



RADIO TEST REPORT

Applicant	:	Shenzhen Ameta Technology Co.,Ltd.
Address of Applicant	:	501, BLDG 4, Pingshan MinQi Technology Park, No.65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Manufacturer	:	Shenzhen Ameta Technology Co.,Ltd.
Address of Manufacturer	:	501, BLDG 4, Pingshan MinQi Technology Park, No.65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Equipment under Test	:	R/C QUADCOPTER
Model No.	:	DR-ATS21G
FCC ID	:	2BHJX-ATS21GT0525
IC	:	32768-ATS21GT
HVIN	:	ATS21GT2505
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart E, RSS-247 Issue 3 August 2023, ANSI C63.10:2013
Report No.	:	DDT-RE25061317-2E02
Issue Date	:	2025/09/19
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

Applicant	:	Shenzhen Ameta Technology Co.,Ltd.
Address of Applicant	:	501, BLDG 4, Pingshan MinQi Technology Park, No.65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Equipment under Test	:	R/C QUADCOPTER
Model No.	:	DR-ATS21G
Manufacturer	:	Shenzhen Ameta Technology Co.,Ltd.
Address of Manufacturer	:	501, BLDG 4, Pingshan MinQi Technology Park, No.65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E,
RSS-247 Issue 3 August 2023,
ANSI C63.10:2013

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-RE25061317-2E02		
Date of Receipt:	2025/07/11	Date of Test:	2025/07/11 - 2025/07/27

Created: Jacky Huang	Reviewed: Johnson Huang	Approved: Ella Gong
		
2025/07/27	2025/09/19	

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

Version	Revision Content	Issue Date	Approved
V0	Initial issue	2025/09/19	Ella Gong

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	6/26db Bandwidth and 99% Bandwidth	FCC 15.407 (e), RSS-247 Clause 6.2, RSS-GEN Clause 6.7	/	Pass
2	Output Power	FCC 15.407 (a) ; RSS-247 Clause 6.2	/	Pass
3	Power Spectral Density	FCC 15.407 (a) ; RSS-247 Clause 6.2	/	Pass
4	Frequency Stability Measurement	FCC 15.407 (g); RSS-247 Clause 6.2; RSS-GEN Clause 8.11	/	Pass
5	Radiated Emission	FCC 15.407 (b); FCC 15.209; FCC 15.205; RSS-247 Clause 6.2; RSS-GEN Clause 8.9	/	Pass
6	Band Edge Compliance	FCC 15.407 (b); FCC 15.209; FCC 15.205; RSS-247 Clause 6.2; RSS-GEN Clause 8.10	/	Pass
7	Antenna Requirement	FCC Part 15: 15.203, RSS-Gen Issue 5 clause 6.8	/	Pass
8	Dynamic Frequency Selection	FCC 15.407 (h); RSS-247 Clause 6.8	/	Pass
9	Power Line Conducted Emissions	FCC Part 15: 15.207(a), RSS-Gen Issue 5 clause 8.8	/	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	: R/C QUADCOPTER
Model Number	: DR-ATS21G
EUT Function Description	: Please reference user manual of this device
Power Supply	: 3.7V/3000mAh Lithium Battery
Antenna Type	: Internal antenna
Max Antenna Gain (dBi)	: 3.21
Test Sample No.	: Conducted: S25062721-003 Radiated: S25062721-008

Radio Technology	: IEEE 802.11a/n
Operation frequency	: U-NII-3: 5745 MHz to 5825 MHz
Modulation	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)

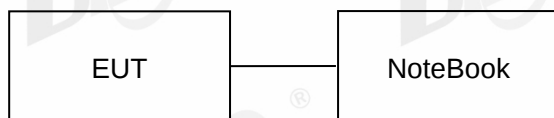
Channel information			
IEEE 802.11a IEEE 802.11n (HT20)		IEEE 802.11n (HT40)	
UNII-3			
149	5745	151	5755
153	5765	159	5795
157	5785	/	/
161	5805	/	/
165	5825	/	/

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.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
Battery	/	/	/
Remote	Shenzhen Ameta Technology Co.,Ltd.	DR-ATS21G	
Charging cable	/	/	/

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: Putty.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, Tx Power Setting, Data rate, Channel, and Frequency				
Tested mode	Tx Power Setting	Data rate (Mbps) (see Note)	Test Channel	Frequency (MHz)
	ANT1			
IEEE 802.11a	63	6	LCH: CH149	5745
		6	MCH: CH157	5785
		6	HCH: CH165	5825
IEEE 802.11n HT20	63	MCS 0	LCH: CH149	5745
		MCS 0	MCH: CH157	5785
		MCS 0	HCH: CH165	5825
IEEE 802.11n HT40	63	MCS 0	LCH: CH151	5755
		MCS 0	HCH: CH159	5795

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-20240, G-20118

2.8. Measurement uncertainty

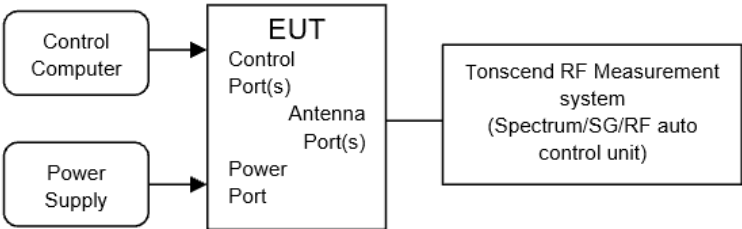
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$);
	1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$);
	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	Cal. Interval
☑RF Connected Test (RF Measurement System 4#)					
Signal &Spectrum Analyzer	R&S	FSV3044	101173	2026/03/28	1 Year
Wideband Radio Communication Tester	R&S	CMW500	168801	2026/03/28	1 Year
MXG Vector Signal Generator	Agilent	N5182A	MY48180737	2026/03/28	1 Year
PSG Vector Signal Generator	Agilent	E8267D	US49060192	2025/08/25	1 Year
RF Control Unit	Tonscend	JS0806-2	21I8060485	2026/03/28	1 Year
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2026/03/28	1 Year
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A	N/A

4. 26dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
26 dB Bandwidth	---	5150 - 5250
	---	5250 - 5350
	---	For FCC: 5470 - 5725 For IC: 5470 - 5600 5650 - 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

