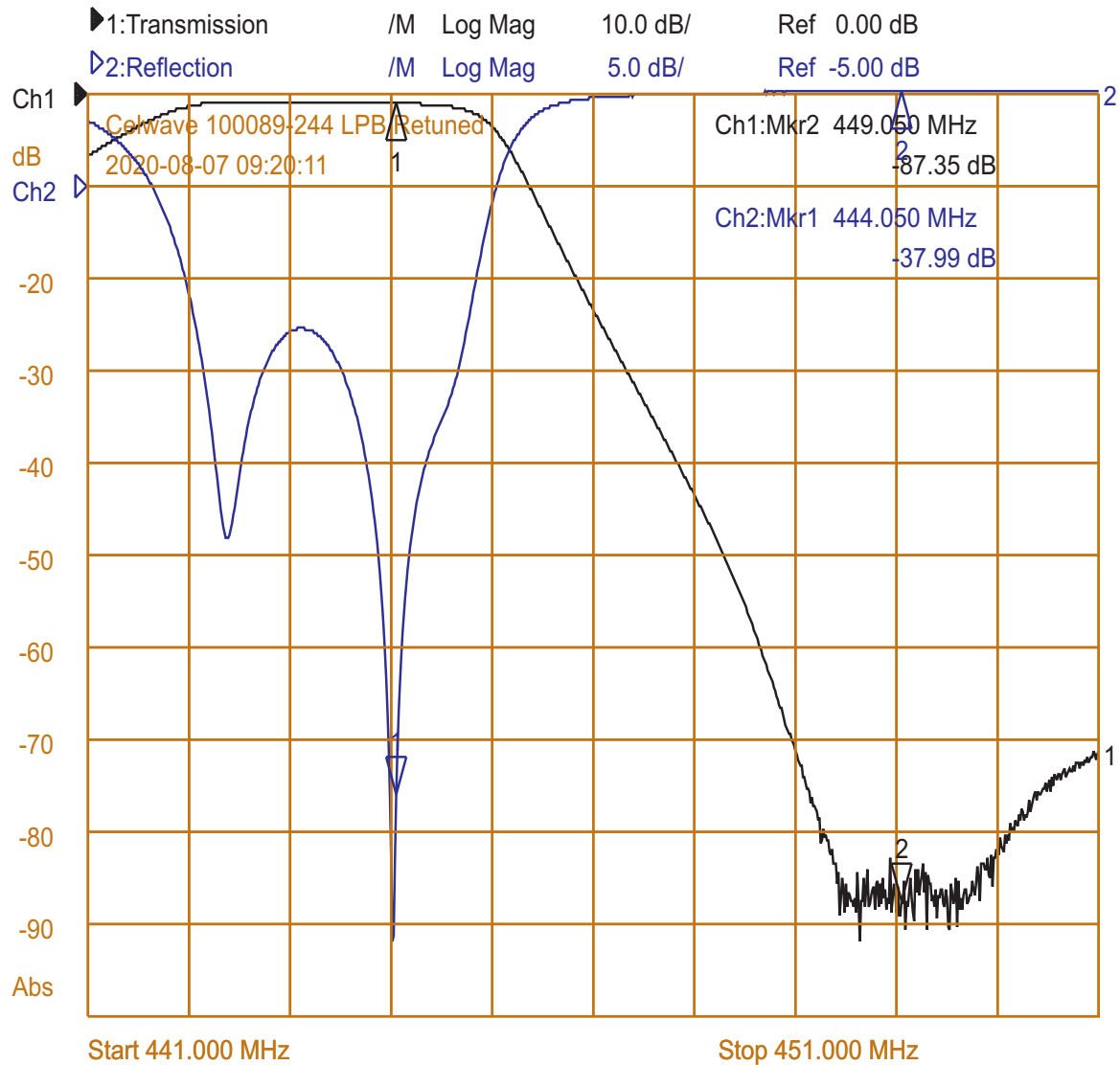


Celwave 0185417U05 UHF Duplexer

S/N: 100089-244

Low Pass Branch Return Loss/SWR After Tuning



1:Mkr (MHz) dB	2:Mkr (MHz) dB
1: 444.05 -0.95	1> 444.05 -37.99
2> 449.05 -87.35	2: 449.05 0.11

