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# JAPAN SPECIFIED RADIO EQUIPMENT

## TEST REPORT

For

**WiFi+Bluetooth 4.1(HS) System on Module**

**Trade Name: TechNexion**

**Model: PIXI-9377**

*Issued to*

**TechNexion Ltd.**

**16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan  
ROC**

*Issued by*

**Compliance Certification Services Inc.**

**Wugu Laboratory**

**No.11, Wugong 6th Rd., Wugu Dist.,  
New Taipei City 24891, Taiwan, R.O.C.**

**Issued Date: August 17, 2018**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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### Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 17, 2018	Initial Issue	ALL	Allison Chen
01	September 10, 2018	1. Revised FPC antenna gain.	P.15	Allison Chen

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## 1. TEST RESULT CERTIFICATION

**Applicant:** TechNexion Ltd.  
16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC

**Manufacturer:** TechNexion Ltd.  
16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC

**Equipment Under Test:** WiFi+Bluetooth 4.1(HS) System on Module

**Trade Name:** TechNexion

**Model Number:** PIXI-9377

**Detailed EUT Description:** See Item 3 of this report

**Date of Test:** July 9, 2018

**EUT Receive Date** June 27, 2018

APPLICABLE STANDARDS	
CLASSIFICATION	TEST RESULT
ARIB STD T-66 Ver.3.7	No non-compliance noted
ARIB RCR STD-33 Ver.5.4	No non-compliance noted

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in ARIB STD T-66 Ver.3.7 & ARIB RCR STD-33 Ver.5.4. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

*Approved by:**Tested by:*

Sam Chuang  
Manager  
Compliance Certification Services Inc.

Dally Hong  
Engineer  
Compliance Certification Services Inc.

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## 2. SUMMARY OF TEST RESULTS

### 2.1 WLAN IEEE 802.11b (CH1~CH13)

APPLIED STANDARD: ARIB STD T-66 Ver.3.7			
Standard Section	Report Section	Test Type and Limit	Test Result
<b>General provisions</b>			
5	6.1	Frequency Error	PASS
6	6.4	Occupied Bandwidth	PASS
7	6.3	Spurious Emissions Intensity	PASS
<b>Transmitting equipment</b>			
14	6.2	Antenna Power	PASS
14.2	-	SAR	-
<b>Transmitting antenna</b>			
20	3	Type, Configuration, etc., of Transmitting Antenna	PASS
22	-	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS
<b>Receiving antenna</b>			
24	6.6	Limitation of Collateral Emission of Receiver	PASS
26	3	Refer to All Articles for Transmitting Antenna	PASS
<b>Operating frequency 2400~2483MHz</b>			
49.20(1);a	4.3	RF Shielding Method	PASS
49.20(1);a	3	Communication Method	PASS
49.20(1);b	3	Spread-spectrum Method	PASS
49.20(1);c	6.2	Antenna Power	PASS
49.20(1);d	-	Absolute Antenna Gain (Provided at Individual Antenna Report)	PASS
49.20(1);e	6.5	Spread-Spectrum Bandwidth	PASS
49.20(1);f	6.5	Spreading Factor	PASS
49.20(1);g	-	Hopping Frequency Dwell Time (FH employed)	-



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## Test Report

Specified Radio Equipment	Class	Article 2 Paragraph 1 Item 19	Model	PIXI-9377	Test Date	2018/7/9
	Type of Emission	GID	Serial No.	1	Test Location	Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan, R.O.C.
	Modulation Type	DSSS	Antenna Power	0.7[mW/MHz]	Temp. / Humid.	24℃ / 58%
	Frequency	2412 ~ 2472 MHz (5MHz separation 13CH)			Test Conducted By	
					Name	Dally.hong
					Department	RF Testing Department

## 2. Test Results

Testing for Electrical Specification	Test Voltage	V	Normal Voltage ( 5V )			Normal Voltage ( 5V )			Normal Voltage ( 5V )			Remarks
	Antenna		Antenna 1			Antenna 2			Antenna 1+Antenna 2			
	Test Frequency	MHz	2412	2442	2472							
	Measured Frequency	MHz	2412.0043	2442.0036	2472.0036							
	Frequency Error	ppm	1.80	1.48	1.46							±50 ppm within
	Occupied Bandwidth	MHz	13.07	13.11	13.11							26 MHz or below
	Spreading Factor	---	5.97	5.97	6.00							Frequency equal to the transmission rate = 1.375[MHz]Limit 5 or more
	Spread-spectrum Bandwidth (DSSS only)	MHz	8.21	8.21	8.25							500 kHz or more
	Spurious Emission Intensity	※1 μW/MHz	0.15417	0.15346	0.17418							2.5 μW/MHz or below
		※2 μW/MHz	0.16482	0.16982	0.18197							25 μW/MHz or below
		※3 μW/MHz	0.15885	0.18923	0.19364							25 μW/MHz or below
		※4 μW/MHz	0.66527	0.61235	0.57016							2.5 μW/MHz or below
	Antenna Power (EIRP)	dBm/MHz	1.81000	2.23000	2.24000							Antenna 1:4dBi Limit 12.14dBm/MHz
	Antenna Power (Conductive)	mW/MHz	0.60395	0.66527	0.66681							10 mW/MHz or below
	Antenna Power Error	mW/MHz	-0.09605	-0.03473	-0.03319							
		%	-13.72162	-4.96098	-4.74189							+ 20 , - 80 % within
	A-factor	※7 A	0.09	0.10	0.10							A = EIRP (in mW) / 16.37
		※8 degrees	360.00	360.00	360.00							360/A
	Limitation of Collateral Emission of Receiver	※5 nW/MHz	0.01596	0.01866	0.01824							4 nW or below
		※6 nW/MHz	0.52602	0.53951	0.62951							20 nW or below
	Radio Interference Prevention Function	ID Code	MAC Address ( 6147AA103102 )									
		Carrier Sense										

※1: Frequency Band 1 (30MHz ~ 2,387MHz)

※2: Frequency Band 2 (more than 2,387MHz ~ 2,400MHz)

※3: Frequency Band 3 (2,483.5MHz ~ less than 2,496.5MHz)

※4: Frequency Band 4 (2,496.5MHz ~ less than 12.5GHz)

※5: Frequency Band 4 (30MHz ~ 1GHz)

※6: Frequency Band 5 (1GHz ~ 12.5GHz)

※7 A is equal to EIRP (in mW) / 16.37 .The conducted power is limited to 10 mW.

※8 The calculated A is smaller than 1 by definition A becomes 1.

## 2.2 WLAN IEEE 802.11b (CH14)

APPLIED STANDARD: RCR STD T-33 Ver.5.4			
Standard Section	Report Section	Test Type and Limit	Test Result
<b>General provisions</b>			
5	7.1	Frequency Error	PASS
6	7.4	Occupied Bandwidth	PASS
7	7.3	Spurious Emissions Intensity	PASS
<b>Transmitting equipment</b>			
14	7.2	Antenna Power	PASS
14.2	-	SAR	-
<b>Transmitting antenna</b>			
20	3	Type, Configuration, etc., of Transmitting Antenna	PASS
22	-	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS
<b>Receiving antenna</b>			
24	7.6	Limitation of Collateral Emission of Receiver	PASS
26	3	Refer to All Articles for Transmitting Antenna	PASS
<b>Operating frequency 2471~2497 MHz</b>			
49.20(1);a	4.3	RF Shielding Method	PASS
49.20(1);a	3	Communication Method	PASS
49.20(1);b	3	Spread-spectrum Method	PASS
49.20(1);c	7.2	Antenna Power	PASS
49.20(1);d	-	Absolute Antenna Gain (Provided at Individual Antenna Report)	PASS
49.20(1);e	7.5	Spread-Spectrum Bandwidth	PASS
49.20(1);f	7.5	Spreading Factor	PASS
49.20(1);g	-	Hopping Frequency Dwell Time (FH employed)	-



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Test Date	2018/7/9
Test Location	Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan R.O.C.
Temp. / Humid.	25℃ / 55%
Test Conducted By	
Name	Dally.Hong
Department	RF Testing Department

Specified Radio Equipment	Class	Article 2 Paragraph 1 Item 19-2	Model	PIXI-9377
	Type of Emission	GID	Serial No.	1
	Modulation Type	DSSS	Antenna Power	0.3[mW/MHz]
	Frequency	2484 MHz		

2. Test Results

Test Voltage		V	Normal Voltage ( 5V )			Normal Voltage ( 5V )			Normal Voltage ( 5V )			Remarks
Antenna			Antenna 1			Antenna 2			Antenna 1+Antenna 2			
Test Frequency		MHz		2484								
Measured Frequency		MHz		2484.0043								
Frequency Error		ppm		1.75								±50 ppm within
Occupied Bandwidth		MHz		19.103								26 MHz or below
Spread-spectrum Bandwidth		MHz		14.110								500 kHz or more
Spreading Factor		---		10.262								Frequency equal to the transmission rate = [MHz]Limit 10 or more
Spurious Emission Intensity	※1	μW/MHz		0.17298								2.5 uW/MHz or below
	※2	μW/MHz		0.68707								25 uW/MHz or below
	※3	μW/MHz		0.68234								25 uW/MHz or below
	※4	μW/MHz		0.64714								2.5 uW/MHz or below
Antenna Power (EIRP)		dBm/MHz		-1.05000								Antenna 1:4 dBi Limit 12.14dBm/MHz
Antenna Power (Conductive)		mW/MHz		0.31261								10 mW/MHz or below
Antenna Power Error		mW/MHz		0.01261								
		%		4.20265								+ 20 , - 80 % within
A-factor	※7	A		0.05								A = EIRP (in mW) / 16.37
	※8	degrees		360.00								360/A
Limitation of Collateral Emission of Receiver	※5	nW/100KHz		0.17458								4 nW or below
	※6	nW/MHz		0.57148								20 nW or below
Hopping Frequency Dwell Time		sec										
Radio Interference Prevention Function	ID Code		MAC Address ( 6147AA103102 )									
	Carrier Sense		OK									

※1: Frequency Band 1 (30MHz ~ 2,387MHz)

※2: Frequency Band 2 (more than 2,387MHz ~ 2,400MHz)

※3: Frequency Band 3 (2,483.5MHz ~ less than 2,496.5MHz)

※4: Frequency Band 4 (2,496.5MHz ~ less than 12.5GHz)

※5: Frequency Band 4 (30MHz ~ 1GHz)

※6: Frequency Band 5 (1GHz ~ 12.5GHz)

※7 A is equal to EIRP (in mW) / 16.37 .The conducted power is limited to 10 mW.

※8 The calculated A is smaller than 1 by definition A becomes 1.



## 2.3 WLAN IEEE 802.11g (CH1~CH13)

APPLIED STANDARD: ARIB STD T-66 Ver.3.7			
Standard Section	Report Section	Test Type and Limit	Test Result
<b>General provisions</b>			
5	8.1	Frequency Error	PASS
6	8.4	Occupied Bandwidth	PASS
7	8.3	Spurious Emissions Intensity	PASS
<b>Transmitting equipment</b>			
14	8.2	Antenna Power	PASS
14.2	-	SAR	-
<b>Transmitting antenna</b>			
20	3	Type, Configuration, etc., of Transmitting Antenna	PASS
22	-	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS
<b>Receiving antenna</b>			
24	8.6	Limitation of Collateral Emissions of Receiver	PASS
26	3	Refer to All Articles for Transmitting Antenna	PASS
<b>Operating frequency 2400~2483MHz</b>			
49.20(1);a	4.3	RF Shielding Method	PASS
49.20(1);a	3	Communication Method	PASS
49.20(1);b	3	Spread-spectrum Method	PASS
49.20(1);c	8.2	Antenna Power	PASS
49.20(1);d	-	Absolute Antenna Gain (Provided at Individual Antenna Report)	PASS
49.20(1);e	-	Diffusion Bandwidth	-
49.20(1);f	-	Spreading Factor	-
49.20(1);g	-	Hopping Frequency Dwell Time (FH employed)	-



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## Test Report

Specified Radio Equipment	Class	Article 2 Paragraph 1 Item 19	Model	PIXI-9377	Test Date	2018/7/9
	Type of Emission	GID	Serial No.	1	Test Location	Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan, R.O.C.
	Modulation Type	OFDM	Antenna Power	0.3[mW/MHz]	Temp. / Humid.	24℃ / 58%
	Frequency	2412 ~ 2472 MHz (5MHz separation 13CH)			Test Conducted By	
					Name	Dally.Hong
					Department	RF Testing Department

## 2. Test Results

Testing for Electrical Specification	Test Voltage		V	Normal Voltage ( 5V )			Normal Voltage ( 5V )			Normal Voltage ( 5V )			Remarks
	Antenna			Antenna 1			Antenna 2			Antenna 1+Antenna 2			
	Test Frequency		MHz	2412	2442	2472							
	Measured Frequency		MHz	2412.0036	2442.0036	2472.0036							
	Frequency Error		ppm	1.50	1.48	1.46							±50 ppm within
	Occupied Bandwidth		MHz	16.28	16.32	16.32							26 MHz or below
	Spurious Emission Intensity	※1	μW/MHz	0.17620	0.15996	0.16406							2.5 μW/MHz or below
		※2	μW/MHz	0.93756	0.17701	0.16144							25 μW/MHz or below
		※3	μW/MHz	0.16482	0.19409	1.36458							25 μW/MHz or below
		※4	μW/MHz	0.58345	0.58210	0.68234							2.5 μW/MHz or below
	Antenna Power (EIRP)		dBm/MHz	-2.16000	-1.88000	-1.61000							Antenna 1:4dBi Limit 12.14dBm/MHz
	Antenna Power (Conductive)		mW/MHz	0.24210	0.25823	0.27479							10 mW/MHz or below
	Antenna Power Error		mW/MHz	-0.05790	-0.04177	-0.02521							
			%	-19.29903	-13.92466	-8.40353							+ 20 , - 80 % within
	A-factor	※7	A	0.04	0.04	0.04							A = EIRP (in mW) / 16.37
		※8	degrees	360.00	360.00	360.00							360/A
	Limitation of Collateral Emission of Receiver	※5	nW/100KHz	0.01496	0.01445	0.01718							4 nW or below
		※6	nW/MHz	0.50466	0.55590	0.56364							20 nW or below
	Radio Interference Prevention Function		ID Code	MAC Address ( 6147AA103102 )									
			Carrier Sense										

※1: Frequency Band 1 (30MHz ~ 2,387MHz)

※2: Frequency Band 2 (more than 2,387MHz ~ 2,400MHz)

※3: Frequency Band 3 (2,483.5MHz ~ less than 2,496.5MHz)

※4: Frequency Band 4 (2,496.5MHz ~ less than 12.5GHz)

※5: Frequency Band 4 (30MHz ~ 1GHz)

※6: Frequency Band 5 (1GHz ~ 12.5GHz)

※7 A is equal to EIRP (in mW) / 16.37 .The conducted power is limited to 10 mW.

※8 The calculated A is smaller than 1 by definition A becomes 1.

## 2.4 WLAN IEEE 802.11n HT20 (CH1~CH13)

APPLIED STANDARD: ARIB STD T-66 Ver.3.7			
Standard Section	Report Section	Test Type and Limit	Test Result
<b>General provisions</b>			
5	9.1	Frequency Error	PASS
6	9.4	Occupied Bandwidth	PASS
7	9.3	Spurious Emissions Intensity	PASS
<b>Transmitting equipment</b>			
14	9.2	Antenna Power	PASS
14.2	-	SAR	-
<b>Transmitting antenna</b>			
20	3	Type, Configuration, etc., of Transmitting Antenna	PASS
22	-	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS
<b>Receiving antenna</b>			
24	9.5	Limitation of Collateral Emissions of Receiver	PASS
26	3	Refer to All Articles for Transmitting Antenna	PASS
<b>Operating frequency 2400~2483MHz</b>			
49.20(1);a	4.3	RF Shielding Method	PASS
49.20(1);a	3	Communication Method	PASS
49.20(1);b	-	Spread-spectrum Method	-
49.20(1);c	9.2	Antenna Power	PASS
49.20(1);d	-	Absolute Antenna Gain (Provided at Individual Antenna Report)	PASS
49.20(1);e	-	Diffusion Bandwidth	-
49.20(1);f	-	Spreading Factor	-
49.20(1);g	-	Hopping Frequency Dwell Time (FH employed)	-



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## Test Report

Specified Radio Equipment	Class	Article 2 Paragraph 1 Item 19	Model	PIXI-9377	Test Date	2018/7/9
	Type of Emission	G1D/D1D	Serial No.	1	Test Location	Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan, R.O.C.
	Modulation Type	OFDM	Antenna Power	0.23[mW/MHz]	Temp. / Humid.	24℃ / 58%
	Frequency	2412 ~ 2472 MHz (5MHz separation 13CH)			Test Conducted By	
					Name	Dally.Hong
					Department	RF Testing Department

## 2. Test Results

Testing for Electrical Specification	Test Voltage	V	Normal Voltage ( 5V )			Normal Voltage ( 5V )			Normal Voltage ( 5V )			Remarks
	Antenna		Antenna 1			Antenna 2			Antenna 1+Antenna 2			
	Test Frequency	MHz	2412	2442	2472	2412	2442	2472	2412	2442	2472	
	Measured Frequency	MHz	2412.0036	2442.0043	2472.0043							
	Frequency Error	ppm	1.50	1.78	1.76							±50 ppm within
	Occupied Bandwidth	MHz	17.41	17.45	17.41							26 MHz or below
	Spurious Emission Intensity	※1 μW/MHz	0.14997	0.16106	0.16255							2.5 uW/MHz or below
		※2 μW/MHz	0.94406	0.18836	0.16255							25 uW/MHz or below
		※3 μW/MHz	0.16218	0.18664	1.58125							25 uW/MHz or below
		※4 μW/MHz	0.61660	0.60814	0.61944							2.5 uW/MHz or below
	Antenna Power (EIRP)	dBm/MHz	0.51880	0.57810	0.60674							
	Antenna Power (Conductive)	mW/MHz	0.20654	0.23014	0.24155							10 mW/MHz or below
	Antenna Power Error	mW/MHz	-0.02346	0.00014	0.01155							
		%	-10.20086	0.06269	5.02004							+ 20 , - 80 % within
	A-factor	※7 A	0.03	0.04	0.04							A = EIRP (in mW) / 16.37
		※8 degrees	360.00	360.00	360.00							360/A
Limitation of Collateral Emission of Receiver	※5 nW/100kHz	0.01531	0.01596	0.01607								4 nW or below
	※6 nW/MHz	0.59979	0.63826	0.55847								20 nW or below
Radio Interference Prevention Function		ID Code	MAC Address ( 6147AA103102 )									
		Carrier Sense										

※1: Frequency Band 1 (30MHz ~ 2,387MHz)

※2: Frequency Band 2 (more than 2,387MHz ~ 2,400MHz)

※3: Frequency Band 3 (2,483.5MHz ~ less than 2,496.5MHz)

※4: Frequency Band 4 (2,496.5MHz ~ less than 12.5GHz)

※5: Frequency Band 4 (30MHz ~ 1GHz)

※6: Frequency Band 5 (1GHz ~ 12.5GHz)

※7 A is equal to EIRP (in mW) / 16.37 .The conducted power is limited to 10 mW.

※8 The calculated A is smaller than 1 by definition A becomes 1.

## 2.5 WLAN IEEE 802.11n HT40 (CH3~CH11)

APPLIED STANDARD: ARIB STD T-66 Ver.3.7			
Standard Section	Report Section	Test Type and Limit	Test Result
<b>General provisions</b>			
5	10.1	Frequency Error	PASS
6	10.4	Occupied Bandwidth	PASS
7	10.3	Spurious Emissions Intensity	PASS
<b>Transmitting equipment</b>			
14	10.2	Antenna Power	PASS
14.2	-	SAR	-
<b>Transmitting antenna</b>			
20	3	Type, Configuration, etc., of Transmitting Antenna	PASS
22	-	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS
<b>Receiving antenna</b>			
24	10.5	Limitation of Collateral Emissions of Receiver	PASS
26	3	Refer to All Articles for Transmitting Antenna	PASS
<b>Operating frequency 2400~2483MHz</b>			
49.20(1);a	4.3	RF Shielding Method	PASS
49.20(1);a	3	Communication Method	PASS
49.20(1);b	-	Spread-spectrum Method	-
49.20(1);c	10.2	Antenna Power	PASS
49.20(1);d	-	Absolute Antenna Gain (Provided at Individual Antenna Report)	PASS
49.20(1);e	-	Diffusion Bandwidth	-
49.20(1);f	-	Spreading Factor	-
49.20(1);g	-	Hopping Frequency Dwell Time (FH employed)	-



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## Test Report

Specified Radio Equipment	Class	Article 2 Paragraph 1 Item 19	Model	PIXI-9377	Test Date	2018/7/9
	Type of Emission	GID/D1D	Serial No.		Test Location	Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan, R.O.C.
	Modulation Type	OFDM	Antenna Power	0.1[mW/MHz]	Temp. / Humid.	24℃ / 58%
	Frequency	2422 ~ 2462 MHz (5MHz separation 9CH)			Test Conducted By	
					Name	Dally.Hong
					Department	RF Testing Department

## 2. Test Results

Testing for Electrical Specification	Test Voltage		V	Normal Voltage ( 5V )			Normal Voltage ( 5V )			Normal Voltage ( 5V )			Remarks	
	Antenna			Antenna 1			Antenna 2			Antenna 1+Antenna 2				
	Test Frequency		MHz	2422	2442	2462	2422	2442	2462	2422	2442	2462		
	Measured Frequency		MHz	2422.0043	2442.0043	2462.0043								
	Frequency Error		ppm	1.79	1.78	1.76							±50 ppm within	
	Occupied Bandwidth		MHz	35.774	35.687	35.687							38 MHz or below	
	Spurious Emission Intensity	※1	μW/MHz	0.27733	0.16069	0.17338							2.5 uW/MHz or below	
		※2	μW/MHz	2.54097	0.42954	0.25823							25 uW/MHz or below	
		※3	μW/MHz	0.18113	0.25823	2.61818							25 uW/MHz or below	
		※4	μW/MHz	0.55976	0.62517	0.65464							2.5 uW/MHz or below	
	Antenna Power (EIRP)		dBm/MHz	0.25823	0.29174	0.27290								
	Antenna Power (Conductive)		mW/MHz	0.10280	0.11614	0.10864							5 mW/MHz or below	
	Antenna Power Error		mW/MHz	0.00280	0.01614	0.00864								
			%	2.80163	16.14486	8.64256							+ 20 , - 80 % within	
	A-factor	※7	A	0.02	0.02	0.02							A = EIRP (in mW) / 16.37	
		※8	degrees	360.00	360.00	360.00							360/A	
Limitation of Collateral Emission of Receiver	※5	nW/100KHz		0.02123	0.01936	0.01718							4 nW or below	
	※6	nW/MHz		0.54450	0.64269	0.57677							20 nW or below	
Radio Interference Prevention Function			ID Code	MAC Address ( 6147AA103102 )										
			Carrier Sense	OK	OK	OK	OK	OK	OK	OK	OK	OK	Carrier Sense: -50dBm	

※1: Frequency Band 1 (30MHz ~ 2,387MHz)

※2: Frequency Band 2 (more than 2,387MHz ~ 2,400MHz)

※3: Frequency Band 3 (2,483.5MHz ~ less than 2,496.5MHz)

※4: Frequency Band 4 (2,496.5MHz ~ less than 12.5GHz)

※5: Frequency Band 4 (30MHz ~ 1GHz)

※6: Frequency Band 5 (1GHz ~ 12.5GHz)

※7 A is equal to EIRP (in mW) / 16.37 .The conducted power is limited to 10 mW

※8 The calculated A is smaller than 1 by definition A becomes 1.

### 3. EUT DESCRIPTION

<b>Product</b>	WiFi+Bluetooth 4.1(HS) System on Module
<b>Trade Name</b>	TechNexion
<b>Model Number</b>	PIXI-9377
<b>Power Supply</b>	Powered from host device. (DC 5V)
<b>Model Discrepancy</b>	N/A
<b>Frequency Range</b>	IEEE 802.11b (CH1~13): 2412~2472MHz IEEE 802.11b (CH14): 2484MHz IEEE 802.11g (CH1~13): 2412~2472MHz IEEE 802.11n HT20 (CH1~13): 2412~2472MHz IEEE 802.11n HT40 (CH3~11): 2422~2462MHz
<b>Rated Antenna Power (mW/MHz)</b>	IEEE 802.11b (CH1~13): 0.7mW/MHz IEEE 802.11b (CH14): 0.3mW/MHz IEEE 802.11g (CH1~13): 0.3mW/MHz IEEE 802.11n HT20 (CH1~13): 0.23mW/MHz IEEE 802.11n HT40 (CH3~11): 0.1mW/MHz
<b>Measured Antenna Power (mW/MHz)</b>	IEEE 802.11b (CH1~13): 0.66681mW/MHz IEEE 802.11b (CH14): 0.31261mW/MHz IEEE 802.11g (CH1~13): 0.27479mW/MHz IEEE 802.11n HT20 (CH1~13): 0.24155mW/MHz IEEE 802.11n HT40 (CH3~11): 0.11614mW/MHz
<b>Modulation Technique</b>	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (QPSK, BPSK, 16-QAM, 64-QAM) IEEE 802.11n: OFDM (QPSK, BPSK, 16-QAM, 64-QAM)
<b>Number of Channels</b>	IEEE 802.11b (CH1~13): 13 channels IEEE 802.11b (CH14): 1 channel IEEE 802.11g / n HT20 (CH1~13): 13 channels IEEE 802.11n HT40 (CH3~11): 9 channels
<b>Antenna Specification</b>	FPC Antenna: Gain: 2.5dBi Dipole Antenna: Gain: 4dBi
<b>Hardware Version</b>	A1
<b>Software Version</b>	1.0

**Remark:** for more details, please refer to the User's manual of the EUT.

## 4. TEST METHODOLOGY & CONDITIONS

### 4.1 TEST CONDITIONS

Voltage Fluctuation Test	Normal Voltage	High Voltage + 10% of Normal Voltage	Low Voltage - 10% of Normal Voltage
Input DC Power	5	5.5	4.5
Output DC Power	3.31	3.31	3.3
Voltage Variation (%)	-	0.000000	-0.302115

Voltage Variation (%) = (Output High or Low Voltage - Output Normal Voltage) / Output Normal Voltage \* 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/- 1%.Exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulations.



## 4.2 DESCRIPTION OF TEST MODES

The EUT (model: PIXI-9377) had been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

The worst case data rate is determined as the data rate with highest output power.

IEEE802.11b (CH1~13): Channel Low, Channel Mid and Channel High with 11Mbps data rate were chosen for full testing.

IEEE802.11b (CH14): Channel 14 with 11Mbps data rate was chosen for full testing.

IEEE802.11g (CH1~13): Channel Low, Channel Mid and Channel High with 6Mbps data rate were chosen for full testing.

IEEE802.11n HT 20MHz (CH1~13) : Channel Low, Channel Mid and Channel High with 6.5Mbps data rate were chosen for full testing.

IEEE802.11n HT40 (CH3~11): Channel Low, Channel Mid and Channel High with 13.5Mbps data rate were chosen for full testing.

Measurement was conducted by the following test method:

the test method of Ordinance Concerning Technical Regulations

Conformity Certification etc. of Specified Radio Equipment in Annex 1,

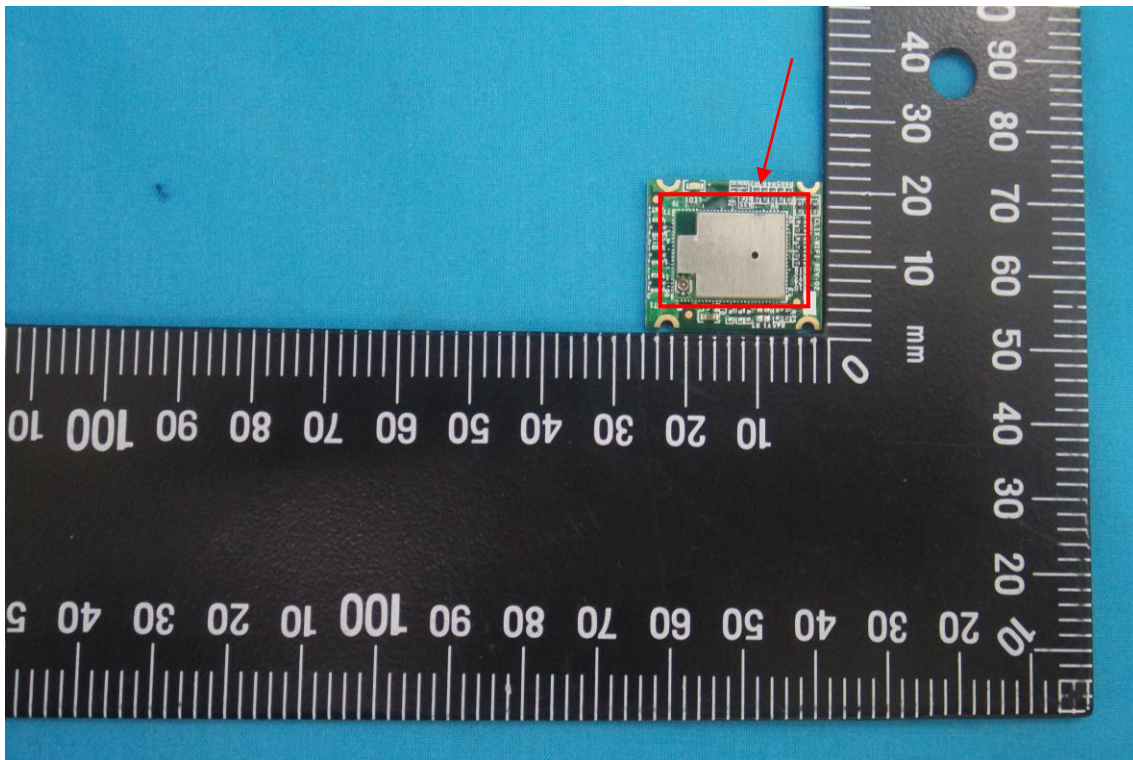
the Ministry of Internal Affairs and Communication notification in

Annex “43” & “44” of Article 88, Paragraph 1 or the test method more than equivalent.

Output power=Power Meter + System Factor - Equivalent Noise Bandwidth Factor + Duty Factor

### 4.3 RF SHIELDING METHOD

The RF part is not easily accessible because the EUT is using a shielding case as below.



### 4.4 SETUP OF EQUIPMENT UNDER TEST

#### Setup Diagram

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

#### Support Equipment

No	Equipment	Trade Name	Model	Serial No.	FCC ID	Data Cable	Power Cord
	N/A						

## 5. INSTRUMENT AND CALIBRATION

### 5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 5.2 TEST AND MEASUREMENT EQUIPMENT

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and other equivalent standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective manual.

#### Equipment Used for Emission Measurement

*Remark: Each piece of equipment is scheduled for calibration once a year.*

Conducted Emission Test Site							
Name of Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal Due	Calibration Lab.	Accreditation Organization of the Cal. Lab
Cable	HUBER SUHNER	SUCOFL EX 104PEA	25157	07/31/2017	07/30/2018	ETC	TAF
Directional Couplers	Agilent	87301D	MY443502 52	07/25/2017	07/24/2018	ETC	TAF
Power Meter	Anritsu	ML2495A	1012009	09/18/2017	09/17/2018	ETC	TAF
Power Seneor	Anritsu	MA2411B	1126148	02/06/2018	02/05/2019	ETC	TAF
S.G.	Agilent	E8257C	US4234038 3	07/06/2018	07/05/2019	ETC	TAF
Signal Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018	ETC	TAF
Divider	Solvang Technology	STI08-001 5	008	N.C.R	N.C.R	ETC	TAF

### 5.3 MEASUREMENT UNCERTAINTY

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028-1 [2] and shall correspond to an expansion factor (coverage factor)  $k = 1,96$  or  $k = 2$  (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Table 6 is based on such expansion factors.

**Table: Maximum measurement uncertainty**

Parameter	Uncertainty
RF frequency	$\pm 1 \cdot 10^{-5}$
Total RF power conducted	$\pm 1,5$ dB
RF power density, conducted	$\pm 3$ dB
Spurious emissions, conducted	$\pm 3$ dB
All emissions, radiated	$\pm 6$ dB
Humidity	$\pm 5$ %
Temperature	$\pm 1^{\circ}\text{C}$
DC and low frequency voltages	$\pm 3\%$

PARAMETER	UNCERTAINTY
Frequency Error	226Hz
Antenna Power	1.906 dB
Spurious Emission	0.182 dB
Occupied Bandwidth	0.178 kHz
Dwell Time	0.054 ms

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## 5.4 CALIBRATION

### 1.1 Test Equipment Function Check

#### (1) Spectrum Analyser and Power Meter

Signal Generator	Spectrum Analyser	Power Meter	Remark
(dBm)	(dBm)	(dBm)	
0	-0.81	-0.20	<ul style="list-style-type: none"> <li>• Frequency : 2450MHz</li> <li>• ATT : 30dB</li> <li>• RLV: 20dBm</li> <li>• RBW, VBW : 1MHz</li> <li>• SP: 0Hz</li> </ul>
-5	-5.81	-5.39	
-10	-10.75	-10.53	

#### (2) Spectrum Analyser

Signal Generator	Spectrum Analyser	Tolerance	Remark
(MHz)	(MHz)	(Hz)	
2,450.00	2,450.000580	580	<ul style="list-style-type: none"> <li>• SG: -10dBm</li> <li>• RBW, VBW : 10kHz</li> <li>• SP: 100kHz</li> </ul>

### 1.2 Cable Factor Measurement

Signal Generator	Direct	Cable + Att	Cable Factor	Remark
	Power Meter	Power Meter		
(MHz)	(dBm)	(dBm)	(dB)	
1,000.00	0.21	-10.16	10.37	• SG: 0dBm
2,450.00	-0.20	-10.81	10.61	
5,250.00	-0.51	-11.43	10.92	
12,500.00	-2.64	-13.61	10.97	
26,000.00	-4.92	-18.64	13.72	

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## 6. TEST RESULT FOR IEEE 802.11b (CH1~CH13)

### 6.1 FREQUENCY ERROR

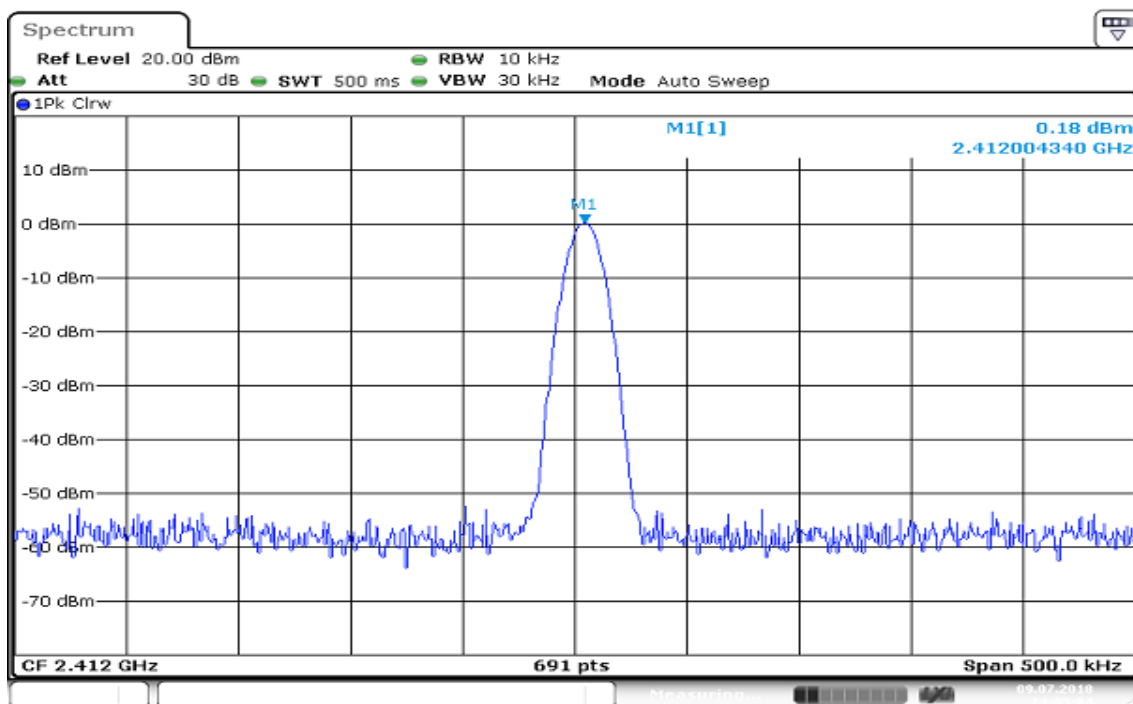
#### TEST RESULT

Antenna 1

	Frequency (MHz)	Reading (MHz)	Deviation (Hz)	Tolerance (ppm)	Remark
	2412	2412.004340	4340	1.7993	Normal Voltage
	2442	2442.003620	3620	1.4824	
	2472	2472.003620	3620	1.4644	

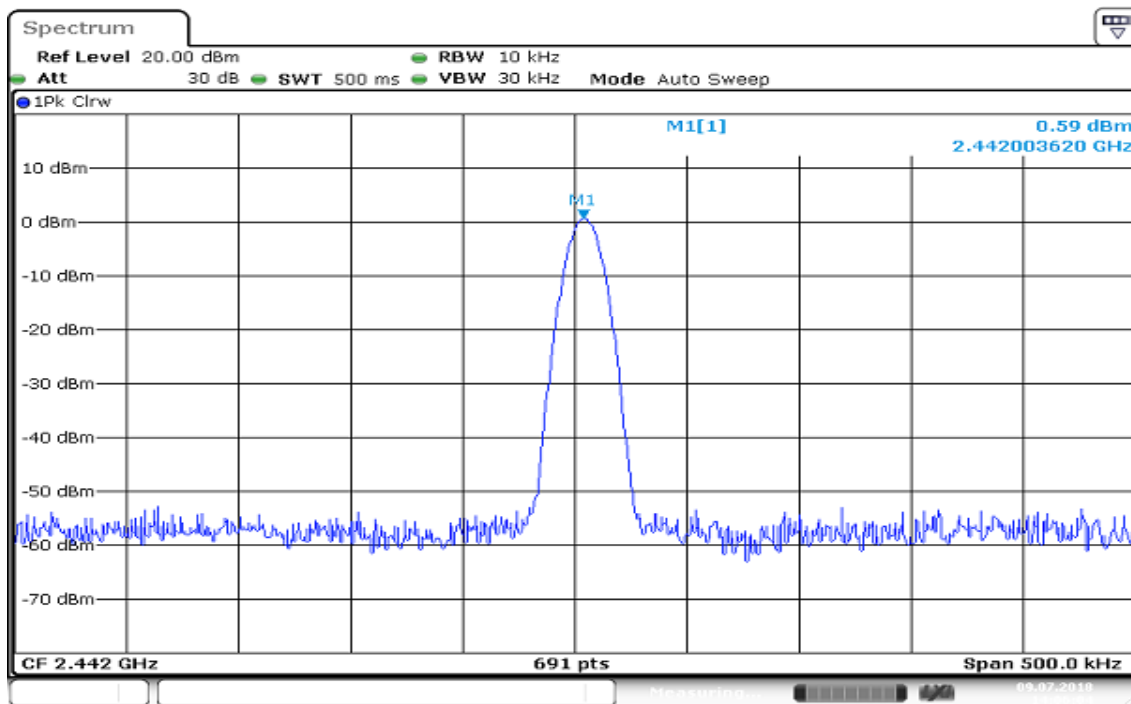
#### TEST PLOTS

##### ANT 1 / CH Low



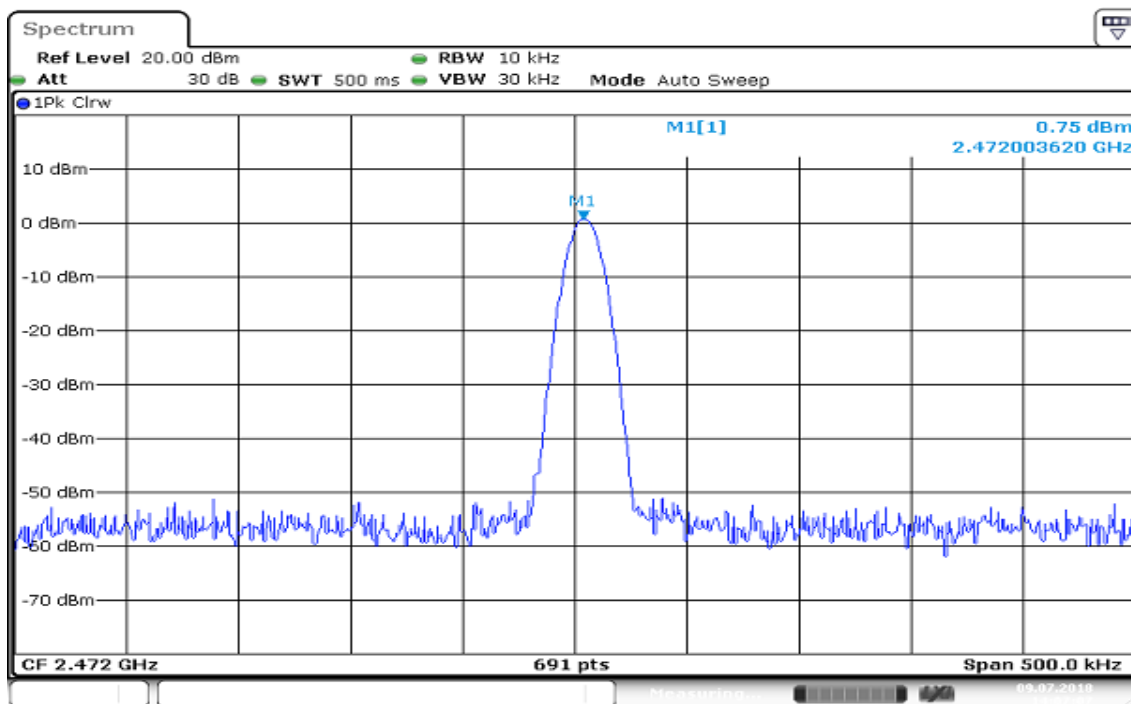
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9.JUL.2018 14:06:05

## ANT 1 / CH High



Date: 9.JUL.2018 14:07:07



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## 6.2 ANTENNA POWER

### TEST RESULT

Antenna 1

4 dBi

Frequency (MHz)	Spectrum Analyser (dBm/MHz)	Cable Factor (d B)	Output Power (d Bm/MHz) (mW/MHz)		EIRP Power (d Bm/MHz) (mW/MHz)		Remark
2412.0000	-12.80	10.61	-2.19	0.60395	1.81000	1.51705	
2442.0000	-12.38	10.61	-1.77	0.66527	2.23000	1.67109	
2472.0000	-12.37	10.61	-1.76	0.66681	2.24000	1.67494	



