

RF Exposure Evaluation

**Test report
On Behalf of
Shenzhen Big Master Technology Co.,Ltd
For
Tablet pc
Model No.: 7M, 8M, 9M, 10M, 116M, 133M**

FCC ID: 2AMQB-PC7MX

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Date of Report: **Jan. 03, 2020**

1 General Description of EUT

Product Name:	Tablet pc
Model/Type reference:	7M
Serial Model:	8M, 9M, 10M, 116M, 133M
Model Difference	All models have the same functionality, software and electronics, only the color, front frame shape and model names may differ. Test sample model: 7M
Trade Mark	N/A
FCC ID	2AMQB-PC7MX
Hardware Version:	TJ-Q82_V50_20180925
Software Version:	RtkWiFiTest-v2.1.0_20180116.apk.1.1.1
Bluetooth	
Version:	Supported EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	IPEX Antenna
Antenna gain:	2 dBi
Power supply:	DC 3.7V from battery
WIFI	
Operation frequency	802.11b/g/n 20: 2412~2462 MHz 802.11n 40: 2422~2452MHz
Number of Channels	802.11b/g/n20: 11CH 802.11n 40: 7CH
Antenna Type	IPEX Antenna
Antenna Gain	2dBi
Modulation Type	CCK/DSSS/OFDM
Antenna type:	IPEX Antenna
Antenna gain:	2 dBi
Power supply:	DC 3.7V from battery

2 RF Exposure Compliance Requirement

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}$$

Where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The results are rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

3 EUT RF Exposure

Antenna Gain: 2Bi

Define the minimum distance: 2mm

For Bluetooth:

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.775	-3 ± 1	-2	0.631	0.196	3.0
Middle (2441MHz)	-4.466	-4 ± 1	-3	0.501	0.157	
Highest (2480MHz)	-6.145	-6 ± 1	-5	0.316	0.100	
Conclusion: the calculated value ≤ 3.0 , SAR is exempted.						

π /4DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.674	-3 ± 1	-2	0.631	0.196	3.0
Middle (2441MHz)	-3.311	-4 ± 1	-3	0.501	0.157	
Highest (2480MHz)	-5.010	-6 ± 1	-5	0.316	0.100	

Conclusion: the calculated value ≤ 3.0 , SAR is exempted.

8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.711	-3±1	-2	0.631	0.196	3.0
Middle (2441MHz)	-3.327	4±1	-3	0.501	0.157	
Highest (2480MHz)	-5.027	-6±1	-5	0.316	0.100	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

For WIFI:

Measurement Data				
802.11b mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.42	8 ± 1	9	7.943
Middle(2437MHz)	9.47	8.5 ± 1	9.5	8.913
Highest(2462MHz)	8.65	8 ± 1	9	7.943

802.11g mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	7.76	7 ± 1	8	6.310
Middle(2437MHz)	8.01	7.5 ± 1	8.5	7.079
Highest(2462MHz)	7.84	7 ± 1	8	6.310

802.11n(HT20)mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	7.86	7 ± 1	8	6.310
Middle(2437MHz)	8.05	7.5 ± 1	8.5	7.079
Highest(2462MHz)	7.16	7 ± 1	8	6.310

802.11n(HT40)mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2422MHz)	5.98	6 ± 1	7	5.012
Middle(2437MHz)	6.79	6.5 ± 1	7.5	5.623
Highest(2452MHz)	5.51	6 ± 1	7	5.012

Worst case: 802.11b mode Middle(2437MHz) (Using the maximum value of the test report)

Wifi						
Mode	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
11B -2437MHz	9.47	8.5 ± 1	9.5	8.913	2.783	3.0
Conclusion: the calculated value ≤ 3.0 , SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: HK1912213253-1E and HK1912213253-2E