

RF Exposure Evaluation

FCC ID:2A2TA-IT-801

1. Client Information

Applicant	:	SMARTCN LIMITED
Address	:	The 2-3 floor, 78Building, SanZhuLi Industrial Park, ShuiTian Villa, ShiYan Town, Bao'An District, ShenZhen, China.
Manufacturer	:	SMARTCN LIMITED
Address	:	The 2-3 floor, 78Building, SanZhuLi Industrial Park, ShuiTian Villa, ShiYan Town, Bao'An District, ShenZhen, China.

2. General Description of EUT

EUT Name	:	Tablet PC
Model(s) No.	:	IT-801, IT-701A, IT-701B, IT-701C, IT-801A, IT-801B, IT-801C, IT-1001A, IT-1001B, IT-1001C
Model Different	:	All PCB boards and circuit diagrams are the same, the only difference is that different customer names are different.
Product Description	:	Operation Frequency: Bluetooth V5.0: 2402~2480 MHz 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	:	Number of Channel: Bluetooth 5.0(EDR+BDR): 79 channels Bluetooth 5.0(BLE): 40 channels 802.11b/g/n(HT20): 11 channels 802.11n(HT40): 7 channels
	:	RF Output Power: 802.11b: 7.537dbm(Max) 802.11g: 7.603dbm(Max) 802.11n(HT20): 7.94dbm(Max) 802.11n(HT40): 7.731dbm(Max) BT: 6.655 dbm(Max) BLE: 6.312dbm(Max)
	:	Antenna Gain: 0.9dBi PIFA Antenna
	:	Modulation Type: GFSK(1Mbps) π /4-DQPSK(2Mbps) 8-DPSK(3Mbps) 802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK, QPSK, 16QAM, 64QAM)
	:	Bit Rate of Transmitter: Bluetooth 5.0: 1/2/3Mbps 802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps

TB-RF-074-1.0

		802.11n:up to 150Mbps
Power Supply	:	For Adapter: Input: 100-240V~ 50/60Hz 0.3A Output:5V $\overline{\text{---}}$, 2100mA
Software Version	:	android 9.0
Hardware Version	:	S863T-9863A-V1.0-201219-C
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

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:

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

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

2. Calculation:

Test separation: 5mm						
BT (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	5.587	6±1	7.0	5.01	1.55	3.0
2.441	4.766	5±1	6.0	3.98	1.24	3.0
2.480	3.397	3±1	4.0	2.51	0.79	3.0
BT (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	6.178	6±1	7.0	5.01	1.55	3.0
2.441	5.377	5±1	6.0	3.98	1.24	3.0
2.480	3.976	4±1	5.0	3.16	1.00	3.0
BT (8DPSK)						
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	6.655	7±1	8.0	6.31	1.96	3.0
2.441	5.742	6±1	7.0	5.01	1.57	3.0
2.480	4.402	4±1	5.0	3.16	1.00	3.0
BLE (GFSK) 1Mbps						
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	6.312	7±1	8.0	6.31	1.96	3.0
2.442	3.806	4±1	5.0	3.16	0.99	3.0
2.480	5.178	5±1	6.0	3.98	1.25	3.0
BLE (GFSK) 2Mbps						
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	5.987	6±1	7.0	5.01	1.55	3.0
2.442	3.663	4±1	5.0	3.16	0.99	3.0
2.480	4.996	5±1	6.0	3.98	1.25	3.0
2.4G WIFI 802.11 b						
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	7.537	8±1	9.0	7.94	2.47	3.0
2.437	7.129	7±1	8.0	6.31	1.97	3.0
2.462	7.516	8±1	9.0	7.94	2.49	3.0

2.4G WIFI 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	7.603	8±1	9	7.94	2.47	3.0
2.437	7.186	7±1	8	6.31	1.97	3.0
2.462	7.473	7±1	8	6.31	1.98	3.0
2.4G WIFI 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	7.94	8±1	9	7.94	2.47	3.0
2.437	7.458	7±1	8	6.31	1.97	3.0
2.462	7.752	8±1	9	7.94	2.49	3.0
2.4G WIFI 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	7.731	8±1	9	7.94	2.47	3.0
2.437	7.403	7±1	8	6.31	1.97	3.0
2.452	7.05	7±1	8	6.31	1.98	3.0

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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