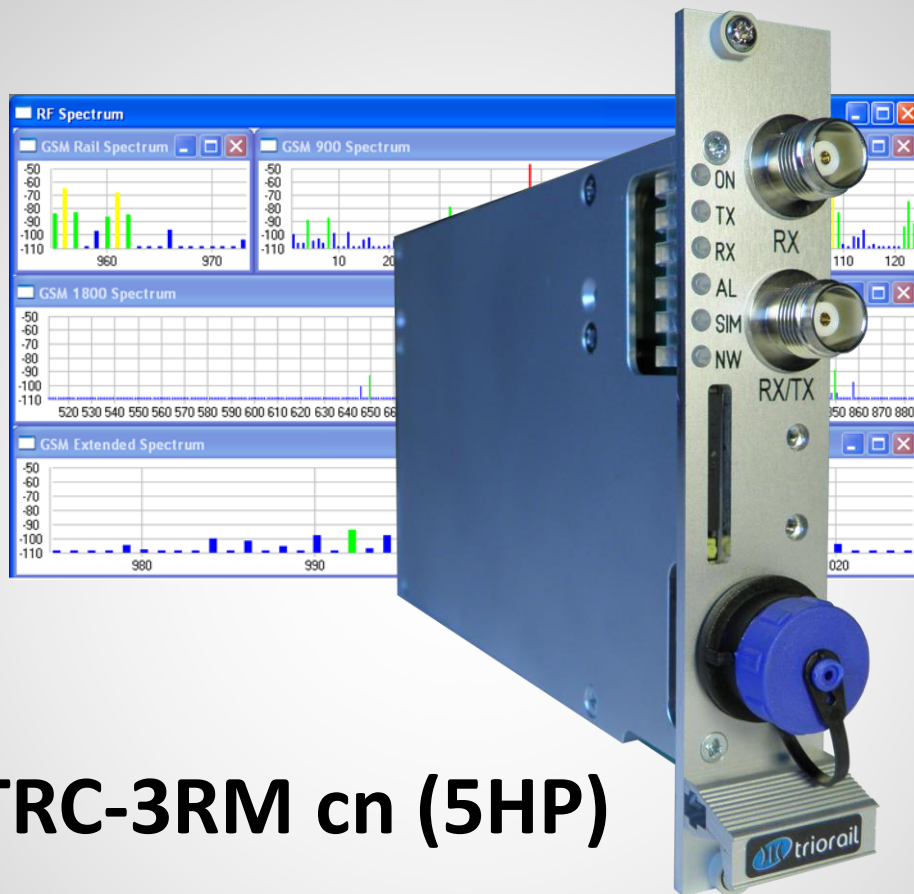


China GSM-R test module 8W



TTS-TRC-3RM cn (5HP)

8 Watt China GSM-R test device for network measurements and monitoring

GSM-R technology for railways

TTS-TRC-3RM cn (5HP)

This rack-mounted 8W module is the right network probe for China GSM-R in-depth testing and monitoring.



Technical data

Dimensions	128.5 mm [Height, fits 3U]
	170.5 mm [Depth]
	25.0 mm [Width, fits 5HP]
Weight	500 g
Supply voltage	12 Vdc
Current consumption	@20°C @70°C
Idle mode	74 mA 315 mA
Speech mode	380 mA 630 mA
GPRS (cl. 10)	660 mA 930 mA
In-rush current	4 A
Temperature range	-20°C to +85°C

Interfaces

96-pin DIN 41612 backplane connector	
USB mini B connector	[service, test and maintenance only]
Antenna connector A	TNC 50Ω [RX/TX]
Antenna connector B	TNC 50Ω [RX]
Display	6 status LEDs
Card reader	Mini-SIM

ASCII / EIRENE

VGCS, VBS, UUS1, eMLPP
FN, PFN, REC

CTCS-3

QoS / subset of values defined in the ERTMS/GSM-R QoS test specification [QoS working group, v1.2.i, 06-07-2006]

Transfer delay of user data frames

Round trip delay evaluation [optional loopback terminal required]

Data transmission interference and data throughput

Timestamp	Channel	Dir	BCCH	Layer 3	Message Type	Layer 2	Header
38064	SDCCH	Down				SAPI: 0 C: UI-Frame,	
38073	SACCH	Down				SAPI: 0 C: UI-Frame,	
38073	SACCH	Down		RR	SYSTEM_INFORMATION_TYPE_6		
37985	SACCH	Up				SAPI: 0 C: UI-Frame,	
38089	SACCH	Up		RR	MEASUREMENT_REPORT		
38177	SACCH	Down				SAPI: 0 C: UI-Frame,	
38089	SACCH	Up				SAPI: 0 C: UI-Frame,	
38193	SACCH	Up		RR	MEASUREMENT_REPORT		
38276	SDCCH	Down				SAPI: 0 C: UI-Frame,	
38281	SACCH	Down				SAPI: 0 C: UI-Frame,	
38281	SACCH	Down		RR	SYSTEM_INFORMATION_TYPE_5		
38193	SACCH	Up				SAPI: 0 C: UI-Frame,	
38297	SACCH	Up		RR	MEASUREMENT_REPORT		

System / Standards

Frequency bands	China GSM-R / EGSM900 / GSM1800
RF output power	Class 2 [8 W] for China GSM-R / EGSM900 Class 1 [1 W] for GSM1800
GSM Phase 2 and 2+	
Mobile station class B	
Audio	Triple-rate codec for HR, FR and EFR AMR for non ASCII apps supported
AT commands	via serial interface

Data services

GPRS class 10	
PBCCH supported;	Coding scheme CS 1-4
CSD [Transparent and non transparent mode]	
Fax group 3, class 2	
PPP stack for GPRS data transfer	
Authentication: PAP, CHAP	
Protocols: TCP, UDP, HTTP, FTP, SMTP, POP3	
SMS via GSM-R and GPRS [MO, MT, CB, text and PDU mode]	

Test system

Layer 1	Serving/neighbor cell BCCH, ARFCN, cell ID, RX LEVEL, timing Advance, power Level
Radio Resources	ARFCN, channel type, speech codec, time slot, network and base station color code
Messaging	GSM Layer 2/3, GPRS RLC/MAC, GMM/SM
GPRS	RLC/MAC, LLC, GMM, SM/SNDP, TBF, RLC mode, CS, NCO
Mobility Management	Cell ID, LA, MCC/MNC, TMSI, ciphering
QoS	GSM: FER, handover, call setup GPRS: Data rates of LLC and RLC/MAC
Forcing	BCCH, handover, channel, band, power class, GPRS, time slot, TCH, ASCII
Scanning	Single ARFCN, set of frequencies, band, system information

TrioTrace2 PC application

TrioTrace2 SW to visualize all measured data in customizable windows
Trace log recording; replay for post analyzing
Export of stored trace files in different formats

Part no.

TTS-TRC-3RM cn (5HP) 4132