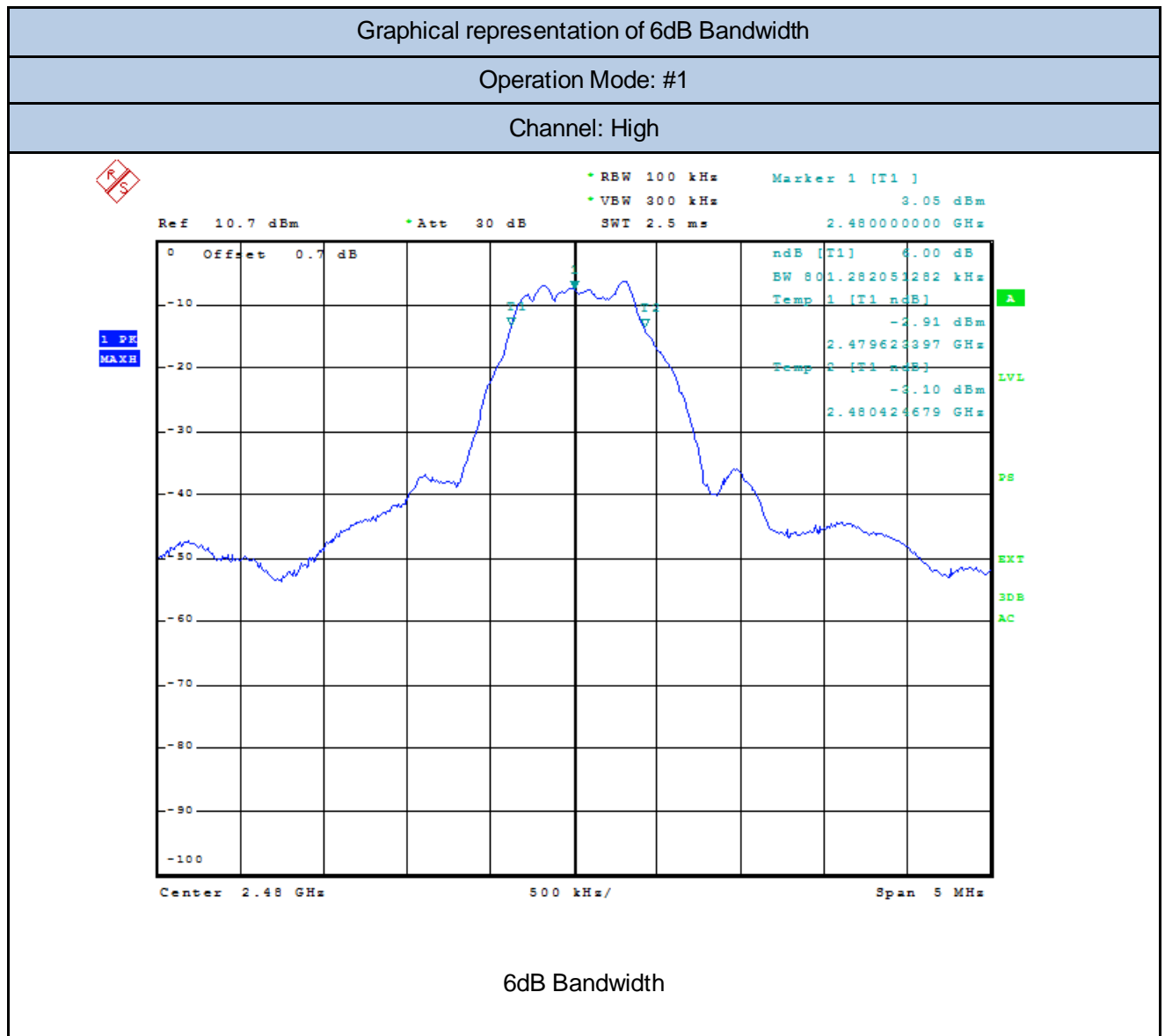
12	TEST: 6dB Bandwidth		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C	
	Relative Humidity (%)	30 to 60 %	
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	22°C	
	Relative Humidity (%)	49%	
	Air pressure (hPa)	1020	
—	Power Mode	Application Point	
Fully configured sample tested at the power line frequency	Batteries Operated	SMA connector	
Equipment mode: #2	Operation mode	#1	
FCC Standard	§15.247		
Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.			
Further information to test setup	<div><div>EUT</div><div><div></div>Attenuator (optional)</div><div>Spectrum Analyzer (or Power Meter)</div></div>		

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
EMI Test Receiver	R&S	ESU40	87020455	05/2018	05/2019

Test Procedure
<p>Section 2.1 of KDB 558074</p> <p>Subclause 11.8.1 Option 2 of ANSI C63.10 is applied</p> <p>DTS Bandwidth</p>







Frequency (MHz)	Channel	6dB BW (MHz)	Result
2402	Low	0.761	pass
2440	Middle	0.777	pass
2480	High	0.801	pass

### 13. Test Conditions and Results – RF OUTPUT POWER

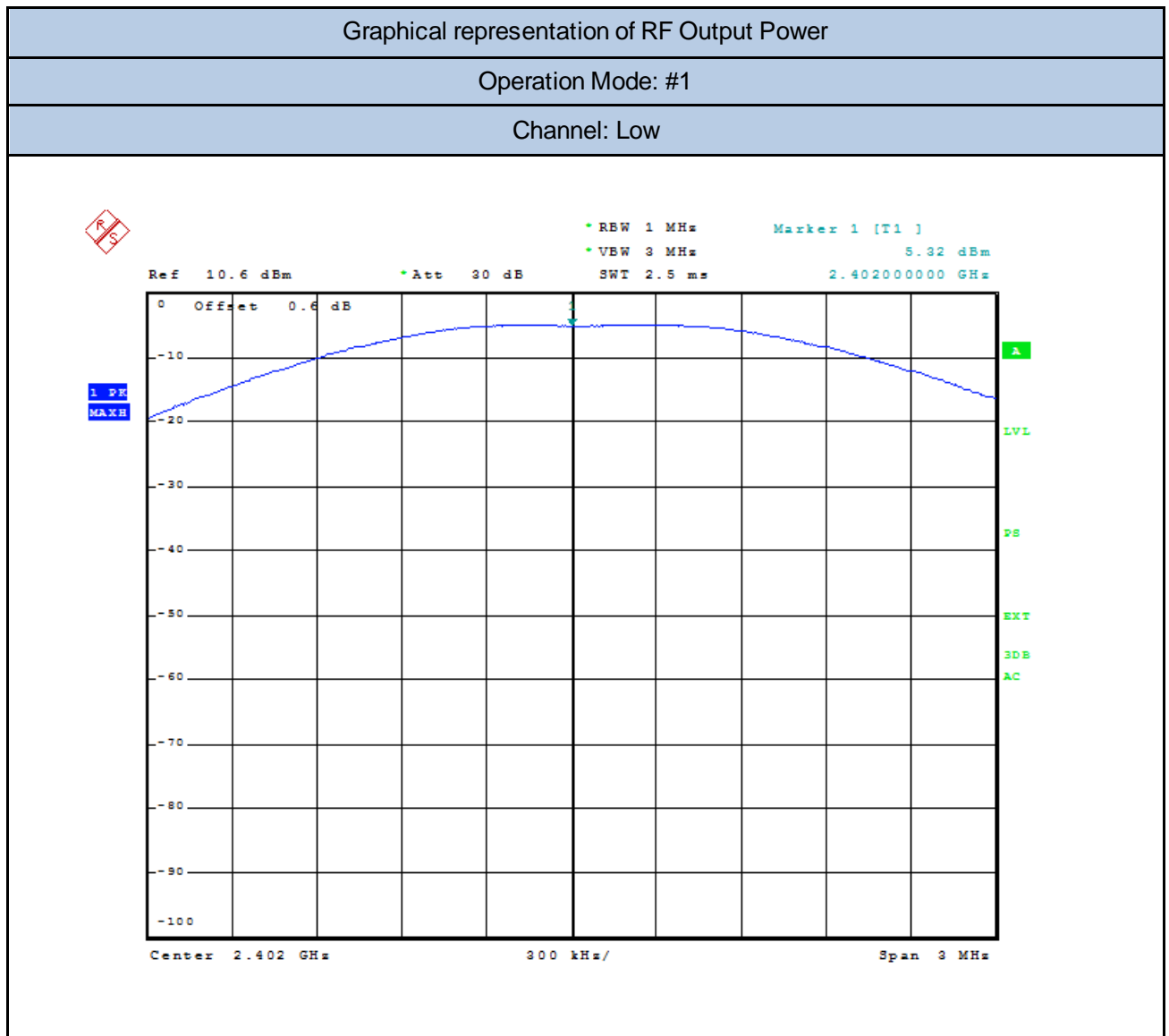
13	TEST: Output Power		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C	
	Relative Humidity (%)	30 to 60 %	
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	22,5°C	
	Relative Humidity (%)	51%	
	Air pressure (hPa)	1020	
—	Power Mode	Application Point	
Fully configured sample tested at the power line frequency	Batteries Operated	SMA	
Equipment mode: #2	Operation mode	#1	
FCC Standard	§15.247		
<p>(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:</p> <p>(1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.</p> <p>(2) For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.</p> <p>(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.</p> <p>(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>			
Further information to test setup:	<div><div>EUT</div><div><div></div><div>Attenuator (optional)</div></div><div>Spectrum Analyzer (or Power Meter)</div></div>		

