# *Barbados Antenna Regulatory Information*

**Description :** **Triple-band Antenna(Main+Aux)**

**Wistron Corporation** **Main Antenna P/N : 25.90220.001**
**Main base Cable P/N :50.4C408.001**
**AUX Antenna P/N: 25.90221.001**
**AUX base Cable P/N :50.4C407.001**

## Wistron NeWeb Corporation

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**Science-base Industrial Park,**
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**Tel: 886-3-6667799**
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| Provided by<br>**Wistron NeWeb Corp.** | Reviewed by<br>**Wistron NeWeb Corp.** |
|---|---|
| ***Stanly Wang*** | ***Weili Cheng*** |

# Antenna Specifications

| | |
|---|---|
| Antenna Type (Material, Technology) | Technology => PIFA, Material =>Metal sheet<br>(For both main and aux antenna) |
| Antenna Model Number | Barbados / EDM-A / 25.90220.001/50.4C408.001<br>25.90221.001/50.47407.001 |
| Operating Frequency Range(s) | 2.4 ~ 2.4835GHz / 4.9 ~ 5.35GHz / 5.47 ~ 5.875GHz |
| Peak Gain (802.11b/g / 2.4GHz Band) (dBi) | Main antenna: 1.3dBi, Aux antenna: 1.38dBi |
| Peak Gain (802.11a / 5GHz Band) (dBi) | Main antenna: 1.49dBi, Aux antenna: 1.05dBi |
| Radio Connector Type | IPEX MHF 37 type connector |
| Mid-Line Connector Type<br>(If Applicable) | SSMCX connector |

**Note:** Peak Gain should include all system losses (connector, cable, etc)

# Cable Specifications

| Cable Parameters | Main | | | Aux | | |
|---|---|---|---|---|---|---|
| | LCD Side | Base Side | Total | LCD Side | Base Side | Total |
| Length (mm) | 382 | 320 | 702 | 640 | 330 | 970 |
| Loss (Including Connectors) (dB)<br>(2.4GHz / 5GHz) | NA | NA | 1.98/2.89 | NA | NA | 2.66/3.9 |
| Description (Color, Diameter, Manufacturer) | Color: white<br>Diameter: Φ1.37mm<br>Manufacturer: Nissei,Hitachi, Junkosha,GBE, Kurabe ,Axon or equivlent cable | | | Color: black<br>Diameter: Φ1.37mm<br>Manufacturer: Nissei,Hitachi, Junkosha,GBE, Kurabe ,Axon or equivlent cable | | |

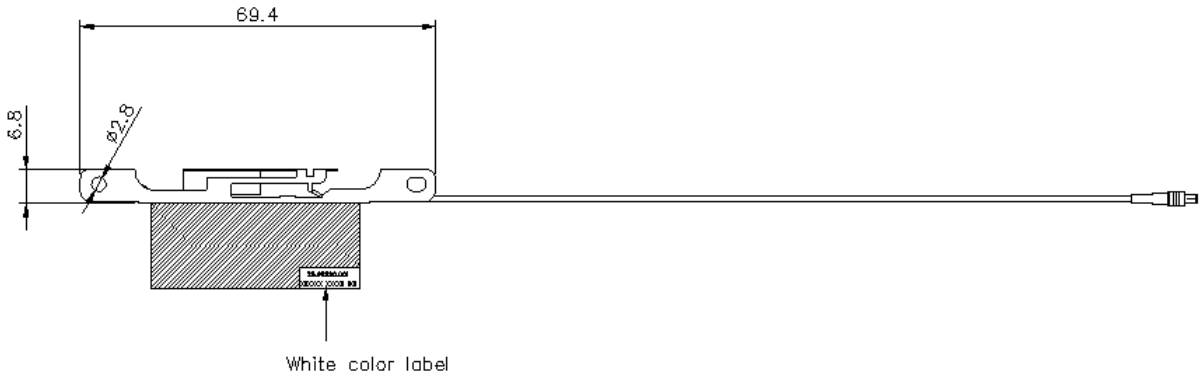
**Note:** For single cable assembly (no mid-line connector), use the 'Total' column for each cable length and list N/A in the 'LCD' and 'Base' fieldsCable Loss should be reported for the total cable assembly (for both Main and Aux antennas)

