

## FCC RF Exposure

EUT Description: Android Car Radio

ModelNo.:YC665,ZH011,ZH012, ZH016,ZH017,ZH025,ZH026,

YC765,YC863,YC865,YC866

FCC ID: 2BLSN-YC665

Equipment type: mobile equipment

Test procedures according to the technical standards: KDB 447498 D01 V06 and FCC 2.1091.

### 1. Limits

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 <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			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 <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

F = frequency in MHz

Formula:  $Pd = (P_{out} * G) / (4 * \pi * r^2)$

Where :

Pd = power density in mW/cm<sup>2</sup>,

P<sub>out</sub> = output power to antenna in mW;

G = gain of antenna in linear scale,

$\pi = 3.14$ ;

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

Pd is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest

channel individually.

### 3. Test Result of RF Exposure Evaluation

#### WIFI

	Output power (dBm/ mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
U-NII 1 802.11a	18.51/70.96	2.62	0.02582	1.0	Pass
U-NII 1 802.11n(HT20)	16.99/50.00	2.62	0.01819	1.0	Pass
U-NII 1 802.11n(HT40)	17.18/52.24	2.62	0.01901	1.0	Pass
U-NII 1 802.11ac(HT20)	16.17/41.40	2.62	0.01506	1.0	Pass
U-NII 1 802.11ac(HT40)	14.69/29.44	2.62	0.01071	1.0	Pass
U-NII 1 802.11ac(HT80)	14.30/26.92	2.62	0.00979	1.0	Pass
U-NII 3 802.11a	15.94/39.26	2.62	0.01428	1.0	Pass
U-NII 3 802.11n(HT20)	13.57/22.75	2.62	0.00828	1.0	Pass
U-NII 3 802.11n(HT40)	13.86/24.32	2.62	0.00885	1.0	Pass
U-NII 3 802.11ac(HT20)	13.59/22.86	2.62	0.00832	1.0	Pass
U-NII 3 802.11ac(HT40)	10.94/12.42	2.62	0.00452	1.0	Pass
U-NII 3 802.11ac(HT80)	10.50/11.22	2.62	0.00408	1.0	Pass

$$EIRP = E_{Meas} + 20 \log(d_{meas}) - 104.7$$

EIRP is the equivalent isotropically radiated power,

$E_{Meas}$  in dBm is the field strength of the emission at the measurement distance, in dB  $\mu$  V/m

$d_{meas}$  is the measurement distance, in m

BT

Field strength(dBuV/m)	EIRP(dBm)	Max tune-up(mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
87.76	-7.3976	0.1821	2.78	0.00007	1.0	Pass
86.86	-8.2976	0.1480	2.78	0.00006	1.0	Pass
88.69	-6.4676	0.2255	2.78	0.00009	1.0	Pass

$$BT+WIFI: 0.00009 + 0.02582 = 0.02591 < 1$$

Conclusion: No SAR is required