Isolation: 87.35 dB
Insertion Loss: 0.95 dB

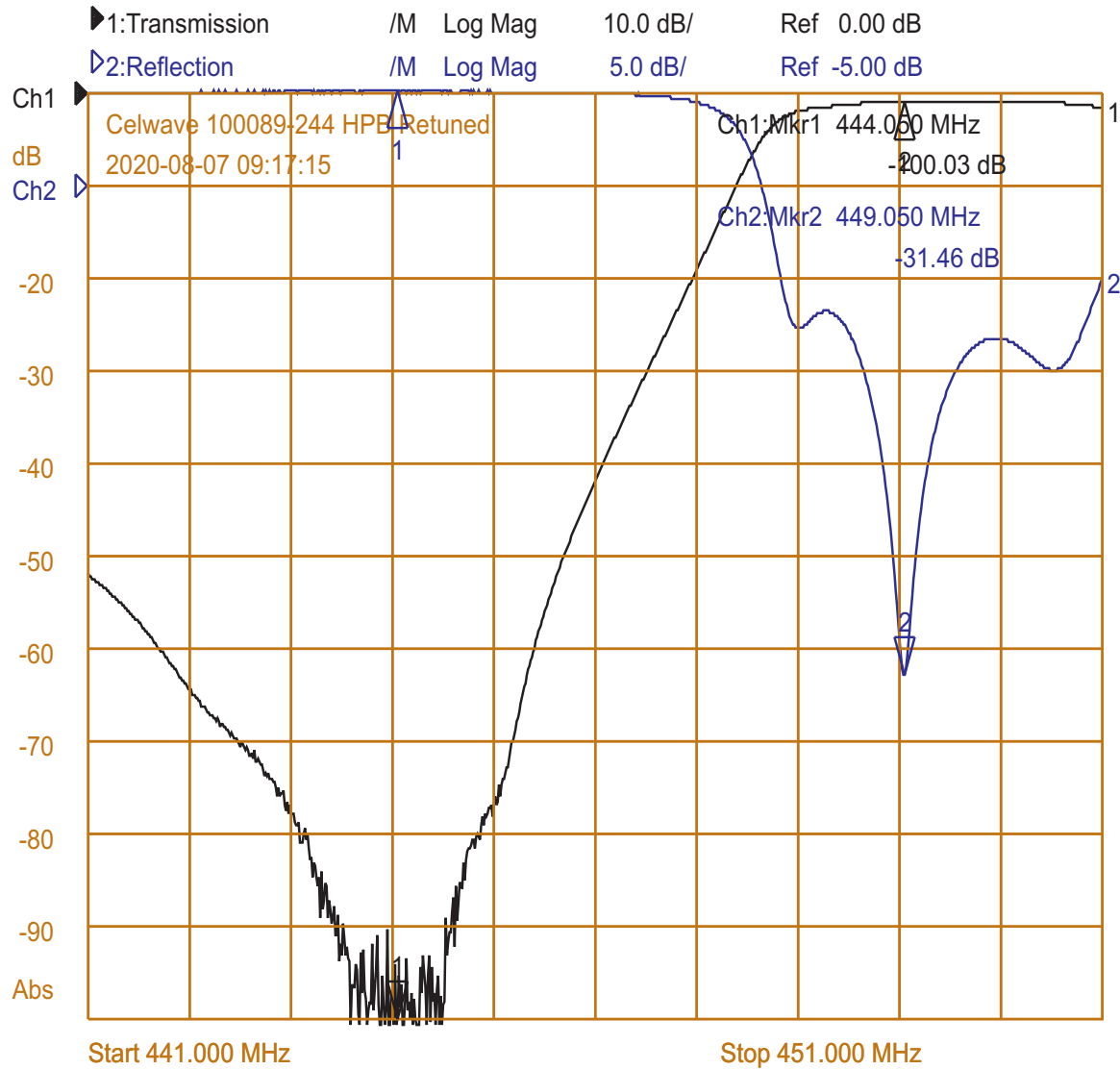
Return Loss: 37.99 dB
VSWR: 1.026:1
Match Efficiency: 99.984%