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## 6.3 SPURIOUS EMISSIONS INTENSITY

### TEST RESULT

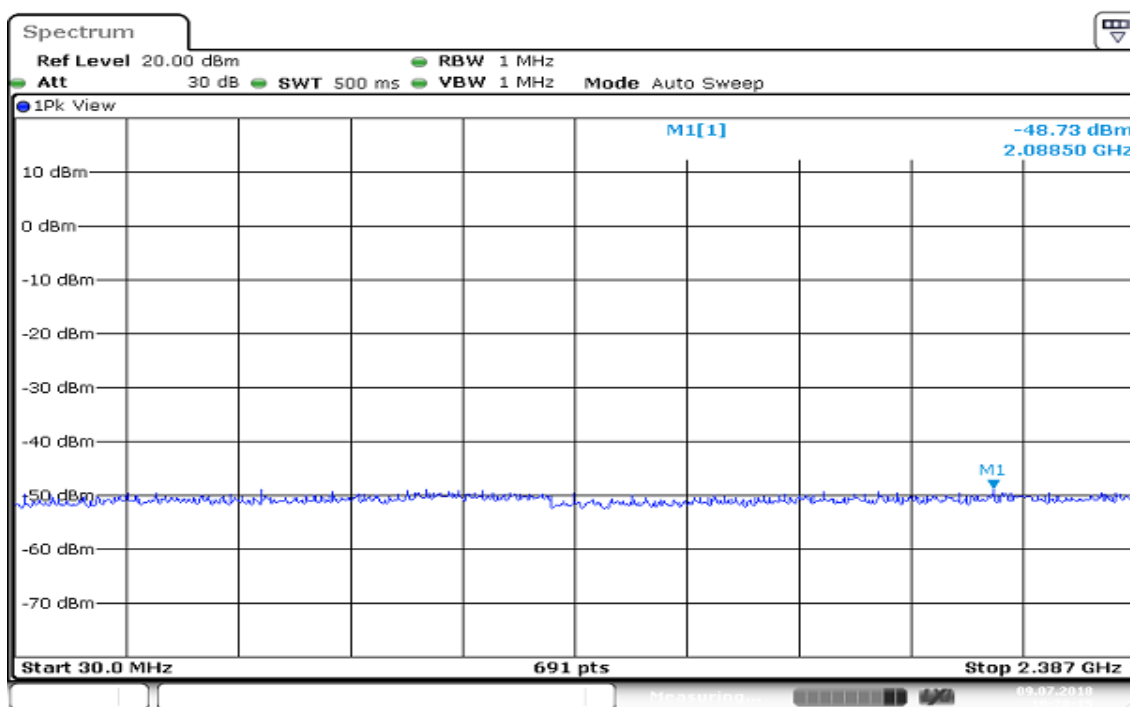
#### 30MHz ~ less than 2,387MHz

(1) Spurious Emission Intensity : 30MHz~less than 2,387MHz

Frequency	Reading		Cable Factor	Result	Remark
(MHz)	(MHz)	(dBm)	(dB)	(μW/MHz)	
2412	2088.5000	-48.73	10.61	0.15417	Normal Voltage
2442	812.8000	-48.75	10.61	0.15346	
2472	1082.3000	-48.20	10.61	0.17418	

### TEST PLOTS

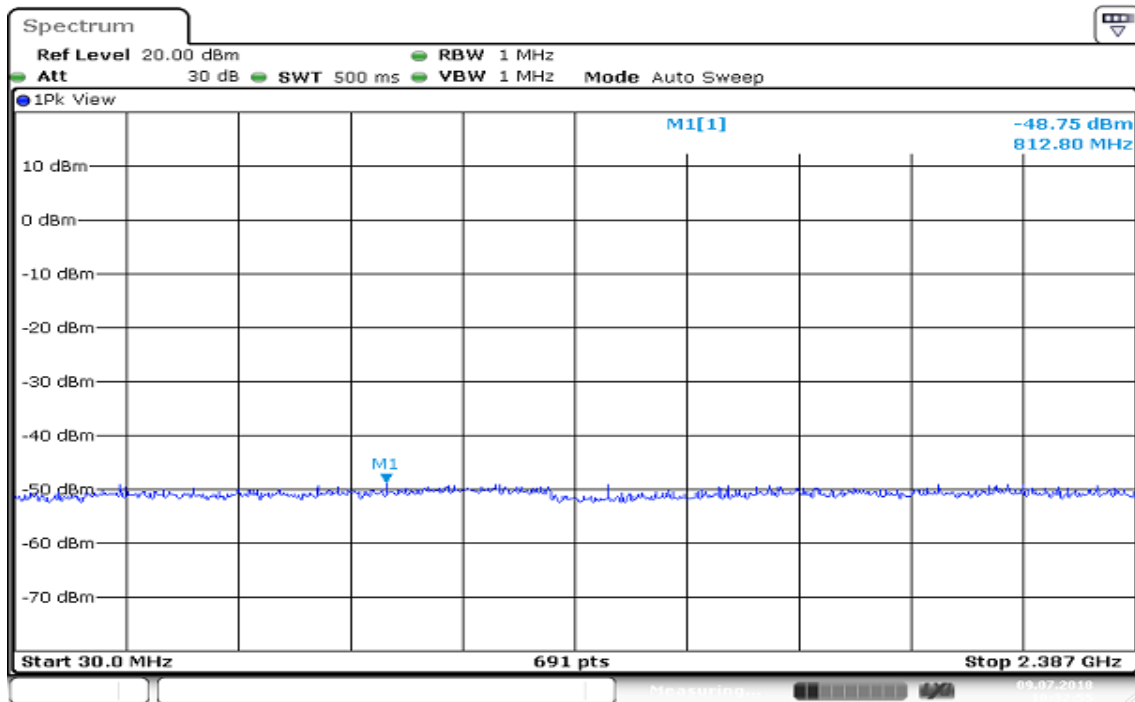
#### ANT 1 / CH Low



Date: 9 JUL 2018 10:28:15

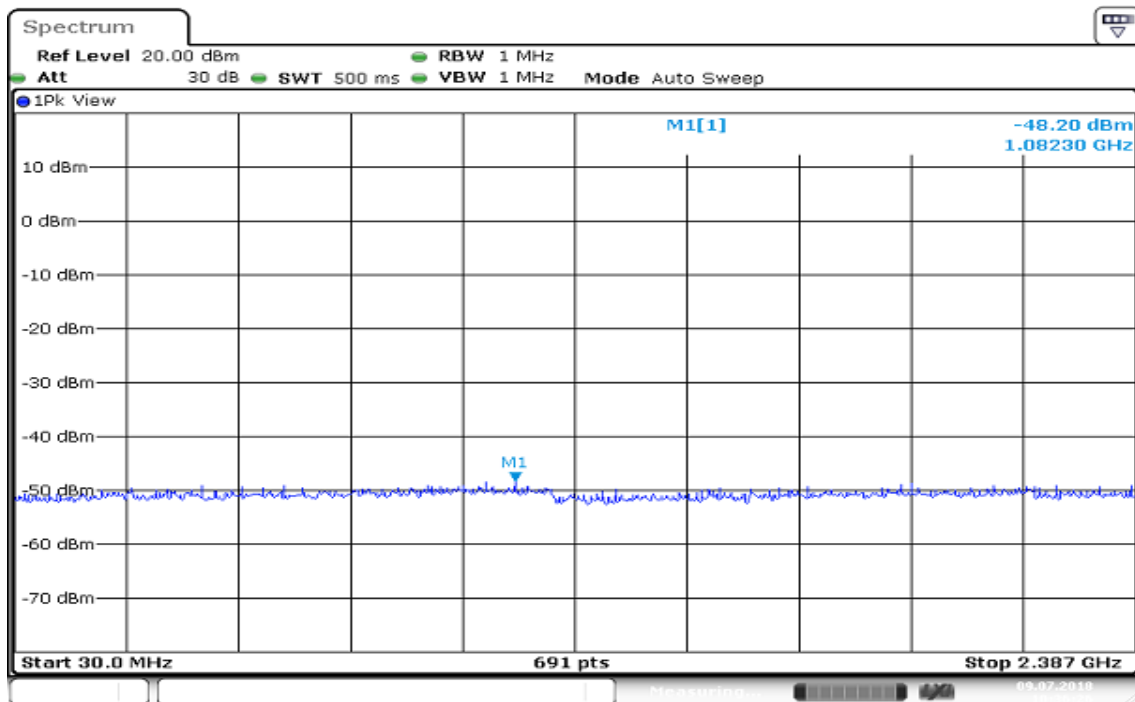
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 10:22:56

## ANT 1 / CH High



Date: 9 JUL 2018 10:26:27

Report No.: T180627D12-RJ1

## TEST RESULT

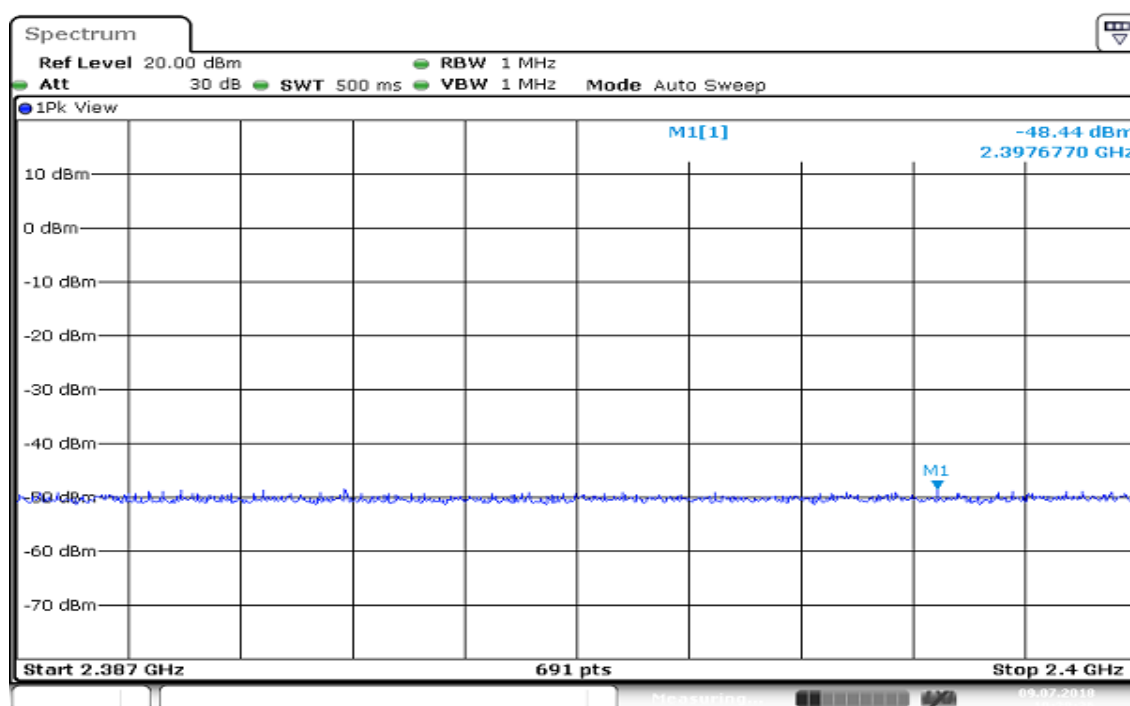
### 2,387MHz~less than 2,400MHz

(2) Spurious Emission Intensity : 2,387MHz~less than 2,400MHz

Frequency (MHz)	Reading		Cable Factor	Result	Remark
	(MHz)	(dBm)	(dB)	(μW/MHz)	
2412	2397.6770	-48.44	10.61	0.16482	Normal Voltage
2442	2396.2660	-48.31	10.61	0.16982	
2472	2387.3670	-48.01	10.61	0.18197	

## TEST PLOTS

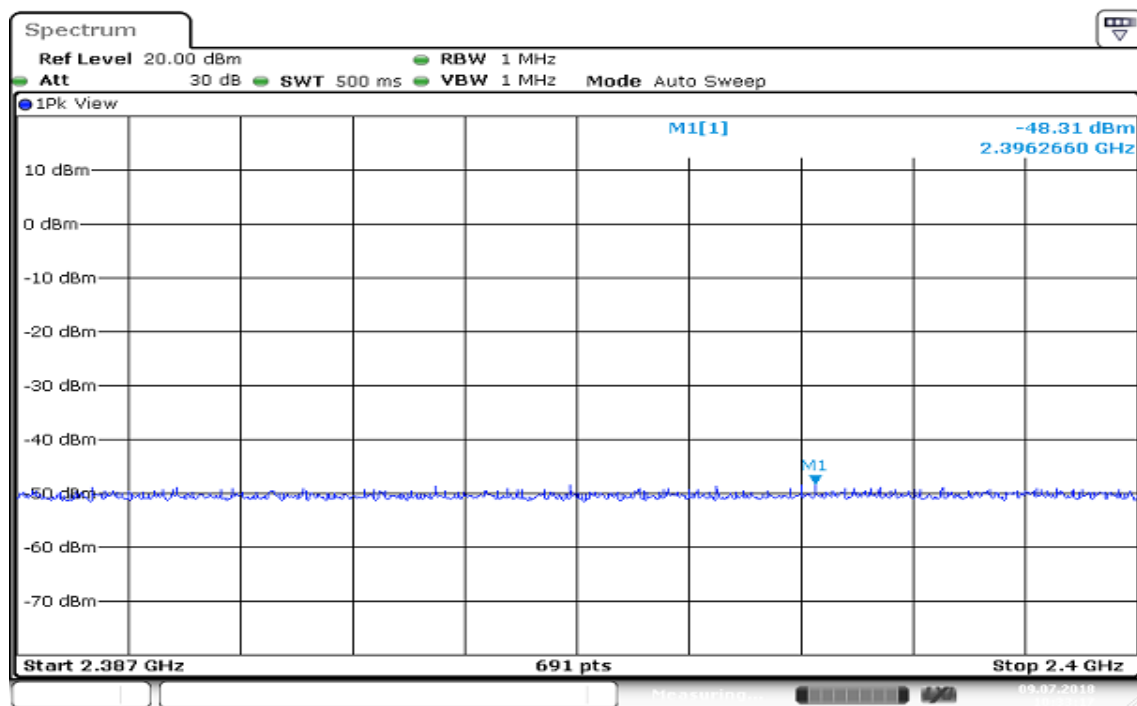
### ANT 1 / CH Low



Date: 9 JUL 2018 10:28:37

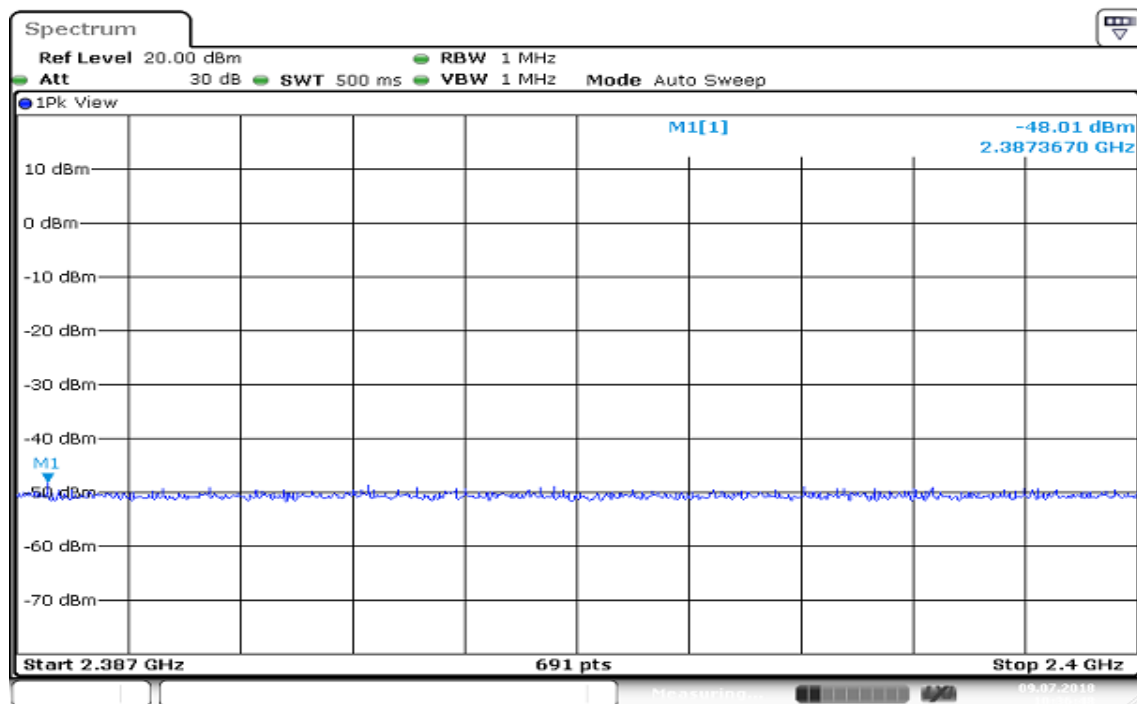
Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**



Date: 9 JUL 2018 10:33:17

**ANT 1 / CH High**



Date: 9 JUL 2018 10:36:48

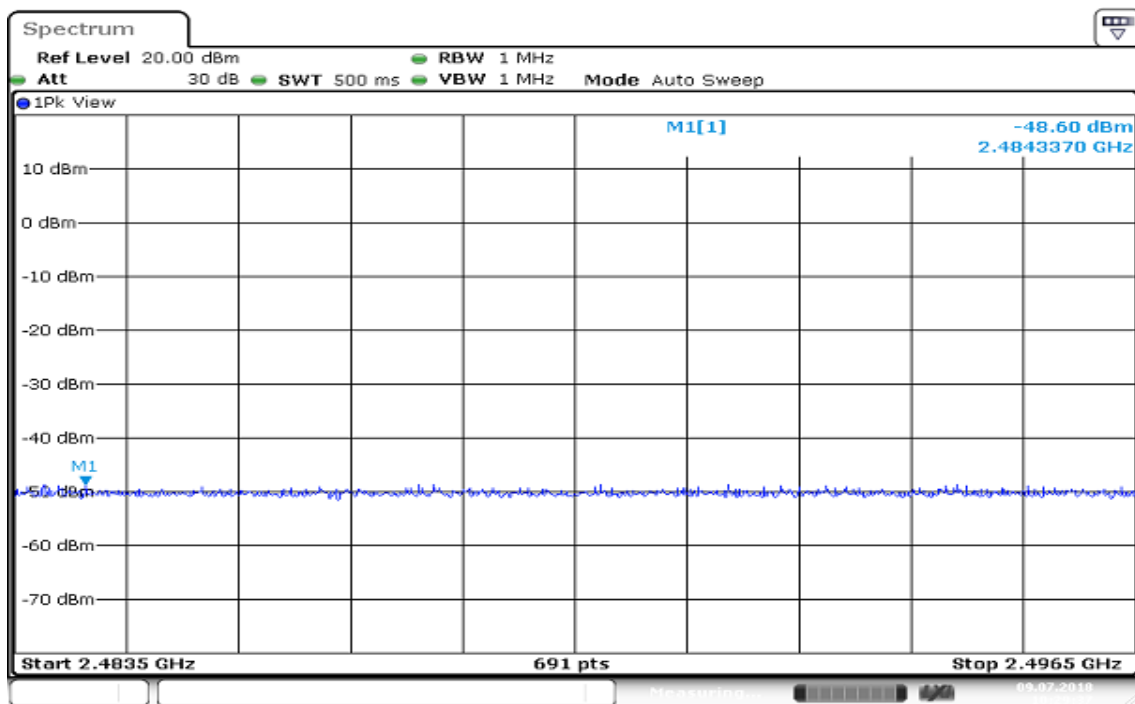


Report No.: T180627D12-RJ1

**TEST RESULT****2,483.5MHz~2,496.5MHz**

(3) Spurious Emission Intensity : 2,483.5MHz~2,496.5MHz

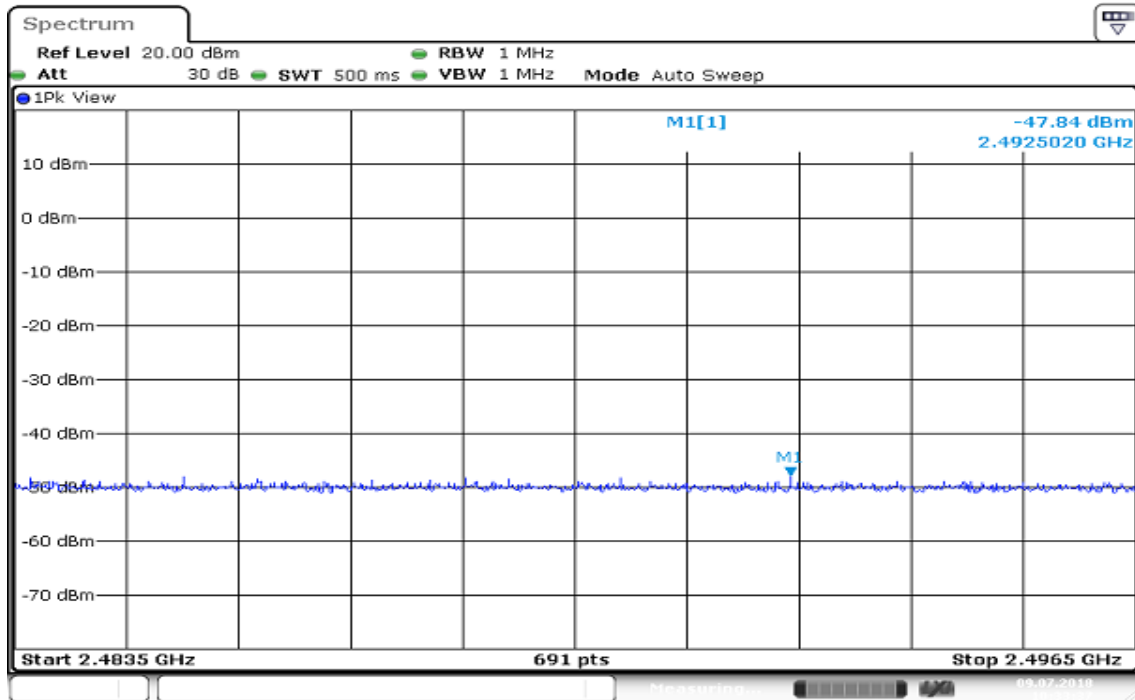
Frequency	Reading		Cable Factor	Result	Remark
(MHz)	(MHz)	(dBm)	(dB)	(μW/MHz)	
2412	2484.3370	-48.60	10.61	0.15885	Normal Voltage
2442	2492.5020	-47.84	10.61	0.18923	
2472	2492.3520	-47.74	10.61	0.19364	

**TEST PLOTS****ANT 1 / CH Low**

Date: 9 JUL 2018 10:29:37

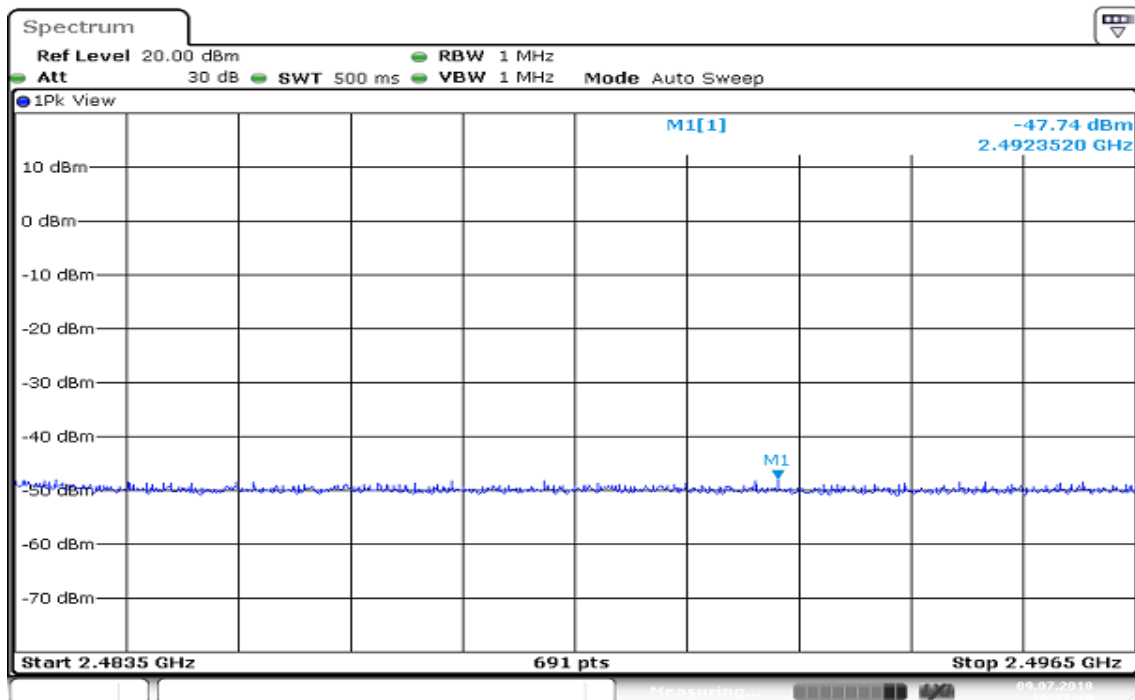
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 10:23:38

## ANT 1 / CH High



Date: 9 JUL 2018 10:27:20

Report No.: T180627D12-RJ1

## TEST RESULT

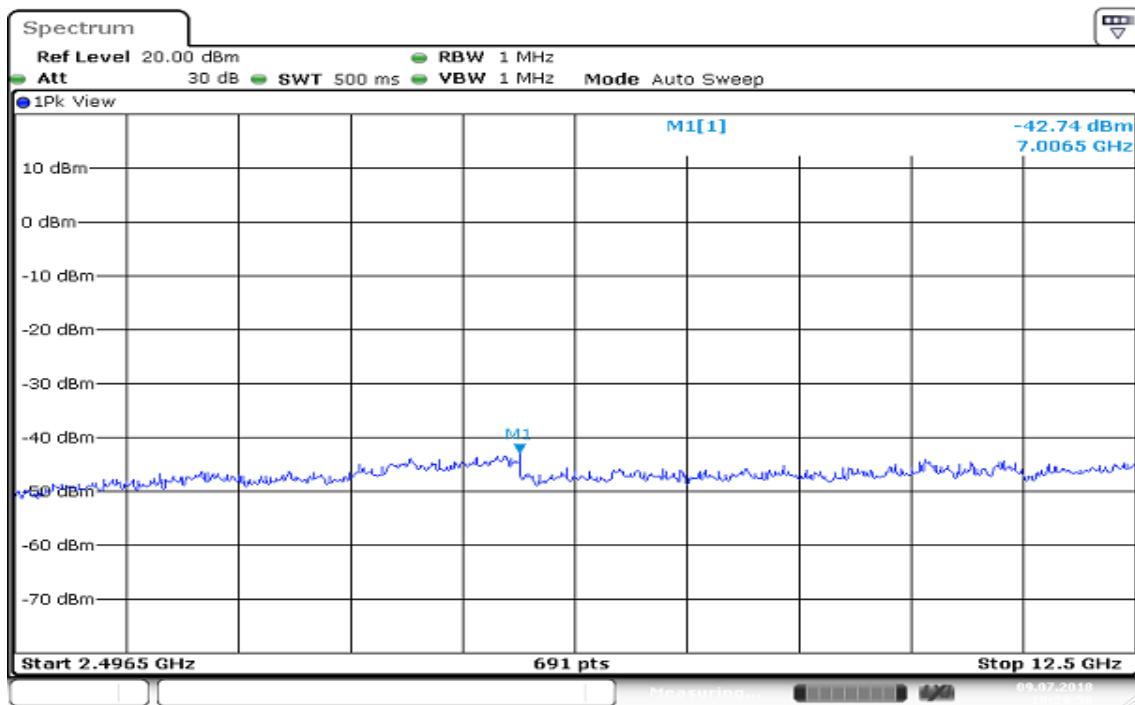
more than 2,496.5MHz~12.5GHz

(4) Spurious Emission Intensity : more than 2,496.5MHz~12.5GHz

Frequency	Reading		Cable Factor	Result	Remark
(MHz)	(MHz)	(dBm)	(dB)	(μW/MHz)	
2412	7006.5000	-42.74	10.97	0.66527	Normal Voltage
2442	6861.5000	-43.10	10.97	0.61235	
2472	6875.5000	-43.41	10.97	0.57016	

## TEST PLOTS

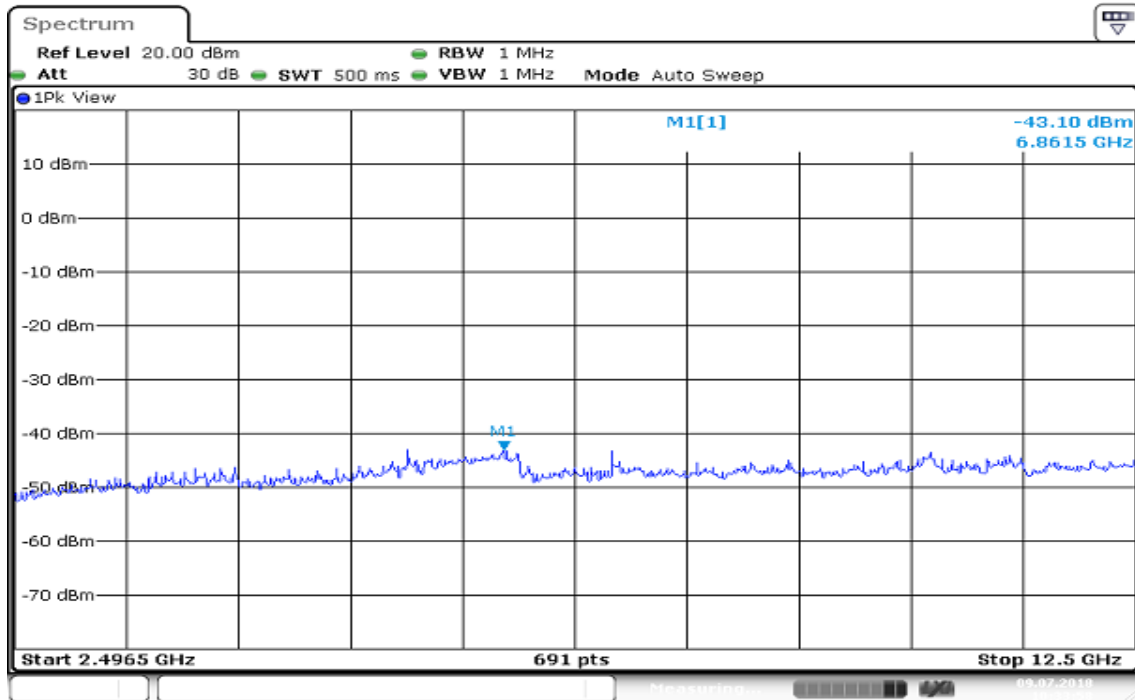
ANT 1 / CH Low



Date: 9 JUL 2018 10:29:58

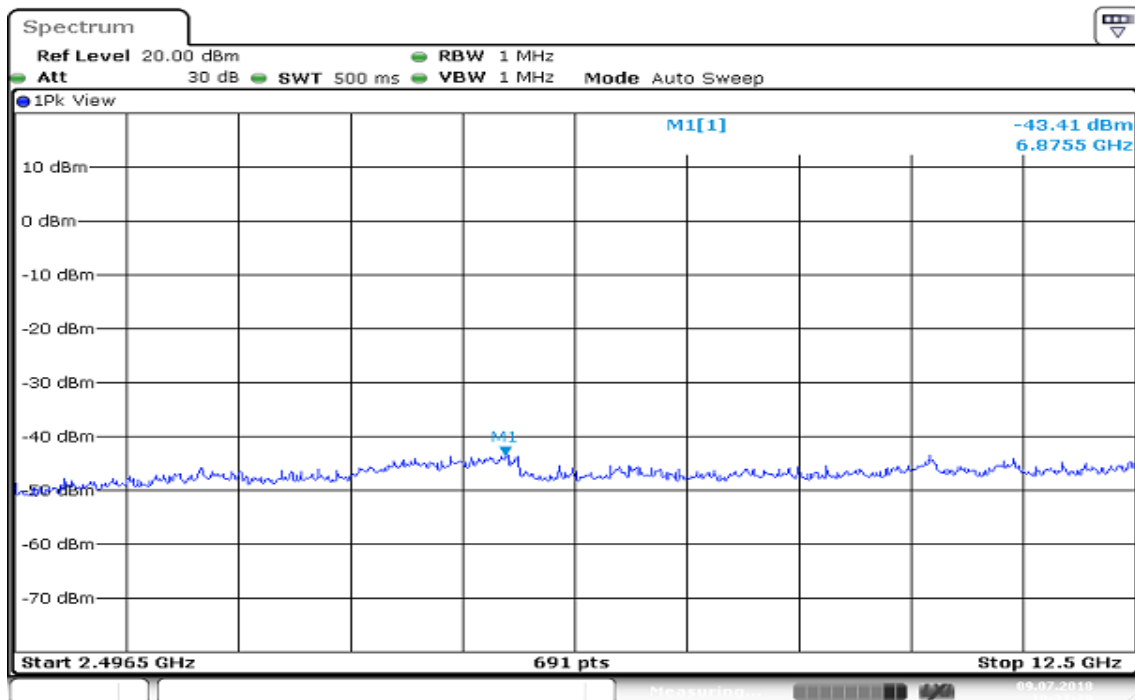
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 10:23:58

## ANT 1 / CH High



Date: 9 JUL 2018 10:27:40



Report No.: T180627D12-RJ1

## 6.4 OCCUPIED BANDWIDTH (99%)

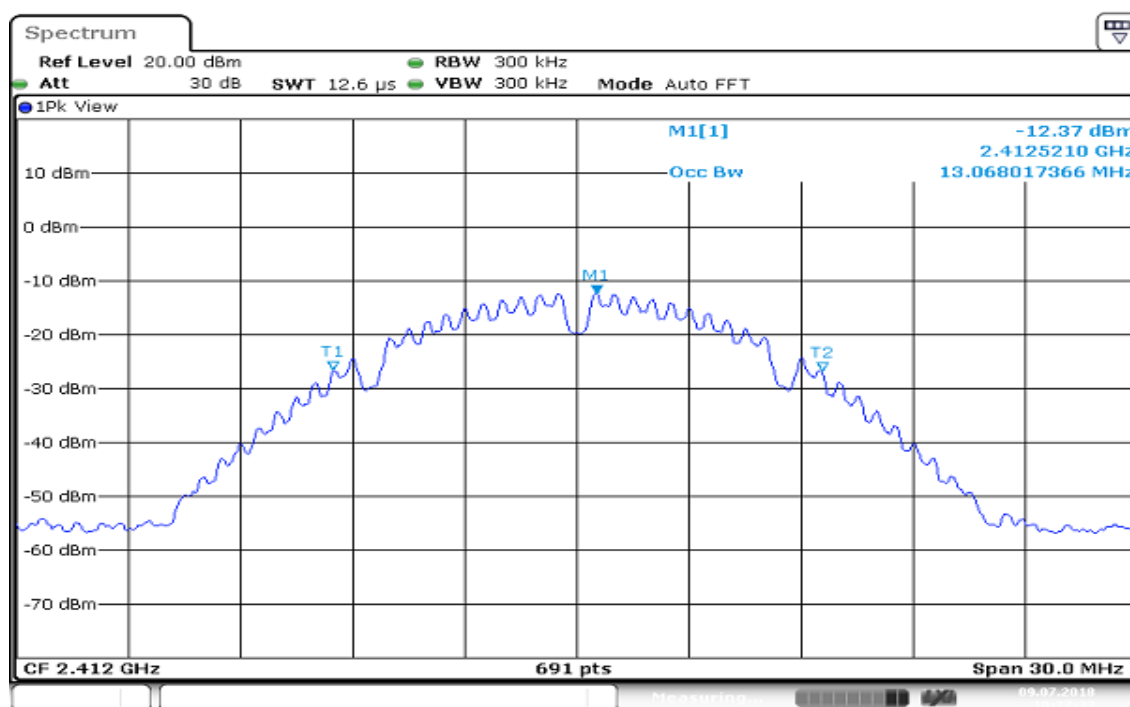
### TEST RESULT

Antenna 1

Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Remark
2412	2412.00	13.07	Normal Voltage
2442	2442.00	13.11	
2472	2472.00	13.11	

### TEST PLOTS

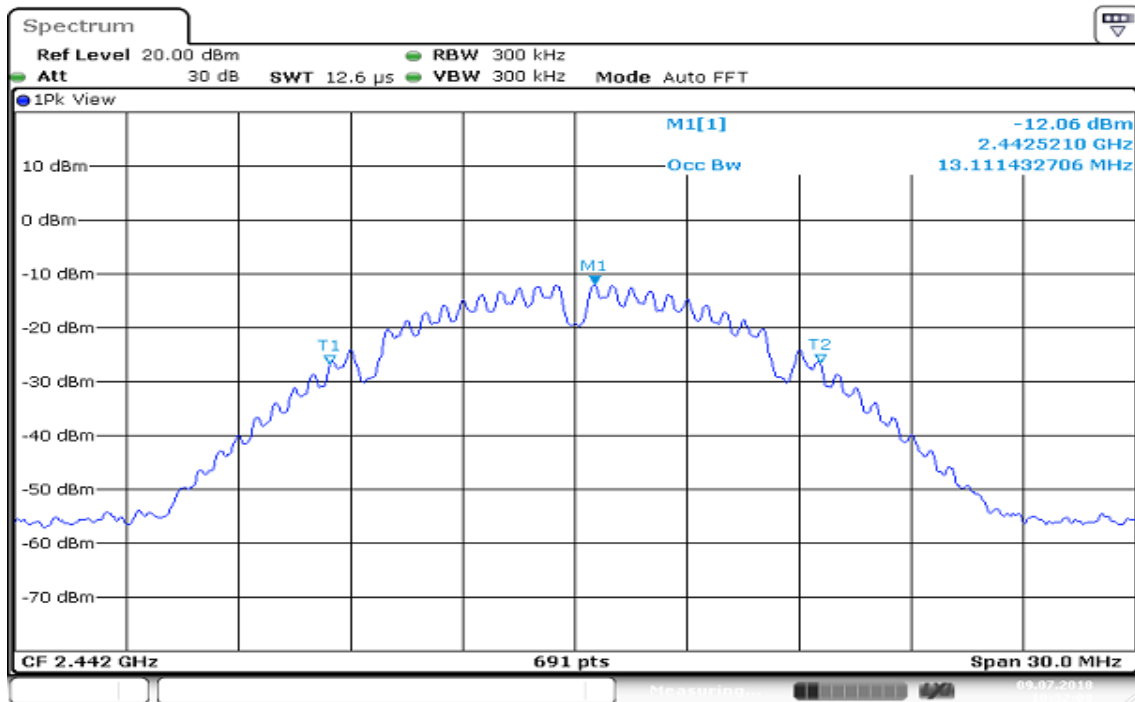
#### ANT 1 / CH Low



Date: 9 JUL 2018 10:27:33

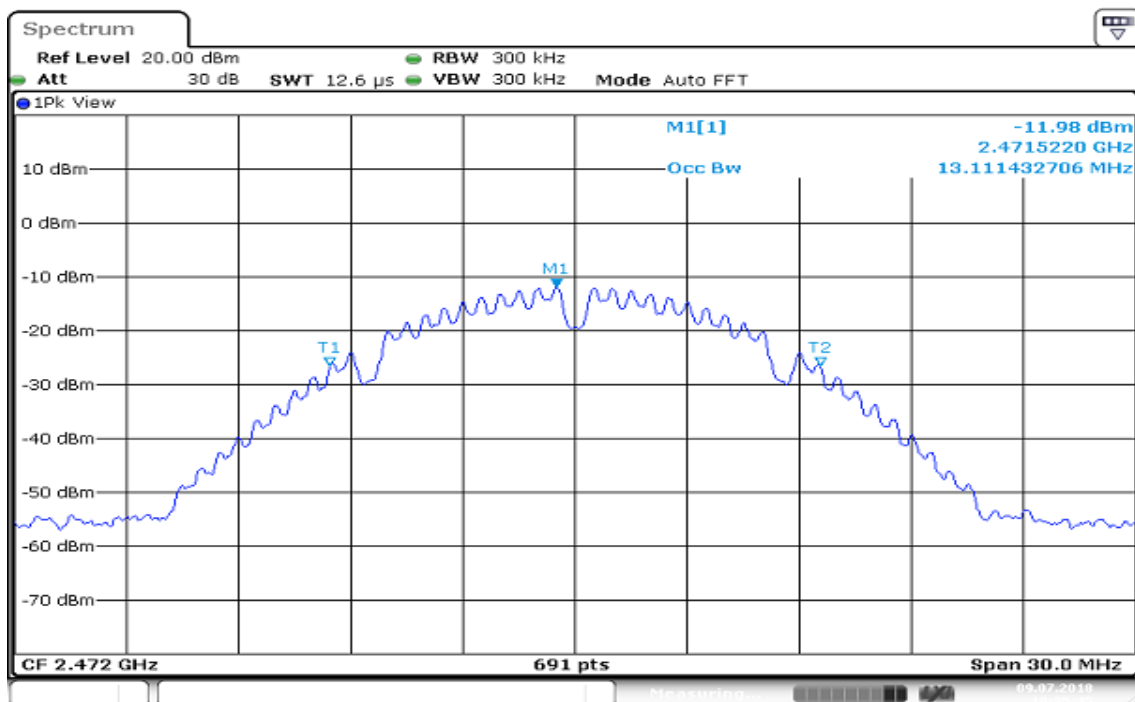
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9.JUL.2018 10:22:08