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
EMI Test Receiver	R&S	ESU40	87020455	05/2018	05/2019
RF cable	sucoflex	104	2902386	10/2018	10/2019

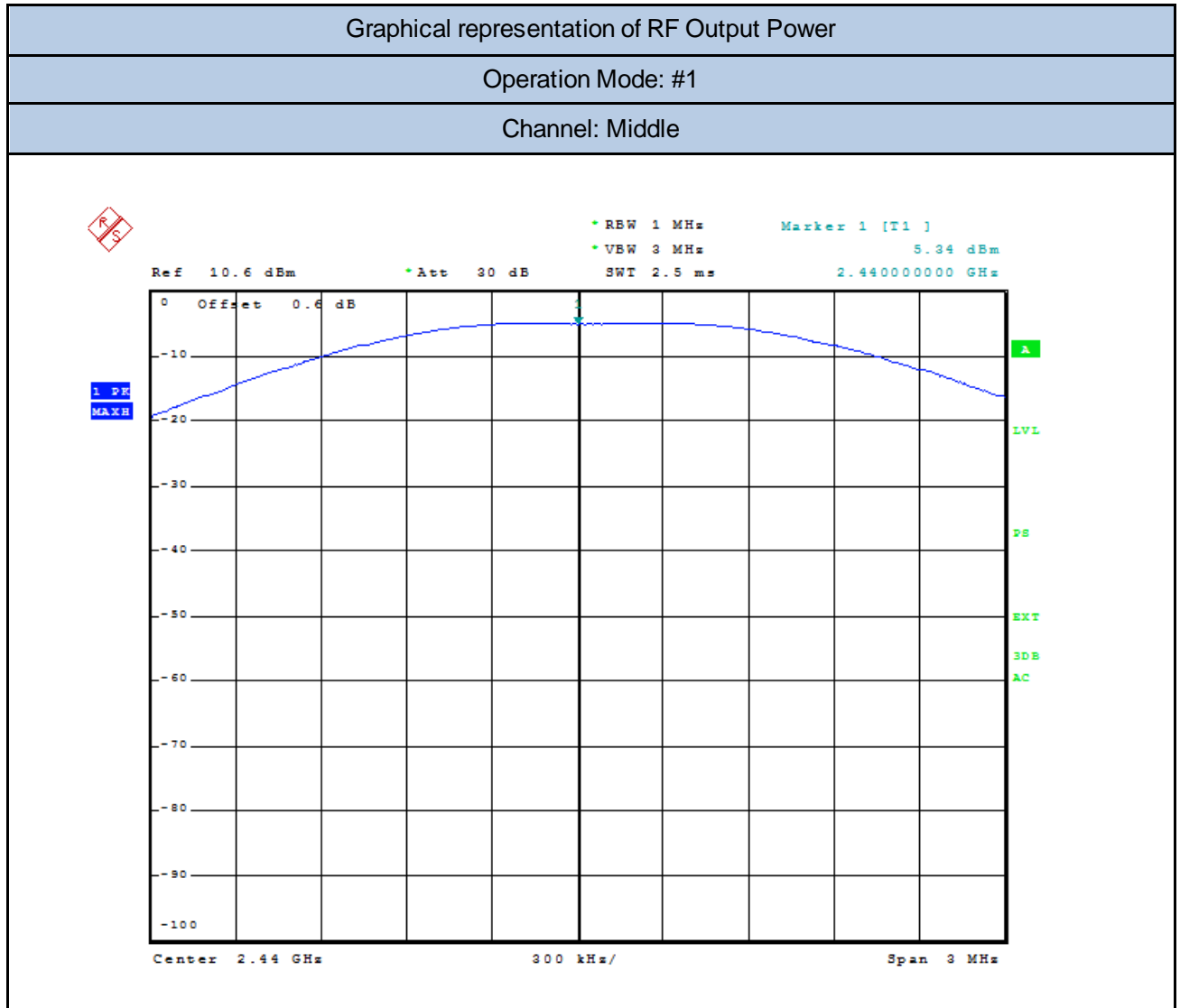
Test Procedure
<p>Section 8.3.1 of KDB 558074</p> <p>Subclause 11.9.1.1 of ANSI C63.10 is applied</p> <p>Maximum peak conducted power</p> <p>RBW = 1MHz, VBW=3MHz, Detector = Peak</p> <p>Sweep time = auto, Trace mode= max hold, Allow trace to fully stabilize.</p>

