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

§ **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.

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

1.2. RF Evaluation

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 EUT is subject to co-location MPE evaluation; below table are the possible options:

Source / Option	Digi International XBee Module (FCC ID: MCQ-PS2CSM)	Digi International ConnectPort X2e Wi-Fi (FCC ID: MCQ-X2EWIFI)	Telit Communications S.p.A LE910-NA1 LTE /3G Module (FCC ID: RI7LE910NAV2)
1	X	X	
2	X		X

The co-location MPE evaluation is evaluated at a separation distance of 32 cm. The table below is the calculation for all the possible options and the sum of the MPE ratios from all sources.

	Maximum MPE Ratio			Sum of the MPE Ratios from All Sources
Source / Option	Digi International XBee Module (FCC ID: MCQ-PS2CSM)	Digi International ConnectPort X2e Wi-Fi (FCC ID: MCQ-X2EWIFI)	Telit Communications S.p.A LE910-NA1 LTE /3G Module (FCC ID: RI7LE910NAV2)	
1	0.309	0.01767	--	0.327
2	0.309	--	0.201	0.510

The sum of the MPE ratios from all sources is < 1. Thus, in compliant with general public (uncontrolled environment) MPE limit.

For detailed MPE ratios calculation, refer to the following tables.

Calculated MPE Ratio for Digi International XBee Module							
Band (MHz)	**Frequency (MHz)**	**[1]Maximum EIRP (dBm)**	**Average EIRP (mW)**	**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**Limit (mW/cm^2)**	**MPE Ratio**
2405.0 - 2480.0	2405	36	3981	32	0.309	1.0	**0.309**
[1] Data derived from Digi International Xbee Module MPE test report, Test Report No. 15DIGI095_FCC15C247PS2CSM.							

Calculated MPE Ratio for Digi International ConnectPort X2e Wi-Fi								
Radio	**[1]Transmit Frequency (MHz)**	**[1]Max Peak Conducted Output Power (mW)**	**[1]Duty Cycle**	**[1]Duty Cycle Corrected Output Power (mW)**	**[1]Antenna Gain (dBi)**	**Power Density @ 32cm (mW/cm^2)**	**MPE Limit (mW/cm^2)**	**[2]MPE Ratio**
WiFi Radio	2400	70.8	1	70.8	0.86	0.00671	1	0.00671
Zigbee Radio FCC ID: MCQ-XBS2C	2400	6.3	1	6.3	2	0.00078	1	0.00078
Zigbee Radio FCC ID: MCQ-XBS2C	2400	89	1	89	2	0.01096	1	0.01096
							Sum of Worst Case Ratios:	**0.01767**
[1] Data derived from Digi International MPE test report, Test Report No. DGII0036.3 Rev 01.								
[2]The ConnectPort X2e Wi-Fi contained a Wi-Fi (IEEE 802.11b/g/n) module and a ZigBee (IEEE 802.15.4) module. (The ZigBee module has full modular approval under FCC ID MCQ-XBS2C, IC: 1846A-XBS2C or FCC ID MCQ-XBPS2C, IC: 1846A-XBPS2C)								

Calculated MPE Ratio for Telit Communications S.p.A. LE910-NA1 LTE /3G Module											
Band / Mode	**Frequency Range (MHz)**	**Frequency (MHz)**	**[1]Maximum conducted output power (per tune-up) (dBm)**	**Duty Cycle (%)**	**[2]Antenna Gain (dBi)**	**EIRP (dBm)**	**EIRP (mW)**	**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**FCC MPE Limit (mW/cm^2)**	**MPE Ratio**
FDD 12/ LTE FDD	669 - 716	669.0	24.00	100,0%	6.63	30.63	1156.11	32	0.090	0.446	**0.201**
FDD 17/ LTE FDD	704 - 715.9	704.0	24.00	100,0%	6.63	30.63	1156.11	32	0.090	0.469	0.191
FDD 13/ LTE FDD	777 - 787	777.0	24.00	100,0%	6.63	30.63	1156.11	32	0.090	0.518	0.173
FDD 5/ LTE FDD	824.7 - 848.3	824.7	24.00	100,0%	6.63	30.63	1156.11	32	0.090	0.550	0.163
FCC V/ WCDMA/HSPA	826.4 - 846.6	826.4	24.50	100,0%	6.63	31.13	1297.18	32	0.101	0.551	0.183
FDD 4/ LTE FDD	1710.7 - 1754.3	1710.7	24.00	100,0%	6.00	30.00	1000.00	32	0.078	1.0	0.078
FDD 2/ LTE FDD	1850.7 - 1909.3	1850.7	24.00	100,0%	8.51	32.51	1782.38	32	0.139	1.0	0.139
FDD II/ WCDMA/HSPA	1852.4 - 1907.6	1852.4	24.50	100,0%	8.51	33.01	1999.86	32	0.155	1.0	0.155
[1] Data derived from Telit LE910-NA1 LTE /3G Module MPE test report, Test Report No. N/A.											
[2] Maximum permitted antenna gain.											