

# **Regulatory WLAN Antenna Information for ZRS**

**Hitachi Cable, Ltd**

1-6-1, Otemachi, Chiyoda-ku, Tokyo, Japan

## Antenna Specifications

<b>Antenna Type (Material, Technology)</b>	Main ; Monopole Type Aux ; PIFA Type
<b>Antenna Model Number</b>	HMT05/HFT17-DL07
<b>Operating Frequency Range(s)</b>	2.40 – 2.4835 GHz / 4.90 – 5.875 GHz
<b>Peak Gain (802.11b/g / 2.4GHz Band) (dBi)</b>	Main 1.5 / Aux 3.0
<b>Peak Gain (802.11a / 5GHz Band) (dBi)</b>	Main 5.1 / Aux 5.4
<b>Radio Connector Type</b>	Micro Coaxial Connector
<b>Mid-Line Connector Type (If Applicable)</b>	NA

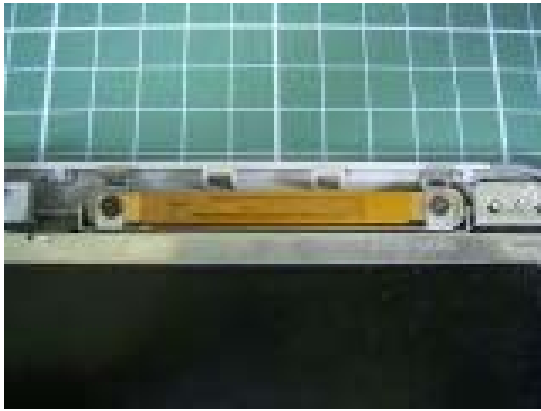
**Note:** Peak Gain should include all system losses (connector, cable, etc)

## Cable Specifications

Cable Parameters	Main			Aux		
	LCD Side	Base Side	Total	LCD Side	Base Side	Total
<b>Length (mm)</b>	NA	NA	385	NA	NA	478
<b>Loss (Including Connectors) (dB) 2.4 GHz / 5 GHz</b>			1.0/1.6			1.3/2.2
<b>Description (Color, Diameter, Manufacturer)</b>	White $\phi$ 1.37 mm Hitachi Cable			Black $\phi$ 1.37 mm Hitachi 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' fields

Cable Loss should be reported for the total cable assembly (for both Main and Aux antennas)



(a) Main Antenna



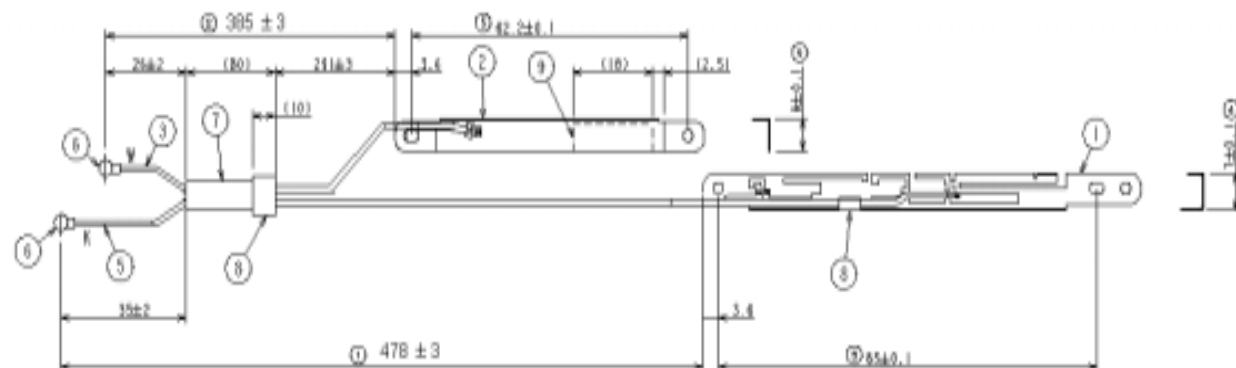
(b) Aux Antenna

Picture of Antenna installed in the notebook



Picture of Antenna

MARK	REVISION	DATE	NAME	CHKD.