## ANT 1 / CH High



Date: 9.JUL.2018 10:25:45

Report No.: T180627D12-RJ1

## 6.5 SPREAD-SPECTRUM BANDWIDTH (90%)

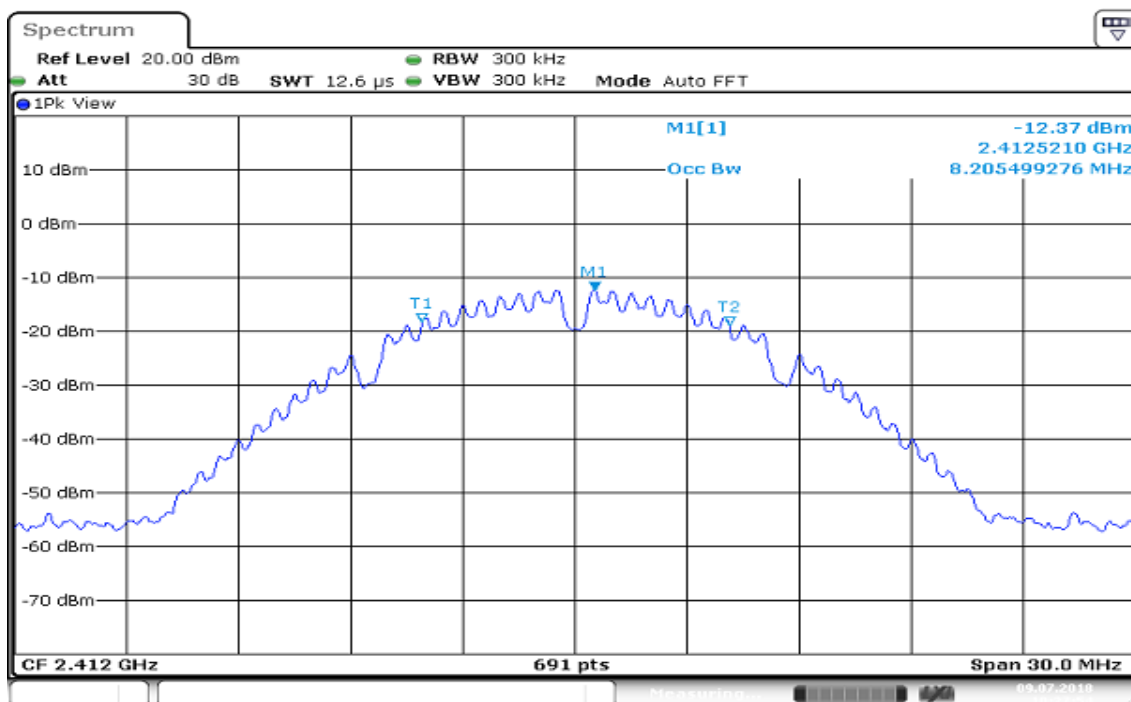
### TEST RESULT

Modulation: 1 [Mbps]  
Frequency equal to the transmission rate 1.375 [MHz]  
Antenna 1

Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Spreading Factor (Bandwidth/Frequency equal TX rate)	Remark
2412	2412.00	8.21	5.97	Normal Voltage
2442	2442.00	8.21	5.97	
2472	2472.00	8.25	6.00	

### TEST PLOTS

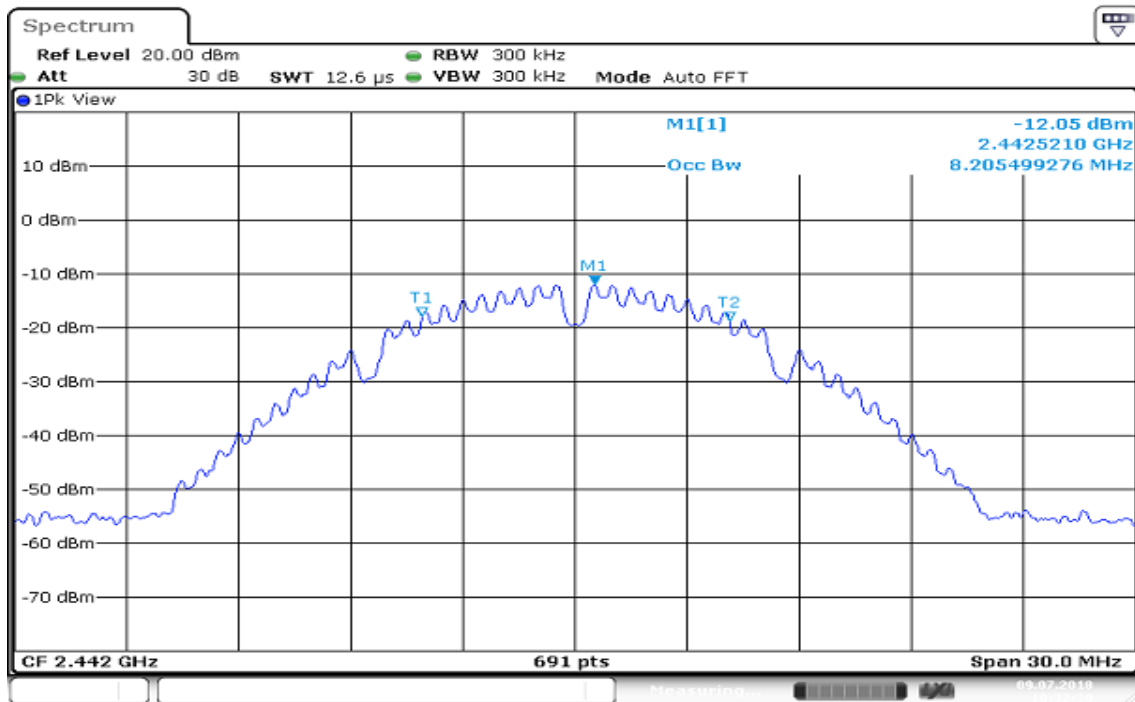
#### ANT 1 / CH Low



Date: 9 JUL 2018 10:27:55

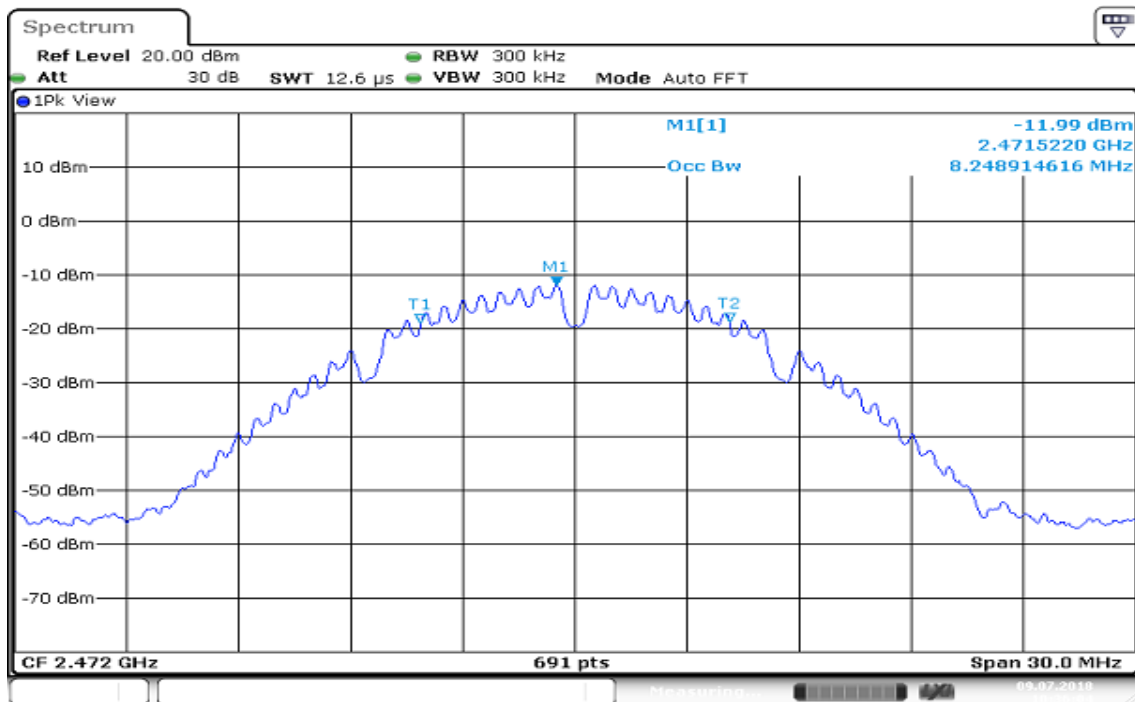
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 10:22:30

## ANT 1 / CH High



Date: 9 JUL 2018 10:26:04

Report No.: T180627D12-RJ1

## 6.6 LIMITATION OF COLLATERAL EMISSIONS OF RECEIVER

### TEST RESULT

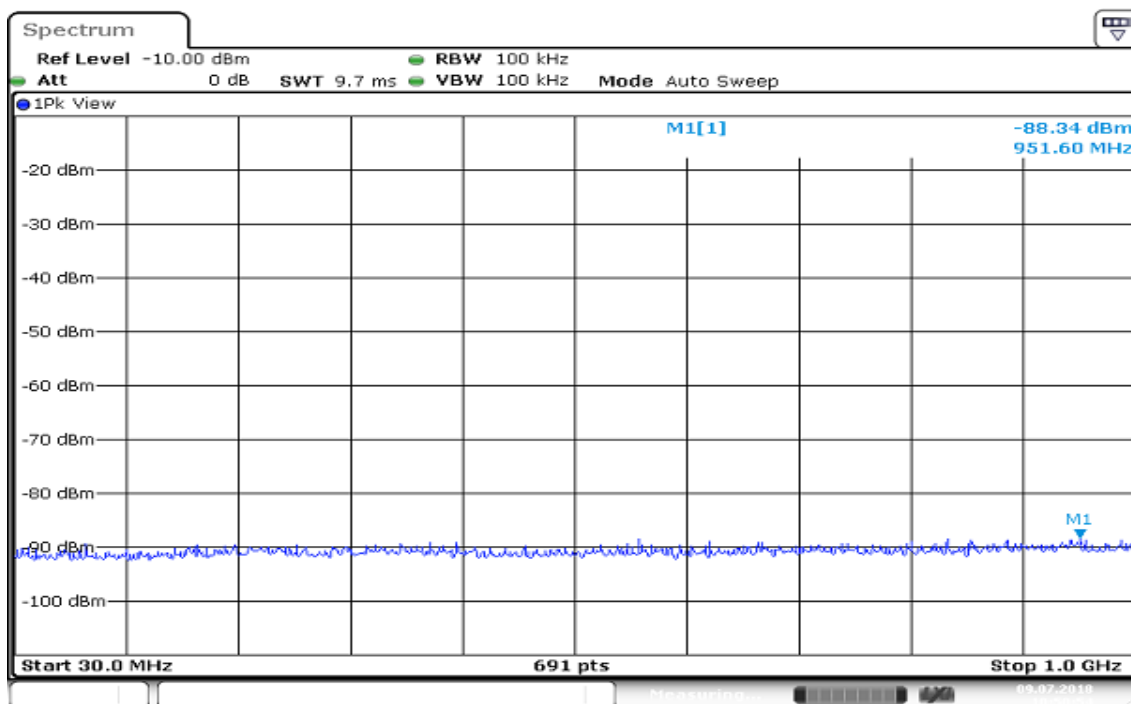
#### 30MHz~1000MHz

Freq: 30MHz~1GHz

Frequency (MHz)	Reading		Cable Factor (dB)	Result (nW/MHz)	Remark
	(MHz)	(dBm)			
2412	951.6000	-88.34	10.37	0.0160	
2442	986.7000	-87.66	10.37	0.0187	
2472	363.4000	-87.76	10.37	0.0182	Normal Voltage

### TEST PLOTS

#### ANT 1 / CH Low



Date: 9 JUL 2018 10:50:55

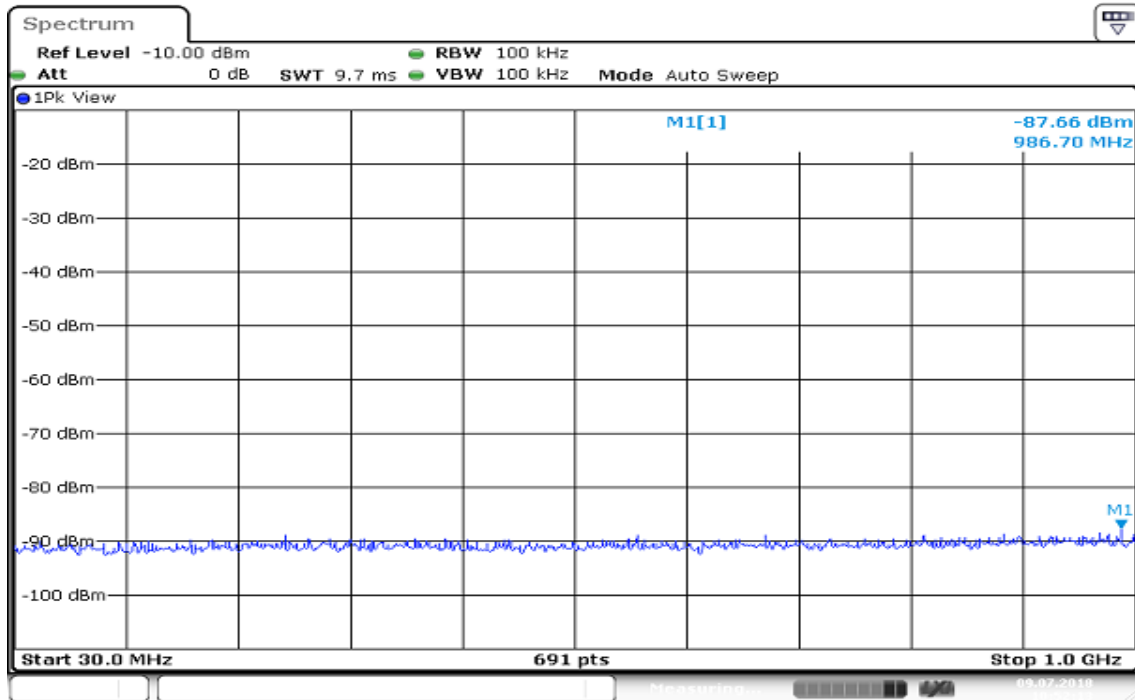


Report No.: T180627D12-RJ1

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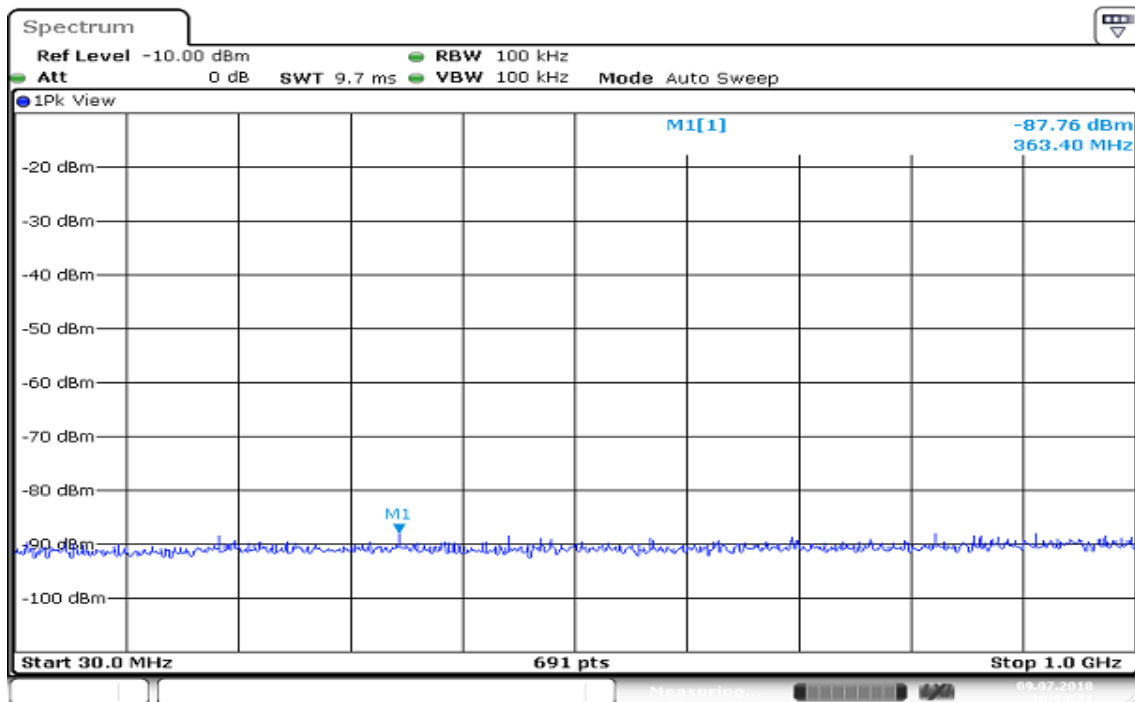
Rev.: 01

### ANT 1 / CH Mid



Date: 9 JUL 2018 10:52:13

### ANT 1 / CH High



Date: 9 JUL 2018 10:53:22

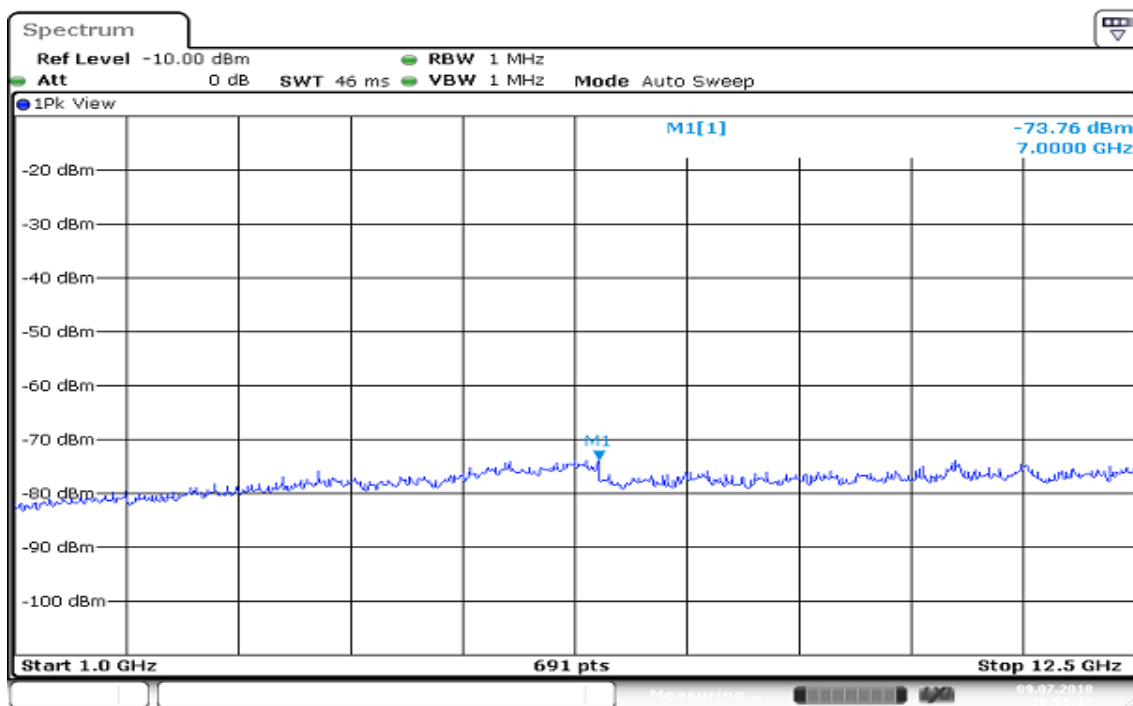


Report No.: T180627D12-RJ1

**TEST RESULT****1GHz~12.5GHz**

Freq: 1GHz~12.5GHz

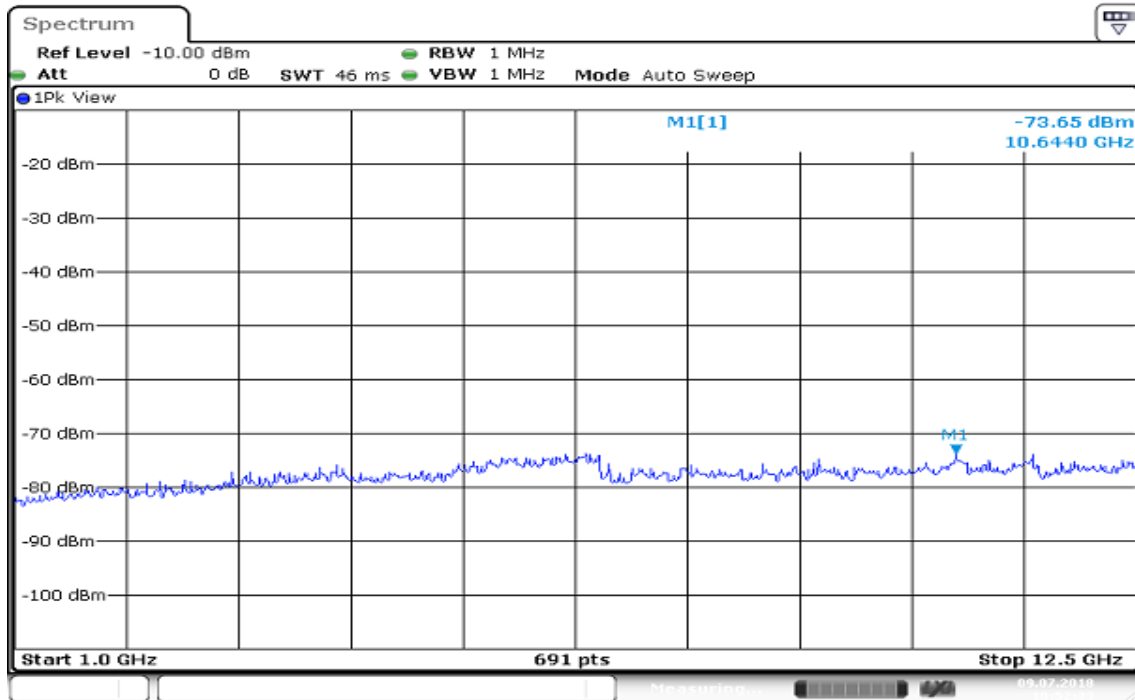
Frequency	Reading		Cable Factor	Result	Remark
(MHz)	(MHz)	(dBm)	(dB)	(nW/MHz)	
2412	7000.0000	-73.76	10.97	0.5260	Normal Voltage
2442	10644.0000	-73.65	10.97	0.5395	
2472	6900.0000	-72.98	10.97	0.6295	

**TEST PLOTS****ANT 1 / CH Low**

Date: 9 JUL 2018 10:51:17

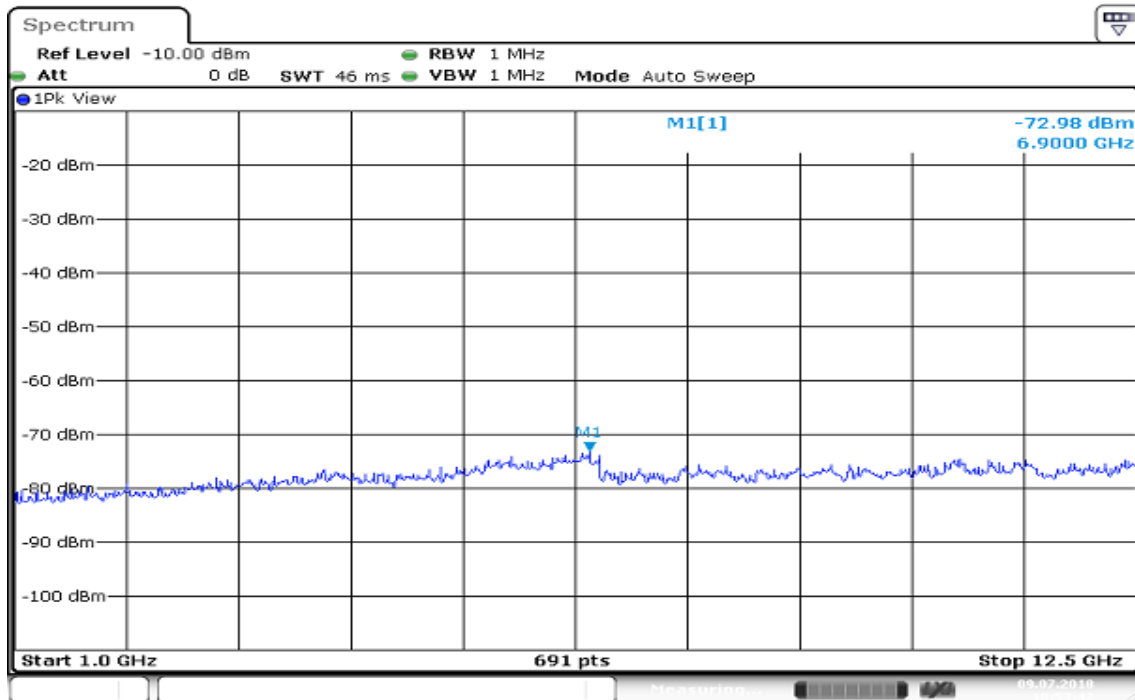
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 10:52:33

## ANT 1 / CH High



Date: 9 JUL 2018 10:53:42



Report No.: T180627D12-RJ1

## 7. TEST RESULT FOR IEEE 802.11b (CH14)

### 7.1 FREQUENCY ERROR

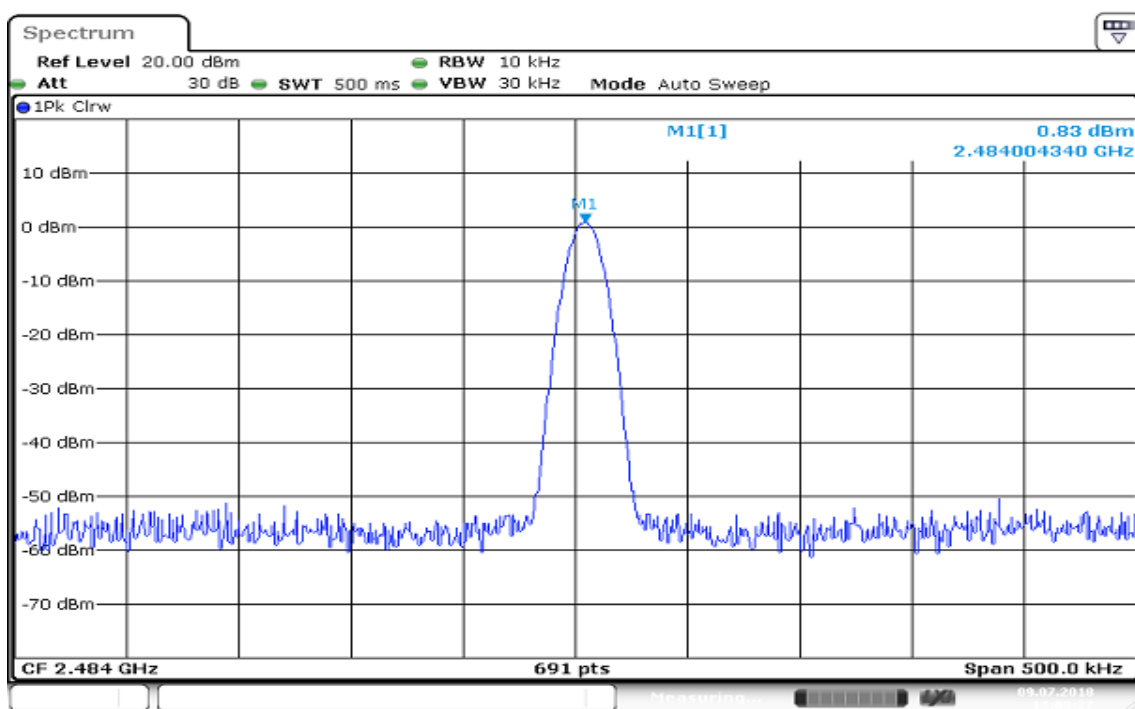
#### TEST RESULT

Antenna 1:

	Frequency (MHz)	Reading (MHz)	Deviation (Hz)	Tolerance (ppm)	Remark
	2484.0000	2484.004340	4340	1.7472	Normal Voltage

#### TEST PLOTS

##### ANT 1 / CH 14





Report No.: T180627D12-RJ1

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## 7.2 ANTENNA POWER

### TEST RESULT

Antenna 1: 4 dBi

Frequency (MHz)	Spectrum Analyser (dBm)	Cable Factor	Output Power		EIRP Power		Remark
		(dB)	(dBm)	(mW)	(dBm/MHz)	(mW/MHz)	
2484.0000	-15.66	10.61	-5.05	0.31261	-1.05000	0.78524	Normal Voltage



Report No.: T180627D12-RJ1

## 7.3 SPURIOUS EMISSIONS INTENSITY

### TEST RESULT

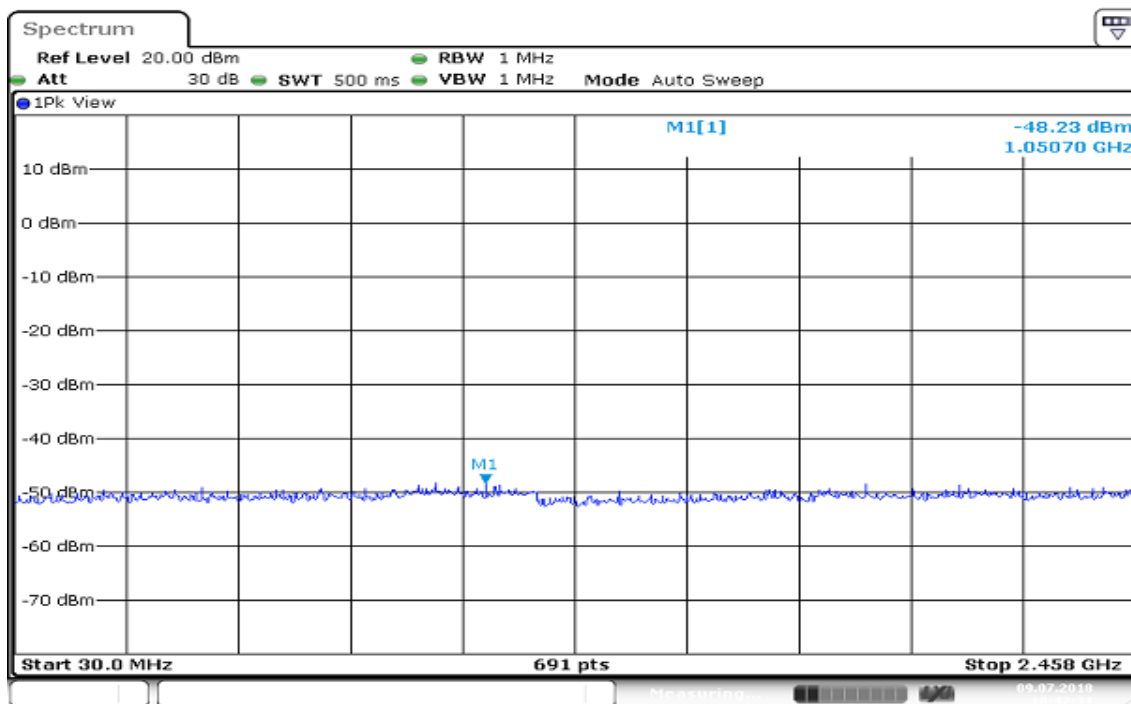
#### 30MHz~2458MHz

(1) Spurious Emission Intensity : 30MHz~less than 2,458MHz

Frequency	Reading		Cable Factor	Result	Remark
(MHz)	(MHz)	(dBm)	(dB)	( $\mu$ W/MHz)	
2484.0000	1050.7000	-48.23	10.61	0.17298	Normal Voltage

### TEST PLOTS

#### ANT 1 / CH 14



Date: 9 JUL 2018 10:42:32

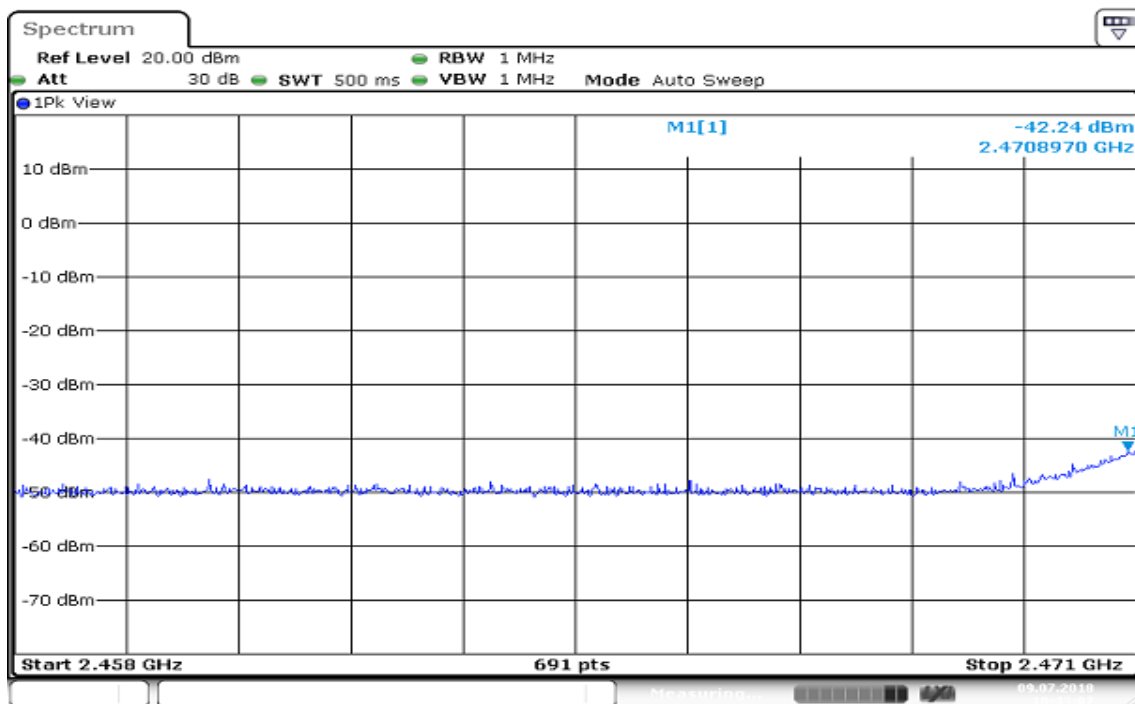


Report No.: T180627D12-RJ1

**TEST RESULT****2458MHz~2471MHz**

(2) Spurious Emission Intensity : 2,458MHz~less than 2,471MHz

Frequency (MHz)	Reading (MHz) (dBm)		Cable Factor (dB)	Result (μW/MHz)	Remark
2484.0000	2470.8970	-42.24	10.61	0.68707	

**TEST PLOTS****ANT 1 / CH 14**

Date: 9 JUL 2018 10:43:07



Report No.: T180627D12-RJ1

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## TEST RESULT

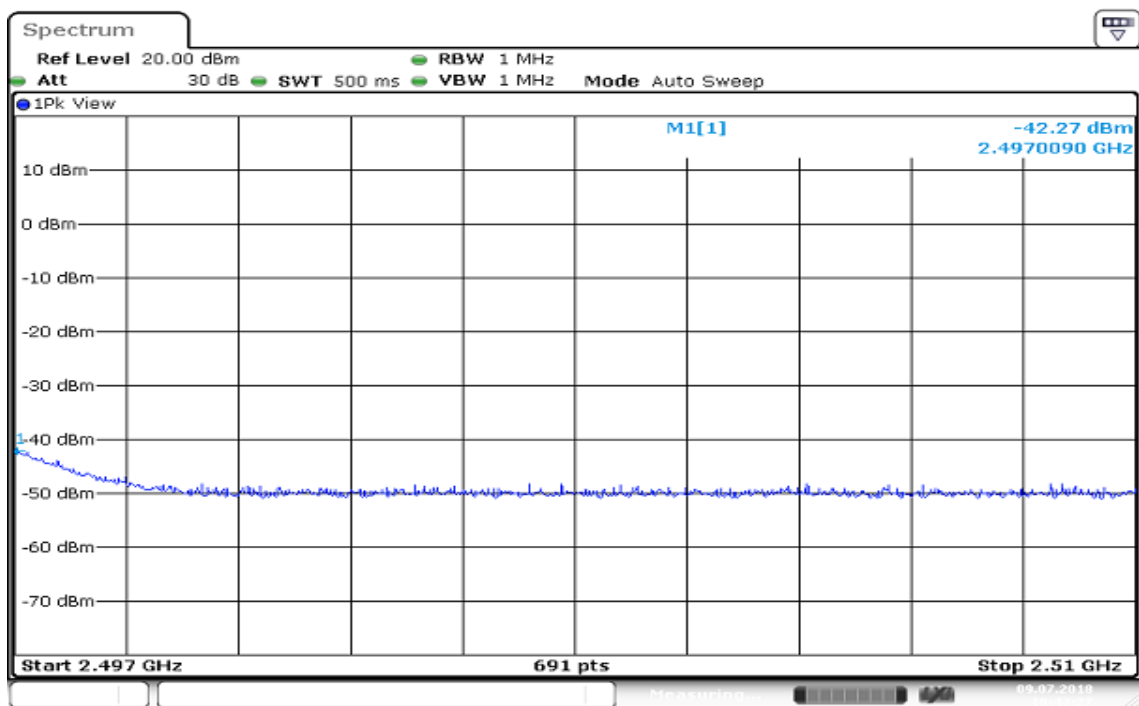
### 2471MHz~2510MHz

(3) Spurious Emission Intensity : 2,497MHz~2,510MHz

Frequency (MHz)	Reading (MHz) (dBm)		Cable Factor (dB)	Result (μW/MHz)	Remark
2484.0000	2497.0090	-42.27	10.61	0.68234	

## TEST PLOTS

### ANT 1 / CH 14



Date: 9 JUL 2018 10:43:28

## TEST RESULT

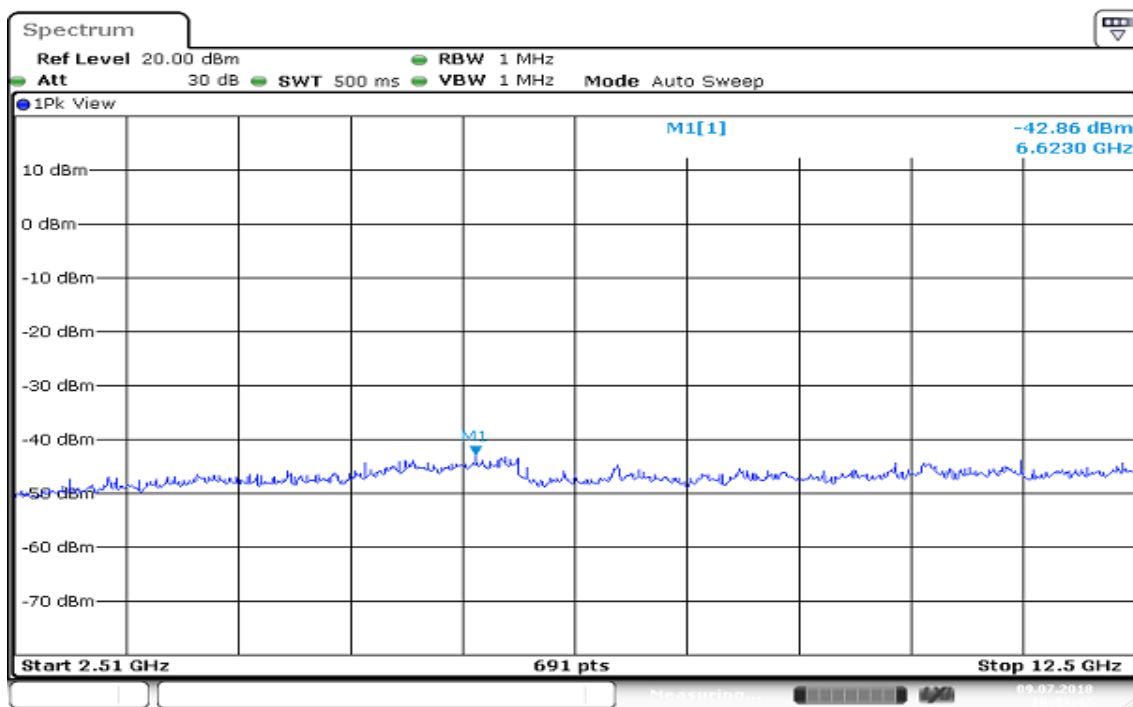
### 2510MHz~12.5GHz

(4) Spurious Emission Intensity : more than 2,510MHz~12.5GHz

Frequency (MHz)	Reading (MHz) (dBm)		Cable Factor (dB)	Result (μW/MHz)	Remark
2484.0000	6623.0000	-42.86	10.97	0.64714	
					Normal Voltage

## TEST PLOTS

### ANT 1 / CH 14



Date: 9 JUL 2018 10:43:48

Report No.: T180627D12-RJ1

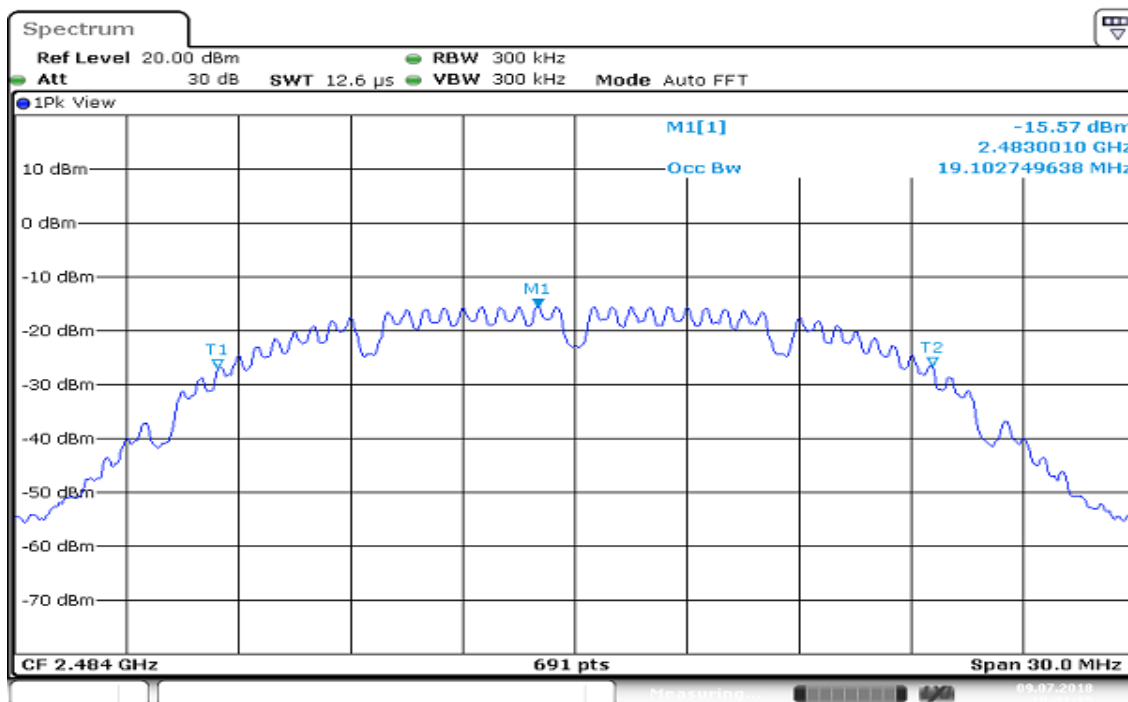
## 7.4 OCCUPIED BANDWIDTH (99%)

