

FCC Test Report

Report No. : 1812C50209712503

Applicant : Anker Innovations Limited

Address Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18

Harcourt Road, Hong Kong

Product Name : eufy WiFi Repeater

Report Date : 2025-06-30





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FCC ID: 2AOKB-T8024

TEST REPORT

Anker Innovations Limited **Applicant**

Manufacturer **Anker Innovations Limited**

Product Name eufy WiFi Repeater

Model No. T8024

Trade Mark eufy

Rating(s) Input: 100-240~, 50/60Hz, 0.3A Max

47 CFR Part 15E

ANSI C63.10-2020 Test Standard(s)

KDB 662911 D01 Multiple Transmitter Output v02r01

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt:	2025-05-07		
Date of Test:	2025-05-07 to 2025-06-18		
Prepared By:	Cene Chen		
•	(Lene Chen)		
	Augo Chen		
Approved & Authorized Signer:			
	(Hugo Chen)		



FCC ID: 2AOKB-T8024

Revision History

Report Version	Description	Issued Date
R00	Original Issue.	2025-06-30



FCC ID: 2AOKB-T8024

1. General Information

1.1. Client Information

Applicant	:	Anker Innovations Limited
Address	:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Manufacturer	:	Anker Innovations Limited
Address	:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

1.2. Description of Device (EUT)

•		•
Product Name	:	eufy WiFi Repeater
Model No.	:	T8024
Trade Mark	:	eufy
Test Power Supply	:	AC 120V/60Hz
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
RF Specification		
Operation Frequency	:	802.11a/n(HT20)/ac(HT20)/ax(HEW20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 3: 5745MHz to 5825MHz
Number of Channel	:	802.11a/n(HT20)/ac(HT20)/ax(HEW20): U-NII Band 1: 4; U-NII Band 3: 5
Modulation Type	:	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM); 802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Device Type	:	Indoor AP
Antenna Type	:	ANT1: External Antenna ANT2: External Antenna
Antenna Gain(Peak)	:	WiFi 5.2G ANT1: 3.25dBi WiFi 5.2G ANT2: 3.15dBi WiFi 5.8G ANT1: 3.29dBi WiFi 5.8G ANT2: 3.70dBi
Directional gain	:	WiFi 5.2G: 6.21dBi WiFi 5.8G: 6.51dBi

Remark:

(1) All of the RF specification are provided by customer.

WiFi 5.8G: 6.51dBi

(2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.







1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
1	1	1	1

1.4. Operation channel list

Operation Band: U-NII Band 1

Operation Band: 6 Wil Band 1			
Bandwidth:	20MHz		
Channel	Frequency (MHz)		
36	5180		
40	5200		
44	5220		
48	5240		

Operation Band: U-NII Band 3

operation band. 9 km band 9			
20MHz			
Frequency (MHz)			
5745			
5765			
5785			
5805			
5825			

1.5. Description of Test Modes

Pretest Modes	Descriptions	
TM1	Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.	
TM2	Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.	
ТМЗ	Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.	
TM4	Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.	
Note: 802.11ax mode only support full resource unit size.		





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1.6. Measurement Uncertainty

Parameter	Uncertainty			
Conducted emissions (AMN 150kHz~30MHz)	3.2dB			
Dwell Time	2%			
Occupied Bandwidth	925Hz			
Conducted Output Power	0.76dB			
Power Spectral Density	0.76dB			
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.64dB; 6G-18GHz: 4.82dB 18G-40GHz: 5.62dB			
Radiated emissions (Below 30MHz)	3.26dB			
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.70dB; Vertical: 4.42dB			
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032				

The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.7. Additional Instructions

Power level setup in software: EmuPt.exe

Operation Band: U-NII Band 1

operation band of the band t			
Mode	Power level	Transmitting type	
802.11a	default	data pack TX	
802.11n(HT20)	default	data pack TX	
802.11ac(VHT20)	default	data pack TX	
802.11ax(HEW20)	default	data pack TX	

Operation Band: U-NII Band 3

Mode	Power level	Transmitting type
802.11a	default	data pack TX
802.11n(HT20)	default	data pack TX
802.11ac(VHT20)	default	data pack TX
802.11ax(HEW20)	default	data pack TX







1.8. Test Summary

Test Items	Test Modes	Status
Antenna requirement	1	Р
Conducted Emission at AC power line	Mode1,2,3,4	Р
Duty Cycle	Mode1,2,3,4	Р
Emission bandwidth and occupied bandwidth	Mode1,2,3,4	Р
Maximum conducted output power	Mode1,2,3,4	Р
Power spectral density	Mode1,2,3,4	Р
Band edge emissions (Radiated)	Mode1,2,3,4	Р
Undesirable emission limits (below 1GHz)	Mode1,2,3,4	Р
Undesirable emission limits (above 1GHz)	Mode1,2,3,4	Р
Note: P: Pass	·	

N: N/A, not applicable



1.9. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:279531

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 279531.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.10. Disclaimer

- 1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- 2. The test report is invalid if there is any evidence and/or falsification.
- 3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- 4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
- 5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
- 7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.





