

FCC PART 15.247

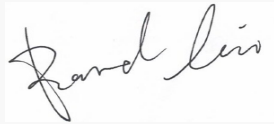
TEST REPORT

For

Zhejiang Desman Intelligent Technology Co., LTD

Floor 1-3, Building 1, No.7 Jianghui South Road, Binjiang District, Hangzhou City, Zhejiang
Province, China

FCC ID: 2BG5G-D110PLUS

Report Type: Original Report	Product Name: Smart fingerprint deadbolt
Report Number: RKSC250418002-00B	
Report Date: 2025-06-03	
Reviewed By: Bard Liu	
Approved By: Kyle Xu	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, or any agency of the U.S. Government.

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSC250418002-00B	R1V1	2025-06-03	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Zhejiang Desman Intelligent Technology Co., LTD
Tested Model	D110PLUS
Product Name	Smart fingerprint deadbolt
Power Supply	DC 6 V
RF Function:	2.4G Wi-Fi; BLE
Operating Band/Frequency:	2.4G Wi-Fi: 2412~2462 MHz(802.11b/g/n20/ax20), 2422~2452 MHz(802.11n40/ax40) BLE(1 Mbps): 2402-2480 MHz
Maximum Peak Output Power:	2.4G Wi-Fi: 802.11b: 19.62 dBm 802.11g: 19.18 dBm 802.11n20: 18.20 dBm 802.11n40: 14.76 dBm 802.11ax20: 19.34 dBm 802.11ax40: 16.42 dBm BLE(1 Mbps): 5.64 dBm
Channel Number:	2.4G Wi-Fi: 11(802.11b/g/n20/ax20), 7(802.11n40/ax40) BLE(1Mbps): 40
Channel Separation:	2.4G Wi-Fi: 5 MHz BLE: 2 MHz
Modulation Type:	2.4G Wi-Fi: DSSS, OFDM, OFDMA BLE: GFSK
★Maximum Antenna Gain:	Wi-Fi: 5.52 dBi BLE: -16.39 dBi

Note: The maximum antenna gain was declared by the manufacturer.

All measurement and test data in this report was gathered from production sample serial number: RKSC250418002-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2025-04-18.)

Objective

This report is prepared for *Zhejiang Desman Intelligent Technology Co., LTD* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions' rules.

The tests were performed in order to determine Compliant with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices and FCC 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0°C
Humidity		6%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu Province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No.: CN5055.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

Channel List for BLE mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454	/	/
13	2428	27	2456	/	/

EUT was tested with channel 0, 19 and 39.

Channel List for Wi-Fi Mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

For 802.11b, 802.11g, 802.11n-HT20 and 802.11ax-HE20 mode, EUT was tested with Channel 1, 6 and 11.
For 802.11n-HT40 and 802.11ax-HE40 mode, EUT was tested with Channel 3, 6 and 9.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

Wi-Fi test software: BLDevCube.exe

BLE test software: RF_Test.exe

Pre-scan with all the data rates, and the worst case was performed as below:

Mode	Data Rate	★Power Level
802.11b	1 Mbps	20
802.11g	6 Mbps	15
802.11n-HT20	MCS0	13
802.11n-HT40	MCS0	11
802.11ax-HE20	MCS0	15
802.11ax-HE40	MCS0	11
BLE(1Mbps)	1Mbps	9

Note:

1. The power level was declared by the applicant.
2. 802.11ax mode only support full RU

Environmental Conditions & Test Information

Test Date:	2025-05-20~2025-05-21
Temperature:	24.9-25.5 °C
Relative Humidity:	50-52 %
ATM Pressure:	100.2-101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

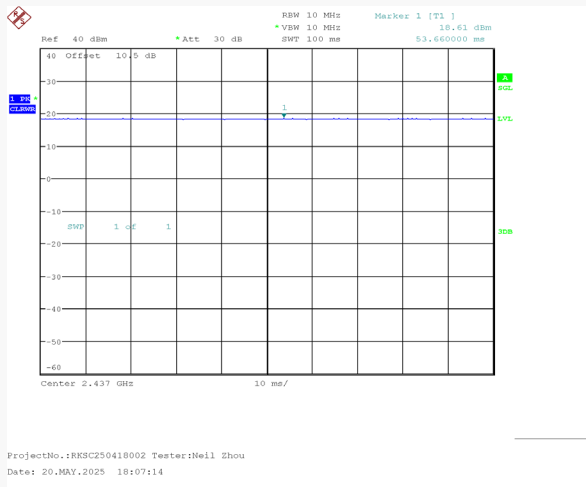
Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)	10log(1/x) (dB)
802.11b	100	100	100	/
802.11g	100	100	100	/
802.11n-HT20	100	100	100	/
802.11n-HT40	100	100	100	/
802.11ax-HE20	100	100	100	/
802.11ax-HE40	100	100	100	/
BLE(1Mbps)	100	100	100	/

Note:

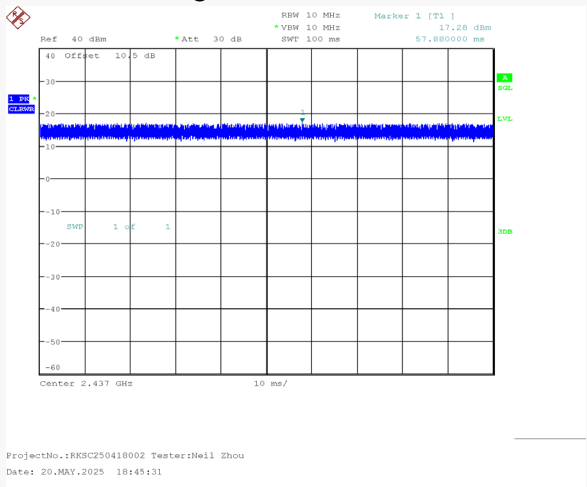
1. “x” means the Duty Cycle.
2. Offset (10.5 dB) = Attenuator (10 dB) + Cable loss (0.5 dB)

Duty Cycle:

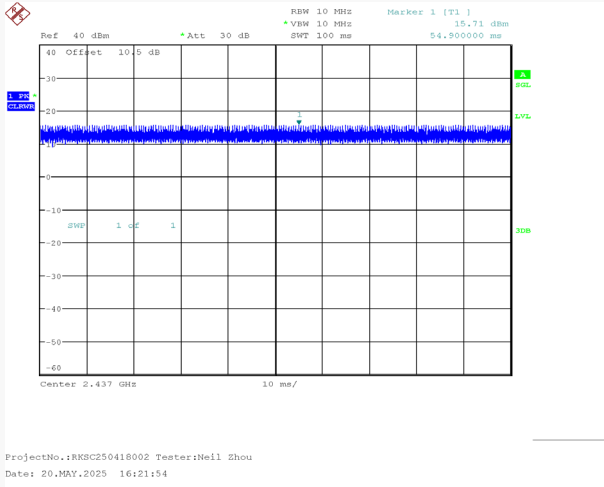
802.11b Mode Middle Channel



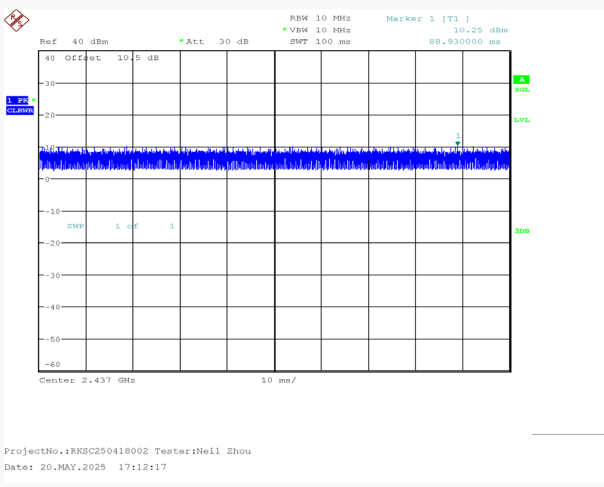
802.11g Mode Middle Channel



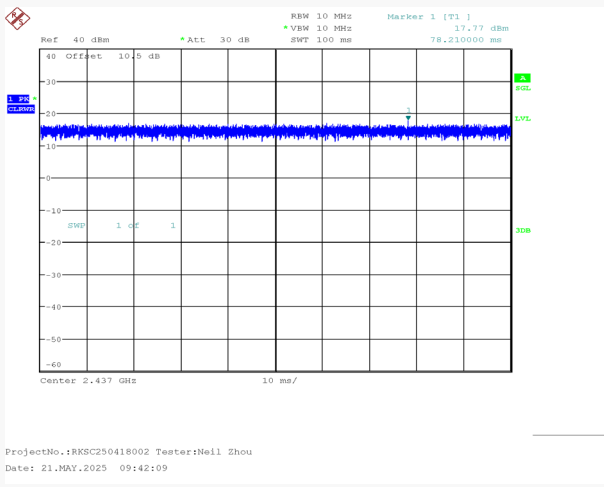
802.11n-HT20 Mode Middle Channel



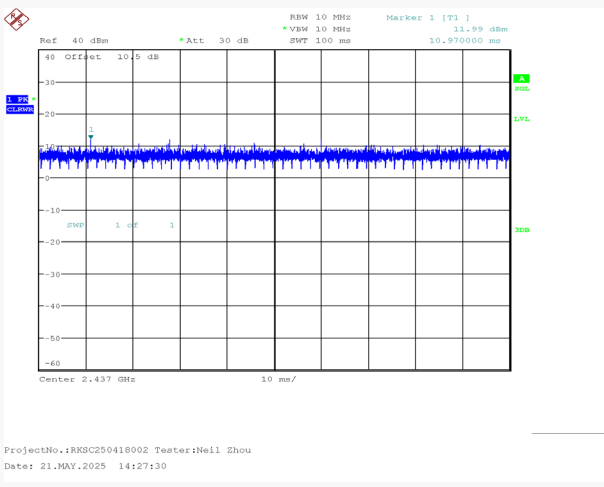
802.11n-HT40 Mode Middle Channel



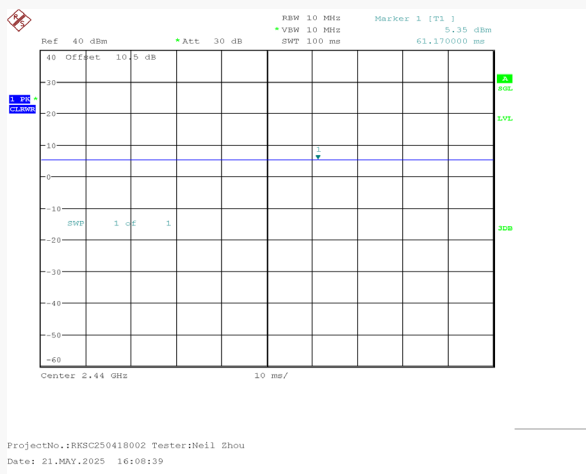
802.11ax-HE20 Mode Middle Channel



802.11ax-HE40 Mode Middle Channel



Duty Cycle:
BLE(1Mbps) Mode Middle Channel

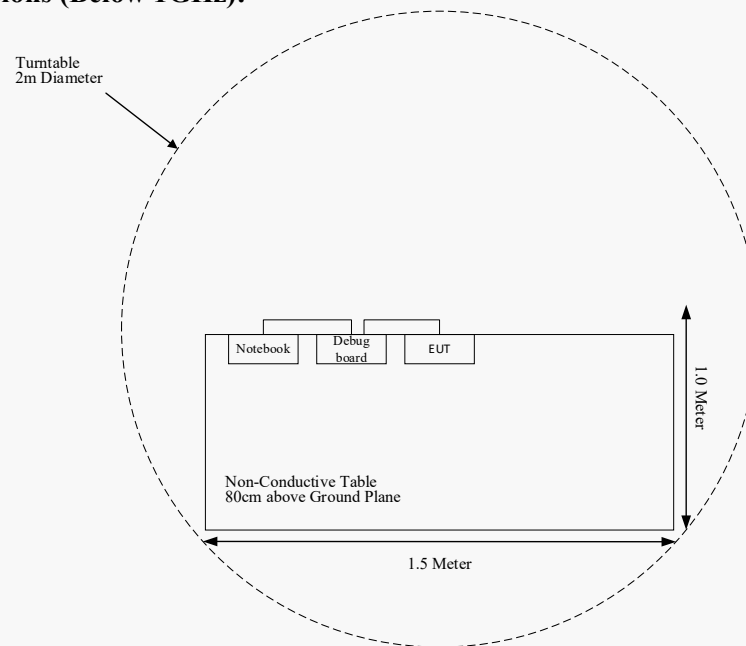


Support Equipment List and Details

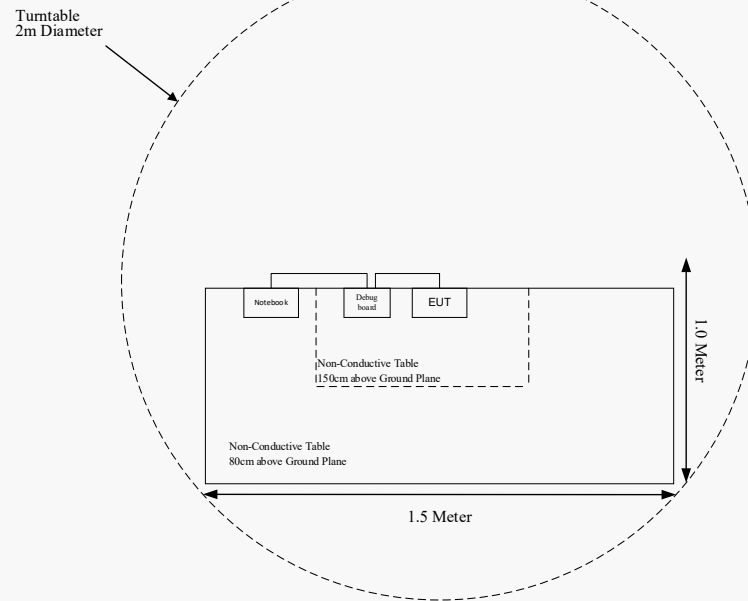
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5
/	Debug board	/	/

External I/O Cable

Cable Description	Length (m)	From Port	To Port
Data Cable 1	1.0	Debug Board	Notebook
Data Cable 2	0.15	EUT	Debug Board

Block Diagram of Test Setup**For Radiated Emissions (Below 1GHz):**

For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310, §2.1091	Maximum Permissible Exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Not Applicable (See note 1)
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

Note:

1. This product is powered by batteries.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2025-04-09	2026-04-08
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2024-11-08	2027-11-07
Narda	6dB Attenuator	773-6	10690812-2-1	2024-10-29	2027-10-28
BACL	Active Loop Antenna	1313-1A	4041511	2024-11-22	2027-11-21
Sonoma Instrument	Pre-amplifier	310N	171205	2025-04-09	2026-04-08
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-9	009	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-10	010	2025-04-09	2026-04-08
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2025-04-09	2026-04-08
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2024-12-02	2025-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2024-12-12	2027-12-11
A.H.Systems, inc	Amplifier	PAM-0118P	512	2025-04-09	2026-04-08
SELECTOR	Amplifier	EM18G40G	060726	2025-04-09	2026-04-08
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2024-08-05	2025-08-04
Narda	Attenuator	10dB	010	2025-04-09	2026-04-08
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-11	011	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-12	012	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-13	013	2025-04-09	2026-04-08
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2025-04-09	2026-04-08
Narda	Attenuator	10dB	010	2025-04-09	2026-04-08
XHFDZ	RG316 Coaxial Cable	SMA-316	XHF-1175	Each time	N/A
Anritsu	Power Sensor	MA24418A	12621	2025-04-09	2026-04-08

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310 & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §2.1091 and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

Mode	Frequency Range (MHz)	Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G Wi-Fi	2412-2462	5.52	3.56	20.0	100.00	20	0.0708	1.0
BLE	2402-2480	-16.39	0.02	6.0	3.98	20	0.000016	1.0

Mode	Frequency Range (MHz)	EIRP		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBm)	(mW)			
NFC	13.56	-28.8	0.001	20	<0.0001	0.98

For NFC, the power of EUT: E Field@3m is 66.40 dBuV/m = -28.8 dBm EIRP.

Note:

1. For the above tune up power were declared by the manufacturer.
2. $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$ for $d = 3 \text{ m}$.
3. The 2.4G Wi-Fi/BLE/NFC are cannot transmit simultaneously.

