TEST REPORT

REPORT NUMBER: 25B02W000005-005

ON

Type of Equipment:	Barcode Reader
Type of Designation:	DLMKWF
Brand Name:	DATALOGIC
Manufacturer:	Datalogic S.r.l.
FCC ID:	U4G-DLMKWF
IC:	3862E-DLMKWF

ACCORDING TO

FCC Part 2, FCC Part 15E, RSS-Gen Issue 5, RSS-247 Issue 3,ANSI C63.10-2013

Chongqing Academy of Information and Communications Technology

Month date, year
Apr.18th, 2025
Signature

Zhou Jin
Director

Note:
The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.

Revision Version

Report Number	Revision	Date
25B02W000005-005	00	2025-04-18

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1. Test Laboratory

1.1. Testing Location

Name:	Chongqing Academy of Information and Communications Technology
Designation Number:	CN1239
IC Registration Number:	29397
Address:	No.19 EastRoad,Xiantao Big-data Valley,Yubei District,Chongqing,People's Republic of China
Postal Code:	401336
Telephone:	0086-23-88069965
Fax:	0086-23-88608777

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	30-75%

1.3. Project data

Testing Start Date:	2025-03-25
Testing End Date:	2025-04-14

1.4. Signature

李润豪	**2025-04-18**
Li Runhao **(Prepared this test report)**	**Date**
	2025-04-18
Wang Lili **(Reviewed this test report)**	**Date**
	2025-04-18
Zhou Jin **Director of the laboratory** **(Approved this test report)**	**Date**

2. Client Information

2.1. Applicant Information

Company Name:	Datalogic S.r.l.
Address /Post:	Via San Vitalino no.13, Calderara di Reno -40012(BO)-ltaly
City:	Calderara di Reno
Country:	ltaly
Telephone:	+39 051 3147 393
Fax:	N/A
Email:	Ruggero.Cacioppo@datalogic.com
Contact Person:	Ruggero Cacioppo

2.2. Manufacturer Information

Company Name:	Datalogic S.r.l.
Address /Post:	Via San Vitalino no.13, Calderara di Reno -40012(BO)-ltaly
City:	Calderara di Reno
Country:	ltaly
Telephone:	+39 051 3147 393
Fax:	N/A
Email:	Ruggero.Cacioppo@datalogic.com
Contact Person:	Ruggero Cacioppo

3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Barcode Reader
Model name	DLMKWF
Brand name	DATALOGIC
WLAN Frequency Band	Wi-Fi 5G U-NII-1/ U-NII-2a/U-NII-2c/U-NII-3:802.11a/n/ac
Type of WLAN modulation	OFDM
HVIN	DLMKWF
Extreme Temperature	-20/+50°C
Nominal Test Voltage	3.85V
Extreme Test High Voltage	4.4V
Extreme Test Low Voltage	3.6V

Note1: Photographs of EUT are shown in ANNEX A of this test report.
Note2: High and low voltage values in extreme condition test are given by manufacturer.
Note3: The Extreme Temperature is provided by the manufacturer and has not been verified by the laboratory.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
25B02W000005#S07	S25CC0873	V00	0.00.01.20250311	2025-03-20
25B02W000005#S16	867529060024650	V00	0.00.01.20250311	2025-03-27

*EUT ID: is used to identify the test sample in the lab internally.

No.	Item(s)	Data
1	Antenna gain of EUT	1.96dBi
Note: The data of antenna gain is provided by the Antenna specification may affect the validity of the test results in this report, and the impact and consequences of this shall be undertaken by the customer.		

3.3. Outline of Equipment under Test

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)

WLAN	5G	UNII 3: 5725MHz-5850MHz

Test frequency list:

UNII-3:

BW_20M	Channel	149	153	157	161	165
	Freq. (MHz)	5745	5765	5785	5805	5825
BW_40M	Channel	151		159		/
	Freq. (MHz)	5755		5795		
BW_80M	Channel	155				
	Freq. (MHz)	5775				
Note："/" Represents empty						

Emissions Information

TestMode	Frequency Min(MHz)	Frequency Max(MHz)	Max OutPut Power (dBm)	Max OutPut Power(W)	OBW (KHz)	Necessary Bandwidth & Emission Classification
11A	5745	5825	16.42	0.0439	17320	17M3D1D
11N20	5745	5825	16.13	0.041	18200	18M2D1D
11N40	5755	5795	15.72	0.0373	36720	36M7D1D
11AC20	5745	5825	16.11	0.0408	18160	18M2D1D
11AC40	5755	5795	14.87	0.0307	36640	36M6D1D
11AC80	5775	5775	14.31	0.027	75360	75M4D1D

Note: This report is for WLAN UNII-3 only.

3.4. Internal Identification of AE used during the test

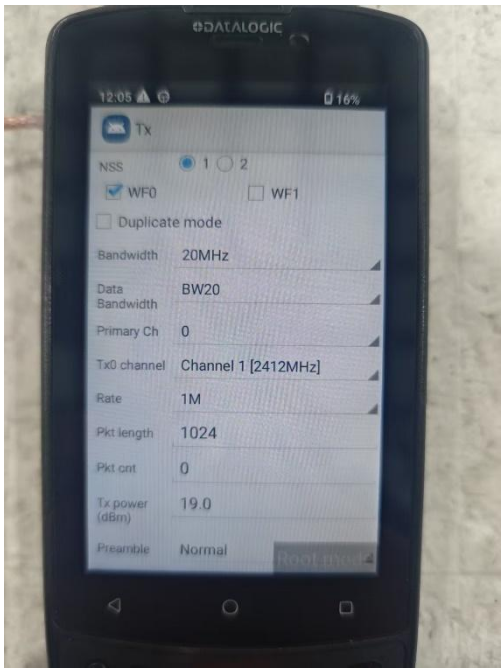
AE ID*	Description	Note
BA01	Battery	Model: MK2-BY-202 3.85V 4850mAh
AE1	RF cable	1.0dB

*AE ID: is used to identify the test sample in the lab internally.

dB*: is provided customer.

3.5. EUT Test RF Configuration

EUT uses engineering mode to control RF emissions, changing power levels, channels, rates, and HT.



4. Reference Documents

4.1. Documents supplied by applicant

PICS/PIXIT, referring to Annex B for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations	--
FCC Part 15E	FCC CFR 47, Part 15, Subpart E: Unlicensed National InformSation Infrastructure Devices	--
RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus	2021
RSS-247 Issue 3	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices	2023
ANSI 63.10	Methods Of Measurement Of Radio-Noise Emissions From Low-Voltage Electrical And Electronic Equipment In The Range Of 9 Khz To 40 Ghz	2013
KDB 789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines For Compliance Testing Of Unlicensed National Information Infrastructure (U-Nii) Devices (Part 15, Subpart E)	--
Note: FCC Part 2 and KDB 789033 D02 General UNII Test Procedures New Rules v02r01 is not A2LA certified.		

5. Test Equipments Utilized

5.1. RF Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal. Interval	Cal.Due Date
1	Spectrum analyzer	FSQ 26	201137	--	--	R&S	1 Year	2025-06-28
2	T-SWT01 RF switch unit	--	--	--	--	Beijing Zhiwang Xince Technology Co., Ltd	--	--

5.2. RSE and CE Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal. Interval	Cal.Due Date
1	EMI Test Receiver	ESU40	100307	--	--	R&S	1 Year	2025-06-28
2	TRILOG Broadband Antenna	VULB9163	9163-586	--	--	Schwarzbeck	2 Years	2026-10-28
3	Horn antenna	9120D	1083	--	--	Schwarzbeck	2 Years	2026-11-08
4	Horn antenna	DATE 1152	LM7127	--	--	ETS	2 Years	2026-09-30
5	Horn antenna	DATE 1012	LM5945	--	--	ETS	2 Years	2026-09-30
6	Loop Antenna	6502	00213256	--	--	ETS	1 Year	2026-09-04
7	Amplifier1	SCU-08F1	8320027	--	--	R&S	--	--
8	Amplifier2	SCU-18F	180093	--	--	R&S	--	--
9	2-Line V-Network	ENV216	102368	--	--	R&S	1 Year	2025-05-16
10	Test Receiver	ESR 3	101382	03	3.48 SP2	R&S	1 Year	2025-06-28
11	Test Receiver	ESW 26	101382	00	1.50 SP1	R&S	1 Year	2025-06-28

5.3. Climate Chamber

No.	Name	Type	SN	Manufacture	Cal. Interval	Cal.Due Date
--	--	--	--	--	--	--

5.4. Anechoic chamber Vibration table

No.	Name	Type	SN	Manufacture	Cal. Interval	Cal.Due Date
1	Fully-Anechoic Chamber	FAC5	--	TDK	3 Years	2027-11-04
2	Anechoic Chamber	SAC 10	--	TDK	3 Years	2027-11-05

5.5. Test software

No.	Name	version	SN	Manufacture
1	EMC32 (Transmitter Spurious Emission-Radiated Above 1GHz)	V9.26.01	--	R&S
2	EMC32 (Transmitter Spurious Emission-Radiated Below 1GHz)	V 10.20.01	--	R&S
3	EMC32 (AC Powerline Conducted Emission)	V 10.40.10	--	R&S
4	WIFI/BT CE/FCC/ICautomated testing software	V1.0.0.0	--	Beijing Zhiwang Xince Technology Co., Ltd

6. Test Results

6.1. Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	IC Rules	Name of Test	Result
15.407(a)	RSS-247 6.2.4.2	Duty cycle	N/A[note3]
15.407(a)	RSS-247 6.2.4.2	Maximum Output Power	Pass
15.407(a)	RSS-247 6.2.4.2	Power Spectral Density	Pass
15.407(e)	RSS-247 6.2.4.2	26dB Occupied Bandwidth	Pass
2.1049	RSS-GEN 6.7	99% Occupied Bandwidth	N/A[note3]
15.407(b)	RSS-247 6.2.4.3	Band edge compliance	Pass
15.407/15.205/15.209	RSS-247 6.2, RSS-Gen 8.9,8.10	Transmitter Spurious Emission - Radiated	Pass
15.207	RSS-GEN 8.8	AC Powerline Conducted Emission	Pass
15.407(g)	RSS-GEN 8.11	Frequency Stability	N/A
15.203/15.247(c)	RSS Gen 6.8, RSS-247 5.4	Antenna requirement	Pass [Note 2]

NOTE 1：The DLMKWF manufactured by Datalogic S.r.l. is a new product for testing.

NOTE 2：5.8G RLAN used an Internal antenna with max Gain 1.96 dBi that complied with 15.203 Requirements.

NOTE 3：Unrestricted requirements.

6.2. Duty cycle

Specifications:	FCC 47 Part 15.407(a), RSS-247 6.2.4.2
DUT Serial Number:	25B02W000005#S16
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	--

Measurement Uncertainty:

Measurement Uncertainty	--

Test Procedure:

The measurement method is made according to KDB 789033 B

Measurements of duty cycle and transmission duration shall be performed using one of thefollowing techniques:

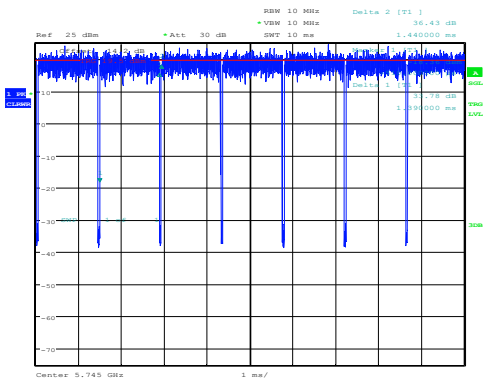
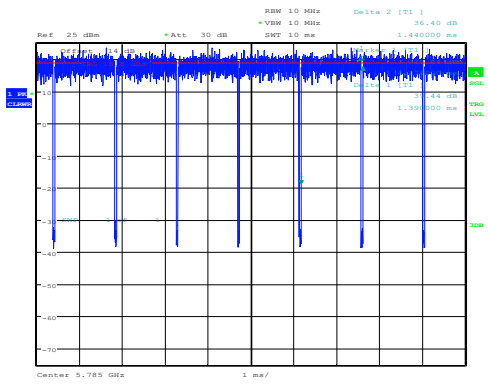
a)A diode detector and an oscilloscope that together have sufficiently short response time topermit accurate measurements of the on and off times of the transmitted signal.

b) The zero-span mode on a spectrum analyzer or EMl receiver, if the response time andspacing between bins on the sweep are sufficient to permit accurate measurements of the onand off times of the transmitted signal. Set the center frequency of the instrument to thecenter frequency of the transmission, Set RBW> EBW if possible: otherwise. set RBW tothe largest available value. Set VBW > RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T. where 7is defined in II.B.1.a), and the number of sweep points across duration Texceeds 100. (Forexample. if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuringduty cycle shall not be used if 7 < 16.7 microseconds.)

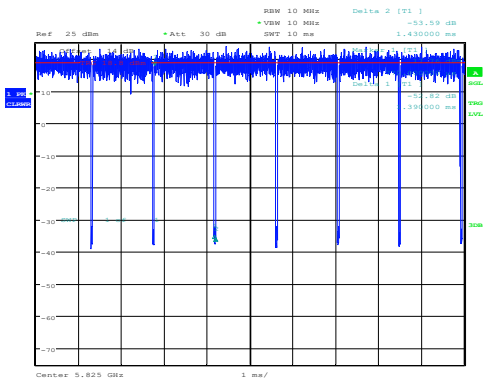
Measurement Results:

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5745	1.39	1.44	96.53
11A	Ant1	5785	1.39	1.44	96.53
11A	Ant1	5825	1.39	1.43	97.20
11N20SISO	Ant1	5745	1.30	1.34	97.01
11N20SISO	Ant1	5785	1.30	1.35	96.30
11N20SISO	Ant1	5825	1.30	1.34	97.01
11N40SISO	Ant1	5755	0.64	0.69	92.75
11N40SISO	Ant1	5795	0.64	0.69	92.75
11AC20SISO	Ant1	5745	1.31	1.36	96.32
11AC20SISO	Ant1	5785	1.31	1.36	96.32
11AC20SISO	Ant1	5825	1.31	1.36	96.32
11AC40SISO	Ant1	5755	0.65	0.70	92.86
11AC40SISO	Ant1	5795	0.65	0.69	94.20
11AC80SISO	Ant1	5775	0.32	0.36	88.89

Test Graphs

NTNV-11A-Ant1-5745	NTNV-11A-Ant1-5785
	

NTNV-11A-Ant1-5825



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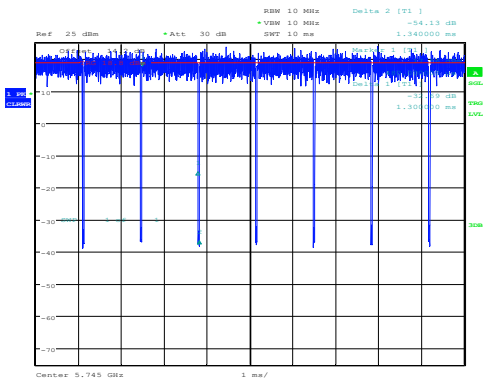

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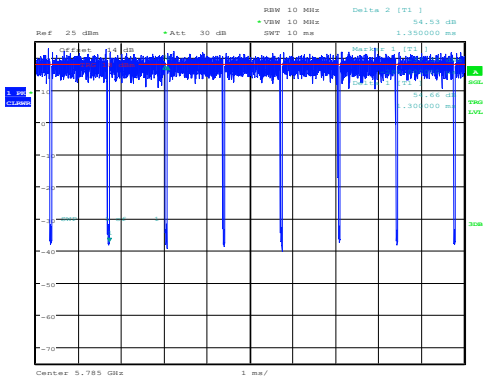

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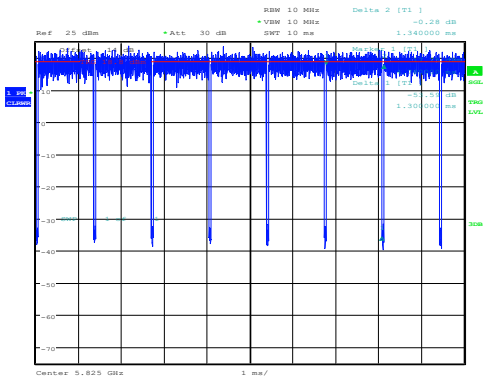

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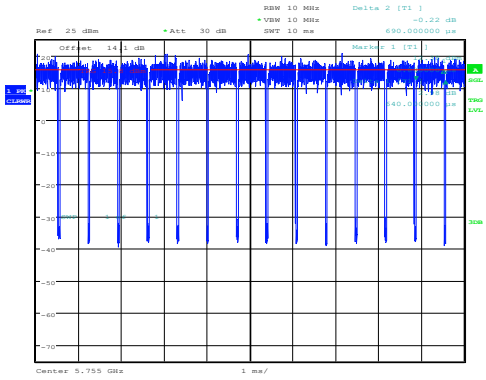

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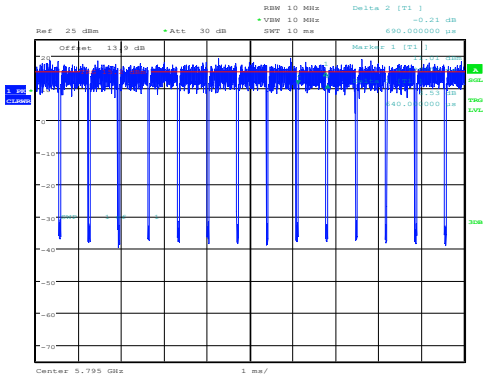

