

1Mbps S-band Transceiver for Satellite



Upper section : USB transceiver unit

Lower section : QPSK transmission unit

Outline

It will be installed on the small satellite and perform the command reception from the ground, and the telemetry transmission to the ground using 2GHz wave band.

Features

- **Flight proven**
- Lower cost using COTS parts
- The 2-way Doppler measurement function controls the transmission frequency depending on the reception frequency of the command signal from the ground.
- 1Mbps high speed communication (QPSK)
- Control for switch of USB/QPSK transmission and switch of coherent (2-Way Doppler) /incoherent mode is available
- Monitoring the status of the transceiver (transmission and reception status, internal temperature and the setting status of each mode)
- In case only USB is required, it will be realized by the sole operation of the upper unit.
- Tolerant of the severe environment of small satellite
- ITAR free
- RoHS nonconformity
- Made in Japan

* This product was developed in the support of JAXA.

* Note that, with due to the rights of other relevant parties and/or depending on usage, application and/or delivery place, the products may not be sold, commercially distributed, leased or included in a part of product or system which intends to receive benefits through the inclusion of the product.

SPECIFICATIONS

	Items	Performance
Receiving performance	Reception frequency	2 GHz band
	Modulation	PCM(NRZ-L)-PSK-PM
	Receiving sensitivity	< -100 dBm
	Sub carrier frequency	16 kHz
	Command bit rate	4 kbps
USB transmission performance	Transmission frequency	2 GHz band
	Modulation	PCM(Biφ-L)-PM
	Transmission output	+10 dBm(Typ.)
	Telemetry bit rate	16 kbps
QPSK transmission performance	Transmission frequency	2 GHz band
	Modulation	QPSK
	Transmission output	+27 dBm(Typ.)
	Telemetry bit rate	1 Mbps
Other performance	Power supply voltage	+17 to 35 VDC
	Power consumption	< 2.8 W (standby)
		< 3.8 W (USB transmission)
		< 15 W (QPSK transmission)
	Operating temperature range	-10 to +50°C
	Dimensions	198 x 120 x 38.8 mm (flange and screw not included)
	Mass	< 1.65 kg
	Lead time	About 12 months after receiving orders.
	Flight heritage	SDS-4 SOCRATES

Caution

- For safe and correct usage, please read the "Operation Manual" prior to the use of the products.
- Specifications and designs are subject to change without notice.
- Specifications and designs are based on the standard model. Please contact us regarding further customization to suit your project's needs.
- This products may be subject to the application of the Foreign Exchange and Foreign Trade Act and other related laws and regulations in Japan. Customer agrees to comply with such regulations and acknowledges that it is their responsibility to obtain any required licenses to export, re-export, or import this products.
- We shall not be liable for any damages arising out of or in connection with the use of specifications herein, including liability for lost profit, business interruption, or any other damages whatsoever.
- The color of the product photography on catalog might be different from that of actual product because of printing.

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