

Subject: Synergy hybrid cross polarization leakage test results

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Setup:

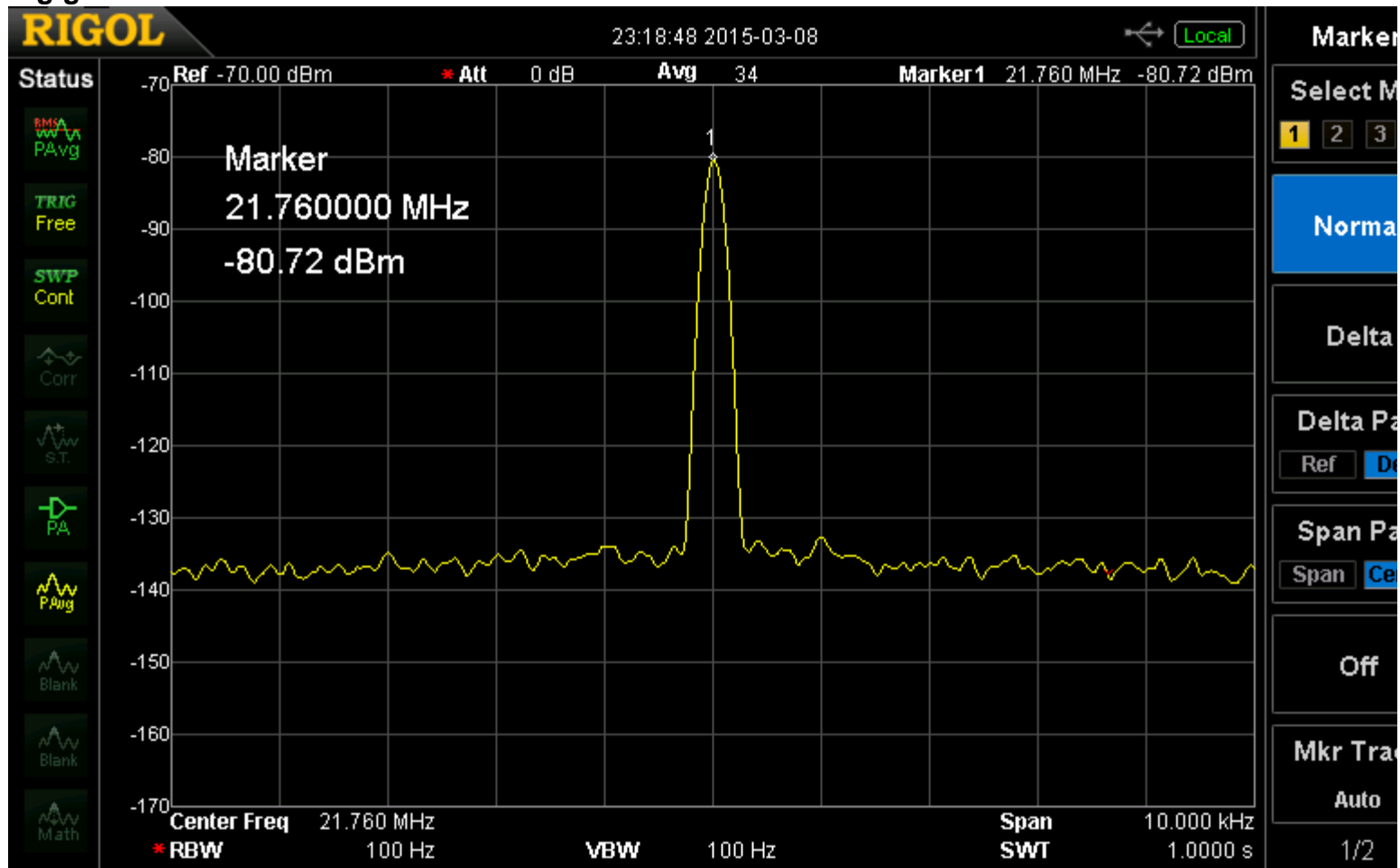
HP 8648B sig gen into MCL ZSC-2-1 splitter into 5' cable on one leg and 5' + 7'5" on the other leg into ports 1 (short cable) & 3 (long cable) of the Synergy DQK-701B 90 degree hybrid. SA alternately on ports 2 and 4, opposite hybrid port terminated in 50 ohms.

