Silver Data Stream
TRANSFER-MODUL

Technical Information

SDS1 -TM

RF - OEM Datatransceiver with transferrates up to 2 Mbit/sec

Type: SDS1- TM

Technical Data Version 1.01, 06/2006

SRB Innovative Industrie Elektronik GmbH

SRB Innovative Industrie Elektronik GmbH reserve the right to make changes, without notice, in order to improve design and/or performance.

The ***SilverDataStream2*** OEM radio data module is a build in RF modem for wireless data transfer with data rates up to 2 Mbits/s in the 2.4 GHz ISM band. The radio data module employs Direct Sequence Spread Spectrum signalling .

The ***SilverDataStream*** OEM radio data module contains the complete 2.4 GHz RF transceiver, a microcontroller to control the RF Functions and the communication interface for connection to a host computer.

The ***SilverDataStream*** OEM radio data module provides three different computer interfaces**:**

serial asynchronous RS-232-C interface (programmable data rate 9600 bits/s to 115 Kbits/s)

serial asynchronous TTL interface (data rate 9600 bits/s to 600 Kbits/s)

8-bit parallel interface with control lines

A proprietary software operating system and standard application software for point-to-point data transfer are included in the module. The proprietary operating system allows customer specific interface configurations by software to create the most complex wireless networks. (On-board Flash memory allows system control parameters and program updates to be programmed via the host computer interfaces.)

Command code sequences entered from the host computer through one of the three interfaces set the ***SilverDataStream*** module in the required operating state.

SDS Programmupdates and customer Interfaces are easy downloadable thrue the on board serial asynchronous interfaces.

Technical specifications:

Frequency range : 2.400 GHz to 2.4835 GHz

Output power: 16 dBm typ.

Receiver sensitivity: better than - 87dBm At 1Mbit/sec RF-datarate)

RF-Data rate: 1 Mbits/s, 2Mbit/sec

Modulation: DBPSK or DQPSK

Transfer band width: 24 MHz

Channels: 49
programmable in 1 MHz steps
(center frequency 2.413 GHz to 2.461 GHz

Transmission range:

outdoors (line of sight) up to		1 km
indoors (no visible link)up to		100 m
typical range:	outdoors	600 m
	indoors	60 m

Operating voltage:
+5 VDC ?5%
(input voltage +5 VDC, reset on and off TTL level, low-aktiv)

Operating current:
Programmable power management:

Transmit: 320 mA typ

Receive: 290 mA typ

Programmable stand-by states:

Receiver on 1: 290 mA typ

Power down 1: 160 mA typ.
(25 ?s wake-up-time)
Receiver and transmitter off)

Operating temperature range:

0 ?C to 55 ?C (standard)
-20 ?C to 70 ?C (optional)

Relative humiditiy:

20% to 90%, non condensing

Size:

OEM board 60 mm x 120mm x 7.5mm
(b x w x h) High without Connectrors
6 screw holes 3.2 mm dia.

Antennas:

Dipol Antennas with 2dBi gain

On board connectors:

1. 2 x 5 pins 2.54 mm pitch RS-232-C Port

2. 2 x 5 pins 2.54 mm pitch
   TTL- asynchron seriall lines TxD and RxD

3. 2 x 13 pins 2.54 mm pitch
   TTL 8bit parallel port and control lines

4. 2 x 3 pins 2.54 mm pitch
   Poewer ans Reset

Pin connections:

Connector 1 RS232 asynchronous seriall interface,

Signal name	Pin	Pin	Signal name
NC	1	2	NC
TxD (Output)	3	4	CTS / Input
RxD (Input)	5	6	RTS / Output
NC	7	8	NC
GND	9	10	NC

Connector 2
TTL asynchronous seriall interface,

Signal name	Pin	Pin	Signal name
TTL-Seriall out	1	2	TTL-Seriall in
T-I/O 1	3	4	T-I/O 2
T-I/O 3	5	6	T-I/O 4
T-I/O 5	7	8	T-I/O 6
+5V out /100mA	9	10	GND

Connector 3
Programmable interface, TTL levels:

Signal name	Pin	Pin	Signal name
Input Line 1	1	2	Input Line 2
Data Bit 0	3	4	Output Line 4
Data Bit 1	5	6	Input Line 6
Data Bit 2	7	8	Input Line 8
Data Bit 3	9	10	Gnd
Data Bit 4	11	12	Gnd
Data Bit 5	13	14	Gnd
Data Bit 6	15	16	Gnd
Data Bit 7	17	18	Gnd
Output Line 19	19	20	Gnd
Output Line 21	21	22	Gnd
Output Line 23	23	24	Gnd
Output Line 25	25	26	Gnd

Connector 4
Power supplyand reset:

Signal name	Pin	Pin	Signal name
+5V Uin	1	2	+5V Uin
0V Gnd	3	4	0V Gnd
Reset in	5	6	Reset out

End Product Labeling:
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following " Contains Transmitter Module FCC ID: UN4-DATAEAGLEX00X".

Manual Information for End User:
IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operated in conjunction with any other antenna or transmitter.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.