FCC Test Report

Test Report
On Behalf of
MICRO COMPUTER (HK) TECH LIMITED
For
MINI PC
Model No.: X1-370, X1-365, X1-**(Among them, *="0-9", "A-Z", "- ", "Space")**

FCC ID: 2A49R-X1

Prepared For:	**MICRO COMPUTER (HK) TECH LIMITED** **RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China**
Prepared By:	**Shenzhen HUAK Testing Technology Co., Ltd.** **1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**
Date of Test:	**Feb. 13, 2025 ~ Mar. 27, 2025**
Date of Report:	**Mar. 27, 2025**
Report Number:	**HK2502140540-8E**

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

Test Result Certification

Applicant's Name ..... :	MICRO COMPUTER (HK) TECH LIMITED
Address ..... :	RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China
Manufacturer's Name ..... :	MICRO COMPUTER (HK) TECH LIMITED
Address ..... :	RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China

Product Description

Trade Mark ..... :	N/A
Product Name ..... :	MINI PC
Model and/or Type Reference :	X1-370, X1-365, X1-****(Among them, *="0-9", "A-Z", "- ", "Space")
Standards ..... :	FCC Rules and Regulations Part 15 Subpart E Section 15.407 ANSI C63.10: 2013

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen HUAK Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen HUAK Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Date of Test ..... :	
Date (s) of Performance of Tests ..... :	**Feb. 13, 2025 ~ Mar. 27, 2025**
Date of Issue ..... :	**Mar. 27, 2025**
Test Result ..... :	**Pass**

Testing Engineer : Len Liao

(Len Liao)

Technical Manager : Sliver Wan

(Sliver Wan)

Authorized Signatory : Jason Zhou

(Jason Zhou)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

Table of Contents

1. Test Result Summary 5
   1.1 Test Procedures and Results 5
   1.2 Information of the Test Laboratory 5
   1.3 Measurement Uncertainty 6
2. EUT Description 7
   2.1 General Description of EUT 7
   2.2 Operation Frequency Each of Channel 9
   2.3 Description of Test Setup 13
   2.4 Description of Support Units 14
3. General Information 15
   3.1 Test Environment and Mode 15
4. Test Results and Measurement Data 20
   4.1 Conducted Emission 20
   4.2 Maximum Conducted Output Power 24
   4.3 6dB Emission Bandwidth 31
   4.4 26dB Bandwidth and 99% Occupied Bandwidth 33
   4.5 Power Spectral Density 105
   4.6 In-Band Emission Mask 187
   4.7 Contention-Based Protocol 225
   4.8 Band Edge 239
   4.9 Spurious Emission 251
   4.10 Frequency Stability Measurement 262
   4.11 Antenna Requirement 267
5. Photographs of Test Setup 268
6. Photos of the EUT 270

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Mar. 27, 2025	Jason Zhou

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

TEL : +86-755 2302 9901 FAX : +86-755 2302 9901 E-mail : service@cer-mark.com
Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

1. Test Result Summary

1.1 Test Procedures and Results

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(e)	N/A
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Band Edge	§15.407(b)/15.209/15.205	PASS
Radiated Emission	§15.407(b)/15.209/15.205	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

1.2 Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization：

A2LA Accreditation Code is 4781.01.
FCC Designation Number is CN1229.
Canada IC CAB identifier is CN0045.
CNAS Registration Number is L9589.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

1.3 Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	±0.37dB
2	RF Power, Conducted	±3.35dB
3	Spurious Emissions, Conducted	±2.20dB
4	All Emissions, Radiated(<1G)	±3.90dB
5	All Emissions, Radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

2. EUT Description

2.1 General Description of EUT

Equipment	MINI PC
Model Name	X1-370
Series Models	X1-365, X1-****(Among them, *="0-9", "A-Z", "- ", "Space")
Model Difference	The differences between different models are only due to differences in sales regions and different naming conventions. Other circuit principles, safety structures, and key components are the same, and the differences do not affect the safety and electromagnetic compatibility performance of the product. The differences between different models are only due to differences in sales regions and different naming conventions Test sample model: X1-370.
Trade Mark	N/A
FCC ID	2A49R-X1
Operation Frequency	5.955GHz-6.415GHz 6.435GHz-6.525GHz 6.525GHz-6.875GHz 6.875GHz-7.115GHz
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only 4096QAM for OFDMA in 11be mode only
Number of Channel	IEEE 802.11a/ax(HE20)/be(EHT20): 59CH IEEE 802.11ax(HE40)/be(EHT40): 29CH IEEE 802.11ax(HE80)/be(EHT80): 14CH IEEE 802.11ax(HE160)/be(EHT160): 7CH
Antenna Type	FPC Antenna
Antenna Gain	Antenna 1: 3.02dBi Antenna 2: 3.37dBi MIMO: 6.21dBi
Power Source	DC 19V From Adapter With AC100-240V, 50/60Hz
Power Supply	DC 19V From Adapter With AC100-240V, 50/60Hz
Hardware Version	V1.0
Software Version	V1.0

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

Note:
1. The EUT incorporates a MIMO function. Physically, it provides two completed transmitters and receivers (2T2R), two transmit signals are completely correlated, then, Direction gain= GANT + Array Gain (Array Gain=10 log(2) dB for power spectral density; Array Gain=0 for power measurement).
2. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
3. Antenna gain Refer to the antenna specifications.
4. The cable loss data is obtained from the supplier.
5. The test results in the report only apply to the tested sample.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

2.2 Operation Frequency Each of Channel

For 5925-6425MHz (U-NII-5 band)

24 channels are provided for 802.11a, 802.11ax(HE20), 802.11be(EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	5955 MHz	5	5975 MHz	9	5995 MHz	13	6015 MHz
17	6035 MHz	21	6055 MHz	25	6075 MHz	29	6095 MHz
33	6115 MHz	37	6135 MHz	41	6155 MHz	45	6175 MHz
49	6195 MHz	53	6215 MHz	57	6235 MHz	61	6255 MHz
65	6275 MHz	69	6295 MHz	73	6315 MHz	77	6335 MHz
81	6355 MHz	85	6375 MHz	89	6395 MHz	93	6415 MHz

12 channels are provided for 802.11ax(HE40), 802.11be(EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	5965 MHz	11	6005 MHz	19	6045 MHz	27	6085 MHz
35	6125 MHz	43	6165 MHz	51	6205 MHz	59	6245 MHz
67	6285 MHz	75	6325 MHz	83	6365 MHz	91	6405 MHz

6 channels are provided for 802.11ax(HE80), 802.11be(EHT80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
7	5985 MHz	23	6065 MHz	39	6145 MHz	55	6225 MHz
71	6305 MHz	87	6385 MHz				

3 channels are provided for 802.11ax(HE160), 802.11be(EHT160):

Channel	Frequency	Channel	Frequency	Channel	Frequency
3	6025 MHz	11	6185 MHz	19	6345 MHz

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

For 6425-6525MHz (U-NII-6 band)

5 channels are provided for 802.11a, 802.11ax(HE20), 802.11be(EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
97	6435 MHz	101	6455 MHz	105	6475 MHz	109	6495 MHz
113	6515 MHz						

3 channels are provided for 802.11ax(HE40), 802.11be(EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
99	6445 MHz	107	6485 MHz	*115	6525 MHz

2 channels are provided for 802.11ax(HE80), 802.11be(EHT80):

Channel	Frequency	Channel	Frequency
103	6465 MHz	*119	6545 MHz

1 channel is provided for 802.11ax(HE160), 802.11be(EHT160):

Channel	Frequency
*111	6505 MHz

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

For 6525-6875MHz (U-NII-7 band)

18 channels are provided for 802.11a, 802.11ax(HE20), 802.11be(EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
117	6535 MHz	121	6555 MHz	125	6575 MHz	129	6595 MHz
133	6615 MHz	137	6635 MHz	141	6655 MHz	145	6675 MHz
149	6695 MHz	153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz	177	6835 MHz
181	6855 MHz	*185	6875 MHz				

9 channels are provided for 802.11ax(HE40), 802.11be(EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
123	6565 MHz	131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz	179	6845 MHz
*187	6885 MHz						

4 channels are provided for 802.11ax(HE80), 802.11be(EHT80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
*119	6545 MHz	135	6625 MHz	151	6705 MHz	167	6785 MHz

2 channels are provided for 802.11ax(HE160), 802.11be(EHT160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	*175	6825 MHz

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

For 6875-7125MHz (U-NII-8 band)

12 channels are provided for 802.11a, 802.11ax(HE20), 802.11be(EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
189	6895 MHz	193	6915 MHz	197	6935 MHz	201	6955 MHz
205	6975 MHz	209	6995 MHz	213	7015 MHz	217	7035 MHz
221	7055 MHz	225	7075 MHz	229	7095 MHz	233	7115 MHz

5 channels are provided for 802.11ax(HE40), 802.11be(EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
195	6925 MHz	203	6965 MHz	211	7005 MHz
219	7045 MHz	227	7085 MHz		

2 channels are provided for 802.11ax(HE80), 802.11be(EHT80):

Channel	Frequency	Channel	Frequency
199	6945 MHz	215	7025 MHz

1 channel is provided for 802.11ax(HE160), 802.11be(EHT160):

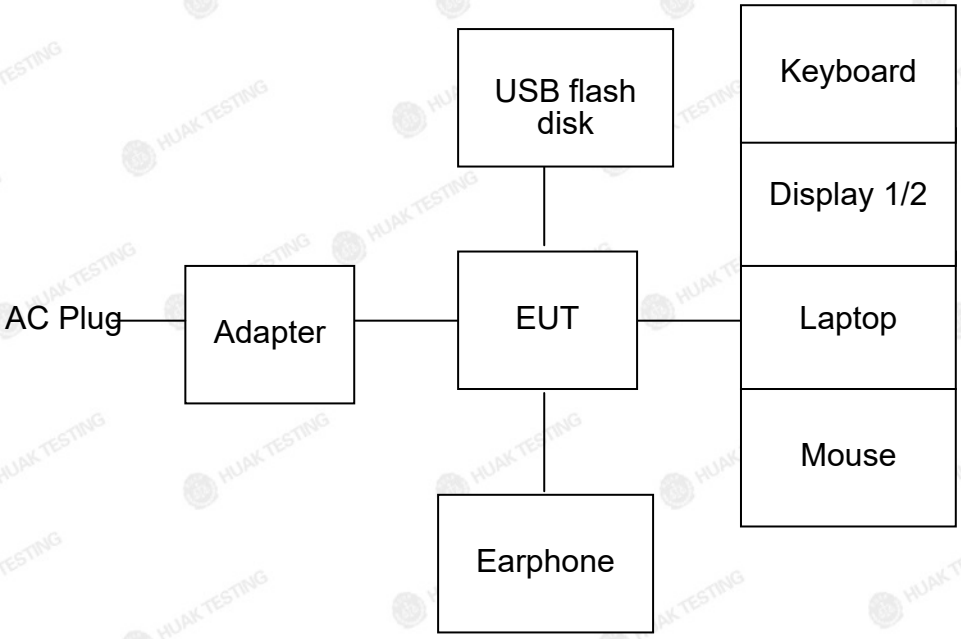
Channel	Frequency
207	6985 MHz

Note: * mean this's straddle channel.

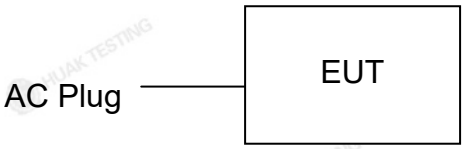
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

2.3 Description of Test Setup

Operation of EUT during Conducted and Radiation below 1GHz testing:



Operation of EUT during Radiation Above 1GHz testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

2.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	MINI PC	N/A	X1-370	N/A	EUT
2	Adapter	N/A	DSA-120PEFG-193 190632	Input: 100-240V, 50/60Hz, 2.0A Output: +19.0V, 6.32A, 120.08W	Accessory
3	Power line	N/A	N/A	Length:1.2m	Accessory
4	Laptop	Lenovo	TP00096A	Input: DC 20V, 2.25~3.25A Output: 5VDC, 0.5A	Peripheral
5	Display 1	AOC	280LM00004	N/A	Peripheral
6	Display 2	PHILIPS	279E1	N/A	Peripheral
7	Keyboard	N/A	N/A	N/A	Peripheral
8	Mouse	N/A	N/A	N/A	Peripheral
9	Earphone	N/A	N/A	N/A	Peripheral
10	USB flash disk	N/A	N/A	N/A	Peripheral

Note:

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. For conducted measurements (Output Power, 26db Bandwidth and 99% Occupied Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

3. General Information

3.1 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering Mode:	Keep the EUT in continuous transmitting by select channel and modulations
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a	6 Mbps
802.11ax(HE20)/be(EHT20)	MCS0
802.11ax(HE40)/be(EHT40)	MCS0
802.11ax(HE80)/be(EHT80)	MCS0
802.11ax(HE160)/be(EHT160)	MCS0
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

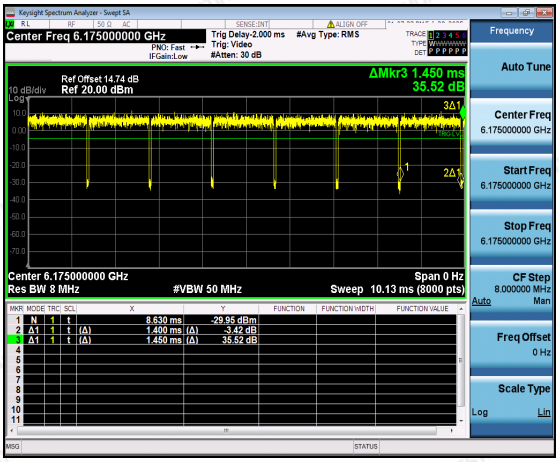
3. Mode Test Duty Cycle

ANT.1:

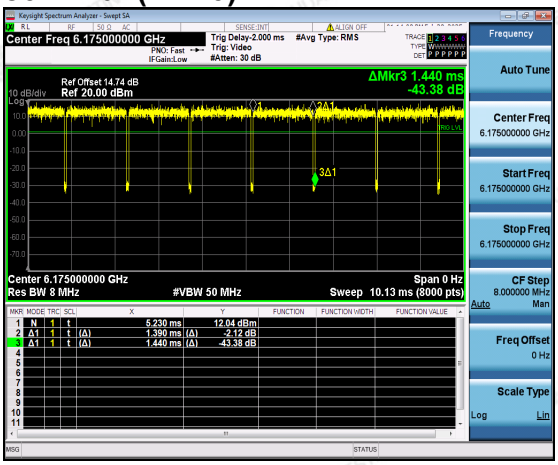
Mode	Duty Cycle
802.11a	0.97
802.11ax (HE20)	0.97
802.11ax (HE40)	0.97
802.11ax (HE80)	0.97
802.11ax (HE160)	0.97
802.11be(EHT20)	0.97
802.11be(EHT40)	0.97
802.11be(EHT80)	0.97
802.11be(EHT160)	0.97

Test plots as follows:

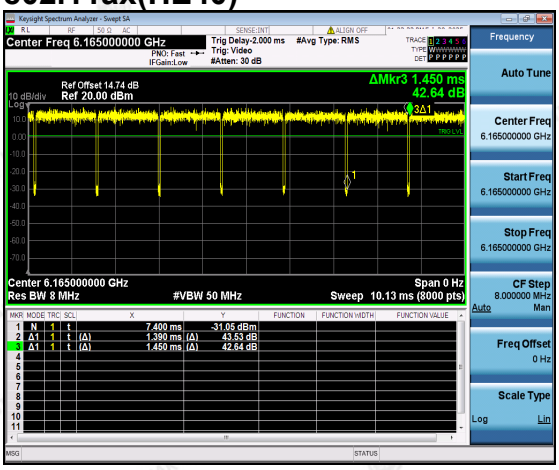
802.11a



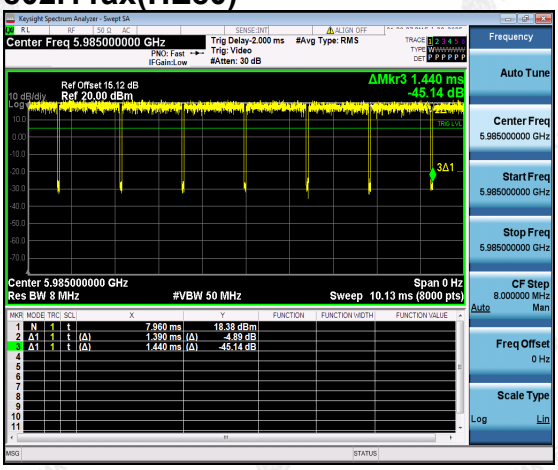
802.11ax(HE20)



802.11ax(HE40)

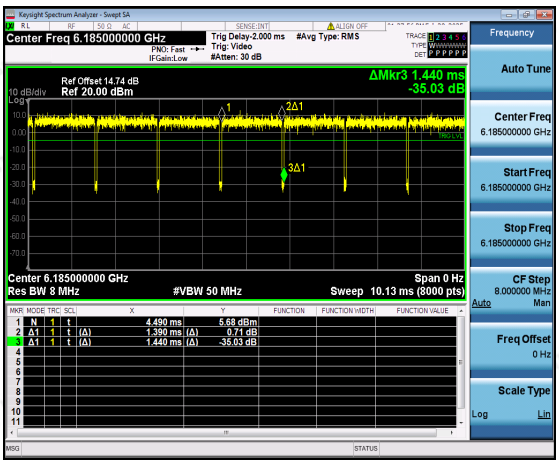


802.11ax(HE80)

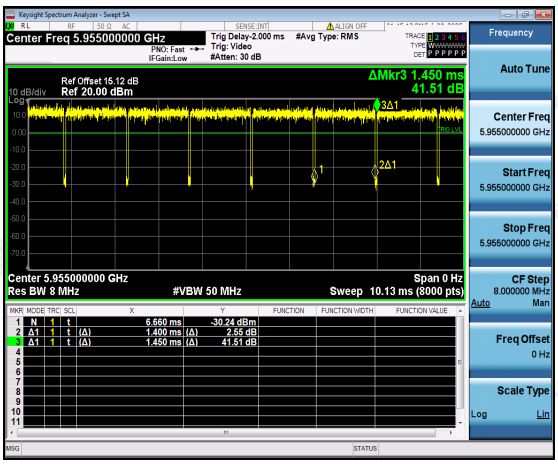


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

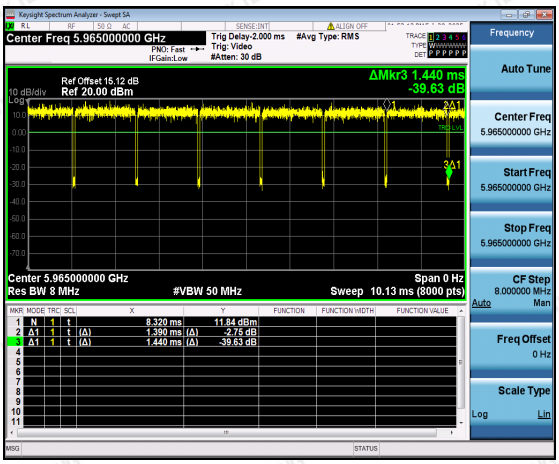
802.11ax(HE160)



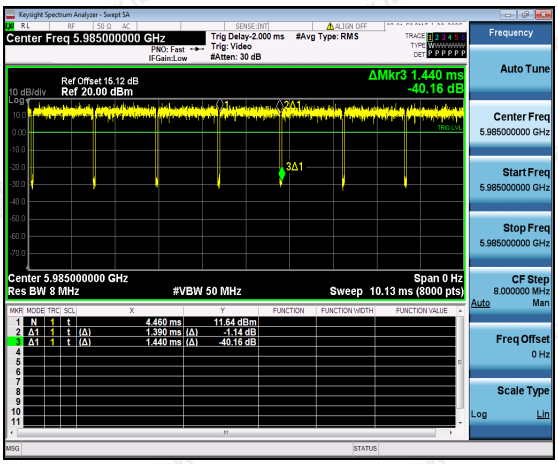
802.11be(EHT20)



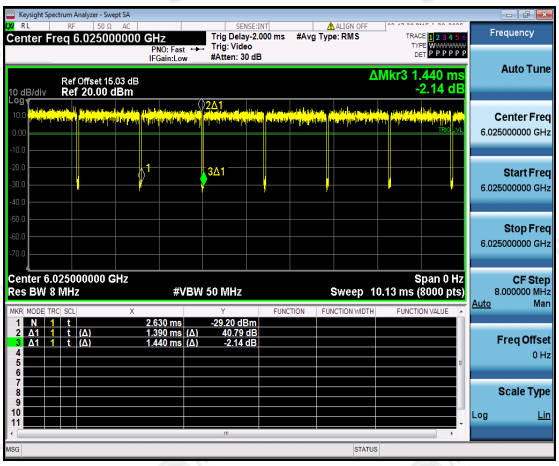
802.11be(EHT40)



802.11be(EHT80)



802.11be(EHT160)



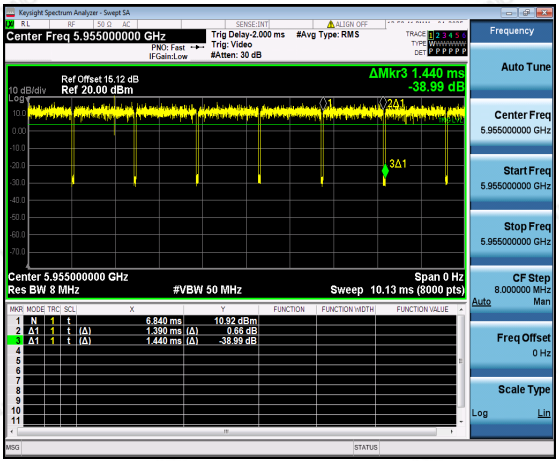
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

ANT.2:

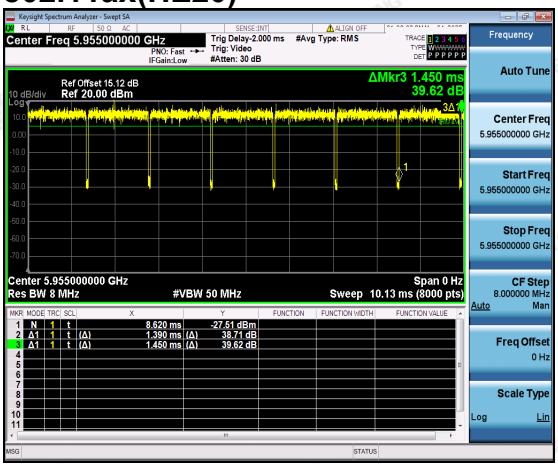
Mode	Duty Cycle
802.11a	0.97
802.11ax (HE20)	0.96
802.11ax (HE40)	0.97
802.11ax (HE80)	0.97
802.11ax (HE160)	0.97
802.11be(EHT20)	0.96
802.11be(EHT40)	0.96
802.11be(EHT80)	0.97
802.11be(EHT160)	0.96

Test plots as follows:

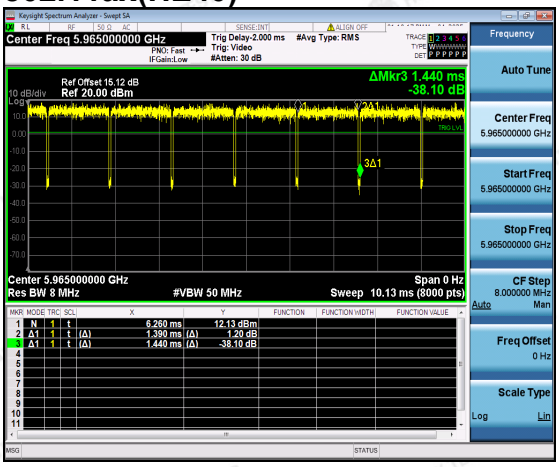
802.11a



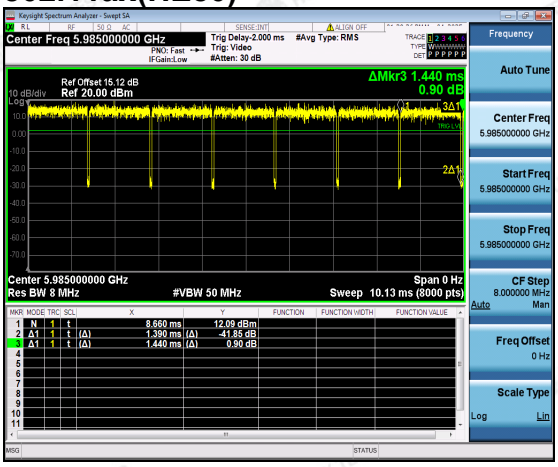
802.11ax(HE20)



802.11ax(HE40)

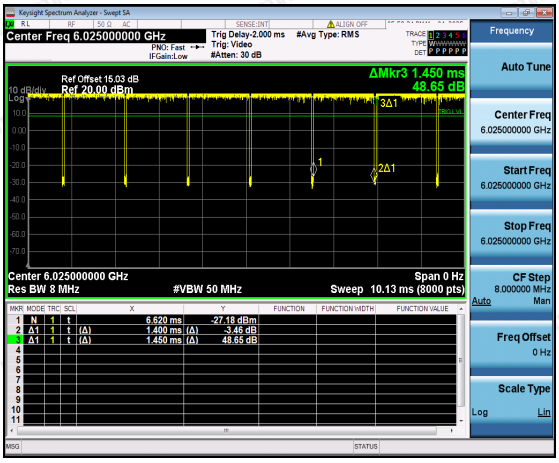


802.11ax(HE80)

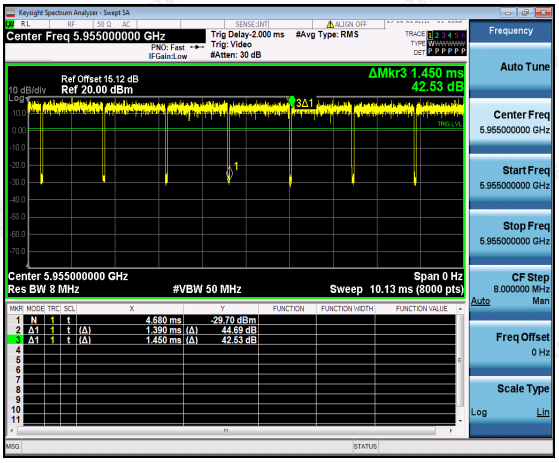


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

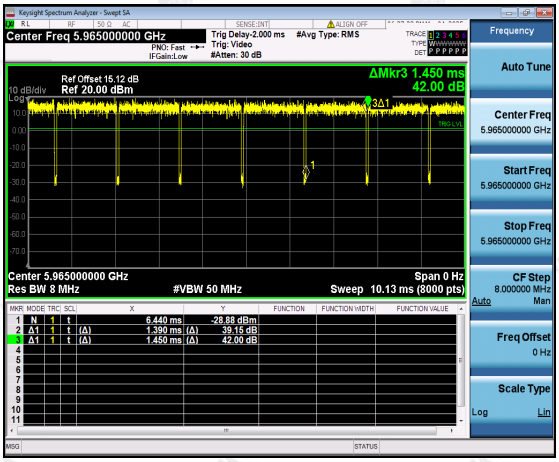
802.11ax(HE160)



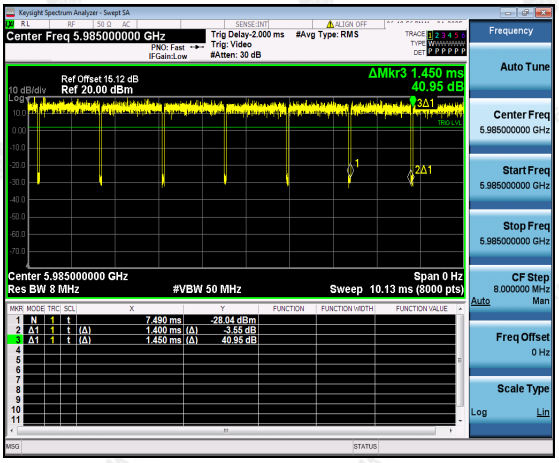
802.11be(EHT20)



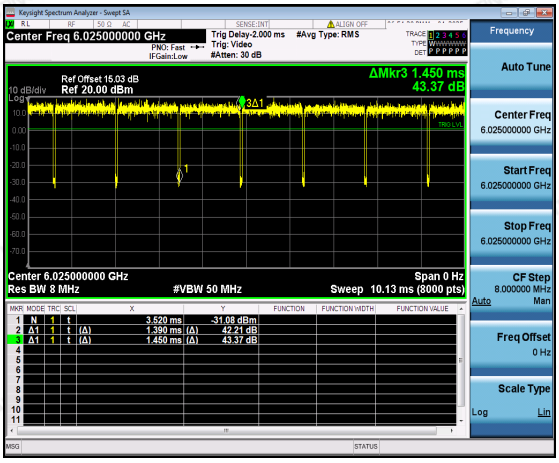
802.11be(EHT40)



802.11be(EHT80)



802.11be(EHT160)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4. Test Results and Measurement Data

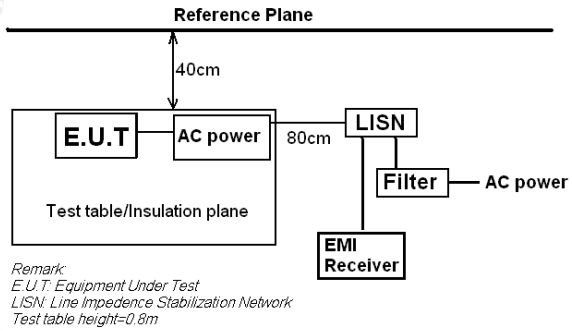
4.1 Conducted Emission

4.1.1 Test Specification

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Frequency Range:	150 kHz to 30 MHz
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto
Limits:	

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Test Setup:



Test Mode:	Tx Mode
Test Procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.
Test Result:	Pass

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.1.2 Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Receiver	R&S	ESR	HKE-005	Feb. 20, 2024	Feb. 19, 2025
LISN	R&S	ENV216	HKE-002	Feb. 20, 2024	Feb. 19, 2025
LISN	R&S	ENV216	HKE-059	Feb. 20, 2024	Feb. 19, 2025
Coax cable (9KHz-30MHz)	Times	381806-002	N/A	Feb. 20, 2024	Feb. 19, 2025
EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	N/A	N/A
10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 20, 2024	Feb. 19, 2025

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

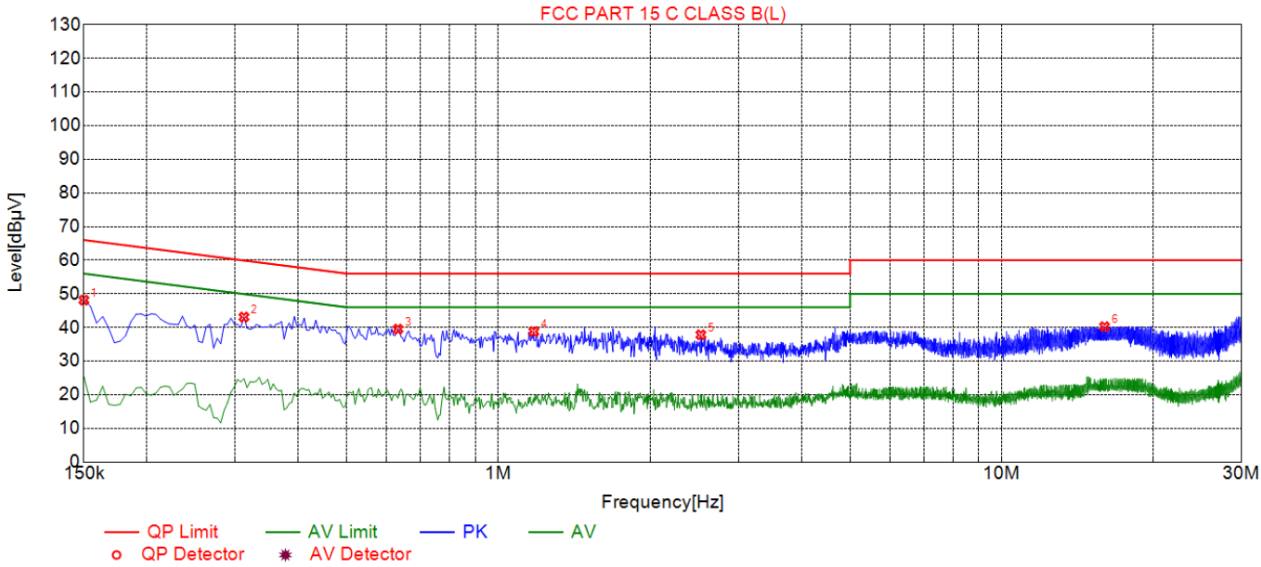
Conducted Emission Shielding Room Test Site (843)					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Receiver	R&S	ESR	HKE-005	Feb. 19, 2025	Feb. 18, 2026
LISN	R&S	ENV216	HKE-002	Feb. 19, 2025	Feb. 18, 2026
LISN	R&S	ENV216	HKE-059	Feb. 19, 2025	Feb. 18, 2026
Coax cable (9KHz-30MHz)	Times	381806-002	N/A	Feb. 19, 2025	Feb. 18, 2026
EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	N/A	N/A
10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 19, 2025	Feb. 18, 2026

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.1.3 Test Data

Test Specification: Line

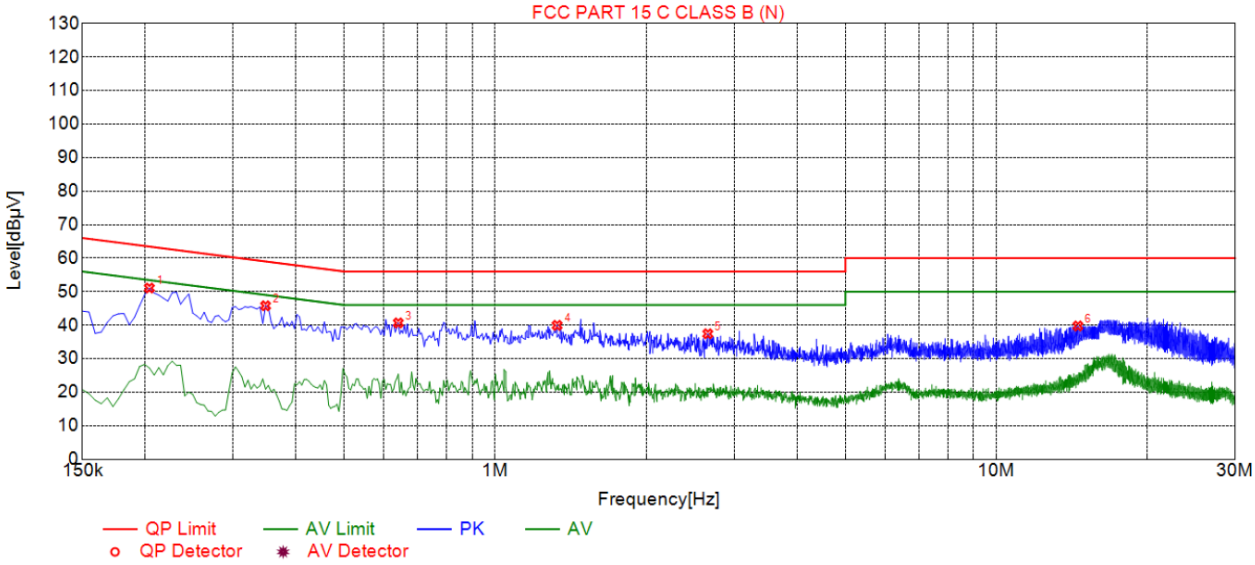


Suspected List								
NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1500	48.12	19.83	66.00	17.88	26.29	PK	L
2	0.3120	43.10	19.85	59.92	16.82	21.25	PK	L
3	0.6315	39.51	19.86	56.00	16.49	17.65	PK	L
4	1.1760	38.78	19.90	56.00	17.22	16.88	PK	L
5	2.5260	37.83	20.02	56.00	18.17	15.81	PK	L
6	16.0215	40.23	19.82	60.00	19.77	18.41	PK	L

Remark: Margin = Limit – Level
Correction factor = Cable lose + ISN insertion loss
Level=Test receiver reading + correction factor

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

Test Specification: Neutral



Suspected List								
NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.2040	51.08	19.73	63.45	12.37	31.35	PK	N
2	0.3480	45.79	19.72	59.01	13.22	26.07	PK	N
3	0.6405	40.67	19.74	56.00	15.33	20.93	PK	N
4	1.3290	39.95	19.79	56.00	16.05	20.16	PK	N
5	2.6565	37.44	19.91	56.00	18.56	17.53	PK	N
6	14.5590	39.77	19.79	60.00	20.23	19.98	PK	N

Remark: Margin = Limit – Level
Correction factor = Cable lose + ISN insertion loss
Level=Test receiver reading + correction factor

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.2 Maximum Conducted Output Power

4.2.1 Test Specification

Test Requirement:	FCC Part15 E Section 15.407(a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02.r01 Section E
Limit:	Frequency Band (MHz): Limit 5955-6415, 6435-6525, 6525-6875, 6875-7115: 250mW
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a 2. The RF output of EUT was connected to the RF automatic control unit by RF cable. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. Measure the conducted output power and record the results in the test report.
Test Result:	PASS
Remark:	Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.2.2 Test Instruments

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
Power meter	Agilent	E4419B	HKE-085	Feb. 20, 2024	Feb. 19, 2025
Power Sensor	Agilent	E9300A	HKE-086	Feb. 20, 2024	Feb. 19, 2025
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Power meter	Agilent	E4419B	HKE-085	Feb. 19, 2025	Feb. 18, 2026
Power Sensor	Agilent	E9300A	HKE-086	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.2.3 Test Data

802.11a

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)						Limit (dBm)	Result
		Antenna port 1	Antenna port 2	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)		
1	5955	9.34	8.73	3.02	12.36	3.37	12.10	24	PASS
45	6175	8.03	9.54	3.02	11.05	3.37	12.91	24	PASS
93	6415	9.27	9.09	3.02	12.29	3.37	12.46	24	PASS
97	6435	8.59	9.56	3.02	11.61	3.37	12.93	24	PASS
105	6475	8.25	9.51	3.02	11.27	3.37	12.88	24	PASS
113	6515	8.76	9.74	3.02	11.78	3.37	13.11	24	PASS
117	6535	8.56	9.68	3.02	11.58	3.37	13.05	24	PASS
153	6715	8.34	8.80	3.02	11.36	3.37	12.17	24	PASS
181	6855	7.98	7.32	3.02	11.00	3.37	10.69	24	PASS
185	6875	7.65	7.57	3.02	10.67	3.37	10.94	24	PASS
213	7015	8.90	8.43	3.02	11.92	3.37	11.80	24	PASS
233	7115	10.27	9.53	3.02	13.29	3.37	12.90	24	PASS

802.11ax (HE20)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
1	5955	9.57	10.18	12.90	3.02	12.59	3.37	13.55	16.11	24	PASS
45	6175	8.24	9.92	12.17	3.02	11.26	3.37	13.29	15.40	24	PASS
93	6415	9.60	8.94	12.29	3.02	12.62	3.37	12.31	15.48	24	PASS
97	6435	9.27	9.45	12.37	3.02	12.29	3.37	12.82	15.57	24	PASS
105	6475	8.93	9.64	12.31	3.02	11.95	3.37	13.01	15.52	24	PASS
113	6515	9.08	9.94	12.54	3.02	12.10	3.37	13.31	15.76	24	PASS
117	6535	9.00	9.75	12.40	3.02	12.02	3.37	13.12	15.62	24	PASS
153	6715	8.85	7.39	11.19	3.02	11.87	3.37	10.76	14.36	24	PASS
181	6855	7.77	7.82	10.81	3.02	10.79	3.37	11.19	14.00	24	PASS
185	6875	8.17	8.08	11.14	3.02	11.19	3.37	11.45	14.33	24	PASS
213	7015	8.72	8.71	11.73	3.02	11.74	3.37	12.08	14.92	24	PASS
233	7115	9.88	9.88	12.89	3.02	12.90	3.37	13.25	16.09	24	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11ax (HE40)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
3	5965	9.48	9.48	12.49	3.02	12.50	3.37	12.85	15.69	24	PASS
43	6165	8.66	8.37	11.53	3.02	11.68	3.37	11.74	14.72	24	PASS
91	6405	8.87	8.50	11.70	3.02	11.89	3.37	11.87	14.89	24	PASS
99	6445	7.54	8.85	11.25	3.02	10.56	3.37	12.22	14.48	24	PASS
107	6485	8.20	8.80	11.52	3.02	11.22	3.37	12.17	14.73	24	PASS
115	6525	8.86	9.41	12.15	3.02	11.88	3.37	12.78	15.36	24	PASS
123	6565	9.03	8.90	11.98	3.02	12.05	3.37	12.27	15.17	24	PASS
155	6725	8.47	8.07	11.28	3.02	11.49	3.37	11.44	14.48	24	PASS
179	6845	7.76	7.39	10.59	3.02	10.78	3.37	10.76	13.78	24	PASS
187	6885	9.65	7.76	11.82	3.02	12.67	3.37	11.13	14.98	24	PASS
211	7005	11.31	7.26	12.75	3.02	14.33	3.37	10.63	15.87	24	PASS
227	7085	10.93	9.13	13.13	3.02	13.95	3.37	12.50	16.30	24	PASS

802.11ax (HE80)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
7	5985	9.90	9.33	12.63	3.02	12.92	3.37	12.70	15.82	24	PASS
39	6145	9.03	8.89	11.97	3.02	12.05	3.37	12.26	15.17	24	PASS
87	6385	9.46	8.91	12.20	3.02	12.48	3.37	12.28	15.39	24	PASS
103	6465	8.77	9.63	12.23	3.02	11.79	3.37	13.00	15.45	24	PASS
119	6545	9.03	9.49	12.28	3.02	12.05	3.37	12.86	15.48	24	PASS
135	6625	9.99	8.47	12.31	3.02	13.01	3.37	11.84	15.47	24	PASS
151	6705	9.86	9.29	12.59	3.02	12.88	3.37	12.66	15.78	24	PASS
167	6785	8.59	8.69	11.65	3.02	11.61	3.37	12.06	14.85	24	PASS
183	6865	8.83	7.05	11.04	3.02	11.85	3.37	10.42	14.20	24	PASS
199	6945	10.70	8.43	12.72	3.02	13.72	3.37	11.80	15.88	24	PASS
215	7025	10.46	7.94	12.39	3.02	13.48	3.37	11.31	15.54	24	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11ax (HE160)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
15	6025	8.13	10.42	12.43	3.02	11.15	3.37	13.79	15.68	24	PASS
47	6185	8.65	8.24	11.46	3.02	11.67	3.37	11.61	14.65	24	PASS
79	6345	7.12	8.53	10.89	3.02	10.14	3.37	11.90	14.12	24	PASS
111	6505	8.69	8.26	11.49	3.02	11.71	3.37	11.63	14.68	24	PASS
143	6665	7.70	7.46	10.59	3.02	10.72	3.37	10.83	13.79	24	PASS
175	6825	8.58	7.68	11.16	3.02	11.60	3.37	11.05	14.34	24	PASS
207	6985	7.59	8.47	11.06	3.02	10.61	3.37	11.84	14.28	24	PASS

802.11be(EHT20)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
1	5955	8.82	10.70	12.87	3.02	11.84	3.37	14.07	16.11	24	PASS
45	6175	7.38	8.14	10.79	3.02	10.40	3.37	11.51	14.00	24	PASS
93	6415	8.28	8.37	11.34	3.02	11.30	3.37	11.74	14.54	24	PASS
97	6435	8.00	7.23	10.64	3.02	11.02	3.37	10.60	13.83	24	PASS
105	6475	7.93	7.48	10.72	3.02	10.95	3.37	10.85	13.91	24	PASS
113	6515	7.24	7.33	10.30	3.02	10.26	3.37	10.70	13.50	24	PASS
117	6535	7.01	7.31	10.17	3.02	10.03	3.37	10.68	13.38	24	PASS
153	6715	7.53	7.83	10.69	3.02	10.55	3.37	11.20	13.90	24	PASS
181	6855	8.53	7.98	11.27	3.02	11.55	3.37	11.35	14.46	24	PASS
185	6875	7.89	7.26	10.60	3.02	10.91	3.37	10.63	13.78	24	PASS
213	7015	8.13	8.54	11.35	3.02	11.15	3.37	11.91	14.56	24	PASS
233	7115	7.85	7.84	10.86	3.02	10.87	3.37	11.21	14.05	24	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11be(EHT40)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
3	5965	7.56	9.71	11.78	3.02	10.58	3.37	13.08	15.02	24	PASS
43	6165	7.51	7.54	10.54	3.02	10.53	3.37	10.91	13.73	24	PASS
91	6405	8.56	7.78	11.20	3.02	11.58	3.37	11.15	14.38	24	PASS
99	6445	7.95	8.36	11.17	3.02	10.97	3.37	11.73	14.38	24	PASS
107	6485	7.96	7.67	10.83	3.02	10.98	3.37	11.04	14.02	24	PASS
115	6525	8.48	7.35	10.96	3.02	11.50	3.37	10.72	14.14	24	PASS
123	6565	7.20	8.73	11.04	3.02	10.22	3.37	12.10	14.27	24	PASS
155	6725	7.17	7.73	10.47	3.02	10.19	3.37	11.10	13.68	24	PASS
179	6845	8.20	7.29	10.78	3.02	11.22	3.37	10.66	13.96	24	PASS
187	6885	7.54	8.17	10.88	3.02	10.56	3.37	11.54	14.09	24	PASS
211	7005	7.59	8.30	10.97	3.02	10.61	3.37	11.67	14.18	24	PASS
227	7085	8.65	8.78	11.73	3.02	11.67	3.37	12.15	14.93	24	PASS

802.11be(EHT80)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
7	5985	7.61	9.24	11.51	3.02	10.63	3.37	12.61	14.74	24	PASS
39	6145	8.18	7.77	10.99	3.02	11.20	3.37	11.14	14.18	24	PASS
87	6385	7.21	7.87	10.56	3.02	10.23	3.37	11.24	13.77	24	PASS
103	6465	8.33	8.00	11.18	3.02	11.35	3.37	11.37	14.37	24	PASS
119	6545	8.01	7.19	10.63	3.02	11.03	3.37	10.56	13.81	24	PASS
135	6625	7.80	7.68	10.75	3.02	10.82	3.37	11.05	13.95	24	PASS
151	6705	8.04	8.26	11.16	3.02	11.06	3.37	11.63	14.36	24	PASS
167	6785	7.31	8.20	10.79	3.02	10.33	3.37	11.57	14.00	24	PASS
183	6865	7.42	7.09	10.27	3.02	10.44	3.37	10.46	13.46	24	PASS
199	6945	8.85	7.80	11.37	3.02	11.87	3.37	11.17	14.54	24	PASS
215	7025	9.78	7.69	11.87	3.02	12.80	3.37	11.06	15.03	24	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11be(EHT160)

Test channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Maximum E.I.R.P (dBm)					Limit (dBm)	Result
		Antenna port 1	Antenna port 2	MIMO	Ant. 1 gain	Ant 1 E.I.RP (dBm)	Ant. 2 gain	Ant 2 E.I.RP (dBm)	MIMO		
15	6025	9.95	9.75	12.86	3.02	12.97	3.37	13.12	16.06	24	PASS
47	6185	8.84	8.16	11.52	3.02	11.86	3.37	11.53	14.71	24	PASS
79	6345	11.74	7.20	13.05	3.02	14.76	3.37	10.57	16.16	24	PASS
111	6505	12.40	7.27	13.56	3.02	15.42	3.37	10.64	16.67	24	PASS
143	6665	12.86	8.37	14.18	3.02	15.88	3.37	11.74	17.30	24	PASS
175	6825	10.25	7.21	12.00	3.02	13.27	3.37	10.58	15.14	24	PASS
207	6985	13.47	7.99	14.55	3.02	16.49	3.37	11.36	17.65	24	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.3 6dB Emission Bandwidth

4.3.1 Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v01r04 Section C
Limit:	>500kHz
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	N/A

4.3.2 Test Instruments

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

4.3.3 Test Data

N/A

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.4 26dB Bandwidth and 99% Occupied Bandwidth

4.4.1 Test Specification

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	No restriction limits
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth RBW = 1% EBW, VBW≥3RBW, In order to make an accurate measurement. 4. Measure and record the results in the test report.
Test Result:	PASS

4.4.2 Test Instruments

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

4.4.3 Test Data

ANT. 1

Mode	Test channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Result
802.11a	1	5955	18.57	16.422	PASS
802.11a	45	6175	18.53	16.429	PASS
802.11a	93	6415	18.59	16.417	PASS
802.11a	97	6435	18.46	16.411	PASS
802.11a	105	6475	18.46	16.436	PASS
802.11a	113	6515	18.49	16.408	PASS
802.11a	117	6535	18.63	16.411	PASS
802.11a	153	6715	18.54	16.407	PASS
802.11a	181	6855	18.66	16.401	PASS
802.11a	185	6875	18.54	16.382	PASS
802.11a	213	7015	18.58	16.406	PASS
802.11a	233	7115	18.62	16.421	PASS
802.11ax(HE20)	1	5955	19.96	18.740	PASS
802.11ax(HE20)	45	6175	20.05	18.782	PASS
802.11ax(HE20)	93	6415	20.09	18.750	PASS
802.11ax(HE20)	97	6435	19.95	18.761	PASS
802.11ax(HE20)	105	6475	20.02	18.791	PASS
802.11ax(HE20)	113	6515	20.03	18.759	PASS
802.11ax(HE20)	117	6535	19.98	18.796	PASS
802.11ax(HE20)	153	6715	20.07	18.780	PASS
802.11ax(HE20)	181	6855	20.09	18.784	PASS
802.11ax(HE20)	185	6875	20.12	18.804	PASS
802.11ax(HE20)	213	7015	20.15	18.780	PASS
802.11ax(HE20)	233	7115	20.04	18.821	PASS
802.11ax(HE40)	3	5965	40.00	37.509	PASS
802.11ax(HE40)	43	6165	39.85	37.513	PASS
802.11ax(HE40)	91	6405	39.86	37.501	PASS
802.11ax(HE40)	99	6445	40.00	37.575	PASS
802.11ax(HE40)	107	6485	39.78	37.471	PASS
802.11ax(HE40)	115	6525	39.89	37.588	PASS
802.11ax(HE40)	123	6565	39.87	37.542	PASS
802.11ax(HE40)	155	6725	39.85	37.560	PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11ax(HE40)	179	6845	39.75	37.570	PASS
802.11ax(HE40)	187	6885	40.16	37.601	PASS
802.11ax(HE40)	211	7005	39.67	37.477	PASS
802.11ax(HE40)	227	7085	39.71	37.497	PASS
802.11ax(HE80)	7	5985	81.20	77.169	PASS
802.11ax(HE80)	39	6145	81.22	76.974	PASS
802.11ax(HE80)	87	6385	81.22	76.946	PASS
802.11ax(HE80)	103	6465	81.21	77.095	PASS
802.11ax(HE80)	119	6545	81.23	77.022	PASS
802.11ax(HE80)	135	6625	81.12	77.109	PASS
802.11ax(HE80)	151	6705	81.21	77.087	PASS
802.11ax(HE80)	167	6785	81.34	77.008	PASS
802.11ax(HE80)	183	6865	81.18	77.038	PASS
802.11ax(HE80)	199	6945	81.09	76.813	PASS
802.11ax(HE80)	215	7025	81.12	76.625	PASS
802.11ax(HE160)	15	6025	165.4	156.11	PASS
802.11ax(HE160)	47	6185	242.2	157.45	PASS
802.11ax(HE160)	79	6345	165.9	156.08	PASS
802.11ax(HE160)	111	6505	166.3	156.71	PASS
802.11ax(HE160)	143	6665	166.0	155.89	PASS
802.11ax(HE160)	175	6825	166.2	156.61	PASS
802.11ax(HE160)	207	6985	165.9	156.07	PASS
802.11be(EHT20)	1	5955	20.06	18.838	PASS
802.11be(EHT20)	45	6175	20.01	18.811	PASS
802.11be(EHT20)	93	6415	20.06	18.875	PASS
802.11be(EHT20)	97	6435	20.03	18.826	PASS
802.11be(EHT20)	105	6475	20.04	18.801	PASS
802.11be(EHT20)	113	6515	19.98	18.772	PASS
802.11be(EHT20)	117	6535	19.99	18.846	PASS
802.11be(EHT20)	153	6715	19.98	18.804	PASS
802.11be(EHT20)	181	6855	20.01	18.812	PASS
802.11be(EHT20)	185	6875	19.99	18.810	PASS
802.11be(EHT20)	213	7015	20.02	18.814	PASS
802.11be(EHT20)	233	7115	19.96	18.786	PASS
802.11be(EHT40)	3	5965	39.74	37.565	PASS
802.11be(EHT40)	43	6165	39.76	37.506	PASS

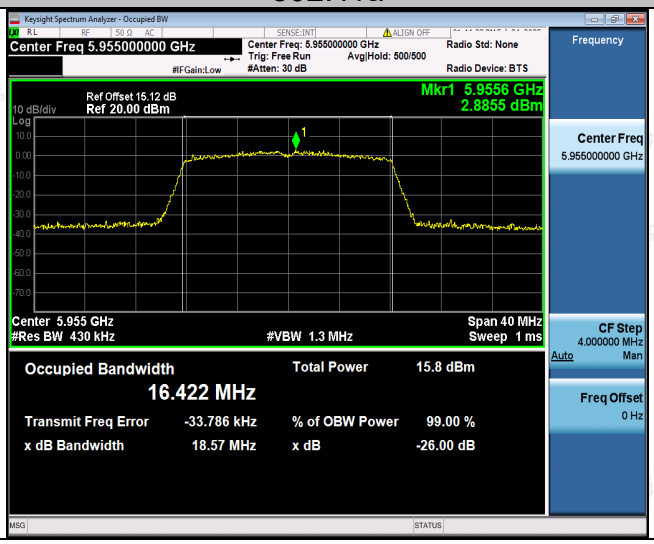
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11be(EHT40)	91	6405	39.81	37.615	PASS
802.11be(EHT40)	99	6445	39.90	37.537	PASS
802.11be(EHT40)	107	6485	39.97	37.646	PASS
802.11be(EHT40)	115	6525	39.79	37.487	PASS
802.11be(EHT40)	123	6565	39.93	37.544	PASS
802.11be(EHT40)	155	6725	40.05	37.607	PASS
802.11be(EHT40)	179	6845	39.90	37.551	PASS
802.11be(EHT40)	187	6885	39.88	37.523	PASS
802.11be(EHT40)	211	7005	39.83	37.550	PASS
802.11be(EHT40)	227	7085	39.90	37.462	PASS
802.11be(EHT80)	7	5985	81.32	77.105	PASS
802.11be(EHT80)	39	6145	81.28	77.113	PASS
802.11be(EHT80)	87	6385	81.34	77.021	PASS
802.11be(EHT80)	103	6465	81.42	77.308	PASS
802.11be(EHT80)	119	6545	81.22	77.009	PASS
802.11be(EHT80)	135	6625	81.27	77.034	PASS
802.11be(EHT80)	151	6705	81.30	76.902	PASS
802.11be(EHT80)	167	6785	81.39	76.946	PASS
802.11be(EHT80)	183	6865	81.13	76.875	PASS
802.11be(EHT80)	199	6945	81.38	76.906	PASS
802.11be(EHT80)	215	7025	81.16	76.828	PASS
802.11be(EHT160)	15	6025	165.5	154.93	PASS
802.11be(EHT160)	47	6185	166.5	157.00	PASS
802.11be(EHT160)	79	6345	166.0	155.33	PASS
802.11be(EHT160)	111	6505	165.7	156.01	PASS
802.11be(EHT160)	143	6665	165.5	155.26	PASS
802.11be(EHT160)	175	6825	166.1	156.50	PASS
802.11be(EHT160)	207	6985	165.4	155.13	PASS

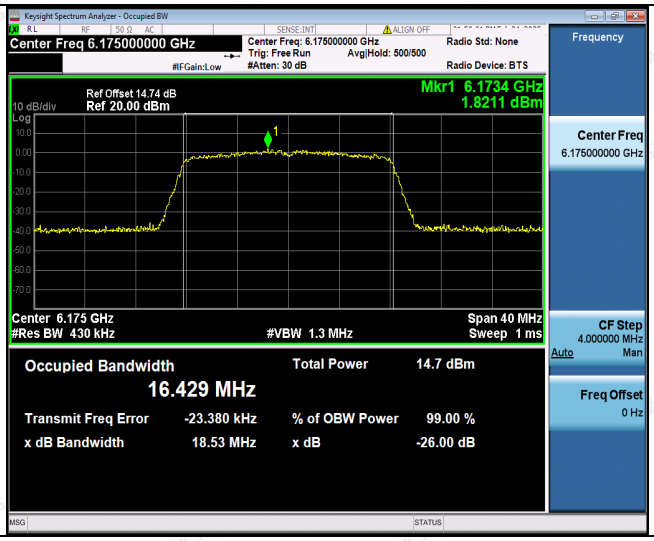
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

Test plots as follows:

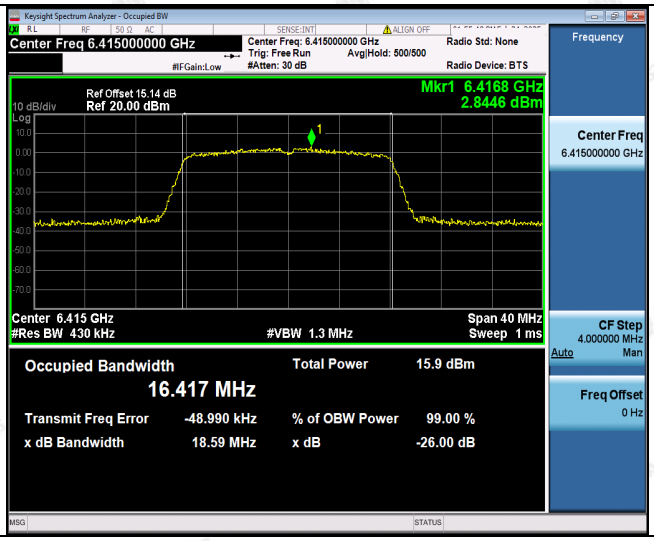
802.11a



5955

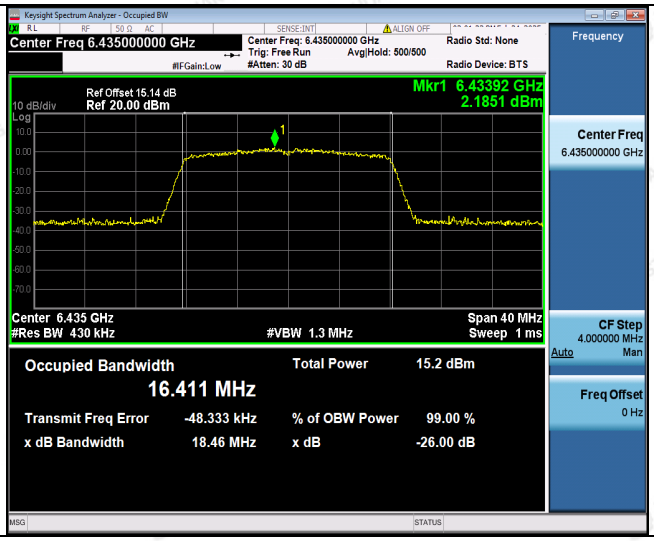


6175

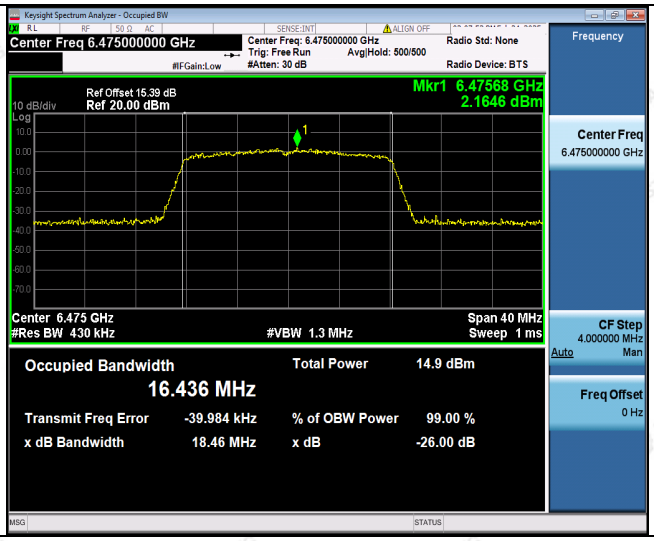


6415

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



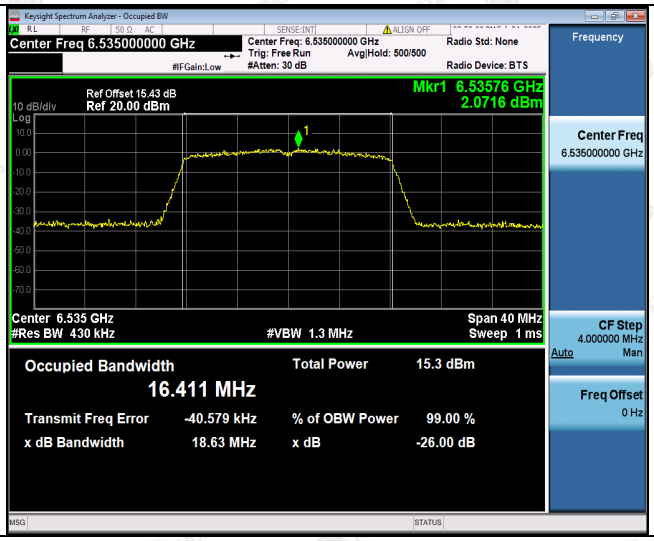
6435



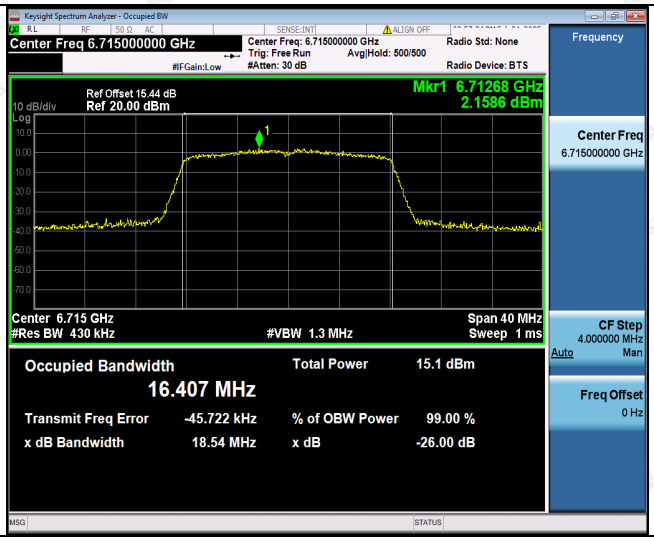
6475

6515

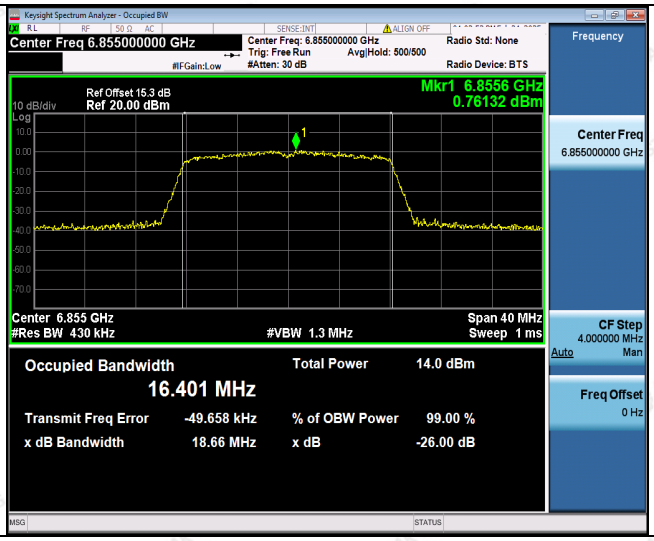
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6535

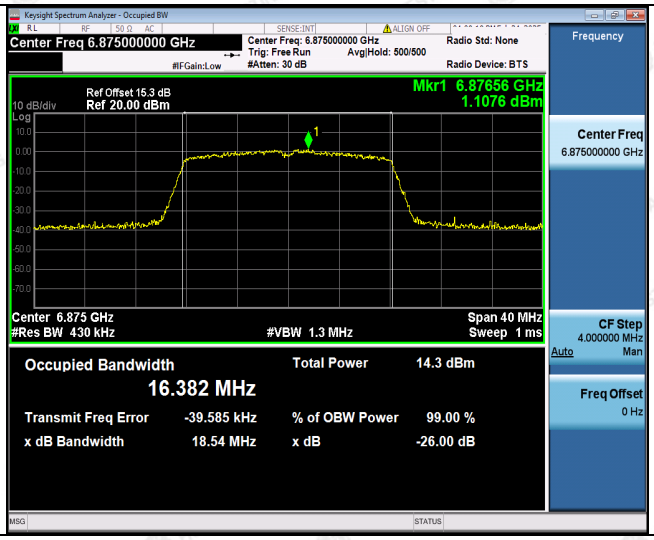


6715

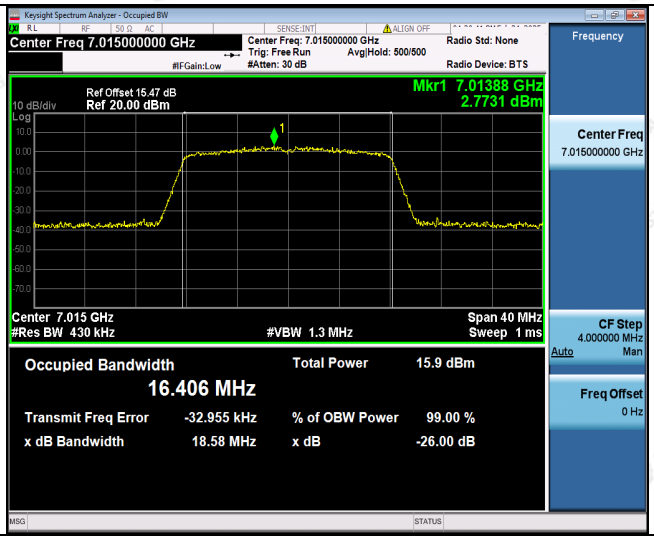


6855

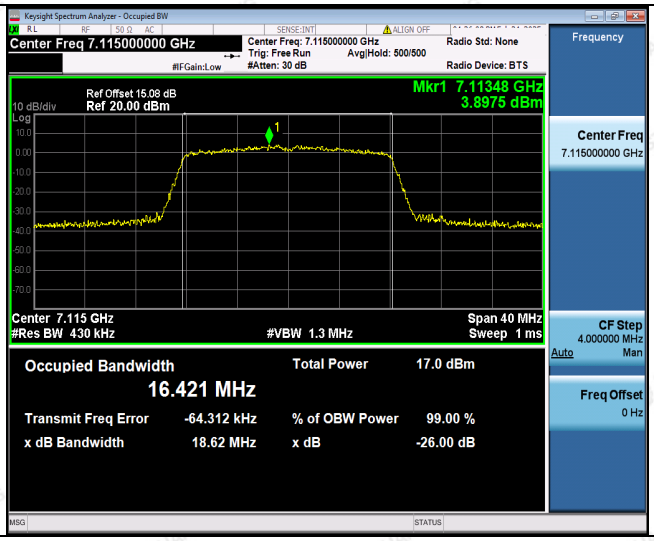
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6875



7015

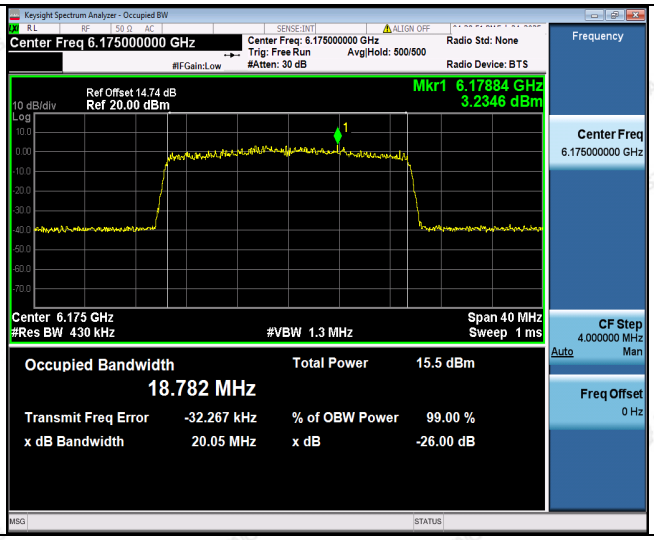


7115

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11ax(HE20)

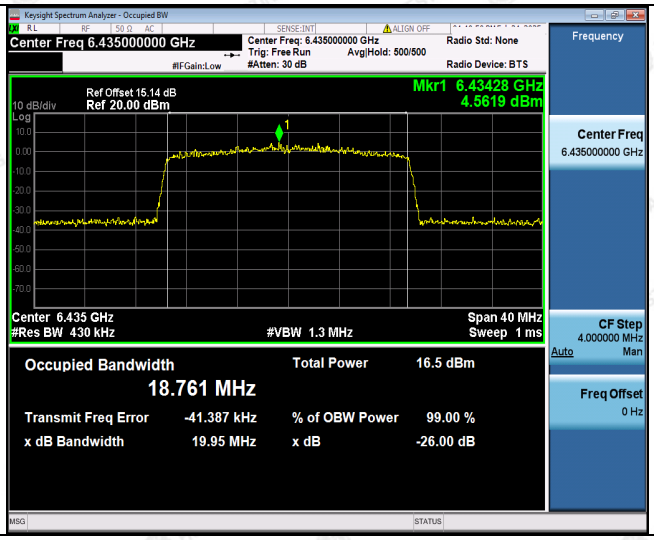
5955



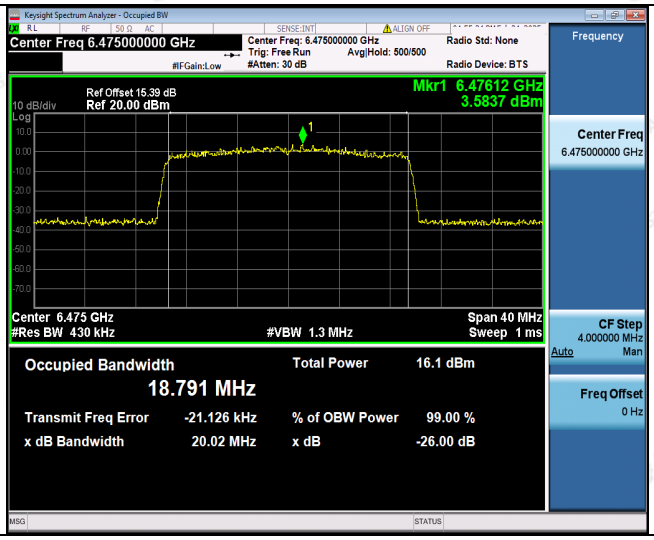
6175

6415

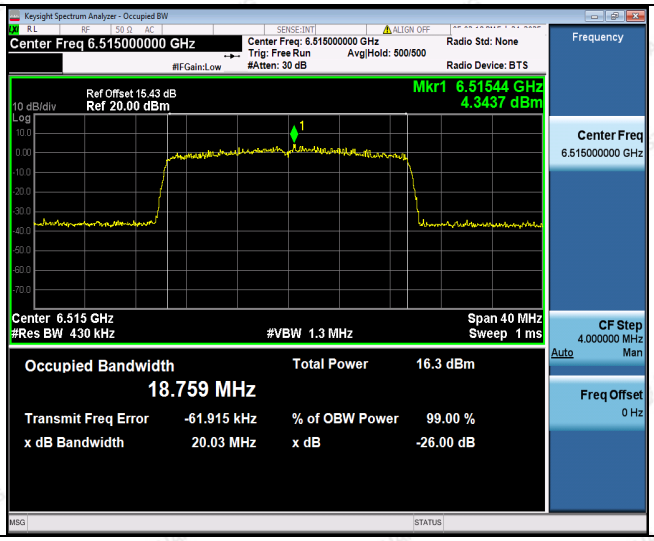
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6435

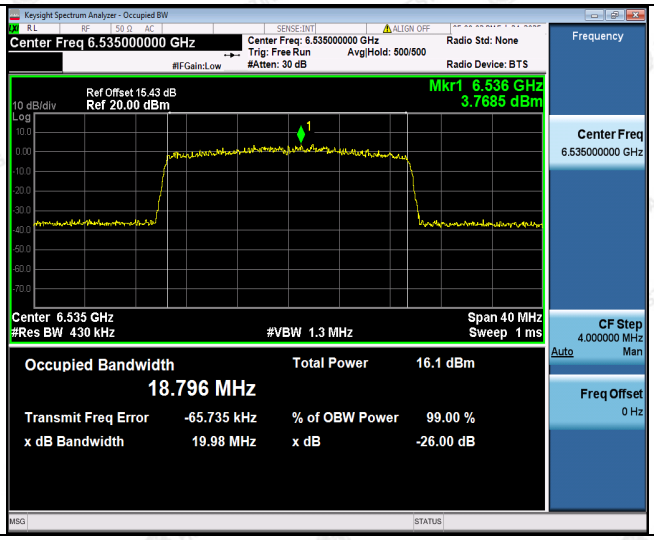


6475



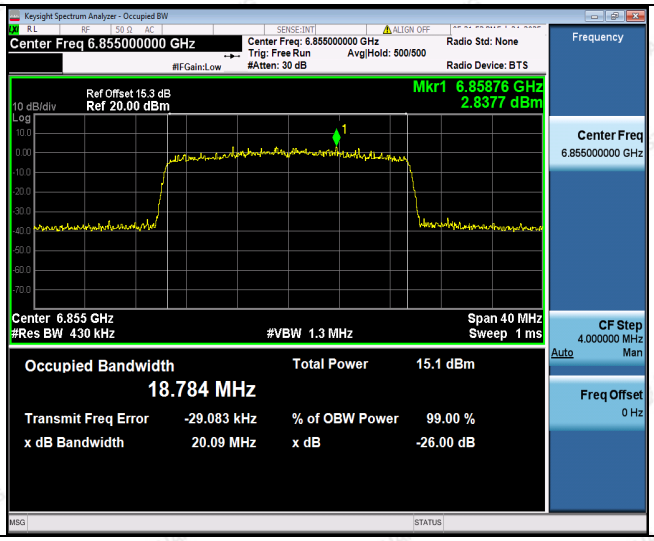
6515

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



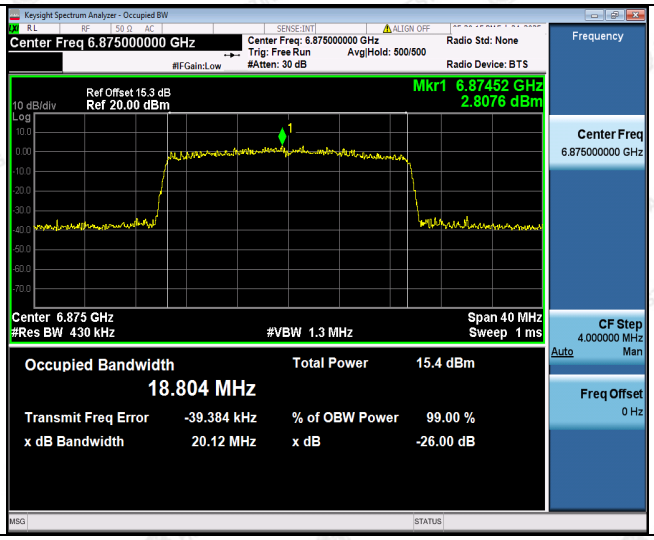
6535

6715

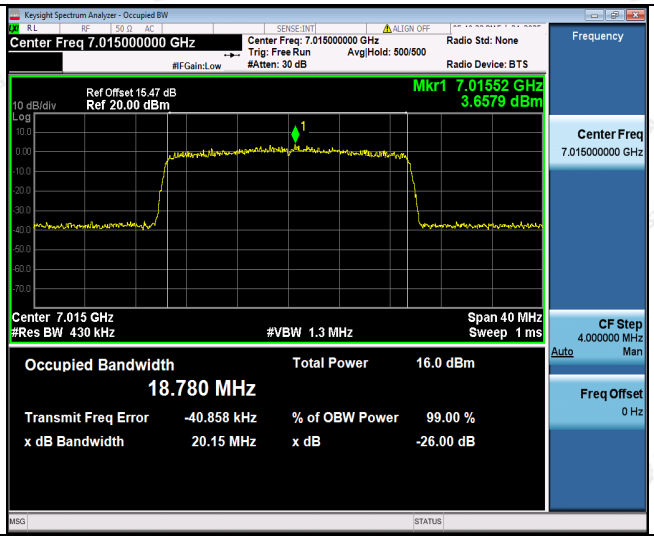


6855

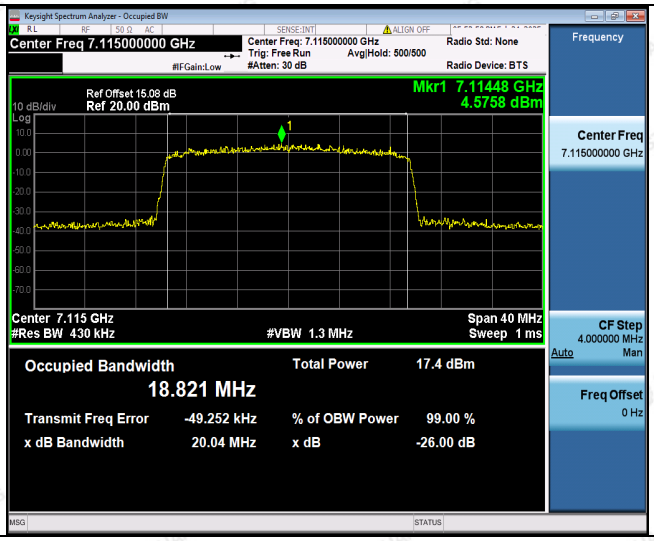
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6875



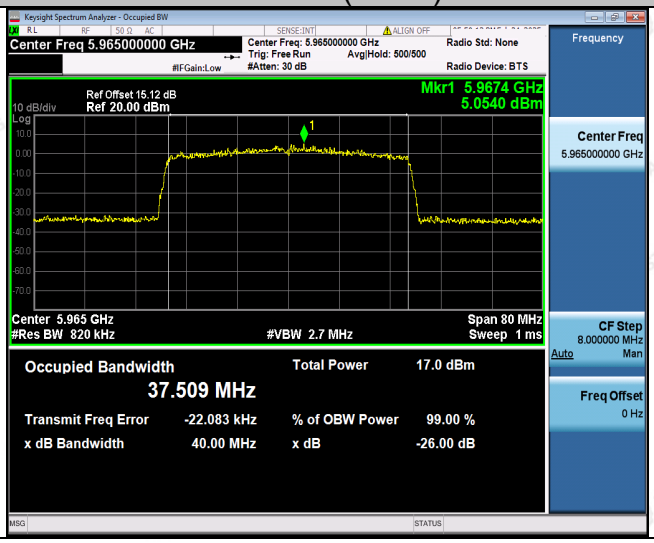
7015



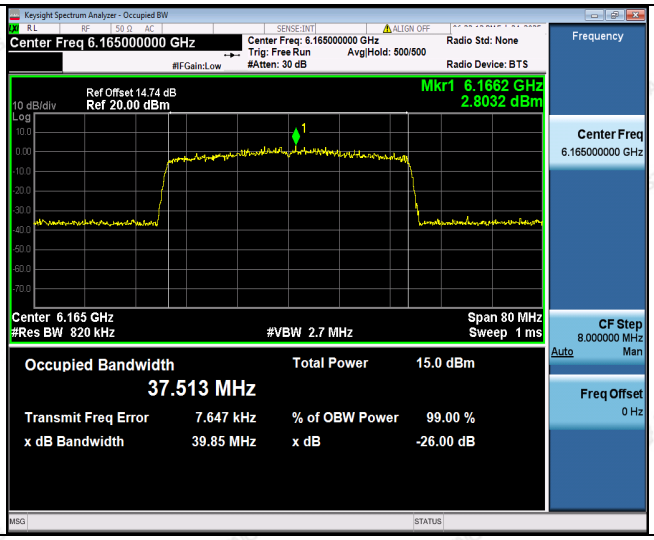
7115

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

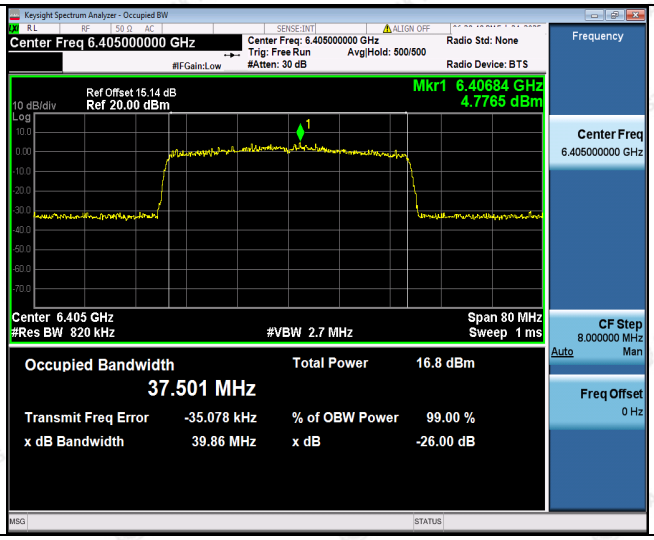
802.11ax(HE40)



5965

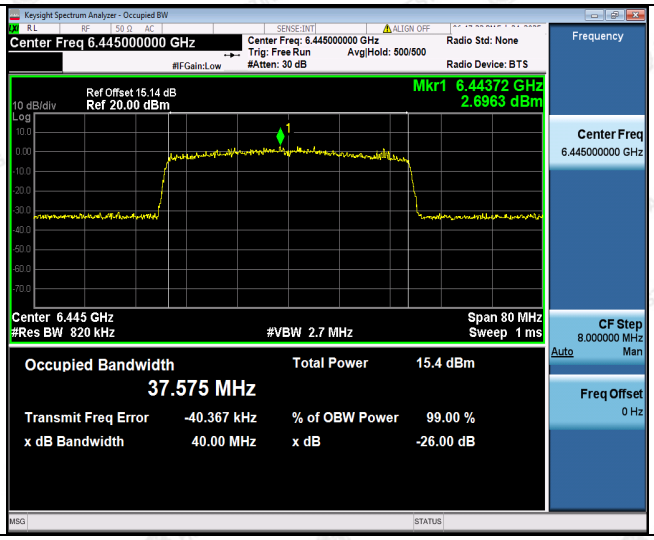


6165

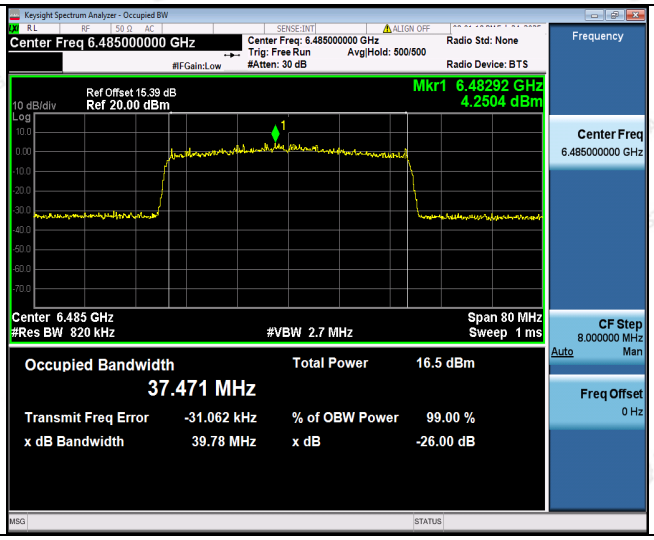


6405

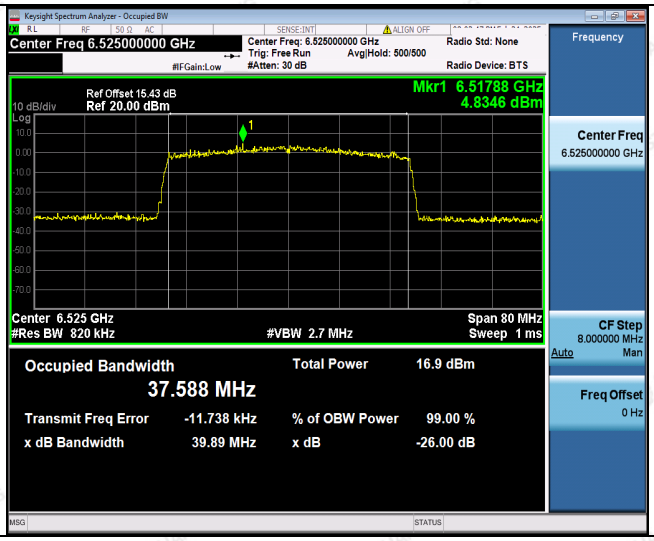
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6445

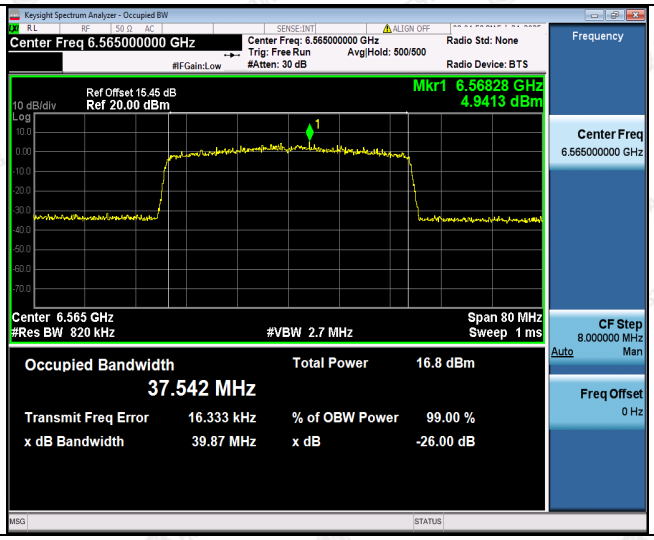


6485



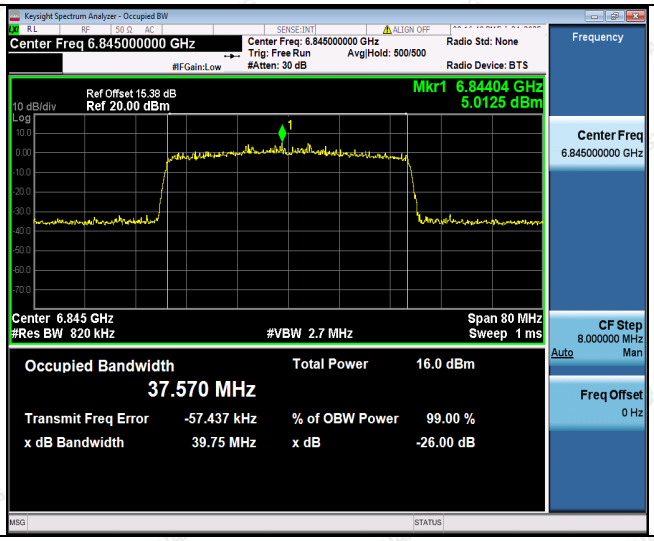
6525

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



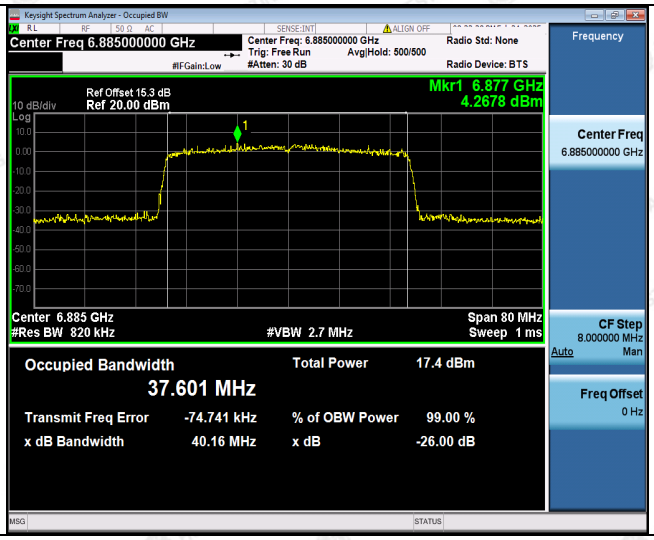
6565

6725

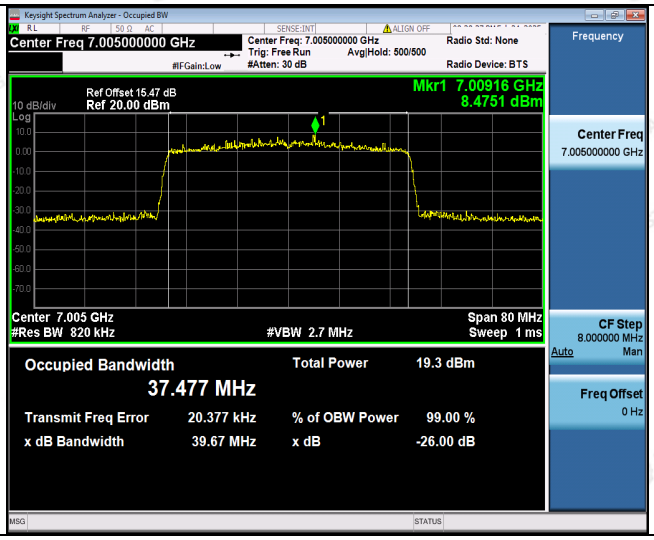


6845

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6885

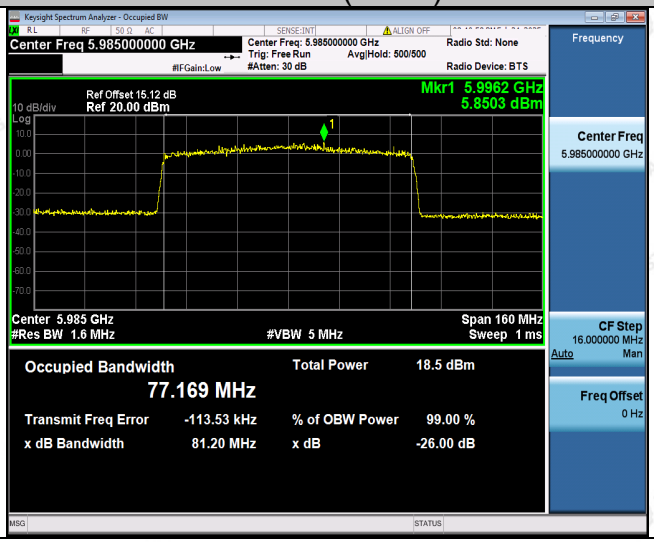


7005

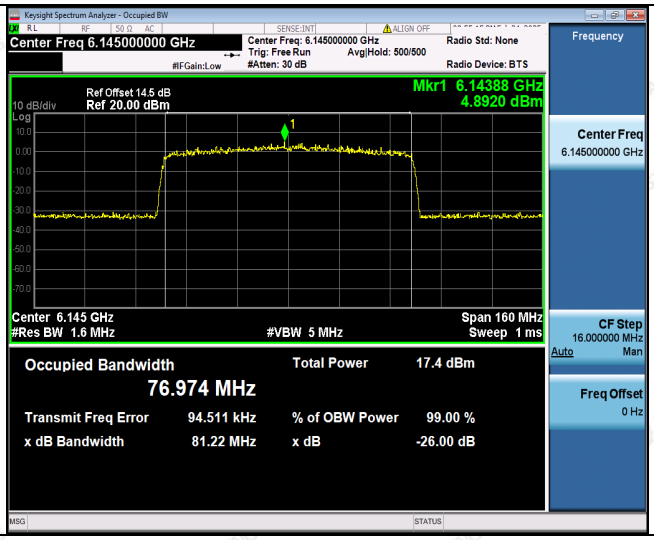
7085

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

802.11ax(HE80)



5985



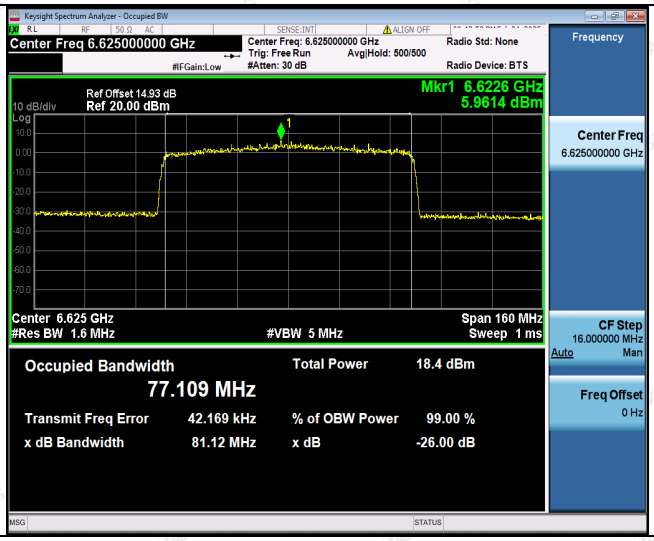
6145

6385

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

6465

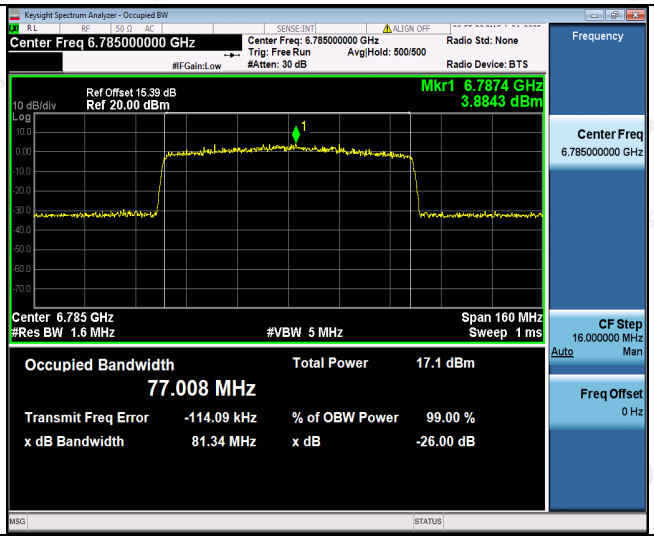
6545



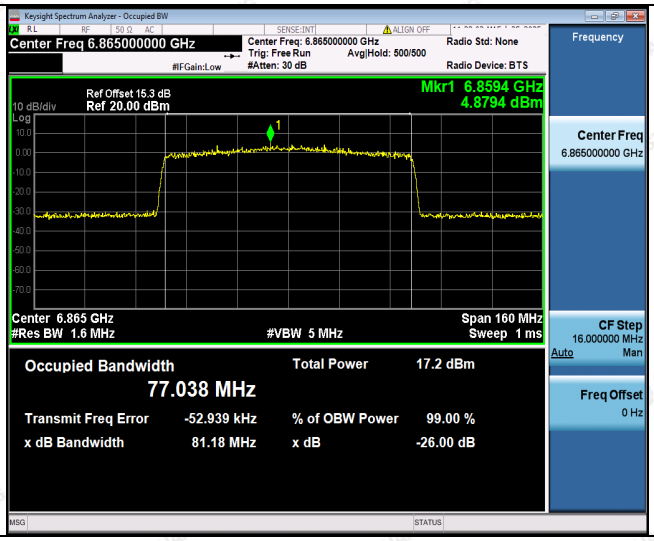
6625

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

6705

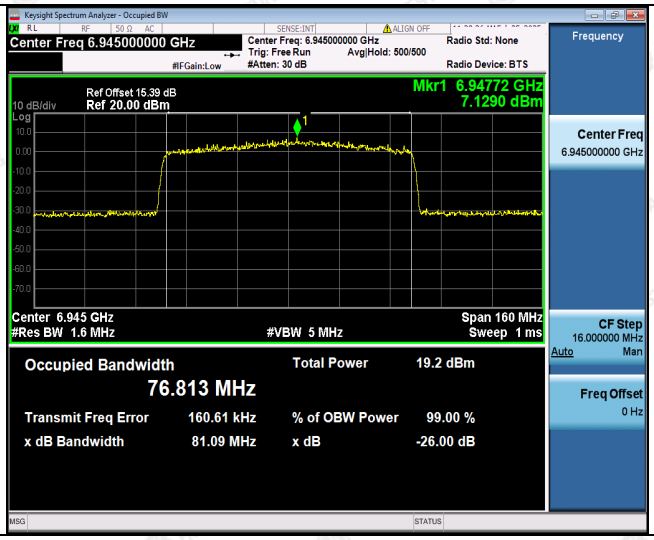


6785

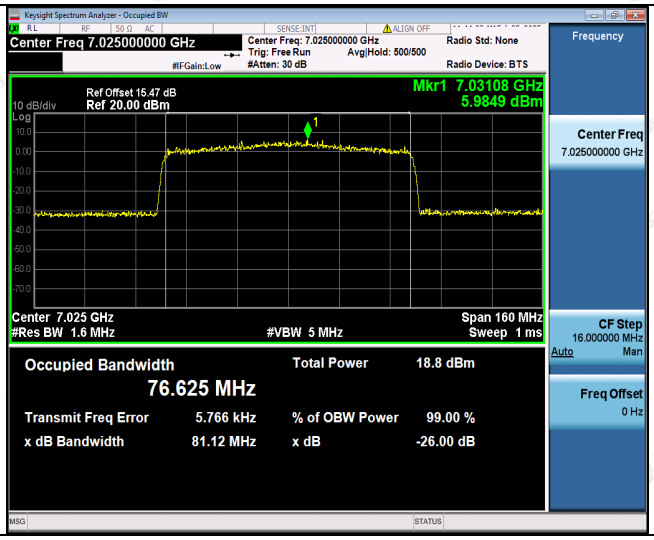


6865

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

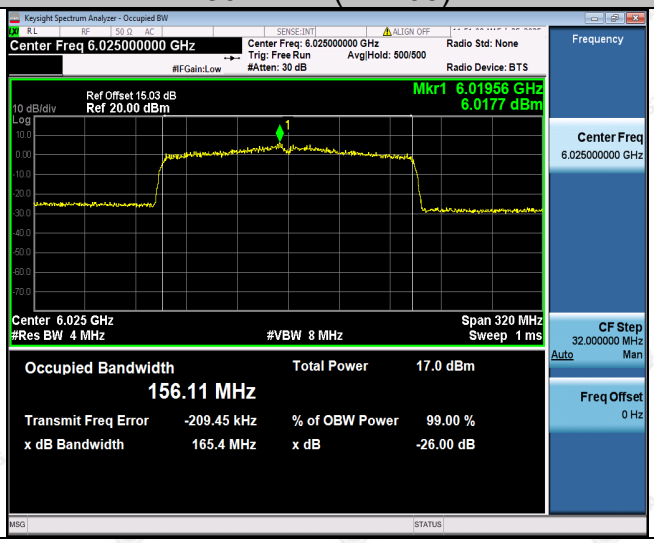


6945



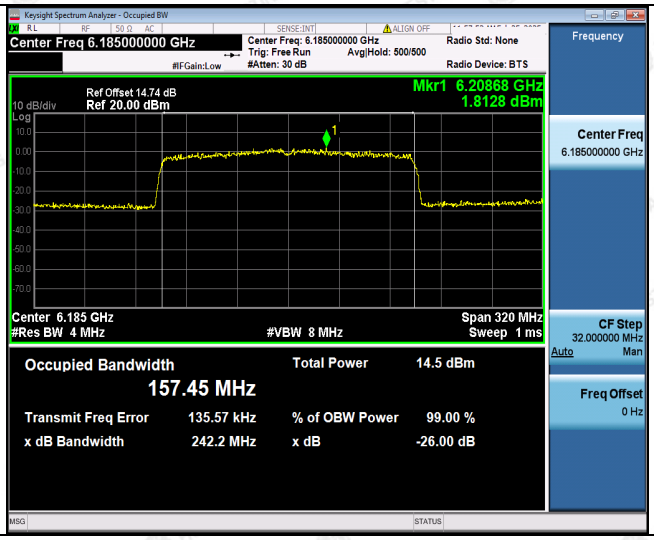
7025

802.11ax(HE160)



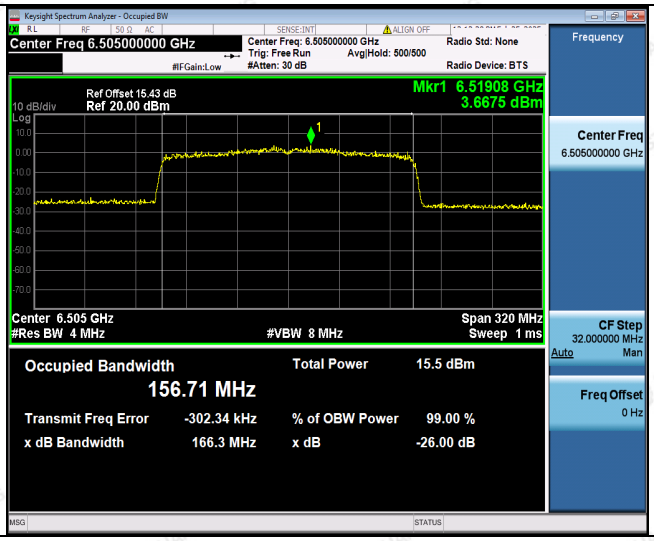
6025

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6185

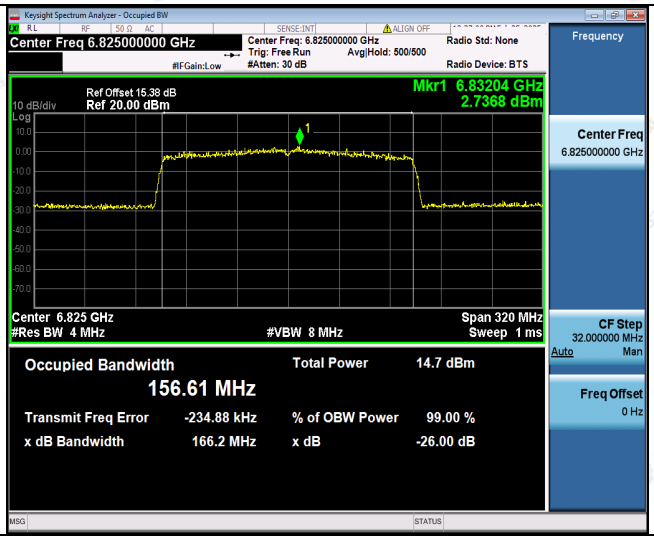
6345



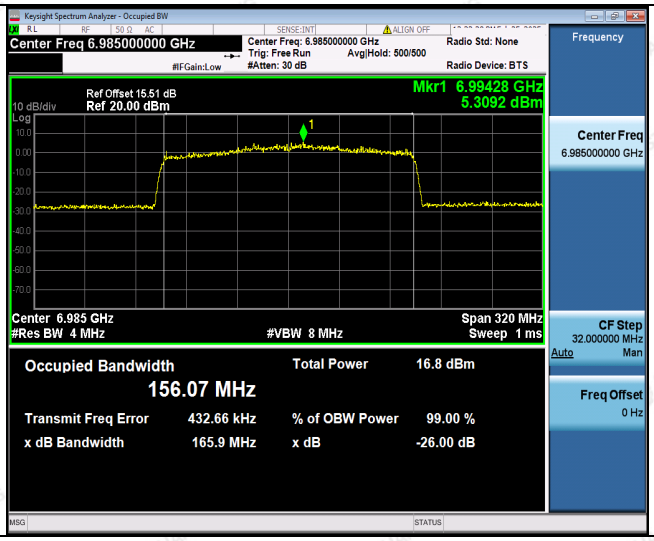
6505

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

6665



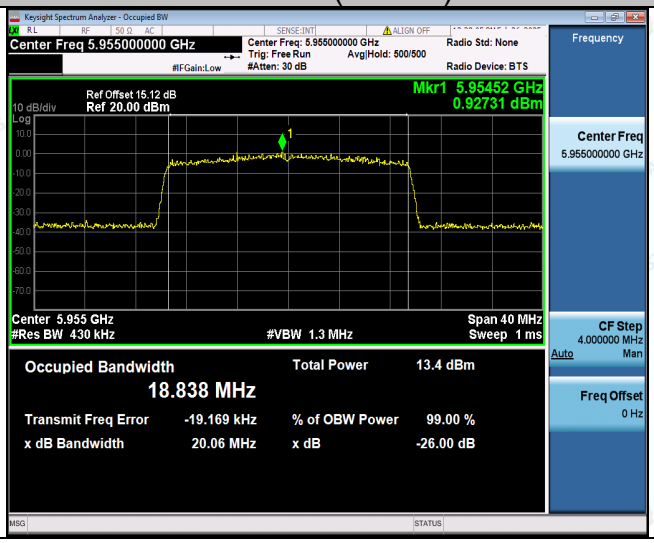
6825



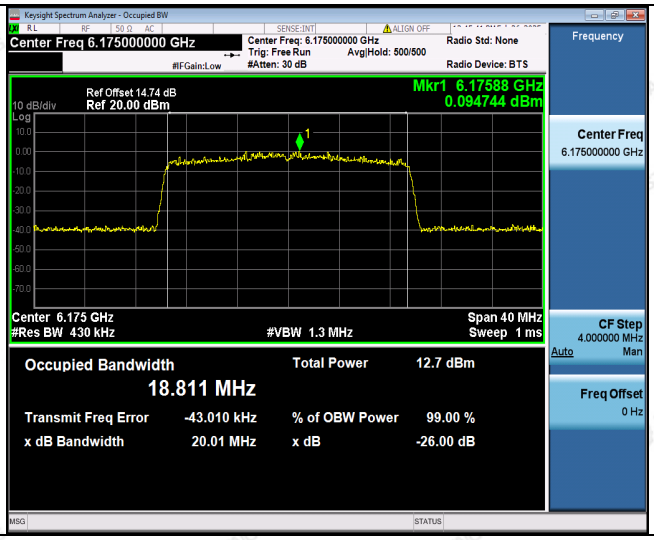
6985

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

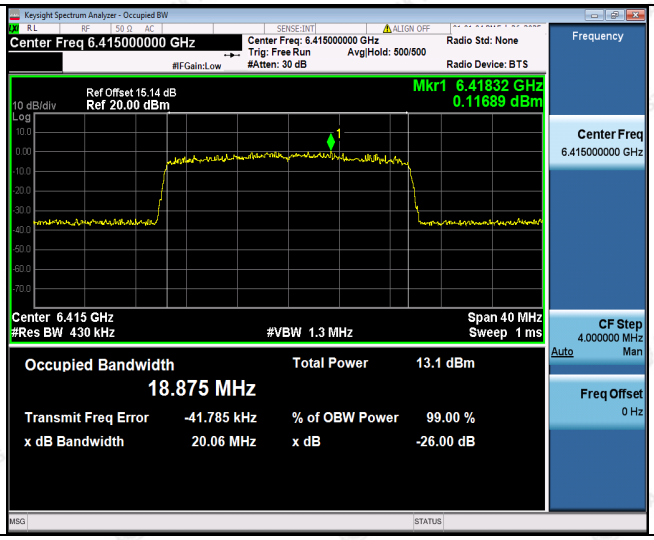
802.11be(EHT20)



5955

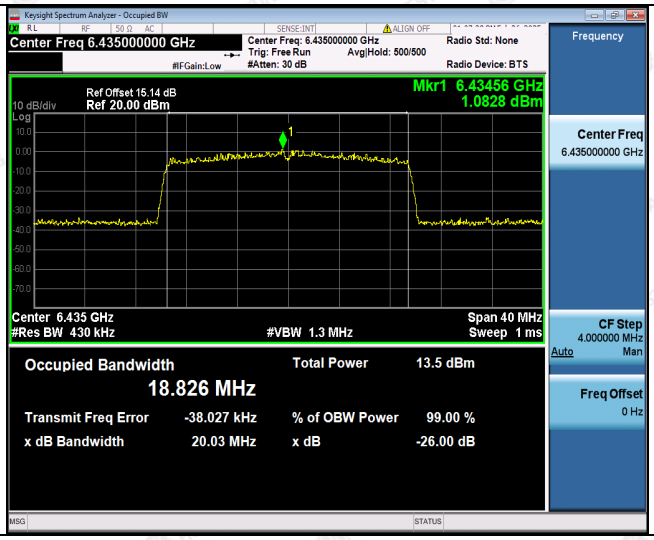


6175

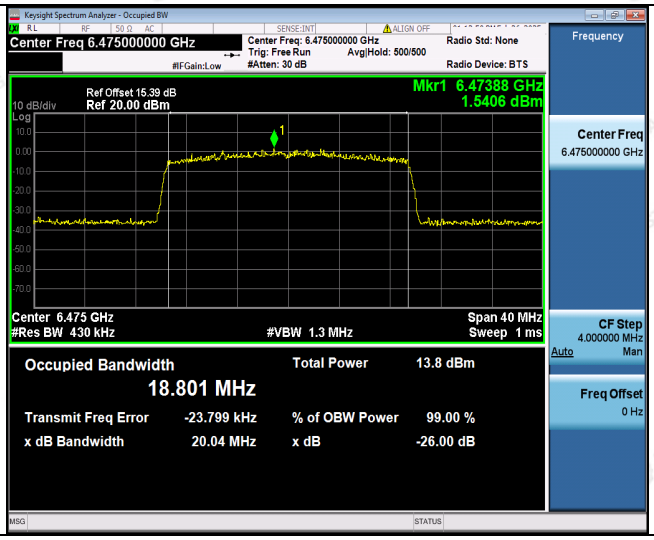


6415

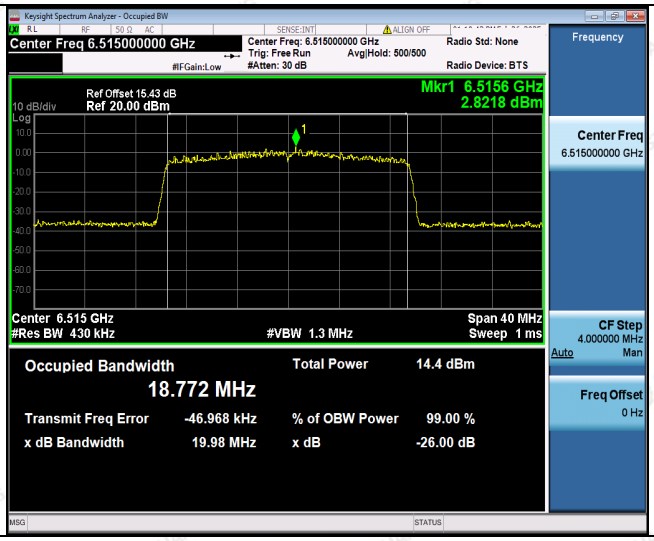
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6435

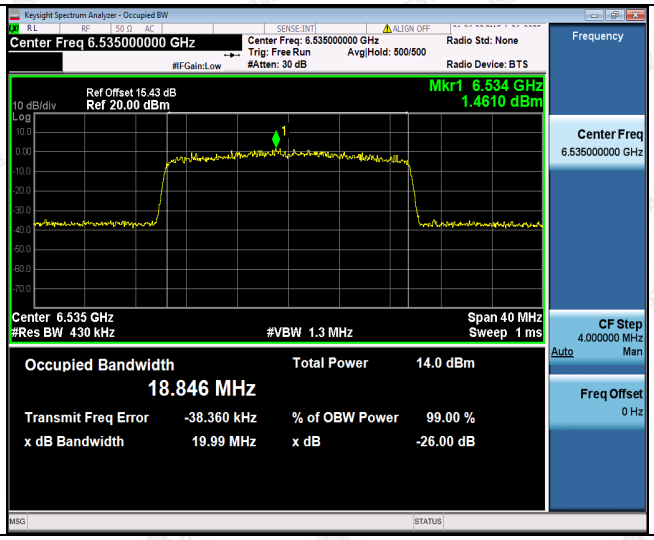


6475

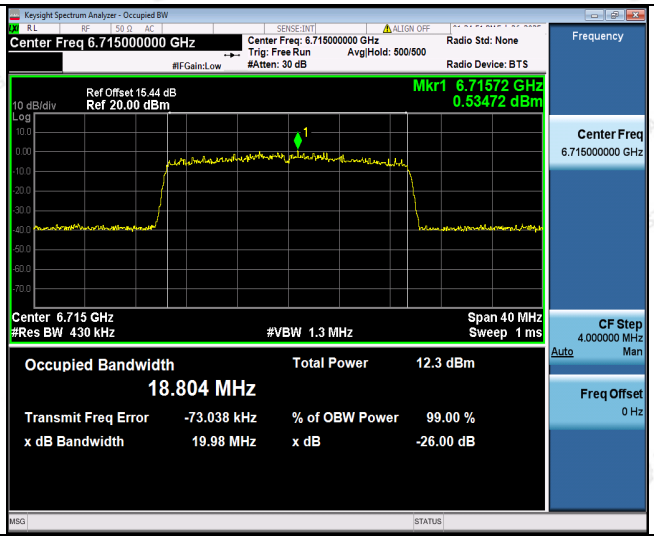


6515

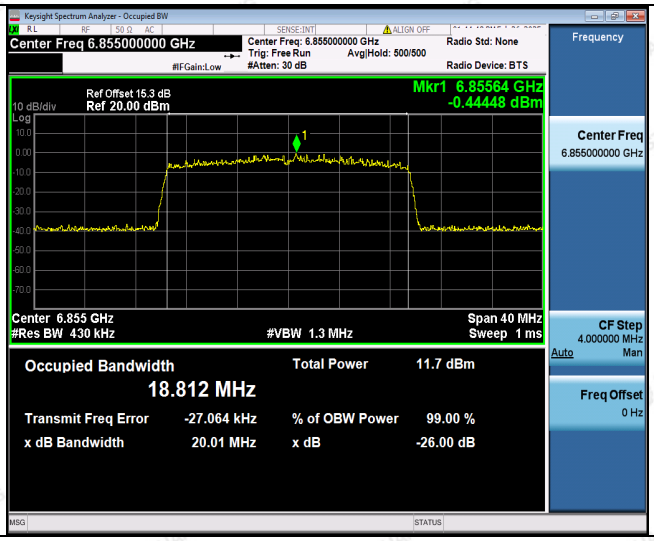
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.



6535



6715



6855

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.