

FCC RF Exposure

EUT Description: Audio mixer

Model No.: CT-2

Series Model: CT-2, CT60, CT80, CT120, CT160, GP60, GP80, GP120, GP160, LUX60, LUX80, LUX120, LUX160, KP4, F4A, OM6, OM8, KM8, RA8, F6, F8, F12, F16

FCC ID: 2BDIS-CT-2E

Equipment type: portable device

According to KDB 447498 D01 General RF Exposure Guidance v06 and part 2.1093, Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances < 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

f (GHz) is the RF channel transmit frequency in GHz. The result is rounded to one decimal place for comparison $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min test separation distance mm})] (V/\text{GHz}) < 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where Power and distance are rounded to the nearest mW and mm before calculation

Equipment type: mobile device

RF Exposure Evaluation

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 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

f = frequency in MHz

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm^2 , **Pout** = output power to antenna in mW ; **G** = gain of antenna in linear scale, **Pi** = 3.1416;

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

Pd is the limit of MPE, $1 \text{ mW}/\text{cm}^2$. 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.

Test Procedure

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

Test Result of RF Exposure Evaluation

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

EIRP is the equivalent isotropically radiated power,

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

d_{Meas} is the measurement distance, in m

BT

Field strength(dBuV/m)	EIRP(dBm)	Max tune-up(mW)	Frequency(MHz)	Min. distance(mm)	Calc. thresholds	limit
92.75	-2.48	0.5649	2402	5.00	0.1751	3.0000
92.72	-2.51	0.5610	2441	5.00	0.1753	3.0000
93.01	-2.22	0.5998	2480	5.00	0.1889	3.0000

BLE

Field strength(dBuV/m)	EIRP(dBm)	Max tune-up(mW)	Frequency(MHz)	Min. distance(mm)	Calc. thresholds	limit
85.16	-10.07	0.0984	2402	5.00	0.0305	3.0000
85.02	-10.04	0.0953	2440	5.00	0.0310	3.0000
85.35	-9.84	0.1028	2480	5.00	0.0327	3.0000

Conclusion: No SAR is required