- **Peak Gain**

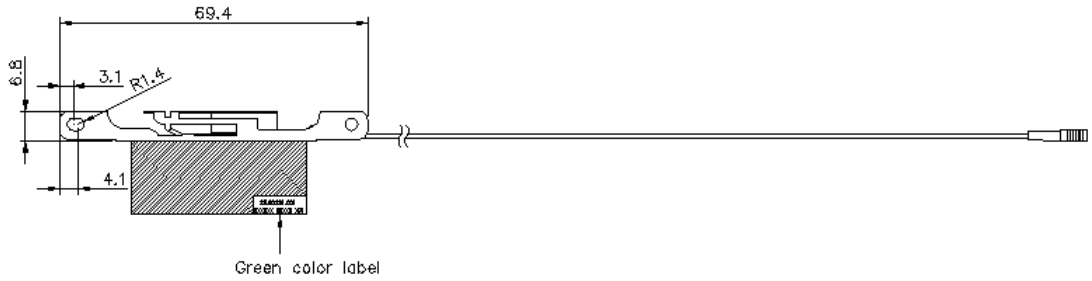
| Frequency | Main antenna Max value (dBi) | | | Aux antenna Max value (dBi) | | | Pass/ NG |
|---|---|---|---|---|---|---|---|
| | H-pol | V pol | Total | H-pol | V pol | Total | |
| 2412(MHz) | 1.30 | -1.62 | 2.39 | 1.28 | -0.24 | 2.34 | PASS |
| 2437(MHz) | 1.05 | -0.08 | 2.40 | 1.11 | -0.16 | 2.16 | PASS |
| 2462(MHz) | 1.27 | -1.14 | 2.70 | 1.38 | 0.15 | 2.21 | PASS |
| 4900(MHz) | 0.31 | -0.27 | 1.17 | -1.41 | -3.42 | 0.38 | PASS |
| 5125(MHz) | -0.73 | -1.68 | 0.78 | -0.59 | -1.83 | 0.81 | PASS |
| 5350(MHz) | -0.31 | -0.97 | 0.91 | -0.81 | -3.06 | -0.03 | PASS |
| 5470(MHz) | -0.83 | -1.71 | 0.35 | -3.08 | -3.02 | -0.20 | PASS |
| 5672.5(MHz) | 1.31 | 1.49 | 2.51 | 1.05 | -0.03 | 2.24 | PASS |
| 5875(MHz) | 1.33 | 1.30 | 2.65 | -0.14 | -0.46 | 1.75 | PASS |

