



시험 성적서

TEST REPORT

페이지(page) : (1) / (총(Total) 44)

성적서 번호 Report No.		ICRT-TR-E191943-0A	
신청자 Client	기관명 Name	Seyoung Information & Telecommunication Co., Ltd.	
	주 소 Address	298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea	
시험대상품목 Sample description		WIWI	
모델명 Type designation		SH-350M	
정 격 Ratings		DC 3.7 V	
시험기간 Date of test		Oct. 08. 2019 ~ Oct. 21. 2019	
시험방법/항목 Test Method/Item		FCC Part 15 Subpart C §15.247 / IC RSS-247	
시험결과 Test Results		Refer to 3. Test Summary	
확 인 Affirmation	작성자 Tested by	기술책임자 Technical Manager	
	성 명 Name Yeong-Hwan, Hong (Signature)	성 명 Name Jun-Hui, Lee (Signature)	
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112, Hwanggeum3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea



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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E191943-0A	23-Oct-2019	Initial Issue	All



1. Applicant & Manufacturer & Test Laboratory Information

1.1 Applicant information

Applicant	Seyoung Information & Telecommunication Co., Ltd.
Address	298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea
Contact Person	YOUNG BAE, PARK
Telephone No.	+82-54-463-2300
Fax No.	+82-54-463-2106
E-mail	lilybulb@eseyoung.com

1.2 Manufacturer Information

Manufacturer	Seyoung Information & Telecommunication Co., Ltd.
Address	298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea

1.3 Test Laboratory Information

Conducted tests were performed at	
Laboratory	ICR Co., Ltd.
Address	112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
Telephone No.	+82-2-6351-9002
Fax No.	+82-2-6351-9007
RRA No.	KR0165
KOLAS No.	KT652



2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	WIWI
Brand Name	-
Model Name	SH-350M
Additional Model Name	-
FCC ID / ISED number	ZAB-SH-350M / 25581-SH350M
Hardware Version	-
Software Version	-
Power Supply	DC 3.7 V

2.2 Additional Information

Equipment Class	Spread Spectrum Transmitter
Device Type	Stand-alone
Operating Frequency	902.5 MHz ~ 927.25 MHz
RF Output Power	17.70 dBm
Number of Channel	100
Modulation Type	GFSK
Antenna Type	Dipole Antenna
Antenna Gain	2.24 dBi
Antenna Operating Mode	Single Antenna Equipment with only one antenna
List of Each Oscillator or Crystal Frequency	32 MHz

2.3 Test Frequency

Test mode	Test frequency (MHz)		
	Lowest frequency	Middle frequency	High frequency
FHSS	902.5	915	927.25



2.4 Mode of operation during the test

- The EUT is continuous transmission mode during the test with set at Low Channel, Middle Channel, and High Channel. To get a maximum radiated emission levels from the EUT, the EUT was moved throughout the XY, YZ, XZ planes.

2.5 Modifications of EUT

- None



3. Test Summary

3.1 Test standards and results

FCC Part 15 Subpart C / IC RSS-Gen & RSS-247				
Clause		Test items	Applied	Results
§15.247 (a) (1)	RSS-247 5.1 (a) RSS-Gen 6.7	20 dB Bandwidth & 99 % Bandwidth	<input checked="" type="checkbox"/>	PASS
§15.247 (a) (1)	RSS-247 5.1 (b)	Carrier Frequency Separation	<input checked="" type="checkbox"/>	PASS
§15.247 (a) (1) (iii)	RSS-247 5.1 (d)	Number of Hopping Frequencies	<input checked="" type="checkbox"/>	PASS
§15.247 (a) (1) (i)	RSS-247 5.1 (d)	Average Time of Occupancy	<input checked="" type="checkbox"/>	PASS
§15.247 (b) (2)	RSS-247 5.4 (b)	Maximum Conducted Output Power & e.i.r.p.	<input checked="" type="checkbox"/>	PASS
§15.247 (d)	RSS-247 5.5	Conducted Spurious Emission	<input checked="" type="checkbox"/>	PASS
§15.247 (d) §15.209 §15.205	RSS-247 5.5 RSS-GEN 8.9 RSS-GEN 8.10	Radiated Spurious Emission	<input checked="" type="checkbox"/>	PASS
§15.207	RSS-GEN 8.8	Power Line Conducted Emission	<input checked="" type="checkbox"/>	PASS
§15.203	-	Antenna Requirement	<input checked="" type="checkbox"/>	PASS

3.2 Purpose of the test

- To determine whether the equipment under test fulfills the requirements of the standards stated in FCC Part 15 Subpart C Section 15.247 and IC RSS-247

3.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013.

Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.4 Configuration of Test System

3.4.1 Radiated emission test

Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber. The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

3.4.2 AC powerline conducted emission test

The EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions.



3.5 Antenna requirement

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section.

The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.

Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.5.1 Result: Pass

The transmitter has a ***Dipole Antenna***. The directional gain of the antenna is ***2.24 dBi***.



4. Used equipment on test

	Description	Model Name	Serial Number	Manufacturer	Last Cal. (cycle)
<input checked="" type="checkbox"/>	Spectrum analyzer	FSW85	100864	Rohde & Schwarz	2019. 03. 04 (1Y)
<input type="checkbox"/>	Spectrum analyzer	FSV40	101455	Rohde & Schwarz	2019 .06. 27 (1Y)
<input checked="" type="checkbox"/>	Signal Generator	SMB100A	180607	Rohde & Schwarz	2019. 03. 04 (1Y)
<input type="checkbox"/>	Wideband Power Sensor	NRP-Z81	103673	Rohde & Schwarz	2019. 03. 05 (1Y)
<input type="checkbox"/>	Open Switch and Control Platform	OSP150	101000	Rohde & Schwarz	2019. 03. 05 (1Y)
<input type="checkbox"/>	Environmental Test Chamber	MHK-408NKDA	1060908	TERCHY	2019. 03. 04 (1Y)
<input checked="" type="checkbox"/>	DC Power Supply	XDL 35-5P	J00385373	Sorensen	2019. 03. 05 (1Y)
<input type="checkbox"/>	DC Power Supply	6603D	672483	Topward	2019. 03. 05 (1Y)
<input checked="" type="checkbox"/>	Loop Antenna	HFH2-Z2	100506	Rohde & Schwarz	2019. 06. 27 (2Y)
<input checked="" type="checkbox"/>	TRILOG BROADBAND ANTENNA	VULB9162	120	SCHWARZBECK	2018. 11. 23 (2Y)
<input checked="" type="checkbox"/>	RF Pre Amplifier	SCU08	100747	Rohde & Schwarz	2019. 04. 17 (1Y)
<input checked="" type="checkbox"/>	DOUBLE-RIDGE WAVEGUIDE HORN ANTENNA	HF907	102556	Rohde & Schwarz	2019. 08. 19 (2Y)
<input checked="" type="checkbox"/>	RF Pre Amplifier	SCU18	102342	Rohde & Schwarz	2019. 04. 17 (1Y)
<input checked="" type="checkbox"/>	Horn Antenna	LB-42-10-C-KF	J202024625	AINFO Inc.	2018. 04. 23 (2Y)
<input checked="" type="checkbox"/>	RF Pre Amplifier	AMF-4F-18265-35-8P-1	771846	MITEQ	2019. 03. 04 (1Y)
<input checked="" type="checkbox"/>	Horn Antenna	LB-28-10-C-KF	J202024627	AINFO Inc.	2018. 04. 23 (2Y)
<input type="checkbox"/>	RF Pre Amplifier	AMF-4D-260400-45-6P	779919	MITEQ	2019. 03. 04 (1Y)
<input checked="" type="checkbox"/>	EMI Test Receiver	ESR26	101461	Rohde & Schwarz	2020. 04. 17 (1Y)
<input checked="" type="checkbox"/>	EMI Test Receiver	ESR26	101462	Rohde & Schwarz	2020. 04. 17 (1Y)
<input checked="" type="checkbox"/>	LISN	ENV216	102194	Rohde & Schwarz	2020. 04. 16 (1Y)
<input checked="" type="checkbox"/>	EMI Test Receiver	ESR3	102119	Rohde & Schwarz	2020. 04. 16(1Y)
<input checked="" type="checkbox"/>	ATTENUATOR	WA76-20-1313	1633	WEINSCHEL	2019. 03. 04 (1Y)
<input checked="" type="checkbox"/>	RF Cable	MULTIFLEX_86	-	HUBER & SUHNER	-
<input checked="" type="checkbox"/>	Chamber Cable	mw221	-	Junkosha	-

※ All test equipment used is calibration on a regular basis.



5. 20 dB Bandwidth & 99 % Bandwidth

5.1 Operating environment

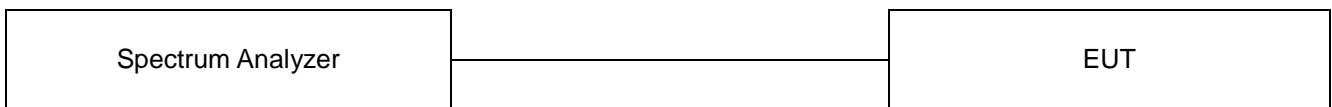
Temperature : 22 °C
Relative humidity : 46 %

5.2 Measurement method

Standard : §15.247 (a) (1) / RSS-247 (5.1 a) & RSS-Gen(6.7)

5.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 3 kHz, and peak detection was used. The 20 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 20 dB.





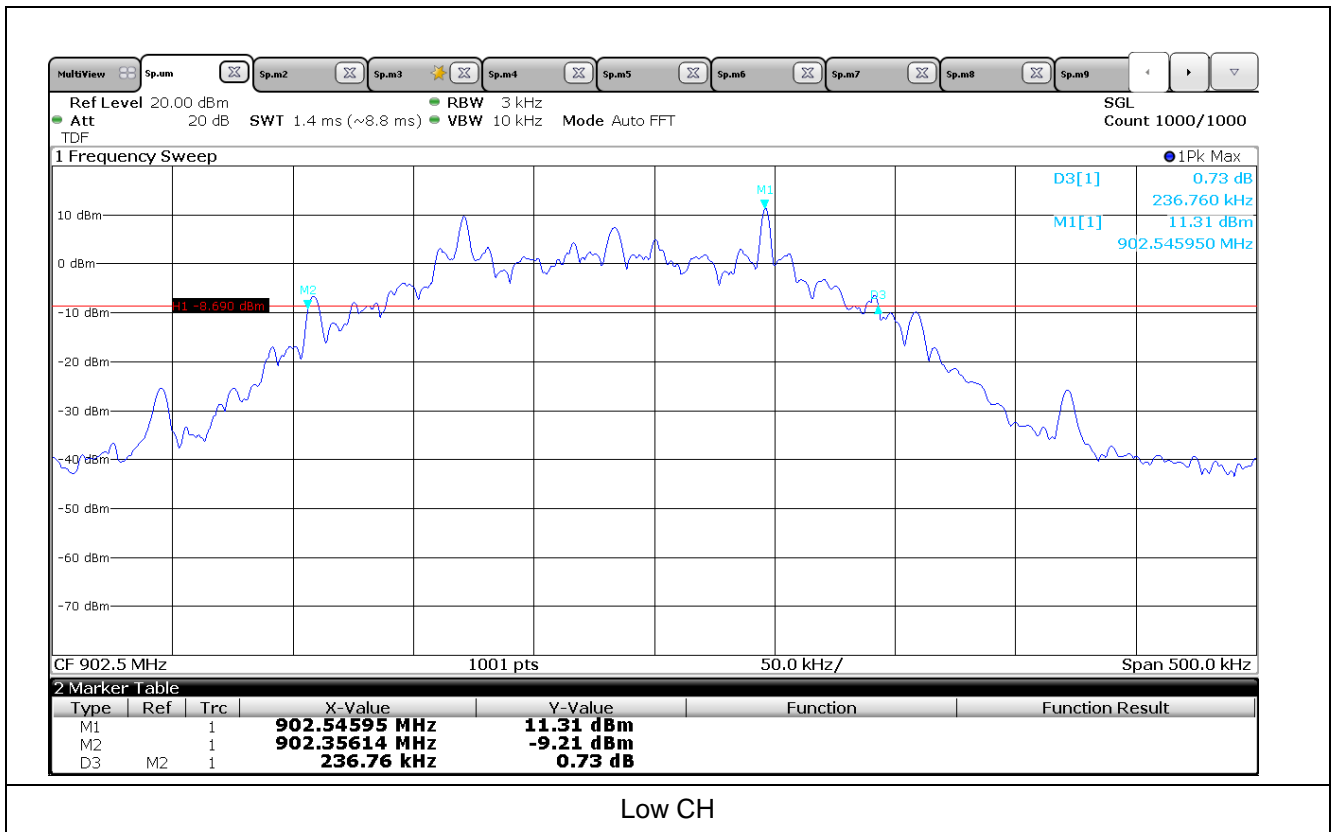
5.4 Test data

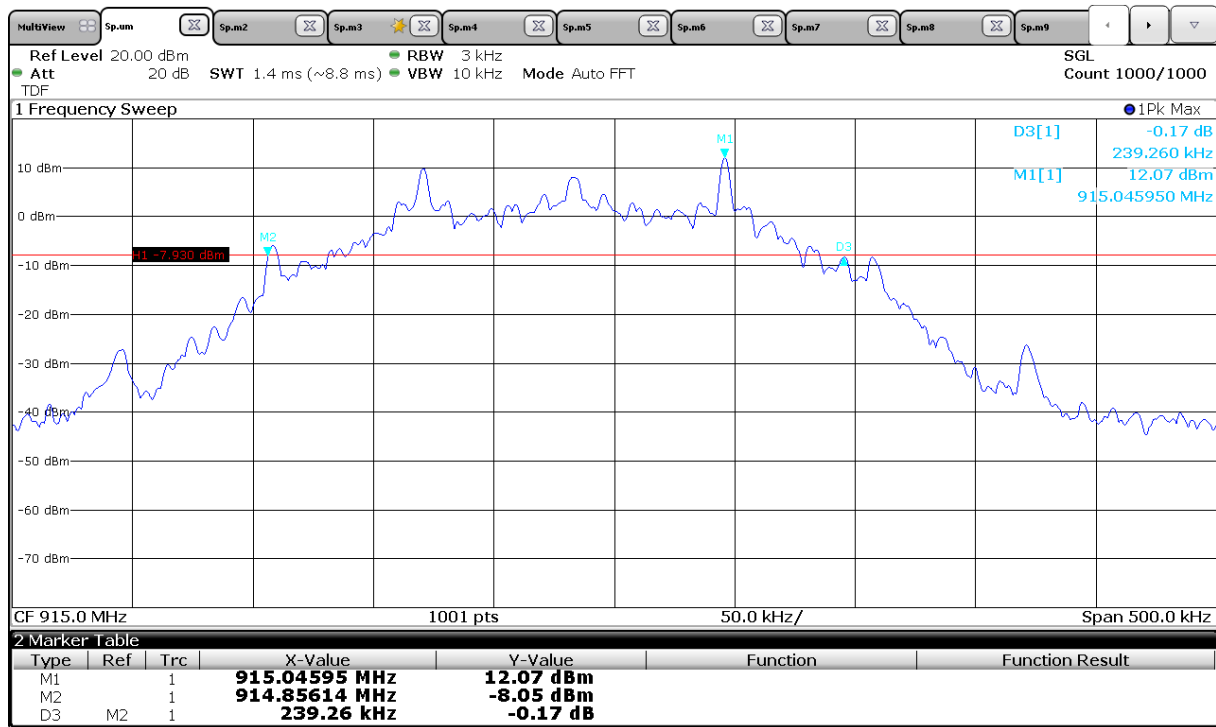
Test date : 08. Oct. 2019
 Operating mode : Transmit mode
 Test Result : Pass

