



FCC CERTIFICATION TEST REPORT

Applicant	:	Continental Aftermarket & Services GmbH
Address of Applicant	:	Sodener Strasse 9, 65824 Schwalbach am Taunus, Germany
Manufacturer	:	Huizhou Foryou General Electronics Co., Ltd.
Address of Manufacturer	:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)
Equipment under Test	:	In-Vehicle infotainment System
Model No.	:	CRD8612UBA/DMR675, CRS8612UBA/DMR675, TRD8612UBA/DMR675, TRS8612UBA/DMR675, CRD8612UBA-CLA/DMR675, CRD8612UBA/DMR675-CLA, CRD8613UBA-CLA/DMR675
FCC ID	:	2AVAW-CRD8612UBA
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart E, ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01
Report No.	:	DDT-RE24012204-2E03
Issue Date	:	2024/12/24
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Address of Applicant	:	Sodener Strasse 9, 65824 Schwalbach am Taunus, Germany
Equipment under Test	:	In-Vehicle infotainment System
Model No.	:	CRD8612UBA/DMR675, CRS8612UBA/DMR675, TRD8612UBA/DMR675, TRS8612UBA/DMR675, CRD8612UBA-CLA/DMR675, CRD8612UBA/DMR675-CLA, CRD8613UBA-CLA/DMR675
Manufacturer	:	Huizhou Foryou General Electronics Co., Ltd.
Address of Manufacturer	:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E,
ANSI C63.10:2013,
789033 D02 General U-NII Test Procedures New Rules v02r01,
662911 D01 Multiple Transmitter Output v02r01

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24012204-2E03		
Date of Receipt:	2024/01/25	Date of Test:	2024/01/25~2024/12/24

Prepared By:*Bobo Chen***Bobo Chen/Engineer****Approved By:****Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/12/24	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	6/26db Bandwidth	FCC 15.407 (e)	/	Pass
2	Output Power	FCC 15.407 (a)	/	Pass
3	Power Spectral Density	FCC 15.407 (a)	/	Pass
4	Frequency Stability Measurement	FCC 15.407 (g)	/	Pass
5	Radiated Emission	FCC 15.407 (b); FCC 15.209; FCC 15.205	/	Pass
6	Band Edge Compliance	FCC 15.407 (b); FCC 15.209; FCC 15.205;	/	Pass
7	Dynamic Frequency Selection	FCC 15.407 (h)	/	N/A
8	Power Line Conducted Emissions	FCC Part 15: 15.207(a)	/	N/A
9	Antenna Requirement	FCC Part 15: 15.203	/	Pass

Note: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

2. General Test Information

2.1. Description of EUT

EUT Name	: In-Vehicle infotainment System
Model Number	: CRD8612UBA/DMR675, CRS8612UBA/DMR675, TRD8612UBA/DMR675, TRS8612UBA/DMR675, CRD8612UBA-CLA/DMR675, CRD8612UBA/DMR675-CLA, CRD8613UBA-CLA/DMR675
Difference of model number	: The product circuit design, layout, components used and internal wiring are the same, only the model numbers are different. We chose the model "CRD8612UBA/DMR675" as a representative model for compliance testing.
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 12V

Note: This EUT support Bluetooth BR/EDR/LE, 5 GHz WLAN, this report only for 5 GHz WLAN.

Radio Technology	: IEEE 802.11a/n/ac
Operation frequency	: IEEE 802.11a: 5180MHz-5240MHz IEEE 802.11n HT20: 5180MHz-5240MHz IEEE 802.11n HT40: 5190MHz-5230MHz IEEE 802.11ac VHT20: 5180MHz-5240MHz IEEE 802.11ac VHT40: 5190MHz-5230MHz IEEE 802.11ac VHT80: 5210MHz
Modulation	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)

Antenna information	
Antenna Type	Chip Antenna
Max Antenna Gain (dBi)	3.5

Channel information					
IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
UNII-1					
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	/	/
44	5220	/	/	/	/
48	5240	/	/	/	/

Note : "☑" means to be chosen or applicable; "☐" means don't to be chosen or not applicable; This note applies to entire report.

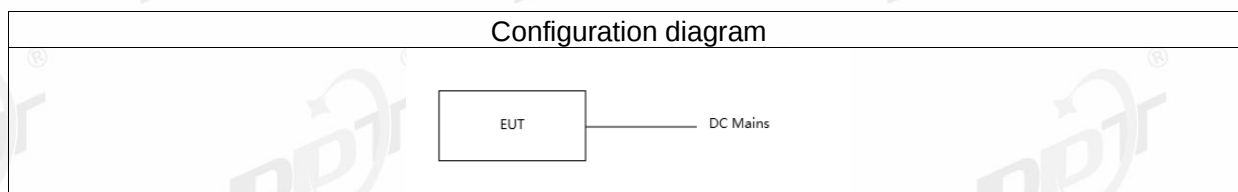
Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test



2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:

Test software: Secure CRT.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 2 dB (According to the manufacturer's claims)

Tested mode, channel, and data rate information				
Mode	Setting Tx Power	Data rate (Mbps) (see Note)	Channel	Frequency (MHz)
	ANT1			
IEEE 802.11a	60	6	Low: CH36	5180
	60	6	Middle: CH40	5200
	60	6	High: CH48	5240
	60	6	Low: CH149	5745
	60	6	Middle: CH157	5785
	60	6	High: CH165	5825
IEEE 802.11n HT20	56	MCS 0	Low: CH36	5180
	56	MCS 0	Middle: CH40	5200
	56	MCS 0	High: CH48	5240
IEEE 802.11n HT40	48	MCS 0	Low: CH38	5190
	48	MCS 0	Middle: CH46	5230
IEEE 802.11ac VHT20	58	MCS 0	Low: CH36	5180
	58	MCS 0	Middle: CH40	5200
	58	MCS 0	High: CH48	5240
IEEE 802.11 ac VHT40	48	MCS 0	Low: CH38	5190
	48	MCS 0	Middle: CH46	5230
IEEE 802.11ac VHT80	46	MCS 0	CH42	5210

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	+15°C to +35 °C
Humidity range:	20% to 75%
Pressure range:	86 kPa to 106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

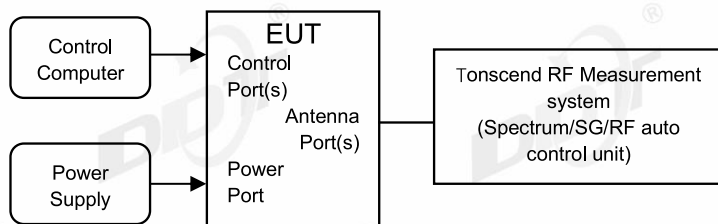
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 1.66 dB ($8 \text{ GHz} \leq f < 26.5 \text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz) 4.40 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz) 3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☑RF Connected Test (RF Measurement System 3#)				
SIGNAL ANALYZER	R&S	FSV40	101407	2024/07/11
Wideband Radio Communication Tester	R&S	CMW500	117491	2025/03/31
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY62153058	2024/07/11
MXG Vector Signal Generator	Agilent	N5182A	MY48180912	2025/03/31
RF Control Unit	Tonscend	JS0806-2	20C8060230	2025/03/31
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2025/04/22
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4. 26dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
26 dB Bandwidth	---	5150 - 5250
	---	5250 - 5350
	---	5470 - 5725

4.3. Test procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	approximately 1% of the emission bandwidth.
VBW	> RBW
Trace	Max hold
Sweep	Auto couple

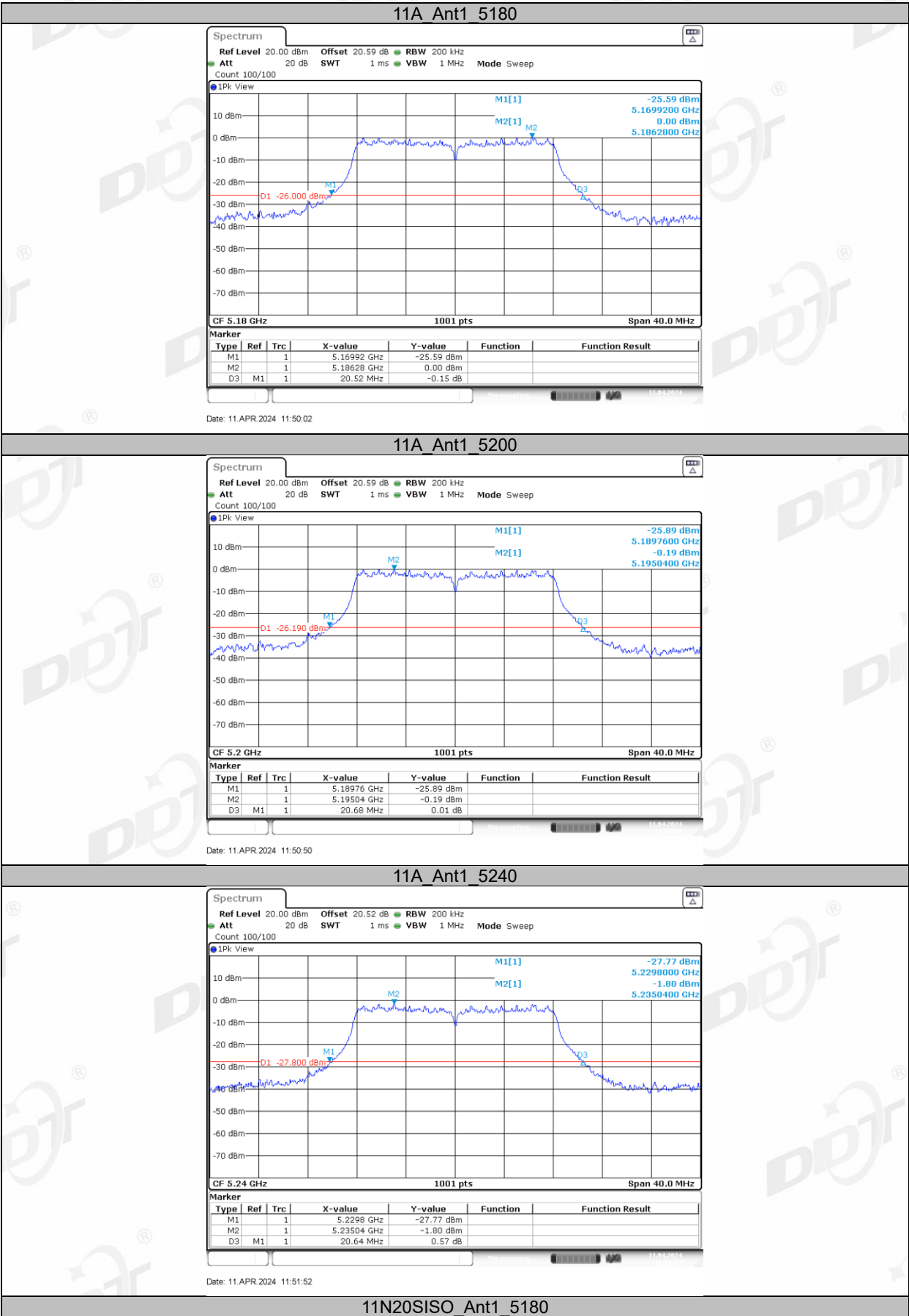
Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

4.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 3#
Ambient Condition:	23.1℃,46.8%RH	Test Date:	2024.03.21-2024.04.11
Test Power Supply:	DC 12V	Sample Number:	S24012204-002

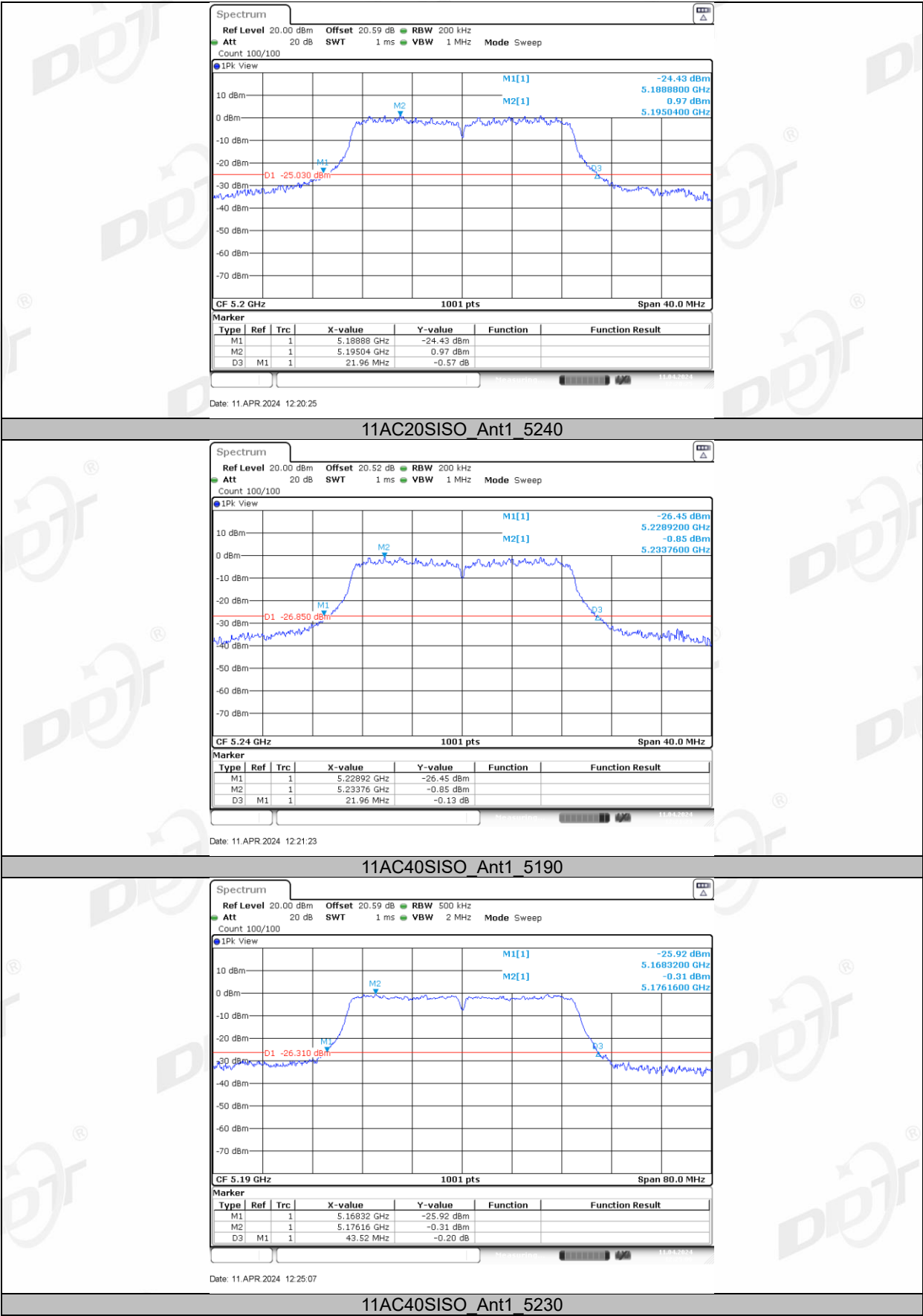
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	20.52	5169.92	5190.44	---	---
		5200	20.68	5189.76	5210.44	---	---
		5240	20.64	5229.80	5250.44	---	---
11N20SISO	Ant1	5180	21.92	5168.92	5190.84	---	---
		5200	22.04	5188.80	5210.84	---	---
		5240	22.04	5228.84	5250.88	---	---
11N40SISO	Ant1	5190	43.20	5168.32	5211.52	---	---
		5230	43.44	5208.40	5251.84	---	---
11AC20SISO	Ant1	5180	21.96	5168.92	5190.88	---	---
		5200	21.96	5188.88	5210.84	---	---
		5240	21.96	5228.92	5250.88	---	---
11AC40SISO	Ant1	5190	43.52	5168.32	5211.84	---	---
		5230	43.52	5208.24	5251.76	---	---
11AC80SISO	Ant1	5210	83.04	5168.56	5251.60	---	---

4.5. Test graphs





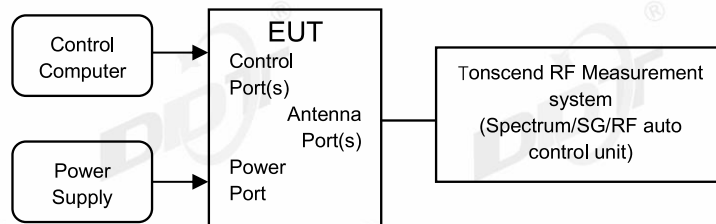






5. Duty Cycle

5.1. Block diagram of test setup



5.2. Limit

Just for Report.