- **Antenna Dimensions (Mechanical drawings)**
  **(See Next Page)**

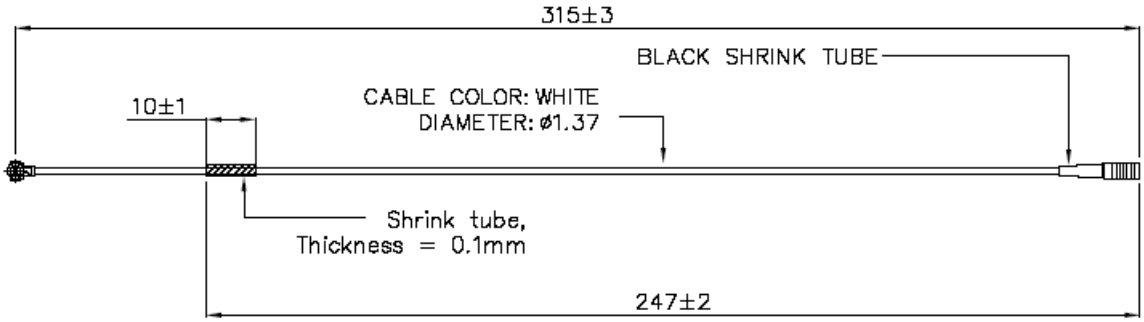
## Main Antenna



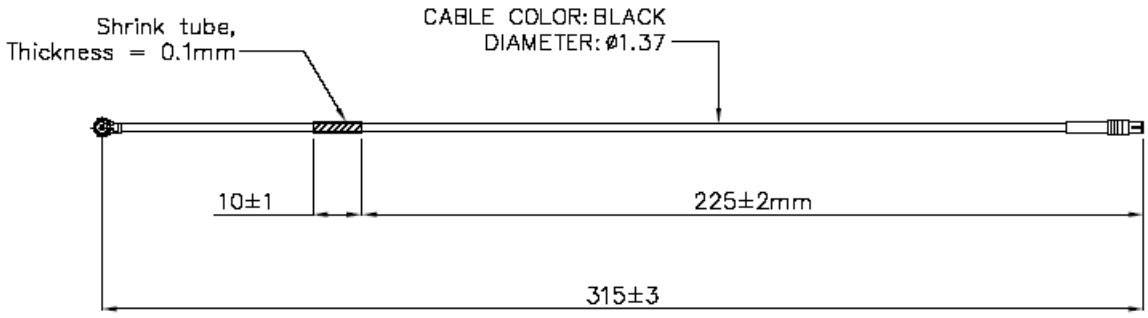

## AUX Antenna



## Main Base cable

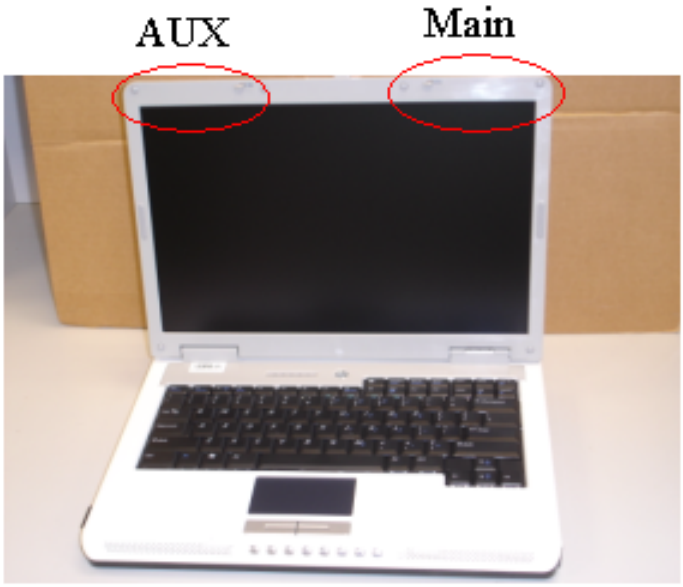



## AUX Base Cable



- **Pictures of Antennas**

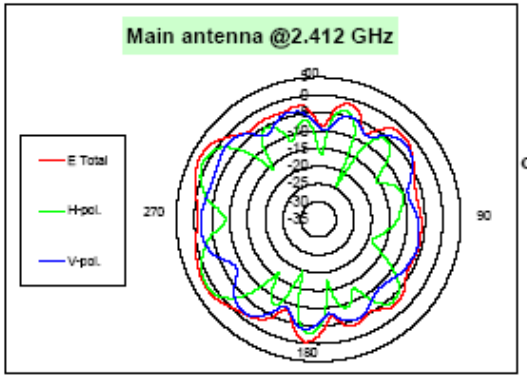
| Main Antenna | Aux Antenna |
|---|---|
|  |  |



- **Antenna Pattern**

## 2G4 ISM (2.400 GHz - 2.4835 GHz) Antenna Radiation Patterns

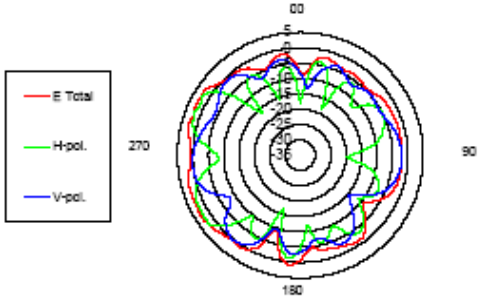
Main antenna @2.412 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.39 | 1.30 | -1.62 |
| Average Gain | -2.66 | -6.83 | -5.30 |

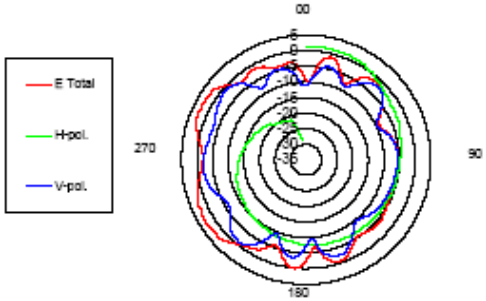
Cable

Main antenna @2.437 GHz



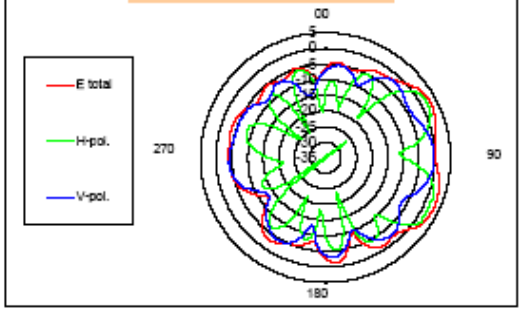

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.40 | 1.05 | -0.08 |
| Average Gain | -2.28 | -6.55 | -4.84 |

