

5G Radio Interface MESA 26

NR26-1



The further development of railway communication towards the FRMCS system is progressing rapidly. As a decisive step in this process, Funkwerk has developed a plug-in card for the MESA26 train radio system. This card enables seamless communication in public and private 4G/5G radio networks and is equipped with a self-sufficient processor unit and a project-specific, exchangeable 4G/5G modem. It also enables further data processing, for example to offer a state-of-the-art MCX service.

5G ENABLES RAILWAY 4.0

The NR26-1 module is a transmitter and receiver unit with processor unit for data transmission in public and private 4G and 5G networks. It has a 4G/5G modem and is designed for the expansion of the MESA 26 train radio systems. The easy integration of future certified 4G/5G modems ensures flexibility in customisation and future-proofing.

This innovative module was specially developed to expand the MESA 26 train radio systems and thus provide them with a broadband connection. This broadband connection opens up a wide range of applications that significantly expand the functional scope of the train radio systems. This could be, for example, the implementation of MCX functionalities or the integration of a remote maintenance option.

With a focus on maximum performance and future viability, the NR26-1 assembly represents an important component in meeting the ever-growing requirements in the area of train

radio communication. Their versatility and ability to support advanced broadband services make them an indispensable solution for the modern communications infrastructure.

HIGHLIGHTS

- » supports a variety of 4G and 5G bands, including n78 (3500 MHz)
- » Temperature class EN 50155 OT1 (-25 to +55 °C)
- » 1 Gbit/s Ethernet Interface
- » SIM-Card Slot
- » Powerful Quad Core processor

TECHNICAL DATA

DIMENSIONS / WEIGHT

Construction	19-inch rack (3 U, 6 HP)
Width Height Depth	30.14 mm 128.4 mm 186.3 mm
Weight	max 1 kg

POWER SUPPLY

by means of 96-pin plug connector for rewiring in the MESA 26

ENVIRONMENTAL CONDITIONS

Protection class	IP20/IP54 according to EN 60529
Vibration and shocks	according to 50155
EMC	according to EN 50121-3-2 and EN 50155

FIRE PROTECTION PROPERTIES

HL3 according to EN 45545-2	OC1 to OC4 according to EN 45545-5
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CLIMATIC CONDITIONS

Operating temperature range	-25 °C to +55 °C
Storage temperature range	-40 °C to +70 °C
Maximal gradient	± 1 °C/min
Maximal humidity	75 %
Relative humidity	95 %
Altitude and pressure fluctuation	- 100 m to 1.800 m above sea level

FREQUENCY BANDS

5G	5G NR: 3GPP Release 15 NSA/SA operation, Sub-6 GHz 5G NR NSA: n38/n41/n77/n78/n79 5G NR SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 MIMO: DL: 4 × 4 MIMO on n1/n2/n3/n7/n25/n38/n40/n41/n48/n66/n77/n78/n79 UL: 2 × 2 MIMO on n41/n77/n78/n79
LTE	LTE Category: DL Cat 16 / UL Cat 18 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE-TDD: B34/B38/B39/B40/B41/B42/B43/B48 LAA: B46 DL 4 × 4 MIMO: B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/B39/B40/B41/B42/B43/B48/B66
UMTS	WCDMA: B1/B2/B3/B4/B5/B8/B19
GNSS	GPS/GLONASS/BeiDou (Compass)/Galileo