Industrial 915 MHz Water Load Product Improvement Announcement

Microwave TECHNIQUES LLC

Purpose:

Effective 9/14/2025 Microwave Techniques standard industrial 915 MHz water load is changed from part number 77858-701 to 77858-705. The 77858-705 was developed as a higher power, broader bandwidth, and better performing version of the 77858-701. The improved performance makes the 77858-705 applicable to a broad range of applications, operating conditions, and power levels. This broader use of the 77858-705 allows Microwave Techniques to mass produce and offer the 77858-705 with a 1-week lead time, at small quantities. For these reasons, the 77858-701 is superseded by the 77858-705.

The S10126 was offered as Ferrite Microwave Technologies standard industrial 915 MHz load. The S10126 is equivalent to 77858-701, and is also superseded by the 77858-705 effective 9/14/2025.

The 77858-705 provides a significant improvement to protection and performance enabling high efficiency and stability for high power ISM band (890-940 MHz) systems and processes.

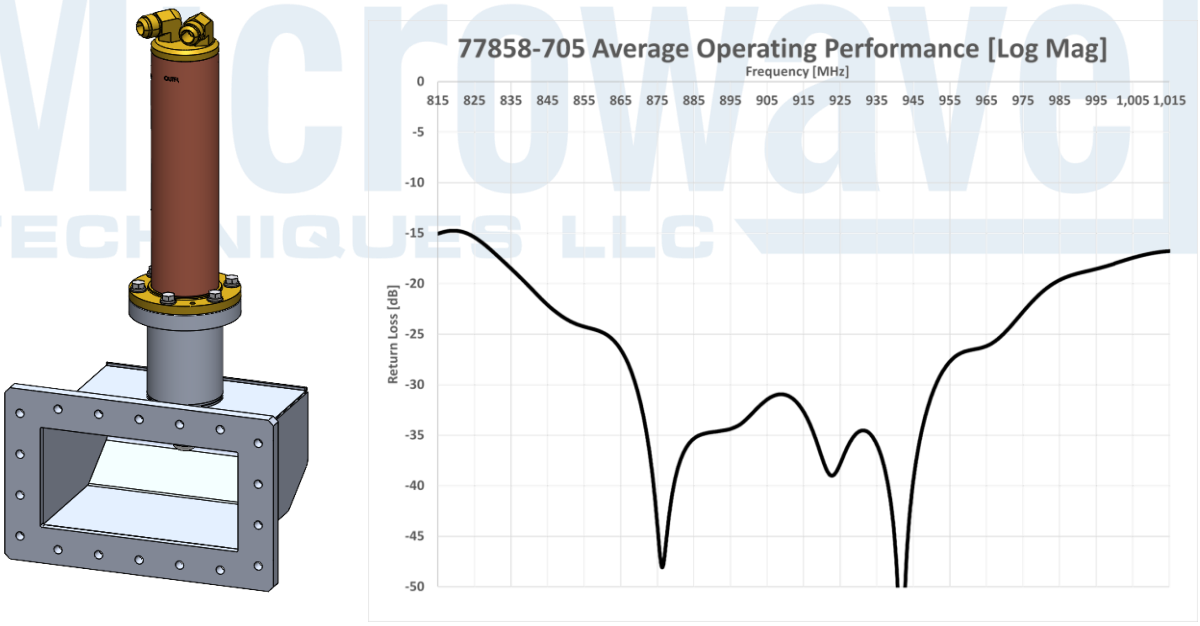

Figure 1: Average Return Loss & ISO View of 77858-705

Electrical Results:

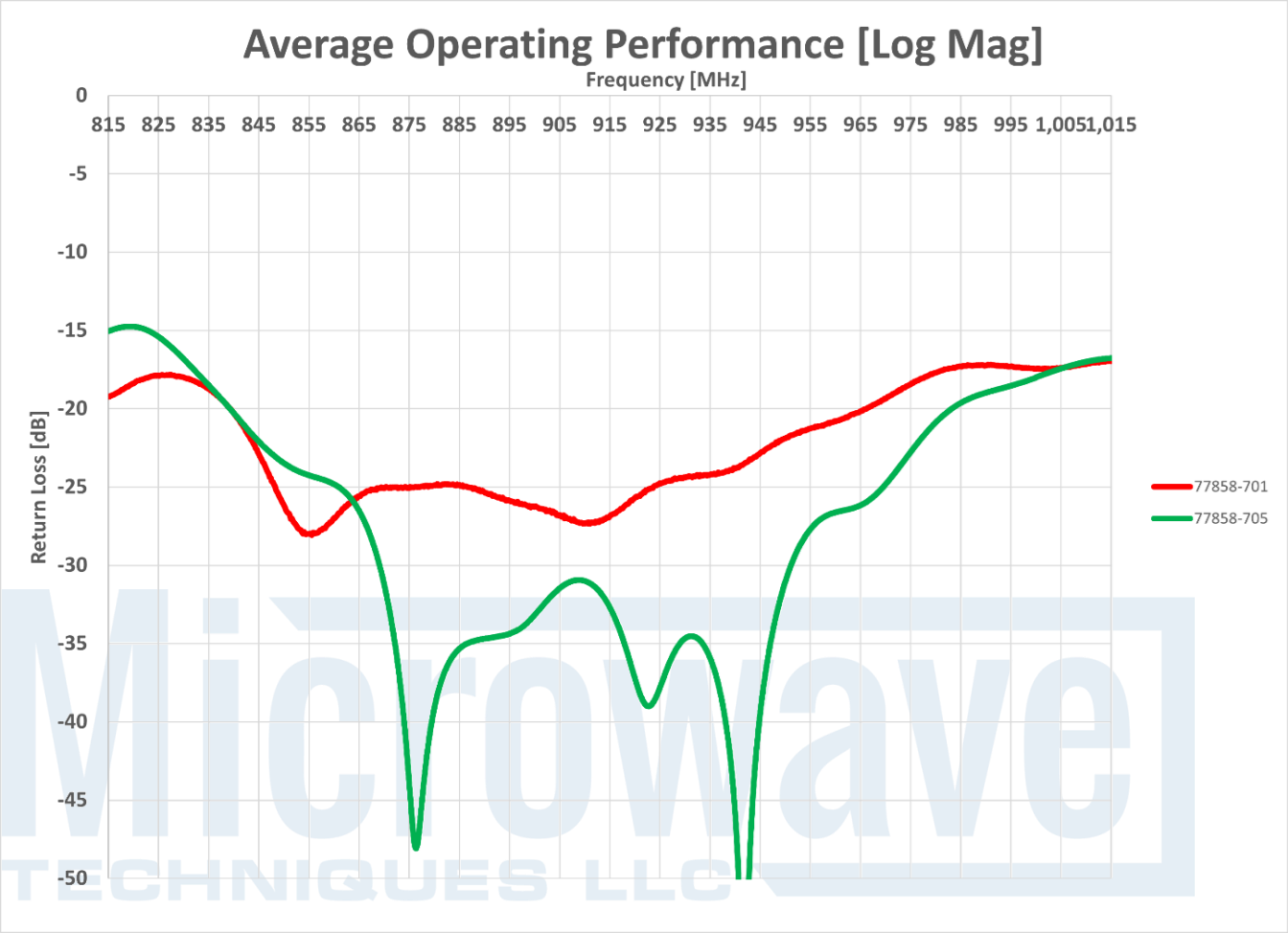

Figure 2: Average Return Loss Comparison, Log Mag, at Typical Operating Conditions

The 77858-705 offers better electrical performance over a wider bandwidth, at all operating conditions, compared to the 77858-701. While typical performance of the 77858-705 is better than -30 dB return loss over the applicable bandwidth (+/-25 MHz) using Tap Water, a return loss of -21 dB is specified on the print to account for the worst case of a wide variety of coolant mediums, flow rates, and temperature differentials over the entire specified bandwidth.

