

# **TEST REPORT**

Product Name	:	Dash Cam
Model Number	:	X800, X800-2
FCC ID	:	2AOK9-X800

Prepared for Address	:	70mai Co.,Ltd Room2220,building2,No.588,Zixingroad,MinHangDistrict,S hanghai.CHINA
Prepared by Address	:	EMTEK (SHENZHEN) CO., LTD. Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China
		Tel: (0755) 26954280 Fax: (0755) 26954282
Report Number Date(s) of Tests Date of issue		ENS2407220144W00903R August 24, 2024 to September 10, 2024 September 11, 2024



## TABLE OF CONTENTS

1	TES	ST RESULT CERTIFICATION	4
2	EUT	T TECHNICAL DESCRIPTION	5
3	SUM	MMARY OF TEST RESULT	7
4	TES	ST METHODOLOGY	8
	4.1 4.2 4.3	GENERAL DESCRIPTION OF APPLIED STANDARDS MEASUREMENT EQUIPMENT USED DESCRIPTION OF TEST MODES	8
5	FAC	CILITIES AND ACCREDITATIONS	11
	5.1 5.2	FACILITIES LABORATORY ACCREDITATIONS AND LISTINGS	11
6		ST SYSTEM UNCERTAINTY	
7	SET	TUP OF EQUIPMENT UNDER TEST	13
	7.1 7.2 7.3 7.4 7.5	RADIO FREQUENCY TEST SETUP RADIO FREQUENCY TEST SETUP CONDUCTED EMISSION TEST SETUP BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM SUPPORT EQUIPMENT	13 15 16 16
8	TES	ST REQUIREMENTS	
	8.1 8.2 8.3 8.4 8.5 8.6	BANDWIDTH MEASUREMENT MAXIMUM CONDUCTED OUTPUT POWER MAXIMUM PEAK POWER DENSITY UNDESIRABLE RADIATED SPURIOUS EMISSION POWER LINE CONDUCTED EMISSIONS ANTENNA APPLICATION	57 73 90 109



# **Modified Information**

Version	Report No.	Revision Date	Summary
Ver.1.0	ENS2407220144W00903R	/	Original Report





## **1 TEST RESULT CERTIFICATION**

Applicant	:	70mai Co.,Ltd
Address :		Room2220, building2, No.588, Zixingroad, MinHangDistrict, Shanghai. CHINA
Manufacturer	:	70mai Co.,Ltd
Address :		Room2220, building2, No.588, Zixingroad, MinHangDistrict, Shanghai. CHINA
EUT	:	Dash Cam
Model Name	:	X800, X800-2
Trademark	:	N/A

#### Measurement Procedure Used:

APPLICABLE STANDARDS			
STANDARD TEST RESULT			
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart E	PASS		

The above equipment was tested by EMTEK (SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the above table standards requirement.

The test results of this report relate only to the tested sample identified in this report.

Date of Test	: /	August 24, 2024 to September 10, 2024
Prepared by	: _	Una Yu/Editor
<b>-</b> ·		Jue Wa SHENZHEN,
Reviewer	:	Joe Xia/Supervisor
Approved & Authorized Signe	er:	int the
		Lisa Wang/Manager ESTING



#### Characteristics Description Product Dash Cam Model Number X800, X800-2 UNII-1: 5150MHz-5250MHz Band Wifi Type UNII-3: 5725MHz-5850MHz Band 802.11a 802.11n(20MHz channel bandwidth) 802.11n(40MHz channel bandwidth) 802.11ac(20MHz channel bandwidth) WLAN Supported 802.11ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth) 802.11ax(20MHz channel bandwidth) 802.11ax(40MHz channel bandwidth) 802.11ax(80MHz channel bandwidth) OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n Modulation OFDM with BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM for 802.11ac/ax 5150MHz-5250MHz Band 5180-5240MHz for 802.11a 5180-5240MHz for 802.11n(HT20) 5190-5230MHz for 802.11n(HT40) 5180-5240MHz for 802.11ac(HT20) 5190-5230MHz for 802.11ac(HT40) 5210MHz for 802.11ac(HT80) 5180-5240MHz for 802.11ax(HE20) 5190-5230MHz for 802.11ax(HE40) 5210MHz for 802.11ax(HE80) **Frequency Range** 5725MHz-5850MHz Band 5745-5825MHz for 802.11a 5745-5825MHz for 802.11n(HT20) 5755-5795MHz for 802.11n(HT40) 5745-5825MHz for 802.11ac(HT20) 5755-5795MHz for 802.11ac(HT40) 5775MHz for 802.11ac(HT80) 5745-5825MHz for 802.11ax(HE20) 5755-5795MHz for 802.11ax(HE40) 5775MHz for 802.11ax(HE80) **TPC Function** Not Applicable Antenna Type Integrated antenna Antenna Gain Ant1: 3.12 dBi, **Power Supply** DC 12V

## **2 EUT TECHNICAL DESCRIPTION**

**深圳信测标准技术服务股份有限公司**地址:广东省深圳市南山区马家龙工业区69栋 网址:Http://www.emtek.com.cn邮箱:cs.rep@emtek.com.cn

EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn



Temperature Range	-10°C ~ 60°C
-------------------	--------------

Note: for more details, please refer to the user's manual of the EUT.





## **3 SUMMARY OF TEST RESULT**

FCC Part Clause	Test Parameter	Verdict	Remark
15.407 (a) 15.407 (e)	99% , 6dB and 26dB Bandwidth	PASS	
15.407 (a)	Maximum Conducted Output Power	PASS	
15.407 (a)	Peak Power Spectral Density	PASS	
15.407 (b)	Radiated Spurious Emission	PASS	
15.407 (b)(6) 15.207	Power Line Conducted Emission	PASS	
15.407(a) 15.203	Antenna Application	PASS	

NOTE1: The results of this report do not take into account the uncertainty.

NOTE2: According to FCC OET KDB 789033 D2 General UNII Test Procedures New Rules v02r01, In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.

#### RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for FCC ID: 2AOK9-X800 filing to comply with the above table standards requirement.



## **4 TEST METHODOLOGY**

## 4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards: FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart E

FCC KDB 789033 D2 General UNII Test Procedures New Rules v02r01

## 4.2 MEASUREMENT EQUIPMENT USED

#### For Conducted Emission Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESCI	101384	2024/5/11	1Year
AMN	Rohde & Schwarz	ENV216	101161	2024/5/10	1Year

#### For Spurious Emissions Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Pre-Amplifier	Bonn	BLMA 011001N	2213967A	2023/10/23	1Year
EMI Test Receiver	Rohde & Schwarz	ESR7	102551	2023/10/23	1Year
Bilog Antenna	Schwarzbeck	VULB9163	9163142	2024/7/8	2Year
Horn antenna	Schwarzbeck	BBHA9120D	9120D-1198	2023/6/2	2Year
Pre-Amplifier	Bonn	BLMA 0118-5G	2213967B-01	2023/10/23	1Year
Spectrum Analyzer	Rohde & Schwarz	FSV3044	101290	2023/10/23	1Year
Horn antenna	Schwarzbeck	BBHA9170	9170-399	2023/5/12	2Year
Pre-Amplifier	Lunar EM	LNA18G26-40	J1012131010 001	2024/5/11	1Year
Pre-Amplifier	Lunar EM	LNA26G40-40	J1013131028 001	2024/5/11	1Year
Loop Antenna	Schwarzbeck	FMZB1519	1519-012	2023/5/12	2Year
Wideband Radio Communication Tester	R&S	CMW500	171168	2023/9/14	1Year

