

Technical Requirements

A summary of key technical requirements for the RF front ends for all three specifications appears below:

Parameter	IEEE 802.11 FHSS	HRFWG SWAP CA	Bluetooth
Operating Frequency	2.400 - 2.4835 GHz	2.400 - 2.4835 GHz	2.400 - 2.4835 GHz
Spread Spectrum Method	FHSS	FHSS	FHSS
Data Rate	1 Mbps 2 Mbps	1 Mbps 2 Mbps	1 Mbps 2 Mbps (future)
Modulation Method	2-FSK 4-FSK (optional)	2-FSK 4-FSK (required)	2-FSK TBD
Modulation Index (h)	0.32 0.16		0.32 TBD
Effective Filter BW	Gaussian (BT = 0.5)		?????
Hop Rate	2.5 Hz	50 Hz	1600 Hz (max)
Channel Switch Time	224 microsec	300 microsec	220 microsec
Rx/Tx Turnaround Time	19 microsec	25 microsec	220 microsec
Antenna Diversity	Optional		Not Required
Tx RF Power	<1W (US) 100 mW (Europe & Japan)	100 mW (North America)	1 mW
Rx Sensitivity	-80 dBm @ 1 Mbps -75 dBm @ 2 Mbps	-76 dBm @ 1 Mbps	-70 dBm @ 1 Mbps
Tx Channel Freq. Tol.	+/- 60 kHz		?
Tx Spectrum Shape	$ N-M = 2$ -20 dBm or -40 dBc $ N-M \geq 3$ -40 dBm or -60 dBc		?

Radio Requirements for IEEE802.11, HRFWG, and Bluetooth