

Regulatory WLAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)

(OEM/ODM or antenna vendor is required to complete this document with platform antenna information. Remove Intel references and make this your own document)

Brand Name	OAK
Model Name	Norn
Antenna Vendor	Wistron NeWeb Corp.
Antenna Part Number	<input type="checkbox"/> Main Antenna: 25.90397.001
	<input type="checkbox"/> Aux Antenna: 25.90398.001
With WLAN Module	WM3B2100
(Check Box)	WM3B2200BG
	WM3B2915ABG
	WM3945ABG

Antenna Sample / Antenna Data Requirements for worldwide regulatory approval

Section	Description of Required OEM / ODM Antenna Information	US / IC	EU	Japan	Taiwan	S.Korea
1A	Part Number for Antenna only	Required	Required	Required	Required	Required
1B	Antenna Manufacturer Name	Required	Required	Required	Required	Required
1C	Description of Antenna Type	Required	N/A	N/A	N/A	N/A
1D	Part number of Antenna Assembly / cable impedance, length & diameter.	Required	Desired	Desired	Desired	Desired
1E	Main & Aux antenna (Peak Gain W/ cable loss)	Required	Required	Required	Required	Required
	1E OR 1F, 1G, 1H					
1F	Main & Aux antenna (Peak Gain only)	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Main & Aux antenna (Cable loss W/ connector)	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of main & auxiliary antennas	Required	Required	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	Required	Desired	Required	N/A	Required
4	Platform model name / number - correlated to antenna manufacturer and antenna part number	Required	Required	Desired	Required	Desired
5	Photograph(s) or Drawings showing location of antennas in platform. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.	Required	Required	Desired	Required (Photos)	Required (Photos)
6	Mech. drawings / photos with dimensions of antenna locations and distance from end-user (For evaluation of SAR testing requirement).	Required	N/A	N/A	N/A	N/A
7	Photograph(s) or Drawings showing the location of all antennas (WLAN, BT, other) and distance between those transmitting antennas. Information will be used to evaluate whether co-location testing is required.	Required	N/A	N/A	N/A	N/A
8	Local representative contact information for LMA/ PARS process.	Required	N/A	N/A	N/A	N/A

Antenna Information

Section 1. Antenna Assembly Specifications

Antenna Assembly Summary:

IA Antenna Part Number	IB Manufacture	IC Antenna Type	ID Cable Assembly Part Number and Information	IE Peak Gain W/ Cable loss (dBi)	IF Peak Gain w/o Cable Loss (dBi)	IG VSWR	IH Cable Loss (dBi)
Main Antenna (WNC P/N:81.EDG15.028) (customer P/N: 25.90397.001)	Wistron Neweb Corporation	PIFA	P/N: WN-S-1.37B-490MM- (2-2.5-1) 50 ohm Coaxial. length: 490 mm diameter: 1.37 mm Connector: IPEX	2400-2500MHz 0.93 dBi (peak)	2400-2500MHz 2.38 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 1.45 dBi (peak)
				5150-5350MHz 1.10 dBi (peak)	5150-5350MHz 3.06 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 1.96 dBi (peak)
				5470-5725MHz 1.64 dBi (peak)	5470-5725MHz 3.70 dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 2.06 dBi (peak)
				5725-5825MHz 1.64 dBi (peak)	5725-5825MHz 3.73 dBi (peak)	5725-5825MHz 2.5 max	5725-5825MHz 2.09 dBi (peak)
AUX Antenna (WNC P/N: 81.EDG15.029) (customer P/N: 25.90398.001)	Wistron Neweb Corporation	PIFA	P/N: WN-S-1.37W-593MM- (2-2.5-1) 50 ohm Coaxial. length: 593 mm diameter: 1.37 mm Connector: IPEX	2400-2500MHz 1.43 dBi (peak)	2400-2500MHz 3.15 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 1.72 dBi (peak)
				5150-5350MHz -1.12 dBi (peak)	5150-5350MHz 1.20 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 2.32 dBi (peak)
				5470-5725MHz -1.10 dBi (peak)	5470-5725MHz 1.35 dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 2.44 dBi (peak)
				5725-5850MHz -1.10 dBi (peak)	5725-5850MHz 1.38 dBi (peak)	5725-5850MHz 2.5 max	5725-5850MHz 2.48 dBi (peak)

Antenna Peak Gain Table:

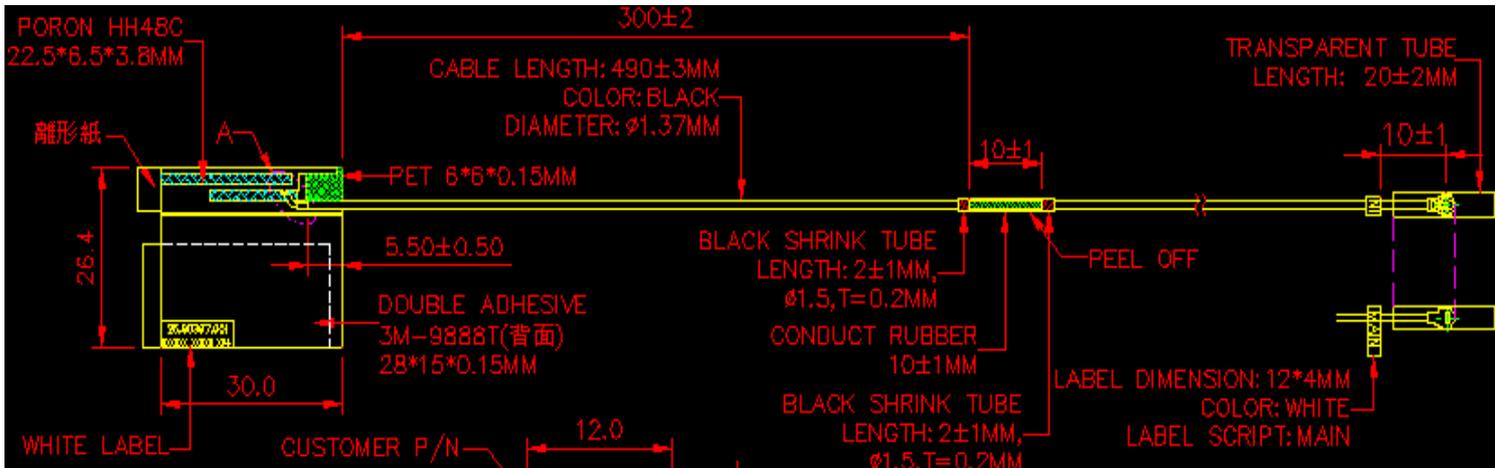
Frequency (MHz)	Main antenna			Aux Antenna		
	Horizontal (dBi)	Vertical (dBi)	Hori+Ver (dBi)	Horizontal (dBi)	Vertical (dBi)	Hori+Ver (dBi)
2400	0.37	-0.35	1.68	-0.55	-1.17	1.32
2450	0.43	-1.06	2.03	1.43	-1.36	2.19
2500	0.93	-1.04	1.84	0.43	-2.03	1.18
5150	-0.74	-0.93	1.55	-1.12	-1.69	0.71
5250	-0.80	-1.29	1.82	-1.73	-1.92	0.16
5350	1.10	-1.79	2.36	-2.70	-2.29	0.03
5470	1.02	-1.87	2.35	-3.91	-1.70	0.07
5647.5	1.33	-0.81	3.15	-3.50	-1.96	-0.28
5850	1.64	0.73	2.98	-4.61	-1.10	0.34