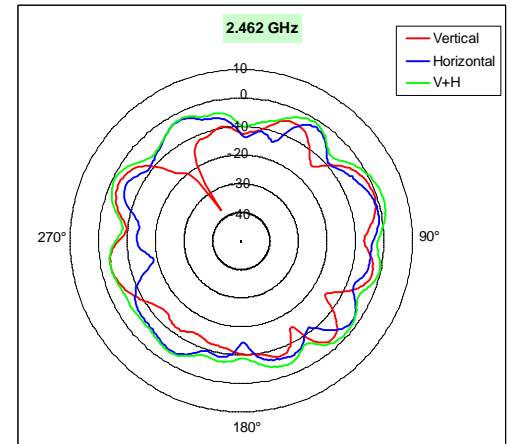
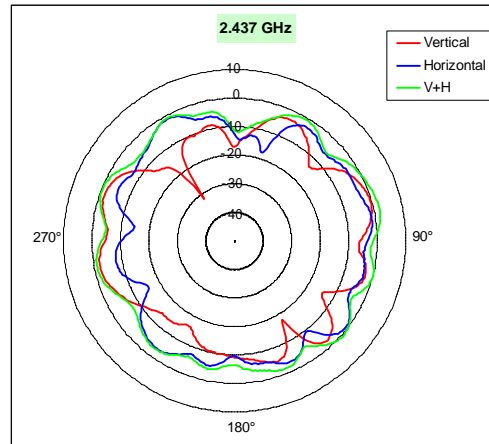
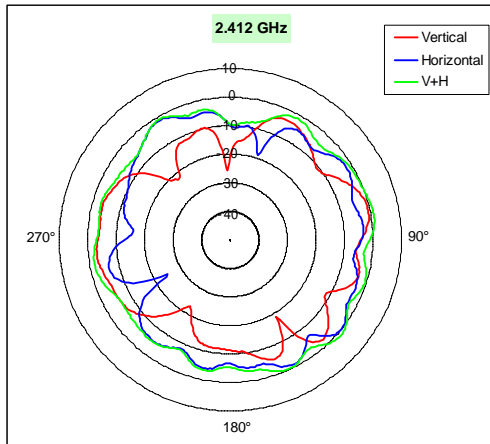
No.	Description
①	Antenna (HTM05)
②	Antenna (HFT17)
③	Coaxial Cable ( $\phi 1.37$ , White)

⑤	Coaxial Cable ( $\phi 1.37$ , Black)
⑥	Connector HRS
⑦	NANO TAPE
⑧	KAPTON TAPE
⑨	Label

TOLERANCES OF DIMENSIONS	
Dimension	Tolerance
- 6	$\pm 0.1$
6 - 30	$\pm 0.2$
30 -	$\pm 0.3$

Customer P/N		TITLE
DWN.	K. ENDO 05.09.12	HMT05/HFT17-DL07
CHKD.	Y. YAMAMOTO REGD. PROJ.	
APPD.	K. TSUKAMOTO	
SCALE	N. T. S.	
Hitachi Cable, Ltd. Hitaka Works		EH3854751

# Main Antenna (1)

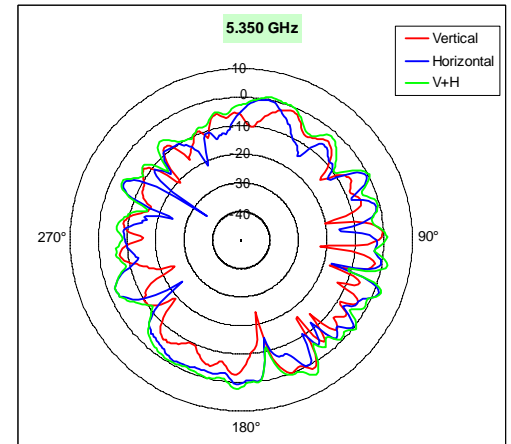
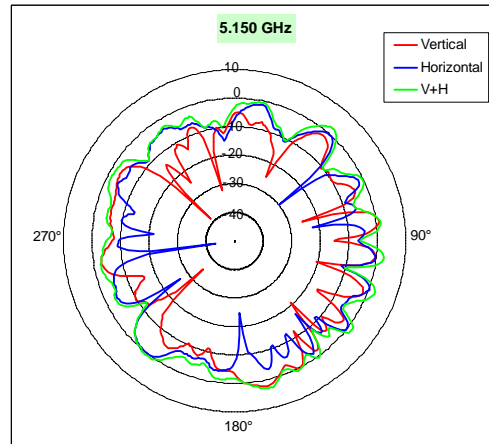
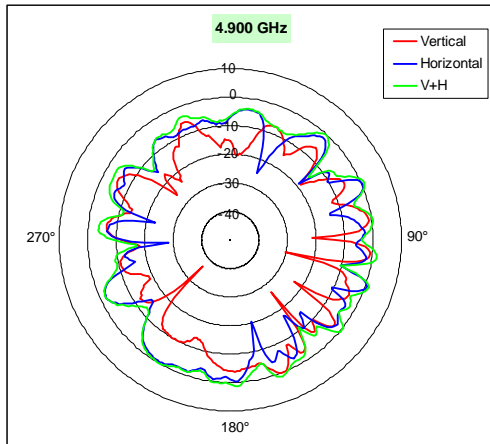


