

TEST REPORT

Report No.: SHE24120036-02FE

Date: 2025-04-14

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Applicant : Airista Flow, Inc.
Address of Applicant : 1966 Greenspring Drive, Suite 125
Timonium, Maryland 21093.

Product Name : Personnel Display Tag
Brand Name : Airista
Model Name : B6
Sample Acquisition Method : Sent by Client

Sample No. : E24120036-01#04
E24120036-01#02

FCC ID : TA7-B6

Standards : FCC CFR47 Part 15.407, Subpart E

Date of Receipt : 2024-12-19
Date of Test : 2024-12-19 ~ 2025-04-11
Date of Issue : 2025-04-14

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Prepared by: Erik Yang (Erik Yang) Reviewed by: Jennifer Zhou (Jennifer Zhou) Approved by: Echo Mu (Authorized signatory: Echo Mu)

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1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Details of Application

Applicant Company Name	Airista Flow, Inc.
Address	1966 Greenspring Drive, Suite 125 Timonium, Maryland 21093.
Contact Person	Patrick Jenkins
Telephone	(443) 212-4251
Email	Patrick.Jenkins@Airista.com
Manufacturer Company Name	Airista Flow, Inc.
Address	1966 Greenspring Drive, Suite 125 Timonium, Maryland 21093.
Factory Company Name	Airista Flow, Inc.
Address	1966 Greenspring Drive, Suite 125 Timonium, Maryland 21093.

1.3 Details of EUT

Product Name	Personnel Display Tag
Brand Name	Airista
Test Model Name	B6
FCC ID	TA7-B6
Mode of Operation	WIFI 802.11a/n(HT20/40)
Operation Frequency Range	U-NII-1:5180MHz~5240MHz U-NII-2A:5260MHz~5320MHz U-NII-2C:5500MHz~5700MHz U-NII-3: 5745MHz ~ 5825MHz
Modulation Type	802.11a : OFDM /64-QAM,16-QAM, QPSK, BPSK 802.11n : OFDM /64-QAM,16-QAM, QPSK, BPSK
Number of Channels	34
Channel Bandwidth	802.11a: 20MHz 802.11n: 20MHz, 40MHz
Antenna Type	PCB Antenna
Antenna Gain	2.4dBi
Extreme Temperature Range	0℃~ +50℃

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Test Voltage	DC 3.8V
Extreme Voltage	Low Voltage: DC 3.23V High Voltage: DC 4.37V (performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage)
Product Type	Portable for FCC standard
Hardware Version	1.0.0
Software Version	1.0.0
RF power setting in TEST SW	U-NII-1: 802.11a: AmebaD_mptool_2V2_Power level setting_112 802.11n20: AmebaD_mptool_2V2_Power level setting_108 802.11n40: AmebaD_mptool_2V2_Power level setting_105 U-NII-2A: 802.11a: AmebaD_mptool_2V2_Power level setting_120 802.11n20: AmebaD_mptool_2V2_Power level setting_118 802.11n40: AmebaD_mptool_2V2_Power level setting_105 U-NII-2C: 802.11a: AmebaD_mptool_2V2_Power level setting_102 802.11n20: AmebaD_mptool_2V2_Power level setting_102 802.11n40: AmebaD_mptool_2V2_Power level setting_100 U-NII-3: 802.11a: AmebaD_mptool_2V2_Power level setting_108 802.11n20: AmebaD_mptool_2V2_Power level setting_106 802.11n40: AmebaD_mptool_2V2_Power level setting_102

Note:

1. The above information was declared by the manufacture.
2. The EUT is designed as client device.
3. The EUT do not support TPC.
4. For more details, please refer to the User's manual of the EUT.

Channel List

Frequency Band	Channel Number	Frequency
U-NII-1: 5150MHz~5250MHz	36	5180 MHz
	38	5190 MHz
	40	5200 MHz
	44	5220 MHz
	46	5230 MHz
	48	5240 MHz
U-NII-2A: 5250MHz~5350MHz	52	5260 MHz
	54	5270 MHz
	56	5280 MHz

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	60	5300 MHz
	62	5310 MHz
	64	5320 MHz
Frequency Band	Channel Number	Frequency
U-NII-2C: 5470MHz~5725MHz	100	5500 MHz
	102	5510 MHz
	104	5520 MHz
	108	5540 MHz
	110	5550 MHz
	112	5560 MHz
	116	5580 MHz
	118	5590 MHz
	120	5600 MHz
	124	5620 MHz
	126	5630 MHz
	128	5640 MHz
	132	5660 MHz
	134	5670 MHz
	136	5680 MHz
	140	5700 MHz
U-NII-3: 5725MHz ~ 5850MHz	149	5745 MHz
	151	5755 MHz
	153	5765 MHz
	157	5785 MHz
	159	5795 MHz
	165	5825 MHz

Note: For 20MHZ bandwidth system use Channel
36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165;
For 40MHZ bandwidth system use Channel 38,46,54,62,102,110,118,126,134,151,159;

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1.4 Test Methodology

47 CFR Part 15, Subpart E	Subpart E—Unlicensed National Information Infrastructure Devices
KDB Publication 789033 D02 v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Note(s):

All test items were verified and recorded according to the standards and without any addition/deviation/exclusion during the test

1.5 Test Summary

Test Item	FCC Rules	Result
Antenna Requirement	FCC Part 15.407(a), 15.203	PASS
Maximum Conducted Output Power	FCC Part 15.407(a)	PASS
26dB Bandwidth and 99% Bandwidth	FCC Part 15.407(a)	PASS
6dB Bandwidth	FCC Part 15.407(e)	PASS
Maximum Conducted Output Power Spectral Density	FCC Part 15.407(a)	PASS
Conducted Spurious Emission	FCC Part 15.407(b), 15.209	PASS
Radiated Emission	FCC Part 15.407(b), 15.209, 15.205	PASS
Band Edge (Restricted-band band-edge)	FCC Part 15.407(b), 15.205, 15.209	PASS
Frequency Stability	FCC Part 15.407(g)	PASS
Conducted Emission on AC Mains	FCC Part 15.207(a)	PASS

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2 Test Condition

2.1 Environmental conditions

Temperature (°C)	15-35
Humidity (%RH)	30-60
Barometric Pressure (mbar)	860-1060

Note: Actual values will be recorded during the test.

2.2 Equipment List

Name of Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Keysight	N9020B	MY59260184	2024-06-26	2025-06-25
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2024-06-04	2025-06-03
Signal Generator	Rohde & Schwarz	SMR27	100184	2024-06-26	2025-06-25
USB Wideband Power Sensor	Keysight	U2021XA	MY57200011	2024-11-09	2025-11-08
USB Wideband Power Sensor	Keysight	U2021XA	MY56090008	2024-11-09	2025-11-08
EMI Test Receiver	Rohde & Schwarz	ESPI3	100173	2024-06-05	2025-06-04
EMI Test Receiver	Rohde & Schwarz	ESR 7	101911	2024-06-04	2025-06-03
V-network	SCHWARZBECK	NSLK 8127	8127-902	2024-06-05	2025-06-04
Attenuator	SCHWARZBECK	VTSD 9561-FN	/	2024-06-05	2025-06-04
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2023-03-22	2025-03-21
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2025-03-24	2027-03-23
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2023-06-13	2025-06-12
Loop Antenna	SCHWARZBECK	FMZB 1513	/	2023-06-09	2025-06-08
Horn Antenna-40G	YINGLIAN	LB-180400-KF	N/A	2023-06-18	2025-06-17
Broadband Preamplifier	SCHWARZBECK	BBV 9718	346	2024-06-04	2025-06-03
Temperature Box	ESPEC	ECT-2	055239A	2023-11-09	2025-11-08
EMC chamber 9*6*6(L*W*H)	CHANGNING	966	N/A	2023-06-09	2025-06-08
Shielded Enclosure 8*5*4(L*W*H)	CHANGNING	854	N/A	2023-06-09	2025-06-08
Test Software	BL	BL410_E	Version:2.1.1.436	N/A	N/A
Test Software	BL	BL410_R	Version:2.1.1.409	N/A	N/A

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2.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI. The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95.45%.

Parameter		Uncertainty
Antenna Port Conducted Emission		$\pm 1.04\text{dB}$
Radiated Emission	< 1GHz	$\pm 5.00\text{dB}$
	> 1GHz	$\pm 5.46\text{dB}$
Conducted Emission on AC Mains	150KHz-30MHz	$\pm 3.36\text{dB}$
Occupied Channel Bandwidth		$\pm 39.26\text{KHz}$
Maximum Conducted Output Power		$\pm 1.06\text{dB}$
Maximum Conducted Output Power Spectral Density		$\pm 1.12\text{dB}$
Frequency Stability		$\pm 0.38\text{ppm}$

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3 Test Set-up and Operation Modes

3.1 Details of Test Mode

Using test software to control EUT work in continuous transmitting and receiving mode. Select test channel as below:
For 802.11a/n(HT20)

U-NII-1 (5150 – 5250MHz)		U-NII-2A (5250 – 5350MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel (CH36)	5180MHz	The lowest channel (CH52)	5260MHz
The middle channel (CH44)	5220MHz	The middle channel (CH60)	5300MHz
The highest channel (CH48)	5240MHz	The highest channel (CH64)	5320MHz

U-NII-2C (5470 – 5725MHz)		U-NII-3 (5725 – 5850MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel (CH100)	5500MHz	The lowest channel (CH149)	5745MHz
The middle channel (CH116)	5580MHz	The middle channel (CH157)	5785MHz
The highest channel (CH140)	5700MHz	The highest channel (CH165)	5825MHz

For 802.11n(HT40)

U-NII-1 (5150 – 5250MHz)		U-NII-2A (5250 – 5350MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel (CH38)	5190MHz	The lowest channel (CH54)	5270MHz
The highest channel (CH46)	5230MHz	The highest channel (CH62)	5310MHz

U-NII-2C (5470 – 5725MHz)		U-NII-3 (5725 – 5850MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel (CH102)	5510MHz	The lowest channel (CH151)	5755MHz
The middle channel (CH118)	5590MHz	The highest channel (CH159)	5795MHz
The highest channel (CH134)	5670MHz	--	--

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Through Pre-scan under all rate at lowest channel, the data rate as below table described is the worst case, so we choose these data rate for test.

Type	Data rate
802.11a	6Mbps
802.11n(HT20), 802.11n(HT40)	MCS0

The basic operation modes are:

- A. On
 - 1. WIFI mode
 - a. Transmitting
 - b. Receiving
- B. Standby
- C. Off

3.2 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model Name	Serial No.
Laptop-1	Lenovo	TP00083A	PF-0PRDGN 17/03
Laptop-2	HP	HP ZHAN 66 Pro G1	5CD7438R1J
Adapter	AOHAI	A8-501000	2017030060611
USB Cable	N/A	N/A	1.00m Unshielded
Debugging Box	N/A	LAUNCHXL-CC26X2R1	LAUNCHXL-CC26X2R1

3.3 Support Software

Description	Manufacturer	Software Name
Software	N/A	AmebaD_mptool_2V2

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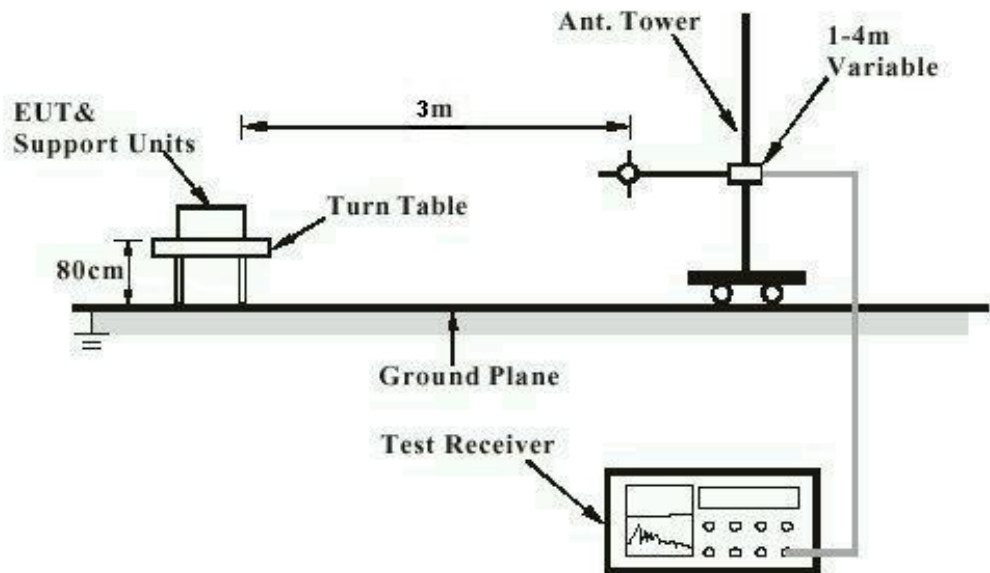
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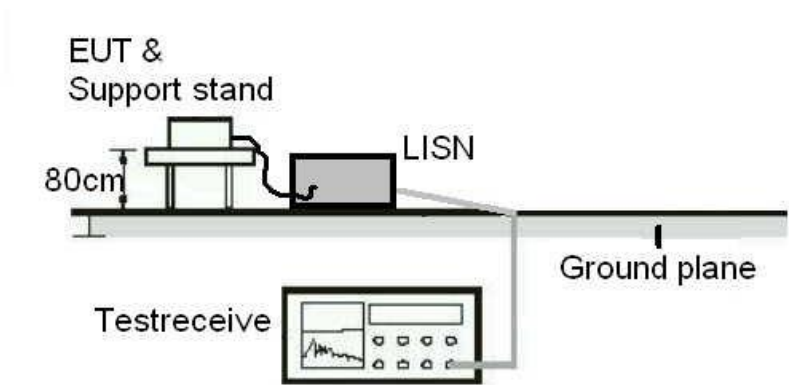
3.4 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Configuration for Conduction Test



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Diagram of Measurement Configuration for Transmitter Test

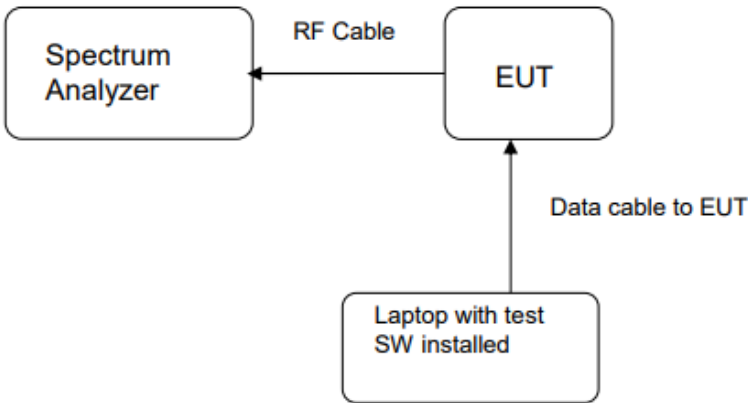
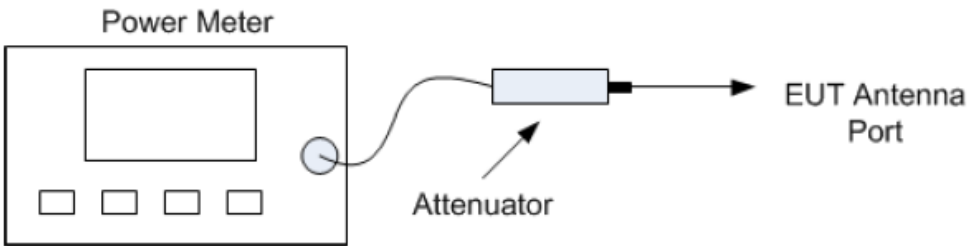


Diagram of Measurement Equipment Configuration for conducted output power setup



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4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

RESULT:

PASS

Test standard	: FCC Part 15.407(a), 15.203
Requirement	: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. In addition, If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

According to the manufacturer declaration, the EUT has an antenna with a directional gain of 2.4dBi. The antenna is an pcb antenna with no possibility of replacement with a non-approved antenna by the end-user.

Therefore, the EUT is considered to comply with this provision.

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4.1.2 Maximum Conducted Output Power

RESULT:

PASS

Test standard : FCC Part 15.407(a)
Requirement : ANSI C63.10-2013 clause 12.3.3.1, KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23.4°C
Relative humidity : 45%

Table 1: Maximum Conducted Output Power for U-NII-1 (5150MHz~5250MHz)

Test Mode	Duty Cycle (%)	Test Channel (MHz)	Maximum Conducted Output Power		Applicable Limit
			(dBm)	(mW)	
802.11a	100	5180	12.74	18.79	250mW (24dBm)
		5220	12.59	18.16	
		5240	12.97	19.82	
802.11n(HT20)	100	5180	11.57	14.35	
		5220	11.82	15.21	
		5240	11.72	14.86	
802.11n(HT40)	100	5190	10.71	11.78	
		5230	10.78	11.97	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.
2. 24dBm (250mW) for client device.

