

FLEX-6000

Full Duplex / SO2R External Isolation Worksheet

1	<p>Transmitter Power in dBm <i>For 100W enter 50dBm; for 1500W enter 62dBm; or enter the actual transmitter power in dBm</i></p>	1		dBm
2	<p>Record the worst case antenna coupling between receiving antenna and transmitting antenna in dB <i>If unknown, use line 6 from Antenna Coupling Worksheet below after working through the worksheet.</i> <i>For more details, reference <u>Managing Interstation Interference</u>, Revised Second Edition, W2VJN George Cutsogeorge</i></p>	2		dB
3	<p>Subtract line 2 from line 1. This is your receive antenna power level ►</p>	3		dBm
4	<p>If using a FLEX-6700, FLEX-6500 or FLEX-6400 and the transmit and receive bands are different, enter -25.</p> <p>If using a FLEX-6600 and the transmit and receive bands are BOTH different AND the receive band is in this list: 80m, 40m, 20m, 15m, 10m enter -50.</p> <p>If using a FLEX-6600 and transmit and receive bands are different, but the receive band is not in the list above, enter -25.</p> <p>If no conditions above are met or using a FLEX-6300, enter 0. <i>This accounts for inline preselector</i></p>	4		dB
5	<p>If a preamp will be used during receive, enter the max gain in dB of the preamp as displayed on the panadapter. Enter 0 if the preamp will not be used on the receiving band <i>The preamp is not typically needed nor recommended below 21MHz except when using negative gain antennas. Always use the lowest gain required from 21MHz and up to raise the noise floor by 8-10dB when the antenna is connected.</i></p>	5		dB

6	Add lines 4 and 5. This is your SCU gain or loss ▶	6		dB
7	For FLEX-6300 or FLEX-6400 enter 7, for FLEX-6500, FLEX-6600 or FLEX-6700 enter 9 <i>This is the radio overload start in dBm</i>	7		dBm
8	Add lines 3 and 6. This is your highest external receiver signal level ▶	8		dBm
9	Subtract line 8 from line 7. This is your external power margin ▶ <i>A positive value indicates margin and a negative value indicates that more isolation is needed</i>	9		dB

Antenna Coupling Worksheet

1	Connect transmit antenna on either ANT1 (or ANT2). Place receive antenna on XVTR.	1		
2	Open two panadapters and select the transmit band in both the receive and transmit panadapter	2		
3	Place a slice receiver on the same frequency in both panadapters. Select one as the transmitter.	3		
4	Set transmit slice transmit antenna to ANT1 and receive slice receive antenna to XVTR	4		
	Set TUNE power to 1W out using the slider in SmartSDR			
4	In sideband or CW, depress TUNE and verify 1W output. Record the calculated output power in dBm (taking into account any amplifiers in line). <i>If tune power is 1W and there are no amplifiers, write 30 (dBm).</i>	4		dBm
5	Record the highest achievable receive signal reading <i>Turn any antenna rotators such that maximum receive power is seen in the panadapter on the receiving panadapter. The most accurate reading can be achieved by hovering the mouse over the slice receiver signal meter.</i>	5		dBm
6	Subtract line 5 from line 4. This is your worst-case antenna coupling ▶	6		dB

Full Duplex Internal Isolation Worksheet

1	Radio Transmitter Power in dBm (excluding amplifiers, if used) <i>For 100W enter 50dBm</i>	1		dBm
2	Transmit Isolation in dB. For FLEX-6700 & FLEX-6500: <i>If receive and transmit antenna are both ANTxx, enter 50. If the receive antenna is XVTR, RX A or RX B, enter 80</i> For FLEX-6600: <i>If receive and transmit antenna are both ANTxx, enter 65. If the receive antenna is XVTR, RX A, XVTB or RX B, enter 100</i>	2		dB
3	Filter isolation in dB <i>For FLEX-6300 enter 0</i> <i>For FLEX 6400, FLEX-6500, FLEX-6600 or FLEX-6700, enter 0 unless transmit and receive bands are on different antennas, in which case enter 20</i>	3		dB
4	Add lines 2 and 3. This is your total reduction of power in the radio ►	4		dB
5	For FLEX-6300, FLEX-6400 enter 7, for FLEX-6500, FLEX-6600 or FLEX-6700 enter 9	5		dBm
6	Subtract line 4 from line 1. This is your maximum internally coupled signal level from the transmitter ►	6		dBm
7	Subtract line 6 from line 5. This is your internal power margin ► <i>A positive value indicates margin and a negative value indicates that more isolation is needed</i>	7		dB