1.11. Test Equipment List

Cond	Conducted Emission at AC power line					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2024-09-09	2025-09-08
2	Three Phase V- type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2025-01-13	2026-01-12
3	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	1	/
4	EMI Test Receiver(CE2#)	Rohde & Schwarz	ESPI3	100926	2024-09-09	2025-09-08

Duty Cycle

Emission bandwidth and occupied bandwidth

Maximum conducted output power

Powe	Power spectral density					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ- KHWS80B	N/A	2024-10-14	2025-10-13
2	DC Power Supply	IVYTECH	IV3605	1804D360 510	2024-09-09	2025-09-08
3	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	2025-04-25	2026-04-24
4	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY505318 23	2024-09-09	2025-09-08
5	Oscilloscope	Tektronix	MDO3012	C020298	2024-10-10	2025-10-09
6	MXG RF Vector Signal Generator	Agilent	N5182A	MY474206 47	2025-01-14	2026-01-13



	Band edge emissions (Radiated) Undesirable emission limits (above 1GHz)					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2025-01-14	2026-01-13
2	EMI Preamplifier	SKET Electronic	LNPA- 0118G-45	SKET-PA- 002	2025-01-13	2026-01-12
3	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	1	/
5	Horn Antenna	A-INFO	LB-180400- KF	J2110606 28	2024-01-22	2027-01-21
6	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	2025-04-25	2026-04-24
7	Amplifier	Talent Microwave	TLLA18G40 G-53-30	23022802	2025-02-24	2026-02-23

Unde	Undesirable emission limits (below 1GHz)					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2025-01-14	2026-01-13
2	Pre-amplifier	SONOMA	310N	186860	2025-01-14	2026-01-13
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Loop Antenna (9K-30M)	Schwarzbeck	FMZB1519 B	00053	2024-09-12	2025-09-11
5	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	1	/



2. Antenna requirement

2.1. Conclusion

The antenna is a External Antenna which permanently attached, and the best case gain of the antenna is 3.25dBi for WiFi 5.2G ANT1, 3.15dBi for WiFi 5.2G ANT2, 3.29dBi for WiFi 5.8G ANT1, 3.70dBi for WiFi 5.8G ANT2. It complies with the standard requirement.



FCC ID: 2AOKB-T8024

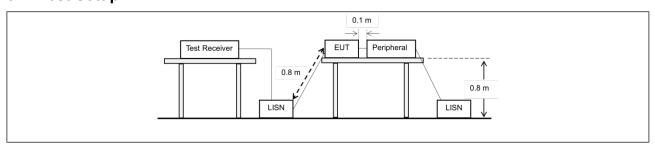
3. Conducted Emission at AC power line

Test Requirement:	47 CFR Part 15.207(a)		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dBµV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of t	he frequency.	
Test Method:	ANSI C63.10-2020 section 6.2		

3.1. EUT Operation

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Operating Envi	ironment:
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