Main antenna @2.462 GHz



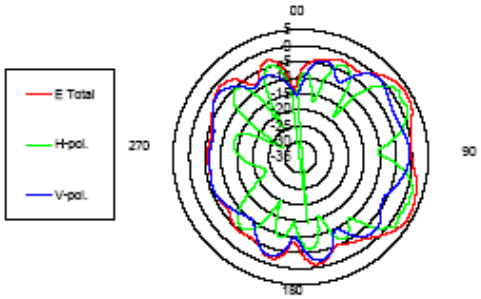

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.70 | 1.27 | -1.14 |
| Average Gain | -2.32 | -6.56 | -5.05 |

Aux antenna @2.412 GHz



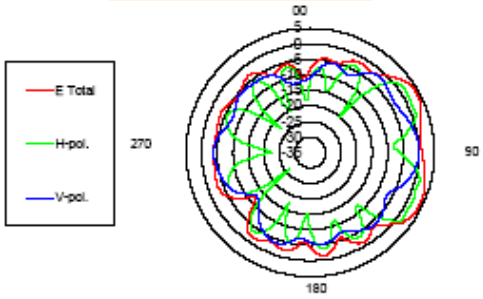

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.34 | 1.28 | -0.24 |
| Average Gain | -2.81 | -7.09 | -5.29 |

Aux antenna @2.437 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.16 | 1.11 | -0.16 |
| Average Gain | -2.90 | -7.25 | -5.51 |

Aux antenna @2.462 GHz

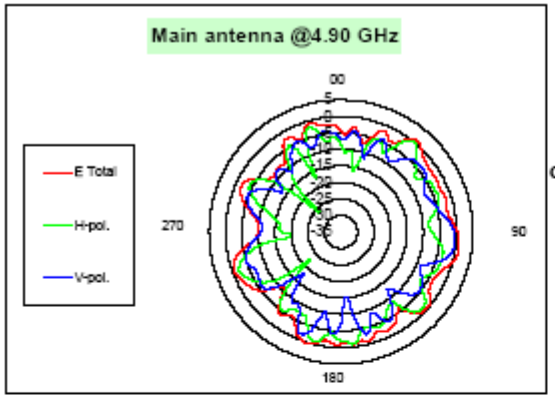



| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.21 | 1.38 | 0.15 |
| Average Gain | -3.07 | -7.13 | -5.60 |

Note: The outer circle approximately represents the 5 dBI gain circle.
Each circle with 5 dBI difference (Max=5 dBI and Min=-35 dBI)

## U-NII Band (4.90 GHz - 5.350 GHz) Antenna Radiation Patterns

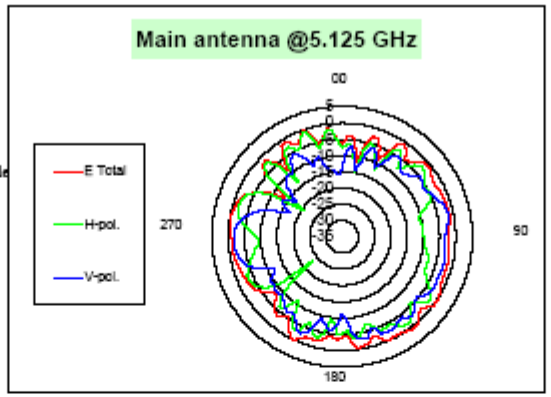
### Main antenna @4.90 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 1.17 | 0.31 | -0.27 |
| Average Gain | -3.04 | -5.80 | -6.25 |