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Table 2: Maximum Conducted Output Power for U-NII-2A (5250MHz~5350MHz)

Test Mode	Duty Cycle (%)	-26 dB Emission Bandwidth (MHz)	Test Channel (MHz)	Maximum Conducted Output Power		Applicable Limit
				(dBm)	(mW)	
802.11a	100	24.76	5260	15.21	33.19	250mW (24dBm)
		25.52	5300	15.50	35.48	
		26.91	5320	16.01	39.90	
802.11n(HT20)	100	23.14	5260	14.17	26.12	
		21.85	5300	15.38	34.51	
		28.67	5320	15.80	38.02	
802.11n(HT40)	100	38.68	5270	11.82	15.21	
		38.57	5310	11.98	15.78	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.
2. The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

Table 3: Maximum Conducted Output Power for U-NII-2C (5470MHz~5725MHz)

Test Mode	Duty Cycle (%)	-26 dB Emission Bandwidth (MHz)	Test Channel (MHz)	Maximum Conducted Output Power		Applicable Limit
				(dBm)	(mW)	
802.11a	100	21.18	5500	12.51	17.82	250mW (24dBm)
		20.62	5580	10.03	10.07	
		21.91	5700	10.88	12.25	
802.11n(HT20)	100	21.43	5500	12.39	17.34	
		21.24	5580	10.45	11.09	
		21.66	5700	10.95	12.45	
802.11n(HT40)	100	38.58	5510	11.67	14.69	
		38.48	5590	9.59	9.10	
		38.56	5670	10.36	17.82	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.
2. The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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Table 4: Maximum Conducted Output Power for U-NII-3 (5725MHz~5850MHz)

Test Mode	Duty Cycle (%)	Test Channel (MHz)	Maximum Conducted Output Power		Applicable Limit
			(dBm)	(mW)	
802.11a	100	5745	13.06	20.23	1W(30dBm)
		5785	14.20	26.30	
		5825	14.42	27.67	
802.11n(HT20)	100	5745	13.13	20.56	
		5785	13.60	22.91	
		5825	14.19	26.24	
802.11n(HT40)	100	5755	12.56	18.03	
		5795	12.82	19.14	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

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4.1.3 26dB Bandwidth and 99% Bandwidth

RESULT:

PASS

Test standard : FCC Part 15.407(a)

Requirement : ANSI C63.10-2013 clause 12.4, KDB 789033

Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High

Operation Mode : A.1.a

Ambient temperature : 23.4°C

Relative humidity : 45%

Notes:

Test plots please refer to the annex document “SHE24120036-02FE DATA WIFI 5GHz-26dB Bandwidth and 99% Bandwidth EXHIBIT A”

Table 5: 26dB Bandwidth and 99% Bandwidth for U-NII-1 (5150MHz～5250 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5180	20.74	16.598
	5220	20.54	16.564
	5240	20.80	16.593
802.11n(HT20)	5180	21.92	17.763
	5220	21.90	17.773
	5240	21.83	17.773
802.11n(HT40)	5190	38.90	35.954
	5230	38.97	35.872

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Table 6: 26dB Bandwidth and 99% Bandwidth for U-NII-2A (5250MHz~5350 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5260	24.76	16.811
	5300	25.52	16.754
	5320	26.91	16.801
802.11n(HT20)	5260	23.14	17.795
	5300	21.85	17.793
	5320	28.67	17.931
802.11n(HT40)	5270	38.68	35.845
	5310	38.57	35.839

Table 7: 26dB Bandwidth and 99% Bandwidth for U-NII-2C (5470MHz~5725MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5500	21.18	16.537
	5580	20.62	16.562
	5700	21.91	16.625
802.11n(HT20)	5500	21.43	17.696
	5580	21.24	17.738
	5700	21.66	17.780
802.11n(HT40)	5510	38.58	35.843
	5590	38.48	35.852
	5670	38.56	35.860

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4.1.4 6dB Bandwidth and 99% Bandwidth

RESULT:

PASS

Test standard : FCC Part 15.407(e)

Requirement : ANSI C63.10-2013 clause 12.4, KDB 789033

Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High

Operation Mode : A.1.a

Ambient temperature : 23.4°C

Relative humidity : 45%

Table 8: 6dB Bandwidth and 99% Occupied Bandwidth

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Applicable Limit (MHz)
802.11a	5745	16.51	17.990	>0.5
	5785	16.59	17.352	
	5825	16.52	17.646	
802.11n(HT20)	5745	17.72	17.978	
	5785	17.70	18.151	
	5825	17.68	19.062	
802.11n(HT40)	5755	36.42	36.028	
	5795	36.43	36.192	

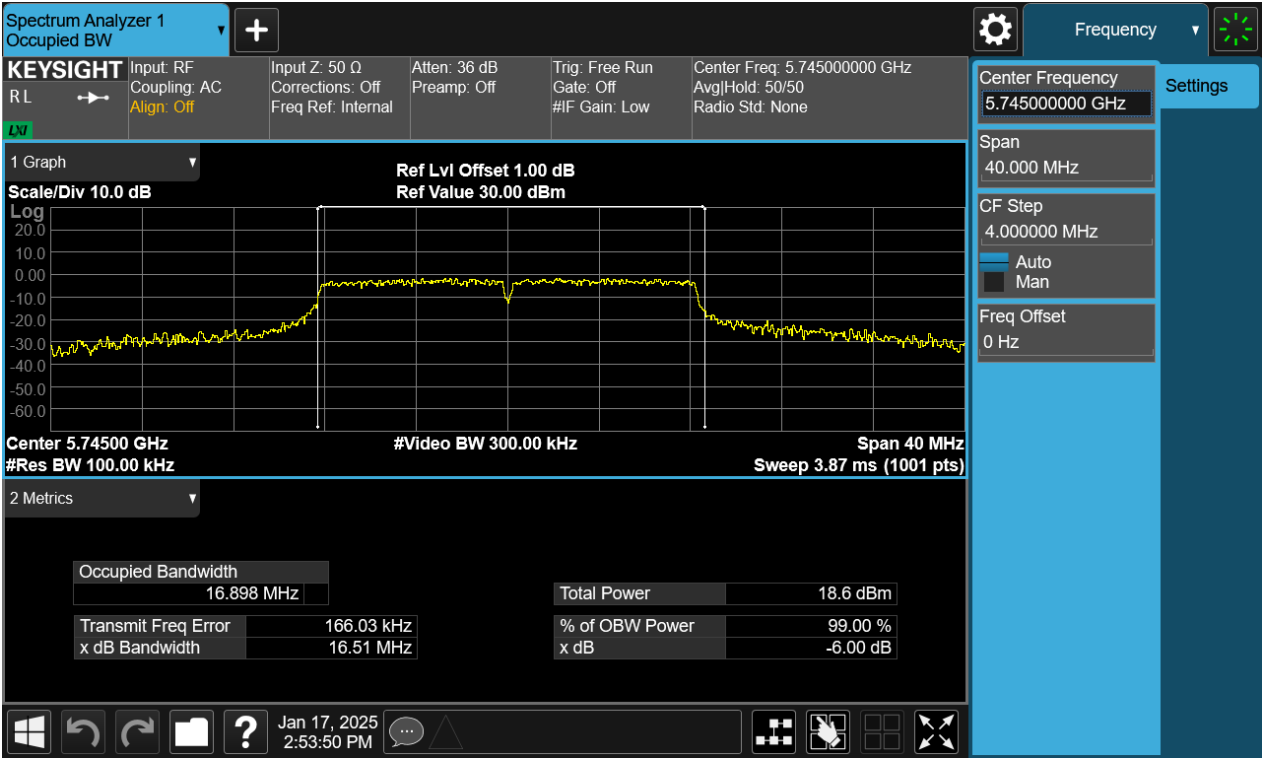
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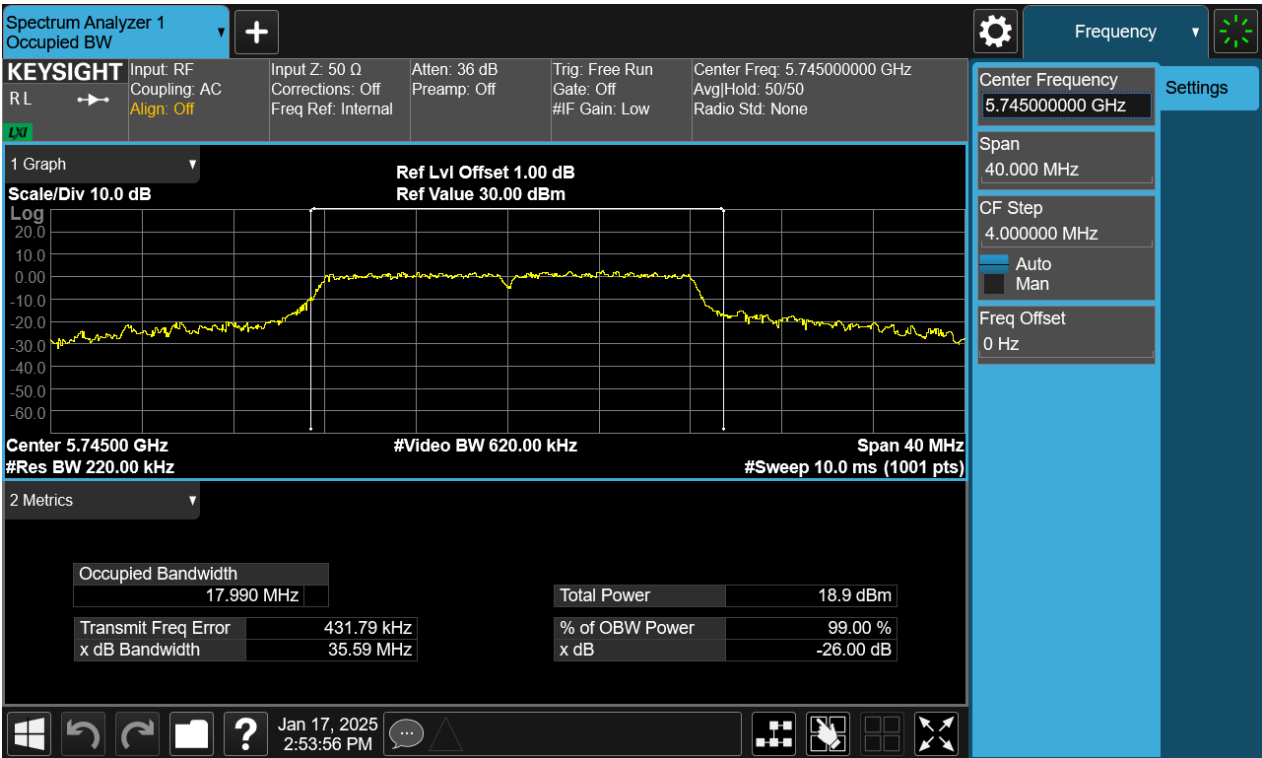
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Figure 1: 802.11a, 5745MHz
Test Plot of -6dB Bandwidth