Result: The device meet FCC MPE at 20 cm distance.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine Compliant with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT have one FPC antenna and one PCB antenna permanently attached to the unit. fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant.

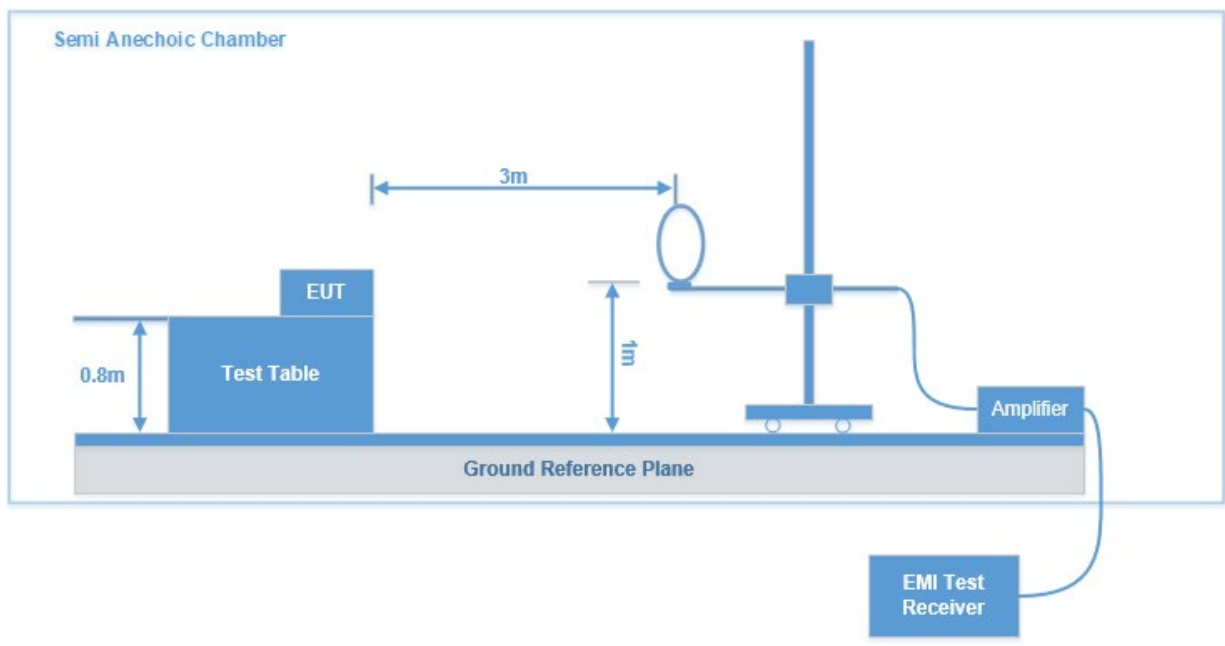
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

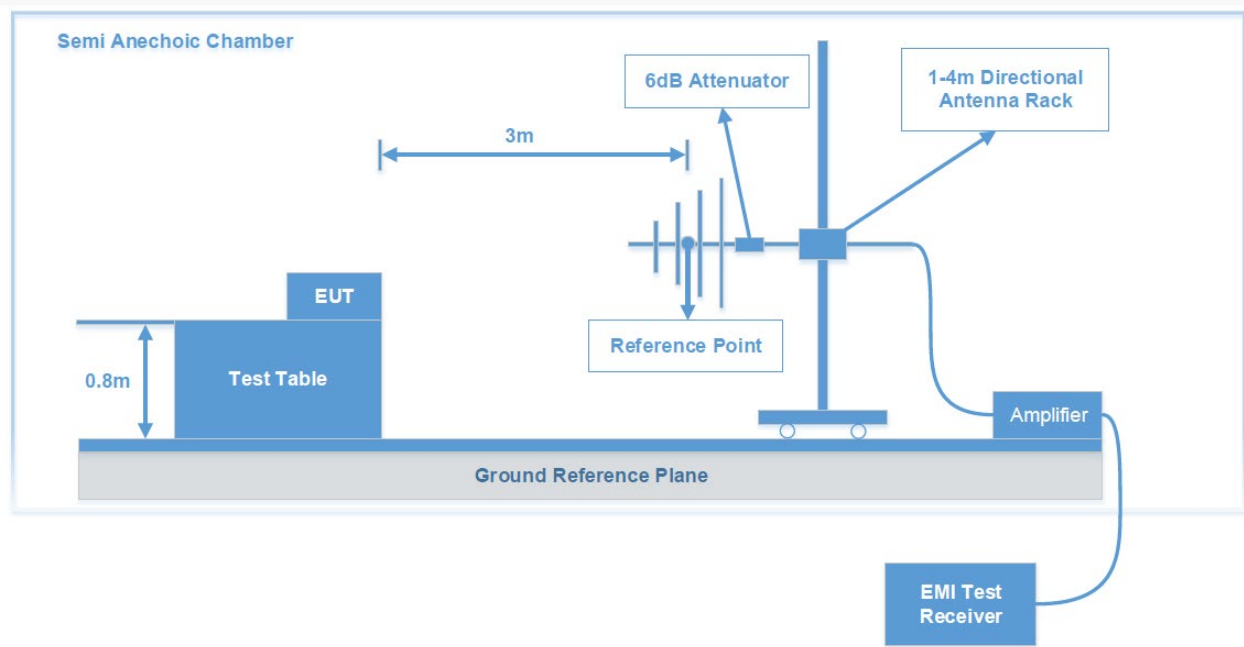
FCC §15.247 (d); §15.209; §15.205;

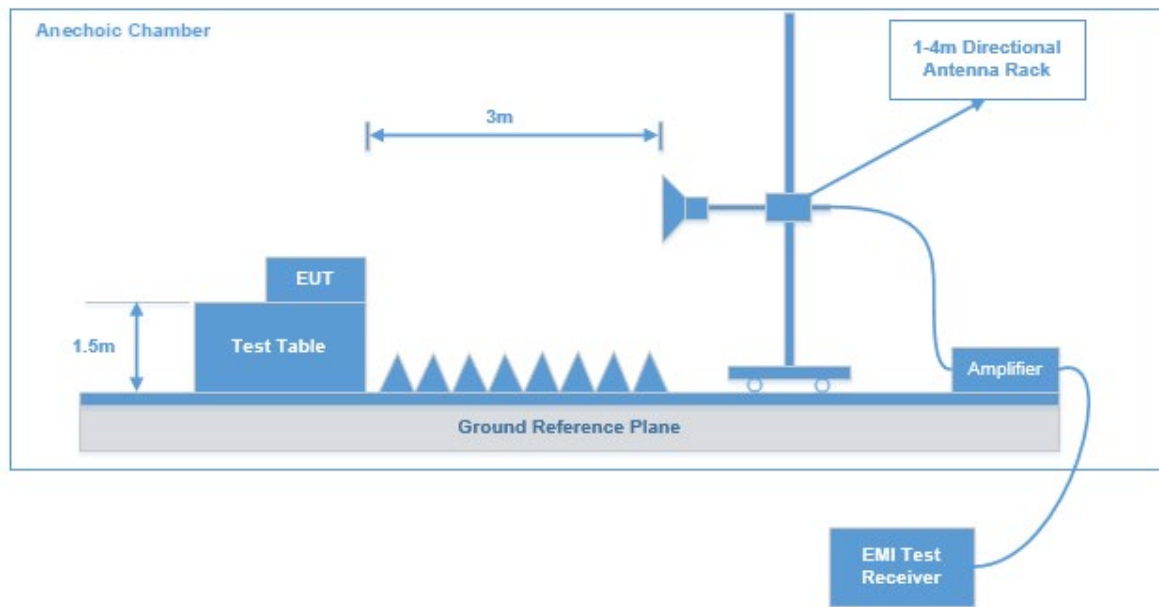
Test System Setup

9 kHz-30 MHz:



30 MHz-1 GHz:



Above 1 GHz:

The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

During the radiated emission test, the EMI test receiver setup was set with the following configurations:

Frequency Range	RBW	VBW	IF B/W	Measurement
9 kHz - 150 kHz	200 Hz	1 kHz	200 Hz	QP/Average
150 kHz - 30 MHz	9 kHz	30 kHz	9 kHz	QP/ Average
30 MHz - 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	/	Average

Test Procedure

According to ANSI C63.10-2020 clause 6.4, 6.5 and 6.6.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

For 9 kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dB μ V/m) = Meter Reading (dB μ V) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dB μ V/m) – Corrected Amplitude (dB μ V/m)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, and Subpart C, section 15.205, 15.209 and 15.247.

