



GSM-R USB modems



TRM-5T USB
TRM-5T USB ext

**GSM-R new defined to cope with
challenging radio interferer**

Optional: Extended GSM-R

GSM-R technology for railways

TRM-5T USB / TRM-5T USB ext

The USB modems allow greater flexibility for immediate use and provide excellent receiver characteristics.



Technical data

Dimensions	45 x 40 x 20 mm [LxWxH]
Weight	70 g
Supply voltage	via USB
Current consumption	
Idle mode	50 mA
Speech mode	160 mA [average]
GPRS (cl. 10)	400 mA [average]
Inrush current	910 mA
Temperature range	
Normal operation	-20°C to +55°C
Restricted operation	-25°C to -20°C and +55°C to +70°C

Interfaces

USB mini B	
	[Support of Windows XP/7/8/10 and Linux \geq 2.6.0 with USB CDC-ACM driver; Digital audio and power supply via USB]
Antenna connector	Type SMA
Display	3 status LEDs
Card reader	Mini-SIM

ASCI features

VGCS	[Voice Group Call Service]
VBS	[Voice Broadcast Service]
UUS1	[User-to-User Signaling type 1]
eMLPP	[enhanced Multi-Level Precedence and Preemption]

EIRENE features

FN supported	[Functional Number]
PFN supported	[Presentation Functional Number]
REC supported	[Railway Emergency Call]

Applications

The modems TRM-5T USB and TRM-5T USB ext can be applied easily and ad hoc for GSM-R and EGSM-R data and voice solutions within PC, notebook or other computing environment.

System / Standards

Frequency bands	
GSM-R/EGSM900/GSM1800	[TRM-5T USB]
EGSM-R/EGSM900/GSM1800	[TRM-5T USB ext]
RF output power	
Class 4 [2 W] for GSM-R/EGSM-R/EGSM900	
Class 1 [1 W] for GSM1800	
Professional Mobile Standard	ETSI TS 102 933 V 2.1.0
ER-GSM Frequencies	[TRM-5T USB ext only] ETSI TS 102 932 V 1.1.1
GSM Phase 2 and 2+	
Mobile station class B	
Audio	Voice triple-rate codec for HR, FR and EFR AMR for non ASCII applications supported

AT commands via USB CDC ACM interface [virtual COM-Port]
SIM application toolkit

Data services

GPRS class 10 with up to 85.6 kbps [DL] and 42.8 kbps [UL]
PBCCH supported
Coding scheme CS 1-4
CSD data transmission with up to 14.4 kbps [Transparent and non transparent mode]
Fax group 3, class 2
TCP/IP stack access via AT commands
Protocols: TCP, UDP, HTTP, FTP, SMTP and POP3
SMS via GSM, GSM-R and GPRS [MO, MT, CB, text and PDU mode]

Part no.

TRM-5T USB	1331
TRM-5T USB ext	1332