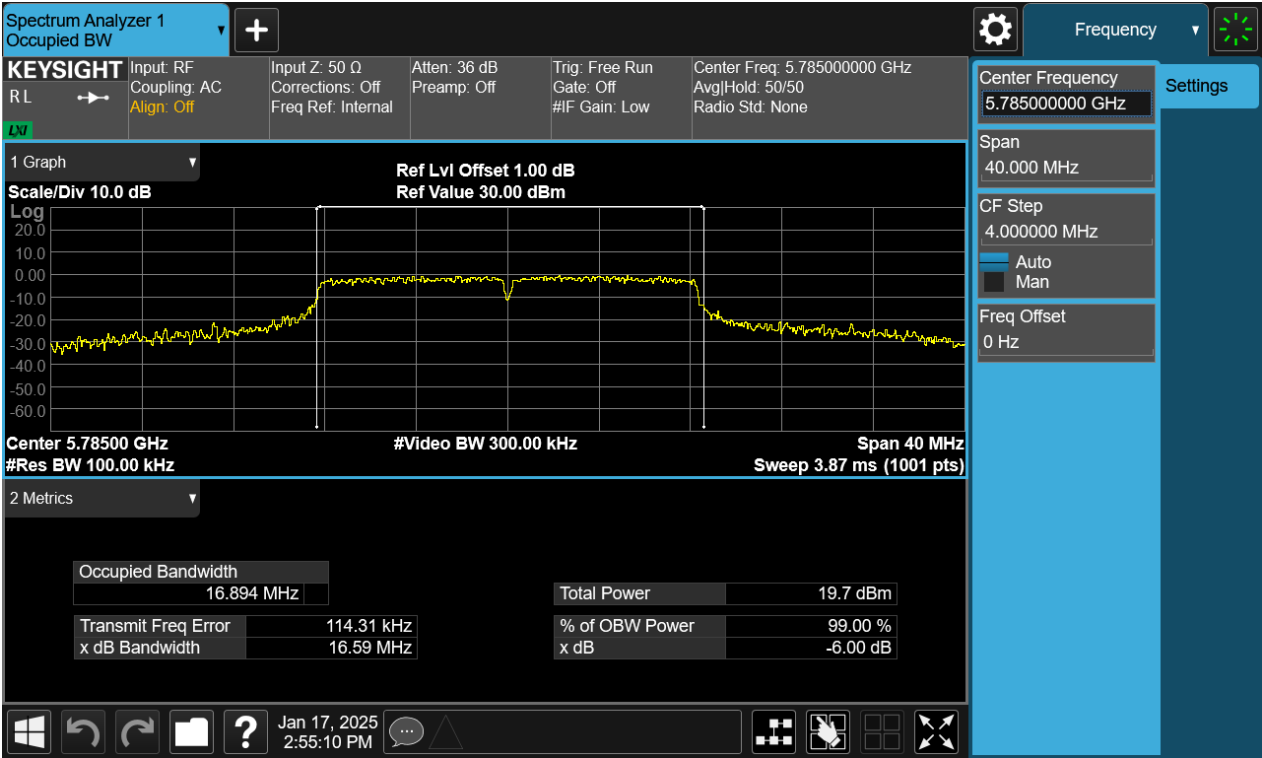


Test Plot of 99% Occupied Bandwidth

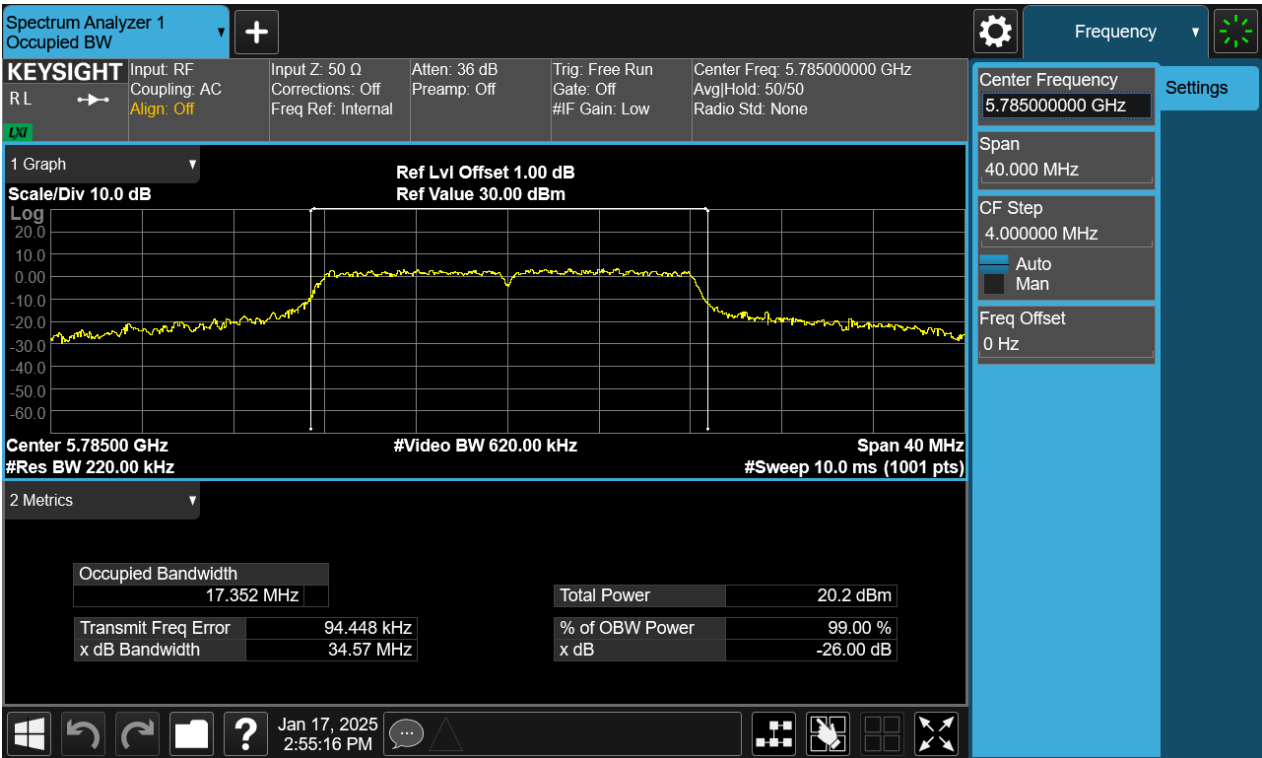


TEST REPORT

Figure 2: 802.11a, 5785MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



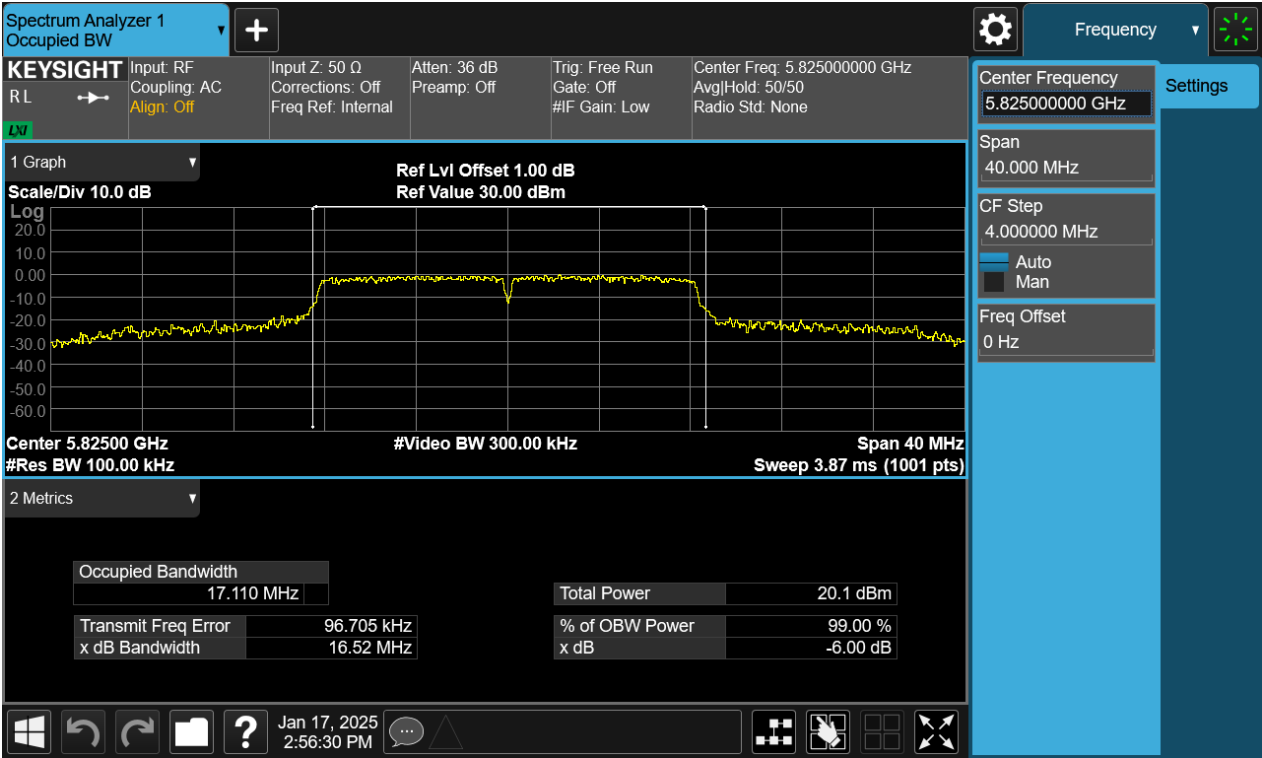
TEST REPORT

Report No.: SHE24120036-02FE

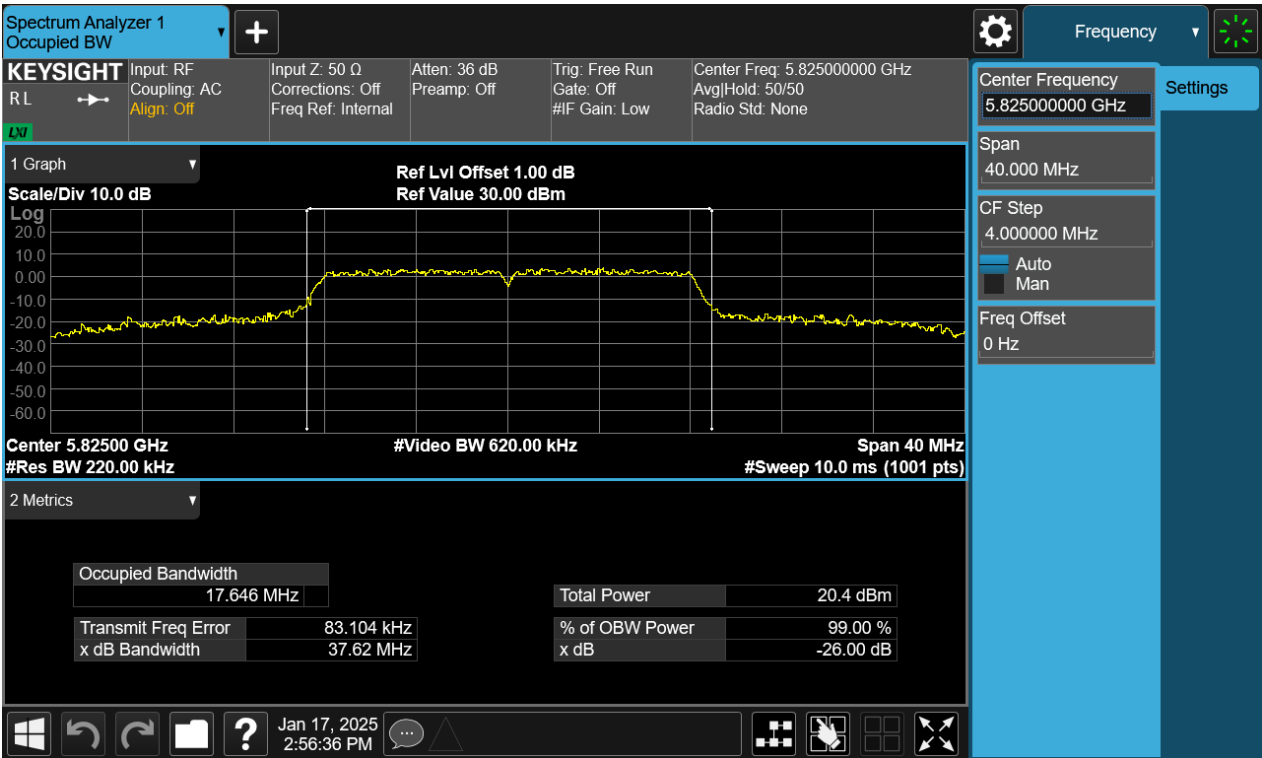
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Figure 3: 802.11a, 5825MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



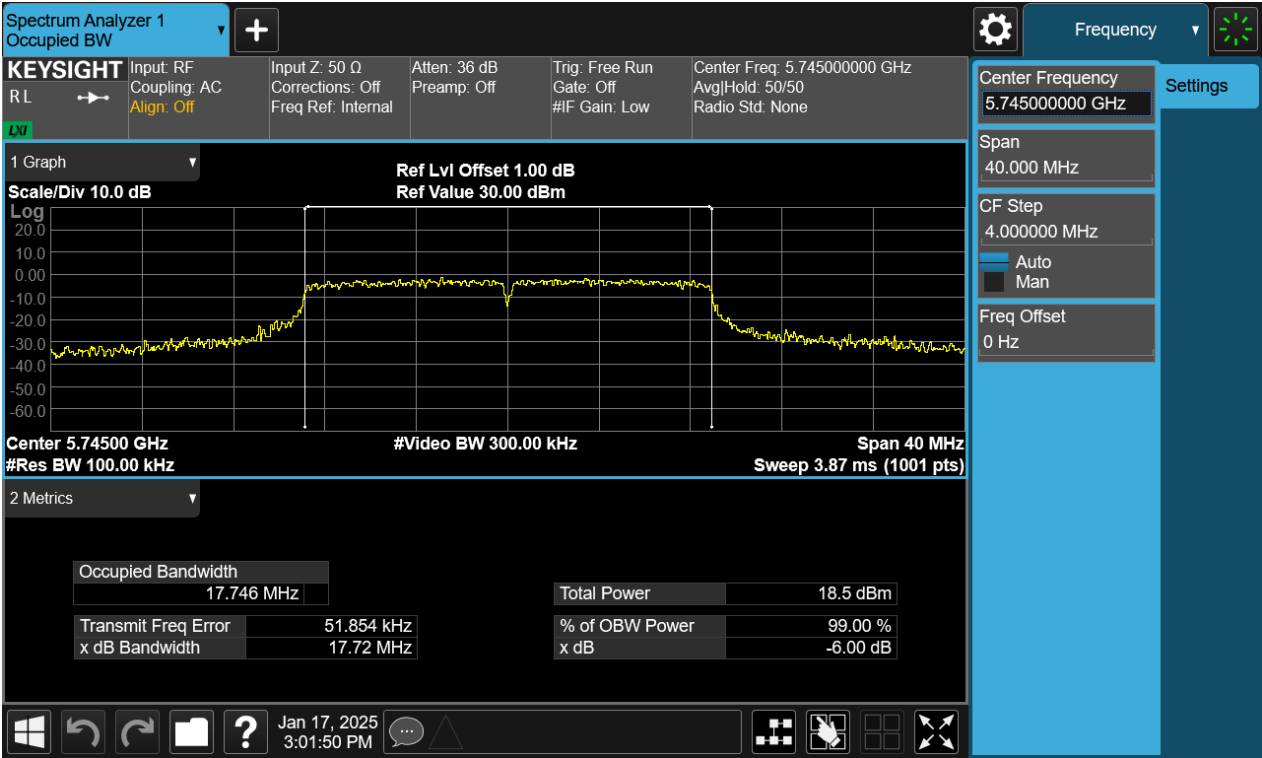
TEST REPORT

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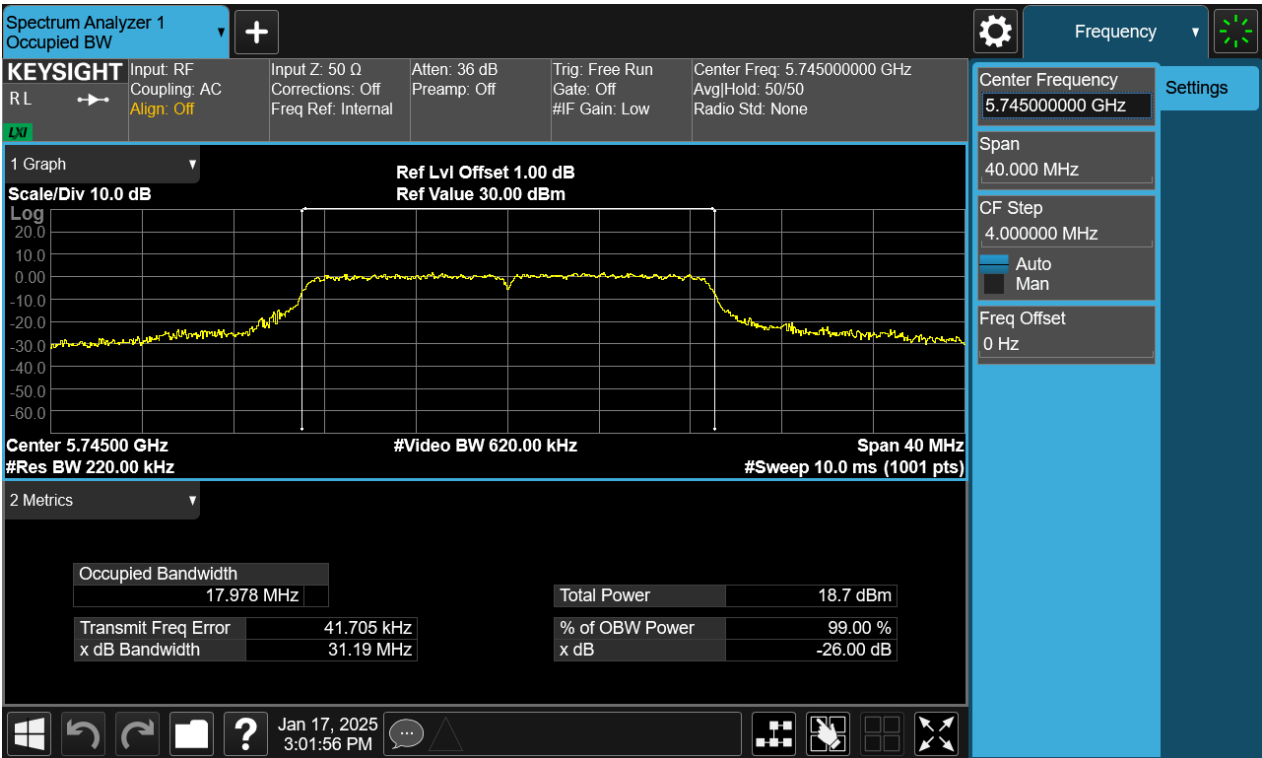
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Figure 4: 802.11n(HT20), 5745MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



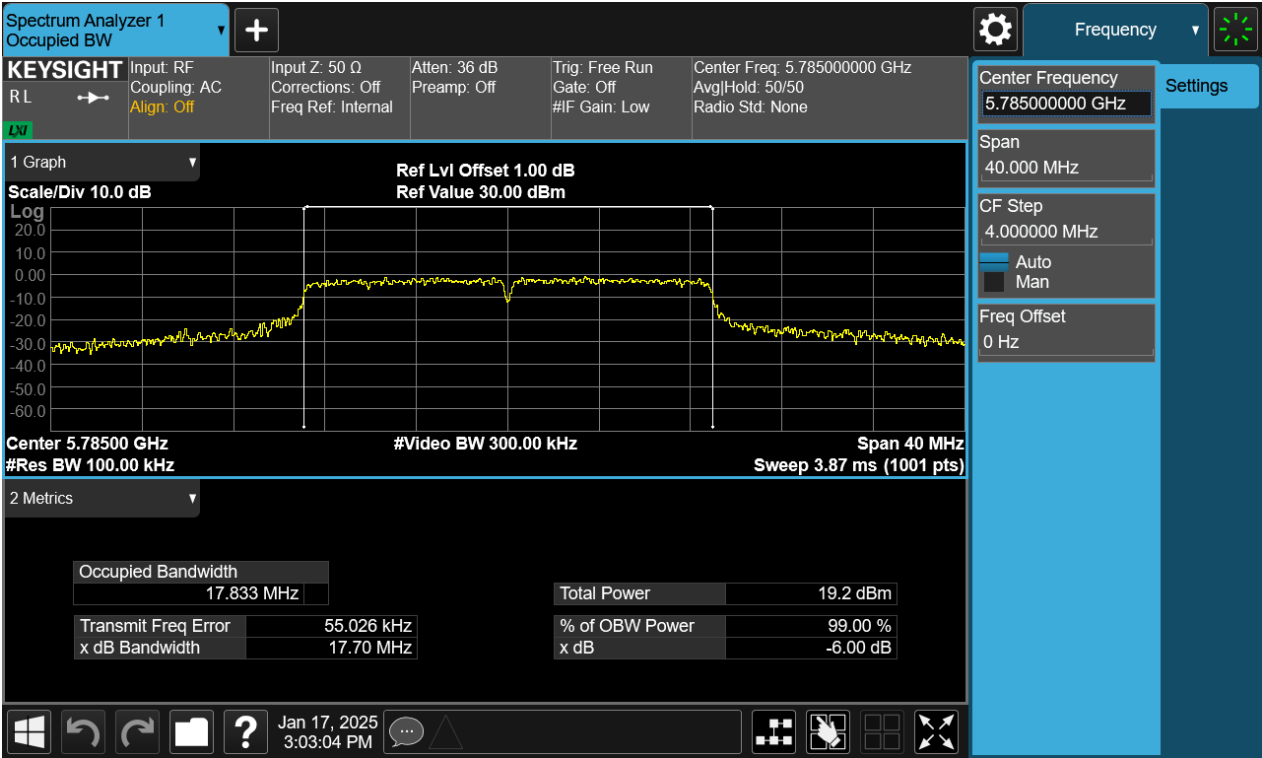
TEST REPORT

Report No.: SHE24120036-02FE

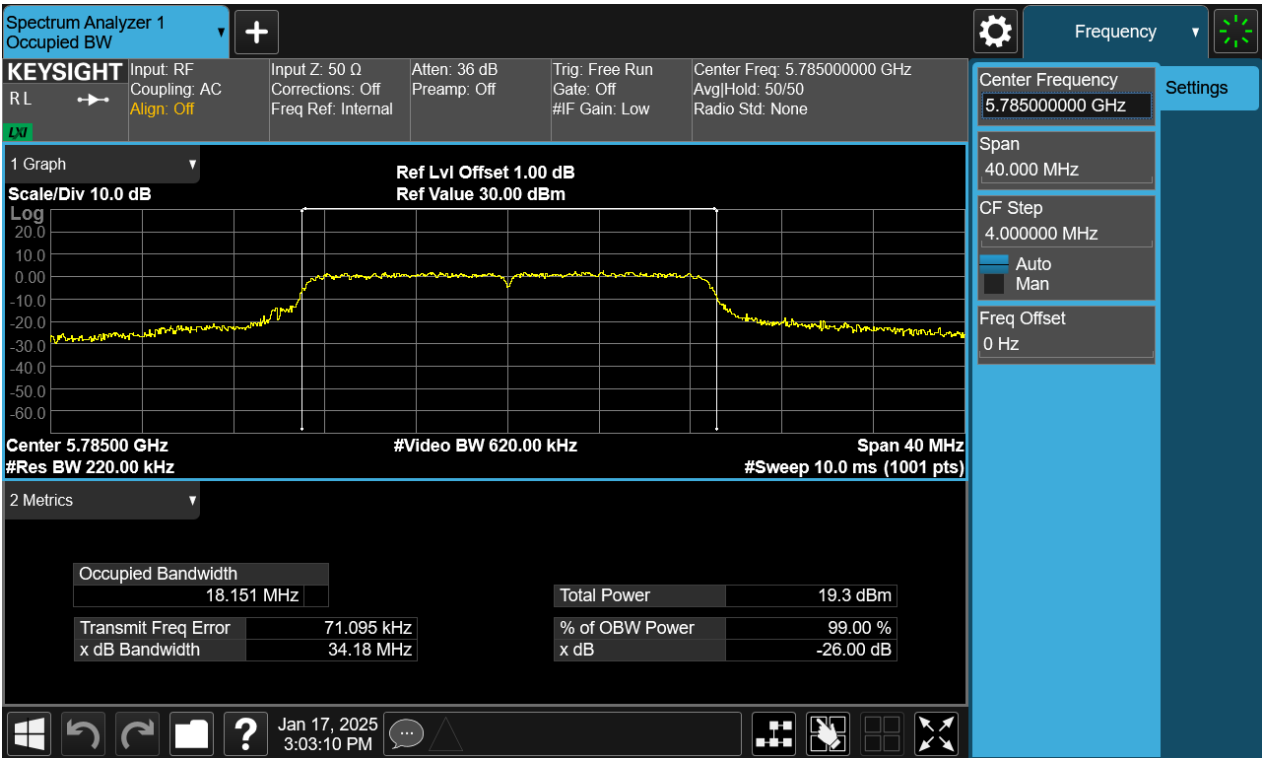
Date: 2025-04-14

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Figure 5: 802.11n(HT20), 5785MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