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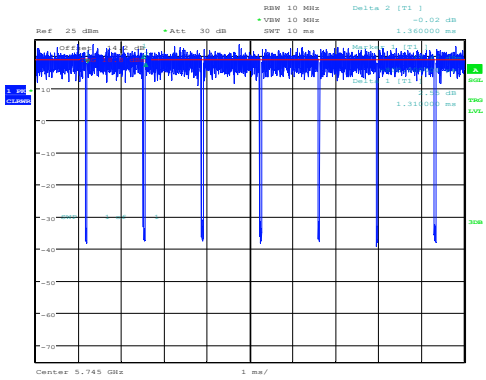	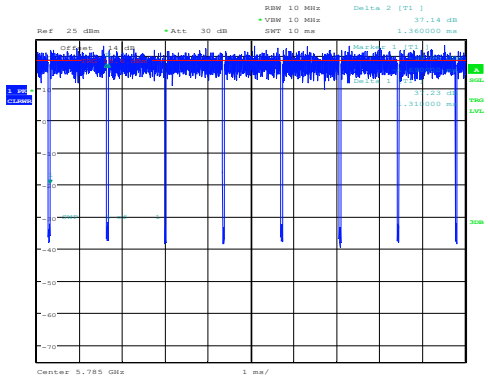
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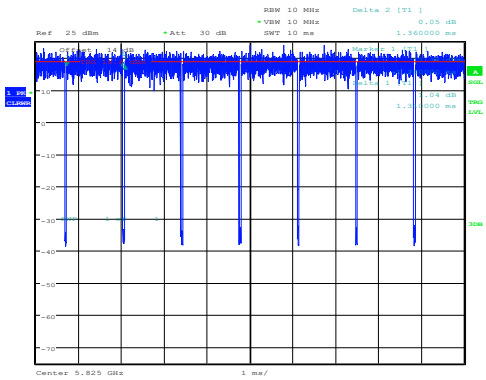	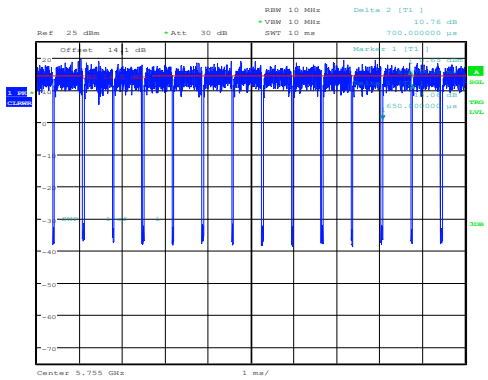
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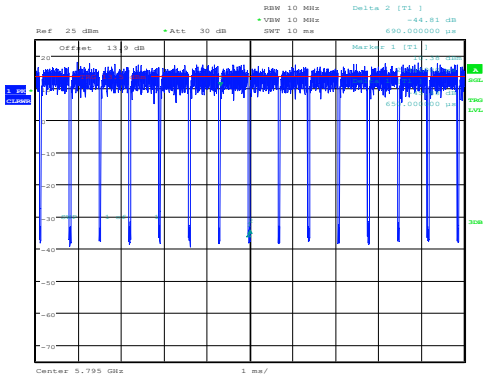
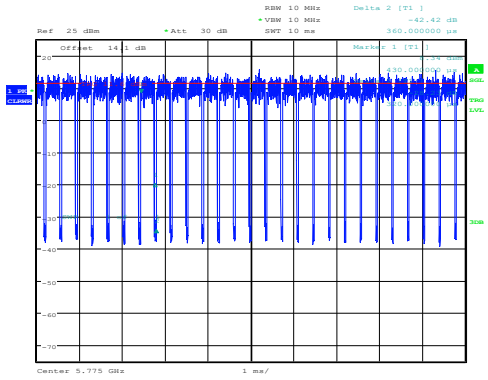
	
Date: 30.MAR.2025 13:58:13	Date: 30.MAR.2025 14:10:20

6.3. Maximum conducted output power

Specifications:	FCC 47 Part 15.407 (a), RSS-247 6.2.4.2
DUT Serial Number:	25B02W000005#S16
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	Limit (dBm)
FCC 47 Part 15.407 (a)	< 30
RSS-247 6.2.4.2	< 30

Measurement Uncertainty:

Measurement Uncertainty	0.38dB

Test Procedure:

The measurement method SA-2 is made according to KDB 789033 E

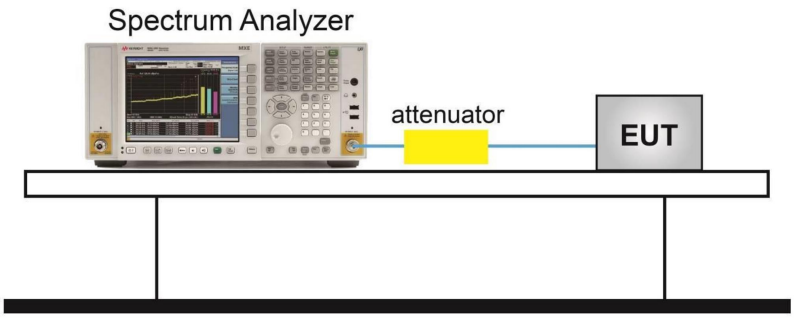
Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

1. Measure the duty cycle, x, of the transmitter output signal as described in II.B.
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz. (iv) Set VBW ≥ 3 MHz.
4. Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
5. Sweep time = auto.
6. Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run.”
8. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
9. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band

limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

10. Add 10 log (1/x), where x is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%

Test setup



Measurement Results:

Test Mode	Frequency [MHz]	Set Power	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11A	5745	17.5	16.27	96.53	0.15	16.42	≤30.00	1.96	18.38	---	PASS
11A	5785	17.5	15.82	96.53	0.15	15.97	≤30.00	1.96	17.93	---	PASS
11A	5825	17.5	16.21	97.20	0.12	16.33	≤30.00	1.96	18.29	---	PASS
11N20SISO	5745	17.5	15.83	97.01	0.13	15.96	≤30.00	1.96	17.92	---	PASS
11N20SISO	5785	17.5	15.55	96.30	0.16	15.71	≤30.00	1.96	17.67	---	PASS
11N20SISO	5825	17.5	16.00	97.01	0.13	16.13	≤30.00	1.96	18.09	---	PASS
11N40SISO	5755	16.5	15.39	92.75	0.33	15.72	≤30.00	1.96	17.68	---	PASS
11N40SISO	5795	16.5	14.21	92.75	0.33	14.54	≤30.00	1.96	16.50	---	PASS
11AC20SISO	5745	17.5	15.78	96.32	0.16	15.94	≤30.00	1.96	17.90	---	PASS
11AC20SISO	5785	17.5	15.52	96.32	0.16	15.68	≤30.00	1.96	17.64	---	PASS
11AC20SISO	5825	17.5	15.95	96.32	0.16	16.11	≤30.00	1.96	18.07	---	PASS

11AC40SISO	5755	16.5	14.55	92.86	0.32	14.87	≤30.00	1.96	16.83	---	PASS
11AC40SISO	5795	16.5	13.52	94.20	0.26	13.78	≤30.00	1.96	15.74	---	PASS
11AC80SISO	5775	16.5	13.80	88.89	0.51	14.31	≤30.00	1.96	16.27	---	PASS

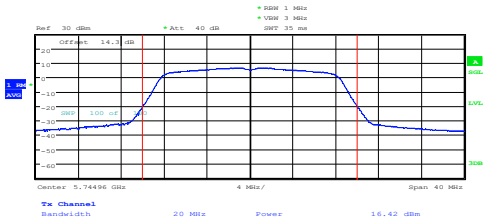
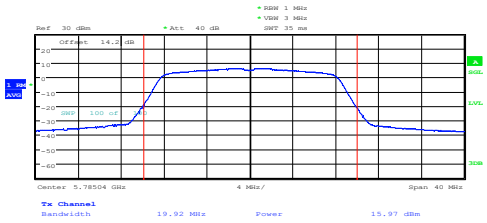
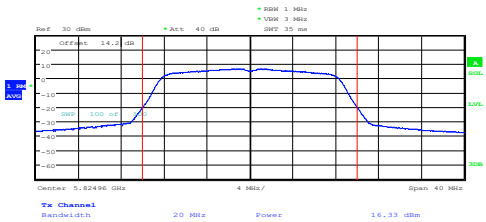
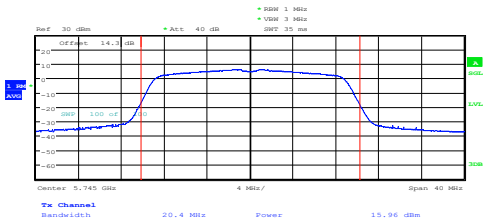
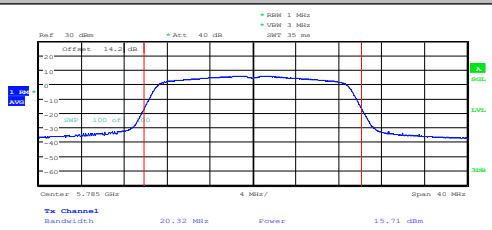
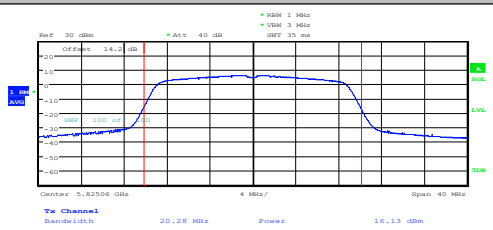
Note:

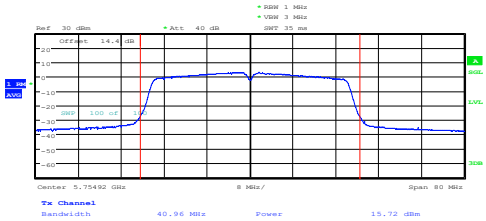
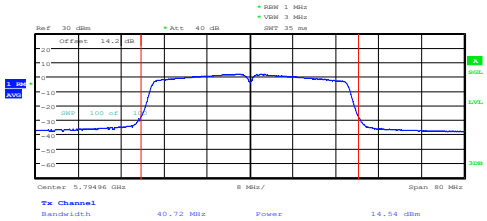
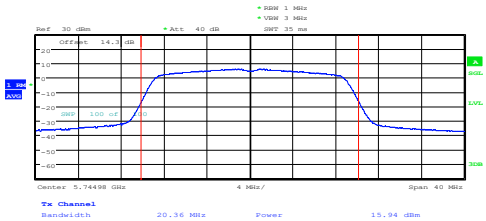
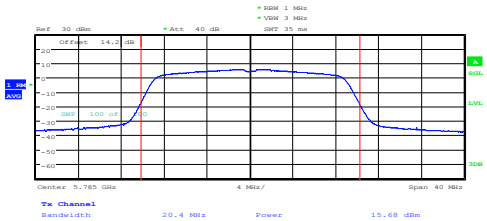
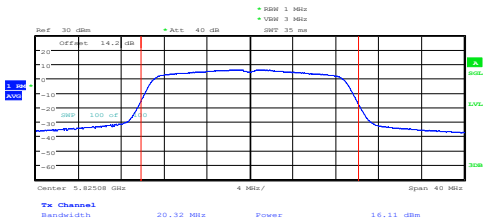
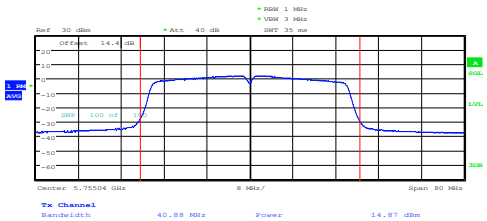
1.The Duty Cycle Factor is compensated in the graph.

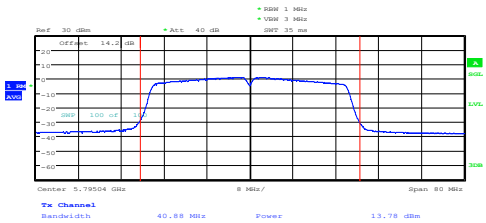
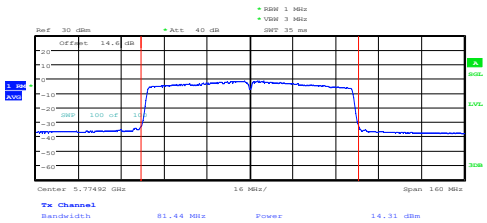
2. In the graph, the Center frequency = (Low frequency of 26dB OBW + High frequency of 26dB OBW) /2.

3.The 11a data rate 6Mbps is selected as worse condition, 11n/11ac/11ax data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

Test Graphs Channel Power

11A-Ant1-5745-PASS	11A-Ant1-5785-PASS
 Date: 30.MAR.2025 10:28:48	 Date: 30.MAR.2025 10:42:38
11A-Ant1-5825-PASS	**11N20SISO-Ant1-5745-PASS**
 Date: 30.MAR.2025 10:54:35	 Date: 30.MAR.2025 11:10:26
11N20SISO-Ant1-5785-PASS	**11N20SISO-Ant1-5825-PASS**
 Date: 30.MAR.2025 11:13:16	 Date: 30.MAR.2025 11:21:48

11N40SISO-Ant1-5755-PASS	11N40SISO-Ant1-5795-PASS
	
Date: 30.MAR.2025 11:26:32	Date: 30.MAR.2025 11:29:31
11AC20SISO-Ant1-5745-PASS	**11AC20SISO-Ant1-5785-PASS**
	
Date: 30.MAR.2025 11:35:36	Date: 30.MAR.2025 11:38:22
11AC20SISO-Ant1-5825-PASS	**11AC40SISO-Ant1-5755-PASS**
	
Date: 30.MAR.2025 11:45:47	Date: 30.MAR.2025 11:59:06

11AC40SISO-Ant1-5795-PASS	11AC80SISO-Ant1-5775-PASS
	
Date: 30.MAR.2025 13:58:40	Date: 30.MAR.2025 14:10:55

6.4. Maximum power spectral density

Specifications:	FCC 47 Part 15.407(a), RSS-247 6.2.4.2
DUT Serial Number:	25B02W000005#S16
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	Limit
FCC 47 Part 15.407(a)	< 30dBm/500kHz
RSS-247 6.2.4.2	< 30dBm/500kHz

Measurement Uncertainty:

Measurement Uncertainty	0.56dB

Test Procedure:

The measurement method is made according to KDB 789033 F

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
3. Make the following adjustments to the peak value of the spectrum, if applicable:

   a) If Method SA-2 or SA-2 Alternative was used, add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.

   b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4. The result is the Maximum PSD over 1 MHz reference bandwidth.
5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in

Section 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/*T*, where *T* is defined in II.B.l.a).

b) Set VBW ≥ 3 RBW.

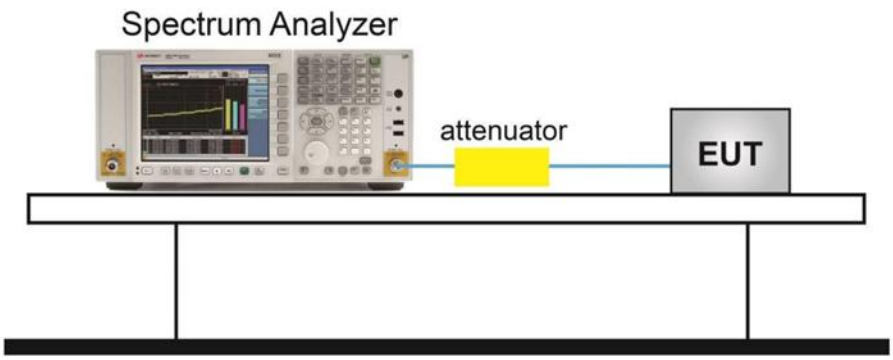
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for steps 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

Test setup:

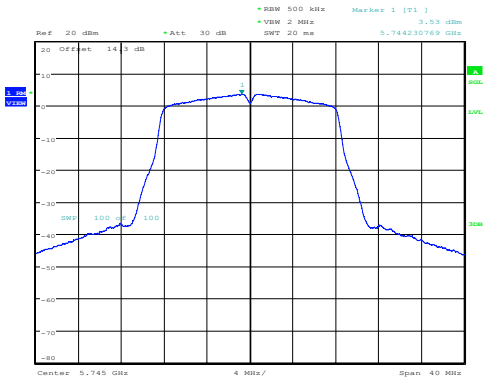
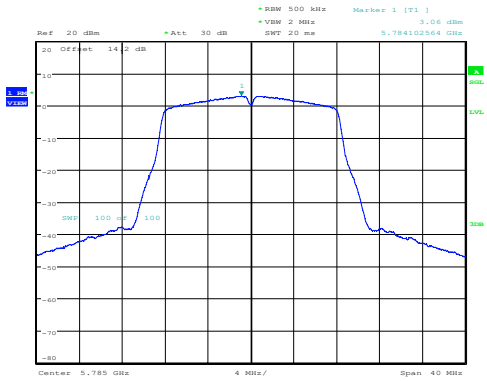
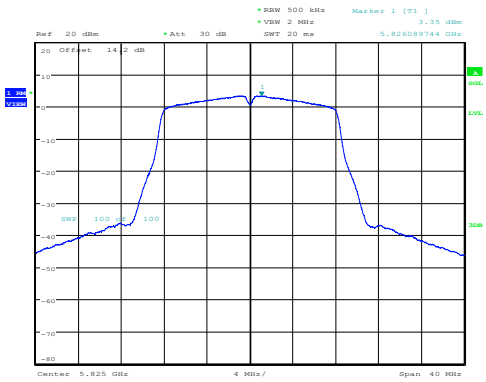
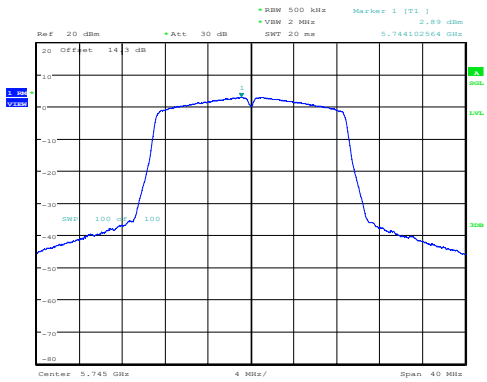
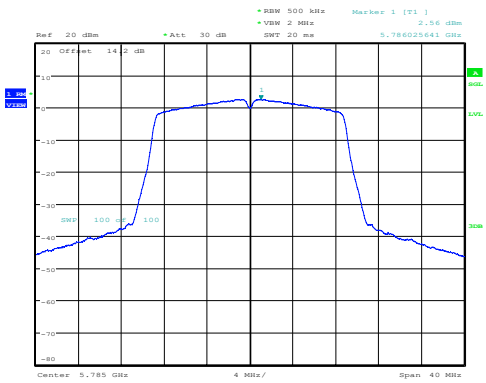
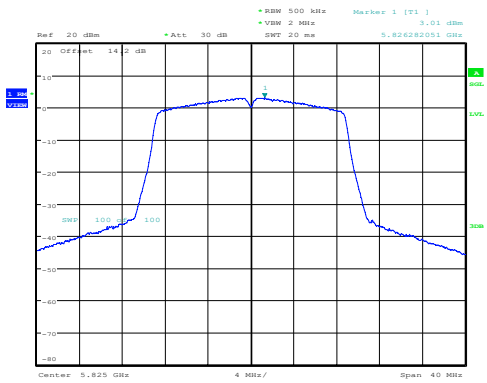


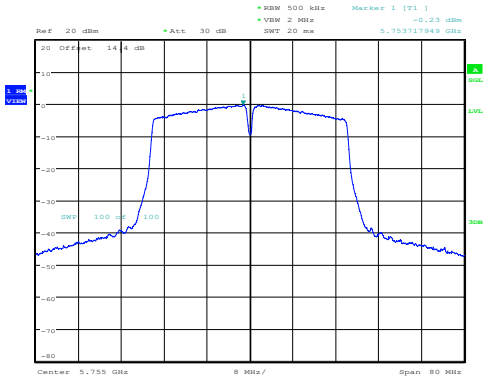
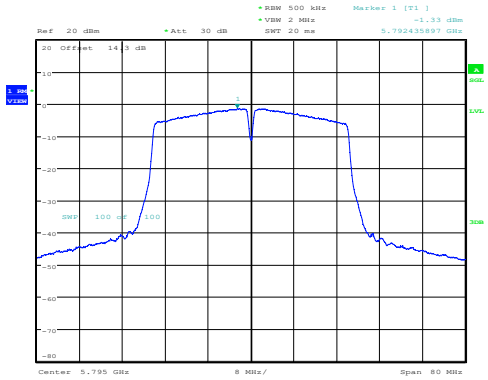
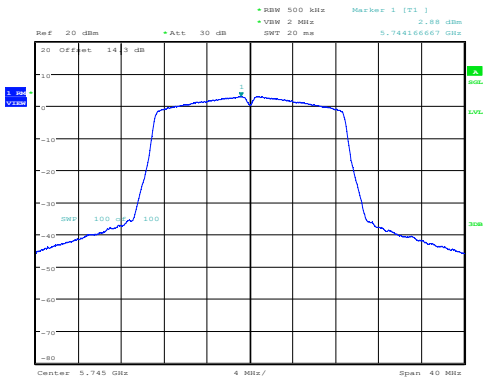
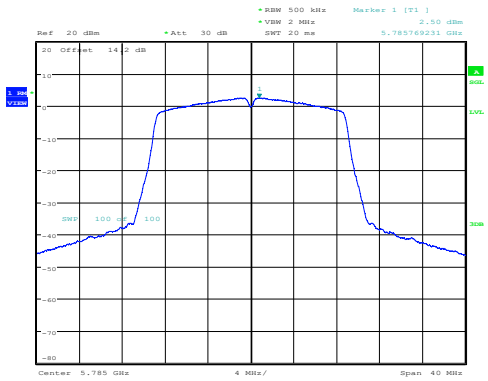
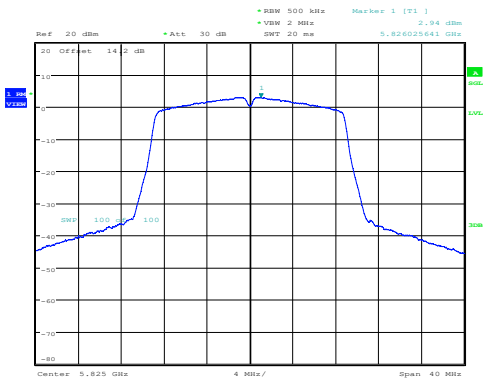
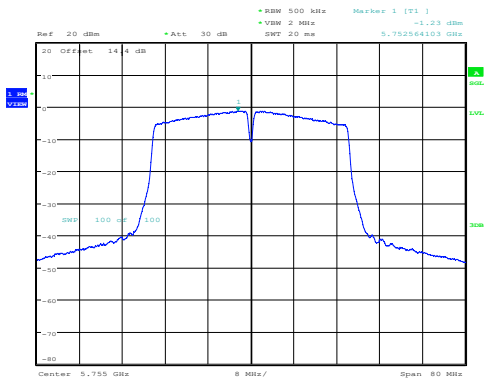
Measurement Results:

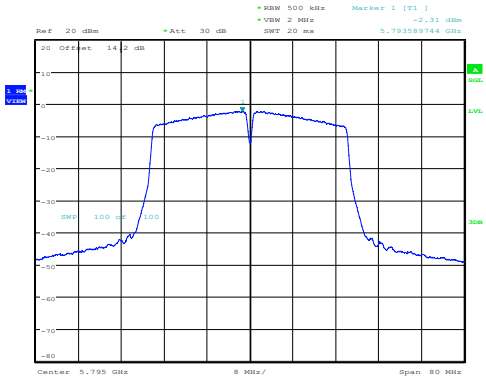
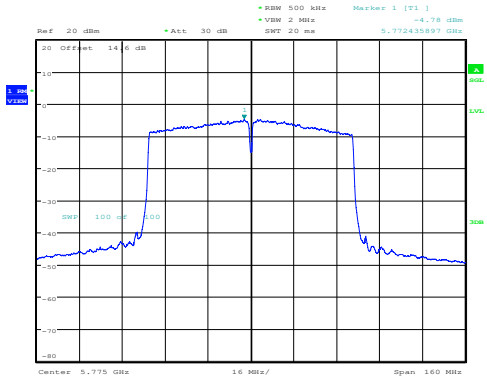
TestMode	Antenna	Frequency[MHz]	Result [dBm/500 kHz]	Limit[dBm/ dBm/500 kHz]	Verdict
11A	Ant1	5745	3.53	≤30.00	PASS
11A	Ant1	5785	3.06	≤30.00	PASS
11A	Ant1	5825	3.35	≤30.00	PASS
11N20SISO	Ant1	5745	2.89	≤30.00	PASS
11N20SISO	Ant1	5785	2.56	≤30.00	PASS
11N20SISO	Ant1	5825	3.01	≤30.00	PASS
11N40SISO	Ant1	5755	-0.23	≤30.00	PASS
11N40SISO	Ant1	5795	-1.33	≤30.00	PASS
11AC20SISO	Ant1	5745	2.88	≤30.00	PASS
11AC20SISO	Ant1	5785	2.50	≤30.00	PASS
11AC20SISO	Ant1	5825	2.94	≤30.00	PASS
11AC40SISO	Ant1	5755	-1.23	≤30.00	PASS
11AC40SISO	Ant1	5795	-2.31	≤30.00	PASS
11AC80SISO	Ant1	5775	-4.78	≤30.00	PASS

Note： The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

11A-Ant1-5745-PASS	11A-Ant1-5785-PASS
	
Date: 30.MAR.2025 10:29:00	Date: 30.MAR.2025 10:42:51
11A-Ant1-5825-PASS	**11N20SISO-Ant1-5745-PASS**
	
Date: 30.MAR.2025 10:54:49	Date: 30.MAR.2025 11:10:38
11N20SISO-Ant1-5785-PASS	**11N20SISO-Ant1-5825-PASS**
	
Date: 30.MAR.2025 11:13:28	Date: 30.MAR.2025 11:22:02

11N40SISO-Ant1-5755-PASS	11N40SISO-Ant1-5795-PASS
	
Date: 30.MAR.2025 11:26:45	Date: 30.MAR.2025 11:29:45
11AC20SISO-Ant1-5745-PASS	**11AC20SISO-Ant1-5785-PASS**
	
Date: 30.MAR.2025 11:35:48	Date: 30.MAR.2025 11:38:34
11AC20SISO-Ant1-5825-PASS	**11AC40SISO-Ant1-5755-PASS**
	
Date: 30.MAR.2025 11:46:00	Date: 30.MAR.2025 11:59:19

11AC40SISO-Ant1-5795-PASS	11AC80SISO-Ant1-5775-PASS
	

6.5. 6dB&26dB Occupied Bandwidth

Specifications:	FCC 47 Part 15.407(e), RSS-247 6.2.4.2
DUT Serial Number:	25B02W000005#S16
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	Limit(KHz)
FCC 47 Part 15.407(e)	≥500
RSS-247 6.2.4.2	≥500

Measurement Uncertainty:

Measurement Uncertainty	29kHz

Test Procedure:

The measurement is made according to KDB 789033 C

Section 15.407(e) specifies the minimum 6 dBemission bandwidth of at least 500 kHz for the band5.725-5.85GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW= 100 kHz.

b) Set the video bandwidth (VBW)≥3 × RBW.

c) Detector = Peak.

d) Trace mode = max hold.

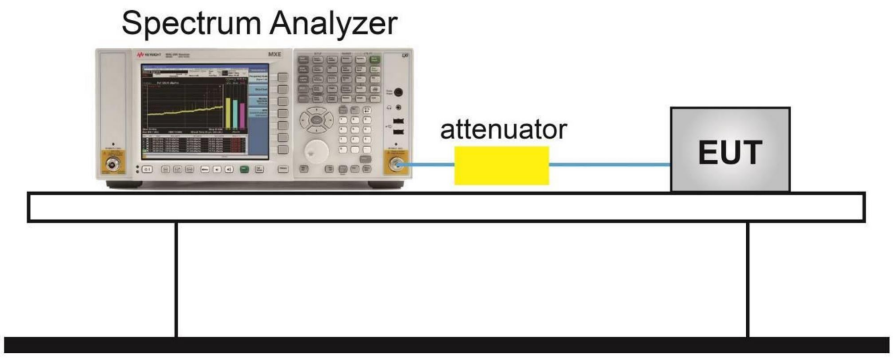
e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by6 dB and 26dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver maybe employed if it implements the functionality described above.

Test Setup:

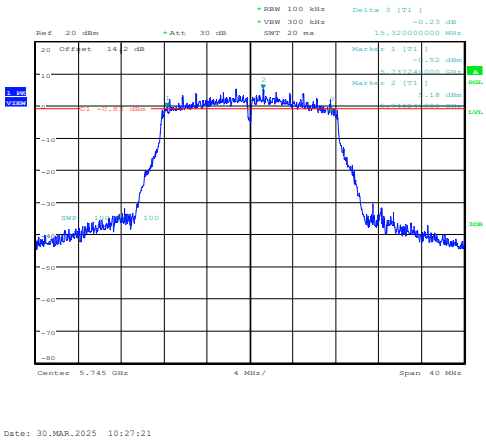
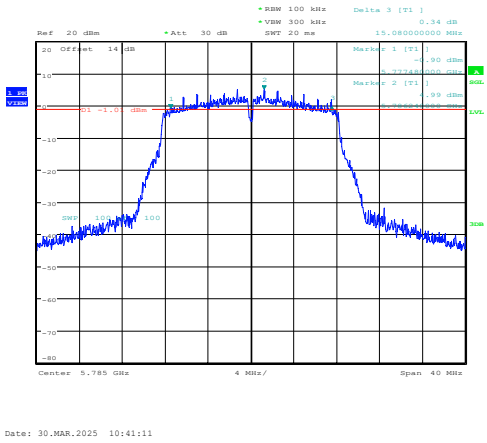
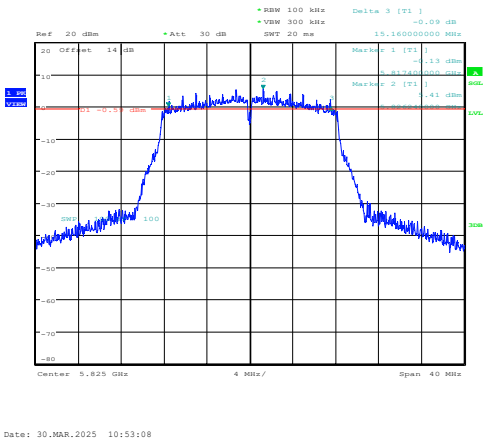
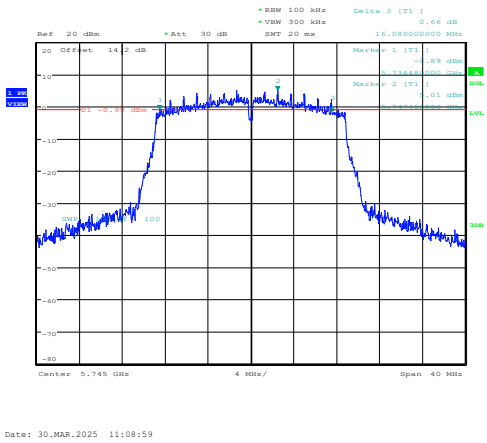
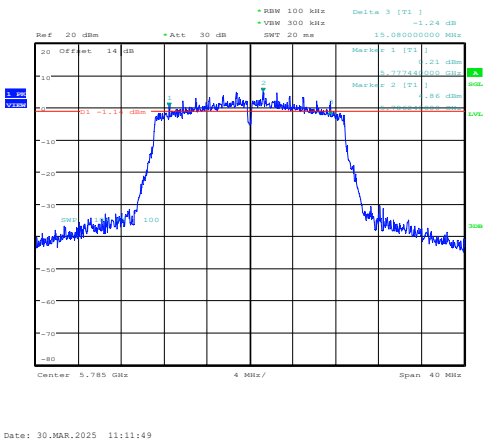
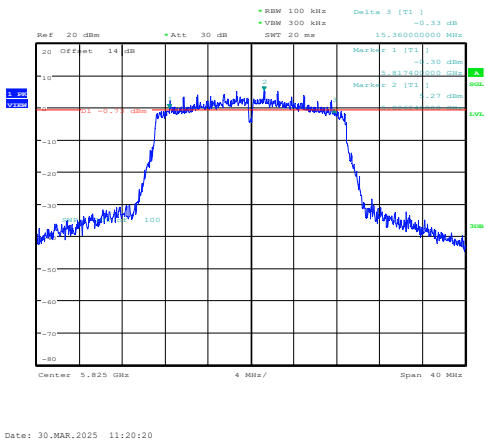


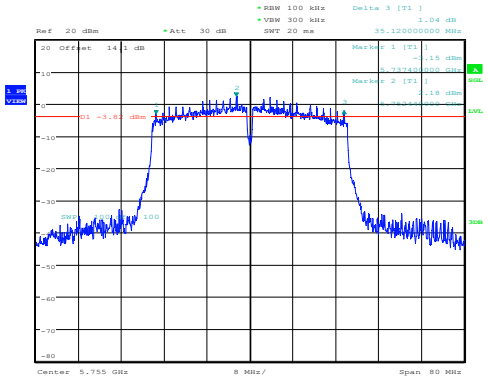
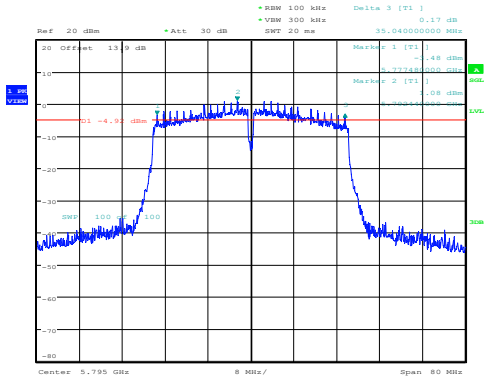
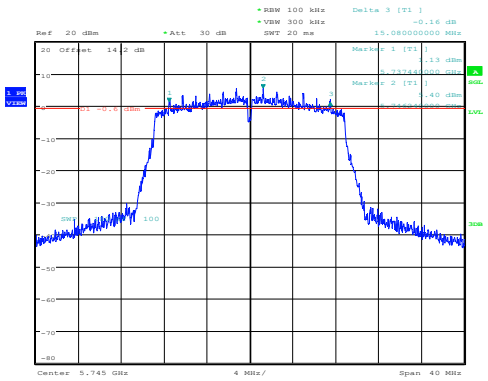
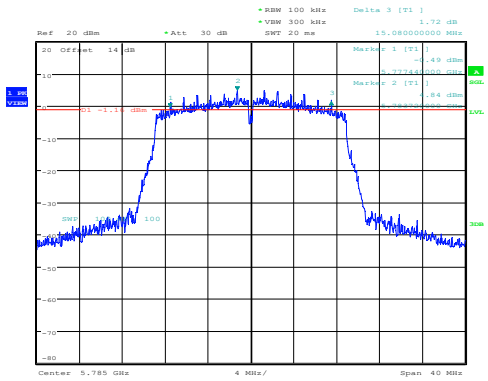
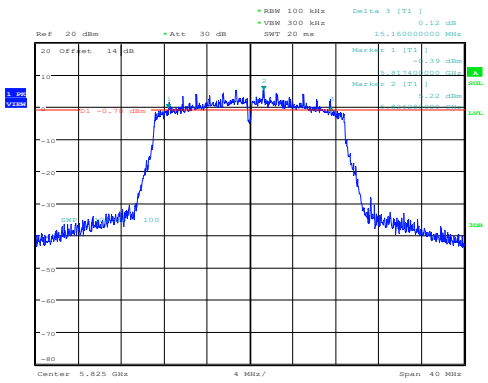
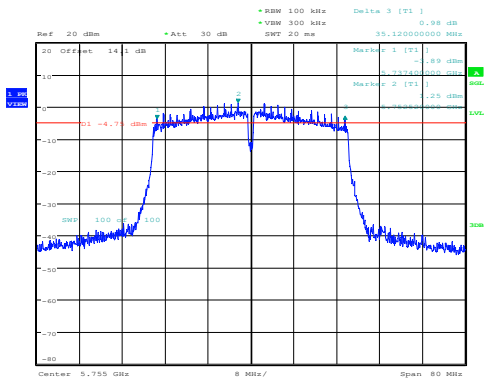
Measurement Result:

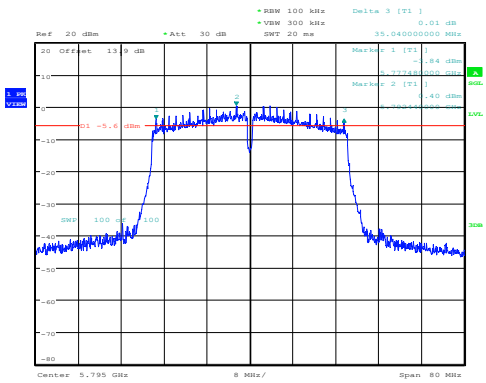
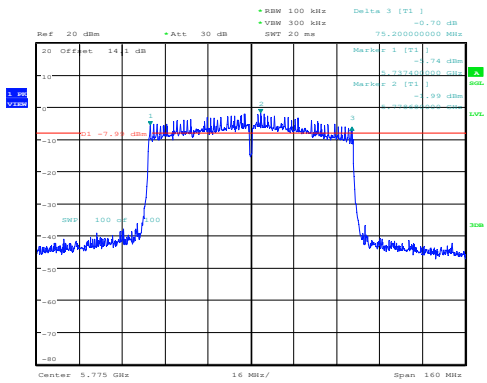
6dB Occupied Bandwidth Measurement Results:

TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.32	5737.24	5752.56	0.5	PASS
11A	Ant1	5785	15.08	5777.48	5792.56	0.5	PASS
11A	Ant1	5825	15.16	5817.40	5832.56	0.5	PASS
11N20SISO	Ant1	5745	16.08	5736.48	5752.56	0.5	PASS
11N20SISO	Ant1	5785	15.08	5777.44	5792.52	0.5	PASS
11N20SISO	Ant1	5825	15.36	5817.40	5832.76	0.5	PASS
11N40SISO	Ant1	5755	35.12	5737.40	5772.52	0.5	PASS
11N40SISO	Ant1	5795	35.04	5777.48	5812.52	0.5	PASS
11AC20SISO	Ant1	5745	15.08	5737.44	5752.52	0.5	PASS
11AC20SISO	Ant1	5785	15.08	5777.44	5792.52	0.5	PASS
11AC20SISO	Ant1	5825	15.16	5817.40	5832.56	0.5	PASS
11AC40SISO	Ant1	5755	35.12	5737.40	5772.52	0.5	PASS
11AC40SISO	Ant1	5795	35.04	5777.48	5812.52	0.5	PASS
11AC80SISO	Ant1	5775	75.20	5737.40	5812.60	0.5	PASS

Test Graphs

11A-Ant1-5745-PASS	11A-Ant1-5785-PASS
	
Date: 30.MAR.2025 10:27:21	Date: 30.MAR.2025 10:41:11
11A-Ant1-5825-PASS	**11N20SISO-Ant1-5745-PASS**
	
Date: 30.MAR.2025 10:53:08	Date: 30.MAR.2025 11:08:59
11N20SISO-Ant1-5785-PASS	**11N20SISO-Ant1-5825-PASS**
	
Date: 30.MAR.2025 11:11:49	Date: 30.MAR.2025 11:20:20

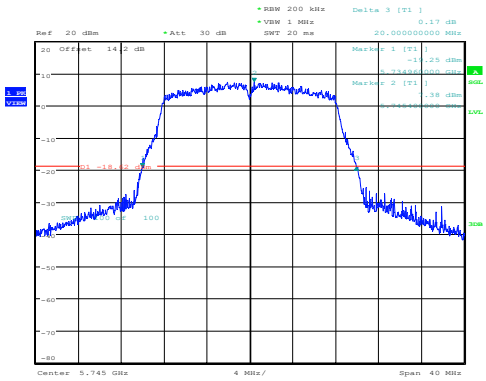
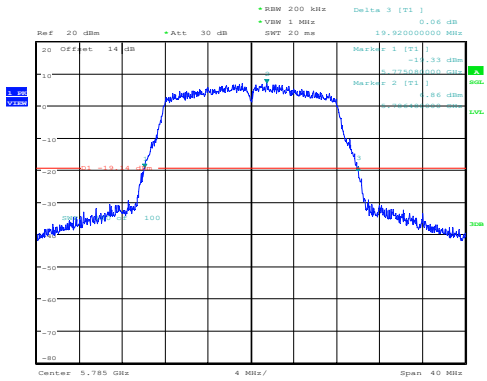
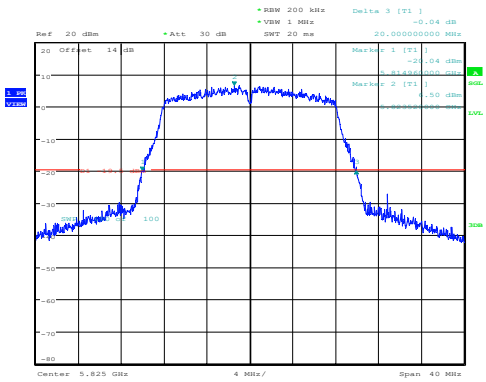
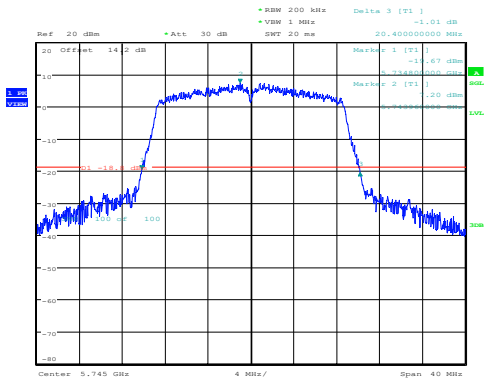
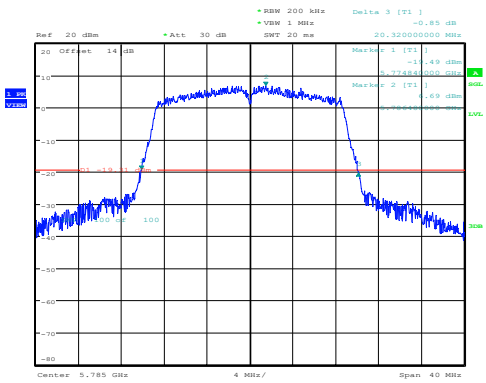
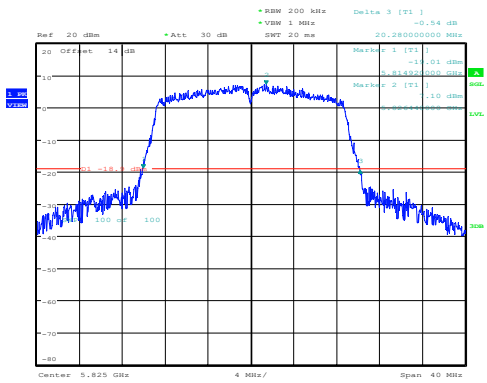
11N40SISO-Ant1-5755-PASS	11N40SISO-Ant1-5795-PASS
	
11AC20SISO-Ant1-5745-PASS	11AC20SISO-Ant1-5785-PASS
	
11AC20SISO-Ant1-5825-PASS	11AC40SISO-Ant1-5755-PASS
	

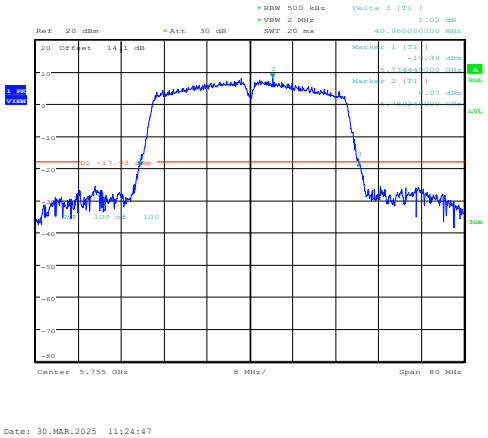
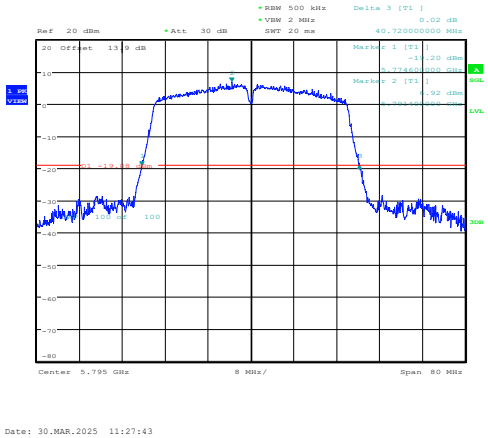
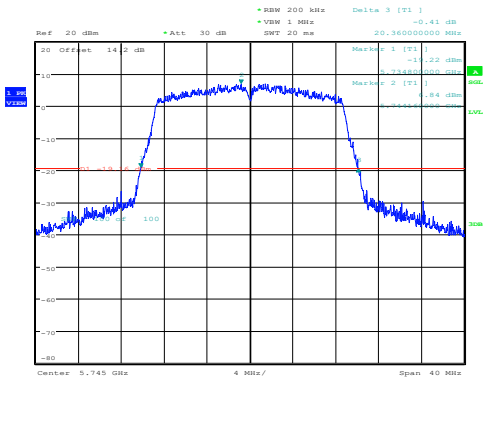
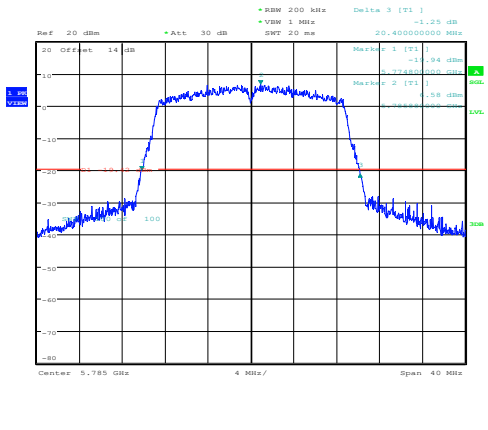
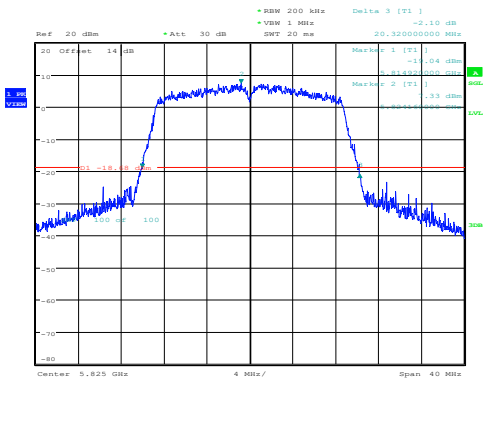
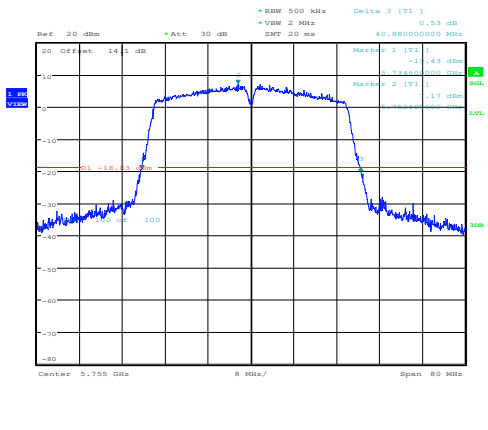
11AC40SISO-Ant1-5795-PASS	11AC80SISO-Ant1-5775-PASS
	

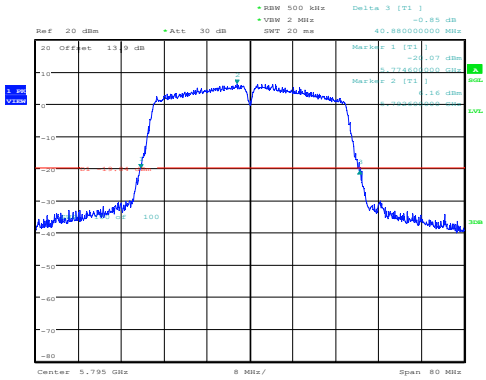
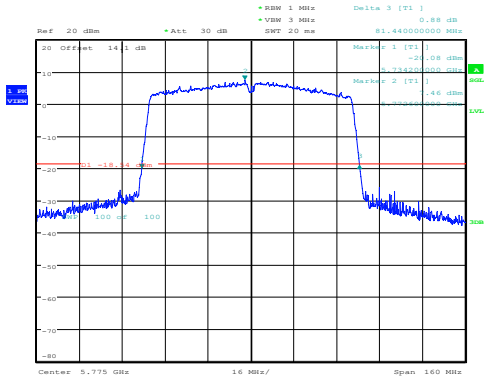
26dB Occupied Bandwidth Measurement Results:

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	20.00	5734.96	5754.96	---	---
11A	Ant1	5785	19.92	5775.08	5795.00	---	---
11A	Ant1	5825	20.00	5814.96	5834.96	---	---
11N20SISO	Ant1	5745	20.40	5734.80	5755.20	---	---
11N20SISO	Ant1	5785	20.32	5774.84	5795.16	---	---
11N20SISO	Ant1	5825	20.28	5814.92	5835.20	---	---
11N40SISO	Ant1	5755	40.96	5734.44	5775.40	---	---
11N40SISO	Ant1	5795	40.72	5774.60	5815.32	---	---
11AC20SISO	Ant1	5745	20.36	5734.80	5755.16	---	---
11AC20SISO	Ant1	5785	20.40	5774.80	5795.20	---	---
11AC20SISO	Ant1	5825	20.32	5814.92	5835.24	---	---
11AC40SISO	Ant1	5755	40.88	5734.60	5775.48	---	---
11AC40SISO	Ant1	5795	40.88	5774.60	5815.48	---	---
11AC80SISO	Ant1	5775	81.44	5734.20	5815.64	---	---

Test Graphs

11A-Ant1-5745	11A-Ant1-5785
	
Date: 30.MAR.2025 10:27:07	Date: 30.MAR.2025 10:40:57
11A-Ant1-5825	**11N20SISO-Ant1-5745**
	
Date: 30.MAR.2025 10:52:34	Date: 30.MAR.2025 11:08:45
11N20SISO-Ant1-5785	**11N20SISO-Ant1-5825**
	
Date: 30.MAR.2025 11:11:35	Date: 30.MAR.2025 11:20:07

11N40SISO-Ant1-5755	11N40SISO-Ant1-5795
	
Date: 30.MAR.2025 11:24:47	Date: 30.MAR.2025 11:27:43
11AC20SISO-Ant1-5745	**11AC20SISO-Ant1-5785**
	
Date: 30.MAR.2025 11:33:55	Date: 30.MAR.2025 11:36:40
11AC20SISO-Ant1-5825	**11AC40SISO-Ant1-5755**
	
Date: 30.MAR.2025 11:44:04	Date: 30.MAR.2025 11:57:21

11AC40SISO-Ant1-5795	11AC80SISO-Ant1-5775
	

6.6. 99% Occupied Bandwidth

Specifications:	FCC 47 Part 2.1049, RSS-GEN 6.7
DUT Serial Number:	25B02W000005#S16
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	--

Limit Level Construction:

Standard	Limit(KHz)
FCC 47 Part 2.1049	N/A
RSS-GEN 6.7	N/A

Measurement Uncertainty:

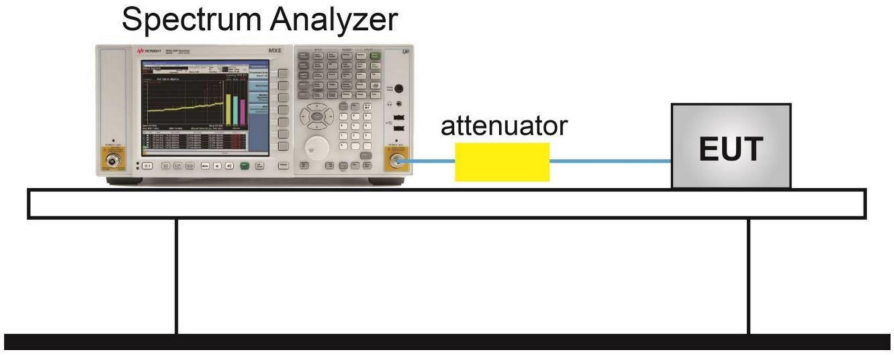
Measurement Uncertainty	29kHz

Test Procedure:

The measurement method is made according to KDB 789033 D

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

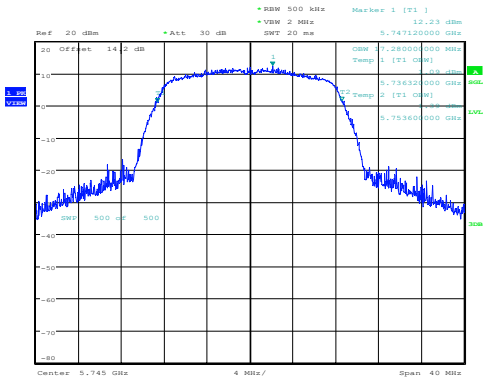
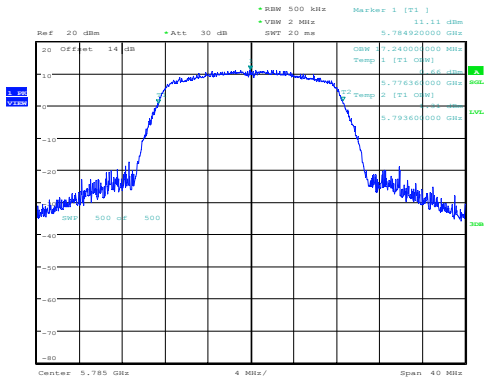
Test Setup:



Measurement Results:

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	17.28	5736.3200	5753.6000	---	---
11A	Ant1	5785	17.24	5776.3600	5793.6000	---	---
11A	Ant1	5825	17.32	5816.3200	5833.6400	---	---
11N20SISO	Ant1	5745	18.12	5735.9200	5754.0400	---	---
11N20SISO	Ant1	5785	18.12	5775.9200	5794.0400	---	---
11N20SISO	Ant1	5825	18.20	5815.8800	5834.0800	---	---
11N40SISO	Ant1	5755	36.72	5736.6000	5773.3200	---	---
11N40SISO	Ant1	5795	36.56	5776.6800	5813.2400	---	---
11AC20SISO	Ant1	5745	18.12	5735.9200	5754.0400	---	---
11AC20SISO	Ant1	5785	18.12	5775.9200	5794.0400	---	---
11AC20SISO	Ant1	5825	18.16	5815.8800	5834.0400	---	---
11AC40SISO	Ant1	5755	36.64	5736.6800	5773.3200	---	---
11AC40SISO	Ant1	5795	36.48	5776.7600	5813.2400	---	---
11AC80SISO	Ant1	5775	75.36	5737.2400	5812.6000	---	---

Test Graphs

11A-Ant1-5745	11A-Ant1-5785
	
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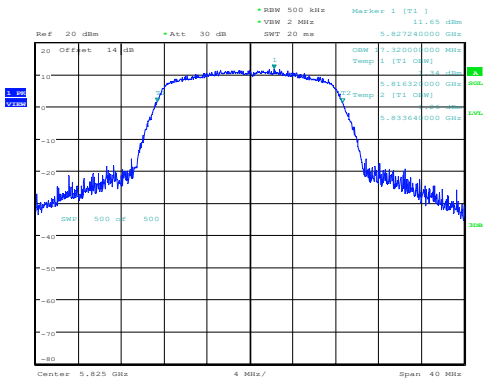
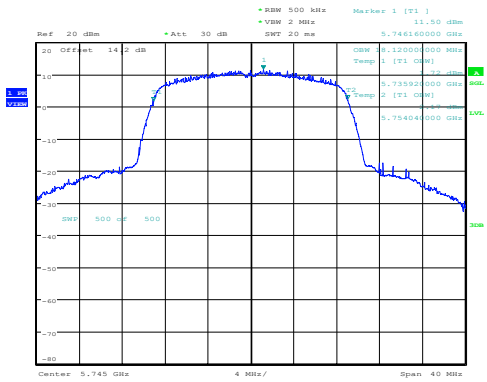
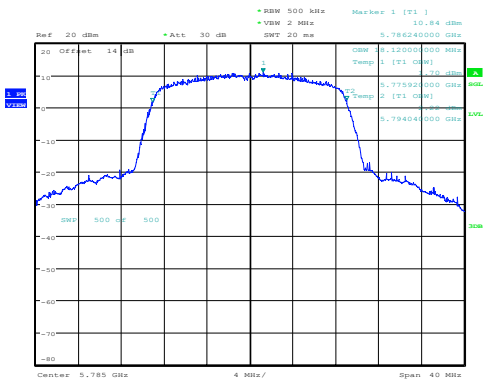
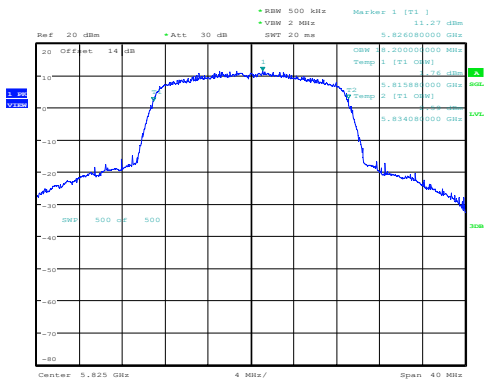
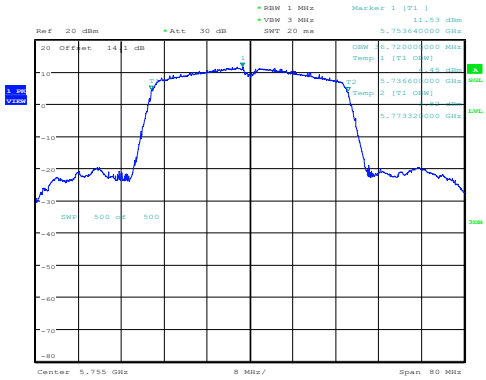
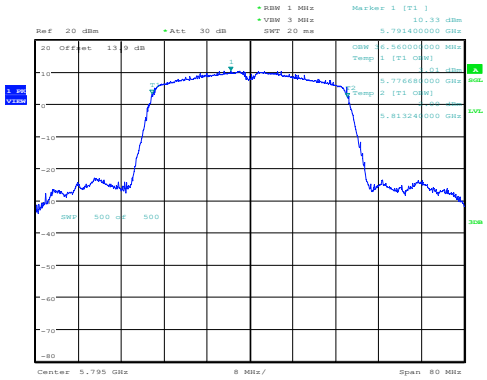
11A-Ant1-5825	**11N20SISO-Ant1-5745**
	
Date: 30.MAR.2025 10:53:55	Date: 30.MAR.2025 11:09:45
11N20SISO-Ant1-5785	**11N20SISO-Ant1-5825**
	
Date: 30.MAR.2025 11:12:35	Date: 30.MAR.2025 11:21:07

11N40SISO-Ant1-5755



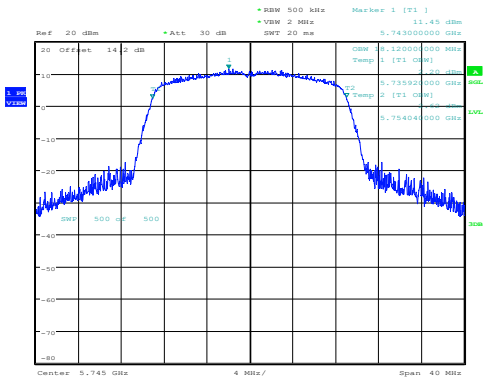
Date: 30.MAR.2025 11:25:49

11N40SISO-Ant1-5795



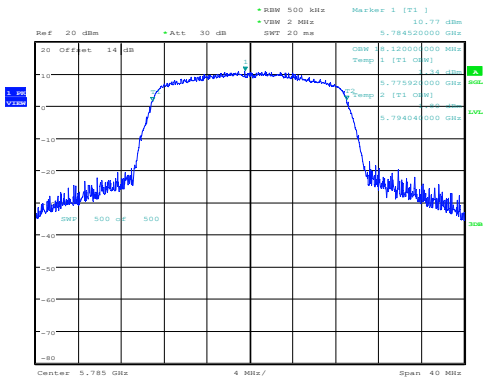
Date: 30.MAR.2025 11:28:49

11AC20SISO-Ant1-5745



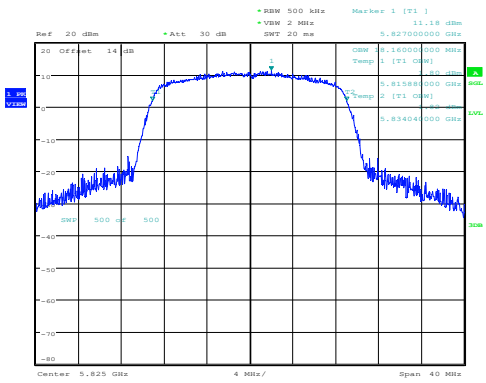
Date: 30.MAR.2025 11:34:55

11AC20SISO-Ant1-5785



Date: 30.MAR.2025 11:37:40

11AC20SISO-Ant1-5825



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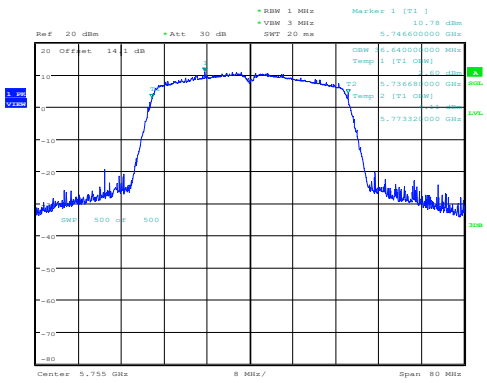
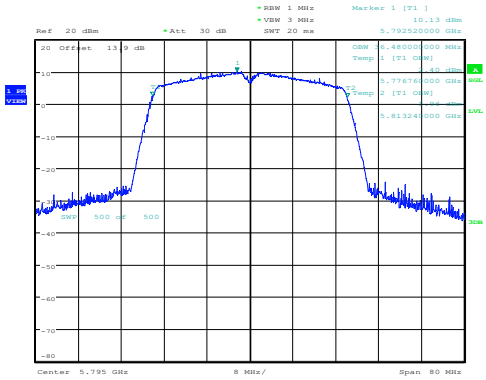
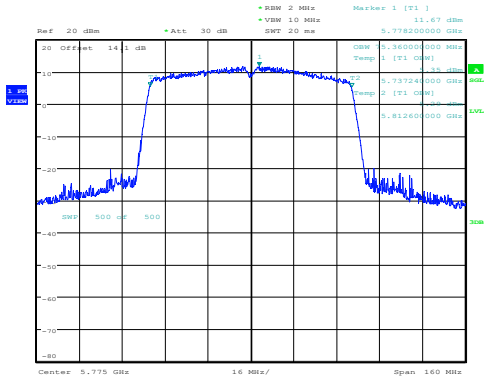
11AC40SISO-Ant1-5755



Date: 30.MAR.2025 11:58:24

11AC40SISO-Ant1-5795	11AC80SISO-Ant1-5775
	

6.7. Band Edges Compliance

Specifications:	FCC 47 Part 15.407(b), RSS-247 6.2.4.3
DUT Serial Number:	25B02W000005#S07
Test conditions:	Ambient Temperature:20℃ Relative Humidity:40% Air pressure: 90kPa
Test Results:	Pass

Limit Level Construction:

Above 1G, non-restricted band

Standard	Limit
15.407(b)	EIRP ＜-27dBm/MHz

Above 1G, Restricted band

Standard	Limit	
15.407(b)	EIRP ＜-27dBm/MHz	
15.209	Peak	74dBμV/m
	Average	54dBμV/m

EIRP[dBm] = E[dBμV/m] + 20 log (d[m]) − 104.7

E[dBμV/m] = EIRP[dBm] - 20 log (d[m]) + 104.7

E[dBμV/m] = EIRP[dBm] + 95.2 = 68.2， for d = 3m

Measurement Uncertainty:

Measurement Uncertainty	4.84dB(K=2)

Test Procedure:

The measurement is made according to KDB 789033.

Marker-Delta Method: The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

Procedure for peak unwanted emissions measurements above 1000 MHz

The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:

a) Follow the requirements in 12.7.4.

b) Peak emission levels are measured by setting the instrument as follows:

1) RBW = 1 MHz.

2) VBW ≥ [3 × RBW].

3) Detector = peak.

4) Sweep time = auto.

5) Trace mode = max hold.

6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, then the time required for the trace to stabilize will increase by a factor of approximately 1 / D, where D is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two, relative to measurement time for continuous transmission.

Procedures for average unwanted emissions measurements above 1000 MHz

a) RBW = 1 MHz.

b) Video bandwidth:

1) If the EUT is configured to transmit with $D \geq 98\%$, then set VBW ≤ RBW / 100 (i.e., 10 kHz), but not less than 10 Hz.

2) If the EUT D is < 98%, then set VBW ≥ 1 / T, where T is defined in item a1) of 12.2.

c) Video bandwidth mode or display mode:

1) The instrument shall be set with video filtering applied in the power domain. Typically, this requires setting the detector mode to RMS (power averaging) and setting the average-VBW type to power (rms).

2) As an alternative, the instrument may be set to linear detector mode. Video filtering shall be applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode to accomplish this. Others have a setting for average-VBW type, which can be set to “voltage” regardless of the display mode.

d) Detector = peak.

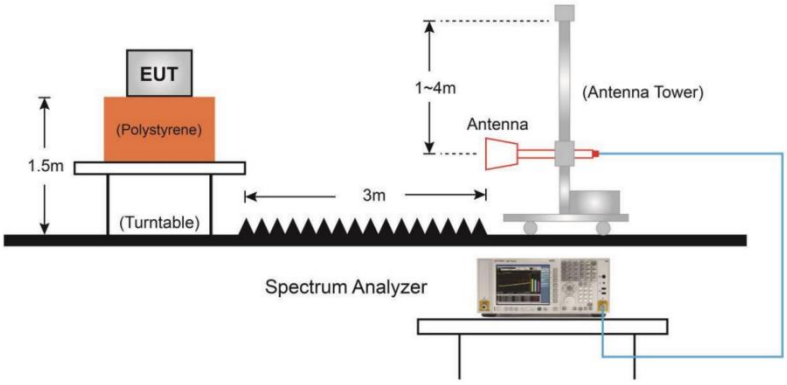
e) Sweep time = auto.

f) Trace mode = max hold.

g) Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98% duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where D is the duty cycle. For example, use at least 200 traces if the duty cycle is 25%. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 50 traces should be averaged.)

