

EXHIBIT 1. EXPOSURE OF HUMANS TO RF FIELD [FCC SECTIONS 1.1310 & 2.1091]

1.1. Requirements

The criteria listed in the following tables shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation.

FCC 47 CFR 1.1310(e) Table 1 - 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
* = Plane-wave equivalent power density

1.2. Method of Measurements

Calculation Method of Power Density:

$$S = \frac{PG}{4\pi \cdot r^2} = \frac{EIRP}{4\pi \cdot r^2}$$

Where,
P: power input to the antenna in mW
EIRP: Equivalent (effective) isotropic radiated power.
S: power density mW/cm²
G: numeric gain of antenna relative to isotropic radiator
r: distance to centre of radiation in cm

1.3. MPE Evaluation for Co-location

Pursuant to KDB 447498 D01 General RF Exposure Guidance v06, Section 7.2:

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0 , according to calculated/estimated, numerically modeled, or measured field strengths or power density.

The following table addresses the co-location of the EUT with PCS/LTE Module at the minimum 31 cm evaluation separation distance required by the operating configurations and exposure conditions of the host device. A PCS/LTE module with operating conditions specified in the following table can be co-located with the EUT.

EUT Co-located with PCS/LTE Module									
Cellular Bands	Frequency Band (MHz)	Frequency (MHz)	Max Conducted Power (dBm)	Maximum Antenna Gain (dBi)	Peak/Average Max. EIRP (mW)	Evaluation Distance (cm)	Power Density (mW/cm ²)	Power Density Limit (mW/cm ²)	Power Density MPE Ratio
LTE-B2	1850-1910	1850	23.5	9.5	1995.26	31	0.165	1.000	0.165
LTE-B4	1710-1755	1710	23.5	6.5	1000.00	31	0.083	1.000	0.083
LTE-B5	824-849	824	24.0	6.63	1156.11	31	0.096	0.549	0.174
LTE-B12	698-716	698	24.0	10.1	2570.40	31	0.213	0.465	0.457
LTE-B13	777-787	777	24.0	6.95	1244.51	31	0.103	0.518	0.199
LTE-B17	704-716	704	24.0	10.1	2570.40	31	0.213	0.469	0.454
3G-B2	1850-1910	1850	24.5	8.51	1999.86	31	0.166	1.000	0.166
3G-B5	824-849	824	24.5	6.63	1297.18	31	0.107	0.549	0.196
	902.2-927.8 (EUT)	902.2	30.0	5.46	3515.60	31	0.291	0.601	0.484
Worst case sum of the MPE ratios for all simultaneously transmitting antennas:									0.941