5.4.1 Measured Results

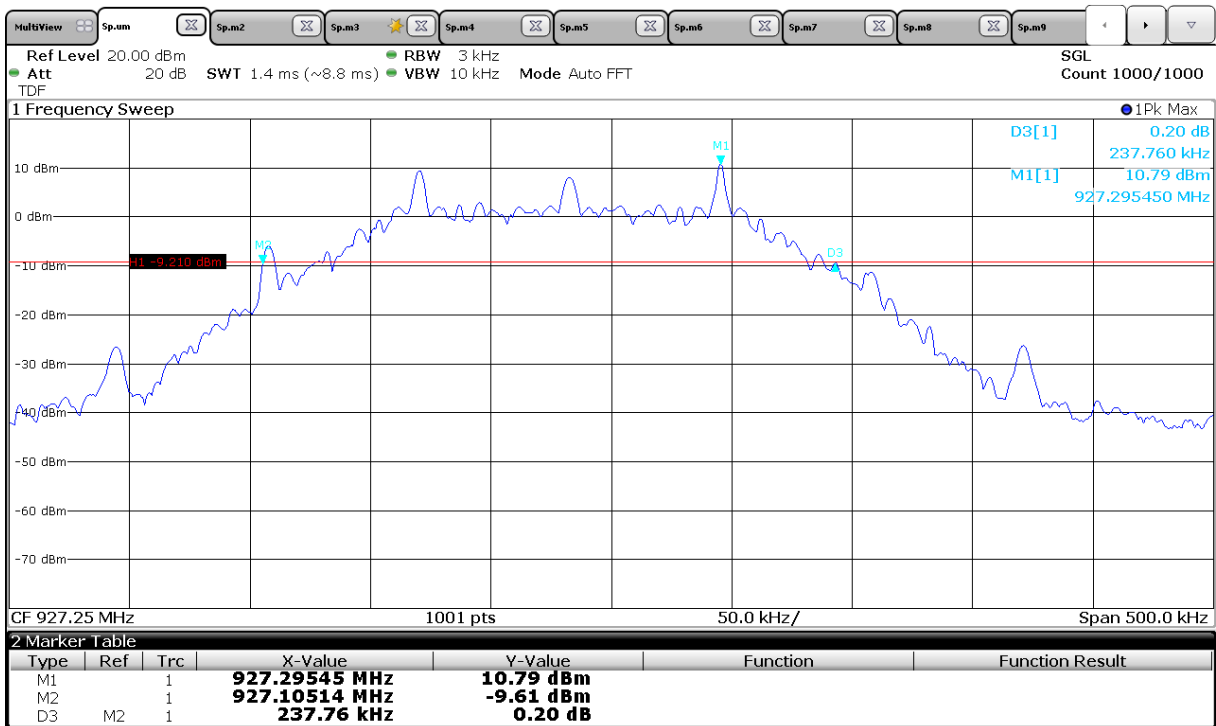
Operating Mode	Modulation Type	Channel (Frequency)	20 dB Bandwidth (kHz)	99 % Bandwidth (kHz)	Limit (kHz)
Transmit	FHSS	1 (902.50 MHz)	236.76	227.98	< 500.00
		51 (915.00 MHz)	239.26	228.58	< 500.00
		100 (927.25 MHz)	237.76	235.99	< 500.00

5.4.2 Measured Graph (20 dB Bandwidth)





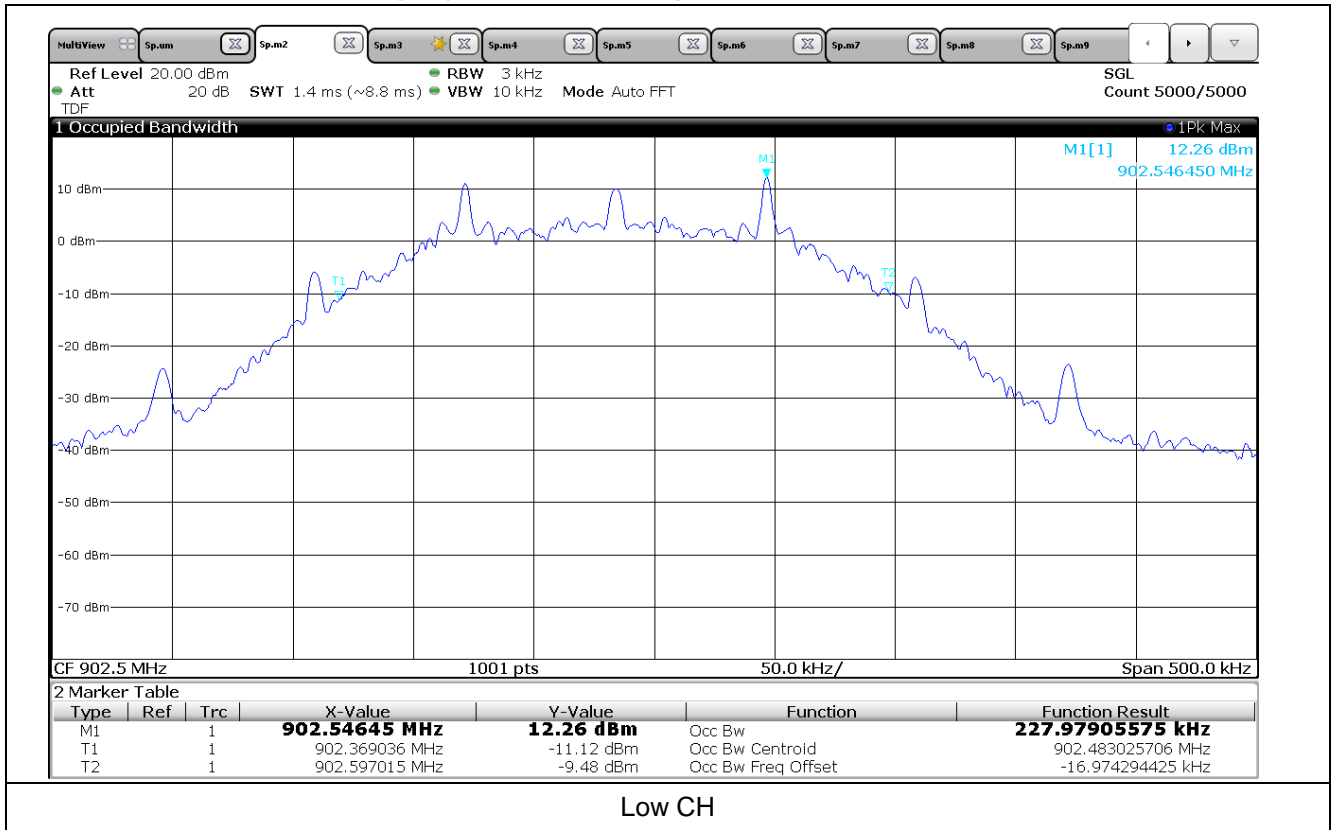
Mid CH

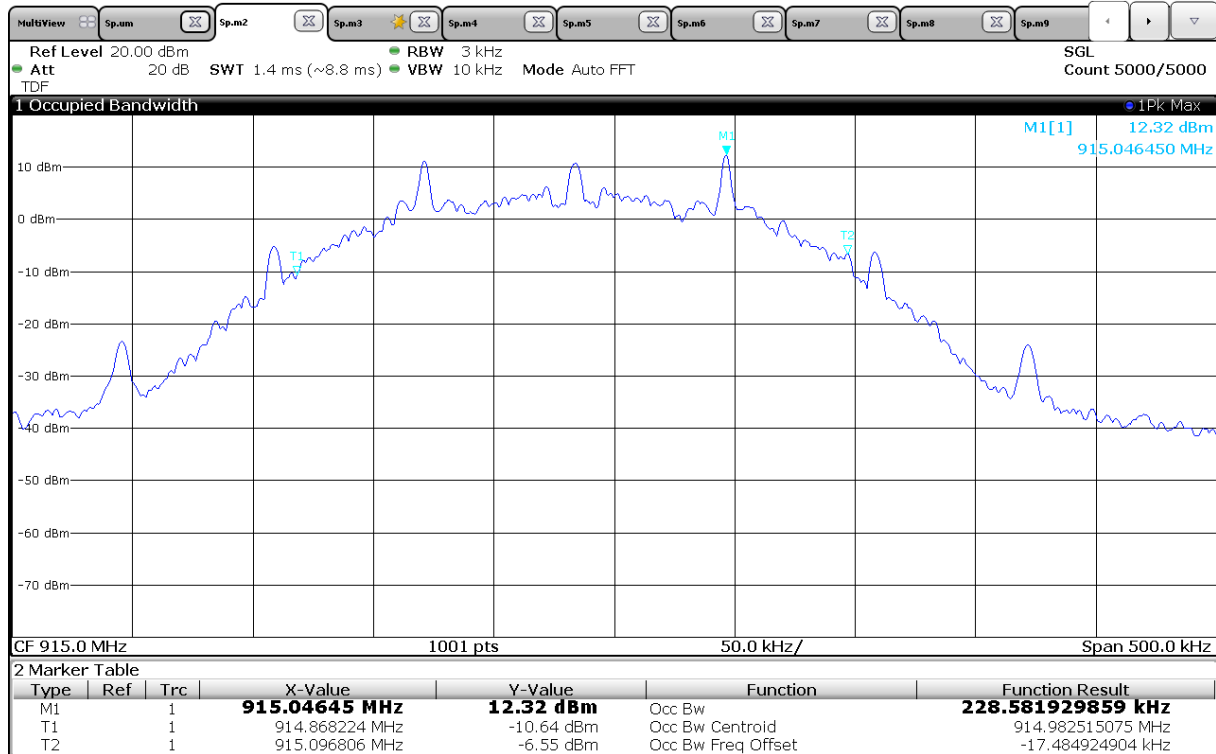


High CH

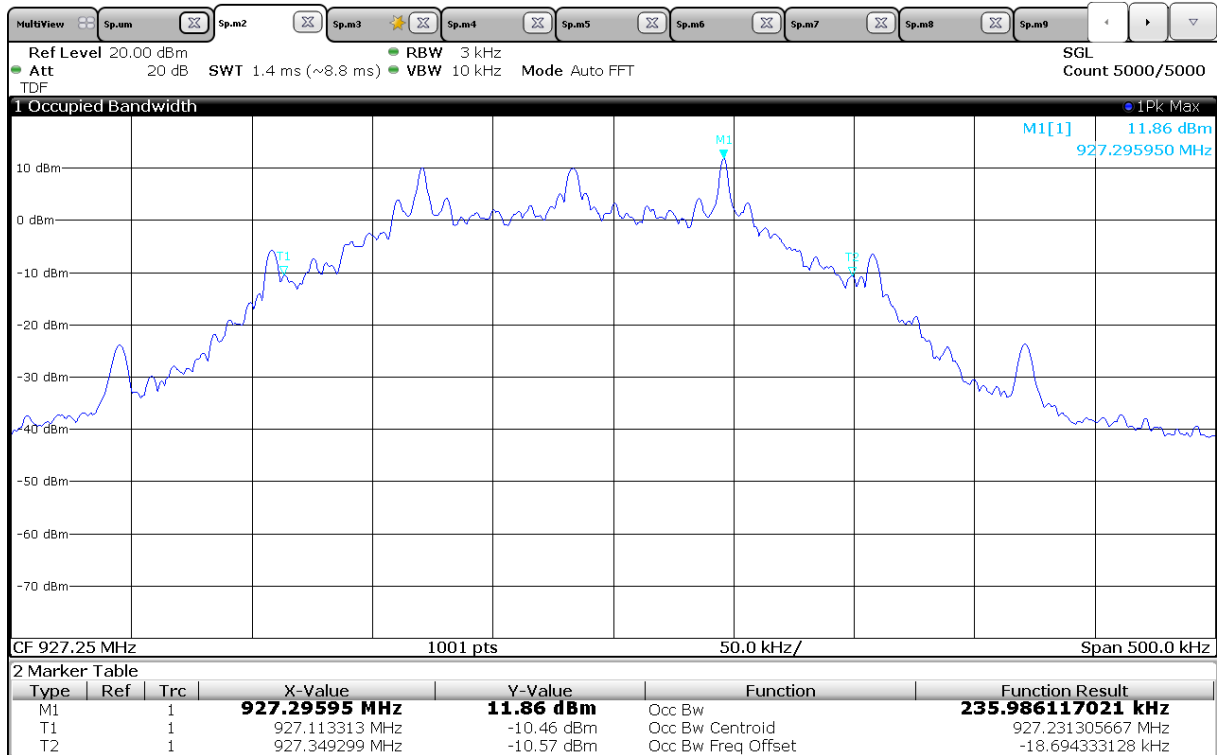


5.4.3 Measured Graph (99 % Bandwidth)





Mid CH



High CH



6. Carrier Frequency Separation

6.1 Operating environment

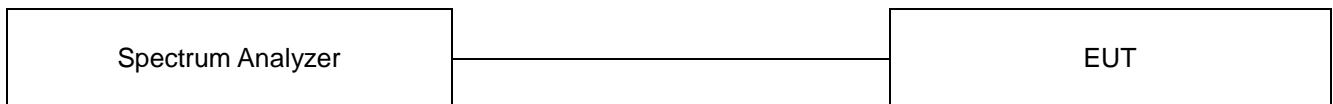
Temperature : 22 °C
Relative humidity : 46 %

6.2 Measurement method

Standard : §15.247 (a) (1) / RSS-247 (5.1 b)

6.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 10 MHz. The analyzer is set to peak hold then a pseudo-random hopping sequence of the transmitter is captured. The mark delta function was used to measure the frequency separation between two adjacent hopping channels.





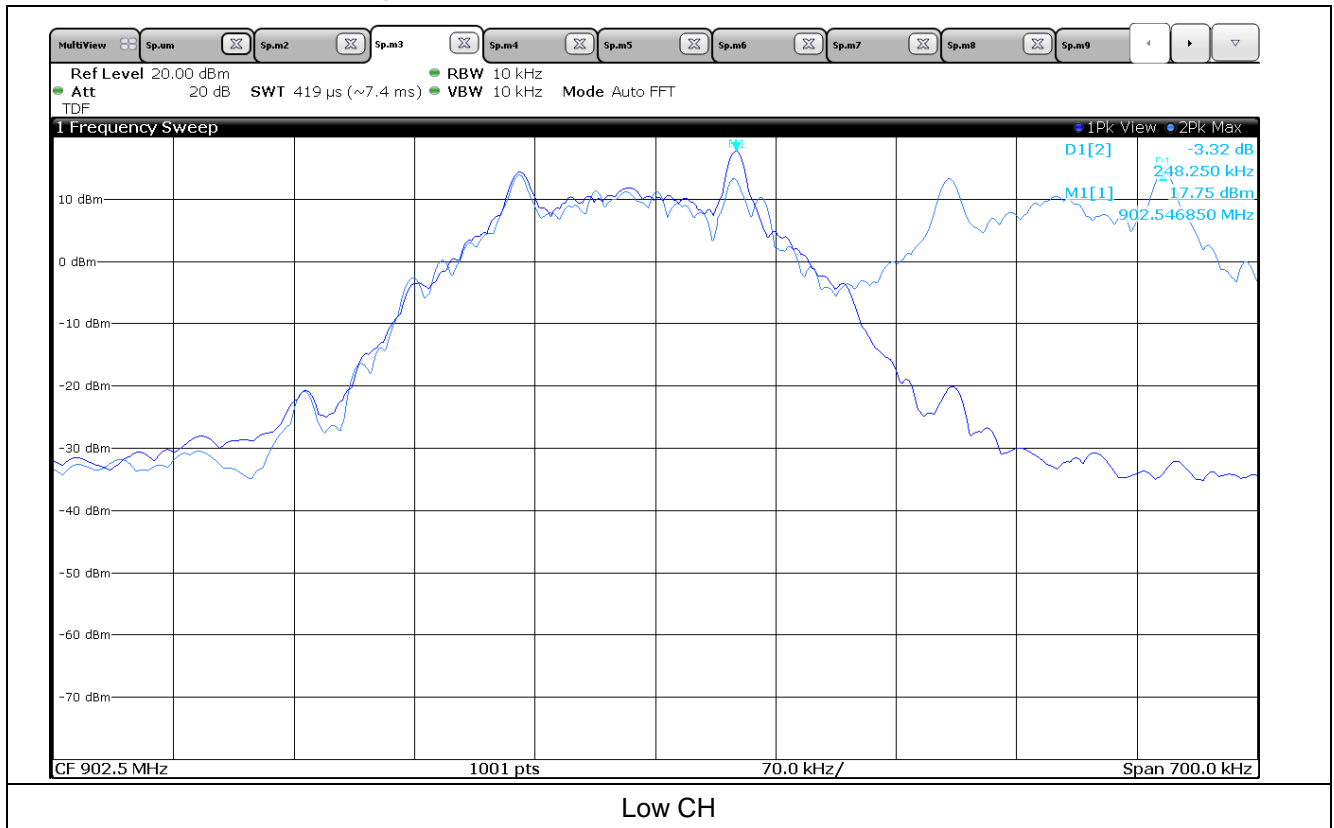
6.4 Test data

Test date : 08. Oct. 2019
 Operating mode : Transmit mode
 Test Result : Pass

6.4.1 Measured Results

Modulation type	Channel (Frequency)	Separation (kHz)	Two-third 20 dB bandwidth of the hopping channel (kHz)	Limit
FHSS	1 (902.50 MHz)	248.25	169.50	25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater
	51 (915.00 MHz)	249.65	169.50	
	100 (927.25 MHz)	249.65	167.83	

6.4.2 Measured Graph





7. Number of Hopping Frequency

7.1 Operating environment

Temperature : 22 °C

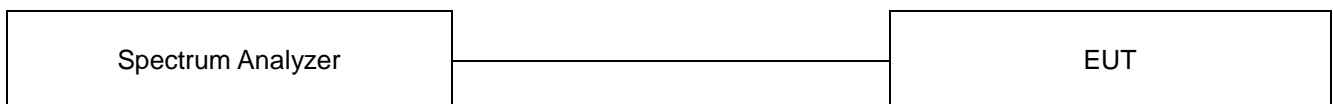
Relative humidity : 46 %

7.2 Measurement method

Standard : §15.247 (a) (1) (iii) / RSS-247 (5.1 d)

7.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 83.5 MHz and the resolution bandwidth is set to 100 kHz. The analyzer is set to peak hold and then complete pseudo-random hopping sequence of the transmitter is captured.





