FCC ID : 2AADR-HSG1441

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)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

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

Where

Pd= Power density in mW/cm^2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1416

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

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

11.2 EUT TECHNICAL DESCRIPTION

Characteristics	Description
Product	Tablet
Model Number	HSG1441

Device Type	Bluetooth with BLE mode
Data Rate	1Mbps/2Mbps for GFSK modulation
Modulation	Bluetooth DTS: GFSK
Operating Frequency Range	2402-2480MHz
Number of Channels	40 Channels for Bluetooth DTS;
Transmit Power Max	5.61 dBm
Antenna Type	FPC Antenna
Antenna Gain	3.24 dBi

Device Type	Bluetooth with classic model
Data Rate	1Mbps for BT V4.2 GFSK modulation 2Mbps for BT V4.2 pi/4-DQPSK modulation 3Mbps for BT V4.2 8DPSK modulation
Modulation:	GFSK, pi/4-DQPSK, 8DPSK
Operating Frequency Range(s):	2402-2480MHz
Number of Channels:	79 channels
Transmit Power Max	6.12 dBm
Antenna Type	FPC Antenna
Antenna Gain	3.24 dBi

IEEE 802.11 WLAN Mode Supported	☒802.11b ☒802.11g ☒802.11n(20MHz channel bandwidth) ☒802.11n(40MHz channel bandwidth)
Modulation	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range	☒2412-2462MHz for 802.11b/g/n(HT20); ☒2422-2452MHz for 802.11n(HT40);
Number of Channels	☒11 channels for 802.11b/g/n(HT20); ☒7 Channels for 802.11n(HT40);
Transmit Power Max	8.96 dBm
Antenna Type	FPC Antenna
Antenna Gain	3.24 dBi

11.2 Measurement Result

Mode	Max Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna gain (dBi)	Antenna Gain Numeric	R (cm)	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
BLE	5.61	6±1	7	3.24	2.11	20	0.002	1
BT	6.12	6±1	7	3.24	2.11	20	0.002	1
2.4G WIFI	8.96	8±1	9	3.24	2.11	20	0.003	1

MAX RF EXPOSURE EVALUATION

BT	2.4G WIFI	Summation of Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
0.002	0.003	0.005	<1

----- The End -----