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S/N: 100089-244

High Pass Branch Return Loss/SWR After Tuning



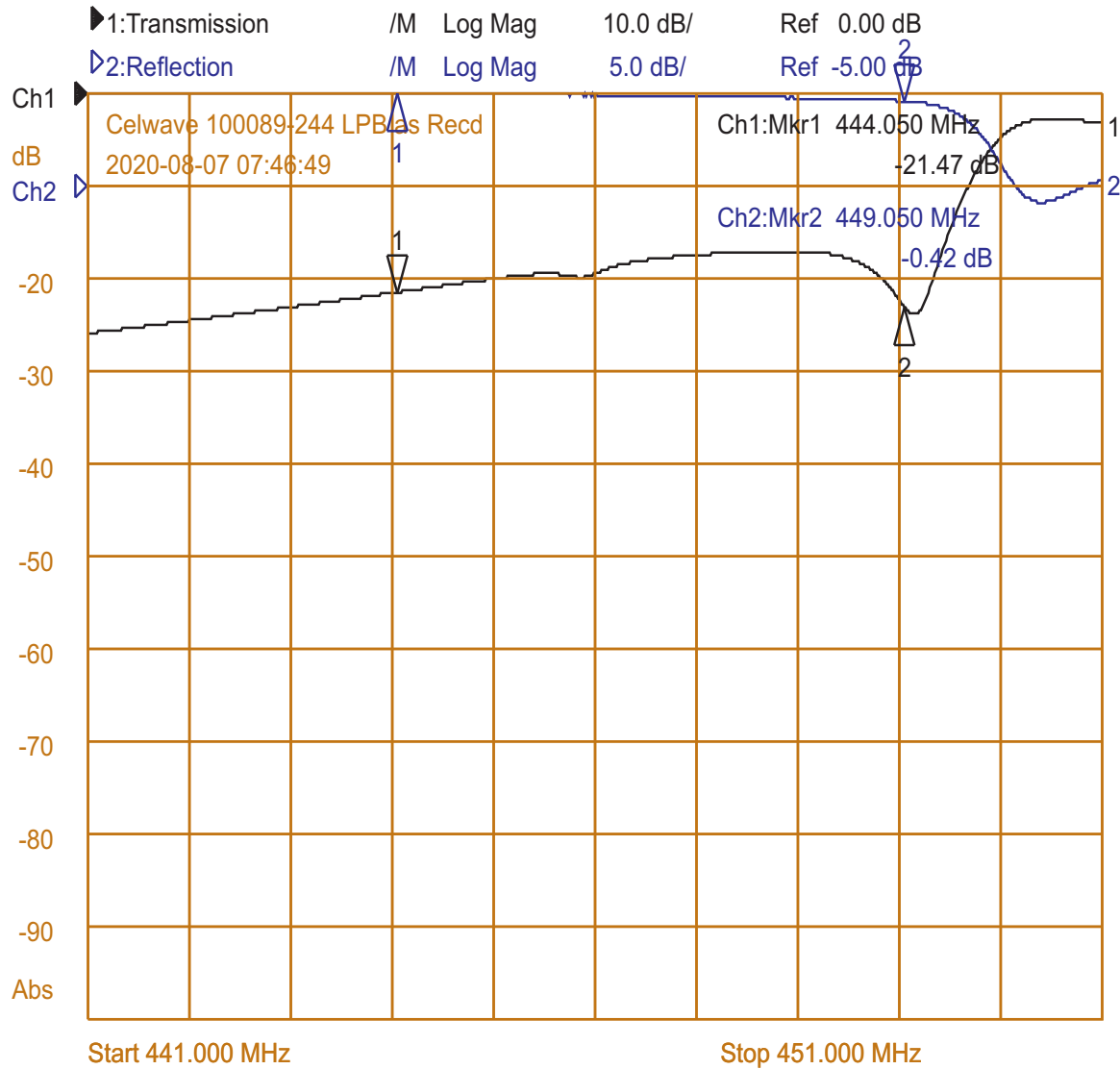
1:Mkr (MHz) dB	2:Mkr (MHz) dB
1> 444.05 -100.03	1: 444.05 0.09
2: 449.05 -0.86	2> 449.05 -31.46
Isolation: 100.03 dB Insertion Loss: 0.86 dB	Return Loss: 31.46 dB VSWR: 1.055:1 Match Efficiency: 99.929%