5.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.
set the Spectrum Analyzer as below:
Centre Frequency: The centre frequency of the middle hopping channel.
Resolution BW: 10 MHz.
Video BW: 10 MHz.
Span: Zero span.
Detector: Peak.
Trace Mode: Clear Write.
Sweep: Video Trigger
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

5.4. Test result

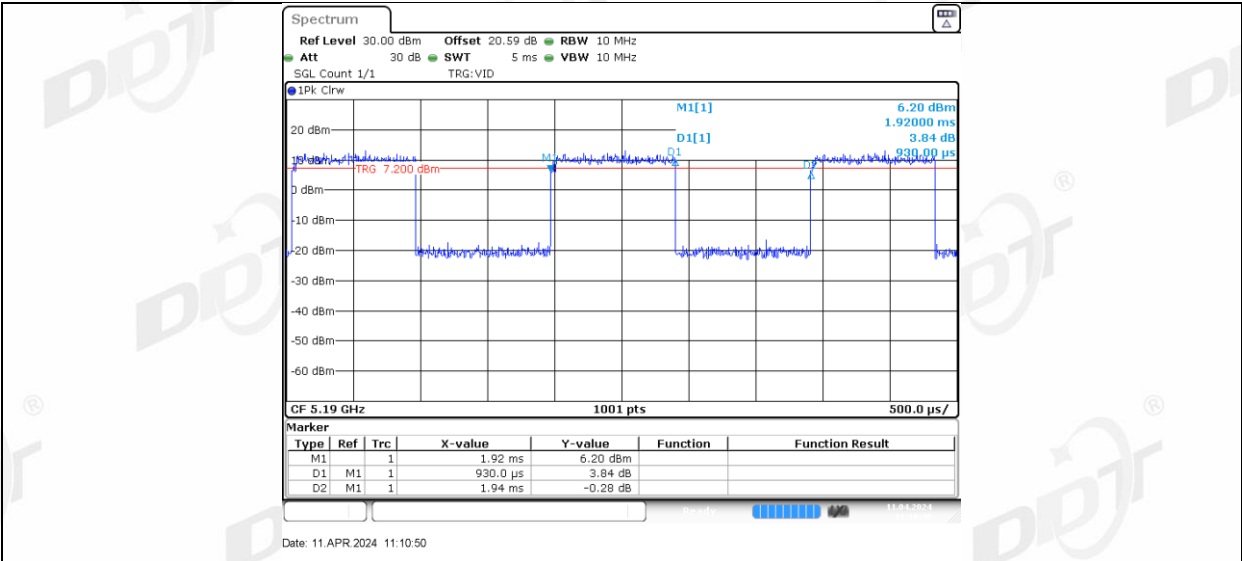
Test Engineer:	Haofeng	Test Site:	RF Measurement System 3#
Ambient Condition:	23.1℃,46.8%RH	Test Date:	2024.03.21-2024.04.11
Test Power Supply:	DC 12V	Sample Number:	S24012204-002

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	2.02	3.03	66.67
		5200	2.02	3.03	66.67
		5240	2.02	3.03	66.67
11N20SISO	Ant1	5180	1.89	2.90	65.17
		5200	1.89	2.90	65.17
		5240	1.89	2.90	65.17
11N40SISO	Ant1	5190	0.93	1.94	47.94
		5230	0.93	1.94	47.94
11AC20SISO	Ant1	5180	1.90	2.90	65.52
		5200	1.89	2.90	65.17
		5240	1.90	2.90	65.52
11AC40SISO	Ant1	5190	0.93	1.94	47.94
		5230	0.94	1.94	48.45
11AC80SISO	Ant1	5210	0.45	1.46	30.82

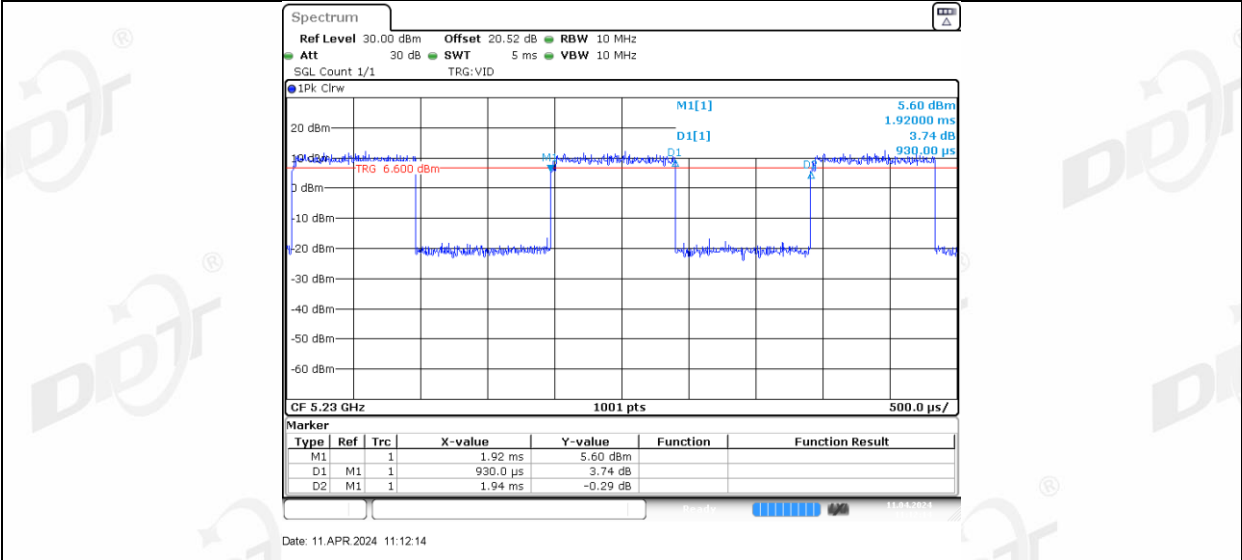
5.5. Test graphs



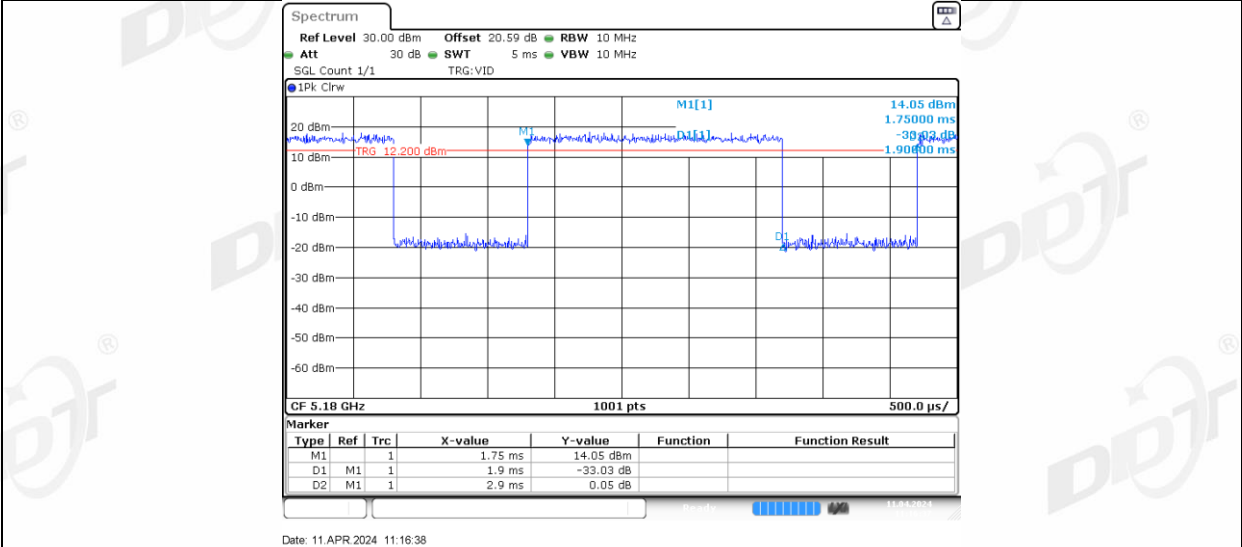




11N40SISO_Ant1_5230

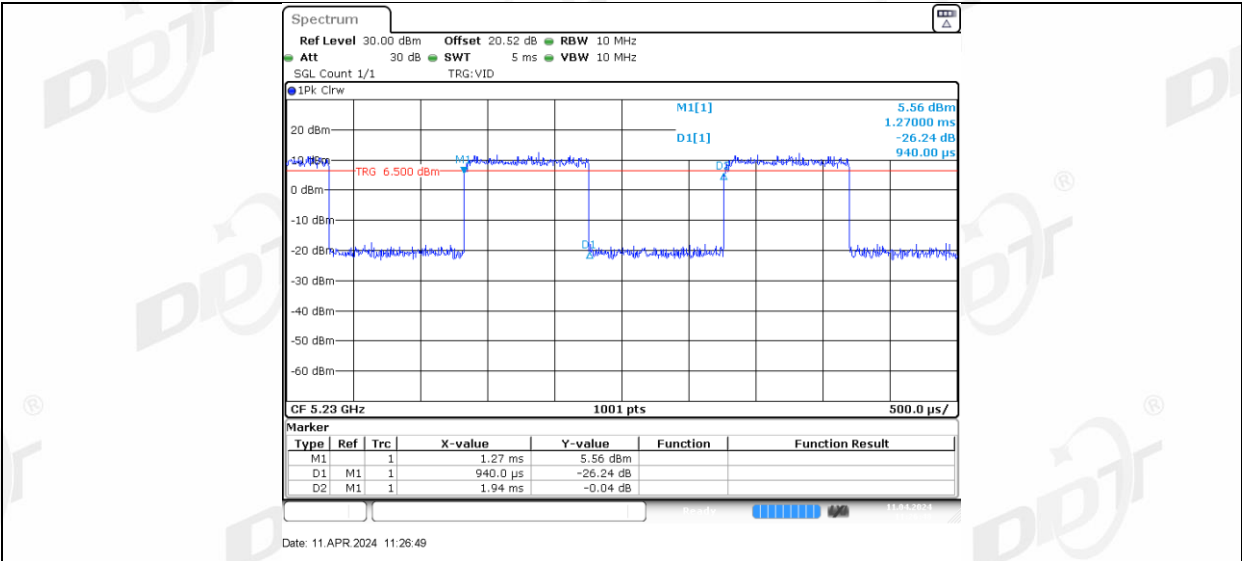


11AC20SISO_Ant1_5180

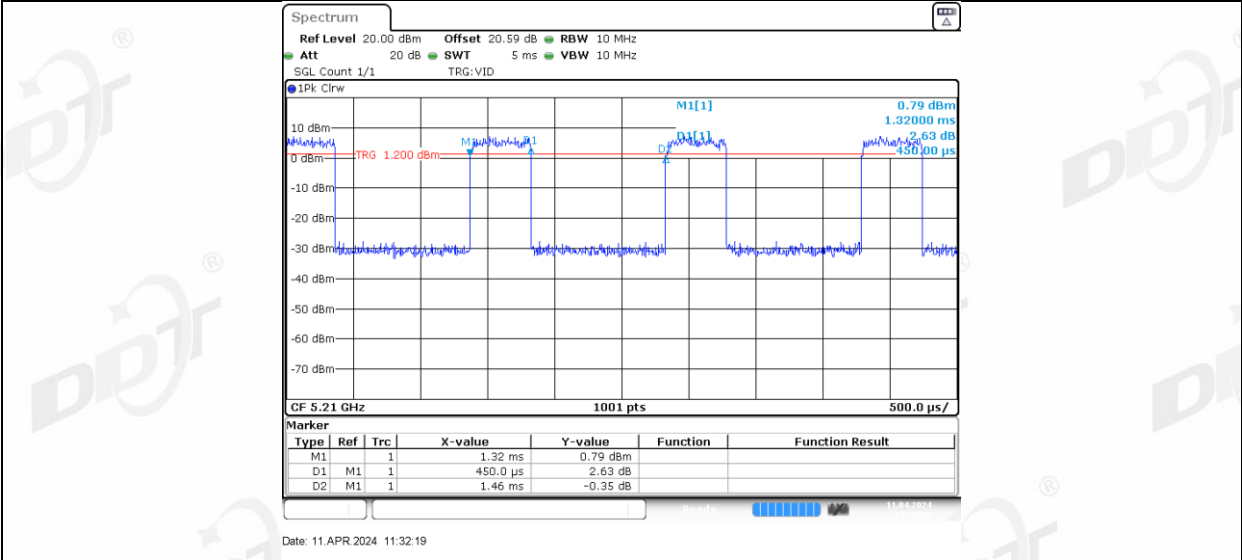


11AC20SISO_Ant1_5200



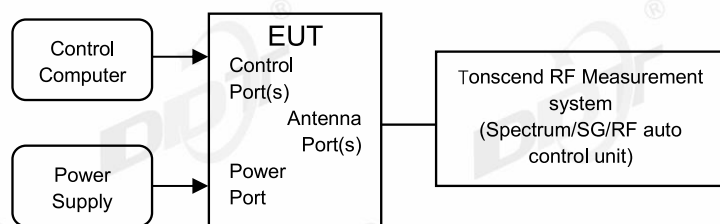


11AC80SISO_Ant1_5210



6. Maximum Output Power

6.1. Block diagram of test setup



6.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Maximum Output Power	outdoor access point: 1 W (30 dBm) indoor access point: 1 W (30 dBm) fixed point-to-point access points 1 W (30 dBm) client devices: 250 mW (24 dBm)	5150-5250
	250 mW (24 dBm) or $11 + 10 \log_{10} B$	5250-5350
	250 mW (24 dBm) or $11 + 10 \log_{10} B$	5470-5725
	1 Watt (30 dBm)	5725-5850
Note: B=26 bandwidth		

6.3. Test procedure

Connect each EUT's antenna output to power sensor by RF cable and attenuator
Measure the output power of each antenna port by power sensor.

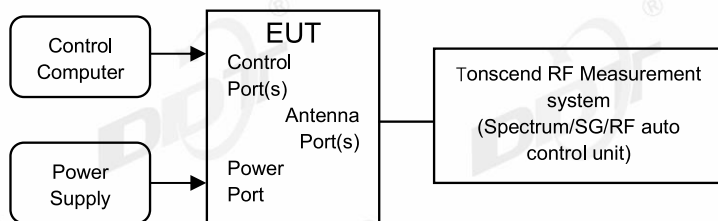
6.4. Test result channel power

Test Engineer:	Haofeng	Test Site:	RF Measurement System 3#
Ambient Condition:	23.1℃,46.8%RH	Test Date:	2024.03.21-2024.04.11
Test Power Supply:	DC 12V	Sample Number:	S24012204-002

Test Mode	Antenna	Frequency [MHz]	Duty Cycle [%]	DC Factor [dB]	Result [dBm]	Limit [dBm]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11A	Ant1	5180	66.67	1.76	13.34	≤23.98	16.84	---	PASS
		5200	66.67	1.76	13.24	≤23.98	16.74	---	PASS
		5240	66.67	1.76	12.71	≤23.98	16.21	---	PASS
11N20SISO	Ant1	5180	65.17	1.86	11.99	≤23.98	15.49	---	PASS
		5200	65.17	1.86	11.81	≤23.98	15.31	---	PASS
		5240	65.17	1.86	11.22	≤23.98	14.72	---	PASS
11N40SISO	Ant1	5190	47.94	3.19	9.31	≤23.98	12.81	---	PASS
		5230	47.94	3.19	8.87	≤23.98	12.37	---	PASS
11AC20SISO	Ant1	5180	65.52	1.84	12.83	≤23.98	16.33	---	PASS
		5200	65.17	1.86	12.61	≤23.98	16.11	---	PASS
		5240	65.52	1.84	11.92	≤23.98	15.42	---	PASS
11AC40SISO	Ant1	5190	47.94	3.19	9.34	≤23.98	12.84	---	PASS
		5230	48.45	3.15	8.80	≤23.98	12.30	---	PASS
11AC80SISO	Ant1	5210	30.82	5.11	8.98	≤23.98	12.48	---	PASS

7. Power Spectral Density

7.1. Block diagram of test setup



7.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	Other than Mobile and portable:17 dBm/MHz Mobile and portable client devices:11 dBm/MHz	5150-5250
	11 dBm/MHz	5250-5350
	11 dBm/MHz	5470-5725
	30 dBm/500 kHz	5725-5850

7.3. Test procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

7.4. Test result

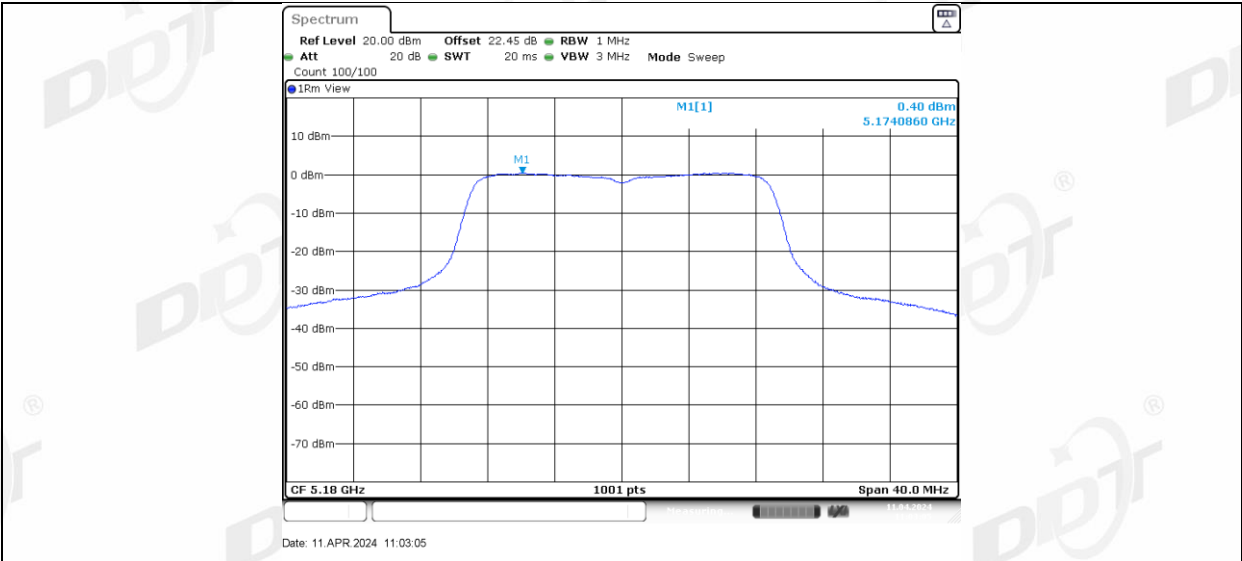
Test Engineer:	Haofeng	Test Site:	RF Measurement System 3#
Ambient Condition:	23.1℃,46.8%RH	Test Date:	2024.03.21-2024.04.11
Test Power Supply:	DC 12V	Sample Number:	S24012204-002

Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	2.09	≤11.00	PASS
		5200	1.95	≤11.00	PASS
		5240	1.39	≤11.00	PASS
11N20SISO	Ant1	5180	0.40	≤11.00	PASS
		5200	0.23	≤11.00	PASS
		5240	-0.49	≤11.00	PASS
11N40SISO	Ant1	5190	-5.09	≤11.00	PASS
		5230	-5.73	≤11.00	PASS
11AC20SISO	Ant1	5180	1.23	≤11.00	PASS
		5200	1.06	≤11.00	PASS
		5240	0.26	≤11.00	PASS
11AC40SISO	Ant1	5190	-4.90	≤11.00	PASS
		5230	-5.72	≤11.00	PASS
11AC80SISO	Ant1	5210	-7.22	≤11.00	PASS

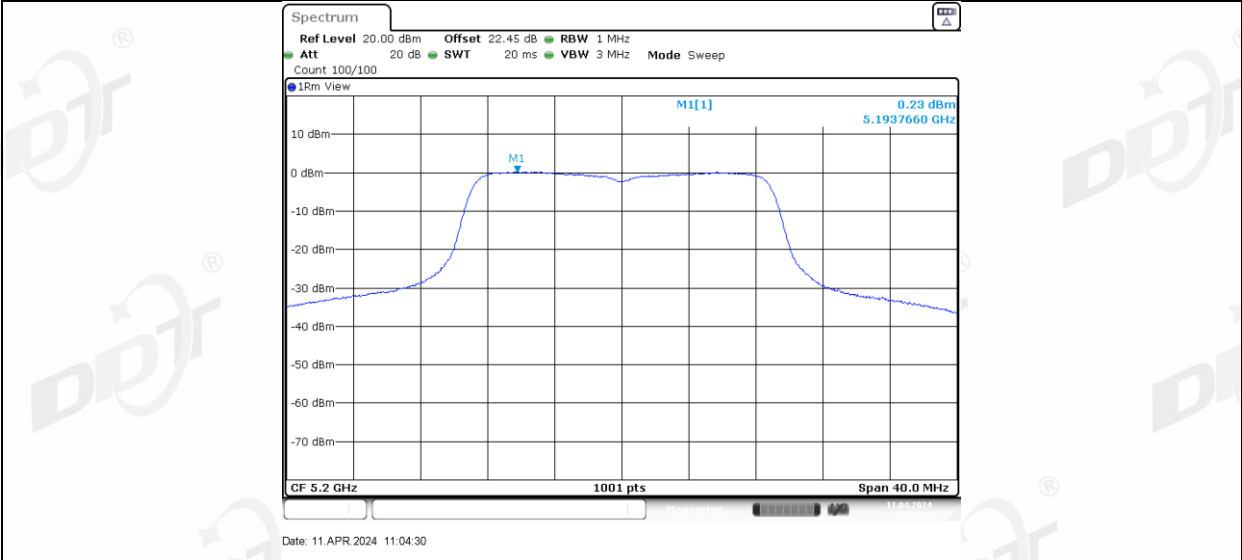
Note: The Duty Cycle Factor is compensated in the graph.

