DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía,
c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España
C.I.F. A29 507 456

DEKRA

ilac-MRA ENAC ENSAYOS Nº 51/LE147

Test report No:
NIE: 62758RRF.002

Test report

USA FCC Part 15.249, 15.209
CANADA RSS-210, RSS-Gen

Radio Frequency Devices. Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz.

(*) Identification of item tested	AB Sound Processor with 4.2
(*) Trademark	---
(*) Model and /or type reference	Naída CI M90
(*) Derived model not tested	Naída CI M30, Sky CI M90
Other identification of the product	FCC ID: 2AU6O-ABBTE2 IC: 25853-ABBTE2 HW version: CI-5293 SW version: 067-0353; 1.0.2.0 (RC2).
(*) Features	BT Classic, BLE, DM and Flora.
Applicant	ADVANCED BIONICS LLC 28515 Westinghouse PL, Valencia, CA 91355, USA
Test method requested, standard	USA FCC Part 15.249 10-1-18 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, 5725 - 5875 MHz, and 24.0 – 24.25 GHz. USA FCC Part 15.209 10-1-18 Edition: Radiated emission limits; general requirements. CANADA RSS-210 Issue 9 (August 2016). CANADA RSS-Gen Issue 5 (April 2018). ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López EMC Consumer & RF Lab. Manager RAFAEL LÓPEZ MARTÍN 2020.03.09 17:13:25 +01'00'
Date of issue	2020-03-09
Report template No	FDT08_21 (*) "Data provided by the client"

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Competences and guarantees

DEKRA Testing and Certification S.A.U. is a testing laboratory accredited by the National Accreditation Body (ENAC -Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification is a FCC-recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification S.A.U. has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification S.A.U. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification S.A.U. at the time of performance of the test.

DEKRA Testing and Certification S.A.U. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General Conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification S.A.U.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification S.A.U. and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification S.A.U. internal document PODT000.

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of a sound processor with wireless connectivity.
3. Derived model not tested. These models have been declared by the supplier of the sample as being the same as the model under test:

ADVANCED BIONICS
POWERFUL CONNECTIONS

Date: February 11, 2020

DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía
C/ Severo Ochoa 2 & 6
29590 Campanillas
Málaga, España

Ref: Declaration of Equivalence

Advanced Bionics, LLC hereby declares that the sound processor model, Naída CI M90, tested at DEKRA Testing and Certification, S.A.U. contains identical hardware and is equivalent to the following sound processor models:

- Naída CI M30
- Sky CI M90

Sincerely,

By: Cedric Navarro
Title: VP Global Regulatory Affairs
Company: Advanced Bionics, LLC
Telephone: 661-362-1963
e-mail: cedric.navarro@advancedbionics.com

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: The client.

- Sample M/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Reception
62758/001	AB Sound Processor with 4.2	Naída CI M90	---	2019/11/05

Sample M/01 has undergone the following test(s): All CONDUCTED tests indicated in Appendixes A, B, C and D.

- Sample M/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Reception
62758/008	AB Sound Processor with 4.2	Naída CI M90	---	2019/11/27
62758/011	Battery	--	--	2019/11/27

Sample M/02 has undergone the following test(s): All RADIATED tests indicated in Appendixes A, B, C and D.

Test sample description

Ports…… :	Port name and description		Cable				
			Specified max length [m]	Attached during test	Shielded	Coupled to patient(3)	
				☐	☐	☐	
Supplementary information to the ports…… :							
Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC:	☐	☐	☐	☐	☐
	☒	DC: 3.7					
Rated Power .....:							
Clock frequencies .....:							
Other parameters.....:							
Software version .....:	067-0353; 1.0.2.0 (RC2)						
Hardware version.....:	CI-5293						

Dimensions in cm (W x H x D)....:				
Mounting position.....:	☐	Table top equipment		
	☐	Wall/Ceiling mounted equipment		
	☐	Floor standing equipment		
	☐	Hand-held equipment		
	☒	Other: Hearing aid		
Modules/parts .....:	Module/parts of test item		Type	Manufacturer
	N/A			
Accessories (not part of the test item).....:	Description		Type	Manufacturer
	Lithium-ion battery			AB
Documents as provided by the applicant.....:	Description		File name	Issue date

(3) Only for Medical Equipment

Identification of the client

ADVANCED BIONICS LLC
28515 Westinghouse PL, Valencia, CA 91355, USA

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2019-11-27
Date (finish)	2019-12-16

Document history

Report number	Date	Description
62758RRF.002	2020-03-09	First release

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 1 Ω

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 1 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 35 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 1 Ω

Remarks and comments

The tests have been performed by the technical personnel: Miguel Ángel Torres, Francisco José Alcaide, Cristina Calle and José Gabriel Pendón.

Used instrumentation:

Conducted Measurements:

		Last Calibration	Due Calibration
1.	Signal and Spectrum Analyzer ROHDE AND SCHWARZ FSV 40	2019/09	2021/09
2.	DC Power Supply ROHDE AND SCHWARZ NGPE 40/40	2018/02	2021/02

Radiated Measurements:

		Last Calibration	Due Calibration
1.	Semianechoic Absorber Lined Chamber ETS LINDGREN FACT 3 200 STP	N.A.	N.A.
2.	Shielded Room ETS LINDGREN S101	N.A.	N.A.
3.	EMI Test Receiver 7 GHz ROHDE AND SCHWARZ ESR7	2018/10	2020/10
4.	Pre-Amplifier G>40dB 10MHz-6GHz, BONN ELEKTRONIK, BLNA 0160-01N	2019/02	2020/02
5.	Pre-Amplifier G>55dB 1-18GHz, NARDA, AMF-7D-01001800-22-10P	2019/02	2020/02
6.	Pre-Amplifier G>30dB 18-40GHz, BONN ELEKTRONIK, BLMA 1840-1M	2019/02	2021/02
7.	Biconical/Log Antenna 30 MHz - 6 GHz ETS LINDGREN 3142E	2017/09	2020/09
8.	Horn Antenna 1-18GHz, SCHWARZBECK, BBHA 9120	2018/01	2021/01
9.	Horn Antenna 14-40GHz, SCHWARZBECK, BBA9170	2018/07	2021/07
10.	Multi-device Controller CO3000 INNCO	N.A.	N.A.
11.	Signal and Spectrum Analyzer ROHDE AND SCHWARZ FSV40	2018/02	2020/02

Testing verdicts

Not applicable:	N/A
Pass:	P
Fail:	F
Not measured:	N/M

Summary

1. Bluetooth Low Energy

FCC PART 15 PARAGRAPH / RSS-210			
Requirement – Test case		Verdict	Remark
Section 15.249 Subclause (a) / RSS-210 B.10. (a)	Field strength of fundamental and harmonic emissions	P	
Section 15.249 Subclause (d) / RSS-210 B.10. (b)	Emissions radiated outside of the specific frequency bands	P	
Supplementary information and remarks: None.			

2. Bluetooth Basic Rate

FCC PART 15 PARAGRAPH / RSS-210			
Requirement – Test case		Verdict	Remark
Section 15.249 Subclause (a) / RSS-210 B.10. (a)	Field strength of fundamental and harmonic emissions	P	
Section 15.249 Subclause (d) / RSS-210 B.10. (b)	Emissions radiated outside of the specific frequency bands	P	
Supplementary information and remarks: None.			

3. Proprietary protocol DM 2.4 GHz

FCC PART 15 PARAGRAPH / RSS-210			
Requirement – Test case		Verdict	Remark
Section 15.249 Subclause (a) / RSS-210 B.10. (a)	Field strength of fundamental and harmonic emissions	P	
Section 15.249 Subclause (d) / RSS-210 B.10. (b)	Emissions radiated outside of the specific frequency bands	P	
Supplementary information and remarks: None.			

4. Proprietary protocol Flora 2.4 GHz

FCC PART 15 PARAGRAPH / RSS-210			
Requirement – Test case		Verdict	Remark
Section 15.249 Subclause (a) / RSS-210 B.10. (a)	Field strength of fundamental and harmonic emissions	P	
Section 15.249 Subclause (d) / RSS-210 B.10. (b)	Emissions radiated outside of the specific frequency bands	P	
Supplementary information and remarks: None.			

Appendix A: Test results. Bluetooth Low Energy

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TEST CONDITIONS

POWER SUPPLY (V):

V nominal:	3.7 Vdc
Type of power supply:	DC voltage from battery.
Type of antenna:	Integral antenna.
Declared antenna gain:	- 7 dBi

TEST FREQUENCIES:

Low Channel:	2402 MHz
Middle Channel:	2440 MHz
High Channel:	2480 MHz

CONDUCTED MEASUREMENTS

The equipment under test was set up in a shielded room and it is connected to the spectrum analyser using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.

RADIATED MEASUREMENTS

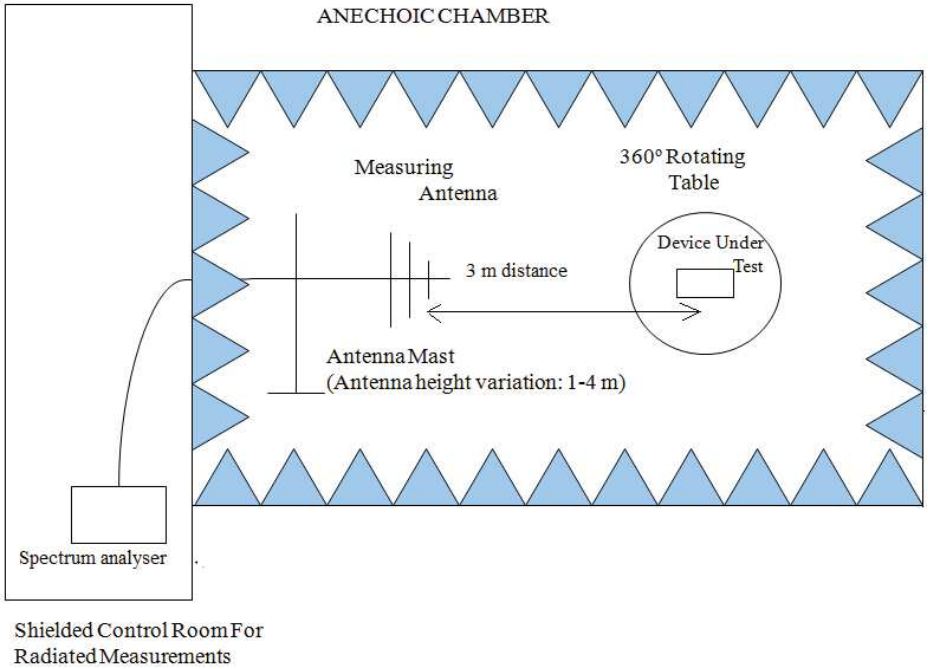
All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m for the frequency range 30 MHz-1000 MHz (30 MHz-1000 MHz Bilog antenna) and at a distance of 1m for the frequency range 1 GHz-26 GHz (1 GHz-18 GHz Double ridge horn antenna and 18 GHz-40 GHz horn antenna).

For radiated emissions in the range 1 GHz-26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

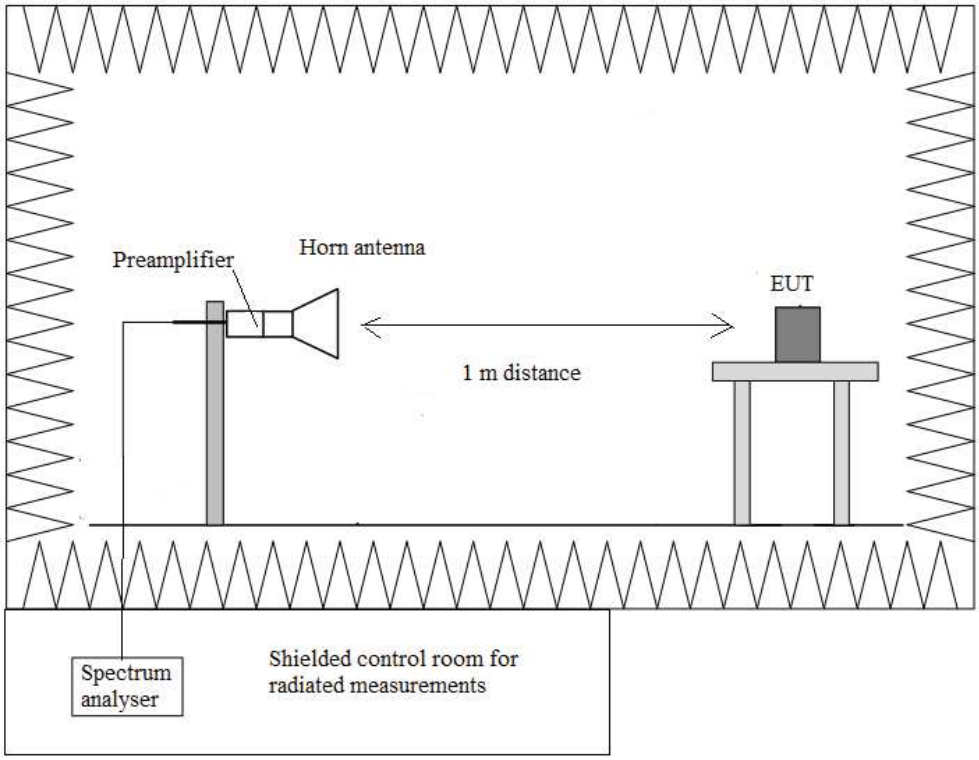
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

Radiated measurements setup f < 1 GHz:



Radiated measurements setup f > 1 GHz:

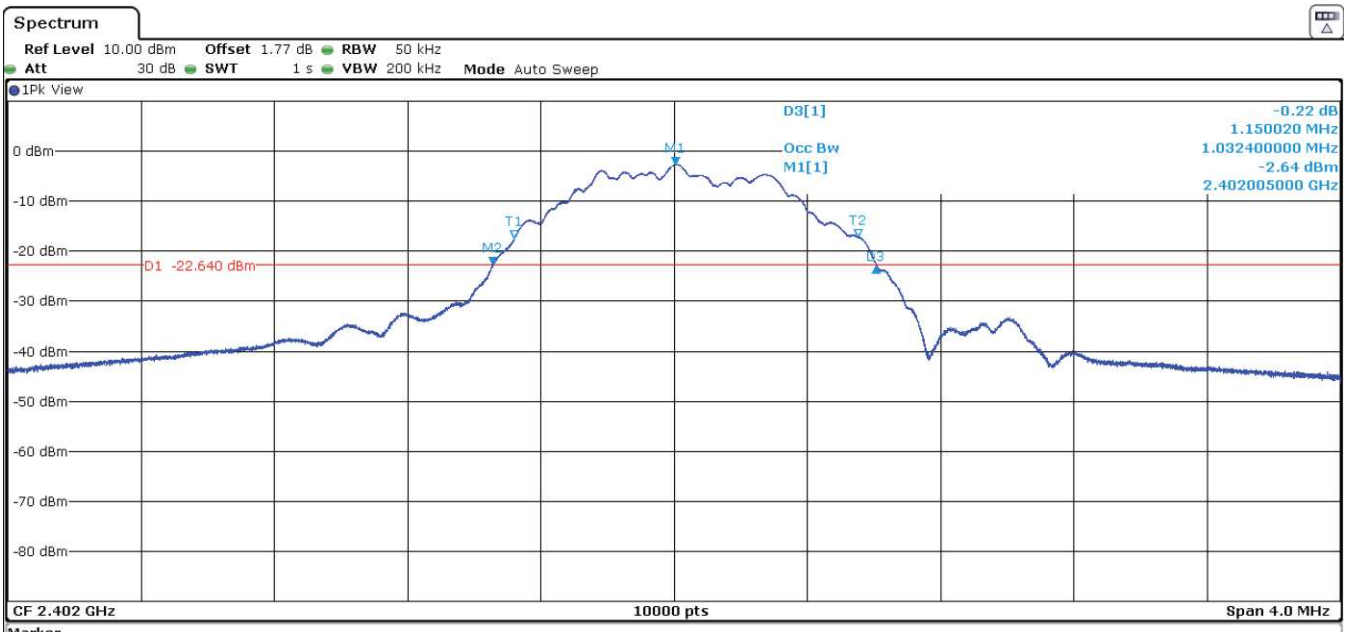


Occupied Bandwidth

RESULTS:

	Low Channel 2402 MHz	Middle Channel 2440 MHz	High Channel 2480 MHz
99% Bandwidth (MHz)	1.0324	1.0480	1.0672
Measurement Uncertainty (kHz)	<±5.00		

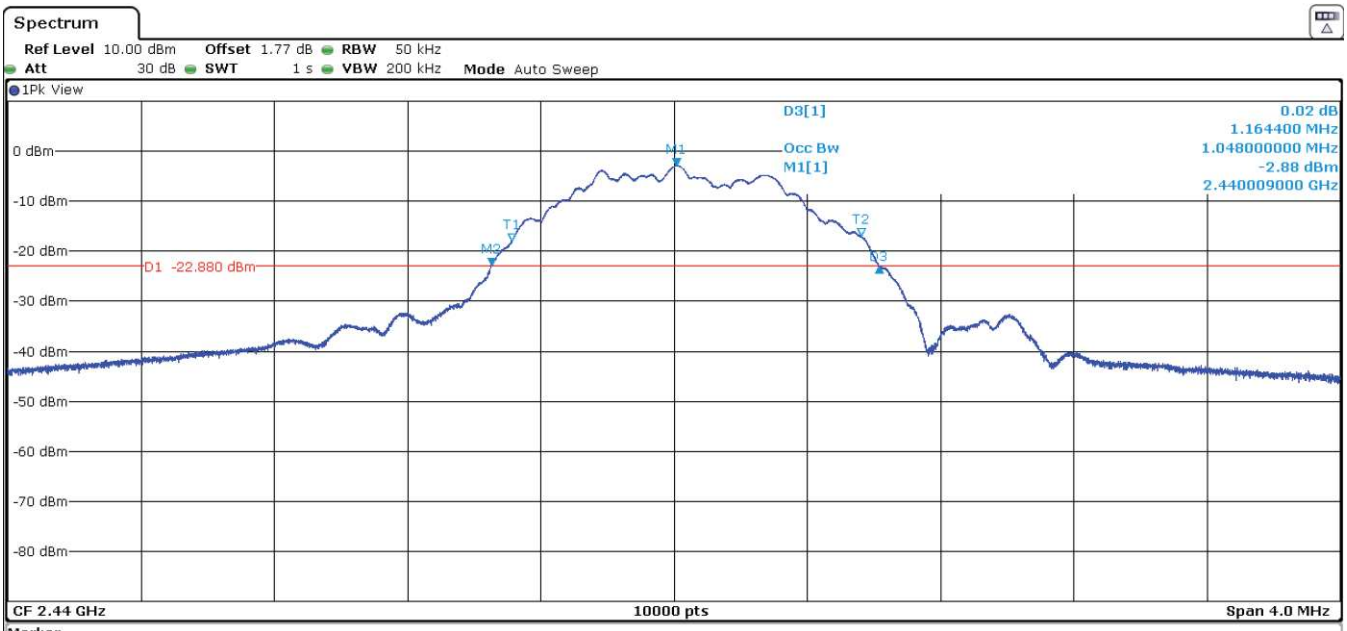
- Low Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.402005 GHz	-2.64 dBm		
T1		1	2.4015206 GHz	-17.46 dBm	Occ Bw	1.0324 MHz
T2		1	2.402553 GHz	-17.26 dBm		
M2		1	2.40145794 GHz	-22.64 dBm		
D3	M2	1	1.15002 MHz	-0.22 dB		