Section 2. Dimensioned Photos or Drawings of Antennas

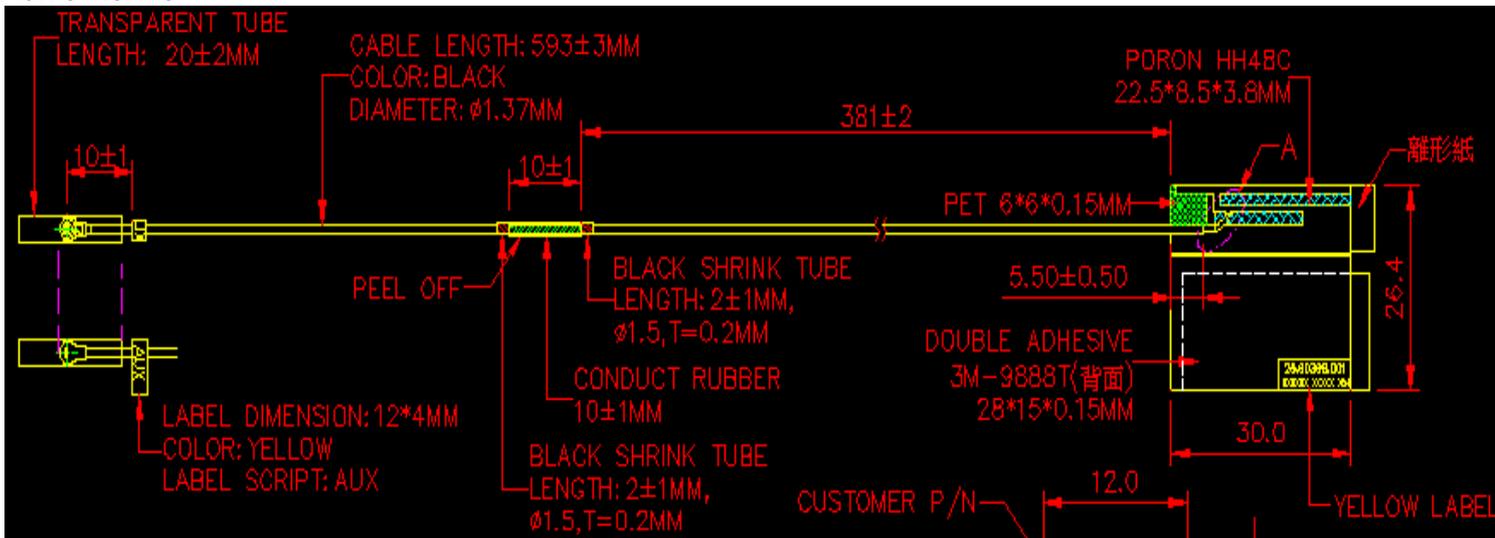
Include a dimensioned photo and dimensioned drawing of main antenna here.

Main Antenna Dimensioned Drawing:

Main antenna

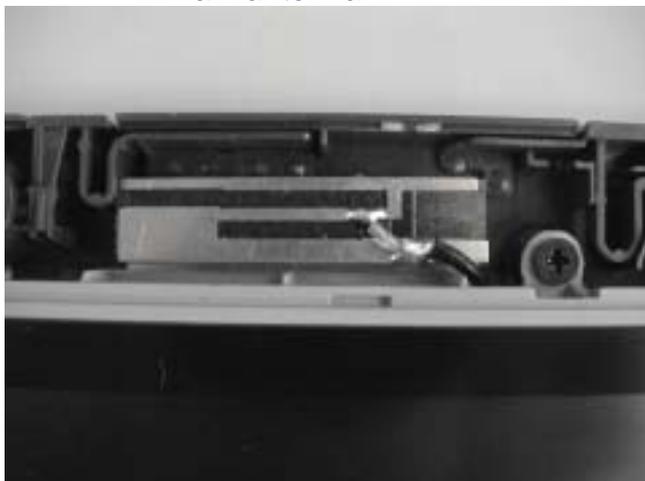


Aux antenna

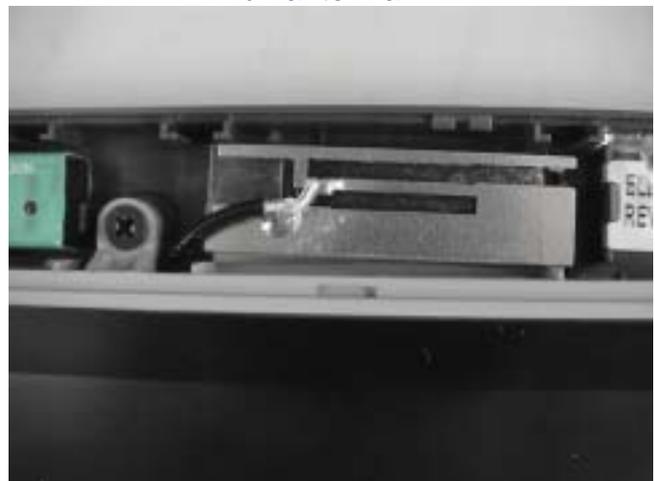


Main and Aux Antenna Photo:

Main antenna



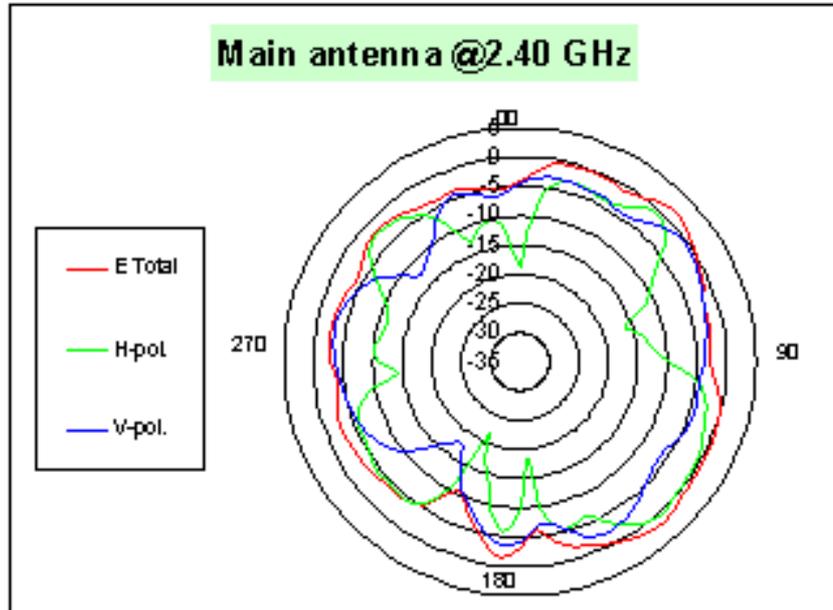
Aux antenna



Section 3. Radiation characteristics of antennae Loaded in Host Platform

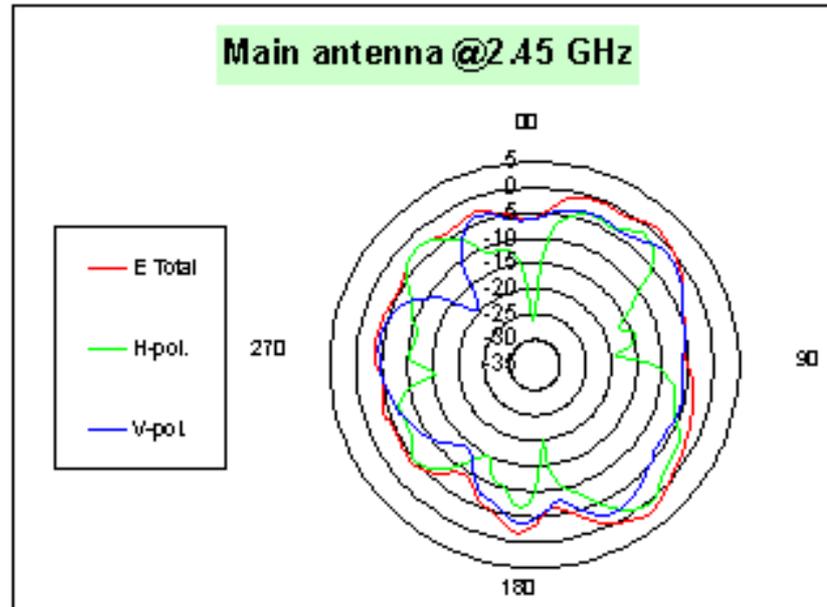
2400-2500MHz radiation characteristic

Main antenna: 2400 MHz



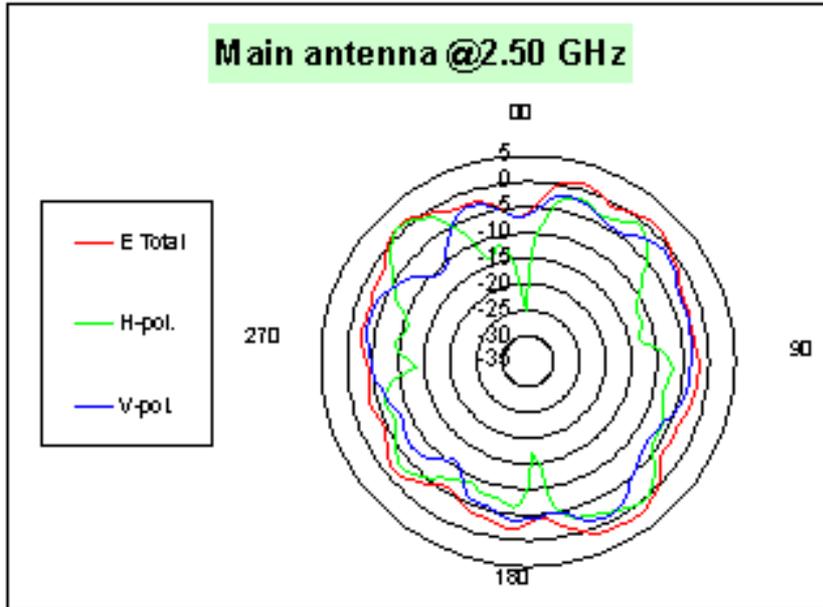
	Total	H-pol	V pol
Peak Gain	1.68	0.37	-0.35
Average Gain	-2.03	-5.92	-4.99