Frequency (MHz)	2412
Vertical Peak Gain (dBi)	-0.8
Horizontal Peak Gain (dBi)	-0.2
V + H Peak Gain (dBi)	1.0

Frequency (MHz)	2437
Vertical Peak Gain (dBi)	-0.7
Horizontal Peak Gain (dBi)	-0.8
V + H Peak Gain (dBi)	1.7

Frequency (MHz)	2462
Vertical Peak Gain (dBi)	-1.1
Horizontal Peak Gain (dBi)	-1.1
V + H Peak Gain (dBi)	1.6

# Main Antenna (2)

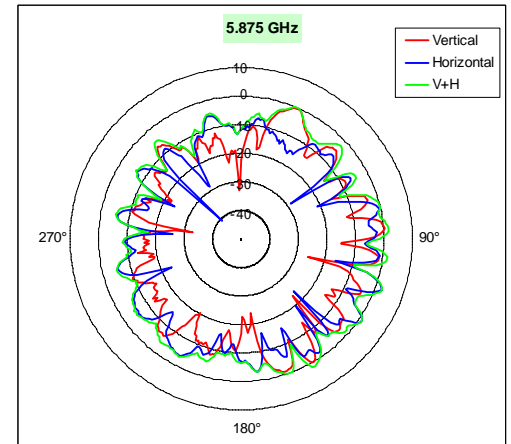
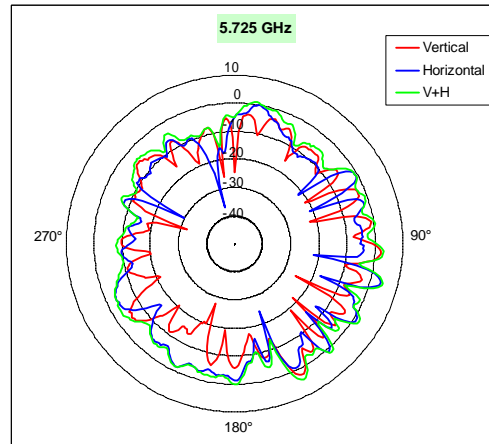
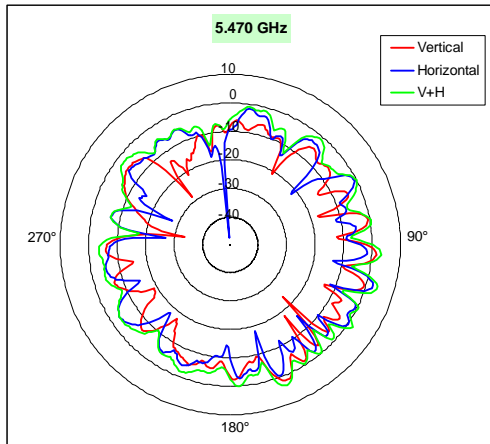


Frequency (MHz)	4900
Vertical Peak Gain (dBi)	-0.1
Horizontal Peak Gain (dBi)	0.3
V + H Peak Gain (dBi)	1.3

Frequency (MHz)	5150
Vertical Peak Gain (dBi)	1.9
Horizontal Peak Gain (dBi)	-0.1
V + H Peak Gain (dBi)	2.9

Frequency (MHz)	5350
Vertical Peak Gain (dBi)	1.4
Horizontal Peak Gain (dBi)	1.3
V + H Peak Gain (dBi)	3.5

