

EXHIBIT 1. EXPOSURE OF HUMANS TO RF FIELD [FCC SECTIONS 1.1310 & 2.1091, RSS-Gen, SECTION 3.2 & RSS-102]

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

RSS-102 Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ f ^{0.5}	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ f ^{0.25}	0.1540/ f ^{0.25}	8.944/ f ^{0.5}	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f ^{0.3417}	0.008335 f ^{0.3417}	0.02619f ^{0.6834}	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f ^{1.2}
150000-300000	0.158 f ^{0.5}	4.21 x 10 ⁻⁴ f ^{0.5}	6.67 x 10 ⁻⁵ f	616000/ f ^{1.2}
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

1.1. Method of Measurements

Calculation Method of Power Density/RF Safety Distance:

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

- 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

1.2. MPE Evaluation

Data from the Test Reports filed with FCC for FCC ID: QIPPX8

Mode	Emission Designator	Frequency MHz	Peak Output Pwr. Max. dBm	Peak Output Pwr. Max. mW	Avg Output Pwr. Max. dBm	Avg Output Pwr Max. mW
GPRS	247KGXW	824.2	33.8	2399	33.5	2239
		836.6	33.4	2188	33.1	2042
		848.8	33.5	2239	33.3	2138
	249KGXW	1850.2	30.1	1023	29.9	977
		1880.0	30.5	1122	30.3	1072
		1909.8	30.2	1047	30.0	1000
EDGE	241KG7W	824.2	30.3	1072	27.1	513
		836.6	30.3	1072	27.1	513
		848.8	30.3	1072	27.1	513
	235KG7W	1850.2	29.4	871	26.2	417
		1880	29.3	851	26.1	407
		1909.8	29.4	871	26.2	417
HSDPA/ HSUPA/ WCDMA	4M17F9W	826.4	28.1	646	23.7	234
		836.6	28.4	692	23.6	229
		846.6	28.2	661	23.8	240
	4M19F9W	1852.4	28.3	676	23.6	229
		1880	28.1	646	23.8	240
		1907.6	27.9	617	23.3	214
CDMA 850/1900	1M37F9W	824.7	29.3	851	22.7	186
		836.5	28.4	692	22.5	178
		848.3	29.1	813	22.4	174
	1M38F9W	1908.75	27	501	22.1	162
		1851.25	28.4	692	23.4	219
		1880	28.7	741	23.1	204
*CDMA 800	*1M28F9W	817.9	24.3	269	24.3	269
		820.5	24.4	275	24.4	275
		823.1	24.5	282	24.5	282

* Test data for FCC, not for ISED.

PXS8 Co-located with WLAN and BT Transmitters - MPE Calculation														
Mode	Freq. Range	Duty Cycle	Average Conducted Output Power (mW)	Average Conducted Power Out (dBm)	Max. Ant. Gain (dBi)	Averaged Max EUT EIRP (dBm)	Averaged Max EUT EIRP (mW)	Averaged Max EUT EIRP per Duty Cycle (mW)	Evaluation Distance (cm)	Power Density (mW/cm ²)	Power Density FCC Limit (mW/cm2)	FCC Power Density MPE Ratio	Power Density ISED Limit (mW/cm2)	ISED Power Density MPE Ratio
GPRS	824.2 - 848.8	25%	2239	33.5	3.00	36.5	4466.84	1116.71	20	0.222	0.549	0.404	0.258	0.862
	1850.2 - 1909.8	25%	1072	30.3	2.51	32.8	1909.85	477.46	20	0.095	1.000	0.095	0.448	0.212
EDGE	824.2 - 848.8	50%	513	27.1	3.00	30.1	1023.29	511.65	20	0.102	0.549	0.185	0.258	0.395
	1850.2 - 1909.8	50%	417	26.2	2.51	28.7	743.02	371.51	20	0.074	1.000	0.074	0.448	0.165
WCDMA/HSPA	824.2 - 848.8	100%	240	23.8	3.00	26.8	478.63	478.63	20	0.095	0.549	0.173	0.258	0.370
	1852.4 - 1907.6	100%	240	23.8	2.51	26.3	427.56	427.56	20	0.085	1.000	0.085	0.448	0.190
CDMA2000	824.7 - 848.3	100%	186	22.7	3.00	25.7	371.54	371.54	20	0.074	0.550	0.134	0.258	0.287
	1851.25 - 1908.75	100%	219	23.4	2.51	25.9	389.94	389.94	20	0.078	1.000	0.078	0.448	0.173
	*817.9 - 823.1	100%	282	24.5	3.00	27.5	562.34	562.34	20	0.112	0.545	0.205	0.256	0.437
WLAN 2.4G	2400 - 2500	100%				25.0	316.23	316.23	20	0.063	1.000	0.063	0.535	0.118
WLAN 5G	5150 - 5850	100%				27.0	501.19	501.19	20	0.100	1.000	0.100	0.901	0.111
Bluetooth	2400 - 2500	100%				16.0	39.81	39.81	20	0.008	1.000	0.008	0.535	0.015
Worst Case Combination												0.512		0.995

* Test data for FCC, not for ISED.