Test Data: See Appendix

FCC §15.247(A) (2) - 6 DB EMISSION BANDWIDTH

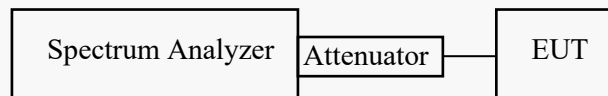
Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

According to ANSI C63.10-2020 sub-clause 11.8.1

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “– 6 dB down amplitude” . If a marker is below this “– 6 dB down amplitude” value, then it shall be as close as possible to this value.



Note: Offset (10.5 dB) = Attenuator (10 dB) + Cable loss (0.5 dB)

Test Data: See Appendix

FCC §15.247(B) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, Compliant with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

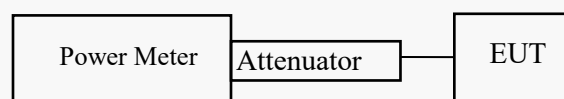
For 2.4G Wi-Fi:

According to ANSI C63.10-2020 sub-clause 11.9.1.2

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

11.9.2.3.2 Method AVGPM-G

Method AVGPM-G is a measurement using a gated RF average power meter. Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.



For BLE:

According to ANSI C63.10-2020 sub-clause 11.9.1.1

- Set the RBW $\geq$ DTS bandwidth.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Set span $\geq [3 \times \text{RBW}]$.
- Sweep time = No faster than coupled (auto) time.
- Detector = peak.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.



Note: Offset (10.5 dB) = Attenuator (10 dB) + Cable loss (0.5 dB)

Test Data: See Appendix

FCC §15.247(D) – 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

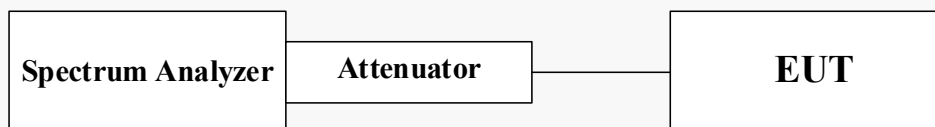
Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates Compliant with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

According to ANSI C63.10-2020 sub-clause 6.10.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Note: Offset (10.5 dB) = Attenuator (10 dB) + Cable loss (0.5 dB)

Test Data: See Appendix

FCC §15.247(E) - POWER SPECTRAL DENSITY

Applicable Standard

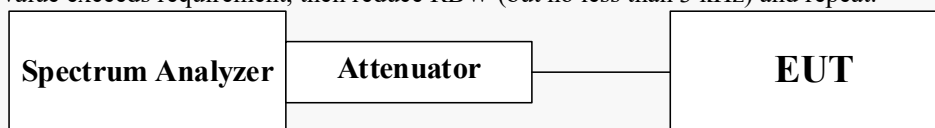
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

According to ANSI C63.10-2020 sub-clause 11.10.2

The following procedure shall be used if maximum peak conducted output power was used to determine Compliant, and it is optional if the maximum conducted (average) output power was used to determine Compliant:

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span >1.5 times the DTS bandwidth.
- c) Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW $\geq [3 \times \text{RBW}]$.
- e) Detector = peak.
- f) Sweep time = No faster than coupled (auto) time.
- g) Trace mode = max-hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.



Note: Offset (10.5 dB) = Attenuator (10 dB) + Cable loss (0.5 dB)

Test Data: See Appendix

APPENDIX - TEST DATA

SPURIOUS EMISSIONS

Environmental Conditions & Test Information

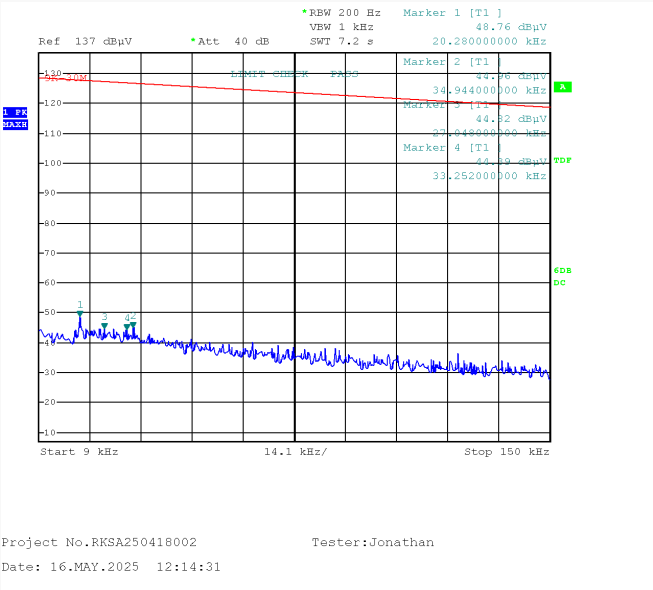
Test Item:	SPURIOUS EMISSIONS		
	9kHz - 1GHz	1 GHz - 18 GHz	18 GHz - 25 GHz
Test Date:	2025-05-14 ~ 2025-05-16	2025-05-08 ~ 2025-05-14	2025-05-14
Temperature:	23.9 °C - 24.5 °C	23.4 °C -24.8 °C	23.9 °C
Relative Humidity:	47 % - 49 %	49 % - 51 %	47 %
ATM Pressure:	101.3 kPa - 101.5 kPa	101.0 kPa - 101.3 kPa	101.3 kPa
Test Result:	Pass	Pass	Pass
Test Engineer:	Jonathan	Destine Hu	Hugh Wu

Test Result: Compliant
EUT operation mode: Transmitting

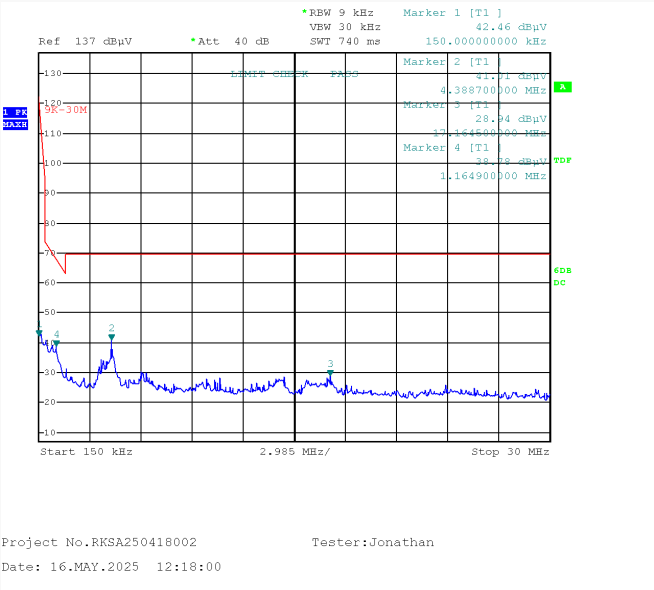
For Wi-Fi Mode:
9 kHz-30MHz: (Transmitting in maximum output power mode and 802.11b mode low channel)

Parallel(worst case)

9kHz-150kHz



150kHz-30MHz



9kHz-150kHz

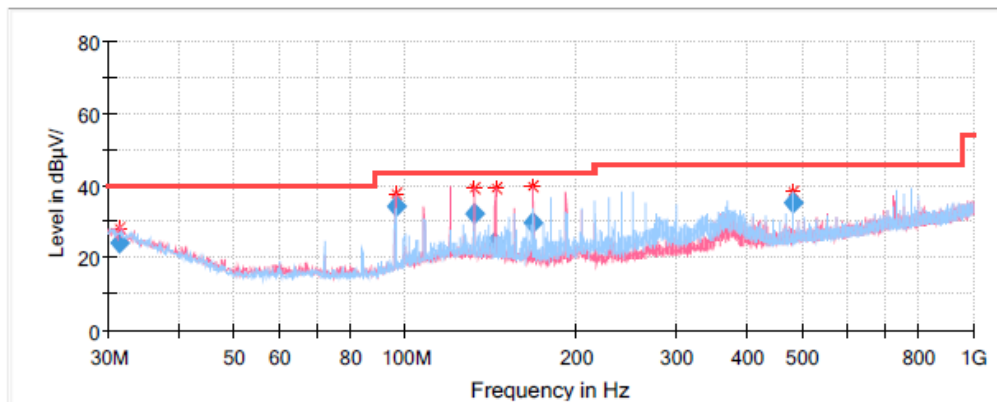
Frequency (kHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
20.28	48.76	PK	-0.56	121.46	72.70
34.94	44.96	PK	-1.40	116.74	71.78
27.05	44.82	PK	-0.60	118.96	74.14
33.25	44.39	PK	-1.13	117.17	72.78