# Main Antenna (3)

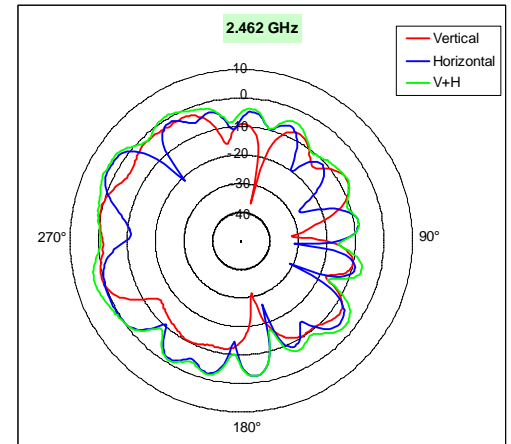
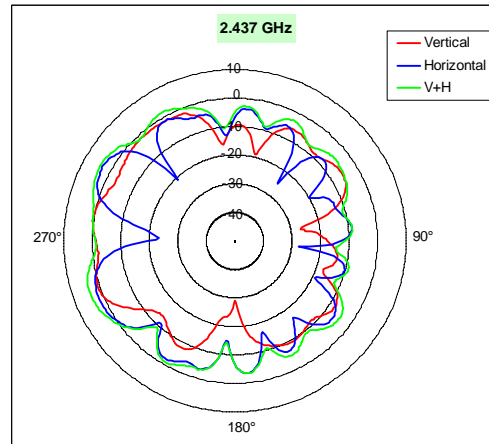
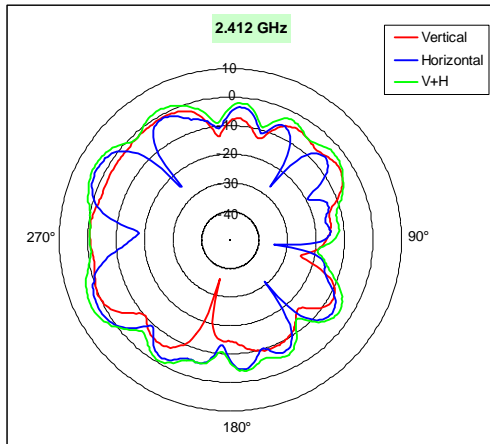


Frequency (MHz)	5.47
Vertical Peak Gain (dBi)	1.7
Horizontal Peak Gain (dBi)	2.5
V + H Peak Gain (dBi)	4.0

Frequency (MHz)	5725
Vertical Peak Gain (dBi)	2.3
Horizontal Peak Gain (dBi)	3.4
V + H Peak Gain (dBi)	4.2

Frequency (MHz)	5875
Vertical Peak Gain (dBi)	0.1
Horizontal Peak Gain (dBi)	2.9
V + H Peak Gain (dBi)	1.3

# Aux Antenna (1)



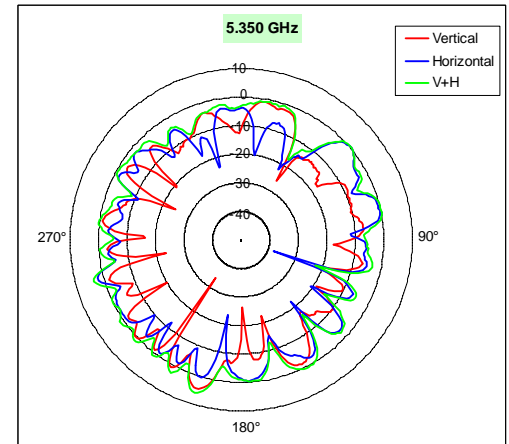
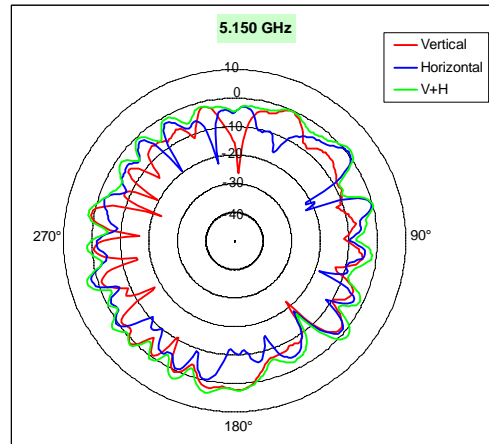
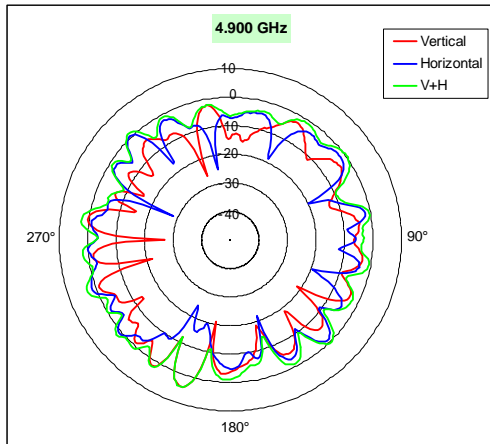
Frequency (MHz)	2412
Vertical Peak Gain (dBi)	-0.1
Horizontal Peak Gain (dBi)	2.8
V + H Peak Gain (dBi)	3.9