Sig gen set to 21.76 MHz (to make the 7'5" cable equal to 90 degs assuming 66% VoP) at -90 dBm.

SA set to 100 Hz RBW, 10 kHz span, 21.76 F_c, Attenuation OFF, Preamp ON, RMS Power Average detector.

Test 1:

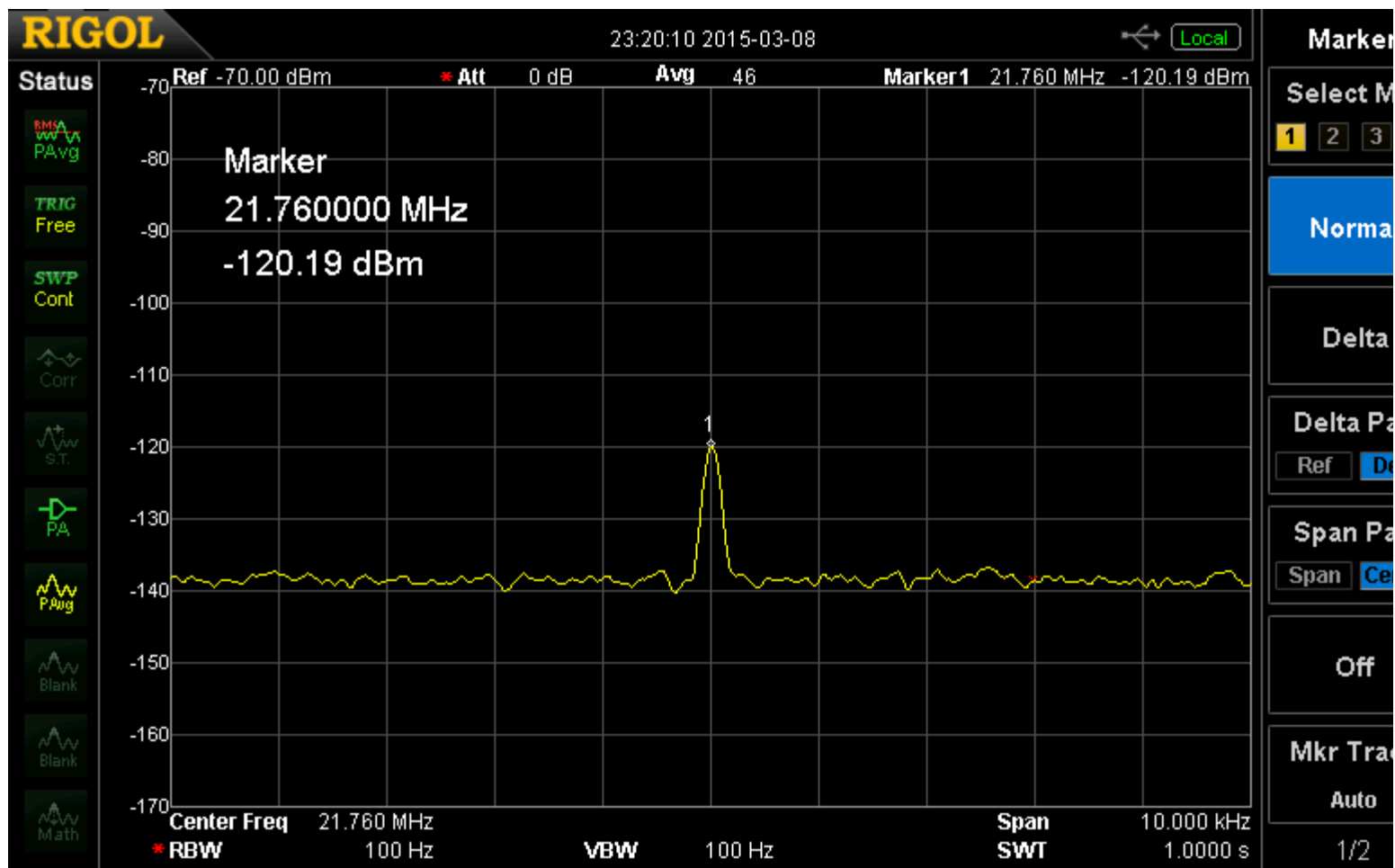
Sig gen into SA: -80.7 dBm



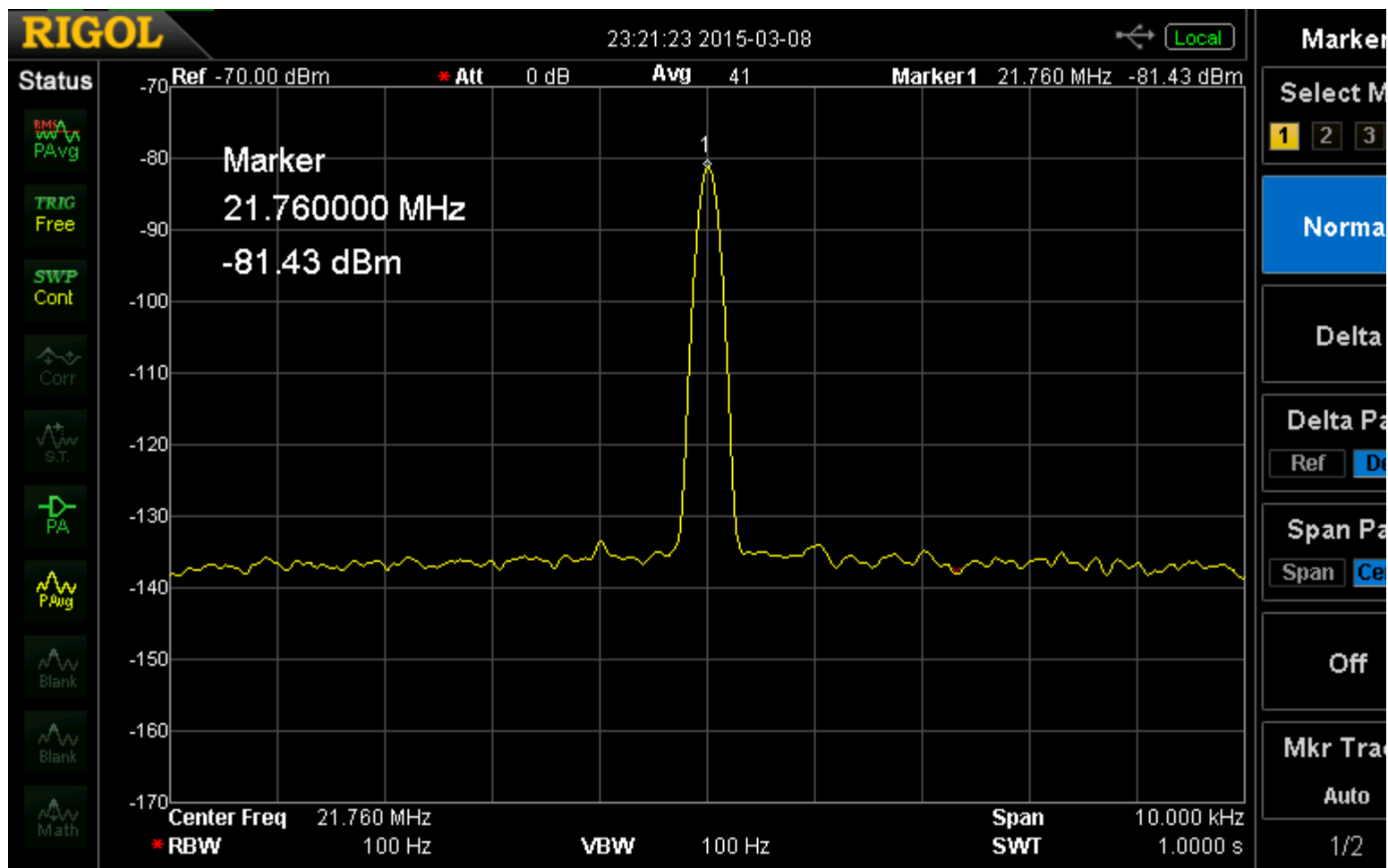
Test 2:

Sig gen output split and one leg delayed 90 degs into hybrid

SA on hybrid port 2: -120.2 dBm



Test 3:
 Sig gen output split and one leg delayed 90 degs into hybrid
 SA on hybrid port 4: -81.4 dBm



Results: 120.2 - 81.4 ---> cross polarization leakage in the hybrid is 38.8 dB down.

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Dave