

# CAPITAL COMMUNICATIONS COMPANY

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## **Aerial Gain Test Report**

"Gain over a dipole" testing of Aerial Science's Aerial Type SmartBand VHF/UHF was carried out on 20 October 2000. The weather conditions were fine, with normal temperature, humidity and air pressure for October.

Test site was clear of metal objects. Both the aerial and the dipole were tested in the horizontal position between 1 and 2 meters above the ground. The aerial was the same antenna previously used for bandwidth testing.

### **Test Equipment used:**

- Field strength meter UnaOmh measured in db/uV
- Adjustable dipole aerial 75 ohms

### **Method of testing**

The dipole was connected by 5 metres of 75 OHM RG6 coaxial cable to the field strength meter. Particular attention was paid to reducing signal loss in the dipole assembly and connecting cable. The dipole and field strength meter were tuned to receive a specific television broadcast frequency. The dipole was moved around in an area of approximately 1 cubic meter to find the maximum signal reading. The maximum signal strength reading was then taken.

The aerial under test was then connected to the field strength meter via 5 meters of 75 OHM RG6 coaxial cable. The field strength meter tuning was verified at the test frequency. The aerial was moved around in the same area as the dipole had been to find the maximum signal reading. The maximum signal strength reading was then taken.

The test procedure was repeated for each of the three television broadcast bands, Low VHF, VHF and UHF. The test frequencies chosen were 70MHz, 224MHz & 450MHz

### **Conclusions**

The test frequencies were compared as described in the Method of Testing. The aerial under test showed a consistent 7db gain over the dipole.

Due to the aerial under test having a very wide bandwidth, further testing was not carried out. There was very little variation across television broadcast bands of the 7db gain over the dipole.



J. Smith