Frequency (MHz)	2437
Vertical Peak Gain (dBi)	0.3
Horizontal Peak Gain (dBi)	2.9
V + H Peak Gain (dBi)	3.8

Frequency (MHz)	2462
Vertical Peak Gain (dBi)	0.4
Horizontal Peak Gain (dBi)	2.4
V + H Peak Gain (dBi)	3.3



# Aux Antenna (2)

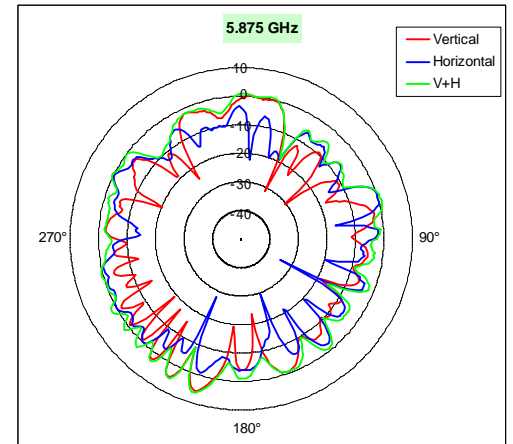
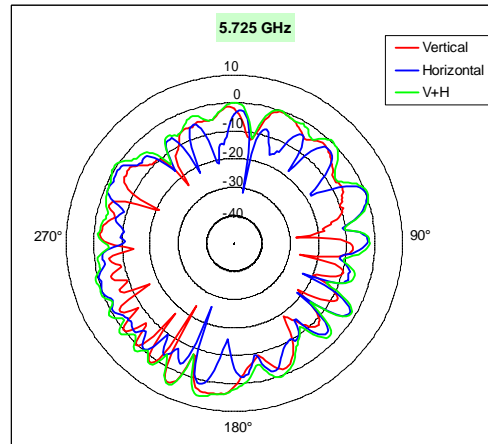
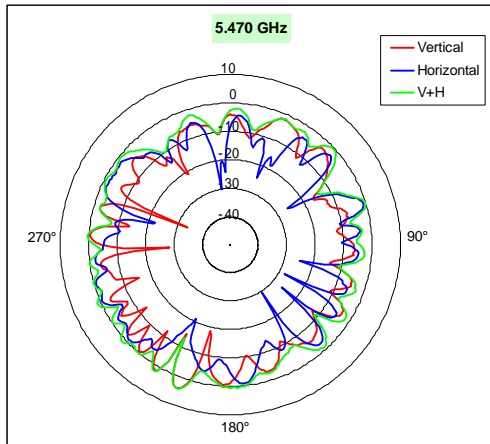


Frequency (MHz)	4900
Vertical Peak Gain (dBi)	4.1
Horizontal Peak Gain (dBi)	1.1
V + H Peak Gain (dBi)	4.1

Frequency (MHz)	5150
Vertical Peak Gain (dBi)	2.1
Horizontal Peak Gain (dBi)	1.8
V + H Peak Gain (dBi)	3.9

Frequency (MHz)	5350
Vertical Peak Gain (dBi)	4.2
Horizontal Peak Gain (dBi)	1.8
V + H Peak Gain (dBi)	5.6

# Aux Antenna (3)



Frequency (MHz)	5.47
Vertical Peak Gain (dBi)	4.1
Horizontal Peak Gain (dBi)	-0.5
V + H Peak Gain (dBi)	4.2

Frequency (MHz)	5725
Vertical Peak Gain (dBi)	4.8
Horizontal Peak Gain (dBi)	1.5
V + H Peak Gain (dBi)	5.8

Frequency (MHz)	5875
Vertical Peak Gain (dBi)	5.4
Horizontal Peak Gain (dBi)	-0.1
V + H Peak Gain (dBi)	6.2