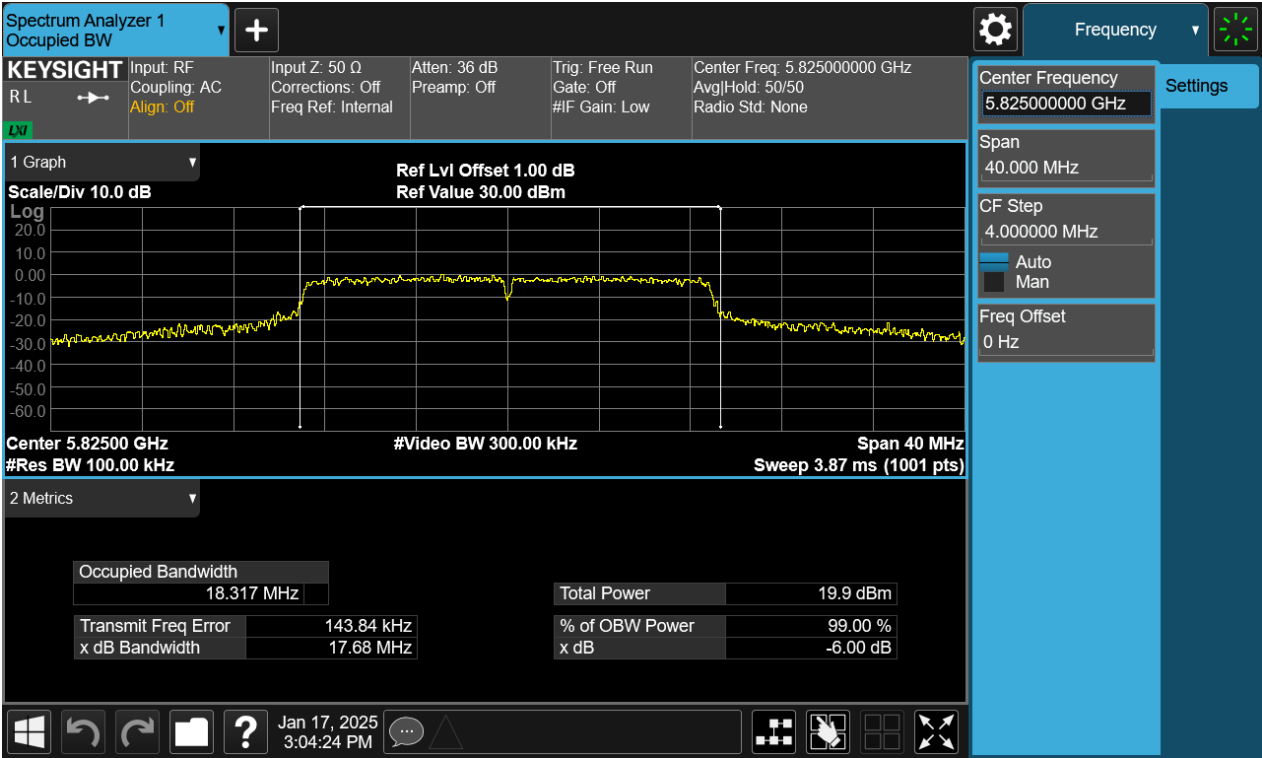
TEST REPORT

Report No.: SHE24120036-02FE

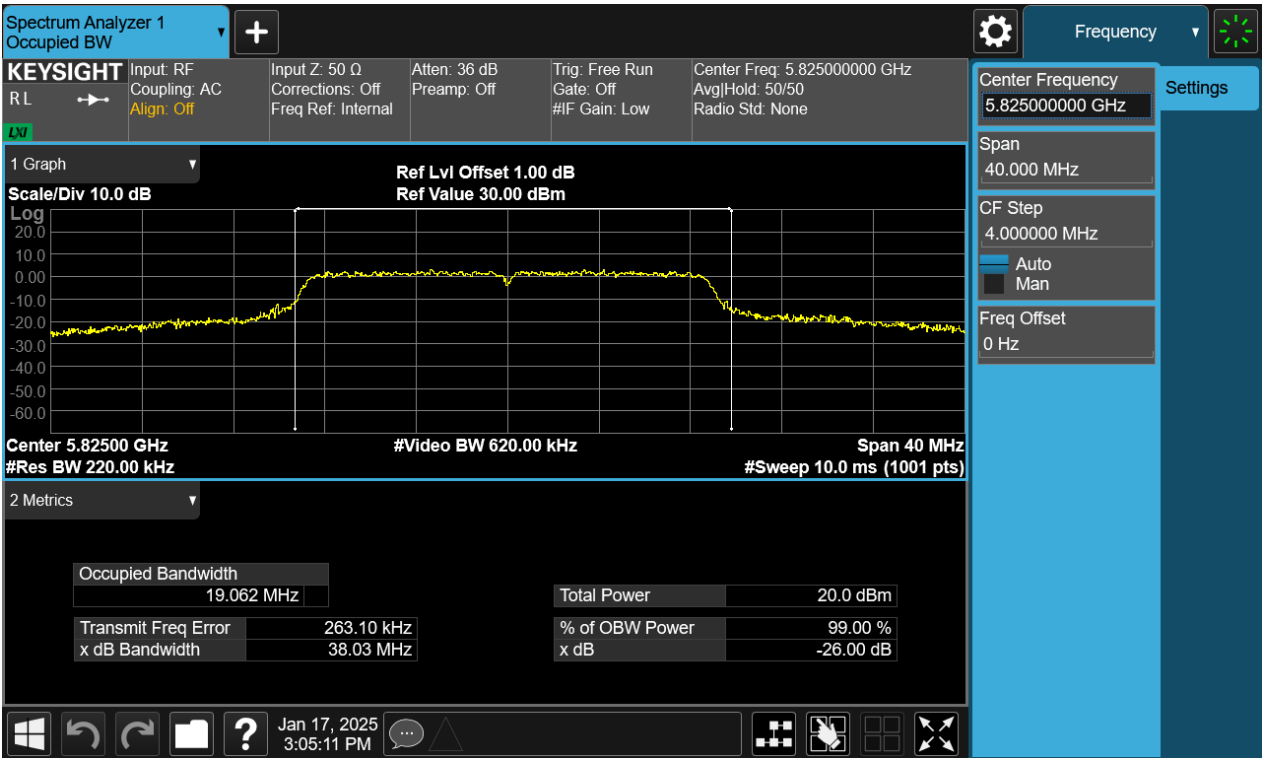
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Figure 6: 802.11n(HT20), 5825MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



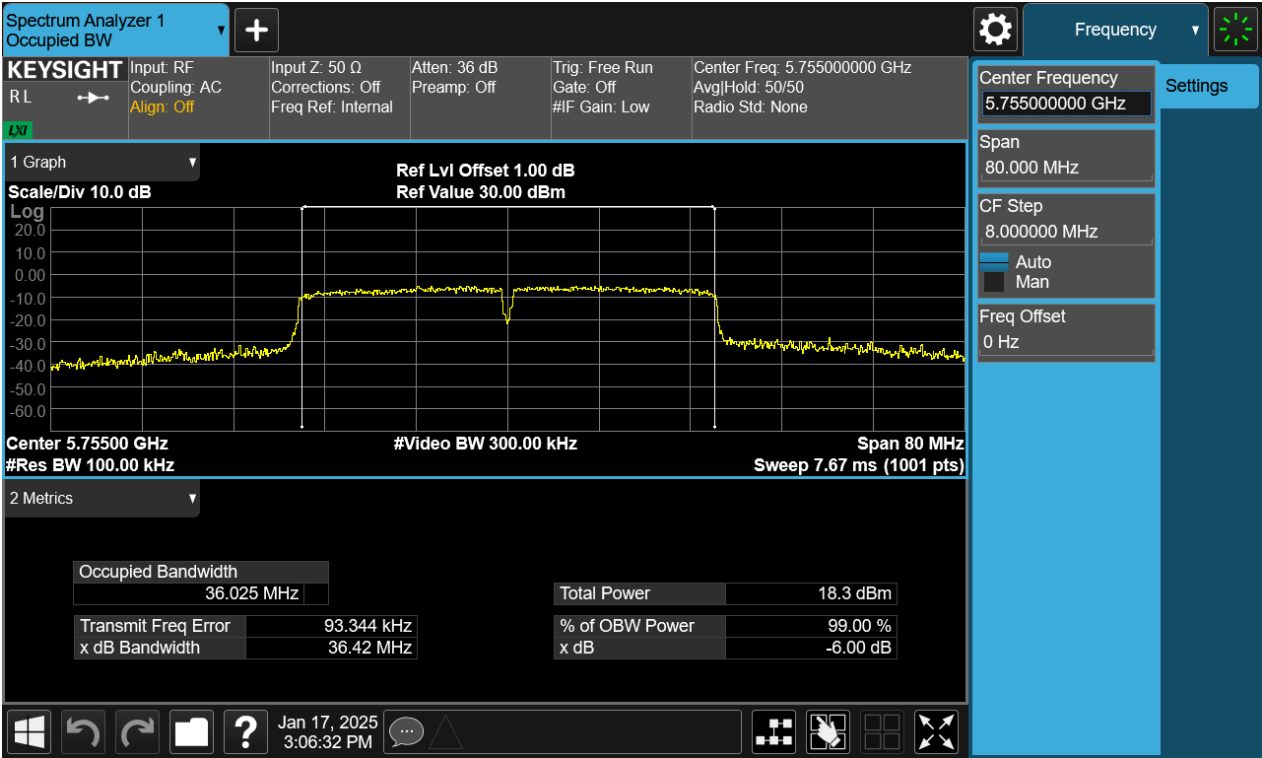
TEST REPORT

Report No.: SHE24120036-02FE

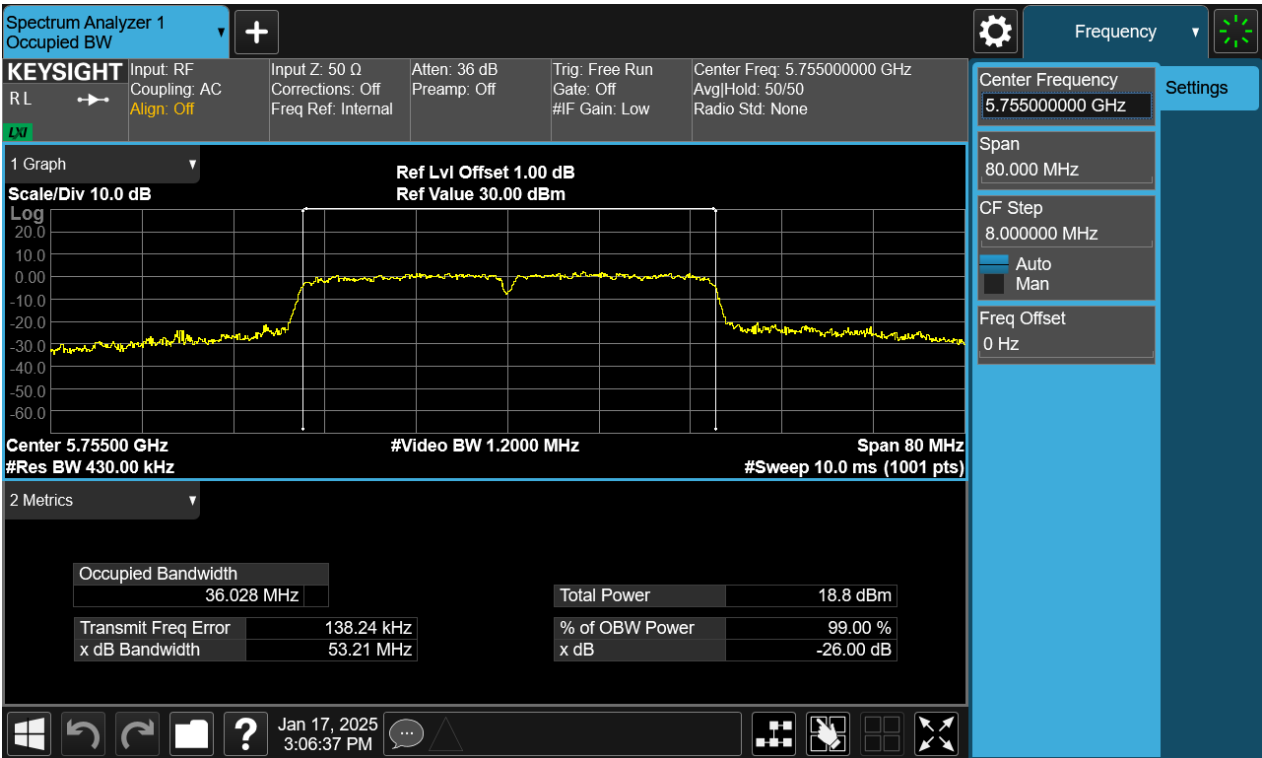
Date: 2025-04-14

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Figure 7: 802.11n(HT40), 5755MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