3.2. Test Setup

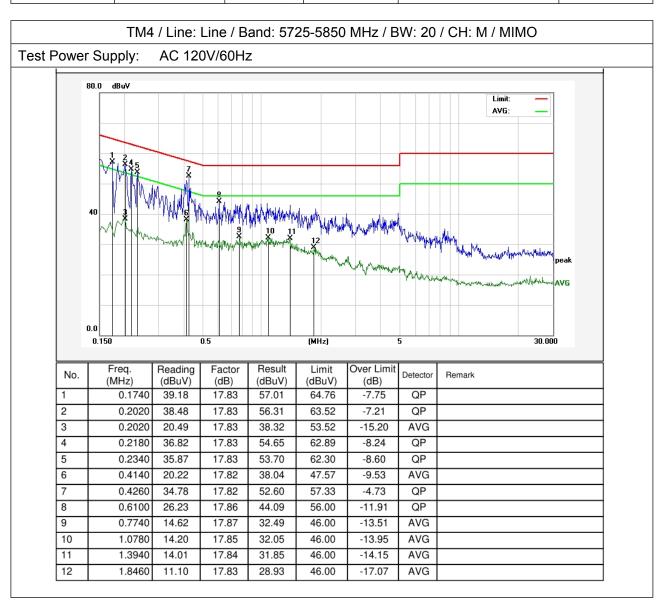




FCC ID: 2AOKB-T8024

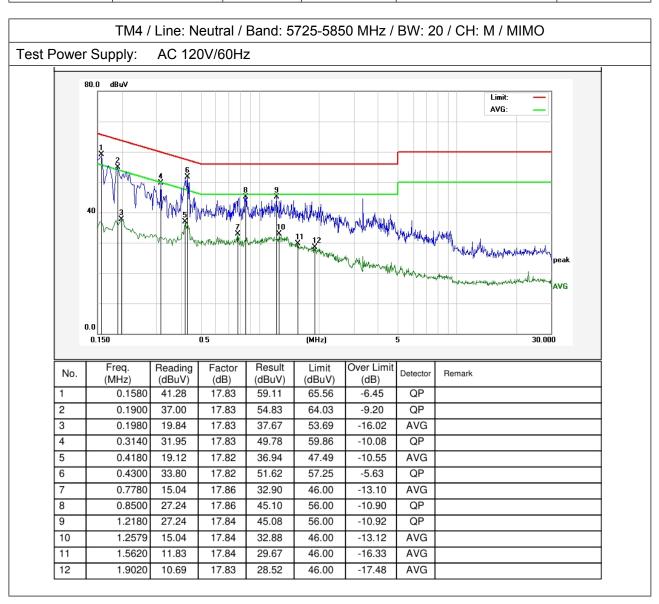
3.3. Test Data

Temperature: 24 °C Humidity: 55 % Atmospheric Pressure: 101 kPa





Temperature: 24 °C Humidity: 55 % Atmospheric Pressure: 101 kPa



Note:

- 1. Only record the worst data in the report.
- 2. Result(dB μ V) = Reading(dB μ V) + Factor(dB); Over Limit(dB) = Result(dB μ V) - Limit(dB μ V)



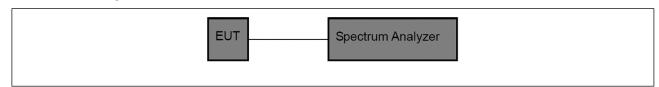
4. Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Limit:	No limits, only for report use.
Test Method:	ANSI C63.10-2020 section 12.2 (b)
Procedure:	 i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW >= EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW >= RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.

4.1. EUT Operation

Operating Env	vironment:
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

4.2. Test Setup



4.3. Test Data

Temperature: 25.8 °C Humidity: 53 % Atmospheric Pressure: 10)1 kPa
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Please Refer to Appendix for Details.







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5. Emission bandwidth and occupied bandwidth

	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use.
Test Requirement:	
	U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use.
Test Limit:	U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2020, section 6.9 & 12.5 KDB 789033 D02, Clause C.2
	Emission bandwidth: a) Set RBW = approximately 1% of the emission bandwidth. b) Set the VBW > RBW. c) Detector = peak. d) Trace mode = max hold. e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
Procedure:	Occupied bandwidth: a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2. d) Step a) through step c) might require iteration to adjust within the specified range. e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth. g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered



amplitude data points,

beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached:

that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the

total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is

the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument

display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may

be reported in addition to the plot(s).

6 dB emission bandwidth:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) ≥ 3 >= RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.1. EUT Operation

Operating Environment:

1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

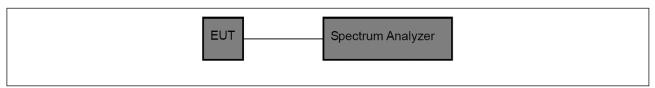
Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.



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5.2. Test Setup



5.3. Test Data

Temperature: 25.8 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.



FCC ID: 2AOKB-T8024

6. Maximum conducted output power

Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations exclude the use of point-to-multipoint systems employing high gain directional antennas are used exclusively for fix
	maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.







	However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020, section 12.4
Procedure:	Refer to ANSI C63.10-2020 section 12.4

6.1. EUT Operation

Operating Environment:

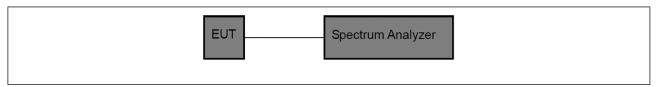
1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

6.2. Test Setup



6.3. Test Data

Temperature:	25.8 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.





7. Power spectral density

7. Fower Specifia	i density
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	
	the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters







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	transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020, section 12.6
Procedure:	Refer to ANSI C63.10-2020, section 12.6

7.1. EUT Operation

Operating Environment:

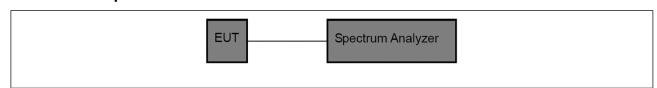
1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

7.2. Test Setup



7.3. Test Data

Temperature:	25.8 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.

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8. Band edge emissions (Radiated)

Test Requirement:	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)					
	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.					
	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge					
	increasing linearly to a					
	MHz	MHz	MHz	GHz		
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15		
	10.495-0.505	16.69475- 16.69525	608-614	5.35-5.46		
	2.1735-2.1905	16.80425- 16.80475	960-1240	7.25-7.75		
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5		
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2		
	4.20725-4.20775	73-74.6	1645.5- 1646.5	9.3-9.5		
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7		
	6.26775-6.26825	108-121.94	1718.8- 1722.2	13.25-13.4		
Test Limit:	6.31175-6.31225	123-138	2200-2300	14.47-14.5		
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2		
	8.362-8.366	156.52475- 156.52525	2483.5-2500	17.7-21.4		
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12		
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0		
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8		
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5		
	12.57675-12.57725	322-335.4	3600-4400	(2)		
	13.36-13.41					
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6					
	The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.					
	Except as provided els	sewhere in this subpa	art, the emission	s from an		