#### For Other Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Wideband Radio Communication Tester	R&S	CMW500	171168	2023/9/14	1Year
Spectrum Analyzer	Rohde & Schwarz	FSV40	100967	2023/5/10	1Year
Spectrum Analyzer	R&S	FSV3044	101289	2023/9/14	1Year
Analog Signal Generator	R&S	SMB100A	183237	2023/9/16	1Year
Vector Signal Generator	R&S	SMM100A	101808	2023/9/16	1Year
RF Control Unit(Power Meter)	Tonscend	JS0806-2	22C8060567	2023/9/14	1Year
Temperature&Hum idity Chamber	ESPEC	EL-02KA	12107166	2024/5/10	1 Year

深圳信测标准技术服务股份有限公司 地址:广东省深圳市南山区马家龙工业区69栋 网址:Http://www.emtek.com.cn 邮箱:cs.rep@emtek.com.cn EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn



## 4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

#### Wifi 5G with 5150-5250MHz

Frequency and Channels list for 802.11a/n(20)/802.11ac(20)/802.11ax(20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220		
40	5200	48	5240		

#### Frequency and Channels list for 802.11n (40)/802.11ac(40)/802.11ax(40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190				
46	5230				

#### Frequency and Channel list for 802.11ac(80)/802.11ax(80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210				

#### Test Frequency and Channels for 802.11a/n(20)/802.11ac(20)/802.11ax(20):

Lowest Frequency		Lowest Frequency Middle Frequency		Highes	st Frequency
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	48	5240

#### Test Frequency and channels for 802.11n (40)/802.11ac(40)/802.11ax(40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	N/A	N/A	46	5230

#### Test Frequency and channels for 802.11ac(80)/802.11ax(80):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	N/A	N/A	N/A	N/A



#### Wifi 5G with 5725MHz-5850MHz

Frequency and Channels list for 802.11a/n(20)/802.11ac(20)/802.11ax(20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825
153	5765	161	5805		

Frequency and Channels list for 802.11n (40)/802.11ac(40)/802.11ax(40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755				
159	5795				

Frequency and Channels list for 802.11ac(80)/802.11ax(80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775				

Test Frequency and Channels for 802.11a/n(20)/802.11ac(20)/802.11ax(20):

Lowest F	requency	Middle F	Middle Frequency		requency
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825

#### Test Frequency and channels for 802.11n (40)/802.11ac(40)/802.11ax(40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755			159	5795

#### Test Frequency and channels for 802.11ac(80)/802.11ax(80):

Lowest F	Lowest Frequency		Middle Frequency		requency
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775				

#### Multi-antenna correlation:

	V	Transmit Signals are Correlated
	V	Directional gain = 10 log[(10 <sup>G1/20</sup> + 10 <sup>G2/20</sup> + + 10 <sup>GN/20</sup> )2 /N <sub>ANT</sub> ] dBi
		All Transmit Signals are Completely Uncorrelated
		Directional gain = 10 log[(10 <sup>G1/10</sup> + 10 <sup>G2/10</sup> + + 10 <sup>GN/10</sup> ))/NANT] dBi

Ant1: 3.12dBi

Directional gain = 10 log [ $(10^{/20})^2/2$ ] dBi=N/A dBi



## 5 FACILITIES AND ACCREDITATIONS 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at:

Bldg 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

## 5.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
EMC Lab.	Accredited by CNAS
	The Certificate Registration Number is L2291
	The Laboratory has been assessed and proved to be in compliance with
	CNAS-CL01 (identical to ISO/IEC 17025:2017)
	Accredited by FCC
	Designation Number: CN1204
	Test Firm Registration Number: 882943
	Accredited by A2LA
	The Certificate Number is 4321.01
	Accredited by Industry Canada
	The Conformity Assessment Body Identifier is CN0008
Nome of Firm	
	EMTEK (SHENZHEN) CO., LTD.
Site Location	: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China



## 6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	±1x10^-5
Maximum Peak Output Power Test	±1.0dB
Conducted Emissions Test	±2.0dB
Radiated Emission Test	±2.0dB
Power Density	±2.0dB
Occupied Bandwidth Test	±1.0dB
Band Edge Test	±3dB
All emission, radiated	±3dB
Antenna Port Emission	±3dB
Temperature	±0.5°C
Humidity	±3%

Measurement Uncertainty for a level of Confidence of 95%.



## 7 SETUP OF EQUIPMENT UNDER TEST

## 7.1 RADIO FREQUENCY TEST SETUP

The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



### 7.2 RADIO FREQUENCY TEST SETUP

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

#### Below 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

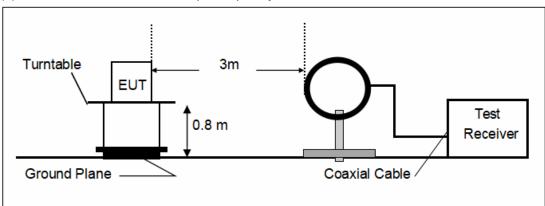
#### Above 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

#### Above 1GHz:

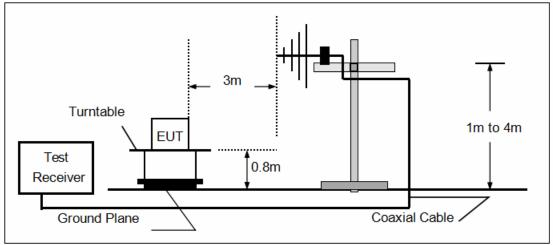
(Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).



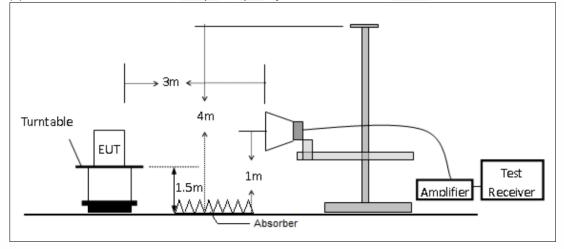


#### (a) Radiated Emission Test Set-Up, Frequency Below 30MHz

#### (b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz



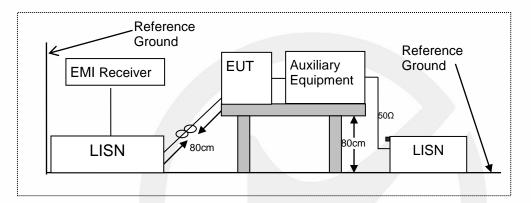


## 7.3 CONDUCTED EMISSION TEST SETUP

The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

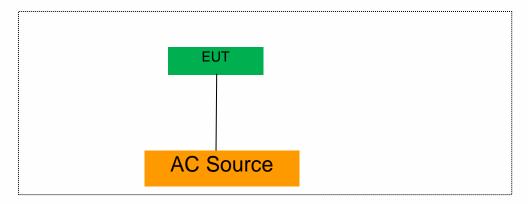
Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.





## 7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



## 7.5 SUPPORT EQUIPMENT

/

#### Notes:

1.All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. 2.Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use. 3.Unless otherwise denoted as EUT in [Remark] column, device(s) used in tested system is a support equipment.



## 8 TEST REQUIREMENTS 8.1 BANDWIDTH MEASUREMENT

8.1.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C According to FCC Part 15.407(a)(3) for UNII Band III According to FCC Part 15.407(e) for UNII Band III According to 789033 D02 Section II(C) According to 789033 D02 Section II(D)

#### 8.1.2 Conformance Limit

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

#### 8.1.3 Test Configuration

Test according to clause 6.1 radio frequency test setup.