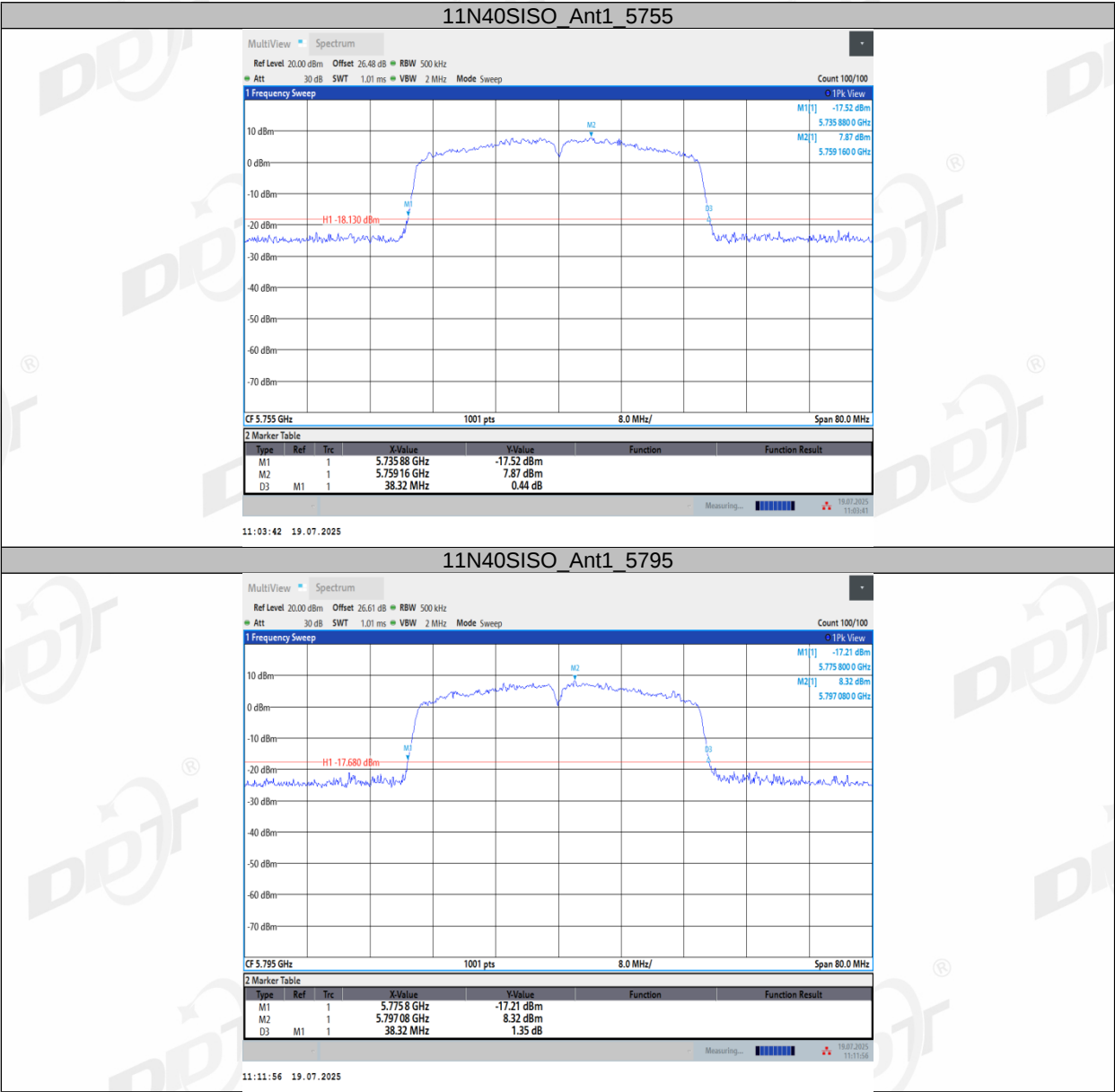
Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5°C, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Test Mode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	19.08	5735.52	5754.60	---	---
		5785	19.08	5775.44	5794.52	---	---
		5825	19.40	5815.20	5834.60	---	---
11N20SISO	Ant1	5745	20.08	5735.08	5755.16	---	---
		5785	20.36	5774.80	5795.16	---	---
		5825	20.08	5814.88	5834.96	---	---
11N40SISO	Ant1	5755	38.32	5735.88	5774.20	---	---
		5795	38.32	5775.80	5814.12	---	---

4.5. Test graphs

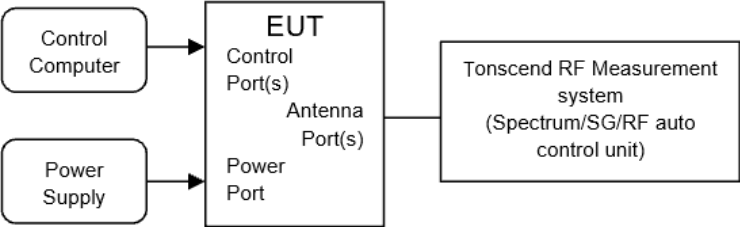






5. 6dB Bandwidth

5.1. Block diagram of test setup



5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
6 dB Bandwidth	Minimum 500 kHz	5725 - 5850

5.3. 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	For 6 dB Bandwidth: RBW=100 kHz For 26 dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6 dB Bandwidth: VBW=300 kHz For 26 dB Bandwidth: >3 RBW
Trace	Max hold
Sweep	Auto couple

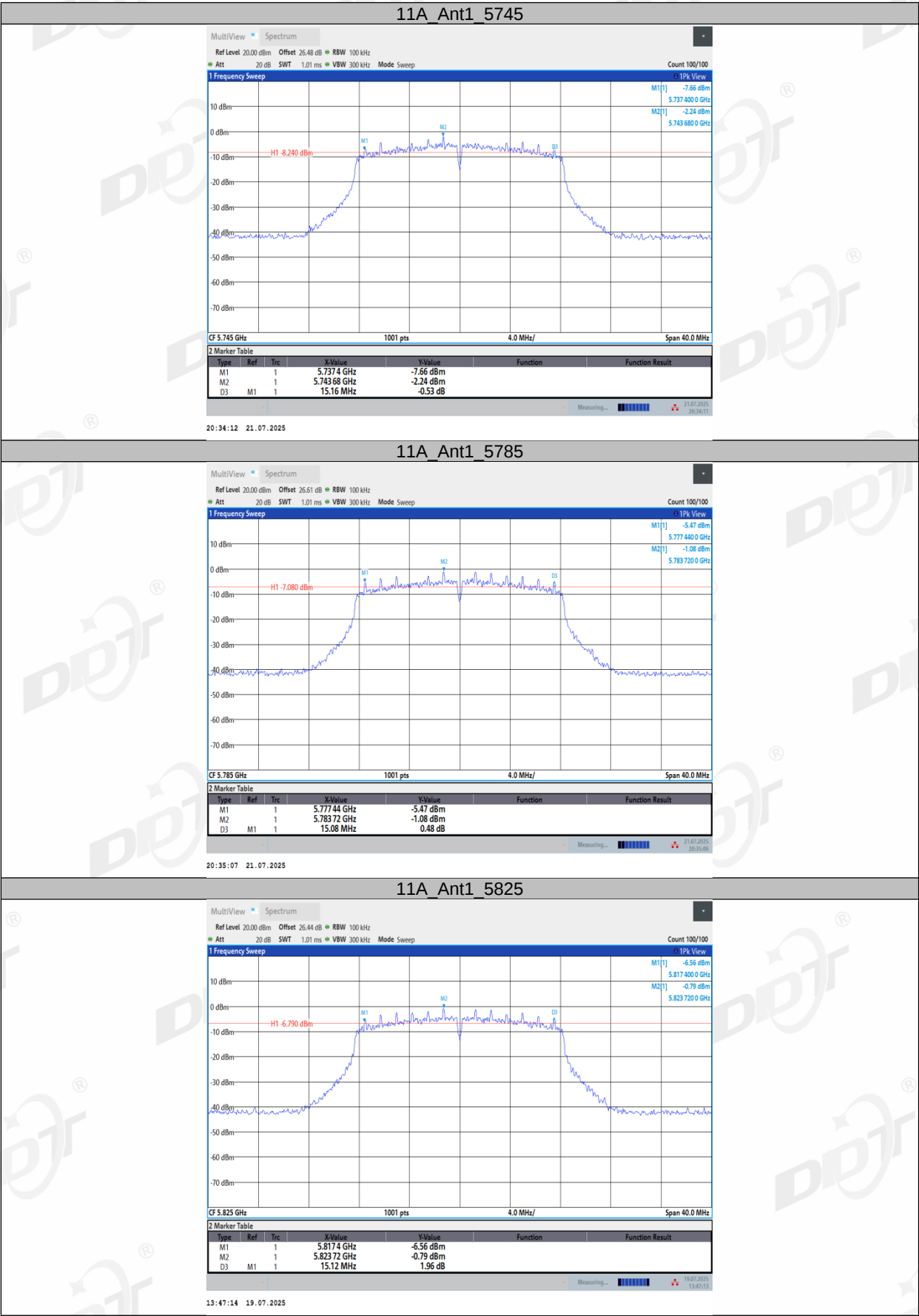
Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

