



China GSM-R module



TRM-3a cn

Reliable technology for
the China GSM-R system

GSM-R technology for railways

TRM-3a cn

The module has a quite small foot print and is optimized for the China GSM-R frequency band.



Technical data

Dimensions	35 x 32.5 x 3 mm	[LxWxH]
Weight	6 g	
Supply voltage	3.3 – 4.8 Vdc	
Current consumption		
Power down	50 µA	
Sleep mode:	3 mA	[DRX=5]
Idle mode	17 mA	
Speech mode	260 mA	[average]
GPRS (cl. 10)	450 mA	[average]
Peak	1600 mA	
Temperature range		
Normal operation	-20°C to +55°C	
Restricted operation	-40°C to -20°C and +55°C to +70°C	

Interfaces

50-pin board-to-board connector	
2 serial interfaces	
1 digital and 2 analog audio	
Power supply	
Antenna connector	Type U.FL 50Ω
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 module TRM-3a cn can be used for voice/data communication and applied to embedded solutions within China GSM-R environment.

System / Standards

Frequency bands	China GSM-R/EGSM900/GSM1800
RF output power	Class 4 [2 W] for China GSM-R/EGSM900 Class 1 [1 W] for GSM1800
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 Hands-free, noise reduction and echo cancellation
AT commands via serial interface	
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-3a cn	1112
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