MEASUREMENT REPORT

FCC ID	:	**HD5-CK67X0N**
Applicant	:	**Honeywell International Inc.** **Honeywell Safety and Productivity Solutions**
Application Type	:	**Certification**
Product	:	**Mobile Computer**
Model No.	:	**CK67X0N**
Brand Name	:	**Honeywell**
FCC Classification	:	**Unlicensed National Information Infrastructure (NII)**
FCC Rule Part(s)	:	**Part15 Subpart E (Section 15.407)**
Received Date	:	**May 9, 2024**
Test Date	:	**June 21, 2024 ~ July 29, 2024**

Test By : Owen Tsai
(Owen Tsai)

Reviewed By : Paddy Chen
(Paddy Chen)

Approved By : Chenz Ker
(Chenz Ker)

Testing Laboratory
3261

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 789033 and KDB 291074. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
2405TW0107-U7	1.0	Original Report	2024-08-05	

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Description Page

General Information

Applicant	Honeywell International Inc. Honeywell Safety and Productivity Solutions
Applicant Address	9680 Old Bailes Rd. Fort Mill, SC 29707 United States
Manufacturer	Honeywell International Inc. Honeywell Safety and Productivity Solutions
Manufacturer Address	9680 Old Bailes Rd. Fort Mill, SC 29707 United States
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
FCC Rule Part(s)	Part 15.407

Test Facility / Accreditations

1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Canada, EU and TELEC Rules.

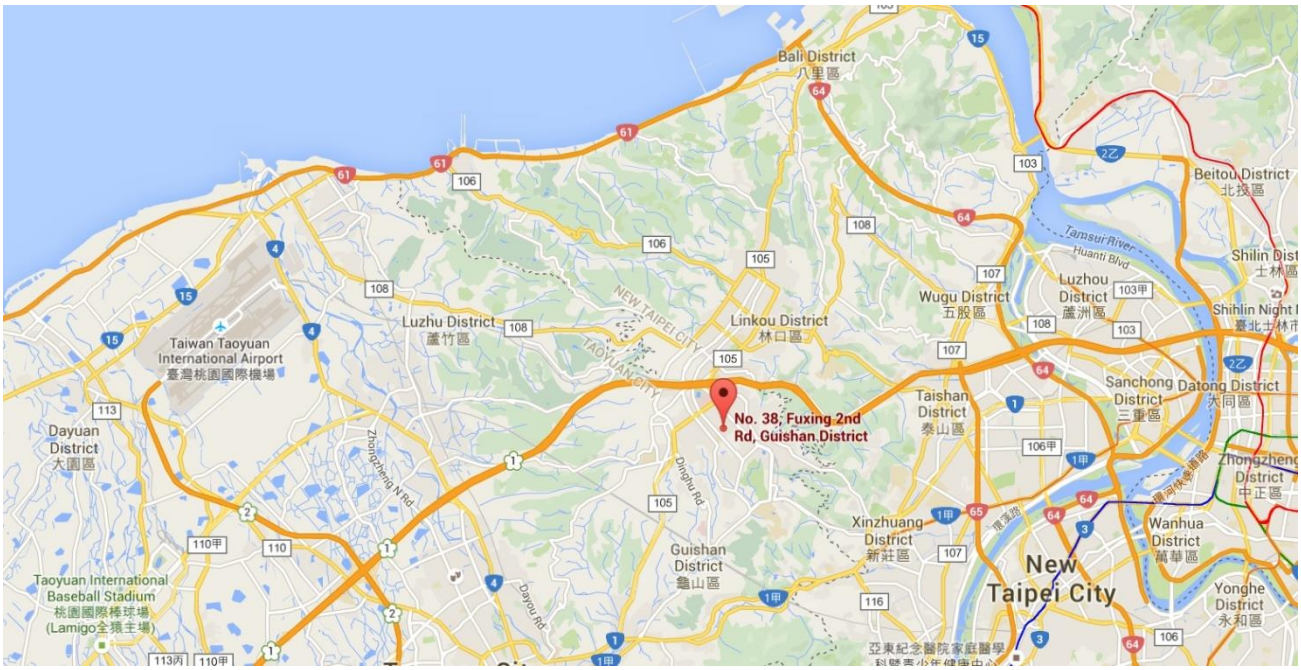
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada and Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	Mobile Computer
Model No.:	CK67X0N
Brand Name:	Honeywell
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Bluetooth Specification	Main BT/BLE : V5.3 dual mode + 2nd BLE: V5.3 Single mode
NFC Specification	13.56MHz
EUT Identification No.:	#24150D83DF (Conducted) #24150D865D (Radiated)
Accessory	
Battery	Brand: Honeywell MODEL:CK65-BTSC Rating: 3.6Vdc, 7000mAh, 25.2Wh

Note:

1. For other features of this EUT, test report will be issued separately.
2. This product has 3 scanners, 5 keypads, can refer as below:

Scanner	S0703	S0803FR	S0803	--	--
Keypad	Alpha Numeric	Numeric	Large Numeric	53keys Alpha Numeric	42keys Numeric

3. This report selected S0803FR with Alpha Numeric as the main test.

2.2. Product Specification Subjective to this Report

Frequency Range:	For 802.11a/n-HT20/ac-VHT20/ax-HE20: 5845MHz, 5865MHz, 5885MHz For 802.11n-HT40/ac-VHT40/ax-HE40: 5835MHz, 5875MHz For 802.11ac-VHT80/ax-HE80: 5855MHz For 802.11ac-VHT160/ax-HE160: 5815MHz
Type of Modulation:	802.11a/n/ac: OFDM 802.11ax: OFDMA
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2402Mbps

Note: For other features of this EUT, test report will be issued separately.

2.3. Working Frequencies for this report

802.11a/n-HT20/ac-VHT20/ax-HE20

Channel	Frequency	Channel	Frequency	Channel	Frequency
169	5845 MHz	173	5865 MHz	177	5885 MHz

802.11n-HT40/ac-VHT40/ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
167	5835 MHz	175	5875 MHz	--	--

802.11ac-VHT80/ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
171	5855 MHz	--	--	--	--

802.11ac-VHT160/ax-HE160

Channel	Frequency	Channel	Frequency	Channel	Frequency
163	5815 MHz	--	--	--	--

2.4. Description of Available Antennas

Antenna Type	Frequency Band (MHz)	T_X Paths	Number of spatial streams	Max Antenna Gain (dBi)	Beamforming Directional Gain(dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Wi-Fi Antenna							
PIFA	2412 ~ 2462	2	1	3.00	--	3.00	5.67
	5150 ~ 5250	2	1	2.50	--	2.50	5.07
	5250 ~ 5350	2	1	2.40	--	2.40	5.16
	5470 ~ 5725	2	1	2.70	--	2.70	5.42
	5725 ~ 5850	2	1	2.60	--	2.60	5.61
	5850 ~ 5895	2	1	2.60	--	2.60	5.61
	5925 ~ 6425	2	1	3.00	--	3.00	5.86
	6425 ~ 6525	2	1	3.00	--	3.00	5.86
	6525 ~ 6875	2	1	4.00	--	4.00	6.52
	6875 ~ 7125	2	1	3.90	--	3.90	6.81

Remark:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

   If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream follows.

   - For power spectral density (PSD) measurements on all devices,

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

   - For power measurements on IEEE 802.11 devices,

   Array Gain = 0 dB for $N_{ANT} \leq 4$;

2. All messages of antenna were declared by manufacturer.

Test Mode	T_X Paths	CDD Mode	Beamforming Mode
802.11b/g/n (DTS)	2	√	X
802.11ax (DTS)	2	√	X
802.11a/n (NII)	2	√	X
802.11ac/ax (NII)	2	√	X
802.11ax (6XD)	2	√	X

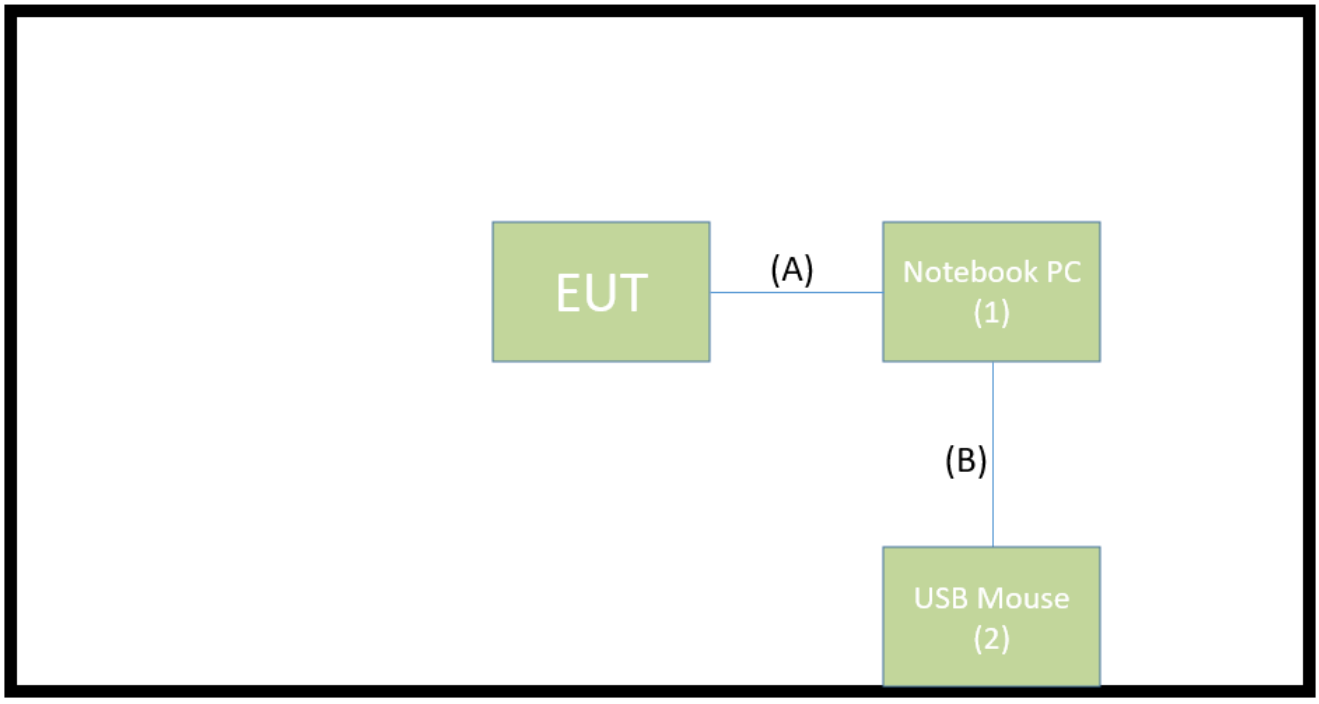
2.5. Test Mode

CDD Mode
Mode 1: Transmit by 802.11a_ (6Mbps) (CDD mode)
Mode 2: Transmit by 802.11ac-VHT20_ (MCS0) (CDD mode)
Mode 3: Transmit by 802.11ac-VHT40_ (MCS0) (CDD mode)
Mode 4: Transmit by 802.11ac-VHT80_ (MCS0) (CDD mode)
Mode 5: Transmit by 802.11ac-VHT160_ (MCS0) (CDD mode)
Mode 6: Transmit by 802.11ax-HE20_ (MCS0) (CDD mode)
Mode 7: Transmit by 802.11ax-HE40_ (MCS0) (CDD mode)
Mode 8: Transmit by 802.11ax-HE80_ (MCS0) (CDD mode)
Mode 9: Transmit by 802.11ax-HE160_ (MCS0) (CDD mode)
Mode 10: Transmit by 802.11ax-HE20_26Tone_RU0 (CDD mode)
Mode 11: Transmit by 802.11ax-HE20_26Tone_RU8 (CDD mode)
Mode 12: Transmit by 802.11ax-HE20_52Tone_RU74 (CDD mode)
Mode 13: Transmit by 802.11ax-HE20_52Tone_RU77 (CDD mode)
Mode 14: Transmit by 802.11ax-HE20_106Tone_RU106 (CDD mode)
Mode 15: Transmit by 802.11ax-HE20_106Tone_RU107 (CDD mode)
Mode 16: Transmit by 802.11ax-HE20_242Tone_RU122 (CDD mode)
Remark: 1. For Radiated emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power. 2. Due to the same modulation between 802.11n and 802.11ac, so 802.11n-HT20 and HT40 are covered by 802.11ac-VHT20 and VHT40 in this report, meanwhile, power level for 802.11n-HT20 and HT40 will not be greater than 802.11ac-VHT20 and VHT40.

2.6. Configuration of Test System

The devicewas tested per the guidance ANSI C63.10: 2013was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram



Signal Cable Type		Signal Cable Description
A	USB Cable	Shielded, 1.0m
B	USB Mouse Cable	Shielded, 1.8m

2.7. Test System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	P65F	N/A	Non-shielded, 0.8m
2	USB Mouse	Logitech	M90	N/A	N/A

2.8. Description of Test Software

The test utility software used during testing was “QRCT”, the version is ver4.0-00209.

Note: Final power setting please refer to operational description.

2.9. Applied Standards

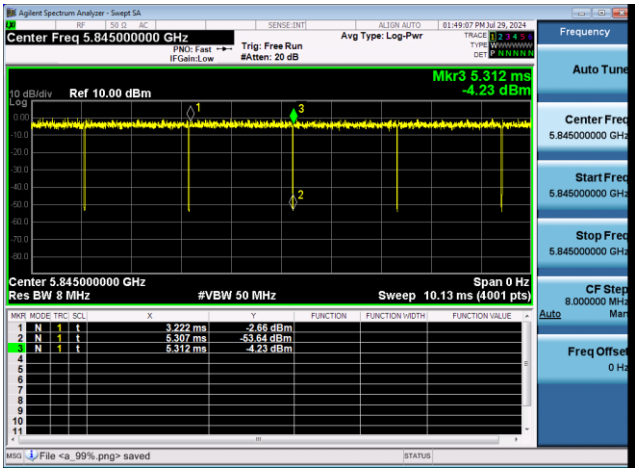
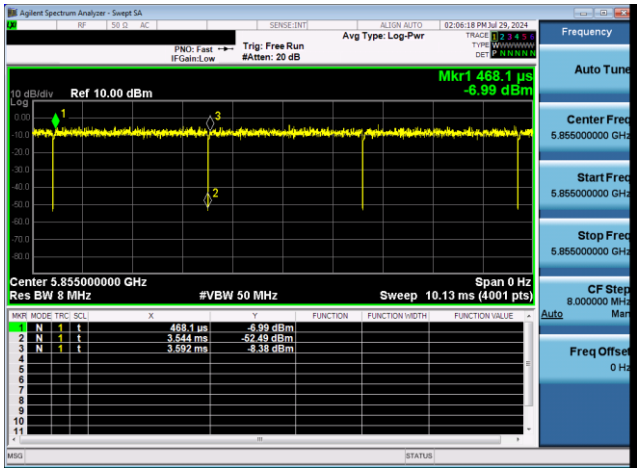
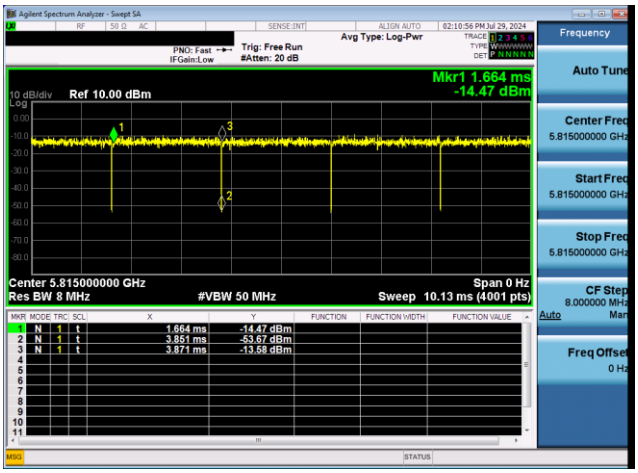
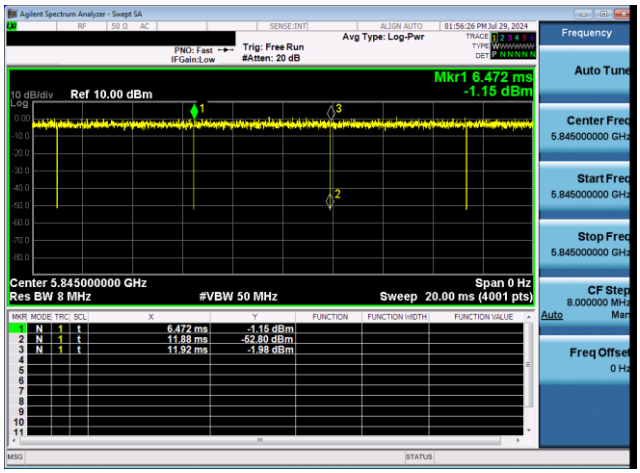
According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

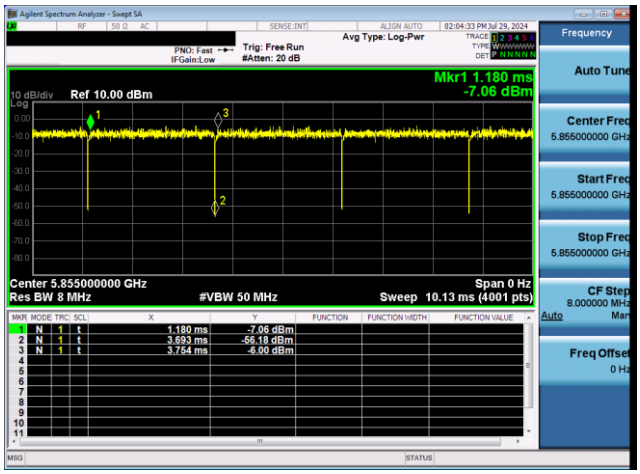
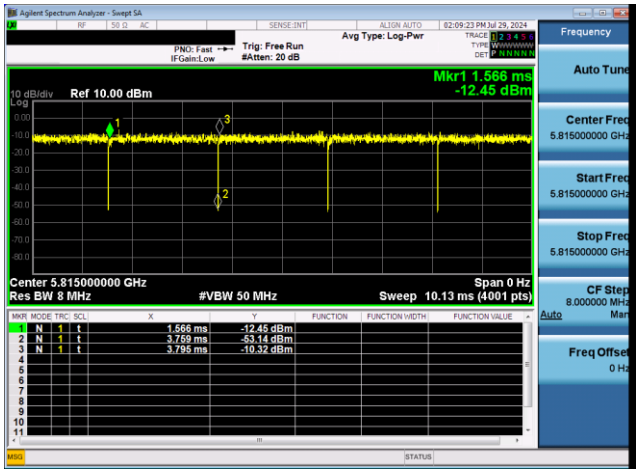
- FCC Part 15.407
- KDB 789033 D02v02r01
- KDB 291074 D02v01
- KDB 662911 D01v02r01
- ANSI C63.10-2013

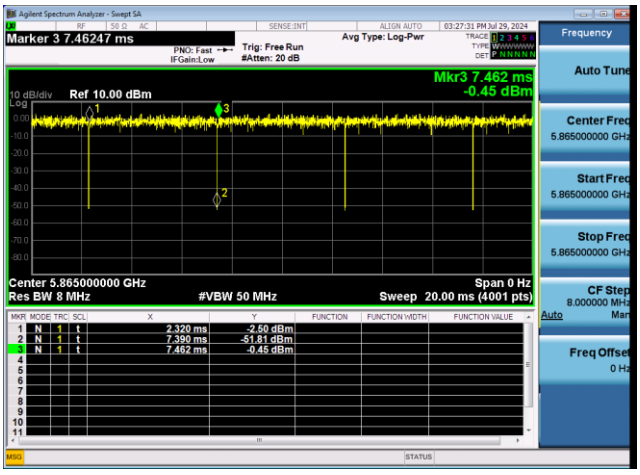
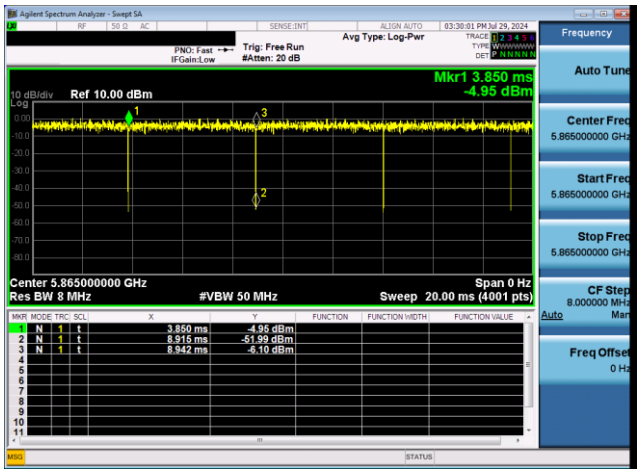
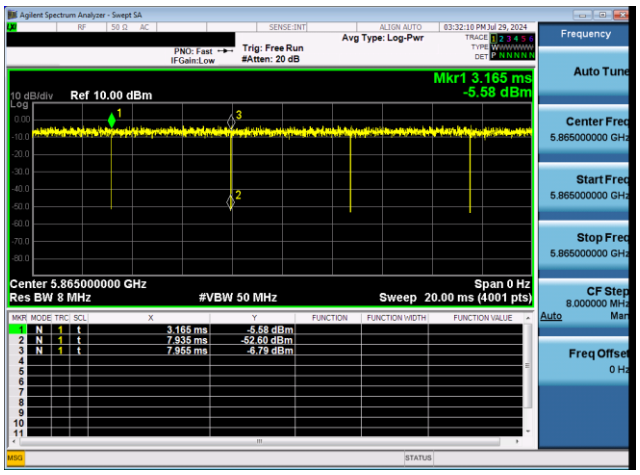
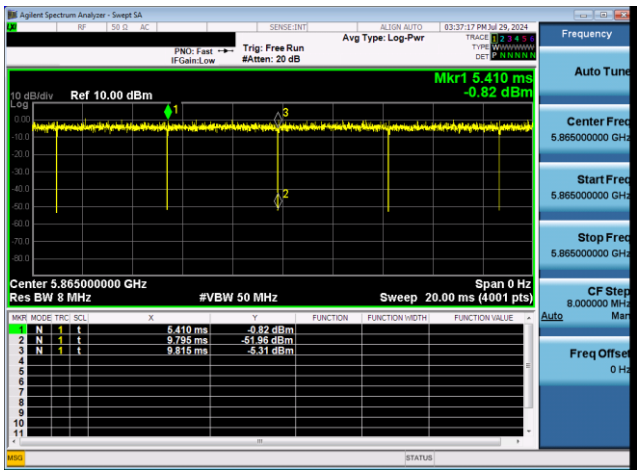
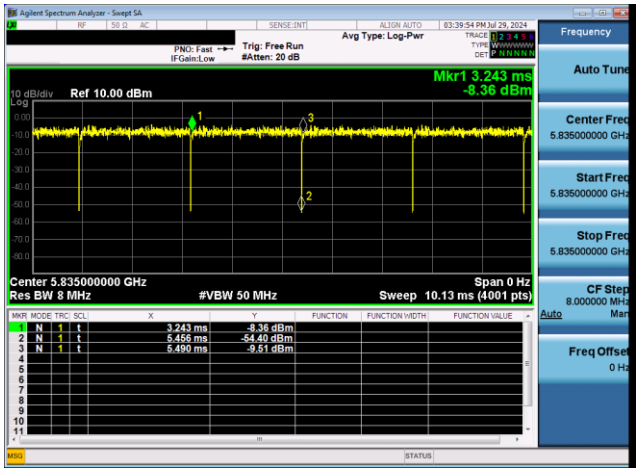
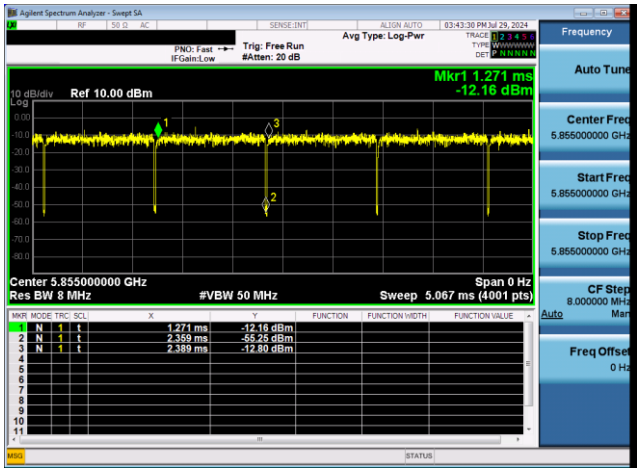
2.10. Duty Cycle

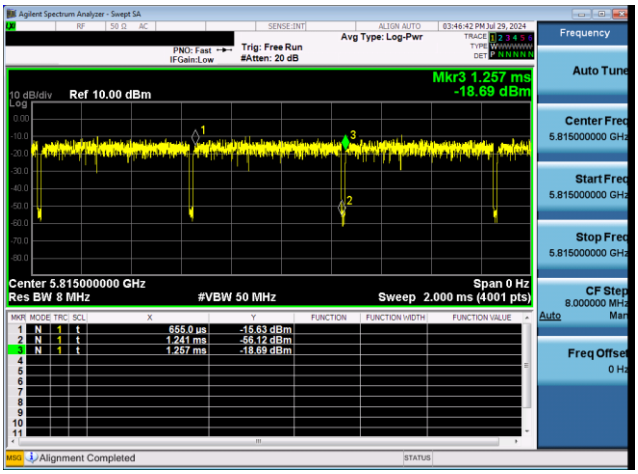
5GHz (NII) operation is possible in 20MHz, 40MHz, 80MHz and 160MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
802.11a	99.76%
802.11ac-VHT20	99.35%
802.11ac-VHT40	99.08%
802.11ac-VHT80	98.46%
802.11ac-VHT160	99.09%
802.11ax-HE20	99.27%
802.11ax-HE40	98.76%
802.11ax-HE80	97.63%
802.11ax-HE160	98.38%
802.11ax-HE20_26 Tone	98.60%
802.11ax-HE20_52 Tone	99.47%
802.11ax-HE20_106 Tone	99.58%
802.11ax-HE20_242 Tone	99.55%
802.11ax-HE40_484 Tone	98.49%
802.11ax-HE80_996 Tone	97.32%
802.11ax-HE160_1992 Tone	97.34%

Duty Cycle	
802.11a	802.11ac-VHT20
	
802.11ac-VHT40	802.11ac-VHT80
	
802.11ac-VHT160	802.11ax-HE20
	

802.11ax-HE40	802.11ax-HE80
	
802.11ax-HE160	
	

Duty Cycle	
802.11ax-HE20_26 Tone	802.11ax-HE20_52 Tone
	
802.11ax-HE20_106 Tone	802.11ax-HE20_242 Tone
	
802.11ax-HE40_484 Tone	802.11ax-HE80_996 Tone
	

802.11ax-HE160_1992 Tone	
	

2.11. Test Configuration

The device was tested per the guidance of KDB 789033 D02v02r01.ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testingand AC line conducted testing.

2.12. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.13. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphletsupplied to the user and be readily visible to the purchaser at the time of purchase. However, when the deviceis so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label andlabel location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 789033 D02v02r01 were used in themeasurement.

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.
The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.
Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.
An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remotecontrolled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated tomaximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

KDB 291074 DR01: An Indoor Access point in the U-NII-4 band (5.850-5.895 GHz) and U-NII -3 & -4 span channels must use an integrated antenna

- The antenna of the device is built in and locked inside the enclosure.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2025/3/5
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2025/4/21
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2025/5/14
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2025/6/2

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Acitve Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2025/5/7
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2024/10/31
Broadband Hornantenna	RFSPIN	DRH18-E	MRTTWA00087	1 year	2025/5/20
Broadband Preamplifier	EMC Instruments corporation	EMC118A45SE	MRTTWA00088	1 year	2025/5/14
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2025/3/26
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2025/3/21
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2025/3/5
Signal Analyzer	R&S	FSVA3044	MRTTWA00092	1 year	2025/6/20
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00034	1 year	2025/6/25
Cable	HUBERSUHNER	EMC105-NM-NM-3000	MRTTWE00035	1 year	2025/6/25
Temperature/Humidity Meter	TFA	35.1083	MRTTWA00050	1 year	2025/6/2

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2025/4/16
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2024/10/17
Attenuator	WTI	218FS-20	MRTTWE00026	1 year	2024/11/1
Attenuator	WTI	218FS-10	MRTTWE00027	1 year	2025/6/13
Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2025/6/6
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2025/6/2

Software	Version	Function
e3	9.160520a	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: ± 2.53dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: ± 4.25dB 1GHz ~ 40GHz: ± 4.45dB
Conducted Power (Carrier Power / Power Density)
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ± 0.84dB
Conducted Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):± 2.65 dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ± 3.3%
Temp. / Humidity
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ±0.82°C/ ±3%
Frequency Error
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ±78.4Hz

7. TEST RESULT

7.1. Summary

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)	26dB Bandwidth	N/A	Conducted	Pass	Section 7.2
15.407(e)	6dB Bandwidth	≥ 500kHz		Pass	Section 7.3
15.407(a)(3)(ii)	Maximum Conducted Output Power	Refer to section 7.4		Pass (22.60dBm @EIRP)	Section 7.4
15.407(a)(3)(ii) (12)	Peak Power Spectral Density	Refer to section 7.5		Pass	Section 7.5
15.407(g)	Frequency Stability	N/A		Pass	Section 7.6
15.407(b)(5)	Undesirable Emissions	Refer to Section 7.7	Radiated	Pass (40.10dBuV/m@avg)	Section 7.7
15.205, 15.209 15.407(b)(5)(i), (8), (9)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restrictedbands must meet theradiated limits detailed in15.209		Pass (66.70dBuV/m@Peak)	Section 7.8
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.9

Notes:

1) Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part ofthe system to connect the EUT to the analyzer at all frequencies of interest.
3) Output power test was verified over all data rates of each mode (data refers to operational description), and then choose the maximum power output (low data rate) for final test of each channel.
4) For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

7.2. 26dB Bandwidth Measurement

7.2.1.Test Limit

N/A

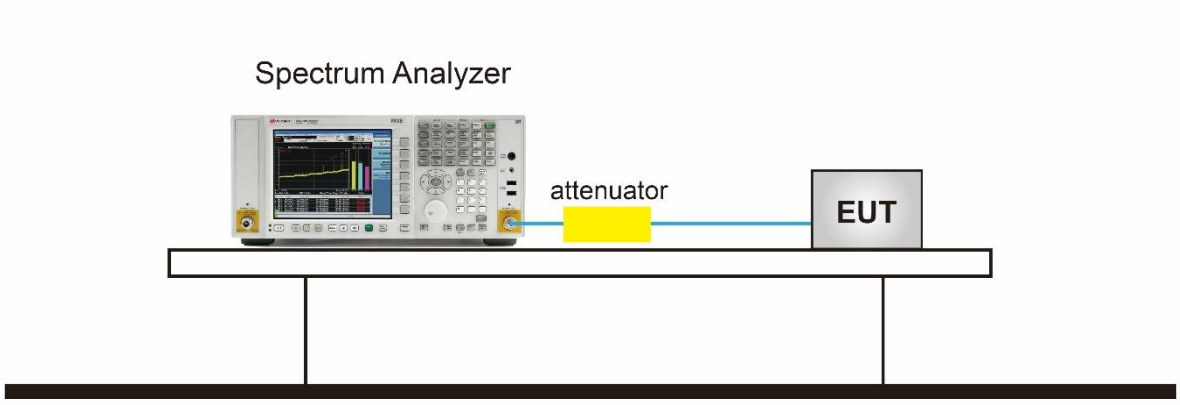
7.2.2.Test Procedure used

K DB 789033 D02v02r01- Section II)C.1) (26dB Bandwidth)
KDB 789033 D02v02r01- Section II)D) (99% Bandwidth)

7.2.3.Test Setting

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediated power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth.
3. VBW ≥ 3×RBW.
4. Detector = Peak.
5. Trace mode = max hold.

7.2.4.Test Setup

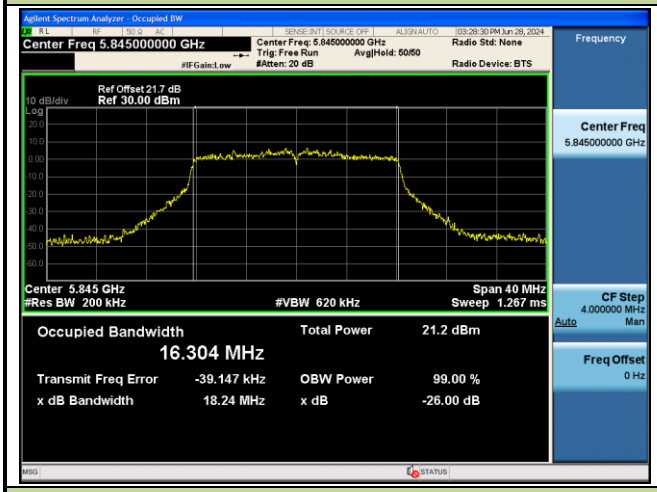
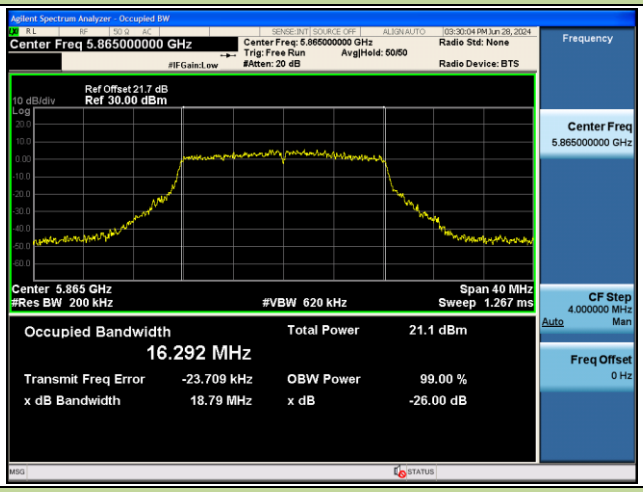
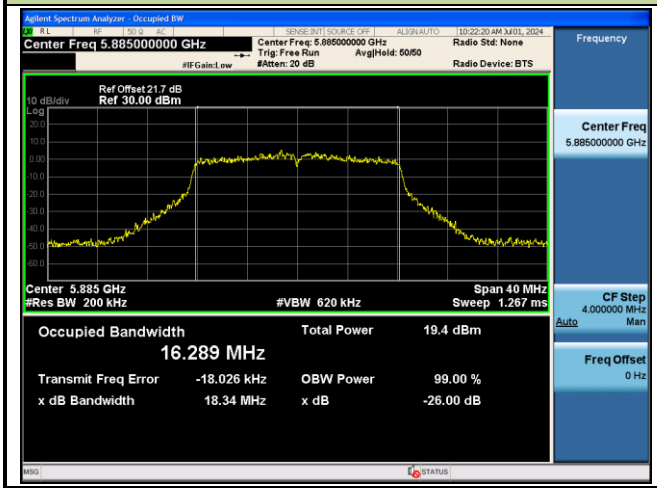


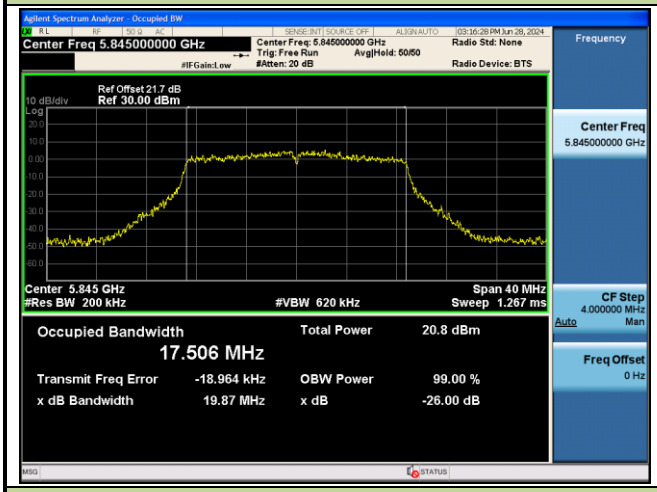
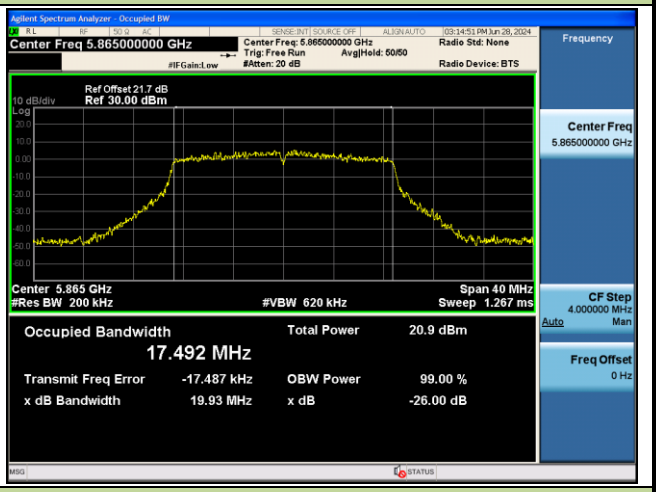
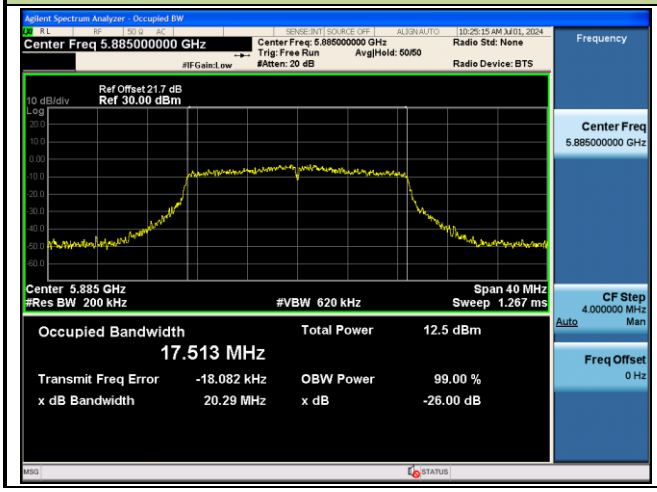
7.2.5.Test Result

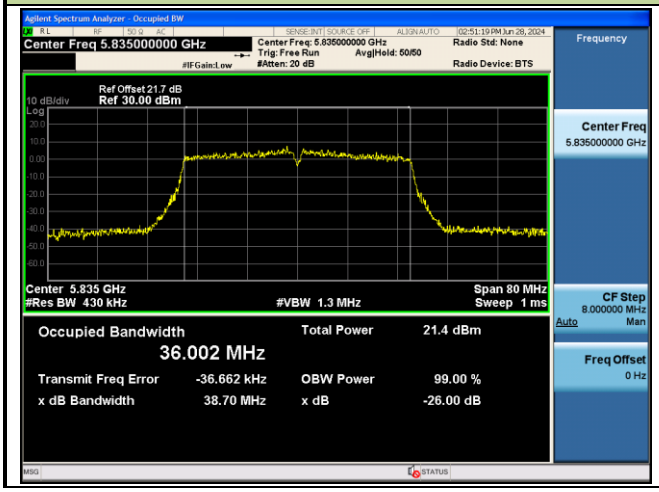
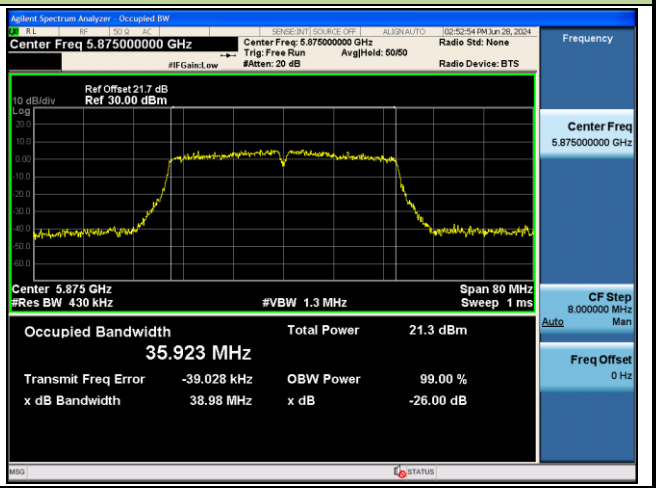
Product	Mobile Computer	Test Engineer	Owen
Test Site	SR5	Test Date	2024/6/28~2024/7/1

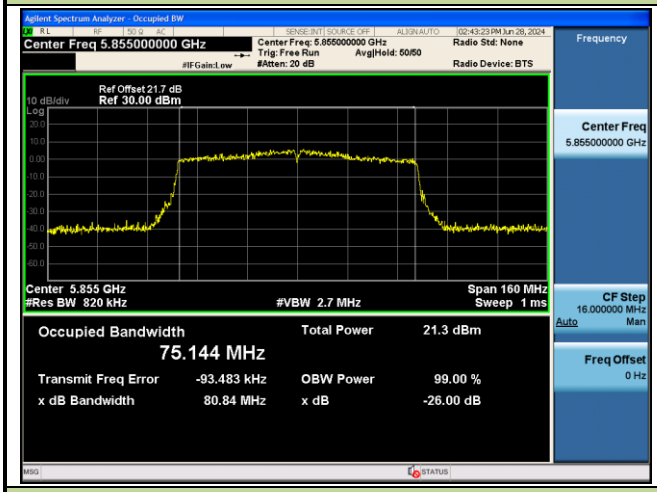
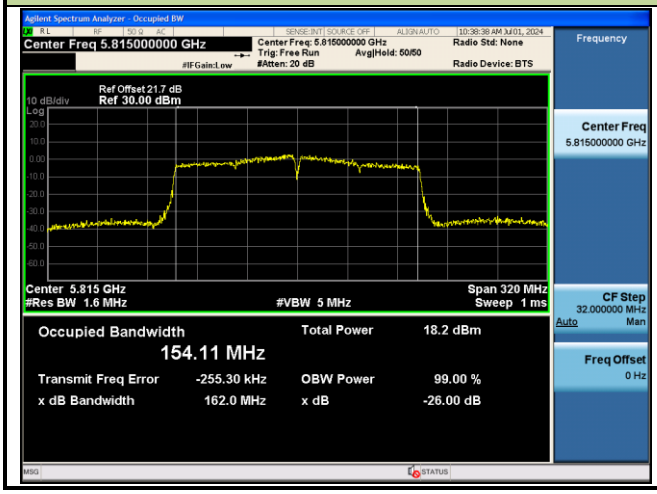
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 0					
802.11a	6Mbps	169	5845	18.24	16.304
802.11a	6Mbps	173	5865	18.79	16.292
802.11a	6Mbps	177	5885	18.34	16.289
802.11ac-VHT20	MCS0	169	5845	19.87	17.506
802.11ac-VHT20	MCS0	173	5865	19.93	17.492
802.11ac-VHT20	MCS0	177	5885	20.29	17.513
802.11ac-VHT40	MCS0	167	5835	38.70	36.002
802.11ac-VHT40	MCS0	175	5875	38.98	35.923
802.11ac-VHT80	MCS0	171	5855	80.84	75.144
802.11ac-VHT160	MCS0	163	5815	162.0	154.11
802.11ax-HE20	MCS0	169	5845	20.49	18.870
802.11ax-HE20	MCS0	173	5865	20.52	18.817
802.11ax-HE20	MCS0	177	5885	20.69	18.864
802.11ax-HE40	MCS0	167	5835	39.68	37.587
802.11ax-HE40	MCS0	175	5875	39.82	37.559
802.11ax-HE80	MCS0	171	5855	80.56	76.715
802.11ax-HE160	MCS0	163	5815	161.8	155.50

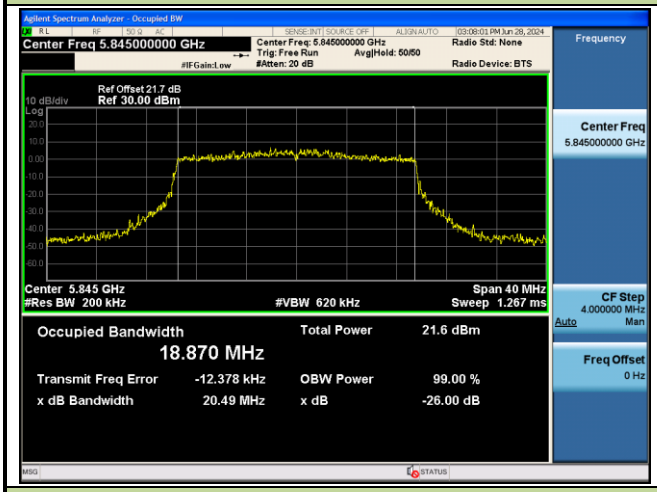
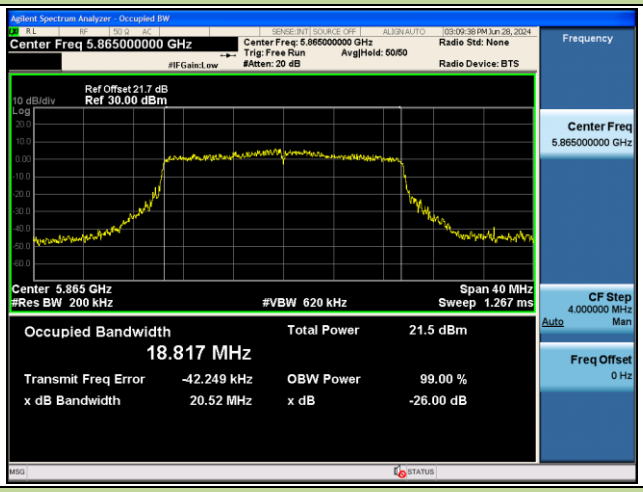
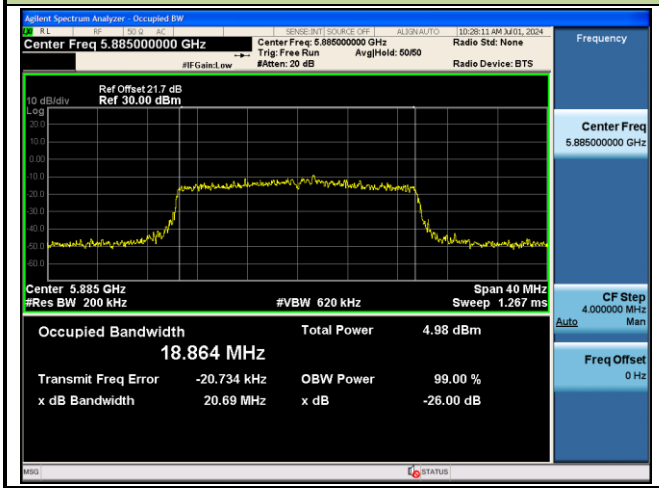
Test Mode	RU Size	RU Index	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 0						
802.11ax-HE20	26 Tone	RU 0	169	5845	19.13	17.647
802.11ax-HE20		RU 8	177	5885	17.90	16.406
802.11ax-HE20	52 Tone	RU 74	169	5845	18.58	16.902
802.11ax-HE20		RU 77	177	5885	20.80	7.1191
802.11ax-HE20	106 Tone	RU 106	169	5845	17.11	15.342
802.11ax-HE20		RU 107	177	5885	20.36	18.329
802.11ax-HE20	242 Tone	RU 122	169	5845	25.98	19.025
802.11ax-HE20		RU 122	177	5885	22.63	19.027

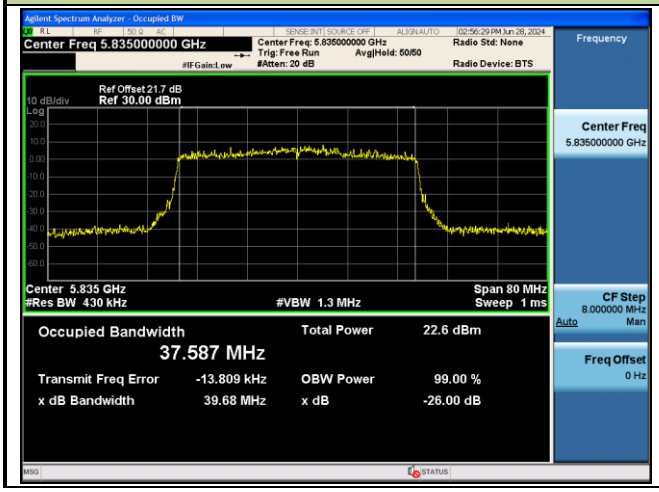
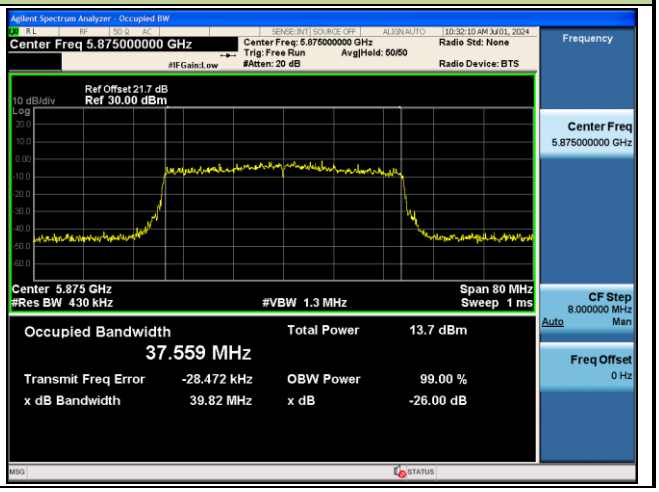
802.11a 26dB Bandwidth & 99% Bandwidth	
Channel 169 (5845MHz)	Channel 173 (5865MHz)
	
Channel 177 (5885MHz)	
	

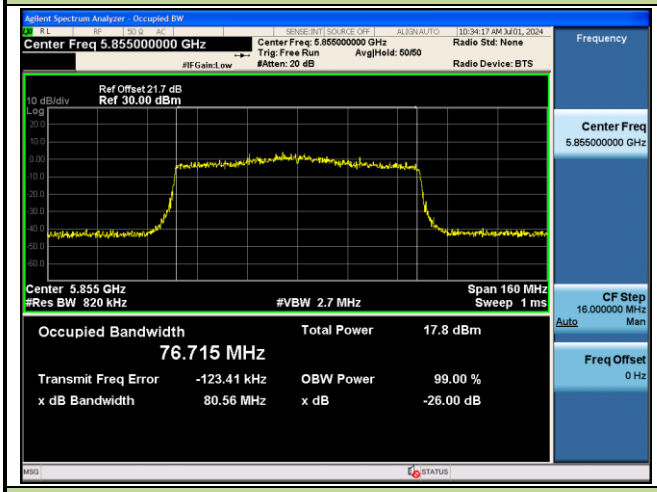
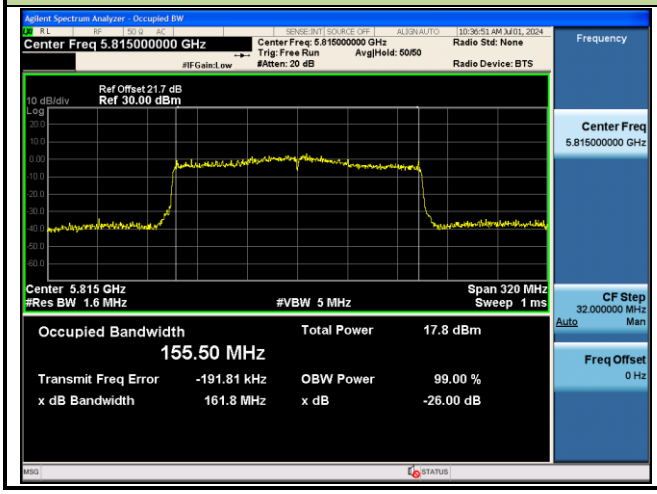
802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth	
Channel 169 (5845MHz)	Channel 173 (5865MHz)
	
Channel 177 (5885MHz)	
	

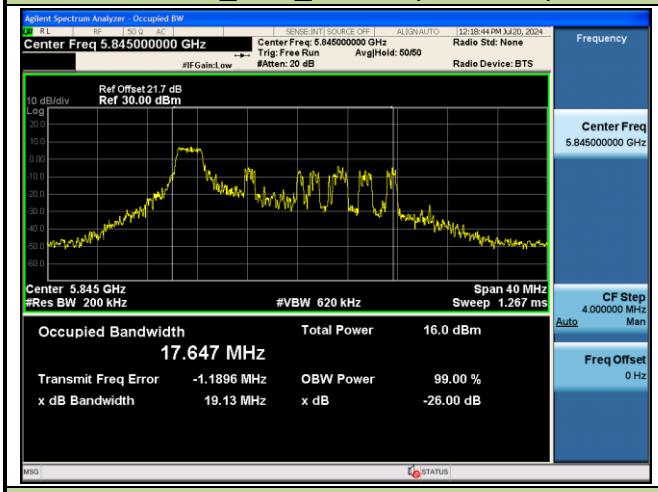
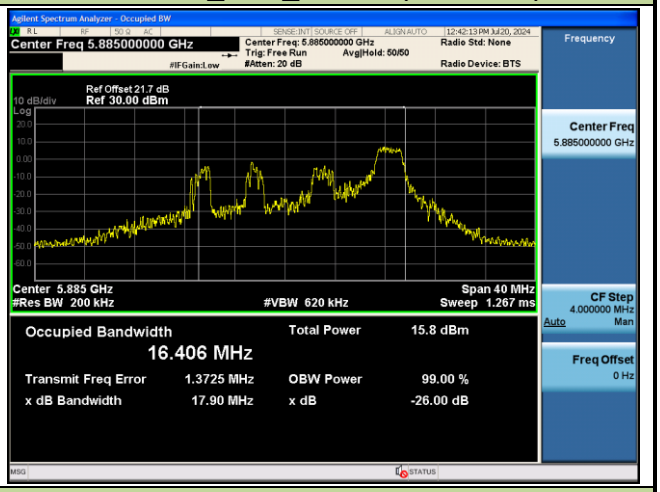
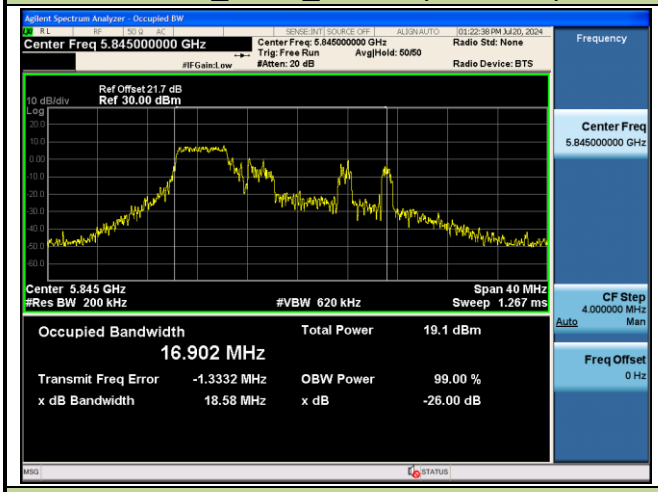
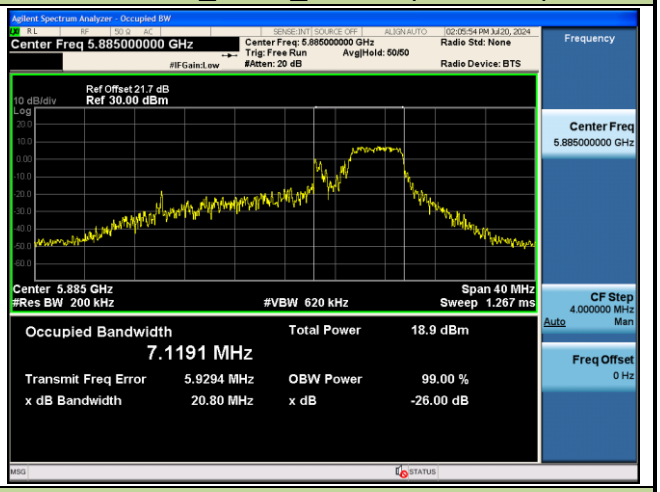
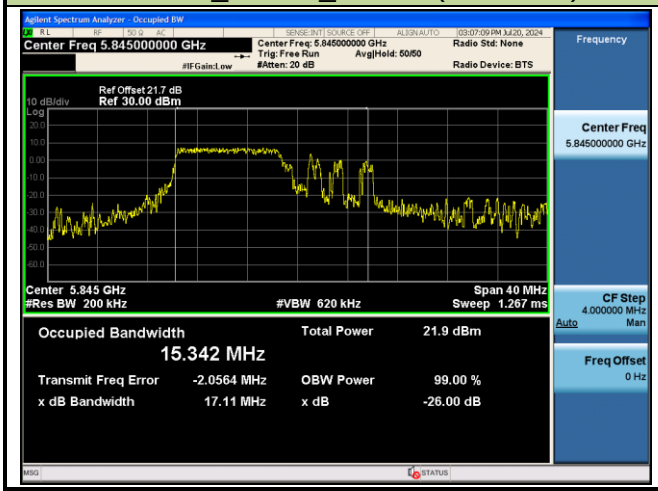
802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth	
Channel 167 (5835MHz)	Channel 175 (5875MHz)
	

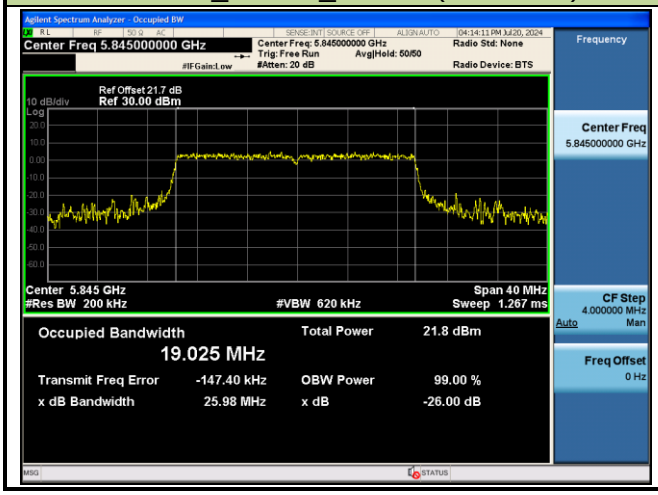
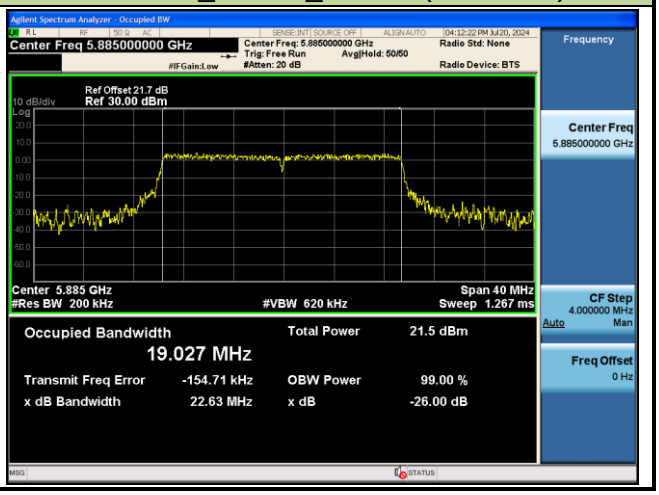
802.11ac-VHT80 26dB Bandwidth & 99% Bandwidth	
Channel 171 (5855MHz)	
	
802.11ac-VHT160 26dB Bandwidth & 99% Bandwidth	
Channel 163 (5815MHz)	
	

802.11ax-HE20 26dB Bandwidth & 99% Bandwidth	
Channel 169 (5845MHz)	Channel 173 (5865MHz)
	
Channel 177 (5885MHz)	
	

802.11 ax-HE40 26dB Bandwidth & 99% Bandwidth	
Channel 167 (5835MHz)	Channel 175 (5875MHz)
	

802.11 ax-HE80 26dB Bandwidth & 99% Bandwidth	
Channel 171 (5855MHz)	
	
802.11 ax-HE160 26dB Bandwidth & 99% Bandwidth	
Channel 163 (5815MHz)	
	

802.11ax-HE20 26dB Bandwidth & 99% Bandwidth	
26 Tone_RU0_CH169 (5845MHz)	26 Tone_RU8_CH177 (5885MHz)
	
52 Tone_RU74_CH169 (5845MHz)	52 Tone_RU77_CH177 (5855MHz)
	
106 Tone_RU106_CH169 (5845MHz)	106 Tone_RU107_CH177 (5885MHz)
	

242 Tone_RU122_CH169 (5845MHz)	242 Tone_RU122_CH177 (5885MHz)
	

7.3. 6dB Bandwidth Measurement

7.3.1.Test Limit

The minimum 6dBbandwidth shall be at least 500 kHz.

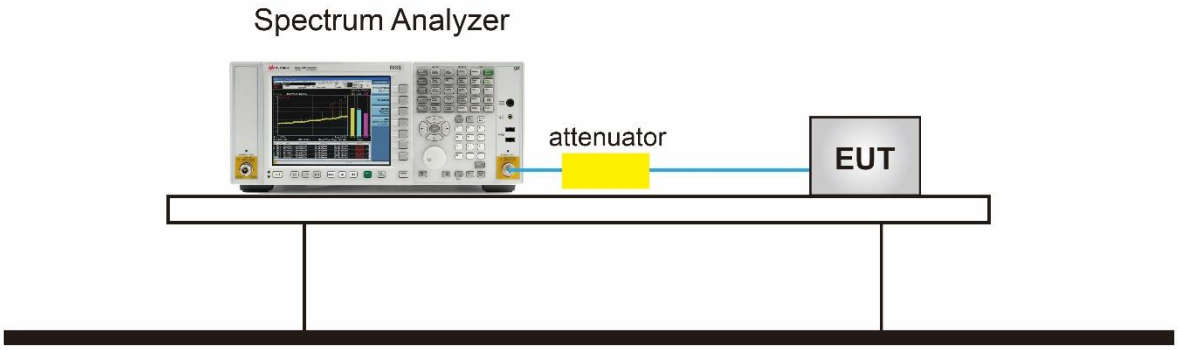
7.3.2.Test Procedure used

KDB 789033 D02v02r01- Section C.2

7.3.3.Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. 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.

7.3.4.Test Setup

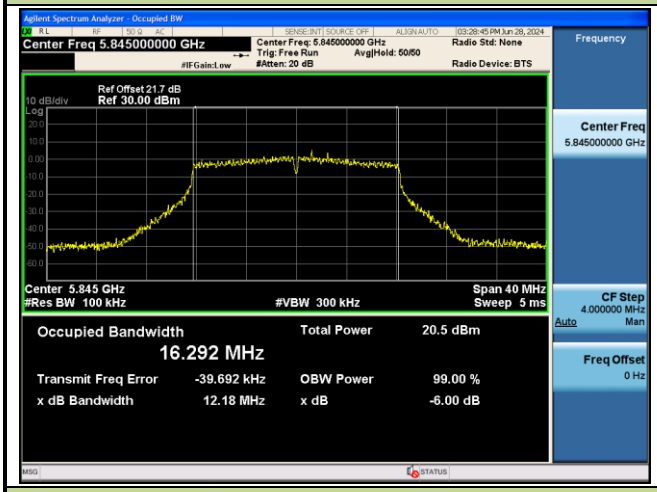
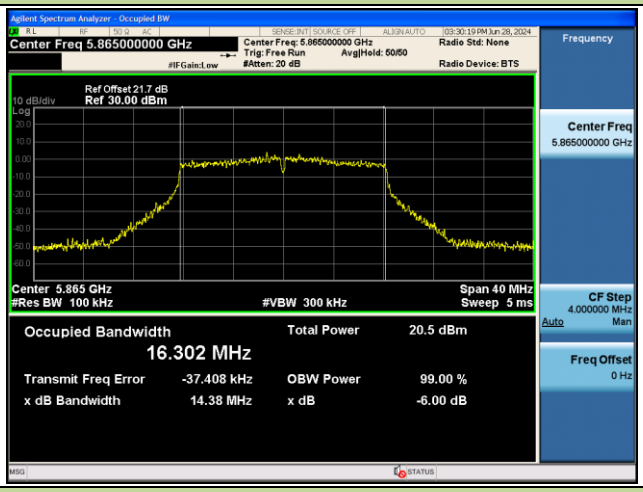
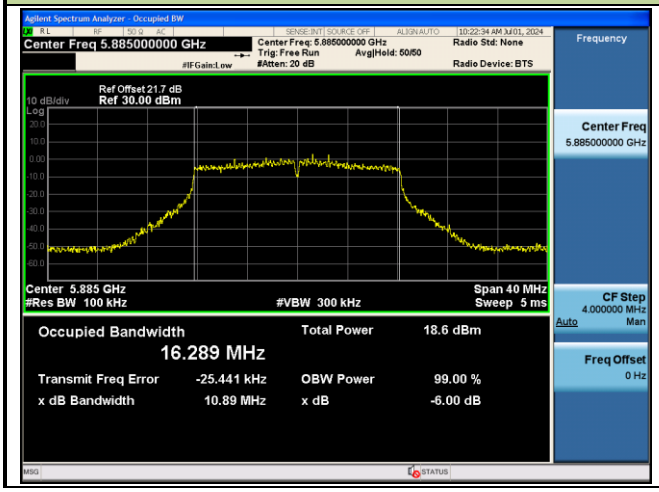


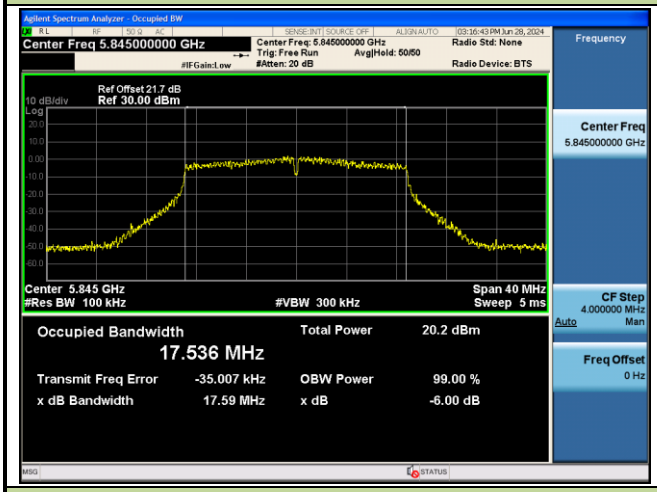
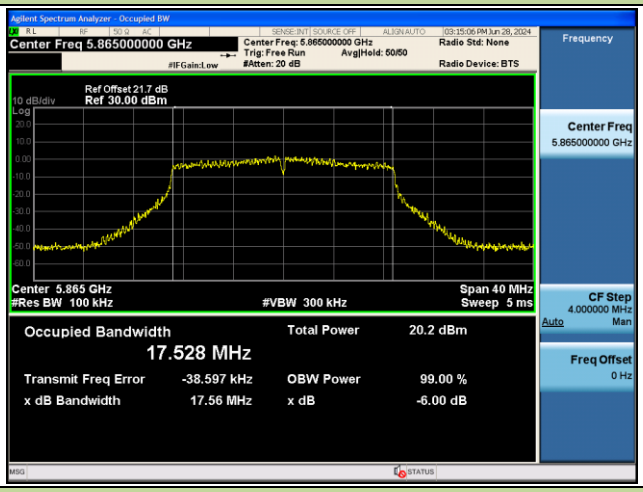
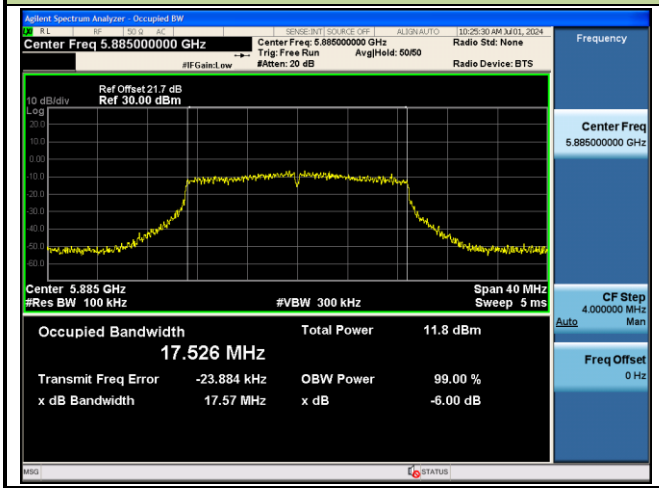
7.3.5.TestResult

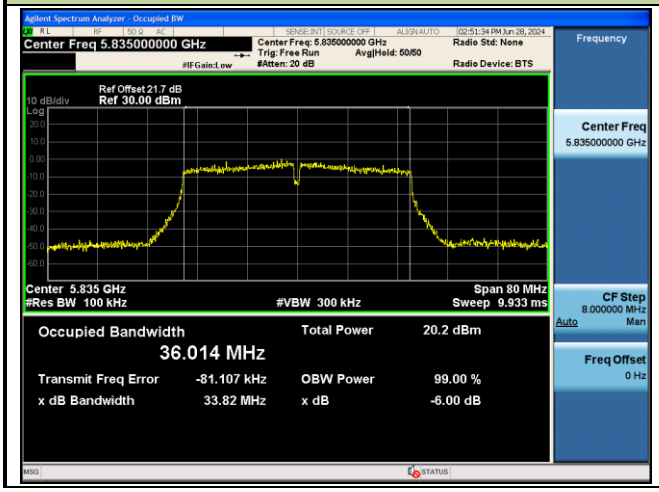
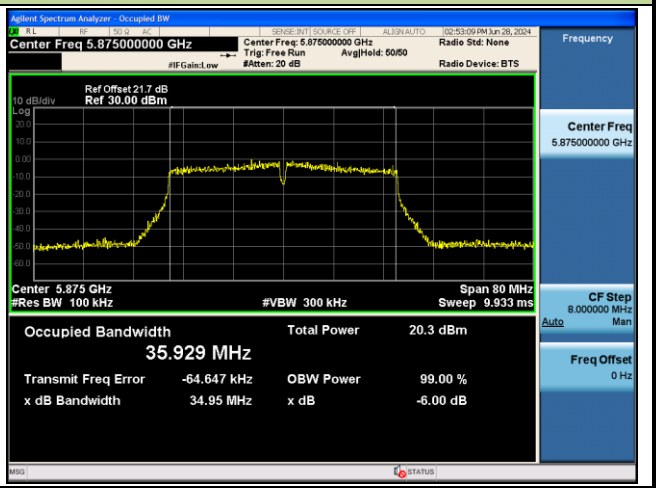
Product	Mobile Computer	Test Engineer	Owen
Test Site	SR5	Test Date	2024/6/28~2024/7/1

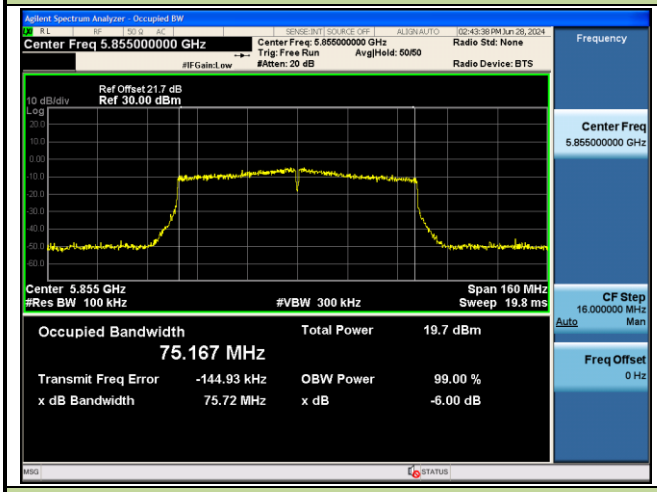
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 0						
802.11a	6Mbps	169	5845	12.18	≥ 0.5	Pass
802.11a	6Mbps	173	5865	14.38	≥ 0.5	Pass
802.11a	6Mbps	177	5885	10.89	≥ 0.5	Pass
802.11ac-VHT20	MCS0	169	5845	17.59	≥ 0.5	Pass
802.11ac-VHT20	MCS0	173	5865	17.56	≥ 0.5	Pass
802.11ac-VHT20	MCS0	177	5885	17.57	≥ 0.5	Pass
802.11ac-VHT40	MCS0	167	5835	33.82	≥ 0.5	Pass
802.11ac-VHT40	MCS0	175	5875	34.95	≥ 0.5	Pass
802.11ac-VHT80	MCS0	171	5855	75.72	≥ 0.5	Pass
802.11ac-VHT160	MCS0	163	5815	136.0	≥ 0.5	Pass
802.11ax-HE20	MCS0	169	5845	18.72	≥ 0.5	Pass
802.11ax-HE20	MCS0	173	5865	18.46	≥ 0.5	Pass
802.11ax-HE20	MCS0	177	5885	17.93	≥ 0.5	Pass
802.11ax-HE40	MCS0	167	5835	37.02	≥ 0.5	Pass
802.11ax-HE40	MCS0	175	5875	37.03	≥ 0.5	Pass
802.11ax-HE80	MCS0	171	5855	63.99	≥ 0.5	Pass
802.11ax-HE160	MCS0	163	5815	149.7	≥ 0.5	Pass

Test Mode	RU Size	RU Index	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 0							
802.11ax-HE20	26 Tone	RU 0	169	5845	2.063	≥ 0.5	Pass
802.11ax-HE20		RU 8	177	5885	2.048	≥ 0.5	Pass
802.11ax-HE20	52 Tone	RU 74	169	5845	4.086	≥ 0.5	Pass
802.11ax-HE20		RU 77	177	5885	15.72	≥ 0.5	Pass
802.11ax-HE20	106 Tone	RU 106	169	5845	15.23	≥ 0.5	Pass
802.11ax-HE20		RU 107	177	5885	17.32	≥ 0.5	Pass
802.11ax-HE20	242 Tone	RU 122	169	5845	19.12	≥ 0.5	Pass
802.11ax-HE20		RU 122	177	5885	19.03	≥ 0.5	Pass

802.11a 6dB Bandwidth	
Channel 169 (5845MHz)	Channel 173 (5865MHz)
	
Channel 177 (5885MHz)	
	

802.11ac-VHT20 6dB Bandwidth	
Channel 169 (5845MHz)	Channel 173 (5865MHz)
	
Channel 177 (5885MHz)	
	

802.11ac-VHT40 6dB Bandwidth	
Channel 167 (5835MHz)	Channel 175 (5875MHz)
	

802.11ac-VHT80 6dB Bandwidth	
Channel 171 (5855MHz)	
	
802.11ac-VHT160 6dB Bandwidth	
Channel 163 (5815MHz)