



## Maximum Permissive Exposure

FCC ID: LTQVTSEMNR

Product Name: Truck Infotainment Unit

M/N: Service Entertainment Module 2.5

1. According to FCC CFR 47 §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).

Table 1 Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	---	---	f/300	6
1500-100,000	---	---	5.0	6
(B) Limits for General Population / Uncontrolled Exposures (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100,000	---	---	1.0	30

### 2. MPE Calculation

**APTIV Services Deutschland GmbH** declares that the product described above has been evaluated and found to comply with the RF exposure limits for humans, as specified based on ANSI/FCC recommendation.

RF Exposure Calculations:  $S = (P * G) / (4 * \pi * r^2)$  or  $r = \sqrt{(P * G) / (4 * \pi * S)}$

#### 2.1. Estimation Result

##### Bluetooth

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
GFSK (DSS)	2402	3.155	2.07	2.23	1.67	0.00069
	2441	3.075	2.03	2.23	1.67	0.00068
	2480	3.010	2.00	2.23	1.67	0.00067
8-DPSK (DSS)	2402	6.024	4.00	2.23	1.67	<b>0.00133</b>
	2441	5.982	3.96	2.23	1.67	0.00132
	2480	5.899	3.89	2.23	1.67	0.00129



**Audix Technology (Shenzhen) Co., Ltd.**  
 No. 6, Kefeng Road, Science & Technology Park,  
 Nanshan District , Shenzhen, Guangdong, China

**Tel: 0755 26639496**  
**Fax: 0755 26632877**

**WiFi 2.4GHz (SISO):**

Mode	Frequency (MHz)	PK Output power (dBm)		Output power (mW)		antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )	
		ANT1	ANT2	ANT1	ANT2			ANT1	ANT2
11b (DTS)	2412	11.92	12.28	15.56	16.90	2.23	1.67	0.00518	0.00562
	2437	10.29	12.88	10.69	19.41	2.23	1.67	0.00356	0.00646
	2462	12.11	13.11	16.26	20.46	2.23	1.67	0.00541	<b>0.00681</b>
11g (DTS)	2412	11.53	11.68	14.22	14.72	2.23	1.67	0.00473	0.00490
	2437	11.46	12.06	14.00	16.07	2.23	1.67	0.00466	0.00535
	2462	11.68	12.26	14.72	16.83	2.23	1.67	0.00490	0.00560
11n HT20 (DTS)	2412	10.61	10.41	11.51	10.99	2.23	1.67	0.00383	0.00366
	2437	11.04	10.82	12.71	12.08	2.23	1.67	0.00423	0.00402
	2462	10.83	11.53	12.11	14.22	2.23	1.67	0.00403	0.00473
11n HT40 (DTS)	2422	9.63	8.88	9.18	7.73	2.23	1.67	0.00305	0.00257
	2437	9.65	9.33	9.23	8.57	2.23	1.67	0.00307	0.00285
	2452	9.43	9.66	8.77	9.25	2.23	1.67	0.00292	0.00308

**WiFi 2.4GHz (MIMO):**

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11n HT20 (DTS)	2412	11.49	14.09	2.23	1.67	0.00469
	2437	11.66	14.66	2.23	1.67	0.00487
	2462	12.04	16.00	2.23	1.67	<b>0.00532</b>
11n HT40 (DTS)	2422	11.01	12.62	2.23	1.67	0.00420
	2437	11.28	13.43	2.23	1.67	0.00447
	2452	11.46	14.00	2.23	1.67	0.00466



**Audix Technology (Shenzhen) Co., Ltd.**  
 No. 6, Kefeng Road, Science & Technology Park,  
 Nanshan District, Shenzhen, Guangdong, China

