AW225BT

DSP based Radio Transceiver with Built-in wireless link Monitoring and Management Tools:

- 40 miles/65 km Maximum Distance Range
- Full speed USB 2.0 device port (12 Mbps)
- Data Speed over the air 38400 bps at 25 kHz and 19200 bps at 12.5 kHz
- Programmable Output Power (320 mW to 25 W)
- Bluetooth® Interface
- Advanced Forward Error Correction (FEC)
- RS232 serial interface with RTS/CTS flow control support
- Serial port configurable as RS-232 and RS-422, or RS-485
- Data Speed over the serial port 9600 to 115200 bps
- Automatic search and select for best frequency/channel

The AW225BT radio transceiver provides a high-speed Point-to-Point and Point-to-Multipoint wireless data transfer at up to 38.4 kbps. AW225BT supports user selectable modulation techniques (GMSK, 4FSK, DBPSK, DQPSK, D8PSK, or D16QAM), which allows the user to achieve the highest data speed for a given range (up to 48 miles). It also includes a selectable error correction, which improves the functioning of the radio modem under interference.

The sophisticated features of AW225BT include data scrambling, frequency hopping, user selectable transmit output power level, low power consumption sleep modes, autoscanning for base and plug-and-play installation for remote terminals. AW225BT supports two separate Application Data and Maintenance modes of single RS232 serial port. The built-in software tools provide the wireless link testing, units' status and error statistics monitoring as well as units' settings change over the air. The firmware of the AW225BT radio transceiver resides in a flash memory. The updating of the radio modem programs is entirely software-based. The flash memory is re-programmable through an RS232 interface, USB, Bluetooth.

AW225BT

General Radio Specifications

Parameter	Specification
Operating Frequency Range	215-255 MHz
Channel Spacing	25/12.5/6.25 kHz (USA, Canada) 25/20/12.5 kHz (EU)
Data Rate (25/12.5/6.25 kHz Channel Spacing)	9600/4800/2400 bps – DBPSK/GMSK 19200/9600/4800 bps – DQPSK/4FSK 28800/14400/7200 bps – D8PSK 38400/19200/9600 bps – D16QAM
System Gain for DBPSK modulation (Antenna gain is not included)	160 dB (for 25 kHz Channel Spacing) 162 dB (for 12.5 kHz Channel Spacing) 163 dB (for 6.25 kHz Channel Spacing)
Roaming Speed for DBPSK modulation	75 mph / 120 km/h
Modulation	GMSK/4FSK/DBPSK/DQPSK/D8PSK/D16QAM
Nominal Impedance	50 Ohms
End to End delay	60 ms
Communication Mode	Time Division Duplex (TDD) Time Division Multiple Access (TDMA)
Maximum Distance Range	40 miles / 65 km
Serial port	Serial (RS-232) up to 115200 bps. Serial port configurable as RS-232 and RS-422, or RS-485
USB	USB 2.0 device port (12 Mbps)
Bluetooth	Bluetooth V2.0 Class 2 supporting SPP Slave and Master Profiles
Bluetooth Antenna	External

Compliance

Parameter	Specification
FCC	Part 90
Industry Canada	RSS-119
R&TTE	ETSI EN 300 113-2 ; ETSI EN 301 489-5; EN 60950-1:2006

DB15 Connector Specification

Pin #	Signal Name	I/O	Description
1	DCD_OUT	O	Data Carrier Detect (RS-232)
2	DTR_OUT	O	Data Terminal Ready (RS-232)
3	RX+/CTS_IN	I	Receive Data positive line (RS-422)/ Clear to Send (RS-232)
4	RX-/RX_IN	I	Receive Data negative line (RS-422)/ Receive Data (RS-232)
5	not used	-	-
6	USB_PWR	I	Power Input line (USB)
7	Ground	-	Power Ground
8	not used	-	-
9	DSR_IN	I	Data Set Ready (RS-232)
10	TX+/RTS_OUT	O	Transmit Data positive line (RS-422) / Request to Send (RS-232)
11	TX-/TX_OUT	O	Transmit Data negative line (RS-422) / Transmit Data (RS-232)
12	Ground	-	Power Ground
13	USB_D+	I/O	Positive line (USB)
14	USB_D-	I/O	Negative line (USB)
15	Ground	-	Power Ground

Environmental Specifications

Parameter	Specification
Temperature	Operating –40ºC to +60ºC Storage –40ºC to +85ºC
Environmental	IP 66
Dimensions (H x W x D)	152 mm x 84 mm x72 mm
Weight	900 g
Power Supply Voltage	+9 to +16 VDC nominal
Power Consumption (Average): Continuous Transmit/ Transmit with 30% duty cycle / Sleep	120W/38W/300mW (USA, Canada) 60/20/300mW (EU)
Housing/Color	Aluminum / Two-tone Silver/ Gray
RF Antenna Connector	TNC, 50Ω
Bluetooth Antenna Connector	SMA, 50Ω

Transmitter Specifications

Parameter		Specification
Output Power	USA, Canada	25 dBm to 44 dBm in 1 dB step (320 mW to 25W)
	EU	25 dBm to 40 dBm in 1 dB step (320 mW to 10W)
Output Power Control Accuracy		±1.5 dB (at normal test conditions)
Carrier Frequency Stability		±1.5 ppm initial stability over temp with ±3.0 ppm aging/year
Max. Frequency Error		±1.0 kHz (at normal test conditions) ±1.5 kHz (under extreme test conditions)
Adjacent Channel Power (Conducted)		
25/12.5/6.25 kHz CS	USA, Canada	Part §90.210 (C, D, E)
25/20/12.5 kHz CS	EU	Clause 4.2.4 EN 300 113-2 (60 dBc)
Spurious Emission (Conducted)		-36 dBm (9 kHz – 1GHz) -30 dBm (1GHz – 4 GHz)
Spurious Emission (Radiated)		-36 dBm (9 kHz to 1 GHz) -30 dBm (1 GHz to 4 GHz)

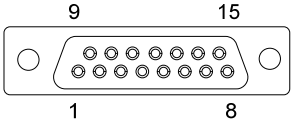
Receiver Specifications

Parameter		Specification
Noise Figure		4 dB
Receiver Sensitivity	DBPSK	-116 dBm 25kHz / -117 dBm 12.5kHz
BER 1x10-4, 25 kHz CS	DQPSK	-115 dBm 25kHz / -116 dBm 12.5kHz
	D8PSK	-110 dBm 25kHz / -111 dBm 12.5kHz
	D16QAM	-106 dBm 25kHz / -107 dBm 12.5kHz
	GMSK	-113 dBm 25kHz / -114 dBm 12.5kHz
Dynamic Range		-115 to –15 dBm
Max. Input Signal Level		-10 dBm
Co-channel Rejection		-8 dB for 25 kHz Channel Spacing -12 dB for 12.5 kHz Channel Spacing -16 dB for 6.25 kHz Channel Spacing
Adjacent Channel Selectivity		70 dB for 25 kHz Channel Spacing 60 dB for 12.5 kHz Channel Spacing 50 dB for 6.25 kHz Channel Spacing

This connector provides DB15 connectivity for the AW225BT with DTE.

About using and configuration RS-485 and RS-422 please contact support@javad.com

DB15 (Fem)



Specifications are typical and subject to change without prior notice

ArWest Communications Corp. 900 Rock Avenue, San Jose, CA 95131
Tel+1 408 770 1790 Fax: +1 408 770-1799 Email: sales@arwestcom.com

www.arwestcom.com
Revision 1.3 February 9, 2012