### TEST RESULT

Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Remark
2484.00000	2484.00	19.10	Normal Voltage

### TEST PLOTS

#### ANT 1 / CH 14



Date: 9 JUL 2018 10:41:15



Report No.: T180627D12-RJ1

## 7.5 SPREAD-SPECTRUM BANDWIDTH (90%)

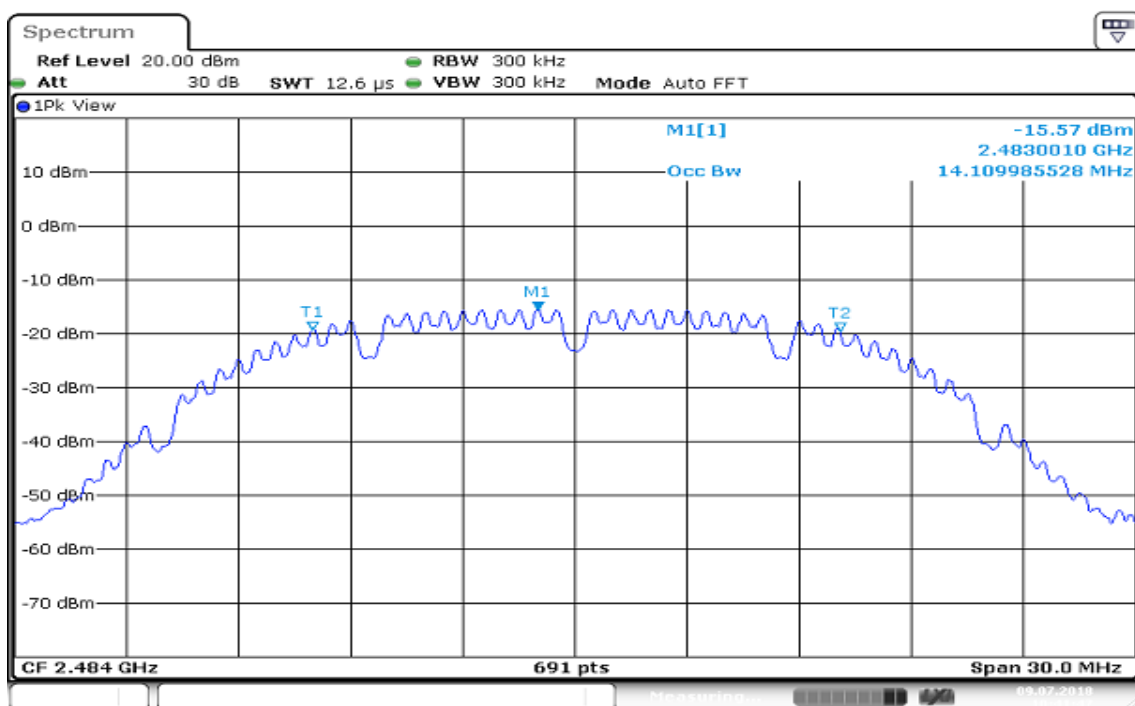
### TEST RESULT

Modulation: 1 [Mbps]  
Frequency equal to the transmission rate 1.375 [MHz]  
Antenna1

Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Spreading Factor (Bandwidth/Frequency equal TX rate)	Remark
2484.00000	2484.00	14.11	10.26	Normal Voltage

### TEST PLOTS

#### ANT 1 / CH 14



Date: 9 JUL 2018 10:41:47



Report No.: T180627D12-RJ1

## 7.6 LIMITATION OF COLLATERAL EMISSIONS OF RECEIVER

### TEST RESULT

#### 30MHz~1000MHz

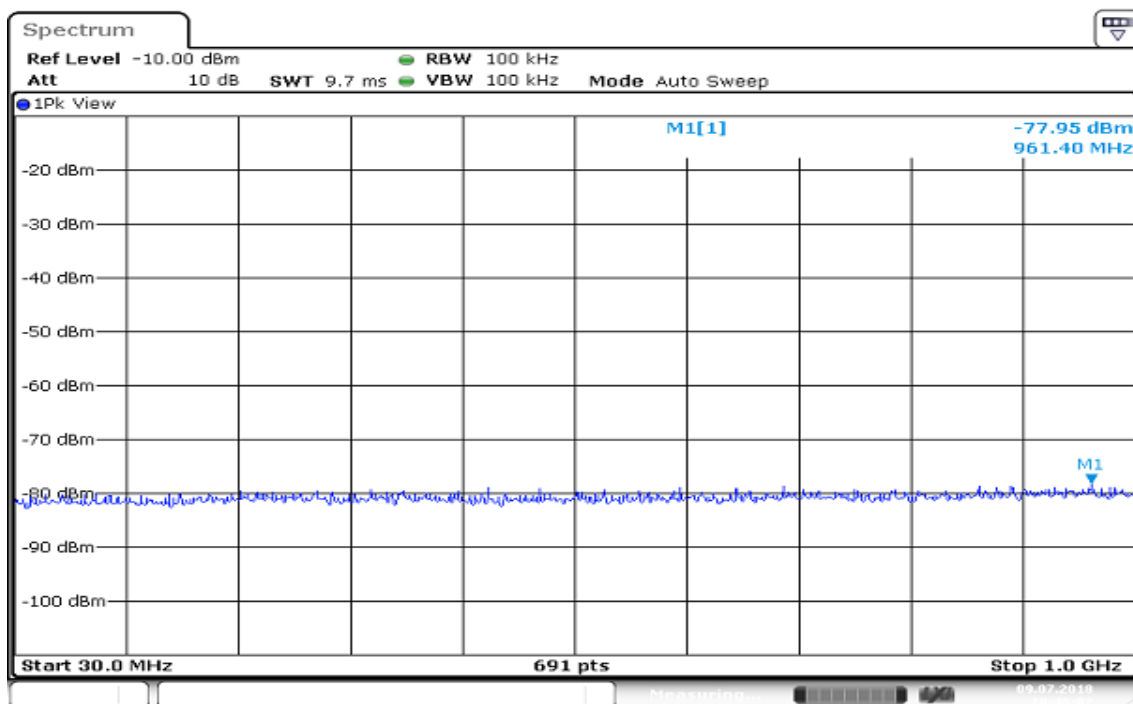
Freq: 30MHz~1GHz

Antenna 1

	Frequency (MHz)	Reading (dBm)	Cable Factor (dB)	Result (nW/MHz)	Remark
2484.0000	961.4000	-77.95	10.37	0.1746	Normal Voltage

### TEST PLOTS

#### ANT 1 / CH 14



Date: 9 JUL 2018 10:49:02



Report No.: T180627D12-RJ1

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## 1GHz~12.5GHz

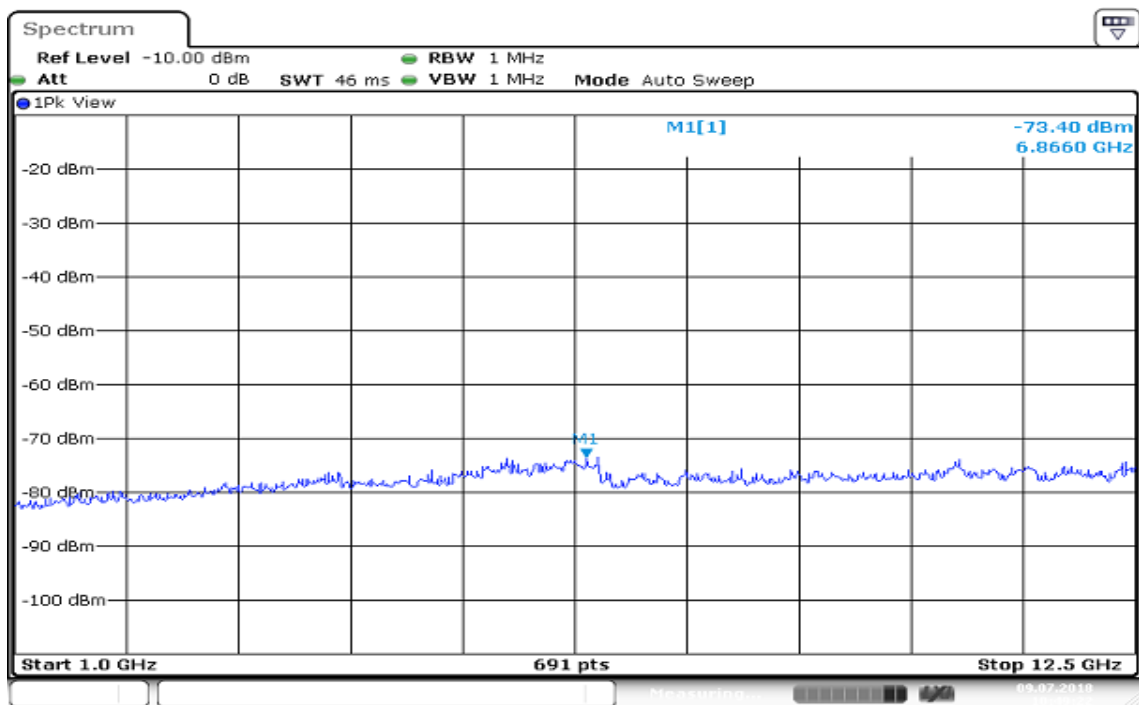
Freq: 1GHz~12.5GHz

Antenna 1

	Frequency (MHz)	Reading	Cable Factor (dB)	Result (nW/MHz)	Remark
	2484.0000	6866.0000	-73.40	10.97	0.5715
					Normal Voltage

## TEST PLOTS

### ANT 1 / CH 14



Date: 9 JUL 2018 10:49:23

Report No.: T180627D12-RJ1

## 8. TEST RESULT FOR IEEE 802.11g (CH1~CH13)

### 8.1 FREQUENCY ERROR

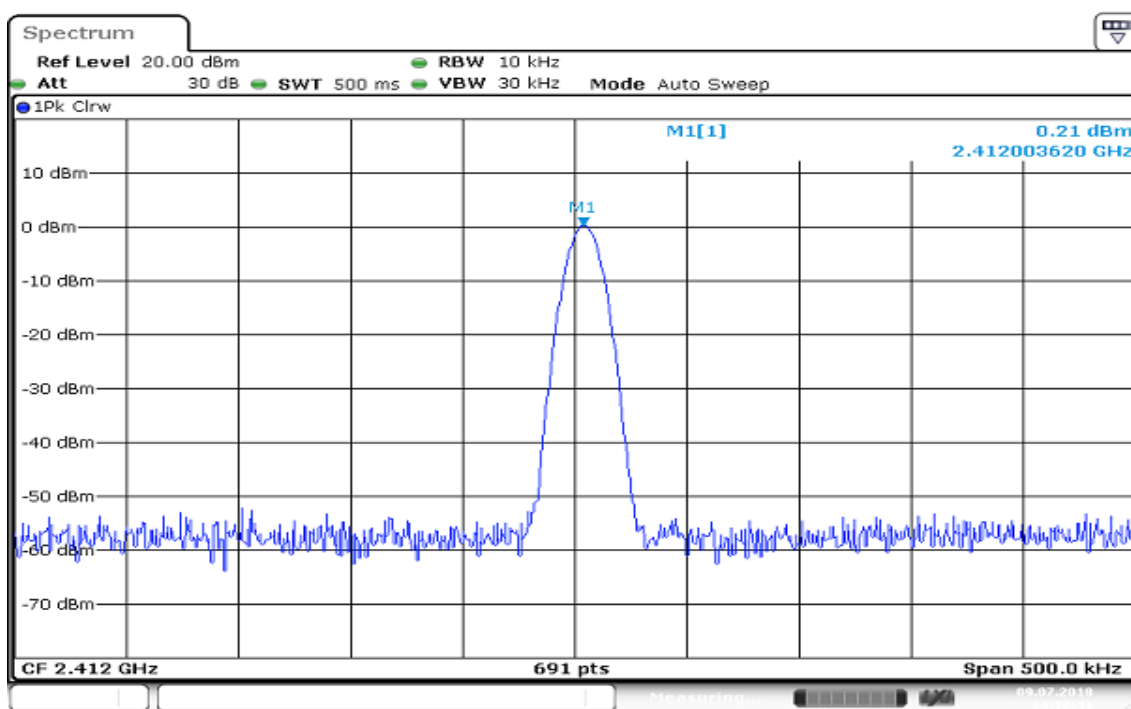
#### TEST RESULT

Antenna 1

	Frequency (MHz)	Reading (MHz)	Deviation (Hz)	Tolerance (ppm)	Remark
	2412.0000	2412.003620	3620	1.5008	Normal Voltage
	2442.0000	2442.003620	3620	1.4824	
	2472.0000	2472.003620	3620	1.4644	

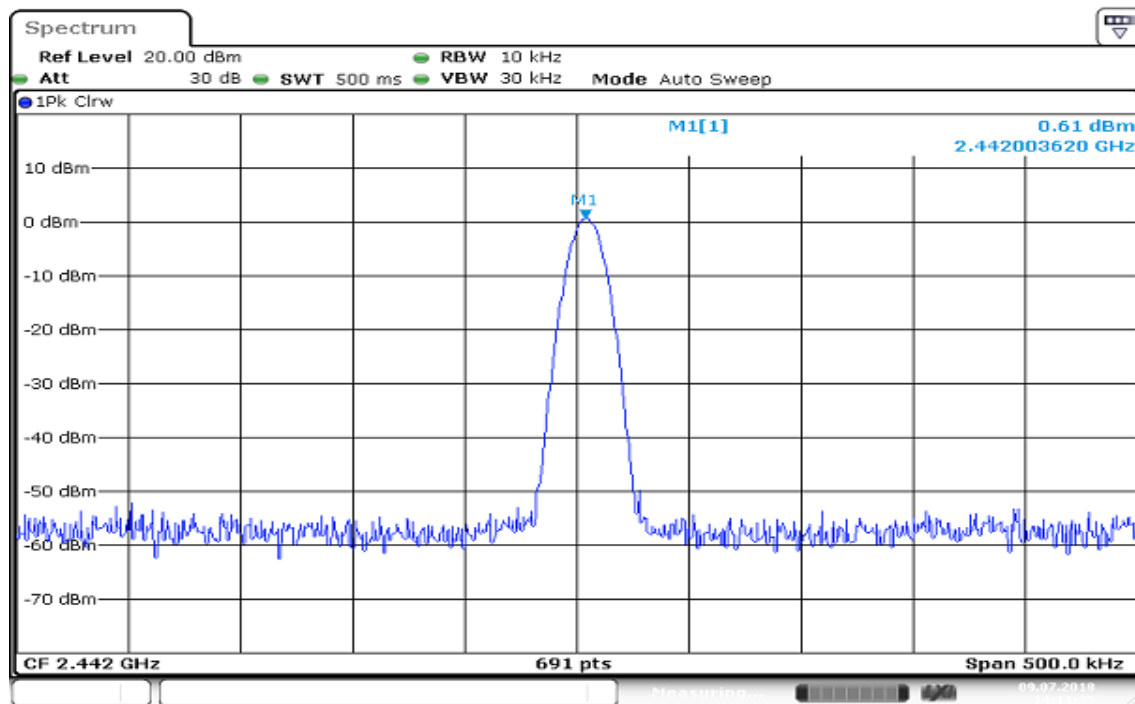
#### TEST PLOTS

##### ANT 1 / CH Low



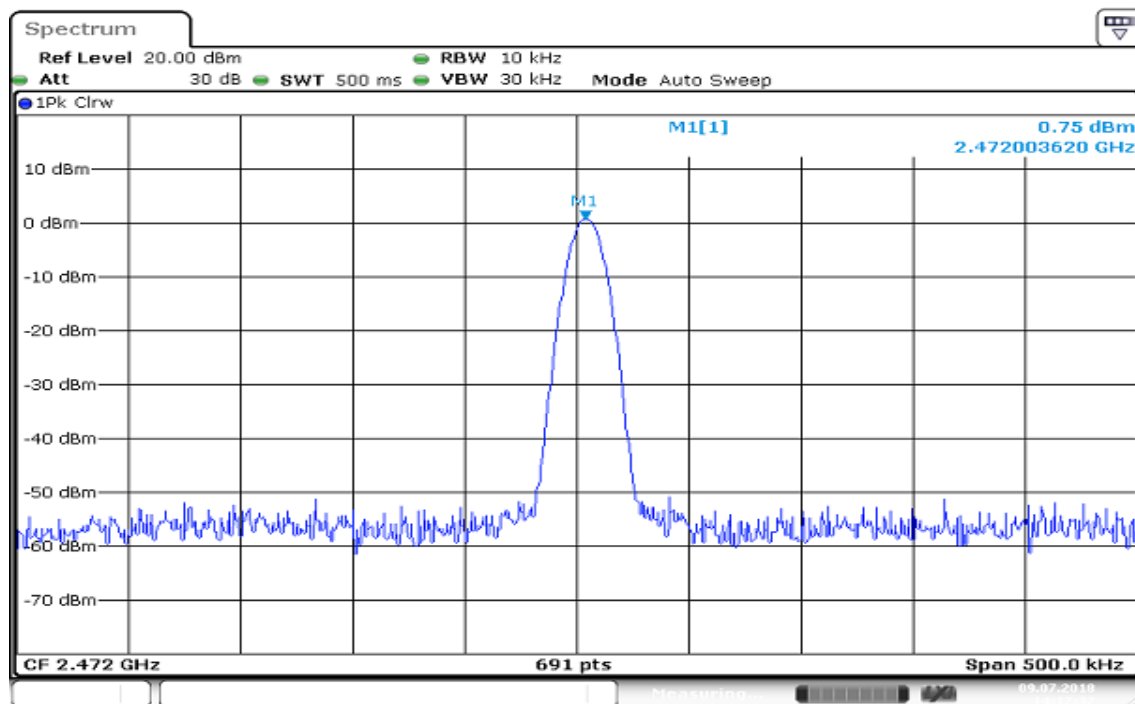
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9.JUL.2018 14:11:35

## ANT 1 / CH High



Date: 9.JUL.2018 14:12:33



Report No.: T180627D12-RJ1

## 8.2 ANTENNA POWER

### TEST RESULT

Antenna 1

4 dBi

Frequency (MHz)	Spectrum Analyser (dBm/MHz)	Cable Factor (dB)	Output Power		EIRP Power		Remark
			(dBm/MHz)	(mW/MHz)	(dBm/MHz)	(mW/MHz)	
2412.0000	-16.77	10.61	-6.16	0.24210	-2.16000	0.60814	Normal Voltage
2442.0000	-16.49	10.61	-5.88	0.25823	-1.88000	0.64863	
2472.0000	-16.22	10.61	-5.61	0.27479	-1.61000	0.69024	

Report No.: T180627D12-RJ1

### 8.3 SPURIOUS EMISSIONS INTENSITY

#### TEST RESULT

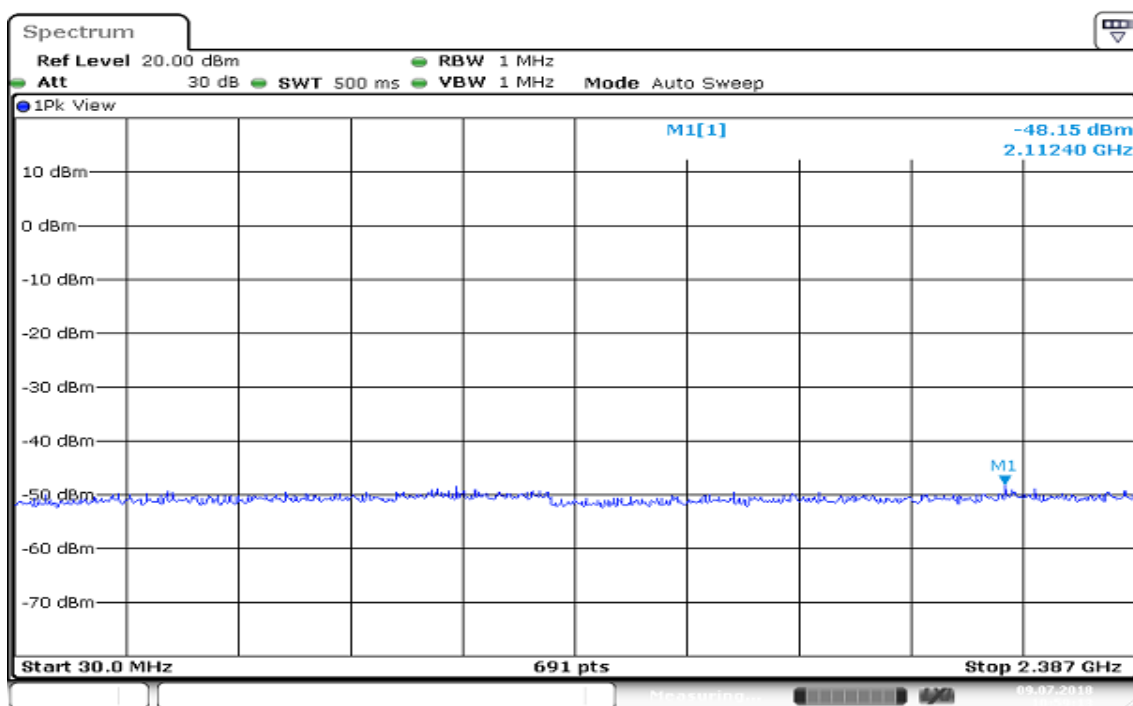
#### 30MHz~less than 2,387MHz

(1) Spurious Emission Intensity : 30MHz~less than 2,387MHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result ( $\mu$ W/MHz)	Remark
2412.0000	2112.4000	-48.15	10.61	0.17620	Normal Voltage
2442.0000	969.7000	-48.57	10.61	0.15996	
2472.0000	1645.1000	-48.46	10.61	0.16406	

#### TEST PLOTS

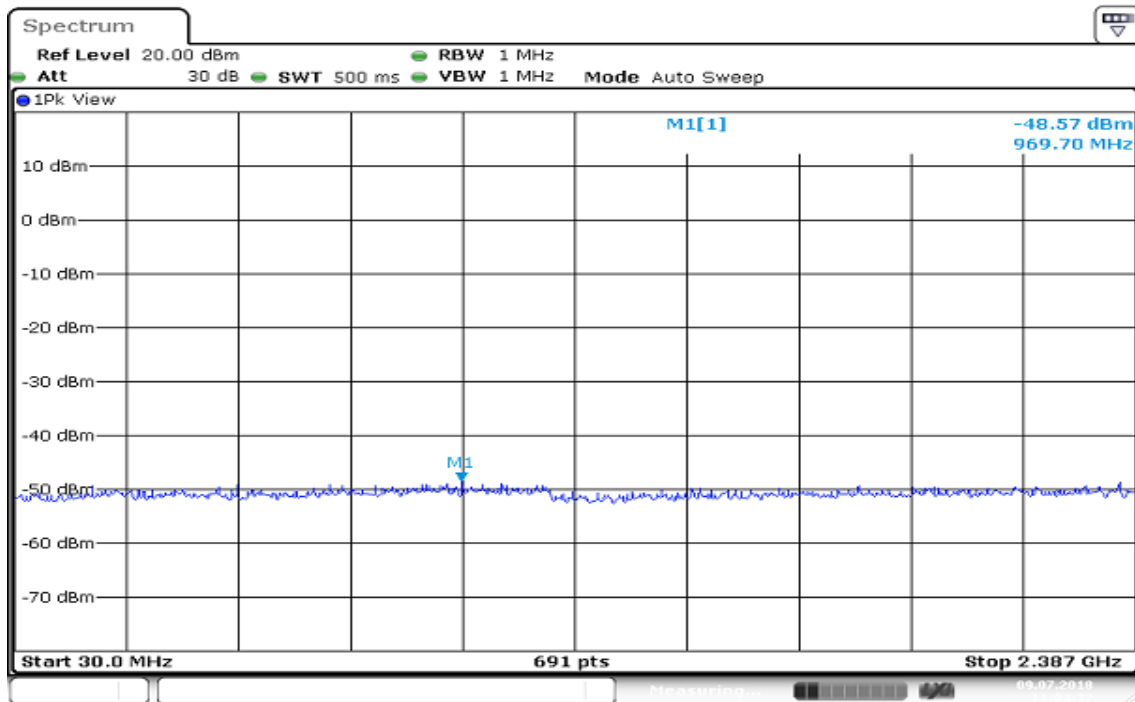
#### ANT 1 / CH Low



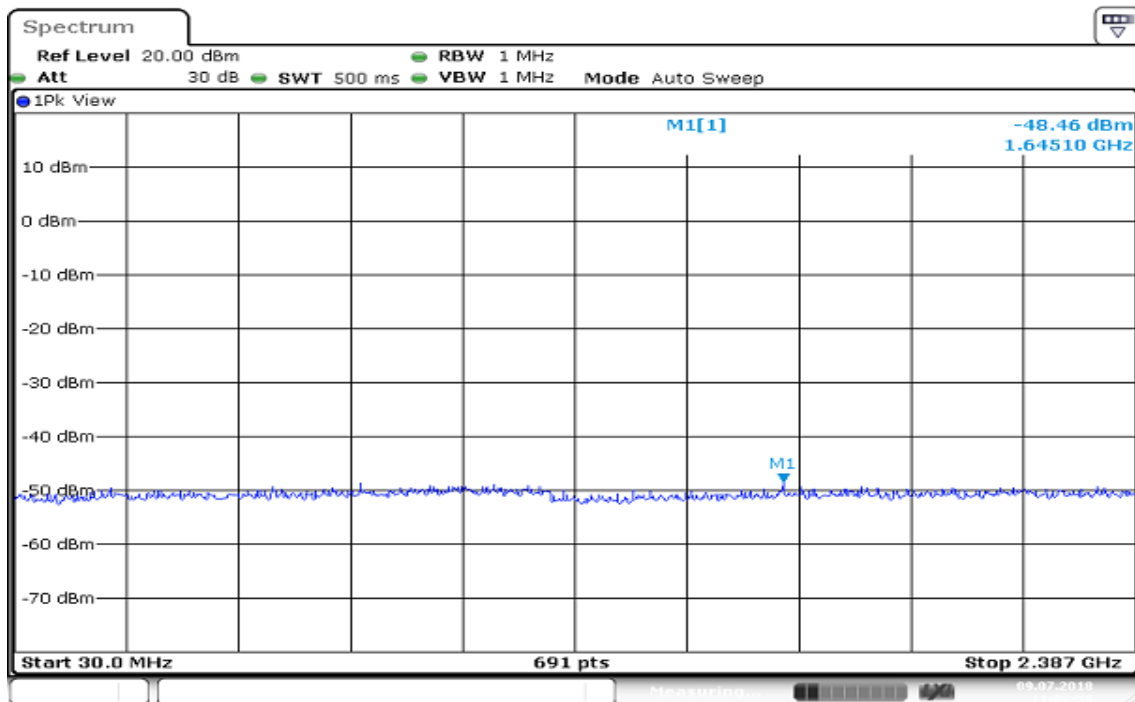
Date: 9.07.2018 10:59:13



Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**

Date: 9.JUL.2018 11:04:32

**Ant 1 / CH High**

Date: 9.JUL.2018 11:07:59

Report No.: T180627D12-RJ1

## TEST RESULT

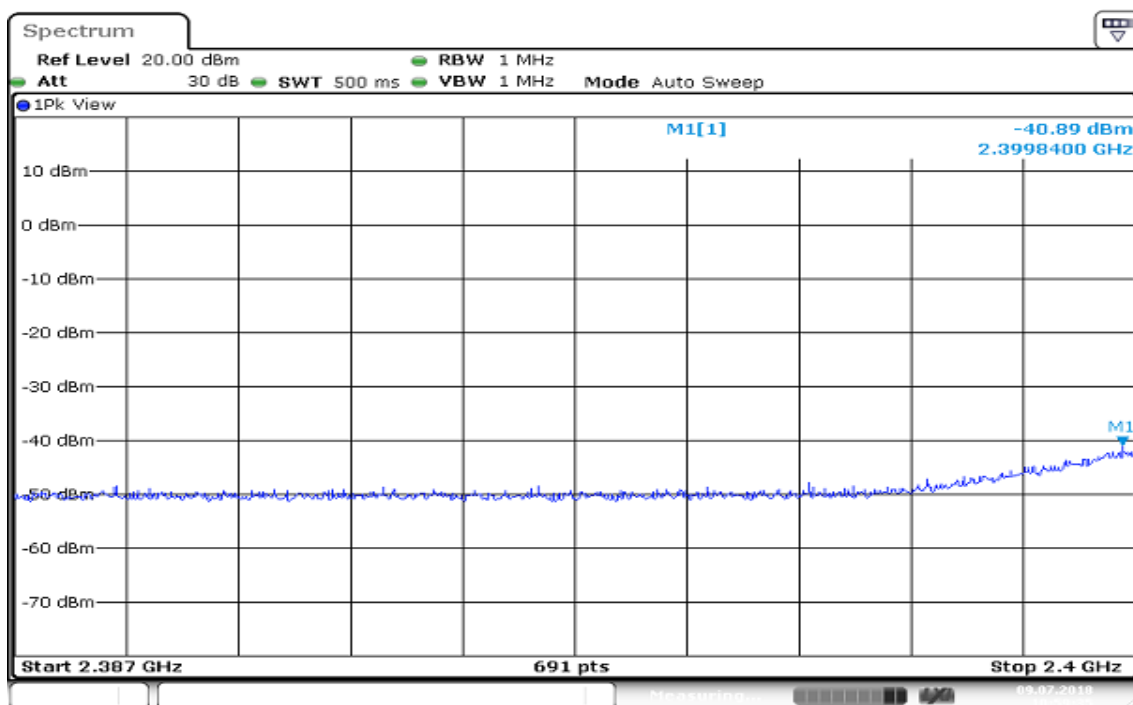
### 2,387MHz~less than 2,400MHz

(2) Spurious Emission Intensity : 2,387MHz~less than 2,400MHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	2399.8400	-40.89	10.61	0.93756	Normal Voltage
2442.0000	2392.6530	-48.13	10.61	0.17701	
2472.0000	2388.4020	-48.53	10.61	0.16144	

## TEST PLOTS

### ANT 1 / CH Low

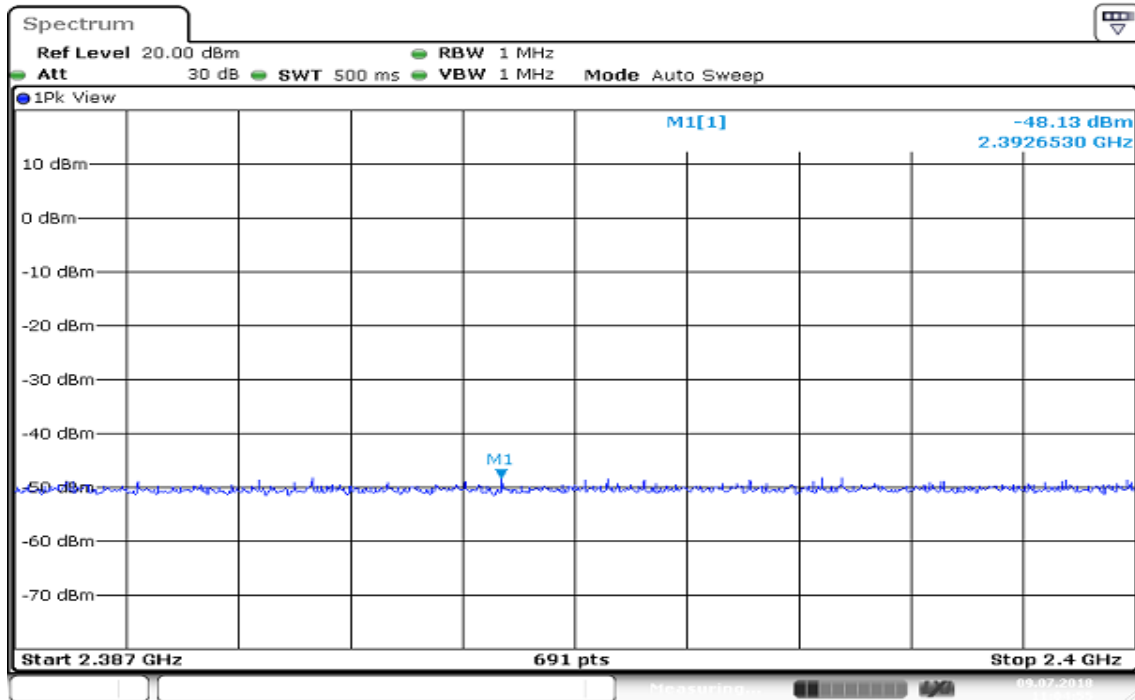


Date: 9 JUL 2018 10:59:35



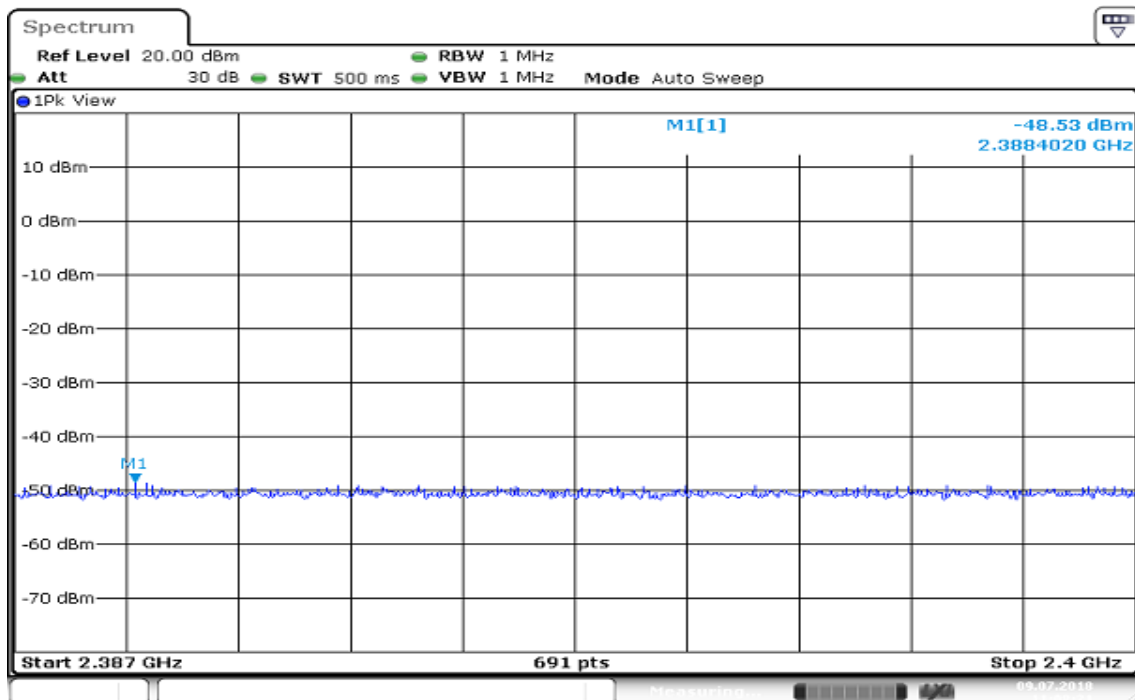
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:04:55

## ANT 1 / CH High



Date: 9 JUL 2018 11:08:21

Report No.: T180627D12-RJ1

## TEST RESULT

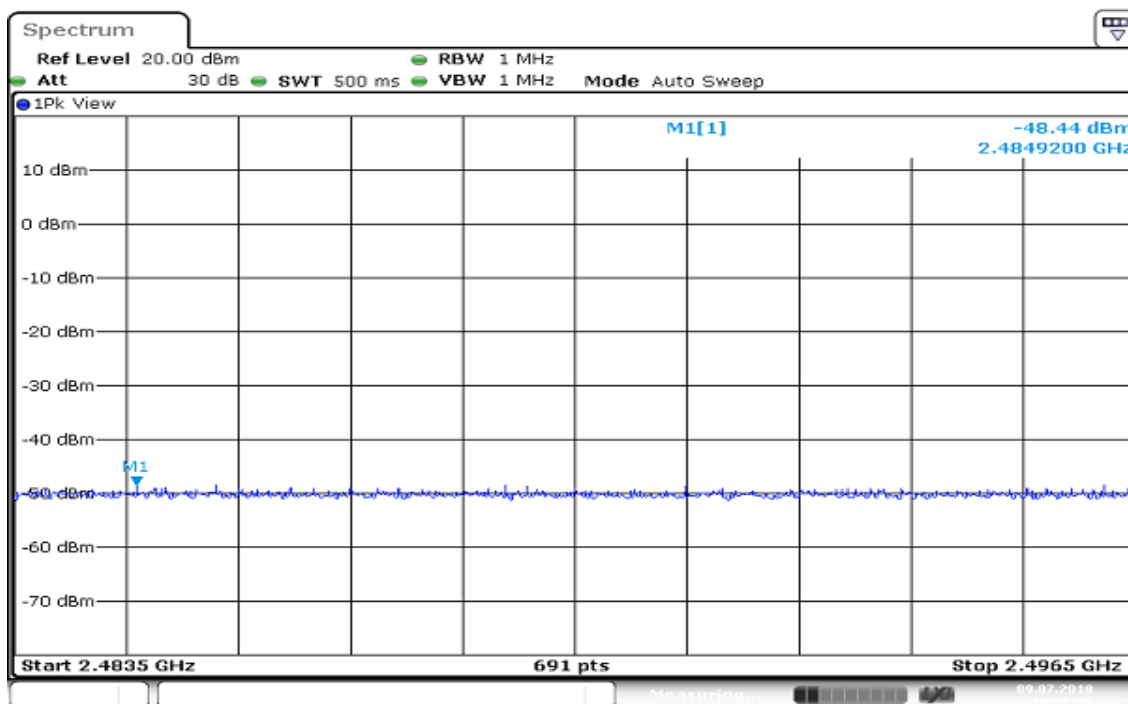
**2,483.5MHz~2,496.5MHz**

(3) Spurious Emission Intensity : 2,483.5MHz~2,496.5MHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	2484.9200	-48.44	10.61	0.16482	Normal Voltage
2442.0000	2495.0980	-47.73	10.61	0.19409	
2472.0000	2483.5090	-39.26	10.61	1.36458	

## TEST PLOTS

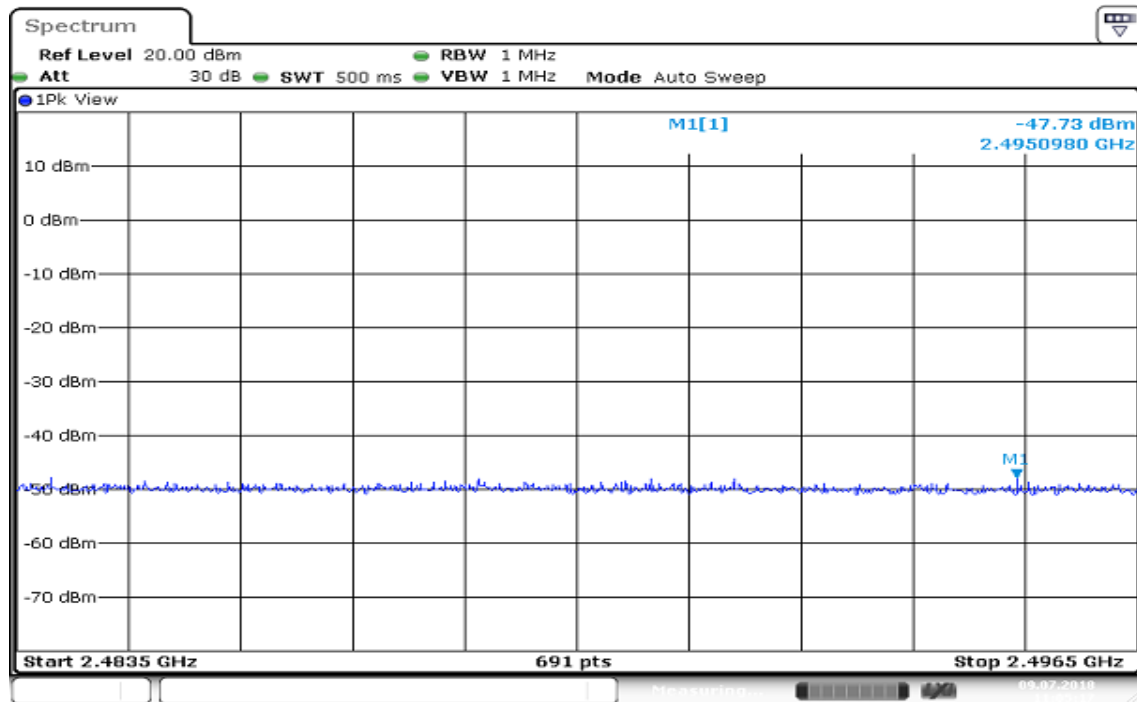
### ANT 1 / CH Low



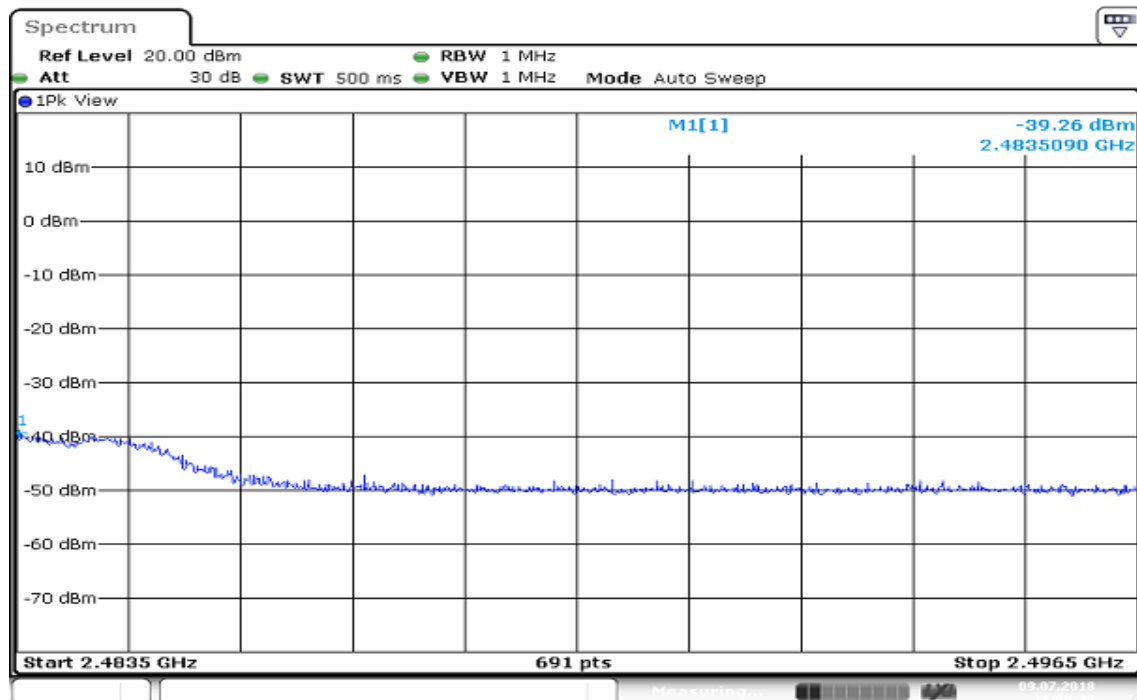
Date: 9 JUL 2018 10:59:56



Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**

Date: 9 JUL 2018 11:05:18

**ANT 1 / CH High**

Date: 9 JUL 2018 11:08:40

Report No.: T180627D12-RJ1

## TEST RESULT

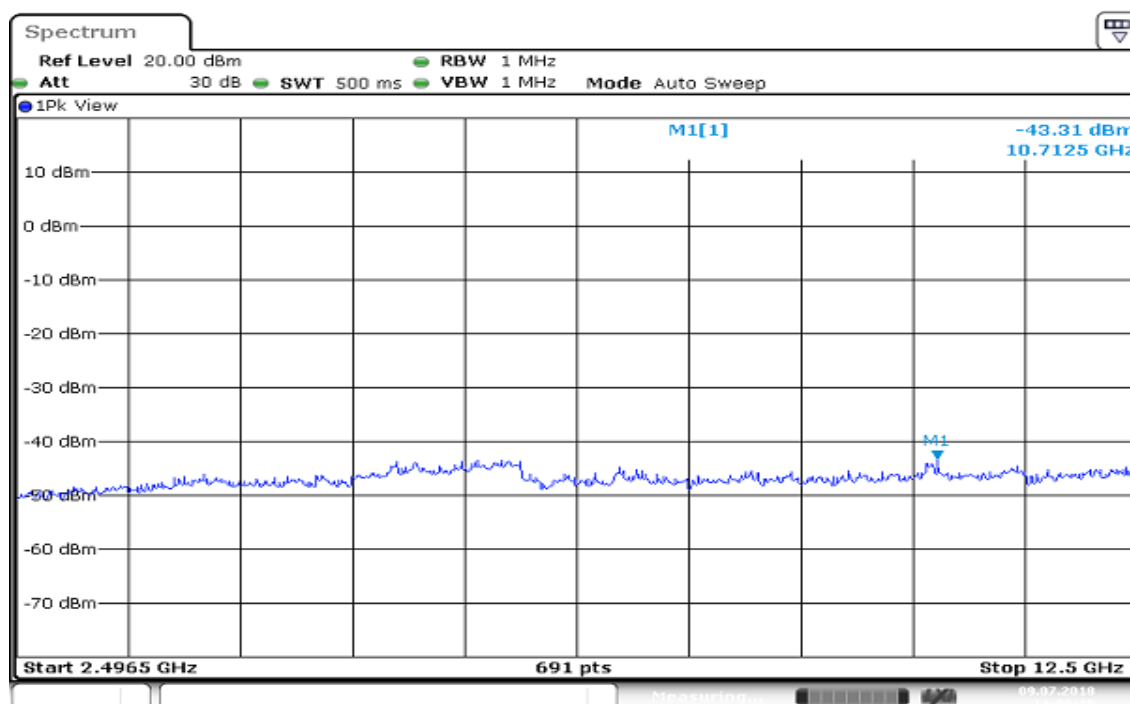
**2,496.5MHz~12.5GHz**

(4) Spurious Emission Intensity : more than 2,496.5MHz~12.5GHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	10712.5000	-43.31	10.97	0.58345	Normal Voltage
2442.0000	6875.5000	-43.32	10.97	0.58210	
2472.0000	6832.5000	-42.63	10.97	0.68234	