	T		
	intentional radiator shall no following table:	ot exceed the field strength leve	Is specified in the
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance
		,	(meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	frequency bands 54-72 MH However, operation within sections of this part, e.g., § In the emission table abov The emission limits shown employing a CISPR quasi- 90 kHz, 110–490 kHz and	ting under this section shall not Hz, 76-88 MHz, 174-216 MHz of these frequency bands is permiss 15.231 and 15.241. e, the tighter limit applies at the in the above table are based of peak detector except for the fre above 1000 MHz. Radiated emed on measurements employing	tata table to the state of the
Test Method:	ANSI C63.10-2020, section	n 12.7.4, 12.7.6, 12.7.7	
Procedure:	meters above the ground a was rotated 360 degrees to b. The EUT was set 3 meters which was mounted on the c. The antenna height is varying ground to determine the mand vertical polarizations of d. For each suspected emand then the antenna was test frequency of below 30 and the rotatable table was maximum reading. e. The test-receiver system Bandwidth with Maximum f. If the emission level of the limit specified, then testing would be re-tested one by and then reported in a data g. Test the EUT in the lower channel. h. The radiation measurements.	ne EUT in peak mode was 10dB could be stopped and the peak rise the emissions that did not hone using peak or average met a sheet. The est channel, the middle channel ments are performed in X, Y, Z a und the X axis positioning which	nber. The table highest radiation. receiving antenna, a tower. ters above the 19th. Both horizontal ne measurement. It is worst case 19th and the heights 1 meter) degrees to find the 19th and Specified 19th and Specified 19th and 19th an



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Remark:

- 1. Result($dB\mu V/m$) = Reading($dB\mu V$) + Factor(dB/m);Over Limit(dB) = Result($dB\mu V/m$) - Limit($dB\mu V/m$)
- 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
- 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

8.1. EUT Operation

Operating Environment:

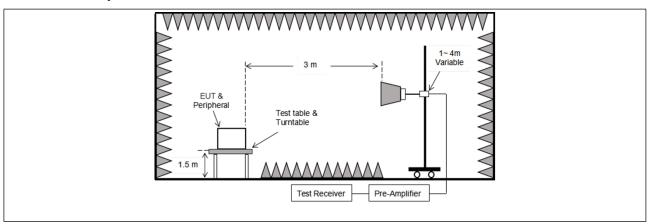
1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

8.2. Test Setup





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8.3. Test Data

ANT1:

ANTI.									
	TM1 / Band: 5150-5250 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5150.00	37.02	15.99	53.01	68.20	-15.19	Н	Peak		
5150.00	39.09	15.99	55.08	68.20	-13.12	V	Peak		
5150.00	26.94	15.99	42.93	54.00	-11.07	Н	AVG		
5150.00	29.01	15.99	45.00	54.00	-9.00	V	AVG		
		TM1 / B	and: 5150-52	250 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5250.00	37.45	16.43	53.88	68.20	-14.32	Н	Peak		
5250.00	40.42	16.43	56.85	68.20	-11.35	V	Peak		
5250.00	28.79	16.43	45.22	54.00	-8.78	Н	AVG		
5250.00	29.67	16.43	46.10	54.00	-7.90	V	AVG		

Remark:

ANT2:

		TM1 / B	and: 5150-52	250 MHz / BV	V: 20 / L		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	36.93	15.99	52.92	68.20	-15.28	Н	Peak
5150.00	38.99	15.99	54.98	68.20	-13.22	V	Peak
5150.00	26.88	15.99	42.87	54.00	-11.13	Н	AVG
5150.00	28.92	15.99	44.91	54.00	-9.09	V	AVG
		TM1 / B	and: 5150-52	250 MHz / BV	V: 20 / H		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5250.00	37.39	16.43	53.82	68.20	-14.38	Н	Peak
5250.00	40.30	16.43	56.73	68.20	-11.47	V	Peak
5250.00	28.70	16.43	45.13	54.00	-8.87	Н	AVG
5250.00	29.61	16.43	46.04	54.00	-7.96	V	AVG

Remark:

1. Result=Reading + Factor



^{1.} Result=Reading + Factor



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MIMO:

		TM2 / B	and: 5150-52	250 MHz / BV	V: 20 / L		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	35.89	15.99	51.88	68.20	-16.32	Н	Peak
5150.00	37.27	15.99	53.26	68.20	-14.94	V	Peak
5150.00	26.61	15.99	42.60	54.00	-11.40	Н	AVG
5150.00	27.61	15.99	43.60	54.00	-10.40	V	AVG
		TM2 / B	and: 5150-52	250 MHz / BV	V: 20 / H		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5250.00	37.71	16.43	54.14	68.20	-14.06	Н	Peak
5250.00	38.75	16.43	55.18	68.20	-13.02	V	Peak
5250.00	27.73	16.43	44.16	54.00	-9.84	Н	AVG
5250.00	29.17	16.43	45.60	54.00	-8.40	V	AVG

Remark:

- 1. Result=Reading + Factor
- 2. During the test, SISO and MIMO modes have been tested, and only worst case (MIMO) data is listed in the report.

