

FCC AND ISCED CERTIFICATION TEST REPORT

Applicant:	Clear Touch Interactive Inc
Address:	1100 Thousand Oaks Blvd, Greenville, SC 29607, United States
Manufacturer:	Clear Touch Interactive Inc
Address:	1100 Thousand Oaks Blvd, Greenville, SC 29607, United States
Product Description:	Command Studio Digital Console
Brand Name:	Clear Touch
Tested Model:	CTI-CMST01-SCRN
FCC ID:	2AL27-CMSTSCRN
IC:	22693-CMSTSCRN
Report No.:	JCF250916081-003
Received Date:	Sep. 22, 2025
Tested Date:	Sep. 22, 2025 - Dec. 18, 2025
Issued Date:	Dec. 18, 2025
Test Standards:	FCC Rules and Regulations Part 15 Subpart C, RSS-247 Issue 3 August 2023
Test Procedure:	ANSI C63.10-2020/Cor1-2023, 558074 D01 15.247 Meas Guidance v05r02, 662911 D01 Multiple Transmitter Output v02r01, RSS-Gen Issue 5 A2, Feb. 2021
Test Result:	Pass

Prepared By:



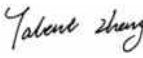
Kennys Zhang/Engineer
Date: Dec. 18, 2025

Reviewed By:



Roger Li/Engineer
Date: Dec. 18, 2025

Approved By:



Talent Zhang/Engineer
Date: Dec. 18, 2025

Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Guangzhou Jingce Testing Technology Co., Ltd. the test report shall not be reproduced except in full.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec. 18, 2025	Original Report	/

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1. Test Report Declare

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Address:	1100 Thousand Oaks Blvd, Greenville, SC 29607, United States
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Address:	1100 Thousand Oaks Blvd, Greenville, SC 29607, United States
Product Name:	Command Studio Digital Console
Brand Name:	Clear Touch
Model Name:	CTI-CMST01-SCRN
Difference Description:	N/A

We Declare:

The equipment described above is tested by Guangzhou Jingce Testing Technology 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 Guangzhou Jingce Testing Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests except as provided information by clients.

2. Summary of Test Results

Summary of Test Results			
Clause	Test Items	FCC/ISED Rules	Test Results
1	6dB Bandwidth and 99 % Occupied Bandwidth	FCC Part 15.247 (a) (2) RSS-247 Clause 5.2 (a) ISED RSS-Gen Clause 6.7	Pass
2	Peak Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass
3	Power Spectral Density	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d) RSS-247 Clause 5.5	Pass
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
6	Conducted Emission Test For AC Power Port	FCC Part 15.207 RSS-GEN Clause 8.8	Pass
7	Antenna Requirement	FCC Part 15.203 RSS-GEN Clause 6.8	Pass

3. Test Laboratory

Guangzhou Jingce Testing Technology Co., Ltd.

Add.: No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, People's Republic of China

Association for Laboratory Accreditation(A2LA). Certificate Number: 6594.03

FCC Designation Number: CN1381. Test Firm Registration Number: 486550

IC Test Firm Registration Number: 31808

Conformity Assessment Body identifier: CN0173

4. Equipment Under Test

4.1. Description of EUT

EUT Name:	Command Studio Digital Console
Model Number:	CTI-CMST01-SCRN
EUT Function Description:	Please refer to user manual of this device
Power Supply:	Input: 24V= 4A
Sample No.:	250916081-01-01
Hardware Version:	N/A
Software Version:	N/A
Radio Specification:	SRD 2.4G
Operation Frequency:	2.4G SRD: 2406MHz—2474MHz
Modulation:	GFSK
Antenna Type:	External Antenna, MAX. Gain: 5.73 dBi

Note 1: EUT is the ab. of equipment under test.

Note 2: The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.

4.2. Channel List

Channel List for 2.4G SRD							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2406	4	2422	8	2446	12	2462
1	2410	5	2434	9	2450	13	2466
2	2414	6	2438	10	2454	14	2470
3	2418	7	2442	11	2458	15	2474

4.3. Test Channel Configuration

Tested mode, channel and rand data rate information			
Mode	Data rate (Mbps) (see Note)	Channel	Frequency (MHz)
802.2.4G SRD	1	Low: CH0	2406
	1	Middle: CH7	2442
	1	High: CH15	2474

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

4.4. Test environment conditions

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

Temperature range:	21-25 °C
Humidity range:	40-75%
Pressure range:	86-106 kPa

4.5. Description of Available Antennas

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band			
Test Software		Telink BDT	
Modulation Mode	Transmit Antenna Number	Test Software Setting Value	
		Channel	ANT1
2.4G SRD	1	CH0	-12.1
		CH7	-12.1
		CH15	-12.1

4.6. Description of Available Antennas

Test Mode	Transmit and Receive Mode	Description
2.4G SRD	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.

5. Description of Test Setup

5.1. Accessory

Description of Accessories	Manufacturer	Model Number	Description	Remark
Adapter	Gangqi	GQ120A-2400400-E1	/	/

5.2. Support Equipment

Equipment	Brand Name	Model Name	P/N
PC	Lenovo	T480	/

5.3. Test Setup

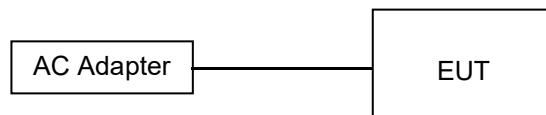
The EUT can work in Fixed Frequency mode.

5.4. Setup Diagram for Tests

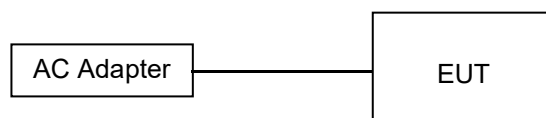
RF Connect Test:



Radiated Emission Test:



AC Power Line Conducted Emissions Test:



6. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
AC Power Conduction emission	1.37 dB
All Radiated emissions	5.4dB
Conducted emissions	3.09 dB
Occupied Channel Bandwidth	1.1%
Conducted Output power	0.82dB
Power Spectral Density	0.82dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k = 2.	

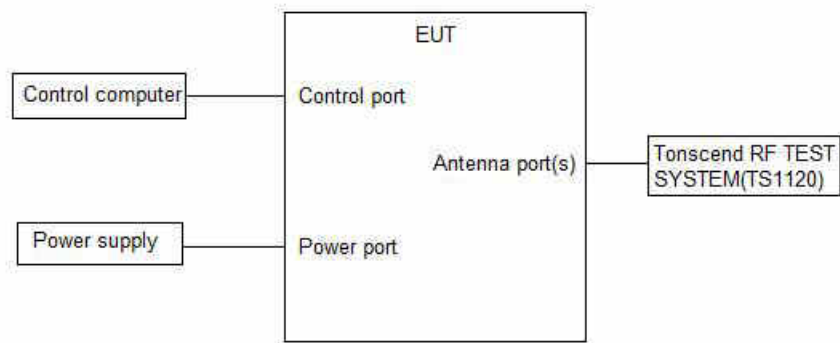
7. Measuring Instrument and Software Used

TS Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☒	Spectrum Analyzer	Keysight	N9030B	MY56320512	Jul. 31, 2025	Jul. 30, 2026
☒	Vector Signal Generator	Keysight	N5182B	MY57300334	Jul. 31, 2025	Jul. 30, 2026
☒	Signal Generator	Keysight	N5171B	MY57280639	Jul. 31, 2025	Jul. 30, 2026
☒	DC POWER	Keysight	E342A	MY59020356	Jul. 31, 2025	Jul. 30, 2026
☒	Incubator thermometer	GWS	EL-02JA	21107288	Jul. 31, 2025	Jul. 30, 2026
☒	Control unit(Power sensor)	Tonscend	JS0806-2	/	Jul. 31, 2025	Jul. 30, 2026
☒	Spectrum Analyzer	Keysight	N9020B	MY60112206	Aug. 29, 2025	Aug. 28, 2025
☒	Control unit(Power sensor)	Tonscend	JS0806-2	21H8060465	Aug. 01, 2025	Jul. 31, 2026
☒	Spectrum Analyzer	Keysight	N9020B	MY60112811	Jul. 31, 2025	Jul. 30, 2026
☒	Signal Generator	Keysight	N5173B	MY62220145	Jul. 31, 2025	Jul. 30, 2026
☒	Vector Signal Generator	Keysight	N5182B	MY61252859	Jul. 31, 2025	Jul. 30, 2026
☒	DC POWER	Keysight	E3642A	MY40005294	Jul. 31, 2025	Jul. 30, 2026
☒	Control unit(Power sensor)	Tonscend	JS0806-2	24F80620865	Aug. 01, 2025	Jul. 31, 2026
Software						
Used	Description	Manufacturer	Name		Version	
☒	Test software	Tonscend	JS1120-3		V3.3.10	
RSE Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☒	EMI Receiver	R&S	ESW44	101685	Feb. 24, 2025	Feb. 25, 2026

☒	Hybrid Antenna	Schwarzbeck	VULB9163	01416	May. 28, 2025	May. 27, 2026
☒	Horn Antenna 1	Schwarzbeck	BBHA 9120 D	02910	Aug. 31, 2025	Aug. 30, 2026
☒	Horn Antenna 2	ETS	BBHA 9170	1090	Aug. 31, 2025	Aug. 30, 2026
☒	loop-antenna	Schwarzbeck	FMZB 1513-60	00030	Jan. 12, 2025	Jan. 11, 2026
☒	Test path	/	Path2: WIFI-2.4G 1-3GHz	/	Jul. 31, 2025	Jul. 30, 2026
☒	Test path	/	Path7: ALL PASS 1-18GHz	/	Jul. 31, 2025	Jul. 30, 2026
☒	Test path	/	Path9: 3GHz High PASS 3-18GHz	/	Jul. 31, 2025	Jul. 30, 2026
☒	Test path	/	Path16: 30MHz-1GHz ALL PASS NO AMP	/	Jul. 31, 2025	Jul. 30, 2026
☒	Signal Pre-Amplifier	ETS	3116C-PA	00217677	Aug. 31, 2025	Aug. 30, 2026
☒	3m Fully-anechoic Chamber	YIHENG	9m*6m*6m	001	Sep. 05, 2023	Sep. 04, 2026
Software						
Used	Description	Manufacturer	Name		Version	
☒	Test software	Tonscend	TS+		V5.0.0.0	
Conducted Emission Test For AC Power Port						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☒	LISN	R&S	ENV216	102509	Aug. 01, 2025	Jul. 31, 2026
☒	EMI Receiver	R&S	ESR	102154	Aug. 01, 2025	Jul. 31, 2026
Software						
Used	Description	Manufacturer	Name		Version	
☒	Test software	EZ	EZ-EMC		EMEC-3A1	
Other Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☒	Temperature & Humidity	Temperature	HTC-1	/	Sep. 20, 2025	Sep. 21, 2026

8. On Time and Duty Cycle

8.1. Block diagram of test setup



8.2. Limits

None; for reporting purposes only

8.3. Procedure

KDB 558074 Zero-Span Spectrum Analyzer Method

8.4. Results

Test Mode	Ant.	Freq. (MHz)	Transmission Duration (ms)	Transmission Period (ms)	Duty Cycle (%)
11B	Ant1	2406	0.38	2.73	13.92
		2442	0.39	2.73	14.29
		2474	0.39	2.73	14.29

Note: Duty Cycle Correction Factor = $10\log(1/x)$.

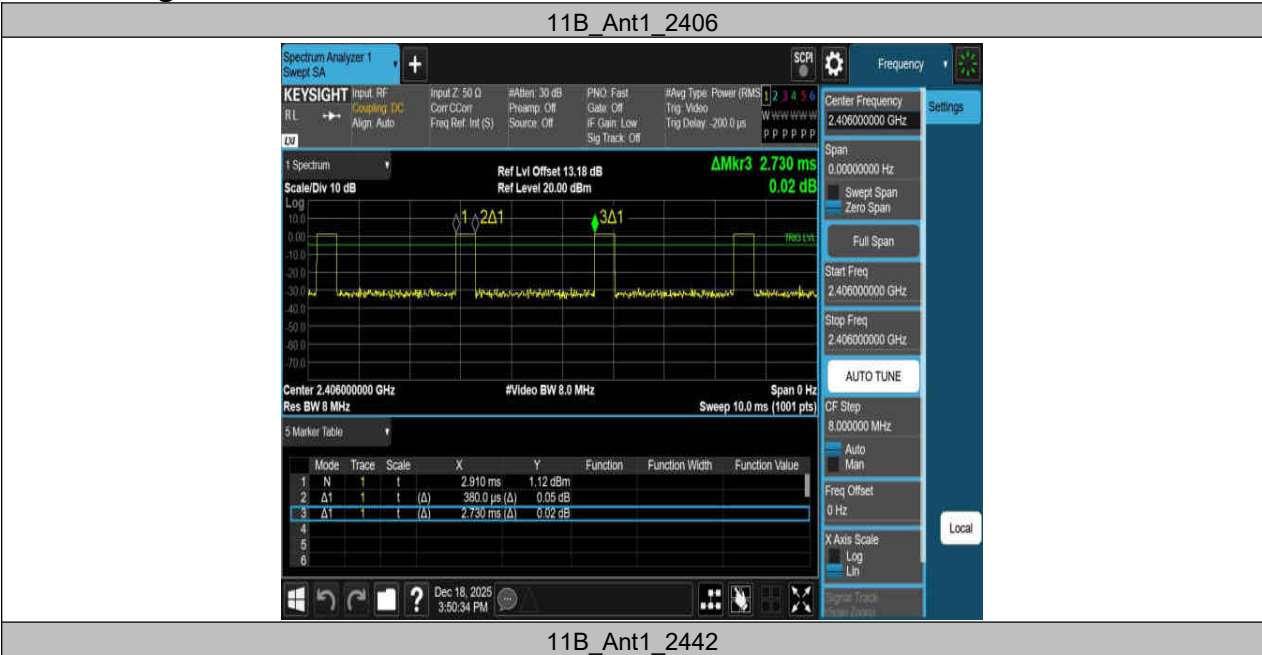
Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer, then the next higher value should be used.

For mode 11b, the duty cycle is greater than 98 %, so it can set VBW to 10 Hz.

8.5. Original test data





11B_Ant1_2474



9. 6 dB DTS Bandwidth and 99 % Occupied Bandwidth

9.1. Block diagram of test setup

Same as section 8.1

9.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(a)(2) ISED RSS-247 5.2 (a)	6 dB Bandwidth	≥ 500 kHz	2400-2483.5
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only.	2400-2483.5

9.3. Test Procedure

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

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth :100 kHz For 99 % Occupied Bandwidth :1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: $\geq 3 \times$ RBW For 99 % Occupied Bandwidth : $\geq 3 \times$ RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and 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 and 99 % relative to the maximum level measured in the fundamental emission.

9.4. Results

6dB bandwidth:

Test Mode	Ant.	Freq. (MHz)	DTS BW (MHz)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
11B	Ant1	2406	1.132	2405.444	2406.576	0.5	PASS
		2442	1.096	2441.380	2442.476	0.5	PASS
		2474	1.244	2473.332	2474.576	0.5	PASS

99 % bandwidth:

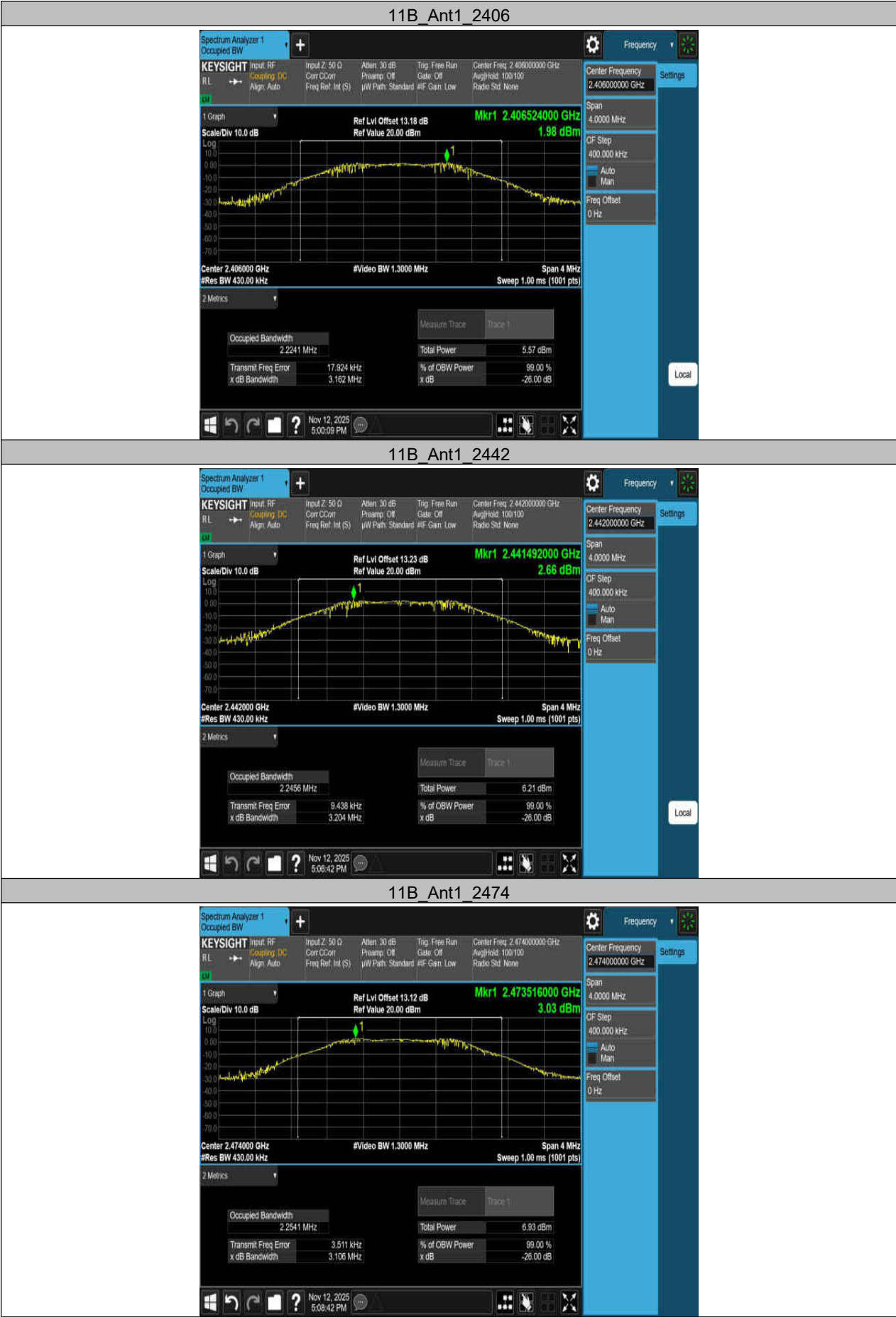
Test Mode	Ant.	Channel Freq. (MHz)	OCB (MHz)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
11B	Ant1	2406	2.2241	2404.9059	2407.1300	---	---
		2442	2.2456	2440.8866	2443.1322	---	---
		2474	2.3047	2472.8568	2475.1615	---	---

9.5. Original test data

6dB bandwidth:



99 % bandwidth:



10. Conducted Output Power

10.1. Block diagram of test setup

Same as section 8.1

10.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	Peak Output Power	1 watt or 30 dBm	2400-2483.5

10.3. Test Procedure

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast responding diode detector. See Figure 24.

10.4. Results

Test Mode	Ant.	Freq. (MHz)	Peak Power (dBm)	Conducted Limit (dBm)	Gain(dBi)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
11B	Ant1	2406	1.95	≤30.00	5.73	7.68	≤36.00	PASS
		2442	2.60	≤30.00	5.73	8.33	≤36.00	PASS
		2474	3.48	≤30.00	5.73	9.21	≤36.00	PASS

Note: The EIRP = Peak Power + Ant. Gain

11. Power Spectral Density

11.1. Block diagram of test setup

Same as section 8.1

11.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

11.3. Test Procedure

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

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW	$\geq 3 \times \text{RBW}$
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

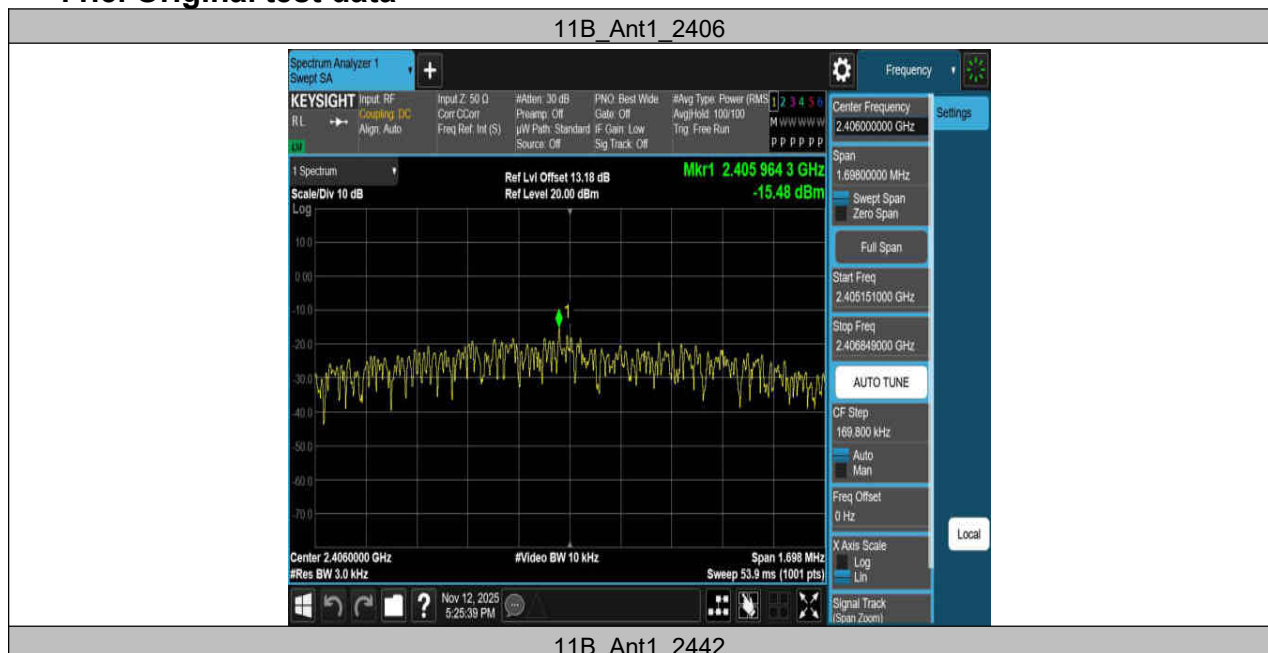
Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

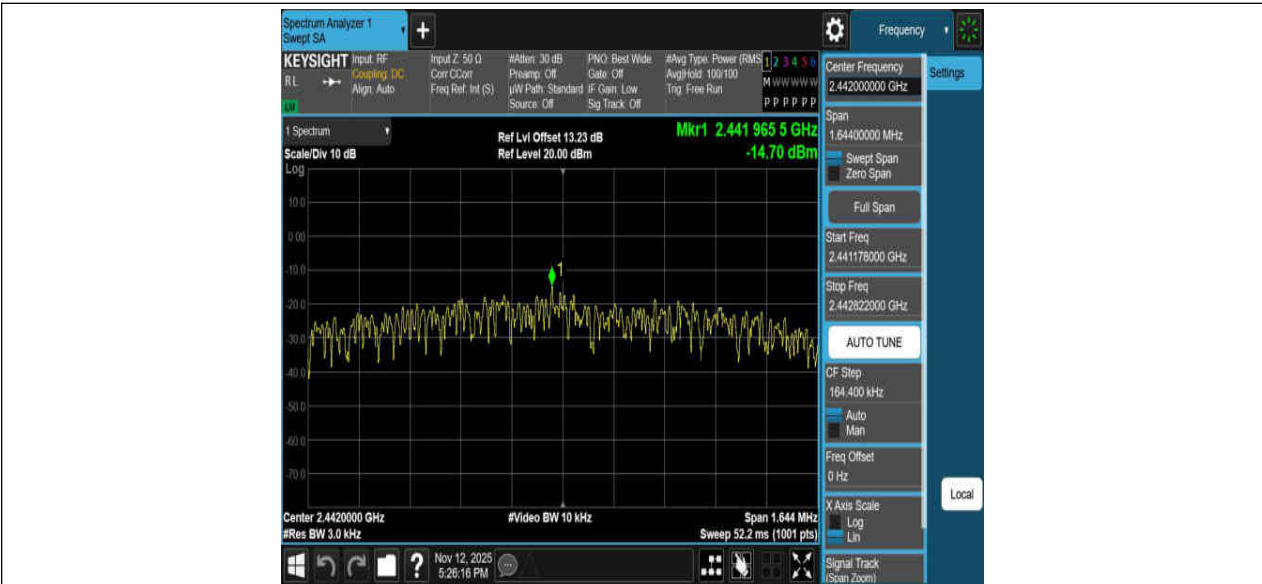
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

11.4. Results

Test Mode	Ant.	Freq. (MHz)	Result (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
11B	Ant1	2406	-15.48	≤ 8.00	PASS
		2442	-14.70	≤ 8.00	PASS
		2474	-14.38	≤ 8.00	PASS

11.5. Original test data





11B_Ant1_2474



12. Conducted Band edge and Spurious Emissions

12.1. Block diagram of test setup

Same as section 8.1

12.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

12.3. Test Procedure

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

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

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
measurement points	$\geq \text{span}/\text{RBW}$
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

12.4. Test result

Test Mode	Ant.	Ch Name	Freq. (MHz)	Ref Level (dBm)	Result (dBm)	Limit (dBm)	Verdict
11B	Ant1	Low	2406	-7.35	-45.71	≤ -27.35	PASS
		High	2474	-7.51	-45.33	≤ -27.51	PASS

Test Mode	Ant.	Freq. (MHz)	Freq Range (Mhz)	Ref Level (dBm)	Result (dBm)	Limit (dBm)	Verdict
11B	Ant1	2406	30~1000	-7.35	-60.39	≤ -27.35	PASS
			1000~26500	-7.35	-40.72	≤ -27.35	PASS
		2442	30~1000	-5.71	-59.19	≤ -25.71	PASS
			1000~26500	-5.71	-40.4	≤ -25.71	PASS
		2474	30~1000	-7.51	-60.3	≤ -27.51	PASS
			1000~26500	-7.51	-40.95	≤ -27.51	PASS

Note: Offset=cable loss

12.5. Original test data
Reference level