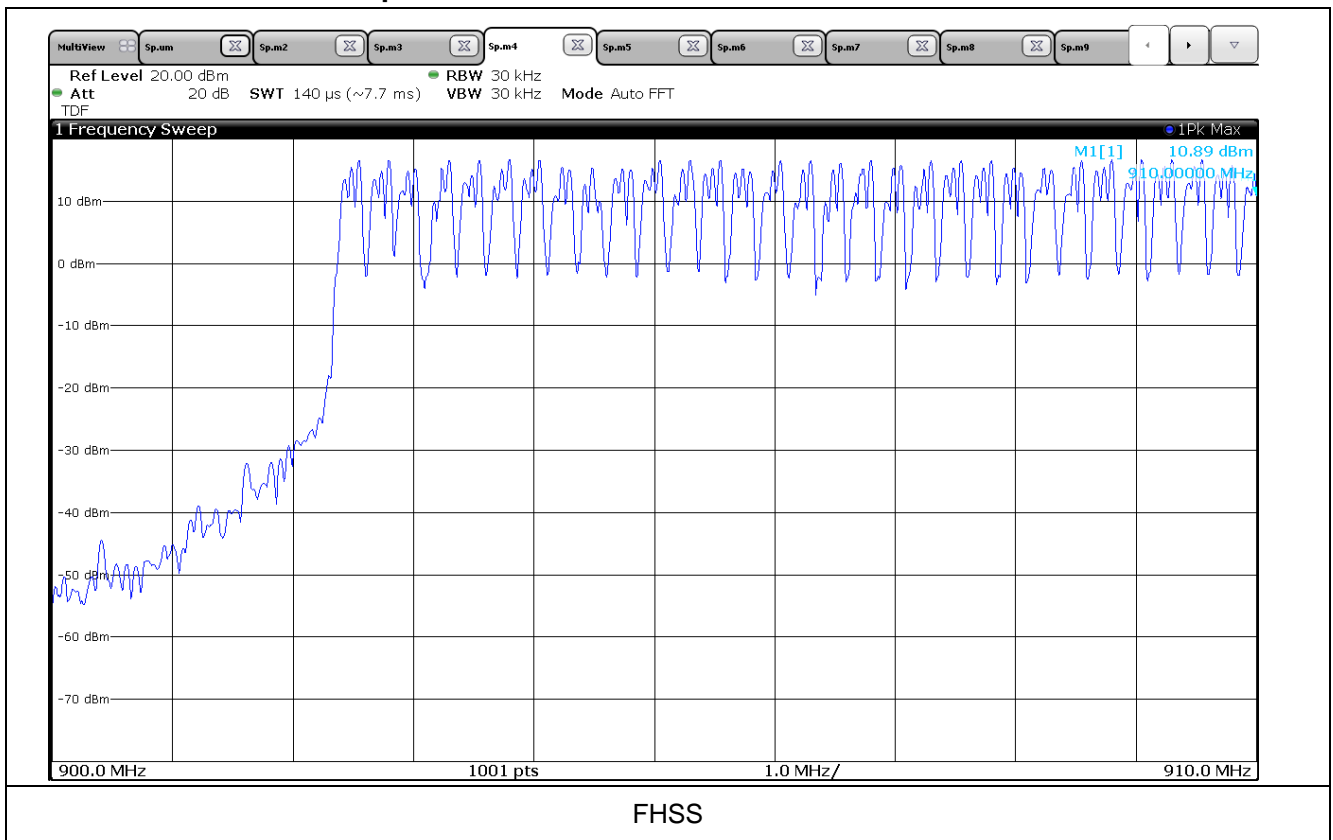
7.4 Test data

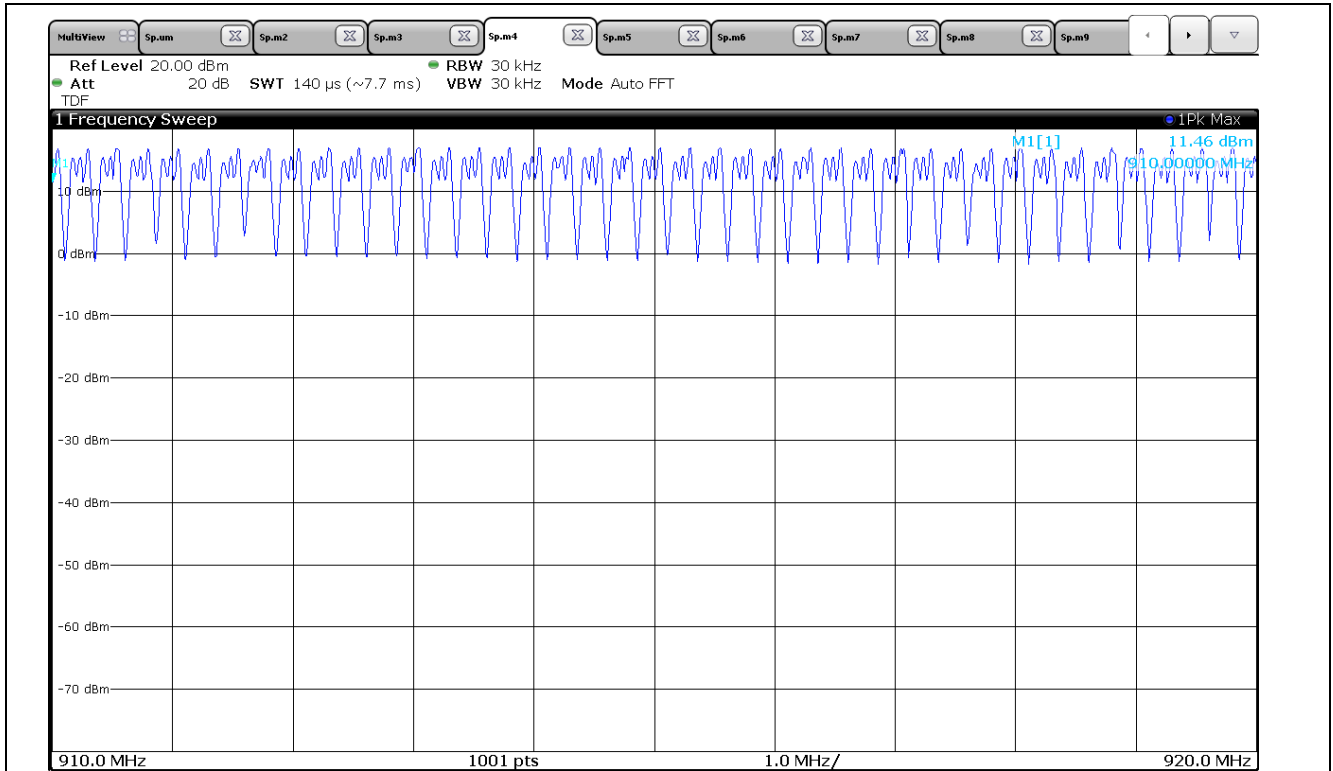
Test date : 08. Oct. 2019
Operating mode : Hopping mode
Test Result : Pass

7.4.1 Measured Results

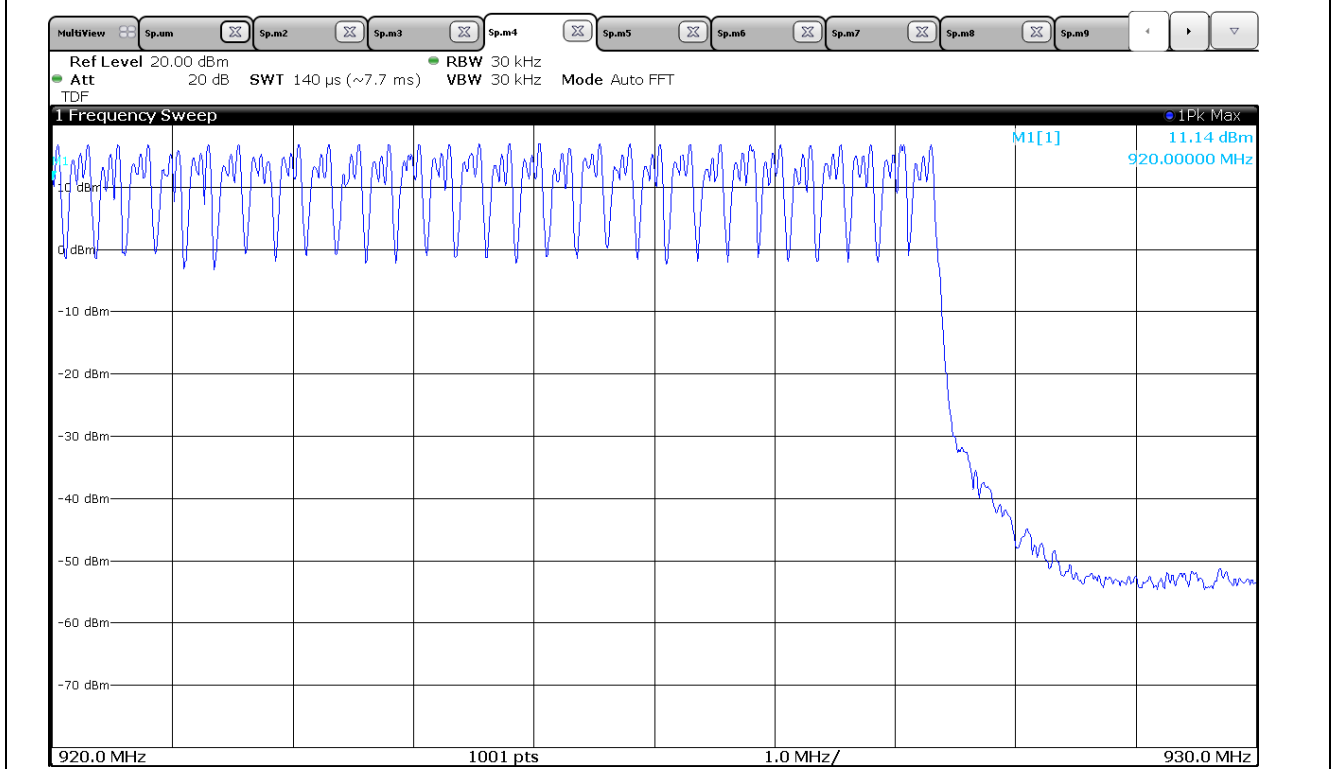
Modulation type	Hopping Channel Number	Limit
FHSS	100	> 25

7.4.2 Measured Graph





FHSS



FHSS



8. Average Time of Occupancy

8.1 Operating environment

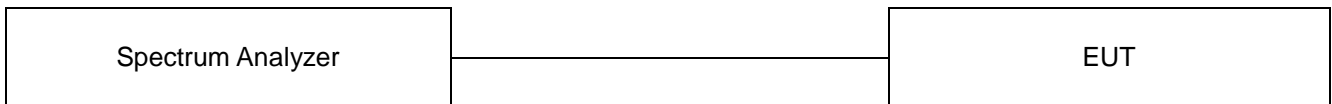
Temperature : 22 °C
Relative humidity : 46 %

8.2 Measurement method

Standard : §15.247 (a) (1) (i) / RSS-247 (5.1 d)

8.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The transmitter is set to operate in its normal frequency hopping mode. The center frequency of the spectrum analyzer is set to one of hopping channels near the center of the operating band and span is set to zero Hz. The sweep time is set to display one complete pulse. The mark delta function is used to measure the duration of the pulses.





8.4 Test data

Test date : 08. Oct. 2019

Test Result : Pass

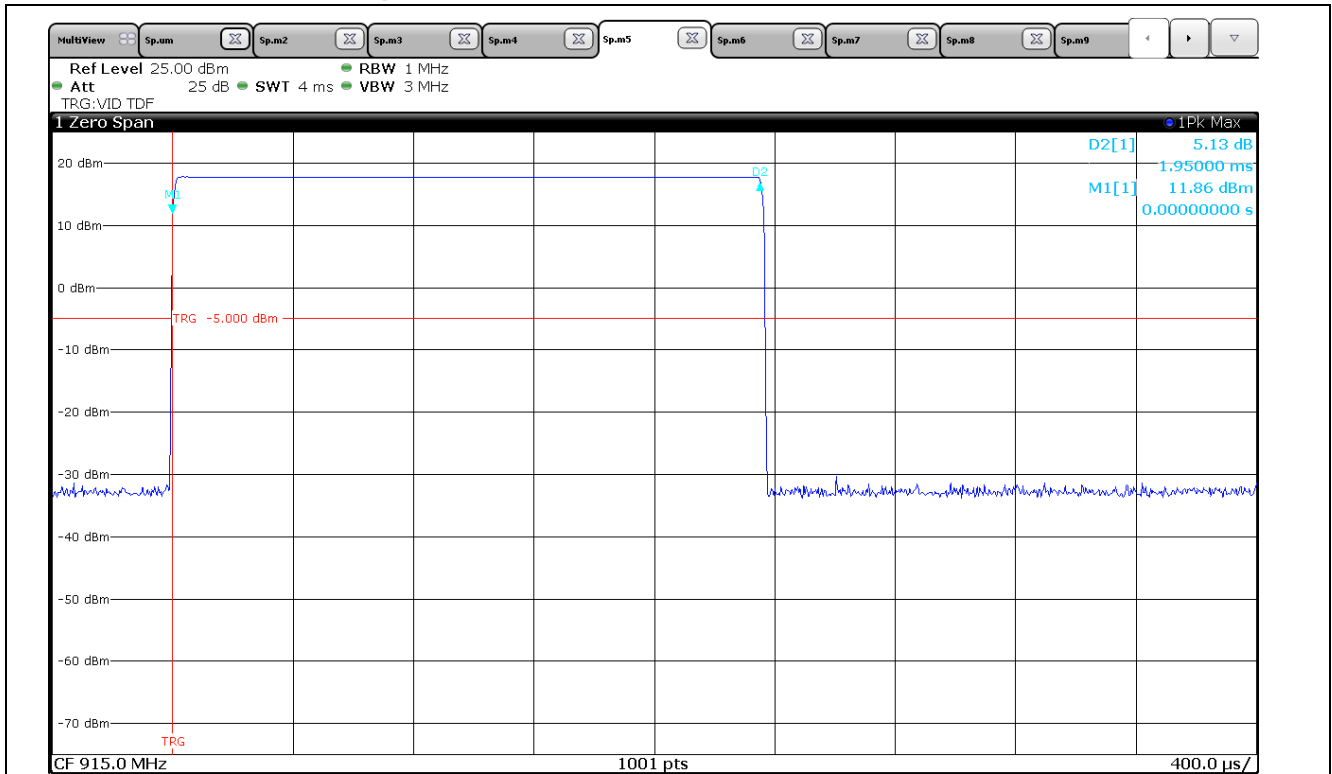
8.4.1 Measured Results

Operating Mode	Mode	Count per Second	Package Transfer Time (ms)	Time of Occupancy (s)	Limit (s)
Hopping	FHSS	5	1.95	0.098	< 0.4 Seconds within a 10 second period
		2			
		4			
		3			
		3			
		4			
		4			
		4			
		4			
		4			