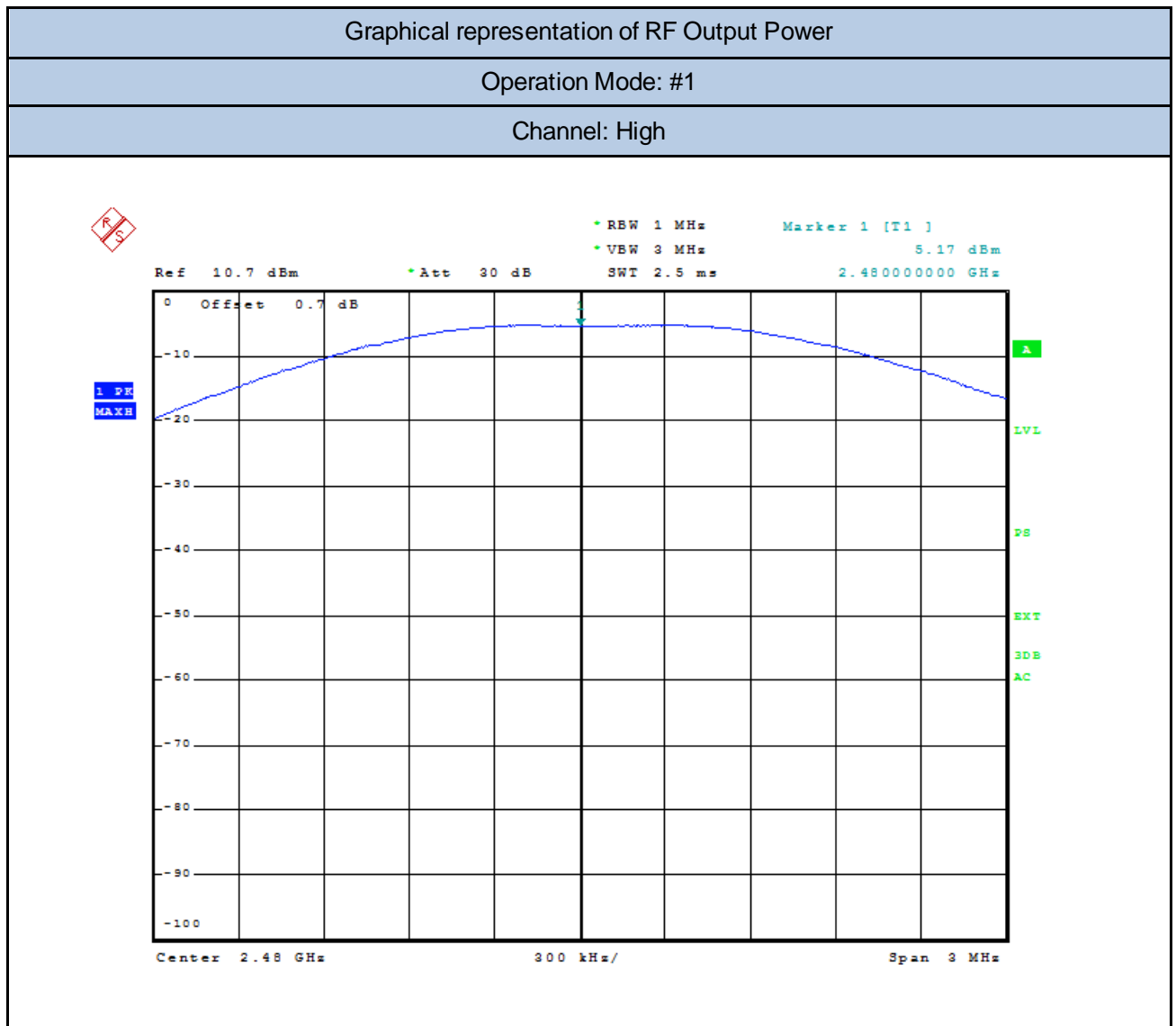
### Test result of Maximum Output Power

Channel	Channel Frequency (MHz)	Output power (conducted)	Limit	Output power (conducted)	Limit
		(dBm)	(dBm)	(W)	(W)
Low Channel	2402	+5,32	30	0.003404	1
Middle Channel	2440	+5,34	30	0.003420	1
High Channel	2480	+5,17	30	0.003289	1









#### 14. Test Conditions and Results – Out of Band Emissions

14	TEST: Out of Band Emissions		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C	
	Relative Humidity (%)	30 to 60 %	
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	21°C	
	Relative Humidity (%)	49%	
	Air pressure (hPa)	1020	
—	Power Mode	Application Point	
Fully configured sample tested at the power line frequency	Batteries Operated	SMA Connector	
Equipment mode: #2	Operation mode	#1	
FCC Standard	§15.247(D)		
<p>(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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).</p>			
Further information to test setup	<div><div>EUT</div><div><div></div><div>Attenuator (optional)</div></div><div>Spectrum Analyzer (or Power Meter)</div></div>		

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
EMI Test Receiver	R&S	ESU40	87020455	05/2018	05/2019

## Test Procedure

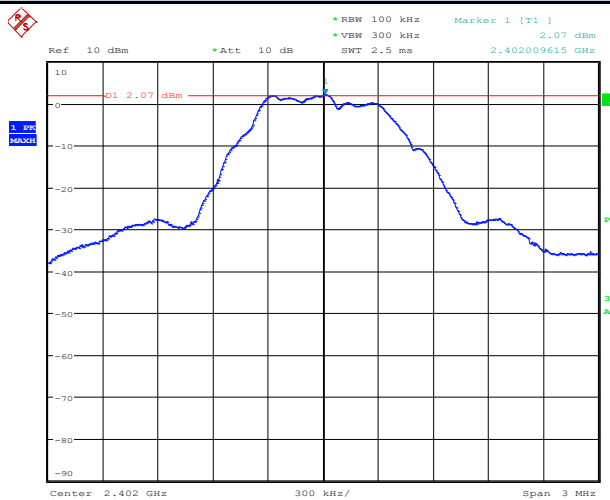
Section 8.5 of DTS *KDB 558074*

Subclause 11.11 of ANSI C63.10 is applied

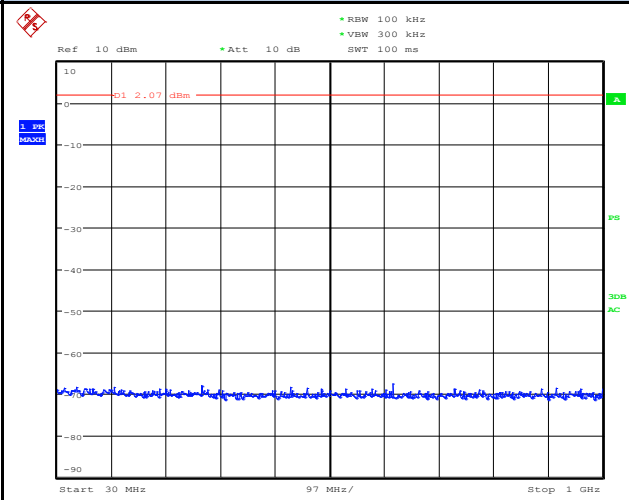
## Graphical representation of Antenna Port Spurious Emission - Conducted

Operation Mode: #1 – Low Channel (2402 MHz)