7.5. Test graphs

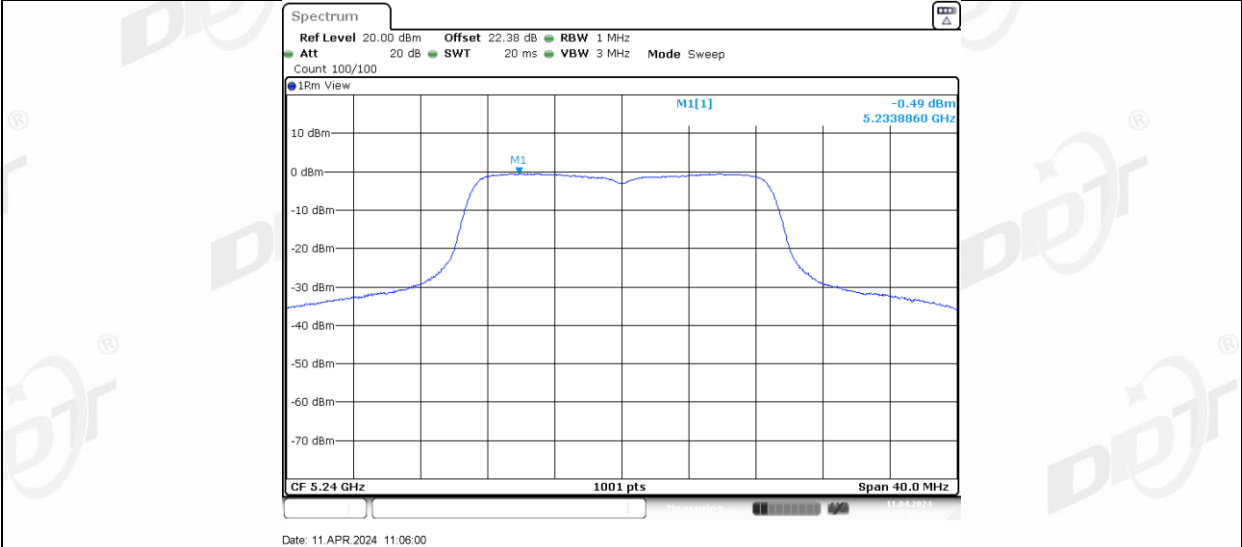




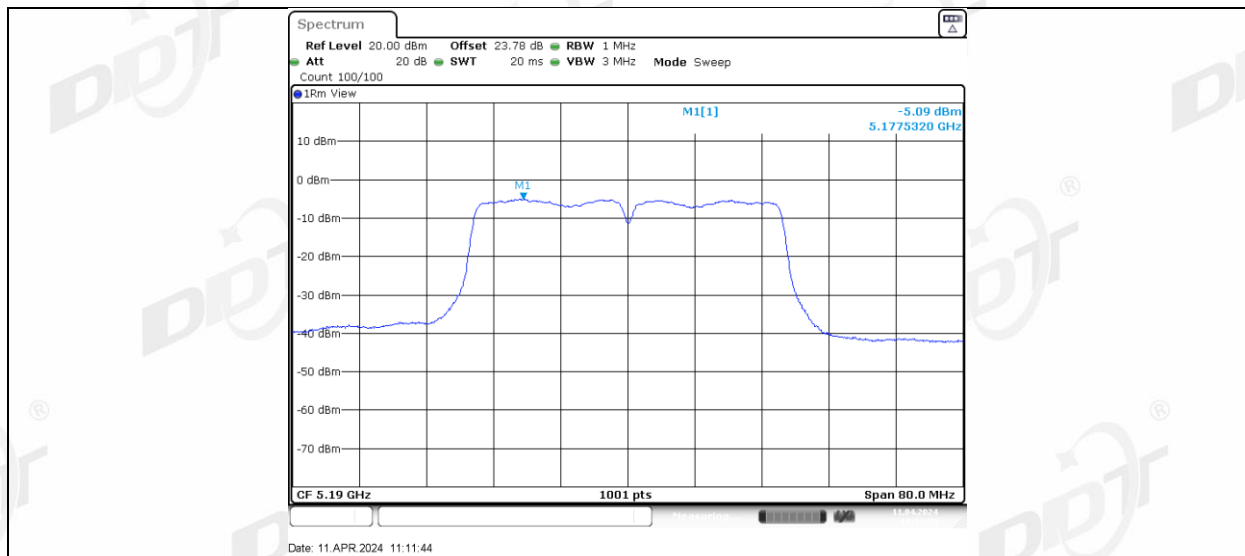
11N20SISO_Ant1_5200



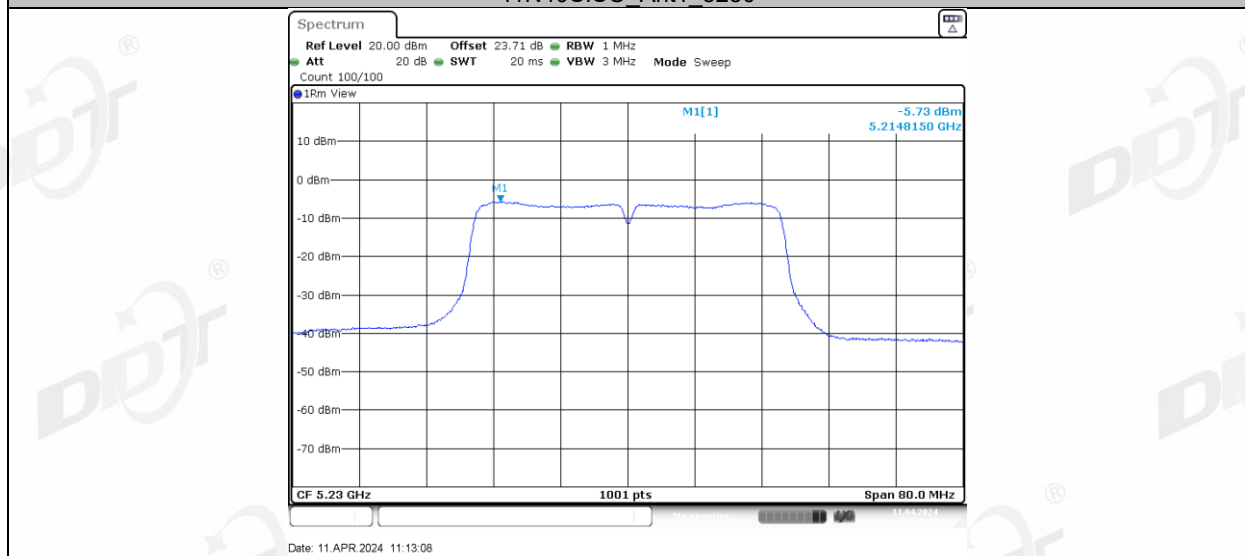
11N20SISO_Ant1_5240



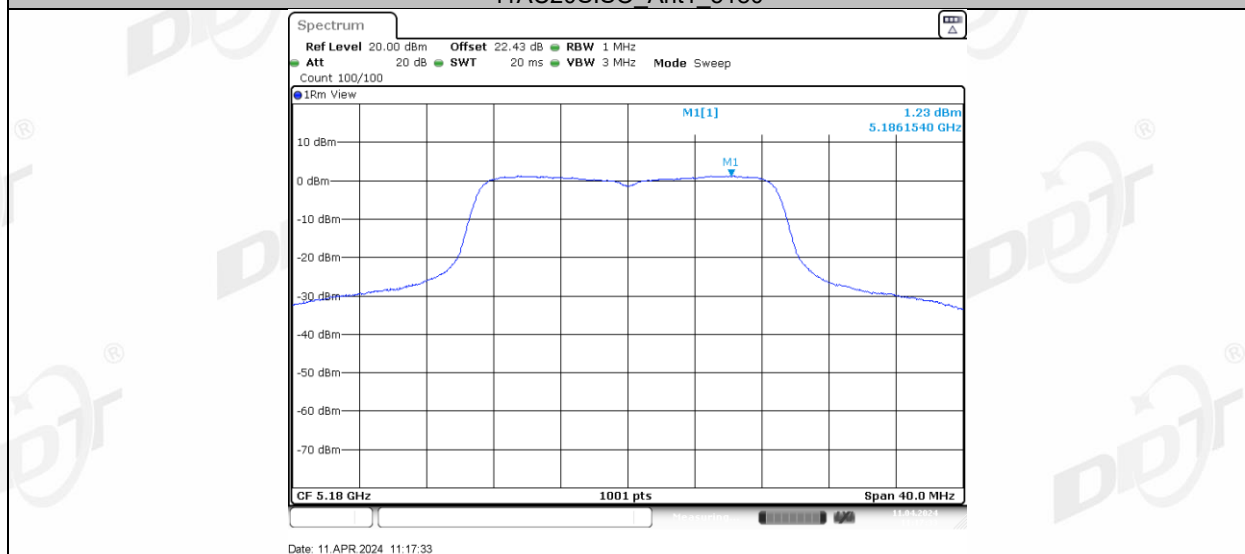
11N40SISO_Ant1_5190



11N40SISO_Ant1_5230

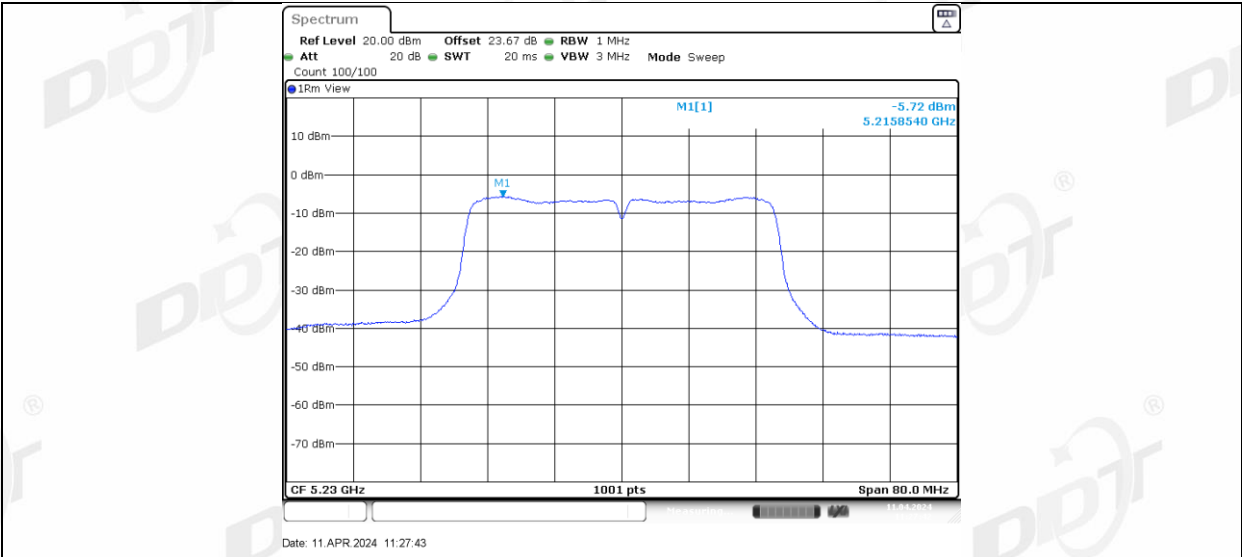


11AC20SISO_Ant1_5180

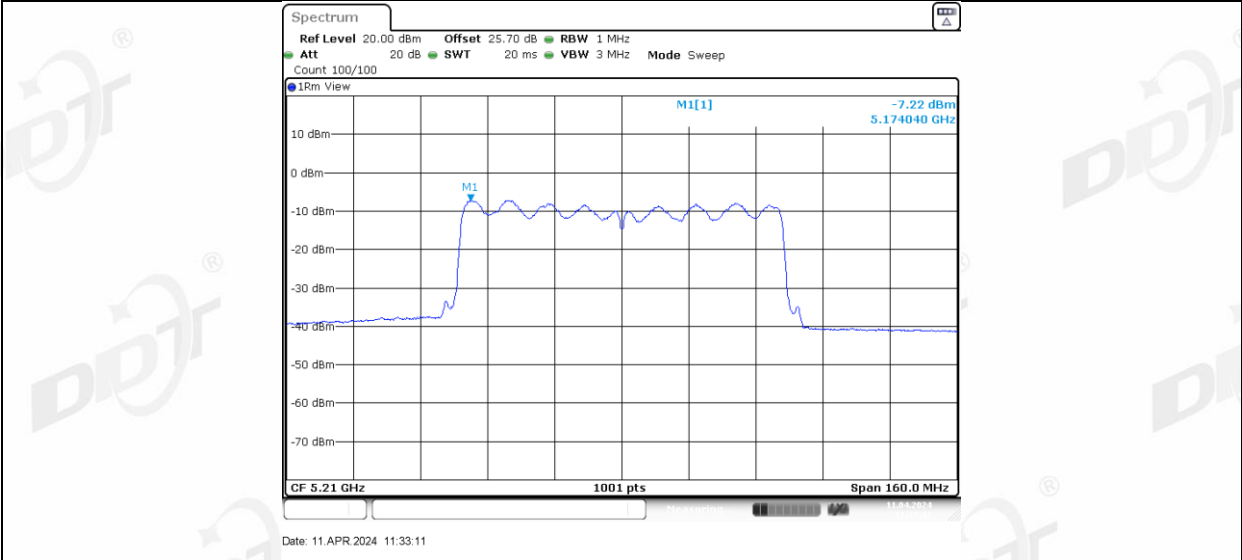


11AC20SISO_Ant1_5200





11AC80SISO_Ant1_5210



8. Frequency Stability Measurement

8.1. Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring 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.

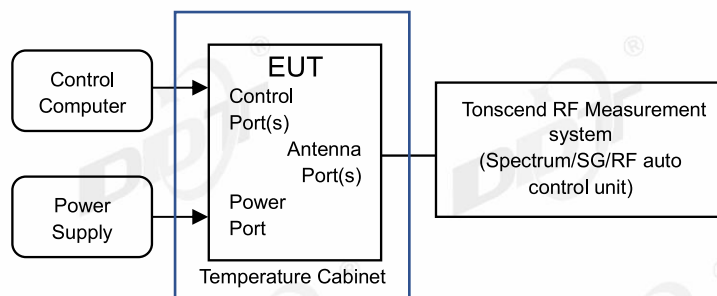
8.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

8.3. Test procedures

- (1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- (2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- (3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

8.4. Test setup



8.5. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 3#
Ambient Condition:	23.1℃,46.8%RH	Test Date:	2024.03.21-2024.04.11
Test Power Supply:	DC 12V	Sample Number:	S24012204-002

Voltage								
Test Mode	Antenna	Frequency[MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	20000.00	3.861004	20	PASS
			LV	NT	20000.00	3.861004	20	PASS
			HV	NT	20000.00	3.861004	20	PASS
		5200	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5240	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11N40SISO	Ant1	5190	NV	NT	0.00	0.000000	20	PASS
			LV	NT	40000.00	7.707129	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5230	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	40000.00	7.648184	20	PASS
11AC80SISO	Ant1	5210	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

Temperature								
Test Mode	Antenna	Frequency[MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	0.00	0.000000	20	PASS
			NV	-20	20000.00	3.861004	20	PASS
			NV	-10	20000.00	3.861004	20	PASS
			NV	0	-20000.00	-3.861004	20	PASS
			NV	10	20000.00	3.861004	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	20000.00	3.861004	20	PASS
			NV	40	20000.00	3.861004	20	PASS
			NV	50	-20000.00	-3.861004	20	PASS
		5200	NV	-30	20000.00	3.846154	20	PASS
			NV	-20	20000.00	3.846154	20	PASS
			NV	-10	20000.00	3.846154	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	-20000.00	-3.846154	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	-20000.00	-3.846154	20	PASS
			NV	50	-20000.00	-3.846154	20	PASS
		5240	NV	-30	20000.00	3.816794	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	20000.00	3.816794	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	-20000.00	-3.816794	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11N40SISO	Ant1	5190	NV	-30	0.00	0.000000	20	PASS
			NV	-20	40000.00	7.707129	20	PASS
			NV	-10	40000.00	7.707129	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS

			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	40000.00	7.707129	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5230	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	40000.00	7.648184	20	PASS
			NV	10	40000.00	7.648184	20	PASS
			NV	20	40000.00	7.648184	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
			NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
11AC80SISO	Ant1	5210	NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS

9. Dynamic Frequency Selection

9.1. Applicability of DFS requirements

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	☐ Master	☒ Client Without Radar Detection	☐ Client with Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

9.2. Limit

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP $<$ 200 milliwatt and power spectral density $<$ 10 dBm/MHz	-62 dBm
EIRP $<$ 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
 Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
 Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
 Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

9.3. Parameters of radar test waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A					

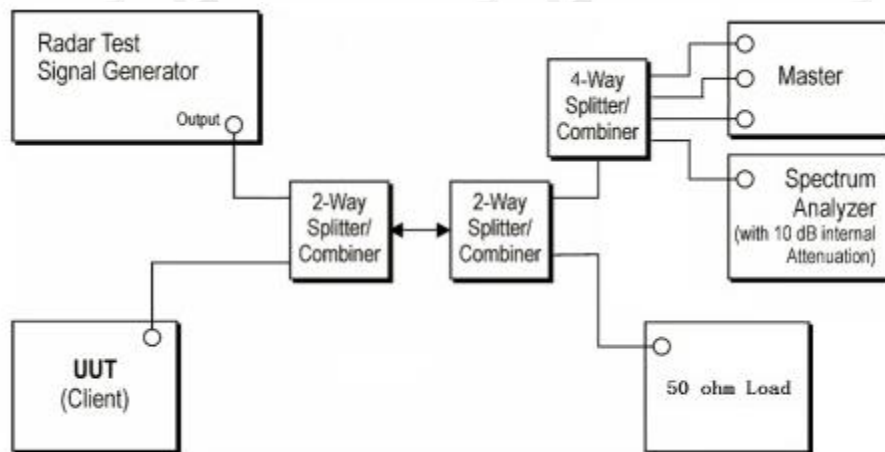
A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4

9.4. Calibration of radar waveform

Radar Waveform Calibration Procedure:

- (1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
- (2) The interference Radar Detection Threshold Level is $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$ that had been taken into account the output power range and antenna gain.
- (3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.
- (4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup:



Note: 1. Use the software "Web" to set the frequency channel.
 2. EUT is not support TPC and not with Radar detection.

