

**KEY FEATURES**

- Low insertion loss
- Sharp cut off
- Temperature stable <5ppm / Deg C
- Low PIM -150dBc
- IP66

GSM-R, Global System for Mobile Communications – Railway or GSM-Railway is an international wireless communications standard for railway communication and applications. A sub-system of European Rail Traffic Management System (ERTMS), it is used for communication between train and railway regulation control centers. The system is based on GSM and EIRENE – MORANE specifications which guarantee performance at speeds up to 500 km/h (310 mph), without any communication loss.





**DATA SHEET**  
**GSM-R Bandstop Filter**  
**004161**

**Key Specification**

Model	004161
Passband Lower	880 - 915 MHz
Lower passband insertion loss	
880 - 914MHz	<0.4 dB
914 - 915MHz	<0.55 (0.5 typ) dB
Passband Upper	927 - 960 MHz
Upper passband insertion loss	
927 - 928MHz	<0.7 (0.65 typ) dB
928 - 960MHz	<0.4 dB
Lower & Upper Passband Return loss	>14 dB
Stopband Frequency	918 - 924.9
Stopband Rejection	>23 (25 typ) dB
PIM (2 x 20W CW)	-150 dBc
Impedance	50 ohm
Power Handling max input	>150 W

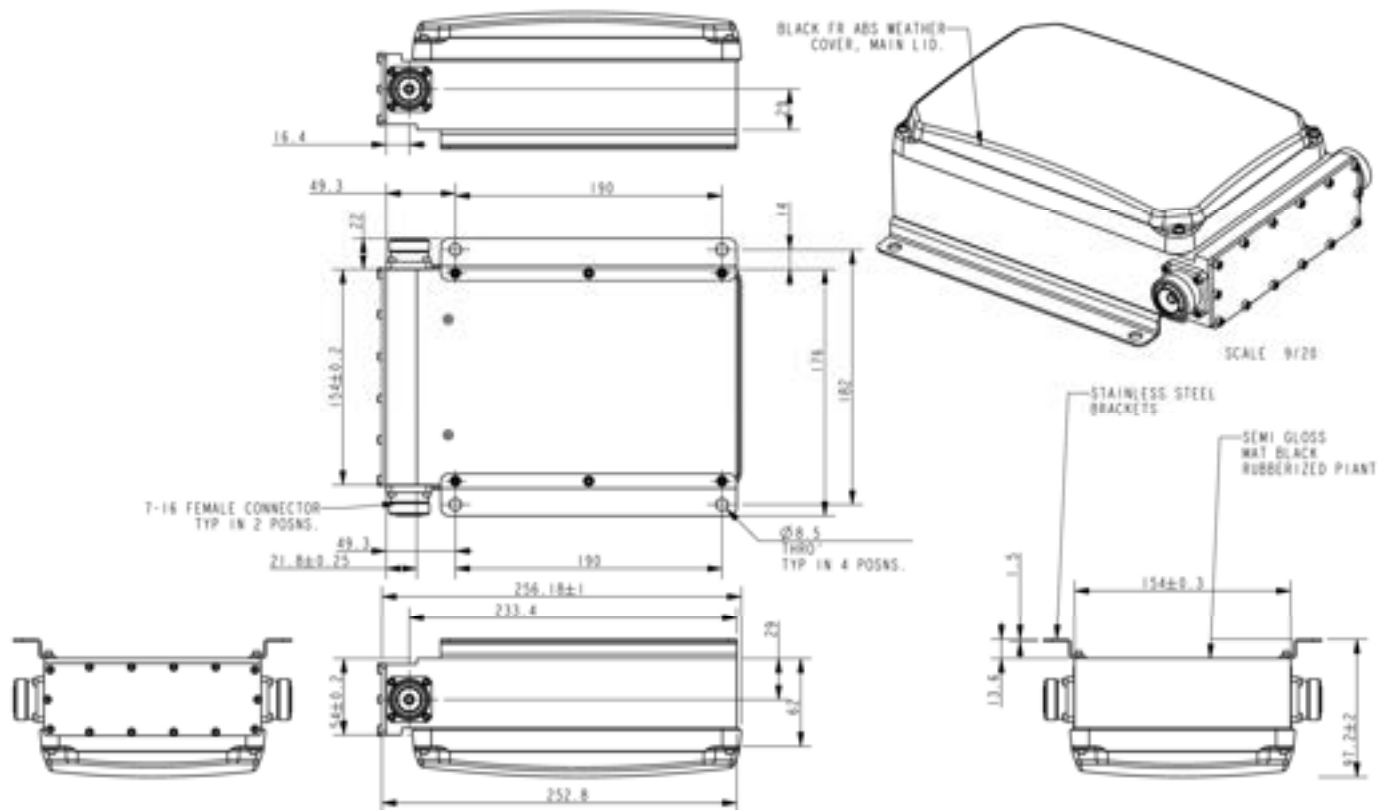
**Environmental**

Temperature Range	-20°C ~ +60°C
Ingress Protection	

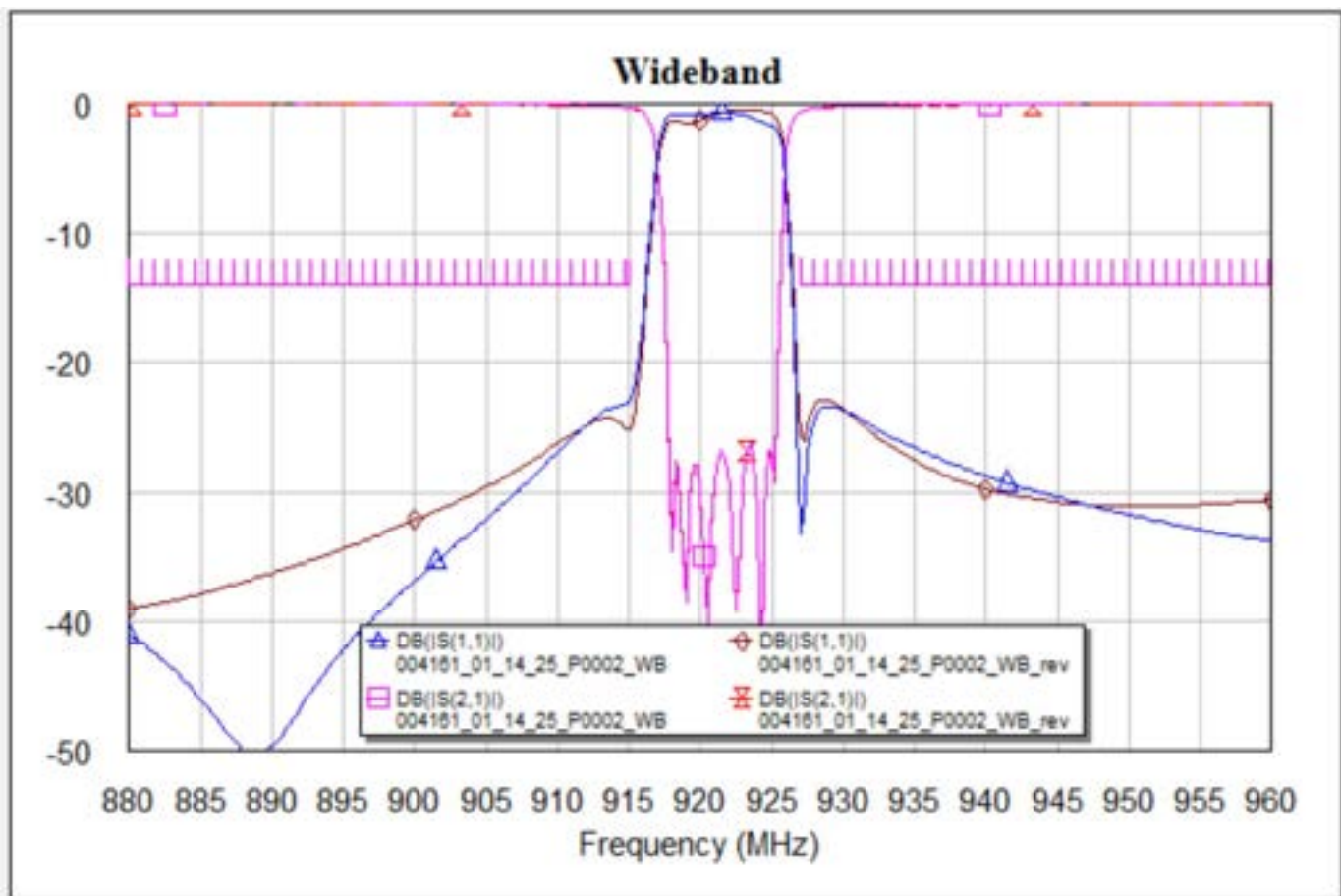
**Mechanical**

Connectors	7/16 Female
Size	004161-ICD-01 (ref drawing below)
Paint Finish	Black Rubberized Paint
RoHs	Compliant