The measurement was applied in a fully anechoic chamber. While testing for spurious emission higher than 1GHz, if applied, the pre-amplifier would be equipped just at the output terminal of the antenna. Tabletop devices shall be placed on a nonconducting platform with nominal top surface dimensions 1 m by 1.5 m. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on an antenna mast. During the tests, the antenna height varied from 1m to 4m and the EUT azimuth were varied from 0° to 360° in order to identify the maximum level of emissions from the EUT. In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Test Setup



Measurement Result:

Mode	Channel	Conclusion
11A	149	P
	157	P
	165	P
11N20	149	P
	157	P
	165	P
11N40	151	P
	159	P

11AC20	157	P
	165	P
11AC40	151	P
	159	P
11AC80	155	P

Test graphs as below:

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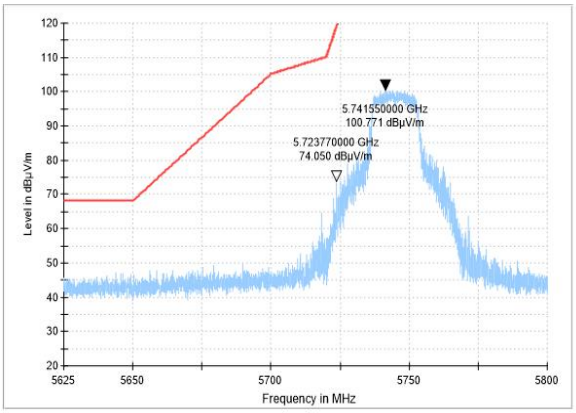
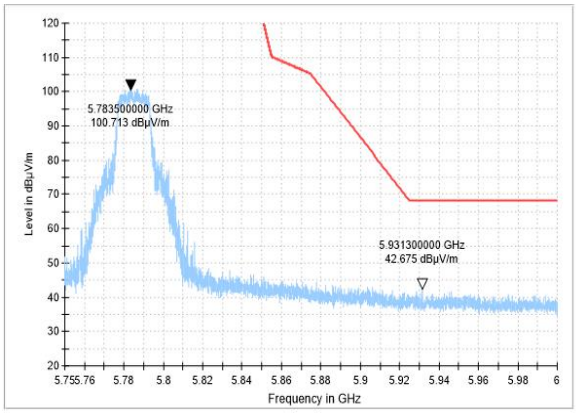
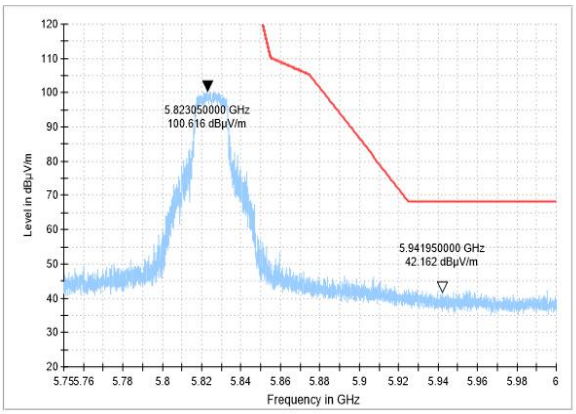
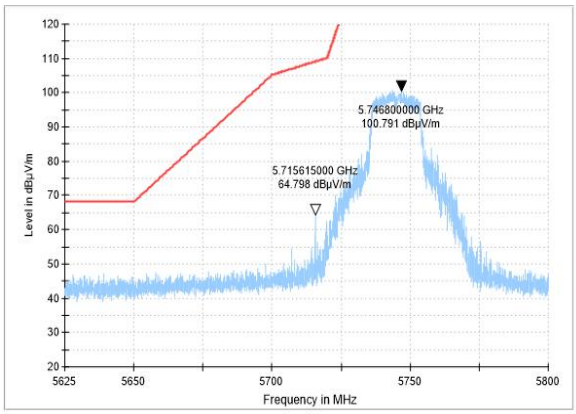
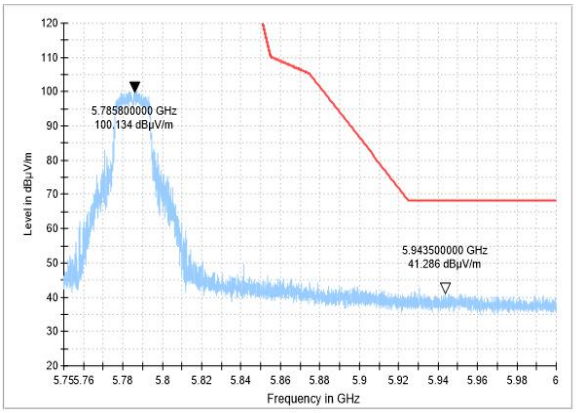
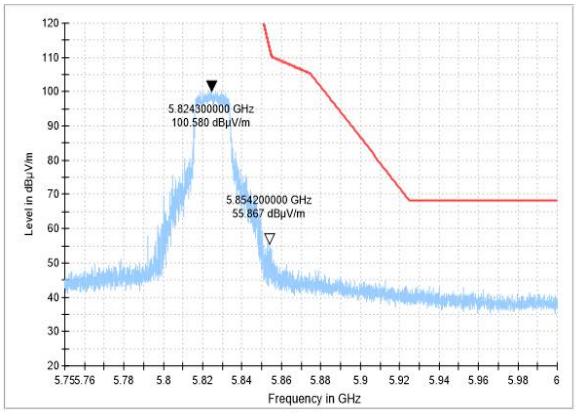
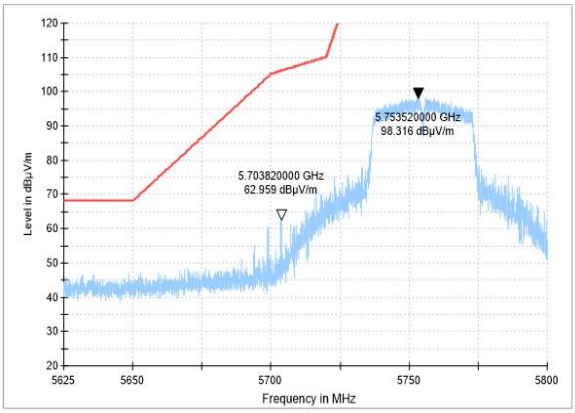
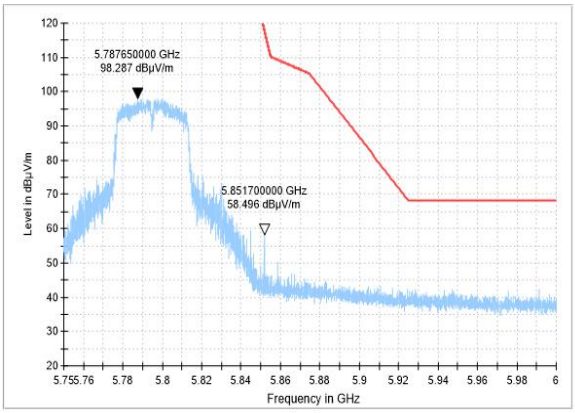
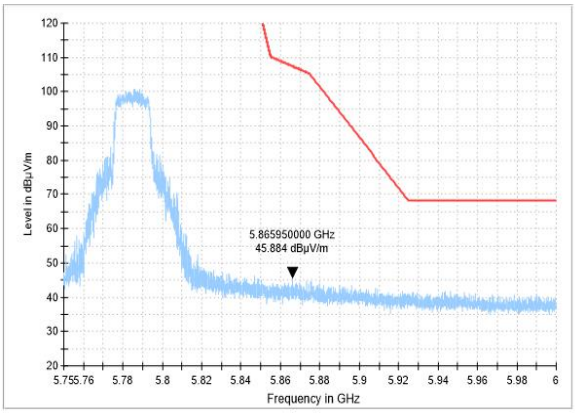
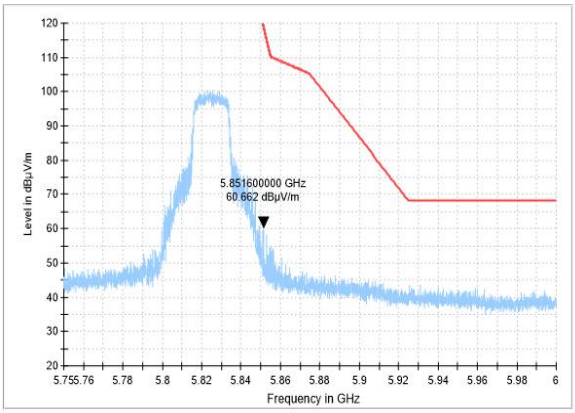
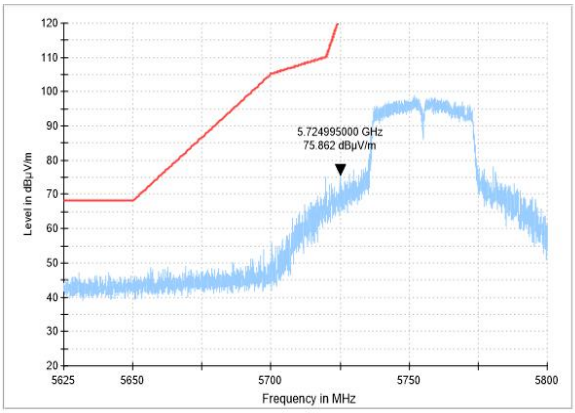
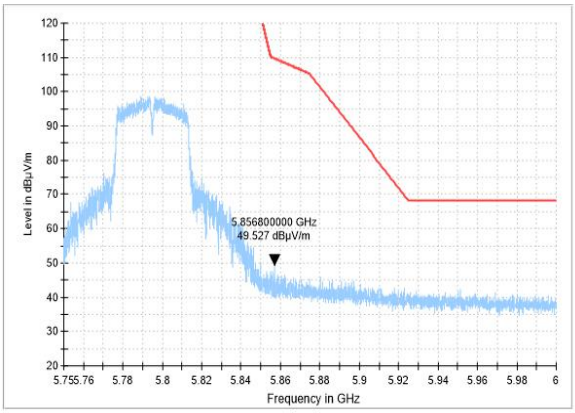
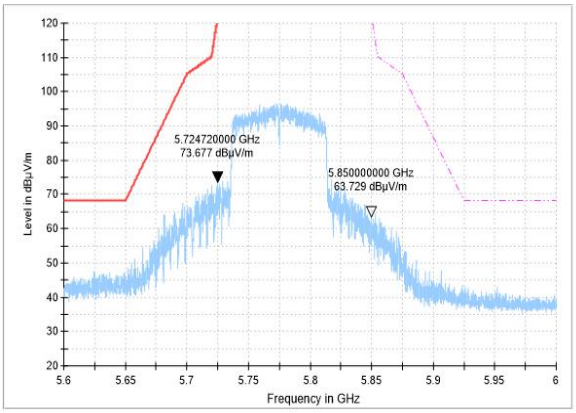
	
BANDEDGE-11A-CH165-PK	BANDEDGE-11N-CH149-PK
	
BANDEDGE-11N-CH157-PK	BANDEDGE-11N-CH165-PK


5.785800000 GHz
100.134 dBµV/m
5.943500000 GHz
41.286 dBµV/m
Level in dBµV/m
Frequency in GHz


5.824300000 GHz
100.580 dBµV/m
5.854200000 GHz
55.867 dBµV/m
Level in dBµV/m
Frequency in GHz

BANDEDGE-11N(40M)-CH151-PK	BANDEDGE-11N(40M)-CH159-PK
	
BANDEDGE-11AC-CH157-PK	BANDEDGE-11AC-CH165-PK
	
BANDEDGE-11AC(40M)-CH151-PK	BANDEDGE-11AC(40M)-CH159-PK
	

BANDEDGE-11AC(80M)-CH155-PK	/
	/

Note:

1. Only data in worst mode is provided.
2. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

6.8. Transmitter Spurious Emission

Specifications:	FCC 47 Part 15.407,15.205,15.209, RSS-247 6.2, RSS-Gen 8.9,8.10
DUT Serial Number:	25B02W000005#S07
Test conditions:	Ambient Temperature:20℃ Relative Humidity:40% Air pressure: 90kPa
Test Results:	Pass

Limit Level Construction:

Below 1G:

Frequency of emission (MHz)	Field strength(dBμV/m)	Measurement distance(m)
0.009-0.490	129-94	3
0.490-1.705	74-63	3
1.705-30	70	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Note: for frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m

Above 1G, non-restricted band:

Standard	Limit
15.407(b)	EIRP ＜-27dBm/MHz
RSS-247 6.2	EIRP ＜-27dBm/MHz

Above 1G, Restricted band:

Standard	Limit	
15.407(b)	EIRP ＜-27dBm/MHz	
15.209	Peak	74dBμV/m
	Average	54dBμV/m
RSS-247 6.2	EIRP ＜-27dBm/MHz	
RSS-Gen 8.9	Peak	74dBμV/m
	Average	54dBμV/m

EIRP[dBm] = E[dBμV/m] + 20 log (d[m]) − 104.7

E[dBμV/m] = EIRP[dBm] - 20 log (d[m]) + 104.7

E[dBμV/m] = EIRP[dBm] + 95.2 = 68.2, for d = 3m

Measurement Uncertainty:

Measurement Uncertainty	30MHz-150MHz 3.38 dB (k=2) 150MHz-1000MHz 4.09dB (k=2) 1000MHz-6000MHz 4.84 dB (k=2) 6000MHz-18000MHz 4.52 dB (k=2) 18000MHz-26500MHz 6.19 dB (k=2) 26500MHz-40000MHz 6.03 dB (k=2)

Test procedures

The measurement is made according to KDB 789033

Set the spectrum analyzer in the following:

Procedure for Unwanted Emissions Measurements below 1000 MHz:

a) Follow the requirements in II.G.3. "General Requirements for Unwanted Emissions Measurements."

b)Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

Detector: Peak and Quasi-Peak

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz:

a) Follow the requirements in II.G.3, "General Requirements for Unwanted Emissions Measurements."

b) Maximum emission levels are measured by setting the analyzer as follows:

(i) RBW = 1 MHz.

(ii) VBW ≥ 3 MHz.

(iii) Detector = Peak.

(iv) Sweep time = auto.

(v) Trace mode = max hold.

(vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

Procedures for Average Unwanted Emissions Measurements above 1000 MHz:

a) Follow the requirements in section II.G.3., "General Requirements for Unwanted Emissions Measurements."

b) Average emission levels shall be measured using one of the following two methods.

c) Method AD (Average Detection): Primary method

(i) RBW = 1 MHz.

(ii) VBW ≥ 3 MHz.

(iii) Detector = power averaging (rms), if span/(# of points in sweep) ≤ RBW/2. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, the detector mode shall be set to peak.

(iv) Averaging type = power averaging (rms)

As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.

(v) Sweep time = auto.

(vi) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, the number of traces shall be increased by a factor of 1/x, where x is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—rather than turning on and off with the transmit cycle, at least 100 traces shall be averaged.)

(vii) If tests are performed with the EUT transmitting at a duty cycle less than 98%, a correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

If power averaging (rms) mode was used in step (iv) above, the correction factor is 10 log (1/x), where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB must be added to the measured emission levels.

If linear voltage averaging mode was used in step (iv) above, the correction factor is 20 log (1/x), where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB must be added to the measured emission levels.

If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning on

and off with the transmit cycle, no duty cycle correction is required for that emission.

Portable, small, lightweight, or modular devices that may be handheld, worn on the body, or placed on a table during operation shall be positioned on a non-conducting platform, the top of which is 80 cm above the reference ground plane. The preferred area occupied by the EUT arrangement is 1 m by 1.5 m, For emissions testing at or below 1 GHz, the table height shall be 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. but it may be larger or smaller to accommodate various sized EUTs. For testing purposes, ceiling- and wall-mounted devices also shall be positioned on a tabletop (see also ANSI C63.10-2013 section 6.3.4 and 6.3.5). In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level.

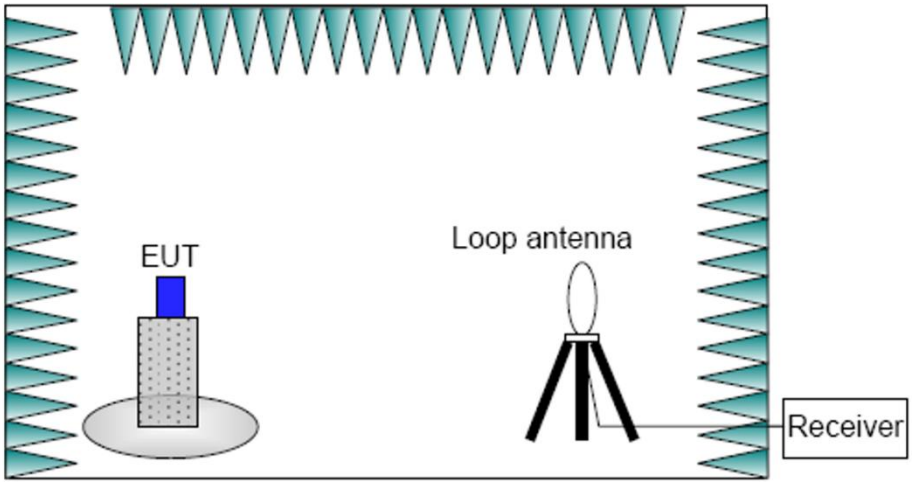
The EUT was placed on a non-conductive table. Below 18GHz , the measurement antenna was placed at a distance of 3 meters from the EUT. Above 18GHz , the measurement antenna was placed at a distance of 1 meter from the EUT. During the tests, the antenna height varied from 1m to 4m and the EUT azimuth were varied from 0° to 360° in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Remark:

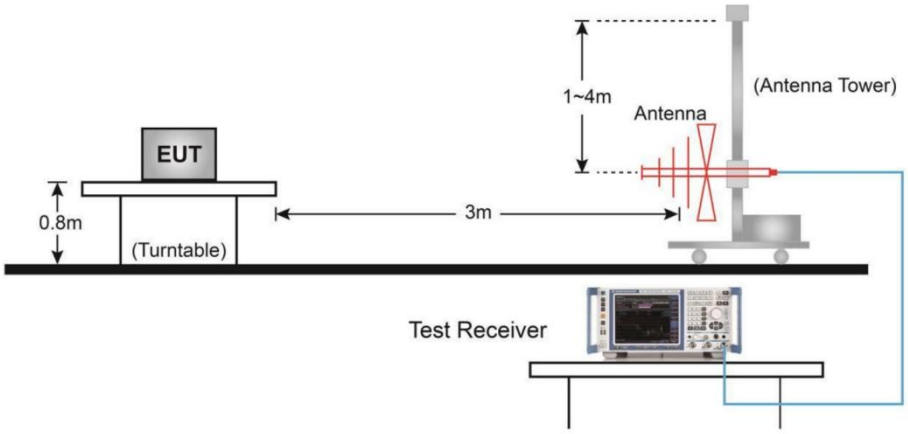
1. Factor= Antenna Factor + Cable Loss (-Amplifier, is employed)
2. Measured level= Original Receiver Reading + Factor
3. Margin = Limit – Measured level
4. If the PK measured level is lower than AV limit, the AV test can be elided

