



PRECISE TESTING

RF EXPOSURE EVALUATION

Product Name	:	Portable Audio Player
Model Name	:	Colorfly Pocket HiFi U8, Colorfly Pocket Hifi U10 II, Colorfly Pocket Hifi U8 II, Colorfly Pocket Hifi U8 PLUS, Colorfly Pocket Hifi U8 PRO, Colorfly Pocket Hifi U6, Colorfly Pocket Hifi U6 II, Colorfly Pocket Hifi T5, Colorfly Pocket Hifi T5 II, Colorfly Pocket Hifi T5 PRO, Colorfly Pocket Hifi T3, Colorfly Pocket Hifi T3 II, Colorfly Pocket Hifi T1, Colorfly Pocket Hifi T1 II, Colorfly Pocket Hifi C3, Colorfly Wireless Hifi BT-C1, Colorfly Wireless Hifi BT-C2
FCC ID	:	2APNJHIFIU8
Specification	:	802.11b/g/n HT20&BLE&BT
Operation Frequency	:	2.4G Wi-Fi: 2412-2462MHz BLE & BT: 2402-2480MHz
Number of Channel	:	802.11b/g/n: 11 Channels BLE: 40 Channels BT: 79 Channels
Antenna Type	:	Internal Antenna
Antenna Gain	:	2 dBi
Power supply	:	DC 3.8V 3300mAh Battery
Device category	:	Portable (<20cm separation)

Standard Requirement

According to § 15.247(i) and § 1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v05, section 4. 3. 1.

The 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances $\leq 50\text{mm}$ are determined by:

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

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



PRECISE TESTING

- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison.

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

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

One antenna is available for the EUT (BT+WiFi product). The minimum separation distance is 5mm.

For Bluetooth Classical:

Channel Frequency (MHz)	Measurement Peak Output Power(dBm)		
	GFSK	$\Pi/4$ -DQPSK	8DPSK
2402	3.82	4.89	4.95
2441	4.01	5.29	5.50
2480	3.58	5.08	5.29

Channel Frequency (MHz)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Calculation Result	Limits
2402	3.82±0.2	4.02	2.52	0.7812	3
2441	4.01±0.2	4.21	2.64	0.8263	3
2480	3.58±0.2	3.78	2.39	0.7529	3
2402	4.89±0.2	5.09	3.23	1.0013	3
2441	5.29±0.2	5.49	3.54	1.1080	3
2480	5.08±0.2	5.28	3.37	1.0616	3
2402	4.95±0.2	5.15	3.27	1.0137	3
2441	5.50±0.2	5.70	3.72	1.1644	3
2480	5.29±0.2	5.49	3.54	1.1080	3

For Wi-Fi & BLE:

Modulation	Maximum Peak Output Power (dBm)		
	Low Channel	Middle Channel	High Channel
802.11b	9.24	9.55	9.05
802.11g	9.54	9.44	9.05
802.11n-HT20	9.16	9.08	9.34
BLE	4.55	4.34	4.83

Channel Frequency (MHz)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Calculation Result	Limits
2412	9.24±0.2	9.44	8.79	2.7249	3
2437	9.55±0.2	9.75	9.44	2.9453	3
2462	9.05±0.2	9.25	8.41	2.6323	3
2412	9.54±0.2	9.74	9.42	2.9202	3
2437	9.44±0.2	9.64	9.20	2.8704	3
2462	9.05±0.2	9.25	8.41	2.6323	3
2412	9.16±0.2	9.36	8.63	2.6753	3
2437	9.08±0.2	9.28	8.47	2.6426	3
2462	9.34±0.2	9.54	9.00	2.8170	3
2402	4.55±0.2	4.75	3.00	0.9300	3
2440	4.34±0.2	4.54	2.84	0.8889	3
2480	4.83±0.2	5.03	3.18	1.0017	3

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

Client's signature: *Bo Zhang*
 Client's name / title: bo Zhang / Engineer
 Date: 2018-07-20