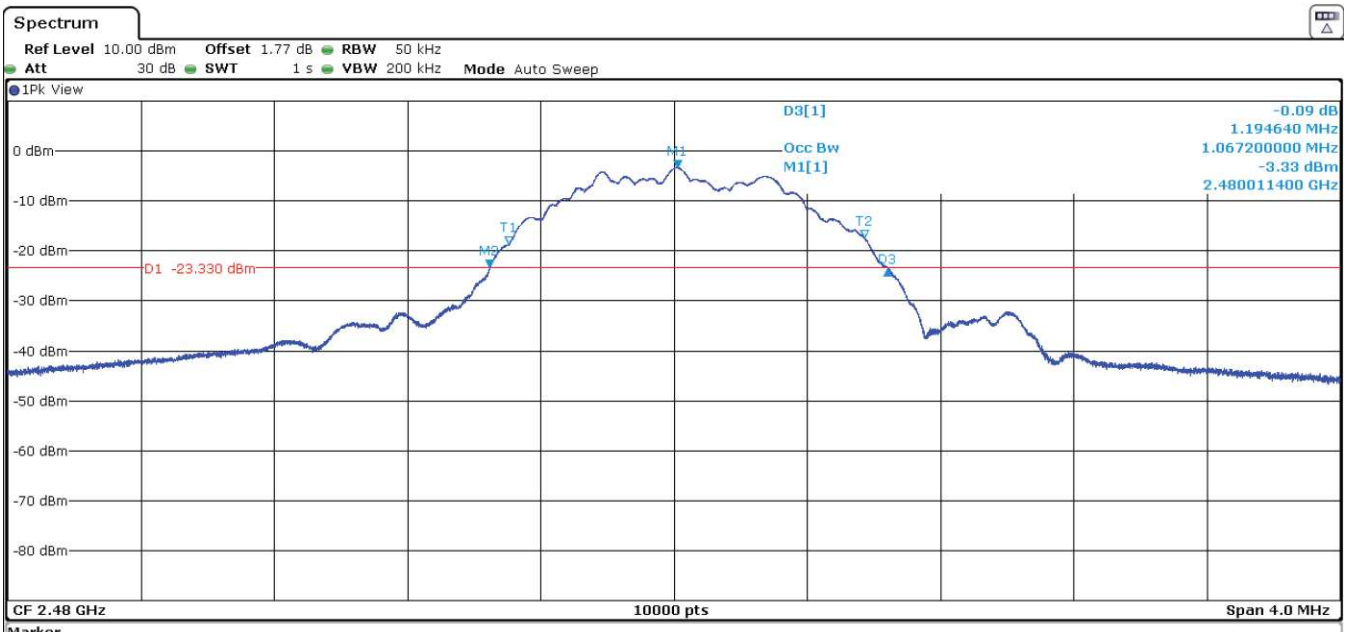
- Middle Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.440009 GHz	-2.88 dBm		
T1		1	2.4395138 GHz	-17.98 dBm	Occ Bw	1.048 MHz
T2		1	2.4405618 GHz	-17.04 dBm		
M2		1	2.43945342 GHz	-22.95 dBm		
D3	M2	1	1.1644 MHz	0.02 dB		

- High Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4800114 GHz	-3.33 dBm		
T1		1	2.479505 GHz	-18.75 dBm	Occ Bw	1.0672 MHz
T2		1	2.4805722 GHz	-17.43 dBm		
M2		1	2.47944783 GHz	-23.40 dBm		
D3	M2	1	1.19464 MHz	-0.09 dB		

Section 15.249 Subclause (a) / RSS-210 B.10. (a) Field strength of fundamental and harmonics emissions

SPECIFICATION:

The field strength of emissions from intentional radiators shall comply with the following

Fundamental frequency (MHz)	Field strength of fundamental (mV/m)	Field strength (dBµV/m)	Measurement distance (m)
902 - 928	50	93.98	3
2400 – 2483.5	50	93.98	3
5725 - 5875	50	93.98	3
24000-24250	250	107.96	3

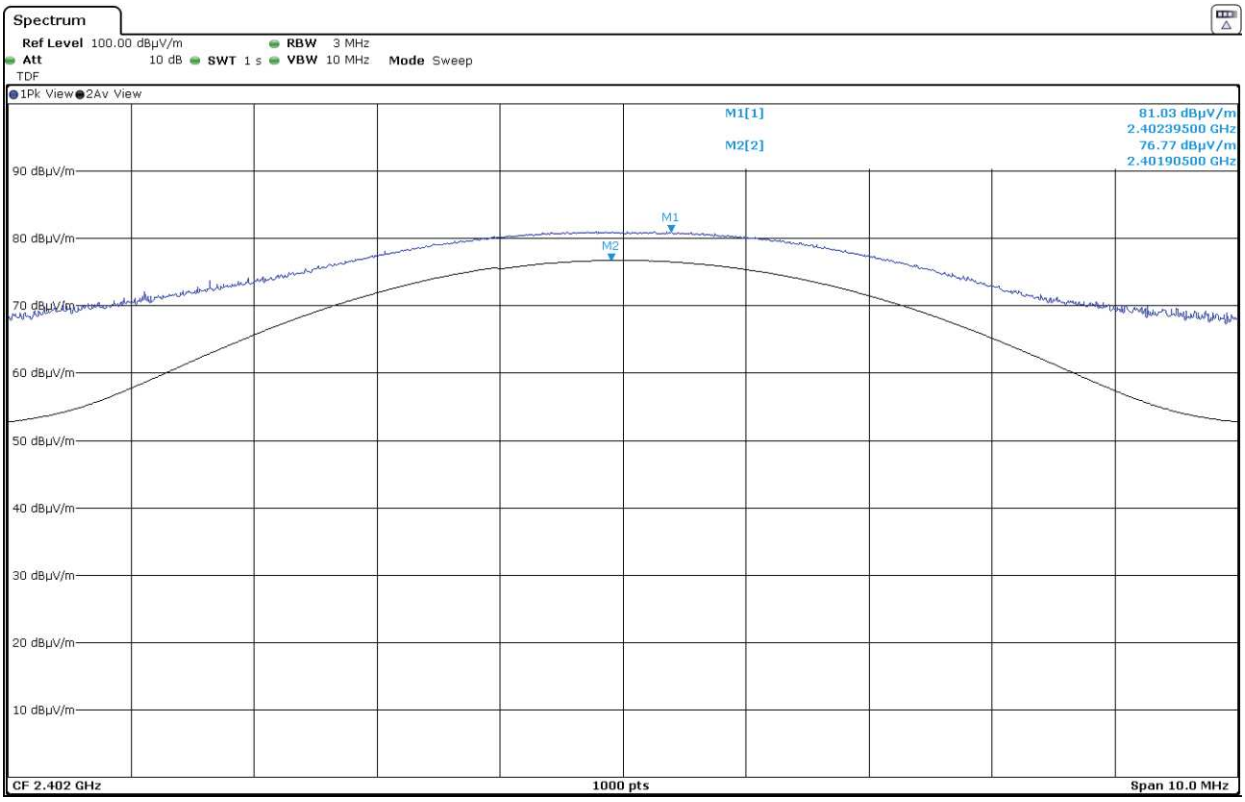
For frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

RESULTS:

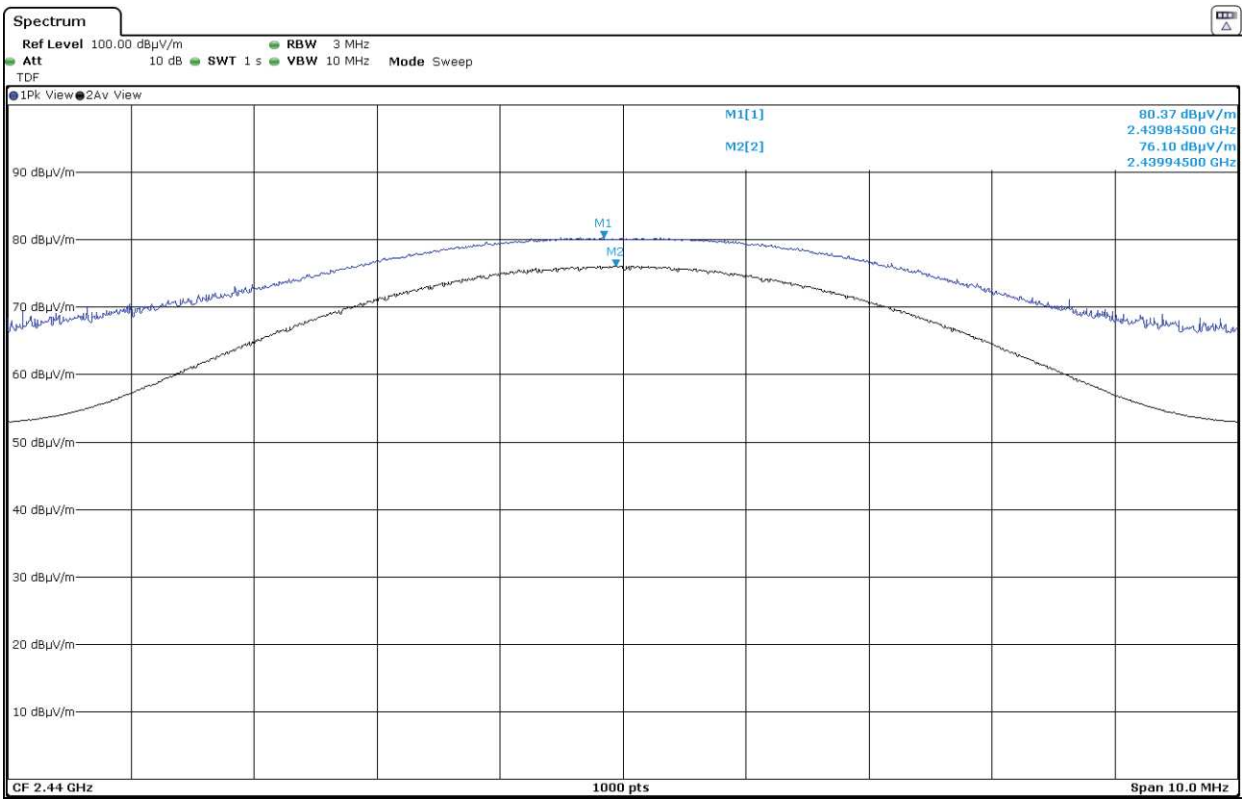
	Low Channel 2402 MHz	Middle Channel 2440 MHz	High Channel 2480 MHz
Average Field Strength (dBµV/m)	76.77	76.10	74.84
Peak Field Strength (dBµV/m)	81.03	80.37	79.33
Measurement Uncertainty (dB)	<±3.05		

Verdict: PASS

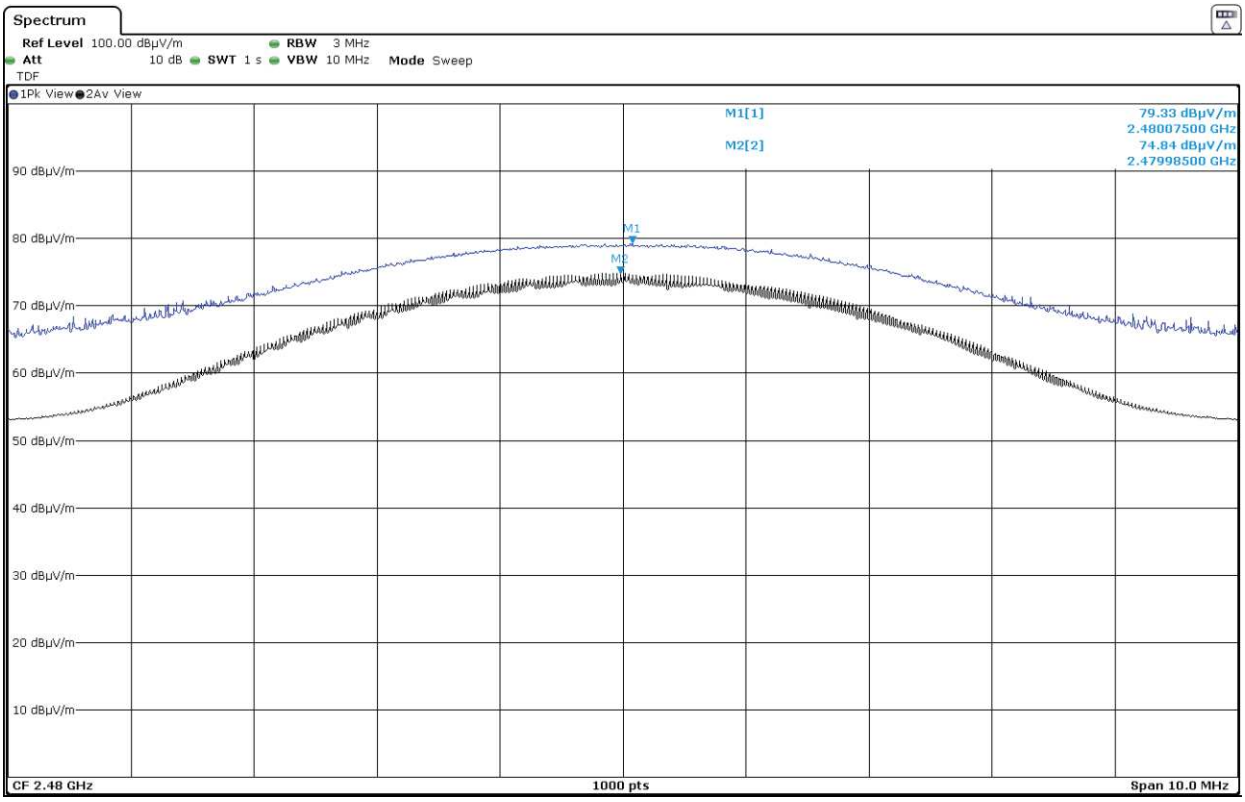
- Low Channel:



- Middle Channel:



- High Channel:



Section 15.249 Subclause (d) / RSS-210 B.10. (b) Emissions radiated outside of the specific frequency bands

SPECIFICATION:

The field strength of harmonics from intentional radiators shall comply with the following

Fundamental frequency (MHz)	Field strength of harmonics (µV/m)	Field strength of harmonics (dBµV/m)	Measurement distance (m)
902 - 928	500	54	3
2400 – 2483.5	500	54	3
5725 - 5875	500	54	3
24000-24250	2500	67.96	3

Emissions radiated outside of the specific frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of fundamental or to the general radiated emission limits specified in section 15.209:

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
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	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

Whichever is the lesser attenuation.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

All tests were performed in a semi-anechoic chamber at a distance of 3 m for the frequency range 30 MHz-1000 MHz and at distance of 1m for the frequency range 1 GHz-26 GHz.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

Frequency range 30 MHz - 1 GHz.

The spurious signals detected do not depend on the operating channel.

No spurious emissions were found at less than 20 dB of the limit.

Frequency range 1 - 26 GHz.

The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots).

Spurious signals with peak levels above the average limit (54 dBµV/m at 3 m) are measured with average detector for checking compliance with the average limit.

- Low Channel (2402 MHz):

No spurious emissions were found at less than 20 dB of the limit.

- Middle Channel (2440 MHz):

No spurious emissions were found at less than 20 dB of the limit.