9.5. Channel closing transmission time, channel move time and non-occupancy period

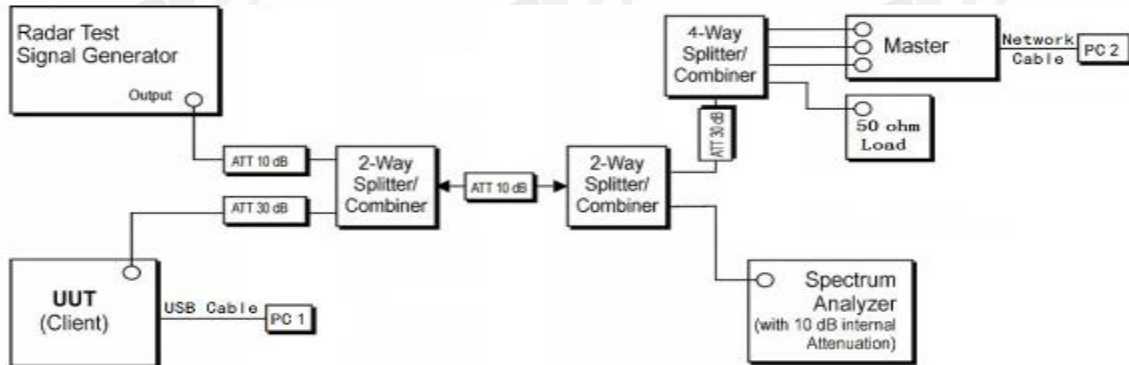
Block diagram of test setup Test Procedure:

- (1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- (2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- (3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- (4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Test Software in order to properly load the network for the entire period of the test.
- (5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- (6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- (7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the
- (8) spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $D_{well} (0.3ms) = S (12000ms) / B (4000)$; where D_{well} is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times D_{well} (0.3ms)$; where C is the

Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

9.6. Test setup

Setup for Client with injection at the Master



9.7. Test result

Not applicable. The EUT does not use in U-NII-2A and UNII-2C band (from frequency 5250MHz to 5725MHz).

10. Antenna Requirements

10.1. Limit

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

10.2. Result

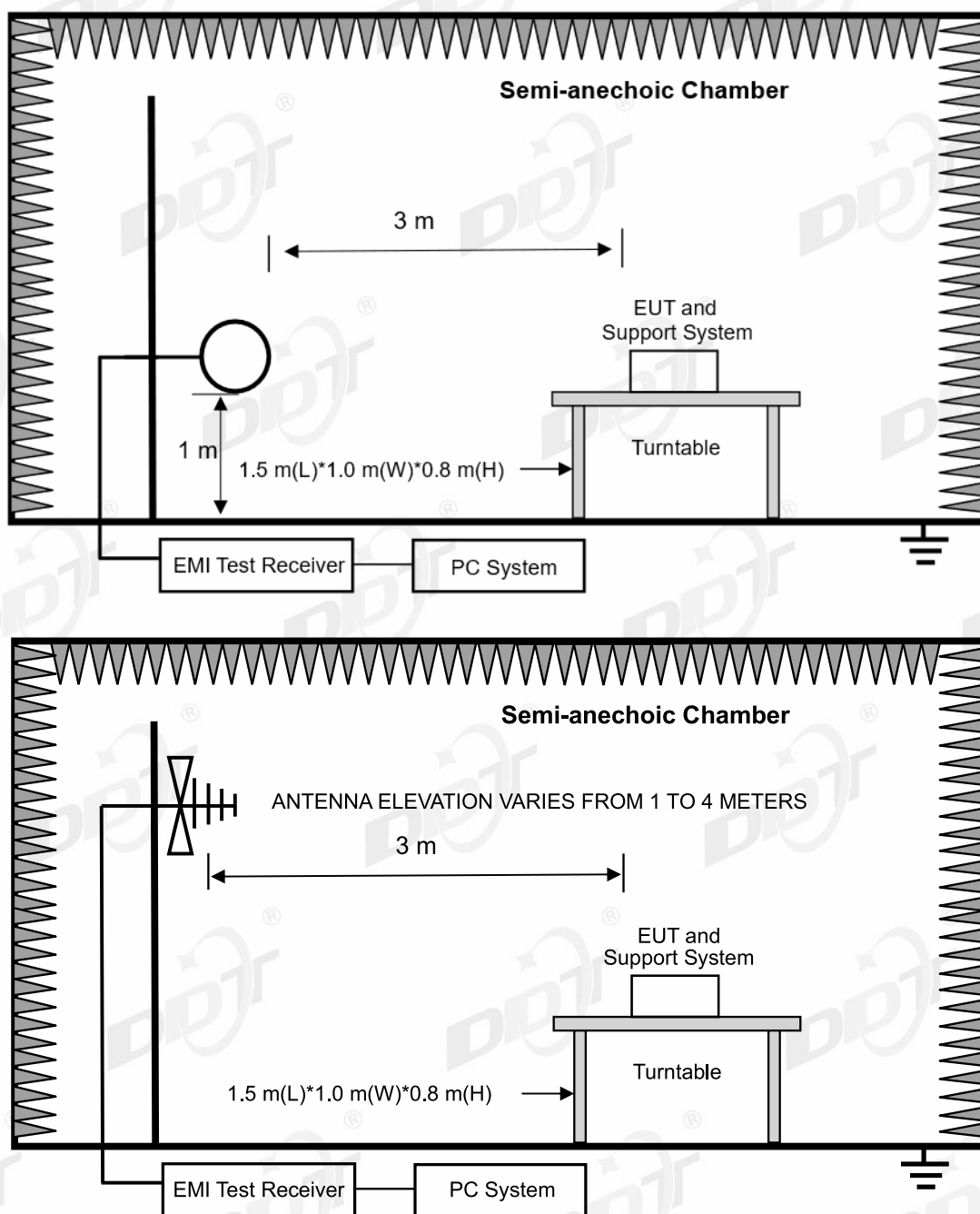
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

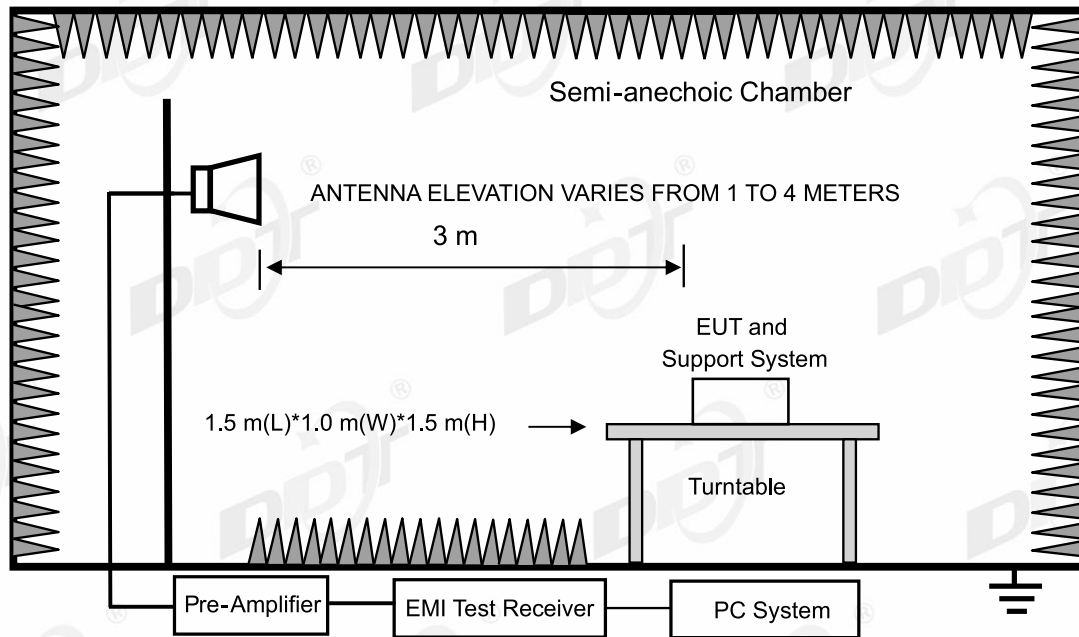
11.Radiated Emission

11.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2025/08/28
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25

11.2. Block diagram of test setup





11.3. Limits

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

²Above 38.6

(2) FCC 15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
0.009 ~ 0.490	300	$2400/F(\text{kHz})$	$67.6-20\log(F)$
0.490 ~ 1.705	30	$24000/F(\text{kHz})$	$87.6-20\log(F)$
1.705 ~ 30.0	30	30	29.54
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dB}\mu\text{V/m}) = \text{Limit}_{30\text{m}}(\text{dB}\mu\text{V/m}) + 40\log(30\text{m}/3\text{m})$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, , all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

11.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

11.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.

(2) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna(1 GHz-18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna(18 GHz-40 GHz)	1 m

According ANSI C63.10:2013 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30MHz, the trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.

(8) According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

(9) 30 MHz ~ 40 GHz: (Scan with all mode, the worst case is record and report)

(10) For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with the worst mode.

11.6. Test result

PASS. (See below detailed test result)

11.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-03-15

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

Tx mode

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

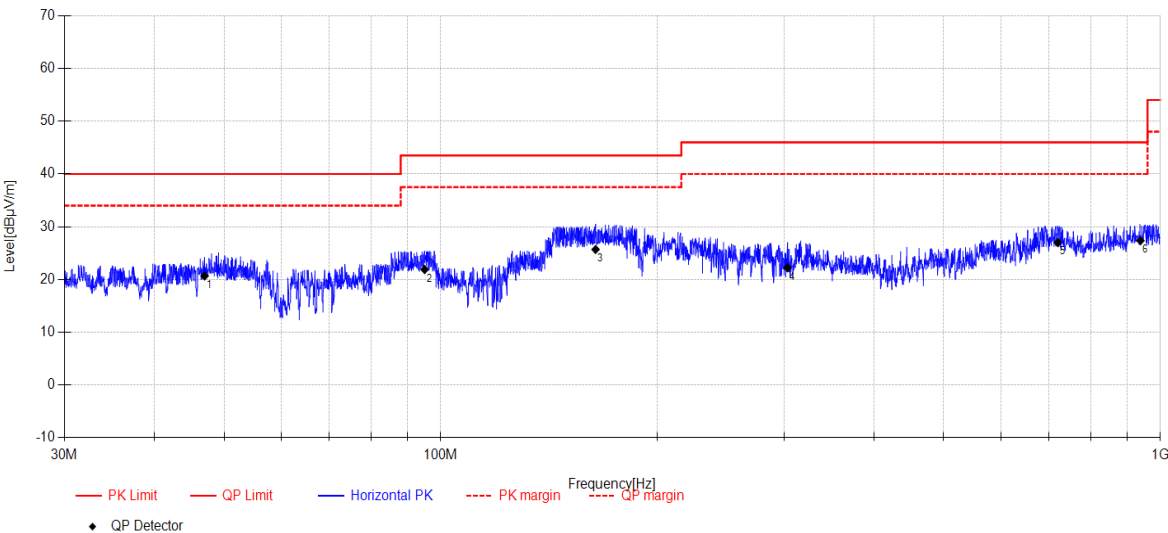
DDT 3# Chamber

File Path:

d:\ts\2024 report data\Q24012204-2E DMR675\FCC BELOW 1G\20240315-235543_H

Memo:

Sample Number: S24012204-003



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	46.99	33.75	12.99	4.69	-30.75	20.68	40.00	19.32	QP	Horizontal
2	95.00	37.18	10.50	5.01	-30.80	21.89	43.50	21.61	QP	Horizontal
3	164.16	42.02	8.94	5.44	-30.71	25.69	43.50	17.81	QP	Horizontal
4	303.40	32.63	13.70	6.17	-30.29	22.21	46.00	23.79	QP	Horizontal
5	720.26	29.92	19.19	7.80	-29.90	27.01	46.00	18.99	QP	Horizontal
6	938.19	26.15	21.40	8.47	-28.66	27.36	46.00	18.64	QP	Horizontal

Note:

- Result Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-03-15

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

Tx mode

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

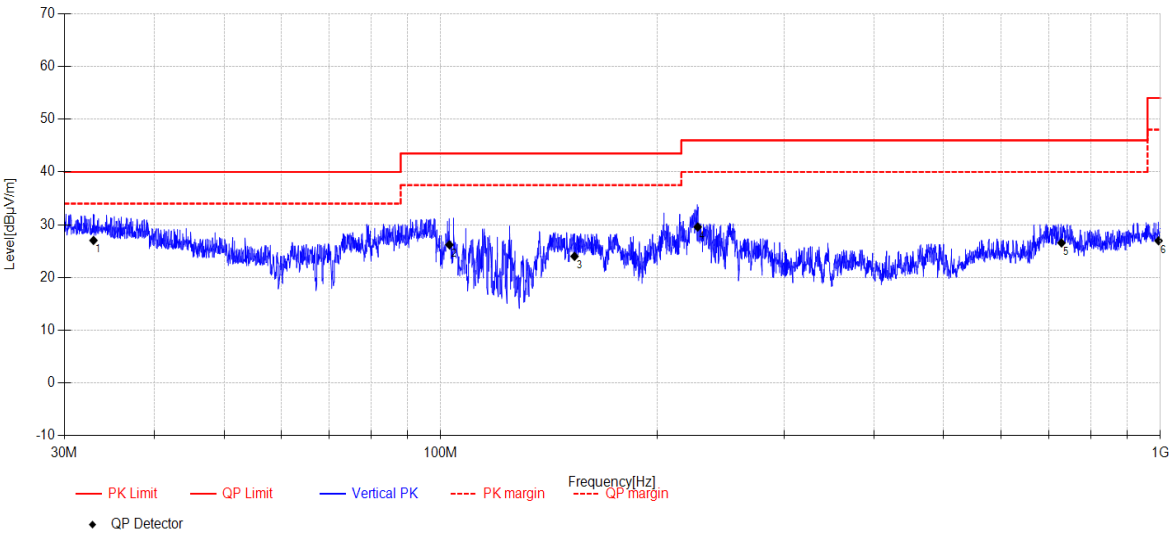
DDT 3# Chamber

File Path:

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Memo:

Sample Number: S24012204-003



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	32.93	42.62	10.85	4.51	-30.96	27.02	40.00	12.98	QP	Vertical
2	102.84	40.96	11.05	5.08	-30.89	26.20	43.50	17.30	QP	Vertical
3	153.47	40.56	8.84	5.35	-30.74	24.01	43.50	19.49	QP	Vertical
4	227.60	42.68	11.56	5.85	-30.52	29.57	46.00	16.43	QP	Vertical
5	728.89	28.91	19.72	7.82	-29.90	26.55	46.00	19.45	QP	Vertical
6	994.41	23.9	22.54	8.67	-28.15	26.96	54.00	27.04	QP	Vertical

Note:

- Result Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

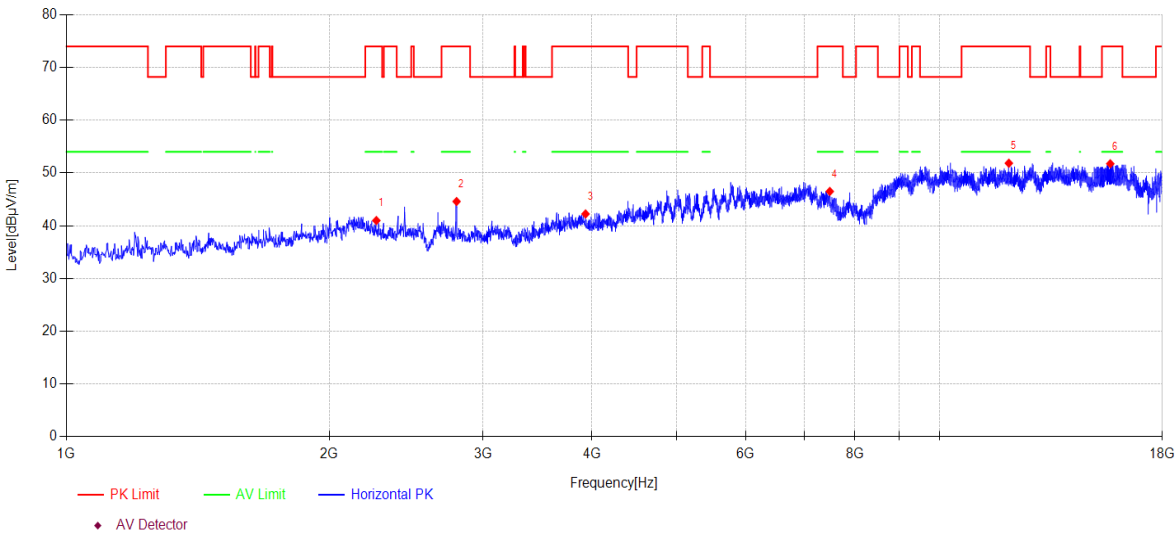
File Path:

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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2264.800	45.60	27.15	6.00	-37.76	40.99	74.00	33.01	PK	Horizontal
2	2798.600	50.93	27.41	5.53	-39.27	44.60	74.00	29.40	PK	Horizontal
3	3932.500	45.47	31.14	6.03	-40.41	42.23	74.00	31.77	PK	Horizontal
4	7488.900	43.02	36.52	8.88	-41.92	46.50	74.00	27.50	PK	Horizontal
5	12007.500	41.88	39.21	10.32	-39.56	51.85	74.00	22.15	PK	Horizontal
6	15691.400	37.90	38.51	14.51	-39.17	51.75	74.00	22.25	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

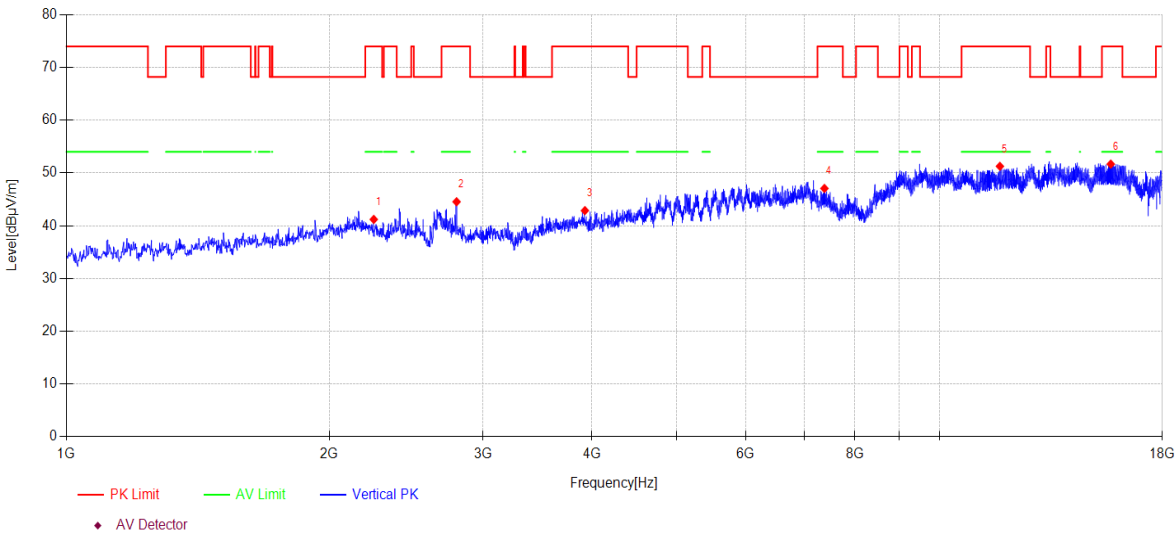
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2249.500	45.60	27.31	6.01	-37.72	41.20	74.00	32.80	PK	Vertical
2	2798.600	50.87	27.41	5.53	-39.27	44.54	74.00	29.46	PK	Vertical
3	3925.700	46.09	31.15	6.03	-40.40	42.87	74.00	31.13	PK	Vertical
4	7383.500	43.10	36.73	8.90	-41.66	47.07	74.00	26.93	PK	Vertical
5	11728.700	41.62	38.97	10.10	-39.43	51.26	74.00	22.74	PK	Vertical
6	15711.800	37.77	38.48	14.62	-39.19	51.68	74.00	22.32	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5200MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

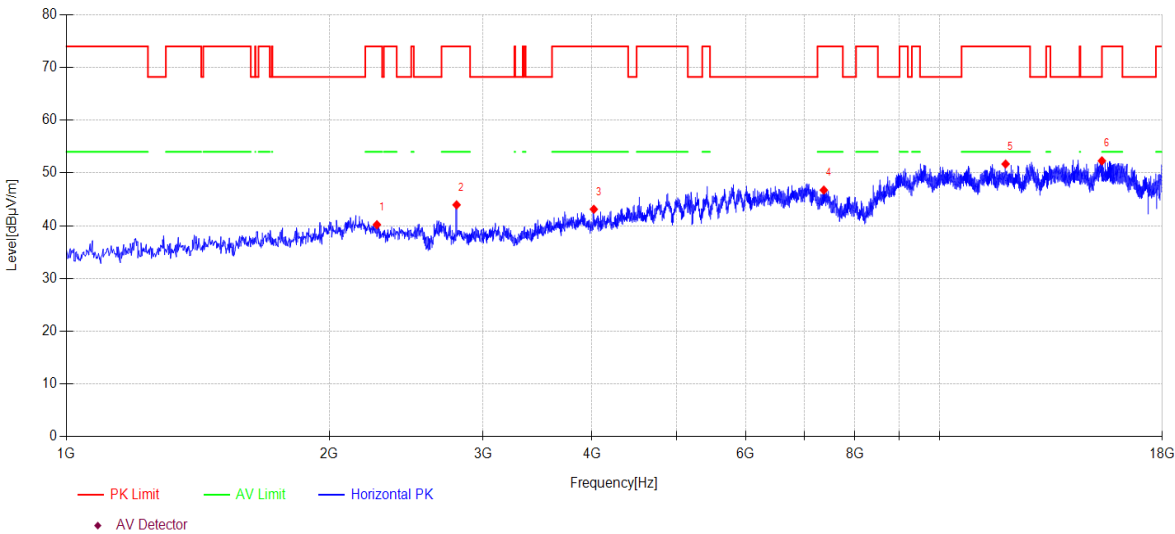
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO .	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2268.200	44.85	27.12	5.99	-37.77	40.19	74.00	33.81	PK	Horizontal
2	2798.600	50.28	27.41	5.53	-39.27	43.95	74.00	30.05	PK	Horizontal
3	4019.200	46.50	30.94	6.12	-40.44	43.12	74.00	30.88	PK	Horizontal
4	7371.600	42.72	36.76	8.90	-41.63	46.75	74.00	27.25	PK	Horizontal
5	11905.500	42.06	38.92	10.24	-39.52	51.70	74.00	22.30	PK	Horizontal
6	15348.000	39.06	39.42	12.78	-38.97	52.29	68.20	15.91	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5200MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

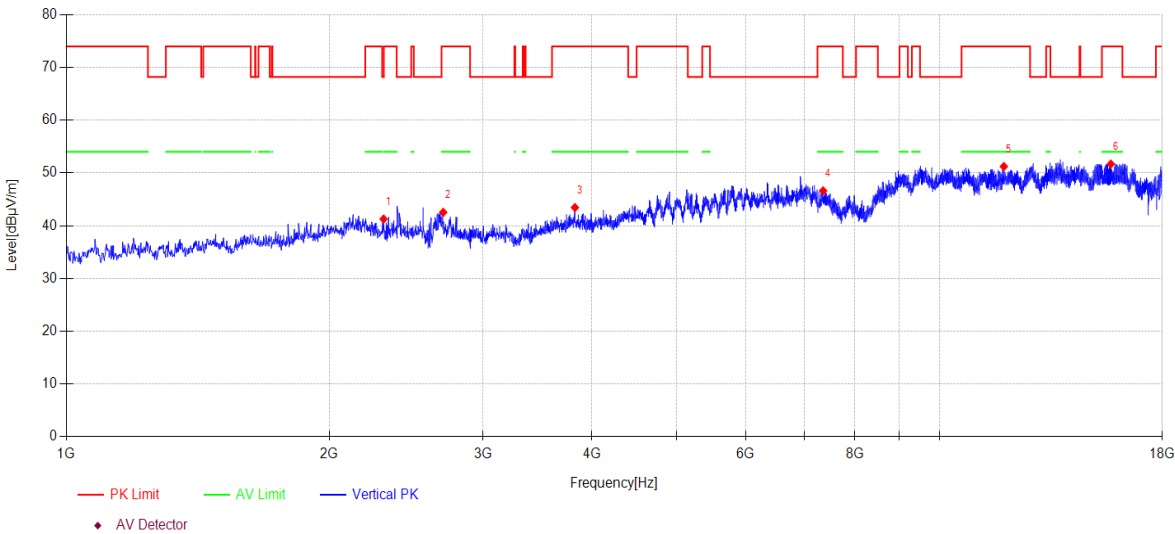
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2309.000	46.34	26.85	5.96	-37.88	41.27	68.20	26.93	PK	Vertical
2	2701.700	48.44	27.50	5.61	-39.00	42.55	74.00	31.45	PK	Vertical
3	3823.700	47.05	30.79	5.95	-40.34	43.45	74.00	30.55	PK	Vertical
4	7358.000	42.55	36.78	8.90	-41.60	46.63	74.00	27.37	PK	Vertical
5	11851.100	41.62	38.90	10.20	-39.49	51.23	74.00	22.77	PK	Vertical
6	15713.500	37.78	38.47	14.63	-39.19	51.69	74.00	22.31	PK	Vertical

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

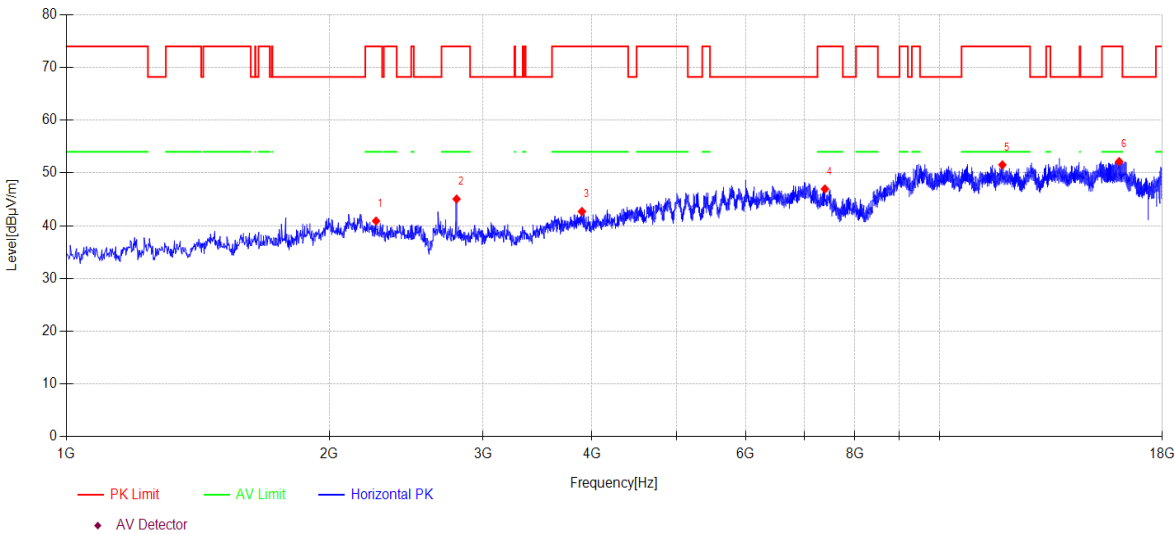
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO .	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2263.100	45.47	27.17	6.00	-37.75	40.89	74.00	33.11	PK	Horizontal
2	2798.600	51.39	27.41	5.53	-39.27	45.06	74.00	28.94	PK	Horizontal
3	3895.100	45.92	31.17	6.00	-40.39	42.70	74.00	31.30	PK	Horizontal
4	7393.700	43.03	36.71	8.90	-41.68	46.96	74.00	27.04	PK	Horizontal
5	11805.200	41.95	38.90	10.16	-39.47	51.54	74.00	22.46	PK	Horizontal
6	16062.000	37.81	37.94	15.81	-39.41	52.15	74.00	21.85	PK	Horizontal

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

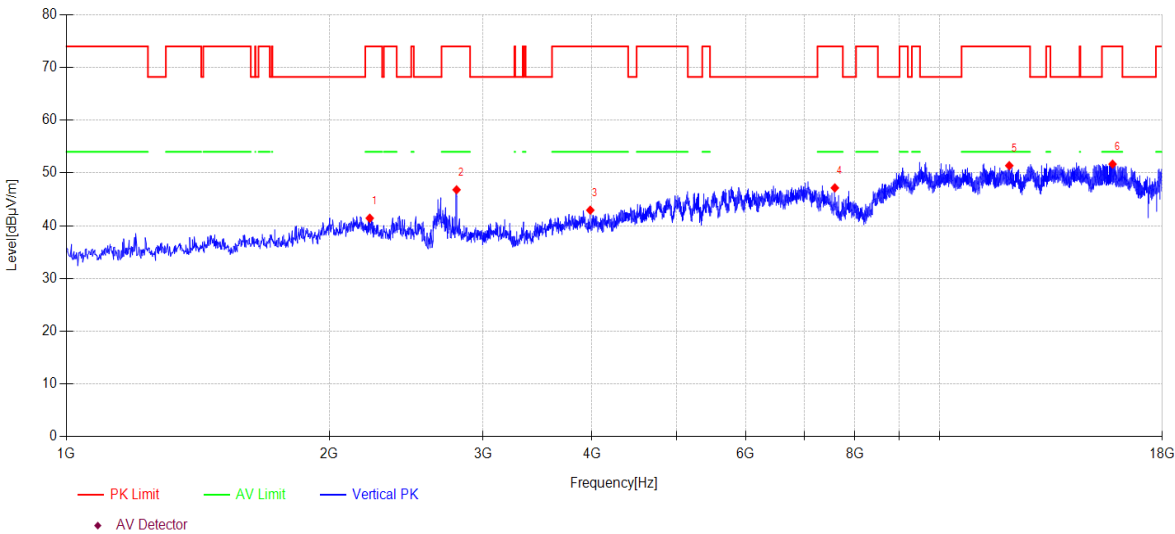
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2225.700	45.51	27.54	6.03	-37.65	41.43	74.00	32.57	PK	Vertical
2	2798.600	53.14	27.41	5.53	-39.27	46.81	74.00	27.19	PK	Vertical
3	3981.800	46.35	30.97	6.07	-40.44	42.95	74.00	31.05	PK	Vertical
4	7589.200	43.99	36.48	8.87	-42.17	47.17	74.00	26.83	PK	Vertical
5	12021.100	41.42	39.22	10.32	-39.57	51.39	74.00	22.61	PK	Vertical
6	15786.600	37.59	38.33	14.99	-39.23	51.68	74.00	22.32	PK	Vertical

Note:

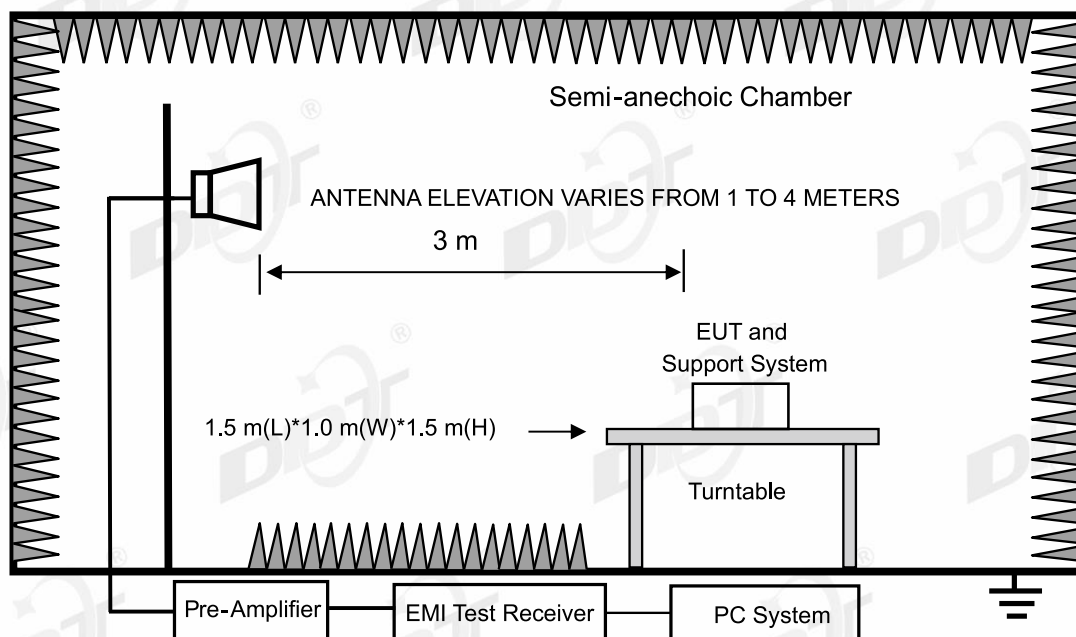
- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

12.Band Edge Compliance

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2025/08/28
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25

12.2. Block diagram of test setup



12.3. Limits

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725-5.850 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

12.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

12.5. Test procedure

Same with Emissions in Restricted Frequency Bands except change investigated frequency range from 5.15-5.25 GHz

Remark: All restriction band have been tested, and only the worst case is shown in report.