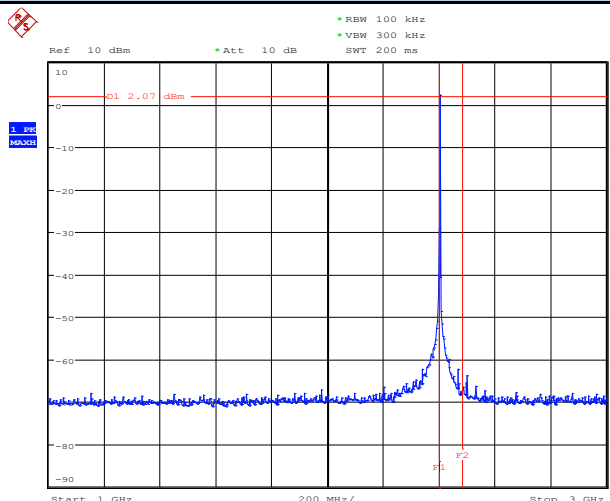
### Fundamental



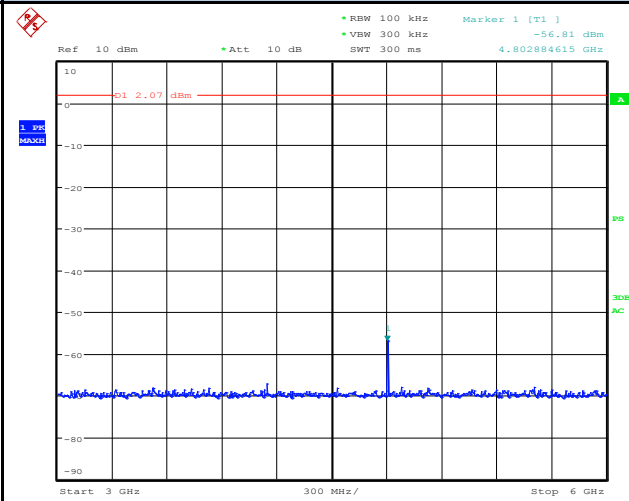
### Frequency: 30MHz – 1000MHz

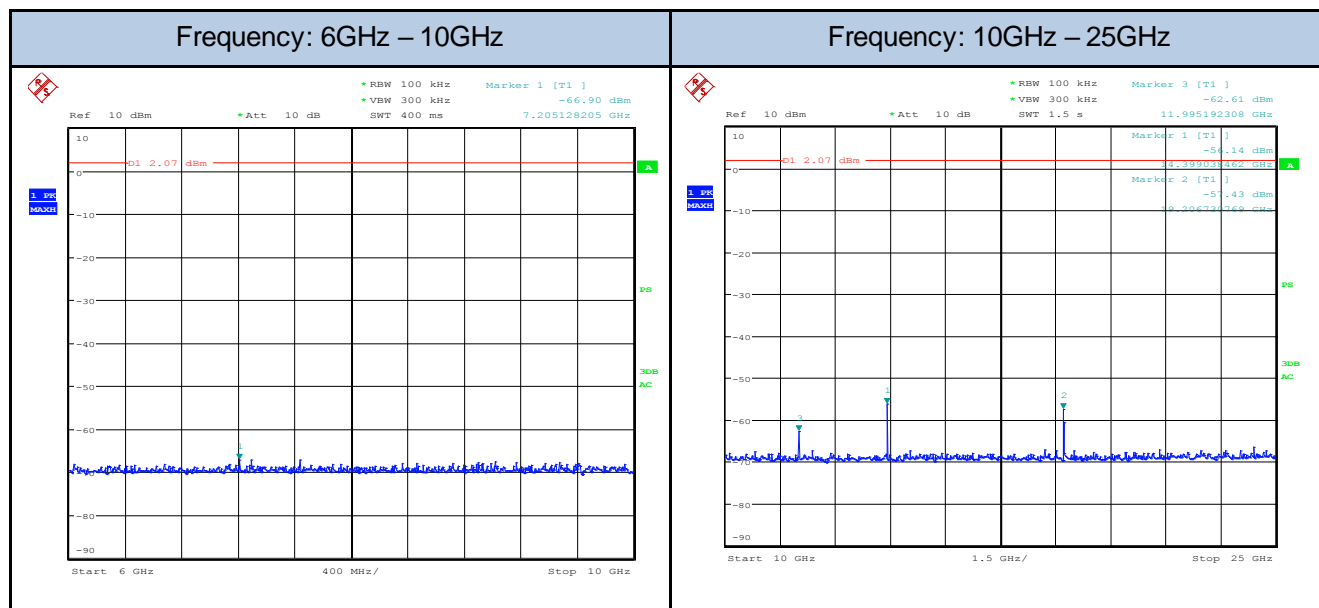


### Frequency: 1GHz – 3GHz



### Frequency: 3GHz – 6GHz



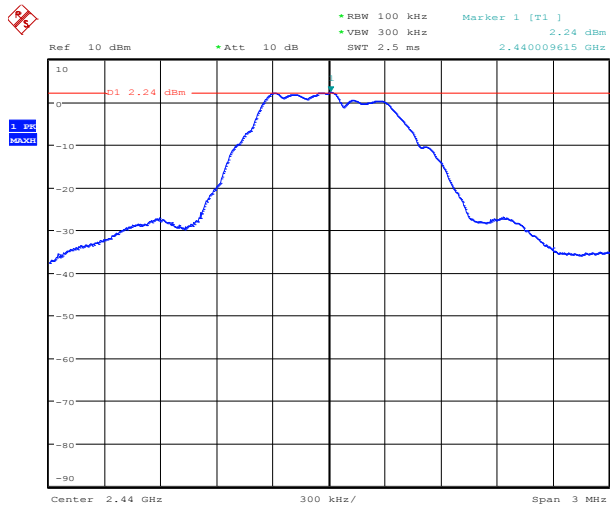


Frequency (MHz)	Level (dBm)	Fundamental Level (dBm)	Difference (dB)	Limit (at least) (dB)	Rusult
4802,88	-56,81	+2,07	58,88	20	compliant
7205,12	-66,90		69,97		compliant
11995,19	-62,61		64,68		compliant
14399,03	-56,14		58,21		compliant
19206,73	-57,43		59,50		compliant

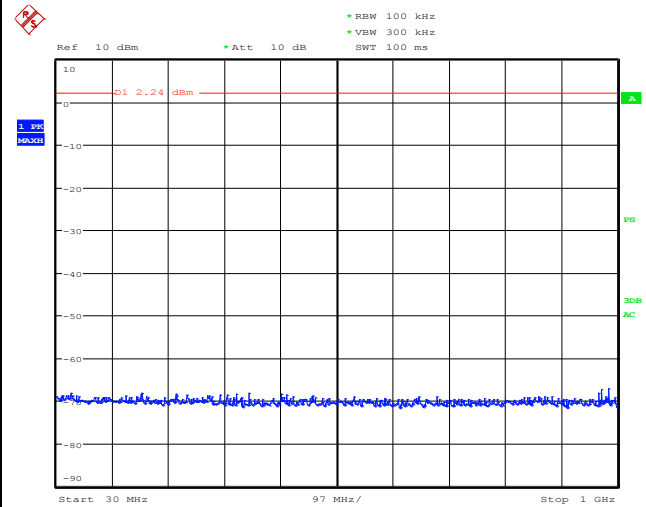
# Graphical representation of Antenna Port Spurious Emission - Conducted

Operation Mode: #1 – Mid Channel (2440 MHz)

