

RF Exposure Report

Report No.: SA170525E01B

FCC ID: W4WUUEIUMFR2017

Test Model: UMFR

Received Date: May 25, 2017

Test Date: June 28, 2017

Issued Date: Sep. 14, 2017

Applicant: U&U ENGINEERING INC.

Address: No. 15, GAO YANG S. ROAD, LUNG -TAN, TAOYUAN, TAIWAN, R.O.C

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA170525E01B	Original release.	Sep. 14, 2017

1 Certificate of Conformity

Product: Universal Microwave FMCW Radar

Brand: U&U

Test Model: UMFR

Sample Status: ENGINEERING SAMPLE

Applicant: U&U ENGINEERING INC.

Test Date: June 28, 2017

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 EMC characteristics under the conditions specified in this report.

Prepared by : Wendy Wu, **Date:** Sep. 14, 2017

Wendy Wu / Specialist

Approved by : May Chen, **Date:** Sep. 14, 2017

May Chen / Manager

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

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
300-1500	f/1500	30
1500-100,000	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

2.4 Calculation Result

Frequency (MHz)	Field Strength of Fundamental (dB μ V/m)	Pout EIRP (dBm)	Pout EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
24125	102.6	7.37	5.458	20	0.00109	1

Field strength is then converted to EIRP as follows:

$$(i) \text{ EIRP} = ((E^*d)^2) / 30$$

where:

E is the field strength in V/m;

d is the measurement distance in meters;

EIRP is the equivalent isotropically radiated power in watts.

(ii) Working in dB units, the above equation is equivalent to:

$$\text{EIRP[dBm]} = E[\text{dB}\mu\text{V/m}] + 20\log(d[\text{meters}]) - 104.77$$

(iii) Or, if d is 3 meters: $\text{EIRP[dBm]} = E[\text{dB}\mu\text{V/m}] - 95.23$

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