12.6. Test result

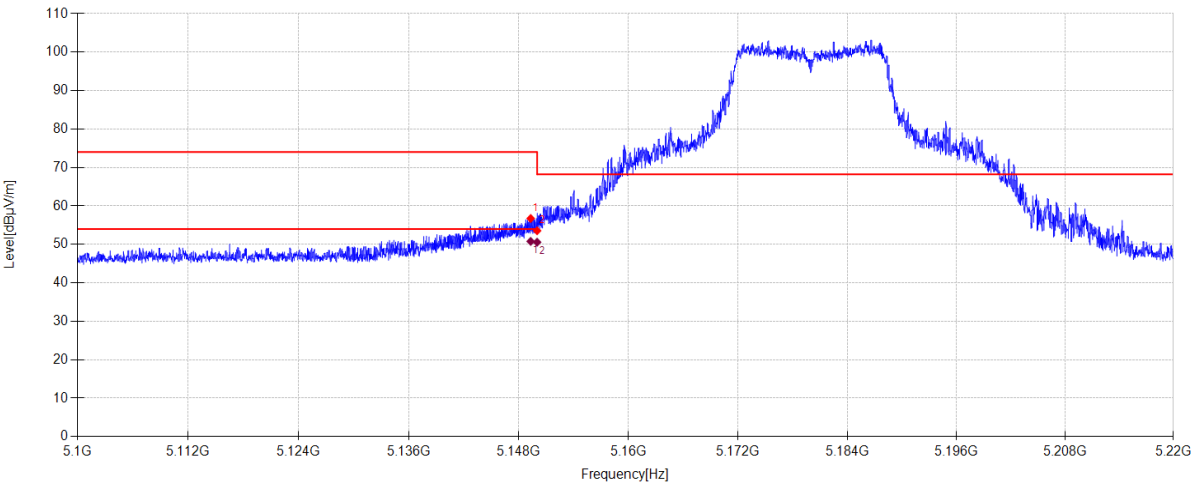
PASS. (See below detailed test result)

12.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-04-09	Tested By:	Junchang Du
EUT:	In-Vehicle infotainment System	Model Number:	CRD8612UBA/DMR675
Test Mode:	11A TX 5180MHz	Power Supply:	DC 12V
Condition:	Temp:22.4°C;Humi:63.3%	Test Site:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24012204-2E DMR675\FCC ABOVE 1G 5G\13		
Memo:	Sample Number: S24012204-003		

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.296	17.76	33.40	5.58	0.00	56.74	74.00	17.26	PK	Horizontal
2	5150.000	14.56	33.40	5.59	0.00	53.55	68.20	14.65	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.296	11.8	33.40	5.58	50.78	54.0	3.22	AV	Horizontal	
2	5150.000	11.58	33.40	5.59	50.57	54.0	3.43	AV	Horizontal	

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

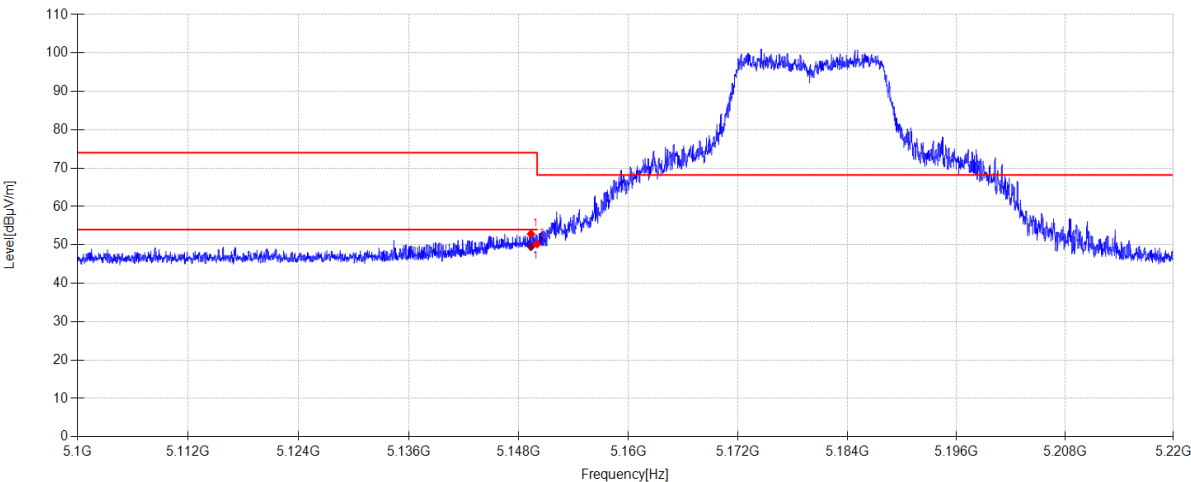
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d:\ts\2024 report data\Q24012204-2E DMR675\FCC ABOVE 1G 5G\14

Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.332	13.87	33.40	5.58	0.00	52.85	74.00	21.15	PK	Vertical
2	5150.000	11.23	33.40	5.59	0.00	50.22	68.20	17.98	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.332	10.54	33.40	5.58	49.52	54.0	4.48	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

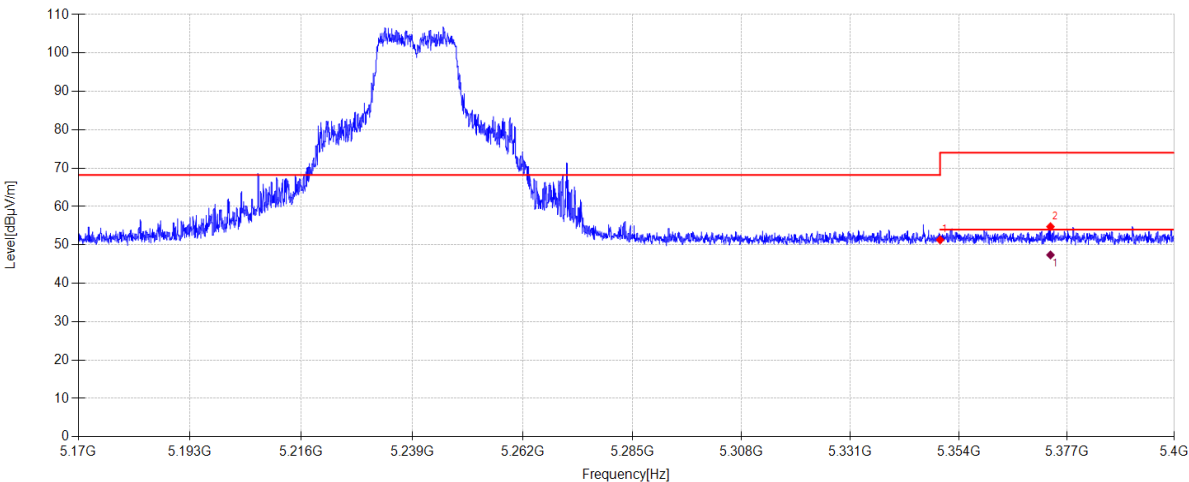
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.41	33.10	5.41	-29.60	51.32	68.20	16.88	PK	Horizontal
2	5373.504	45.82	33.10	5.43	-29.60	54.75	74.00	19.25	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5373.504	38.45	33.10	5.43	47.38	54.0	6.62	AV	Horizontal	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11A20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

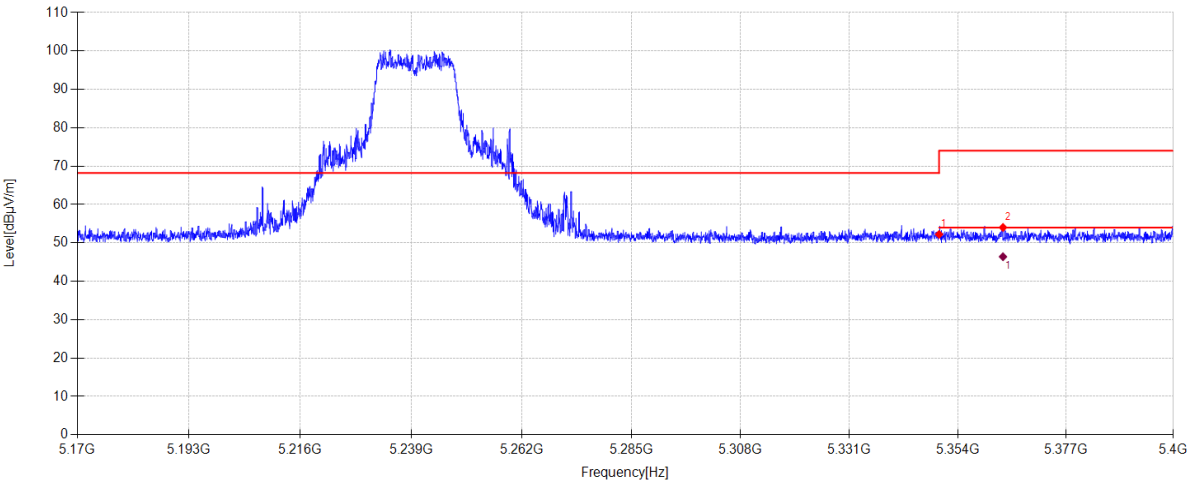
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	43.32	33.10	5.41	-29.60	52.23	68.20	15.97	PK	Vertical
2	5363.591	45.10	33.10	5.42	-29.60	54.02	74.00	19.98	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5363.591	37.48	33.10	5.42	46.40	54.0	7.60	AV	Vertical	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N20 TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

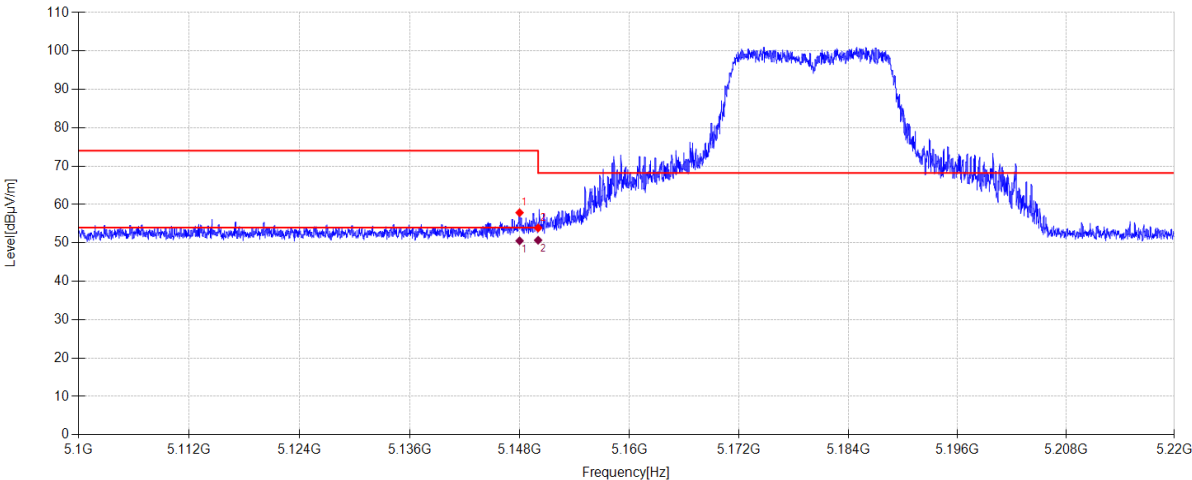
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5147.976	18.90	33.40	5.58	0.00	57.88	74.00	16.12	PK	Horizontal
2	5150.000	14.91	33.40	5.59	0.00	53.90	68.20	14.30	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5147.976	11.56	33.40	5.58	50.54	54.0	3.46	AV	Horizontal	
2	5150.000	11.71	33.40	5.59	50.70	54.0	3.30	AV	Horizontal	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-09

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N20 TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

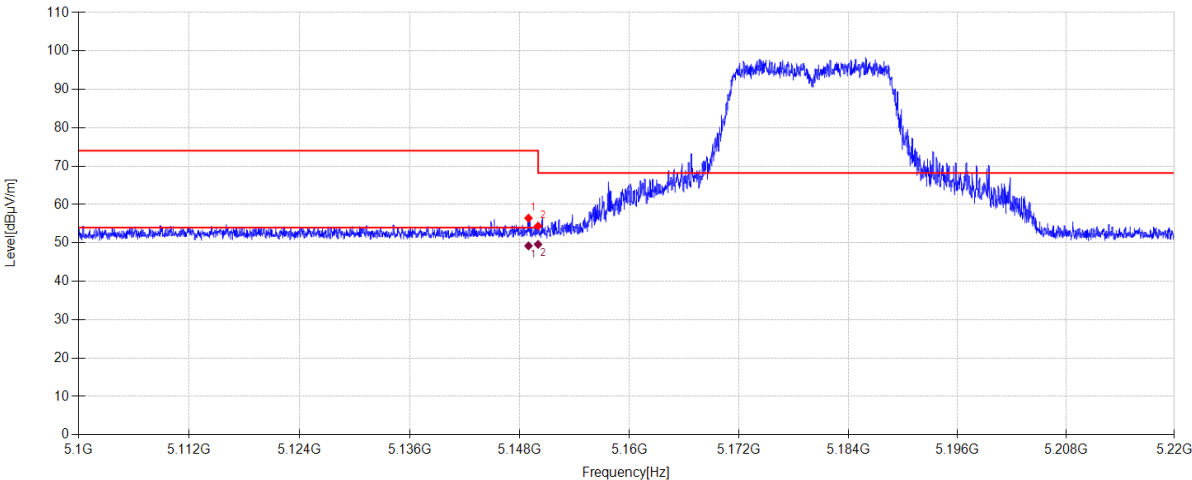
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5148.948	17.47	33.40	5.58	0.00	56.45	74.00	17.55	PK	Vertical
2	5150.000	15.41	33.40	5.59	0.00	54.40	68.20	13.80	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5148.948	10.25	33.40	5.58	49.23	54.0	4.77	AV	Vertical	
2	5150.000	10.63	33.40	5.59	49.62	54.0	4.38	AV	Vertical	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

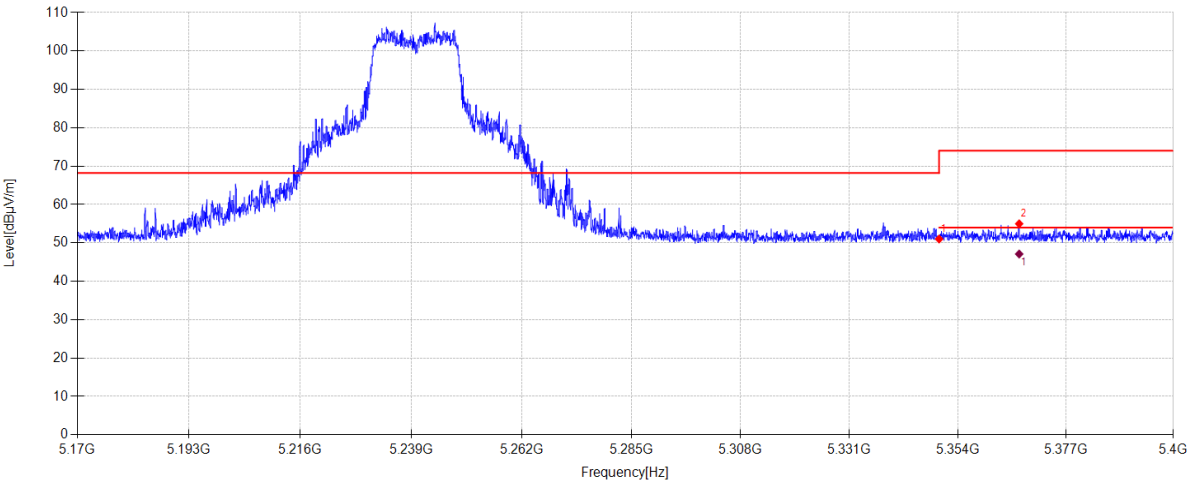
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.10	33.10	5.41	-29.60	51.01	68.20	17.19	PK	Horizontal
2	5367.041	46.07	33.10	5.42	-29.60	54.99	74.00	19.01	PK	Horizontal

Data List									
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5367.041	38.18	33.10	5.42	47.10	54.0	6.90	AV	Horizontal

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

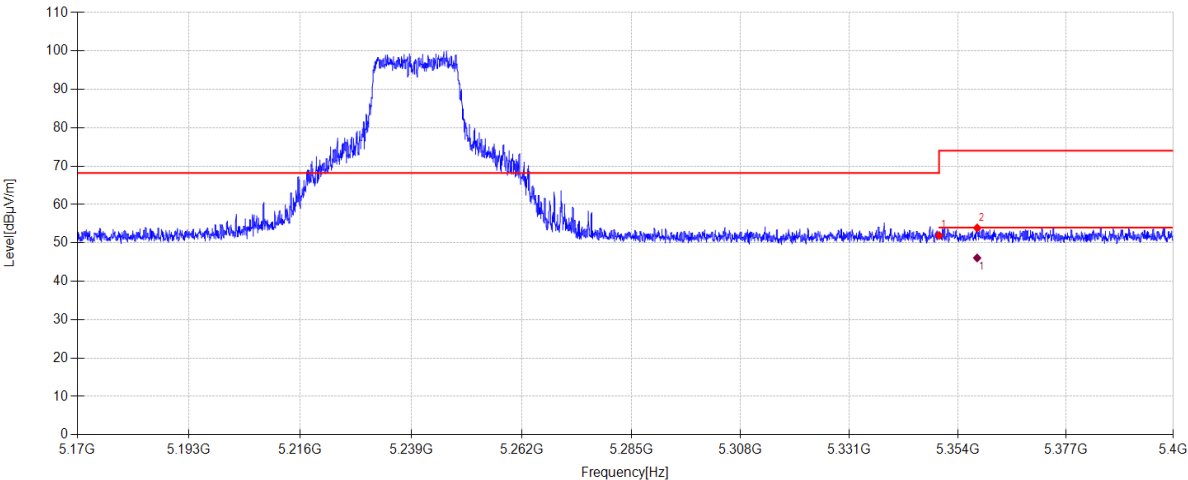
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	43.03	33.10	5.41	-29.60	51.94	68.20	16.26	PK	Vertical
2	5358.094	44.98	33.10	5.42	-29.60	53.90	74.00	20.10	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5358.094	37.16	33.10	5.42	46.08	54.0	7.92	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC20 TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

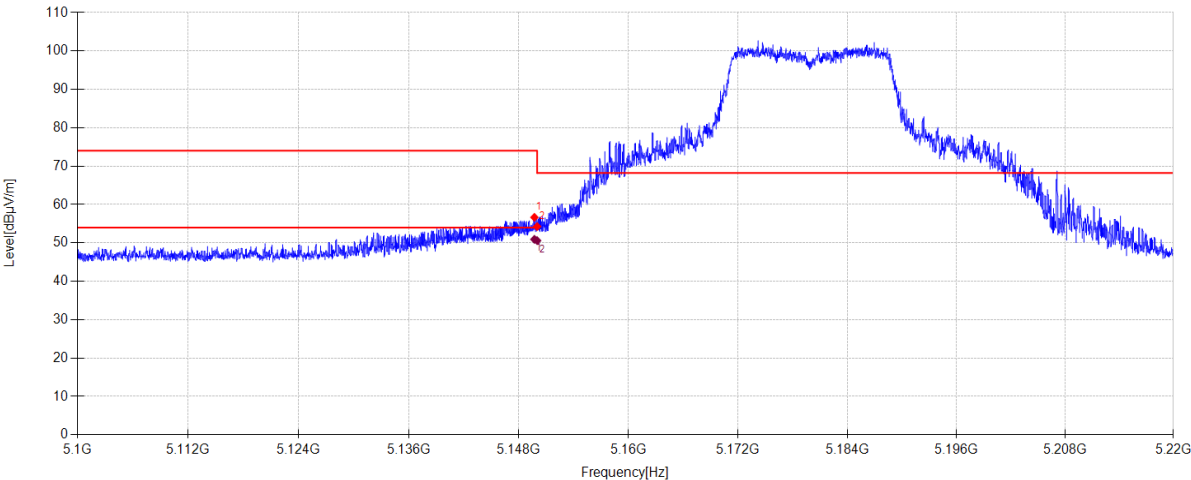
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.704	17.69	33.40	5.58	0.00	56.67	74.00	17.33	PK	Horizontal
2	5150.000	15.28	33.40	5.59	0.00	54.27	68.20	13.93	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.704	11.95	33.40	5.58	50.93	54.0	3.07	AV	Horizontal	
2	5150.000	11.61	33.40	5.59	50.60	54.0	3.40	AV	Horizontal	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC20 TX 5180MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