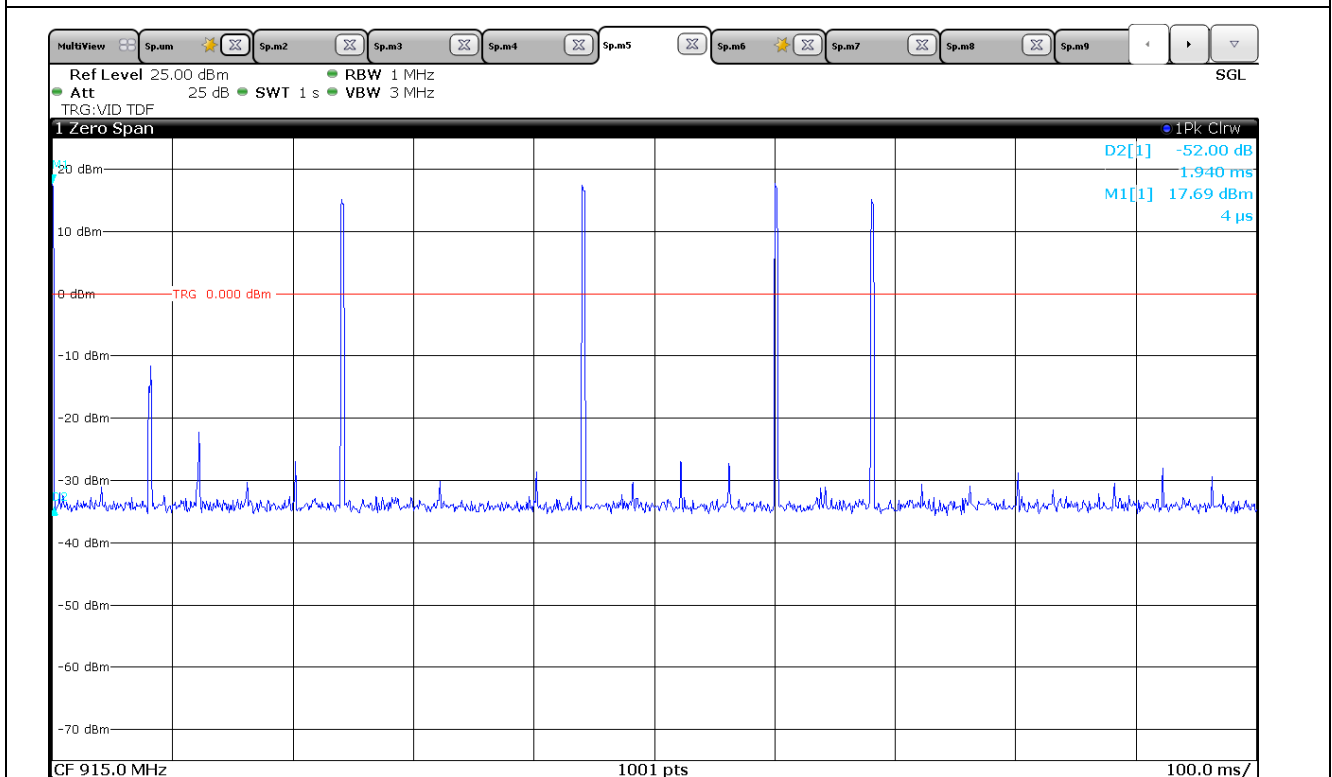
※ Occupancy Time (s) =(Count per Second(Worst Case) x Package Transfer Time (ms) x 10) / 1000



8.4.2 Measured Graph



FHSS_ Package Transfer Time



FHSS_ Count per Second



9. Maximum Conducted Output Power & e.i.r.p.

9.1 Operating environment

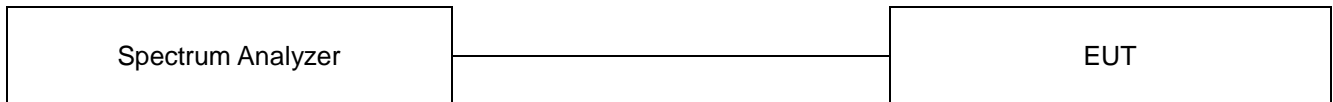
Temperature : 22 °C
Relative humidity : 46 %

9.2 Measurement method

Standard : §15.247 (b) (2) / RSS-247 (5.4 b)

9.3 Test setup

The maximum peak output power was measured with the spectrum analyzer connected to the antenna output of the EUT. The EUT was operating in transmit mode at the appropriate center frequency. And e.i.r.p. is added antenna maximum gain with the Maximum Conducted Output Power.





9.4 Test data

Test date : 08. Oct. 2019
Operating mode : Transmit mode
Test Result : Pass

9.4.1 Measured Results

Modulation Type	Channel (Frequency)	Peak Output Power		Average Power	
		Measured value (dBm)	Measured value (mW)	Measured value (dBm)	Measured value (mW)
FHSS	1 (902.50 MHz)	17.54	56.75	-8.61	0.14
	51 (915.00 MHz)	17.70	58.88	-8.45	0.14
	100 (927.25 MHz)	17.55	56.89	-8.60	0.14

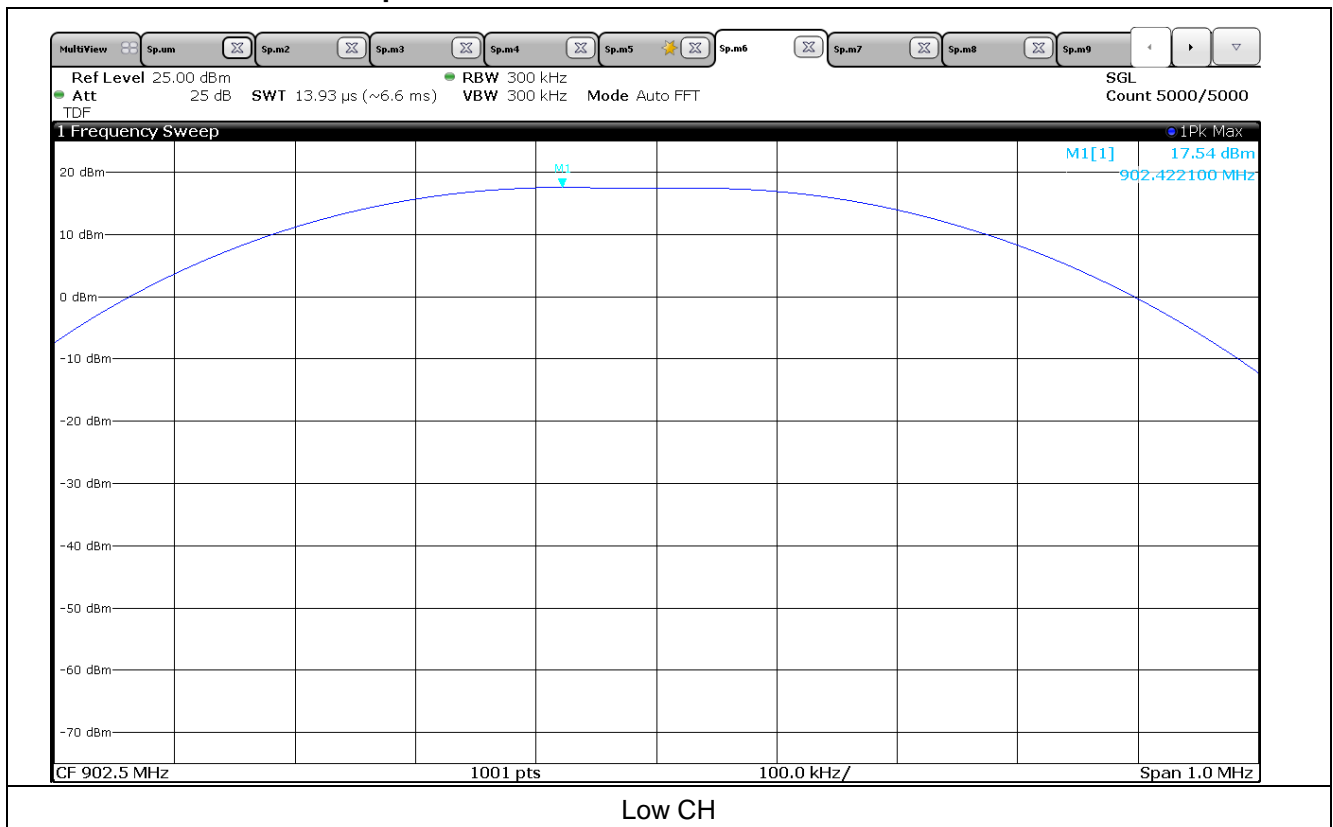
※ Average Power = Peak Output Power + Duty Cycle Correction Factor

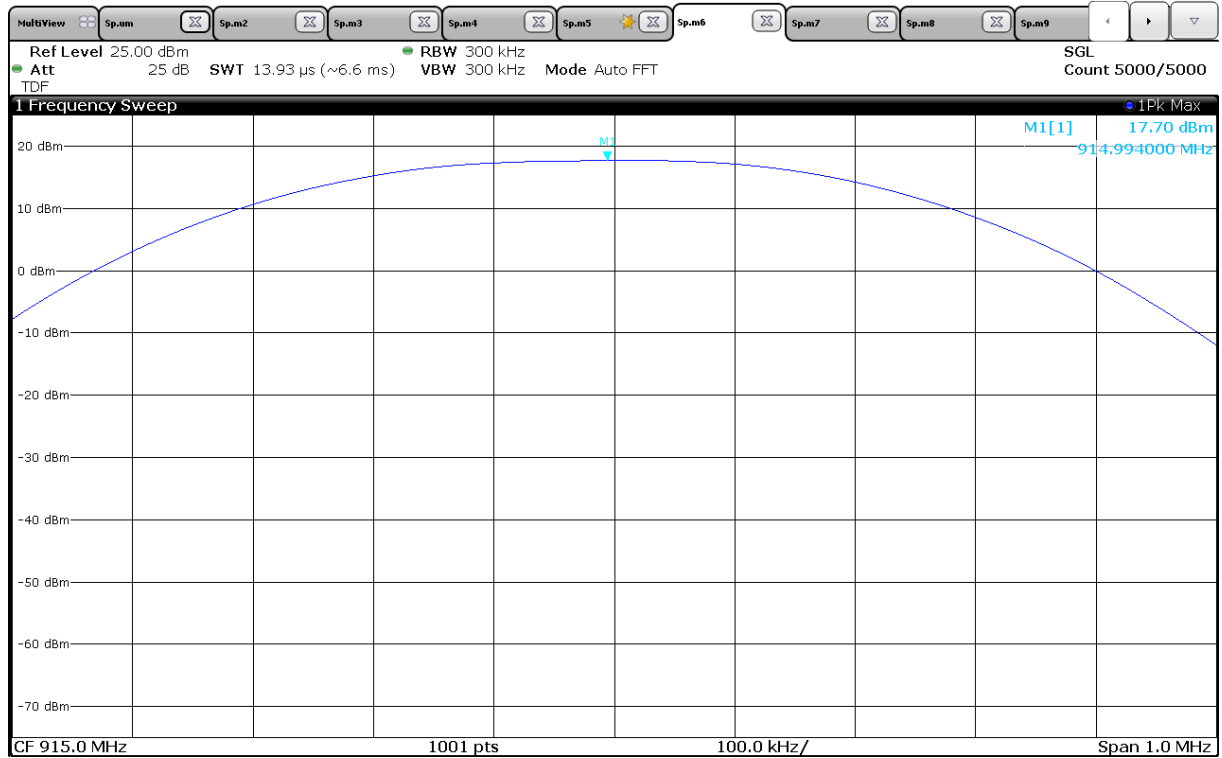
※ Duty Cycle Correction Factor

- Pulse on time : 1.972 ms

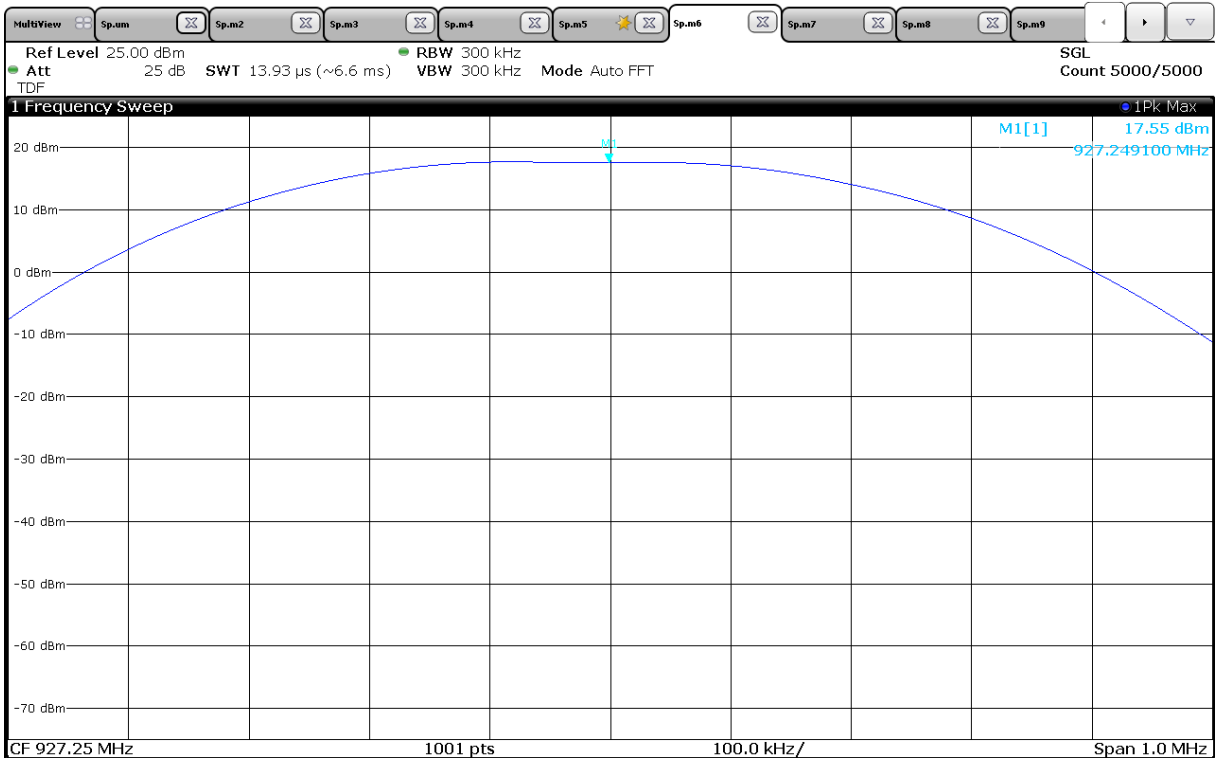
- Duty Cycle Correction Factor = $20 \times \log(1.972 \text{ ms} / 40.032 \text{ ms}) = -26.15$

