



## LTE Voice Radio

### CRLT.20

The Future Cab Radio generations will be based on a packet oriented data transmission system, using commercial networks and its derivatives. Based on its long years of experience, Funkwerk has developed a LTE based Cab Radio system. The CRLT.20 Cab Radio is fitted into a Standard double DIN housing and 2G/3G/4G providing telephony and data services. It operates on an Android based system. Due to the implementation of this market leading operating system, the usage of this device is nearly self-explanatory. The CRLT.20 is designed for use in Rail vehicles. It provides regular 2G/3G/4G telephony services incl. VoLTE<sup>1</sup> and IP-based data-services. It can be operated using public available SIM cards and is an all-in-one unit for fixed installation in vehicles. Besides the interfaces for the 2G/3G/4G networks, further interfaces such as GigabitEthernet, WIFI, Bluetooth<sup>2</sup> as well as a handset, loudspeaker and a generic I/O connection, are available. The installation of 3<sup>rd</sup> party applications is possible and therefore it can be smoothly integrated into an existing or new infrastructure of systems, based on Android applications. A Funkwerk MCPTT (mission critical push to talk) application is available. Customer specific applications or adjustments can be provided by Funkwerk or by 3<sup>rd</sup> parties too. The system is designed for the support of upcoming LTE releases and will be adapted to future services like group communication services.

<sup>1</sup> network dependent

<sup>2</sup> optional

In addition, a range of accessories like handsets and external antennas are available.

#### Highlights:

- Very small packaging
- All-in-one unit
- User interface reflects proven procedures
- Alternative GUI's possible
- Hardkeys for critical functions
- Connection of handset and loudspeaker in cabin required
- Installation of 3<sup>rd</sup> party applications possible



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## Technical Data

Power Supply		Dimensions + Weight	
Nominal voltage	12 V / 24 V / 36 V	Construction	compact closed housing
Input nominal voltage	8.4 to 41 V <sub>DC</sub>	Width	180 mm
Interruption of voltage supply	S1 (no interruption) according to EN 50155	Height	100 mm
max. power consumption	25 W	Depth	72.3 mm
		Weight	max 3 kg
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		
EMV	according to EN 50121-3-2 and EN 50155		
Climatic Conditions			
Operating temperature	-20 °C to +70 °C		
Storage temperature	-30 °C to +70 °C		
EMC	according to DIN EN 50121-4, DIN EN 50121-3-2, DIN EN 50081-2		
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		
Handset, loudspeaker	4 x antenna (2G/3G/4G + GPS+WIFI/BT)		
WLAN 802.11 a/b/g/n	Gigabit Ethernet (Standard IEEE 802.3ab 1000BASE-Tx)		
Bluetooth 4.1	GPS, GLONASS, BeiDou, Galileo and QZSS		
SIM card	SD Extended Capacity (SDXC™)		
USB 2.0			
Processor			
i.MX Quad Core with Cortex®-A9 cores			
Frequency bands			
LTE FDD	B1/B3/B5/B7/B8/B20		
LTE TDD	B38/B40/B41		
WCDMA	B1/B5/B8		
GSM	B3/B8		
Operating unit			
Type	capacitive touch		
Nominal size	5"		
Display resolution	800 x 480		
Operating system			
Android / Linux available as OS	Android 8 based		
Funkwerk software			
Approval number: E1*10R05/01*8803*00 (Kraftfahrt-Bundesamt)			



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