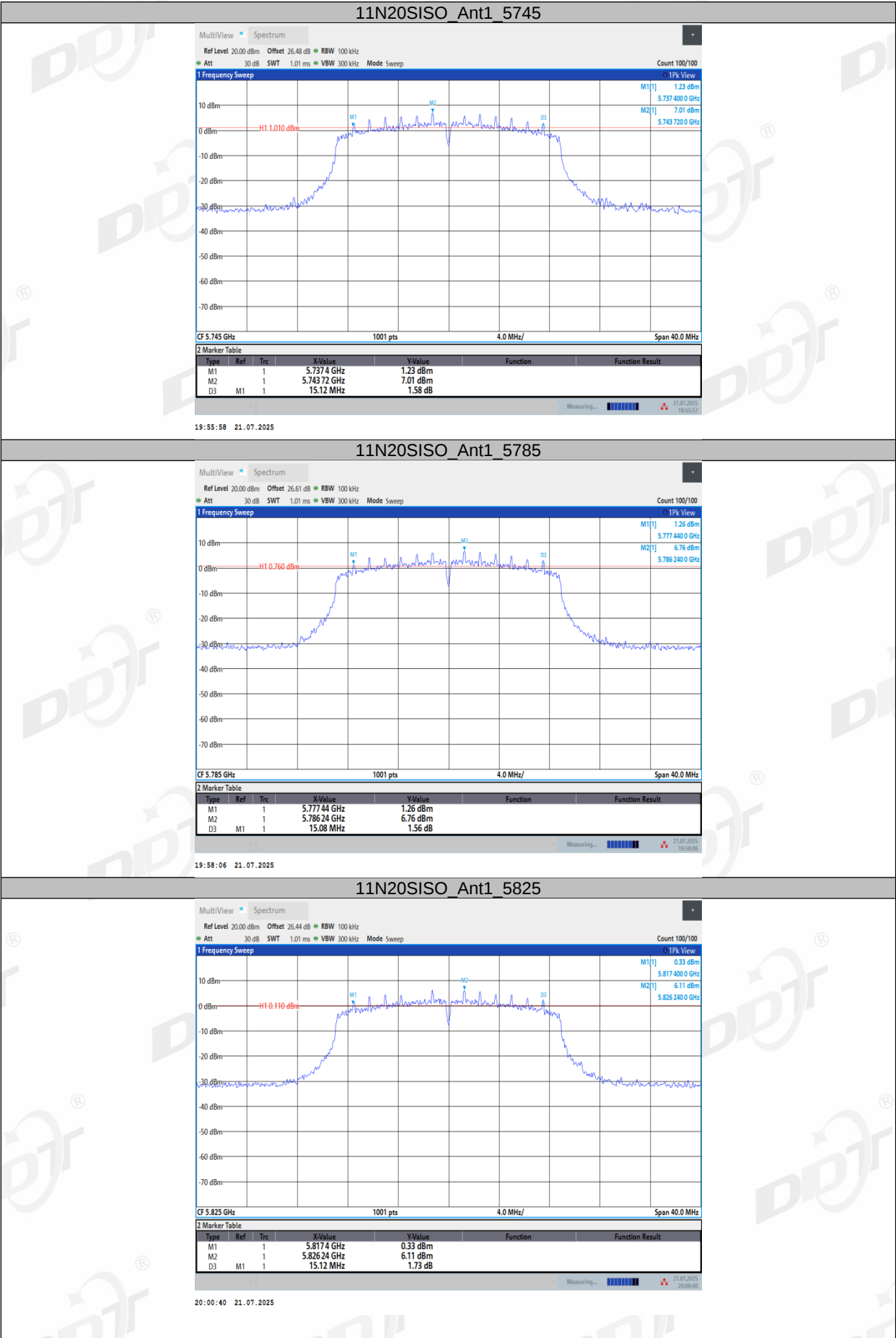
5.4. Test result B4

Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5°C,43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Test Mode	Antenna	Frequency [MHz]	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	15.16	5737.40	5752.56	0.5	PASS
		5785	15.08	5777.44	5792.52	0.5	PASS
		5825	15.12	5817.40	5832.52	0.5	PASS
11N20SISO	Ant1	5745	15.12	5737.40	5752.52	0.5	PASS
		5785	15.08	5777.44	5792.52	0.5	PASS
		5825	15.12	5817.40	5832.52	0.5	PASS
11N40SISO	Ant1	5755	32.56	5739.96	5772.52	0.5	PASS
		5795	33.84	5778.68	5812.52	0.5	PASS

5.5. Test graphs B4

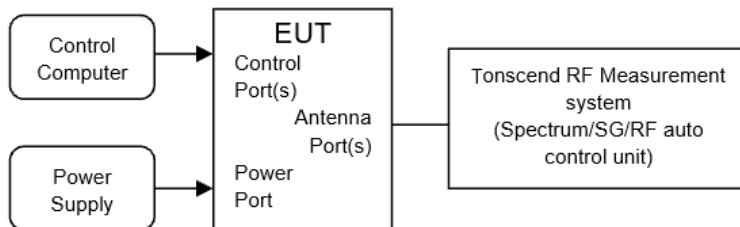






6. 99% Bandwidth

6.1. Block diagram of test setup



6.2. Limits

Just for Report.