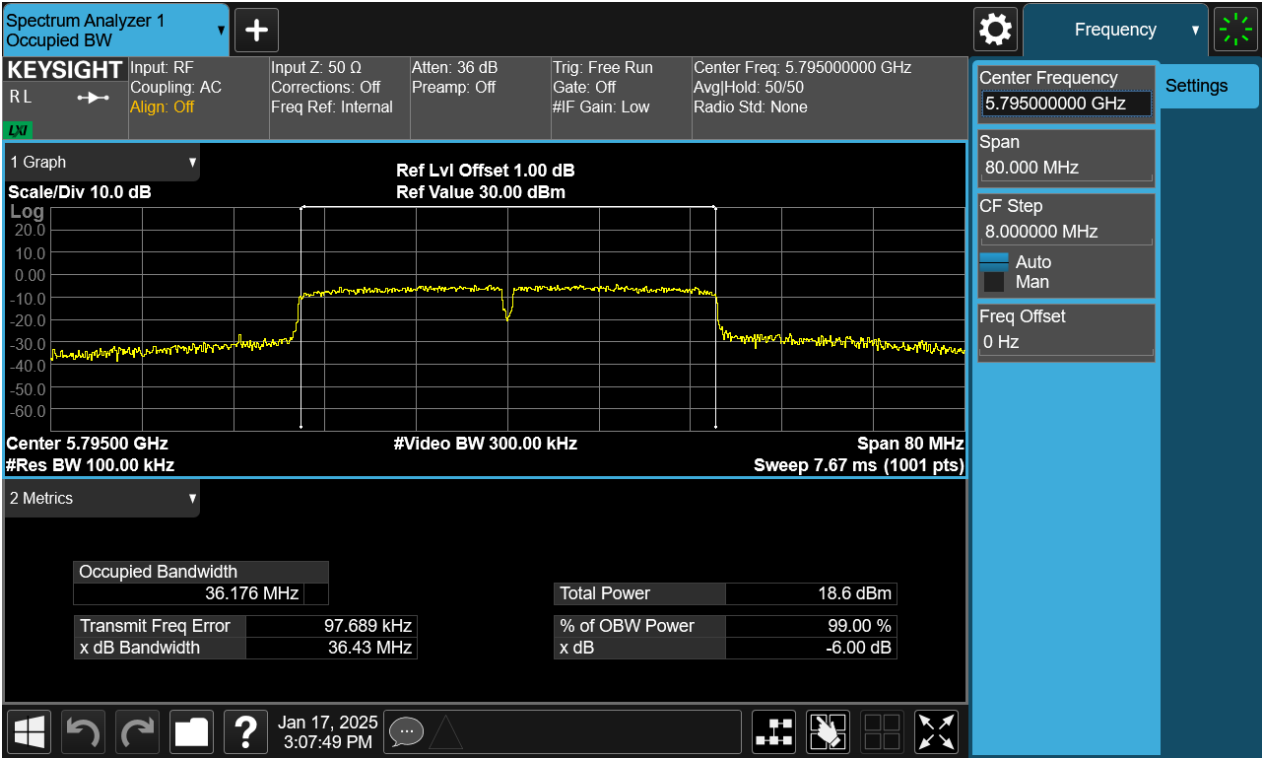
TEST REPORT

Report No.: SHE24120036-02FE

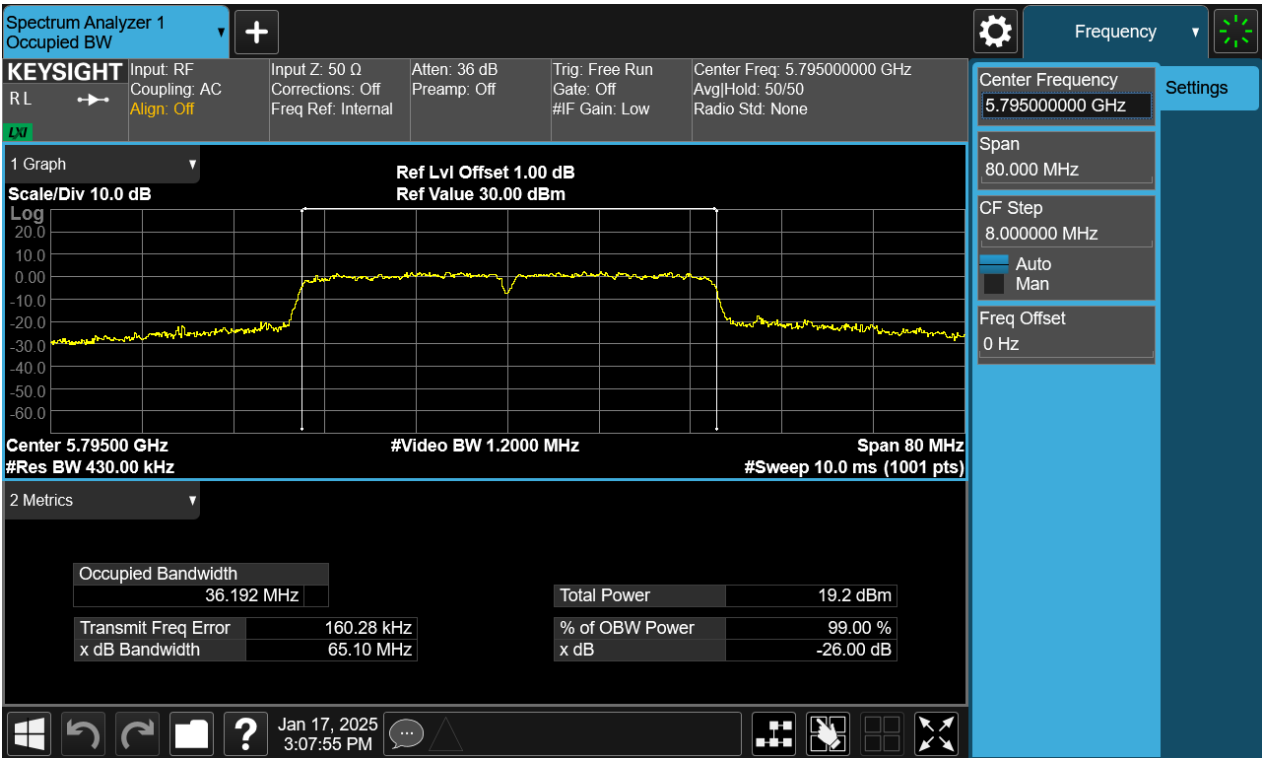
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Figure 8: 802.11n(HT40), 5795MHz
Test Plot of -6dB Bandwidth



Test Plot of 99% Occupied Bandwidth



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4.1.5 Maximum Conducted Output Power Spectral Density

RESULT:

PASS

Test standard : FCC Part 15.407(a)
Requirement : ANSI C63.10-2013 clause 12.5(SA-2), KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23.4°C
Relative humidity : 45%

Notes:

Test plots please refer to the annex document "SHE24120036-02FE DATA WIFI 5GHz- Maximum Conducted Output Power Spectral Density EXHIBIT A"

Table 9: Maximum Conducted Output Power Spectral Density for U-NII-1 (5150MHz~5250MHz)

Test Mode	Duty Cycle	Test Channel (MHz)	Maximum PSD (dBm/MHz)	Applicable Limit (dBm/MHz)
802.11a	100	5180	5.72	11
		5220	5.38	
		5240	5.70	
802.11n(HT20)	100	5180	4.55	
		5220	4.43	
		5240	4.69	
802.11n(HT40)	100	5190	0.77	
		5230	0.63	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.
2. 11dBm/MHz for portable client device.

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Table 10: Maximum Conducted Output Power Spectral Density for U-NII-2A (5250MHz~5350MHz)

Test Mode	Duty Cycle	Test Channel (MHz)	Maximum PSD (dBm/MHz)	Applicable Limit (dBm/MHz)
802.11a	100	5260	7.92	11
		5300	8.10	
		5320	8.80	
802.11n(HT20)	100	5260	6.86	
		5300	8.14	
		5320	8.51	
802.11n(HT40)	100	5270	1.45	
		5310	2.11	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

Table 11: Maximum Conducted Output Power Spectral Density for U-NII-2C (5470MHz~5725MHz)

Test Mode	Duty Cycle	Test Channel (MHz)	Maximum PSD (dBm/MHz)	Applicable Limit (dBm/MHz)
802.11a	100	5500	5.27	11
		5580	2.76	
		5700	3.71	
802.11n(HT20)	100	5500	4.95	
		5580	3.20	
		5700	3.72	
802.11n(HT40)	100	5510	1.95	
		5590	-0.11	
		5670	0.20	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

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Table 12: Maximum Conducted Output Power Spectral Density for U-NII-3 (5725MHz~5850MHz)

Test Mode	Duty Cycle	Test Channel (MHz)	Maximum PSD (dBm/500kHz)	Applicable Limit (dBm/500kHz)
802.11a	100	5745	4.45	30
		5785	5.55	
		5825	5.79	
802.11n(HT20)	100	5745	4.31	
		5785	4.80	
		5825	5.41	
802.11n(HT40)	100	5755	0.57	
		5795	0.90	

Notes:

1. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

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4.1.6 Conducted Spurious Emission

RESULT:

PASS

Test standard	: FCC Part 15.407(b), 15.209,
Requirement	: ANSI C63.10-2013 clause 12.7.4, KDB 789033
Kind of test site	: Shielded room

Test setup

Test Channel	: Low/Middle/High
Operation Mode	: A.1.a
Ambient temperature	: 23.4°C
Relative humidity	: 45%

Notes:

Test plots please refer to the annex document "SHE24120036-02FE DATA WIFI 5GHz-TX CSE EXHIBIT A".

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4.1.7 Radiated Emission

RESULT:

PASS

Test standard	: FCC Part 15.407(b), 15.209, 15.205
Requirement	: ANSI C63.10-2013 clause 12.7.4, KDB 789033
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/Middle/High
Operation Mode	: A.1.a
Ambient temperature	: 22.3-25.1°C
Relative humidity	: 42-47%

Notes:

Test plots please refer to the annex document "SHE24120036-02FE DATA WIFI 5GHz-TX EXHIBIT A"

1. For 9 kHz ~ 30 MHz, the amplitude of spurious emissions that are attenuated by more than 20dB below the permissible. The value has no need to be reported.
2. The spurious above 18GHz is noise only and 20dB below the limit. The value has no need to be reported.
3. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.
4. Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Results-Limit.

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4.1.8 Band Edge (Restricted-band band-edge)

RESULT:

PASS

Test standard	: FCC Part 15.407(b)
Requirement	: ANSI C63.10-2013 clause 12.7.4.4, KDB 789033
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/High
Operation Mode	: A.1.a
Ambient temperature	: 25.1°C
Relative humidity	: 47%

Notes:

Test plots please refer to the annex document "SHE24120036-02FE DATA WIFI 5GHz-TX EXHIBIT A"

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.
2. Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Results-Limit.

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4.1.9 Frequency Stability

RESULT:

PASS

Test standard : FCC Part 15.407(g)

Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High

Operation Mode : A.1.a

Ambient temperature : 23.4°C

Relative humidity : 45%

Table 13: Frequency Stability
U-NII-1 (5150MHz – 5250MHz):
Voltage vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
25	3.23V	5180.019750	3.81	within the band of operation
	3.80V	5180.008650	1.67	
	4.37V	5180.008125	1.57	

Temperature vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	0	5180.007850	1.52	within the band of operation
	10	5180.007500	1.45	
	20	5180.007375	1.42	
	30	5180.007625	1.47	
	40	5180.007450	1.44	
	50	5180.007525	1.45	

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U-NII-2A (5250MHz – 5350MHz):
Voltage vs. Frequency Stability (5260MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
25	3.23V	5260.015	2.85	within the band of operation
	3.80V	5260.013	2.47	
	4.37V	5260.012	2.28	

Temperature vs. Frequency Stability (5260MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	0	5260.011	2.09	within the band of operation
	10	5260.021	3.99	
	20	5260.034	6.46	
	30	5260.026	4.94	
	40	5260.035	6.65	
	50	5260.018	3.42	

U-NII-2C (5470MHz – 5725MHz):
Voltage vs. Frequency Stability (5500MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
25	3.23V	5500.010725	1.95	within the band of operation
	3.80V	5500.009275	1.69	
	4.37V	5500.008900	1.62	

Temperature vs. Frequency Stability (5500MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	0	5500.008825	1.60	within the band of operation
	10	5500.009050	1.65	
	20	5500.009525	1.73	
	30	5500.009700	1.76	
	40	5500.009800	1.78	
	50	5500.009975	1.81	

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U-NII-3 (5725MHz – 5850MHz):
Voltage vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
25	3.23V	5,745.0175	3.05	within the band of operation
	3.80V	5,745.0150	2.61	
	4.37V	5,745.0160	2.79	

Temperature vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	0	5,745.0172	2.99	within the band of operation
	10	5,745.0168	2.92	
	20	5,745.0162	2.82	
	30	5,745.0142	2.47	
	40	5,745.0138	2.40	
	50	5,745.0148	2.58	

Note: All configurations were tested respectively, but only the worst channel shown here.

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4.2 Mains Emissions

4.2.1 Conducted Emission on AC Mains

RESULT:

PASS

Test standard	: FCC Part 15.207
Requirement	: ANSI C63.10-2013 clause 6.2
Kind of test site	: Shielded room

Test setup

Input Voltage	: Which received AC 120V, 60Hz Power
Operation Mode	: A.1.a
Earthing	: Not Connected
Ambient temperature	: 24.5°C
Relative humidity	: 54%

For details refer to following test plot.

TEST REPORT

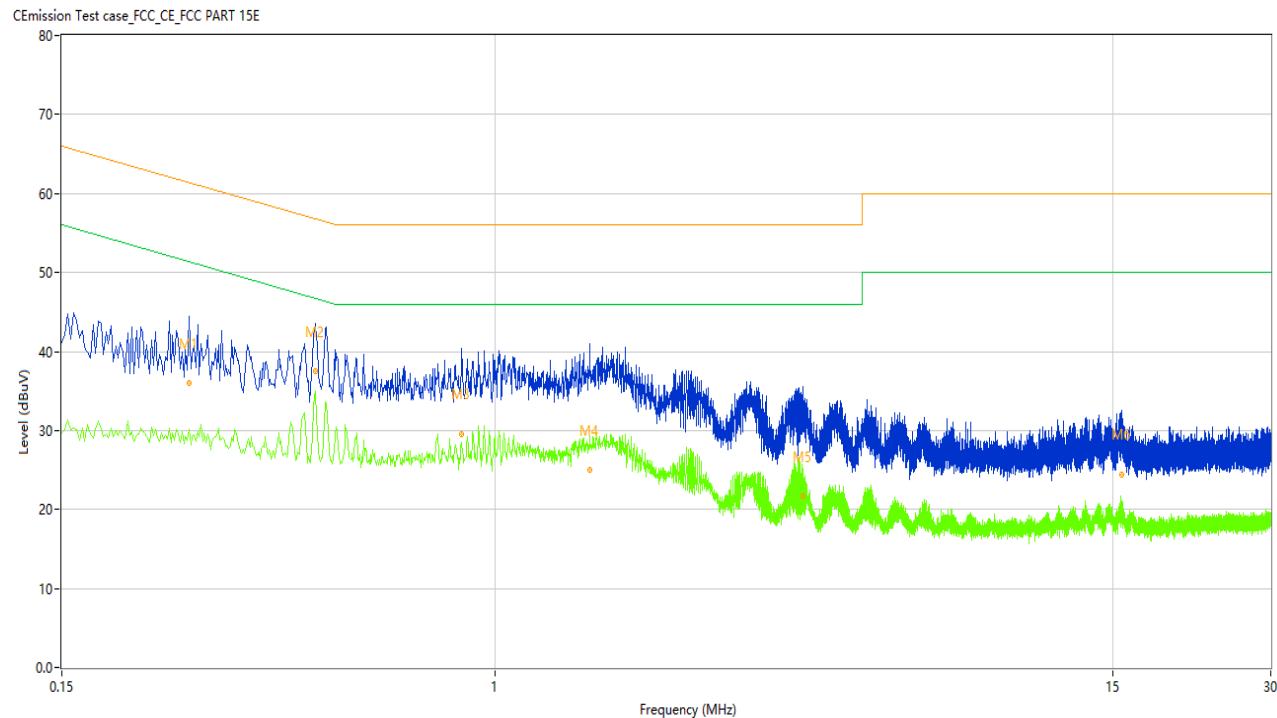
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Note: The all configurations were tested respectively, but only the worst configuration shown here.

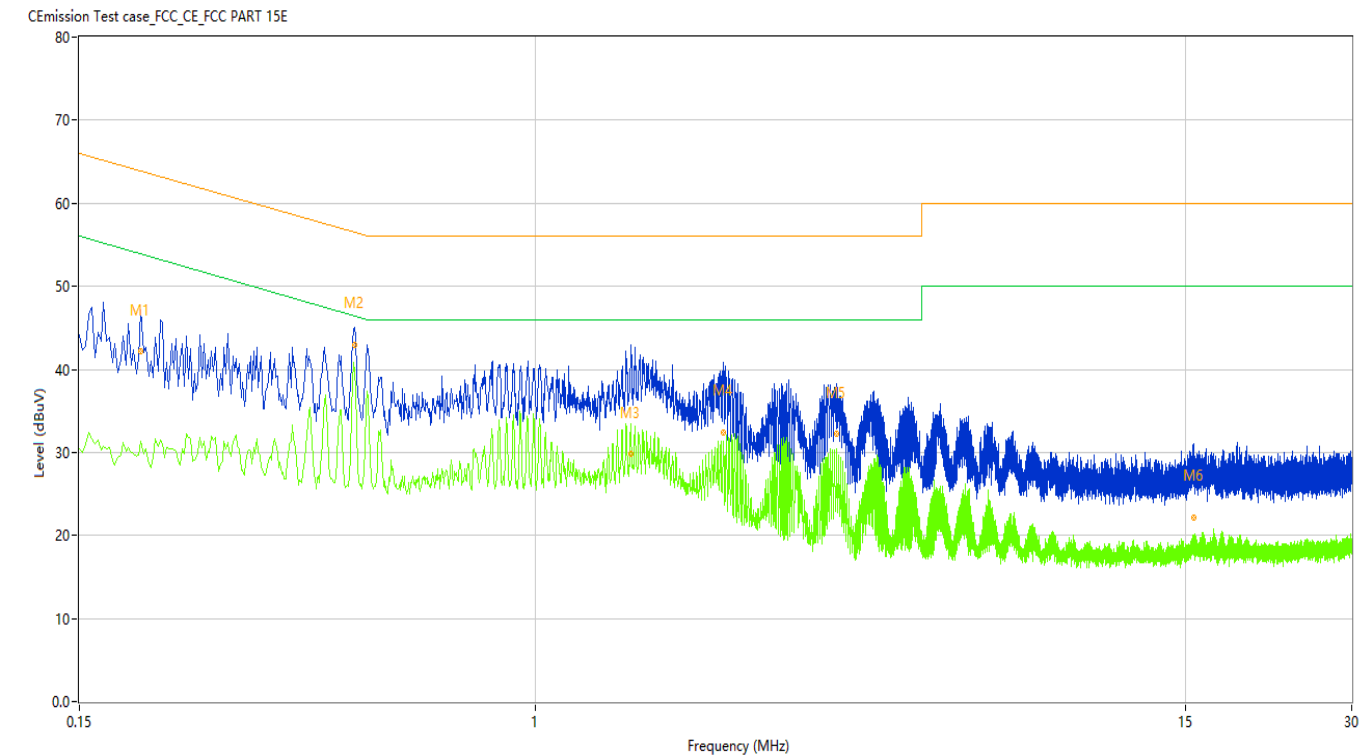
Figure 9: Conducted Emission on AC Mains, L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.262	41.93	10.12	61.37	19.44	Peak	L	Pass
1*	0.262	35.94	10.12	61.37	25.43	QP	L	Pass
1**	0.262	30.09	10.12	51.37	21.28	AV	L	Pass
2	0.456	41.92	10.10	56.77	14.85	Peak	L	Pass
2*	0.456	37.45	10.10	56.77	19.32	QP	L	Pass
2**	0.456	34.89	10.10	46.77	11.88	AV	L	Pass
3	0.866	38.49	10.10	56.00	17.51	Peak	L	Pass
3*	0.866	29.46	10.10	56.00	26.54	QP	L	Pass
3**	0.866	28.35	10.10	46.00	17.65	AV	L	Pass
4	1.516	32.37	9.94	56.00	23.63	Peak	L	Pass
4*	1.516	24.96	9.94	56.00	31.04	QP	L	Pass
4**	1.516	29.28	9.94	46.00	16.72	AV	L	Pass
5	3.864	28.07	10.10	56.00	27.93	Peak	L	Pass
5*	3.864	21.65	10.10	56.00	34.35	QP	L	Pass
5**	3.864	25.12	10.10	46.00	20.88	AV	L	Pass
6	15.586	30.60	10.72	60.00	29.40	Peak	L	Pass
6*	15.586	24.44	10.72	60.00	35.56	QP	L	Pass
6**	15.586	19.71	10.72	50.00	30.29	AV	L	Pass

