5G Voice Radio

CRLT.50

Based on the experience of many years in the field of train radio, Funkwerk has developed a 5G-based cab radio.

The compact next-generation cab radio is used in modern mobile and railway communication systems (5G / FRMCS).

The CRLT.50 device is housed in a standard double DIN case and offers telephony as well as data services. The software system is based on Android or optionally on Linux. The modern touch-operated graphical user interface allows a practically intuitive and ergonomic operation. The product is designed for use on rail vehicles, among other things. In the current version, 3G, 4G and 5G mobile radio voice and data services, including the possibility of mission-critical applications (MCX/FRMCS), are realised. In addition to an integrated eSIM, it can be operated with a publicly available SIM card and is designed as an all-in-one unit for fixed installation on vehicles. In addition to the mobile radio interface for 3G/4G and 5G, other interfaces such as Gigabit Ethernet, WIFI, Bluetooth[1] as well as a handset, a loudspeaker and a multipurpose interface for inputs and outputs are available. The installation of third-party applications is possible and can be smoothly integrated into existing or new infrastructure systems if the applications are based on Android. A Funkwerk MCX (mission critical) application is available. Customised applications or adaptations can also be provided by Funkwerk or by third-party suppliers. The system is designed to support future 5G releases and will be adapted for future services such as group communication. In addition, a range of accessories such as handsets and external antennas are available.

[1] optional

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HIGHLIGHTS

- Very compact design
- All-in-one device
- Proven operating procedures
- Different user interfaces possible
- Hard keys for the most important functions
- Support for future 5G releases
- Installation of third-party applications possible

TECHNICAL DATA

DIMENSIONS / WEIGHT	
Construction	compact closed housing
Width	180 mm
Height	100 mm
Depth	72.3 mm
Weight	max. 3 kg

POWER SUPPLY	
Nominal voltage	12 V / 24 V / 36 V
Input nominal voltage	8.4 bis 41 VDC
Interruption of voltage supply	S1 (no interruption) according to EN 50155
max. power consumption	25 W

ENVIRONMENTAL CONDITIONS	
Degree of protection	Front side IP54 / housing IP20 acc. to EN 50155
Vibration and shock	according to 50155 and EN 60068-2-6
EMC	according to EN 50121-3-2 and EN 50155

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TECHNICAL DATA

CLIMATIC CONDITIONS

Operating temperature	-20 °C to +70 °C
Storage temperature	-30 °C to +70 °C
Relative humidity	according to EN 50155
Altitude and pressure fluctuation	-100 m to 1.800 m above sea level
Vibration / shock	according to DIN EN 61373
Device security	according to DIN EN 60950-1

INTERFACES

Power supply	Multi-purpose digital I/O (2 x IN, 2 x OUT)
Handset, loudspeaker	4 x antenna (3G/4G/5G + GPS+WIFI/BT)
WLAN 820.11 a/b/g/n	Gigabit Ethernet (Standard IEEE 802.3 from 1000BASE-Tx)
Bluetooth 4.1	GPS, GLONASS, BeiDou, Galileo
Dual SIM (Standard/eSIM)	Standard/eSIM SD Extended Capacity (SDXC™)
USB 2.0	

PROCESSOR

i.MX Quad Core with Cortex®-A9 cores

USER INTERFACE

Type	capacitive touch display
Size	5“
Display resolution	800 x 480

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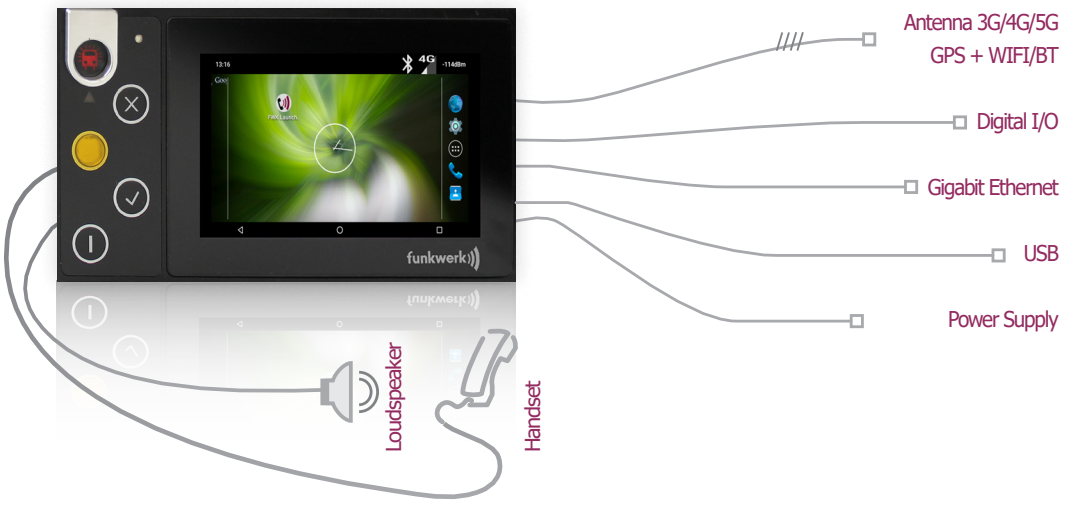
TECHNICAL DATA

FREQUENCY BANDS

5G	5G NR: 3GPP Release 15 NSA/SA operation, Sub-6 GHz 5G NR NSA: n38/n41/n77/n78/n 5G NR SA:n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77 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/n
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/
UMTS	WCDMA: B1/B2/B3/B4/B5/B8/B1
GNSS	GPS/GLONASS/BeiDou (Compass)/Galileo

OPERATING SYSTEM

based on Android 8	Linux
Funkwerk operating system	



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