6.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Trace	Max hold

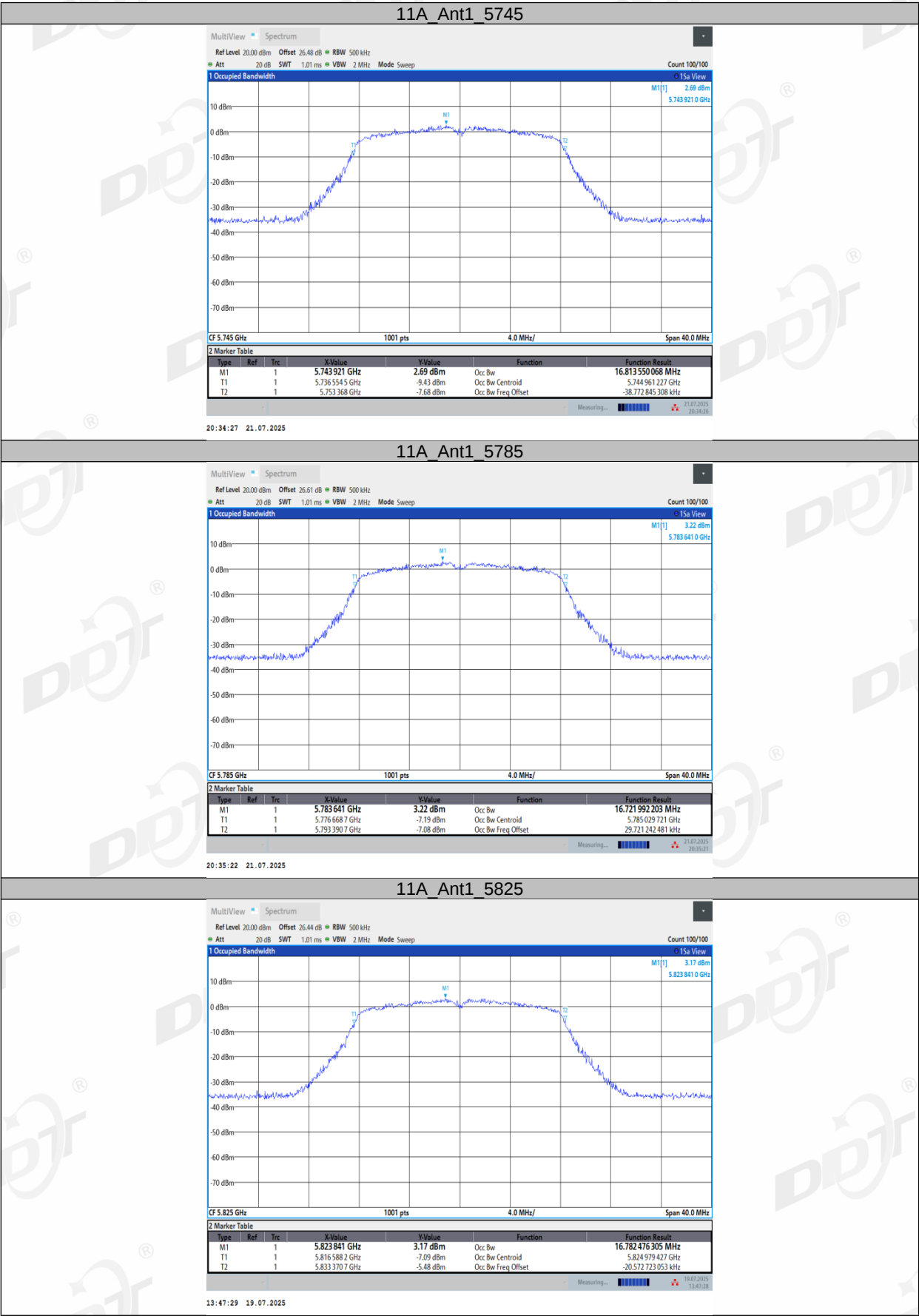
- (2) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

6.4. Test result

Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5℃, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	16.814	5736.5545	5753.3680	---	---
		5785	16.722	5776.6687	5793.3907	---	---
		5825	16.782	5816.5882	5833.3707	---	---
11N20SISO	Ant1	5745	17.745	5736.1111	5753.8561	---	---
		5785	17.803	5776.0724	5793.8754	---	---
		5825	17.755	5816.0856	5833.8406	---	---
11N40SISO	Ant1	5755	35.420	5737.2963	5772.7160	---	---
		5795	35.464	5777.2746	5812.7389	---	---

6.5. Test graphs

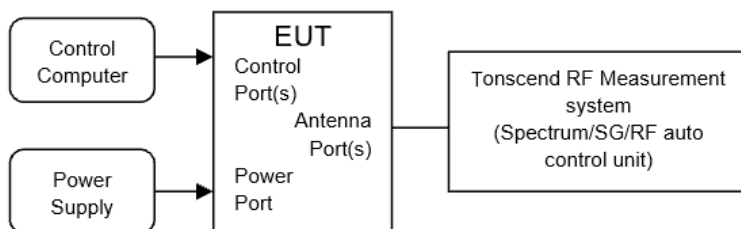






7. Duty Cycle

7.1. Block diagram of test setup



7.2. Limit

Just for Report.

7.3. 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

7.4. Test result

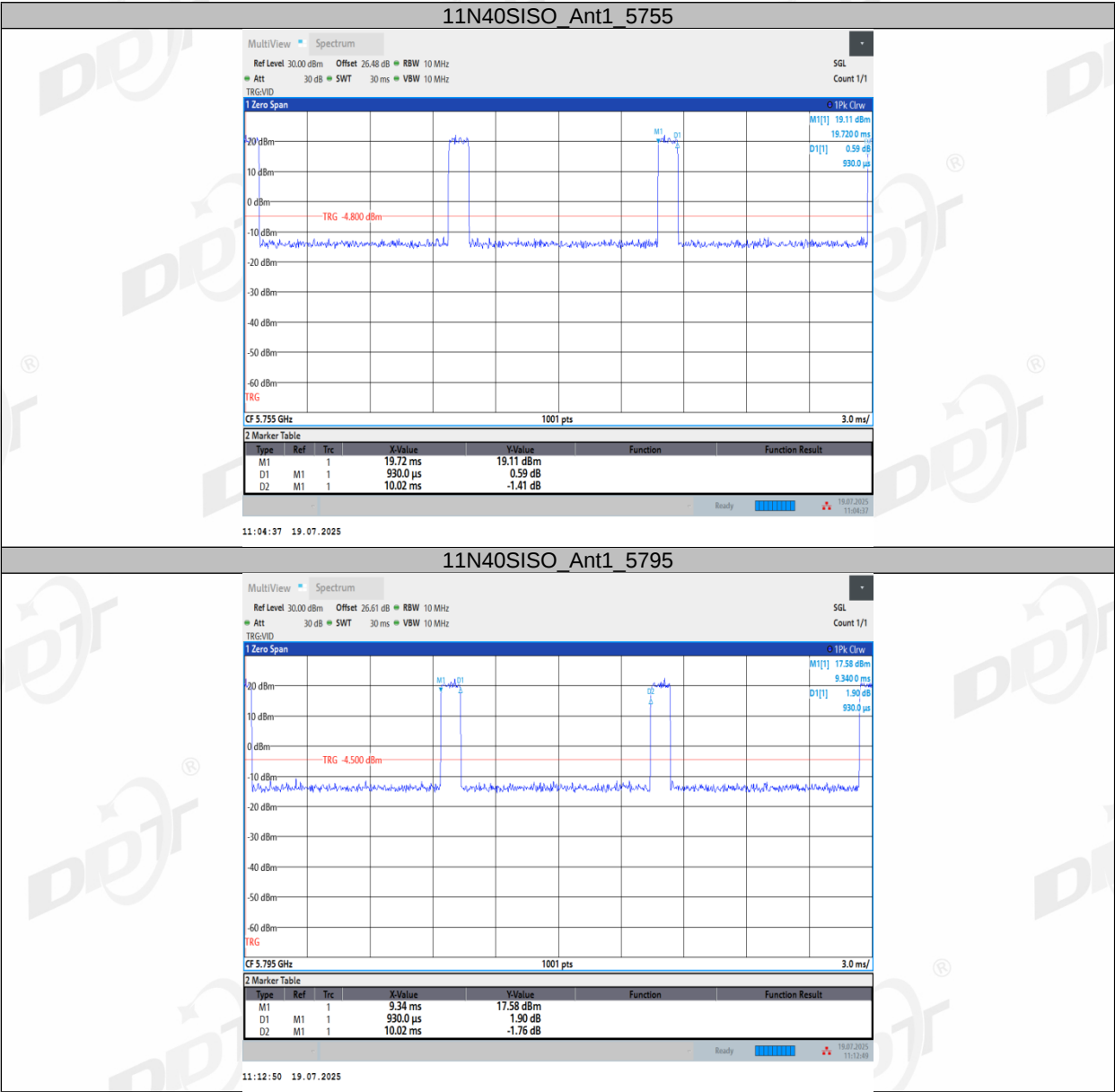
Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5°C, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
11A	Ant1	5745	2.07	10.02	20.66	6.85
		5785	2.07	10.02	20.66	6.85
		5825	2.07	10.02	20.66	6.85
11N20SISO	Ant1	5745	1.92	10.02	19.16	7.18
		5785	1.92	10.02	19.16	7.18
		5825	1.92	10.02	19.16	7.18
11N40SISO	Ant1	5755	0.93	10.02	9.28	10.32
		5795	0.93	10.02	9.28	10.32