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S/N: 100089-244

Low Pass Branch Return Loss/SWR *As Received*



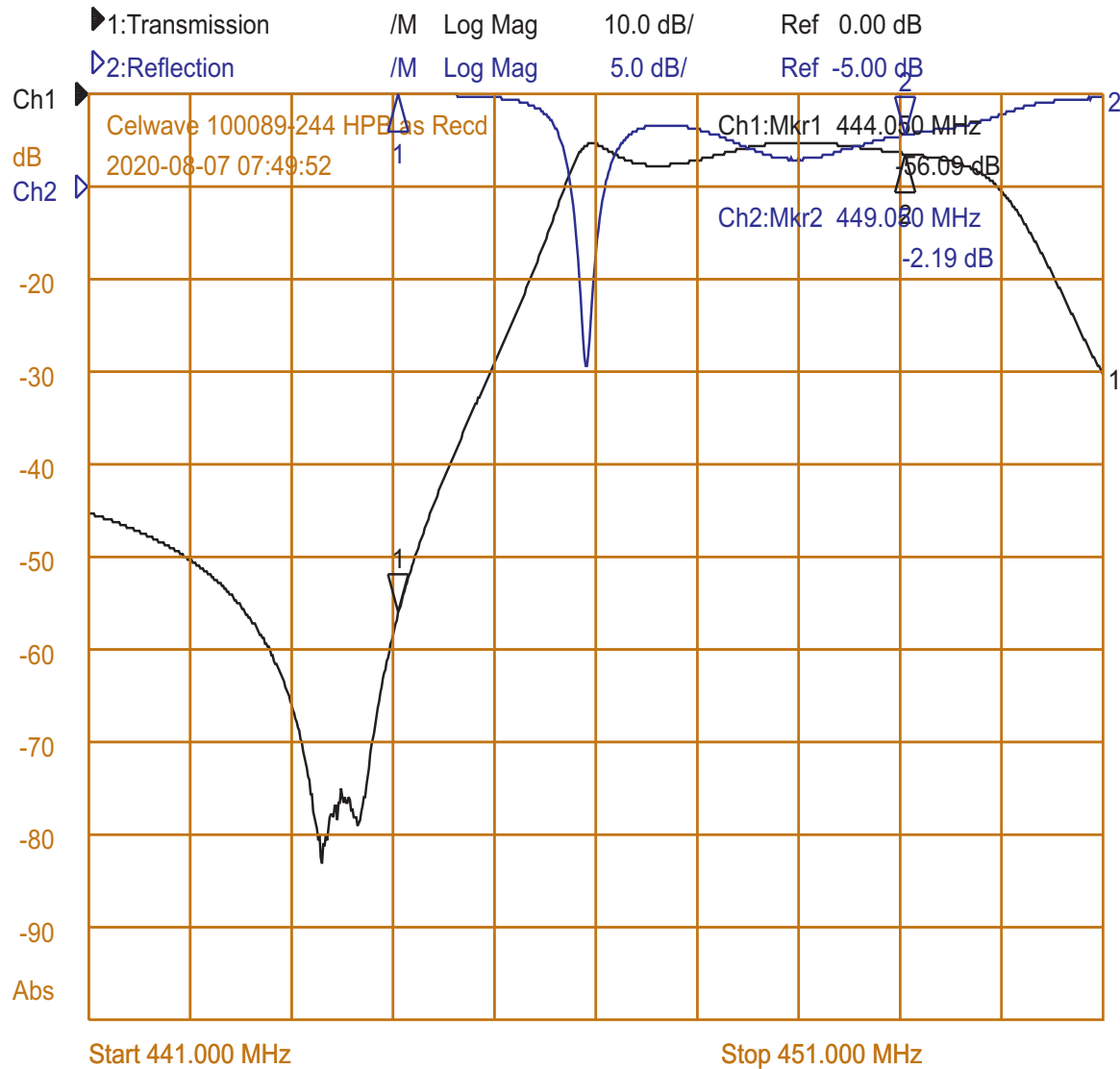
1:Mkr (MHz) dB	2:Mkr (MHz) dB
1> 444.05 -21.47	1: 444.05 0.00
2: 449.05 -23.04	2> 449.05 -0.42

Isolation: 23.04 dB Insertion Loss: 21.47 dB	Return Loss: 0.00 dB VSWR: *Not Calculable* Match Efficiency: 0%
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Celwave 0185417U05 UHF Duplexer

