

Low Duty Factor Percentage Wi-Fi Analysis Delineation Work Sheet

(For Requested SAR Wi-Fi Test Exclusion)

FCC ID: NC3-24014VL

(Project: Jarvis/RTCVZ)

ATTENTI US, INC.

Wi-Fi PERCENT DUTY FACTOR USAGE - PER BELOW SCENARIO

Operational-Based Duty Factor

56.79 Wi-Fi Transmission Time in Minutes per day

1440 Minutes in 1 day

3.94% PERCENT DUTY FACTOR (TX Time/1 Day)*(%)

WORSE CASE SITUATIONAL SCENARIO (Over the Course of 1 Day)

24	hours Lost GPS Signal	1440	minutes
24	hours Lost Cellular Signal	1440	minutes

WORSE CASE Wi-Fi USAGE SCENARIO (Over the Course of 1 Day)

438,247 Total Wi-Fi Data Transmitted (bytes)

56.8 Total Time Wi-Fi Module powered ON during data transmission

Wi-Fi OPERATING FREQUENCIES (commonly used channels are 1, 6, & 11)

1	2.412 GHz	8	2.447 GHz
2	2.417 GHz	9	2.452 GHz
3	2.422 GHz	10	2.457 GHz
4	2.427 GHz	11	2.462 GHz
5	2.432 GHz	12	2.467 GHz
6	2.437 GHz	13	2.472 GHz
7	2.442 GHz	14	2.484 GHz

Wi-Fi Module Max Available Conducted Power

18dBm on 2437MHz channel (Channel 6)

FCC Prior Module Certification

FCC ID: [S9NSPWFS04](#)

GPS SIGNAL LOST -> LOCATION DERIVED BY INDOOR LOCATION (Wi-Fi) Access Point SCAN

24 hour loss of GPS signal.
 630 bytes per WLAN Location Scan (3 channels scanned requested/6 access points rec'd & acknowledged)
 5 (in Seconds) Wi-Fi Transmission duration time during each scan.
 657.5 Quantity of WLAN Location Scans for Indoor Location (every 2.19 minutes per hour)
414,247 Bytes Transmitted during 24 hours of Indoor Location
54.8 Minutes Wi-Fi Module powered ON during 24 hours of Indoor Location

CELLULAR SIGNAL LOST -> OFFENDER DATA POINTS UPLOADED BY Wi-Fi

24 hour loss of Cellular signal.
 1,000 bytes per hour typically transmitted.
 1 uploads per hour
 0.083 Minutes (~5 seconds) Wi-Fi Module powered ON during each data upload
24,000 Bytes Transmitted for 1 hour of points
0.083 Minutes Wi-Fi Module powered ON for 1 hour's worth of accumulated of points
2.000 Minutes Wi-Fi Module powered ON during 24 hour loss of cell signal.

INDOOR LOCATION ACCESS POINT SCAN

Channel	Scenario	# of Probe Request Frames Transmitted		Data Size		# of Probe Response Frames Rec'd-> ACK Transmitted		Data Size		TOTAL Data (Bytes)	Wi-Fi Module Power ON Time & (Comments)
1		1	Probe Request Frame	150	bytes	1		30	bytes	180	5 seconds (When we receive responses on 1 of the 14 channels) 15 seconds (When we receive responses on 3 of the 14 channels)
		3	Probe Request Frame (3 Channels)	450	bytes	6		180	bytes	630	
2											

Loss of GPS signal - Check WLAN for location every 2.19 minutes.
630 total bytes for 3 channels probe request & 6 access points response received & ack'd back