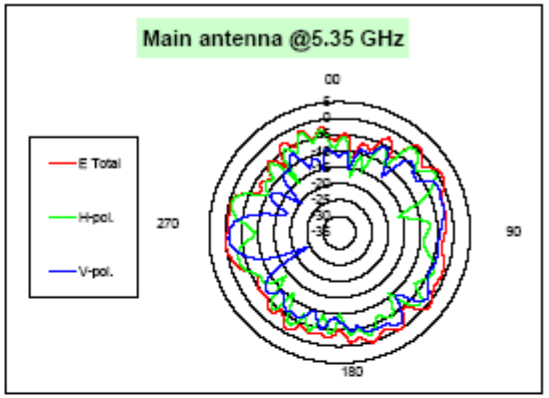
Cable

### Main antenna @5.125 GHz



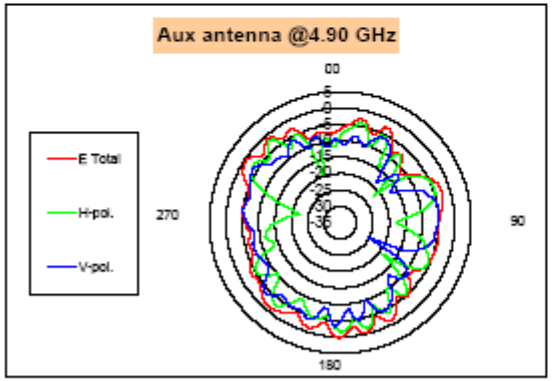

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 0.78 | -0.73 | -1.68 |
| Average Gain | -2.86 | -5.59 | -6.25 |

### Main antenna @5.35 GHz



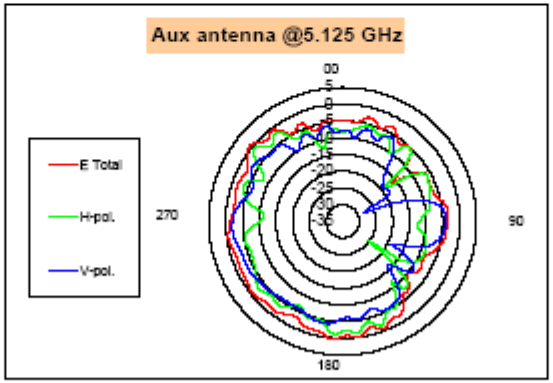

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 0.91 | -0.31 | -0.97 |
| Average Gain | -3.00 | -5.69 | -6.67 |

### Aux antenna @4.90 GHz



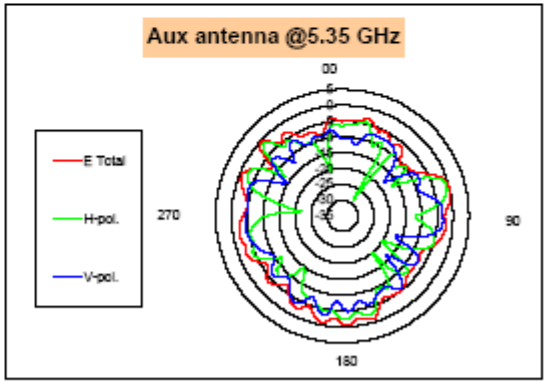

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 0.38 | -1.41 | -3.42 |
| Average Gain | -3.84 | -6.70 | -5.71 |

### Aux antenna @5.125 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 0.81 | -0.59 | -1.83 |
| Average Gain | -3.15 | -6.13 | -5.86 |

### Aux antenna @5.35 GHz

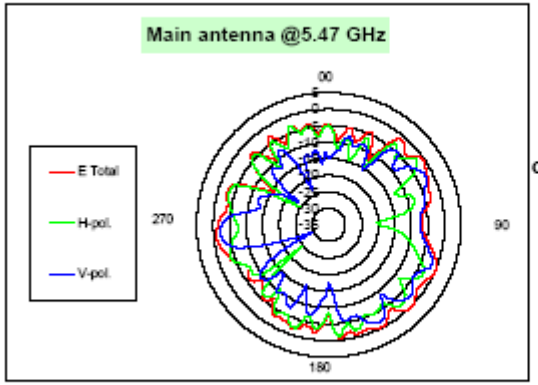



| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | -0.03 | -0.81 | -3.06 |
| Average Gain | -3.98 | -7.21 | -5.97 |

Note: The outer circle approximately represents the 5 dBi gain circle.
Each circle with 5 dBi difference (Max=5 dBi and Min=-35 dBi)