**Tel: 0755 26639496**  
**Fax: 0755 26632877**

**WiFi 5GHz (SISO):**

Mode	Frequency (MHz)	PK Output power (dBm)		Output power (mW)		antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )	
		ANT1	ANT2	ANT1	ANT2			ANT1	ANT2
11a (U-NII-1)	5180	6.17	6.48	4.14	4.45	2.79	1.90	0.00157	0.00168
	5200	6.02	6.27	4.00	4.24	2.79	1.90	0.00151	0.00160
	5240	6.09	6.19	4.06	4.16	2.79	1.90	0.00154	0.00157
11n HT20 (U-NII-1)	5180	6.19	6.40	4.16	4.37	2.79	1.90	0.00157	0.00165
	5200	6.05	6.16	4.03	4.13	2.79	1.90	0.00152	0.00156
	5240	6.25	6.59	4.22	4.56	2.79	1.90	0.00160	0.00173
11n HT40 (U-NII-1)	5190	5.83	6.18	3.83	4.15	2.79	1.90	0.00145	0.00157
	5230	5.87	6.51	3.86	4.48	2.79	1.90	0.00146	0.00169
11ac VHT20 (U-NII-1)	5180	6.25	6.58	4.22	4.55	2.79	1.90	0.00160	0.00172
	5200	6.26	6.16	4.23	4.13	2.79	1.90	0.00160	0.00156
	5240	6.38	6.76	4.35	4.74	2.79	1.90	0.00164	<b>0.00179</b>
11ac VHT40 (U-NII-1)	5190	6.35	6.56	4.32	4.53	2.79	1.90	0.00163	0.00171
	5230	6.44	6.70	4.41	4.68	2.79	1.90	0.00167	0.00177
11ac VHT80 (U-NII-1)	5210	6.31	6.57	4.28	4.54	2.79	1.90	0.00162	0.00172

Mode	Frequency (MHz)	PK Output power (dBm)		Output power (mW)		antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )	
		ANT1	ANT2	ANT1	ANT2			ANT1	ANT2
11a (U-NII-3)	5745	7.50	8.62	5.62	7.28	2.79	1.90	0.00213	0.00275
	5785	7.38	7.68	5.47	5.86	2.79	1.90	0.00207	0.00222
	5825	7.41	6.83	5.51	4.82	2.79	1.90	0.00208	0.00182
11n HT20 (U-NII-3)	5745	7.26	8.88	5.32	7.73	2.79	1.90	0.00201	0.00292
	5785	7.69	8.07	5.87	6.41	2.79	1.90	0.00222	0.00243
	5825	7.58	7.13	5.73	5.16	2.79	1.90	0.00217	0.00195
11n HT40 (U-NII-3)	5755	7.19	8.18	5.24	6.58	2.79	1.90	0.00198	0.00249
	5795	7.57	7.53	5.71	5.66	2.79	1.90	0.00216	0.00214
11ac VHT20 (U-NII-3)	5745	7.53	8.90	5.66	7.76	2.79	1.90	0.00214	<b>0.00294</b>
	5785	7.86	8.16	6.11	6.55	2.79	1.90	0.00231	0.00248
	5825	7.68	7.18	5.86	5.22	2.79	1.90	0.00222	0.00198
11ac VHT40 (U-NII-3)	5755	7.37	8.68	5.46	7.38	2.79	1.90	0.00207	0.00279
	5795	7.75	7.86	5.96	6.11	2.79	1.90	0.00225	0.00231
11ac VHT80 (U-NII-3)	5775	8.13	8.30	6.50	6.76	2.79	1.90	0.00246	0.00256

**WiFi 5GHz (MIMO):**

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11n HT20 (U-NII-1)	5180	7.68	5.86	2.79	1.90	0.00222
	5200	7.13	5.16	2.79	1.90	0.00195
	5240	6.99	5.00	2.79	1.90	0.00189
11n HT40 (U-NII-1)	5190	7.15	5.19	2.79	1.90	0.00196
	5230	6.84	4.83	2.79	1.90	0.00183
11ac VHT20 (U-NII-1)	5180	7.88	6.14	2.79	1.90	<b>0.00232</b>
	5200	7.31	5.38	2.79	1.90	0.00204
	5240	7.22	5.27	2.79	1.90	0.00200
11ac VHT40 (U-NII-1)	5190	7.62	5.78	2.79	1.90	0.00219
	5230	7.11	5.14	2.79	1.90	0.00195
11ac VHT80 (U-NII-1)	5210	7.52	5.65	2.79	1.90	0.00214

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11n HT20 (U-NII-3)	5745	9.87	9.71	2.79	1.90	0.00367
	5785	9.39	8.69	2.79	1.90	0.00329
	5825	8.91	7.78	2.79	1.90	0.00294
11n HT40 (U-NII-3)	5755	9.35	8.61	2.79	1.90	0.00326
	5795	8.73	7.46	2.79	1.90	0.00282
11ac VHT20 (U-NII-3)	5745	10.03	10.07	2.79	1.90	<b>0.00381</b>
	5785	9.55	9.02	2.79	1.90	0.00341
	5825	9.30	8.51	2.79	1.90	0.00322
11ac VHT40 (U-NII-3)	5755	9.50	8.91	2.79	1.90	0.00337
	5795	9.03	8.00	2.79	1.90	0.00303
11ac VHT80 (U-NII-3)	5775	9.71	9.35	2.79	1.90	0.00354

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.67 Numerical**, and the highest power output (P) is **20.46mW**, the power density (S) is **0.00681mW/cm<sup>2</sup>**.