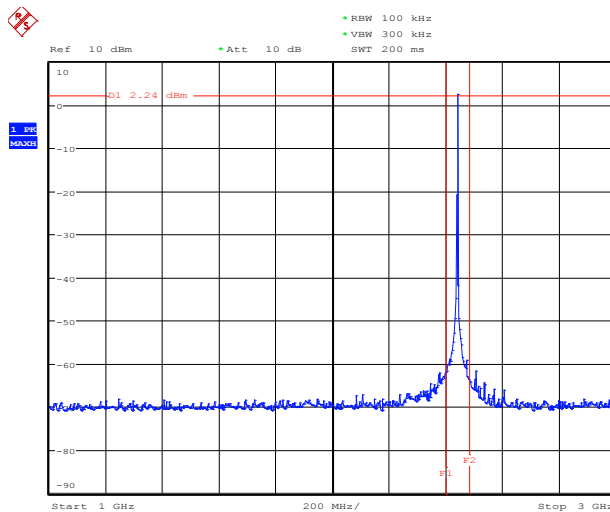
## Fundamental



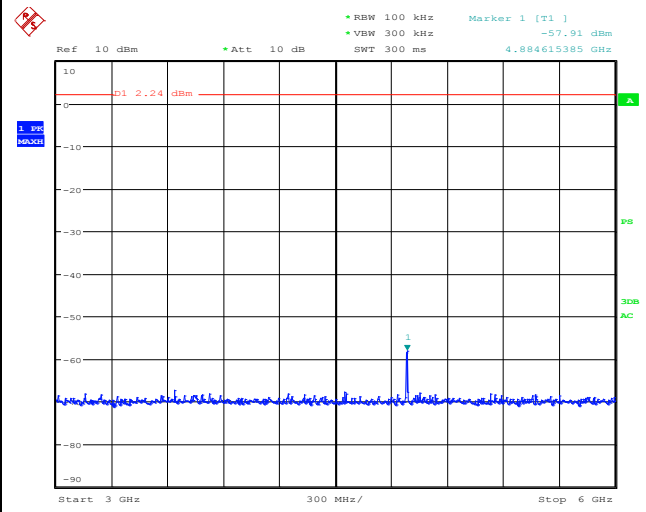
## Frequency: 30MHz – 1000MHz

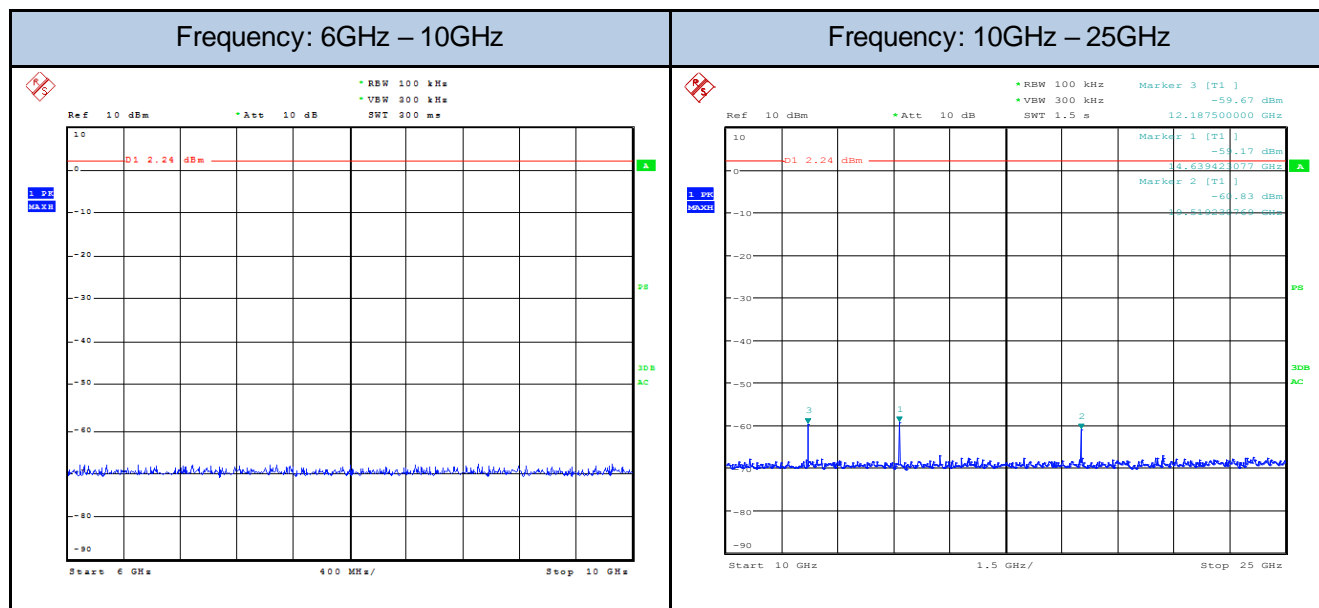


## Frequency: 1GHz – 3GHz

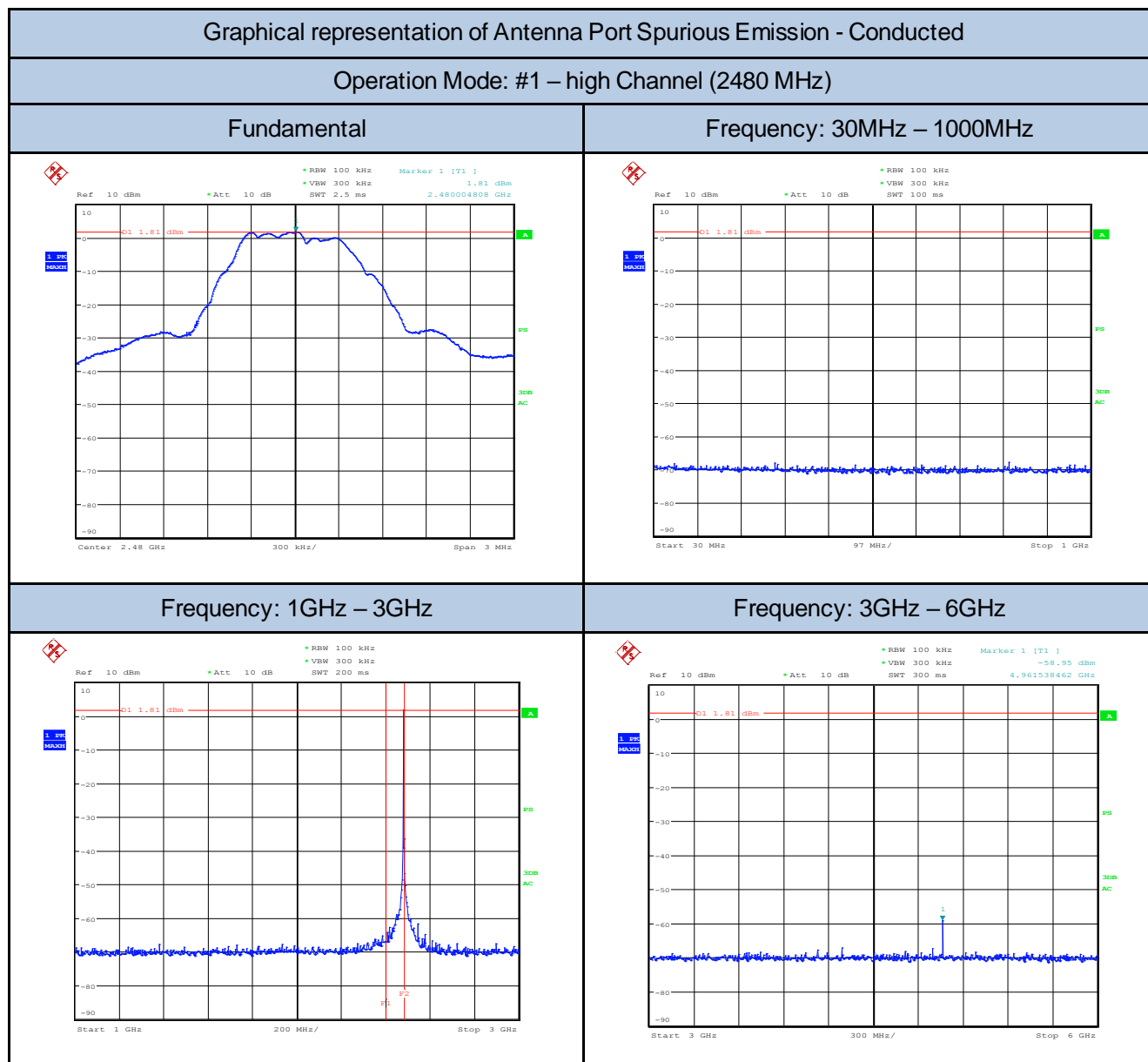


## Frequency: 3GHz – 6GHz

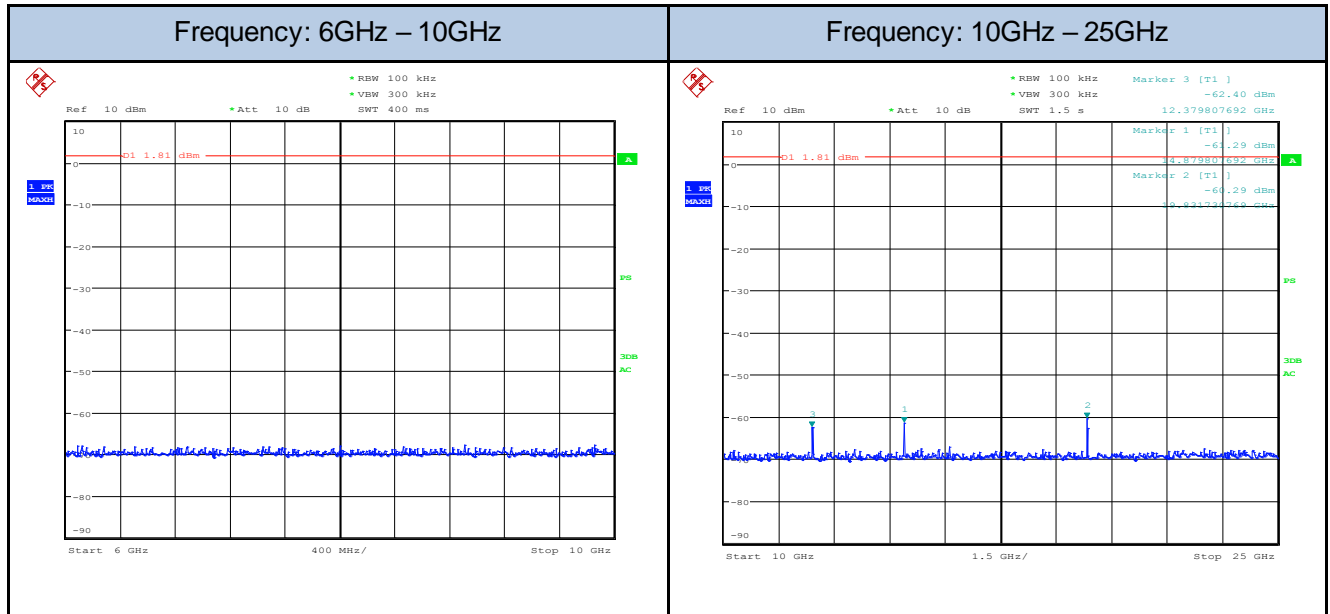




Frequency (MHz)	Level (dBm)	Fundamental Level (dBm)	Difference (dB)	Limit (at least) (dB)	Rusult
4884,61	-57,91	+2,24	60,15	20	compliant
12187,50	-59,67		61,91		compliant
14639,42	-55,17		57,41		compliant
19512,23	-60,83		63,07		compliant







Frequency (MHz)	Level (dBm)	Fundamental Level (dBm)	Difference (dB)	Lim it (at least) (dB)	Rusult
4961,53	-58,95	+1,81	60,76	20	compliant
12379,80	-62,40		64,21		compliant
14879,80	-61,29		63,10		compliant
19831,73	-60,29		62,10		compliant

### 15. Test Conditions and Results – 100 kHz Bandwidth of Frequency Band Edges

15	TEST: 100 kHz Bandwidth of Frequency Band Edges		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C	
	Relative Humidity (%)	30 to 60 %	
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	21°C	
	Relative Humidity (%)	49%	
	Air pressure (hPa)	1020	
—	Power Mode	Application Point	
Fully configured sample tested at the power line frequency	Batteries Operated	SMA Connector	
Equipment mode: #2	Operation mode	#1	
FCC Standard	§15.247(D)		
(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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).			
Further information to test setup	<div><div>EUT</div><div><div></div><div>Attenuator (optional)</div></div><div>Spectrum Analyzer (or Power Meter)</div></div>		

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
EMI Test Receiver	R&S	ESU40	87020455	05/2018	05/2019