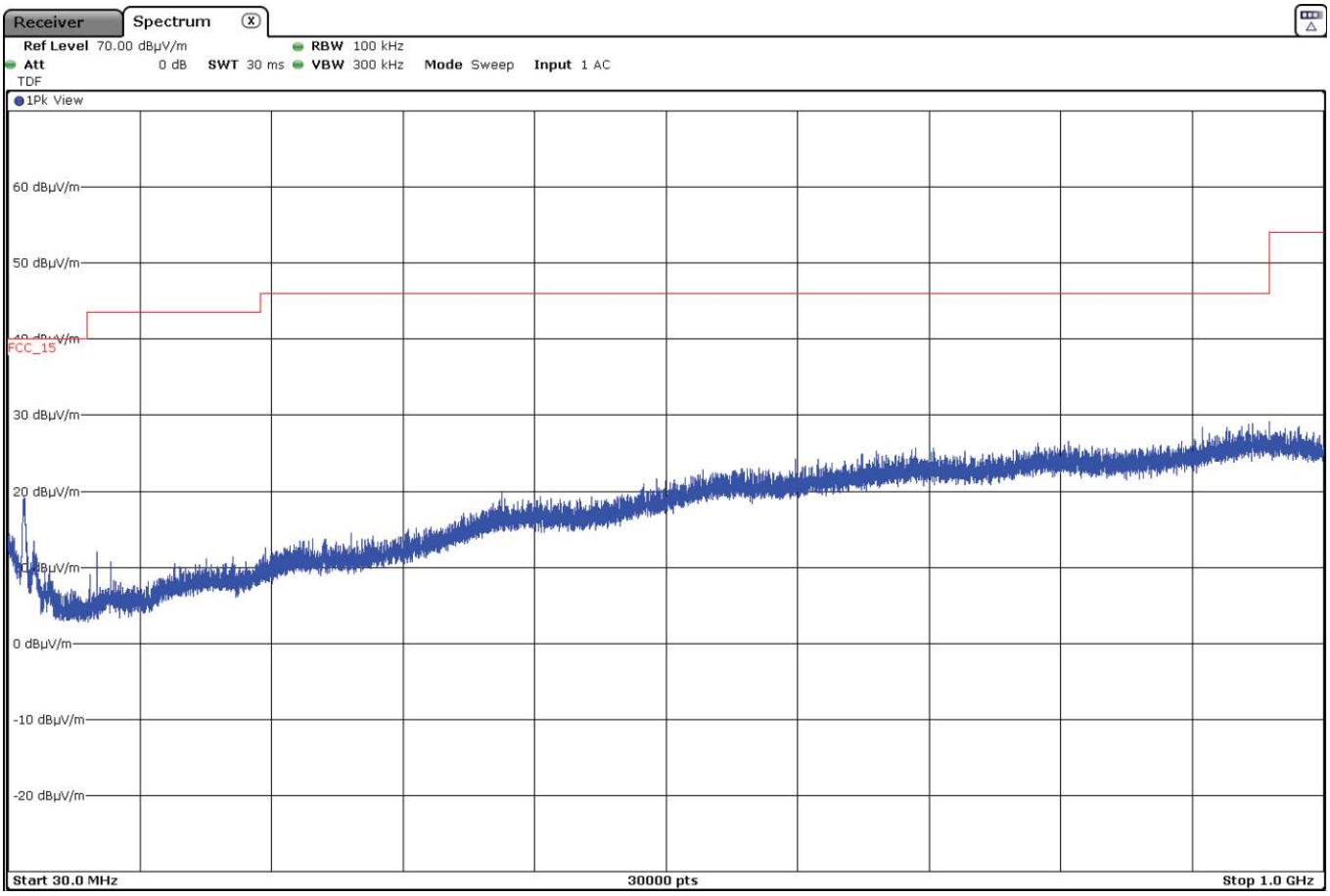
- High Channel (2480 MHz):

Spurious frequency (GHz)	Detector	Emission Level (dBµV/m)	Polarization	Measurement Uncertainty (dB)
2.48370000	Peak	55.25	V	<±3.70
	Average	40.51		

Verdict: PASS

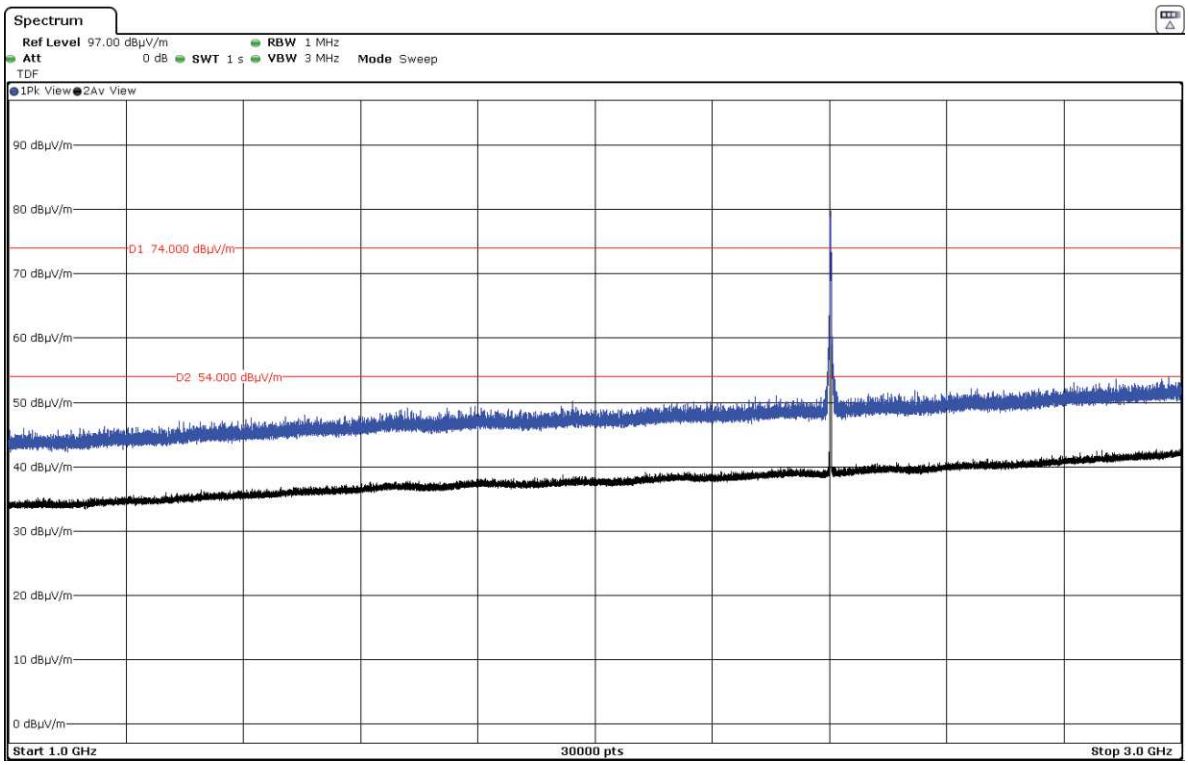
FREQUENCY RANGE 30 MHz - 1 GHz

The spurious signals detected do not depend on the operating channel, so this plot is valid for Low, Middle and High Channels.



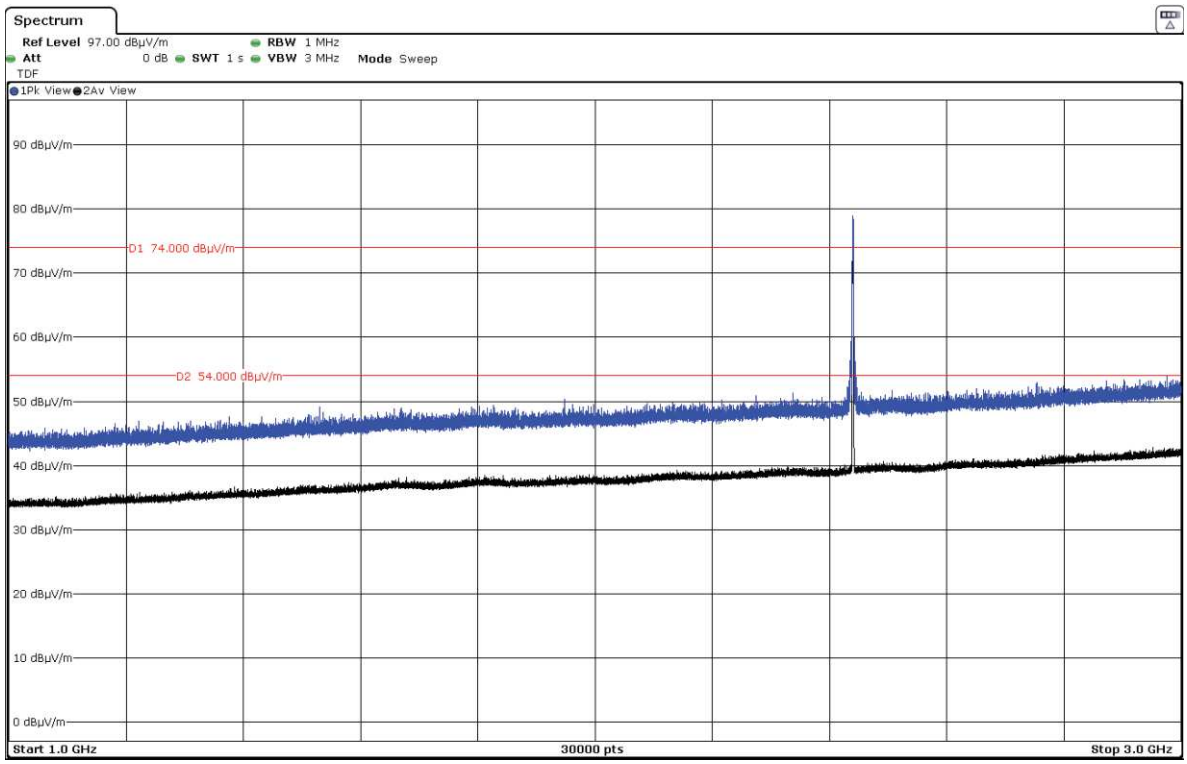
FREQUENCY RANGE 1 - 3 GHz

- Low Channel:



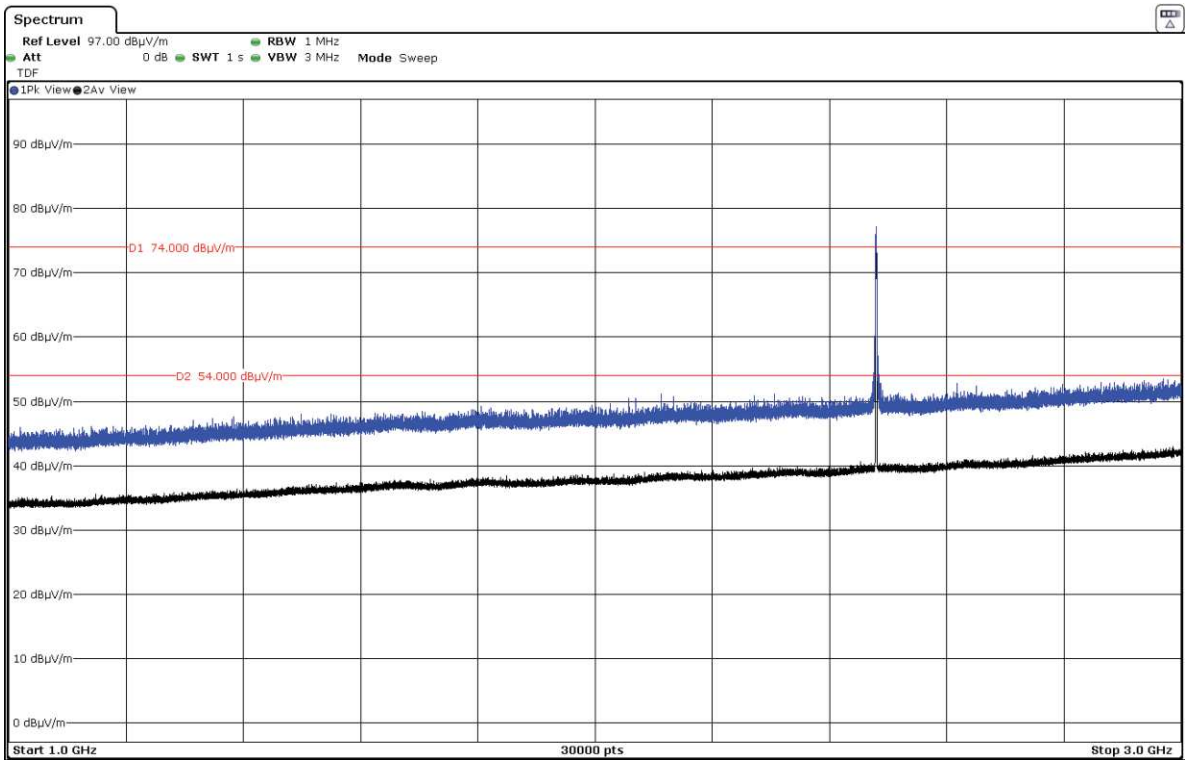
The peak shown in the plot above the limit is the carrier frequency.

- Middle Channel:



The peak shown in the plot above the limit is the carrier frequency.

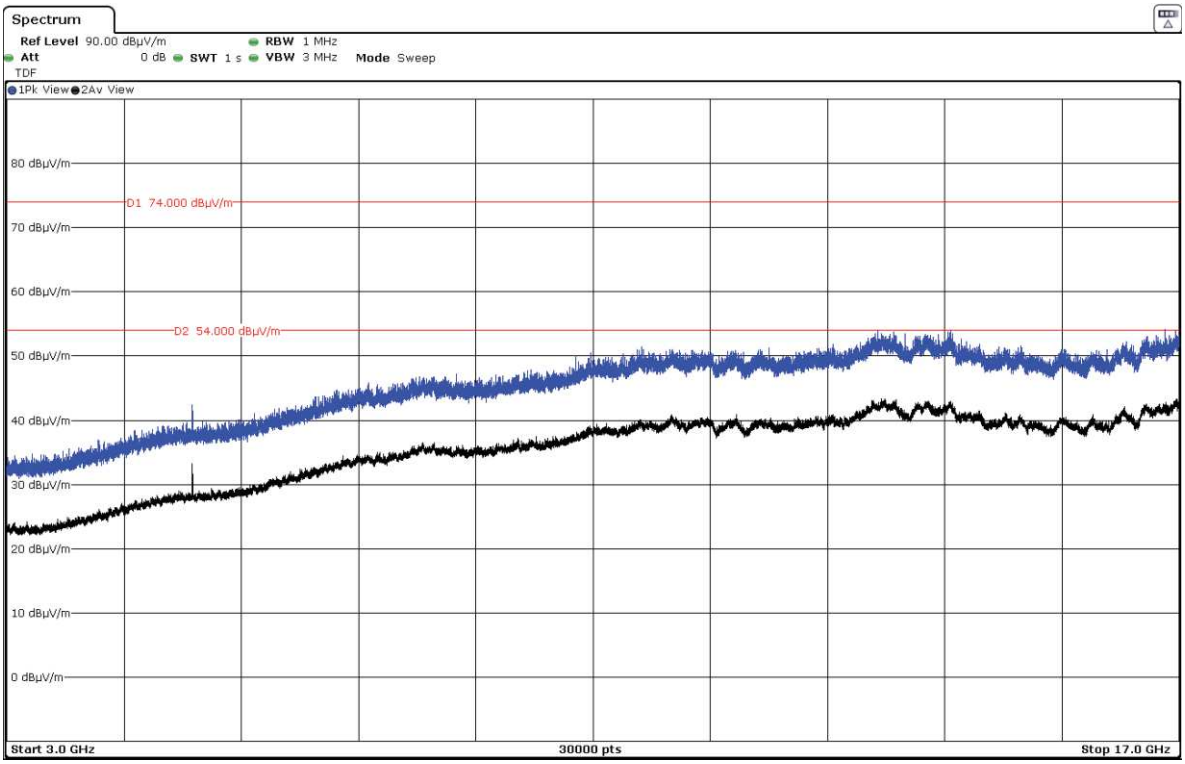
- High Channel:



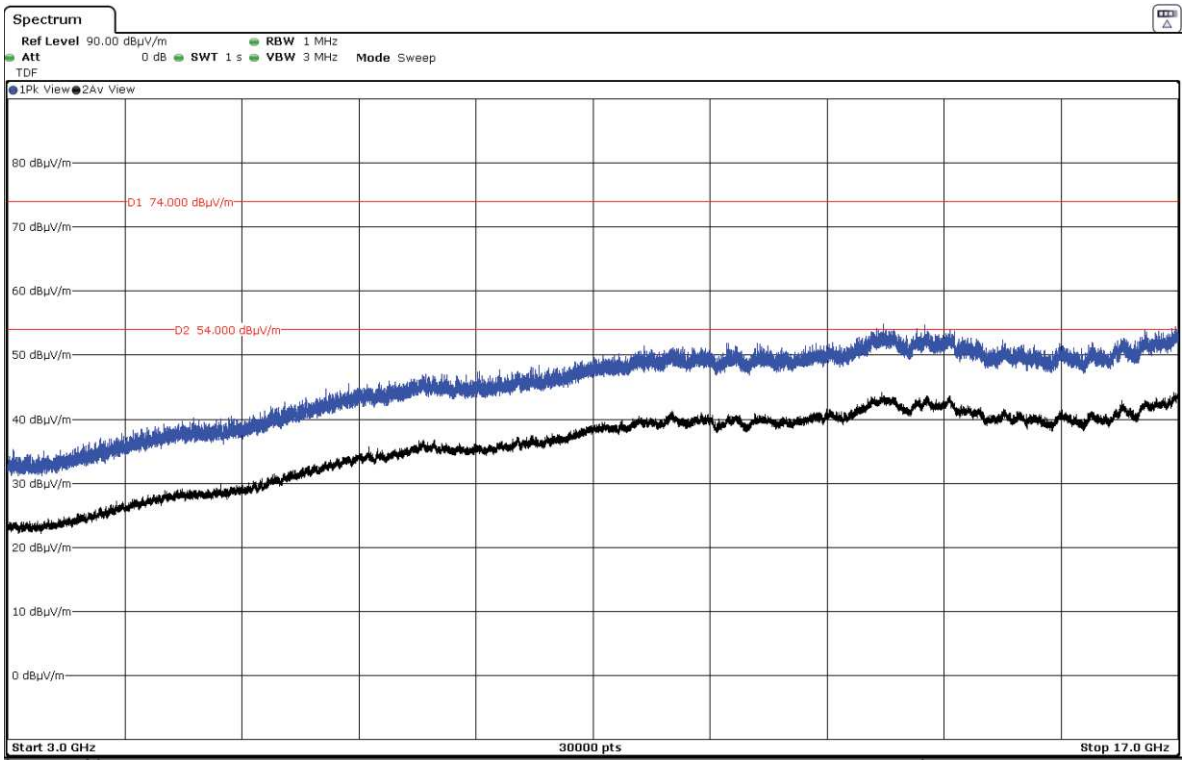
The peak shown in the plot above the limit is the carrier frequency.

