



# Digi Embedded RF Product Comparison

	XBee 802.15.4 OEM RF Module	XBee-PRO 802.15.4 OEM RF Module	XBee ZNet 2.5 OEM RF Module	XBee-PRO ZNet 2.5 OEM RF Module	XBee-PRO XSC OEM RF Module	XCite OEM RF Module	XStream (900MHz) OEM RF Module	XStream (2.4 GHz) OEM RF Module	XTend OEM RF Module
<b>Performance</b>									
<b>RF Data rate/Throughput:</b>	250 kbps / up to 115 kbps		250 kbps / NA*		10 kbps / 9.6 kbps	10 kbps / 9.6 kbps or 41.6 kbps / 38.4 kbps	10 kbps / 9.6 kbps or 20 kbps / 19.2 kbps	10 kbps / 9.6 kbps or 20 kbps / 19.2 kbps	10 kbps / 9.6 kbps or 125 kbps / 115.2 kbps
<b>Indoor/Urban Range</b>	100 ft (30 m)	300 ft (100 m)	133 ft (40 m)	300 ft (100 m)	1200 ft (370 m)	300 ft (100 m)	1500 ft (450 m)	600 ft (180 m)	3000 ft (900 m)
<b>Outdoor/RF line-of-sight range:</b>	300 ft (100 m)	1 mile (1.6 km)	400 ft (120 m)	1 mile (1.6 km)	6 miles (9.6 km) / 15 miles (24 km)**	1000 ft (300 m)	7 miles (11 km) / 20 miles (32 km)**	3 miles (5 km) / 10 miles (16 km)**	14 miles (22 km) / 40 miles (64 km)**
<b>Transmit Power:</b>	1 mW (+0 dBm)	60 mW (+18 dBm)	1.25 mW (+1 dBm) / 2 mW (+3 dBm) in Boost Mode	32 mW (+15 dBm)	100 mW (+20 dBm)	4 mW (+6 dBm)	100 mW (+20 dBm)	50 mW (+17 dBm)	1 W (+30 dBm)
<b>Receiver Sensitivity (1% PER):</b>	- 92 dBm	- 100 dBm	- 97 dBm / - 98 dBm in Boost Mode	-102 dBm	- 106 dBm	-108 dBm @ 9.6 kbps	- 110 dBm @ 9.6 kbps	- 105 dBm @ 9.6 kbps	- 110 dBm @ 9.6 kbps
<b>Features</b>									
<b>Serial Data Interface:</b>	CMOS UART Interface (no configuration needed)								TTL UART Interface (no configuration needed)
<b>Configuration Method:</b>	API or AT Commands		API or AT Commands, local or over-the-air		AT Commands			AT Commands	
<b>Frequency Band:</b>	2.4 GHz				900 MHz			2.4 GHz	900 MHz
<b>Interference immunity:</b>	DSSS (Direct Sequence Spread Spectrum)				FHSS (Frequency Hopping Spread Spectrum)				
<b>Serial Data Rate:</b>	1200 bps - 115 kbps		1200 bps - 1 Mbps		1200 bps - 57.6 kbps			1200 bps - 230.4 kbps	
<b>ADC Inputs:</b>	(7) 10-bit ADC inputs		(4) 10-bit ADC inputs						
<b>Digital I/O:</b>	8		10					2	
<b>Antenna Options:</b>	Chip, Wire Whip, U.FL, & RPSMA				Wire Whip, U.FL, & RPSMA	Wire & RPSMA	Wire, MMCX, & RPSMA		RPSMA & MMCX
<b>Networking &amp; Security</b>									
<b>Topology:</b>	Peer-to-Peer, Point-to-Point, Point-to-Multipoint		Designed for ZigBee Mesh		Peer-to-Peer, Point-to-Point, Point-to-Multipoint			Peer-to-Peer, Point-to-Multipoint, Repeater, Peer-to-Peer Mesh	
<b>Encryption:</b>	128-bit AES							128-bit AES / 256-bit AES	
<b>Reliable Packet Delivery:</b>	Retries/Acknowledgments				Retries/Acknowledgments, CRC	CRC	Retries/Acknowledgments, CRC		Retries/Acknowledgments, Multiple Transmissions, CRC
<b>Channels:</b>	16 Direct Sequence Channels	12 Direct Sequence Channels	16 Direct Sequence Channels	13 Direct Sequence Channels	7 Hop Sequences Share 25 Frequencies			10 Hop Sequences Share 50 Frequencies	
<b>ID:</b>	PAN ID, 64-bit IEEE MAC				Vendor ID, Channel & Addresses				
<b>Power Requirements</b>									
<b>Supply Voltage:</b>	2.8 - 3.4 VDC (Absolute) / 3.0 - 3.4 (Recommended)		2.1 - 3.6 VDC (Absolute) / 3.0 - 3.4 (Recommended)	3.0 - 3.4 VDC (Absolute) / 3.0 - 3.4 (Recommended)	3.0 - 3.6 VDC (Absolute) / 3.0 - 3.4 (Recommended)	2.85 - 5.5 VDC Regulated	4.75 - 5.25 VDC Regulated		2.8 - 5.5 VDC Regulated
<b>Transmit Current:</b>	45 mA	215 mA	35 mA / 40 mA in Boost Mode	295 mA	265 mA	55 mA	150 mA		730 mA @ 1 W
<b>Receive Current:</b>	50 mA	55 mA	38 mA / 40 mA in Boost Mode	45 mA	65 mA	45 mA	50 mA		80 mA
<b>Power-down Current:</b>	< 10 uA		<1 uA		< 50 uA	< 20 uA	< 26 uA		< 5 uA
<b>Regulatory Approvals</b>									
<b>FCC (USA):</b>	OUR-XBEE	OUR-XBEEPRO	Yes	Yes	Yes	OUR-9XCITE	OUR9XSTREAM	OUR24XSTREAM	OUR-9XTEND
<b>IC (Canada):</b>	4214A-XBEE	4214A-XBEEPRO	Yes	Yes	Yes	4214A-9XCITE	4214A-9XSTREAM	4214A-12008	4214A-9XTEND
<b>ETSI (Europe):</b>	Yes	Yes	Yes	Yes	-	-	-	Yes	-
<b>C-TICK Australia:</b>	Yes	Yes	Yes	Pending	-	-	-	-	Yes
<b>Telec (Japan):</b>	Yes	Yes	Yes	Under Consideration	-	-	-	-	-
<b>Gateways / Adapters</b>									
<b>Gateways:</b>	Cellular, Ethernet, WiFi				Pending	-	-		XBee Gateways via XTender
<b>Adapters:</b>	RS 232, RS 232PH, RS 485, Sensor, USB, Analog I/O, Digital I/O				Pending	Serial & USB PKGs	Serial, USB, Ethernet PKGs		Serial, USB, Ethernet
<b>Network Extenders:</b>	Wall Routers, XBee XTender (coming soon)				Pending	-	-		XBee XTender

\* Mesh Throughput is a product of Network Attributes and will therefore vary greatly from one application to another. Applications requiring predictable throughput should instead consider a point-to-multipoint Network

\*\* With high gain antenna