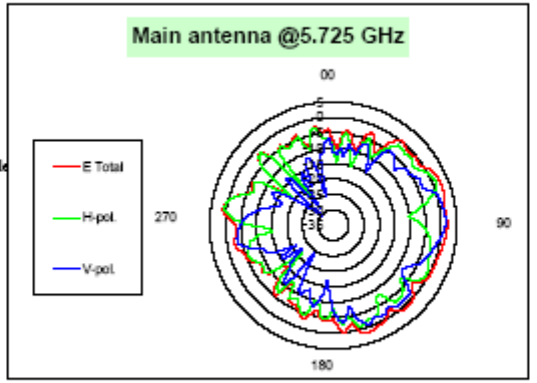
## HyperLAN (5.470 GHz - 5.825 GHz) Antenna Radiation Patterns

Main antenna @5.47 GHz



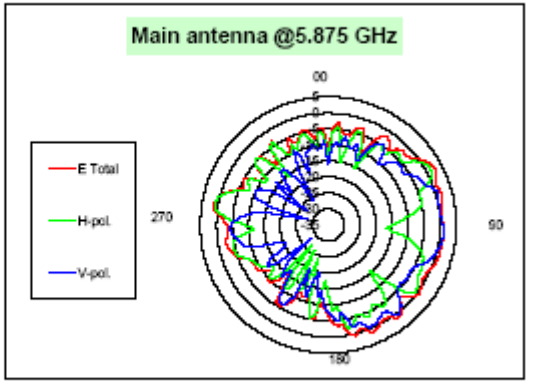

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 0.35 | -0.83 | -1.71 |
| Average Gain | -3.60 | -5.70 | -7.86 |

Main antenna @5.725 GHz



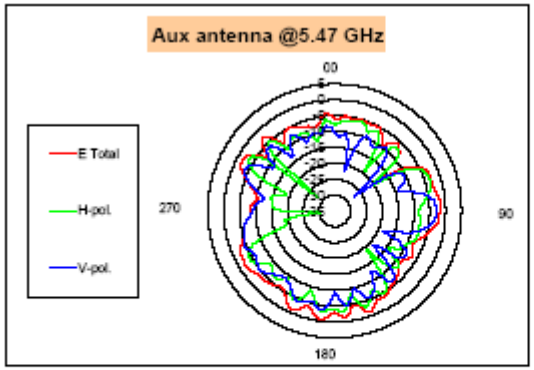

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.51 | 1.31 | 1.49 |
| Average Gain | -3.03 | -5.40 | -6.82 |

Main antenna @5.875 GHz



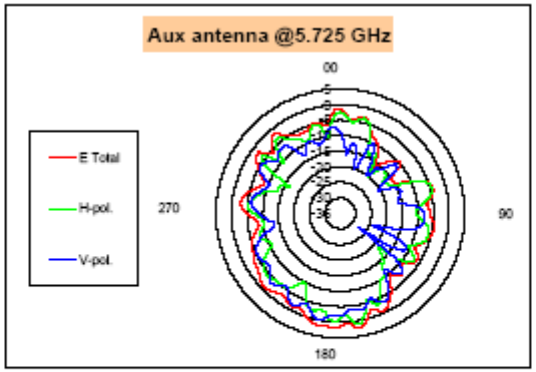

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.65 | 1.33 | 1.30 |
| Average Gain | -3.30 | -5.75 | -6.71 |

Aux antenna @5.47 GHz



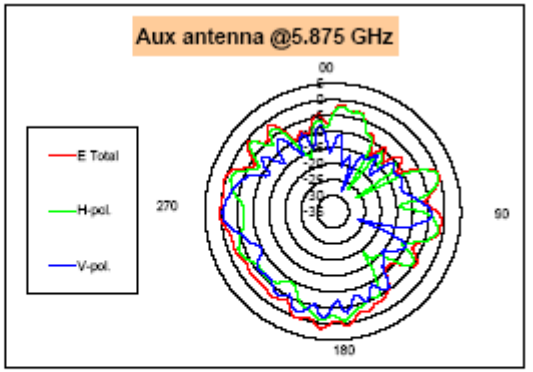

| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | -0.20 | -3.08 | -3.02 |
| Average Gain | -4.51 | -5.94 | -7.65 |

Aux antenna @5.725 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 2.24 | 1.05 | -0.03 |
| Average Gain | -4.26 | -5.87 | -8.15 |

Aux antenna @5.875 GHz




| | Total | H-pol | V pol |
|---|---|---|---|
| Peak Gain | 1.75 | -0.14 | -0.46 |
| Average Gain | -4.25 | -5.79 | -7.51 |

Note: The outer circle approximately represents the 5 dBI gain circle.
Each circle with 5 dBI difference (Max=5 dBI and Min=-35 dBI)