9.4.2 Measured Graph





Mid CH



High CH



10. Conducted Spurious Emission

10.1 Operating environment

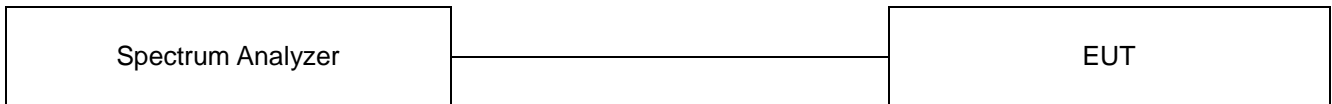
Temperature : 22 °C
Relative humidity : 46 %

10.2 Measurement method

Standard : §15.247 (d) / RSS-247 (5.5)

10.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



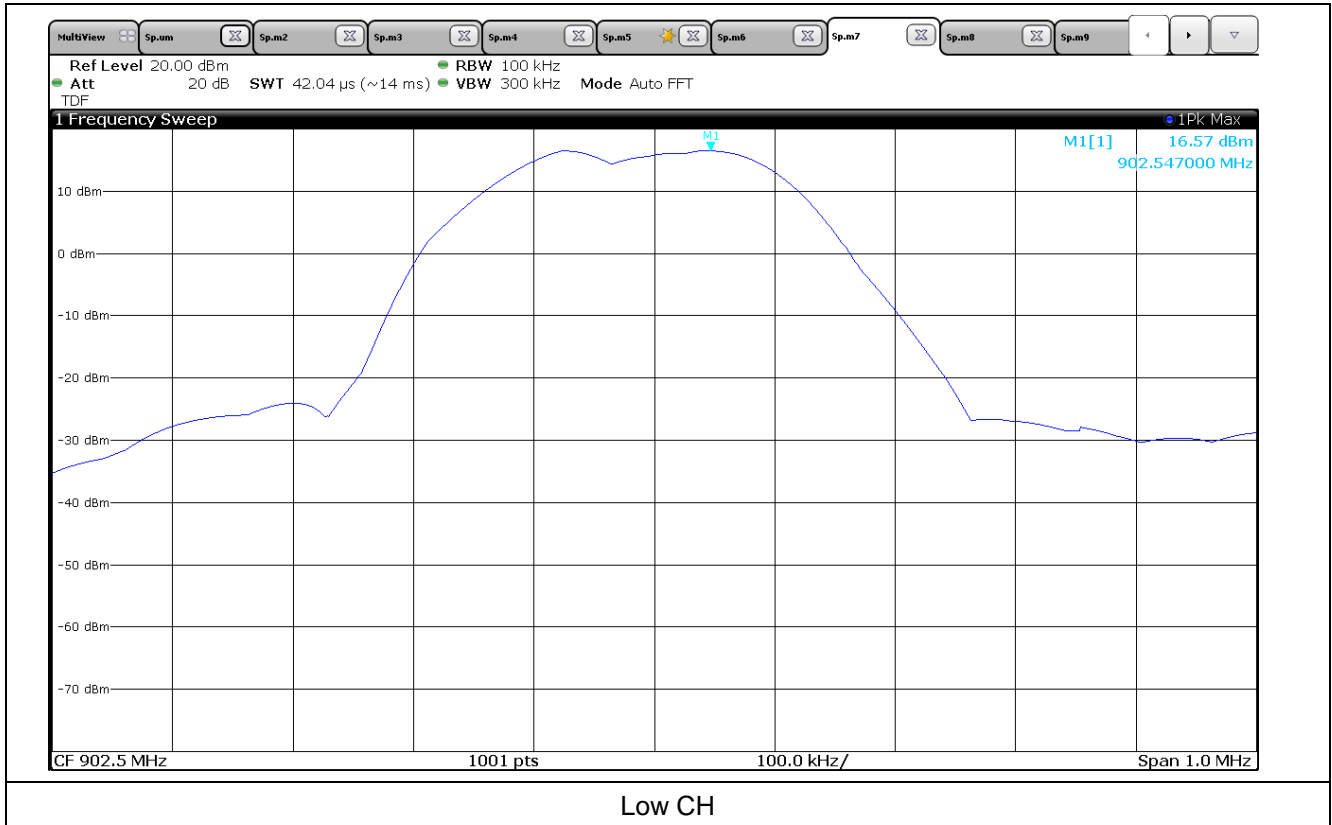


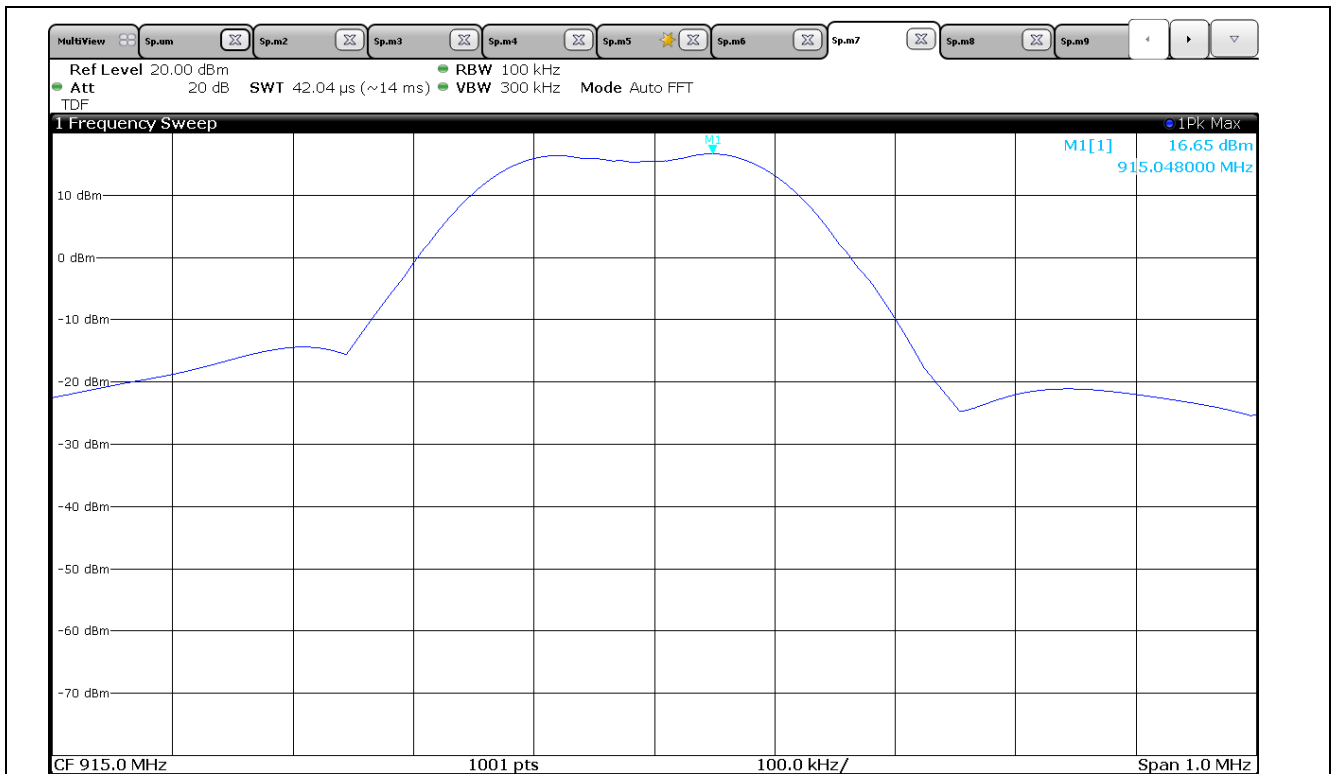
10.4 Test data

Test date : 08. Oct. 2019
Operating mode : Hopping mode
Test Result : Pass

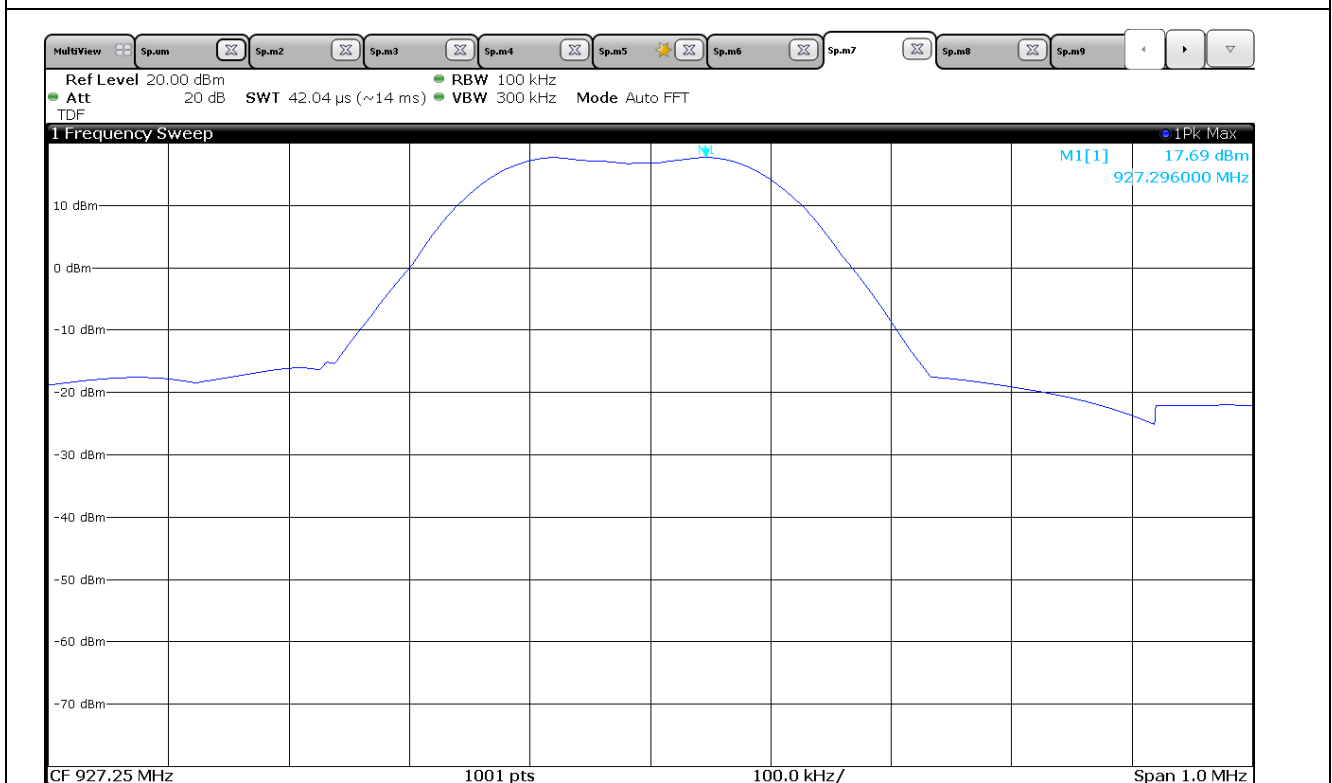
10.4.1 Measured Results

10.4.1.1 Signal level (dB m)





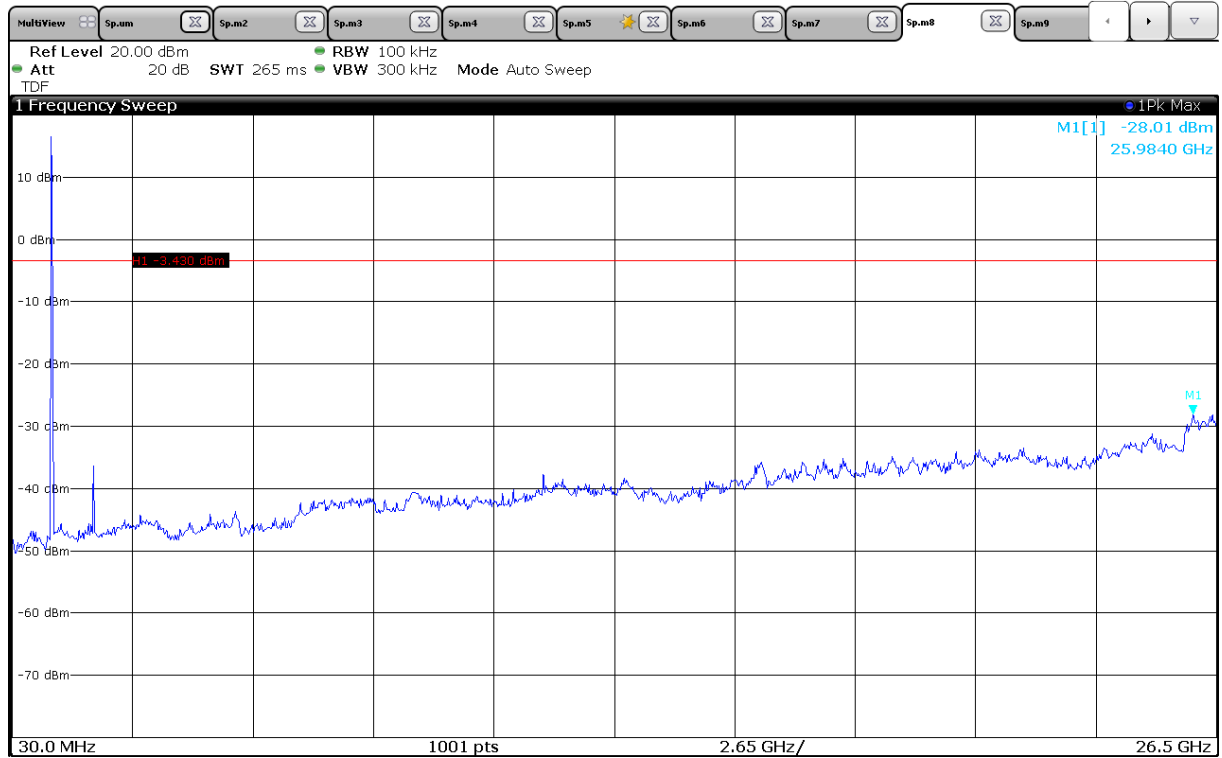
Mid CH



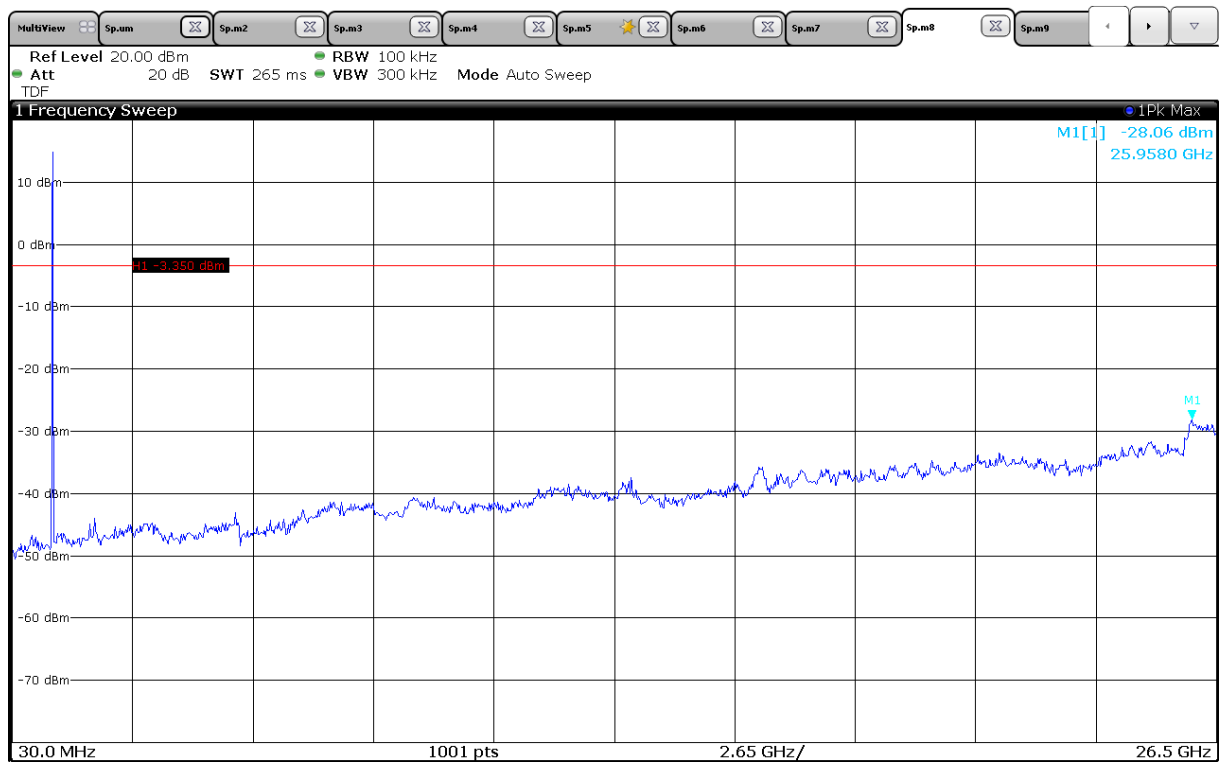
High CH



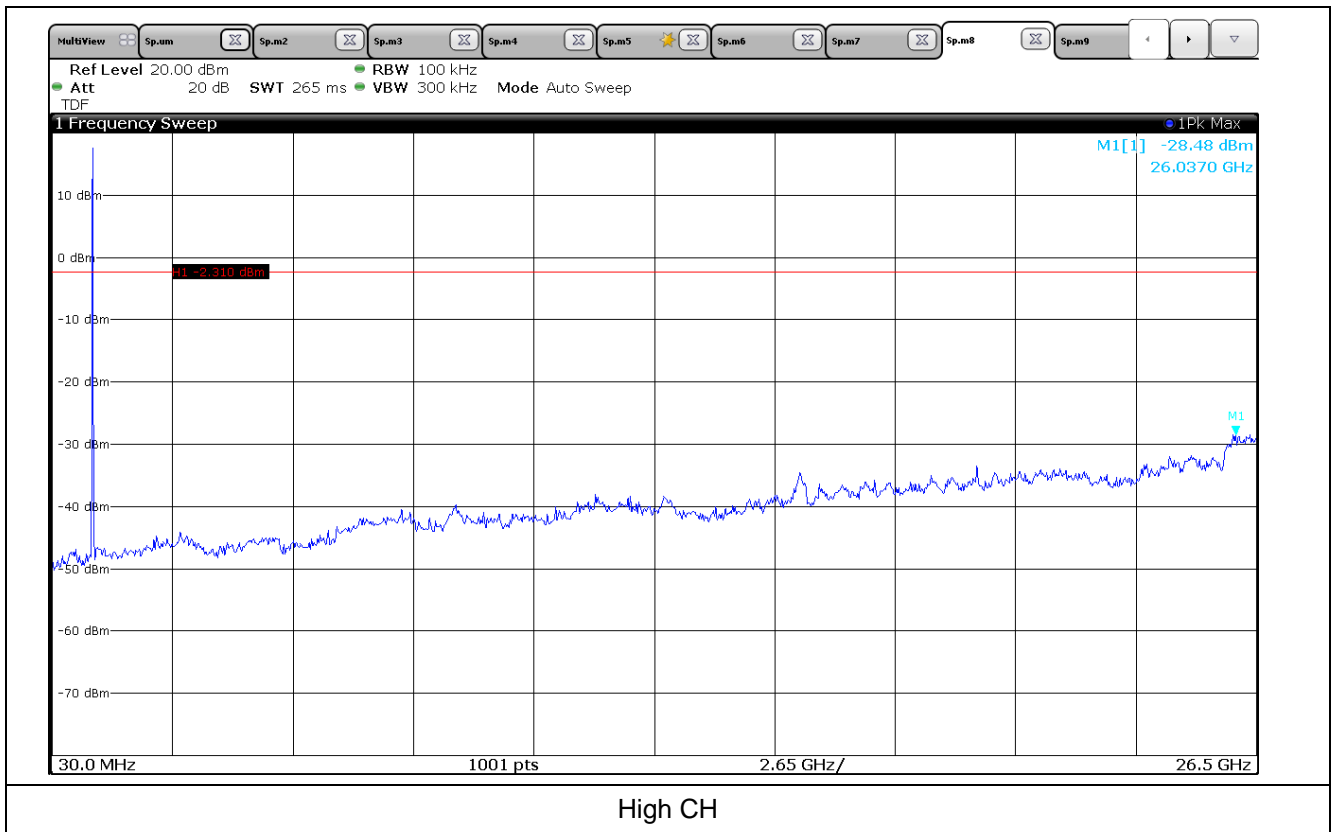
10.4.1.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH

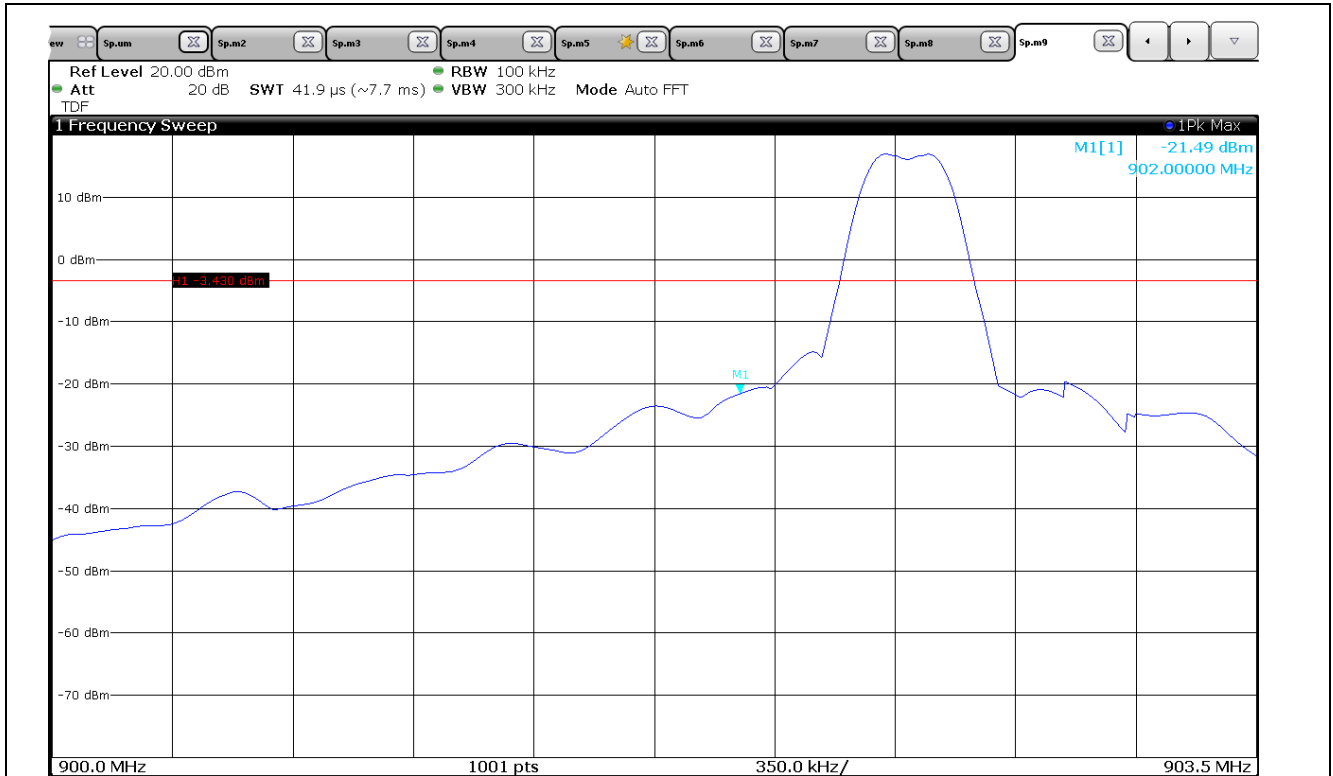


Mid CH

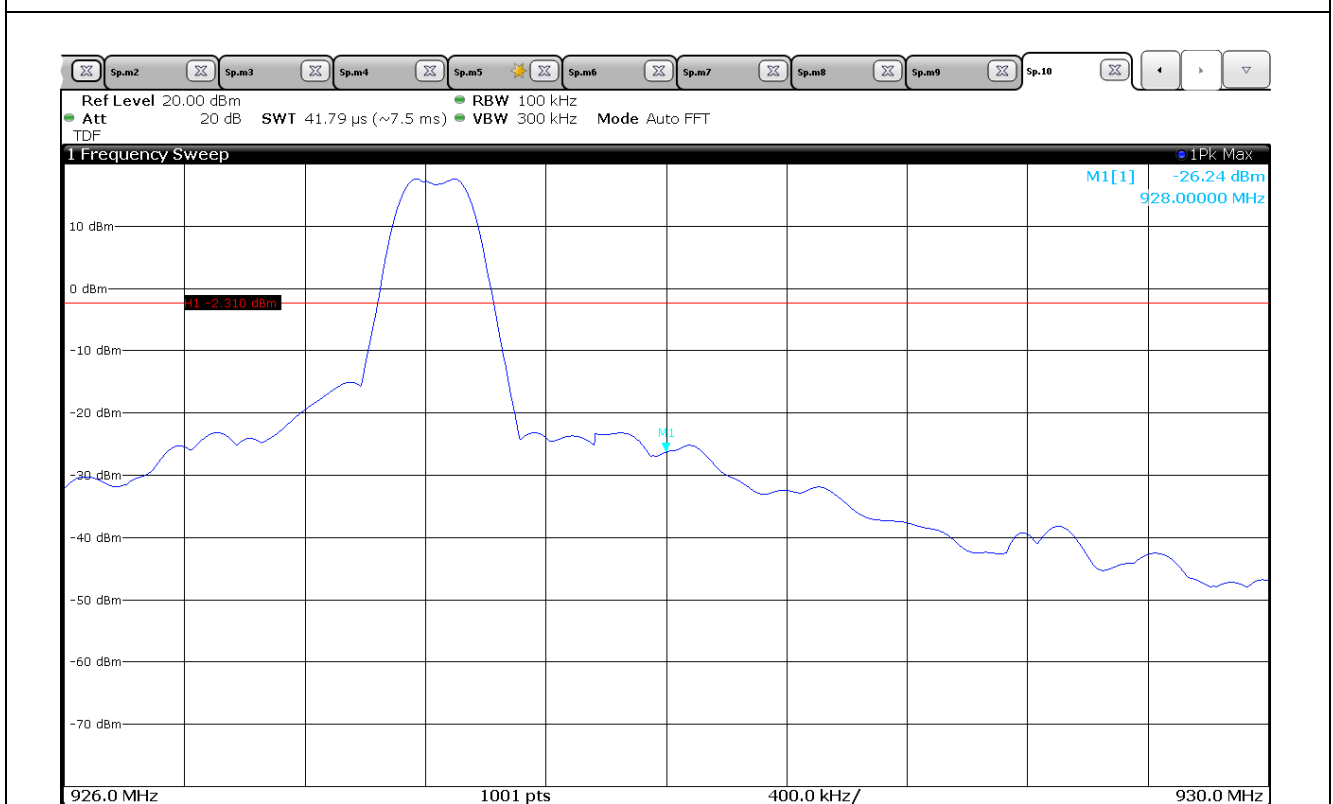




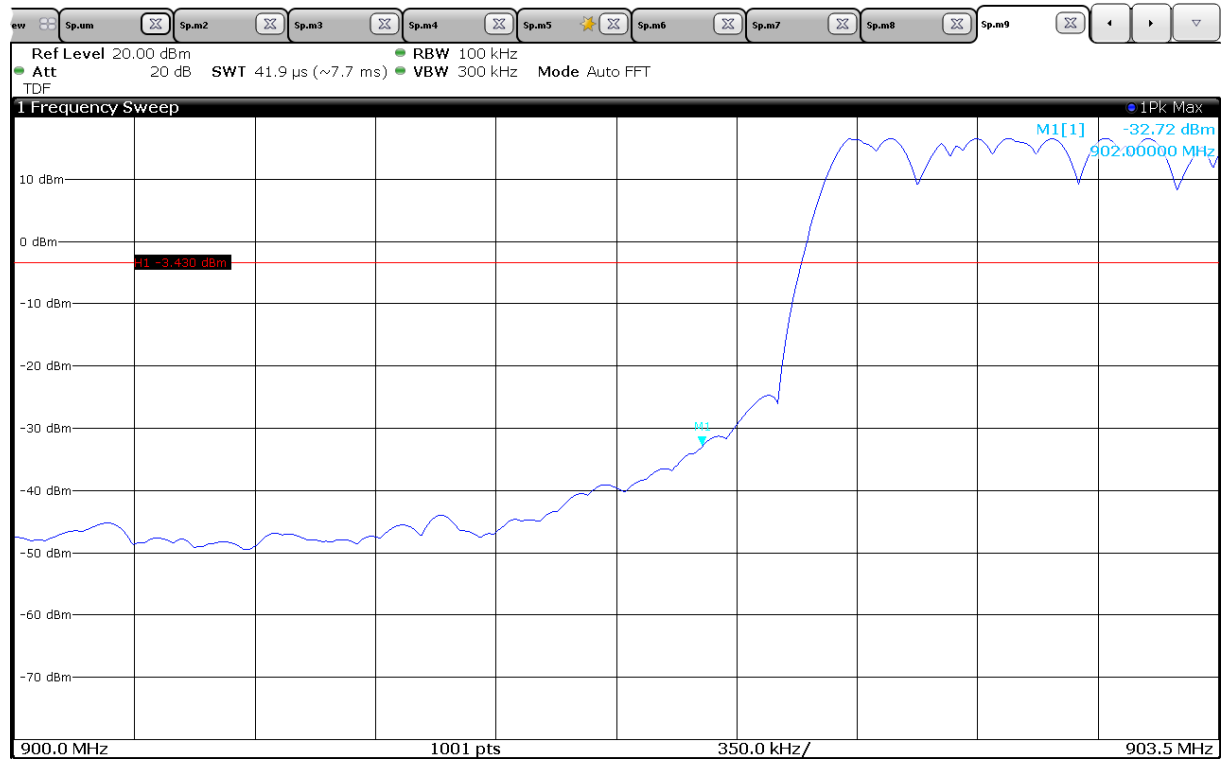
10.4.1.3 Band Edge



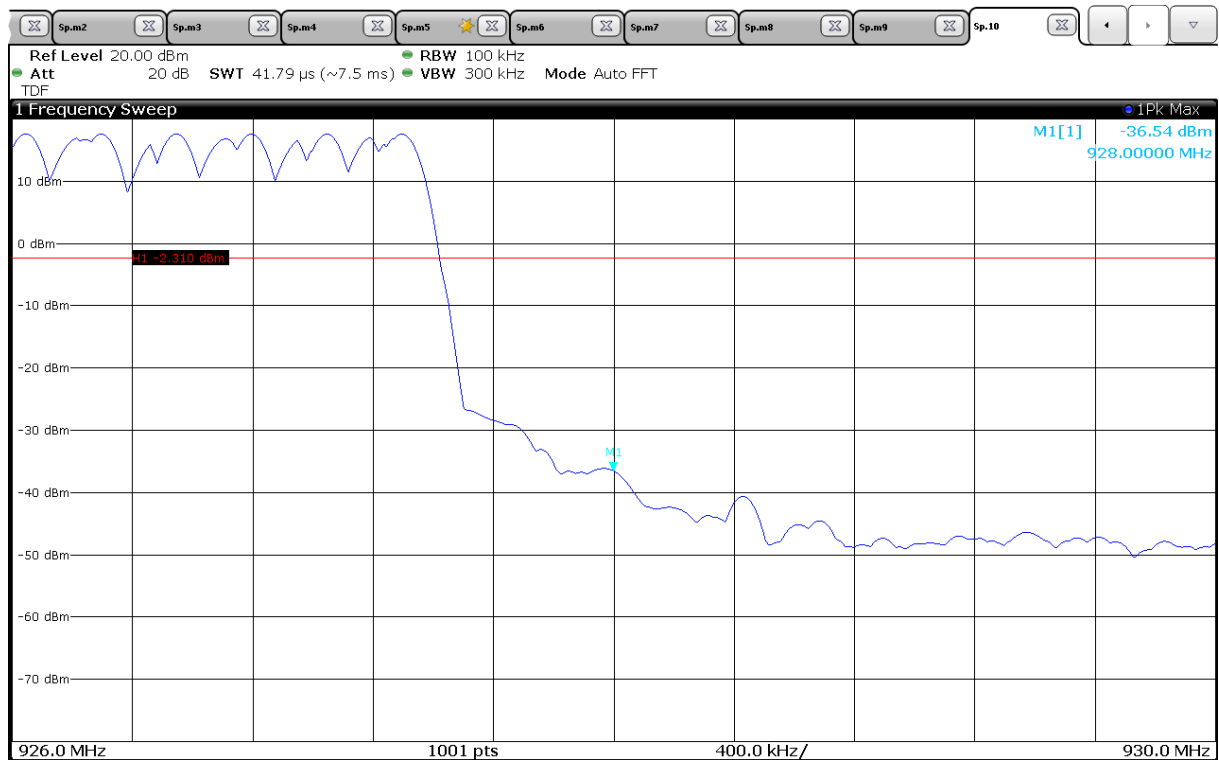
Low CH



High CH



Hopping_Low CH



Hopping_High CH

11. Radiated Spurious Emission

11.1 Operating environment

Temperature : 23 °C

Relative humidity : 48 %

11.2 Measurement method

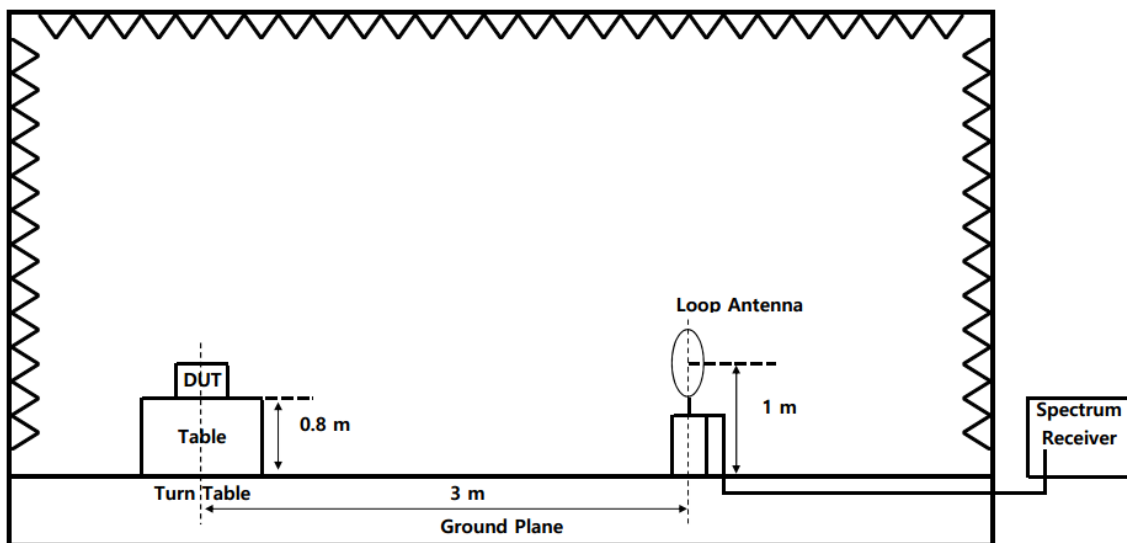
Standard : §15.247 (d), §15.209, §15.205
RSS-247 (5.5) & RSS-Gen (8.9 & 8.10)

11.3 Test setup

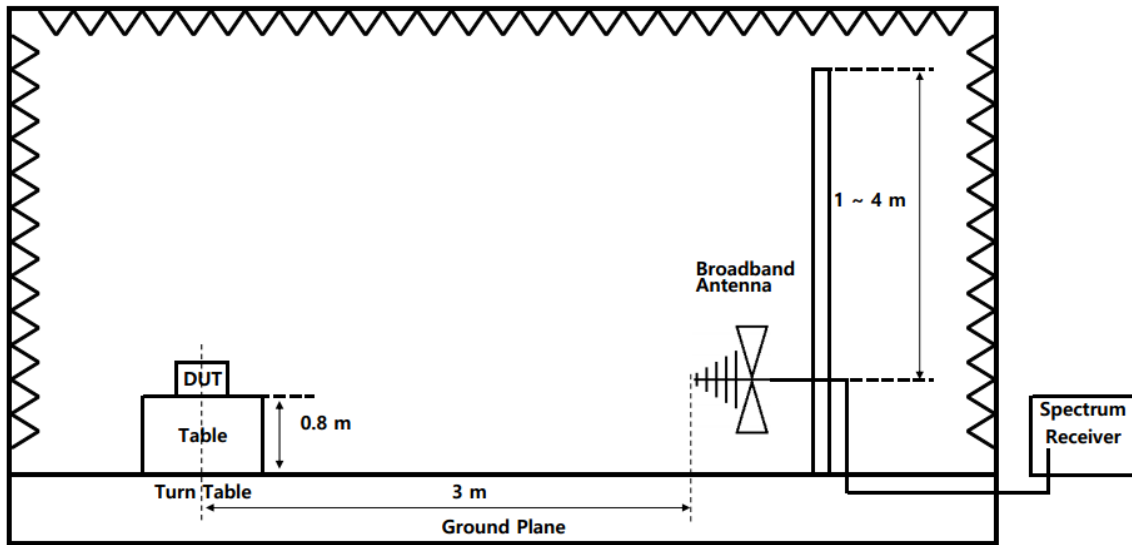
The radiated emissions measurements were performed on the 3 m, Semi-Anechoic Chamber. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

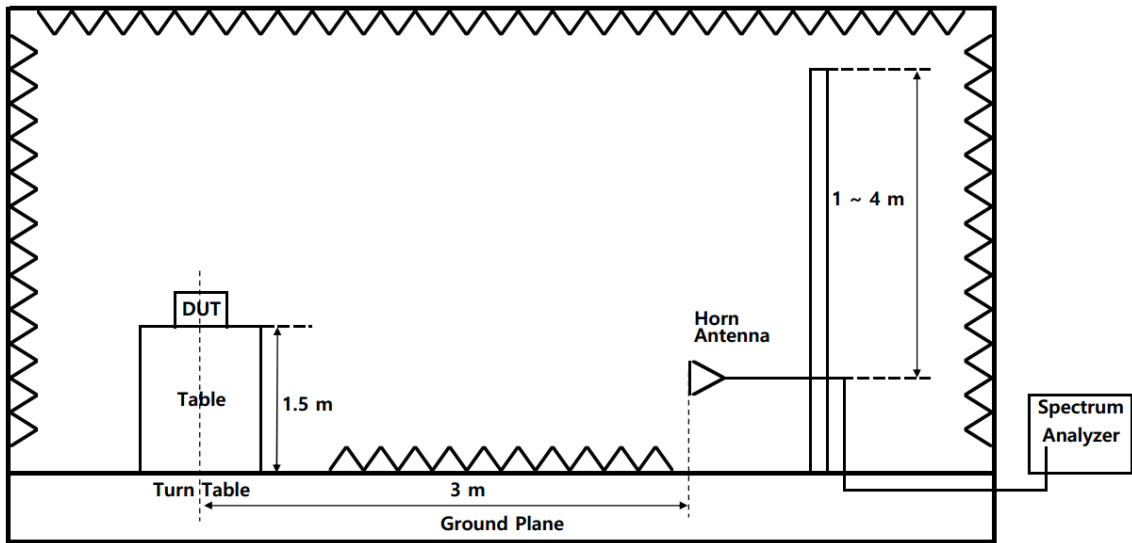
11.3.1 Below 30 MHz



11.3.2 30 MHz to 1 GHz



11.3.3 Above 1 GHz





11.4 Test data

Test date : 18. Oct. 2019
Operating mode : Continuous Transmit
Test Result : Pass