#### 8.1.4 Test Procedure

According to 789033 D02 v02r01 section C&D, the following is the measurement procedure.

1. Emission Bandwidth (EBW)

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission.



Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW)  $\geq$  3  $\times$  RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

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

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

#### D. 99 Percent Occupied Bandwidth

The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to 789033 D02 v01r02 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.

2. Set span = 1.5 times to 5.0 times the OBW.

3. Set RBW = 1 % to 5 % of the OBW.

4. Set VBW  $\geq$  3  $\times$  RBW.

5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

6. Use the 99 % power bandwidth function of the instrument (if available).

7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.



#### 8.1.5 Test Results

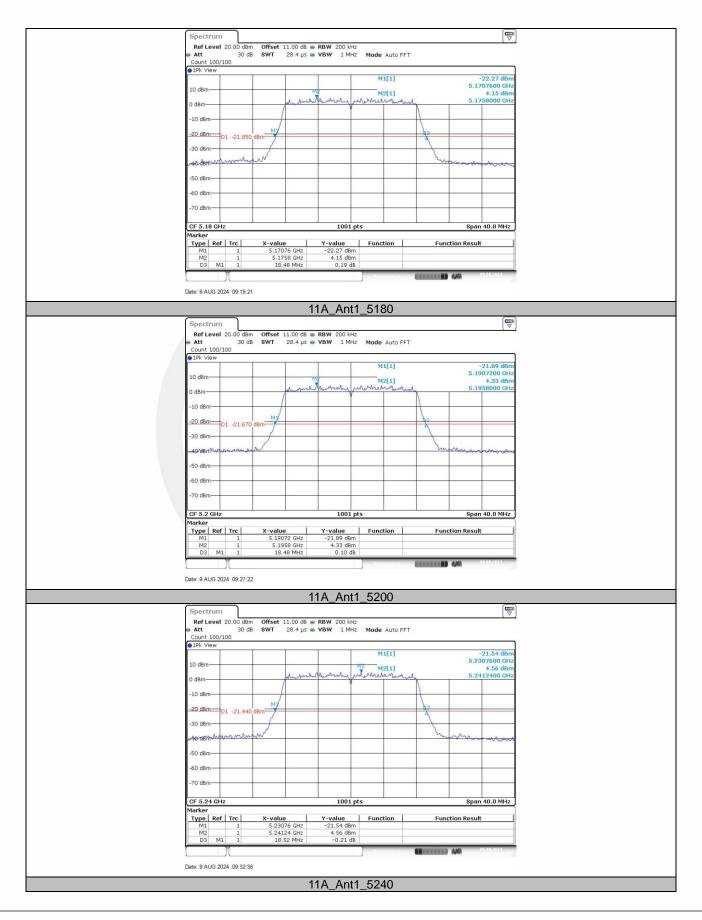
Temperature :	<b>25</b> ℃	ATM Pressure:	1011 mbar
Humidity :	45 %	Test Engineer:	XXH

#### **Emission Bandwidth (26dB)**

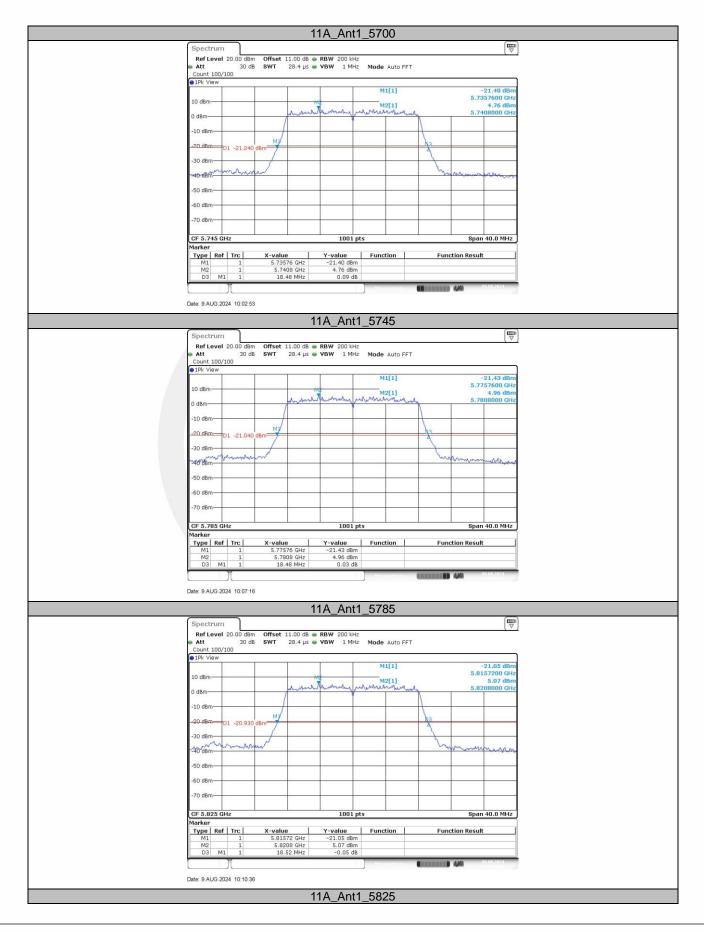
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
		5180	18.48	5170.76	5189.24		
11A 11N20SISO 11N40SISO 11AC20SISO 11AC40SISO 11AC80SISO	A == ±1	5200	18.48	5190.72	5209.20		
44.0		5240	18.52	5230.76	5249.28		
IIA	Ant1	5745	18.48	5735.76	5754.24		
		5785	18.48	5775.76	5794.24		
		5825	18.52	5815.72	5834.24		
		5180	19.48	5170.28	5189.76		
		5200	19.48	5190.28	5209.76		
44 NOOCLCO	Anti	5240	19.44	5230.28	5249.72		
TIN205150	Ant1	5745	19.48	5735.24	5754.72		
		5785	19.52	5775.28	5794.80		
		5825	19.48	5815.28	5834.76		
		5190	39.60	5170.24	5209.84		
11N/05ISO	Ant1	5230	39.60	5210.16	5249.76		
1114-00100		5755	39.92	5735.00	5774.92		
		5795	39.84	5775.08	5814.92		
		5180	19.44	5170.28	5189.72		
		5200	19.44	5190.28	5209.72		
11AC20SISO	Ant1	5240	19.44	5230.28	5249.72		
	7	5745	19.44	5735.28	5754.72		
		5785	19.48	5775.24	5794.72		
		5825	19.44	5815.28	5834.72		
		5190	39.44	5170.24	5209.68		
11AC40SISO	Ant1	5230	39.44	5210.16	5249.60		
		5755	39.28	5735.40	5774.68		
		5795	39.36	5775.24	5814.60		
1140805150	Ant1	5210	79.36	5170.16	5249.52		
TIAGOOOloo	AILI	5775	79.68	5735.16	5814.84		
		5180	20.36	5169.80	5190.16		
11AC20SISO 11AC40SISO 11AC80SISO 11AX20SISO		5200	20.36	5189.80	5210.16		
11 / 20 20 20	Ant1	5240	20.36	5229.80	5250.16		
11N40SISO 11AC20SISO 11AC40SISO 11AC80SISO 11AX20SISO		5745	20.36	5734.80	5755.16		
		5785	20.32	5774.84	5795.16		
		5825	20.36	5814.80	5835.16		
		5190	40.08	5169.92	5210.00		
11AX20SISO 11AX40SISO	A nt1	5230	40.16	5209.84	5250.00		
	Ant1	5755	40.00	5735.00	5775.00		
		5795	40.08	5774.92	5815.00		
11 4 2000100	A n+1	5210	80.64	5169.68	5250.32		
11AX80SISO	Ant1	5775	80.32	5734.84	5815.16		

**深圳信测标准技术服务股份有限公司** 地址:广东省深圳市南山区马家龙工业区69栋 网址:Http://www.emtek.com.cn 邮箱:cs.rep@emtek.com.cn EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn

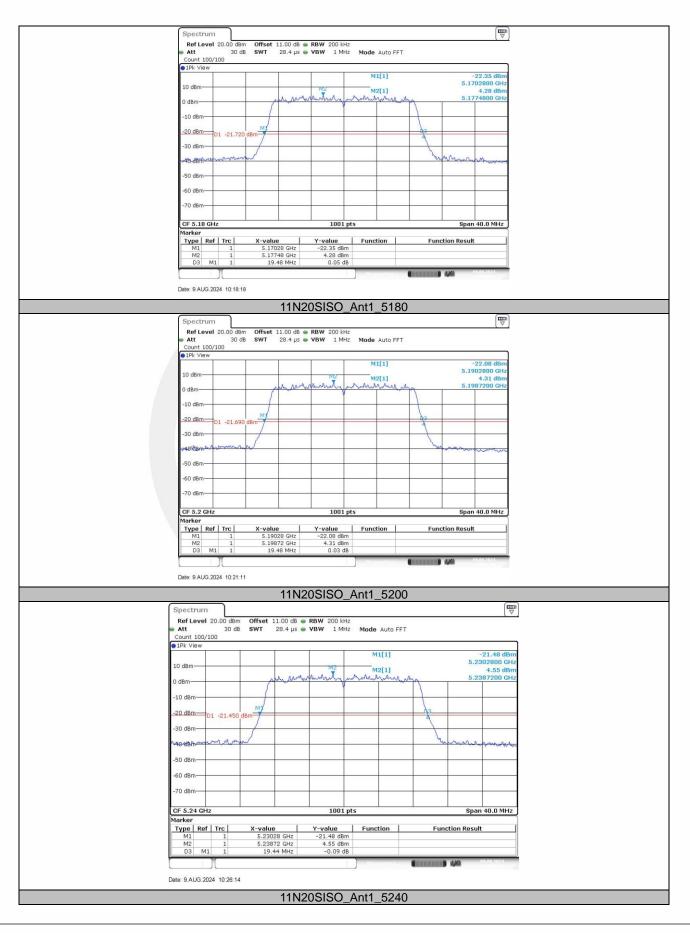




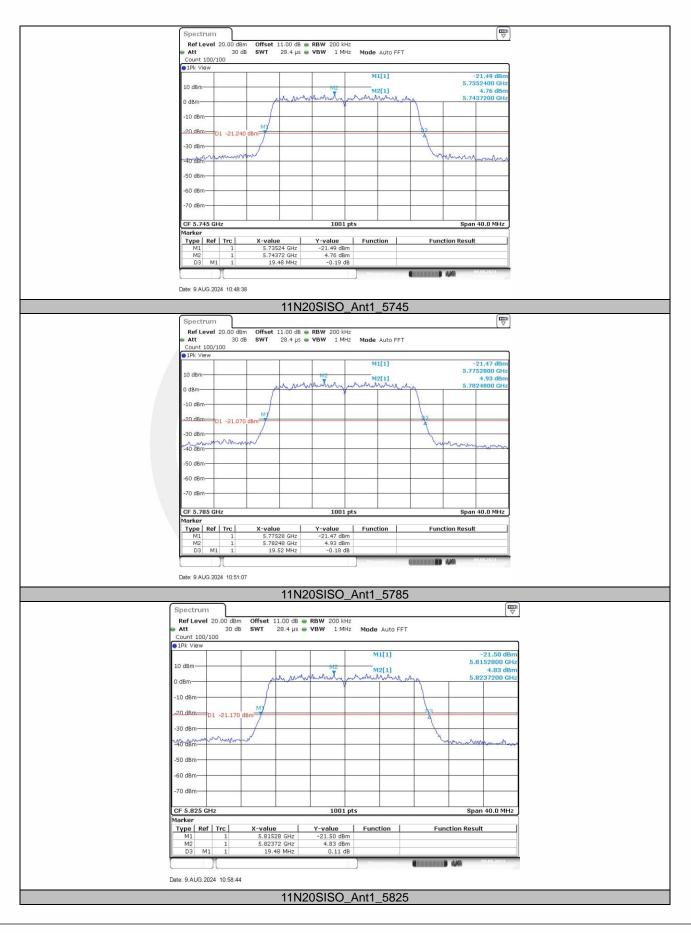




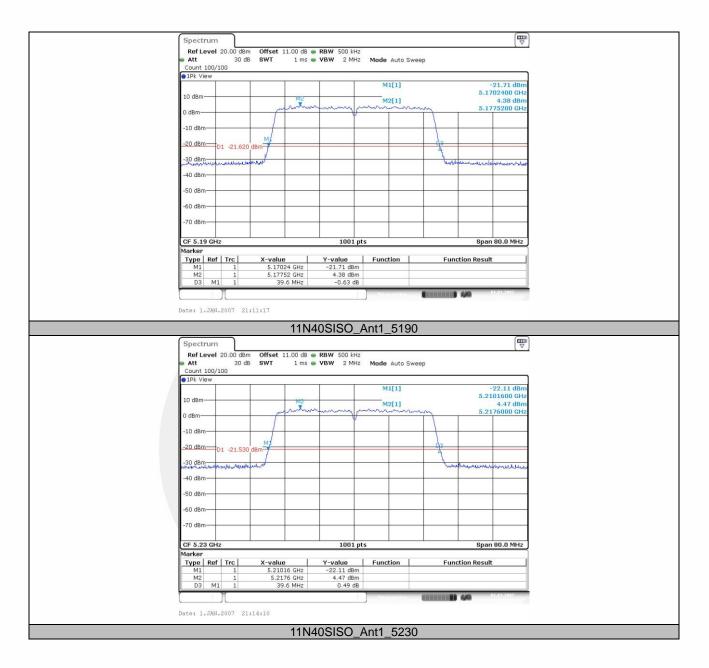




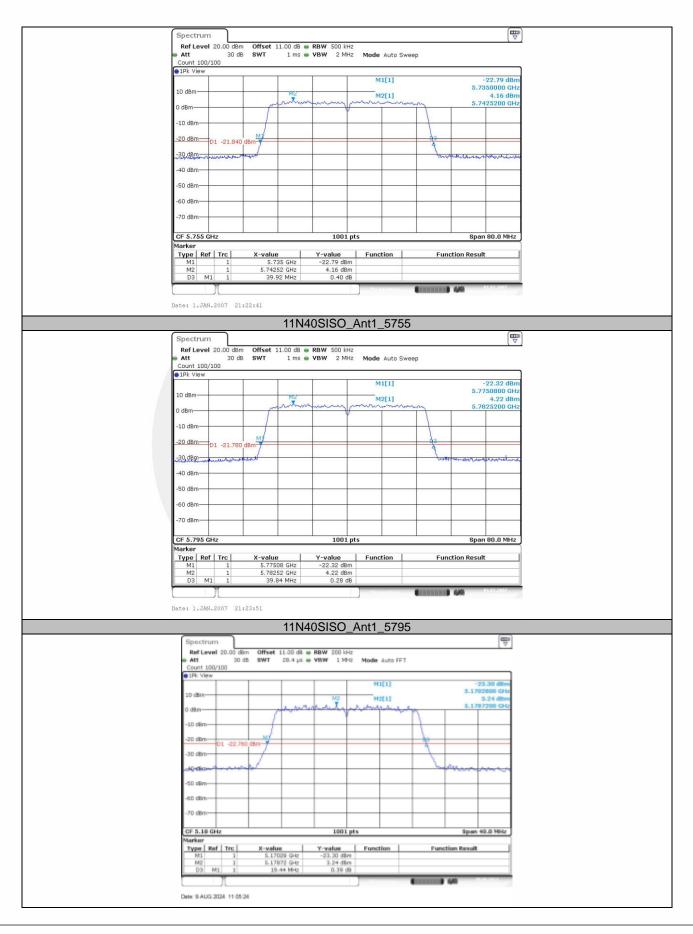




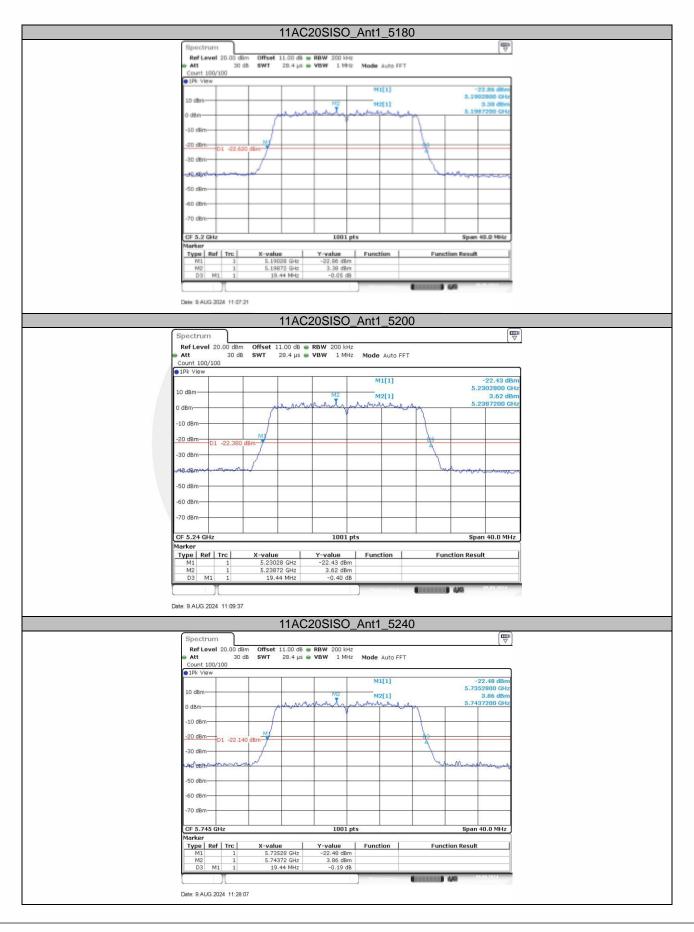




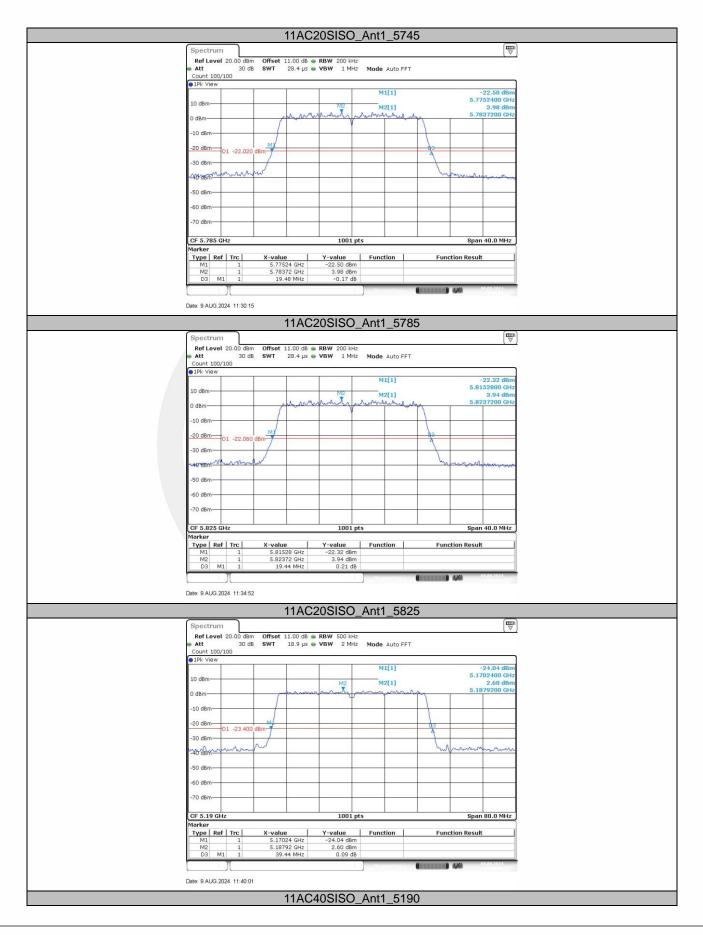




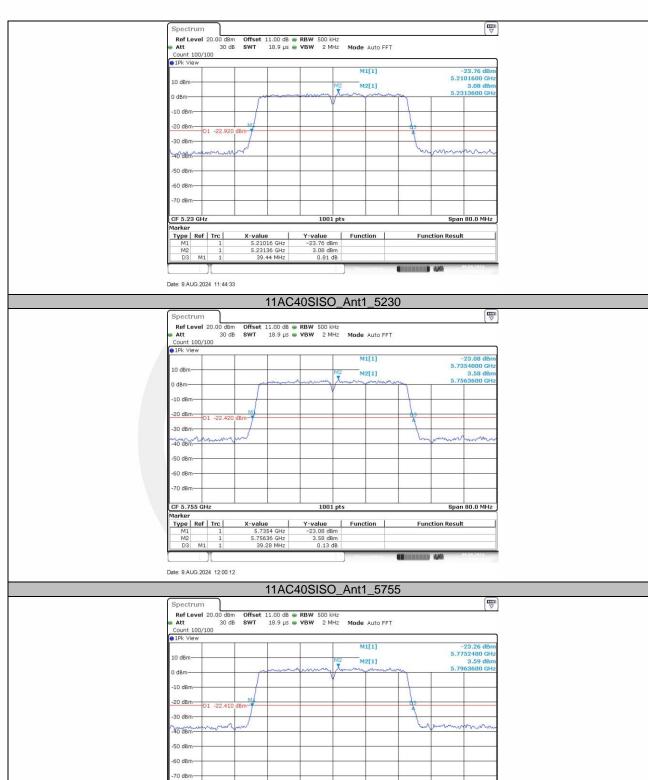












X-value 5 77524 GHz

5.79636 GHz 39.36 MHz

1

CF 5.795 GHz

Type | Ref | Trc |

M1

Date: 9.AUG 2024 12:02:22

arke

M

#### Report No. ENS2407220144W00903R

1001 pts

Function

Y-value २२.26 dBm

3.59 dBm -0.02 dB

11AC40SISO\_Ant1\_5795

Span 80.0 MHz

Function Result





X-value 5.1698 GHz 5.17648 GHz 20.36 MHz

1

-70 dBm

arke

M2 D3 M1

Type | Ref | Trc |

Date: 9.AUG.2024 14:19:42

#### Report No. ENS2407220144W00903R

1001 pts

Function

Y-value -23.34 dBm

3.47 dBm 0.59 dB

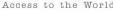
11AX20SISO\_Ant1\_5180

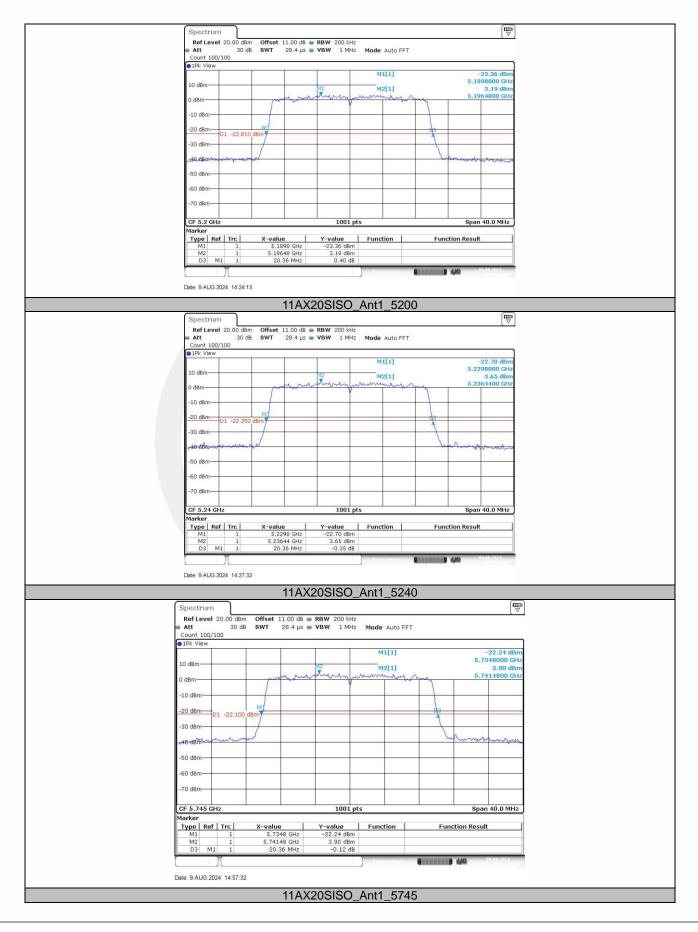
Span 40.0 MHz

Function Result

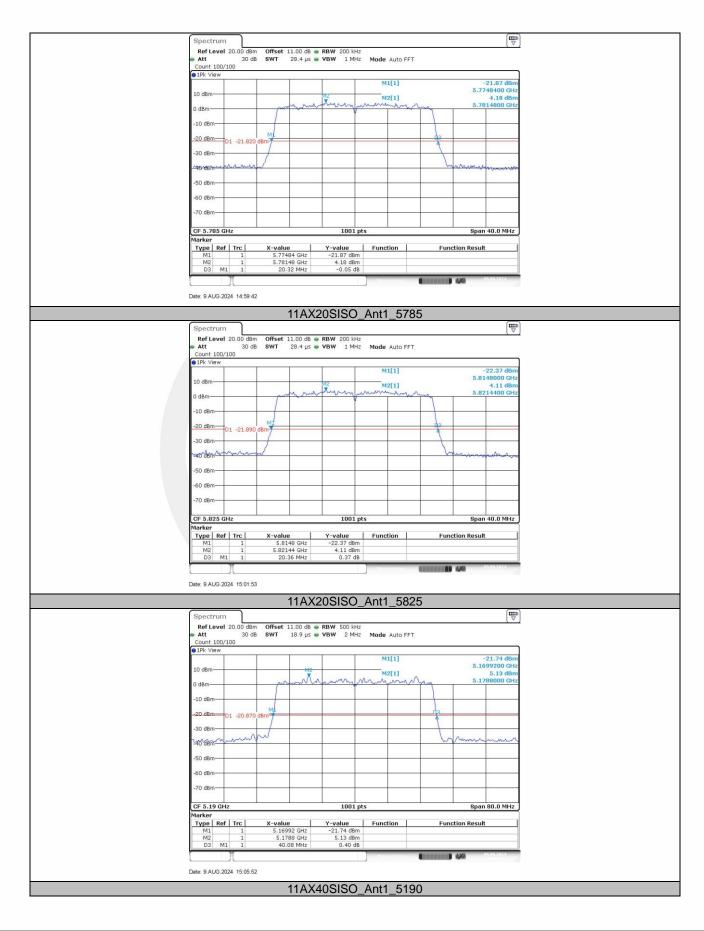
**H**ERRICH 4/4



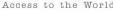


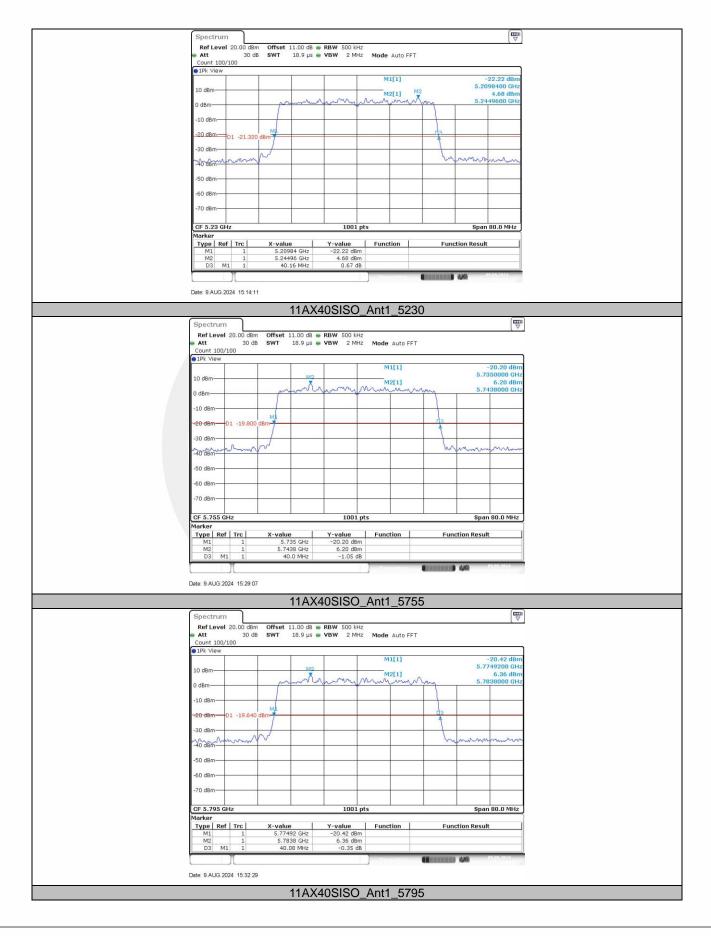




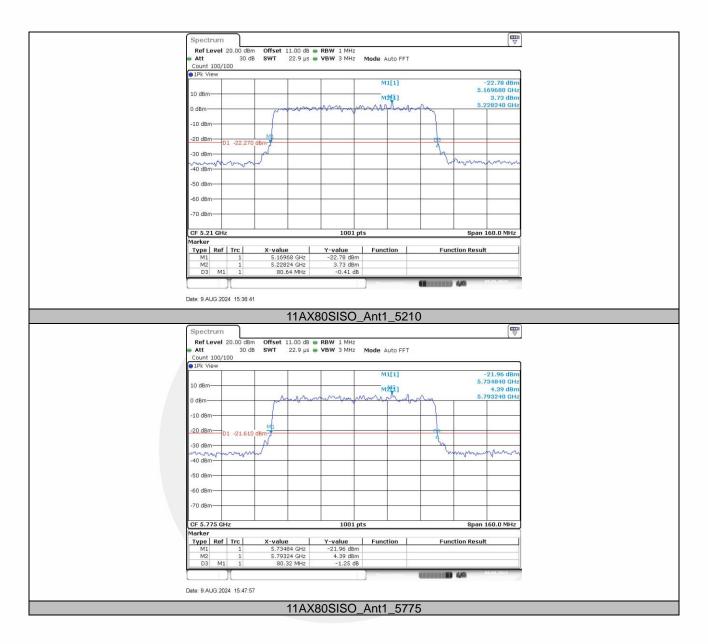














TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
		5180	16.583	5171.6484	5188.2318		
		5200	16.424	5191.7682	5208.1918		
11A	Ant1	5240	16.543	5231.7283	5248.2717		
		5745	16.583	5736.6883	5753.2717		
		5785	16.464	5776.7682	5793.2318		
		5825	16.583	5816.7283	5833.3117		
		5180	17.582	5171.1688	5188.7512		
		5200	17.702	5191.1289	5208.8312	   	
11N20SISO	Ant1	5240	17.662	5231.1289	5248.7912		
1111203130	Anti	5745	17.662	5736.1688	5753.8312		
		5785	17.622	5776.1688	5793.7912		
		5825	17.622	5816.1289	5833.7512		
		5190	36.204	5171.9381	5208.1419		
11N40SISO	Ant1	5230	36.204	5211.9381	5248.1419		
1111403130	Anti	5755	36.204	5736.9381	5773.1419		
		5795	36.204	5776.9381	5813.1419		
		5180	17.582	5171.1688	5188.7512		
		5200	17.662	5191.1289	5208.7912	3          3          3          7          7          7          2          3          4          5          6          7 <td< td=""><td></td></td<>	
11AC20SISO	Ant1	5240	17.622	5231.2088	5248.8312		
TIAC205150	Anti	5745	17.622	5736.1688	5753.7912		
		5785	17.622	5776.1688	5793.7912		
		5825	17.582	5816.1688	5833.7512		
		5190	36.284	5171.8581	5208.1419		
11AC40SISO	Ant1	5230	36.284	5211.8581	5248.1419		
TIAC403130		5755	36.204	5736.9381	5773.1419		
		5795	36.364	5776.7782	5813.1419		
11AC80SISO	A n+1	5210	76.244	5171.7982	5248.0420		
1140003130	Ant1	5775	75.764	5737.4376	5813.2018		
		5180	18.901	5170.5295	5189.4306		
		5200	18.981	5190.4895	5209.4705		
11AX20SISO	Ant1	5240	18.941	5230.4895	5249.4306		
1147205150	ANTI	5745	19.021	5735.4496	5754.4705		
		5785	18.901	5775.4895	5794.3906		
		5825	18.861	5815.5295	5834.3906		
		5190	37.882	5170.9790	5208.8611		
11 4 7 40 8 80	A n+1	5230	37.802	5211.1389	5248.9411		
11AX40SISO	Ant1	5755	37.962	5735.9790	5773.9411		
		5795	37.882	5775.9790	5813.8611	     	
11 4 2000100	4 م 4	5210	77.363	5171.4785	5248.8412		
11AX80SISO	Ant1	5775	77.043	5736.6384	5813.6813		

#### Occupied channel bandwidth (99%)





深圳信测标准技术服务股份有限公司 地址:广东省深圳市南山区马家龙工业区69栋 网址:Http://www.emtek.com.cn 邮箱:cs.rep@emtek.com.cn

EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn

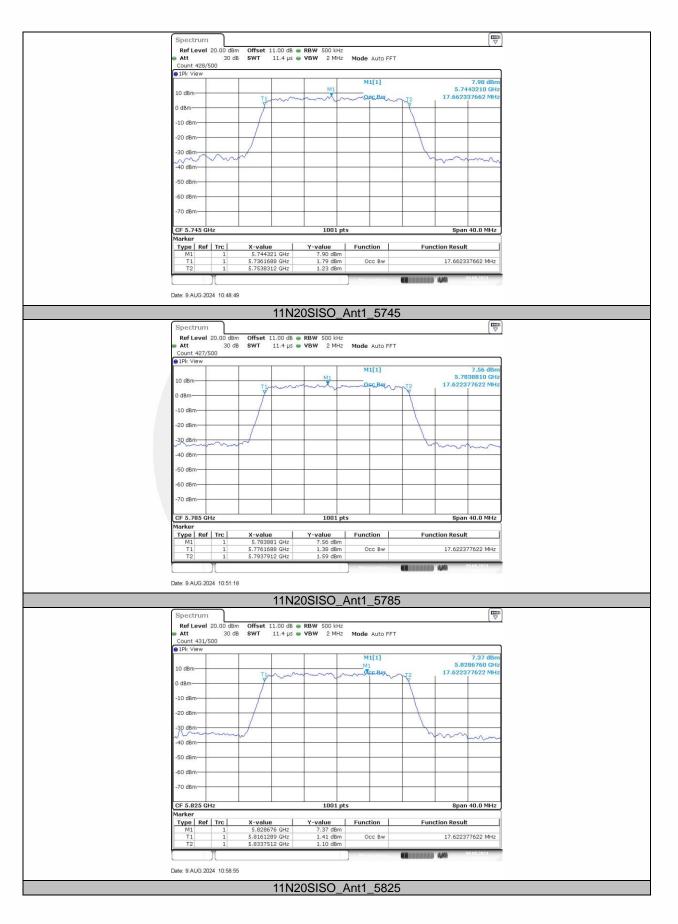




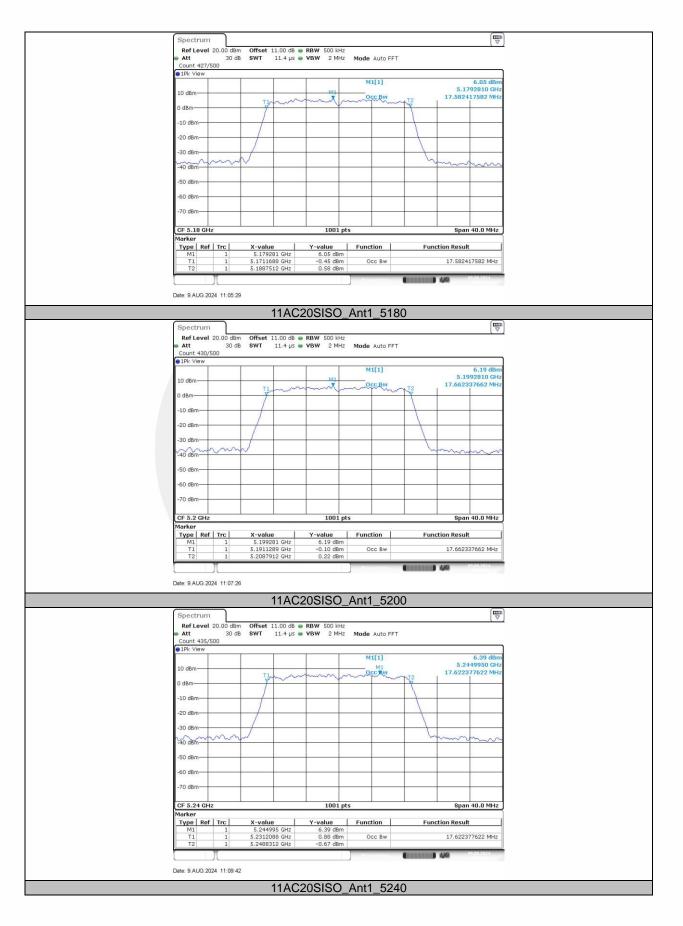
















**深圳信测标准技术服务股份有限公司**地址:广东省深圳市南山区马家龙工业区69栋网址:Http://www.emtek.com.cn邮箱:cs.rep@emtek.com.cn

EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn





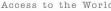


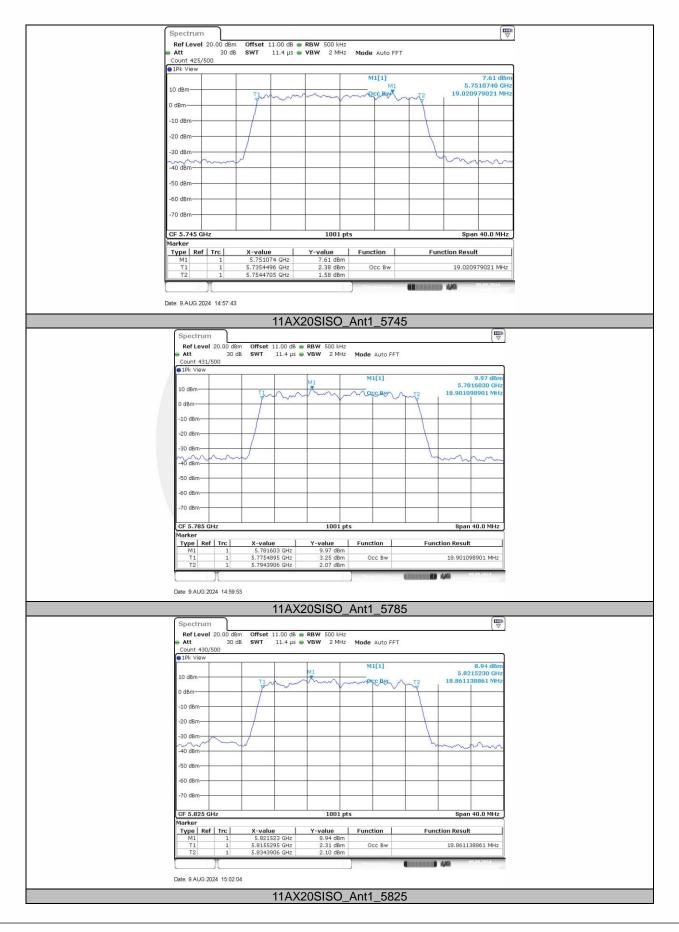




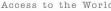


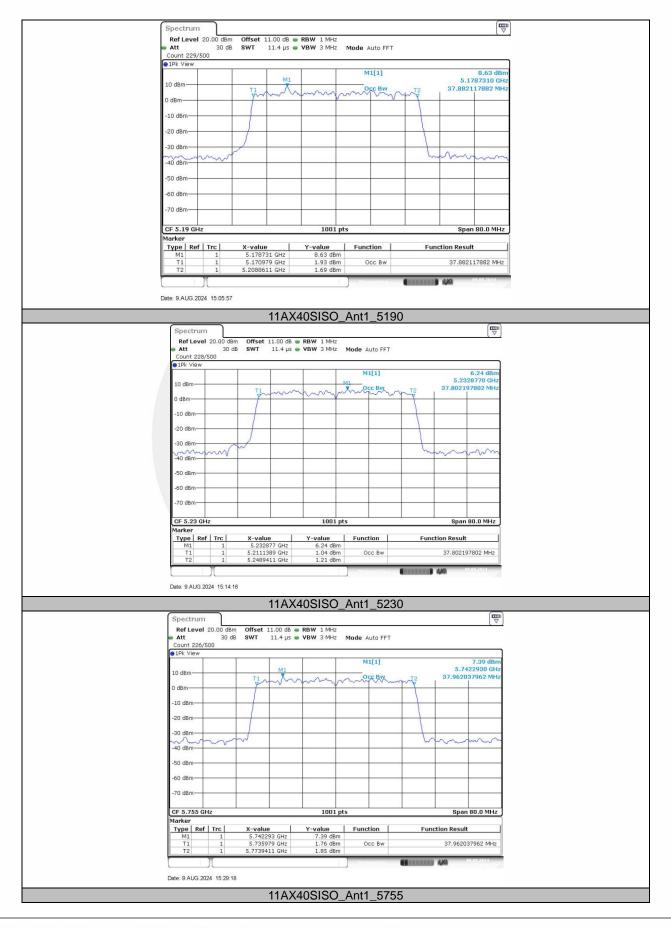




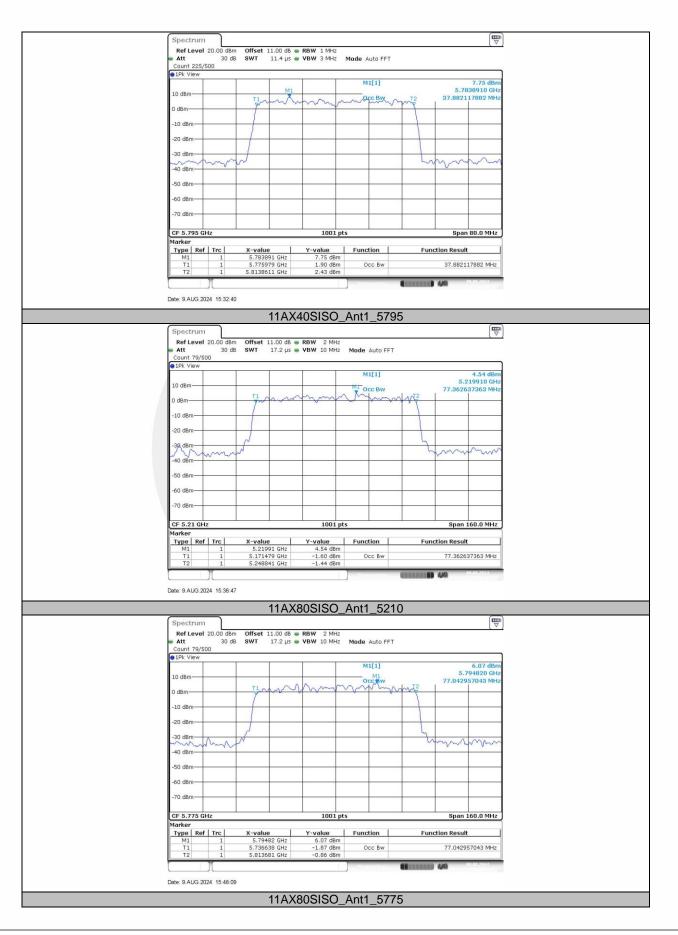












深圳信测标准技术服务股份有限公司 地址:广东省深圳市南山区马家龙工业区69栋 网址:Http://www.emtek.com.cn 邮箱:cs.rep@emtek.com.cn

EMTEK (Shenzhen) Co., Ltd. Add: Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Http://www.emtek.com.cn E-mail: cs.rep@emtek.com.cn