150kHz-30MHz

Frequency (MHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
0.15	42.46	PK	-11.34	104.08	61.62
4.39	41.01	PK	-31.97	69.54	28.53
17.16	28.94	PK	-33.15	69.54	40.60
1.16	38.78	PK	-28.14	66.32	27.54

30MHz-1GHz (Transmitting in maximum output power mode and 802.11b mode low channel):**Low channel: 2412MHz****Common Information**

Project No: RKSC250418002
 EUT Model: D110PLUS
 Test Mode: Transmitting in 802.11b mode low channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESCI, JB3, 310N
 Receiver Setting: RBW: 100 kHz, VBW: 300 kHz, Sweep Time: Auto
 Temperature: 23.9°C
 Humidity: 47%
 Barometric Pressure: 101.3kPa
 Test Engineer: Jonathan
 Test Date: 2025/5/14

**Final Result**

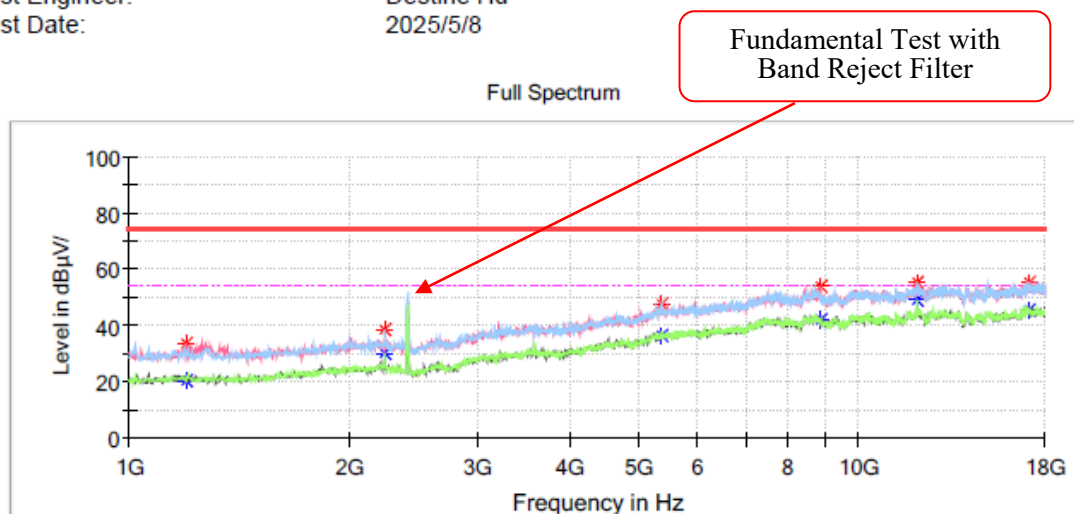
Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
31.333600	24.16	40.00	15.84	V	-4.9
96.010400	34.34	43.50	9.16	H	-15.3
131.998850	32.07	43.50	11.43	H	-11.1
144.012800	24.34	43.50	19.16	H	-11.4
167.991800	29.81	43.50	13.69	H	-12.4
480.045150	35.31	46.00	10.69	H	-5.9

1GHz-18GHz:
802.11b Mode:

Low Channel: 2412MHz

Common Information

Project No.:	RKSC250418002
EUT Model:	D110PLUS
Test Mode:	Transmitting in 802.11b mode 2412 channel
Standard:	FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment:	ESU40,3115,PAM-0118P
Receiver Setting:	RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature:	23.4°C
Humidity:	49%
Atmospheric Pressure:	101.0kPa
Test Engineer:	Destine Hu
Test Date:	2025/5/8

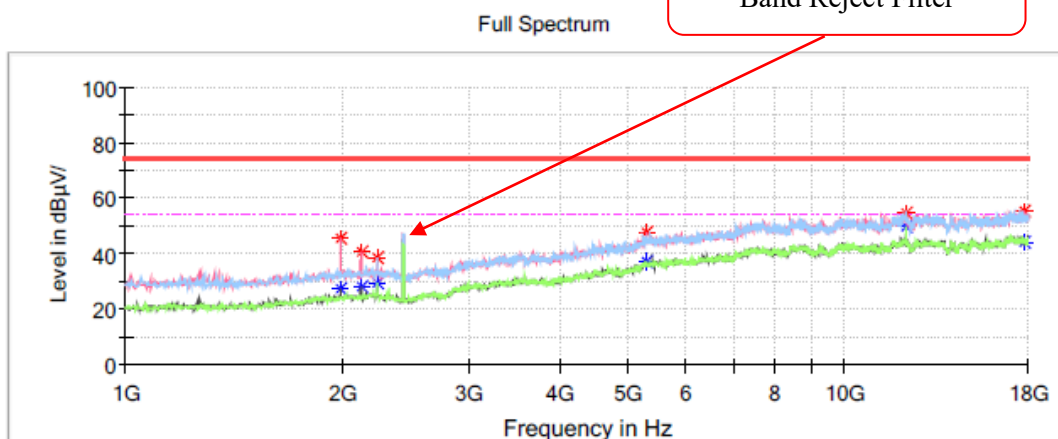


Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1193.800000	---	20.55	54.00	33.45	V	-15.2
1193.800000	33.62	---	74.00	40.38	V	-15.2
2237.600000	---	29.95	54.00	24.05	H	-11.0
2237.600000	38.30	---	74.00	35.70	H	-11.0
5355.400000	---	36.02	54.00	17.98	V	-0.9
5355.400000	47.65	---	74.00	26.35	V	-0.9
8864.200000	---	41.98	54.00	12.02	H	5.4
8864.200000	53.57	---	74.00	20.43	H	5.4
12060.200000	55.06	---	74.00	18.94	H	9.1
12060.200000	---	49.03	54.00	4.97	H	9.1
17136.400000	---	45.14	54.00	8.86	V	12.1
17136.400000	55.10	---	74.00	18.90	V	12.1

Middle Channel: 2437MHz**Common Information**

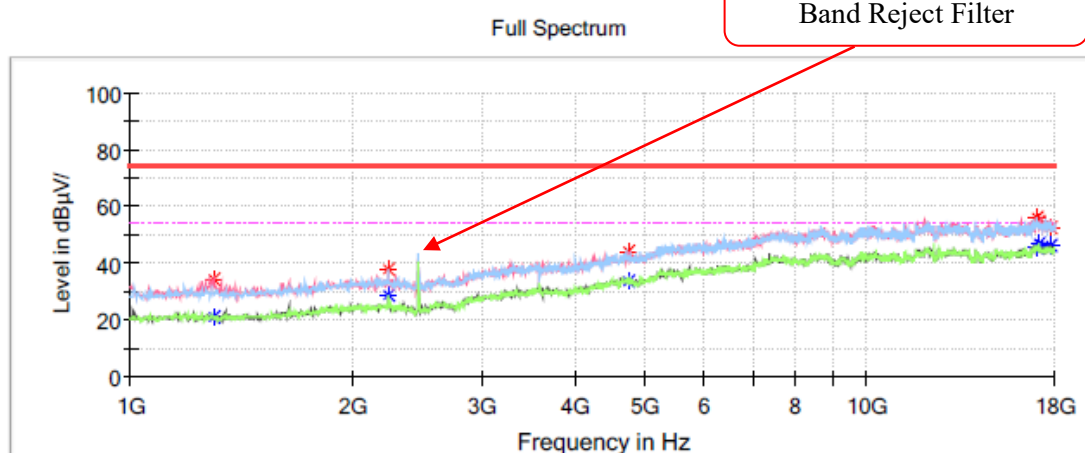
Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11b mode 2437 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1992.800000	---	27.18	54.00	26.82	V	-11.8
1992.800000	45.69	---	74.00	28.31	V	-11.8
2132.200000	---	28.00	54.00	26.00	V	-11.3
2132.200000	40.72	---	74.00	33.28	V	-11.3
2237.600000	---	29.23	54.00	24.77	H	-11.0
2237.600000	38.30	---	74.00	35.70	H	-11.0
5297.600000	---	36.73	54.00	17.27	H	-1.2
5297.600000	47.28	---	74.00	26.72	H	-1.2
12186.000000	54.36	---	74.00	19.64	H	9.2
12186.000000	---	49.51	54.00	4.49	H	9.2
17768.800000	55.22	---	74.00	18.78	V	11.8
17768.800000	---	44.22	54.00	9.78	V	11.8