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Figure 10: Conducted Emission on AC Mains, N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.194	48.57	10.21	63.86	15.29	Peak	N	Pass
1*	0.194	42.25	10.21	63.86	21.61	QP	N	Pass
1**	0.194	31.40	10.21	53.86	22.46	AV	N	Pass
2	0.472	44.96	10.13	56.48	11.52	Peak	N	Pass
2*	0.472	42.93	10.13	56.48	13.55	QP	N	Pass
2**	0.472	39.93	10.13	46.48	6.55	AV	N	Pass
3	1.490	37.49	9.97	56.00	18.51	Peak	N	Pass
3*	1.490	29.76	9.97	56.00	26.24	QP	N	Pass
3**	1.490	33.44	9.97	46.00	12.56	AV	N	Pass
4	2.196	36.79	10.07	56.00	19.21	Peak	N	Pass
4*	2.196	32.39	10.07	56.00	23.61	QP	N	Pass
4**	2.196	30.70	10.07	46.00	15.30	AV	N	Pass
5	3.518	36.77	10.12	56.00	19.23	Peak	N	Pass
5*	3.518	32.22	10.12	56.00	23.78	QP	N	Pass
5**	3.518	27.00	10.12	46.00	19.00	AV	N	Pass
6	15.530	29.60	10.77	60.00	30.40	Peak	N	Pass
6*	15.530	22.09	10.77	60.00	37.91	QP	N	Pass
6**	15.530	18.74	10.77	50.00	31.26	AV	N	Pass

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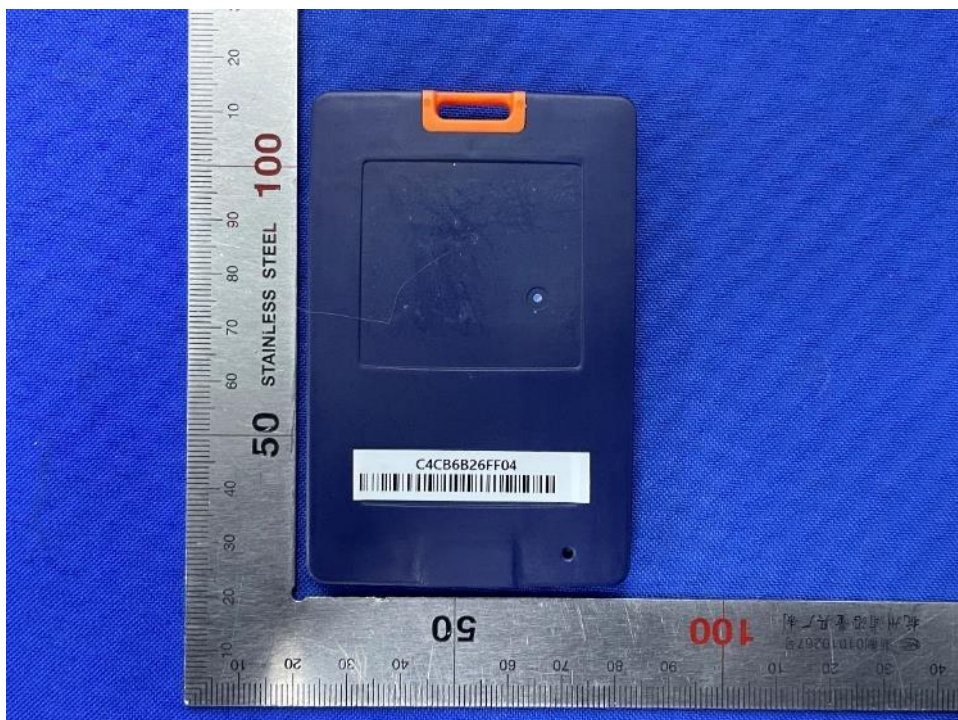
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5 Appendixes

5.1 Photographs of the Sample



Front of the sample



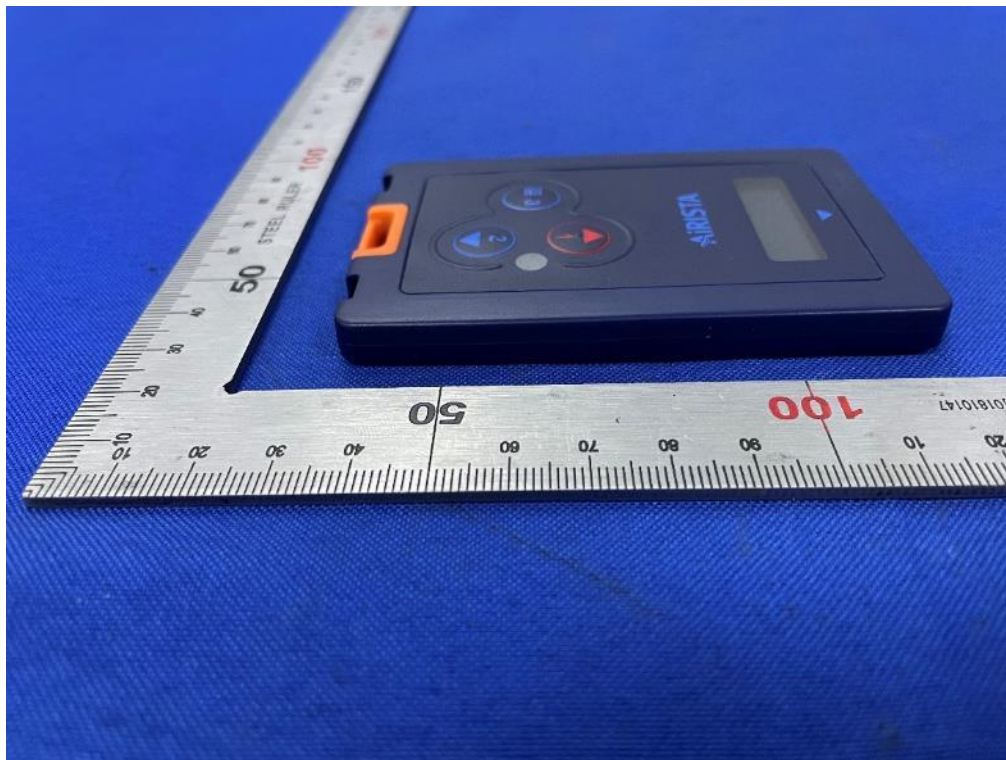
Rear of the sample

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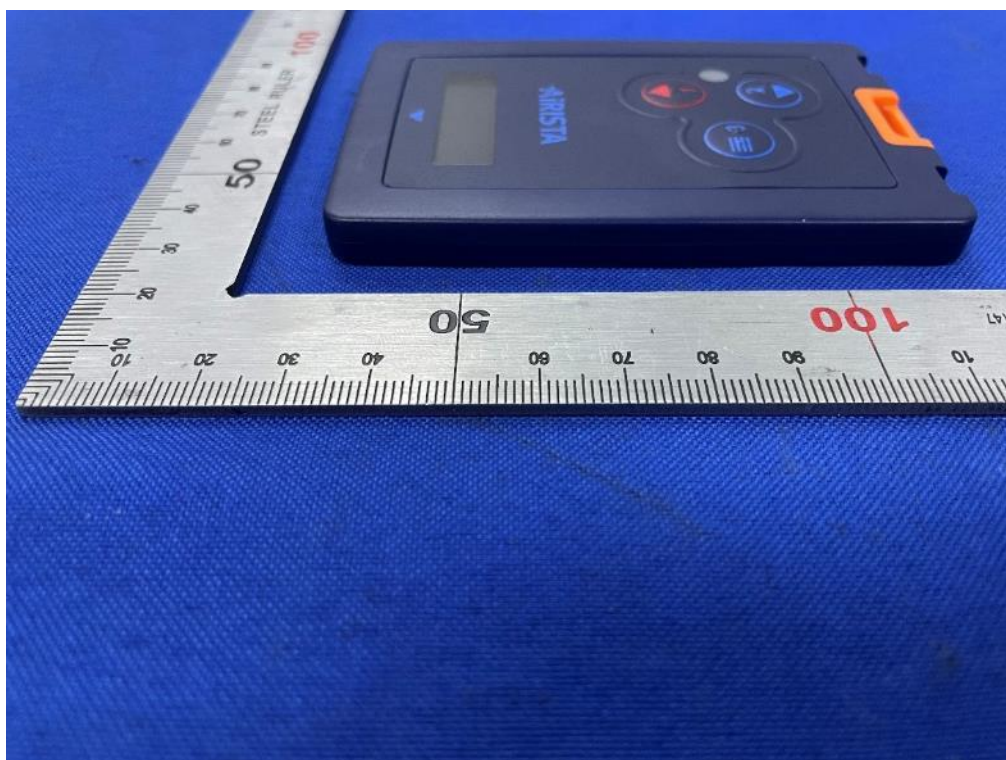
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Left of the sample



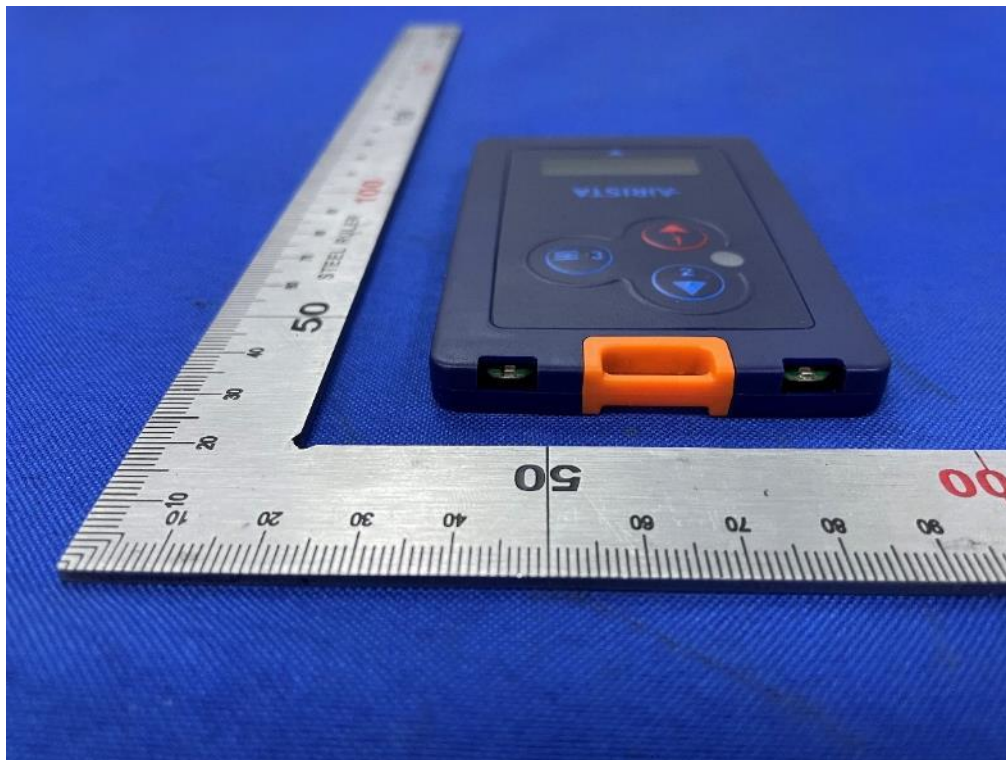
Right of the sample

TEST REPORT

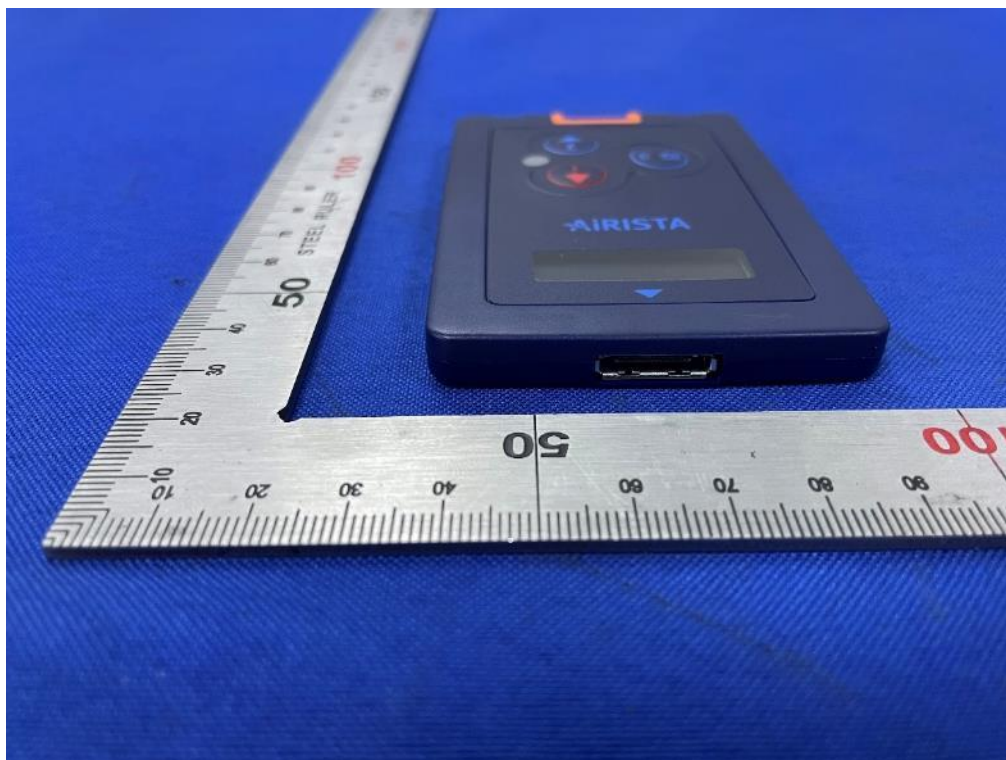
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Top of the sample



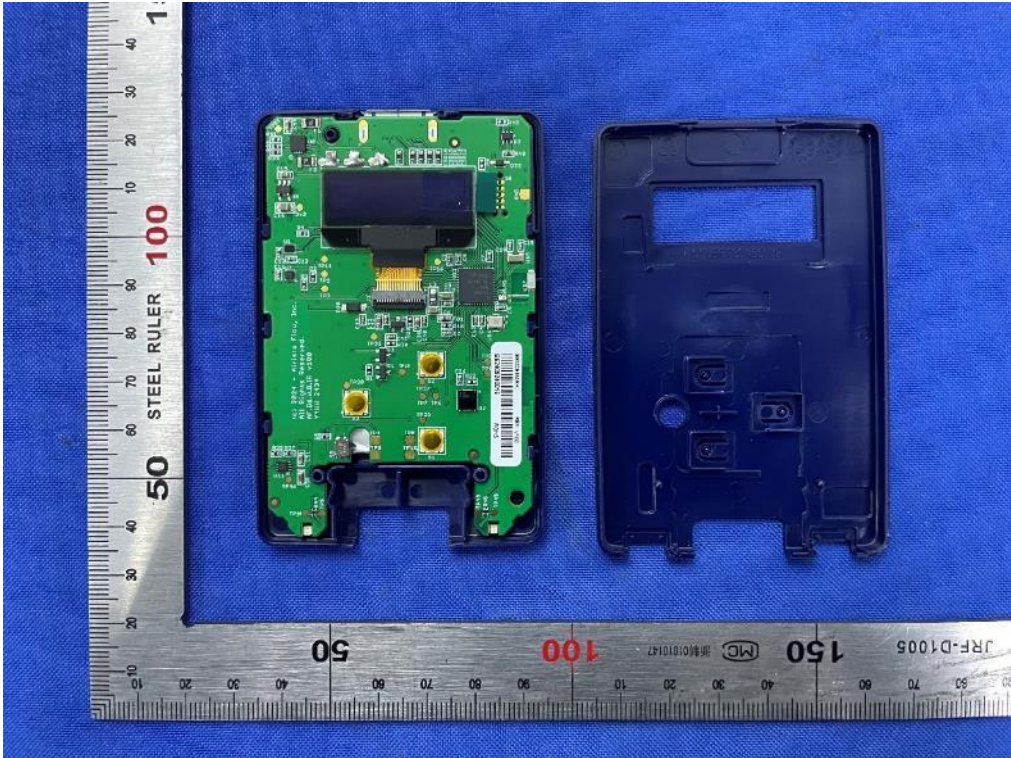
Bottom of the sample

TEST REPORT

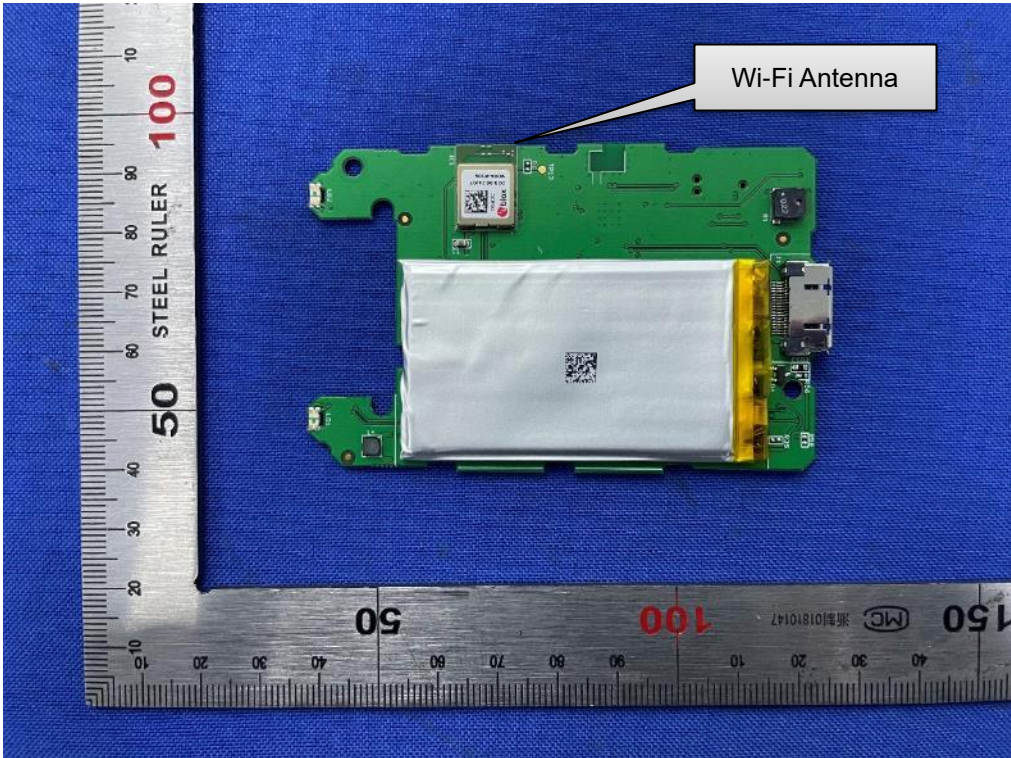
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Open of the sample



