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

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

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	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
*Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

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

1.3. MPE 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.

Co-location will only applies to EUT with 2.5 dBi dipole antenna, worst case EIRP of 32.5 dBm will be used in co-location at the minimum 25 cm evaluation separation distance required by the operating configurations and exposure conditions of the host device.

Maximum calculated MPE ratio of the EUT with 2.5 dBi dipole antenna

Frequency Band (MHz)	Frequency (MHz)	Conducted Output Power (mW)	Conducted Output Power (dBm)	Antenna Gain (dBi)	Max EUT EIRP (dBm)	Max EUT EIRP (mW)	Evaluation Distance (cm)	Power Density (mW/cm^2)	Power Density FCC Limit (mW/cm^2)	FCC Power Density MPE Ratio	Power Density ISED Limit (mW/cm^2)	ISED Power Density MPE Ratio
2401.6 - 2477.6	2401.6	1000	30.00	2.5	32.50	1778.28	25	0.226	1.000	**0.226**	0.535	**0.423**

For FCC:
The maximum calculated MPE ratio for the EUT with 2.5 dBi dipole antenna at 25 cm evaluation separation distance is 0.226, this configuration can be co-located with other antennas provided the sum of the MPE ratios for all the other simultaneous transmitting antennas incorporated in a host device is ≤ 1.0 - 0.226 ≤ 0.774.

For ISED:
The maximum calculated MPE ratio for the EUT with 2.5 dBi dipole antenna at 25 cm evaluation separation distance is 0.423, this configuration can be co-located with other antennas provided the sum of the MPE ratios for all the other simultaneous transmitting antennas incorporated in a host device is ≤ 1.0 - 0.423 ≤ 0.577.

The following table addresses the co-location of the EUT with 2.5 dBi antenna with 802.11ac Wireless Dual Band USB Adapter (FCC ID: NDD9578111305, IC: 4701A-78111401)

EUT Co-located with 802.11ac Wireless Dual Band USB Adapter (FCC ID: NDD9578111305, IC: 4701A-78111401)												
Frequency Band (MHz)	**Frequency**	**Conducted Output Power (mW)**	**[3]Conducted Output Power (dBm)**	**[2]Antenna Gain (dBi)**	**Max EUT EIRP (dBm)**	**Max EUT EIRP (mW)**	**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**Power Density FCC Limit (mW/cm^2)**	**FCC Power Density MPE Ratio**	**Power Density ISED Limit (mW/cm^2)**	**ISED Power Density MPE Ratio**
2412.0 - 2462.0	2412.0	152	21.82	4.20	26.02	399.94	25	0.051	1.000	0.051	0.537	0.095
2422.0 - 2452.0	2422.0	151	21.79	4.20	25.99	397.19	25	0.051	1.000	0.051	0.538	0.094
5745.0 - 5825.0	5745.0	223	23.48	7.10	30.58	1142.88	25	0.146	1.000	**0.146**	0.971	**0.150**
5755.0 - 5795.0	5755.0	194	22.88	7.10	29.98	995.41	25	0.127	1.000	0.127	0.972	0.130
5775.0 - 5775.0	5775.0	191	22.81	7.10	29.91	979.49	25	0.125	1.000	0.125	0.974	0.128
5180.0 - 5240.0	5190.0	24.8	13.94	7.10	21.04	127.06	25	0.016	1.000	0.016	0.906	0.018
5190.0 - 5230.0	5190.0	33.5	15.25	7.10	22.35	171.79	25	0.022	1.000	0.022	0.906	0.024
5210.0 - 5210.0	5210.0	28.5	14.55	7.10	21.65	146.22	25	0.019	1.000	0.019	0.908	0.020
[1]5180.0 - 5240.0	5180.0	33.5	15.25	7.10	22.35	171.79	25	0.022	1.000	0.022	--	--
[1]5745.0 - 5825.0	5745.0	39.7	15.99	7.10	23.09	203.70	25	0.026	1.000	0.026	--	--
2401.6 - 2477.6 (EUT)	2401.6	1000	30.00	2.5	32.50	1778.28	25	0.226	1.000	**0.226**	0.535	**0.423**
Worst case sum of the MPE ratios for all simultaneously transmitting antennas:										**0.372**		**0.573**

[1] Test data for FCC, not for ISED.
[2] Maximum antenna gain permitted to be used with 802.11ac Wireless Dual Band USB Adapter (FCC ID: NDD9578111305, IC: 4701A-78111401) and EUT in this co-location evaluation.
[3] Conducted output power derived from FCC grants and IC Certificate.