FREQUENCY RANGE 3 - 17 GHz

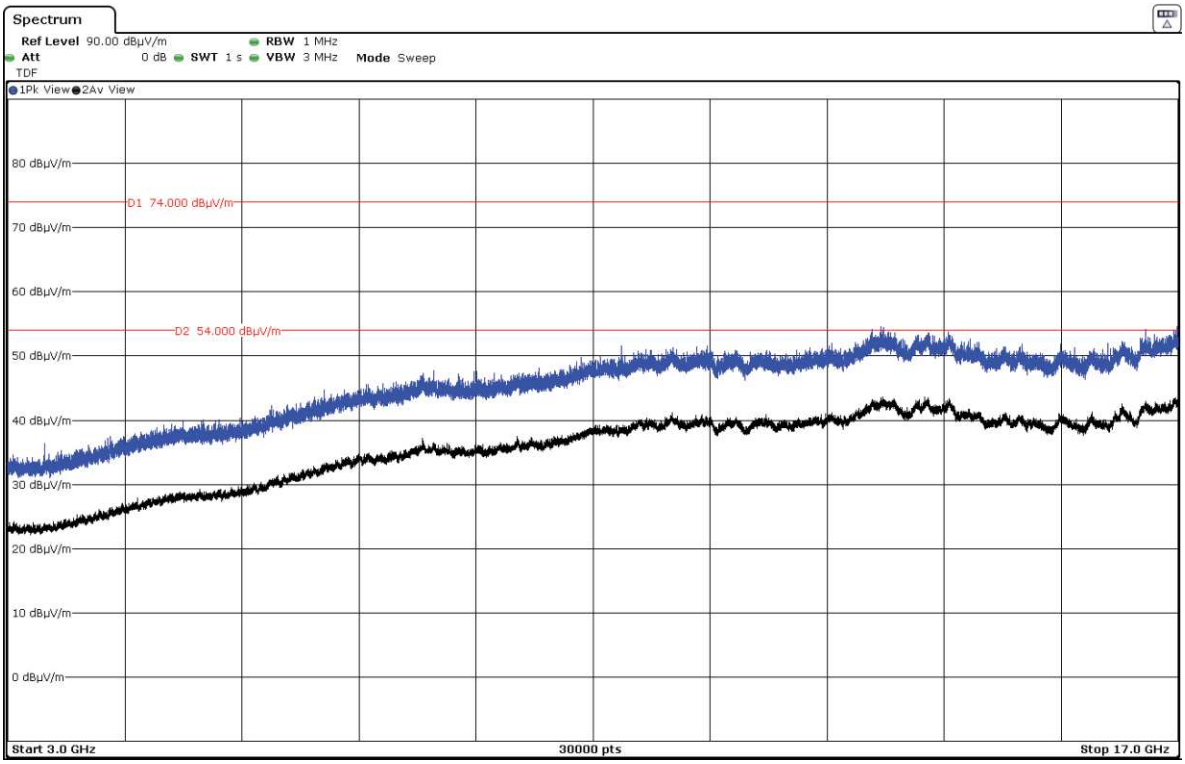
- Low Channel:



- Middle Channel:

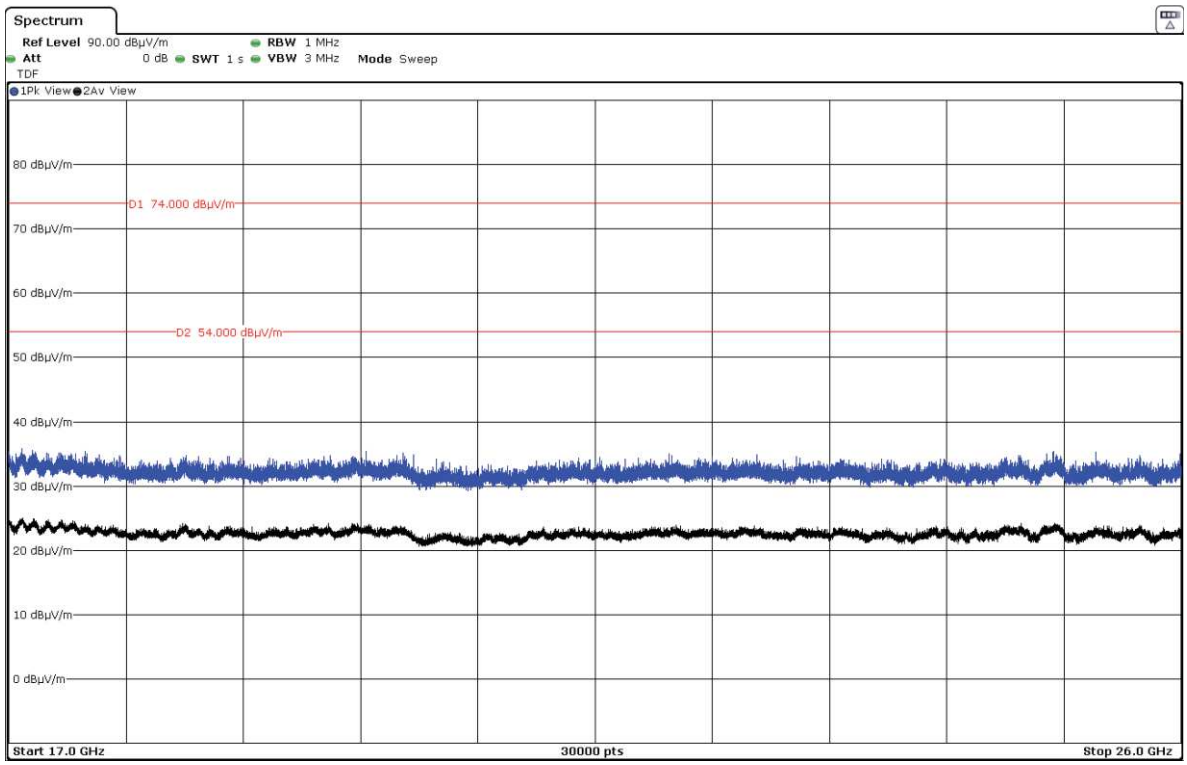


- High Channel:



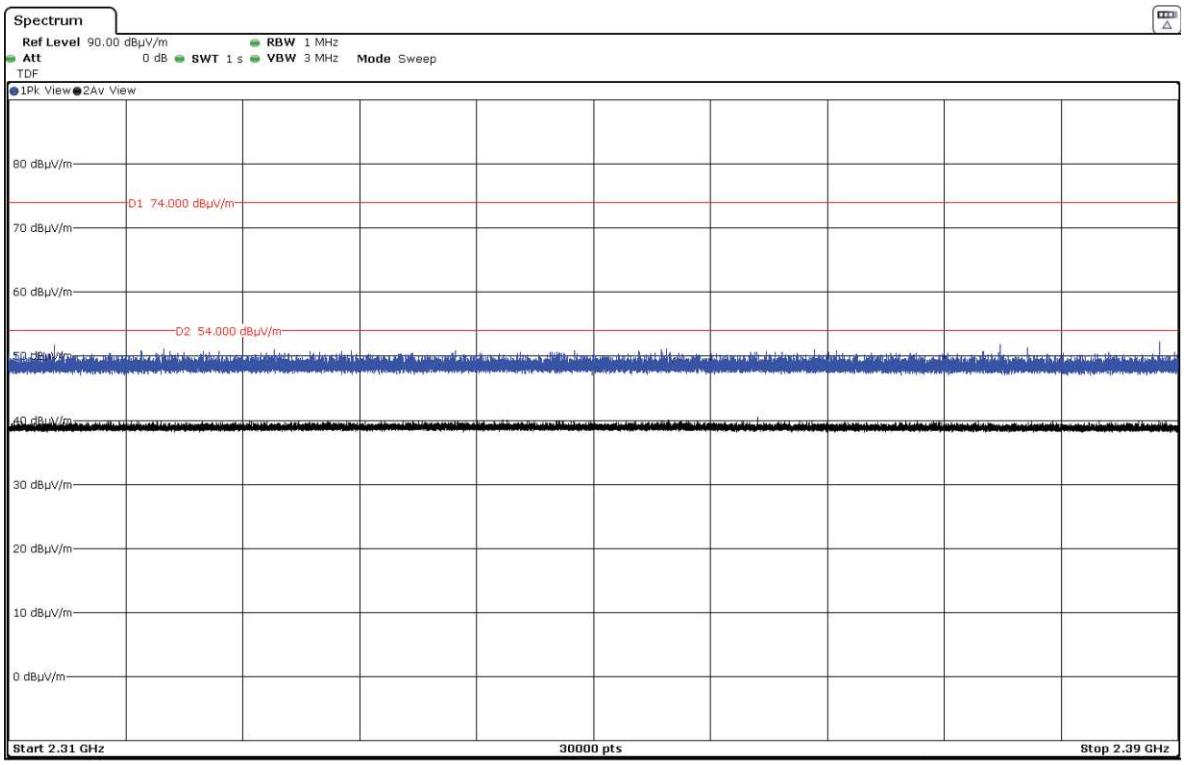
FREQUENCY RANGE 17 - 26 GHz

The spurious signals detected do not depend on the operating channel, so this plot is valid for Low, Middle and High Channels.

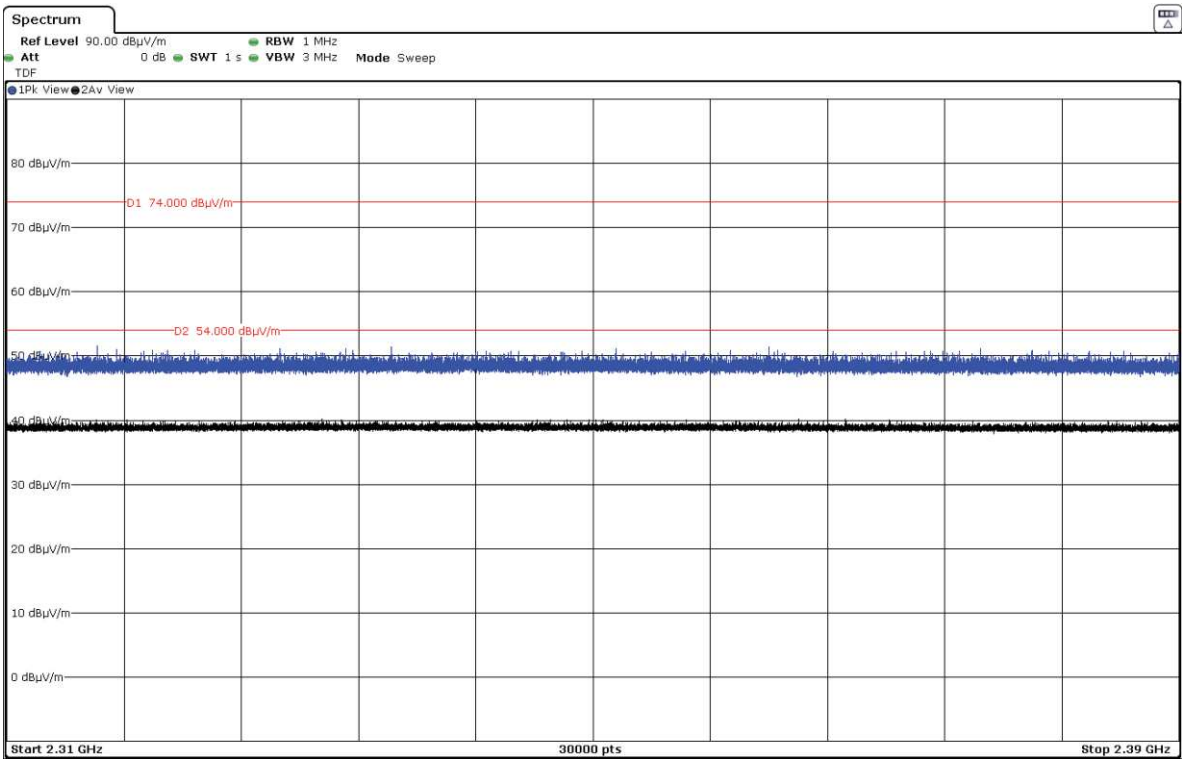


FREQUENCY RANGE 2.31 - 2.39 GHz

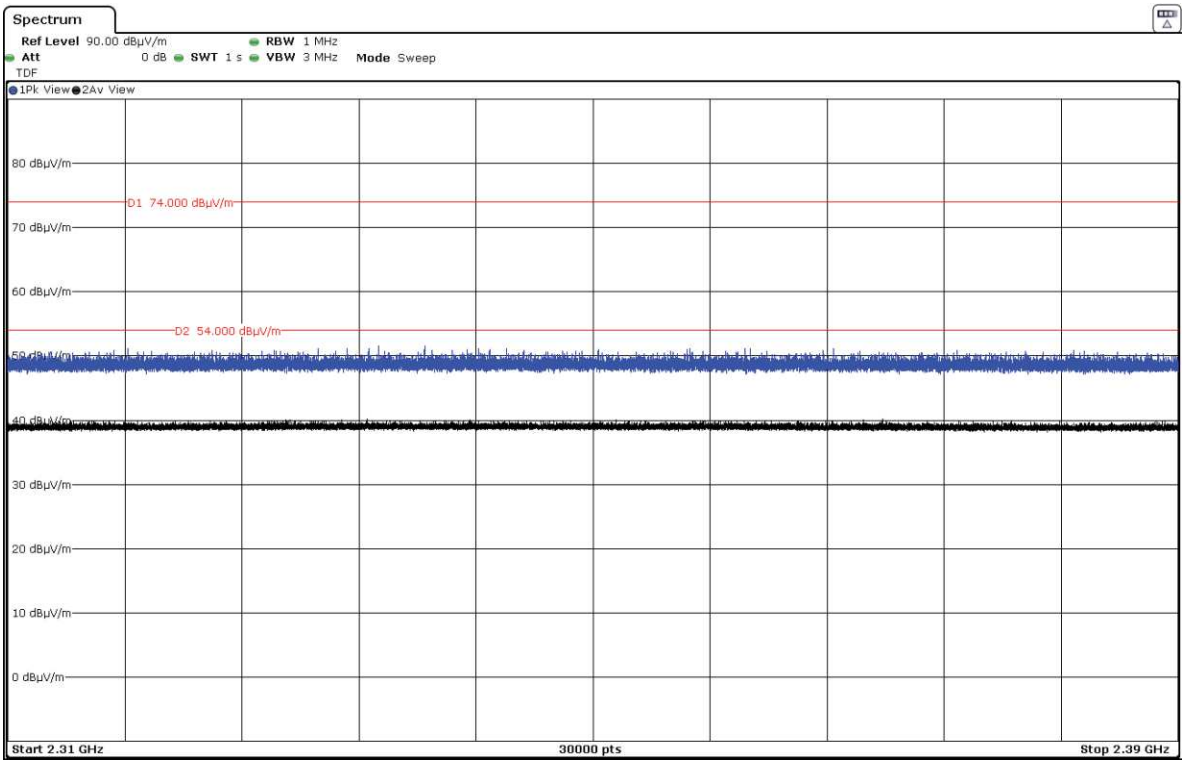
- Low Channel:



- Middle Channel:

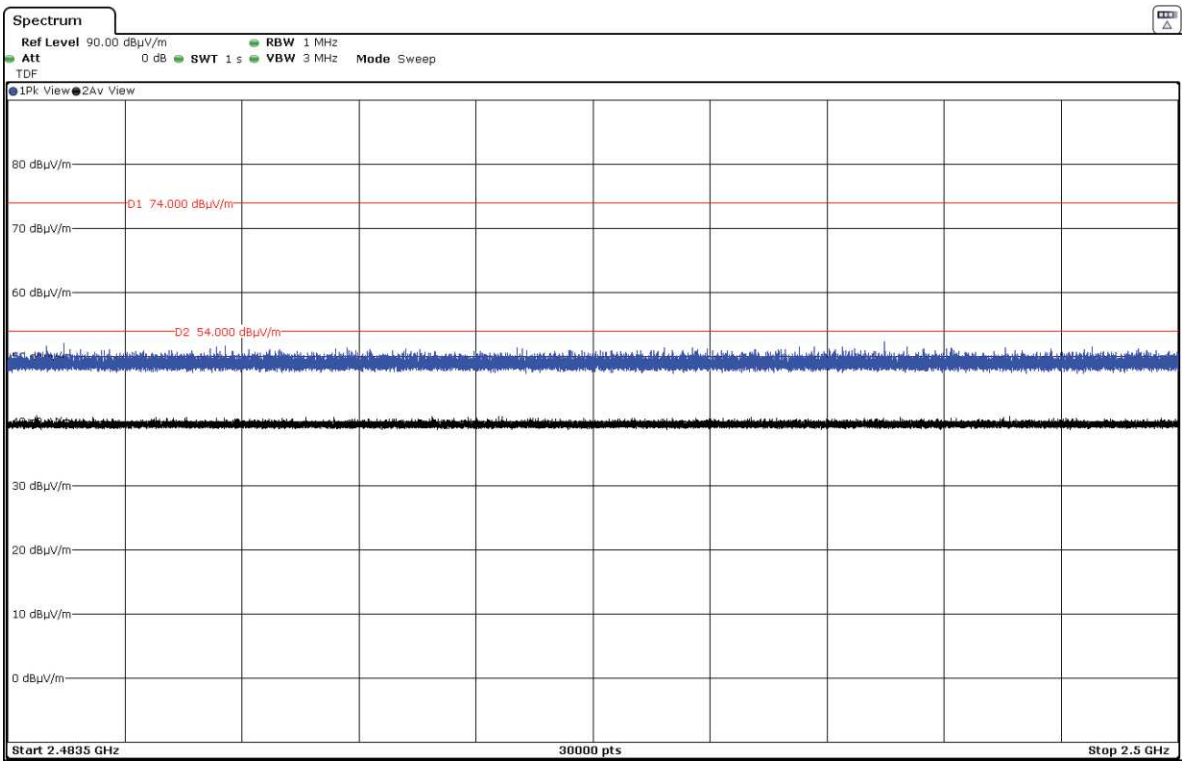


- High Channel:

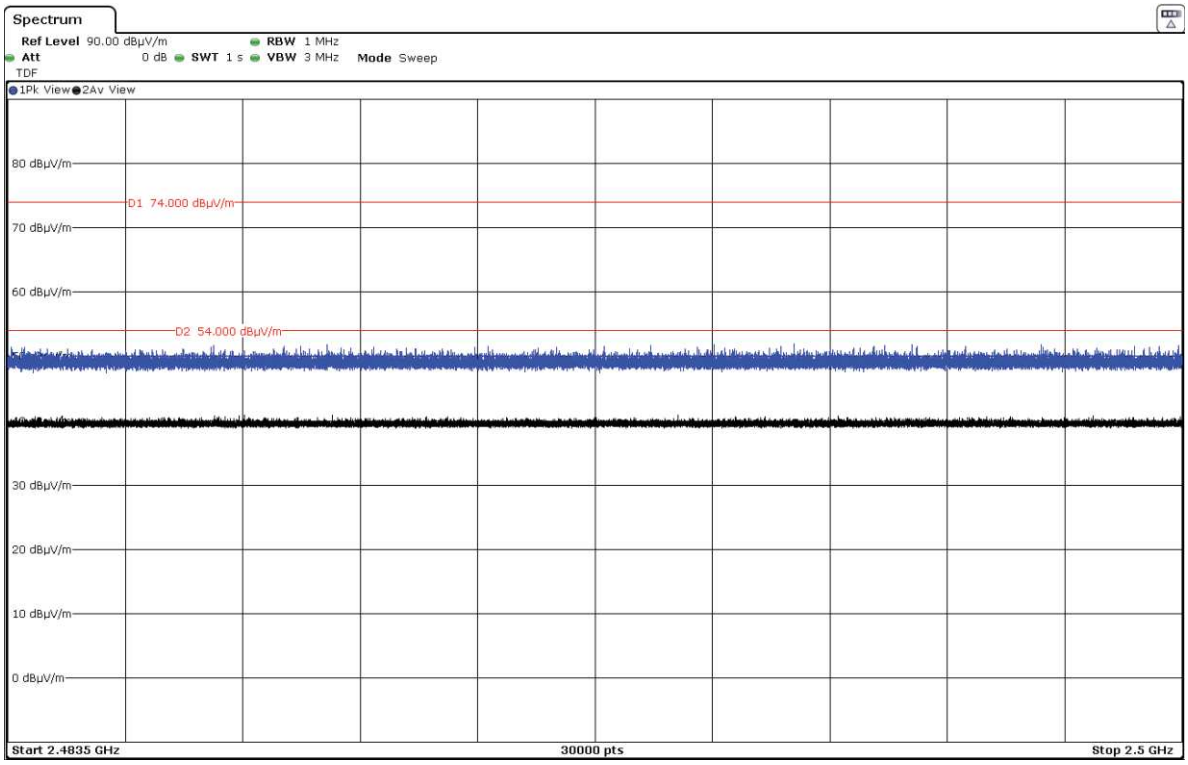


FREQUENCY RANGE 2.4835 - 2.5 GHz

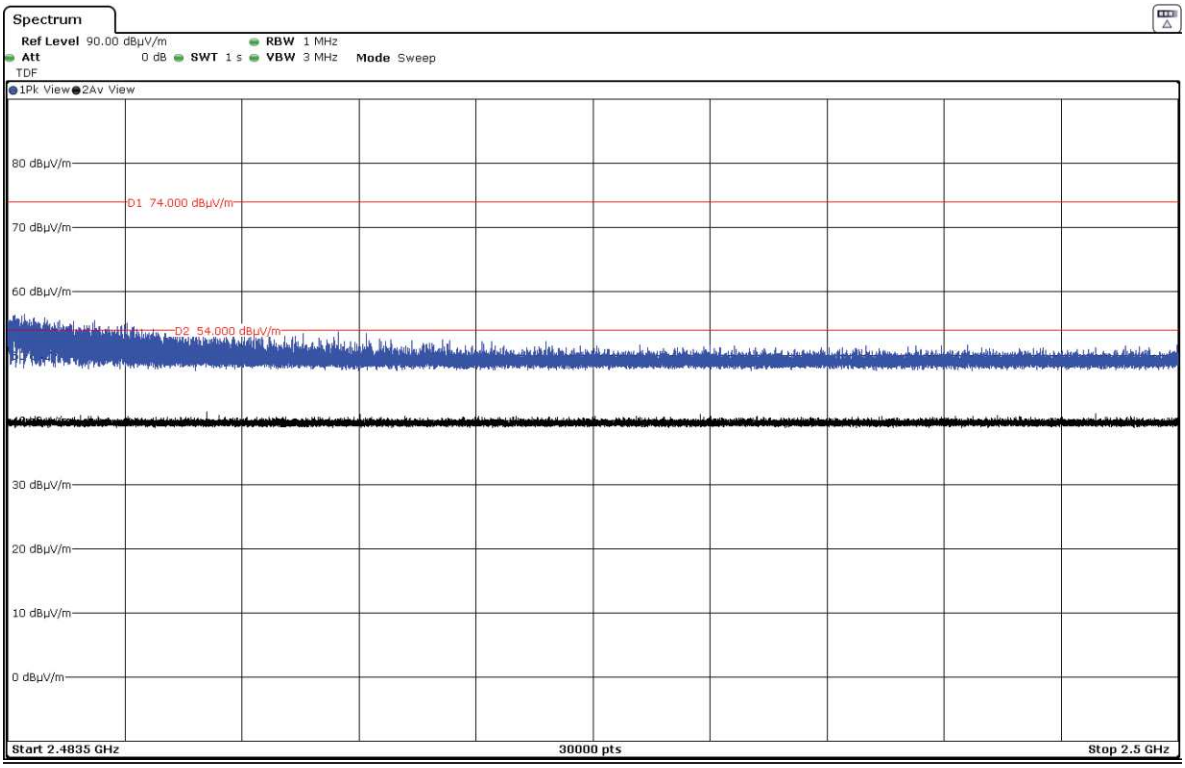
- Low Channel:



- Middle Channel:



- High Channel:



Appendix B: Test results. Bluetooth Basic Rate

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TEST CONDITIONS 33
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TEST CONDITIONS

POWER SUPPLY (V):

V nominal:	3.7 Vdc
Type of power supply:	DC voltage from battery.
Type of antenna:	Integral antenna.
Declared antenna gain:	- 7 dBi

TEST FREQUENCIES:

Low Channel:	2402 MHz
Middle Channel:	2441 MHz
High Channel:	2480 MHz

CONDUCTED MEASUREMENTS

The equipment under test was set up in a shielded room and it is connected to the spectrum analyser using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.

RADIATED MEASUREMENTS

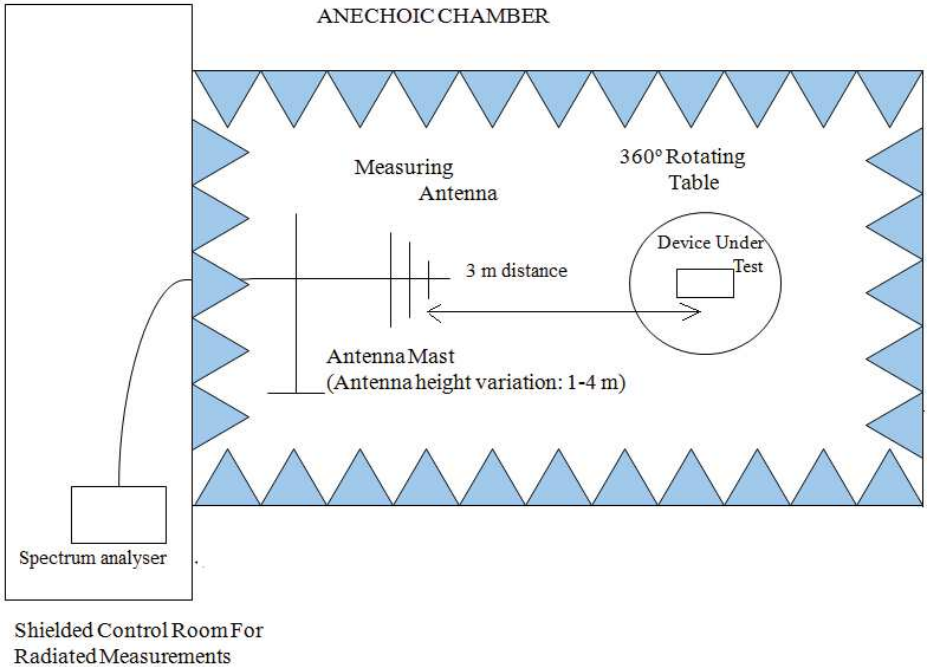
All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m for the frequency range 30 MHz-1000 MHz (30 MHz-1000 MHz Bilog antenna) and at a distance of 1m for the frequency range 1 GHz-26 GHz (1 GHz-18 GHz Double ridge horn antenna and 18 GHz-40 GHz horn antenna).

For radiated emissions in the range 1 GHz-26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

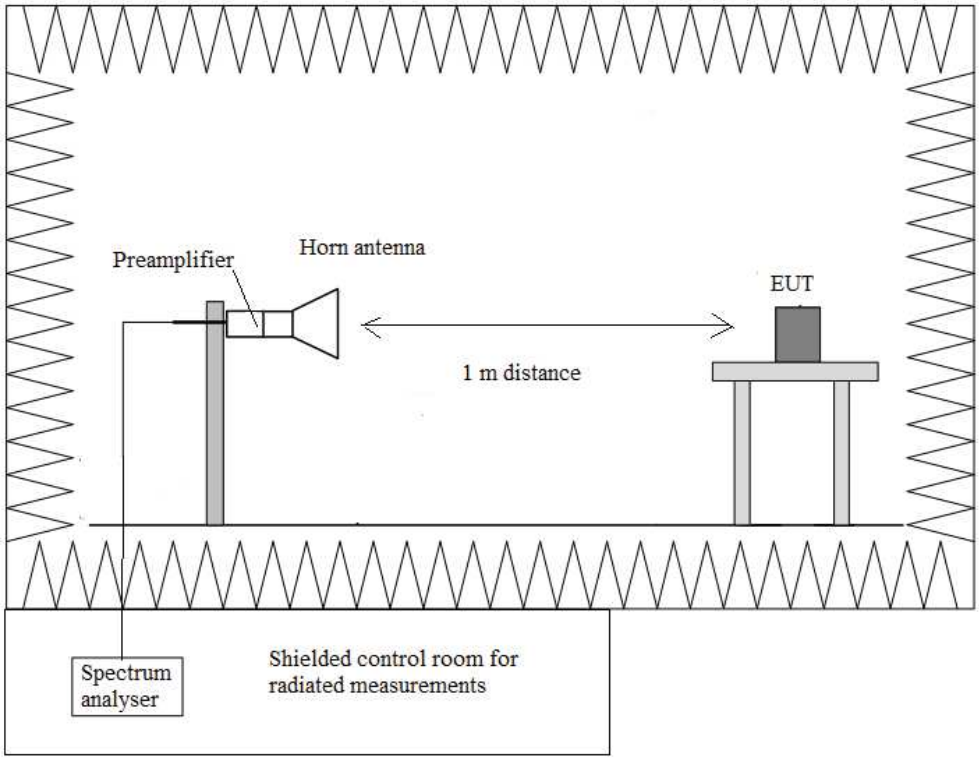
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

Radiated measurements setup f < 1 GHz:



Radiated measurements setup f > 1 GHz:

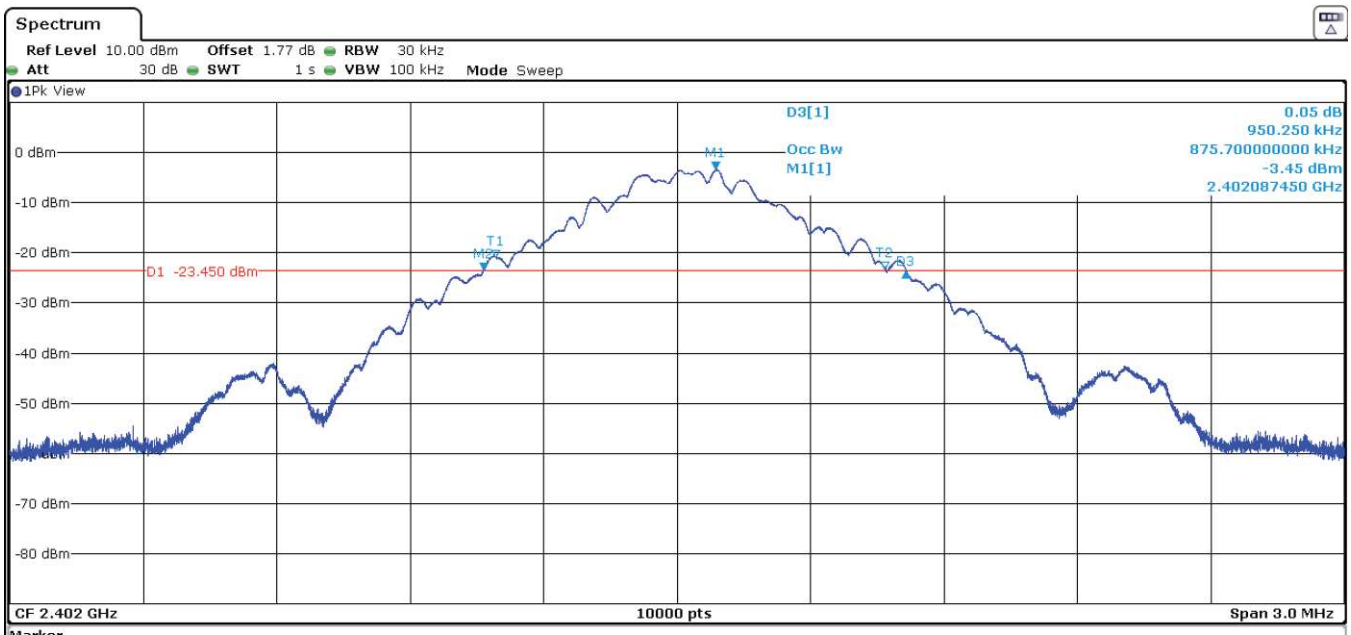


Occupied Bandwidth

RESULTS:

	Low Channel 2402 MHz	Middle Channel 2441 MHz	High Channel 2480 MHz
99% Bandwidth (MHz)	0.87570	0.87780	0.87810
Measurement Uncertainty (kHz)	<±5.00		

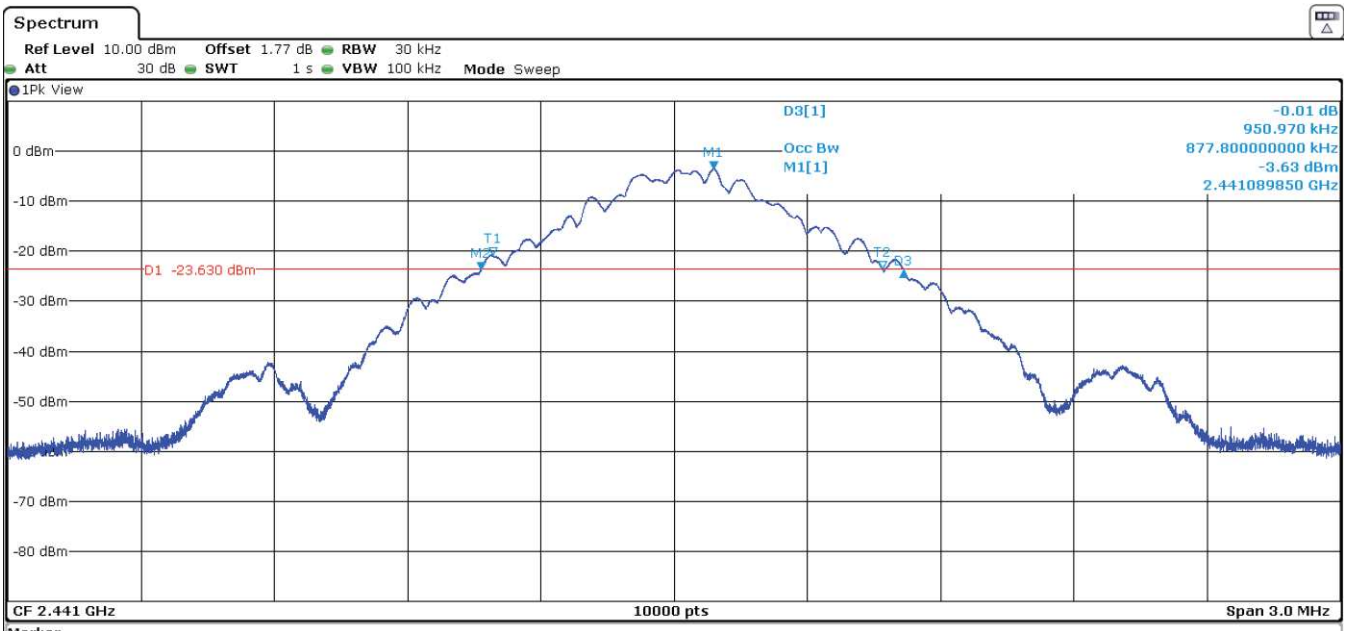
- Low Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40208745 GHz	-3.45 dBm		
T1		1	2.40159275 GHz	-20.91 dBm	Occ Bw	875.7 kHz
T2		1	2.40246845 GHz	-23.32 dBm		
M2		1	2.40156508 GHz	-23.54 dBm		
D3	M2	1	950.25 kHz	0.05 dB		

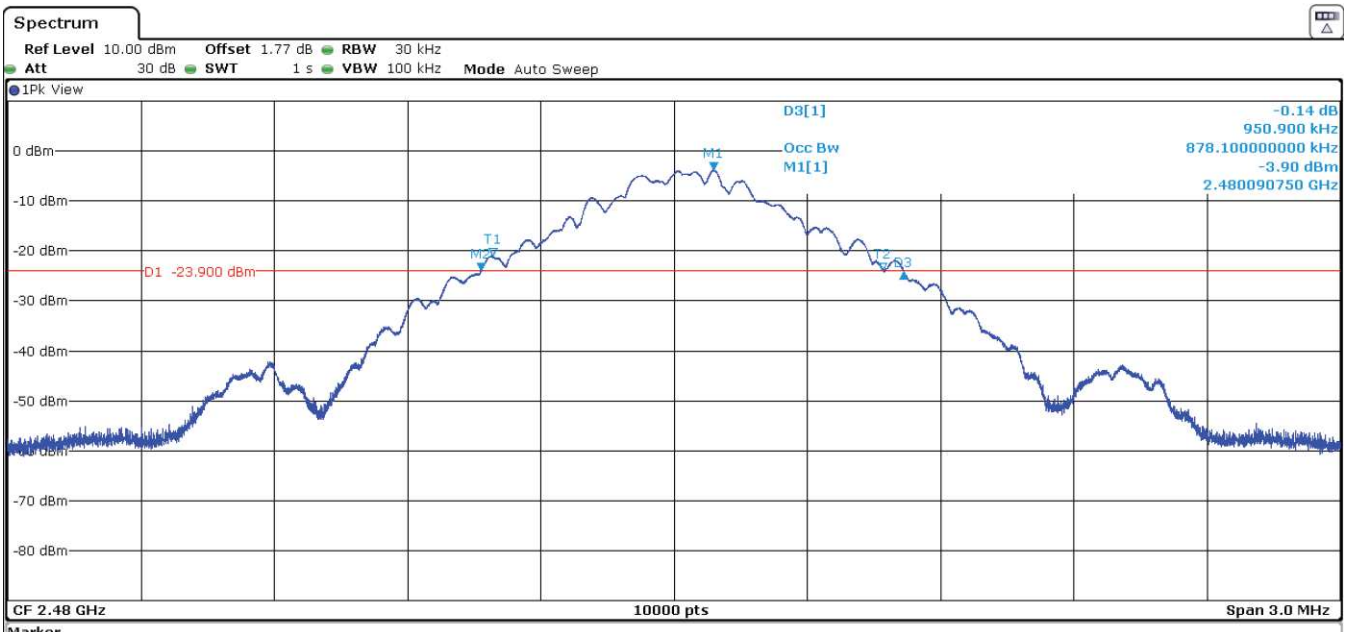
- Middle Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44108985 GHz	-3.63 dBm		
T1		1	2.44059215 GHz	-20.86 dBm	Occ Bw	877.8 kHz
T2		1	2.44146995 GHz	-23.62 dBm		
M2		1	2.44056537 GHz	-23.75 dBm		
D3	M2	1	950.97 kHz	-0.01 dB		

- High Channel:



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48009075 GHz	-3.90 dBm		
T1		1	2.47959275 GHz	-21.09 dBm	Occ Bw	878.1 kHz
T2		1	2.48047085 GHz	-24.05 dBm		
M2		1	2.4795664 GHz	-23.96 dBm		
D3	M2	1	950.9 kHz	-0.14 dB		