	TM3 / Band: 5150-5250 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5150.00	36.87	15.99	52.86	68.20	-15.34	Н	Peak		
5150.00	38.61	15.99	54.60	68.20	-13.60	V	Peak		
5150.00	26.52	15.99	42.51	54.00	-11.49	Н	AVG		
5150.00	28.70	15.99	44.69	54.00	-9.31	V	AVG		
		TM3 / B	and: 5150-52	250 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5250.00	37.84	16.43	54.27	68.20	-13.93	Н	Peak		
5250.00	38.10	16.43	54.53	68.20	-13.67	V	Peak		
5250.00	27.75	16.43	44.18	54.00	-9.82	Н	AVG		
5250.00	28.29	16.43	44.72	54.00	-9.28	V	AVG		

Remark:

- 1. Result=Reading + Factor
- 2. During the test, SISO and MIMO modes have been tested, and only worst case (MIMO) data is listed in the report.





	TM4 / Band: 5150-5250 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5150.00	36.91	15.99	52.90	68.20	-15.30	Н	Peak		
5150.00	38.66	15.99	54.65	68.20	-13.55	V	Peak		
5150.00	26.55	15.99	42.54	54.00	-11.46	Н	AVG		
5150.00	28.73	15.99	44.72	54.00	-9.28	V	AVG		
		TM4 / B	and: 5150-52	250 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5250.00	37.87	16.43	54.30	68.20	-13.90	Н	Peak		
5250.00	38.12	16.43	54.55	68.20	-13.65	V	Peak		
5250.00	27.77	16.43	44.20	54.00	-9.80	Н	AVG		
5250.00	28.33	16.43	44.76	54.00	-9.24	V	AVG		

Remark:

- 1. Result=Reading + Factor
- 2. During the test, SISO and MIMO modes have been tested, and only worst case (MIMO) data is listed in the report.



ANT1:

		TM1 / B	and: 5725-58	350 MHz / BV	V: 20 / L		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5725.00	38.18	16.37	54.55	68.20	-13.65	Н	Peak
5725.00	39.56	16.37	55.93	68.20	-12.27	V	Peak
5725.00	29.04	16.70	45.74	54.00	-8.26	Н	AVG
5725.00	30.15	16.70	46.85	54.00	-7.15	V	AVG
		TM1 / B	and: 5725-58	350 MHz / BV	V: 20 / H		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	39.13	17.21	56.34	68.20	-11.86	Н	Peak
5850.00	39.49	17.21	56.70	68.20	-11.50	V	Peak
5850.00	29.11	17.21	46.32	54.00	-7.68	Н	AVG
5850.00	29.12	17.21	46.33	54.00	-7.67	V	AVG

Remark:

ANT2:

	TM1 / Band: 5725-5850 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5725.00	38.06	16.37	54.43	68.20	-13.77	Н	Peak		
5725.00	39.40	16.37	55.77	68.20	-12.43	V	Peak		
5725.00	28.95	16.70	45.65	54.00	-8.35	Н	AVG		
5725.00	30.05	16.70	46.75	54.00	-7.25	V	AVG		
		TM1 / B	and: 5725-58	350 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5850.00	38.98	17.21	56.19	68.20	-12.01	Н	Peak		
5850.00	39.33	17.21	56.54	68.20	-11.66	V	Peak		
5850.00	28.99	17.21	46.20	54.00	-7.80	Н	AVG		
5850.00	29.02	17.21	46.23	54.00	-7.77	V	AVG		

Remark:

1. Result=Reading + Factor

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^{1.} Result=Reading + Factor



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MIMO:

	TM2 / Band: 5725-5850 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5725.00	38.02	17.05	55.07	68.20	-13.13	Н	Peak		
5725.00	38.57	17.05	55.62	68.20	-12.58	V	Peak		
5725.00	27.54	17.05	44.59	54.00	-9.41	Н	AVG		
5725.00	28.03	17.05	45.08	54.00	-8.92	V	AVG		
		TM2 / B	and: 5725-58	350 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5850.00	37.22	17.21	54.43	68.20	-13.77	Н	Peak		
5850.00	37.87	17.21	55.08	68.20	-13.12	V	Peak		
5850.00	27.46	17.21	44.67	54.00	-9.33	Н	AVG		
5850.00	28.33	17.21	45.54	54.00	-8.46	V	AVG		

Remark:

- 1. Result=Reading + Factor
- 2. During the test, SISO and MIMO modes have been tested, and only worst case (MIMO) data is listed in the report.

