

RF Exposure Evaluation

FCC ID: 2AL64-RE667

1. Client Information

Applicant	:	Shenzhen qiuyu Electronic Co.,Ltd
Address	:	3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village, xixiang town, Bao'an District ,Shenzhen, China
Manufacturer	:	Shenzhen qiuyu Electronic Co.,Ltd
Address	:	3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village, xixiang town, Bao'an District ,Shenzhen, China

2. General Description of EUT

EUT Name	:	Tablet PC
Models No.	:	RE667, QM706
Model Different	:	All models are in the same PCB layout interior structure and electrical circuits, The only difference is model.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	RF Output Power:	802.11b: 9.26dBm 802.11g: 8.49dBm 802.11n (HT20):8.39dBm 802.11n (HT40):7.20dBm
	Antenna Gain:	1.79dBi FPC Antenna
Power Supply	:	DC 3.7V by 2500mAh Li-ion Battery. DC 5V by AC/DC Adapter.
Software Version	:	rk312x-userdebug 6.0.1 MXC89K user.hc.20190122.100315 test-keys
Hardware Version	:	RAK74E-MB-V1.1
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						
WiFi Mode(802.11b)						
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
2.412	9.10	9±0.5	9.5	8.913	2.768	3.0
2.437	9.25	9±0.5	9.5	8.913	2.783	3.0
2.462	9.26	9±0.5	9.5	8.913	2.797	3.0
WiFi Mode(802.11g)						
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
2.412	8.39	8±1	9	7.943	2.467	3.0
2.437	8.49	8±1	9	7.943	2.480	3.0
2.462	8.32	8±1	9	7.943	2.493	3.0
WiFi Mode(802.11n(HT20))						
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
2.412	7.64	8±1	9	7.943	2.467	3.0
2.437	8.39	8±1	9	7.943	2.480	3.0
2.462	8.39	8±1	9	7.943	2.493	3.0
WiFi Mode(802.11n(HT40))						
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
2.422	7.09	7±1	8	6.310	1.964	3.0
2.437	7.20	7±1	8	6.310	1.970	3.0
2.452	7.05	7±1	8	6.310	1.976	3.0

The worst RF Exposure Evaluation is calculated as $2.797 / \text{cm}^2 < \text{limit } 3.0$, So standalone SAR measurements are not required.

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