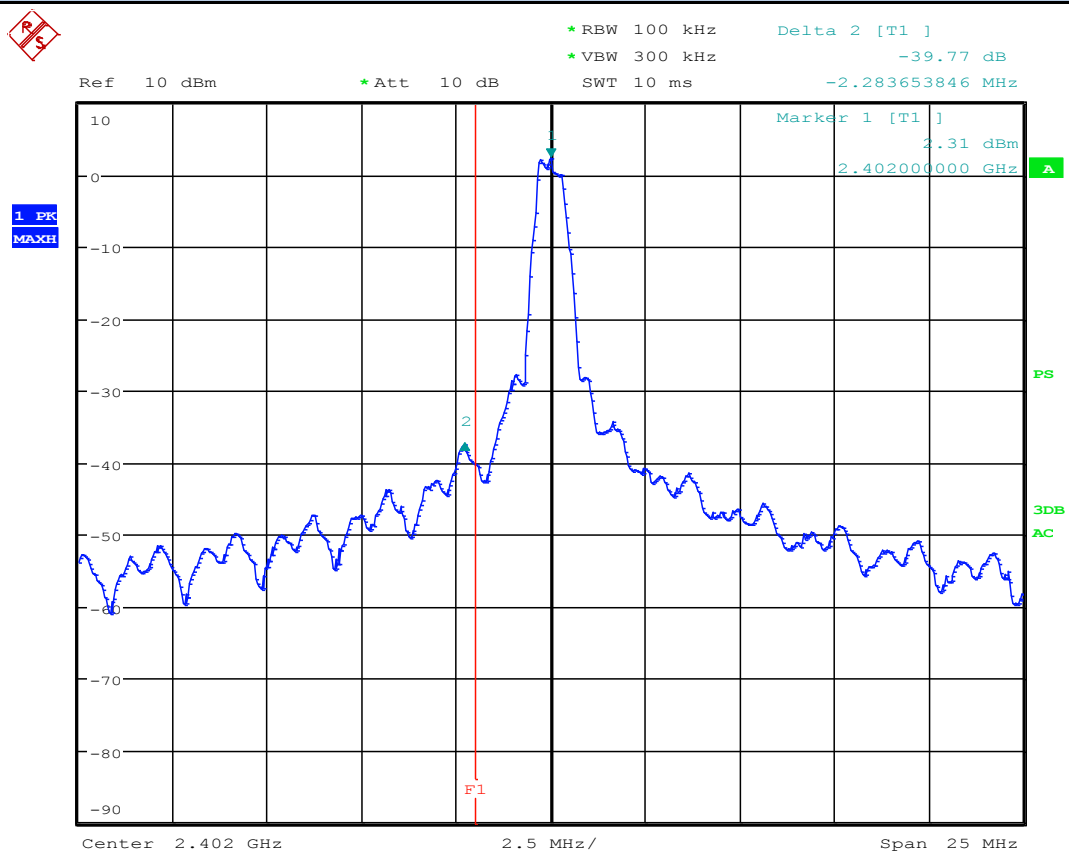
## Test Procedure

Section 8.5 of DTS *KDB 558074*

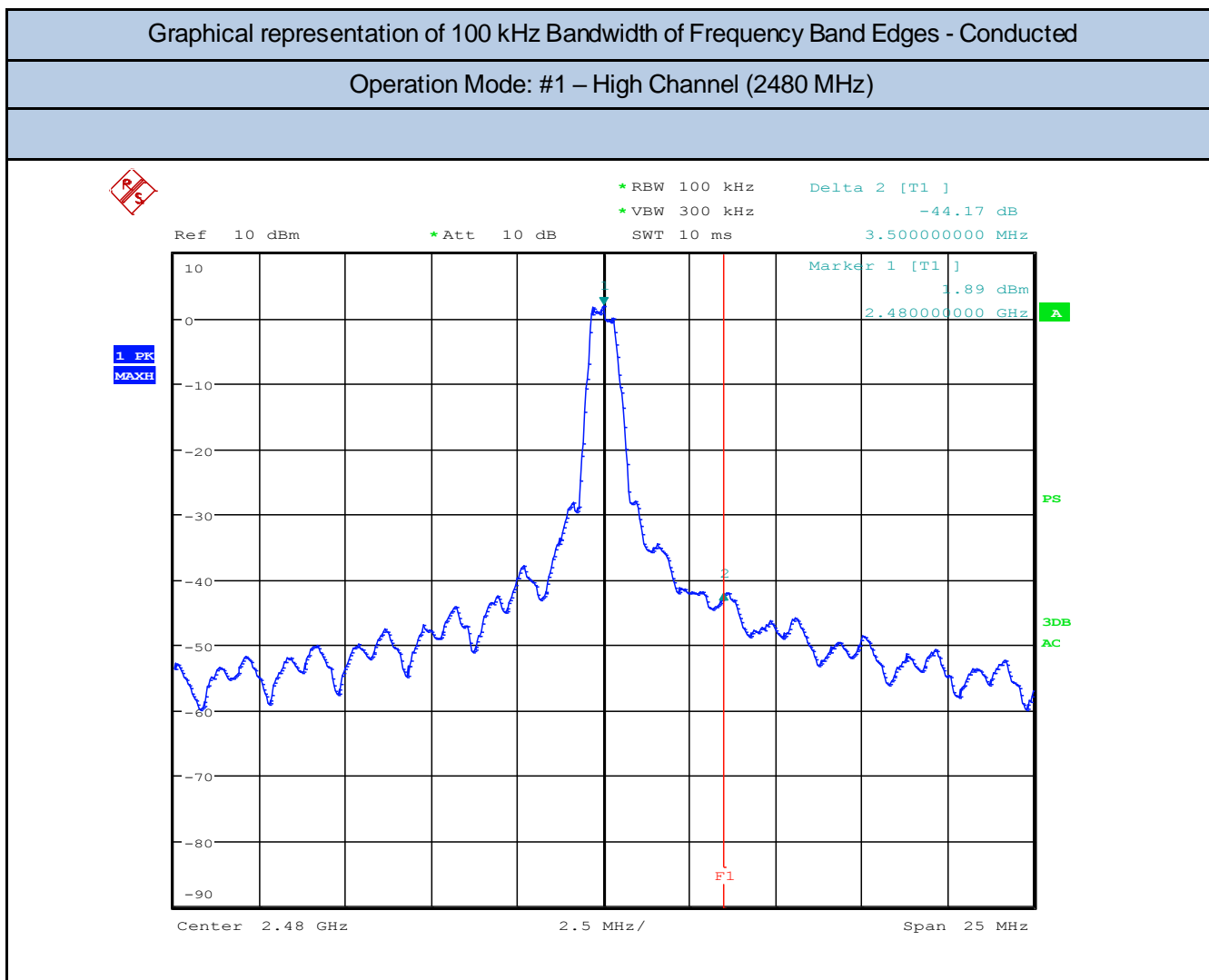
Subclause 11.11 of ANSI C63.10 is applied

### Graphical representation of 100 kHz Bandwidth of Frequency Band Edges - Conducted

Operation Mode: #1 – Low Channel (2402 MHz)



Frequency (MHz)	Measured power at the band edge (dBm)	Measured peak power at fundamental frequency (dBm)	Difference Peak / band edge (dB)	Peak Limit at PK power -20 dB (dBm)	Margin (dB)
<b>2399,71</b>	<b>-37,46</b>	<b>+2,31</b>	<b>39,77</b>	<b>-17,69</b>	<b>22,08</b>



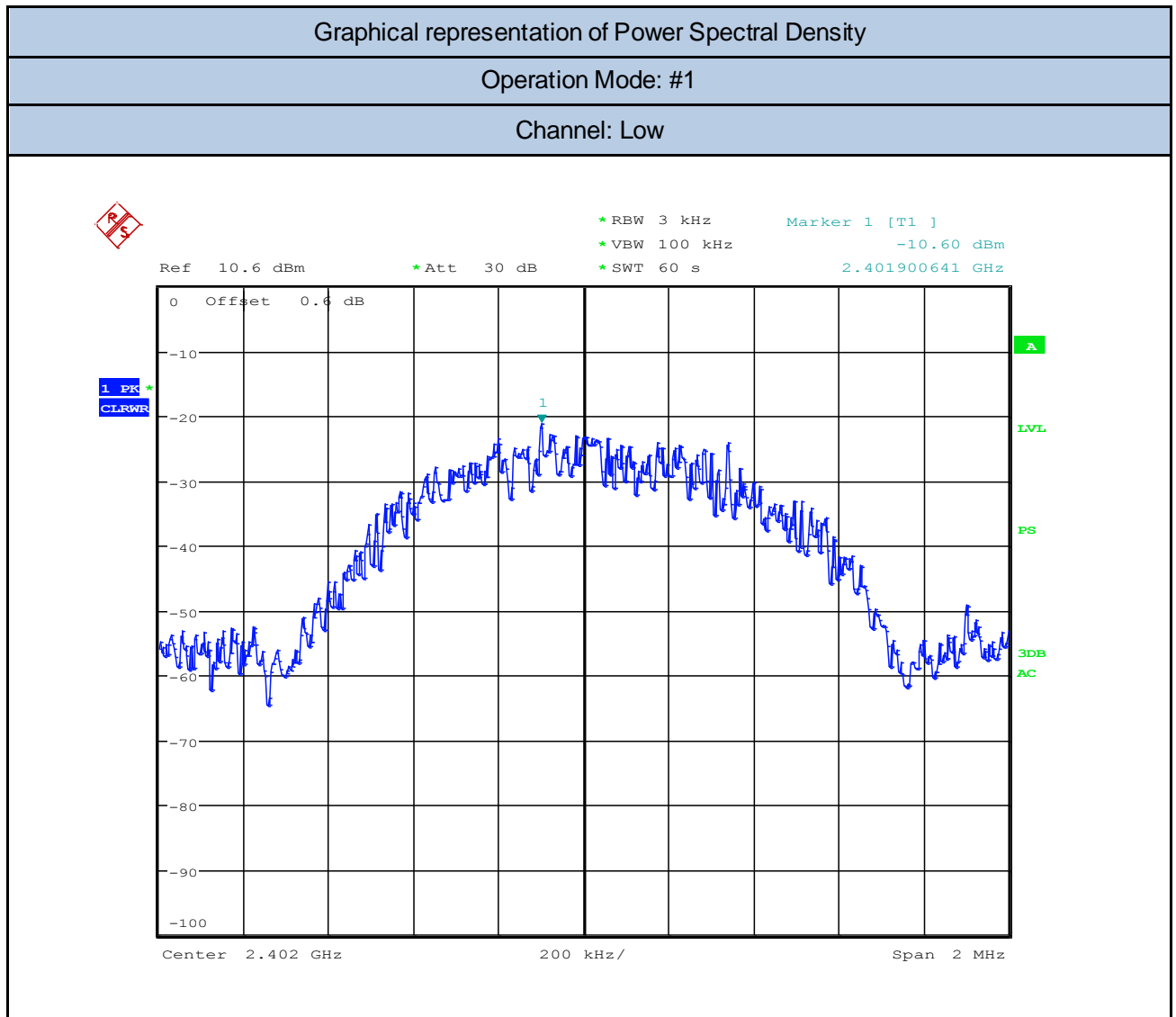
Frequency (MHz)	Measured power at the band edge (dBm)	Measured peak power at fundamental frequency (dBm)	Difference Peak / band edge (dB)	Peak Limit at PK power -20 dB (dBm)	Margin (dB)
<b>2483,5</b>	<b>-42,28</b>	<b>+1,89</b>	<b>44,17</b>	<b>-18,11</b>	<b>26,06</b>

## 16. Test Conditions and Results – POWER SPECTRAL DENSITY

16	TEST: Power Spectral Density		PASS
Parameters required prior to the test	Laboratory Ambient Temperature (°C)	15 to 35 °C	
	Relative Humidity (%)	30 to 60 %	
Parameters recorded during the test	Laboratory Ambient Temperature (°C)	24°C	
	Relative Humidity (%)	37%	
	Air pressure (hPa)	1020	
—	Power Mode	Application Point	
Fully configured sample tested at the power line frequency	Batteries Operated	Enclosure	
Equipment mode: #2	Operation mode	#1	
FCC Standard	§15.247		
(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.			
Further information to test setup	<div><div>EUT</div><div><div></div>Attenuator (optional)</div><div>Spectrum Analyzer (or Power Meter)</div></div>		