		TM3 / B	and: 5725-58	350 MHz / BV	V: 20 / L		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5725.00	37.27	17.05	54.32	68.20	-13.88	Н	Peak
5725.00	37.47	17.05	54.52	68.20	-13.68	V	Peak
5725.00	28.22	17.05	45.27	54.00	-8.73	Н	AVG
5725.00	28.97	17.05	46.02	54.00	-7.98	V	AVG
		TM3 / B	and: 5725-58	350 MHz / BV	V: 20 / H		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	38.01	17.21	55.22	68.20	-12.98	Н	Peak
5850.00	38.91	17.21	56.12	68.20	-12.08	V	Peak
5850.00	27.90	17.21	45.11	54.00	-8.89	Н	AVG
5850.00	28.93	17.21	46.14	54.00	-7.86	V	AVG

Remark:

- 1. Result=Reading + Factor
- 2. During the test, SISO and MIMO modes have been tested, and only worst case (MIMO) data is listed in the report.



	TM4 / Band: 5725-5850 MHz / BW: 20 / L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5725.00	38.15	17.05	55.20	68.20	-13.00	Н	Peak		
5725.00	38.73	17.05	55.78	68.20	-12.42	V	Peak		
5725.00	27.60	17.05	44.65	54.00	-9.35	Н	AVG		
5725.00	28.13	17.05	45.18	54.00	-8.82	V	AVG		
		TM4 / B	and: 5725-58	350 MHz / BV	V: 20 / H				
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector		
5850.00	37.37	17.21	54.58	68.20	-13.62	Н	Peak		
5850.00	37.98	17.21	55.19	68.20	-13.01	V	Peak		
5850.00	27.64	17.21	44.85	54.00	-9.15	Н	AVG		
5850.00	28.46	17.21	45.67	54.00	-8.33	V	AVG		

Remark: 1. Result=Reading + Factor



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9. Undesirable emission limits (below 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(9	9)				
	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the					
	following table:					
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)			
	0.009-0.490	2400/F(kHz)	300			
	0.490-1.705	24000/F(kHz)	30			
	1.705-30.0	30	30			
	30-88	100 **	3			
	88-216	150 **	3			
Test Limit:	216-960	200 **	3			
	Above 960	500	3			
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other					
	sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.					
Test Method:	ANSI C63.10-2020, sect	ion 12.7.4, 12.7.5				
Procedure:	meters above the ground was rotated 360 degrees b. The EUT was set 3 or antenna, which was mout. The antenna height is ground to determine the and vertical polarizations d. For each suspected et and then the antenna was test frequency of below and the rotatable table was maximum reading. e. The test-receiver syst Bandwidth with Maximum f. If the emission level of limit specified, then testi would be reported. Othe	s of the antenna are set to mission, the EUT was arra as tuned to heights from 1 is 30MHz, the antenna was to as turned from 0 degrees are was set to Peak Detect in Hold Mode. The EUT in peak mode wang could be stopped and the was the emissions that did yo one using quasi-peak marks.	oic chamber. The table of the highest radiation. interference-receiving ble-height antenna tower. our meters above the distrength. Both horizontal make the measurement. Inged to its worst case meter to 4 meters (for the uned to heights 1 meter) to 360 degrees to find the a Function and Specified as 10dB lower than the ne peak values of the EUT dinot have 10dB margin			



- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case
- i. Repeat above procedures until all frequencies measured was complete. Remark:
- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

Above 1GHz:

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete. Remark:
- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any



emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

9.1. EUT Operation

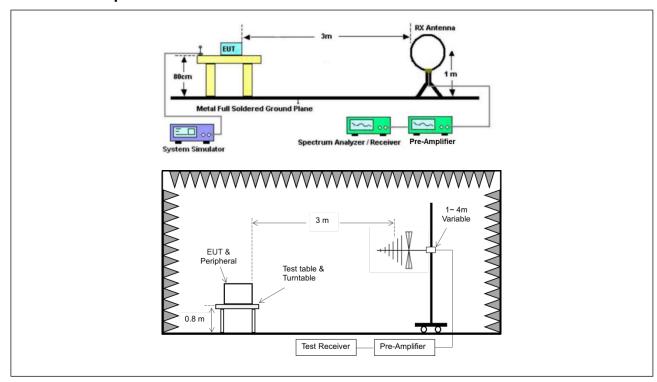
Operating Environment:

- 1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.
- 2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