High Channel: 2462MHz**Common Information**

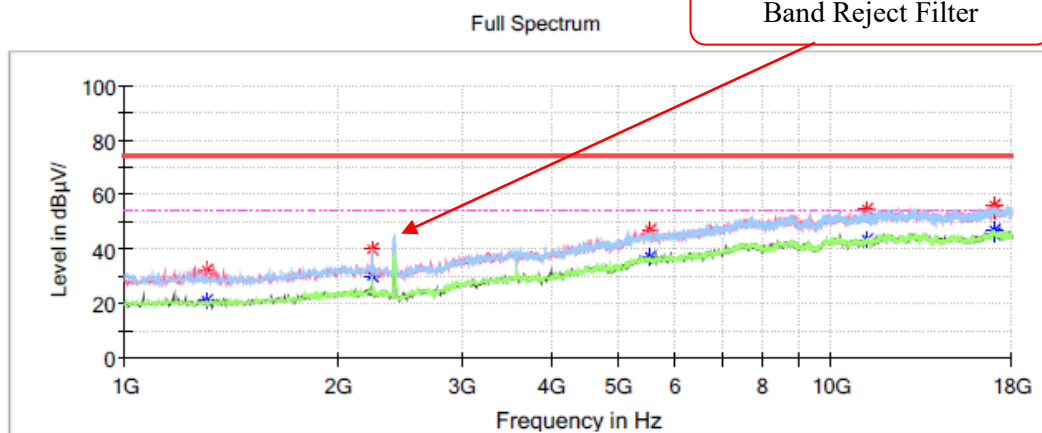
Project No.: RKSC250418002
 EUT Model: D110PLUS
 Test Mode: Transmitting in 802.11b mode 2462 channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 23.4℃
 Humidity: 49%
 Atmospheric Pressure: 101.0kPa
 Test Engineer: Destine Hu
 Test Date: 2025/5/8

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1295.800000	---	21.20	54.00	32.80	V	-15.0
1295.800000	34.05	---	74.00	39.95	V	-15.0
2237.600000	---	28.98	54.00	25.02	H	-11.0
2237.600000	37.72	---	74.00	36.28	H	-11.0
4733.200000	---	33.85	54.00	20.15	V	-3.4
4733.200000	44.28	---	74.00	29.72	V	-3.4
17058.200000	55.59	---	74.00	18.41	H	12.2
17058.200000	---	45.23	54.00	8.77	H	12.2
17116.000000	54.61	---	74.00	19.39	H	12.1
17116.000000	---	46.73	54.00	7.27	H	12.1
17762.000000	52.30	---	74.00	21.70	V	11.8
17762.000000	---	46.05	54.00	7.95	V	11.8

802.11g Mode:**Low Channel: 2412MHz****Common Information**

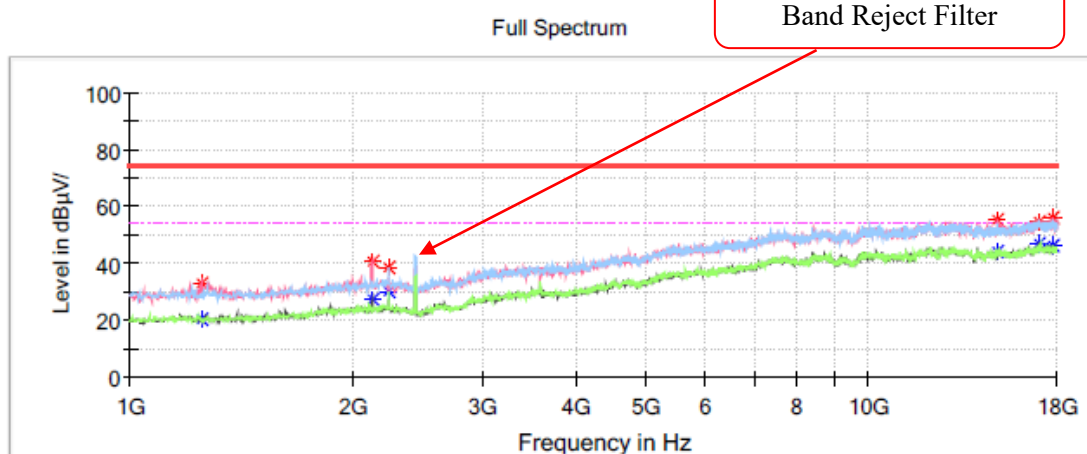
Project No.: RKSC250418002
 EUT Model: D110PLUS
 Test Mode: Transmitting in 802.11g mode 2412 channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 23.4°C
 Humidity: 49%
 Atmospheric Pressure: 101.0kPa
 Test Engineer: Destine Hu
 Test Date: 2025/5/8

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1302.600000	---	20.64	54.00	33.36	V	-15.0
1302.600000	32.46	---	74.00	41.54	V	-15.0
2237.600000	---	30.23	54.00	23.77	H	-11.0
2237.600000	39.97	---	74.00	34.03	H	-11.0
5542.400000	---	36.77	54.00	17.23	H	-0.3
5542.400000	46.69	---	74.00	27.31	H	-0.3
11254.400000	---	43.14	54.00	10.86	V	8.1
11254.400000	54.68	---	74.00	19.32	V	8.1
17020.800000	---	46.85	54.00	7.15	H	12.2
17020.800000	53.99	---	74.00	20.01	H	12.2
17034.400000	---	45.45	54.00	8.55	V	12.2
17034.400000	55.79	---	74.00	18.21	V	12.2

Middle Channel: 2437MHz**Common Information**

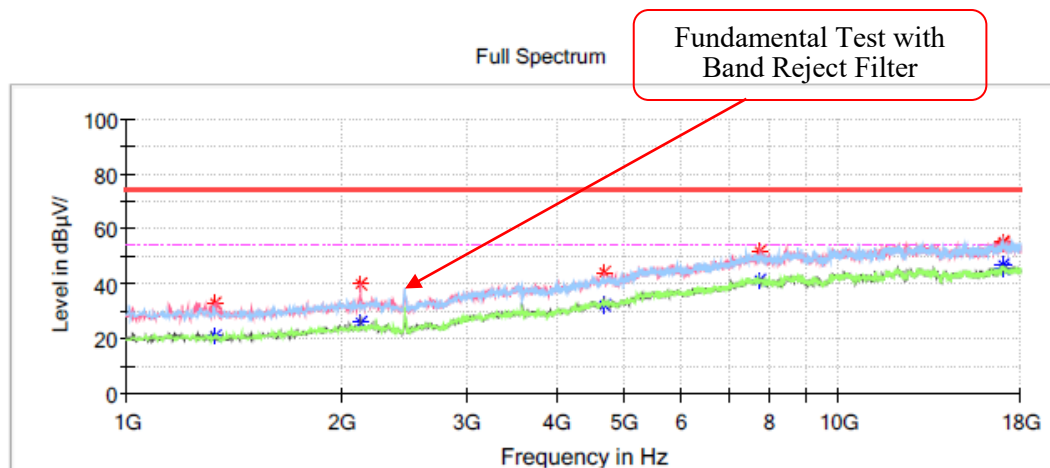
Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11g mode 2437 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1248.200000	---	20.04	54.00	33.96	V	-15.1
1248.200000	32.85	---	74.00	41.15	V	-15.1
2125.400000	---	27.00	54.00	27.00	V	-11.3
2125.400000	40.85	---	74.00	33.15	V	-11.3
2237.600000	---	30.03	54.00	23.97	H	-11.0
2237.600000	38.30	---	74.00	35.70	H	-11.0
14984.200000	---	43.77	54.00	10.23	H	9.3
14984.200000	54.97	---	74.00	19.03	H	9.3
17075.200000	---	46.75	54.00	7.25	V	12.2
17075.200000	54.69	---	74.00	19.31	V	12.2
17813.000000	---	45.93	54.00	8.07	V	11.8
17813.000000	55.60	---	74.00	18.40	V	11.8

