EXHIBIT 1. RF EXPOSURE REQUIRMENTS [§§ 15.247(i), 1.1310 & 2.1091]

1.1. Limits

§ **1.1310:** The criteria listed in the following table shall be used to evaluate the environmental 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
* = Plane-wave equivalent power density

Note 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

1.2. 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/cm^2
G: numeric gain of antenna relative to isotropic radiator
r: distance to centre of radiation in cm

1.3. RF Evaluation

1.3.1. 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 simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0.

The following table addresses the co-location of the transmitters at a minimum 30 cm evaluation separation distance, which consist of Dual-band RFID, WiFi + Bluetooth Module (FCC ID: PPD-QCNFA324, IC: 4104A-QCNFA324) and 3G Module (FCC ID: QIPEHS6, IC: 7830A-EHS6).

Co-located MPE for Dual-band RFID Module, WiFi/Bluetooth Module and Cellular Module

[1]Radio Module/ Transmitters	Frequency (MHz)	[2]EIRP (dBm)	EIRP (mW)	Evaluation Distance (cm)	Power Density (mW/cm^2)	FCC MPE Limit (mW/cm^2)	MPE Ratio
Invixium Dual-band RFID (FCC ID: S38-SE3200)	0.125	-19.09	0.01233	30	--	--	--
	13.56	-8.09	0.15524	30	0.000014	0.979	**0.000014**
GSM/GPRS/ EDGE/UMTS/HSPA Module (FCC ID: QIPEHS6, IC: 7830A-EHS6)	824.2	33.91	2460.368	30	0.218	0.549	**0.397**
2x2 802.11A/B/G/N/AC WiFi + Bluetooth Module (FCC ID: PPD-QCNFA324, IC: 4104A-QCNFA324)	2412	29.64	920.450	30	0.081	1.0	**0.081**
Worst Case Combination [(13.56 MHz Transmitter) + (GSM/GPRS at 850MHz Band) + (WLAN 802.11b mode)] :							**0.478**
Verdict : Compliant							

[1] The test data of the radio modules represented in this table is the worst-case configuration (maximum MPE ratio) derived from the original radio modules MPE reports. Refer to these reports for details.

[2] The EIRP for dual-band RFID transmitters are computed with the measured field strength of 125 kHz Transmitter (76.11 dBµV/m at 3m) and 13.56 MHz Transmitter (87.14 at dBµV/m 3m) using the following formula:
EIRP = $(E \times d)^2 / 30$, where E = electric field strength in V/m, d = measurement distance in meters (m)