



MPE/RF EXPOSURE TEST REPORT

TAIWAN LP0002 Section 5.20

REPORT No.: HPEN141-T7_MPE Rev A

Manufacturer: Hewlett Packard Enterprise

Applicant: 慧與科技股份有限公司

Equipment Name: Wireless Network Sensor

Brand: ARUBA

Model: ASIN0301

MPE/RF EXPOSURE TEST REPORT

Manufacturer: Hewlett Packard Enterprise

Model: ASIN0301

To: FCC CFR 47 Part 1.1310

Test Report Serial No.: HPEN141-U12_MPE Rev A

This report supersedes: NONE

Applicant: 慧與科技股技有限公司
台北市南港區經貿二路66號10之1

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1. MAXIMUM PERMISSIBLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

Power Density = P_d (mW/cm²) = $EIRP / (4 * \pi * d^2)$

$EIRP = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = $10^{(G \text{ (dBi)}/10)}$

The calculations in the table below use the highest conducted power values together with the lowest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)	Calculated Power Density (mW/cm ²) @ Safe Distance
5150.0 - 5250.0	4.90	3.09	20.55	134.00	0.08	1.00	5.7	1.00
5470.0 - 5725.0	4.90	3.09	21.19	131.77	0.08	1.00	5.7	1.00
5725.0 - 5850.0	4.90	3.09	21.18	131.26	0.08	1.00	5.8	1.00
5250.0 - 5350.0	4.90	3.09	20.72	118.03	0.07	1.00	4.8	1.00
2400.0 - 2483.5 (Wi-Fi)	2.00	1.58	21.41	138.21	0.04	1.00	4.2	1.00
2400.0 - 2483.5 (BLE)	1.80	1.51	3.06	2.00	0.001	1.00	0.5	1.00

Assessment for simultaneous operation. Equipment simultaneous operation can be BLE + either 2.4 GHz or 5 GHz but never both. Only + BLE and highest Power Density for 2.4 or 5 GHz was used for simultaneous operation.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density Limit (mW/cm ²) E_{ref}	Power Density (mW/cm ²)	E_i/E_{ref}
2400.0 - 2483.5 (BLE)	1.80	1.51	3.06	2.00	1.00	0.001	0.001
5470.0 - 5725.0	4.90	3.09	21.19	131.50	1.00	0.08	0.08
Summation of Ratio:							0.081

The Total Evaluation was calculated using the formula:

$$\sum_{i=1}^n E_i / E_{ref} \leq 1$$

Where

E_i : calculated E-field Strength for transmitter

E_{ref} : E-field strength related limit

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification - Maximum Permissible Exposure Limits (continued)

Specification - Maximum Permissible Exposure Limits

The Limit is defined in Taiwan Standard LP0002 Section 5.20.2.2 General Population/Uncontrolled Exposure

Specification - Maximum Permissible Exposure Limits

For purposes of RF exposure assessment requirements, Maximum Permissible Exposure (MPE) shall be measured, if separation distance of at least 20 centimeters is normally maintained between radiating structures and the body of the user or nearby persons. Limits are as follows:

Section 5.20.2.2 Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f ²	30
30 – 300	27.5	0.073	0.2	30
300 – 1,500	--	--	f/1500	30
1,500 – 1000,000	--	--	1.0	30

Note 1: asterisk (*) is plane-wave equivalent power density.

Note 2: f is the testing frequency in MHz.



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