S/N: 100089-244

High Pass Branch Return Loss/SWR *As Received*



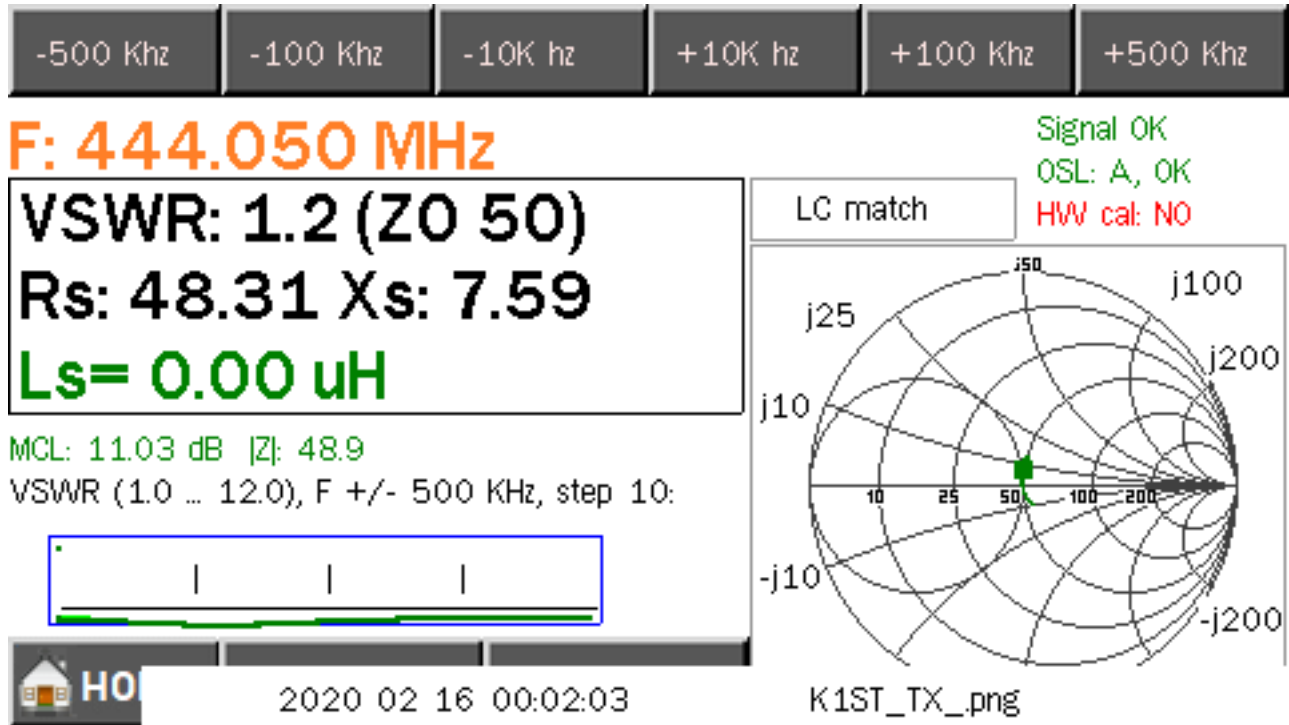
1:Mkr (MHz) dB	2:Mkr (MHz) dB
1> 444.05 -56.09	1: 444.05 -0.01
2: 449.05 -6.45	2> 449.05 -2.19
Isolation: 56.09 dB Insertion Loss: 6.45 dB	Return Loss: 2.19 dB VSWR: 7.974:1 Match Efficiency: 39.605%

