RF EXPOSURE EVALUATION REPORT

FCC ID	:	2BFSB-DG100
Equipment	:	Quilt Dial
Brand Name	:	Quilt
Model Name	:	QD1
Applicant	:	Quilt Systems, Inc 1800 Broadway St, Suite 2, Redwood City, CA 94063, United States
Manufacturer	:	Quilt Systems, Inc 1800 Broadway St, Suite 2, Redwood City, CA 94063, United States
Standard	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

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

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA432213	Rev. 01	Initial issue of report	May. 15, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Quilt Dial
Brand Name	Quilt
Model Name	QD1
FCC ID	2BFSB-DG100
Wireless Technology and Frequency Range	60GHz: 57.8GHz~63GHz
Mode	FMCW
EUT Stage	Identical Prototype

Reviewed by: Jason Wang

Report Producer: Jasmine Ku

2. Maximum RF average output power among production units

Mode	Maximum EIRP Average power(dBm)
60GHz	0.77

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	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				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

Band	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
60GHz	0.77	0.001	1.19	0.0002	1.000	0.0002

4.1. Collocated Power Density Calculation

60GHz Power Density / Limit	Wireless module FCC ID: XPYMAYAW2D Power Density / Limit	∑(Power Density / Limit) of 60GHz+WLAN
0.0002	0.09	0.0902

Note:

1. The wireless module FCC ID: XPYMAYAW2D is also integrated into this device, the maximum ratio is 0.09 for Sim-Tx analysis.
2. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for 60GHz + Wireless module.
3. Considering the 60GHz collocation with the wireless transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.