RF EXPOSURE REPORT

CERTIFICATE OF CONFORMITY

FCC Rule Part:	**FCC Part 2 (Section 2.1091)**
Report No.:	MFBCKS-WTW-P25020487
FCC ID:	NKR-LS04B
Product:	ADT Base
Brand:	ADT
Model No.:	ADTBASE502R0
Received Date:	2025/3/20
Test Date:	2025/5/26
Issued Date:	2025/6/6
Applicant:	Wistron NeWeb Corporation
Address:	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location(1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location(2):	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
FCC Registration / Designation Number:	788550 / TW0003 for Test Location(1) 198487 / TW2021 for Test Location(2)

Approved by: Jeremy Lin , **Date:** 2025/6/6

Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
MFBCKS-WTW-P25020487	Original release.	2025/6/6

1 Certificate

Product:	ADT Base
Brand:	ADT
Test Model:	ADTBASE502R0
Sample Status:	Engineering sample
Applicant:	Wistron NeWeb Corporation
Test Date:	2025/5/26
FCC Rule Part:	FCC Part 2 (Section 2.1091)
Standard:	KDB 447498 D04 Interim General RF Exposure Guidance v01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

Measurement	Specification	Expanded Uncertainty (k=2) (±)
RF Exposure (Magnetic field strength & Electric field strength)	1 Hz ~ 400 kHz	E = 0.14 dB, H = 1.81 dB
	300 kHz ~ 60 MHz	E = 0.4 dB, H = 1.29 dB
	100 MHz ~ 3 GHz	1.12 dB
	1 MHz ~ 40 GHz	1.12 dB

3 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

Routine Evaluation

Routine Evaluation Procedure - Single and/or Multiple RF Sources

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
EM Field Meter Wavecontrol	SMP2 Dual	22SN1914	2024/6/14	2025/6/13
E-Field Probe Wavecontrol	WPF60	22WP230188	2024/6/14	2025/6/13

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/5/26

4 Applicable RF Exposure Limit

§ 1.1310 Radiofrequency radiation exposure limits.

(a) Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) of this part within the frequency range of 100 kHz to 6 GHz (inclusive).
(b) The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.
(c) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

(e) Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

➢ Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
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
300-1,500	…	…	f/1500	<30
1,500-100,000	…	…	1.0	<30

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

➢ Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6

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

MPE-based Exemption – §1.1307(b)(3)(i)(C)

- The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.
- Table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

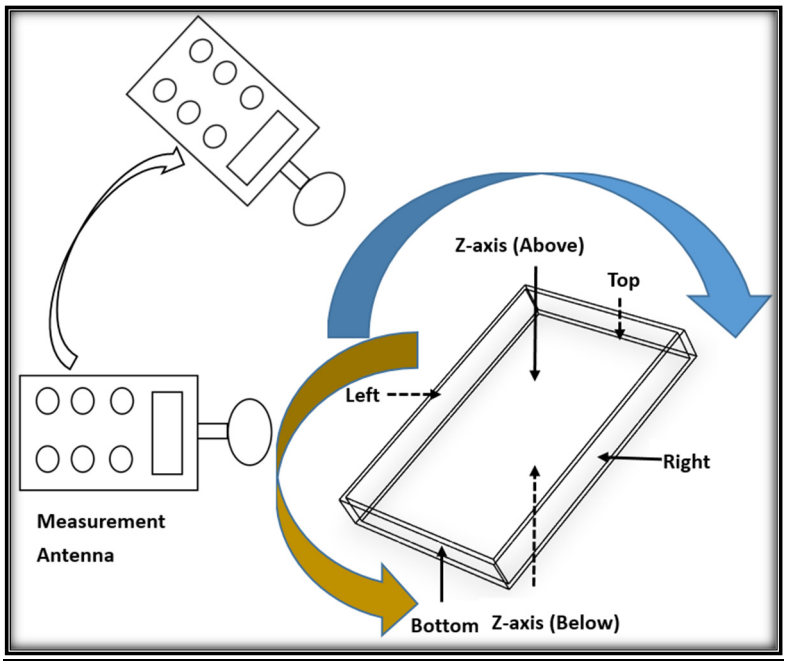
RF Source frequency (MHz)	Minimum Distance		Threshold ERP (watts)
	$\lambda_L/2\pi$	$\lambda_H/2\pi$	
0.3-1.34	159 m–35.6 m		1,920 R^2.
1.34-30	35.6 m–1.6 m		3,450 R^2/f^2.
30-300	1.6 m–159 mm		3.83 R^2.
300-1,500	159 mm–31.8 mm		0.0128 R^2f.
1,500-100,000	31.8 mm–0.5 mm		19.2 R^2.
R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.			

Routine Evaluation

Routine Evaluation Procedure - Single and/or Multiple RF Sources

- MPE compliance are measurement in all directions surrounding the antenna and radiating structures of the device.