Celwave 0185417U05 UHF Duplexer

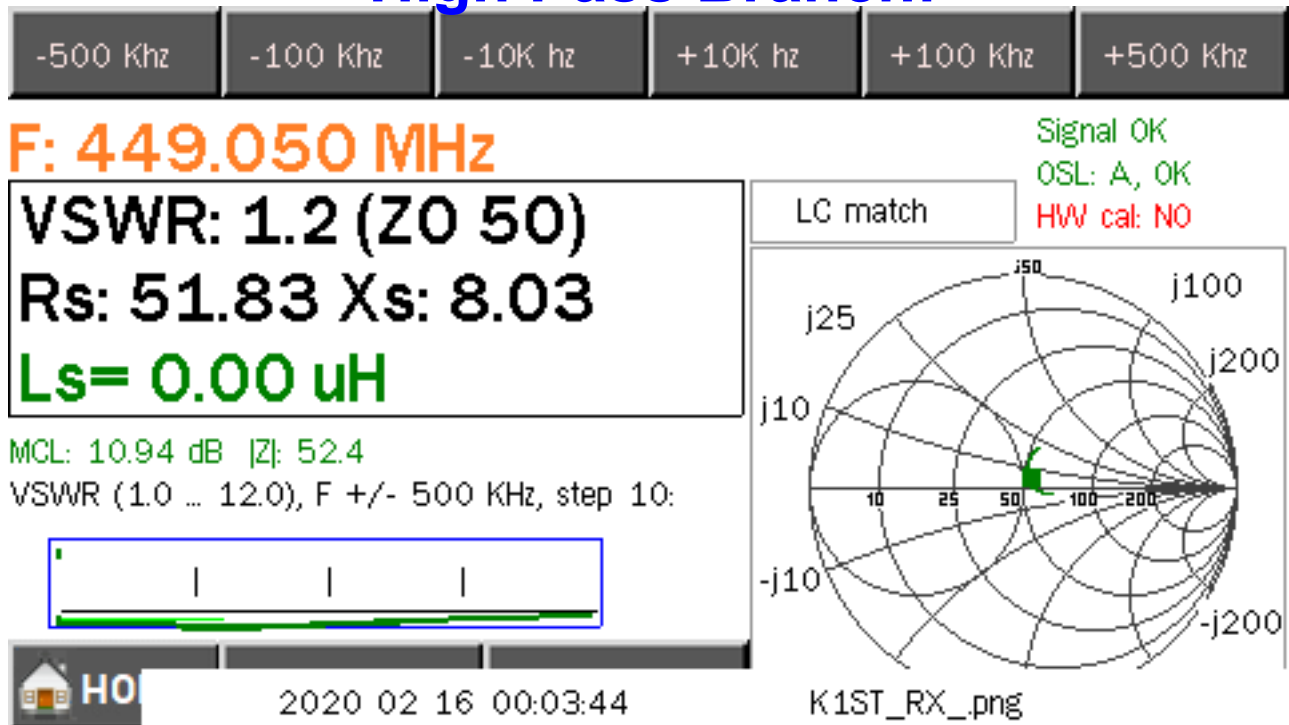
S/N: 100089-244

Smith Chart Analysis of Branches After Retuning

Low Pass Branch:



High Pass Branch:

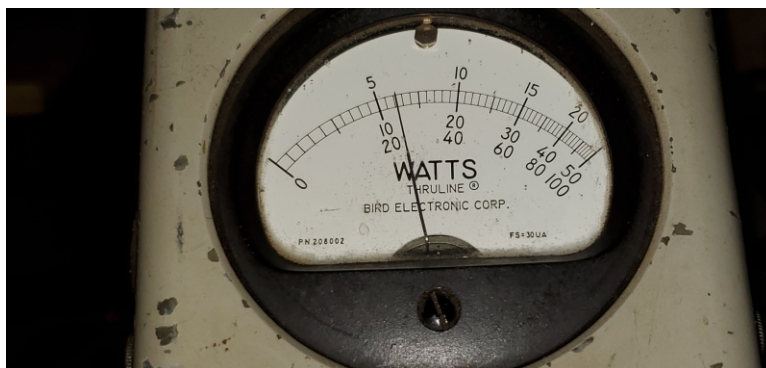


Celwave 0185417U05 UHF Duplexer

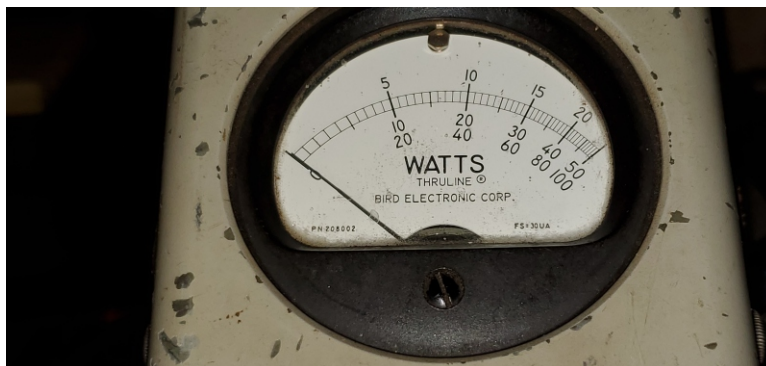
S/N: 100089-244

An Alinco DR-605 dual-band mobile radio was utilized to test the duplexer under at least moderate RF power conditions.

