Prediction of MPE at a given distance

Product Name: android tv box

Model No: Sk1,sk1 lite,sk1 pro,sk1 plus, sk2,sk3

FCC ID: 2AL8Y-SK1

1. RF Exposure Evaluation

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device,
RF Exposure, Equipment Authorization Procedures.
FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.
FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

2. 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)

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 Exposures				
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
300–1500			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	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

2. Test Procedure

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Equation from page 18 of OET Bulletin 65, Edition 97-01

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

EUT RF EXPOSURE

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm^2)	Limits for General Population/ Uncontrolled Exposure (mW/cm^2)
MIMO_802.11ac(VHT20)							
5200	18.13	65.013	1.09	2.009	20.00	0.0260	1
ANT2_802.11a							
5785	13.05	20.184	1.09	2.009	20.00	0.0080	1
MIMO_802.11ax(HE40)							
2437	25.66	368.129	3	1.919	20.00	0.1405	1
3-DH5							
2402	6.10	4.074	3	1.919	20.00	0.0016	1
BLE_2M							
2402	6.90	4.898	3	1.919	20.00	0.0012	1

Note: Just the worst case mode was shown in report.

EUT RF Exposure Evaluation simultaneous transmission operations

According to 865664D02 2.2 d) 1):

The sum of the ratios of the spatially averaged results to the applicable frequency dependent MPE limits :

Simultaneous transmission mode	The sum of the ratios	SUM	Limit
EDR+BLE+2.4G WIFI+5GWIFI	0.0016+0.0012+0.1405+0.0260	0.1693	1
conclusion :0.05359< 1.0, So there is no sar requirement			