



NCC RADIO EXPOSURE TEST REPORT

Equipment : RADWIN 2000 Portfolio Built for Backhaul
(Boardband wireless system)

Brand Name : RADWIN

Model Name : RADWIN 2000

Applicant : 晉立科技有限公司
桃園市龍潭區高原里渴望路 185 號之 2

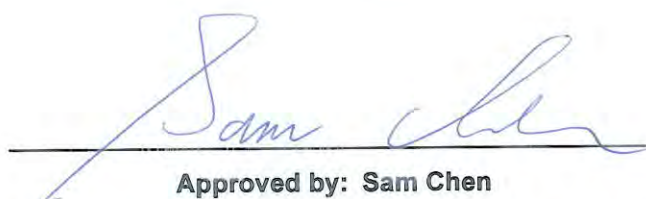
Manufacturer : RADWIN Ltd.
Habarzel 27 Tel-Aviv 6971039 ISRAEL

Standard : NCC LP0002 (Jan. 10, 2018) Section 5.20 (5.20.2)

The product was received on May 08, 2019, and testing was started from Jun. 03, 2019 and completed on Jun. 10, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in NCC LP0002 (Jan. 10, 2018) Section 5.20 (5.20.2), KDB447498 D01 General RF Exposure Guidance v06 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Report Template No.: CB Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Cindy Peng



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
5GHz WLAN	5150-5250	5180-5240	802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

1.2 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	6
3-30	1842 / f	4.89 / f	*900 / f ²	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5.0	6

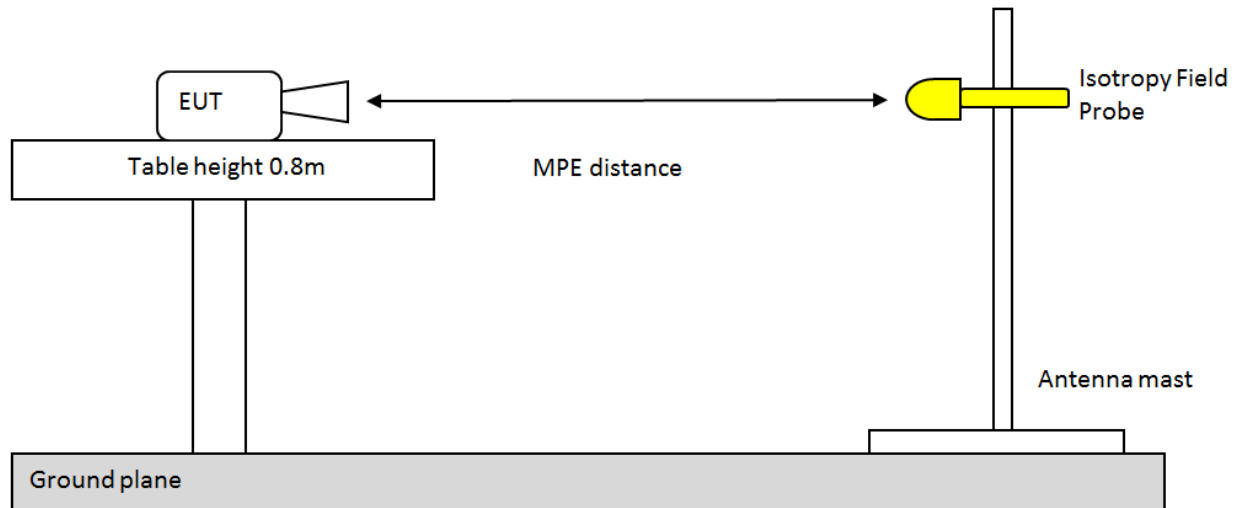
(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	30
300-1500			f/1500	30
1500-100,000			1.0	30

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

2.2 Calculated Result and Limit

2.3 MPE Measurement Method



Horizontal Plane

1. Align Probe with antenna axis. Probe should same height as Antenna axis.
And take power density measurement with Probe.
2. Rotate table 45 degree (30 degree if MPE distance is more 60cm).
Take power density measurement again.
3. Repeat step 2, until complete 360 degree.
Each measured power density should be less than MPE limit.