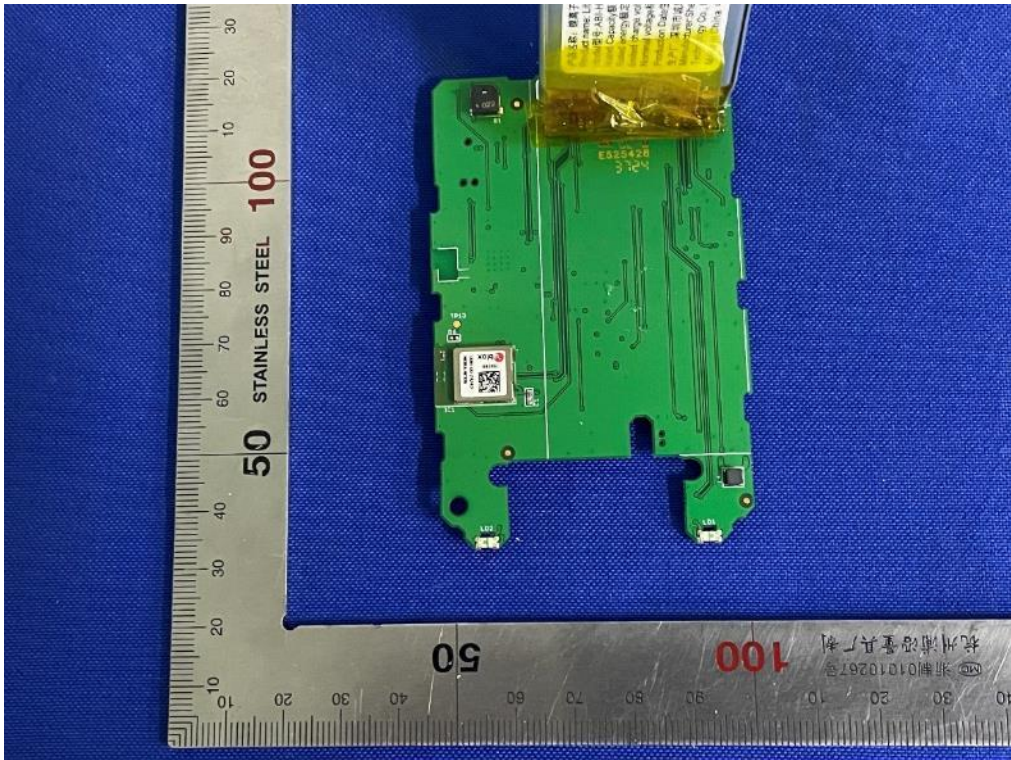
Internal-1 of the sample

TEST REPORT

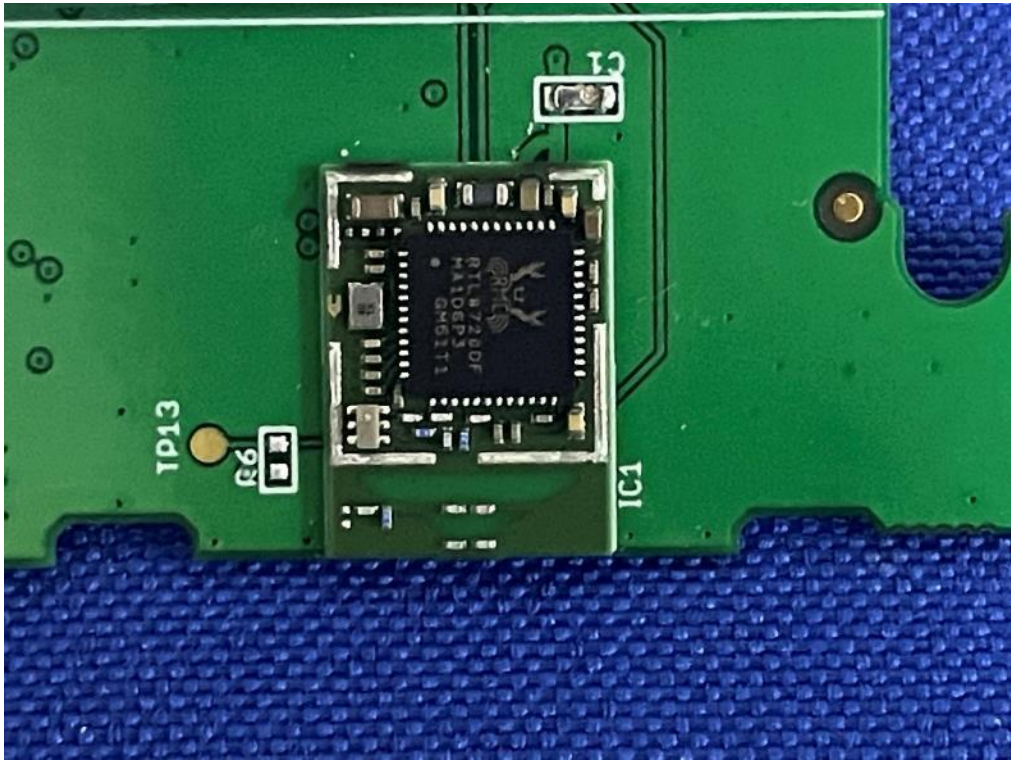
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Internal-2 of the sample



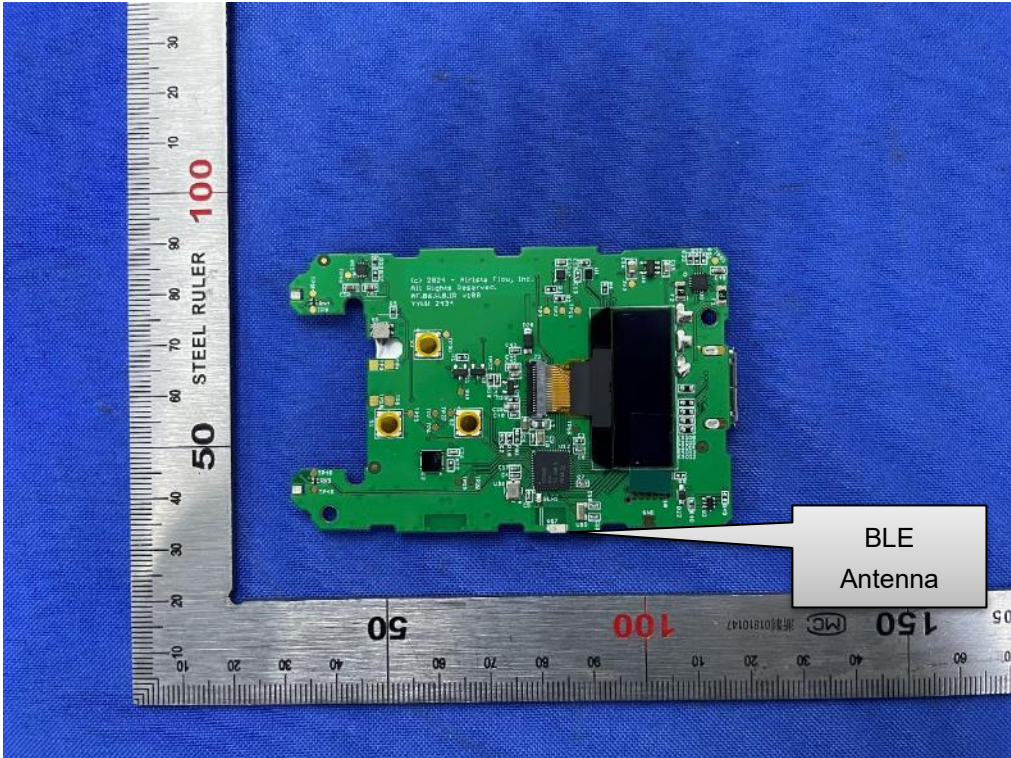
NORA-W306 Module

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Internal-3 of the sample

Add a B6 model with a white shell

(Note: The difference is that only the shell color is different, everything else is the same)



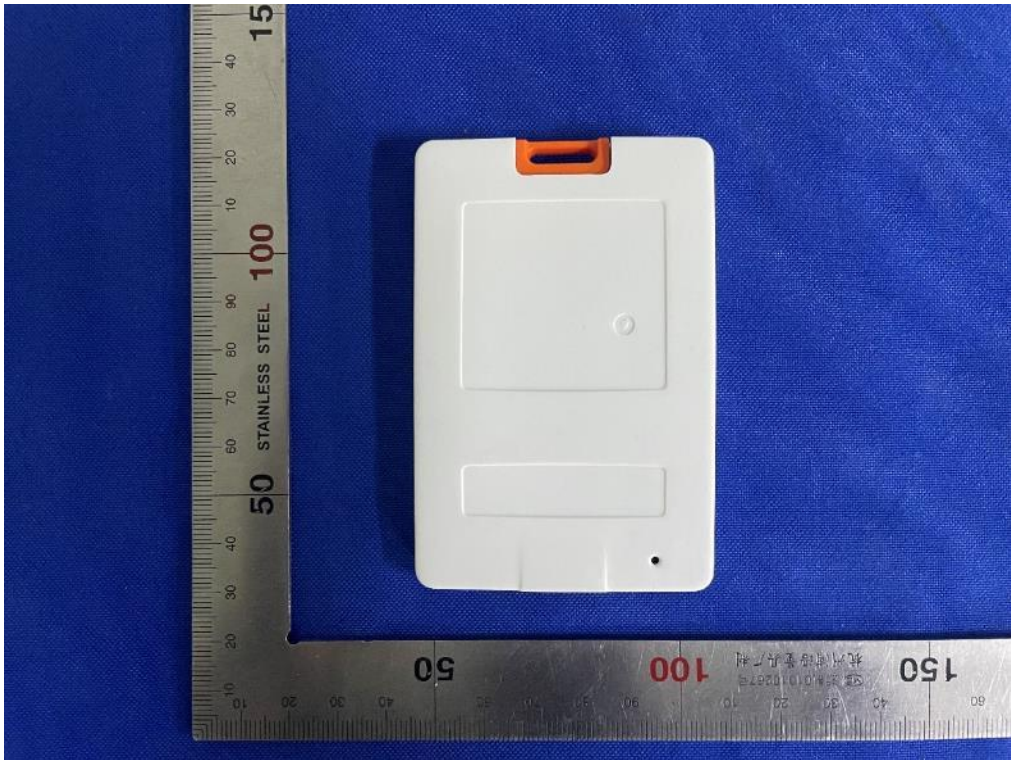
Front of the sample

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Rear of the sample



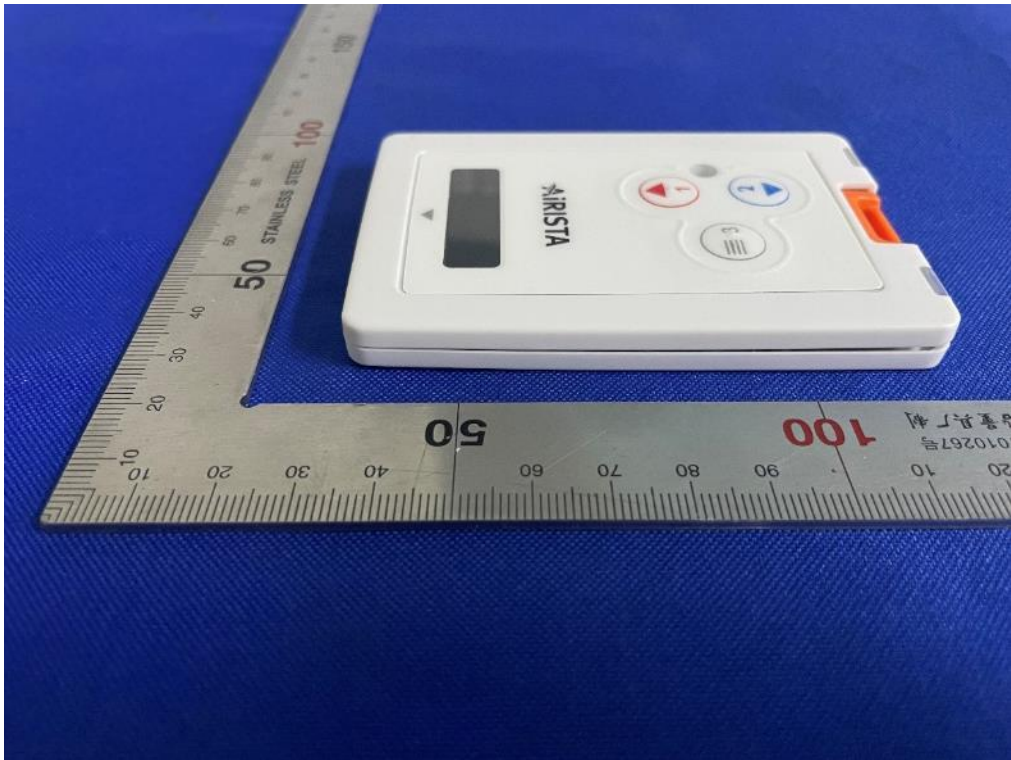
Left of the sample

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Right of the sample



Top of the sample

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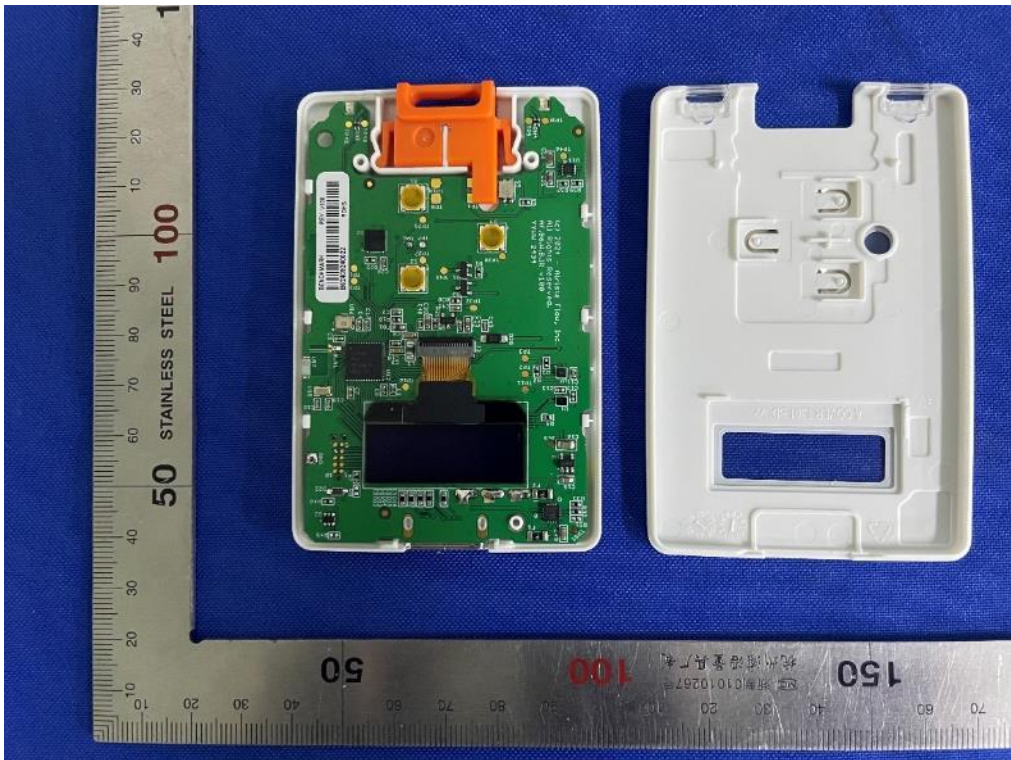
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Bottom of the sample