9.2. Test Setup

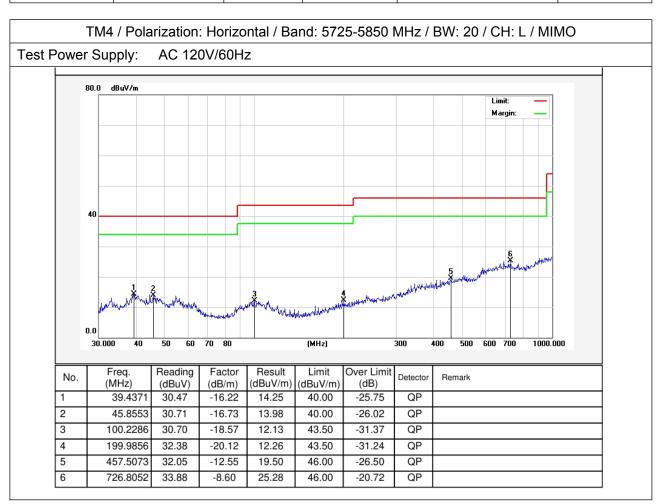




9.3. Test Data

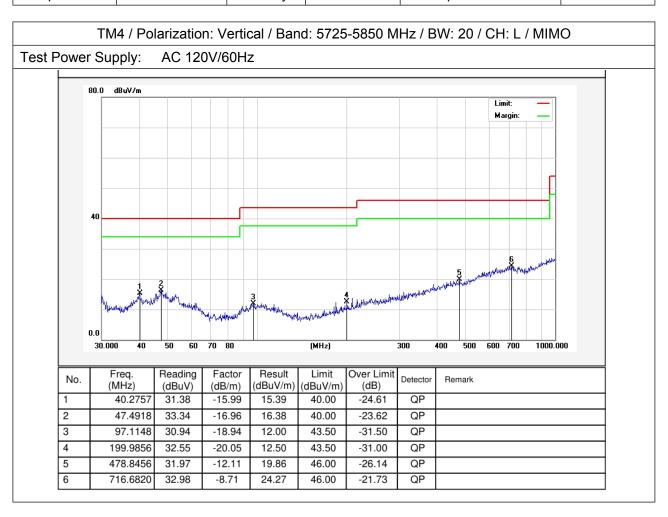
The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Temperature: 22.5 °C	Humidity:	55 %	Atmospheric Pressure:	101 kPa
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Temperature: 22.5 °C Humidity: 55 % Atmospheric Pressure: 101 kPa



Note:

- 1. Only record the worst data in the report.
- 2. Result($dB\mu V/m$) = Reading($dB\mu V$) + Factor(dB/m); Over Limit(dB) = Result($dB\mu V/m$) - Limit($dB\mu V/m$)



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10. Undesirable emission limits (above 1GHz)

st Requirement:	47 CFR Part 15.407(b 47 CFR Part 15.407(b 47 CFR Part 15.407(b)(4)						
	For transmitters opera of the 5.15-5.35 GHz b	pand shall not exceed	d an e.i.r.p. of −2	?7 dBm/MHz.				
	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.							
	MHz	MHz	MHz	GHz				
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15				
	10.495-0.505	16.69475- 16.69525	608-614	5.35-5.46				
	2.1735-2.1905	16.80425- 16.80475	960-1240	7.25-7.75				
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5				
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2				
	4.20725-4.20775	73-74.6	1645.5- 1646.5	9.3-9.5				
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7				
	6.26775-6.26825	108-121.94	1718.8- 1722.2	13.25-13.4				
st Limit:	6.31175-6.31225	123-138	2200-2300	14.47-14.5				
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2				
	8.362-8.366	156.52475- 156.52525	2483.5-2500	17.7-21.4				
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12				
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0				
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8				
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5				
	12.57675-12.57725	322-335.4	3600-4400	(2)				
	13.36-13.41							
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.							
	using measurement in detector. Above 1000 15.209shall be demon	strumentation emplo MHz, compliance wit strated based on the ons in § 15.35apply	ying a the earth average to these	CISPR qu mission li ge value d e measur				



Γ							
	intentional radiator shall not exceed the field strength levels specified in the following table:						
	Frequency (MHz)	Field strength	Measurement				
		(microvolts/meter)	distance (meters)				
	0.009-0.490	2400/F(kHz)	300				
	0.490-1.705	24000/F(kHz)	30				
	1.705-30.0	30	30				
	30-88	100 **	3				
	88-216	150 **	3				
	216-960	200 **	3				
	Above 960	500	3				
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 l However, operation within these frequency bands is permitted under sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edge The emission limits shown in the above table are based on measure employing a CISPR quasi-peak detector except for the frequency ba 90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limit these three bands are based on measurements employing an average detector.							
Test Method:	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7						
Procedure:	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7 Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.						

- 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
- 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

10.1. EUT Operation

Operating Environment:

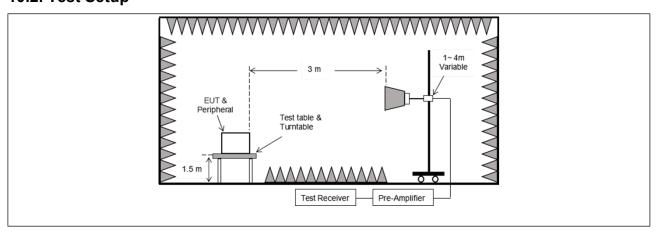
1: 802.11a mode: Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

2: 802.11n mode: Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Test mode:

- 3: 802.11ac mode: Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
- 4: 802.11ax mode: Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