7.5. Test graphs

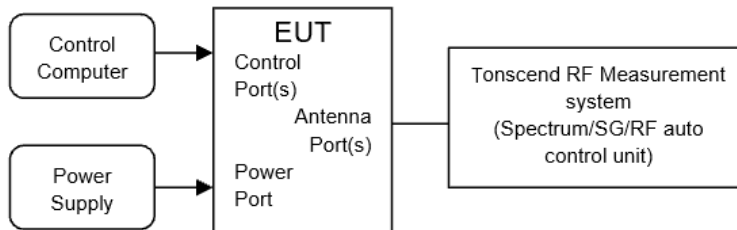






8. Maximum Output Power

8.1. Block diagram of test setup



8.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Maximum Output Power	For FCC: 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 (23.98 dBm)	5150-5250
	For RSS: e.i.r.p. power: not exceed 200 mW (23.01 dBm) or $10 + 10 \log_{10} B$	
	For FCC: 250 mW (23.98 dBm) or $11 + 10 \log_{10} B$	
	For RSS: For conducted output power: 250 mW (23.98 dBm) or $11 + 10 \log_{10} B$	5250-5350
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$	
	For FCC: 250 mW (23.98 dBm) or $11 + 10 \log_{10} B$	
	For RSS: For conducted output power: 250 mW (23.98 dBm) or $11 + 10 \log_{10} B$	For FCC: 5470 - 5725 For IC: 5470 - 5600 5650 - 5725
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$	
	1 Watt (30 dBm)	5725-5850
Note 1: For FCC: B=26 bandwidth; For ISDE: B=99% bandwidth.		
Note 2: If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi, but for fixed point-to-point transmitters operating in 5150-5250MHz band that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and operating in 5725-5850 band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.		

8.3. Test procedure

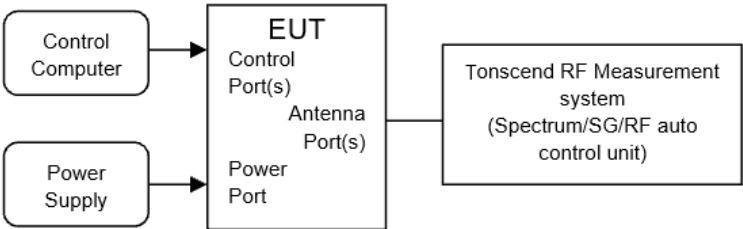
Connect each EUT's antenna output to power sensor by RF cable and attenuator
Measure the output power of each antenna port by power sensor.

8.4. Test result channel power

Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#						
Ambient Condition:	22.8-26.5°C, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21						
Test Power Supply:	Battery	Sample Number:	S25062721-003						
Test Mode	ANT	Frequency [MHz]	Result [dBm]	Duty Cycle [%]	DC Factor [dB]	Final Result [dBm]	FCC Limit [dBm]	ISED Limit [dBm]	Verdict
11A	Ant1	5745	9.90	20.66	6.85	16.75	≤30.00	≤30.00	PASS
		5785	9.98	20.66	6.85	16.83	≤30.00	≤30.00	PASS
		5825	9.50	20.66	6.85	16.35	≤30.00	≤30.00	PASS
11N20SISO	Ant1	5745	9.27	19.16	7.18	16.45	≤30.00	≤30.00	PASS
		5785	9.01	19.16	7.18	16.19	≤30.00	≤30.00	PASS
		5825	9.18	19.16	7.18	16.36	≤30.00	≤30.00	PASS
11N40SISO	Ant1	5755	7.05	9.28	10.32	17.37	≤30.00	≤30.00	PASS
		5795	6.76	9.28	10.32	17.08	≤30.00	≤30.00	PASS

9. Power Spectral Density

9.1. Block diagram of test setup



9.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable:17 dBm/MHz Mobile and portable client devices:11 dBm/MHz	5150-5250
	For RSS eirp: 10 dBm/MHz	
	11 dBm/MHz	5250-5350
	11 dBm/MHz	For FCC: 5470 - 5725 For ISSED: 5470 - 5600 5650 - 5725
	30 dBm/500 kHz	5725-5850
Note: If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi, but for fixed point-to-point transmitters operating in 5150-5250MHz band that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum Power Spectral Density.		