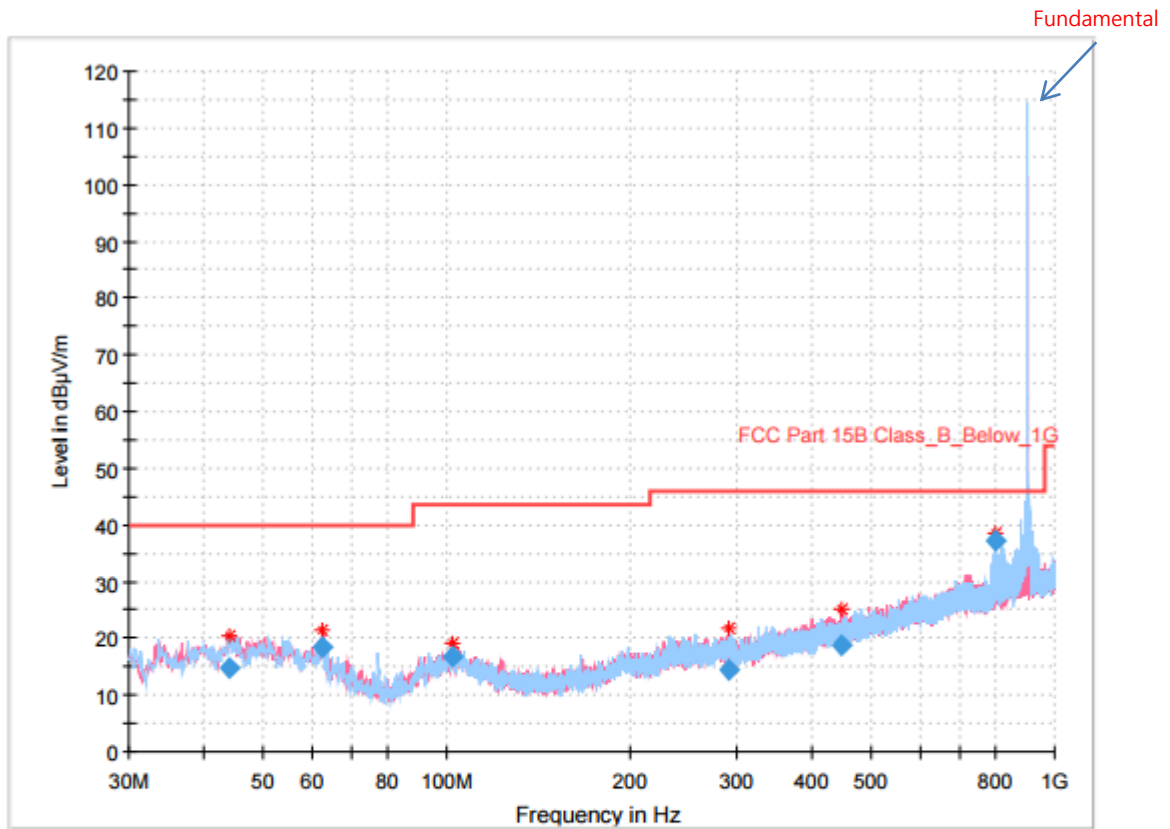
11.4.1 Test data for Spurious & Harmonic

11.4.1.1 Measurement Results for Below 30 MHz

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
It was not found any emissions peaks found from the EUT.							
Mid CH							
It was not found any emissions peaks found from the EUT.							
High CH							
It was not found any emissions peaks found from the EUT.							



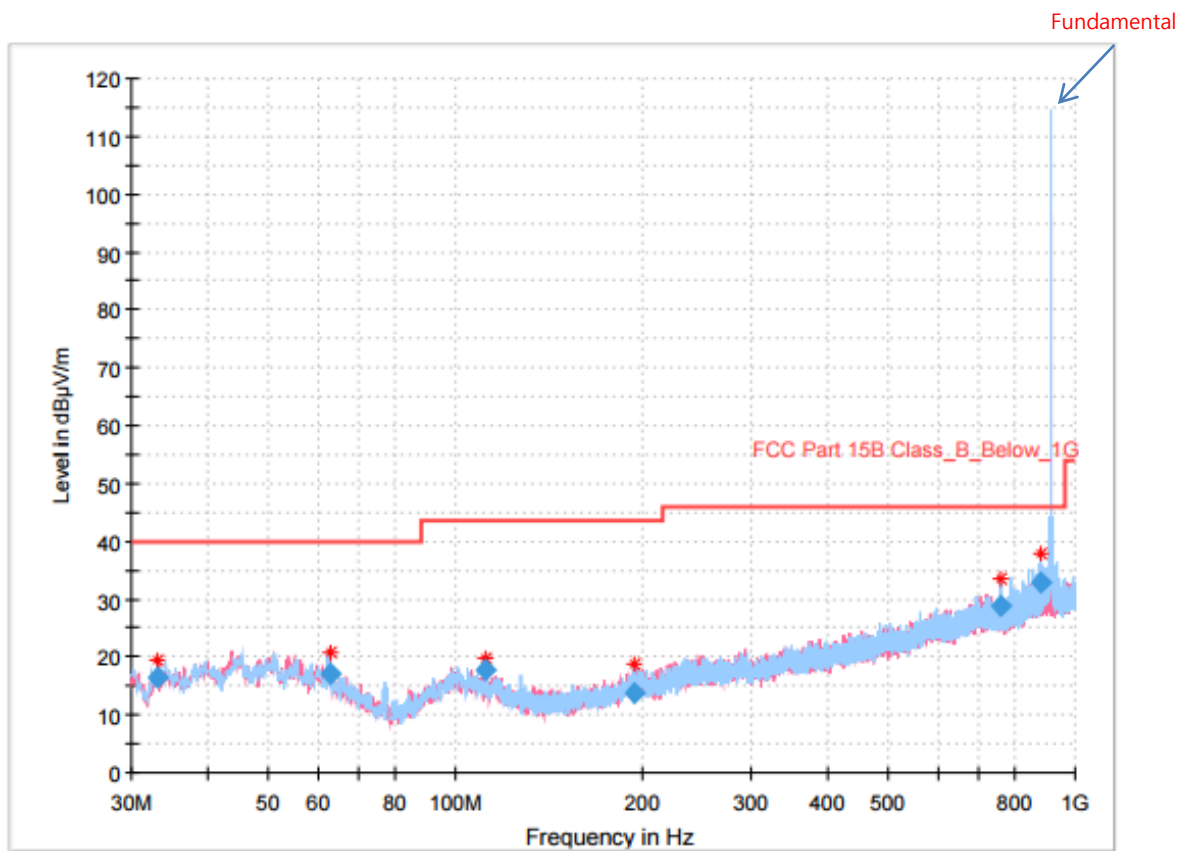
11.4.1.2 Measurement Results for 30 MHz to 1 GHz



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
43.871000	14.83	40.00	25.17	1000.0	120.000	200.1	H	7.0	0.4
62.495000	18.48	40.00	21.52	1000.0	120.000	100.0	V	0.0	-1.5
102.362000	16.85	43.50	34.65	1000.0	120.000	200.1	V	113.0	-1.4
290.930000	14.35	46.00	35.65	1000.0	120.000	100.0	V	204.0	1.2
446.227000	18.75	46.00	33.25	1000.0	120.000	200.1	V	189.0	4.4
799.986000	37.10	46.00	8.90	1000.0	120.000	200.1	H	204.0	10.6