High Channel: 2462MHz**Common Information**

Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11g mode 2462 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical Freqs**

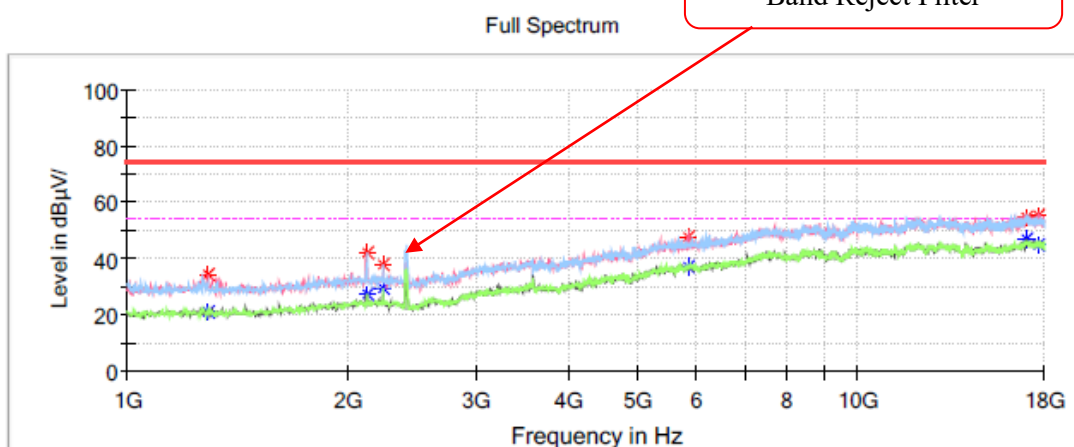
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1329.800000	32.63	---	74.00	41.37	V	-15.0
1329.800000	---	20.72	54.00	33.28	V	-15.0
2132.200000	39.61	---	74.00	34.39	V	-11.3
2132.200000	---	25.71	54.00	28.29	V	-11.3
4685.600000	---	32.51	54.00	21.49	V	-3.6
4685.600000	43.80	---	74.00	30.20	V	-3.6
7721.800000	---	41.07	54.00	12.93	H	3.9
7721.800000	51.74	---	74.00	22.26	H	3.9
17037.800000	54.56	---	74.00	19.44	H	12.2
17037.800000	---	46.88	54.00	7.12	H	12.2
17075.200000	55.43	---	74.00	18.57	V	12.2
17075.200000	---	45.37	54.00	8.63	V	12.2

802.11n-HT20 Mode :

Low Channel: 2412MHz

Common Information

Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11n20 mode 2412 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

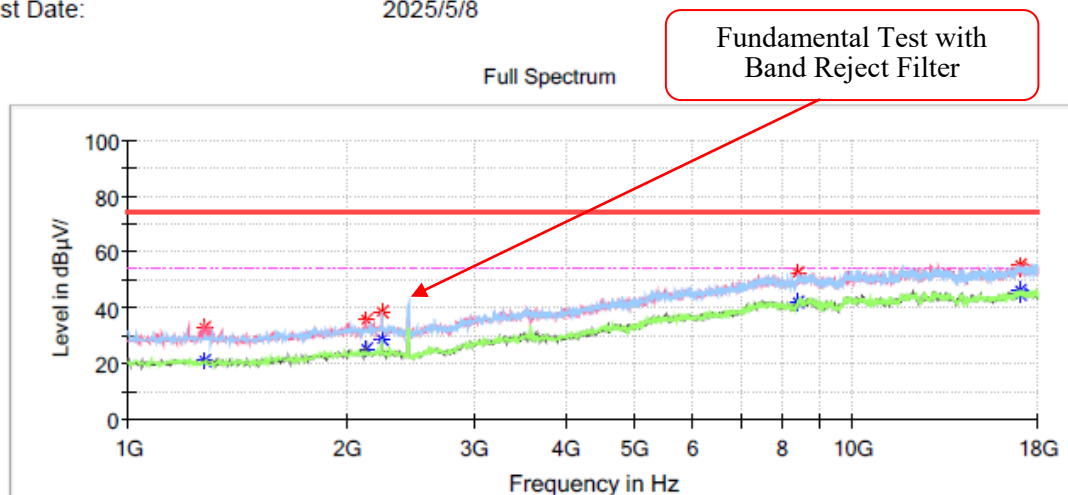


Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1289.000000	---	20.98	54.00	33.02	V	-15.0
1289.000000	34.09	---	74.00	39.91	V	-15.0
2128.800000	---	27.20	54.00	26.80	V	-11.3
2128.800000	41.95	---	74.00	32.05	V	-11.3
2237.600000	---	29.07	54.00	24.93	H	-11.0
2237.600000	37.68	---	74.00	36.32	H	-11.0
5841.600000	---	36.73	54.00	17.27	H	-0.1
5841.600000	47.34	---	74.00	26.66	H	-0.1
17014.000000	---	46.86	54.00	7.14	H	12.3
17014.000000	54.36	---	74.00	19.64	H	12.3
17683.800000	---	45.05	54.00	8.95	V	11.7
17683.800000	55.53	---	74.00	18.47	V	11.7

Middle Channel: 2437MHz**Common Information**

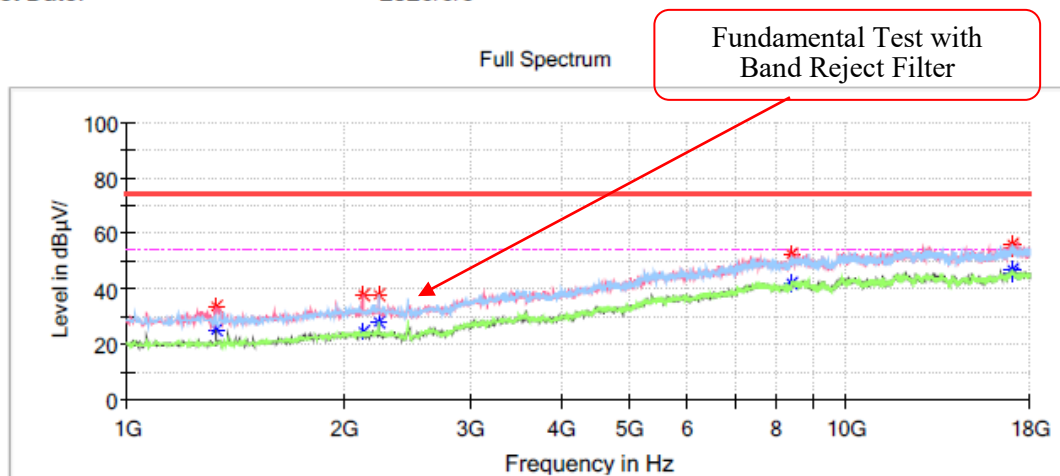
Project No.: RKSC250418002
 EUT Model: D110PLUS
 Test Mode: Transmitting in 802.11n20 mode 2437 channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 23.4℃
 Humidity: 49%
 Atmospheric Pressure: 101.0kPa
 Test Engineer: Destine Hu
 Test Date: 2025/5/8

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1272.000000	---	21.24	54.00	32.76	V	-15.1
1272.000000	32.85	---	74.00	41.15	V	-15.1
2128.800000	---	24.90	54.00	29.10	V	-11.3
2128.800000	35.76	---	74.00	38.24	V	-11.3
2237.600000	---	28.88	54.00	25.12	H	-11.0
2237.600000	38.52	---	74.00	35.48	H	-11.0
8395.000000	---	42.07	54.00	11.93	H	5.1
8395.000000	52.32	---	74.00	21.68	H	5.1
17041.200000	55.19	---	74.00	18.81	V	12.2
17041.200000	---	44.67	54.00	9.33	V	12.2
17075.200000	54.16	---	74.00	19.84	H	12.2
17075.200000	---	46.45	54.00	7.55	H	12.2

High Channel: 2462MHz**Common Information**

Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11n20 mode 2462 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical Freqs**