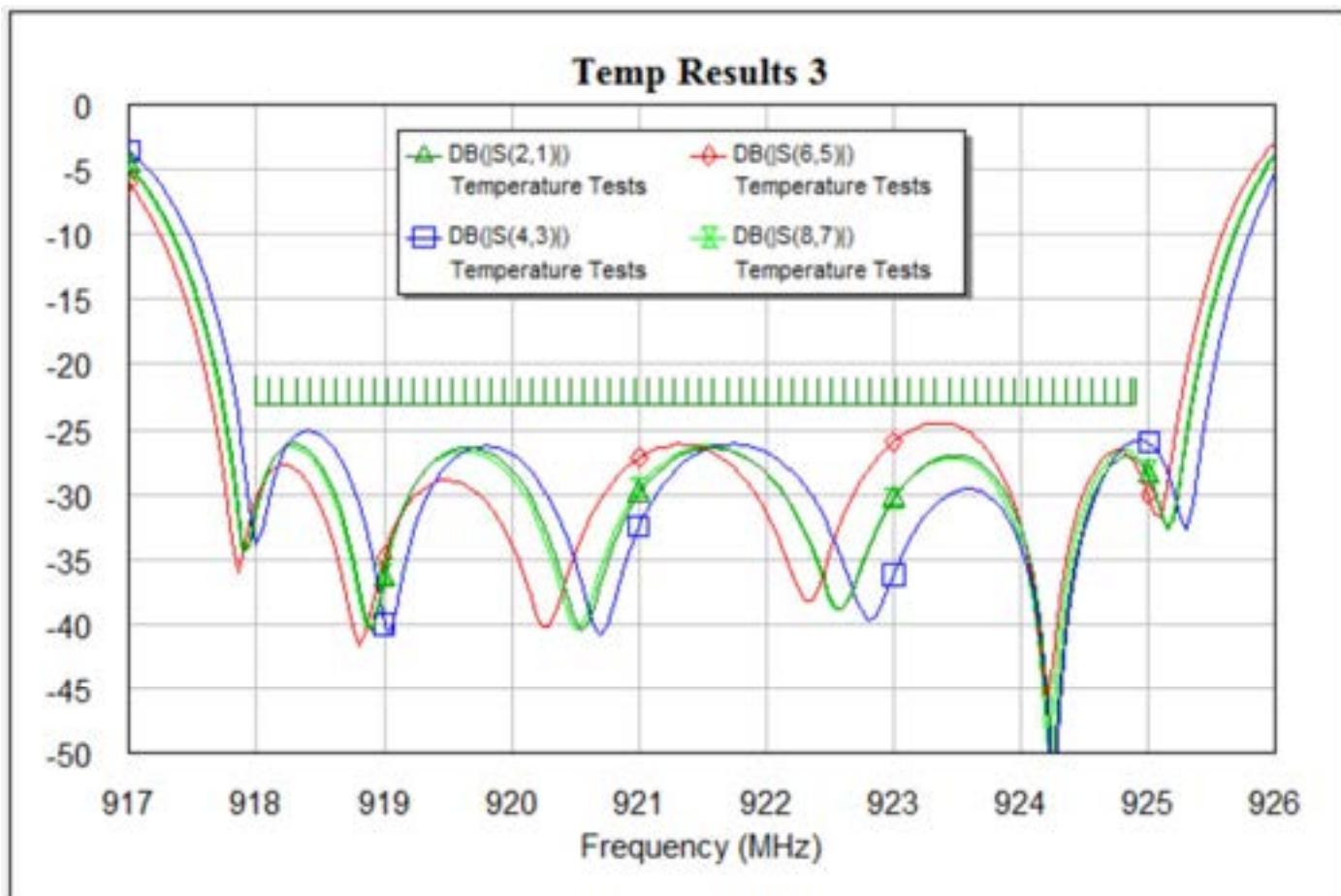




**Measured Performance**

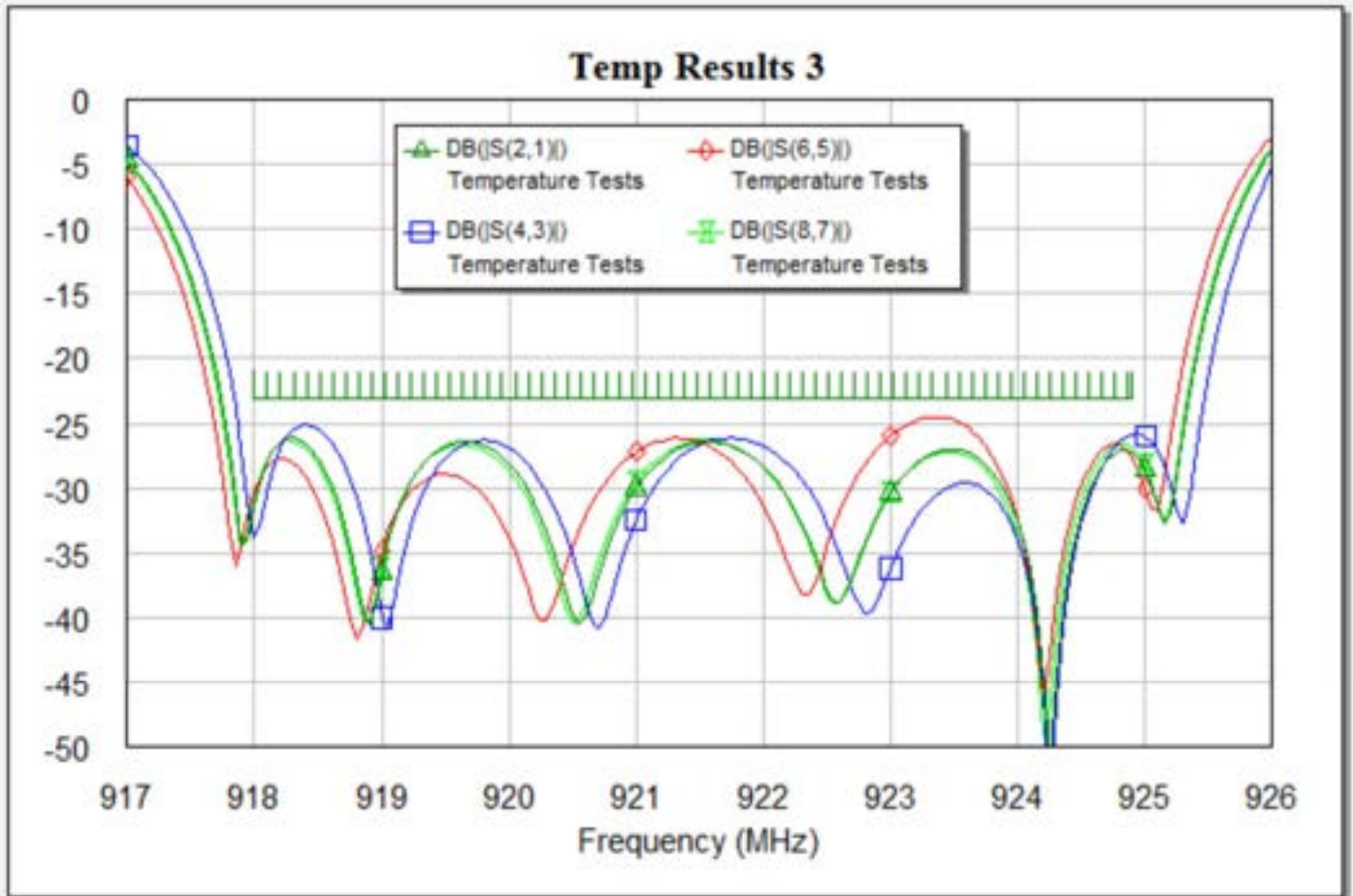


Stopband Rejection over temperature

