



FCC RADIO EXPOSURE TEST REPORT

FCC ID : K7S-03689
Equipment : AX6600 Tri-band Mesh Router
Brand Name : LINKSYS
Model Name : MR7500, MR75WH
Applicant : Belkin International, Inc.
12045 East Waterfront Dr. Playa Vista CA United
States Zip code: 90094
Standard : 47 CFR Part 2.1091

The product was received on Dec. 07, 2020, and testing was started from Dec. 07, 2020 and completed on Feb. 24, 2021. 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 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

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.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 EUT General Information	5
1.2 Antenna Information	6
1.3 Table for Multiple Listing	7
1.4 Accessories	7
1.5 Testing Location	7
2 Maximum Permissible Exposure	8
2.1 Limit of Maximum Permissible Exposure	8
2.2 MPE Calculation Method.....	8
2.3 Calculated Result and Limit.....	9
Photographs of EUT v01	



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: **Sandy Chuang**



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5250 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
6GHz WLAN	5925 ~ 7125	6115 ~ 7095	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	BR / EDR: FHSS (GFSK / $\pi/4$ -DQPSK / 8DPSK) LE: GFSK



1.2 Antenna Information

Ant.	Port	Brand Holder	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	Signal Plus Technology Co., Ltd	6239F00003	Dipole	I-PEX	Note 1
2	2	Signal Plus Technology Co., Ltd	6239F00004	Dipole	I-PEX	
3	1	Signal Plus Technology Co., Ltd	6239F00001	Dipole	I-PEX	
4	2	Signal Plus Technology Co., Ltd	6239F00001	Dipole	I-PEX	
5	3	Signal Plus Technology Co., Ltd	6239F00002	Dipole	I-PEX	
6	4	Signal Plus Technology Co., Ltd	6239F00002	Dipole	I-PEX	
7	1	Signal Plus Technology Co., Ltd	6239F00005	PIFA	N/A	

Note 1:

Ant.	Port	Gain (dBi)							Bluetooth
		WLAN 2.4GHz	WLAN 5GHz		WLAN 6GHz				
			UNII 1	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8	
1	1	1.61	2.12	2.08	-	-	-	-	-
2	2	1.65	2.12	2.08	-	-	-	-	-
3	1	-	-	-	2.75	2.83	2.83	2.98	-
4	2	-	-	-	1.72	2.15	2.15	2.37	-
5	3	-	-	-	2.02	2.21	2.21	2.55	-
6	4	-	-	-	2.42	2.54	2.54	2.73	-
7	1	-	-	-	-	-	-	-	4

Note 2: The above information was declared by manufacturer.

<For WLAN 2.4GHz >

For IEEE 802.11b/g/n/VHT/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<For WLAN 5GHz Band UNII 1/UNII 3>

For IEEE 802.11a/n/ac/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<For WLAN 6GHz Band UNII 5~UNII 8>

For IEEE 802.11ax mode (4TX/4RX)

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

<For Bluetooth> (1TX/1RX)

Only Port 1 can be used as transmitting/receiving.



1.3 Table for Multiple Listing

Model No.	Description
MR7500, MR75WH	All the model names are identical, the difference model names served as marketing strategy.

Note 1: Model Name: MR7500 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

1.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter 1	KTEC	KSA-36W-120300HU	Input: 100-240V~50/60Hz 1.0A Output: 12.0V, 3.0A
Adapter 2	APD	WA-36N12FU	Input: 100-240V~, 50-60Hz 0.9A Max. Output: 12V, 3A
Adapter 3 (Interchangeable)	KTEC	KSA-36W-120300D5	Input: 100-240V~50/60Hz 1.0A Output: 12.0V, 3.0A, 36.0W
Other			
Plug*1 (Use for Adapter 3)			
RJ-45 cable*1: Non-Shielded, 0.9m			

1.5 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei 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 4086D 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
3.0-30	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	<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)
0.3-1.34	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

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

2.2 MPE Calculation Method

The MPE was calculated at 35 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;D1D	4.64	27.01	31.65	0.50	32.15	1.64059	35	0.10657	1.00000
5.2G;D1D	5.13	27.64	32.77	0.50	33.27	2.12324	35	0.13793	1.00000
5.8G;D1D	5.09	27.91	33.00	0.50	33.50	2.23872	35	0.14543	1.00000
2.4G;BT-BR	4.00	9.39	13.39	0.50	13.89	0.02449	35	0.00159	1.00000
2.4G;BT-LE	4.00	6.37	10.37	0.50	10.87	0.01222	35	0.00079	1.00000
For Conducted test (4T4S)									
6.2G;D1D	2.25	24.50	26.75	0.50	27.25	0.53088	35	0.03449	1.00000
6.4G;D1D	2.44	24.66	27.10	0.50	27.60	0.57544	35	0.03738	1.00000
6.7G;D1D	2.44	24.90	27.34	0.50	27.84	0.60814	35	0.03950	1.00000
7.0G;D1D	2.66	24.80	27.46	0.50	27.96	0.62517	35	0.04061	1.00000
For Radiated test (4T1S)									
6.2G;D1D	-	26.81	26.81	0.50	27.31	0.53827	35	0.03497	1.00000
6.4G;D1D	-	24.24	24.24	0.50	24.74	0.29785	35	0.01935	1.00000
6.7G;D1D	-	23.37	23.37	0.50	23.87	0.24378	35	0.01584	1.00000
7.0G;D1D	-	22.38	22.38	0.50	22.88	0.19409	35	0.01261	1.00000

Simultaneous Transmission Analysis Mode:

WLAN 2.4GHz + WLAN 5GHz UNII 1/UNII 3 + WLAN 6GHz UNII 5~UNII 8 + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;BT-BR	4.00	9.39	13.39	0.50	13.89	0.02449	35	0.00159	1.00000	0.00159
2.4G;D1D	4.64	27.01	31.65	0.50	32.15	1.64059	35	0.10657	1.00000	0.10657
5.8G;D1D	5.09	27.91	33.00	0.50	33.50	2.23872	35	0.14543	1.00000	0.14543
7.0G;D1D	2.66	24.80	27.46	0.50	27.96	0.62517	35	0.04061	1.00000	0.04061
									Sum Ratio	0.29420
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————