

2011 Brisbane Microwave Tune-Up Day

25 September 2011

The Brisbane VHF Group's organised "tune-up" day was a great opportunity to bring along microwave gear to be tested in advance of both the forthcoming "Demo day " on the 23rd October and then the Spring VHF.UHF Field Day on the 26th/27th November. Although only a few brought gear to be evaluated, the ones that did certainly appreciated the facilities provided :

Power measurement (nW to +++Watts) to 50 GHz

Return loss measurements to 26 GHz

Signal generators to 18 GHz

Spectrum analysis to 50 GHz

Minimum discernable received signal level assessment to 18 GHz

Automatic noise figure and gain measurement to 1.9 GHz, and possibly higher

Those in attendance included the host Rob VK4ZDX, Doug VK4OE, Trevor VK4AFL, Adrian VK4OX, Roy VK4ZQ, Peter VK4EA, Quentin VK4AQF, Ron VK4KLC, Adam VK4CP/VK4GHZ, Kevin VK4UH, Stuart VK4MSL, Tim VK4TIM, John VK4IE for a quick drop-in and yours truly, Doug VK4ADC.

There was also equipment brought along just to show how getting operational on the various microwave bands could be done. Roy VK4ZQ's multi-band setup showed a great deal of flexibility was involved, and when added to the trailer-based antenna setup (photo below), makes for a very impressive VHF/UHF/microwave facility.

Quentin VK4AQF tested his 5.7 GHz equipment, Peter VK4EA likewise, Kevin VK4UH concentrated on testing and showing his 10GHz setup. Adam VK4CP/GHZ brought along his multi-transverter box plus the planned 10GHz boards as well as his recently-built synthesiser microwave signal source (described in detail on the VKLogger forum). Adam placed his signal source some 150-200 metres away (with the small log periodic antenna connected via a 20dB SMA in-line attenuator) from Kevin's setup and the directionality/beamwidth of the dish was readily evident.

I took along my little microwave RF power meter to cross-check the calibration and was happy to note that it was within about 0.5dB (probably less) between 0dBm and +13dBm so that was useful, plus the fact that the accuracy dropped above 2.5GHz (along with the return loss). I also checked a couple of Macom 6dB attenuators at 2.4 GHz (close enough to 6.0dB) and my 20dB 5watt attenuator (20.3dB) so that makes it possible to cross-check my RF power levels in my workshop a little bit more accurately.

A few others took the opportunity to crosscheck their test gear too.

In all, it was an opportunity that shouldn't have been missed by anybody around Brisbane with even a passing interest in microwave.

Mouse-over for a larger image...



Adrian VK4OX & Trevor VK4AFL had been catching up... in comfort.



Doug VK4OE & Peter VK4EA testing Peter's HP power meter



Roy VK4ZQ's transverter at left, some of the test gear set up for the day at right.



Quentin VK4AQF setting up for some tests



Doug VK4OE at the test gear controls, Ron VK4KLC looking on.



Doug & Peter VK4EA discussing test results



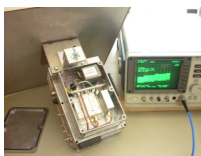
"The workbench"



Peter VK4EA's "breadboard" 5.7 GHz transverter



Spectrum analyser, signal generators at work, HP power meters just at the extreme right hand side.



A closer view of Roy VK4ZQ's 10GHz transverter



Roy's transverter "bunch"



Adrian VK4OX with Doug VK4OE testing some directional couplers for return loss and coupling coefficients.



Rob VK4ZDX at left, Quentin at right trying to access the web for some answers.



Roy VK4ZQ helping Peter VK4EA along by passing ideas on how he remotely controls some of his equipment.



Ron VK4KLC at left, Kevin VK4UH (centre) and Adam VK4CP/VK4GHZ (right) peering into Adam's multi-band transverter cabinet while Adam explains his construction concepts.



Roy VK4ZQ passes around some nibbles/lunch.



Quentin VK4AQF and Doug VK4OE discussing technicalities.



Roy VK4ZQ catching up with John VK4IE (at right)



Ron VK4KLC ponders Roy VK4ZQ's box trailer-mounted arrangement for the bands 50MHz and up...



An alternate view showing how the dishes, yagis and mounts are stored.

See also : <http://www.vklogger.com/forum/viewtopic.php?f=31&t=10156&p=20450#p20450>
(<http://www.vklogger.com/forum/viewtopic.php?f=31&t=10156&p=20450#p20450>)