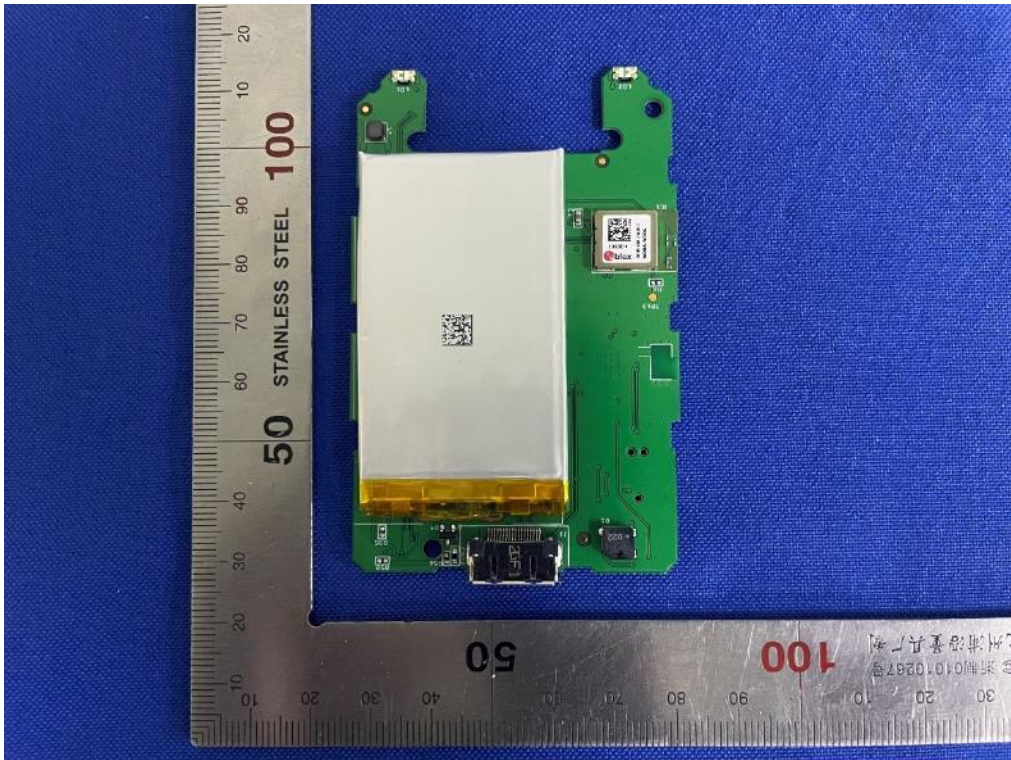
Open of the sample

TEST REPORT

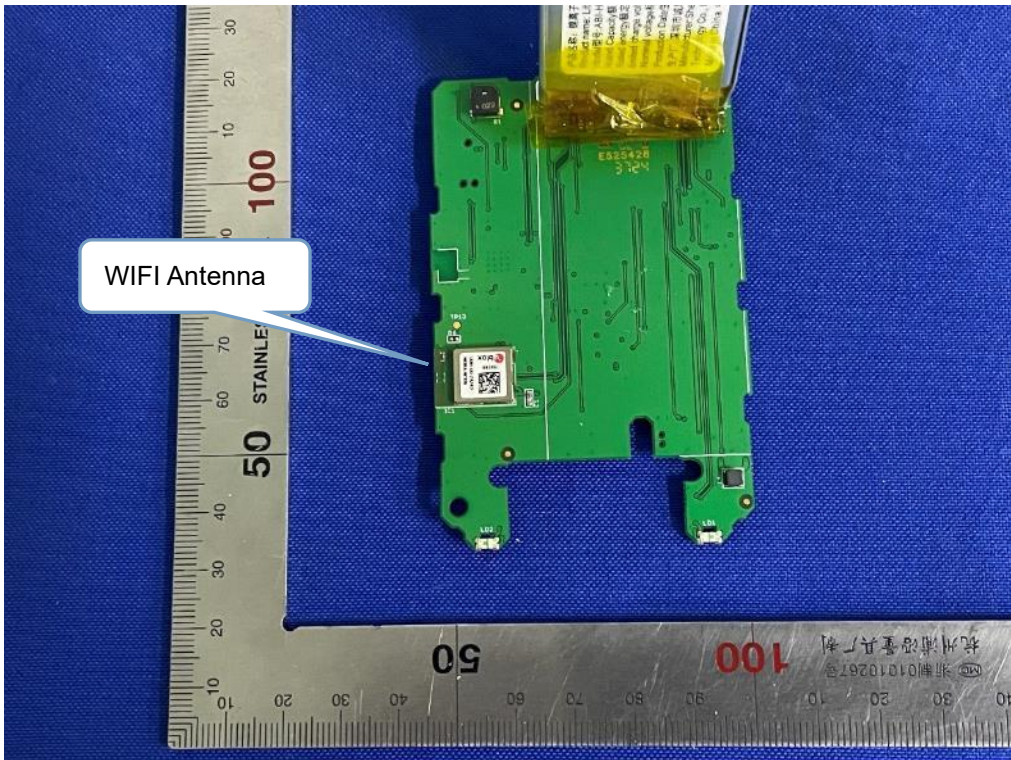
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Internal-1 of the sample



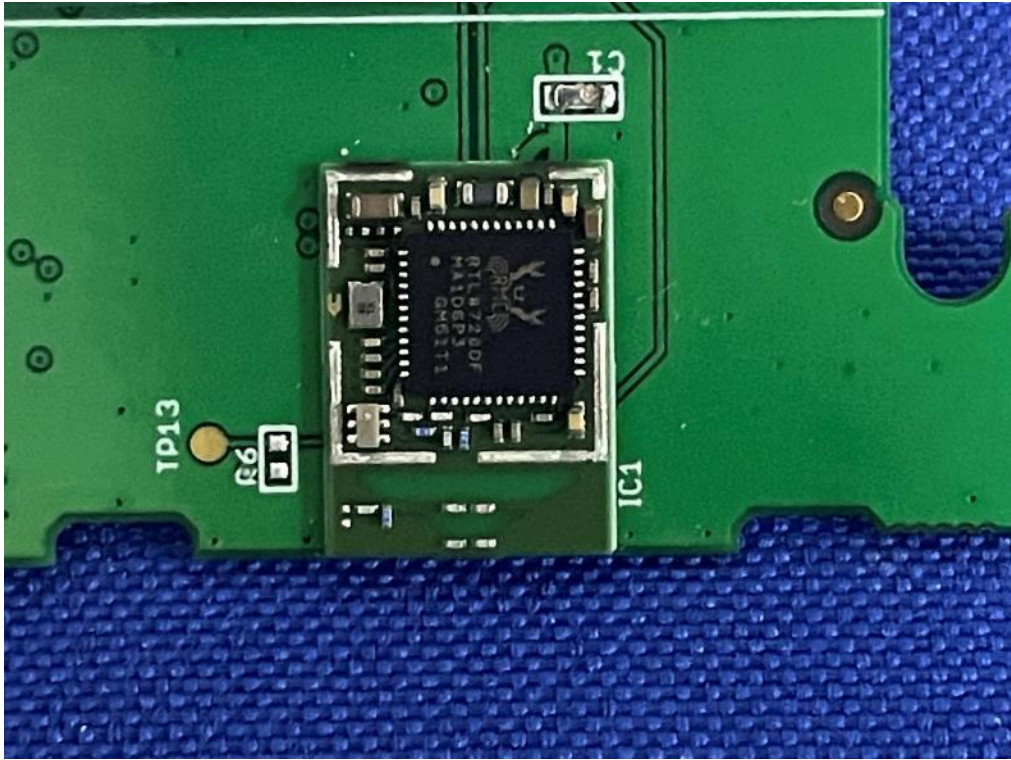
Internal-2 of the sample

TEST REPORT

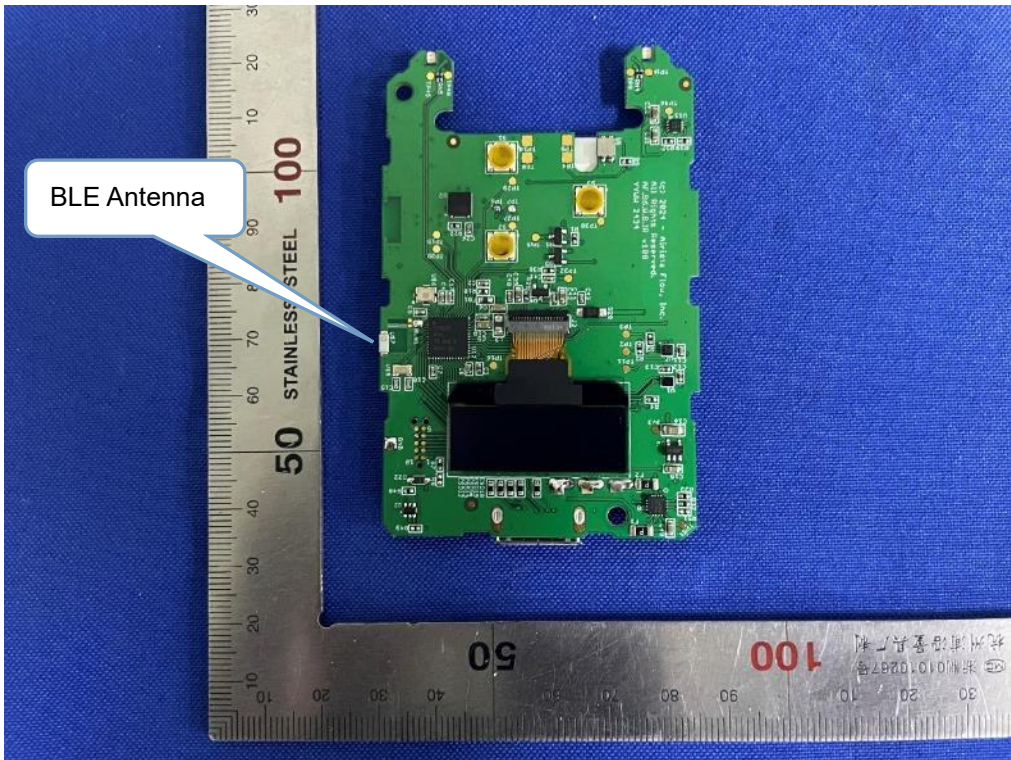
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NORA-W306 Module



Internal-3 of the sample

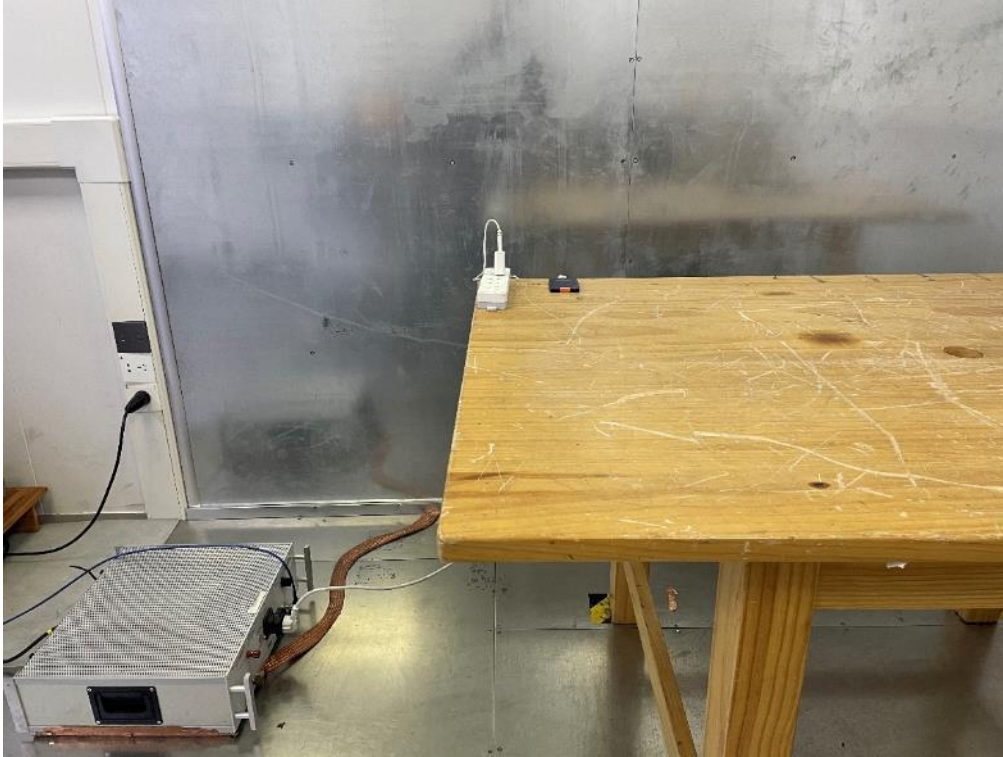
TEST REPORT

Report No.: SHE24120036-02FE

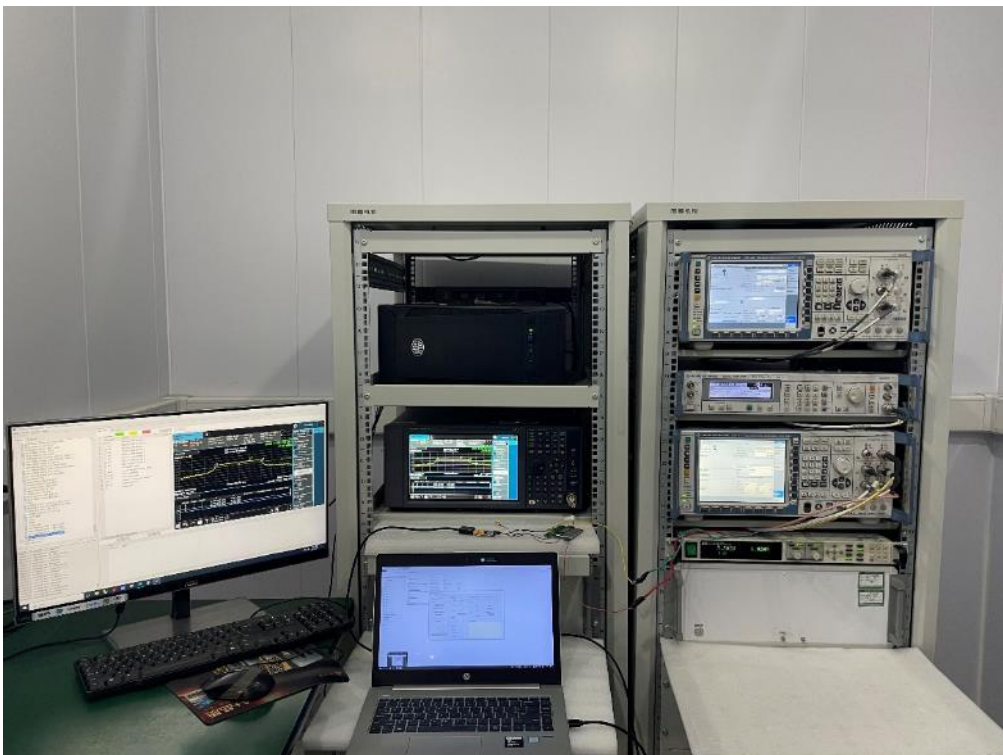
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5.2 Set-up for Conducted Emissions



5.3 Set-up for Conducted RF test at Antenna Port



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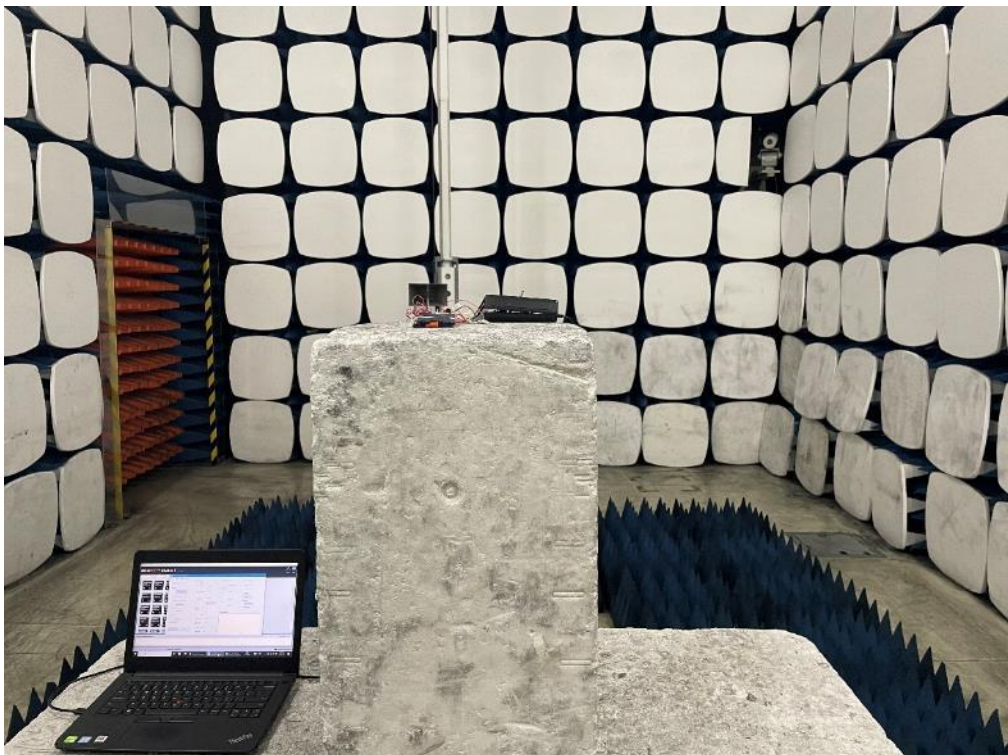
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5.4 Set-up for Spurious Emissions below 1GHz



5.5 Set-up for Spurious Emissions above 1GHz



End of the report