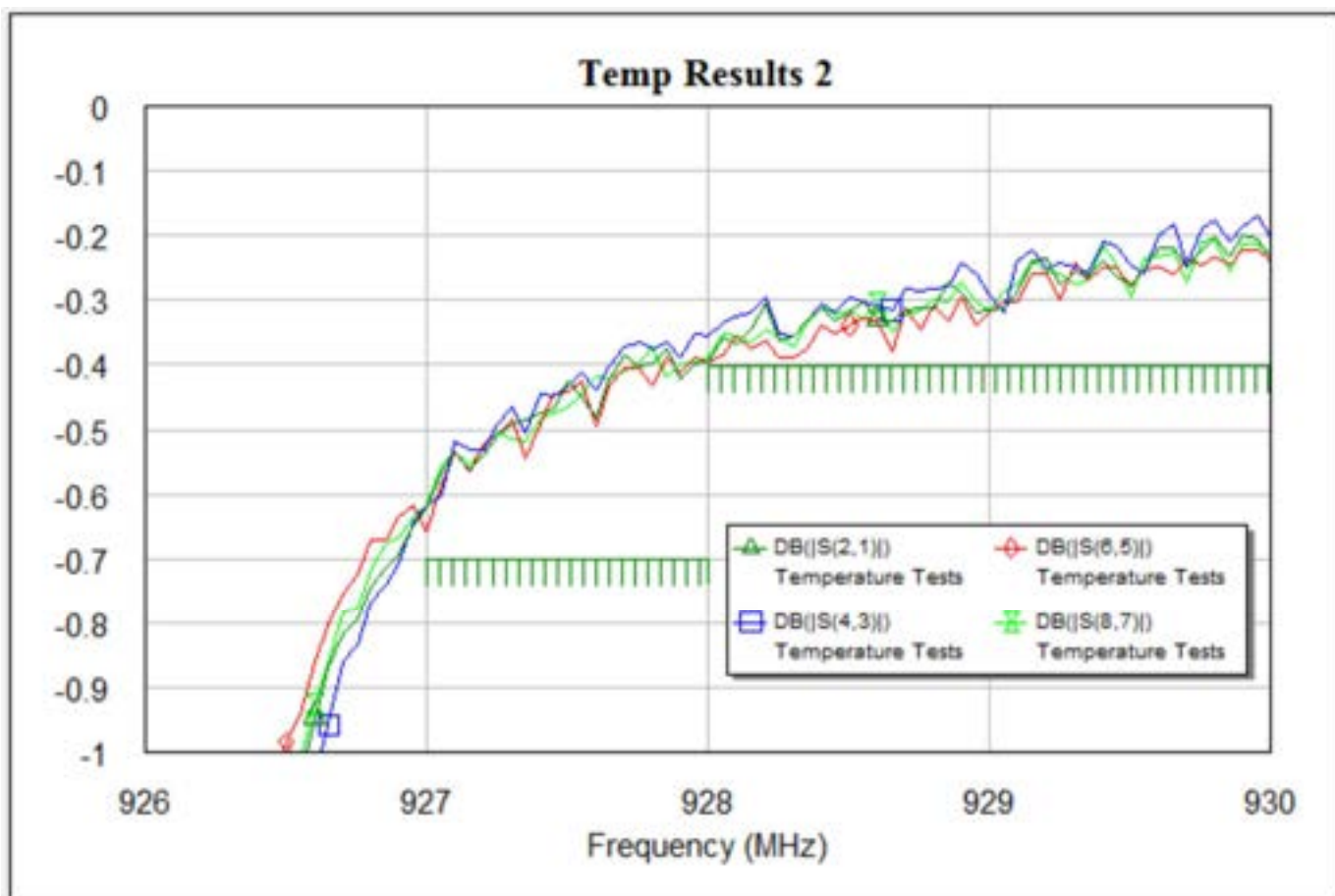




Low side Passband Edge over temperature

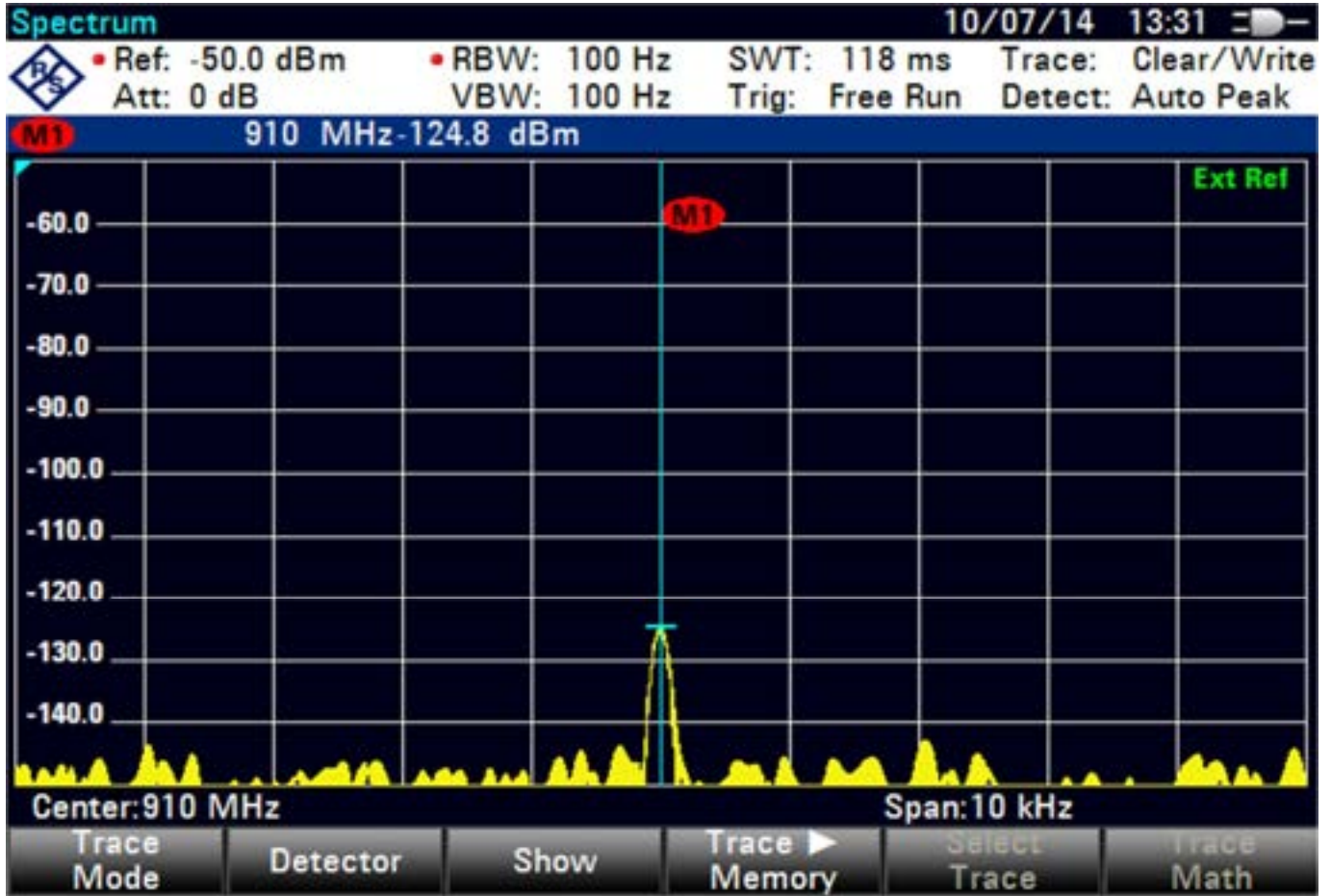


High side Passband Edge over temperature



**PIM**

Specification  $<-150\text{dBc}$ , which for 20W carriers equates to  $<-107\text{dBm}$ .  
 (Tx1 @ 935MHz & Tx2 @ 960MHz)



Note: All information is correct at date of issue. Specifications are subject to change without notice  
 Issued: 11/02/2021  
 Revision: 01