Forward power from radio to a JRW Industries 300 Watt dummy load: approx. 24 Watts



Reflected power from dummy load back to radio too low to measure, verifying proper 50 Ohm load impedance and match for reference



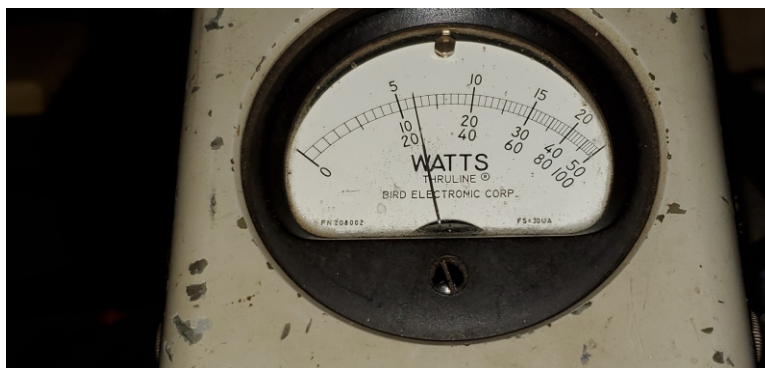
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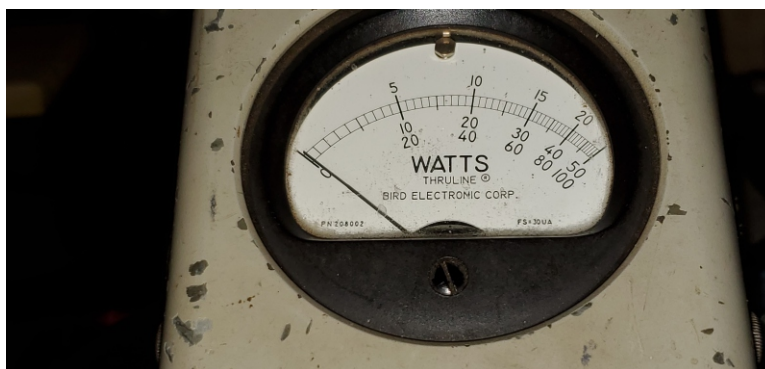
S/N: 100089-244

***Testing with Bird wattmeter place
between transmitter and input to 444.0500 MHz tuned
Low Pass (Tx) Branch***

***Forward power from radio into duplexer LP branch
measured approximately 24 Watts***



***Reflected power from duplexer Tx branch back to
transmitter was too low to measure, confirming
excellent Return Loss, VSWR match, impedance
match, and proper tuning for frequency***



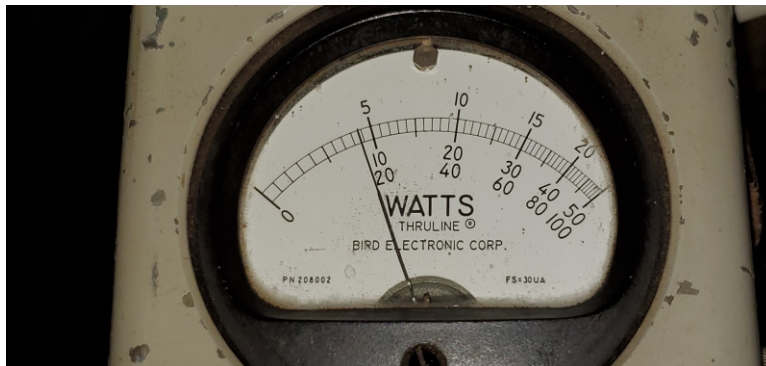
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Celwave 0185417U05 UHF Duplexer

S/N: 100089-244

***Testing of Insertion Loss/VSWR in transmit branch
under actual RF power from Alinco transmitter***

***With approximately 24 Watts of transmitter into the
Low Pass (Tx) branch, approximately 18 Watts of
power measured as flowing from duplexer's
antenna port to the 50 Ohm dummy load***



***Insertion Loss for Low Pass (Tx) branch
calculates as 1.25 dB.***

***The duplexer is fitted with a factory, broadband,
non-optimized harness; therefore, the IL is not quite
as good as it could be with a customized harness,
but is still within acceptable limits and safe to
operate without risk of equipment damage.***