## TEST PLOTS

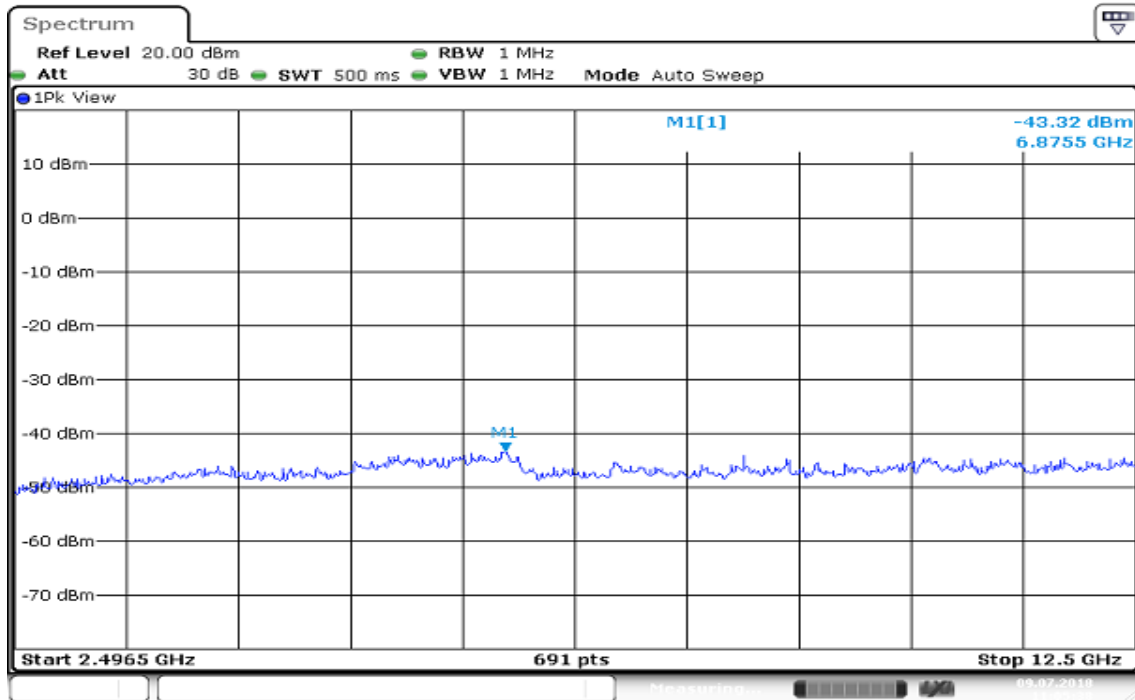
### ANT 1 / CH Low



Date: 9 JUL 2018 11:00:15

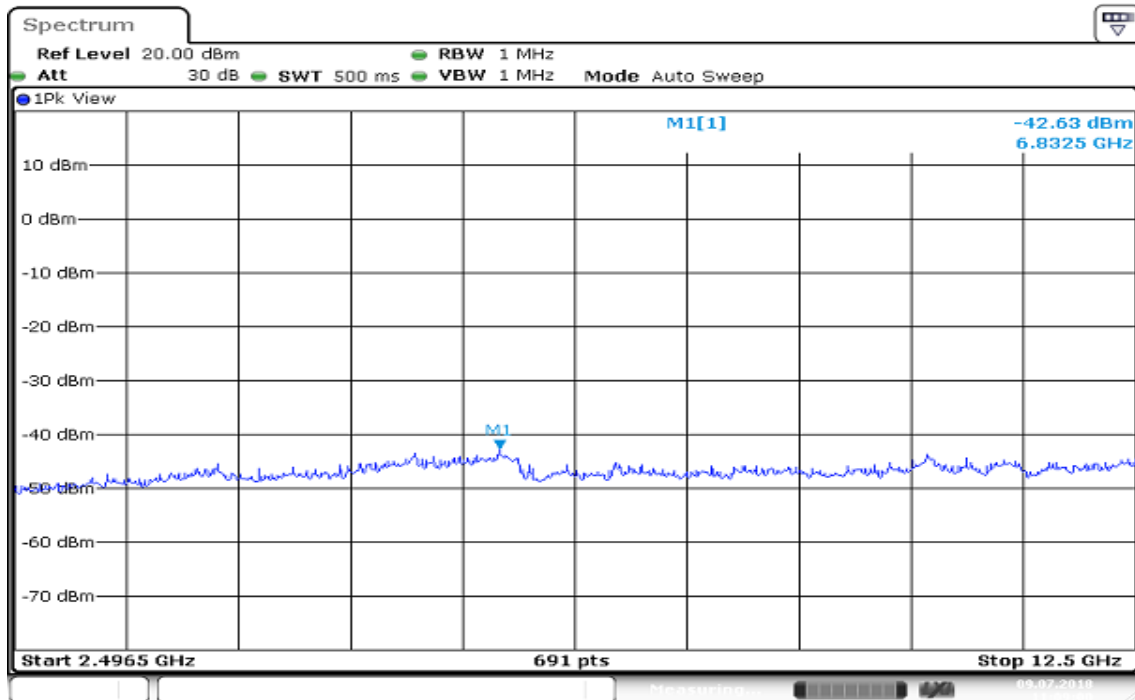
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:05:38

## ANT 1 / CH High



Date: 9 JUL 2018 11:09:01

Report No.: T180627D12-RJ1

## 8.4 OCCUPIED BANDWIDTH (99%)

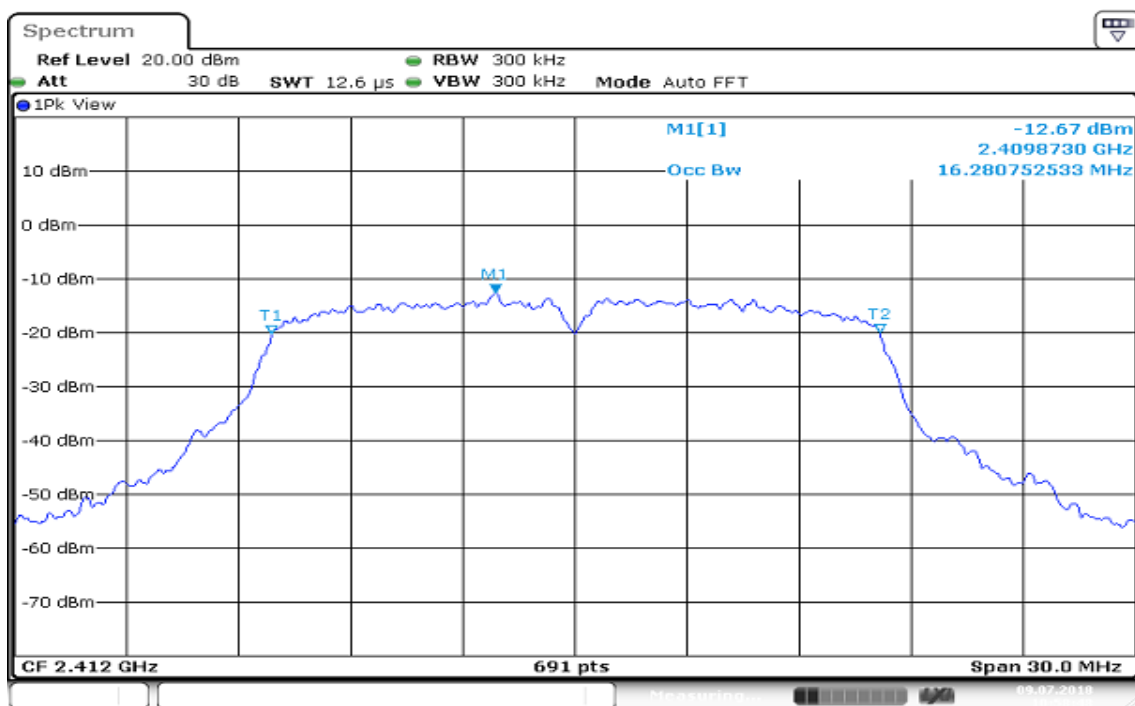
### TEST RESULT

Antenna 1

	Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Remark
	2412.0000	2412.00	16.28	Normal Voltage
	2442.0000	2442.00	16.32	
	2472.0000	2472.00	16.32	

### TEST PLOTS

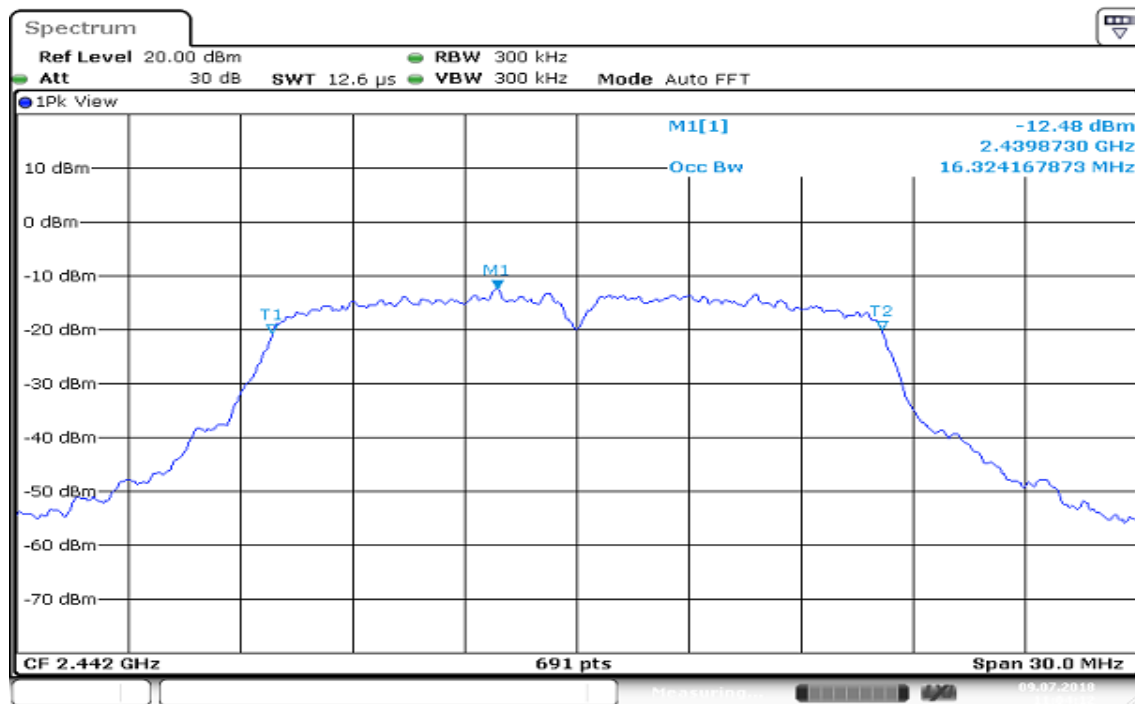
#### ANT 1 / CH Low



Date: 9 JUL 2018 10:58:49

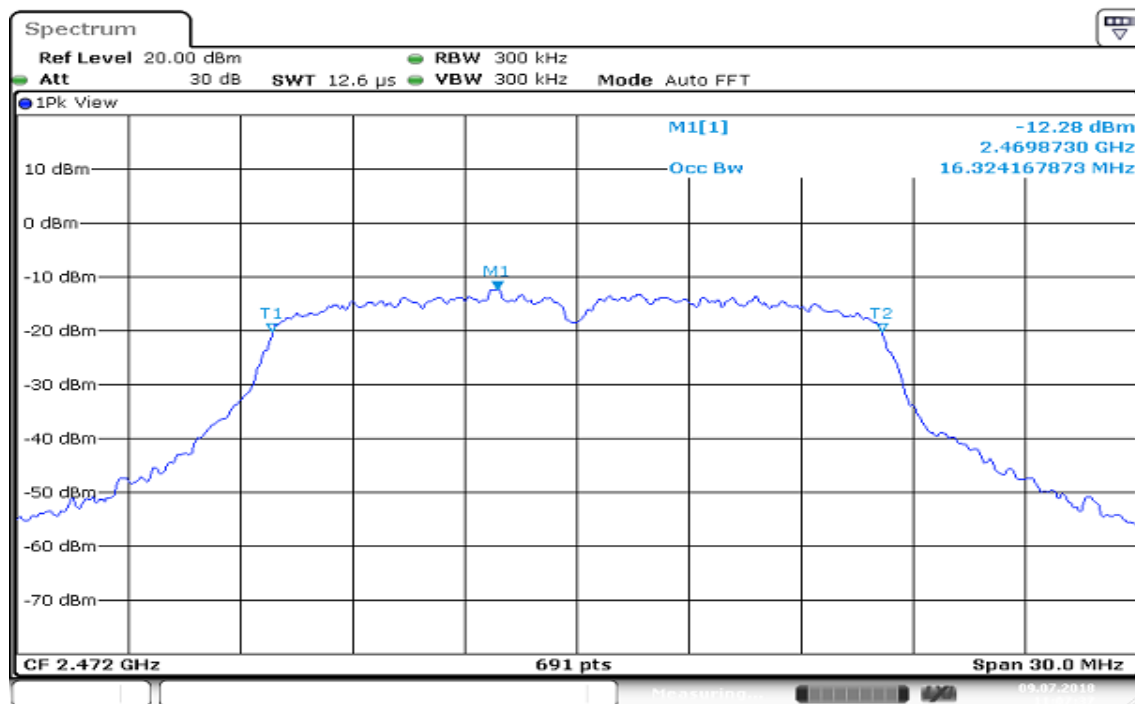
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:04:13

## ANT 1 / CH High



Date: 9 JUL 2018 11:07:38

Report No.: T180627D12-RJ1

## 8.5 LIMITATION OF COLLATERAL EMISSIONS OF RECEIVER

### TEST RESULT

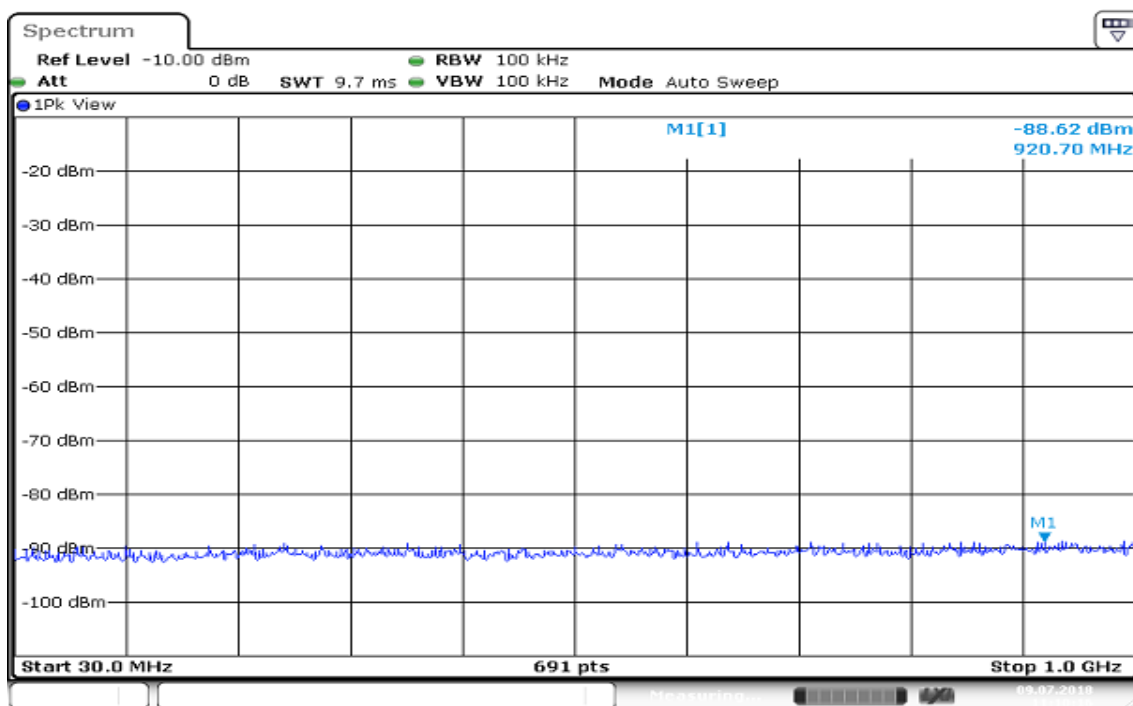
30MHz~1000MHz

Freq: 30MHz~1GHz

	Frequency (MHz)	Reading (dBm)	Cable Factor (dB)	Result (nW/MHz)	Remark
2412 MHz	920.7000	-88.62	10.37	0.0150	Normal Voltage :
2442 MHz	865.9000	-88.77	10.37	0.0145	
2472 MHz	929.1000	-88.02	10.37	0.0172	

### TEST PLOTS

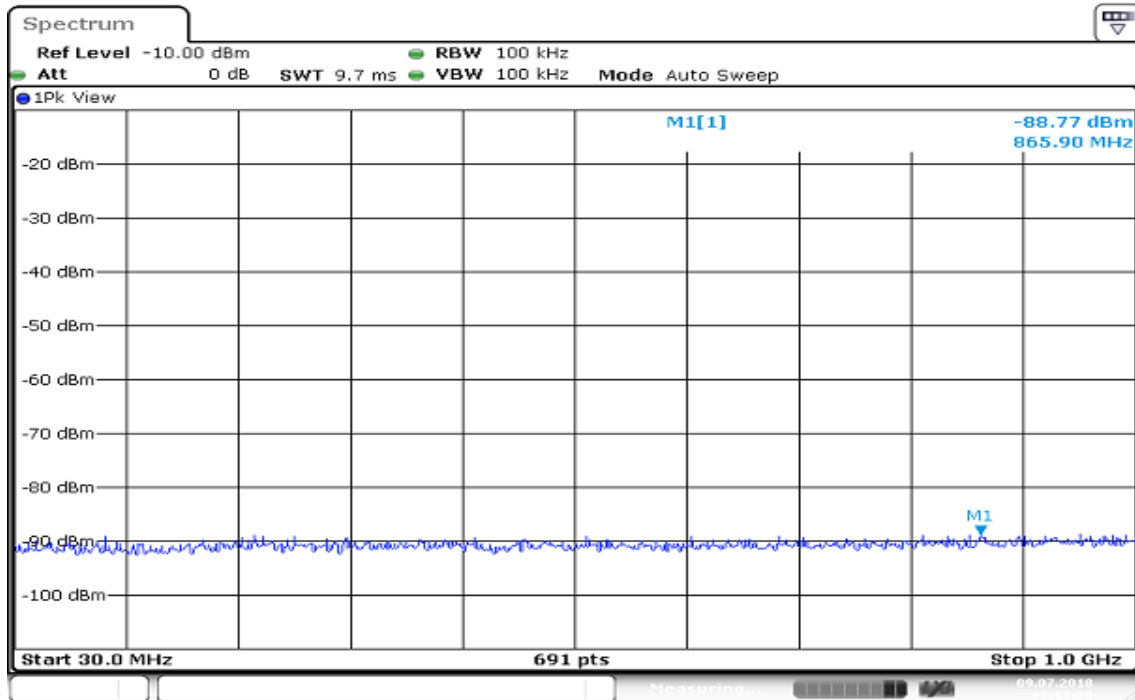
#### ANT 1 / CH Low



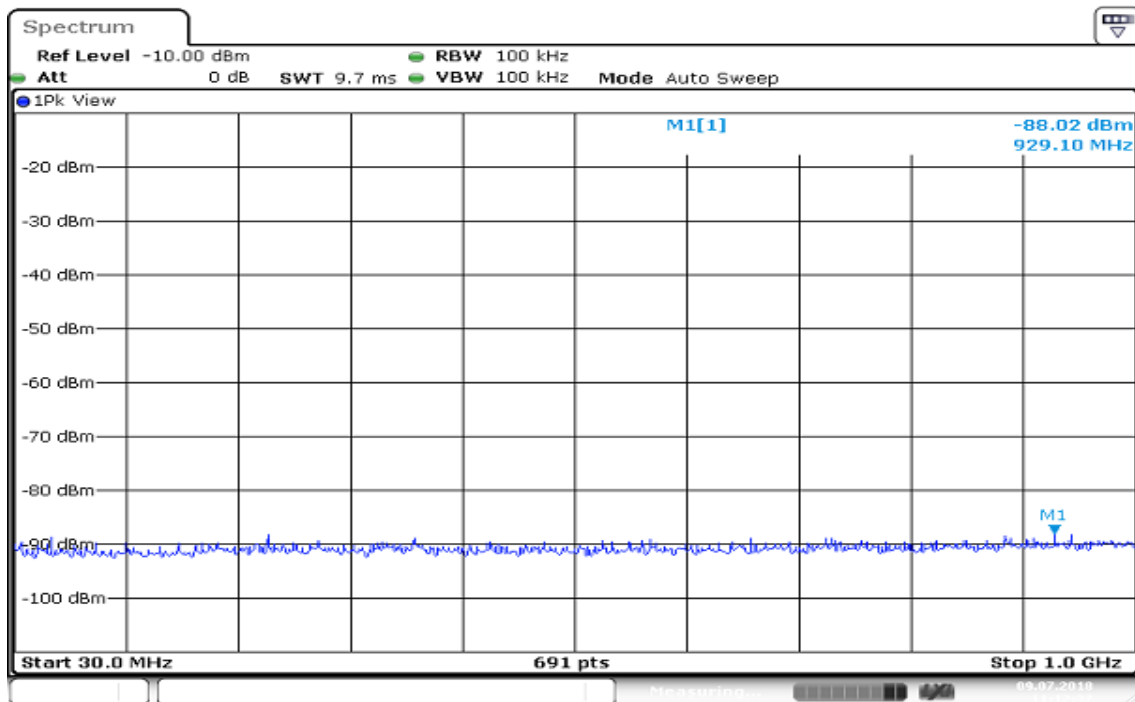
Date: 9 JUL 2018 11:10:17



Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**

Date: 9 JUL 2018 11:11:29

**ANT 1 / CH High**

Date: 9 JUL 2018 11:12:38

Report No.: T180627D12-RJ1

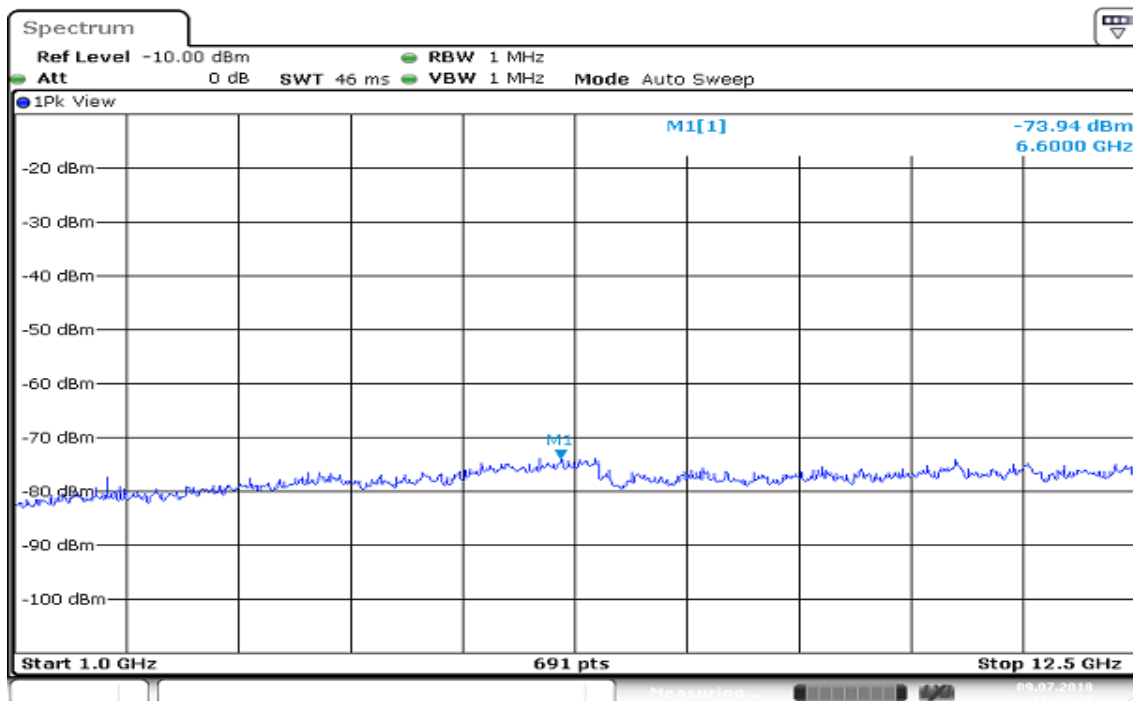
## 1GHz~12.5GHz

Freq: 1GHz~12.5GHz

	Frequency (MHz)	Reading (dBm)	Cable Factor (dB)	Result (nW/MHz)	Remark
2412 MHz	6600.0000	-73.94	10.97	0.5047	Normal Voltage :
2442 MHz	6034.0000	-73.52	10.97	0.5559	
2472 MHz	6883.0000	-73.46	10.97	0.5636	

## TEST PLOTS

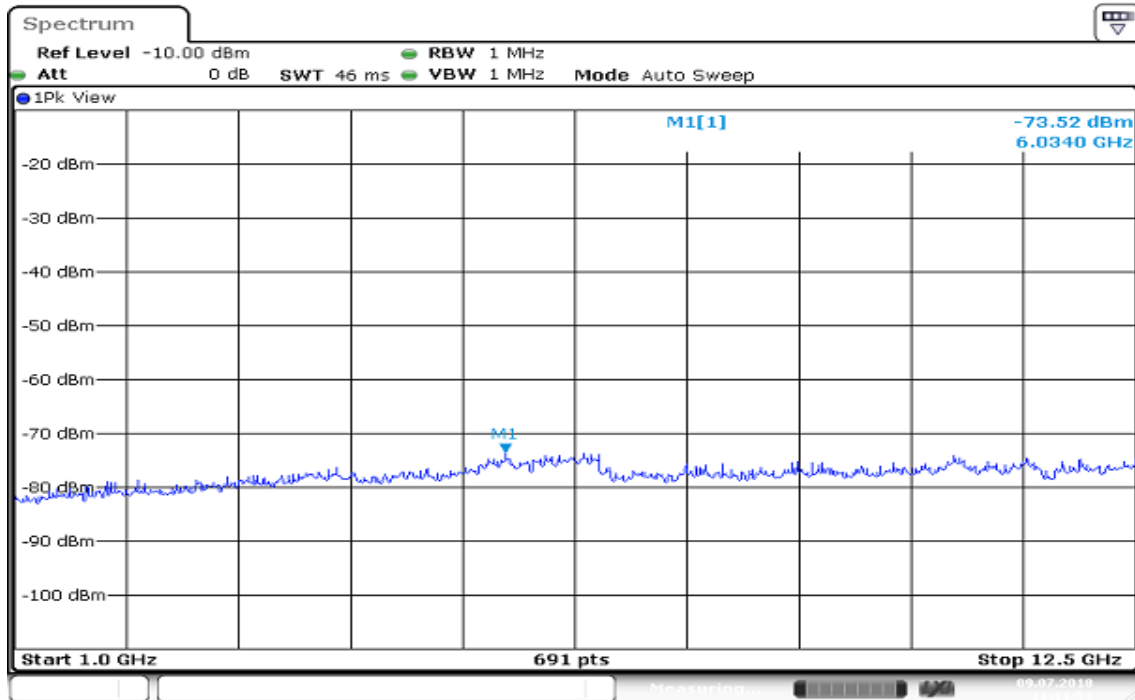
### ANT 1 / CH Low



Date: 9 JUL 2018 11:10:27

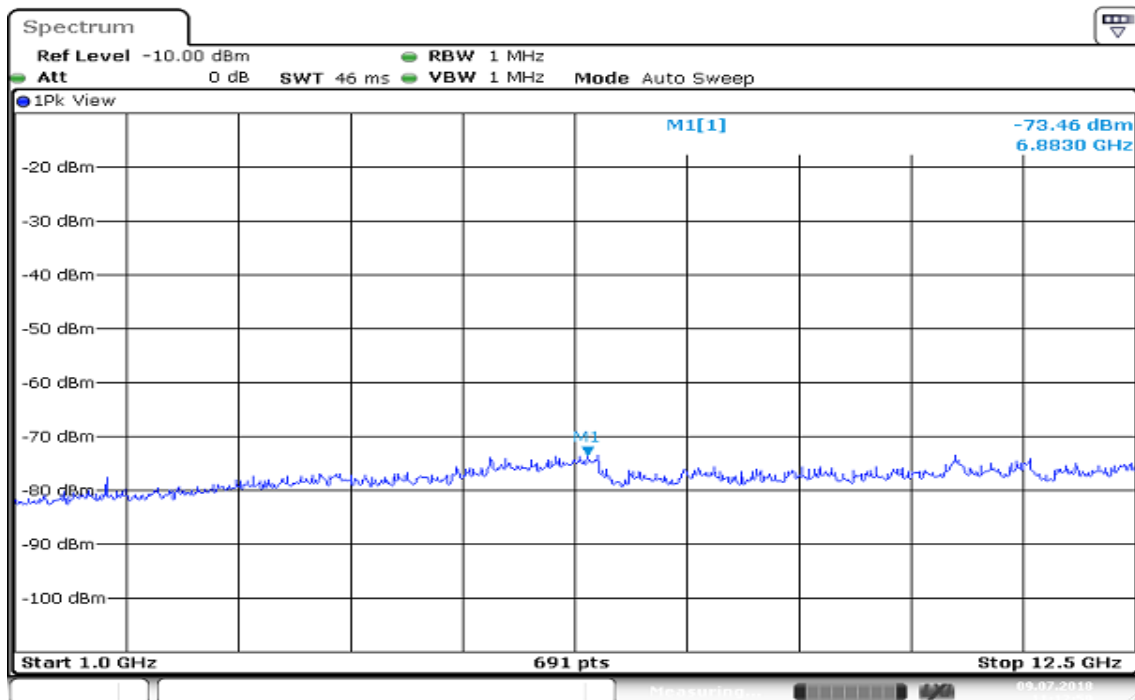
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:11:51

## ANT 1 / CH High



Date: 9 JUL 2018 11:12:59

Report No.: T180627D12-RJ1

## 9. TEST RESULT FOR 802.11n HT20 (CH1~CH13)

### 9.1 FREQUENCY ERROR

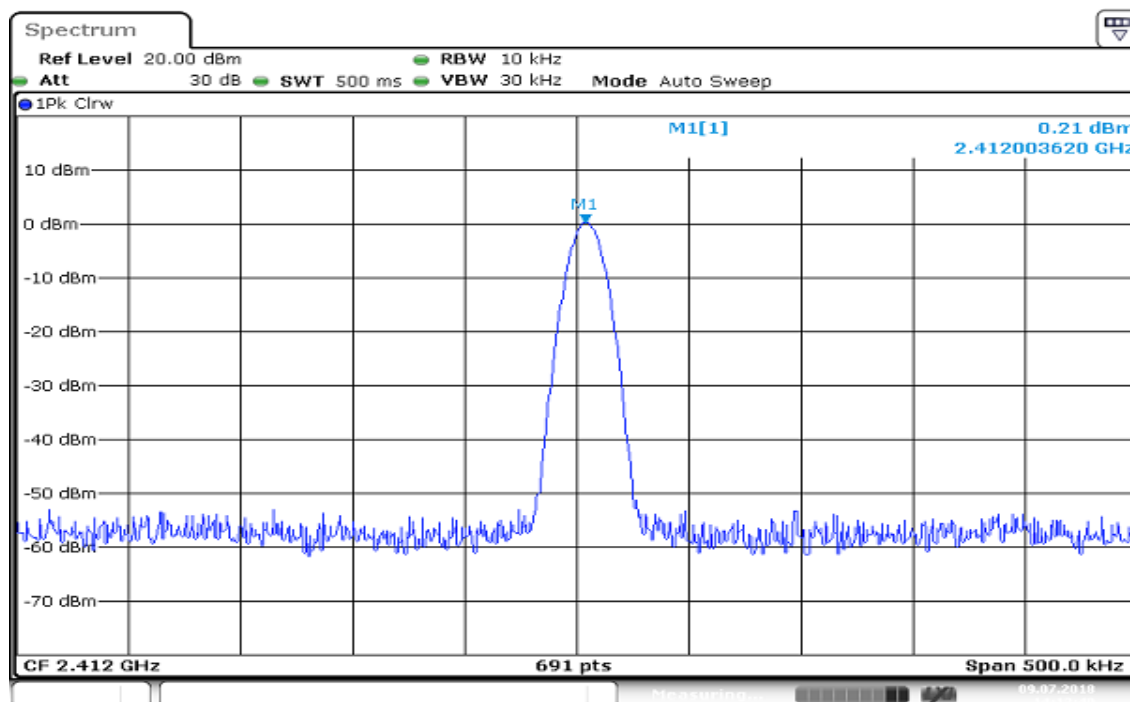
#### TEST RESULT

Antenna 1

	Frequency (MHz)	Reading (MHz)	Deviation (Hz)	Tolerance (ppm)	Remark
	2412.0000	2412.003620	3620	1.5008	Normal Voltage
	2442.0000	2442.004340	4340	1.7772	
	2472.0000	2472.004340	4340	1.7557	

#### TEST PLOTS

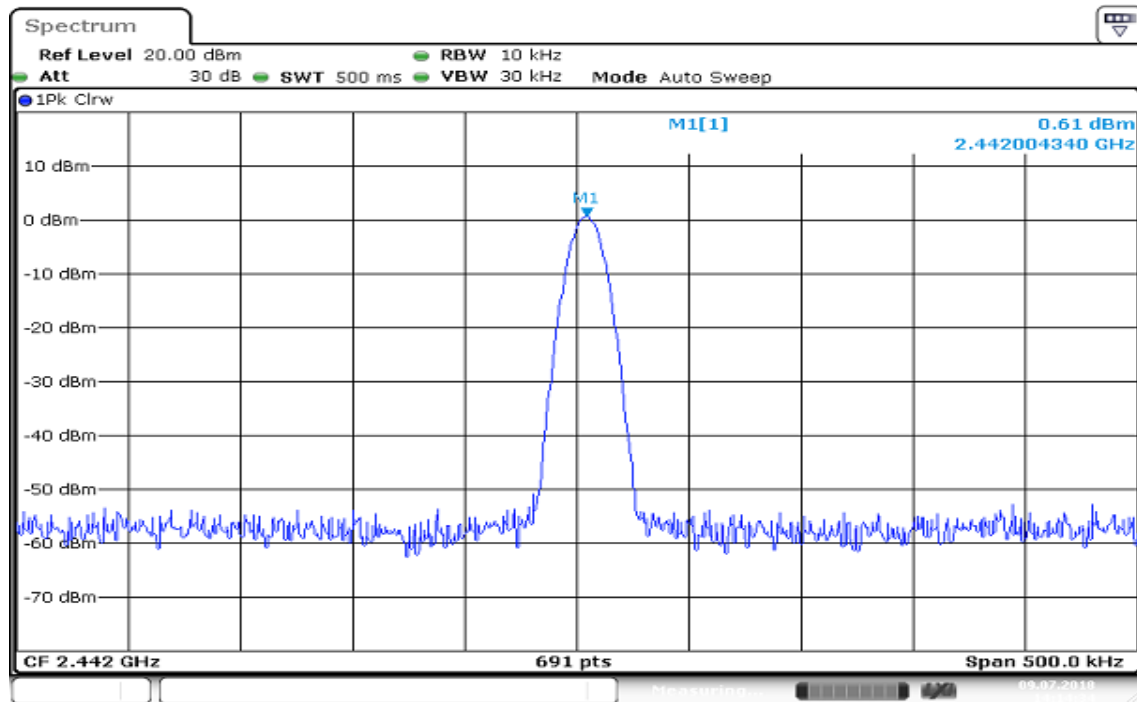
##### ANT 1 / CH Low



Date: 9 JUL 2018 14:13:41

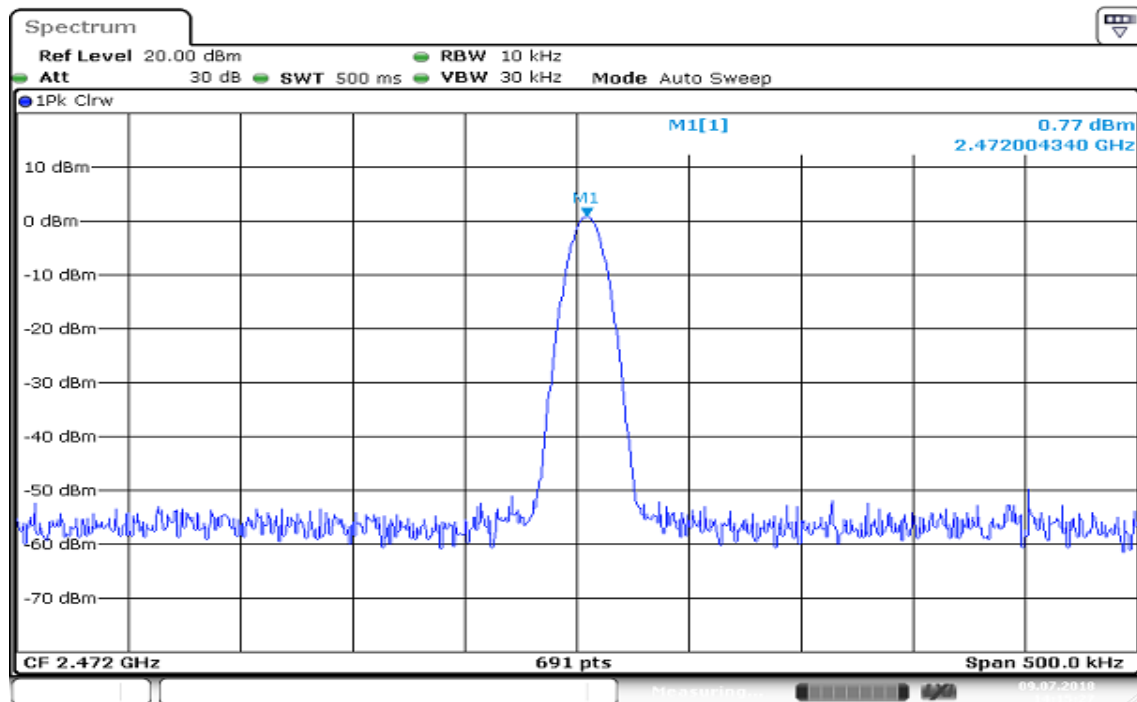
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 14:14:35

## ANT 1 / CH High



Date: 9 JUL 2018 14:15:27



Report No.: T180627D12-RJ1

## 9.2 ANTENNA POWER

### TEST RESULT

Antenna 1  4 dBi

Frequency (MHz)	Spectrum Analyser (dBm/MHz)	Cable Factor (dB)	Output Power		EIRP Power		Remark
			(dBm/MHz)	(mW/MHz)	(dBm/MHz)	(mW/MHz)	
2412.0000	-17.46	10.61	-6.85	0.20654	-2.85000	0.51880	Normal Voltage
2442.0000	-16.99	10.61	-6.38	0.23014	-2.38000	0.57810	
2472.0000	-16.78	10.61	-6.17	0.24155	-2.17000	0.60674	