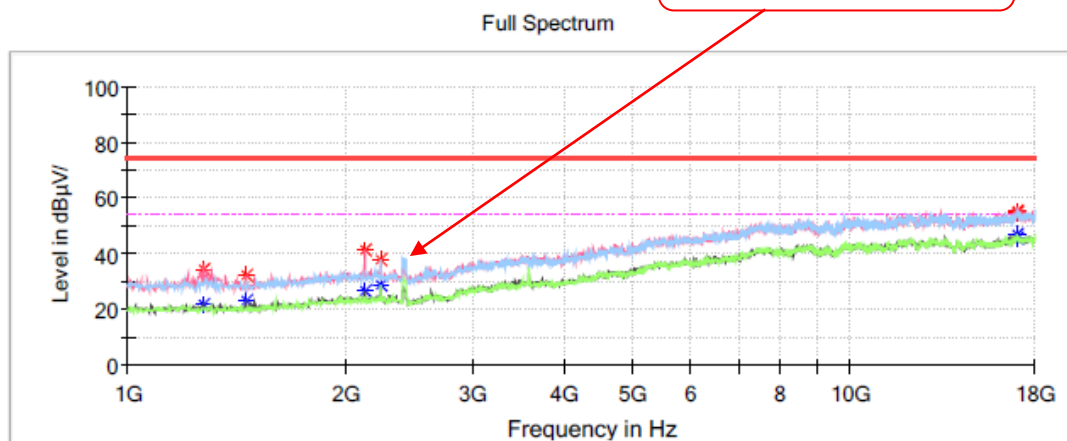
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1329.800000	---	25.17	54.00	28.83	V	-15.0
1329.800000	33.39	---	74.00	40.61	V	-15.0
2128.800000	37.92	---	74.00	36.08	V	-11.3
2128.800000	---	24.65	54.00	29.35	V	-11.3
2237.600000	37.86	---	74.00	36.14	H	-11.0
2237.600000	---	28.16	54.00	25.84	H	-11.0
8381.400000	---	41.75	54.00	12.25	H	5.1
8381.400000	52.32	---	74.00	21.68	H	5.1
16993.600000	55.88	---	74.00	18.12	V	12.3
16993.600000	---	45.79	54.00	8.21	V	12.3
17014.000000	---	46.74	54.00	7.26	H	12.3
17014.000000	54.23	---	74.00	19.77	H	12.3

802.11n-HT40 Mode :

Low Channel: 2422MHz

Common Information

Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11n40 mode 2422 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4°C
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

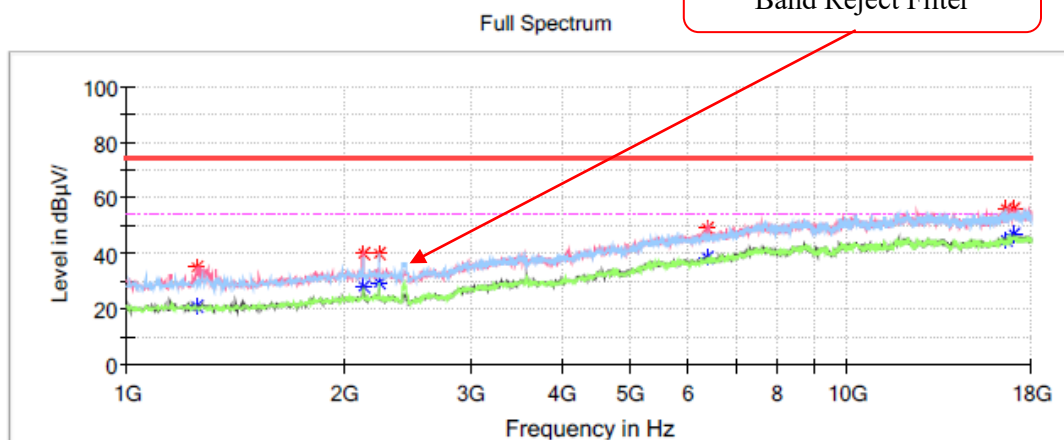
Fundamental Test with
Band Reject Filter

Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1272.000000	---	21.68	54.00	32.32	V	-15.1
1272.000000	34.48	---	74.00	39.52	V	-15.1
1459.000000	---	22.95	54.00	31.05	V	-14.8
1459.000000	32.26	---	74.00	41.74	V	-14.8
2128.800000	---	26.25	54.00	27.75	V	-11.3
2128.800000	41.59	---	74.00	32.41	V	-11.3
2237.600000	---	28.48	54.00	25.52	H	-11.0
2237.600000	37.74	---	74.00	36.26	H	-11.0
16986.800000	55.46	---	74.00	18.54	H	12.2
16986.800000	---	45.42	54.00	8.58	H	12.2
17017.400000	54.29	---	74.00	19.71	H	12.3
17017.400000	---	46.55	54.00	7.45	H	12.3

Middle Channel: 2437MHz**Common Information**

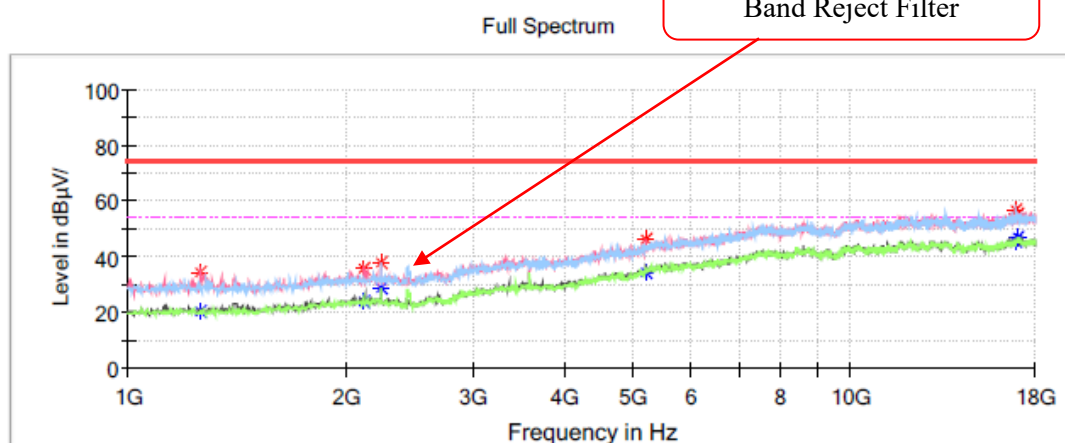
Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11n40 mode 2437 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4°C
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1248.200000	---	21.21	54.00	32.79	V	-15.1
1248.200000	34.88	---	74.00	39.12	V	-15.1
2125.400000	---	27.77	54.00	26.23	V	-11.3
2125.400000	39.97	---	74.00	34.03	V	-11.3
2237.600000	---	29.21	54.00	24.79	H	-11.0
2237.600000	39.60	---	74.00	34.40	H	-11.0
6372.000000	---	38.21	54.00	15.79	V	0.4
6372.000000	49.08	---	74.00	24.92	V	0.4
16599.200000	55.76	---	74.00	18.24	H	11.1
16599.200000	---	44.46	54.00	9.54	H	11.1
17037.800000	55.65	---	74.00	18.35	V	12.2
17037.800000	---	46.59	54.00	7.41	V	12.2

High Channel: 2452MHz**Common Information**

Project No.: RKSC250418002
EUT Model: D110PLUS
Test Mode: Transmitting in 802.11n40 mode 2452 channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 23.4℃
Humidity: 49%
Atmospheric Pressure: 101.0kPa
Test Engineer: Destine Hu
Test Date: 2025/5/8

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1261.800000	---	20.35	54.00	33.65	V	-15.1
1261.800000	34.07	---	74.00	39.93	V	-15.1
2122.000000	---	23.51	54.00	30.49	V	-11.4
2122.000000	35.94	---	74.00	38.06	V	-11.4
2237.600000	---	28.95	54.00	25.05	H	-11.0
2237.600000	37.77	---	74.00	36.23	H	-11.0
5202.400000	---	34.60	54.00	19.40	V	-1.6
5202.400000	46.01	---	74.00	27.99	V	-1.6
16969.800000	56.93	---	74.00	17.07	H	12.2
16969.800000	---	45.18	54.00	8.82	H	12.2
17031.000000	55.41	---	74.00	18.59	H	12.2
17031.000000	---	46.74	54.00	7.26	H	12.2