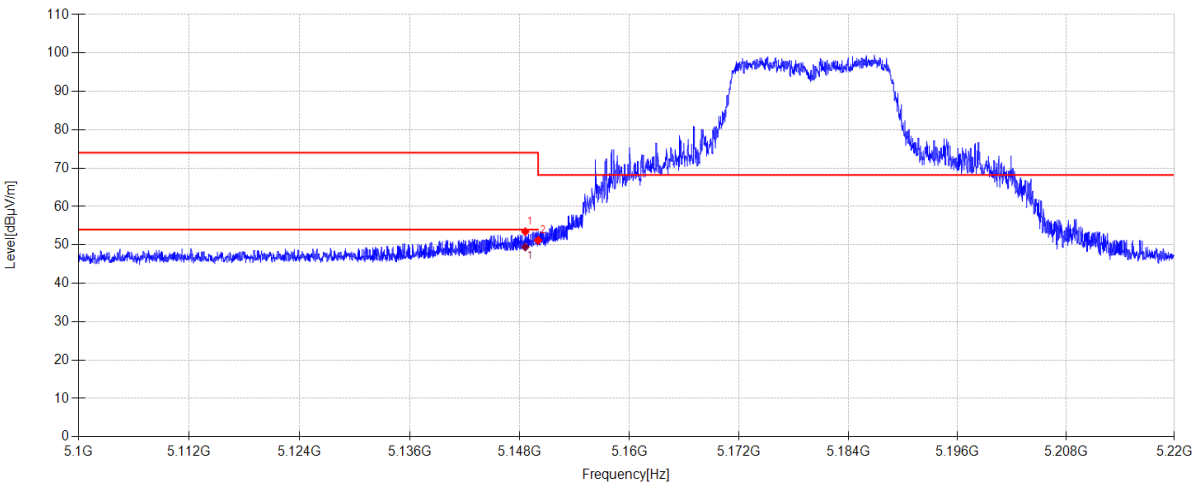
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5148.600	14.47	33.40	5.58	0.00	53.45	74.00	20.55	PK	Vertical
2	5150.000	12.21	33.40	5.59	0.00	51.20	68.20	17.00	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5148.600	10.48	33.40	5.58	49.46	54.0	4.54	AV	Vertical	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

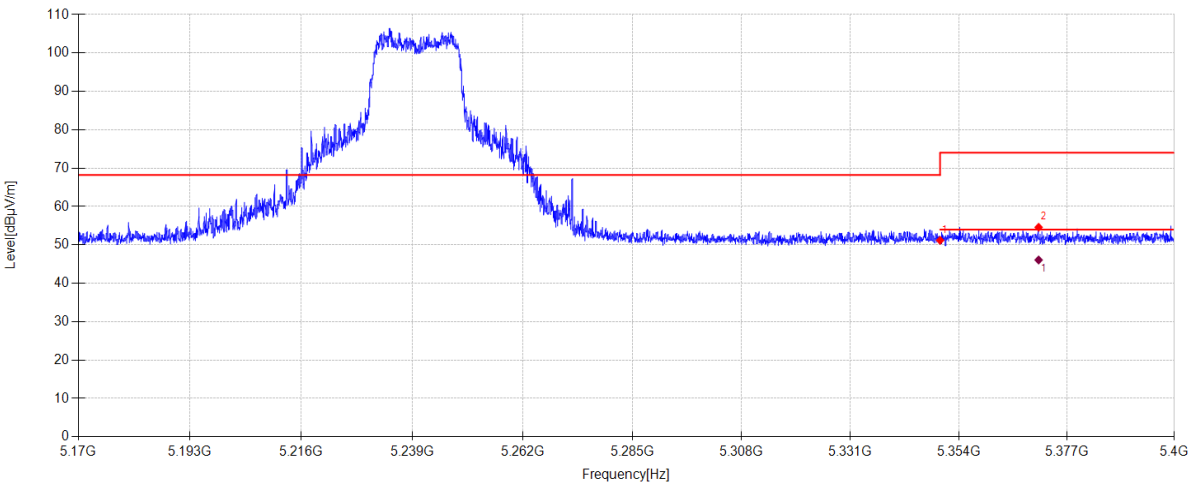
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.28	33.10	5.41	-29.60	51.19	68.20	17.01	PK	Horizontal
2	5370.974	45.68	33.10	5.42	-29.60	54.60	74.00	19.40	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5370.974	37.15	33.10	5.42	46.07	54.0	7.93	AV	Horizontal	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC20 TX 5240MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

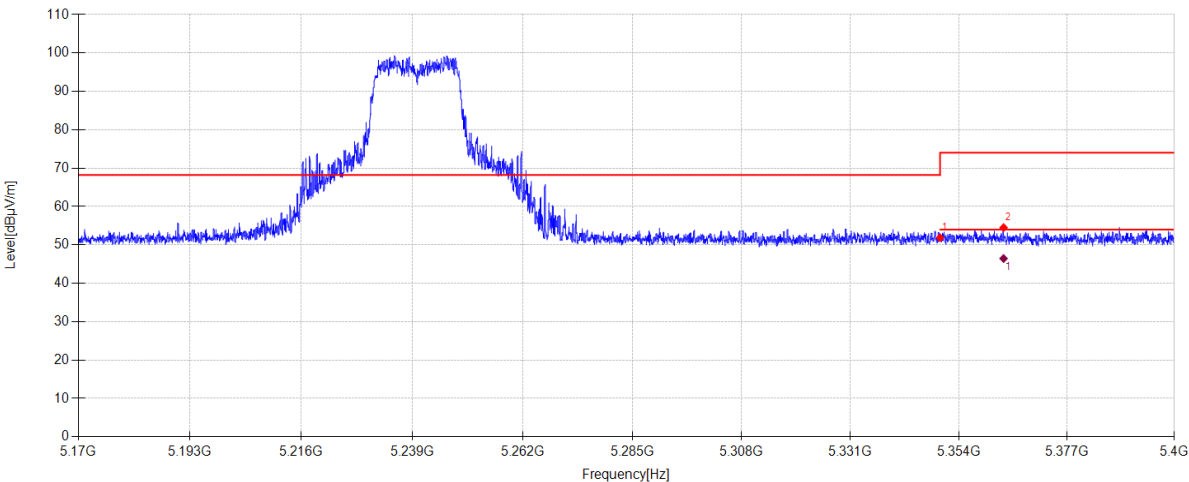
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.96	33.10	5.41	-29.60	51.87	68.20	16.33	PK	Vertical
2	5363.499	45.59	33.10	5.42	-29.60	54.51	74.00	19.49	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5363.499	37.54	33.10	5.42	46.46	54.0	7.54	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N40 TX 5190MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

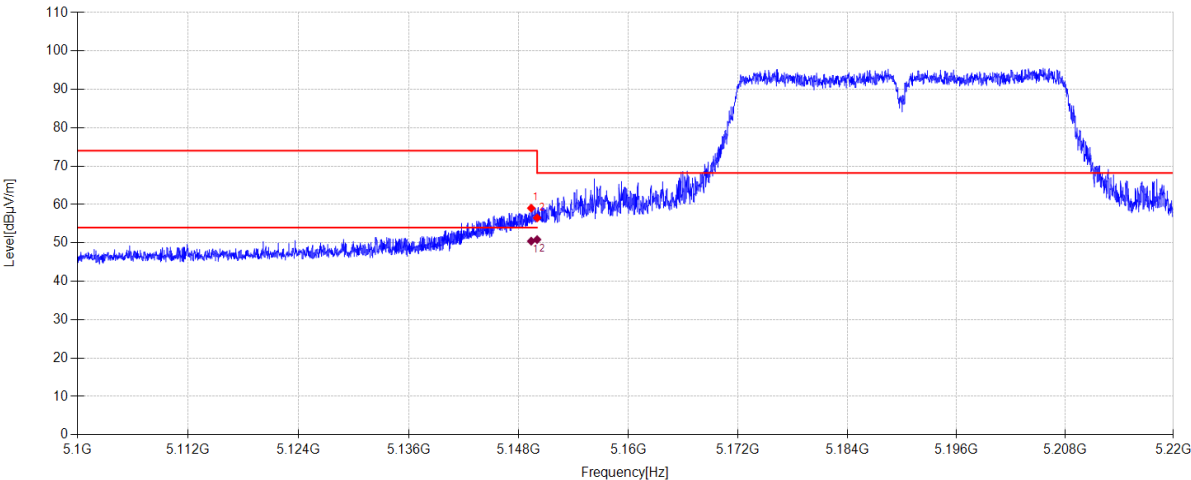
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.356	20.09	33.40	5.58	0.00	59.07	74.00	14.93	PK	Horizontal
2	5150.000	17.53	33.40	5.59	0.00	56.52	68.20	11.68	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.356	11.48	33.40	5.58	50.46	54.0	3.54	AV	Horizontal	
2	5150.000	11.88	33.40	5.59	50.87	54.0	3.13	AV	Horizontal	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N40 TX 5190MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

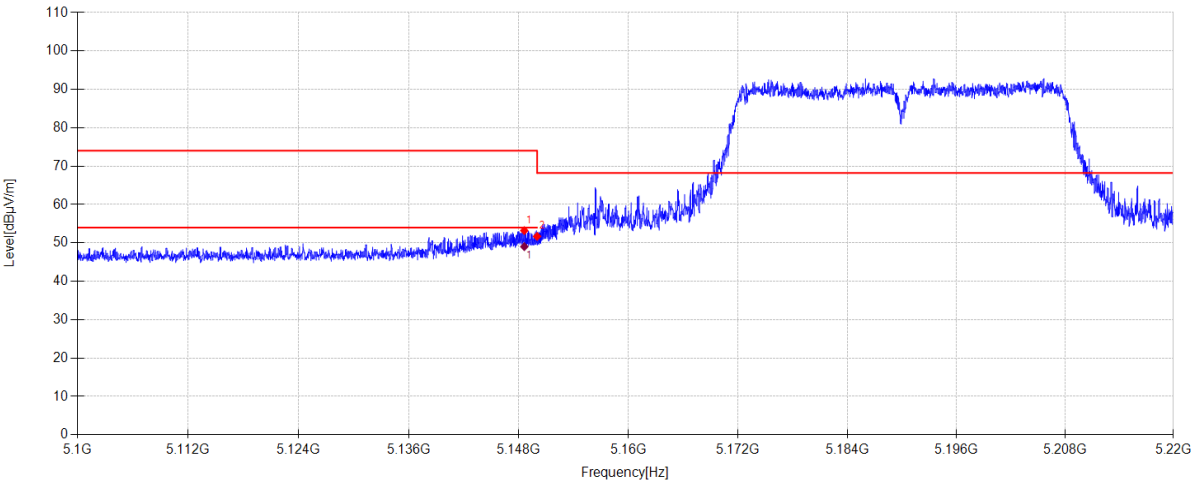
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5148.600	14.23	33.40	5.58	0.00	53.21	74.00	20.79	PK	Vertical
2	5150.000	12.71	33.40	5.59	0.00	51.70	68.20	16.50	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5148.600	10.05	33.40	5.58	49.03	54.0	4.97	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N40 TX 5230MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

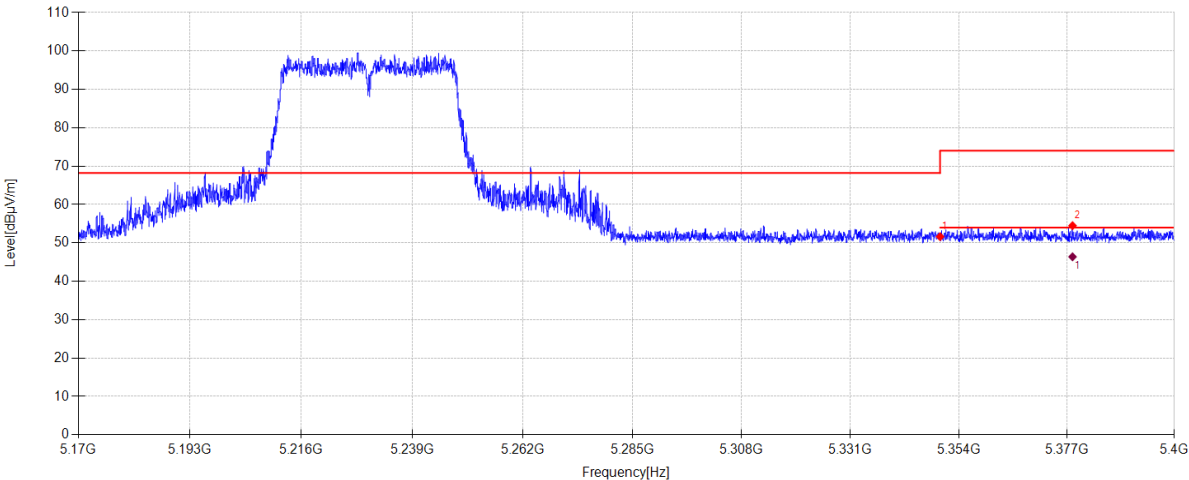
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d:\ts\2024 report data\Q24012204-2E DMR675\FCC ABOVE 1G 5G\65

Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.72	33.10	5.41	-29.60	51.63	68.20	16.57	PK	Horizontal
2	5378.219	45.57	33.10	5.43	-29.60	54.50	74.00	19.50	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5378.219	37.45	33.10	5.43	46.38	54.0	7.62	AV	Horizontal	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11N40 TX 5230MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

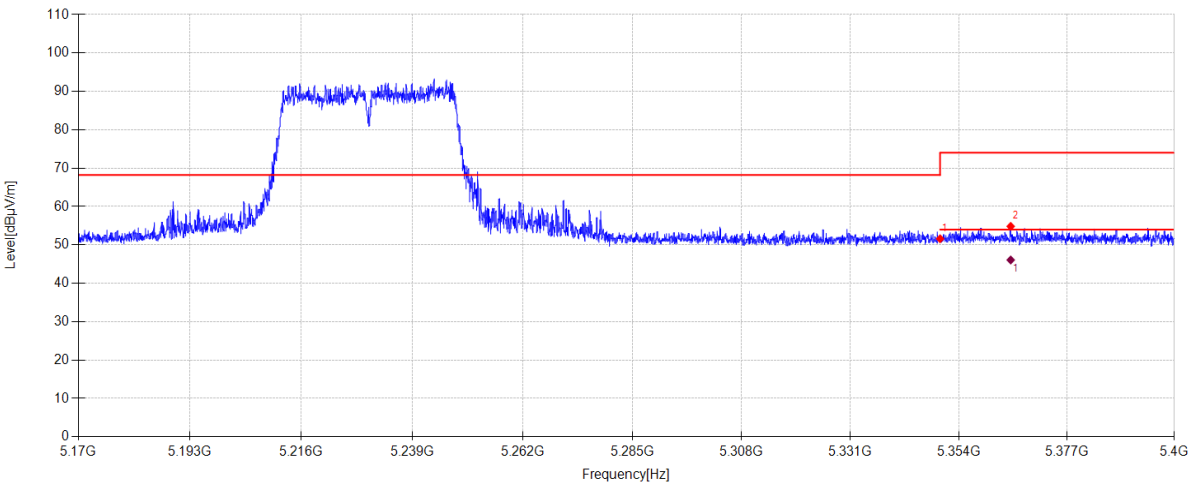
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	42.69	33.10	5.41	-29.60	51.60	68.20	16.60	PK	Vertical
2	5365.017	45.91	33.10	5.42	-29.60	54.83	74.00	19.17	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5365.017	37.15	33.10	5.42	46.07	54.0	7.93	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC40 TX 5190MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

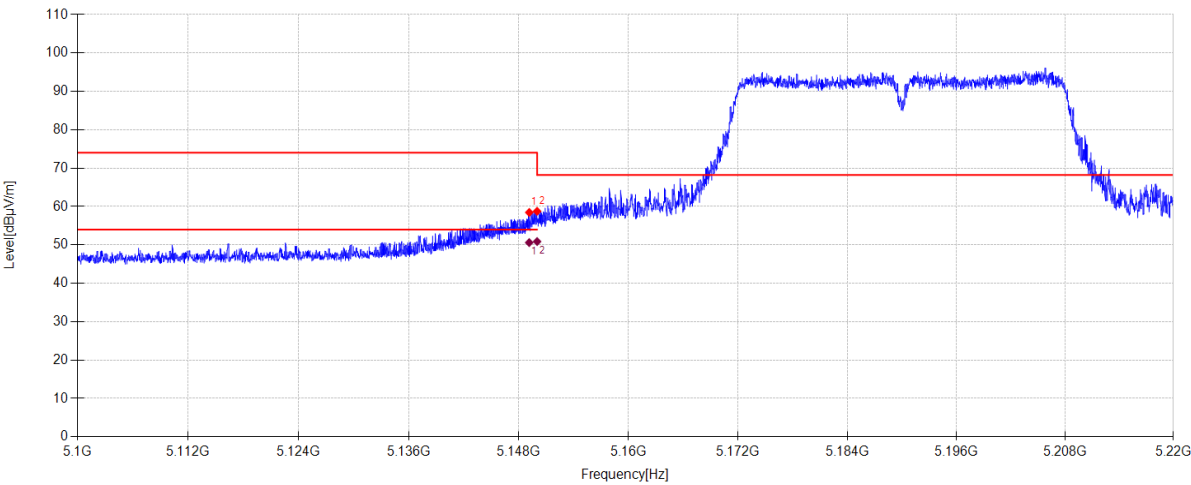
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.140	19.49	33.40	5.58	0.00	58.47	74.00	15.53	PK	Horizontal
2	5150.000	19.78	33.40	5.59	0.00	58.77	68.20	9.43	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.140	11.63	33.40	5.58	50.61	54.0	3.39	AV	Horizontal	
2	5150.000	11.89	33.40	5.59	50.88	54.0	3.12	AV	Horizontal	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC40 TX 5190MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

