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Tuning Instruction for Mobile Duplexer 450 MHz DSCP10725

Product: Motorola DSCP10725 = Combilent CP10725

Reference data sheet: DS15661

The duplexer is a PASS-REJECT type with a fixed spacing. Adjusting for the REJECT frequencies automatically aligns the PASS frequencies. It is pre-tuned to LOW 460 MHz and HIGH 465 MHz.

Equipment:

- Spectrum analyser with tracking generator
- OR Network analyser
- Site Master capable of measuring transmission
- 50 ohm N-male load
- Two test cables
- Blade Screw driver

Tuning procedure: Tuning screws IN to move to lower frequencies and OUT to higher frequencies.

Caution:

DO NOT USE HIGH POWER, (>1W), TO TUNE

APPLYING RF POWER TO A NON-TUNED DUPLEXER WILL CAUSE DAMAGE and VOID WARRANTY

MAXIMUM INPUT POWER IS 50 WATTS

1. Set spectrum/network analyser to show both LOW and HIGH frequencies in the same sweep
2. Set two markers on either the spectrum or network analyser to the LOW and HIGH frequencies
3. Connect tracking generator (Port 1 of network analyser) to ANT
4. Connect spectrum analyser (Port 2 of network analyser) to LOW
5. Connect 50 ohm load to HIGH
6. Adjust screws 1, 2, and 3 for maximum attenuation at HIGH frequency
7. Connect spectrum analyser (Port 2 of network analyser) to HIGH
8. Connect 50 ohm load to LOW
9. Adjust screws 4, 5, and 6 for maximum attenuation at LOW frequency
10. Repeat steps 3 to 9 with respect to VSWR and insertion loss and also monitor the attenuation

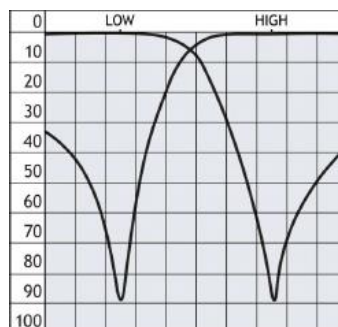
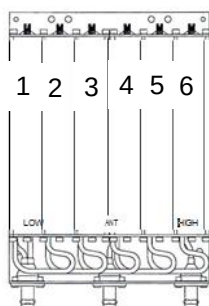
Tuning Note:

If moving the frequency up, tune the HIGH filter first, then the LOW (steps 7 – 9 above)

If moving the frequency down, tune the LOW filter first, then the HIGH (steps 4 – 6 above)

After proper adjustment, the curves should look as shown below.

Both the VSWR curve and the attenuation curve will only be visible on a network analyser.



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