MPE REPORT

FCC ID: 2AQRI-YF-021H

Date of issue: Aug. 29, 2018

Report Number:	MTi180806E022
Sample Description:	Android AD Player
Model(s):	YF-021H
Applicant:	Shenzhen Young-Feel Electronic Technology Co., LTD
Address:	6 Floor D, No.575 GuanHongTai Industrial Building, GuShu 1st Road, XiXiang Town, Baoan District, Shenzhen, GuangDong, China
Date of Test:	June 26, 2018 to Aug. 29, 2018

Shenzhen Microtest Co., Ltd.

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TEST RESULT CERTIFICATION	
Applicant's name:	Shenzhen Young-Feel Electronic Technology Co., LTD
Address:	6 Floor D, No.575 GuanHongTai Industrial Building, GuShu 1st Road, XiXiang Town, Baoan District, Shenzhen, GuangDong, China
Manufacture's name:	Shenzhen Young-Feel Electronic Technology Co., LTD
Address:	6 Floor D, No.575 GuanHongTai Industrial Building, GuShu 1st Road, XiXiang Town, Baoan District, Shenzhen, GuangDong, China
Product name:	Android AD Player
Trademark:	Young-Feel
Model name:	YF-021H
Series model:	N/A
Difference in series models:	N/A
RF Exposure Procedures:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Demi Mu Aug. 29, 2018

Reviewed by: Blue Zheng Aug. 29, 2018

Approved by: Smith Chen Aug. 29, 2018

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.14115926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

WIFI:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

Power density limited: 1mW/ cm^2

Antenna Type: Wifi Antenna: Integral Mounted Embedded Antenna;
WIFI antenna gain: 4.3dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(4.3/10)=2.69

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A	Ant A	
2412	802.11b	11.98	11±1	12	15.84893	2.69	0.00848	1
2437		11.81	11±1	12	15.84893	2.69	0.00848	1
2462		11.87	11±1	12	15.84893	2.69	0.00848	1
2412	802.11g	10.24	10±1	11	12.58925	2.69	0.00674	1
2437		10.13	10±1	11	12.58925	2.69	0.00674	1
2462		10.17	10±1	11	12.58925	2.69	0.00674	1
2412	802.11n H20	9.08	9±1	10	10	2.69	0.00535	1
2437		9.09	9±1	10	10	2.69	0.00535	1
2462		9.82	9±1	10	10	2.69	0.00535	1

Conclusion:

For the max result: 0.00848≤ 1.0, No RF exposure evaluation is required.

BT:

Operation Frequency: 2402-2480MHz

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A	Ant A	
2402	GFSK	7.236	7±1	8	6.3096	2.69	0.00338	1
2441		6.928	6±1	7	5.0119	2.69	0.00268	1
2480		6.692	6±1	7	5.0119	2.69	0.00268	1
2402	π/4-DQPSK	8.621	8±1	9	7.9433	2.69	0.00425	1
2441		8.939	8±1	9	7.9433	2.69	0.00425	1
2480		8.699	8±1	9	7.9433	2.69	0.00425	1
2402	8DPSK	8.799	8±1	9	7.9433	2.69	0.00425	1
2441		9.030	9±1	10	10	2.69	0.00535	1
2480		8.864	8±1	9	7.9433	2.69	0.00425	1

Conclusion:

For the max result: 0.00535≤ 1.0, No RF Exposure evaluation is required.

BLE:

Operation Frequency: 2402-2480MHz

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A	Ant A	
2402	GFSK	4.742	4±1	5	3.1623	2.69	0.00169	1
2441		4.968	4±1	5	3.1623	2.69	0.00169	1
2480		4.941	4±1	5	3.1623	2.69	0.00169	1

Conclusion:

For the max result: 0.00169≤ 1.0, No RF Exposure evaluation is required.

Note: WiFi and bluetooth cannot transmit at the same time.

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