Test Setup

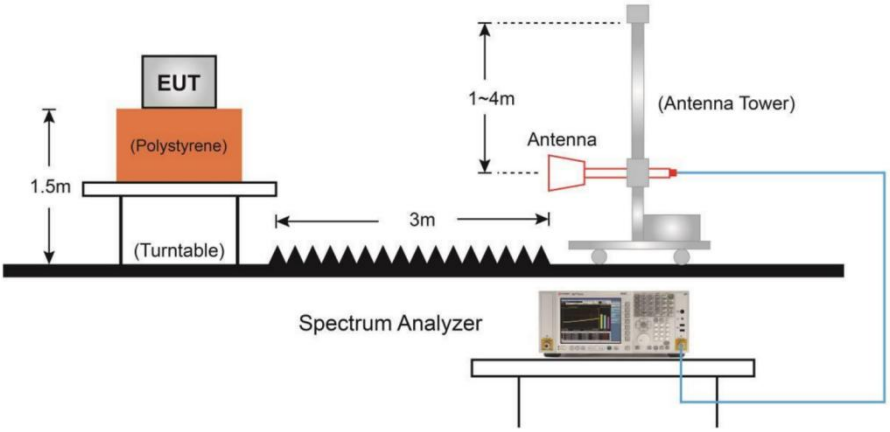
Below 30MHz Test Setup



Below 1GHz Test Setup



Above 1GHz Test Setup

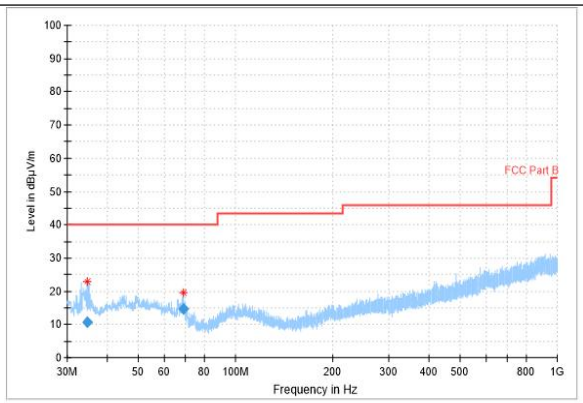


Measurement Results:

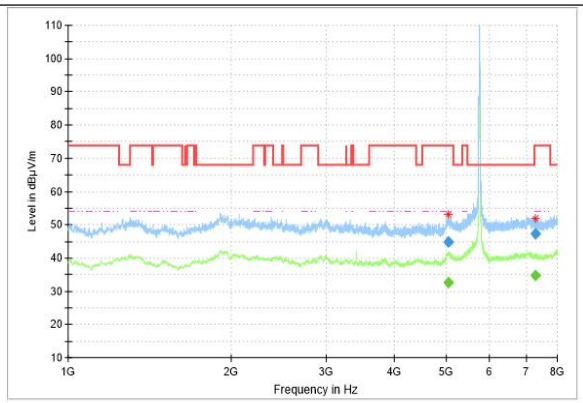
Mode	Channel	Frequency Range	Conclusion
11A	149(5745MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P
		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P
11N20	149(5745MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P
		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P
11N40	151 (5755MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P
		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P
11AC20	157(5785MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P
		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P
11AC40	151(5755MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P
		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P
11AC80	155(5775MHz)	30 MHz ~1 GHz	P
		1 GHz ~ 8 GHz	P
		8 GHz ~ 18 GHz	P

		18 GHz ~ 26.5 GHz	P
		26.5 GHz~ 40 GHz	P

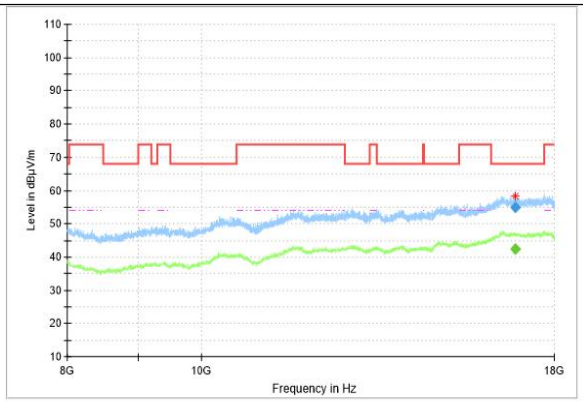
RSE-11A-CH149-30MHz-1GHz



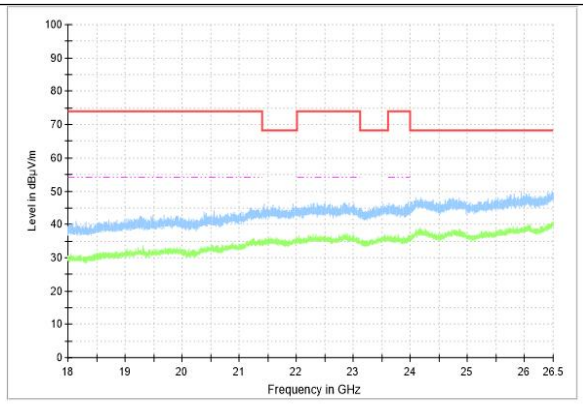
RSE-11A-CH149-1GHz-8GHz



RSE-11A-CH149-8GHz-18GHz



RSE-11A-CH149-18GHz-26.5GHz



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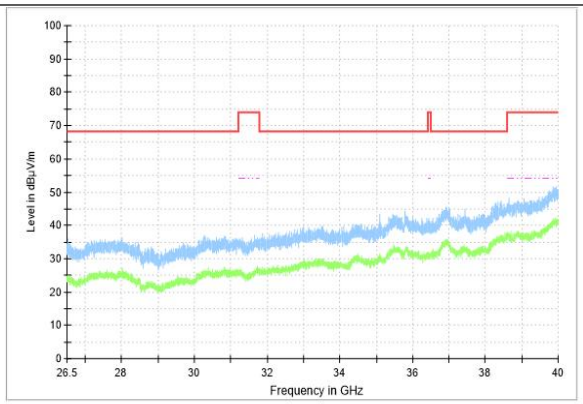
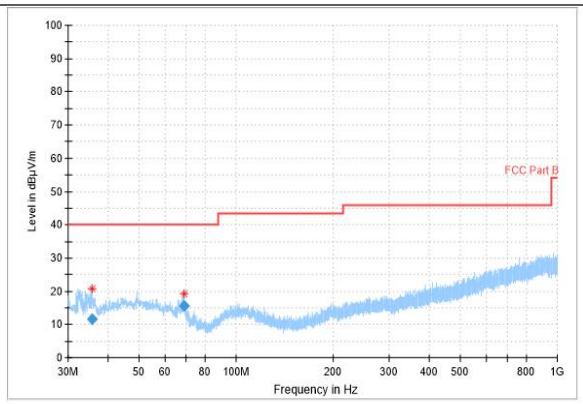


RSE-11N-CH149-30MHz-1GHz



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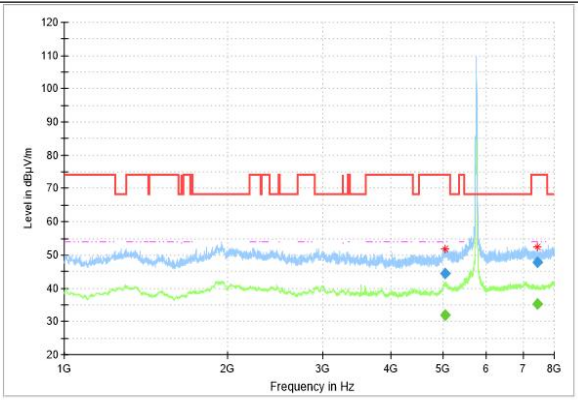	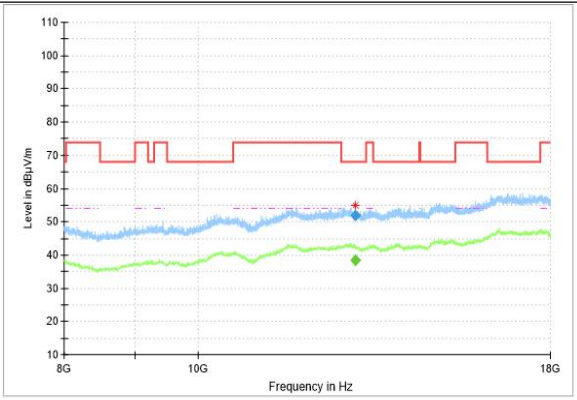
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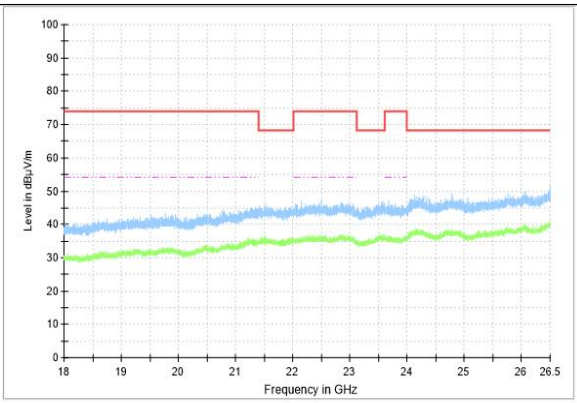
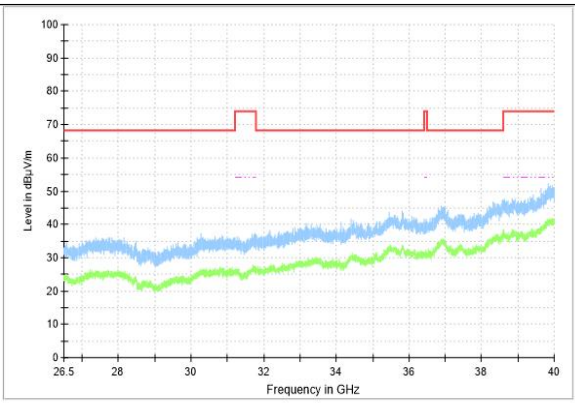
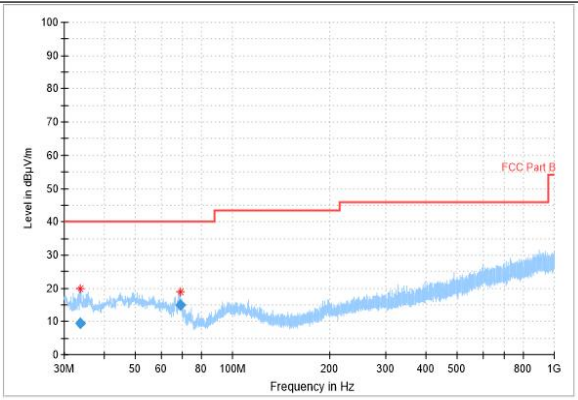
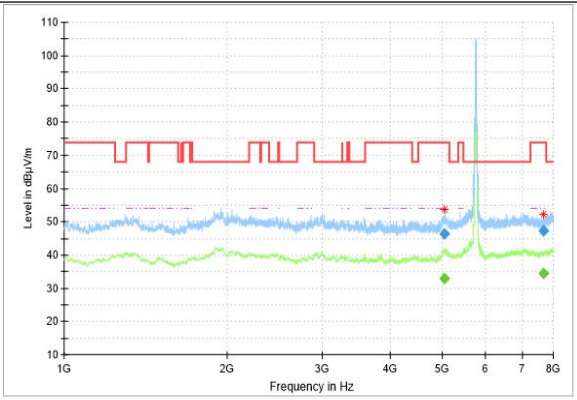
	
RSE-11N(40M)-CH151-30MHz-1GHz	RSE-11N(40M)-CH151-1GHz-8GHz
	

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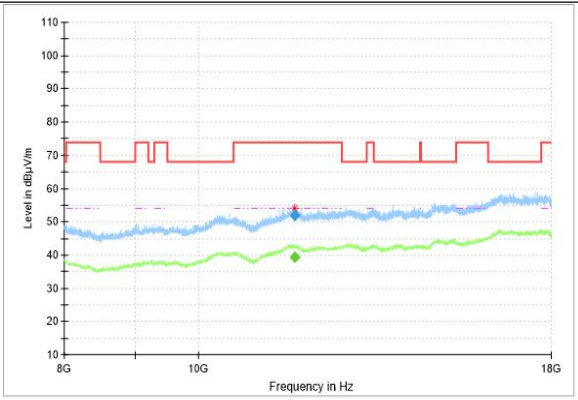	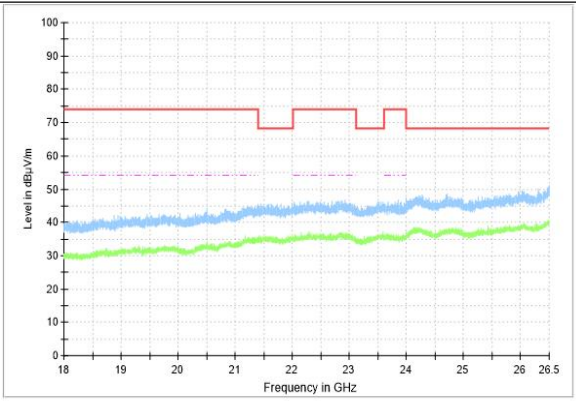
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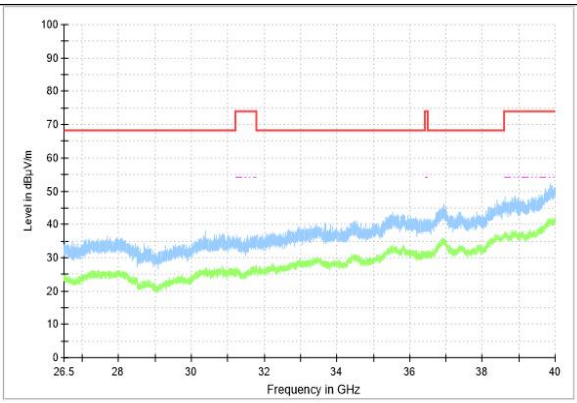	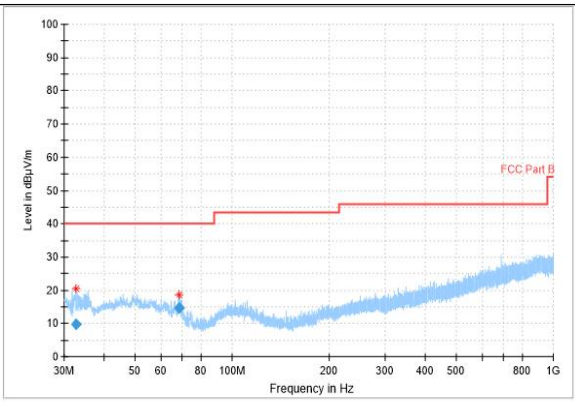
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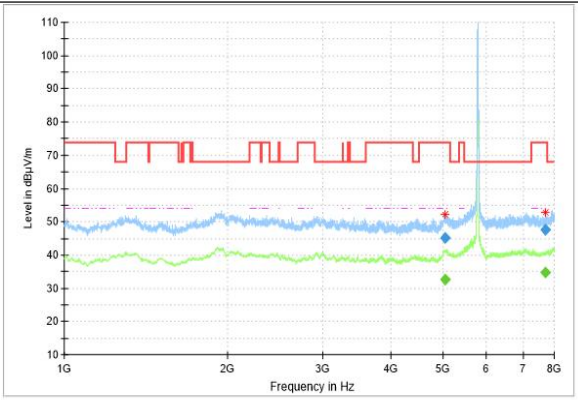
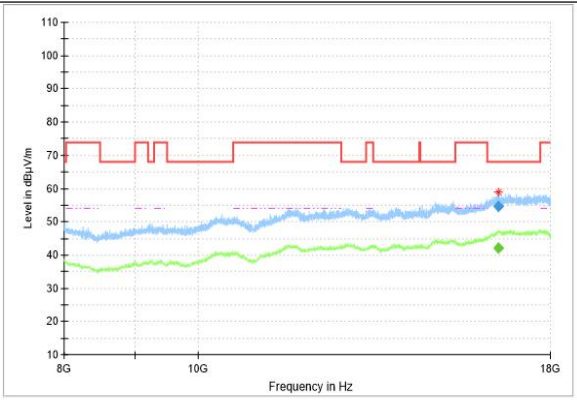
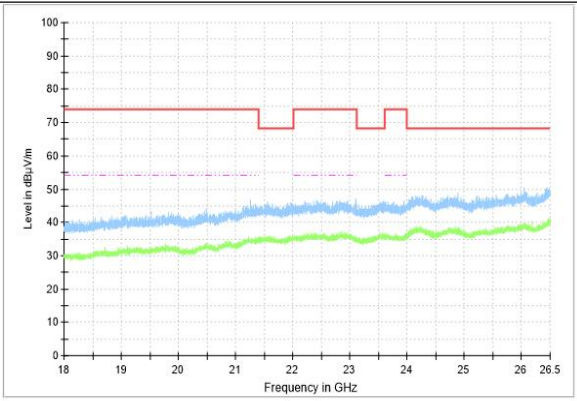
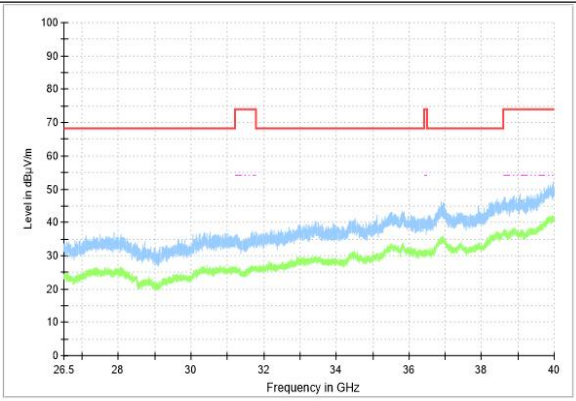
	

