

406MHz Antenna in Tail Boom

Testing Taupo New Zealand 2nd February
2015 Elevation: 407 m

Approximate GPS position is 38.740° S
176.084° E

Test Tail Boom – R44



Test 01 Datum

- Check BT100 2015- 043
- Radiated power measured BT100 2015-042 = 35.2dBm
- Power measured on GEO satellite -134.55 dBm average



Test 02

(Check BT100 2015- 043

*406AP- Vertical Antenna bent
in "h" to fit boom*

*External Radiated power
measured BT100 2015-045
= 43%*

*Power measured on LEO
satellite 11 -
138.23dBm average*

**Satellite location Latitude 37.74823
longitude 176.07684**



TEST 03

(Check BT100 2015-046

406AP Horizontal

***Radiated power measured
BT100 2015-047 = 37%***

***Power measured on GEO
satellite 144.85 dBm***

***No LEO as I advised incorrect 30 Hex
ID to John Asson***



Test 04

Check BT100 2015- 053

406AF with earthed vertical bent
whip antenna at 90 degrees to fit

Radiated power measured BT100
2015- 54 = 38%

Duct tape detached from
fuselage halfway thru test to
allow a 15mm gap

Radiated power then measured
BT100 2015- 55 = 56%

Power measured on LEO 13
satellite average = -137.8dBm

*Satellite location Latitude 37.74823
longitude 176.07684*



Test 05

Check BT100 2015-048

***406AF with earthed
horizontal whip***

***Radiated power measured
BT100 2015-049 = 51%***

***Power measured on LEO
satellite 11 = -134.34dBm***

***Satellite location Latitude 37.74136
longitude 176.08289***

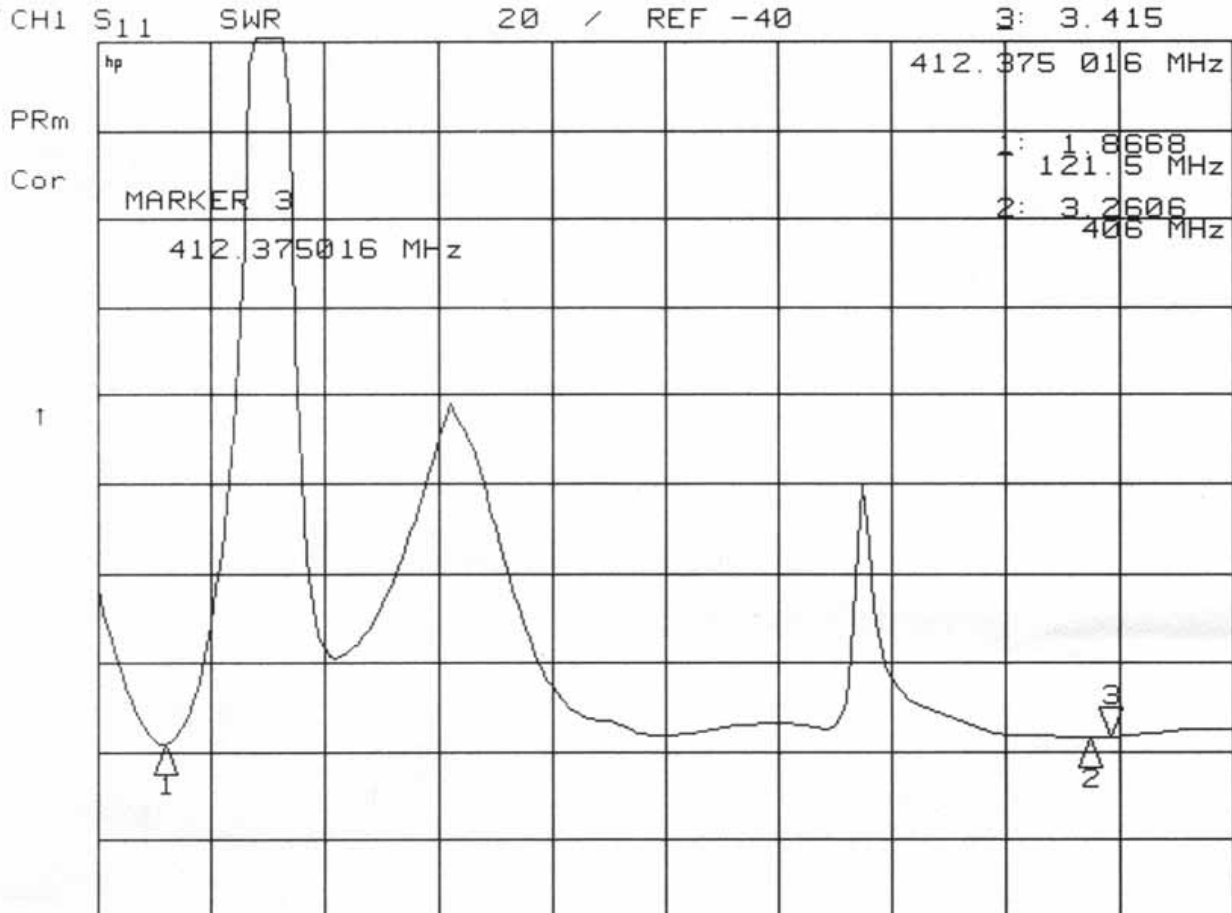


Test location Taupo



Summary

- Raw download data available if req'd.
- These tests confirm and verify the tests that were previously undertaken in October 2014
- Testing shows that it does not matter if the structure is earthed or not
- I am not advocating an ELT & antenna in a tail boom but within the helicopter structure
- Tail boom was chosen for test as least likely location thought to be successful.
- Mounting a 406AP = No coaxial cable to fracture



A Stubby 406/121.5MHz antenna 210mm length

This antenna was developed for my Secondary Antenna Switching Device. There would be an advantage if an antenna within any structure could be similar in size

