

RF Exposure Evaluation

FCC ID: H79Z1V

1. Client Information

Applicant	:	Delta Electronics Incorporated
Address	:	3, Tungyuan Road Chungli Industrial Zone Taoyuan County 32063, Taiwan
Manufacturer	:	Delta Electronics Incorporated
Address	:	3, Tungyuan Road Chungli Industrial Zone Taoyuan County 32063, Taiwan

2. General Description of EUT

EUT Name	:	QUMI Z1V	
Models No.	:	Z1V, Z1VC, Z1V+, Z1VB, Z1, Z1+	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.	
Product Description	:	Operation Frequency:	Bluetooth V2.1+EDR: 2402~2480 MHz
		Number of Channel:	Bluetooth: 79 Channels
		Max Peak Output Power:	Bluetooth: 0.947dBm(π /4-DQPSK)
		Antenna Gain:	3dBi PCB Antenna
		Modulation Type:	GFSK (1 Mbps) π /4-DQPSK (2 Mbps)
Power Rating	:	Adapter(ADP-36PH A): Input: AC 100-240V, 50/60Hz, 1A max Output: DC 12V, 3A DC 7.4V by 4000mAh rechargeable Li-ion battery.	
Software Version	:	N/A	
Hardware Version	:	2800-ADPH15-06	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2. Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.343	0 ± 1	1	1.259	0.390	3.0
2.441	0.064	0 ± 1	1	1.259	0.393	3.0
2.480	-0.119	0 ± 1	1	1.259	0.397	3.0
Bluetooth Mode (π /4-DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.947	0 ± 1	1	1.259	0.390	3.0
2.441	0.699	0 ± 1	1	1.259	0.393	3.0
2.480	0.523	0 ± 1	1	1.259	0.397	3.0

The worst RF Exposure Evaluation is calculated as $0.397 < \text{limit } 3.0$, So standalone SAR measurements are not required.

-----END OF REPORT-----