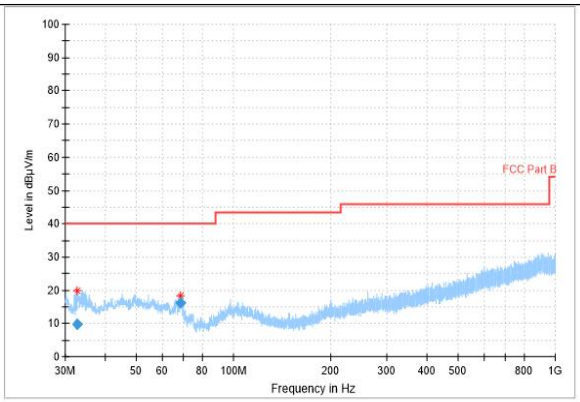
RSE-11AC-CH157-18GHz-26.5GHz



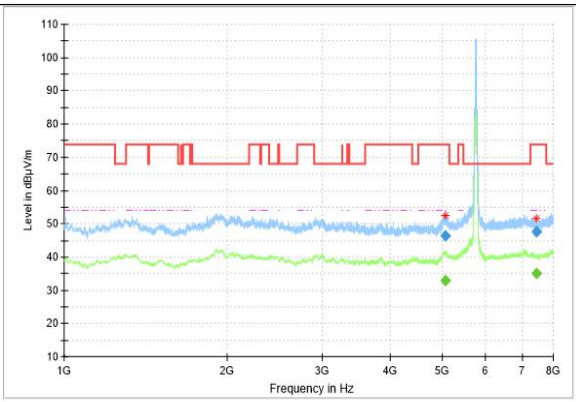
RSE-11AC-CH157-26.5GHz-40GHz



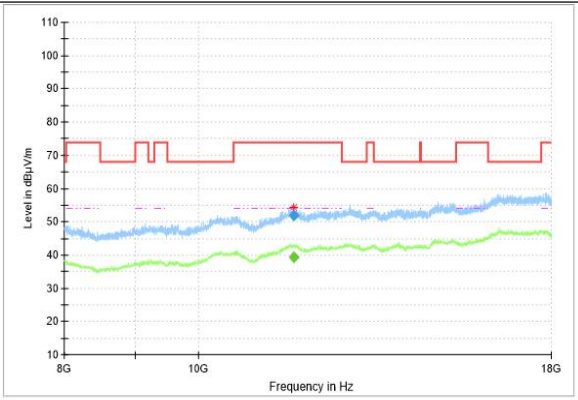
RSE-11AC(40M)-CH151-30MHz-1GHz



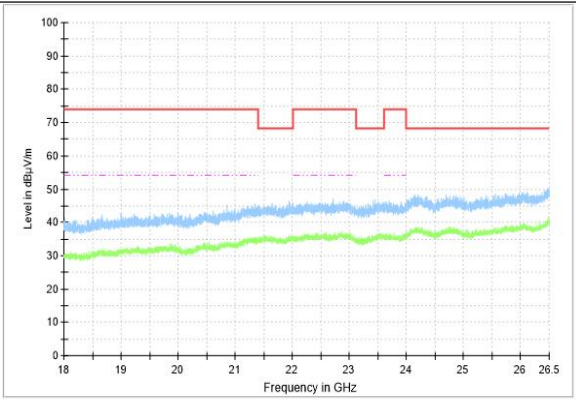
RSE-11AC(40M)-CH151-1GHz-8GHz



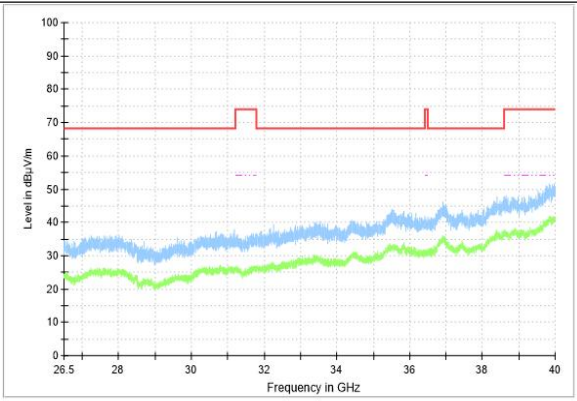
RSE-11AC(40M)-CH151-8GHz-18GHz



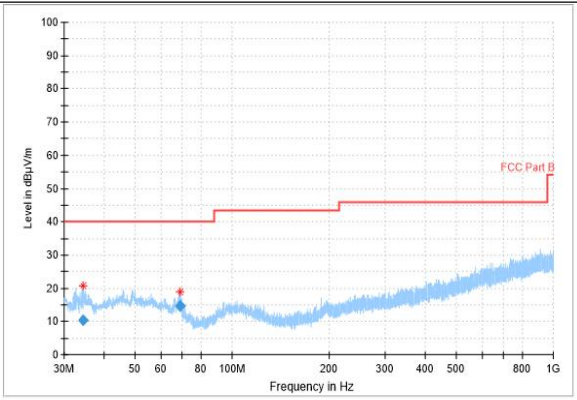
RSE-11AC(40M)-CH151-18GHz-26.5GHz



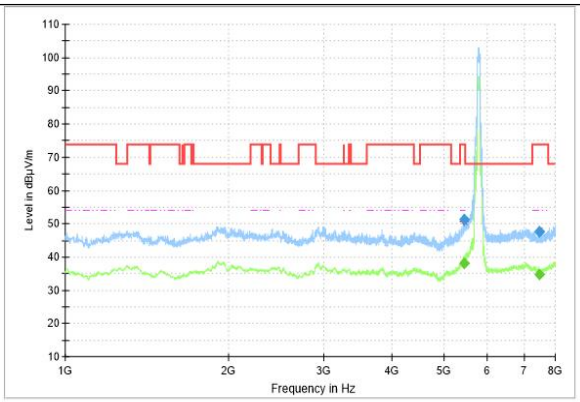
RSE-11AC(40M)-CH151-26.5GHz-40GHz



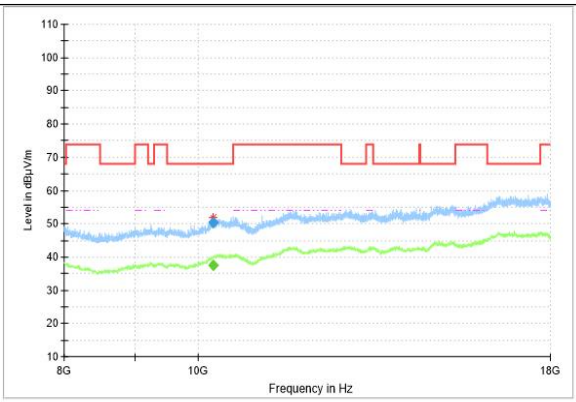
RSE-11AC(80M)-CH155-30MHz-1GHz



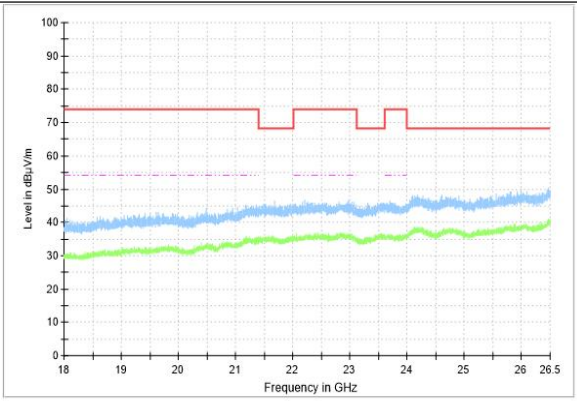
RSE-11AC(80M)-CH155-1GHz-8GHz



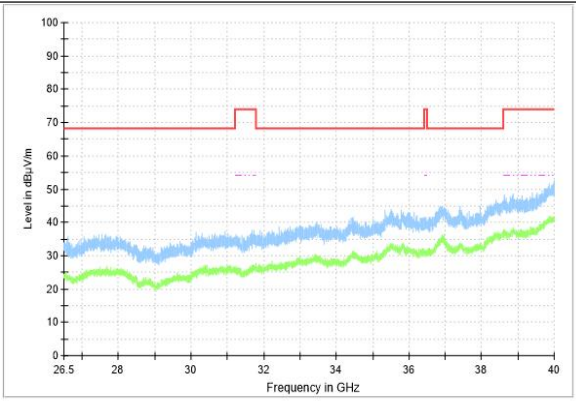
RSE-11AC(80M)-CH155-8GHz-18GHz



RSE-11AC(80M)-CH155-18GHz-26.5GHz



RSE-11AC(80M)-CH155-26.5GHz-40GHz



Note:

1. The out-of- limit signal in the picture is the main frequency signal.
2. Only data in worst mode is provided.
3. Sweep the whole frequency band through the range from 30MHz to the 10th harmonic of the carrier, the Emissions in the frequency band 18GHz-40GHz is more than 20dB below the limit are not report.
4. The test data below 30MHz is more than 20dB lower than the limit value, so it is not provided in the report.
5. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data

diagram.

RSE-11A-CH149-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
34.6	10.64	-15	25.64	29.36	40.00	H
69.0	14.67	-15	29.67	25.33	40.00	H

RSE-11A-CH149-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5031.1	44.88	5	39.88	29.12	74.00	H
7280.4	47.42	4	43.42	26.58	74.00	V

RSE-11A-CH149-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5031.1	32.53	5	27.53	21.47	54.00	H
7280.4	34.67	4	30.67	19.33	54.00	V

RSE-11A-CH149-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
16864.8	55.02	18	37.02	13.18	68.20	V

RSE-11A-CH149-8GHz-18GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
16864.8	42.37	18	24.37	---	---	V

RSE-11N-CH149-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
35.6	11.73	-14	25.73	28.27	40.00	H
69.0	15.47	-15	30.47	24.53	40.00	H

RSE-11N-CH149-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5030.6	44.59	5	39.59	29.41	74.00	V
7447.5	47.91	4	43.91	26.09	74.00	V

RSE-11N-CH149-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5030.6	31.9	5	26.9	22.10	54.00	V
7447.5	35.29	4	31.29	18.71	54.00	V

RSE-11N-CH149-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
13007.2	51.79	11	40.79	16.41	68.20	H

RSE-11N-CH149-8GHz-18GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
13007.2	38.47	11	27.47	---	---	H

RSE-11N(40M)-CH151-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
33.7	9.56	-15	24.56	30.44	40.00	H
69.0	15.01	-15	30.01	24.99	40.00	H

RSE-11N(40M)-CH151-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5043.2	46.46	5	41.46	27.54	74.00	V
7651.8	47.35	4	43.35	26.65	74.00	V

RSE-11N(40M)-CH151-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5043.2	32.97	5	27.97	21.03	54.00	V
7651.8	34.43	4	30.43	19.57	54.00	V

RSE-11N(40M)-CH151-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
11738.0	51.75	11	40.75	22.25	74.00	H

RSE-11N(40M)-CH151-8GHz-18GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
11738.0	39.31	11	28.31	14.69	54.00	H

RSE-11AC-CH157-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
32.7	9.69	-15	24.69	30.31	40.00	H
68.2	14.53	-15	29.53	25.47	40.00	H

RSE-11AC-CH157-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5038.2	45.18	5	40.18	28.82	74.00	V
7700.2	47.57	4	43.57	26.43	74.00	V

RSE-11AC-CH157-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5038.2	32.7	5	27.7	21.30	54.00	V
7700.2	34.74	4	30.74	19.26	54.00	V

RSE-11AC-CH157-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
16508.5	54.74	18	36.74	13.46	68.20	V

RSE-11AC-CH157-8GHz-18GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
16508.5	42.15	18	24.15	---	---	V

RSE-11AC(40M)-CH151-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
32.7	9.65	-15	24.65	30.35	40.00	H
68.2	16.33	-15	31.33	23.67	40.00	H

RSE-11AC(40M)-CH151-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5052.0	46.47	5	41.47	27.53	74.00	V
7444.9	47.65	4	43.65	26.35	74.00	H

RSE-11AC(40M)-CH151-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5052.0	32.79	5	27.79	21.21	54.00	V
7444.9	34.96	4	30.96	19.04	54.00	H

RSE-11AC(40M)-CH151-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
11732.2	51.87	11	40.87	22.14	74.00	H

RSE-11AC(40M)-CH151-8GHz-18GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity

11732.2	39.37	11	28.37	14.63	54.00	H

RSE-11AC(80M)-CH155-30MHz-1GHz

Frequency (MHz)	QuasiPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
34.4	10.33	-15	25.33	29.67	40.00	H
69.1	14.74	-15	29.74	25.26	40.00	H

RSE-11AC(80M)-CH155-1GHz-8GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5424.9	51.14	2	49.14	22.86	74.00	V
7460.9	47.74	4	43.74	26.26	74.00	H

RSE-11AC(80M)-CH155-1GHz-8GHz

Frequency (MHz)	Average(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
5424.9	38.11	2	36.11	15.89	54.00	V
7460.9	34.84	4	30.84	19.16	54.00	H

RSE-11AC(80M)-CH155-8GHz-18GHz

Frequency (MHz)	MaxPeak(dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Margin(dB)	Limit(dBμV/m)	Polarity
10253.5	50.43	8	42.43	17.78	68.20	H

6.9. AC Powerline Conducted Emission

Specifications:	FCC 47 Part 15.207, RSS-GEN 8.8
DUT Serial Number:	25B02W000005#S07
Test conditions:	Ambient Temperature:20℃ Relative Humidity:40% Air pressure: 90kPa
Test Results:	Pass

Method of Measurement: ANSI C63.10-2013-clause 6.2

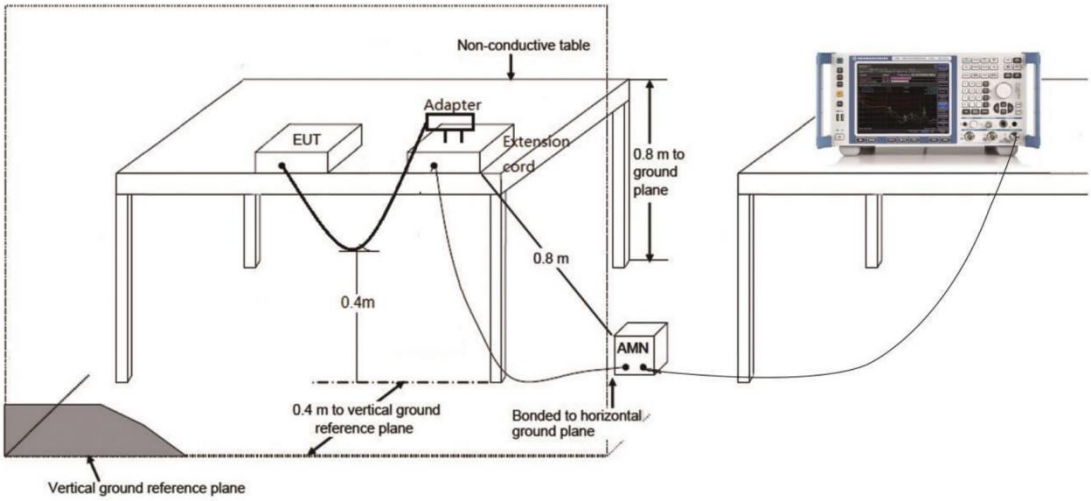
1. The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.
2. If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.
3. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.
4. If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.

If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.36 Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

Measurement Uncertainty:

Measurement Uncertainty	1.97dB(K=2)

Test Setup



Test Condition

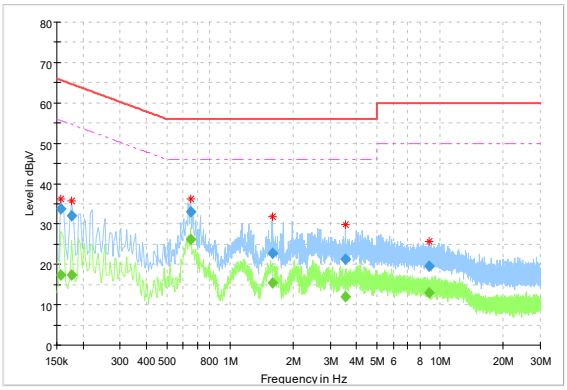
Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit

(Quasi-peak-average Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Conclusion
0.15 to 0.5	66 to 56	56 to 46	P
0.5 to 5	56	46	
5 to 30	60	50	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.			

Measurement Results:

11A CH5745	/
	/

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.157463	---	17.26	55.60	38.34	15000.0	9.000	N	ON	10.1
0.157463	33.72	---	65.60	31.87	15000.0	9.000	N	ON	10.1
0.176119	---	17.49	54.67	37.18	15000.0	9.000	N	ON	10.1
0.176119	32.15	---	64.67	32.52	15000.0	9.000	N	ON	10.1
0.649988	---	26.14	46.00	19.86	15000.0	9.000	L1	ON	9.9
0.649988	32.97	---	56.00	23.03	15000.0	9.000	L1	ON	9.9
1.586531	22.76	---	56.00	33.24	15000.0	9.000	L1	ON	9.9
1.586531	---	15.43	46.00	30.57	15000.0	9.000	L1	ON	9.9
3.556631	21.18	---	56.00	34.82	15000.0	9.000	L1	ON	9.8
3.556631	---	12.02	46.00	33.98	15000.0	9.000	L1	ON	9.8
8.840081	---	12.97	50.00	37.03	15000.0	9.000	N	ON	9.8
8.840081	19.48	---	60.00	40.52	15000.0	9.000	N	ON	9.8

Note:

1. All modes have been tested and only the worst mode is recorded in the report.
2. L1 and N is all have been tested, the result of them is synthesized in the above data diagram.

6.10. Frequency Stability

Manufacturers ensured the EUT meet the requirement of frequency stability, such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.(According to15.407(g))

ANNEX A EUT Photos

See the document" 25B02W000005-External Photos".
See the document" 25B02W000005-Internal Photos".

ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

*****END OF REPORT*****

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