



Certification Exhibit

FCC ID: NC3-34204AVL

FCC Rule Part: 47 CFR Part 2.1091

TÜV SÜD Project Number: 72149971

Manufacturer: Attenti US, Inc.
Model(s): 34204AL, 34204CL, 34204VL and 34204XL

RF Exposure

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General Information:

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

The Attenti US, Inc. Model(s) 34204AL, 34204CL, 34204VL and 34204XL radios are collocated and transmit simultaneously with the Telit Model LE910C1-NF radio.

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

	Frequency Bands (MHz)	Antenna Types(s)	Antenna Gain (dBi)	Conducted Power (dBm)	Conducted Power (mW)	Maximum Peak EIRP (mW)	Maximum Peak ERP (mW)
Attenti US, Inc. Models 34204AL, 34204CL, 34204VL and 34204XL FCC ID: NC3-34204AVL IC: 23669-34204AVL	2412 - 2462 MHz	SMD PCB	3.6	24.36	272.90	625.17	381.07
	433.92 MHz	Stub	1.5	3.11	2.05	2.89	1.76
	433.92 MHz	Inverted-F	0.75	3.11	2.05	2.43	1.48
Telit Model LE910C1-NF FCC ID: R17LE910CXNF IC: 5231A-LE910CXNF	1710 - 1780 MHz	Flex	2	25.1	323.59	512.86	312.61
	1850 - 1910 MHz		2.5	24.74	297.85	529.66	322.85
	663 - 698 MHz		2	24	251.19	398.11	242.66
	699 - 716 MHz		2	24.74	297.85	472.06	287.74
	777 - 787 MHz		2	24.96	313.33	496.59	302.69
	788 - 798 MHz		2	24.38	274.16	434.51	264.85
	824 - 849 MHz		2	25.14	326.59	517.61	315.50

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
2462	24.36	1.00	272.90	3.6	2.291	20	0.124	A
433.9	3.11	0.29	2.05	1.5	1.413	20	0.001	B
1770	25.1	1.00	323.59	2	1.585	20	0.102	C
1910	24.74	1.00	297.85	2.5	1.778	20	0.105	D
695.5	24	0.46	251.19	2	1.585	20	0.079	E
715.3	24.74	0.48	297.85	2	1.585	20	0.094	F
784.5	24.96	0.52	313.33	2	1.585	20	0.099	G
795.5	24.38	0.53	274.16	2	1.585	20	0.086	H
849	25.14	0.57	326.59	2	1.585	20	0.103	I

Note: The worst case EIRP for the 433 MHz radio was used for the calculations. The two 433 MHz radios are not capable of transmitting simultaneously.

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 (Radios A to F)

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Radio A (2462 MHz)	x	x	x	x
Radio B (433.9 MHz)	x	x	x	x
Radio C (1770 MHz)	x			
Radio D (1910 MHz)		x		
Radio E (695.5 MHz)			x	
Radio F (715.3 MHz)				x
Radio A MPE Ratio	0.124374155	0.124374155	0.124374155	0.124374155
Radio B MPE Ratio	0.00198807	0.00198807	0.00198807	0.00198807
Radio C MPE Ratio	0.10203053			
Radio D MPE Ratio		0.105373194		
Radio E MPE Ratio			0.170814317	
Radio F MPE Ratio				0.196939658
MPE Ratio Summation:	0.228392756	0.23173542	0.297176543	0.323301883

Table 4: Summation of MPE Ratios (Radios A, B, G, H, I)

	Scenario 5	Scenario 6	Scenario 7	Scenario 8
Radio A (2462 MHz)	x	x	x	
Radio B (433.9 MHz)	x	x	x	
Radio G (784.5 MHz)	x			
Radio H (795.5 MHz)		x		
Radio I (849 MHz)			x	
Radio J (-----)				
Radio A MPE Ratio	0.124374155	0.124374155	0.124374155	
Radio B MPE Ratio	0.00198807	0.00198807	0.00198807	
Radio G MPE Ratio	0.188898477			
Radio H MPE Ratio		0.162997604		
Radio I MPE Ratio			0.181933935	
Radio J MPE Ratio				
MPE Ratio Summation:	0.315260703	0.28935983	0.308296161	