Report No.: T180627D12-RJ1

### 9.3 SPURIOUS EMISSIONS INTENSITY

#### TEST RESULT

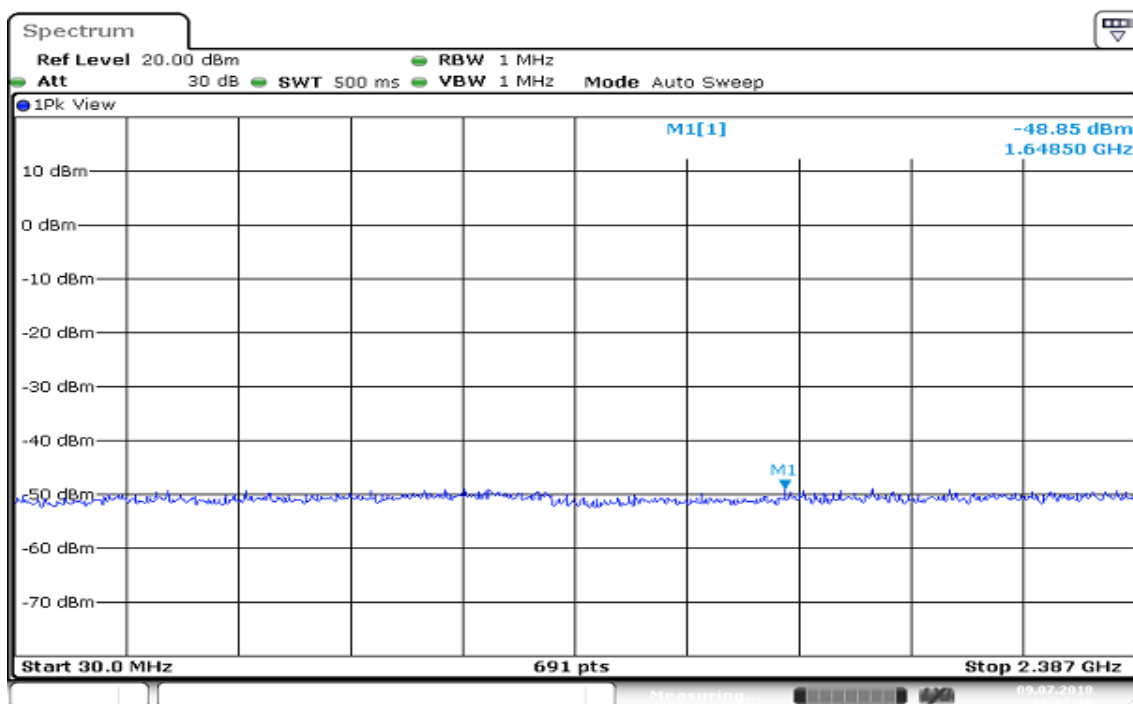
#### 30MHz~less than 2,387MHz

(1) Spurious Emission Intensity : 30MHz~less than 2,387MHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	1648.5000	-48.85	10.61	0.14997	Normal Voltage
2442.0000	915.2000	-48.54	10.61	0.16106	
2472.0000	901.5000	-48.50	10.61	0.16255	

#### TEST PLOTS

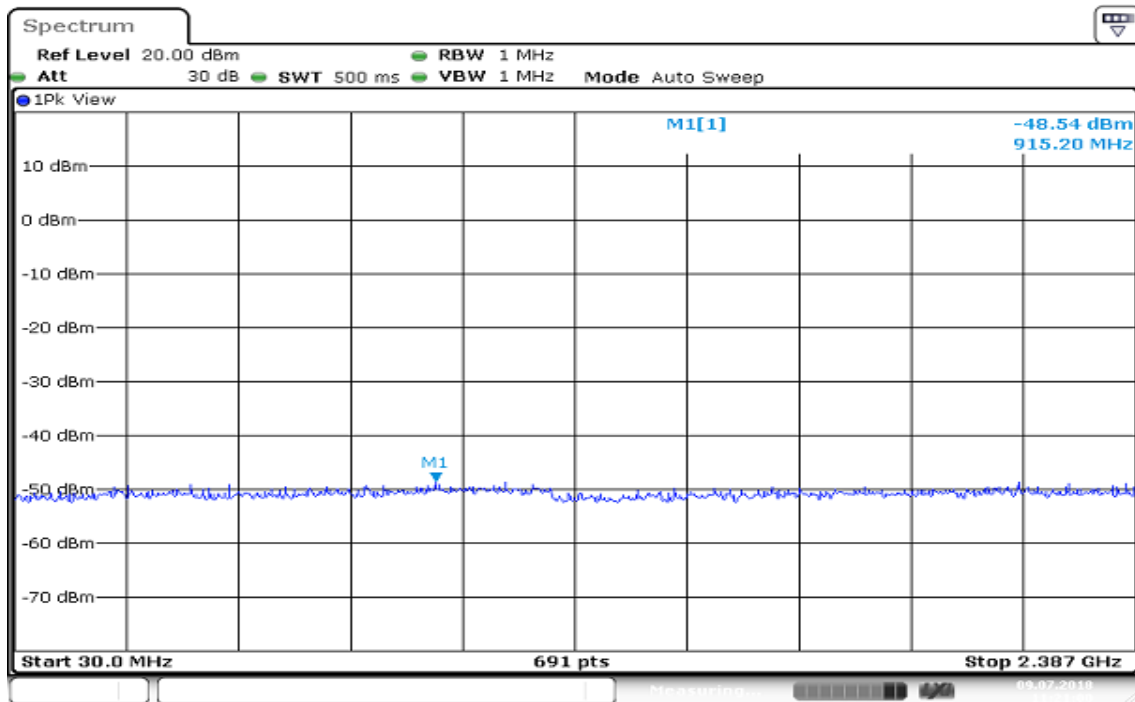
#### ANT 1 / CH Low



Date: 9 JUL 2018 11:17:27

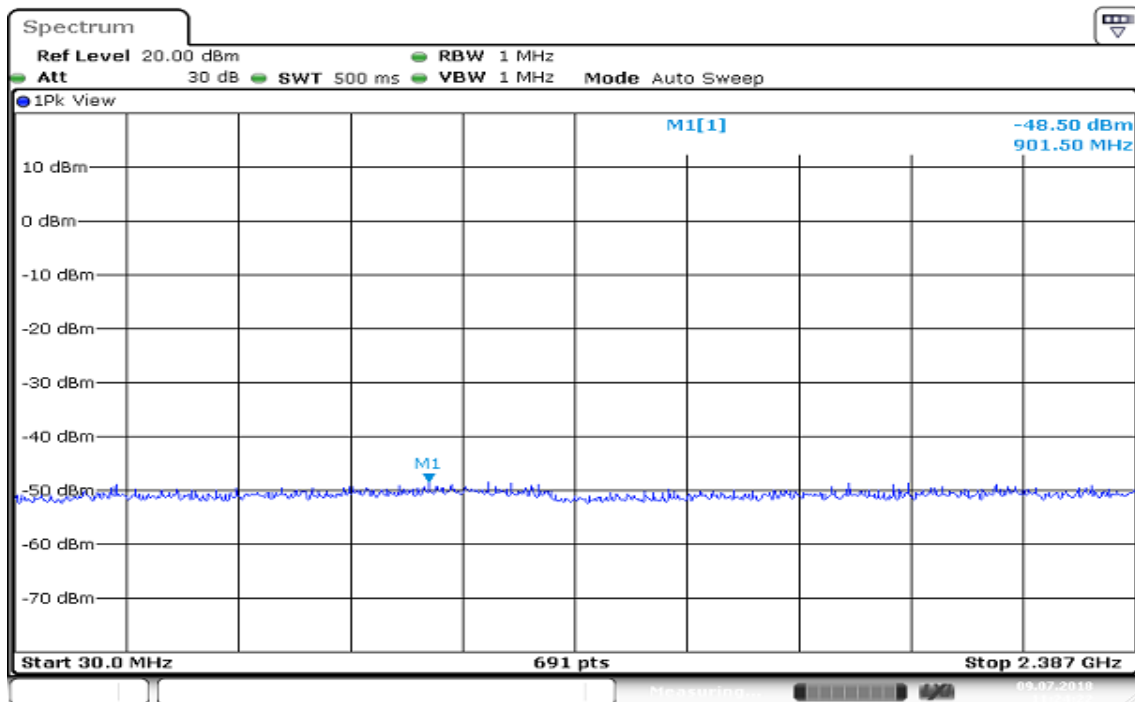
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:21:01

## ANT 1 / CH High



Date: 9 JUL 2018 11:24:23



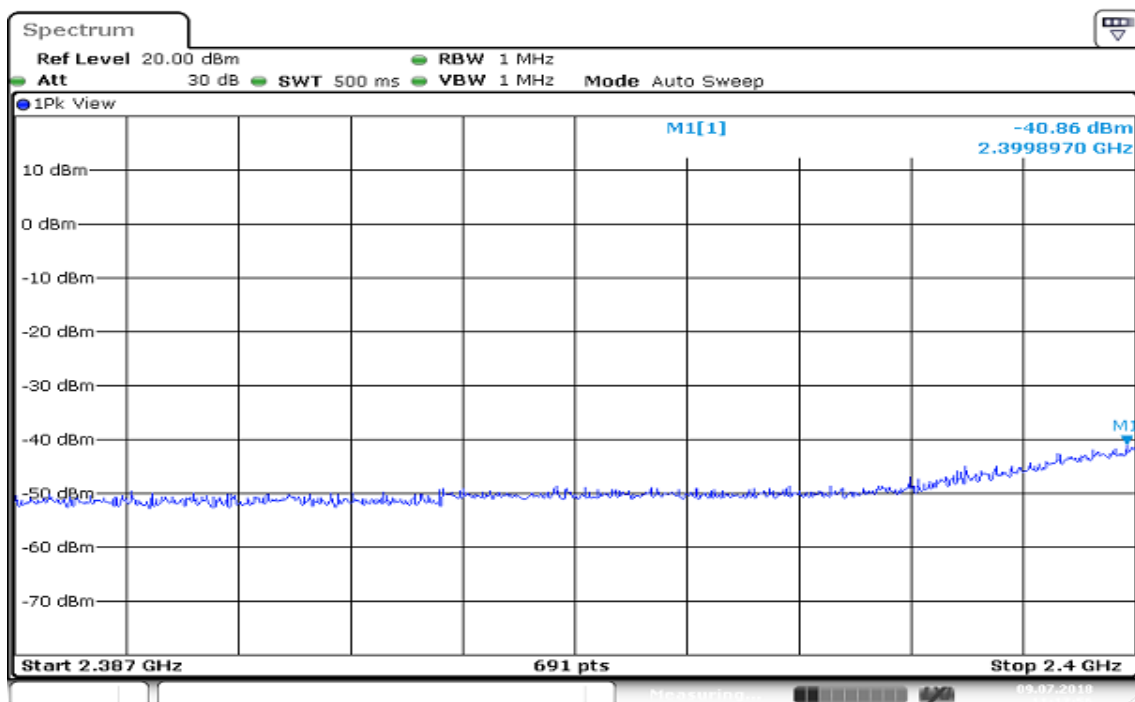


Report No.: T180627D12-RJ1

**TEST RESULT****2,387MHz~less than 2,400MHz**

(2) Spurious Emission Intensity : 2,387MHz~less than 2,400MHz

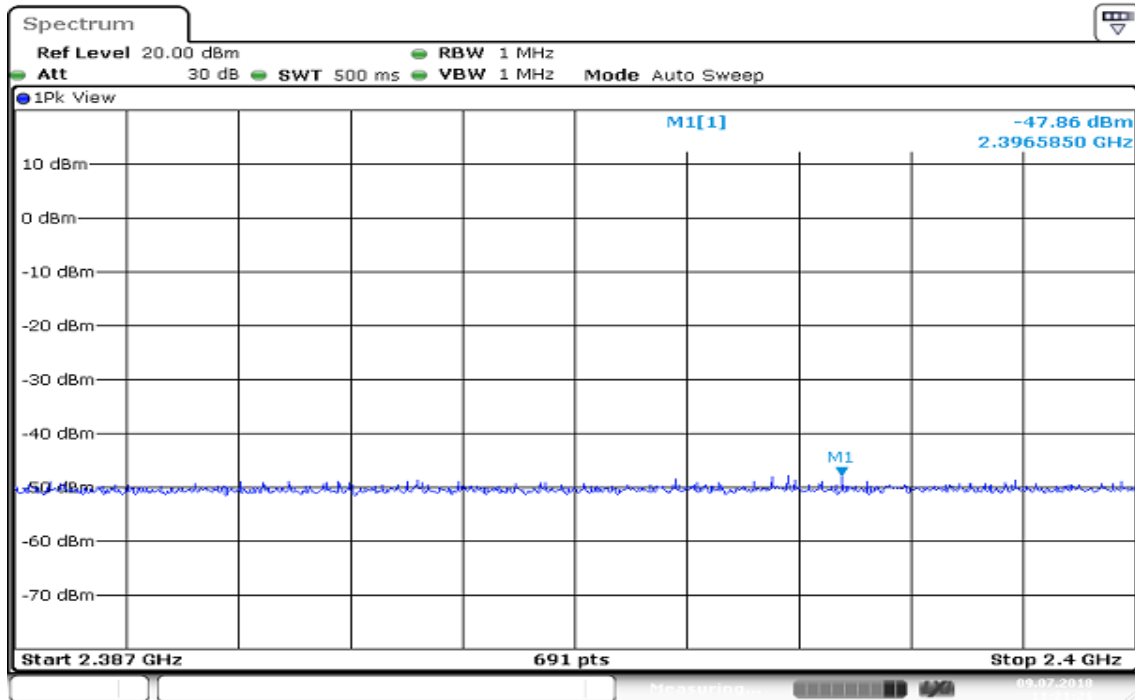
Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	2399.8970	-40.86	10.61	0.94406	Normal Voltage
2442.0000	2396.5850	-47.86	10.61	0.18836	
2472.0000	2395.3810	-48.50	10.61	0.16255	

**TEST PLOTS****ANT 1 / CH Low**

Date: 9 JUL 2018 11:17:56

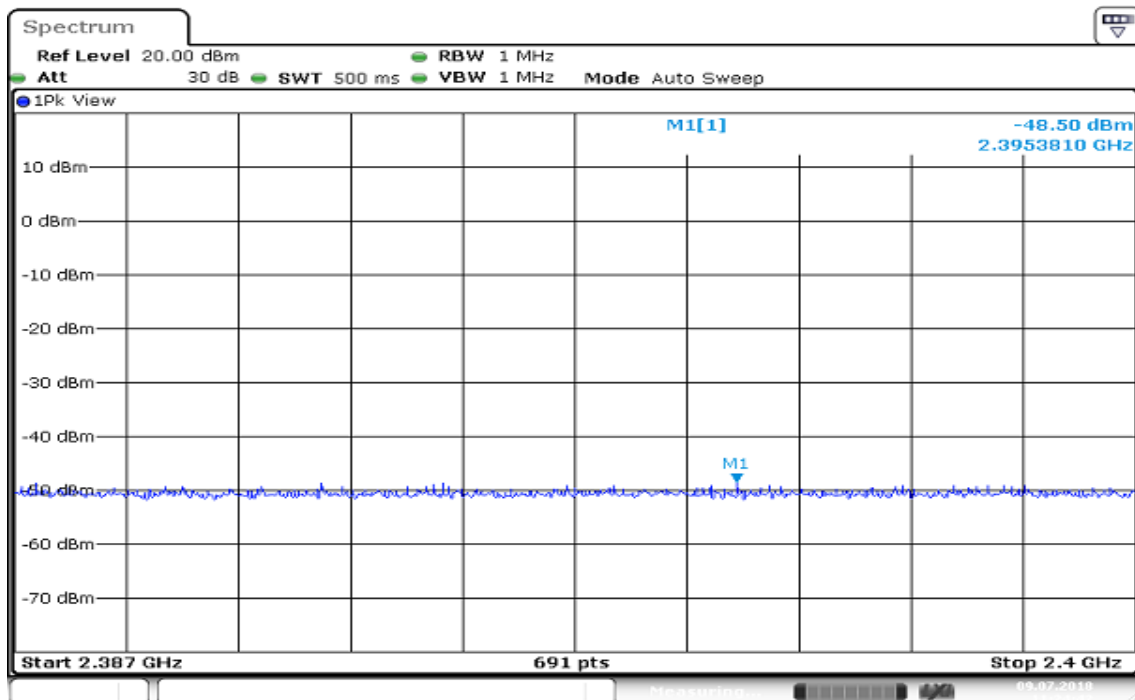
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:21:21

## ANT 1 / CH High



Date: 9 JUL 2018 11:24:43

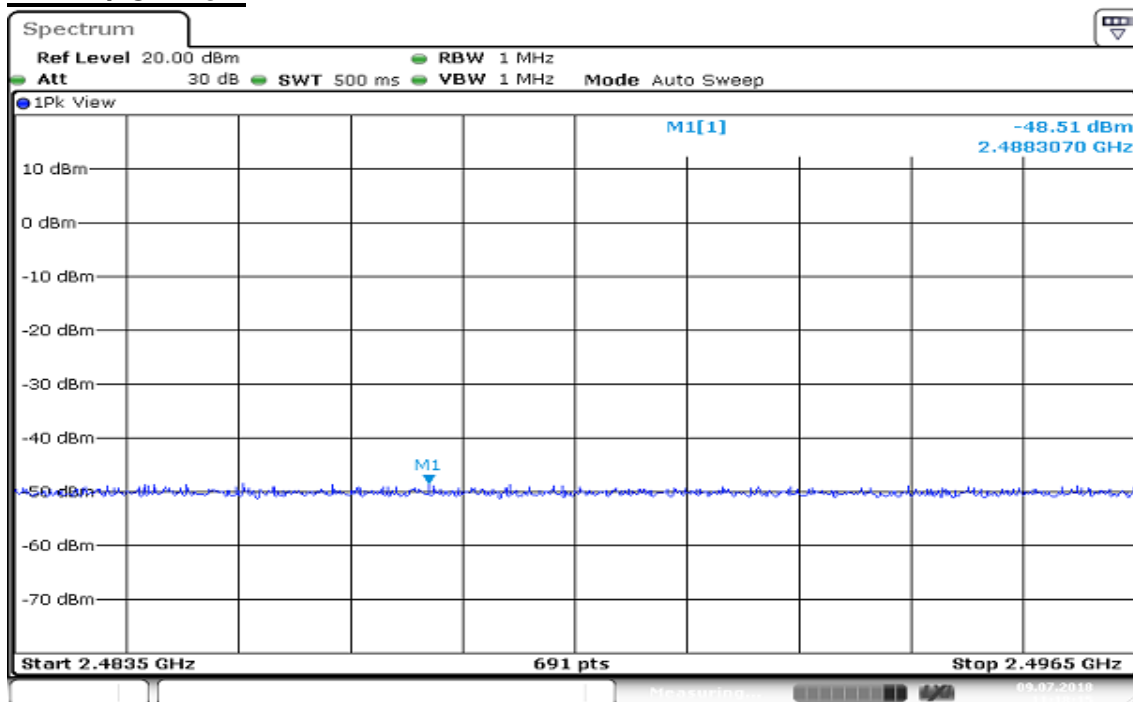


Report No.: T180627D12-RJ1

**TEST RESULT****2,483.5MHz~2,496.5MHz**

(3) Spurious Emission Intensity : 2,483.5MHz~2,496.5MHz

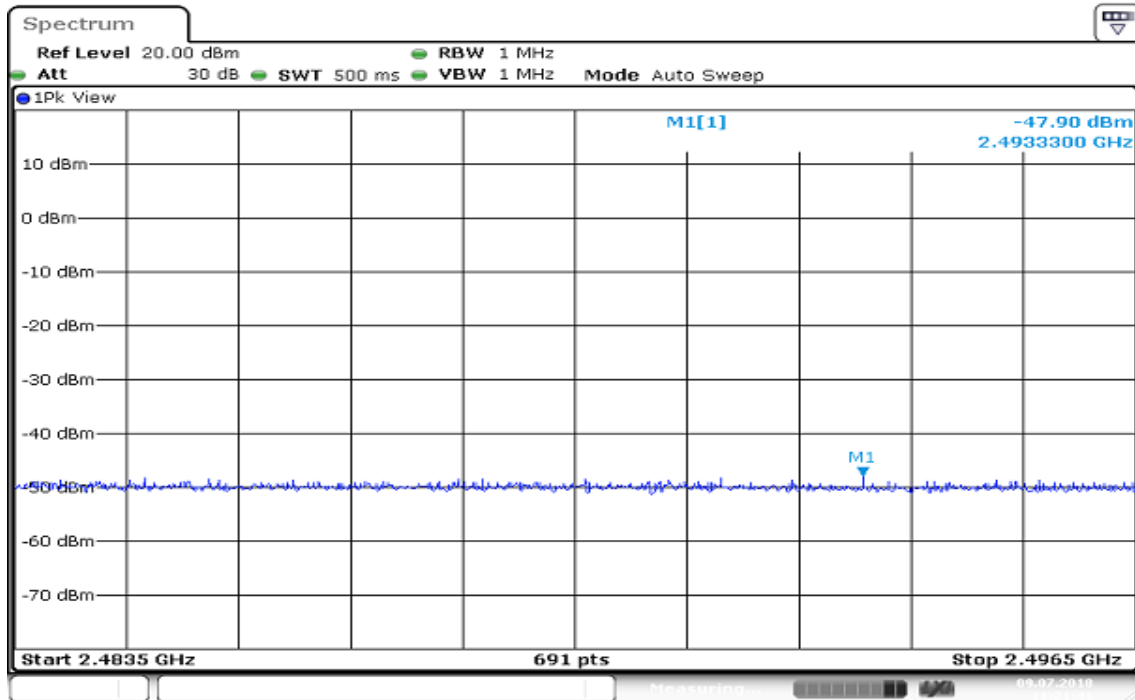
Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	2488.3070	-48.51	10.61	0.16218	Normal Voltage
2442.0000	2493.3300	-47.90	10.61	0.18664	
2472.0000	2483.5280	-38.62	10.61	1.58125	

**TEST PLOTS****ANT 1 / CH Low**

Date: 9 JUL 2018 11:18:15

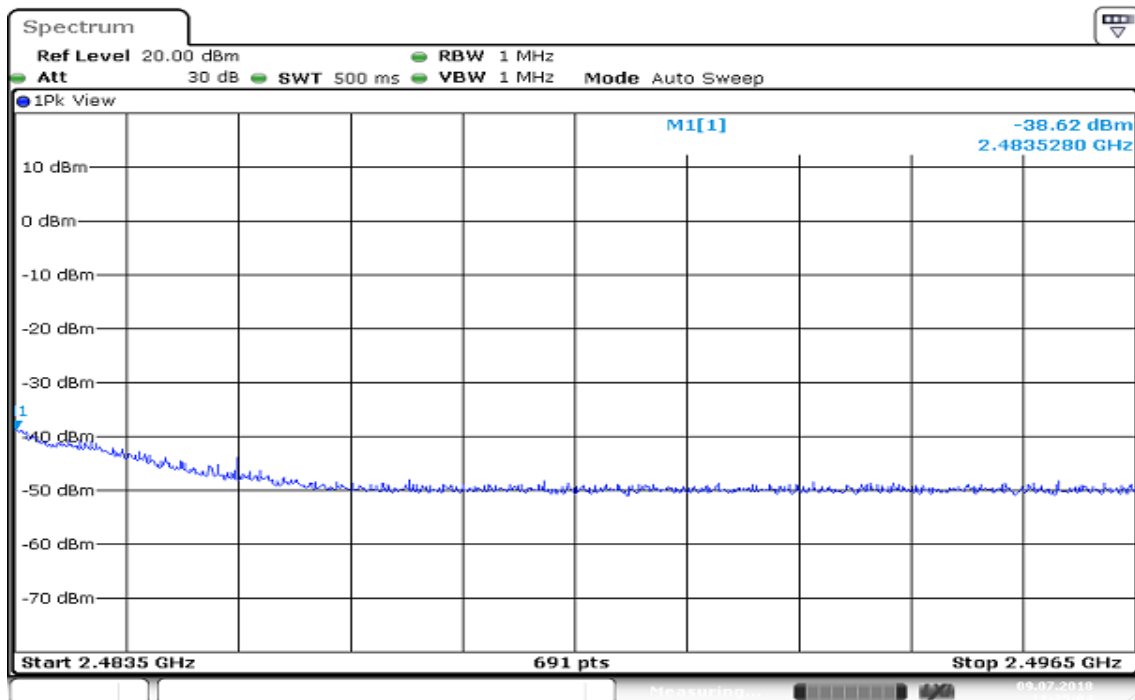
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:21:41

## ANT 1 / CH High



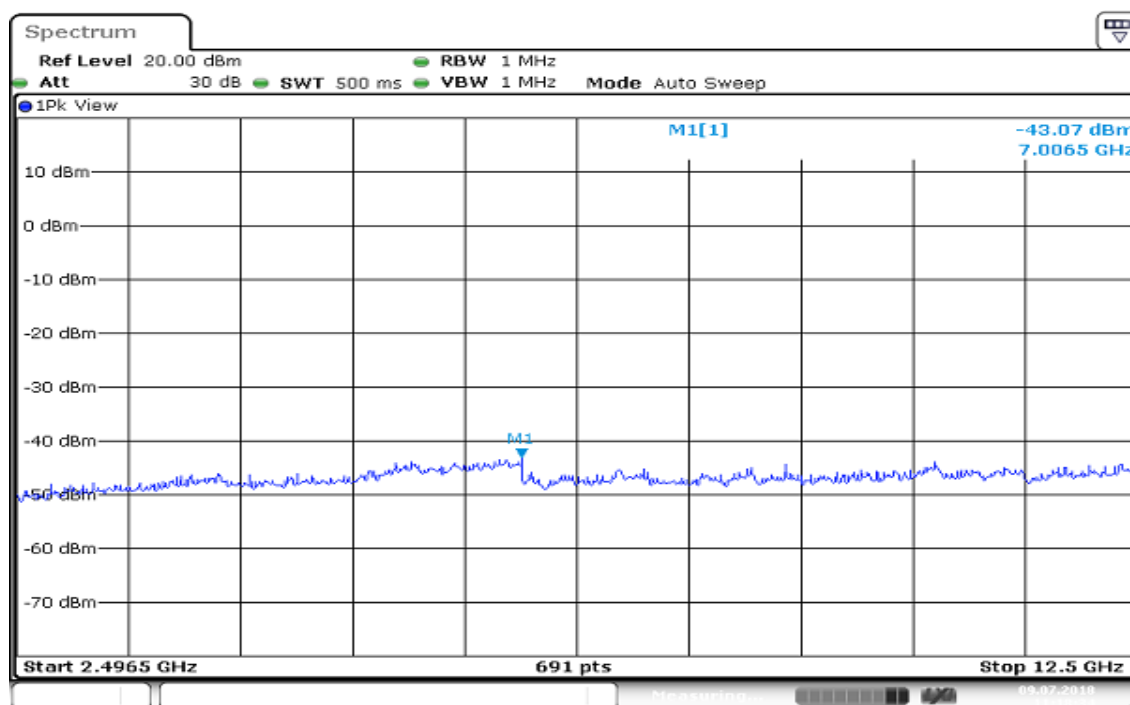
Date: 9 JUL 2018 11:25:04

Report No.: T180627D12-RJ1

**TEST RESULT****more than 2,496.5MHz~12.5GHz**

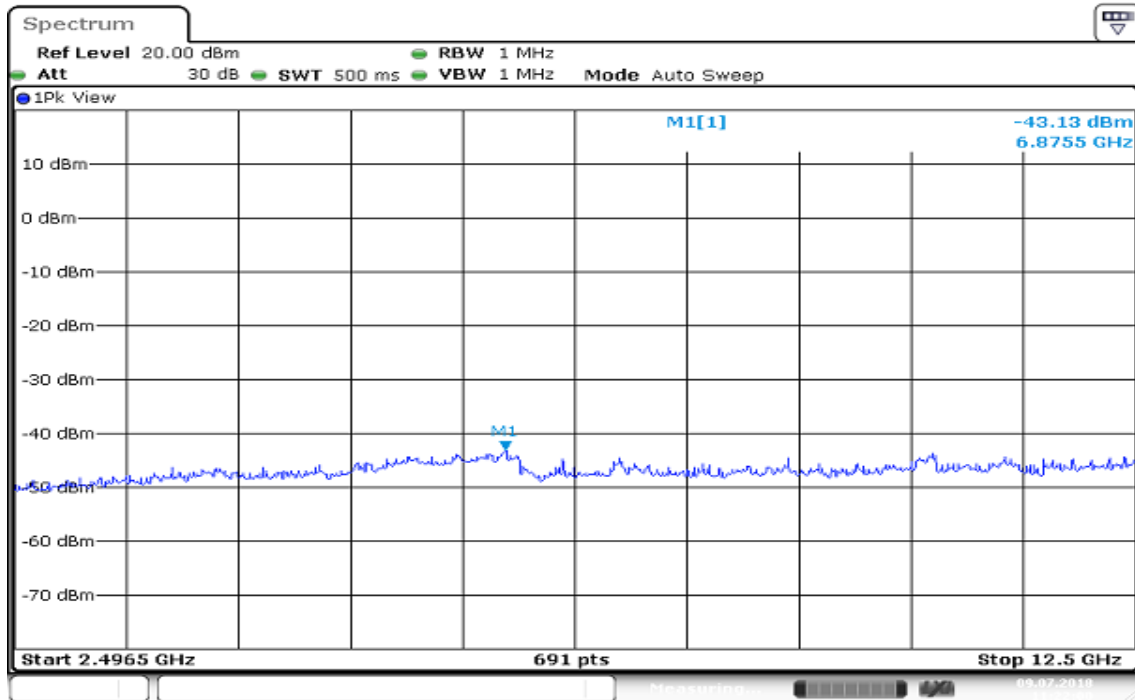
(4) Spurious Emission Intensity : more than 2,496.5MHz~12.5GHz

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2412.0000	7006.5000	-43.07	10.97	0.61660	Normal Voltage
2442.0000	6875.5000	-43.13	10.97	0.60814	
2472.0000	6890.5000	-43.05	10.97	0.61944	

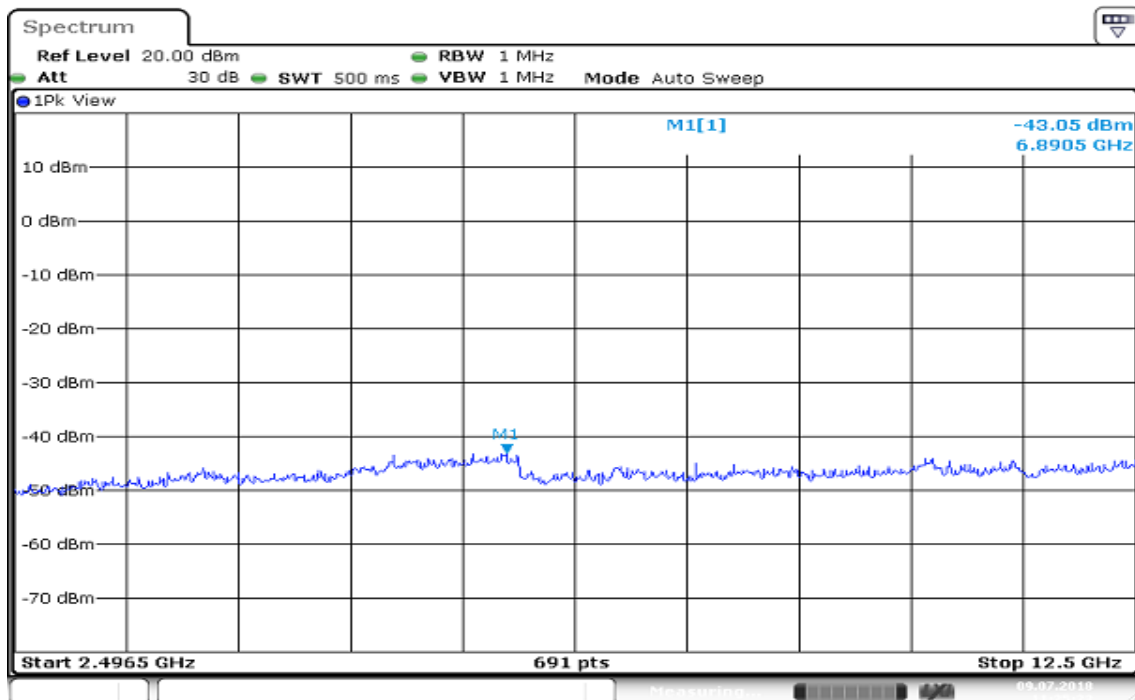
**TEST PLOTS****ANT 1 / CH Low**

Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



## ANT 1 / CH High



Report No.: T180627D12-RJ1

## 9.4 OCCUPIED BANDWIDTH (99%)

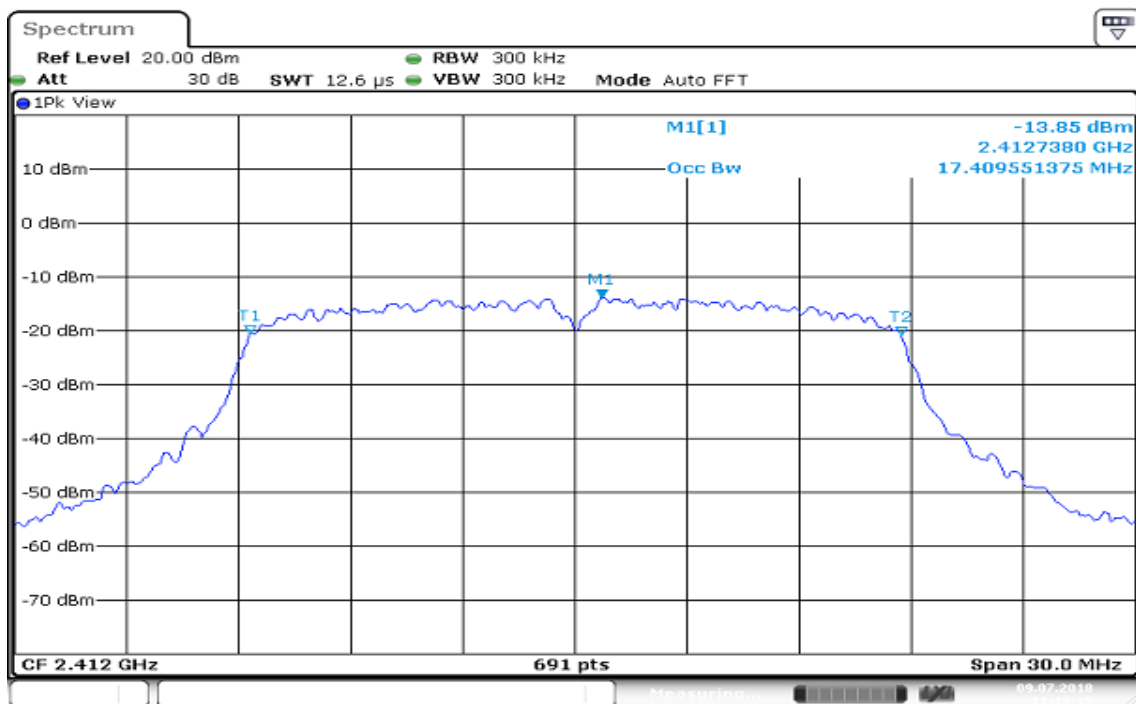
### TEST RESULT

Antenna1

	Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Remark
	2412.0000	2412.00	17.41	Normal Voltage
	2442.0000	2442.00	17.45	
	2472.0000	2472.00	17.41	

### TEST PLOTS

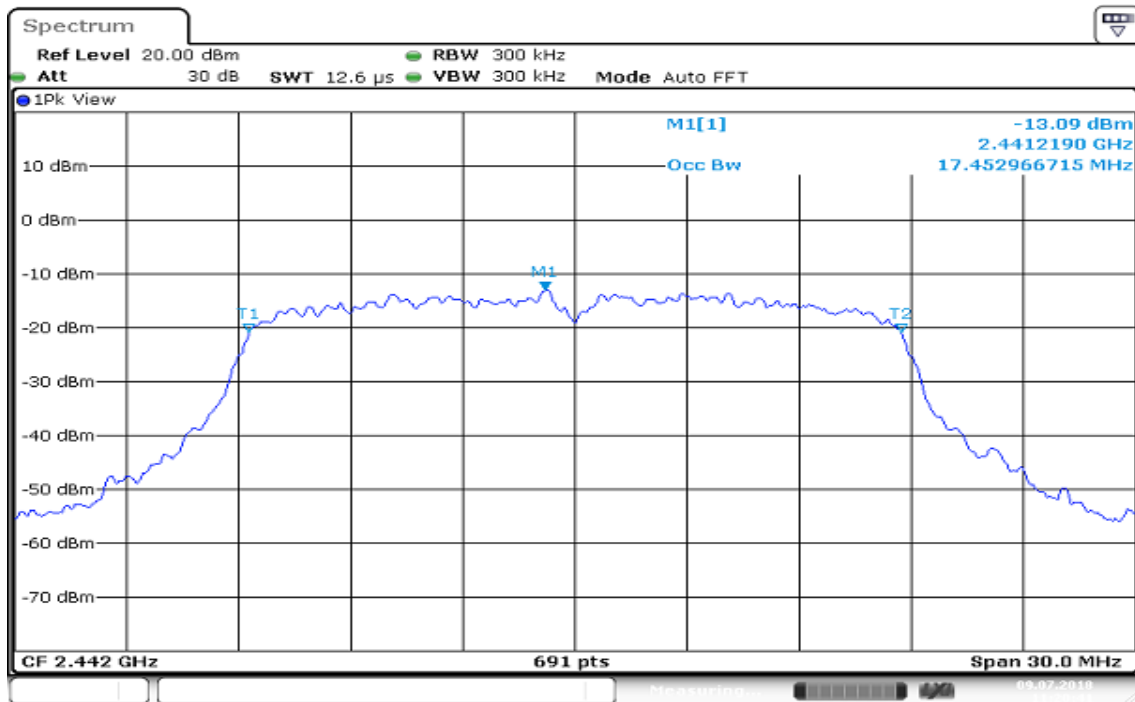
#### ANT 1 / CH Low



Date: 9 JUL 2018 11:17:16

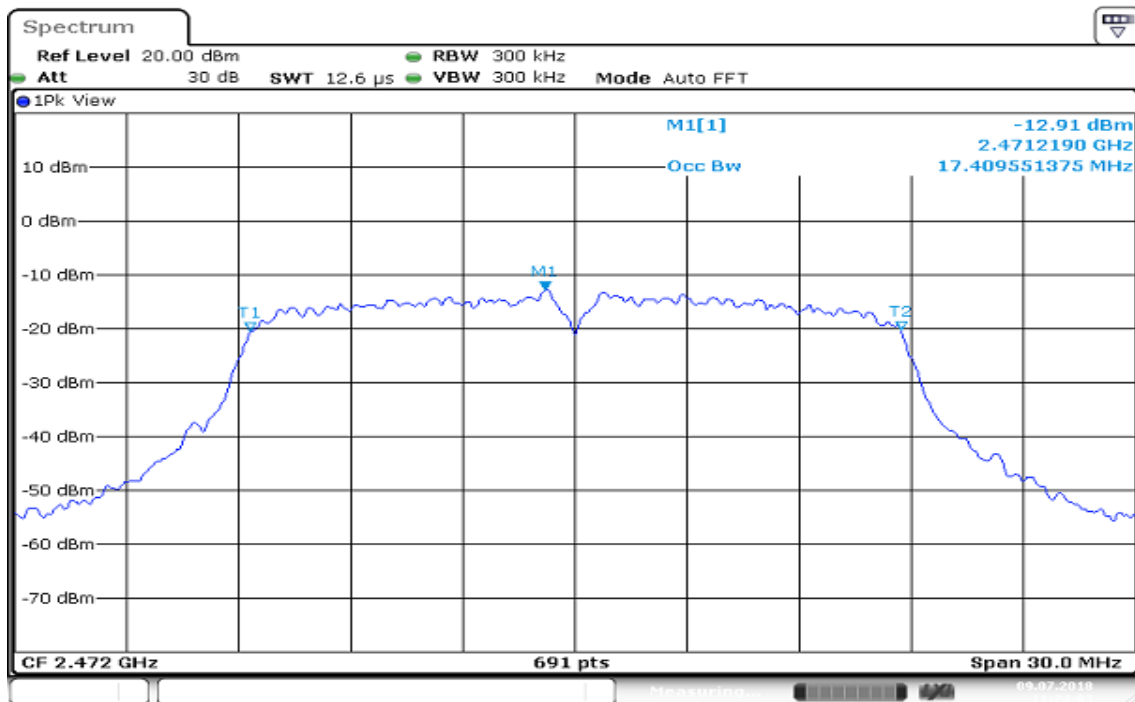
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:20:41

## ANT 1 / CH High



Date: 9 JUL 2018 11:24:03



Report No.: T180627D12-RJ1

## 9.5 LIMITATION OF COLLATERAL EMISSIONS OF RECEIVER

### TEST RESULT

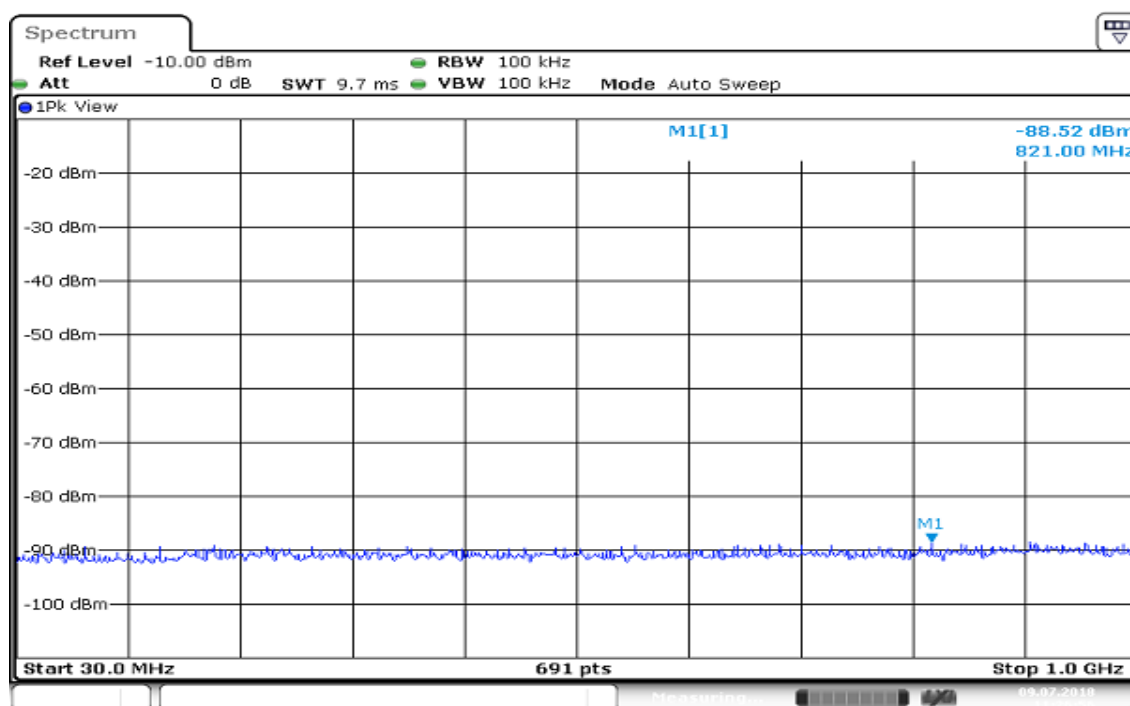
#### 30MHz~1000MHz

Freq: 30MHz~1GHz

Frequency (MHz)	Reading		Cable Factor (dB)	Result (nW/MHz)	Remark
	(MHz)	(dBm)			
2412	821.0000	-88.52	10.37	0.0153	Normal Voltage
2442	865.9000	-88.34	10.37	0.0160	
2472	661.0000	-88.31	10.37	0.0161	