Vertical Plane

1. Align Probe with antenna axis. Move probe to height of 10cm above ground plane.
Take power density measurement.
Then repeat measure with 10cm increment of probe height until 180 cm.
2. Rotate table 45 degree (30 degree if MPE distance is more 60cm).
Repeat the power density measure from 10cm to 180cm
3. Repeat step 2, until complete 360 degree.
Spatial Average of same vertical plane should be less then MPE limit.

For Probe or measurement equipment requirement, please see FCC OET Bulletin 65 97-01

Note:

Either peak or spatially averaged results may be applied to determine compliance; and with respect to plane-wave equivalent power density limits when ≥ 300 MHz, and electric and magnetic field strength limits when < 300 MHz.



2.4 Measurement Result and Limit

Test Mode	VHT20	Test Frequency (MHz)	5200	MPE Distance (cm)	22	Power Setting	7.5	
EUT Plane	Horizontal							
Probe height (cm) \ Deg	0~45°	45~90°	90~135°	135~180°	180~225°	225~270°	270~315°	315~360°
	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)
186	0.03277	0.00746	0.00146	0.00081	0.00112	0.00094	0.00649	0.05881
Max PSD (mW/cm²)	0.05881							
MPE Limit (mW/cm²)	1							
EUT Plane	Vertical							
Probe height (cm) \ Deg	0~45°	45~90°	90~135°	135~180°	180~225°	225~270°	270~315°	315~360°
	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)	Max PSD (mW/cm²)
10	0.00049	0.00043	0.00042	0.00027	0.00033	0.00031	0.00039	0.00057
20	0.00081	0.00071	0.00051	0.00042	0.00052	0.00049	0.00057	0.00086
30	0.00084	0.00072	0.00061	0.00046	0.00051	0.00053	0.00055	0.00089
40	0.00077	0.00073	0.00062	0.00057	0.00059	0.00059	0.00069	0.00072
50	0.00158	0.00139	0.00073	0.00069	0.00066	0.00076	0.00088	0.00153
60	0.00314	0.00141	0.00121	0.00124	0.00088	0.00085	0.00115	0.00331
70	0.00559	0.00242	0.00161	0.00141	0.00105	0.00121	0.00343	0.00531
80	0.01614	0.00648	0.00137	0.00117	0.00082	0.00166	0.00741	0.01326
90	0.01525	0.00331	0.00194	0.00075	0.00099	0.00337	0.00685	0.01721
100	0.01966	0.00565	0.00082	0.00057	0.00095	0.00121	0.00649	0.01909
110	0.00511	0.00373	0.00158	0.00049	0.00069	0.00222	0.00293	0.00467
120	0.00328	0.00105	0.00069	0.00045	0.00042	0.00054	0.00104	0.00248
130	0.00082	0.00077	0.00053	0.00041	0.00052	0.00061	0.00074	0.00111
140	0.00079	0.00069	0.00043	0.00051	0.00043	0.00047	0.00065	0.00079
150	0.00093	0.00054	0.00048	0.00036	0.00035	0.00047	0.00054	0.00092
160	0.00062	0.00039	0.00037	0.00038	0.00036	0.00041	0.00043	0.00061
170	0.00046	0.00036	0.00036	0.00036	0.00035	0.00033	0.00037	0.00052
180	0.00043	0.00036	0.00033	0.00036	0.00042	0.00036	0.00034	0.00045
Spatial Average (mW/cm²)	0.00426	0.00173	0.00081	0.00060	0.00060	0.00091	0.00197	0.00413
Max Spatial Average (mW/cm²)	0.00426							
MPE Limit (mW/cm²)	1							



2.5 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Isotropic Probe	ETS-LINDGREN	HI-6105	00130664	100kHz-6GHz	Oct. 31, 2018	Oct. 30, 2019	03CH06-CB

Note: Calibration Interval of instrument listed above is one year.