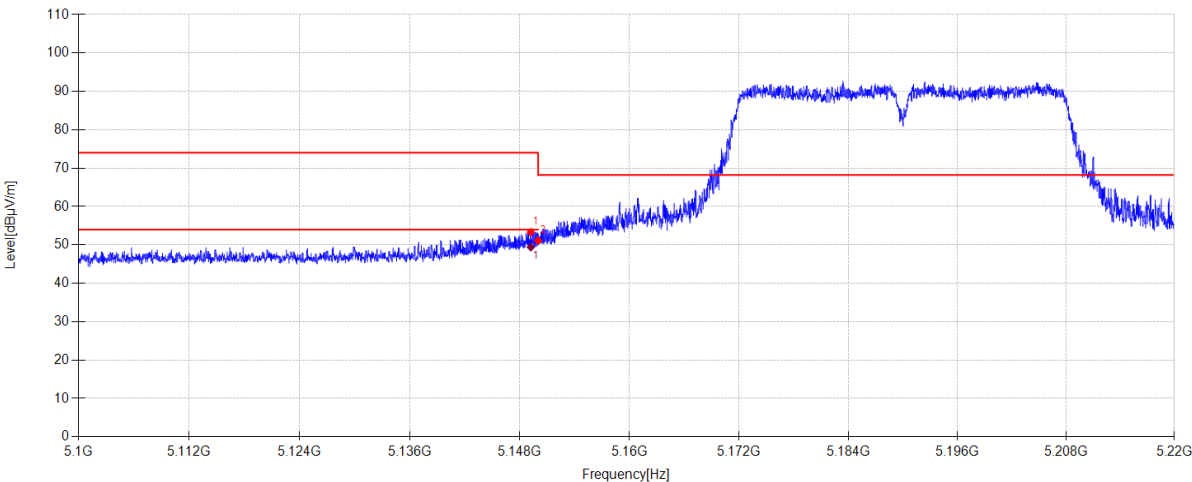
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5149.200	14.33	33.40	5.58	0.00	53.31	74.00	20.69	PK	Vertical
2	5150.000	12.16	33.40	5.59	0.00	51.15	68.20	17.05	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5149.200	10.45	33.40	5.58	49.43	54.0	4.57	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC40 TX 5230MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

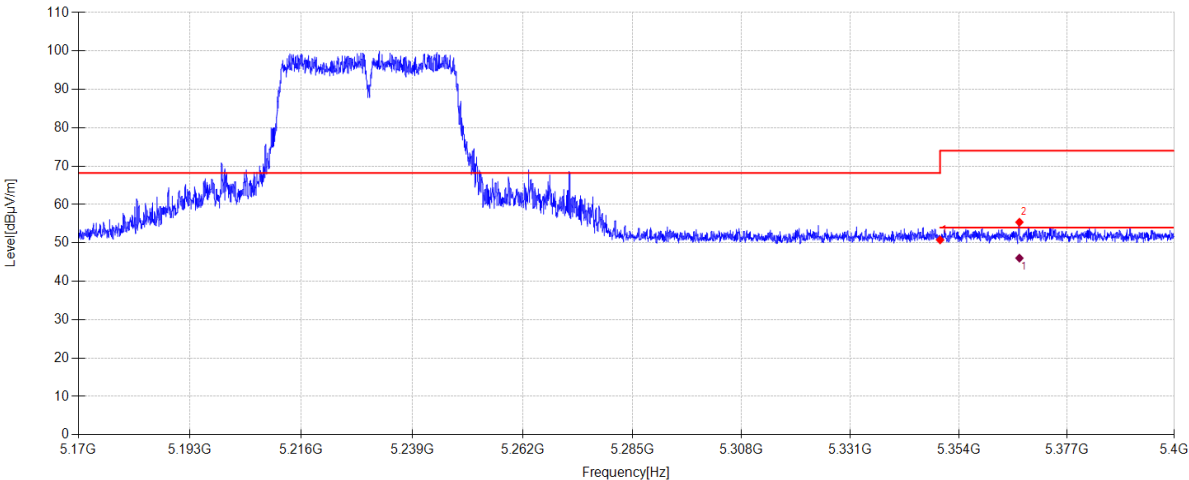
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	41.86	33.10	5.41	-29.60	50.77	68.20	17.43	PK	Horizontal
2	5366.880	46.48	33.10	5.42	-29.60	55.40	74.00	18.60	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5366.880	37.12	33.10	5.42	46.04	54.0	7.96	AV	Horizontal	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-13

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC40 TX 5230MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:53.3%

Test Site:

DDT 3# Chamber

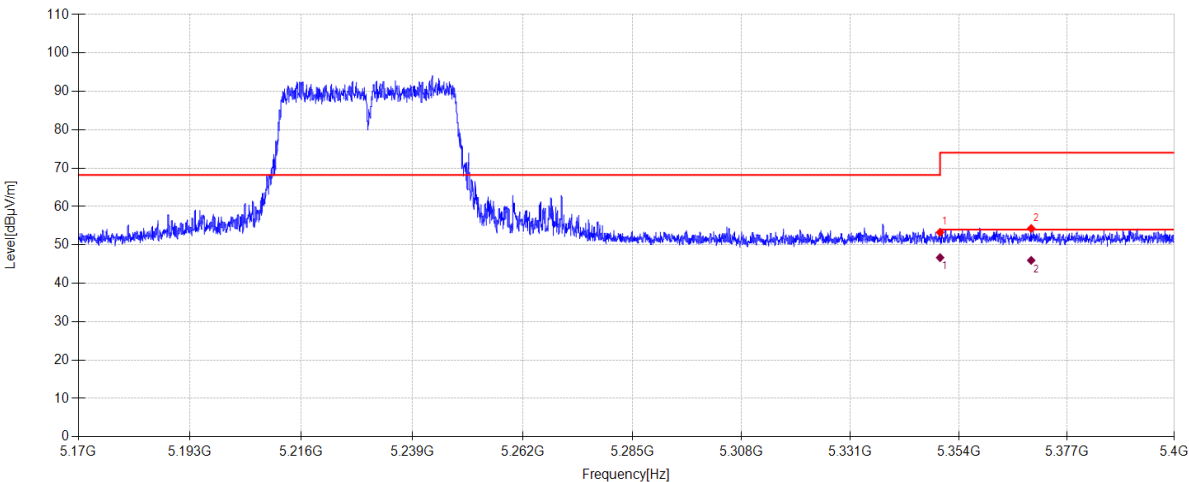
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5350.000	44.37	33.10	5.41	-29.60	53.28	68.20	14.92	PK	Vertical
2	5369.387	45.36	33.10	5.42	-29.60	54.28	74.00	19.72	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5350.000	37.78	33.10	5.41	46.69	54.0	7.31	AV	Vertical	
2	5369.387	37.05	33.10	5.42	45.97	54.0	8.03	AV	Vertical	

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC80 TX 5210MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

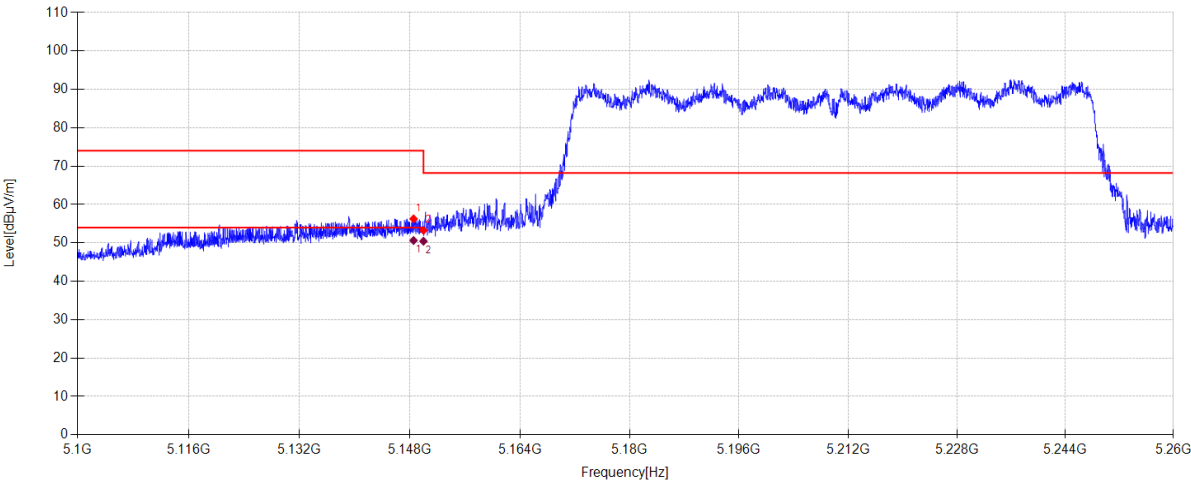
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5148.560	17.30	33.40	5.58	0.00	56.28	74.00	17.72	PK	Horizontal
2	5150.000	14.28	33.40	5.59	0.00	53.27	68.20	14.93	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5148.560	11.65	33.40	5.58	50.63	54.0	3.37	AV	Horizontal	
2	5150.000	11.45	33.40	5.59	50.44	54.0	3.56	AV	Horizontal	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-04-10

Tested By:

Junchang Du

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC80 TX 5210MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

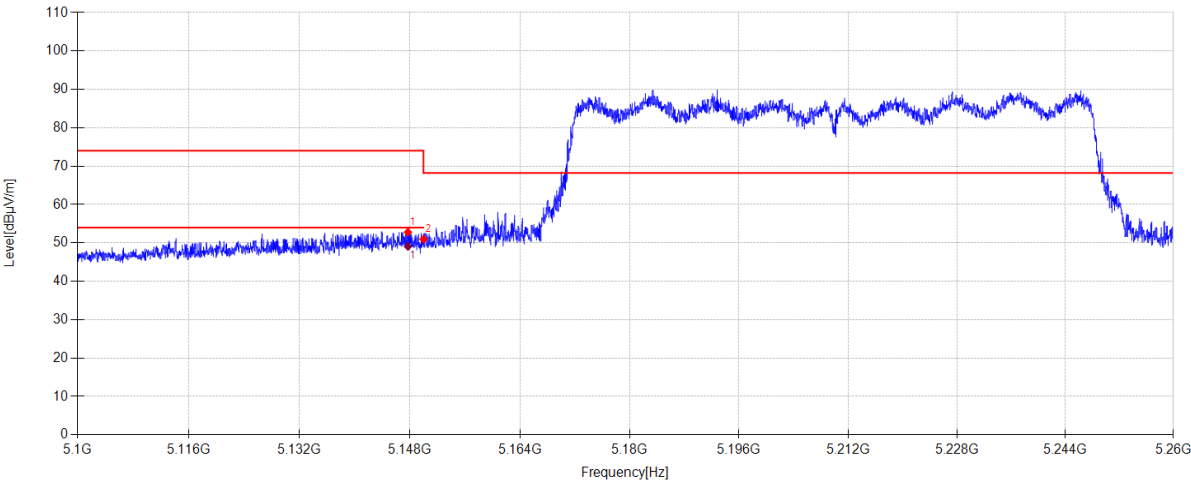
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5147.744	13.81	33.40	5.58	0.00	52.79	74.00	21.21	PK	Vertical
2	5150.000	11.98	33.40	5.59	0.00	50.97	68.20	17.23	PK	Vertical

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	5147.744	10.11	33.40	5.58	49.09	54.0	4.91	AV	Vertical	

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-24

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC80 TX 5210MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

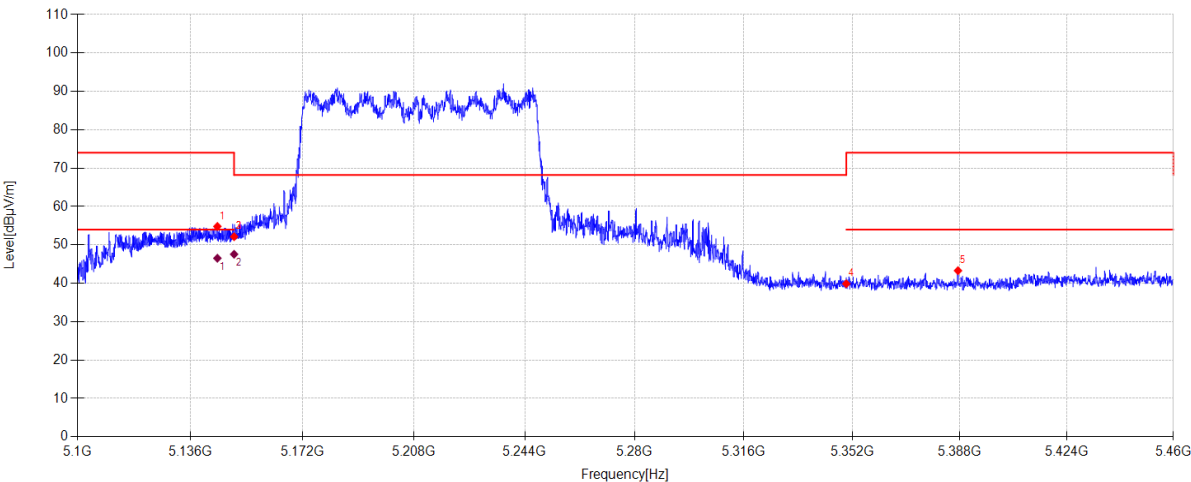
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5144.640	55.73	33.40	5.28	-39.60	54.81	74.00	19.19	PK	Horizontal
2	5150.000	53.07	33.40	5.28	-39.60	52.15	68.20	16.05	PK	Horizontal
3	5150.004	53.07	33.40	5.28	-39.60	52.15	68.20	16.05	PK	Horizontal
4	5350.000	40.97	33.10	5.41	-39.60	39.88	68.20	28.32	PK	Horizontal
5	5387.316	44.35	33.10	5.44	-39.60	43.29	74.00	30.71	PK	Horizontal

Data List									
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5144.640	47.45	33.40	5.28	46.53	54.0	7.47	AV	Horizontal
2	5150.000	48.49	33.40	5.28	47.57	54.0	6.43	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-12-24

Tested By:

Gen Liu

EUT:

In-Vehicle infotainment System

Model Number:

CRD8612UBA/DMR675

Test Mode:

11AC80 TX 5210MHz

Power Supply:

DC 12V

Condition:

Temp:22.4°C;Humi:63.3%

Test Site:

DDT 3# Chamber

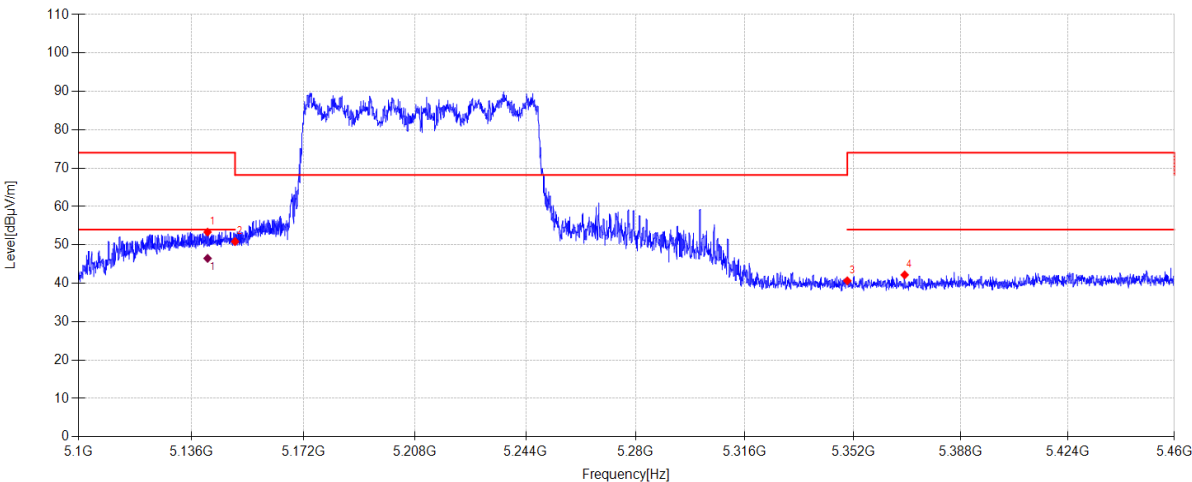
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Memo:

Sample Number: S24012204-003

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5141.184	54.27	33.40	5.27	-39.60	53.34	74.00	20.66	PK	Vertical
2	5150.000	51.79	33.40	5.28	-39.60	50.87	68.20	17.33	PK	Vertical
3	5350.000	41.73	33.10	5.41	-39.60	40.64	68.20	27.56	PK	Vertical
4	5369.136	43.27	33.10	5.42	-39.60	42.19	74.00	31.81	PK	Vertical

Data List									
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5141.184	47.42	33.40	5.27	46.49	54.0	7.51	AV	Vertical

- Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

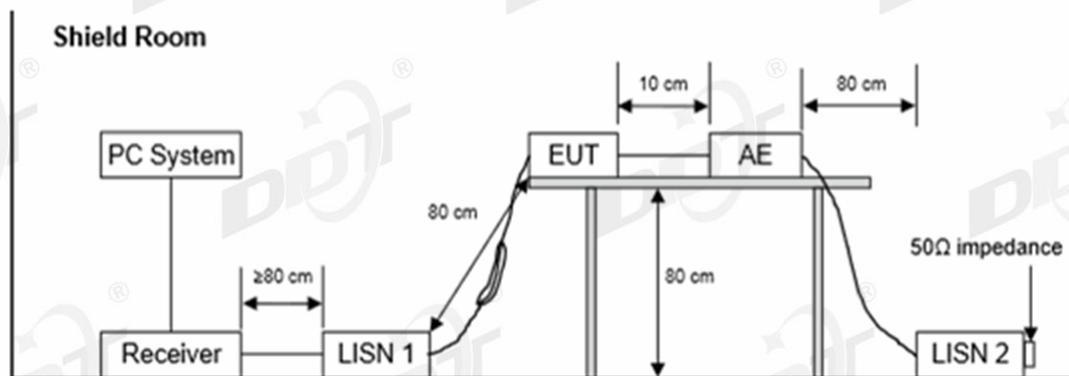
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13. Power Line Conducted Emissions

13.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
/	/	/	/	/

13.2. Block diagram of test setup



13.3. Limits

Frequency	Quasi-Peak Level dBμV/m	Average Level dBμV/m
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

13.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

13.5. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

13.6. Test result

Not Applicable

Remark: Conducted limits are not required for devices which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines according to 15.207(C).

15. Photos of the EUT

Please refer to DDT-Q24012204-1E appendix I

-----End Report-----