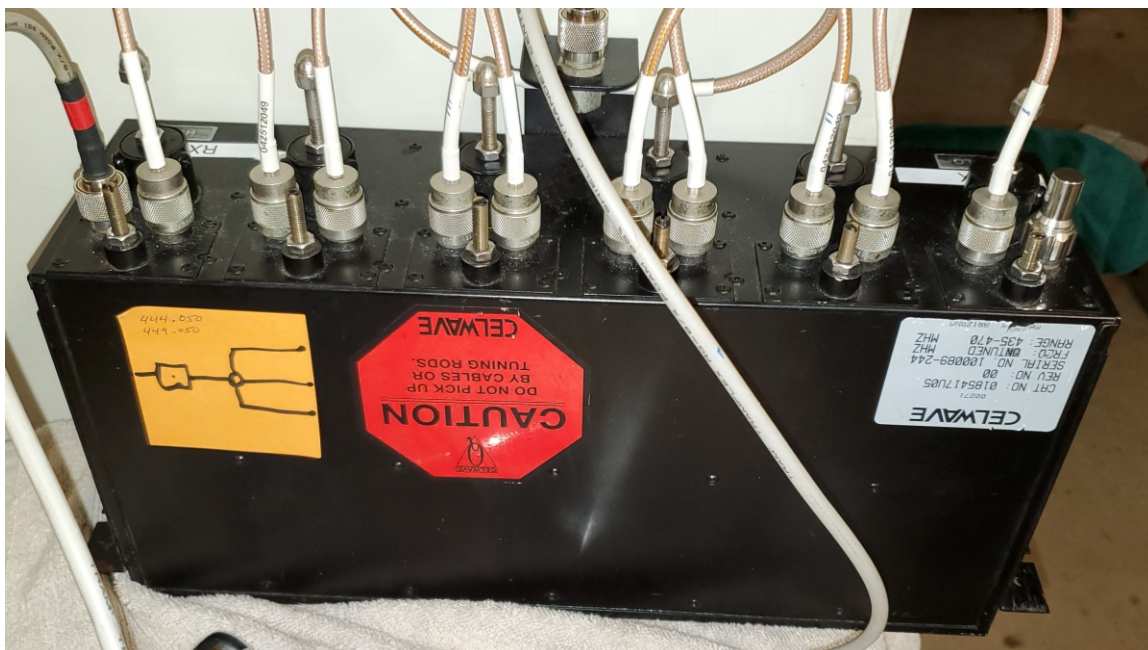
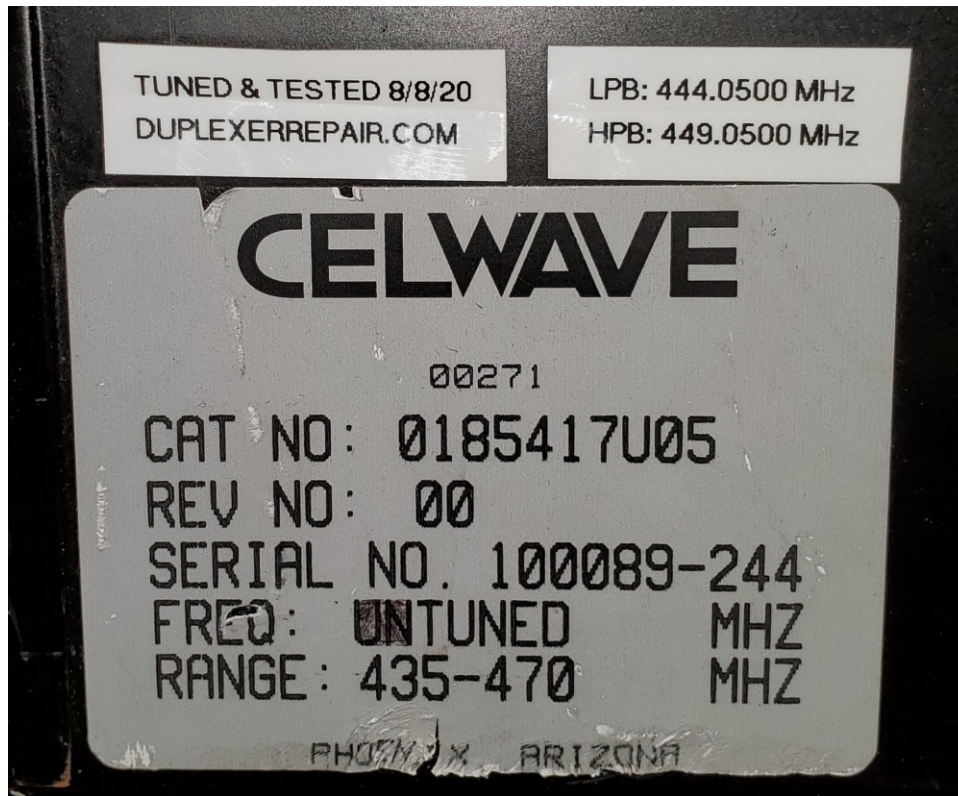
***Running 100 Watts of PA power into the branch should
results in around 75 Watts of Tx output at the
antenna port of the duplexer.***

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Celwave 0185417U05 UHF Duplexer

S/N: 100089-244

Service and Reference Photos



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