10.2. Test Setup





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10.3. Test Data

Temperature:	25.8 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
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TM4 / Band: 5150-5250 MHz / BW: 20 / CH: L							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
10360.00	31.46	23.81	55.27	68.20	-12.93	V	Peak
15540.00	32.79	28.68	61.47	68.20	-6.73	V	Peak
10360.00	31.84	23.81	55.65	68.20	-12.55	Н	Peak
15540.00	32.87	28.68	61.55	68.20	-6.65	Н	Peak
10360.00	20.836	23.81	44.65	54.00	-9.35	V	AVG
15540.00	21.909	28.68	50.59	54.00	-3.41	V	AVG
10360.00	21.028	23.81	44.84	54.00	-9.16	Н	AVG
15540.00	21.564	28.68	50.24	54.00	-3.76	Н	AVG
		TM4 / Ban	d: 5150-5250	MHz / BW:	20 / CH: M		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
10400.00	30.82	23.81	54.63	68.20	-13.57	V	Peak
15600.00	32.32	29.13	61.45	68.20	-6.75	V	Peak
10400.00	31.33	23.81	55.14	68.20	-13.06	Н	Peak
15600.00	32.39	29.13	61.52	68.20	-6.68	Н	Peak
10400.00	21.106	23.81	44.92	54.00	-9.08	V	AVG
15600.00	22.029	29.13	51.16	54.00	-2.84	V	AVG
10400.00	21.018	23.81	44.83	54.00	-9.17	Н	AVG
15600.00	21.644	29.13	50.77	54.00	-3.23	Н	AVG
		TM4 / Ban	d: 5150-5250	MHz / BW:	20 / CH: H		
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
10480.00	30.39	23.80	54.19	68.20	-14.01	V	Peak
15720.00	31.80	30.03	61.83	68.20	-6.37	V	Peak
10480.00	30.97	23.80	54.77	68.20	-13.43	Н	Peak
15720.00	31.30	30.03	61.33	68.20	-6.87	Н	Peak
10480.00	19.78	23.80	43.58	54.00	-10.42	V	AVG
15720.00	20.79	30.03	50.82	54.00	-3.18	V	AVG
10480.00	20.23	23.80	44.03	54.00	-9.97	Н	AVG
15720.00	20.43	30.03	50.46	54.00	-3.54	Н	AVG

Remark:

- 1. Result =Reading + Factor
- 2. Only the worst case (802.11ax(HEW20)_MIMO) is recorded in the report.
- 3. Test frequency are from 1GHz to 40GHz, the amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.



FCC ID: 2AOKB-T8024

This (D) From Fore this (Div. 20 (O))								
TM4 / Band: 5725-5850 MHz / BW: 20 / CH: L								
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector	
11490.000	28.47	23.36	51.83	68.20	-16.37	V	Peak	
17235.000	29.77	31.97	61.74	68.20	-6.46	V	Peak	
11490.000	28.85	23.36	52.21	68.20	-15.99	Н	Peak	
17235.000	30.01	31.97	61.98	68.20	-6.22	Н	Peak	
11490.000	17.72	23.36	41.08	54.00	-12.92	V	AVG	
17235.000	18.43	31.97	50.40	54.00	-3.60	V	AVG	
11490.000	17.88	23.36	41.24	54.00	-12.76	Н	AVG	
17235.000	18.00	31.97	49.97	54.00	-4.03	Н	AVG	
		TM4 / Ban	d: 5725-5850	MHz/BW:	20 / CH: M			
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector	
11570.000	29.05	23.42	52.47	68.20	-15.73	V	Peak	
17355.000	29.65	32.18	61.83	68.20	-6.37	V	Peak	
11570.000	29.05	23.42	52.47	68.20	-15.73	Н	Peak	
17355.000	30.10	32.18	62.28	68.20	-5.92	Н	Peak	
11570.000	18.985	23.42	42.41	54.00	-11.59	V	AVG	
17355.000	18.754	32.18	50.93	54.00	-3.07	V	AVG	
11570.000	18.870	23.42	42.29	54.00	-11.71	Н	AVG	
17355.000	18.376	32.18	50.56	54.00	-3.44	Н	AVG	
		TM4 / Ban	d: 5725-5850	MHz / BW:	20 / CH: H			
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector	
11650.000	28.56	23.49	52.05	68.20	-16.15	V	Peak	
17475.000	29.89	32.39	62.28	68.20	-5.92	V	Peak	
11650.000	28.79	23.49	52.28	68.20	-15.92	Н	Peak	
17475.000	29.71	32.39	62.10	68.20	-6.10	Н	Peak	
11650.000	18.06	23.49	41.55	54.00	-12.45	V	AVG	
17475.000	18.55	32.39	50.94	54.00	-3.06	V	AVG	
11650.000	18.05	23.49	41.54	54.00	-12.46	Н	AVG	
17475.000	18.35	32.39	50.74	54.00	-3.26	Н	AVG	

Remark:

- 1. Result =Reading + Factor
- 2. Only the worst case (802.11ax(HEW20)_MIMO) is recorded in the report.
- 3. Test frequency are from 1GHz to 40GHz, the amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