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Calibration date	Calibration due
EMI Test Receiver	R&S	ESU40	87020455	05/2018	05/2019

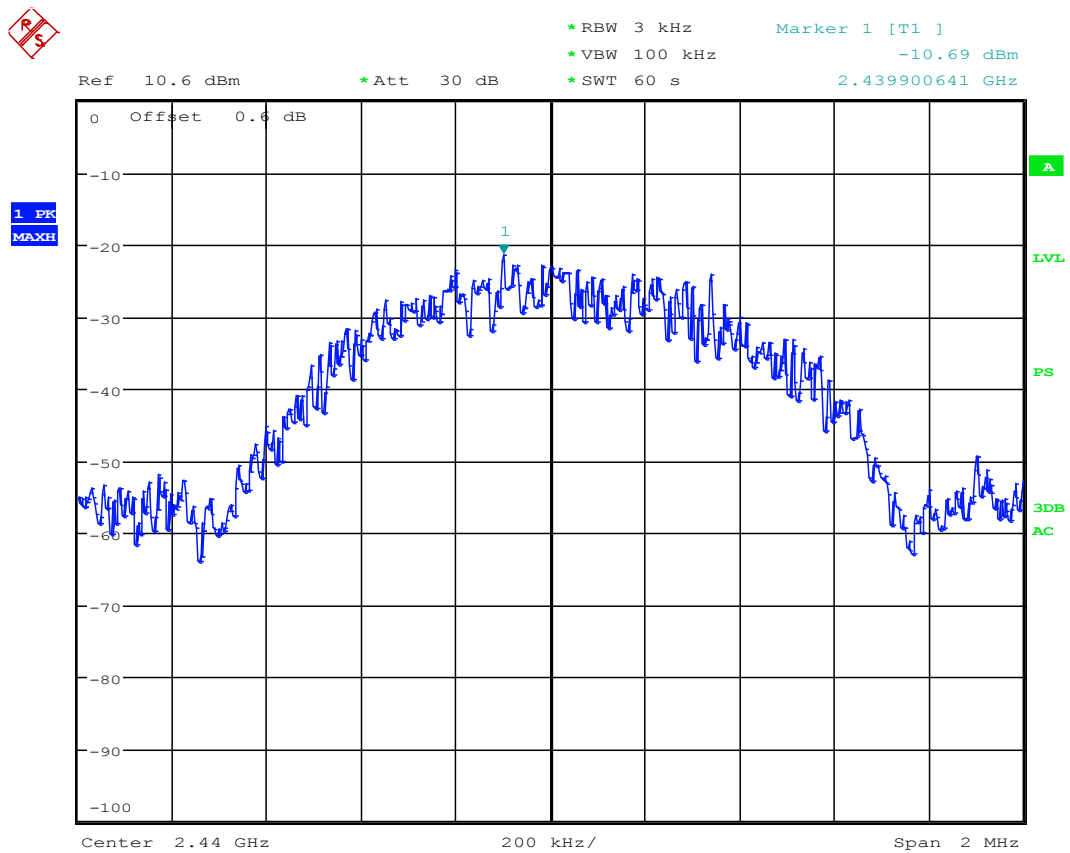
Test Procedure
Section 8.4 of DTS KDB 558074 Subclause 11.10 of ANSI C63.10 is applicable.

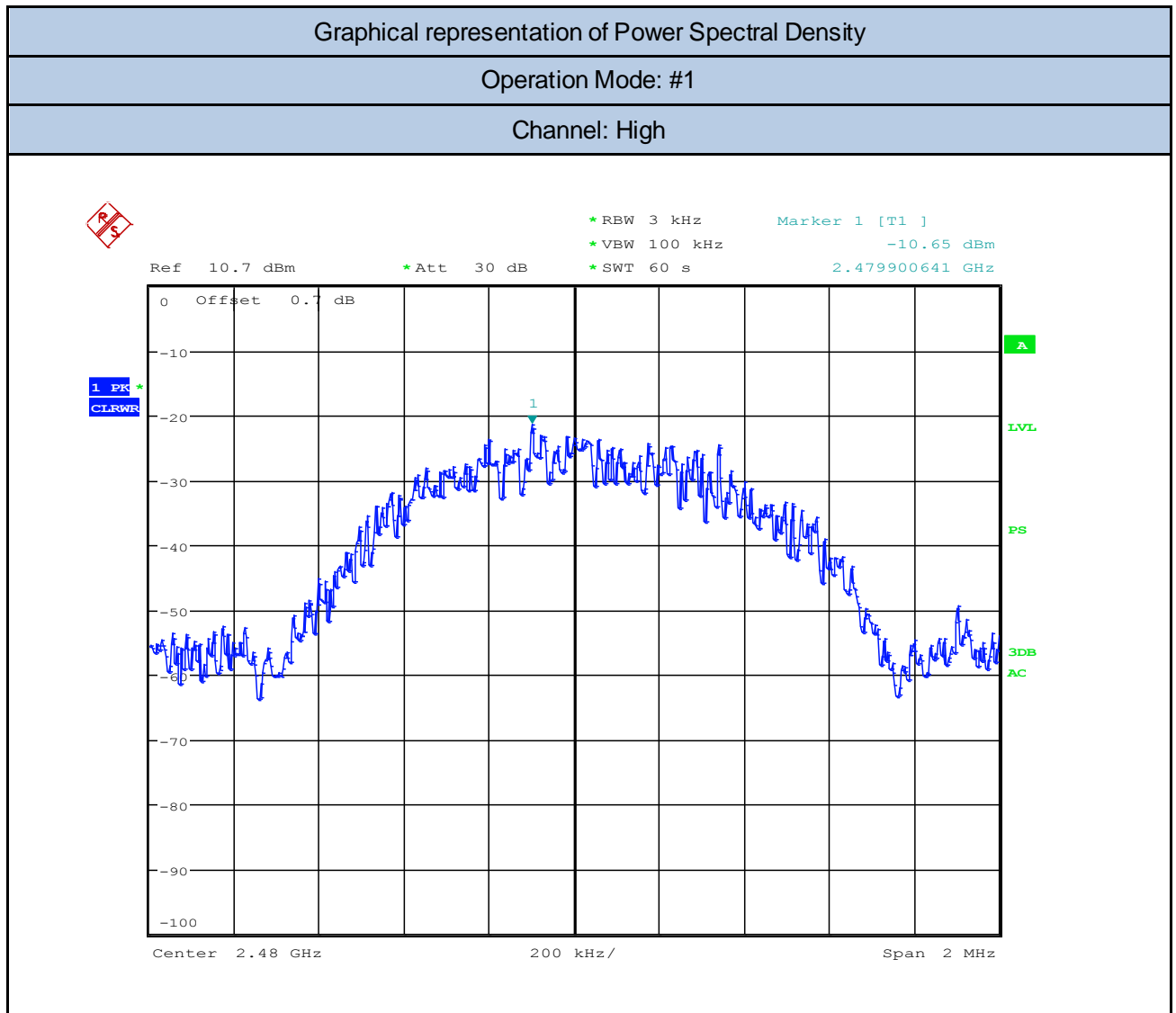


## Graphical representation of Power Spectral Density

Operation Mode: #1

Channel: Middle







Frequency (MHz)	Channel	PSD (dBm)	Limit (dBm)	result
2402	Low	-10.60	+8	Pass
2440	Middle	-10.69	+8	Pass
2480	High	-10.65	+8	Pass

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