



Certification Exhibit

FCC ID: SK9WF111

FCC Rule Part: 47 CFR Part 2.1091

Project Number: 72135742

Manufacturer: Itron, Inc.
Model: WF111

RF Exposure

General Information:

Applicant: Itron, Inc.
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

The Itron, Inc. WF111 (FCC ID: SK9WF111) is collocated and transmits simultaneously with the Itron, Inc. OW1 (FCC ID: SK9OW1) radio, Itron, Inc. ITR9002 (FCC ID: SK9ITR9002) radio, ITR24 (FCC ID: SK9ITR24) radio, and Sierra Wireless EM7455 (FCC ID: N7NEM7455) radio.

Technical Information:**Table 1: Technical Information**

	<i>Itron OW1 FCC ID: SK9OW1</i>	<i>Itron ITR9002 FCC ID: SK9ITR9002</i>	<i>Itron WF111 FCC ID: SK9WF111</i>	<i>Itron ITR24 FCC ID: SK9ITR24</i>	<i>Sierra Wireless EM7455 FCC ID: N7NEM7455</i>
Frequency Band(s) (MHz)	902 - 928	902 - 928	2400 - 2483.5	2400 - 2483.5	699 - 716 [†]
Antenna Type(s)	PCB Trace Antenna	PCB Trace Antenna	RP-SMA Monopole	PCB Quarter Wave Embedded Slot Antenna	PCB Trace Antenna
Antenna Gain (dBi)	2.04	1	1.8	3.8	-1.4103
Conducted Power (dBm)	29.54	26.39	19.15	18.03	24
Conducted Power (mW)	899.50	435.51	82.22	63.53	251.19
Maximum Peak EIRP (mW)	1438.80	548.28	124.45	152.41	181.54
Maximum Peak ERP (mW)	877.00	334.20	75.86	92.90	110.65

[†] Worst-case band per MPE Ratio based on the original certification under FCC ID: N7NEM7455

MPE Calculation:

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Table 2: MPE Calculation (Including Collocated Devices)

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)	Radio
902	29.54	0.60	899.50	2.04	1.600	20	0.286	A
902	26.39	0.60	435.51	1	1.259	20	0.109	B
2400	19.15	1.00	82.22	1.8	1.514	20	0.025	C
2400	18.03	1.00	63.53	3.8	2.399	20	0.030	D
699†	24	0.47	251.19	-1.4103	0.723	20	0.036	E

† Worst-case band per MPE Ratio based on the original certification under FCC ID: N7NEM7455

Summation of MPE ratios – Simultaneous Transmissions

This device contains multiple transmitters which can operate simultaneously; therefore the maximum RF exposure is determined by the summation of MPE ratios. The limit is such that the summation of MPE ratios is ≤ 1.0.

Table 3: Summation of MPE Ratios

	Scenario 1
Radio A (SK9OW1)	X
Radio B (SK9ITR9002)	X
Radio C (SK9WF111)	X
Radio D (SK9ITR24)	X
Radio E (N7NEM7455)	X
Radio A MPE Ratio	0.476008673
Radio B MPE Ratio	0.181390637
Radio C MPE Ratio	0.024758832
Radio D MPE Ratio	0.030320066
Radio E MPE Ratio	0.077502235
MPE Ratio Summation:	0.789980443