### TEST PLOTS

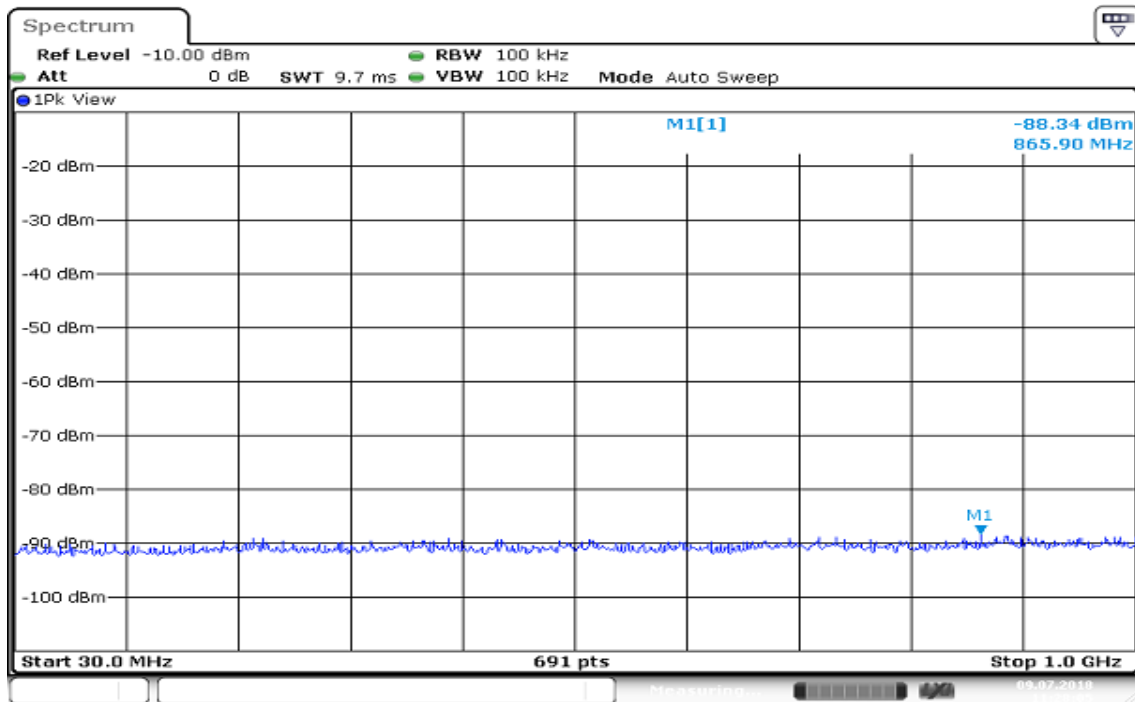
#### ANT 1 / CH Low



Date: 9.JUL.2018 11:26:56

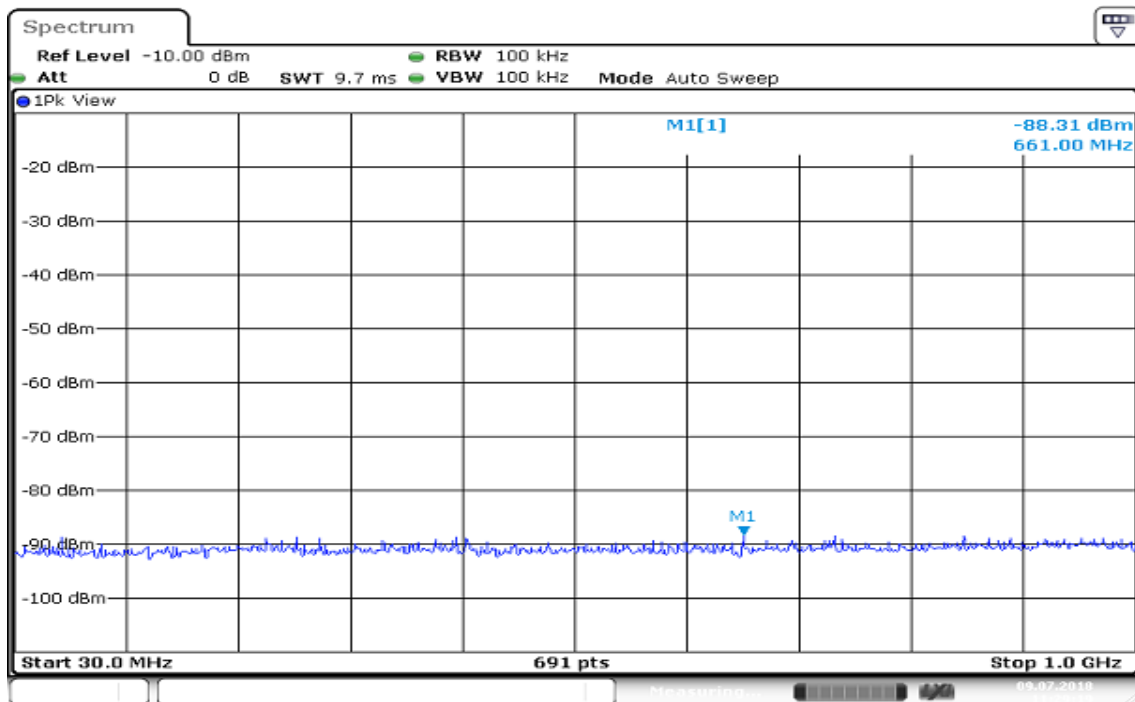
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 11:28:06

## ANT 1 / CH High



Date: 9 JUL 2018 11:29:19

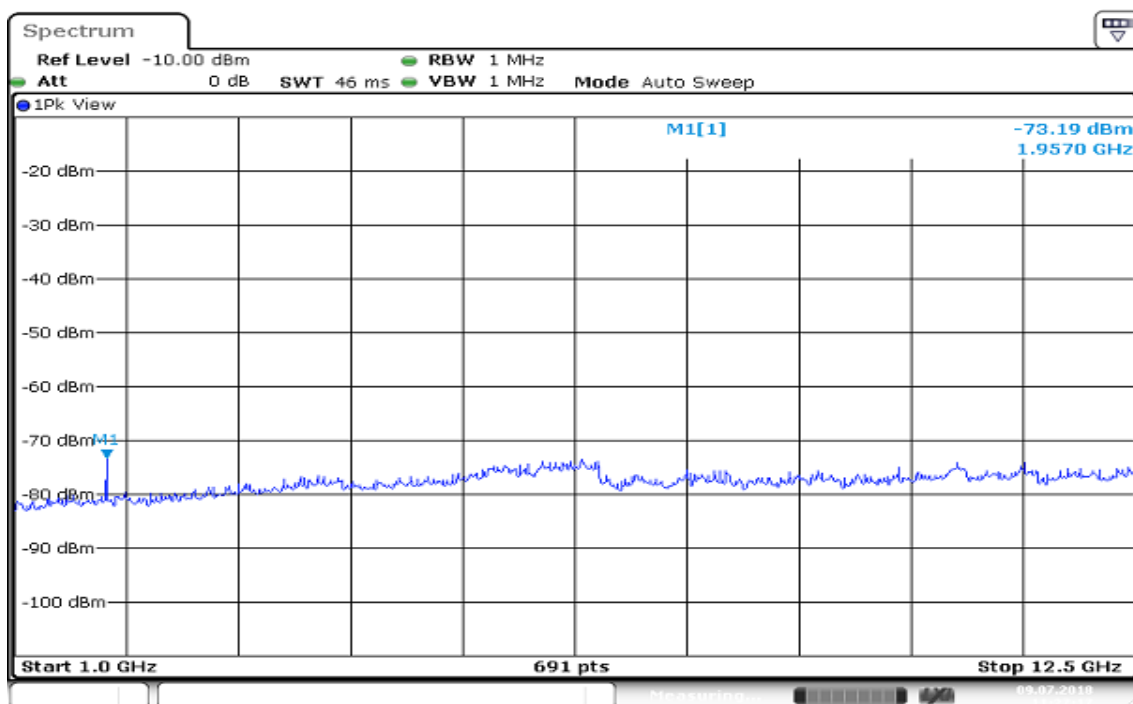


Report No.: T180627D12-RJ1

**TEST RESULT****1GHz~12.5GHz**

Freq: 1GHz~12.5GHz

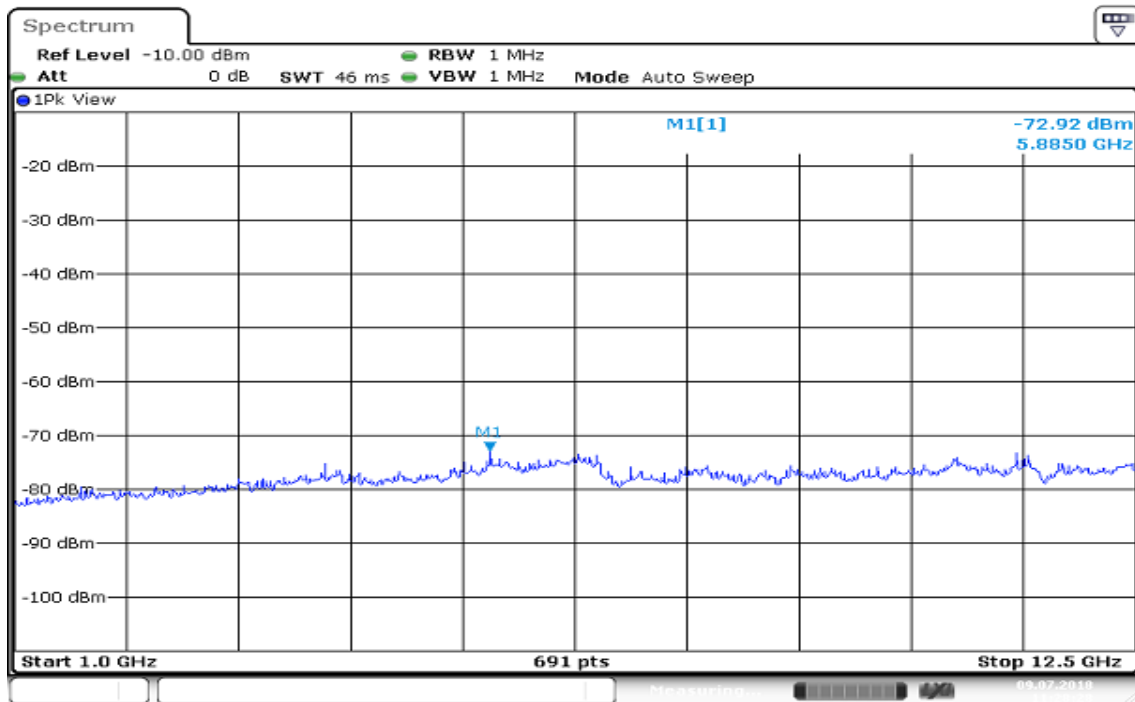
Frequency (MHz)	Reading		Cable Factor (dB)	Result (nW/MHz)	Remark
	(MHz)	(dBm)			
2412	1957.0000	-73.19	10.97	0.5998	Normal Voltage
2442	5885.0000	-72.92	10.97	0.6383	
2472	6866.0000	-73.50	10.97	0.5585	

**TEST PLOTS****ANT 1 / CH Low**

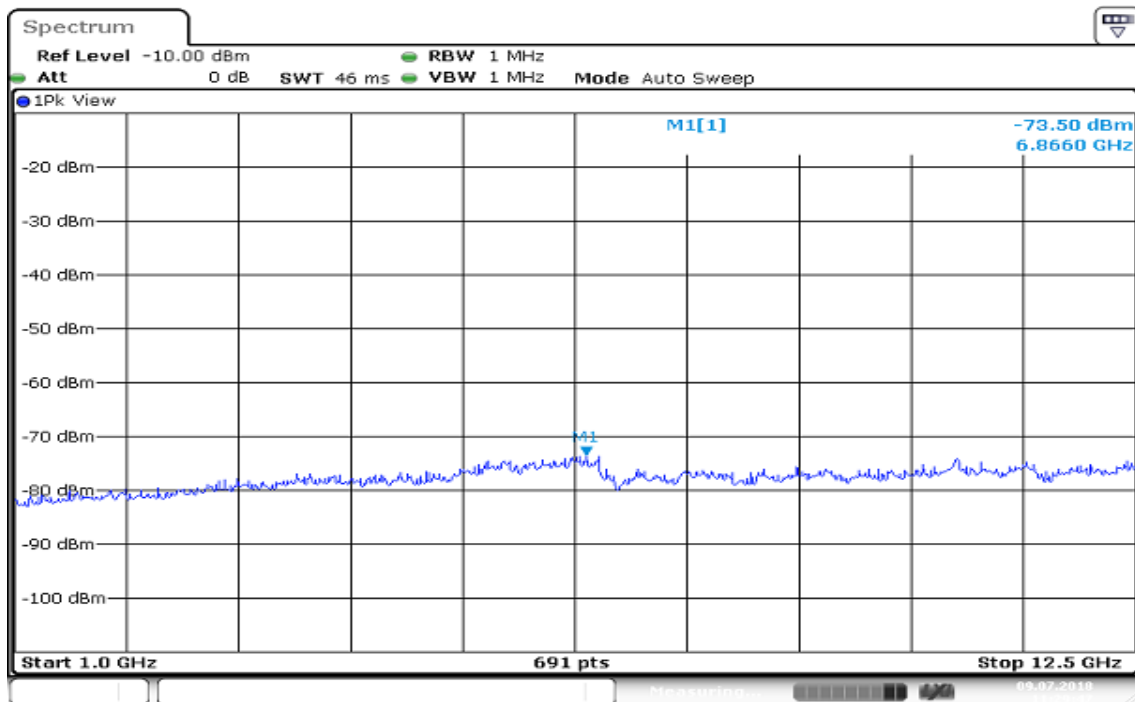
Date: 9 JUL 2018 11:27:18

Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



## ANT 1 / CH High



Report No.: T180627D12-RJ1

## 10. TEST RESULT FOR 802.11n HT40 (CH3~CH11)

### 10.1 FREQUENCY ERROR

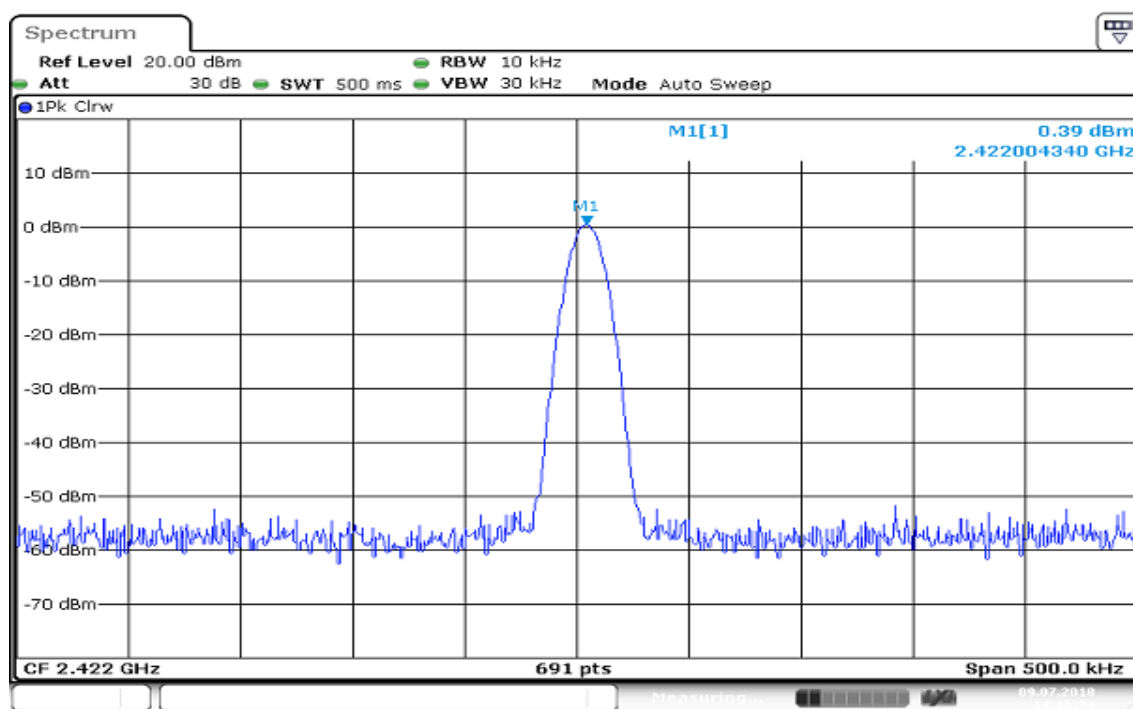
#### TEST RESULT

Antenna 1

	Frequency (MHz)	Reading (MHz)	Deviation (Hz)	Tolerance (ppm)	Remark
	2422.0000	2422.004340	4340	1.7919	Normal Voltage
	2442.0000	2442.004340	4340	1.7772	
	2462.0000	2462.004340	4340	1.7628	

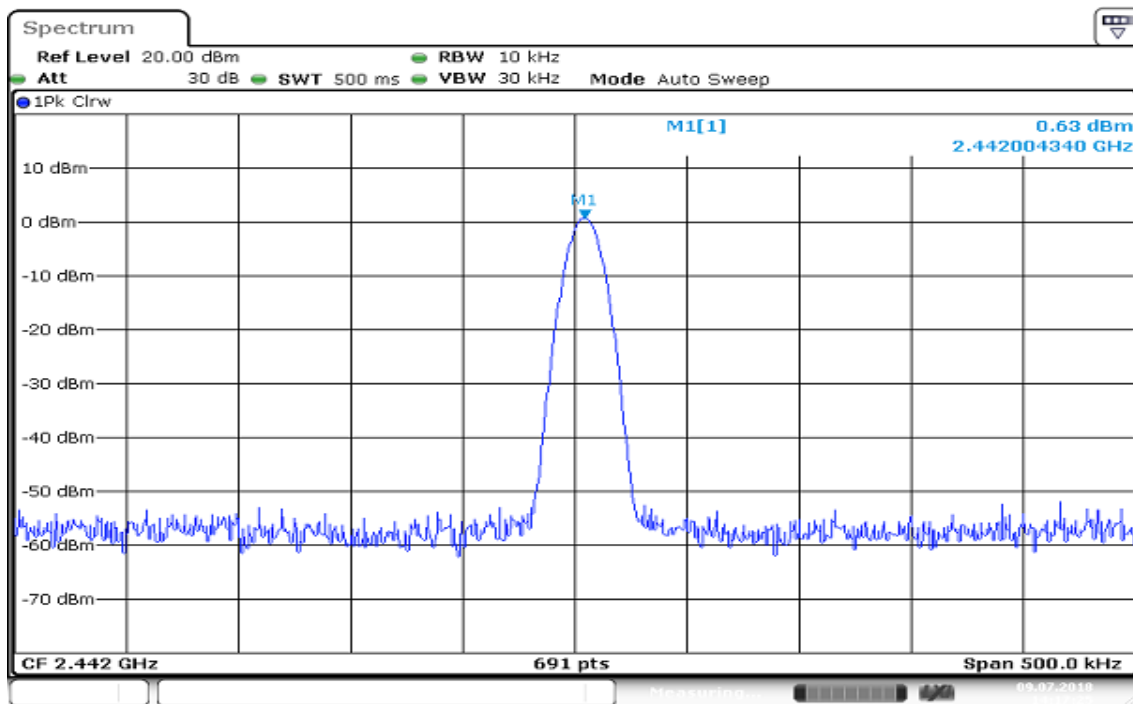
#### TEST PLOTS

##### ANT 1 / CH Low



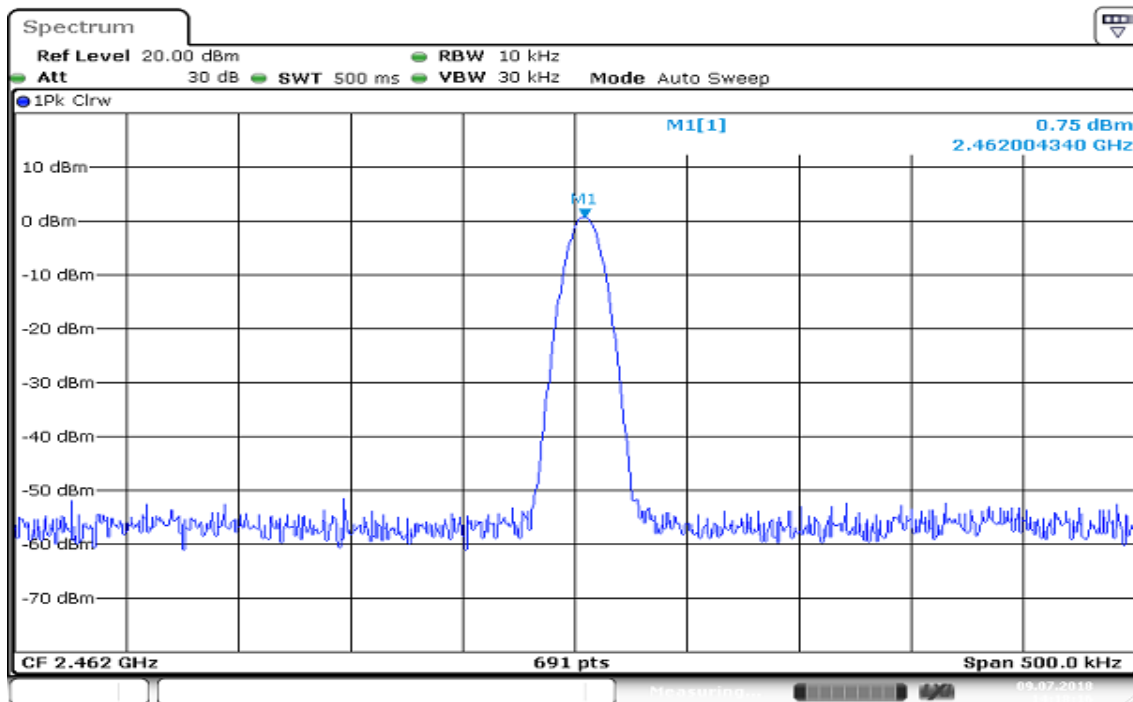
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 14:17:26

## ANT 1 / CH High



Date: 9 JUL 2018 14:18:17



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## 10.2 ANTENNA POWER

### TEST RESULT

Antenna 1:  4 dBi

Frequency (MHz)	Spectrum Analyser	Cable Factor	Output Power		EIRP Power		Remark
	(dBm)	(dB)	(dBm)	(mW)	(dBm/MHz)	(mW/MHz)	
2422.0000	-20.49	10.61	-9.88	0.10280	-5.88000	0.25823	Normal Voltage
2442.0000	-19.96	10.61	-9.35	0.11614	-5.35000	0.29174	
2462.0000	-20.25	10.61	-9.64	0.10864	-5.64000	0.27290	

Report No.: T180627D12-RJ1

## 10.3 SPURIOUS EMISSIONS INTENSITY

### TEST RESULT

#### 30MHz~less than 2,387MHz

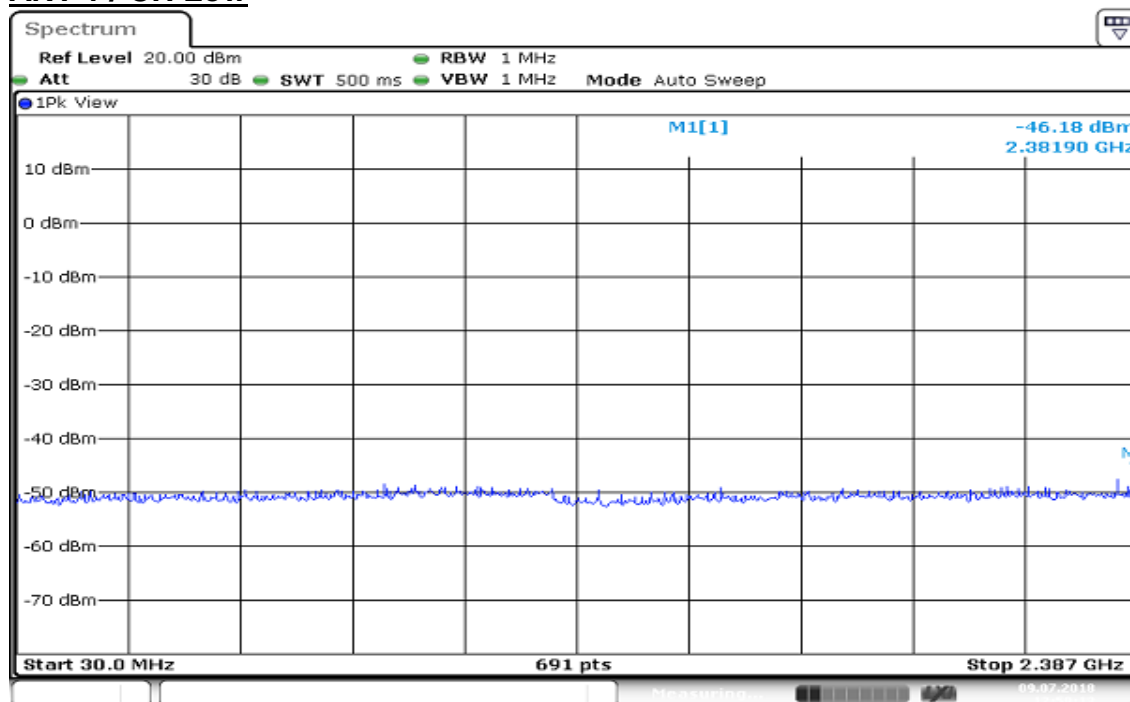
(1) Spurious Emission Intensity : 30MHz~less than 2,387MHz

Antenna 1

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2422.0000	2381.9000	-46.18	10.61	0.27733	Normal Voltage
2442.0000	2385.3000	-48.55	10.61	0.16069	
2462.0000	915.2000	-48.22	10.61	0.17338	

### TEST PLOTS

#### ANT 1 / CH Low

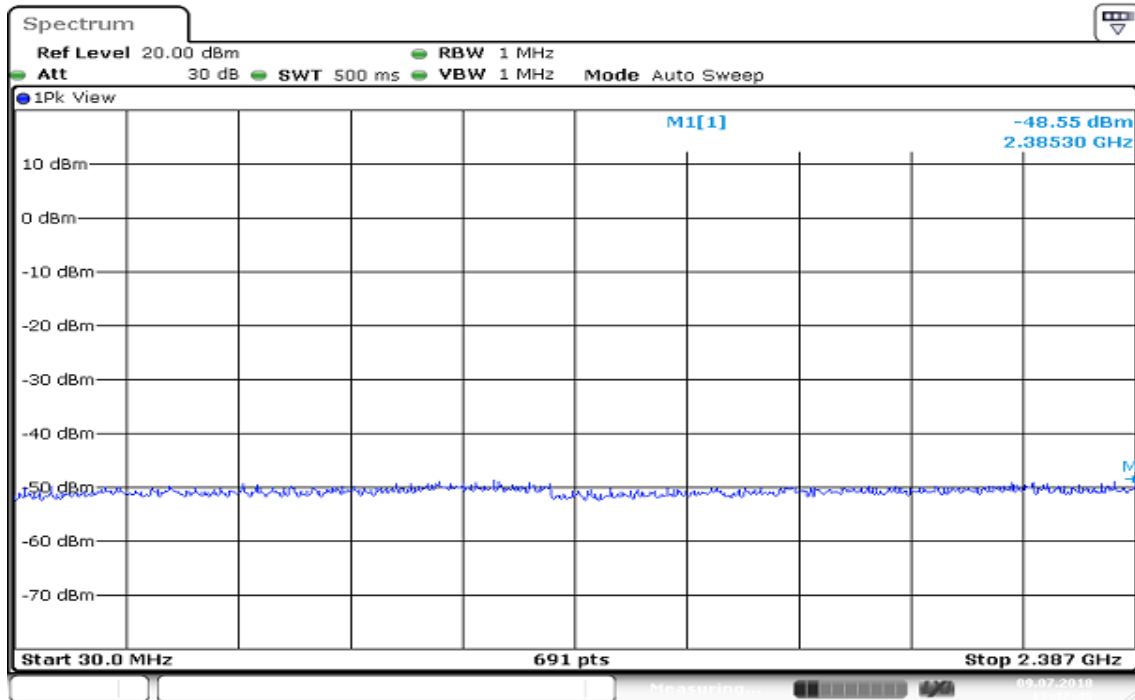


Date: 9 JUL 2018 12:59:13



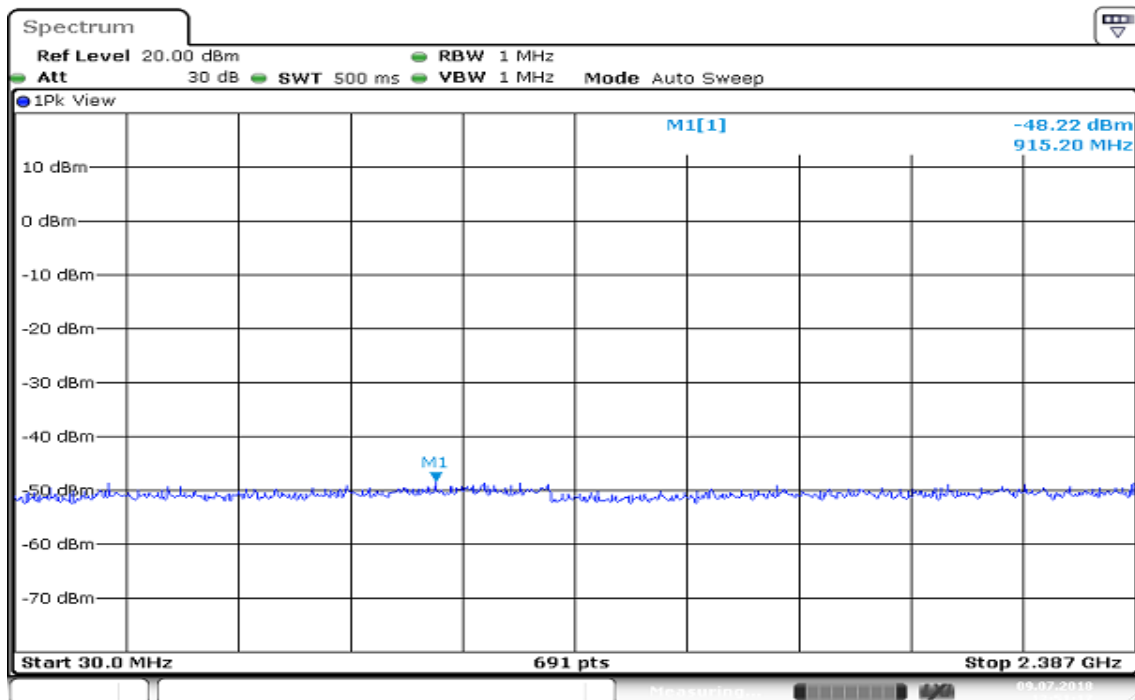
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 13:47:48

## ANT 1 / CH High



Date: 9 JUL 2018 13:51:17



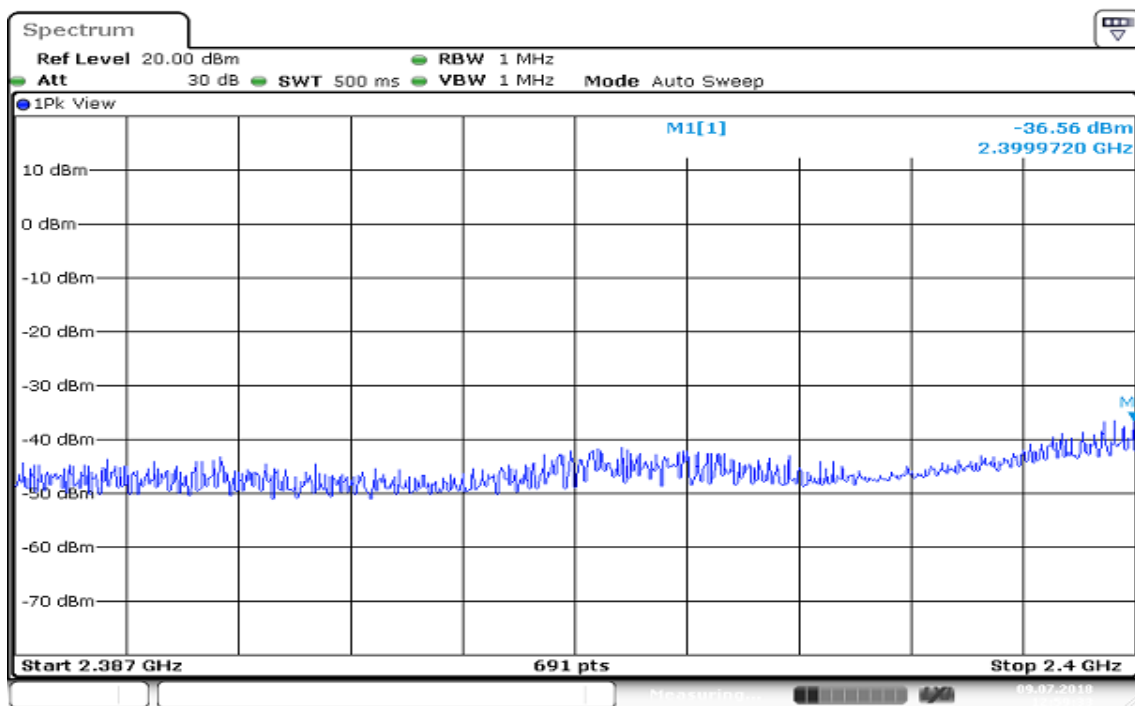
Report No.: T180627D12-RJ1

**TEST RESULT****2,387MHz~less than 2,400MHz**

(2) Spurious Emission Intensity : 2,387MHz~less than 2,400MHz

Antenna 1

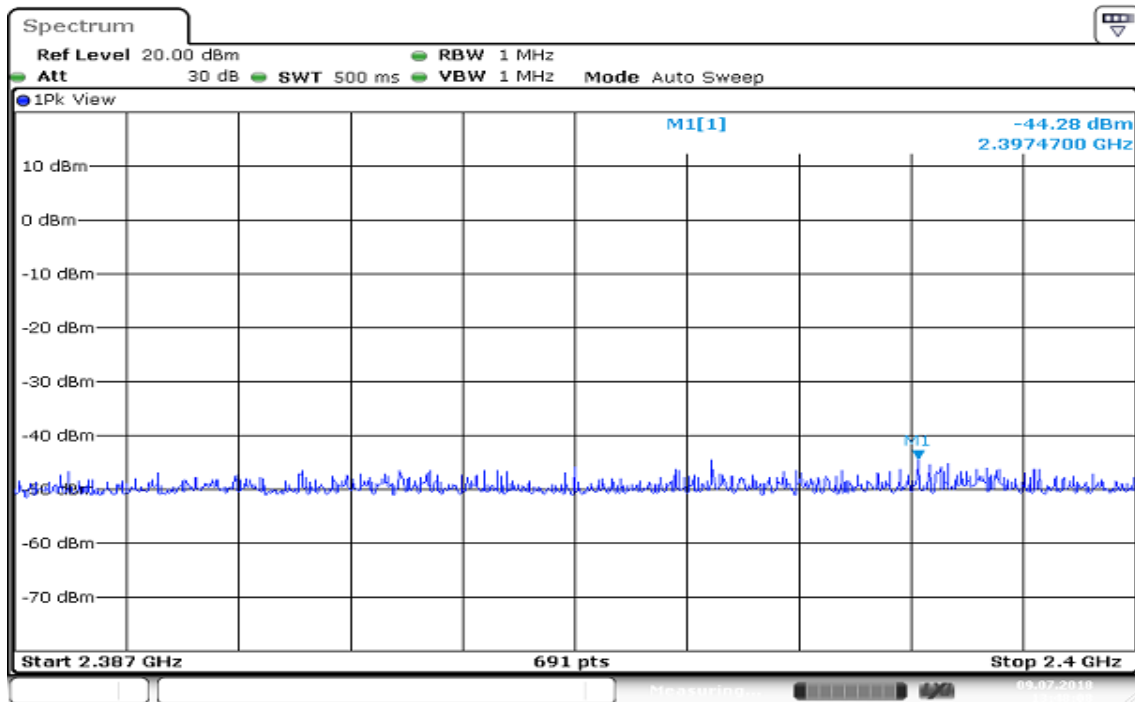
Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2422.0000	2399.9720	-36.56	10.61	2.54097	Normal Voltage
2442.0000	2397.4700	-44.28	10.61	0.42954	
2462.0000	2397.7140	-46.49	10.61	0.25823	

**TEST PLOTS****ANT 1 / CH Low**

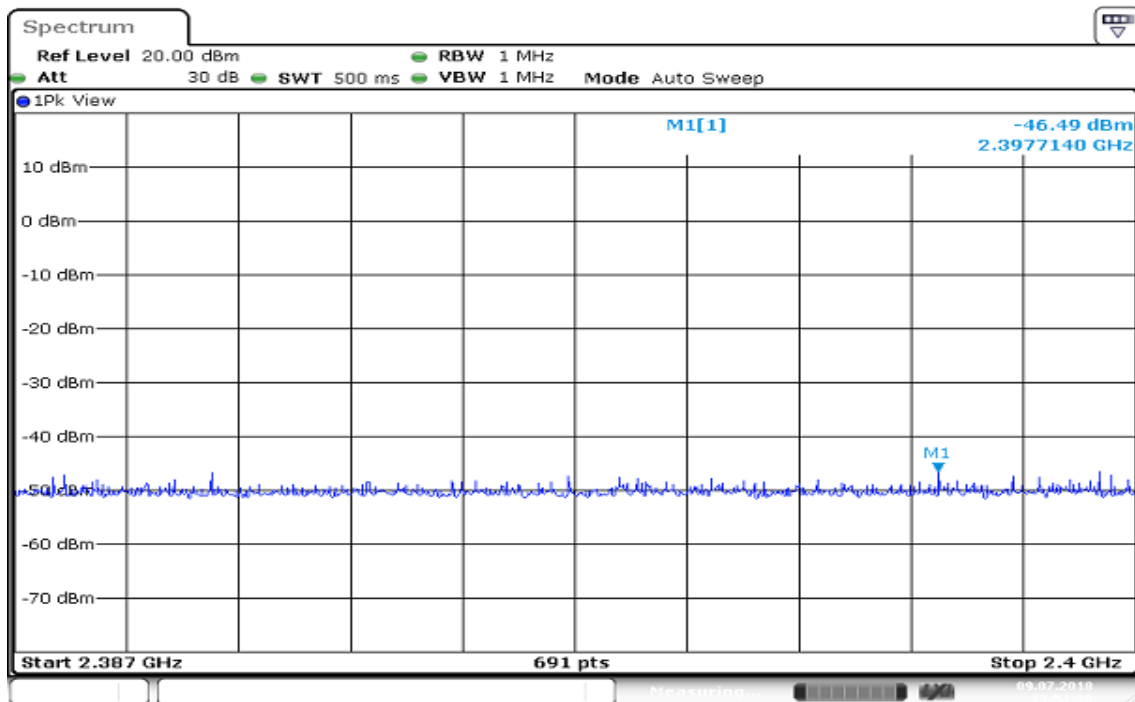
Date: 9 JUL 2018 12:59:24



Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**

Date: 9 JUL 2018 13:48:09

**ANT 1 / CH High**

Date: 9 JUL 2018 13:51:37

Report No.: T180627D12-RJ1

## TEST RESULT

### 2,483.5MHz~2,496.5MHz

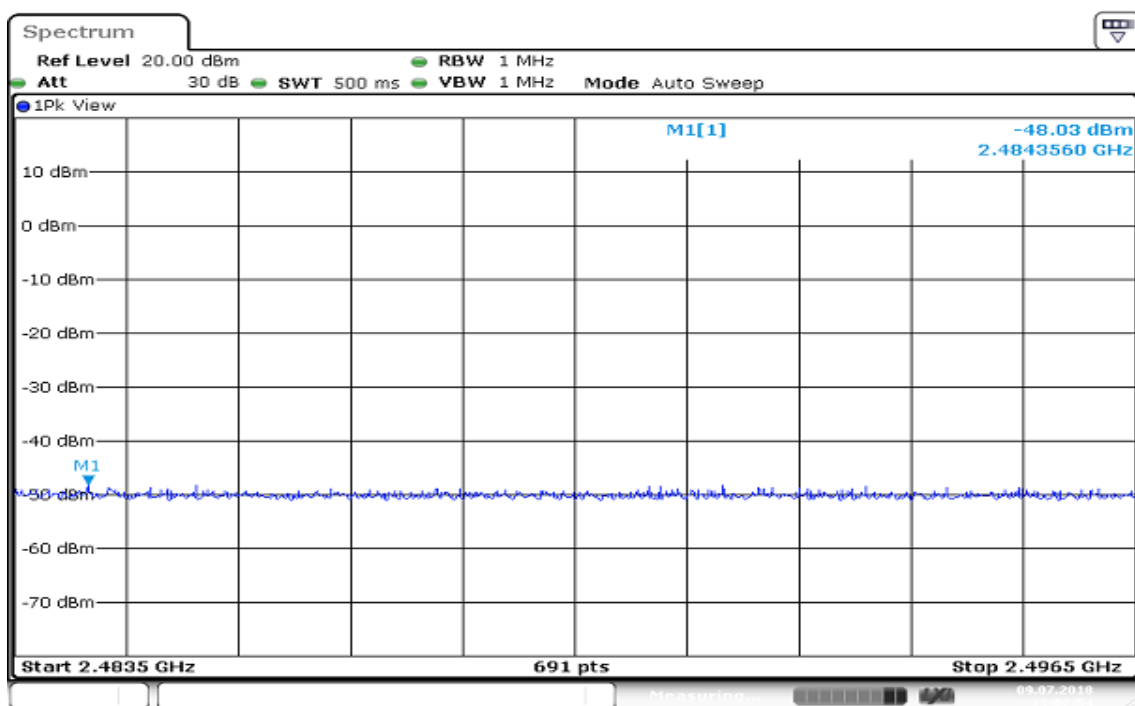
(3) Spurious Emission Intensity : 2,483.5MHz~2,496.5MHz