Section 15.249 Subclause (a) / RSS-210 B.10. (a) Field strength of fundamental and harmonics emissions

SPECIFICATION:

The field strength of emissions from intentional radiators shall comply with the following

Fundamental frequency (MHz)	Field strength of fundamental (mV/m)	Field strength (dBµV/m)	Measurement distance (m)
902 - 928	50	93.98	3
2400 – 2483.5	50	93.98	3
5725 - 5875	50	93.98	3
24000-24250	250	107.96	3

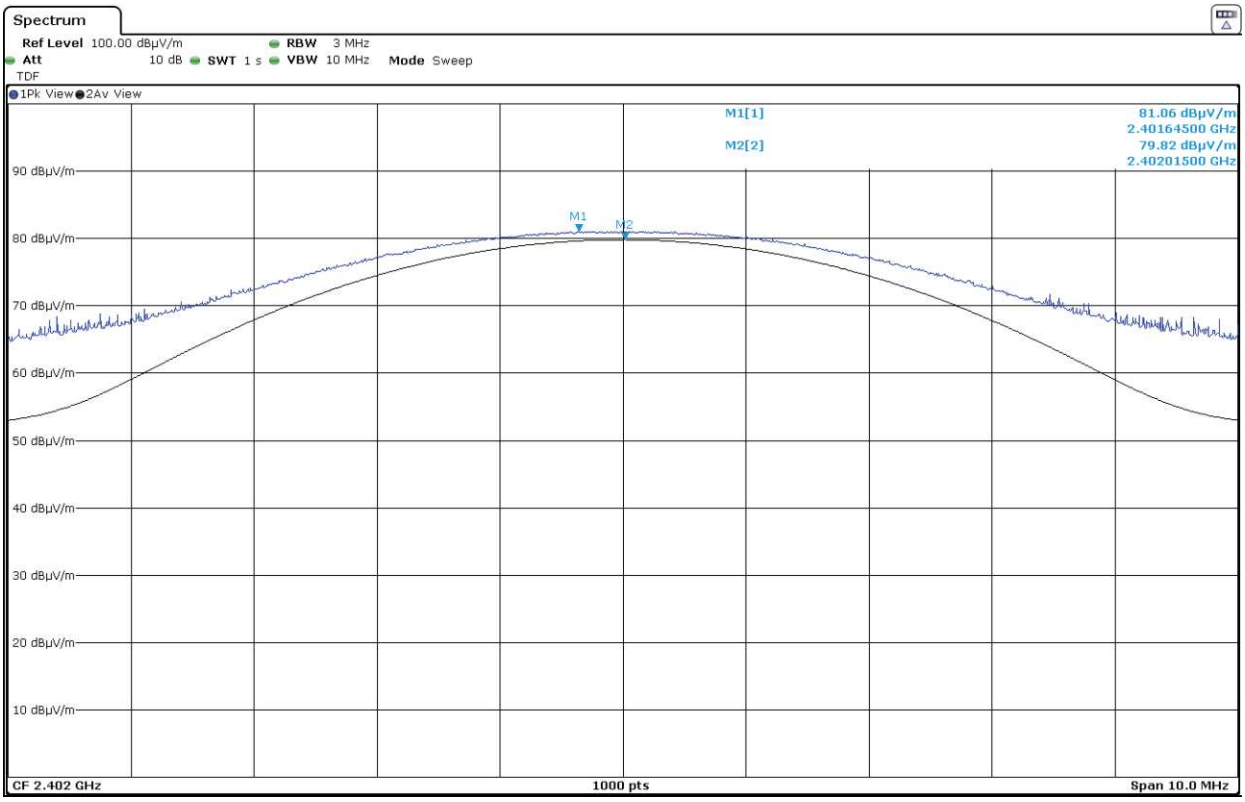
For frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

RESULTS:

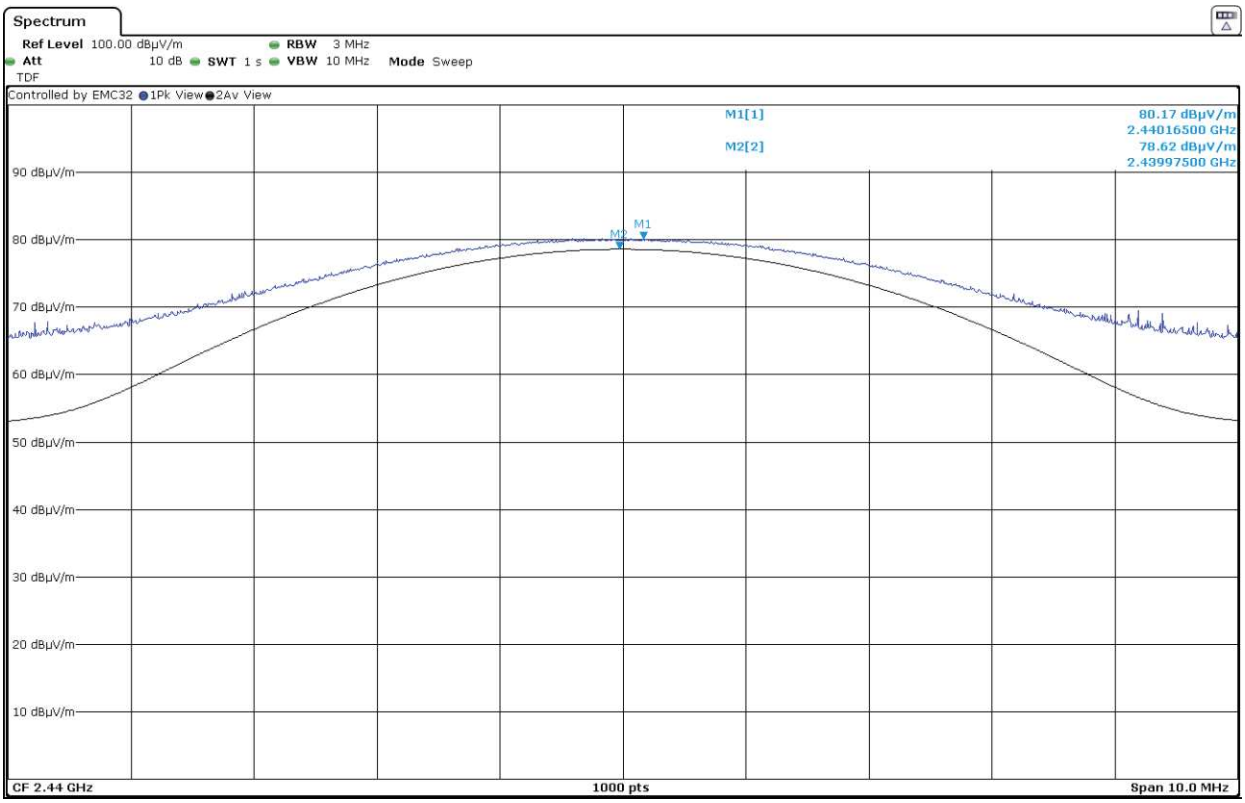
	Low Channel 2402 MHz	Middle Channel 2441 MHz	High Channel 2480 MHz
Average Field Strength (dBµV/m)	79.82	78.62	77.80
Peak Field Strength (dBµV/m)	81.06	80.17	79.54
Measurement Uncertainty (dB)	<±3.05		

Verdict: PASS

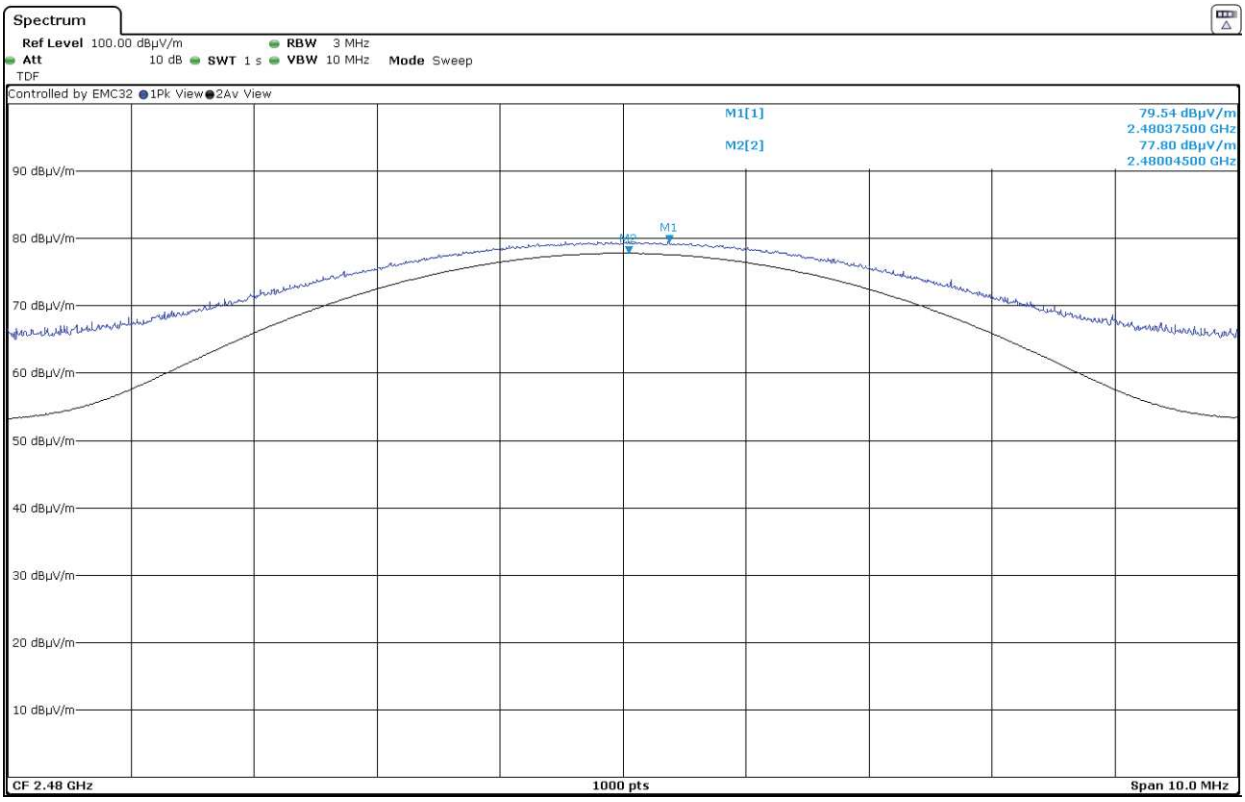
- Low Channel:



- Middle Channel:



- High Channel:



Section 15.249 Subclause (d) / RSS-210 B.10. (b) Emissions radiated outside of the specific frequency bands

SPECIFICATION:

The field strength of harmonics from intentional radiators shall comply with the following

Fundamental frequency (MHz)	Field strength of harmonics (µV/m)	Field strength of harmonics (dBµV/m)	Measurement distance (m)
902 - 928	500	54	3
2400 – 2483.5	500	54	3
5725 - 5875	500	54	3
24000-24250	2500	67.96	3

Emissions radiated outside of the specific frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of fundamental or to the general radiated emission limits specified in section 15.209:

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
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	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

Whichever is the lesser attenuation.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

All tests were performed in a semi-anechoic chamber at a distance of 3 m for the frequency range 30 MHz-1000 MHz and at distance of 1m for the frequency range 1 GHz-26 GHz.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

Frequency range 30 MHz - 1 GHz.

The spurious signals detected do not depend on the operating channel.

No spurious emissions were found at less than 20 dB of the limit.

Frequency range 1 - 26 GHz.

The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots).

Spurious signals with peak levels above the average limit (54 dBµV/m at 3 m) are measured with average detector for checking compliance with the average limit.

- Low Channel (2402 MHz):

No spurious emissions were found at less than 20 dB of the limit.

- Middle Channel (2441 MHz):

No spurious emissions were found at less than 20 dB of the limit.

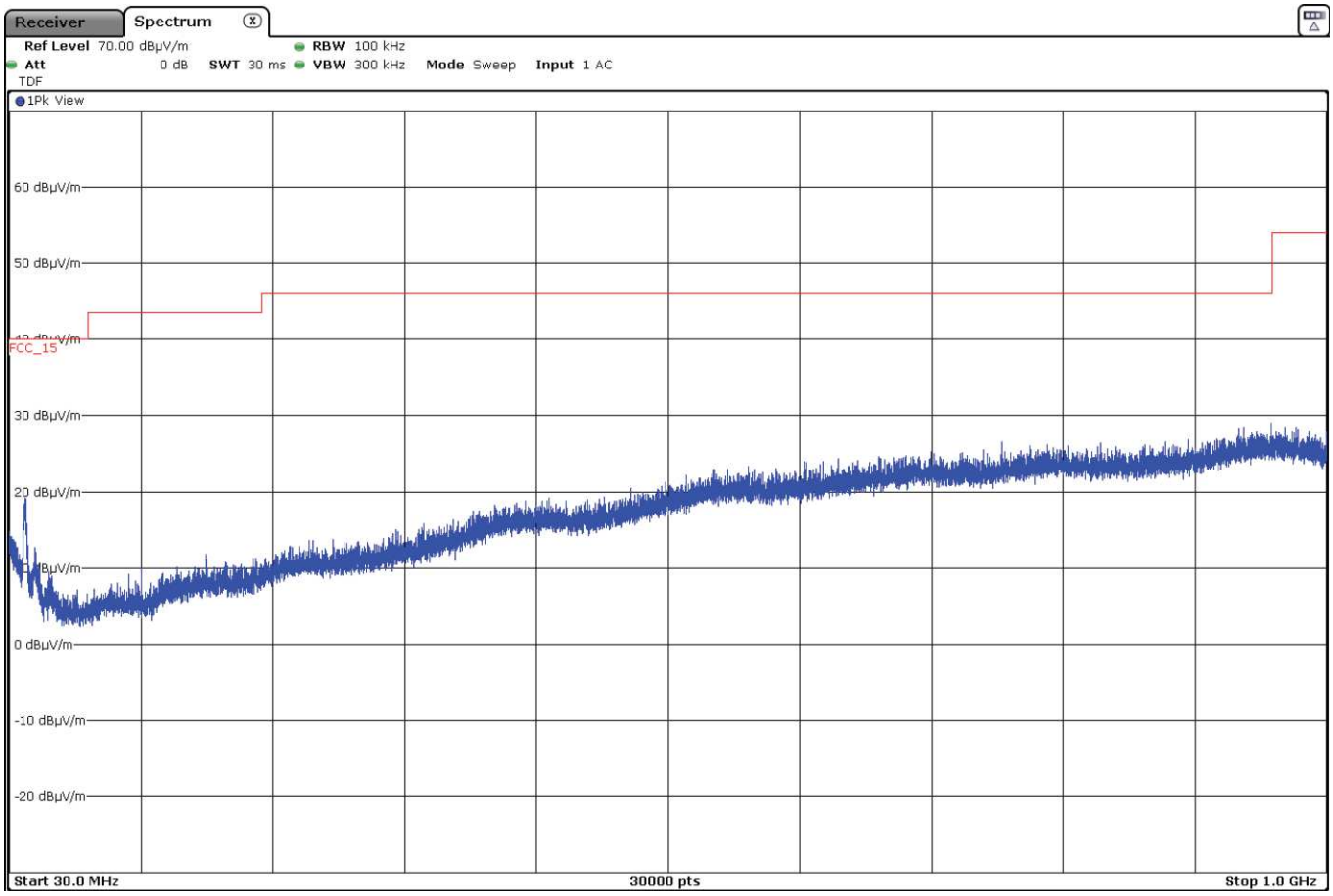
- High Channel (2480 MHz):

Spurious frequency (GHz)	Detector	Emission Level (dBµV/m)	Polarization	Measurement Uncertainty (dB)
2.48356628	Peak	56.48	H	<±3.70
	Average	40.11		
2.48396448	Peak	55.22	V	
	Average	40.32		
2.48475208	Peak	54.89	H	
	Average	40.10		

Verdict: PASS

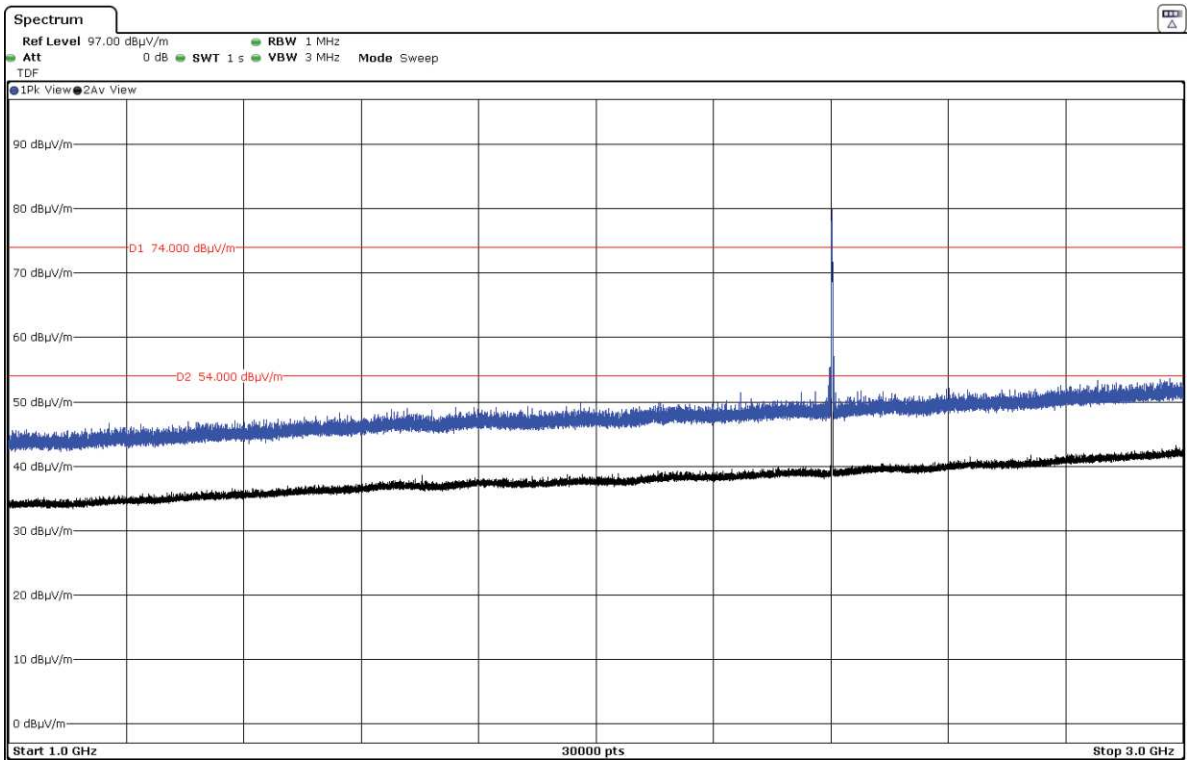
FREQUENCY RANGE 30 MHz - 1 GHz

The spurious signals detected do not depend on the operating channel, so this plot is valid for Low, Middle and High Channels.



