



RF EXPOSURE Test Report

Report No.: MTi220105011-01E7

Date of issue: Mar. 29, 2022

Applicant: UP(Guangzhou)Electronics Co., Ltd.

Product name: +iAndroid Link smart iA box

Model(s):

iA01F60AEUA, iA01F60ANA, iA01F60AW,
iA02F60AEUA, iA02F60ANA, iA02F60AW,
iA03F60AEUA, iA03F60ANA, iA03F60AW,
iA04F60AEUA, iA04F60ANA, iA04F60AW,
iA05F60AEUA, iA05F60ANA, iA05F60AW,
iA06F60AEUA, iA06F60ANA, iA06F60AW

FCC ID: 2A4GI-IA01F60AEUA

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



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TEST RESULT CERTIFICATION	
Applicant's name	UP(Guangzhou)Electronics Co., Ltd.
Address	2/F, Block 2, No. 13 Chaosheng Road, Jinghu Ave., Huadu Dist., Guangzhou, China
Manufacturer's Name	UP(Guangzhou)Electronics Co., Ltd.
Address	2/F, Block 2, No. 13 Chaosheng Road, Jinghu Ave., Huadu Dist., Guangzhou, China
Product description	
Product name	+iAndroid Link smart iA box
Trademark	N/A
Model Name	iA01F60AEUA
Serial Model	iA01F60ANA, iA01F60AW, iA02F60AEUA, iA02F60ANA, iA02F60AW, iA03F60AEUA, iA03F60ANA, iA03F60AW, iA04F60AEUA, iA04F60ANA, iA04F60AW, iA05F60AEUA, iA05F60ANA, iA05F60AW, iA06F60AEUA, iA06F60ANA, iA06F60AW
Standards	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests	2022-02-15 ~2022-06-06
Test Result	Pass

Testing Engineer

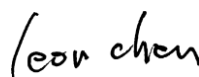
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(Danny Xu)

Technical Manager

:



(Leon Chen)

Authorized Signatory

:



(Tom Xue)



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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

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

P_d 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

GSM

Channel Freq. (MHz)	Mode	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)	(dBi)	Numeric		
824.2	GPRS850	30.92	30±1	31	1258.9254	-4	0.40	0.09971	0.549467
848.8	EGPRS850	31.18	31±1	32	1584.8932	-4	0.40	0.12552	0.565867
1880	GPRS1900	30.60	30±1	31	1258.9254	-2	0.63	0.15803	1.000000
1880	EGPRS1900	31.07	31±1	32	1584.8932	-2	0.63	0.19894	1.000000

WCDMA

Channel Freq. (MHz)	Mode	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)	(dBi)	Numeric		
1907.6	WCDMA BAND II	22.52	22±1	23	199.52623	-2	0.63	0.0250	1.000000
826.4	WCDMA BAND V	22.05	22±1	23	199.52623	-4	0.40	0.0158	0.550933

LTE

Channel Freq. (MHz)	Mode	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)	(dBi)	Numeric		
846.5	LTE BAND5	23.95	23±1	24	251.18864	0.76	1.19	0.05953	0.564333
2567.5	LTE BAND7	21.99	21±1	22	158.48932	2.2	1.66	0.05233	1.000000
2572.5	LTE BAND38	21.86	21±1	22	158.48932	2.2	1.66	0.05233	1.000000
2650	LTE BAND41	22.78	22±1	23	199.52623	2.11	1.63	0.06453	1.000000

BT/BLE:

Operation Frequency: 2402-2480MHz,

 Power density limited: 1mW/ cm²
2.4GWiFi:

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

802.11n HT40: 2422-2452MHz,

 Power density limited: 1mW/ cm²
5GWiFi:

802.11a: 20 MHz

802.11n: 20 MHz, 40 MHz

802.11ac: 20 MHz, 40 MHz, 80MHz

Antenna Type: FPC Antenna;

WIFI antenna gain: 3dBi

R=20cm

 $mW=10^{(dBm/10)}$
 $antenna\ gain\ Numeric=10^{(dBi/10)}=10^{(3/10)}=2$
BR+EDR:

Chann el Freq. (MHz)	modulation n	conducte d power	Tune- up powe r (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/c m2)
				(dBm)	(mW)	(dBi)	Nume ric		
2441	8DPSK	8.227	8±1	9	7.943	1.00	1.26	0.0020	1

BLE:

Chann el Freq. (MHz)	modulation n	conducte d power	Tune- up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm 2)
				(dBm)	(mW)	(dBi)	Num eric		
2440	GFSK	5.179	5±1	6	3.981	1	1.26	0.0010	1



2.4GWiFi :

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		(mW)	Gain		(mW/cm2)	(mW/cm2)	
					(dBm)	(mW)			(dBi)
2412	802.11b	14.80	14±1	15	31.623	1	1.26	0.0079	1

5GWiFi : UNII-1

Channe l Freq. (MHz)	modulation	conducted power	Tune- up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm 2)
				(dBm)	(mW)	(dBi)	Num eric		
5240	11n (HT20)	16.88	16±1	17	50.119	1	1.26	0.0126	1

UNII-3

Channe l Freq. (MHz)	modulation	conducted power	Tune- up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm 2)
				(dBm)	(mW)	(dBi)	Num eric		
5825	11a	20.90	20±1	21	125.893	1	1.26	0.0315	1

Simultaneous transmit:

WWAN Band		The MPE ratio
GSM	GSM850	0.222
	PCS1900	0.199
WCDMA	Band II	0.025
	Band V	0.029
LTE	Band5	0.105
	Band7	0.052
	Band38	0.052
	Band41	0.065
WiFi 2.4G		0.008
WiFi 5G		0.032
Bluetooth		0.002

Note:The MPE ratio=Mac Test Result/Limit Value

So the simultaneous transmitting antenna pairs as below:

Σ of MPE ratio=GSM+WI-FI 5GHz+Bluetooth=0.222+0.032+0.002=0.256<1

----END OF REPORT----