Antenna 1

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2422.0000	2484.3560	-48.03	10.61	0.18113	Normal Voltage
2442.0000	2486.7080	-46.49	10.61	0.25823	
2462.0000	2483.9230	-36.43	10.61	2.61818	

## TEST PLOTS

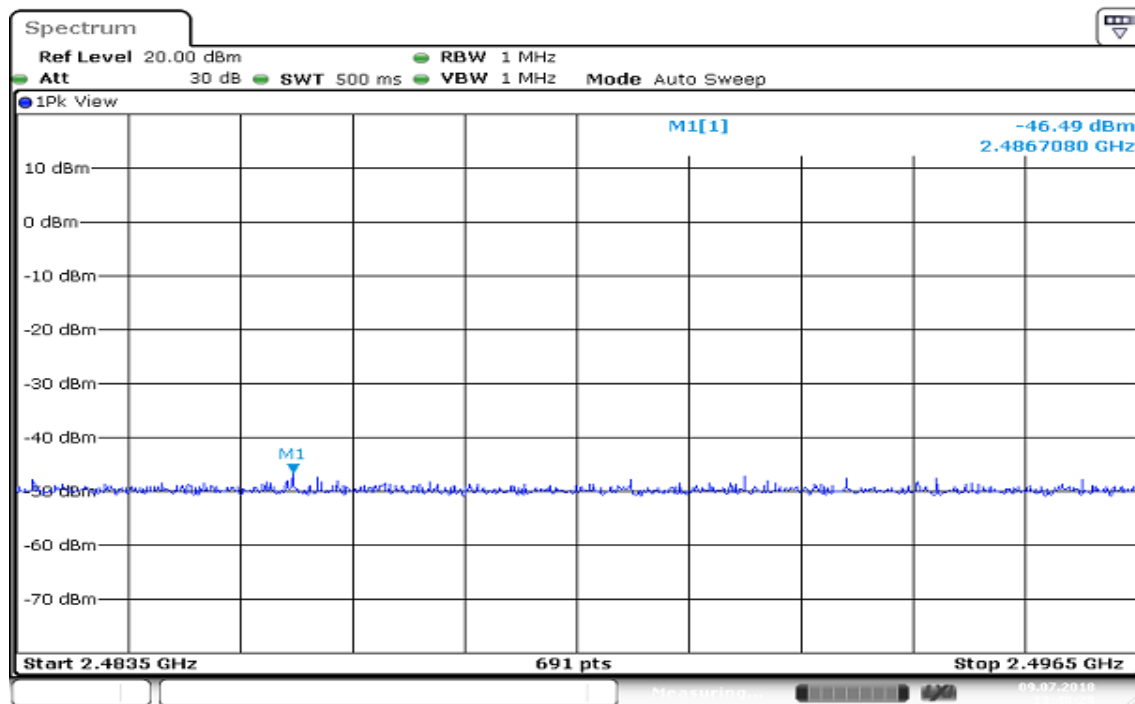
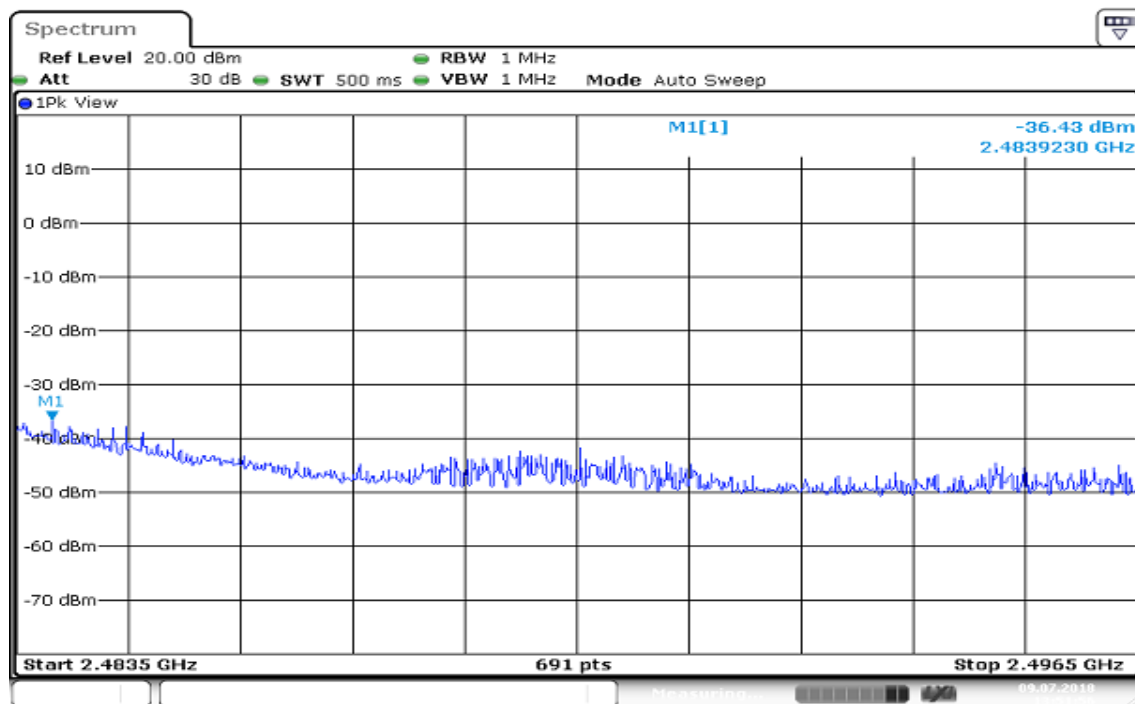
### ANT 1 / CH Low



Date: 9 JUL 2018 13:02:54



Report No.: T180627D12-RJ1

**ANT 1 / CH Mid****ANT 1 / CH High**

Report No.: T180627D12-RJ1

## TEST RESULT

more than 2,496.5MHz~12.5GHz

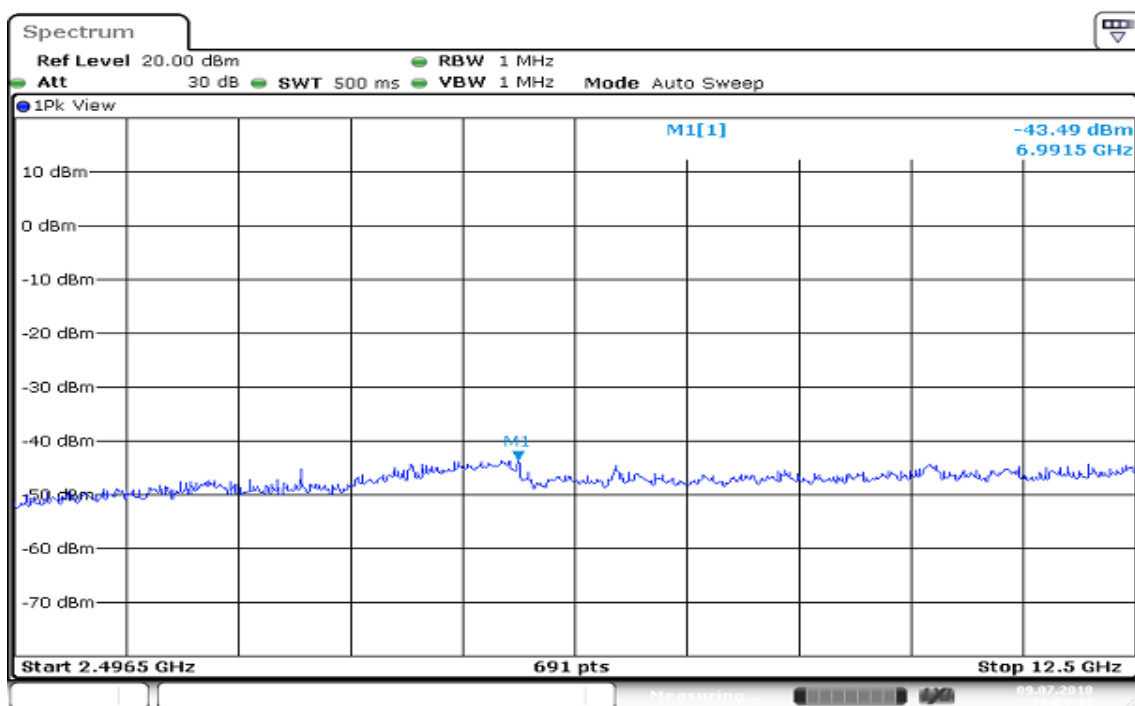
(4) Spurious Emission Intensity : more than 2,496.5MHz~12.5GHz

Antenna 1

Frequency (MHz)	Reading (MHz)	Reading (dBm)	Cable Factor (dB)	Result (μW/MHz)	Remark
2422.0000	6991.5000	-43.49	10.97	0.55976	Normal Voltage
2442.0000	6875.5000	-43.01	10.97	0.62517	
2462.0000	6832.5000	-42.81	10.97	0.65464	

## TEST PLOTS

ANT 1 / CH Low



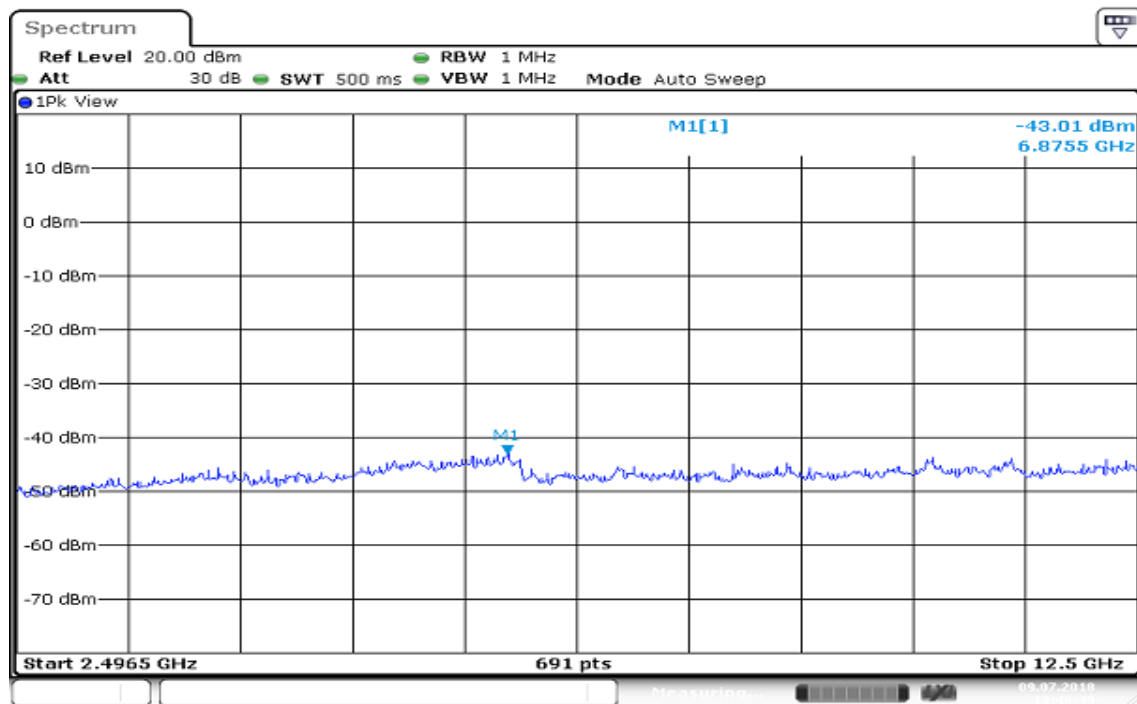
Date: 9 JUL 2018 13:03:14

Report No.: T180627D12-RJ1

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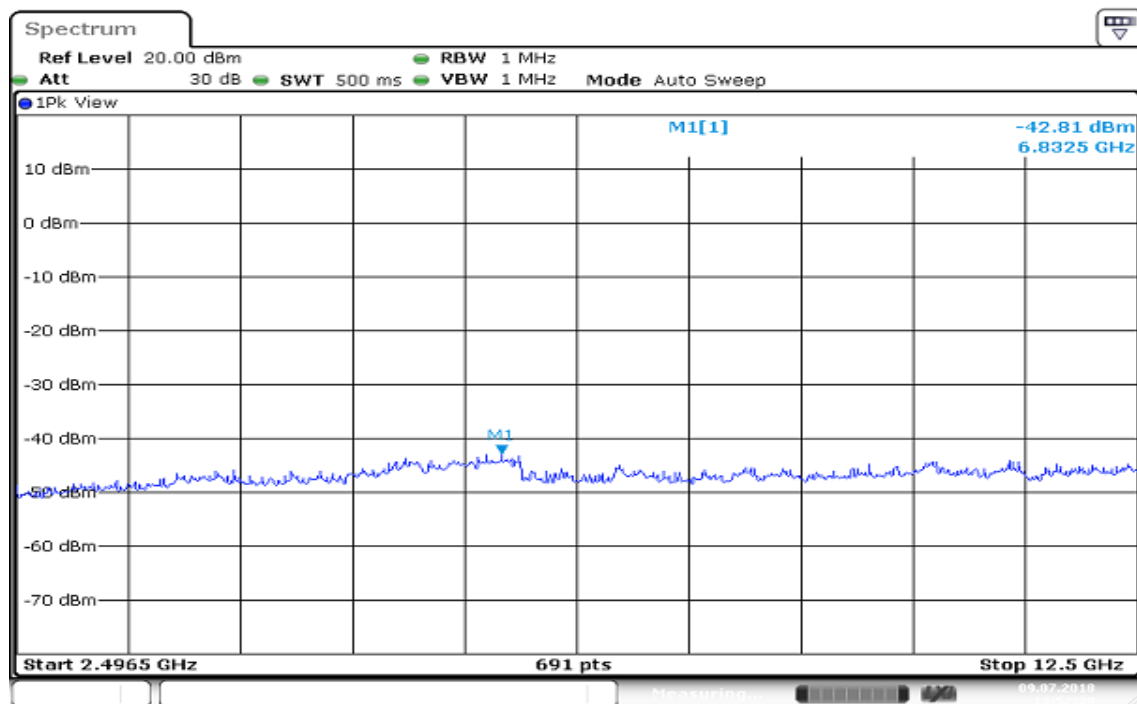
Rev.: 01

## ANT 1 / CH Mid



Date: 9 JUL 2018 13:48:49

## ANT 1 / CH High



Date: 9 JUL 2018 13:52:21

Report No.: T180627D12-RJ1

## 10.4 OCCUPIED BANDWIDTH (99%)

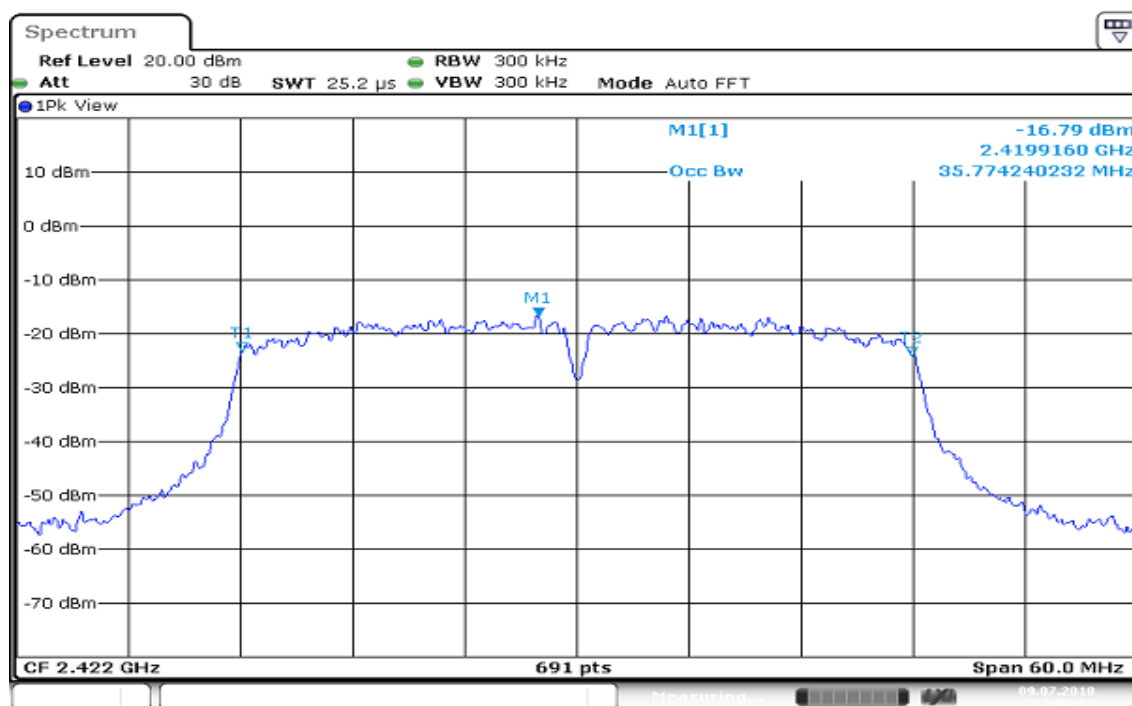
### TEST RESULT

Antenna 1

	Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Remark
	2422.0000	2412.00	35.77	Normal Voltage
	2442.0000	2442.00	35.69	
	2462.0000	2472.00	35.69	

### TEST PLOTS

#### ANT 1 / CH Low

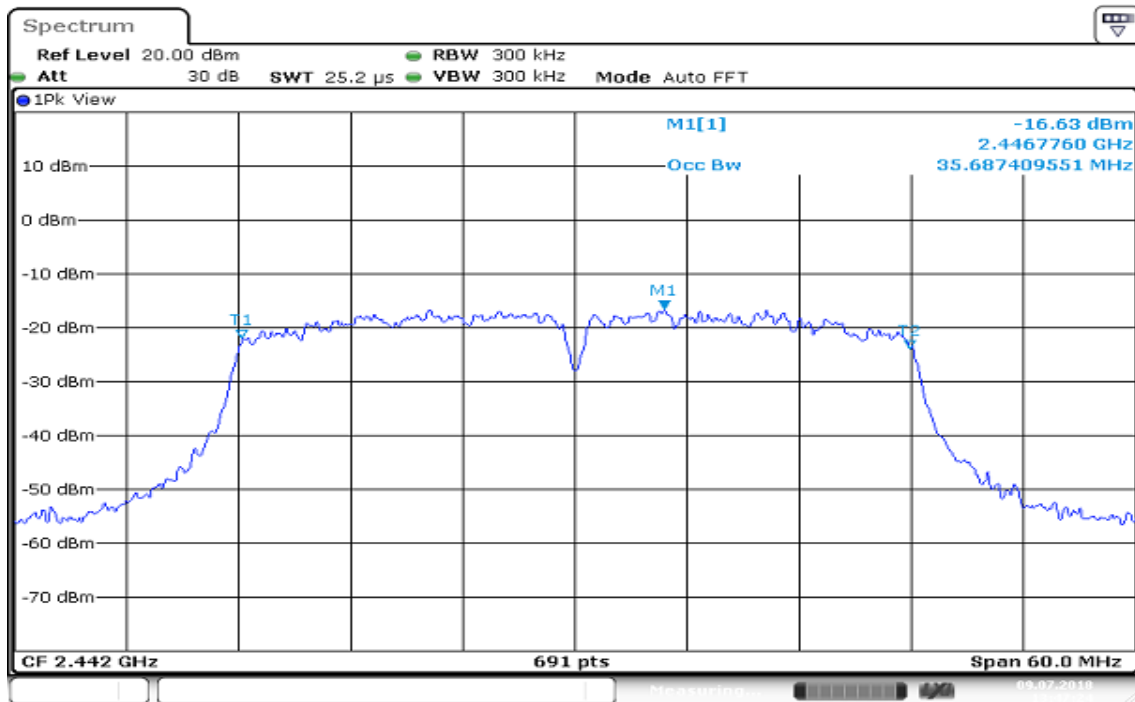


Date: 9 JUL 2018 12:58:54



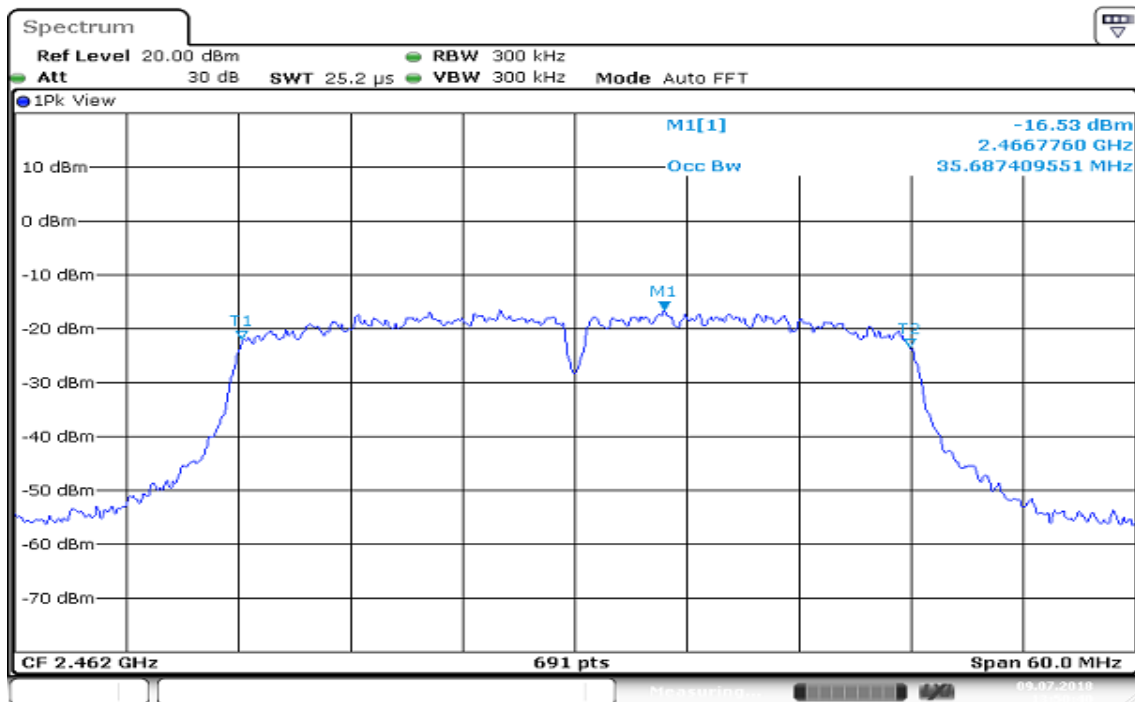
Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



Date: 9 JUL 2018 13:47:24

## ANT 1 / CH High



Date: 9 JUL 2018 13:50:40

Report No.: T180627D12-RJ1

## 10.5 LIMITATION OF COLLATERAL EMISSIONS OF RECEIVER

### TEST RESULT

#### 30MHz~1000MHz

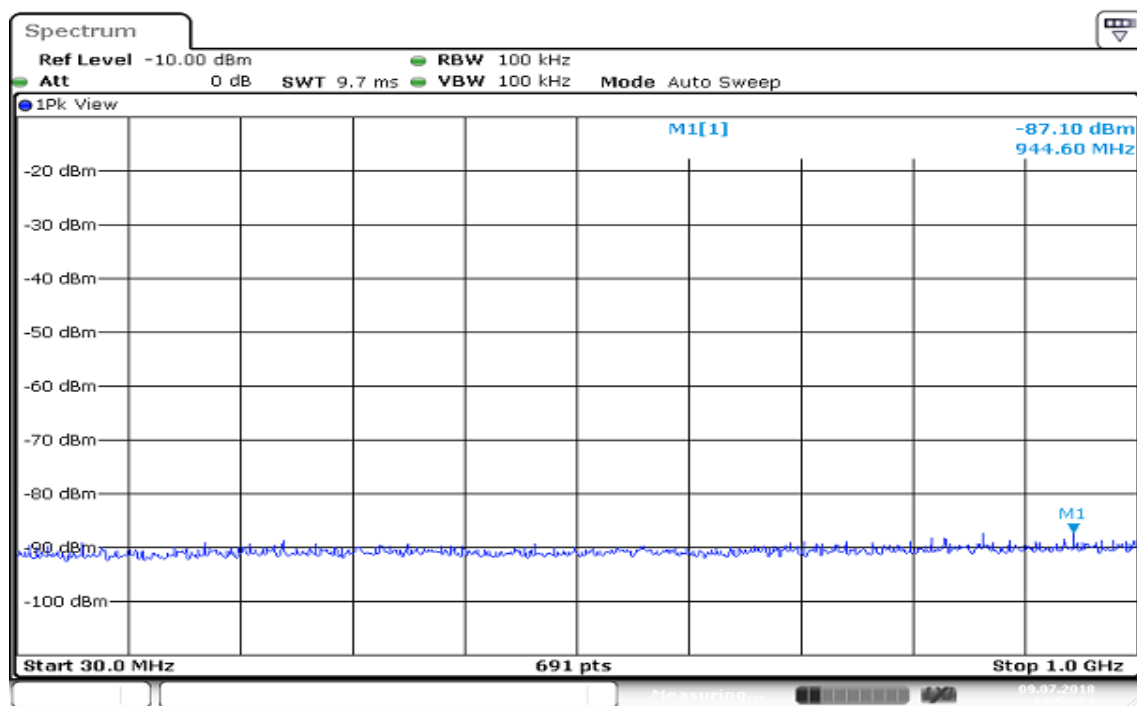
Freq: 30MHz~1GHz

Antenna 1

	Frequency (MHz)	Reading (dBm)	Cable Factor (dB)	Result (nW/MHz)	Remark
2422 MHz	944.6000	-87.10	10.37	0.0212	Normal Voltage
2442 MHz	910.9000	-87.50	10.37	0.0194	
2462 MHz	992.3000	-88.02	10.37	0.0172	

### TEST PLOTS

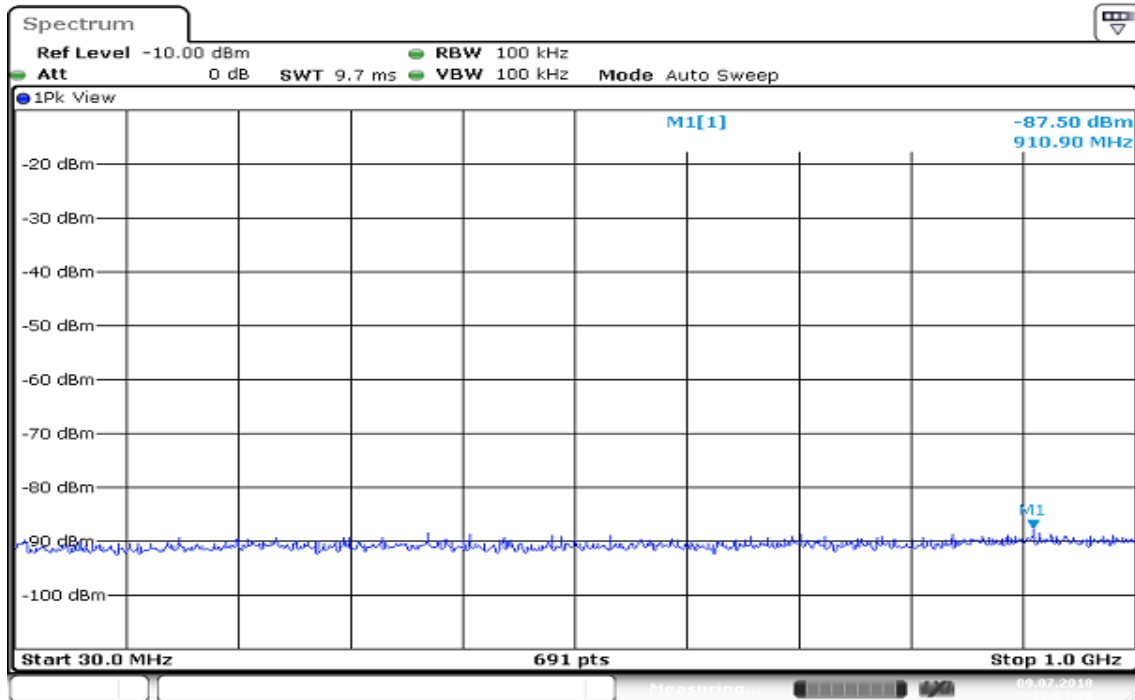
#### ANT 1 / CH Low



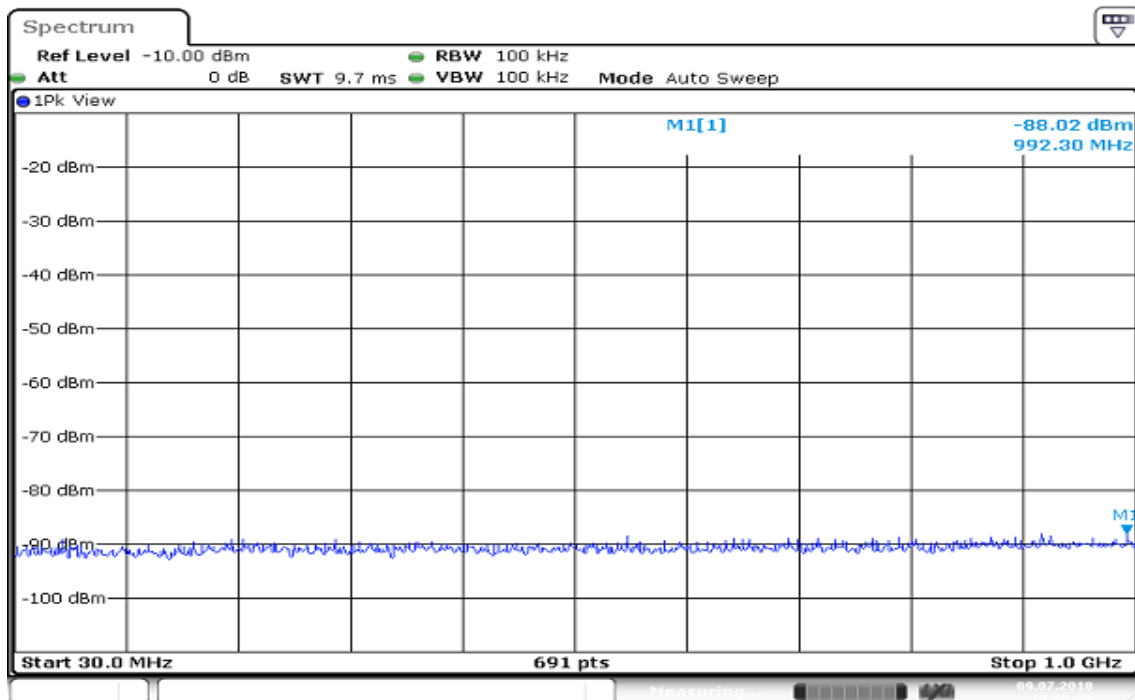
Date: 9 JUL 2018 13:53:23

Report No.: T180627D12-RJ1

## ANT 1 / CH Mid



## ANT 1 / CH High





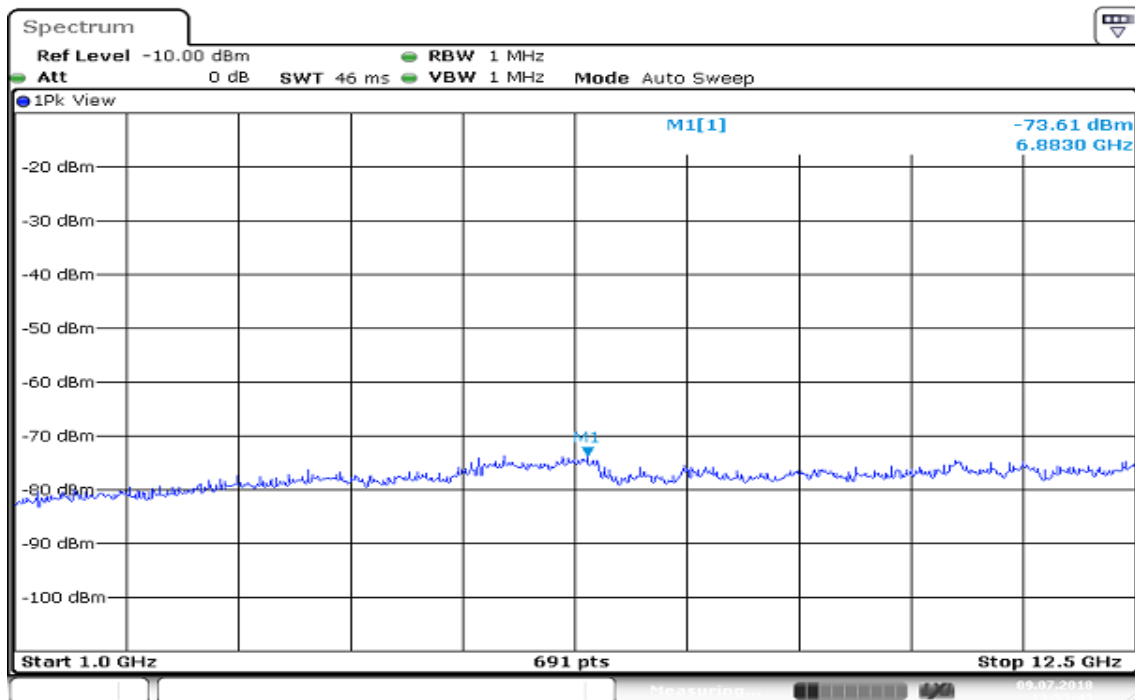
Report No.: T180627D12-RJ1

**TEST RESULT****1GHz~12.5GHz**

Freq: 1GHz~12.5GHz

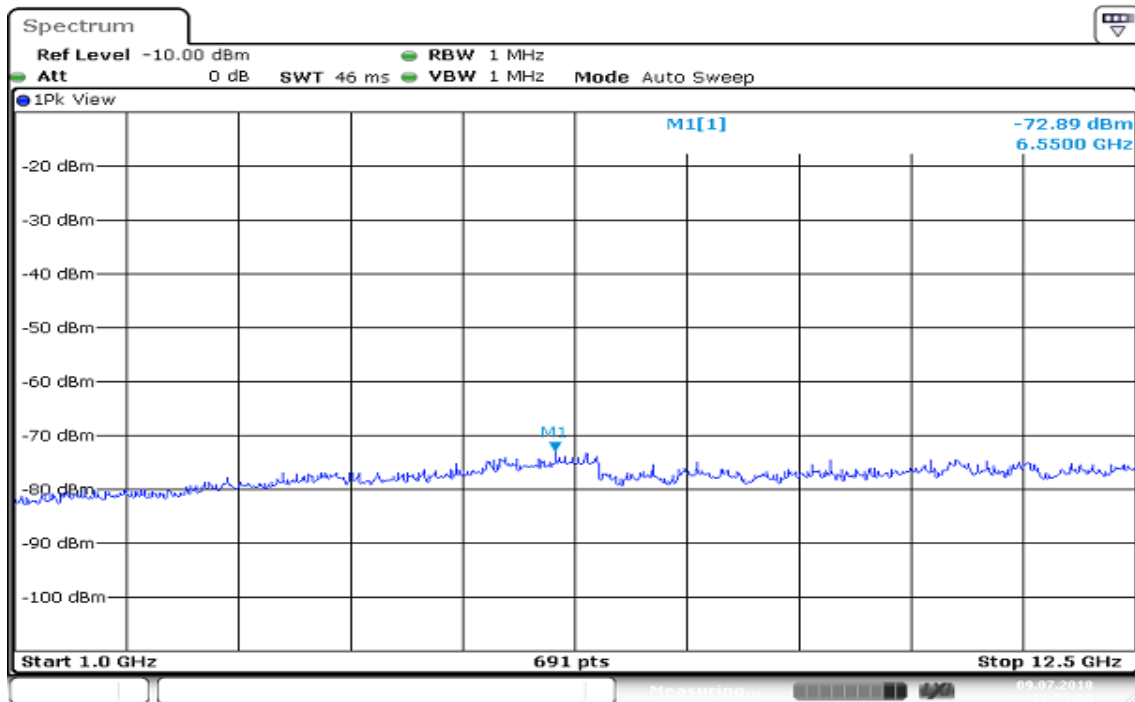
Antenna 1

	Frequency (MHz)	Reading (dBm)	Cable Factor (dB)	Result (nW/MHz)	Remark
2422 MHz	6883.0000	-73.61	10.97	0.5445	Normal Voltage
2442 MHz	6550.0000	-72.89	10.97	0.6427	
2462 MHz	6883.0000	-73.36	10.97	0.5768	

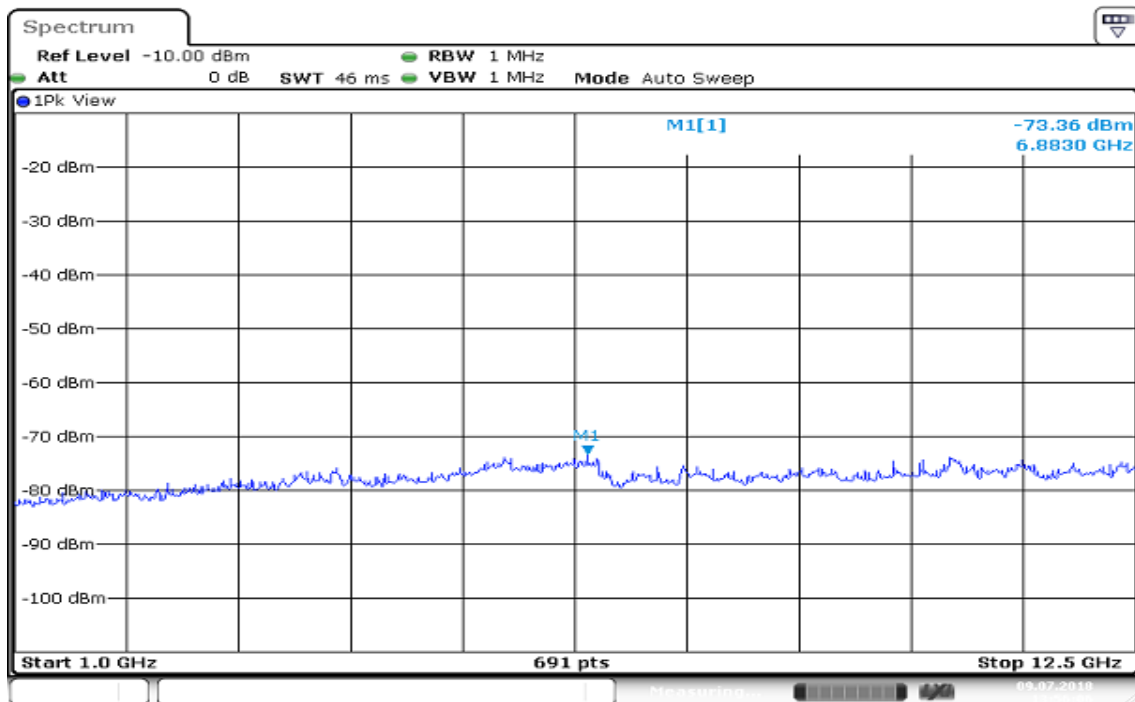
**TEST PLOTS****ANT 1 / CH Low**

Date: 9 JUL 2018 13:53:43

Report No.: T180627D12-RJ1

**ANT 1 / CH Mid**

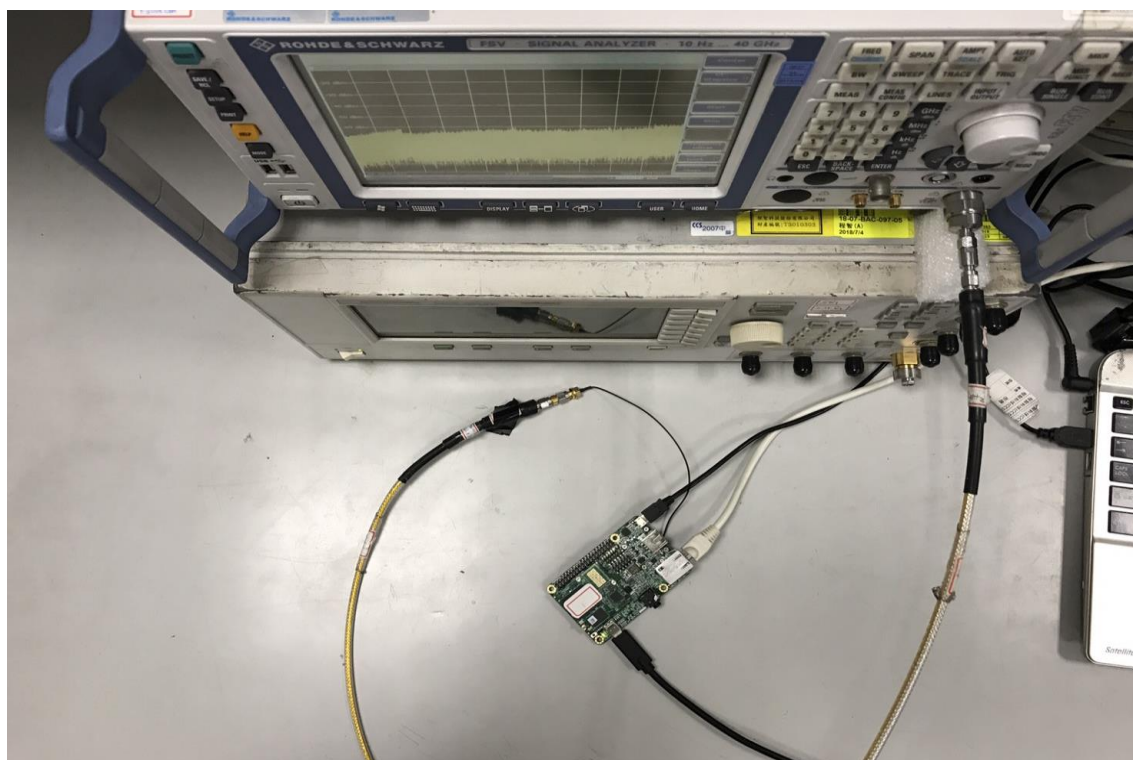
Date: 9 JUL 2018 13:55:01

**ANT 1 / CH High**

Date: 9 JUL 2018 13:56:06

**--End of Test Report--**

## APPENDIX A - PHOTOGRAPHS OF TEST SETUP





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