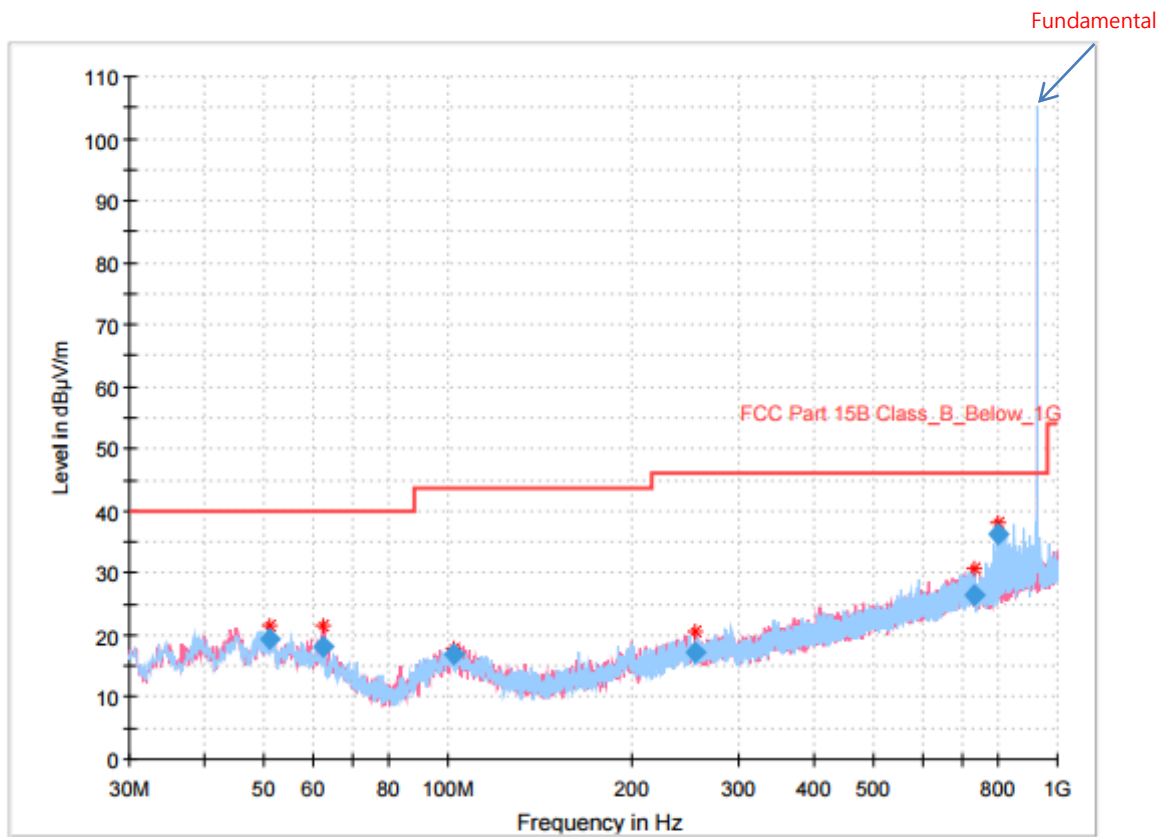
Low CH



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.104000	16.35	40.00	27.65	1000.0	120.000	200.1	V	219.0	-3.2
62.786000	17.06	40.00	22.94	1000.0	120.000	100.0	V	88.0	-1.7
111.577000	17.87	43.50	35.63	1000.0	120.000	200.1	H	216.0	-2.2
194.997000	13.89	43.50	35.61	1000.0	120.000	100.0	V	110.0	-2.0
760.022000	28.89	46.00	22.11	1000.0	120.000	200.1	H	150.0	10.1
880.011000	32.99	46.00	13.01	1000.0	120.000	100.0	H	156.0	11.9

Mid CH



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
51.049000	19.31	40.00	26.69	1000.0	120.000	99.9	V	58.0	0.6
62.204000	18.00	40.00	22.00	1000.0	120.000	99.9	V	178.0	-1.3
101.877000	16.85	43.50	33.65	1000.0	120.000	99.9	V	311.0	-1.3
255.331000	17.33	46.00	36.67	1000.0	120.000	200.1	V	207.0	0.3
728.012000	26.44	46.00	23.56	1000.0	120.000	99.9	H	224.0	9.8
799.986000	36.17	46.00	9.83	1000.0	120.000	200.1	H	173.0	10.6

High CH



11.4.1.3 Measurement Results for Above 1 GHz

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	DCCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH								
1 805.00	61.69	Peak	H	-14.00	-	47.69	73.98	26.29
		Average	H		-28.08	19.61	53.98	34.37
2 707.50	62.02	Peak	V	-9.10	-	52.92	73.98	21.06
		Average	V		-28.08	24.84	53.98	29.14
3 610.00	63.39	Peak	V	-5.10	-	58.29	73.98	15.69
		Average	V		-28.08	30.21	53.98	23.77
Mid CH								
1 830.00	59.69	Peak	V	-13.60	-	46.09	73.98	27.89
		Average	V		-28.08	18.01	53.98	35.97
2 745.00	61.62	Peak	H	-8.60	-	53.02	73.98	20.96
		Average	H		-28.08	24.94	53.98	29.04
3 660.00	60.95	Peak	V	-5.10	-	55.85	73.98	18.13
		Average	V		-28.08	27.77	53.98	26.21
High CH								
1 854.50	60.50	Peak	V	-13.60	-	46.90	73.98	27.08
		Average	V		-28.08	18.82	53.98	35.16
2 781.75	61.44	Peak	H	-9.30	-	52.14	73.98	21.84
		Average	H		-28.08	24.06	53.98	29.92
3 709.00	64.21	Peak	H	-4.00	-	60.21	73.98	13.77
		Average	H		-28.08	32.13	53.98	21.85

※ Ant. Pol. : Antenna Polarization

※ Corr Factor. : Antenna Factor + Cable Loss - Amplifier Gain

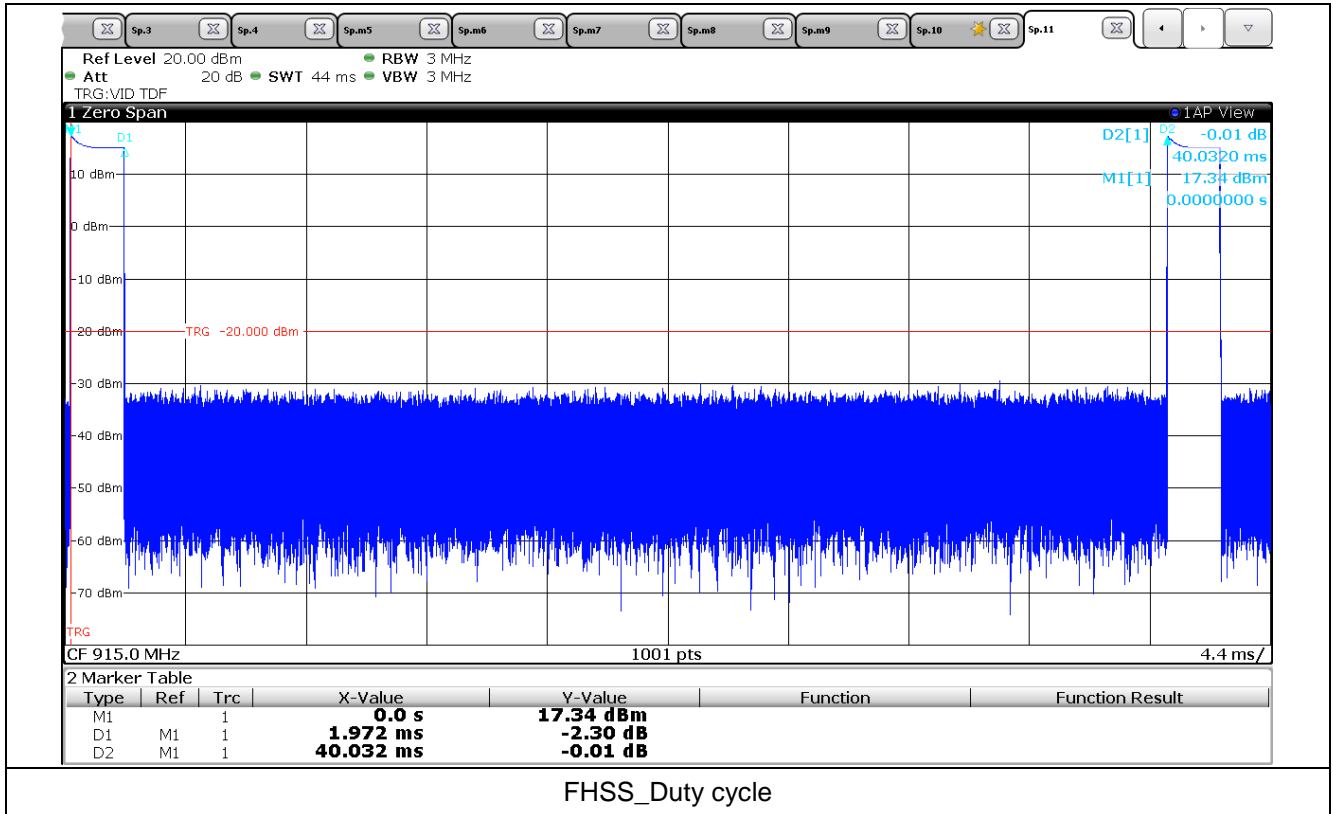
※ DCCF(Duty Cycle Correction Factor): $20 \times \log(\text{worst case dwell time} / 100 \text{ ms}) \text{ dB}$

※ Result = Reading + Corr Factor + DCCF

※ Margin = Limit – Result



11.4.1.3.1 Measured Duty cycle



※ Case the pulse train is periodic.



12. Power Line Conducted Emission

12.1 Operating environment

Temperature : 22 °C

Relative humidity : 44 %

12.2 Measurement method

Standard : §15.207 / RSS-GEN 8.8

12.3 Test setup

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

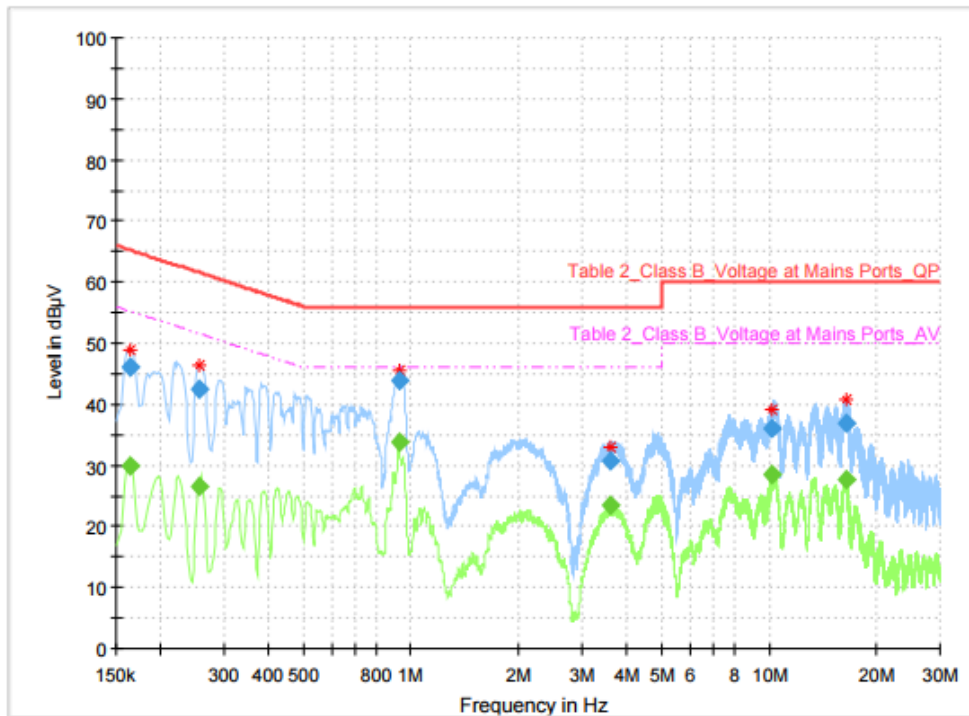




12.4 Test data

Test date : 21. Oct. 2019
 Operating mode : Transmit mode
 Test Result : Pass

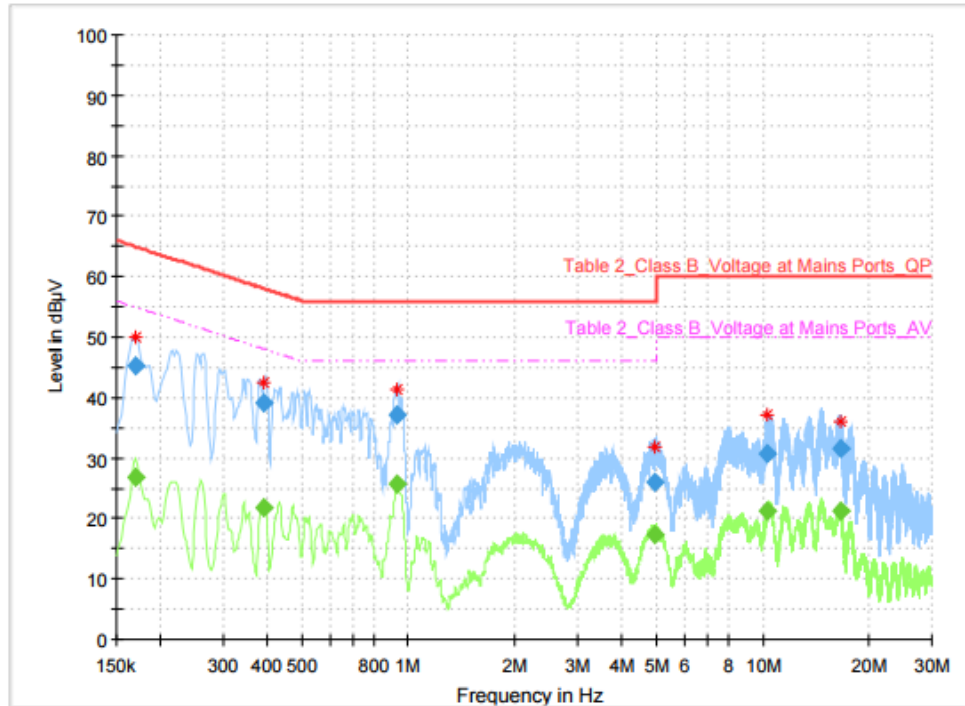
12.4.1 Measured Results & Graph



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.163500	---	29.79	55.28	25.49	1000.0	9.000	L1	ON	9.9
0.163500	46.11	---	65.28	19.18	1000.0	9.000	L1	ON	9.9
0.255750	---	26.57	51.57	25.00	1000.0	9.000	L1	ON	9.7
0.255750	42.59	---	61.57	18.98	1000.0	9.000	L1	ON	9.7
0.924000	---	33.94	46.00	12.06	1000.0	9.000	L1	ON	9.8
0.924000	43.73	---	56.00	12.27	1000.0	9.000	L1	ON	9.8
3.592500	---	23.34	46.00	22.66	1000.0	9.000	L1	ON	9.8
3.592500	30.85	---	56.00	25.15	1000.0	9.000	L1	ON	9.8
10.151250	---	28.45	50.00	21.55	1000.0	9.000	L1	ON	9.9
10.151250	36.00	---	60.00	24.00	1000.0	9.000	L1	ON	9.9
16.422000	---	27.71	50.00	22.29	1000.0	9.000	L1	ON	10.0
16.422000	36.94	---	60.00	23.06	1000.0	9.000	L1	ON	10.0

Live line



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.170250	---	26.70	54.95	28.25	1000.0	9.000	N	ON	10.0
0.170250	45.38	---	64.95	19.57	1000.0	9.000	N	ON	10.0
0.390750	---	21.74	48.05	26.31	1000.0	9.000	N	ON	9.9
0.390750	39.04	---	58.05	19.01	1000.0	9.000	N	ON	9.9
0.930750	---	25.64	46.00	20.36	1000.0	9.000	N	ON	9.8
0.930750	37.17	---	56.00	18.83	1000.0	9.000	N	ON	9.8
4.971750	---	17.36	46.00	28.64	1000.0	9.000	N	ON	9.9
4.971750	26.11	---	56.00	29.89	1000.0	9.000	N	ON	9.9
10.338000	---	21.35	50.00	28.65	1000.0	9.000	N	ON	10.0
10.338000	30.69	---	60.00	29.31	1000.0	9.000	N	ON	10.0
16.543500	---	21.29	50.00	28.71	1000.0	9.000	N	ON	10.0
16.543500	31.60	---	60.00	28.40	1000.0	9.000	N	ON	10.0

Neutral line

- END OF REPORT.