9.3. 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

9.4. Test result

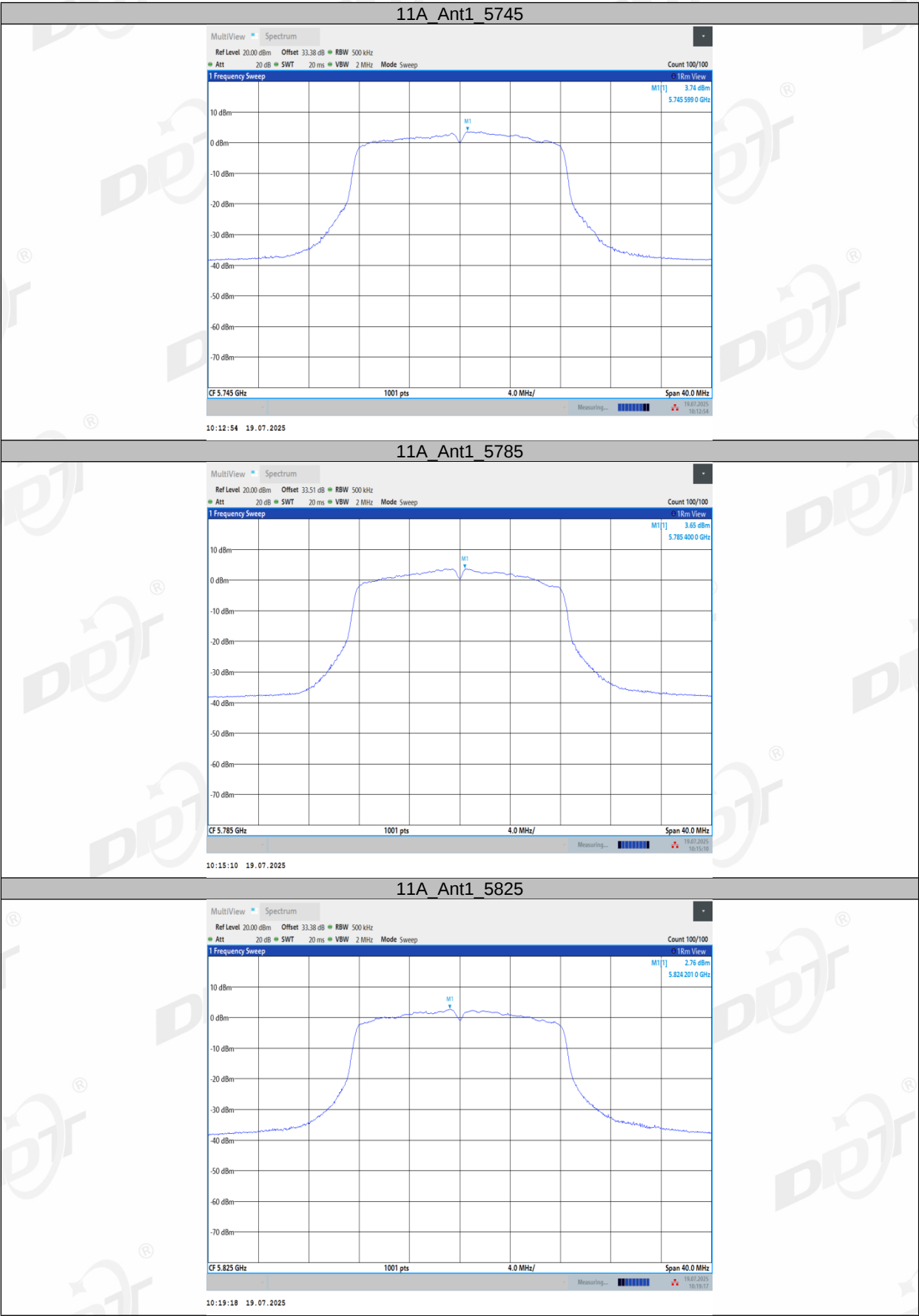
Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5°C, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Test Mode	Antenna	Frequency [MHz]	Result [dBm/500 kHz]	Limit [dBm/500 kHz]	Verdict
11A	Ant1	5745	3.74	≤30.00	PASS
		5785	3.65	≤30.00	PASS
		5825	2.76	≤30.00	PASS
11N20SISO	Ant1	5745	4.00	≤30.00	PASS
		5785	3.93	≤30.00	PASS
		5825	3.67	≤30.00	PASS
11N40SISO	Ant1	5755	1.04	≤30.00	PASS
		5795	1.61	≤30.00	PASS

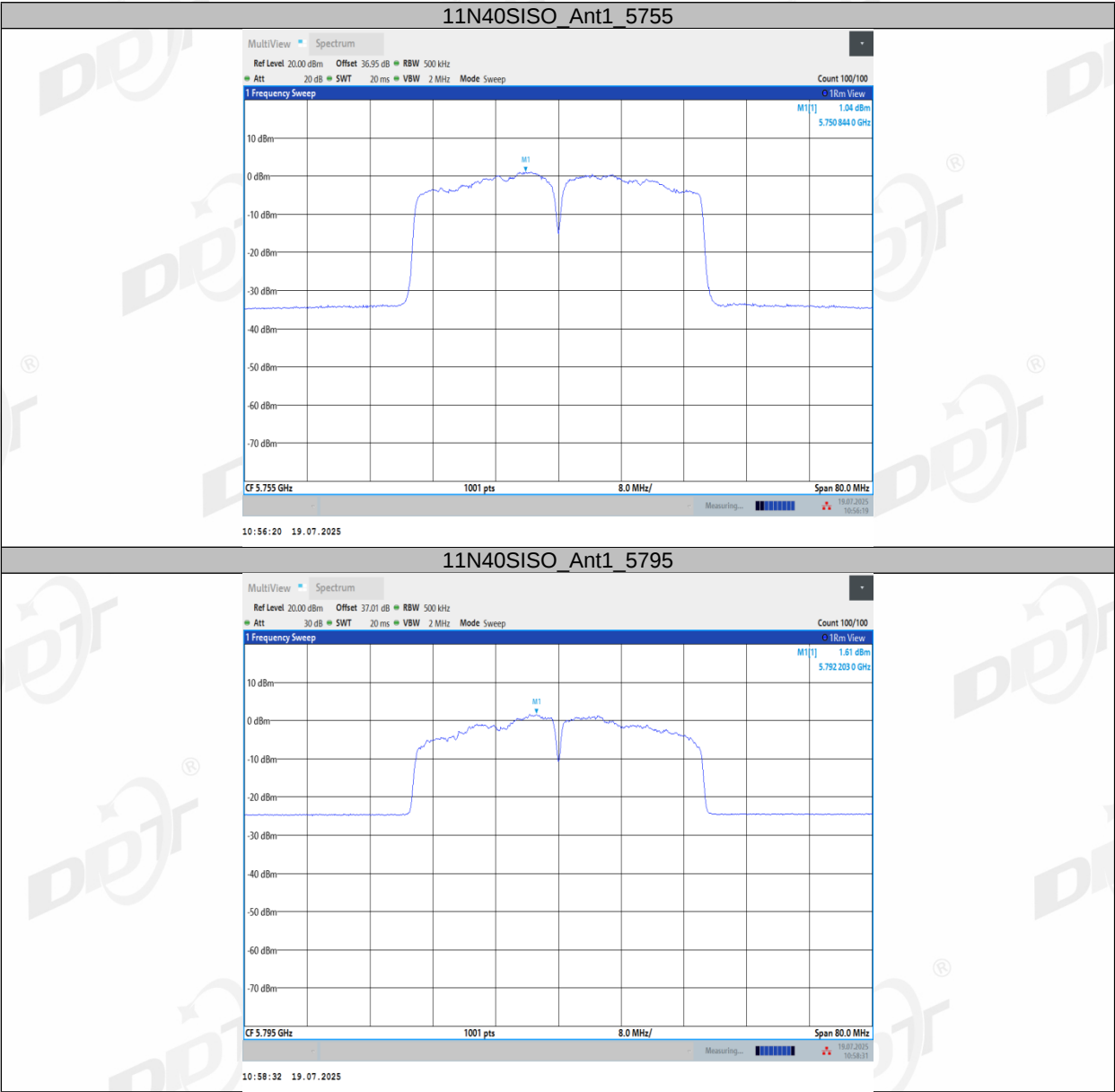
Note:

- 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
- 2.The Duty Cycle Factor is compensated in the graph.

9.5. Test graphs







10. Frequency Stability Measurement

10.1. 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.

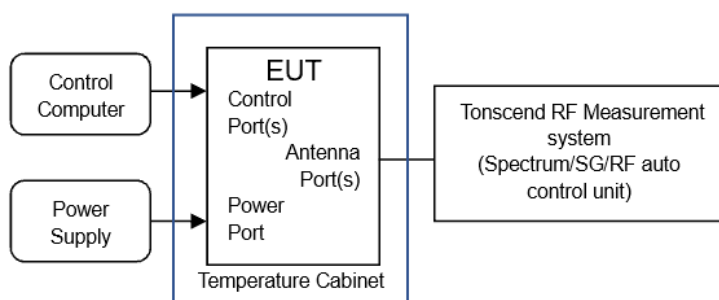
10.2. Measuring Instruments

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

10.3. 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.

10.4. Test setup



10.5. Test result

Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	22.8-26.5°C, 43.2-48.4%RH	Test Date:	2025.07.19-2025.07.21
Test Power Supply:	Battery	Sample Number:	S25062721-003

Voltage								
Test Mode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5745	NV	NT	-20000.00	-3.481288	20	PASS
			LV	NT	20000.00	3.481288	20	PASS
			HV	NT	20000.00	3.481288	20	PASS
		5785	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5825	NV	NT	-20000.00	-3.433476	20	PASS
			LV	NT	-20000.00	-3.433476	20	PASS
			HV	NT	-20000.00	-3.433476	20	PASS
11N40SISO	Ant1	5755	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5795	NV	NT	0.00	0.000000	20	PASS
			LV	NT	-40000.00	-6.902502	20	PASS
			HV	NT	0.00	0.000000	20	PASS

Temperature								
Test Mode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5745	NV	0	20000.00	3.481288	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	20000.00	3.481288	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	20000.00	3.481288	20	PASS
		5785	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	3.457217	20	PASS
			NV	40	0.00	0.000000	20	PASS
		5825	NV	0	-20000.00	-3.433476	20	PASS
			NV	10	-20000.00	-3.433476	20	PASS
			NV	20	20000.00	3.433476	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
11N40SISO	Ant1	5755	NV	0	-40000.00	-6.950478	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
		5795	NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	80000.00	13.805004	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS

11. Antenna Requirements

11.1. 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.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

11.2. Result

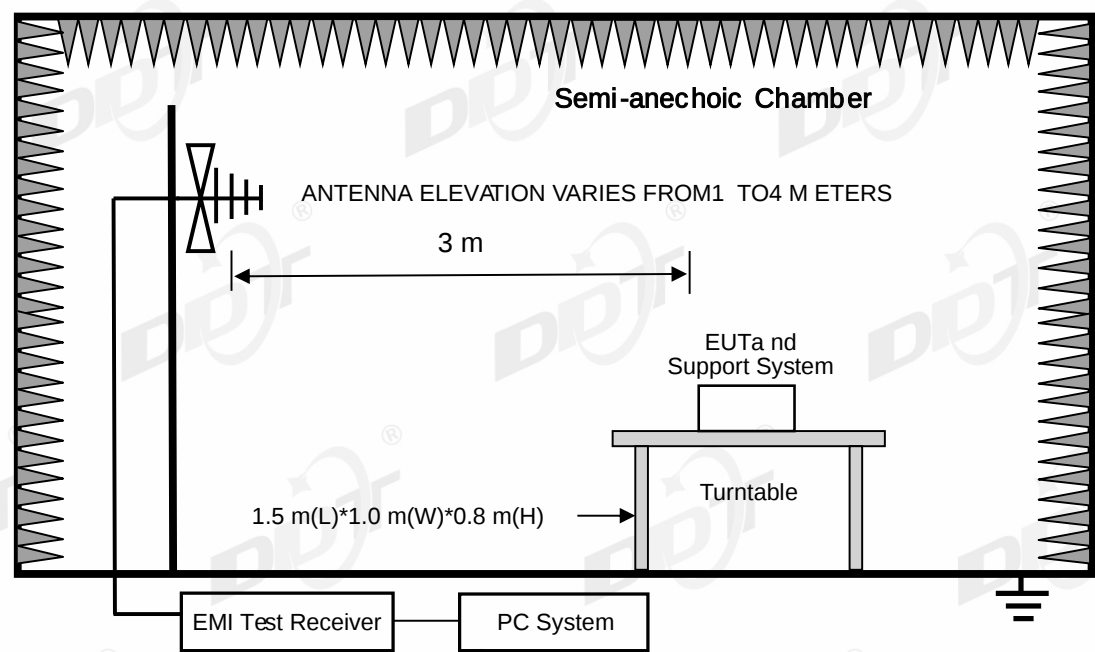
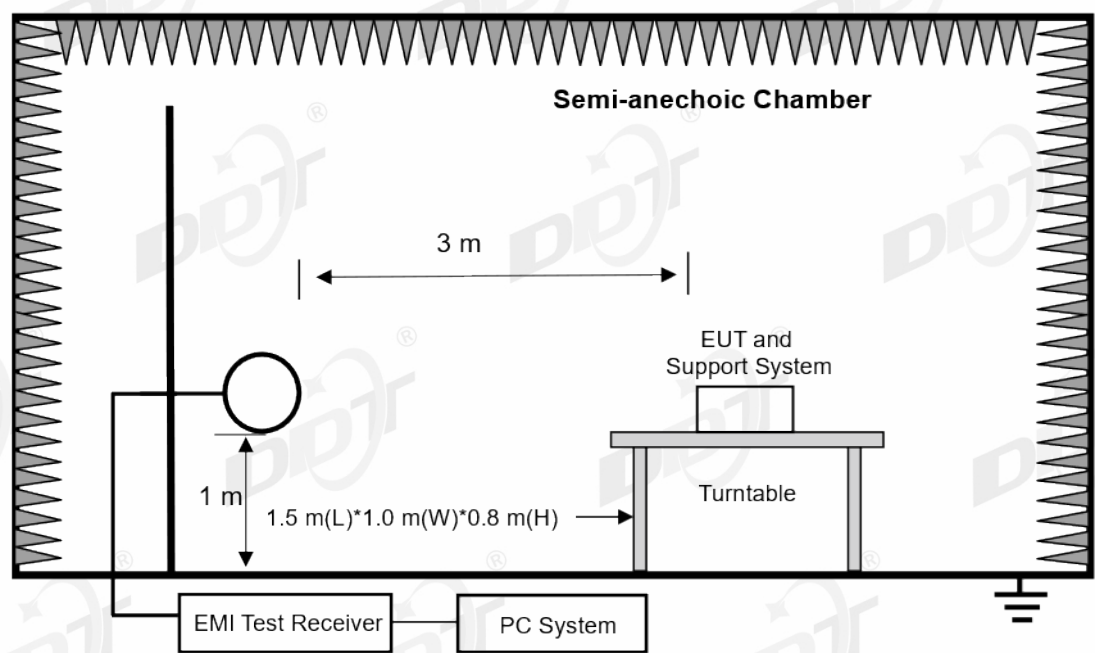
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

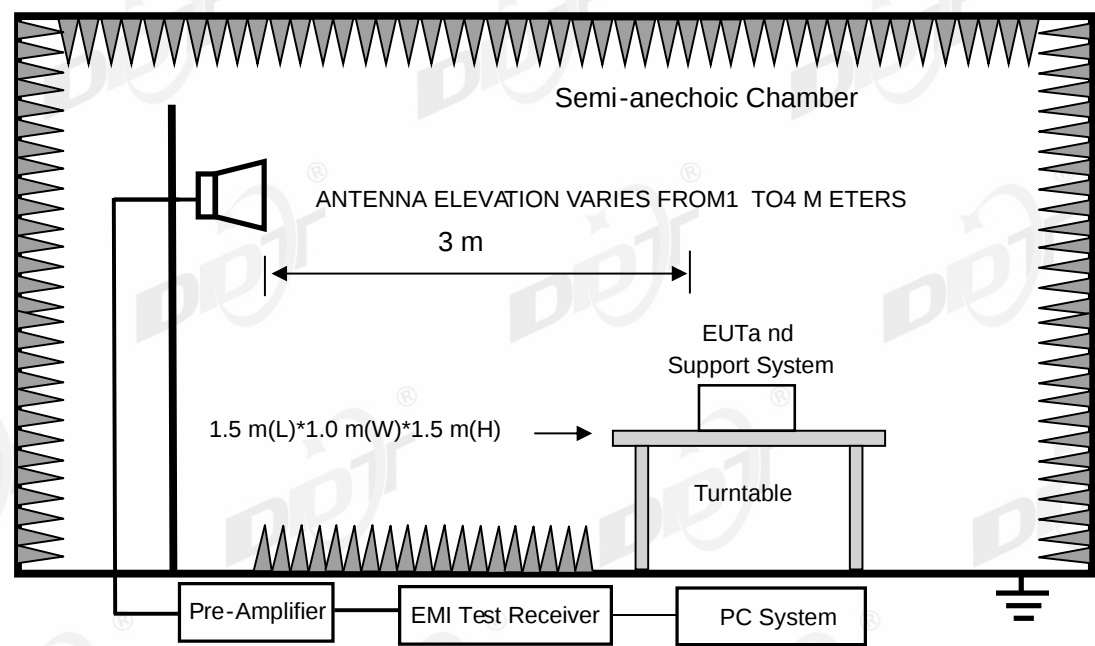
12. Radiated Emission

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To	Cal. Interval
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/	/
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2026/03/28	1 Year
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2026/03/28	1 Year
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2026/03/28	1 Year
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/03/28	1 Year
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2026/03/28	1 Year
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2026/03/28	1 Year
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25	1 Year
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2026/03/28	1 Year
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2026/03/28	1 Year
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2026/03/28	1 Year
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2026/03/28	1 Year
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2026/04/01	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02049	2026/07/11	1 Year
Hochgewinn-Horn Antenna	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18	1 Year
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11	1 Year
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2026/03/28	1 Year

12.2. Block diagram of test setup





12.3. 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
10.495-0.505	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

RSS-Gen section 8.10 Restricted frequency bands*

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	240-285	3.5-4.4
0.495-0.505	12.57675-12.57725	322-335.4	4.5-5.15
2.1735-2.1905	13.36-13.41	399.9-410	5.35-5.46
3.020-3.026	16.42-16.423	608-614	7.25-7.75
4.125-4.128	16.69475-16.69525	960-1427	8.025-8.5
4.1772&4.17775	16.80425-16.80475	1435-1626.5	9.0-9.2
4.2072&4.20775	25.5-25.67	1645.5-1646.5	9.3-9.5
5.677-5.683	37.5-38.25	1660-1710	10.6-12.7
6.215-6.218	73-74.6	1718.8-1722.2	13.25-13.4
6.26775-6.26825	74.8-75.2	2200-2300	14.47-14.5
6.31175-6.31225	108-138	2310-2390	15.35-16.2
8.291-8.294	149.9-150.05	2483.5-2500	17.7-21.4
8.362-8.366	156.52475-156.52525	2655-2900	22.01-23.12
8.37625-8.38675	156.7-156.9	3260-3267	23.6-24.0
8.41425-8.41475	162.0125-167.17	3332-3339	31.2-31.8
12.29-12.293	167.72-173.2	3345.8-3358	36.43-36.5
			Above 38.6

* Certain frequency bands listed in table and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

(2) FCC 15.209 Limit & RSS-Gen section 8.9 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		uV/m	dBuV/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(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 dBuV/m (Peak) 54.0 dBuV/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:

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

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

12.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	other
Dell laptops	Dell Technologies Inc.	I7-1255U MX550	/

12.5. 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) For portable device, X axis, Y axis, Z axis are tested, and worse setup is reported.

(9) 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.

(10) 30 MHz ~ 40 GHz: (Scan with all mode, the worst case is record and report)

(11) 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.

12.6. Test result

PASS. (See below detailed test result)

12.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-07-27

Tested By: Nan Zhong

EUT: R/C QUADCOPTER

Model Number: DR-ATS21G

Test Mode: TX N20 5745MHz Mode

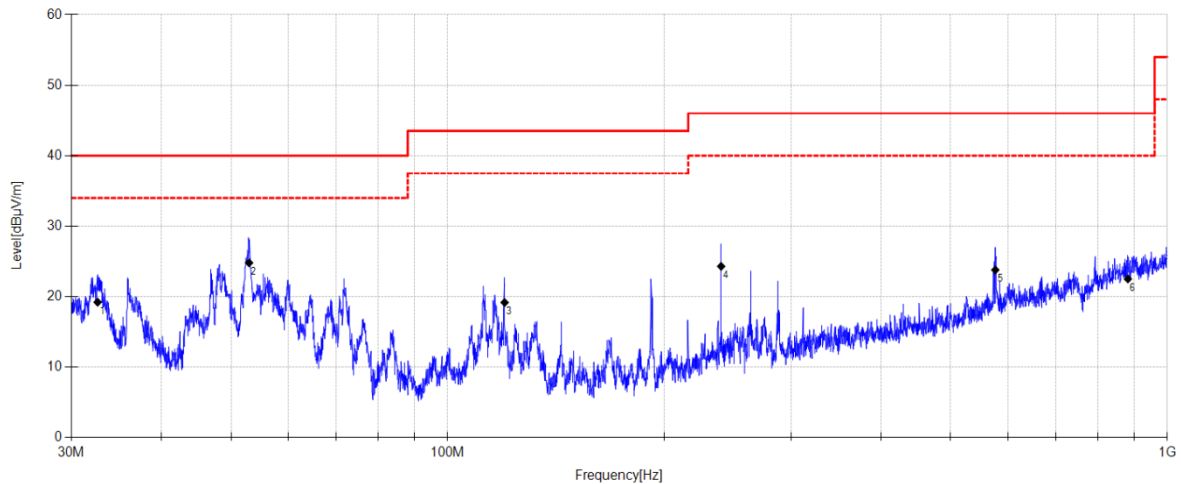
Power Supply: Battery

Condition: Temp:24.9°C;Humi:66.0%

Test Site: DDT 3# Chamber

File Path: d:\ts\2025 report date\Q25062721-1E\FCC BELOW1G\20250727-174132_H

Memo: Sample Numbler:S25062721-008 Power Setting:63



Final Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	32.633	35.92	10.61	3.78	19.21	40.00	20.79	QP	Horizontal
2	52.976	38.42	13.58	3.90	24.80	40.00	15.20	QP	Horizontal
3	119.991	35.96	10.00	4.33	19.17	43.50	24.33	QP	Horizontal
4	239.888	38.85	11.79	4.94	24.30	46.00	21.70	QP	Horizontal
5	576.708	30.41	18.60	6.28	23.79	46.00	22.21	QP	Horizontal
6	881.429	24.74	21.27	7.15	22.51	46.00	23.49	QP	Horizontal

Note:

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