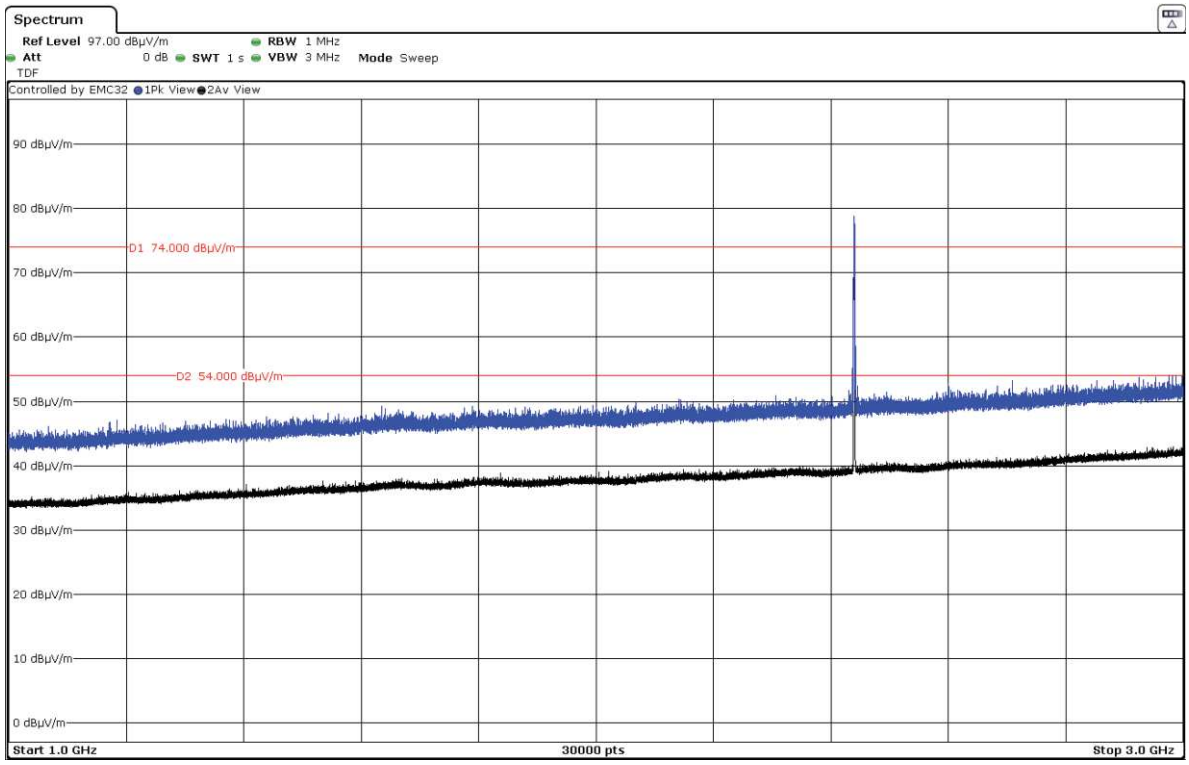
FREQUENCY RANGE 1 - 3 GHz

- Low Channel:



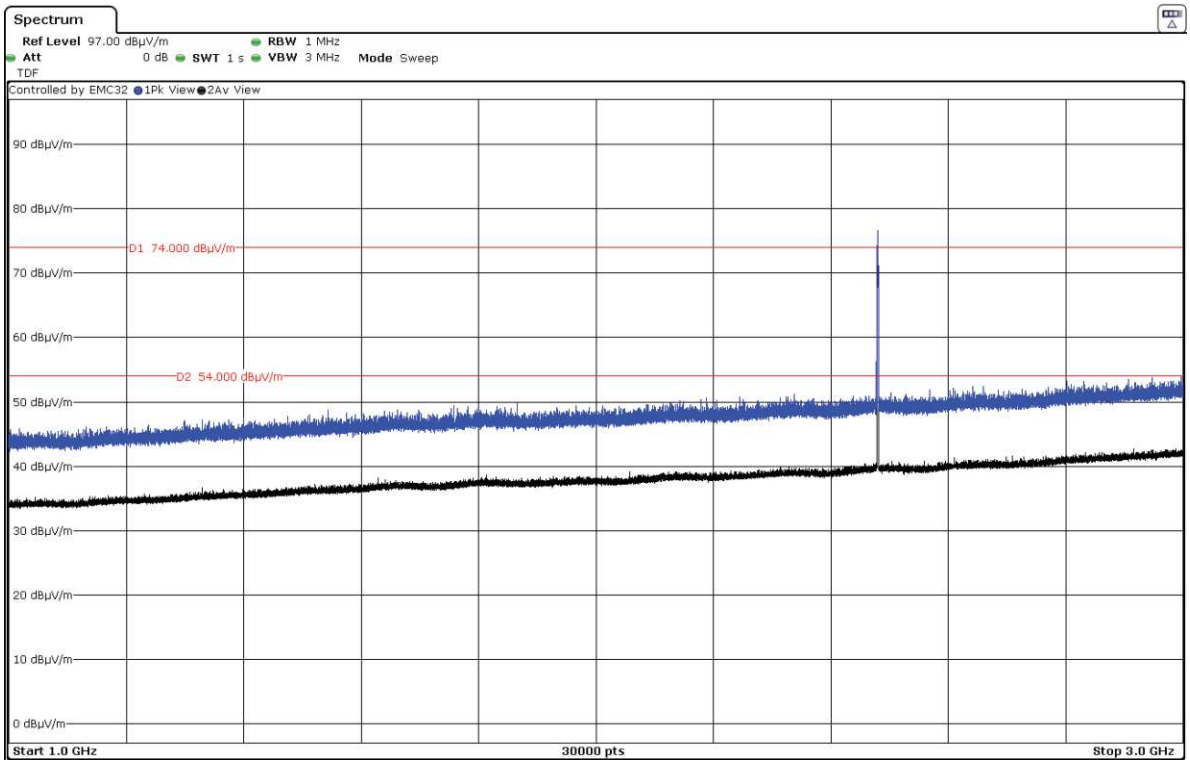
The peak shown in the plot above the limit is the carrier frequency.

- Middle Channel:



The peak shown in the plot above the limit is the carrier frequency.

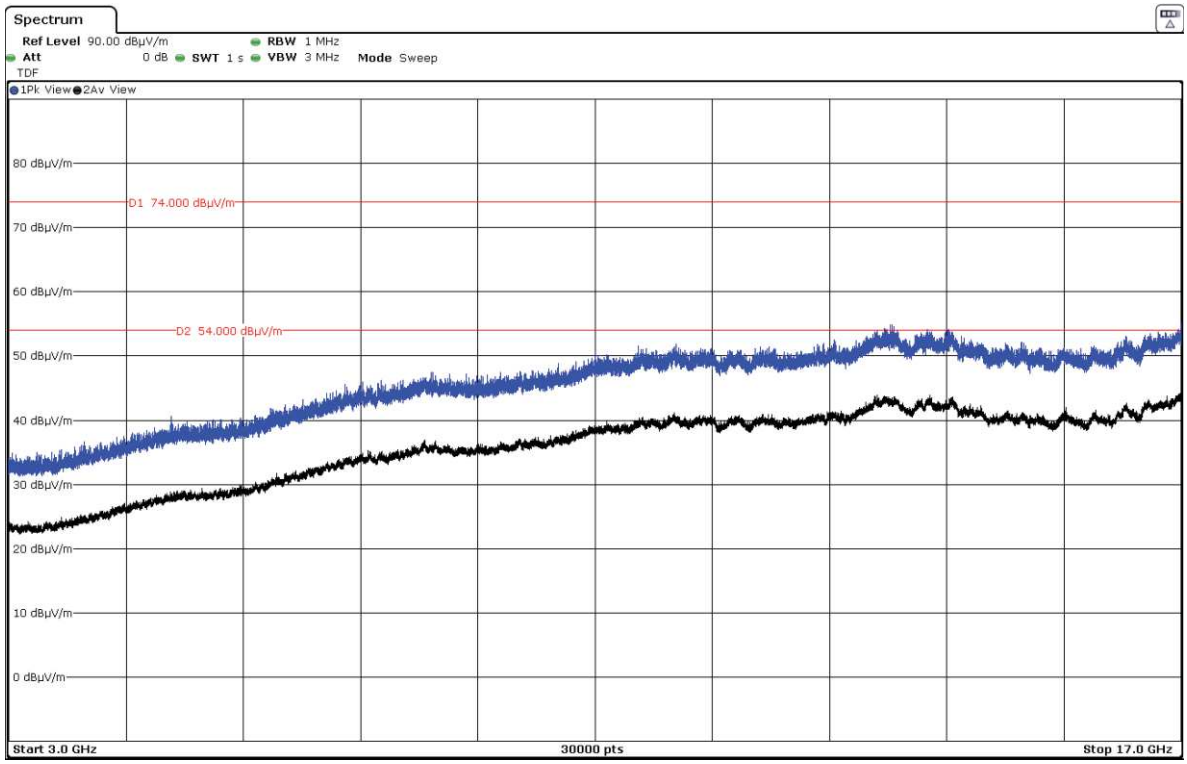
- High Channel:



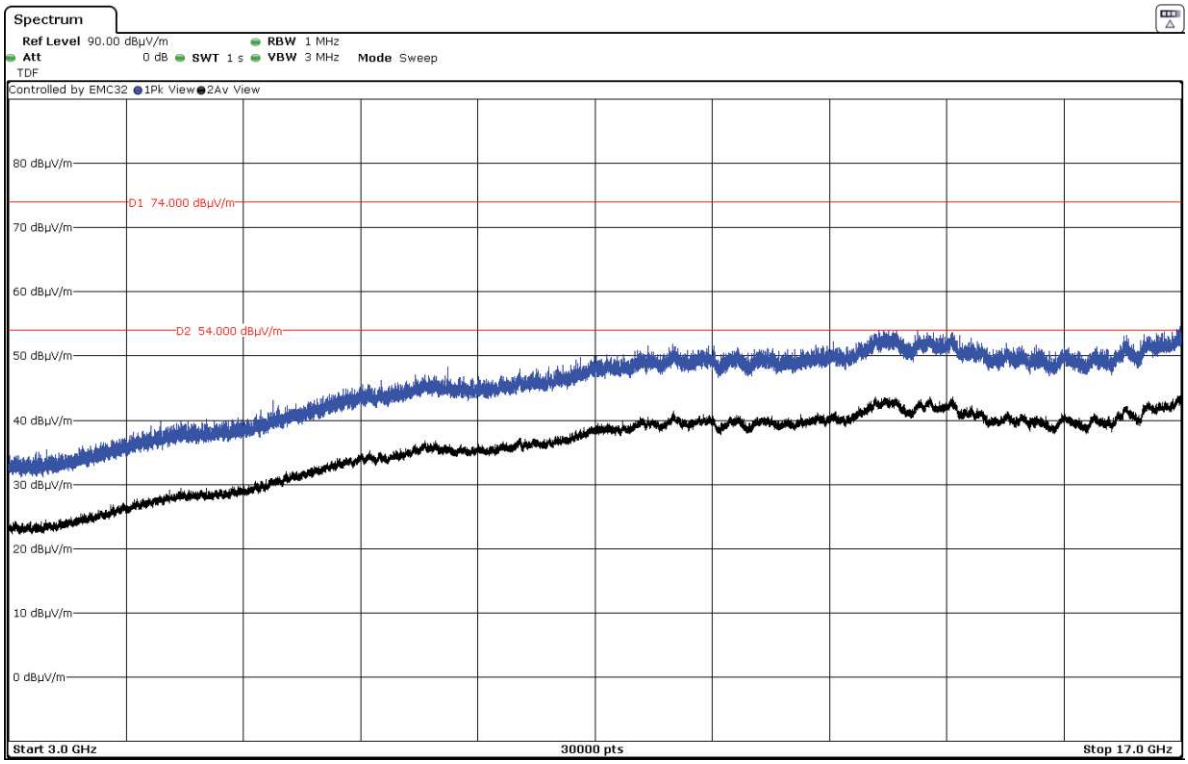
The peak shown in the plot above the limit is the carrier frequency.

FREQUENCY RANGE 3 - 17 GHz

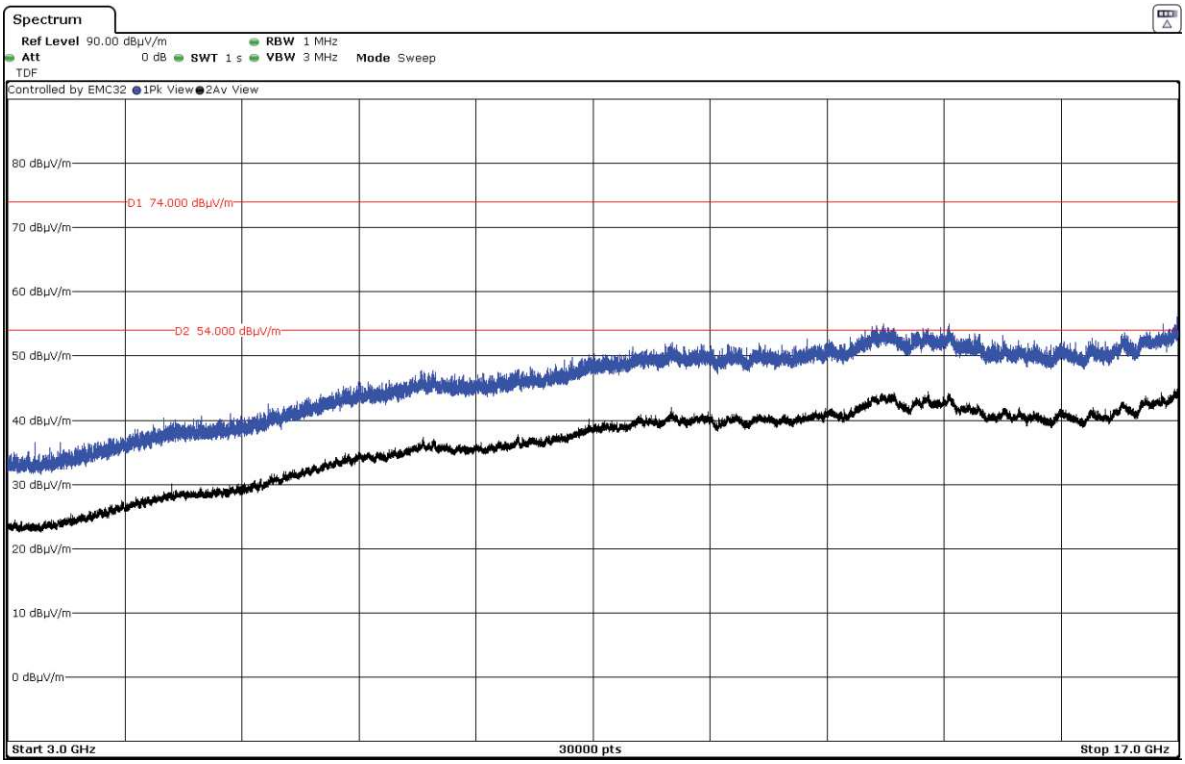
- Low Channel:



- Middle Channel:

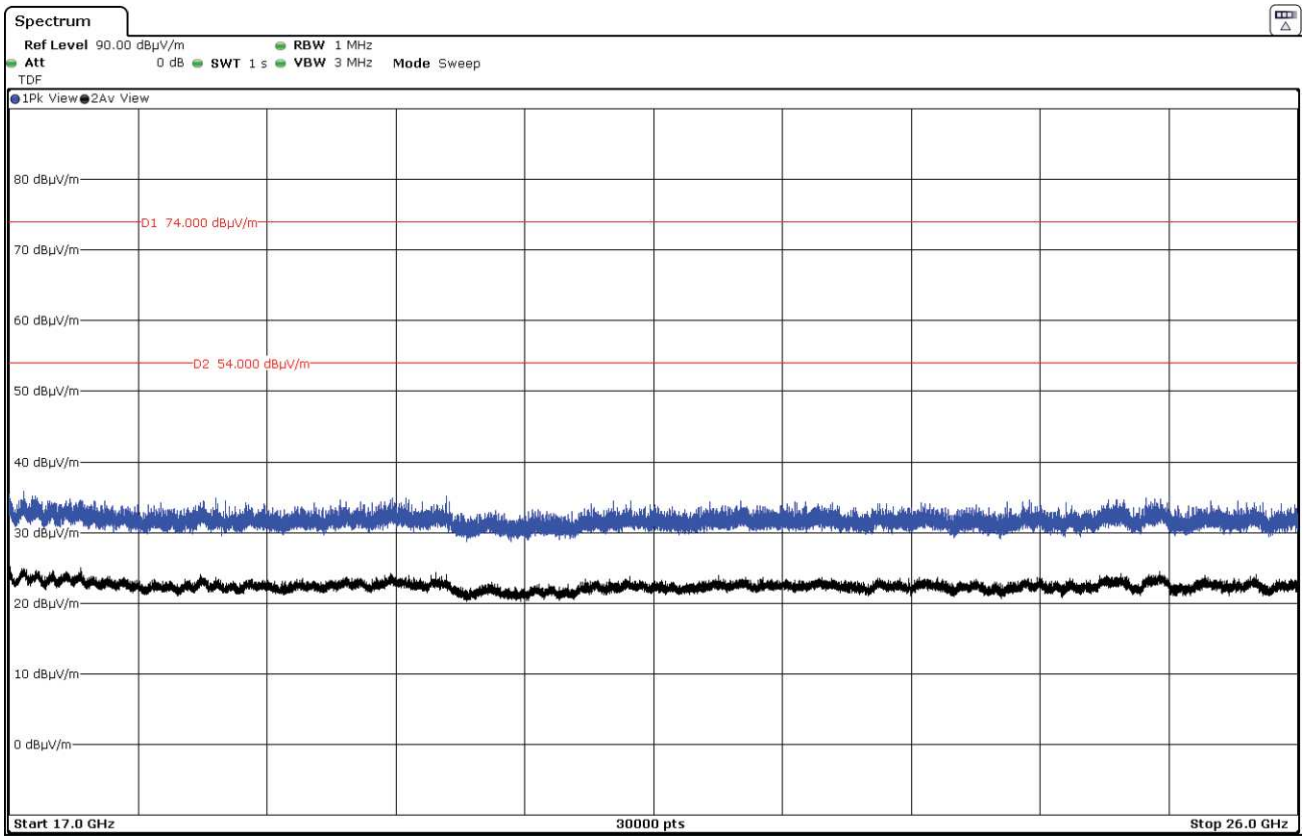


- High Channel:



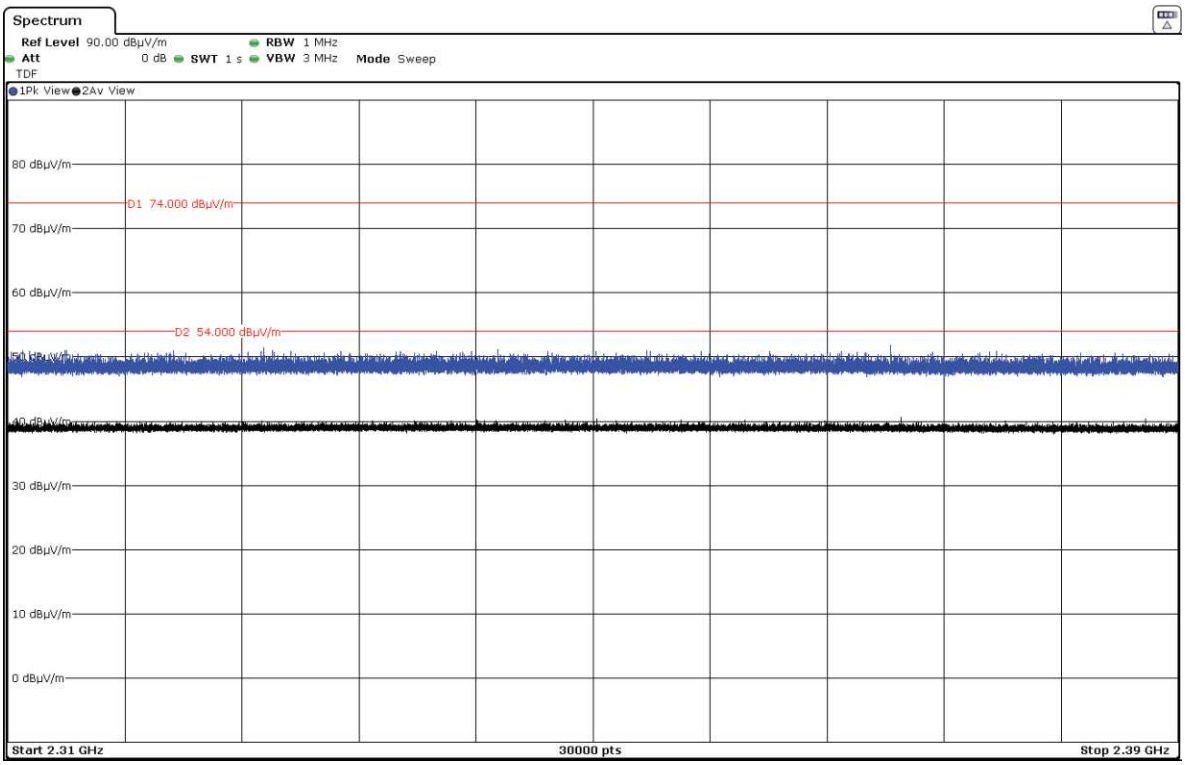
FREQUENCY RANGE 17 - 26 GHz

The spurious signals detected do not depend on the operating channel, so this plot is valid for Low, Middle and High Channels.

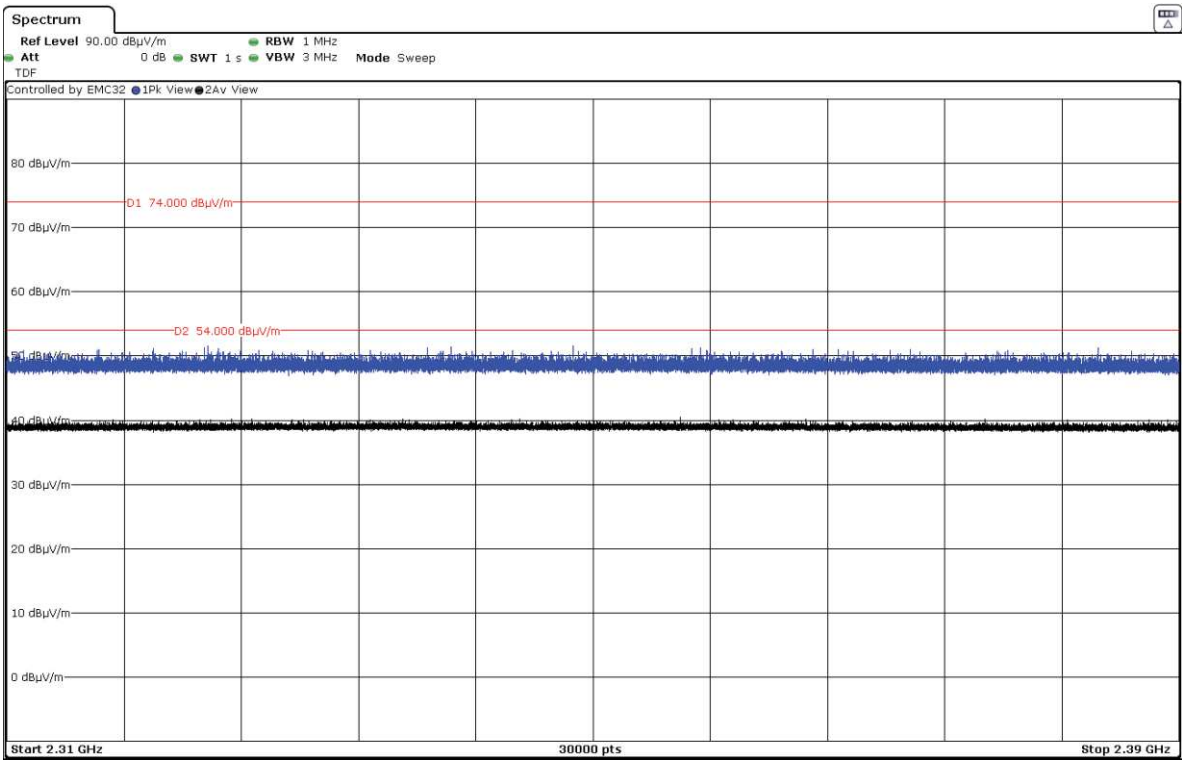


FREQUENCY RANGE 2.31 - 2.39 GHz

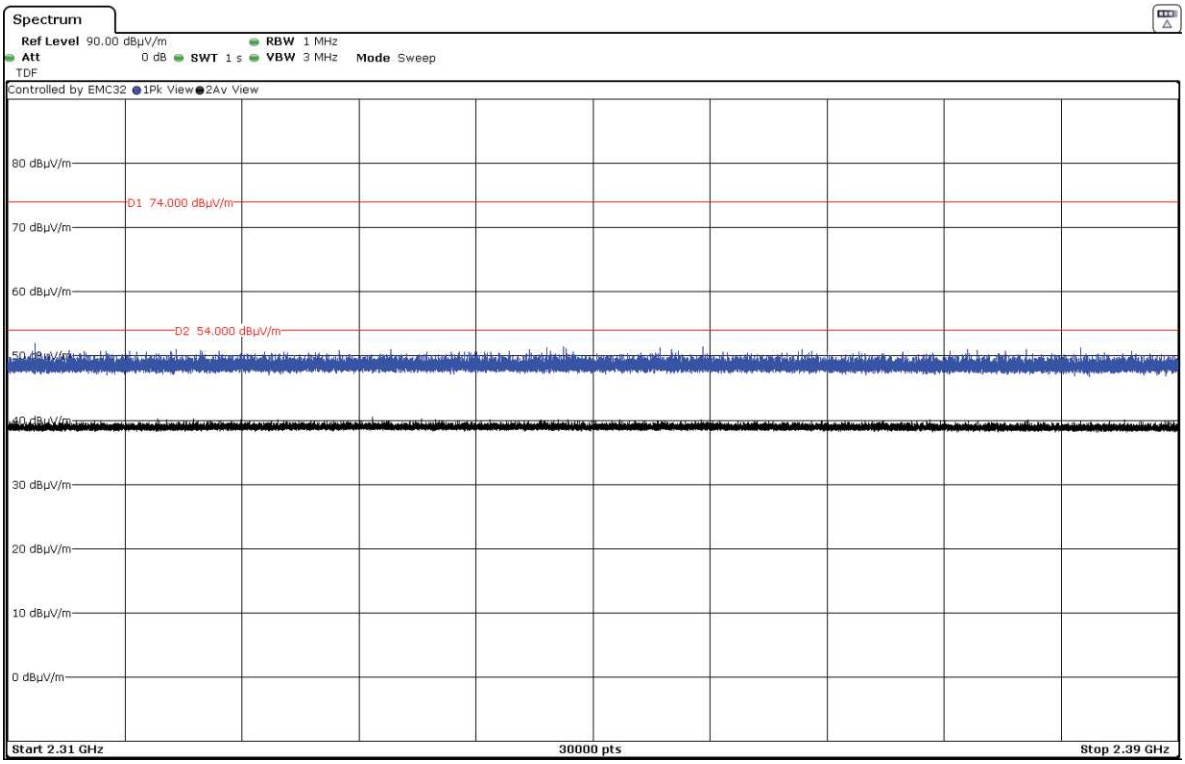
- Low Channel:



- Middle Channel:

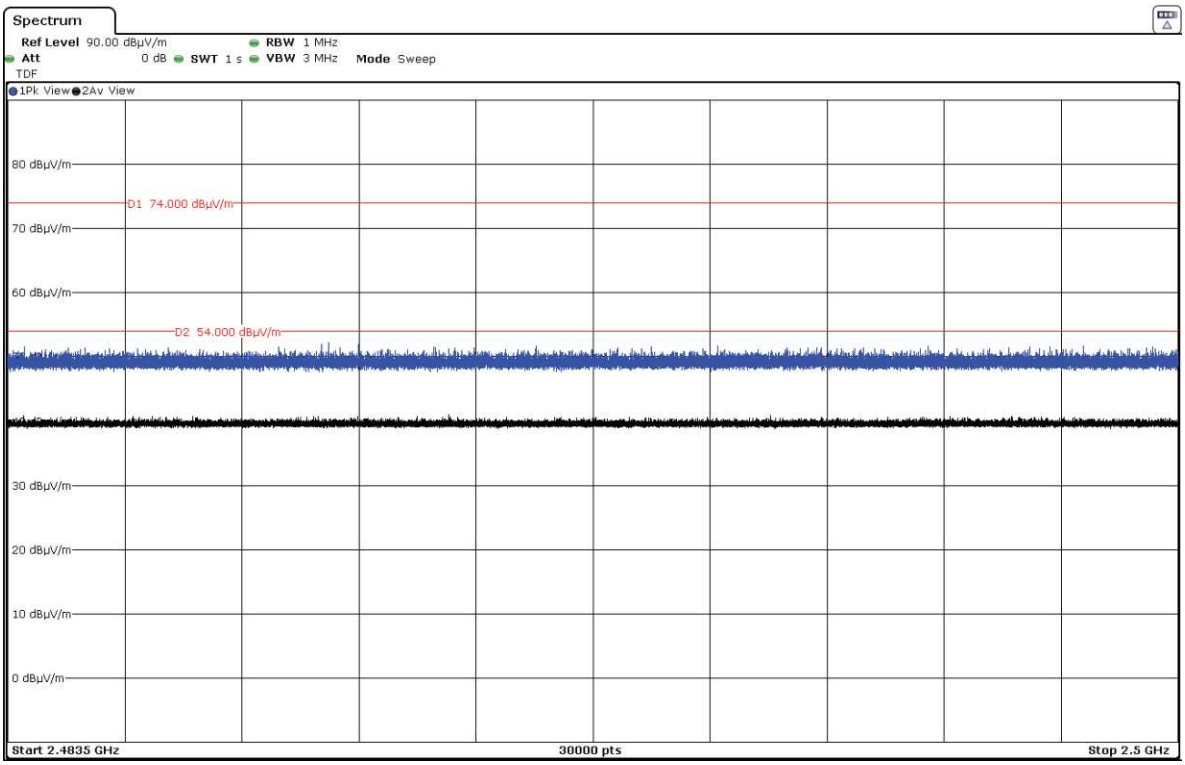


- High Channel:

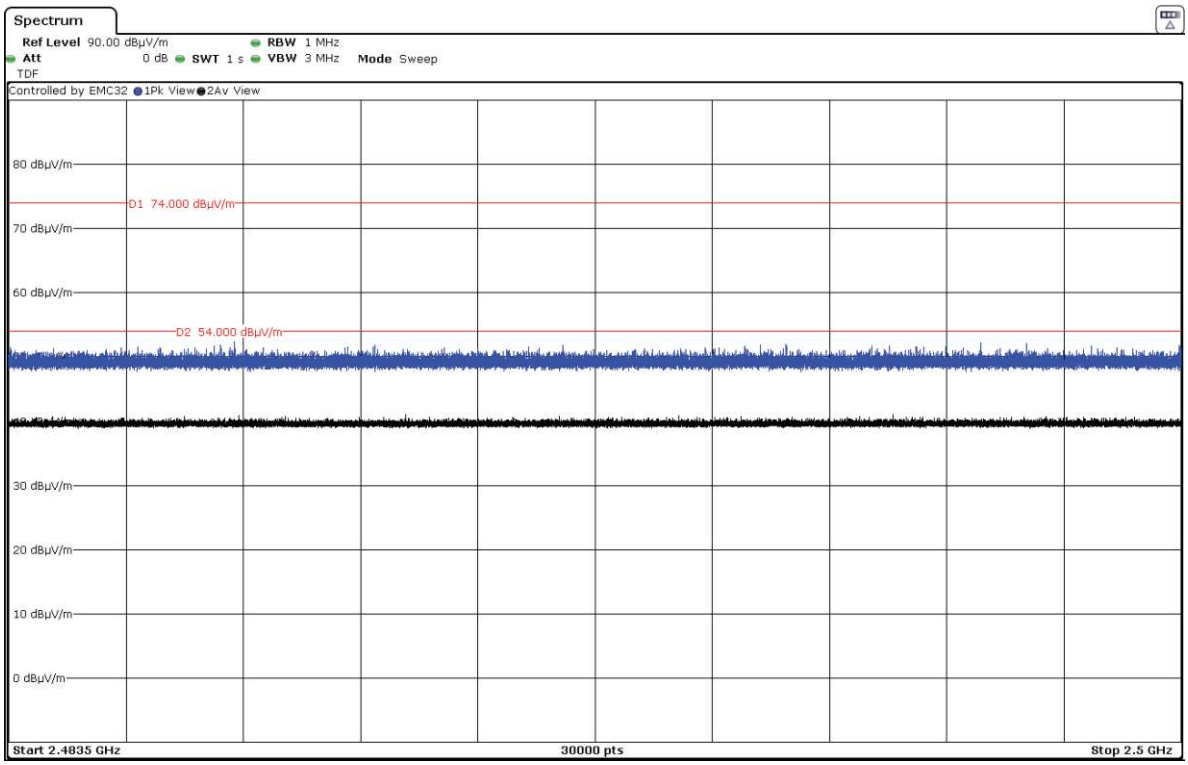
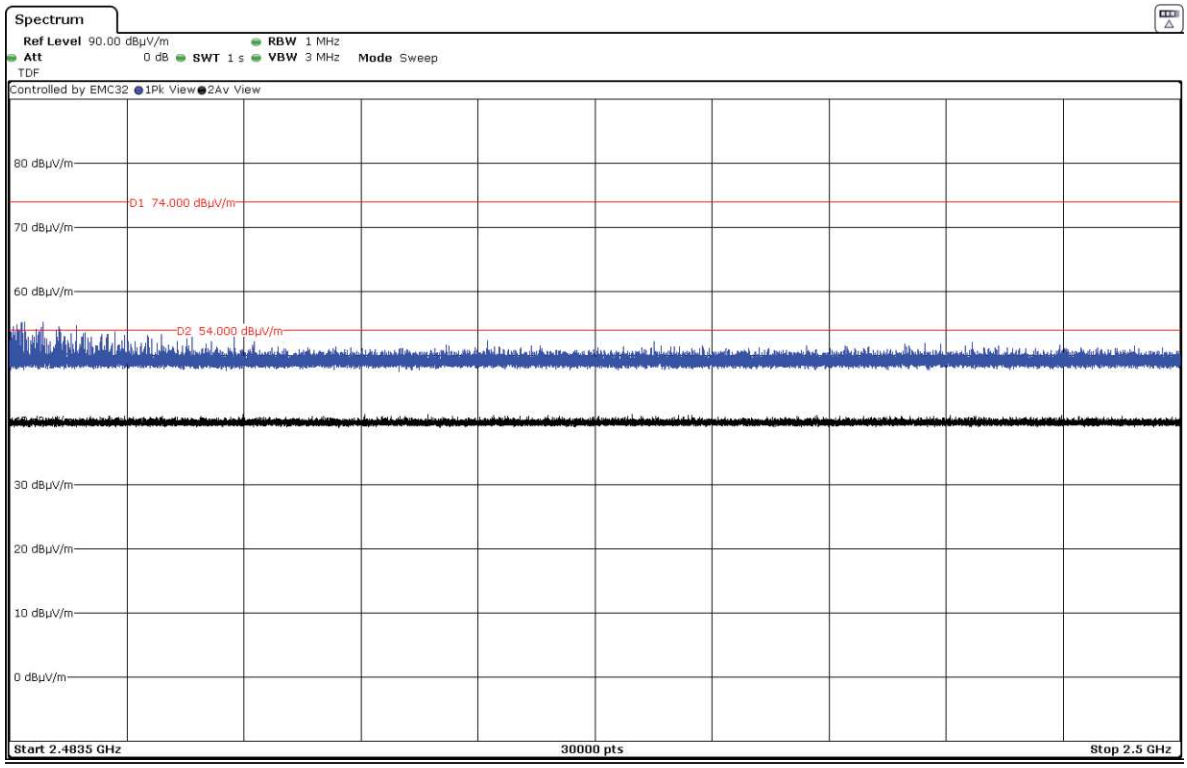


FREQUENCY RANGE 2.4835 - 2.5 GHz

- Low Channel:



- Middle Channel:



- High Channel: