Testing
NVLAP LAB CODE 600222-0

MEASUREMENT REPORT

FCC PART 15 Subpart E WLAN 802.11a/n/ac

Report No.: S20250626670302
Issue Date: 07-01-2025

Applicant:	Huizhou Foryou General Electronics Co., Ltd.
Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005
FCC ID:	2AEIN-YJ5320K00
Product:	MONITOR WITH RECEIVER
Model No.:	KW-Z900W
FCC Classification:	Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s):	Part 15 Subpart E (Section 15.407)
Test Procedure(s):	ANSI C63.10-2013, KDB 789033 D02v02r01, KDB 662911 D01v02r01
Item Receipt date:	Feb. 12, 2025
Test Date:	Mar. 13, 2025~ May.10, 2025

Compiled By: (Stone Zhang) Senior Test Engineer

Approved By: (Line Chen) Engineer Manager

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 D02v02r01. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date
S20250626670302	Rev. 01	/	07-01-2025

CONTENTS

§2.1033 General Information

Applicant:	Huizhou Foryou General Electronics Co., Ltd.
Applicant Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005
Manufacturer:	Huizhou Foryou General Electronics Co., Ltd.
Manufacturer Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005
Factory:	Huizhou Foryou General Electronics Co., Ltd.
Factory Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005
Test Site:	Fangguang Inspection & Testing Co. Ltd
LAB ID:	CN5037
Test Site Address:	No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China
FCC Rule Part(s):	Part 15 Subpart E (15.407)
FCC ID:	2AEIN-YJ5320K00
Test Device Serial No.:	S/N.: / ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

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.

1.2. Fangguang Test Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,LTD located at No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.10-2013.

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	MONITOR WITH RECEIVER
Model Name:	KW-Z900W
Trade Mark:	JVC
Input Voltage Range:	DC 12V
Wi-Fi Specification:	802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80
Temperature Range:	-20℃~+80℃
Hardware Version:	V03
Software Version:	MCU: 00.20 MPU: 00.32
Note:	1.This information is provided by the Customer and its authenticity is the responsibility of the customer. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

2.2. Product Specification Subjective to this Report

Frequency Range:	For 802.11a/n-HT20/ac-VHT20: 5745~5825MHz For 802.11n-HT40/ac-VHT40: 5755~5795MHz For 802.11ac-VHT80: 5775MHz
Type of Modulation:	802.11a: OFDM 802.11n: OFDM 802.11ac: OFDM
Antenna Type:	Chip Antenna
Antenna Gain:	3.5dBi

Note: The maximum Antenna Gain was declared by the manufacturer.

2.3. Operation Frequencies and Channel List

802.11a/n-HT20/ac-VHT20

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

802.11n-HT40/ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz	--	--

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
155	5775 MHz	--	--	--	--

2.4. Description of Available Antennas

Antenna	Frequency Band (GHz)	Antenna Gain (dBi)	Tx Paths	Antenna
Chip Antenna	5	3.5	1	Ant 1

2.5. Device Capabilities

5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz 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 = 10MHz, VBW = 10MHz, and detector = average per the guidance of Section B)2)b) of KDB 789033 D02v02r01. 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:

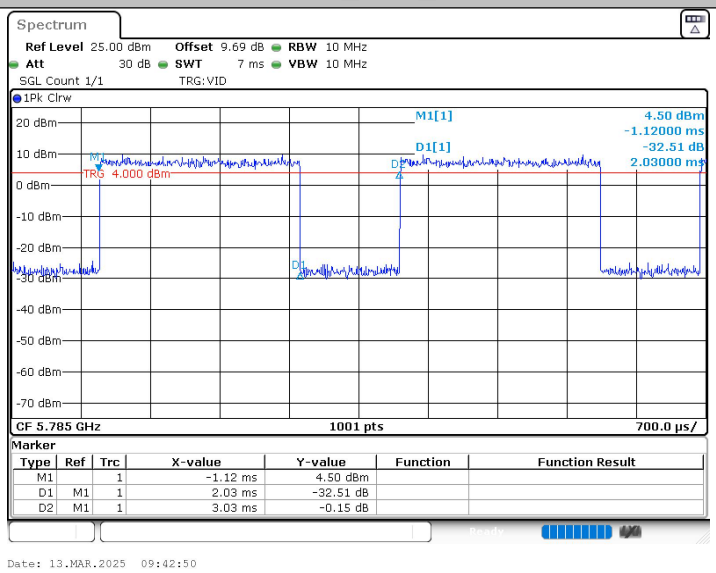
Test Mode	Antenna	Freq (MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Factor	T(s)
IEEE 802.11a	Ant1	5785	2.03	3.03	67.00	1.74	0.00203
IEEE 802.11n HT20	Ant1	5785	1.89	2.89	65.40	1.84	0.00189
IEEE 802.11n HT40	Ant1	5795	0.93	1.93	48.19	3.17	0.00093

IEEE 802.11ac VHT20	Ant1	5785	1.89	2.90	65.17	1.86	0.00189
IEEE 802.11ac VHT40	Ant1	5795	0.93	1.93	48.19	3.17	0.00093
IEEE 802.11ac VHT80	Ant1	5775	0.45	1.46	30.82	5.11	0.00045

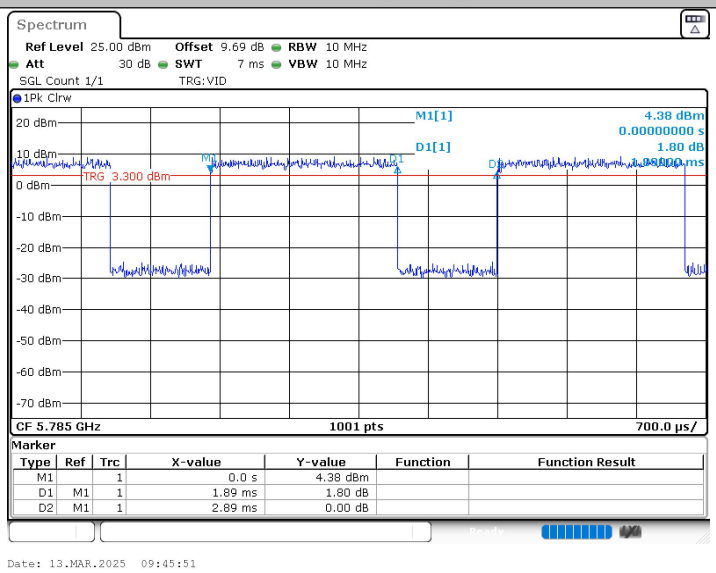
Note:Duty Factor=10*log(1/Duty Cycle).

Test Graphs

IEEE 802.11a _Ant1_5785MHz



IEEE 802.11n HT20_Ant1_5785MHz



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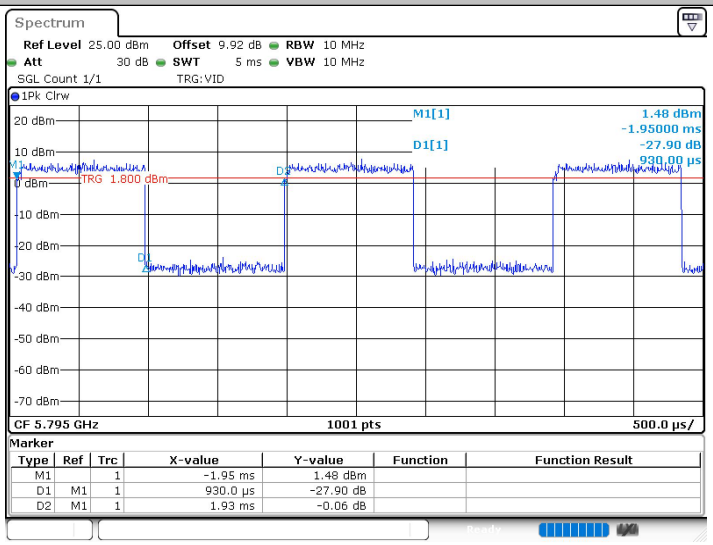
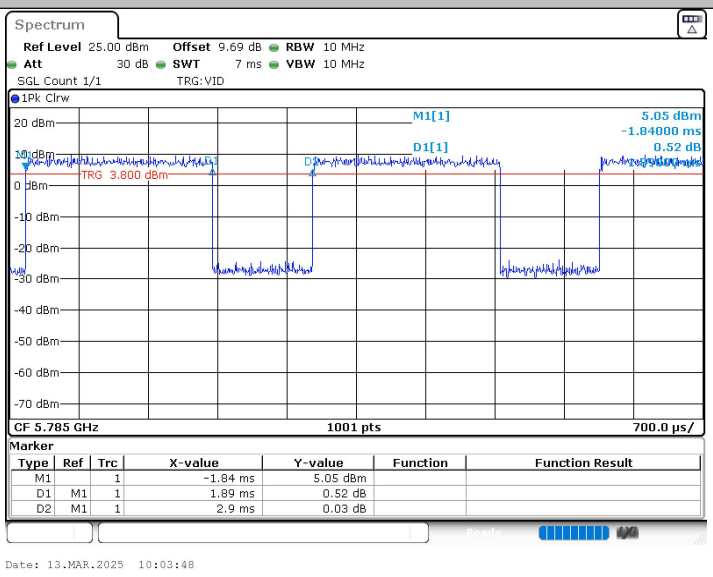
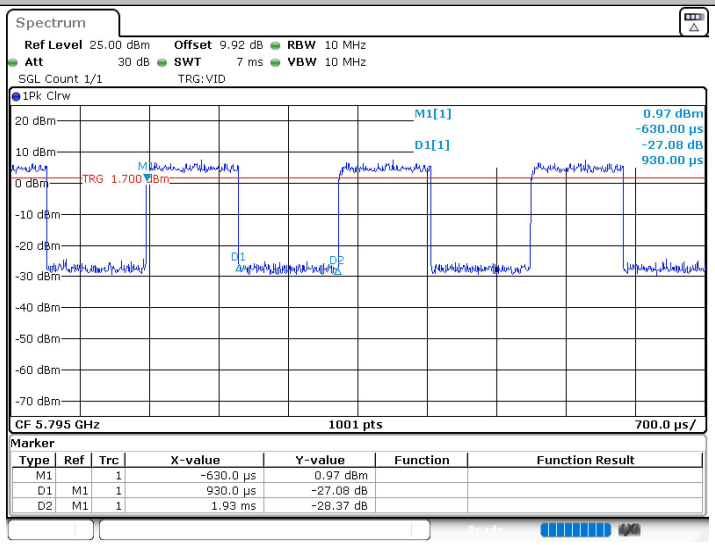


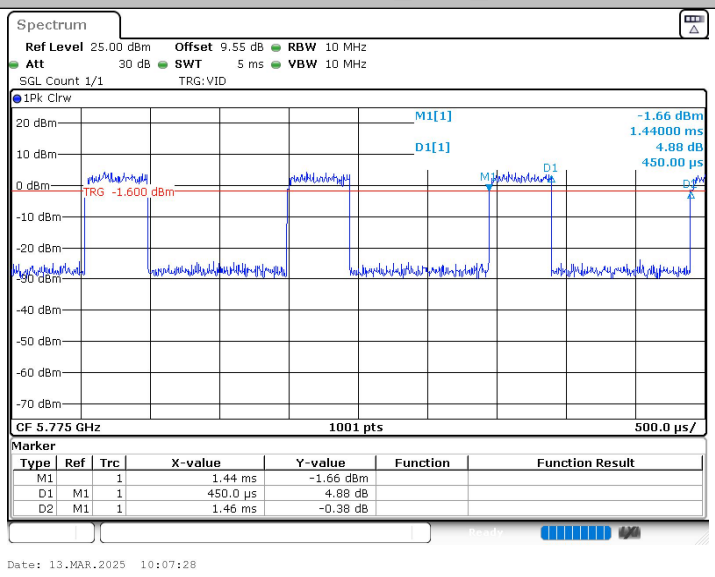
IEEE 802.11ac VHT20_Ant1_5785MHz



IEEE 802.11ac VHT40_Ant1_5795MHz



IEEE 802.11ac VHT80_Ant1_5775MHz



2.6. Test Software

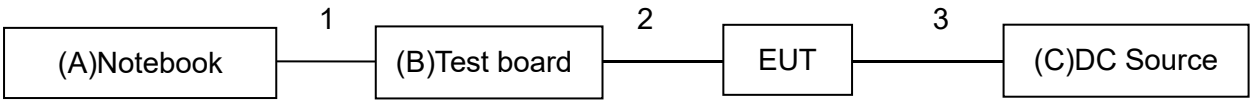
The test utility software used during testing was “Secure CRT.exe”, and the test software power level setting is Default.

2.7. Test Mode

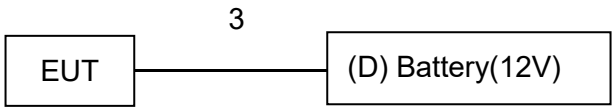
Test Mode	Mode 1: 5GHz Wi-Fi fixed frequency transmitting

2.8. Test Configuration

For 99% Bandwidth & 6 dB Bandwidth & Peak power spectral density & Duty cycle & Output Power & Frequency Stability:



For Unwanted Emissions & Band Edge:



2.9. EMI Suppression Device(s)/Modifications

No.	Name of equipment	Manufacturer	Model	Serial number	Note
A	Notebook	DELL	Latitude3300	2C6CFW2	/
B	Test board	/	/	/	/
C	DC Source	Keysight	E36131A	/	/
D	Battery(12V)	/	/	/	/

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Length
1	USB cable	1	No	0	1.0m
2	Serial cable	1	No	0	0.4m
3	DC cable	1	No	0	1.5m

Note: The notebook is just used to produce fixed frequency transmitting.

2.10. EUT Photo

The EUT external photo, internal photo and test setup photo, please refer to the plots in the S202506266703-A1/A2/A3.

2.11. 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 pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is 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 and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

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

Deviation from measurement procedure…….....None

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- Use a unique coupling to the intentional radiator.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	FWXGJC-2016-181	1 year	2025/07/22
Two-Line V-Network	R&S	ENV 216	FWXGJC-2016-182	1 year	2025/07/23
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-385	1 year	2025/09/03

Radiated Emission

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Loop Antenna	Schwarzbeck	FMZB 1519B	FWXGJC-2018-015	1 year	2025/07/23
Bi-Log Antenna	R&S	VULB 9168	FGZZ-2024-036	1 year	2025/08/03
Broadband Horn Antenna	R&S	HF907	FWXGJC-2016-267-07	1 year	2025/07/26
Broadband Horn Antenna	Schwarzbeck	BBHA9170	FWXGJC-2018-016	1 year	2025/07/26
EMI Receiver	R&S	ESCI3	FGZZ-2024-033	1 year	2025/07/18
EXA Signal Analyzer	Keysight	N9020A	FWXGJC-2025-006	1 year	2025/07/14
EXA Signal Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2025/07/14
Pre-Amplifier	Tonscend	TAP0118048	FGZZ-2024-037	1 year	2025/08/19
Pre-Amplifier	Chengyi	EMC184055SE	FWXGJC-2018-018	1 year	2025/07/23
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-387	1 year	2025/09/03
Anechoic Chamber	SAEMC	FSAC318	FWXGJC-2024-035	3 year	2027/06/02

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2025/07/15
RF Control Unit	Toncend	JS0806-2	FWXGJC-2018-013	1 year	2025/07/26
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-385	1 year	2025/09/03
Spectrum Analyzer	R&S	FSV30	1321.3008K30-104381-rH	1 year	2025/09/22
Pulse power sensor	Anritsu	MA2411B	1126150	1 year	2025/12/07
Power meter	Anritsu	ML2495A	1204003	1 year	2025/12/07

Test Software	Manufacturer	Version	Asset No.	Function
JS1120-3 Test System	tonscend	V3.3.10	/	Conducted Test
JS32	tonscend	V5.0.0	/	Radiated Emission
EMI Test Software	R&S	9.26.00	/	Conducted Emission

Auxiliary Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Filter	Tonscend	ZBSF6	07247867	1 year	2025/07/26
Filter	Tonscend	ZHPF6	07233297	1 year	2025/07/26
Attenuator	Tonscend	10dB	/	1 year	2025/07/26
RF Cable	Tonscend	T-1	/	1 year	2025/07/26

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)): 2.68dB
Radiated Emission Measurement（9kHz - 30MHz）
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 3.06dB
Radiated Emission Measurement（30MHz -1GHz）
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 4.01dB
Radiated Emission Measurement（1-18GHz）
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 4.97dB
Radiated Emission Measurement（18-40GHz）
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 5.32dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 30MHz-1GHz: 1.00 dB 1GHz-12.75GHz: 1.30 dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.60dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.80dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.20MHz
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.1×10^{-6}MHz

7. TEST RESULT

7.1. Summary

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(e)	6dB Bandwidth and 99% Bandwidth	6dB Bandwidth ≥ 500kHz	Conducted	Pass	Section 7.2
15.407(a)(1)(iv), (2), (3)	Maximum Conducted Output Power	≤ 30 dBm U-NII-3		Pass	Section 7.3
15.407(a)(1)(iv), (2), (3), (5)	Peak Power Spectral Density	≤ 30 dBm/500kHz U-NII-3		Pass	Section 7.4
15.407(g)	Frequency Stability	N/A		Pass	Section 7.5
15.407(b)(1), (2), (3), (4)(i)	Undesirable Emissions	≤ -27dBm/MHz EIRP Detail see section 7.9	Radiated	Pass	Section 7.6 & 7.7
15.205, 15.209 15.407(b)(5), (6), (7)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass	
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	N/A	Section 7.8

Notes:

1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
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 of the system to connect the EUT to the analyzer at all frequencies of interest.
3) N/A is not applicable to this Equipment. This EUT is no AC mains power ports.

7.2. 6dB Bandwidth and 99% Bandwidth Measurement

7.2.1. Test Limit

Band	Frequency (MHz)	Test Item	Limit
U-NII-3	5725-5850	6dB Bandwidth&99% Bandwidth	6dB Bandwidth≥500kHz

7.2.2. Test Setting

For 6dB Bandwidth Measurement :

a) Connect EUT antenna terminal to the spectrum analyzer with RF cable.
b) Spectrum analyzer setting parameters in accordance with table 1.
c) Set the EUT transmit continuously with maximum output power.
d) Allow trace to stabilize,measure the maximum width of the emission that is constrained by the frequencies associatedwith 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.
e) Repeat above procedures until all modes and channels were measured.
f) Record the results in the test report.

For 99% Occupied BandwidthMeasurement :

a) Connect EUT antenna terminal to the spectrum analyzer with RF cable.
b) Spectrum analyzer setting parameters in accordance with table 2.
c) Set the EUT transmit continuously with maximum output power.
d) Allow trace to stabilize, use the 99% power bandwidth function to measure bandwidth.
e) Repeat above procedures until all modes and channels were measured.

Record the results in the test report.

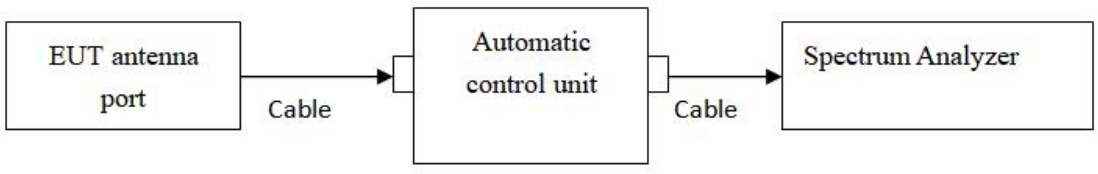
Table 1:

6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100kHz
VBW	300kHz
Span	40MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

Table 2:

99% Occupied Bandwidth	
Spectrum Parameters	Setting
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Span	between 1.5 times and 5.0 times the OBW
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

7.2.3. Test Setup



7.2.4. Test Result

6dB Bandwidth

Test Mode	Antenna	Freq(MHz)	6dB EBW [MHz]	F_L[MHz]	F_H[MHz]	Limit [MHz]	Verdict
IEEE 802.11a	Ant1	5745	16.32	5736.84	5753.16	0.5	PASS
		5785	16.32	5776.84	5793.16	0.5	PASS
		5825	16.40	5816.80	5833.20	0.5	PASS
IEEE 802.11n HT20	Ant1	5745	17.32	5736.20	5753.52	0.5	PASS
		5785	17.56	5776.20	5793.76	0.5	PASS
		5825	16.92	5816.48	5833.40	0.5	PASS
IEEE 802.11n HT40	Ant1	5755	35.36	5737.24	5772.60	0.5	PASS
		5795	36.08	5776.84	5812.92	0.5	PASS
IEEE 802.11ac VHT20	Ant1	5745	16.68	5736.44	5753.12	0.5	PASS
		5785	17.20	5776.20	5793.40	0.5	PASS
		5825	16.96	5816.44	5833.40	0.5	PASS
IEEE 802.11ac VHT40	Ant1	5755	36.08	5736.84	5772.92	0.5	PASS
		5795	36.08	5776.84	5812.92	0.5	PASS
IEEE 802.11ac VHT80	Ant1	5775	73.92	5737.40	5811.32	0.5	PASS

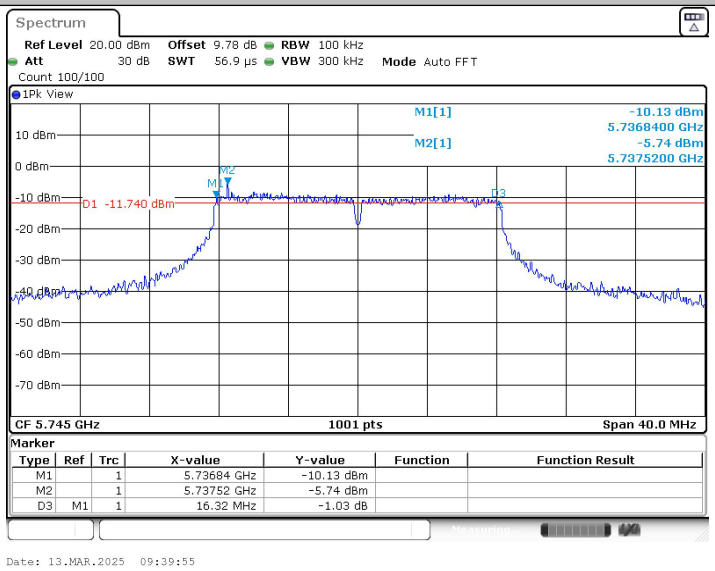
99% OCCUPIED BANDWIDTH

Test Mode	Antenna	Freq(MHz)	OCB [MHz]	F_L[MHz]	F_H[MHz]	Limit [MHz]	Verdict
IEEE 802.11a	Ant1	5745	17.383	5736.2488	5753.6314	---	---
		5785	17.423	5776.0889	5793.5115	---	---
		5825	17.263	5816.4086	5833.6713	---	---
IEEE 802.11n HT20	Ant1	5745	18.302	5735.7692	5754.0709	---	---
		5785	18.062	5775.9690	5794.0310	---	---
		5825	18.501	5815.7692	5834.2707	---	---
IEEE 802.11n HT40	Ant1	5755	36.843	5736.6184	5773.4615	---	---
		5795	37.083	5776.4585	5813.5415	---	---
IEEE 802.11ac VHT20	Ant1	5745	18.222	5735.7293	5753.9510	---	---
		5785	18.142	5775.9291	5794.0709	---	---
		5825	18.262	5815.8891	5834.1508	---	---
IEEE 802.11ac VHT40	Ant1	5755	36.603	5736.5385	5773.1419	---	---
		5795	37.483	5776.2188	5813.7013	---	---
IEEE 802.11ac VHT80	Ant1	5775	76.563	5736.3187	5812.8821	---	---

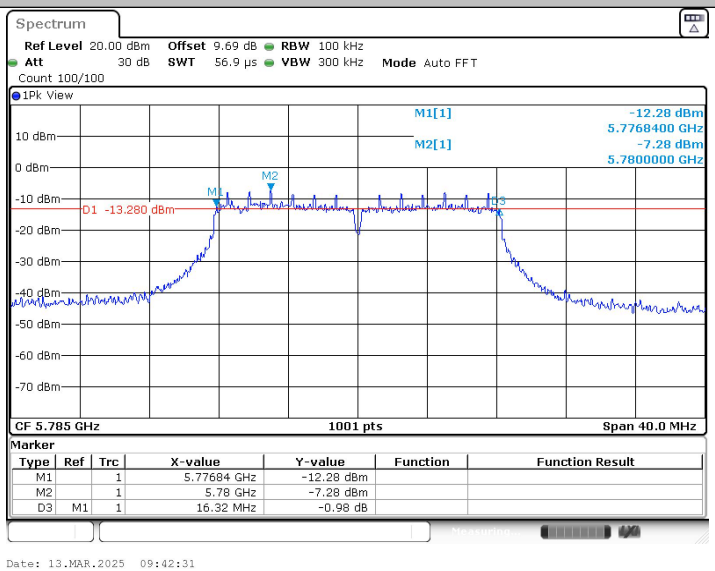
Test Graphs

6dB Bandwidth

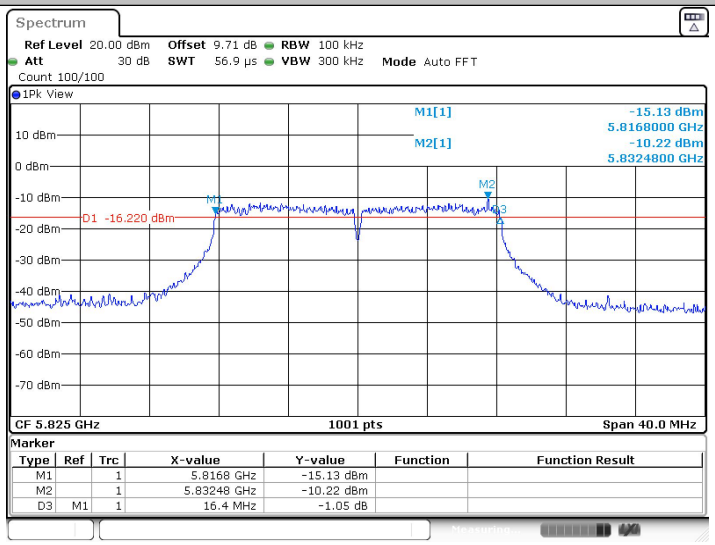
IEEE 802.11a_Ant1_5745MHz



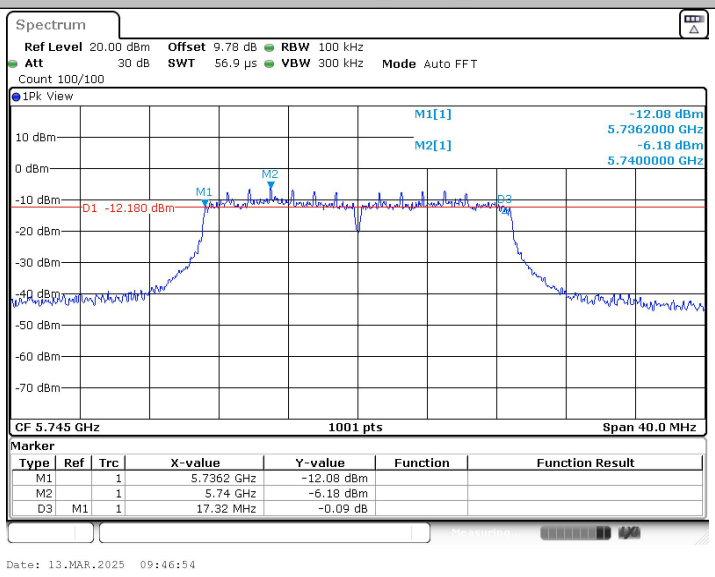
IEEE 802.11a_Ant1_5785MHz



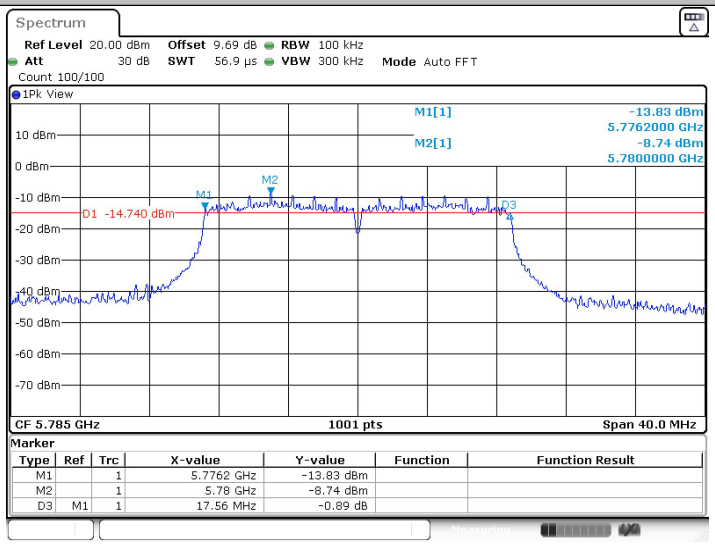
IEEE 802.11a_Ant1_5825MHz



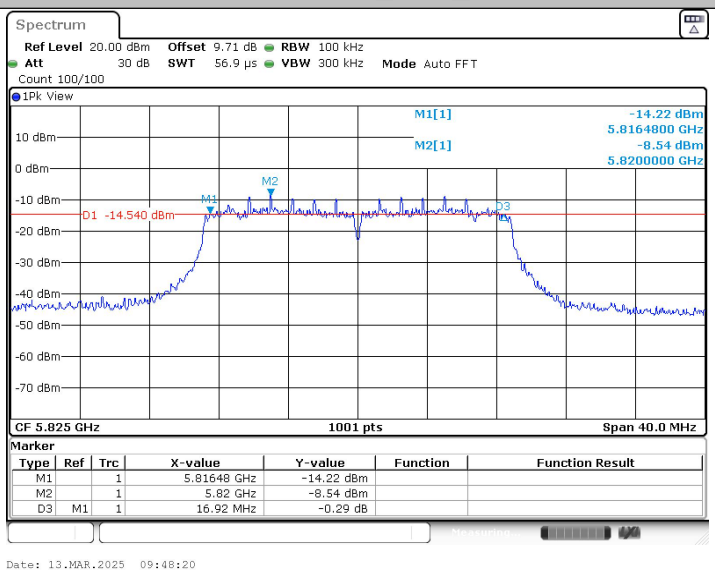
IEEE 802.11n HT20_Ant1_5745MHz



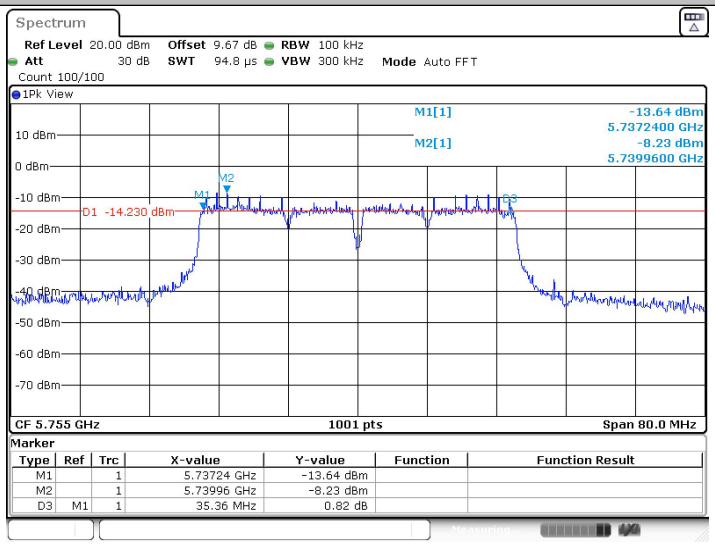
IEEE 802.11n HT20_Ant1_5785MHz



IEEE 802.11n HT20_Ant1_5825MHz

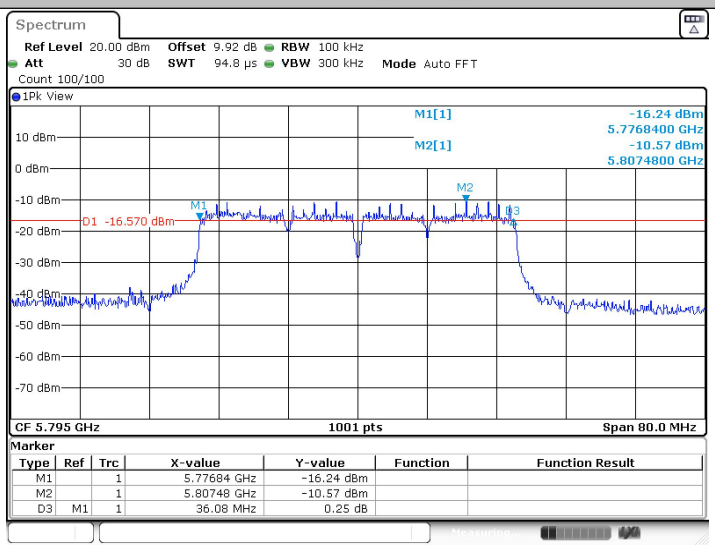


IEEE 802.11n HT40_Ant1_5755MHz



Date: 13.MAR.2025 09:50:10

IEEE 802.11n HT40_Ant1_5795MHz



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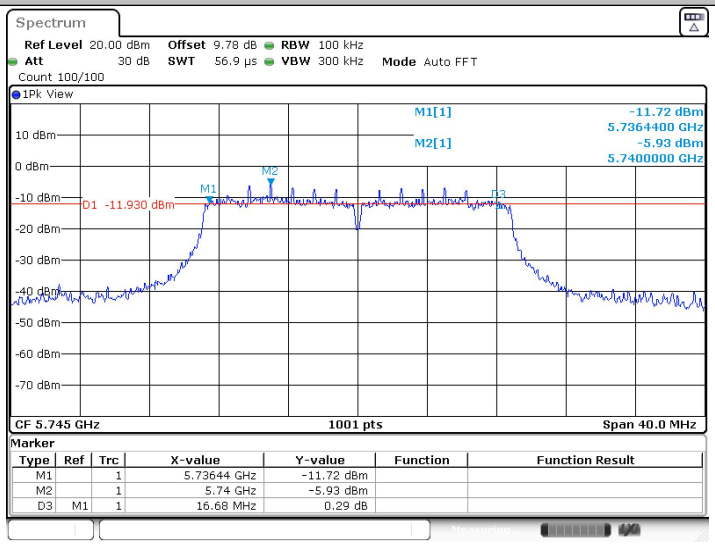
IEEE 802.11ac VHT20_Ant1_5745MHz



IEEE 802.11ac VHT20_Ant1_5785MHz