Changes:

The 77858-705 was developed to be backwards compatible with systems using the 77858-701 & S10126. The footprint of the 77858-705 is the same as the 77858-701 & S10126, with the only difference being the coolant inlet and outlet ports are moved closer to the center of the water tank by 2.07 inches (52.6mm) and the outlet is shifted to the side slightly. Typical Coolant Flowrate is increase from 10 GPM to 13 GPM for indefinite operation at 100Kw.

Paint color, location of labels, and other visual aspects are updated to Microwave Techniques current standards.

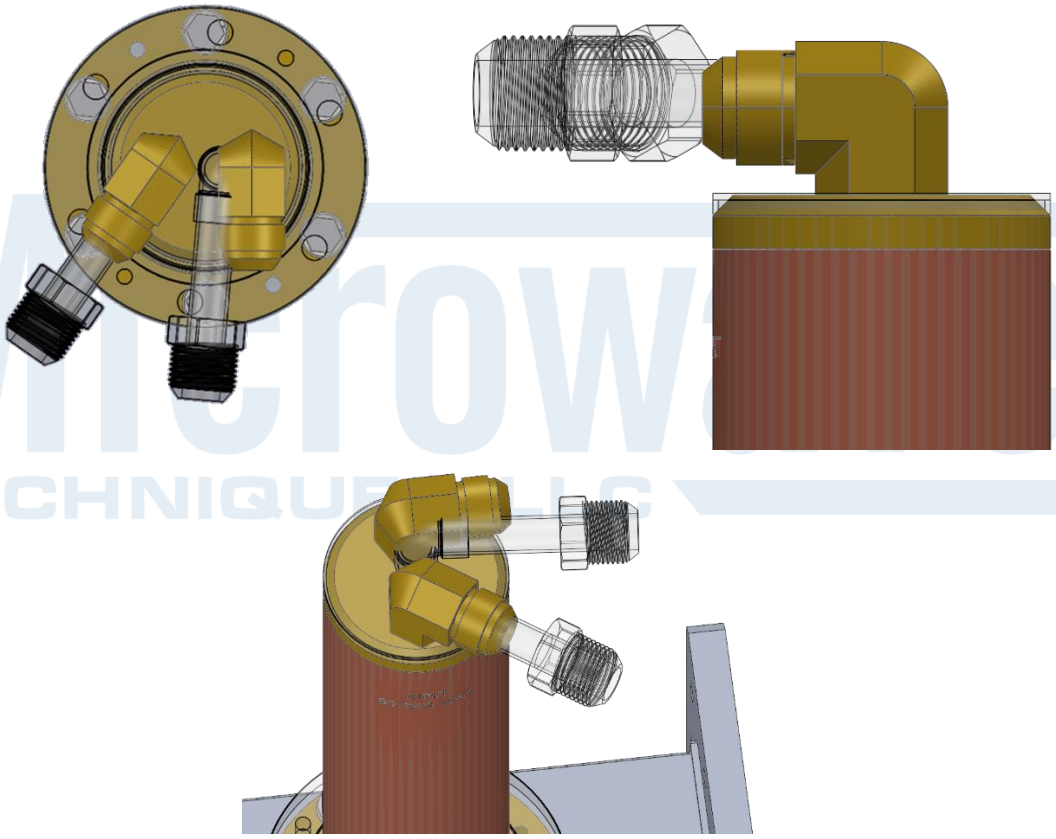

Figure 3: Coolant Inlet/Outlet Comparison (77858-701/S10126 transparent, 77858-705 Solid)

Specification	77858-701	77858-705
Power	75 or 100Kw	0-100 Kw
Bandwidth	915 +/- 10 MHz	915 +/- 25 MHz
Return Loss	≤-20.8 dB	≤21 dB
Flow Rate	10 GPM TYPICAL	13 GPM TYPICAL

Table 1: Specification Comparison

Have Questions or
Need More Information?

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