Test Setup



Note: The measurement antenna are moving and surrounding the EUT when performed the test, the test results recorded the highest values for each sides of the EUT (left/right/top/bottom/z-axis (Above)/z-axis (Below))

Fixed RF sources operating in the same time-averaging period – §1.1307(b)(3)(ii)(B)

- Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluatedk term) should be used to determine exemption for simultaneous transmission according to Formula below,

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

The sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE should be less than 1, to determine simultaneous transmission exposure compliance.

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th}, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source *i*.

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source *j,* at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Exposure Limit$_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k,* as applicable from § 1.1310 of this chapter.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source *i* at a distance between 0.5 cm and 40 cm (inclusive).

ERP_j = the ERP of fixed, mobile, or portable RF source *j*.

Evaluated$_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.

5 Test Results

Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

For Single RF Source

Routine Evaluation (General Population)					
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Test Distance (cm)	Limit (mW/cm^2)	Test Result
WLAN 2.4 GHz	2412-2462	0.110	20	1	Pass
WLAN 5 GHz	5180-5320 5500-5825	0.170	20	1	Pass
Bluetooth	2402-2480	0.002	20	1	Pass
Z-wave	912-920	0.004	20	0.608	Pass
Z-wave	908.4-916	0.001	20	0.605	Pass

MPE-based Exemption §1.1307(b)(3)(i)(C)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
DECT	1928.448	88.716	4.29	145.212	20	768	Pass

Notes:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The DECT antenna information for this EUT is listed as below.

Ant. No.	Brand	Model	AntennaGain (dBi)	Frequency Range	Antenna Type	Connector Type
DECT1	WNC	LS04B	4.29	1920-1930 MHz	Dipole	ipex(MHF)
DECT2	WNC	LS04B	3.54	1920-1930 MHz	Dipole	ipex(MHF)

3. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.
4. The average power is base on Intertek test report no.: 25040201HKG-002.

MPE-based Exemption §1.1307(b)(3)(i)(C)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
LTE B2	1850-1910	251.189	3.29	326.588	20	768	Pass
LTE B4	1710-1755	251.189	3.35	331.132	20	768	Pass
LTE B5	824-849	251.189	0.83	185.353	20	421.888	Pass
LTE B12	699-716	251.189	1.37	209.894	20	357.888	Pass
LTE B13	777-787	251.189	1.44	213.305	20	397.824	Pass
LTE B14	788-798	251.189	1.44	213.305	20	403.456	Pass

Notes:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The WWAN antenna information for this EUT is listed as below.

Ant. No.	Brand	Model	Antenna Gain (dBi)	Frequency Range	Antenna Type	Connector Type
LTE Main	WNC	LS04B	1.37	698-716 MHz	Monopole	none(like solder)
			1.44	746-824 MHz	Monopole	none(like solder)
			0.83	824-849 MHz	Monopole	none(like solder)
			3.35	1710-1755 MHz	Monopole	none(like solder)
			3.29	1850-1910 MHz	Monopole	none(like solder)
LTE Diversity (Rx only)	WNC	LS04B	1.38	729-746 MHz	Dipole	ipex(MHF)
			1.26	869-894 MHz	Dipole	ipex(MHF)
			2.82	1710-1755 MHz	Dipole	ipex(MHF)
			3.11	1850-1910 MHz	Dipole	ipex(MHF)

3. The EUT contains certified LTE module (Brand: Telit, Model: LE910C4-NFXD, FCC ID: RI7LE910CXNF)
4. This EUT only enable LTE B2, B4, B5, B12, B13, B14 functon through proprietary firmware.
5. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

For Multiple RF Sources (Simultaneous Operations Condition 1)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
DECT	1928.448	145.212	768	0.189	0.894	1	Pass
LTE B12	699-716	209.894	357.888	0.586			
Routine Evaluation (General Population)							
Operation Mode	Operation Mode	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Z-wave	912-920	0.004	0.608	0.007			
Bluetooth	2402-2480	0.002	1	0.002			
WLAN 2.4 GHz	2412-2462	0.110	1	0.110			

For Multiple RF Sources (Simultaneous Operations Condition 2)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
DECT	1928.448	145.212	768	0.189	0.954	1	Pass
LTE B12	699-716	209.894	357.888	0.586			
Routine Evaluation (General Population)							
Operation Mode	Operation Mode	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Z-wave	912-920	0.004	0.608	0.007			
Bluetooth	2402-2480	0.002	1	0.002			
WLAN 5 GHz	5180-5320 5500-5825	0.170	1	0.170			

6 Conclusion

Source-base time average power is below Exemption Criteria and/or Routine Evaluation MPE thresholds, therefore the device is compliant FCC RF exposure requirement.

7 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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