Main antenna: 2450 MHz



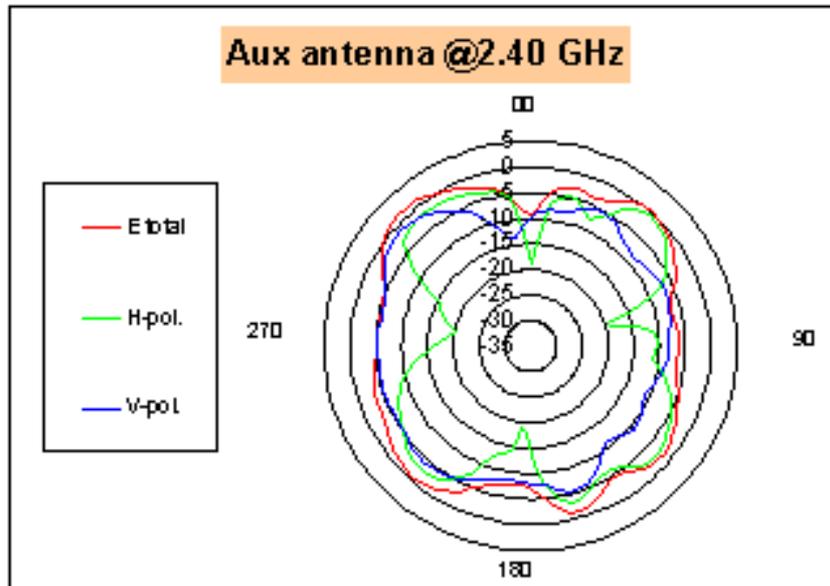
	Total	H-pol	V pol
Peak Gain	2.03	0.43	-1.06
Average Gain	-2.90	-7.09	-5.58

Main antenna: 2500 MHz



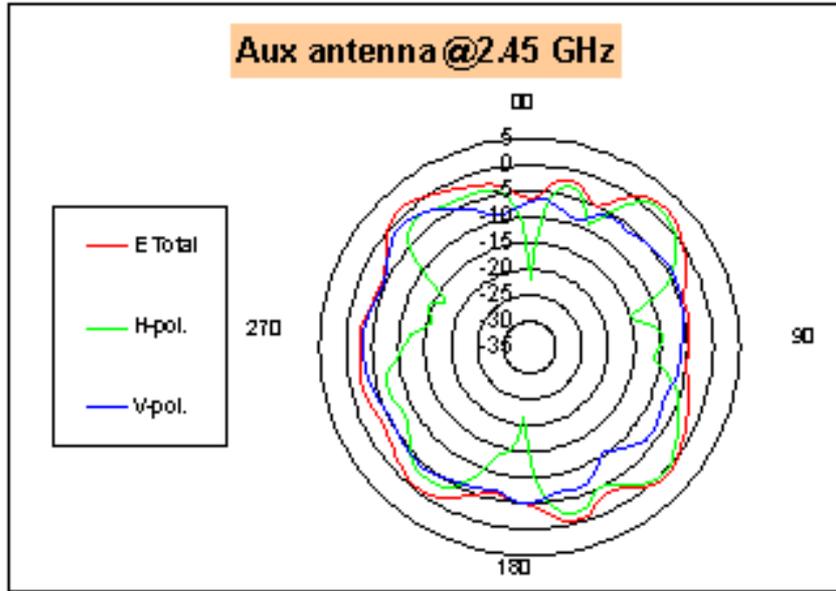
	Total	H-pol	V pol
Peak Gain	1.84	0.93	-1.04
Average Gain	-1.82	-5.71	-4.64

AUX. antenna: 2400 MHz



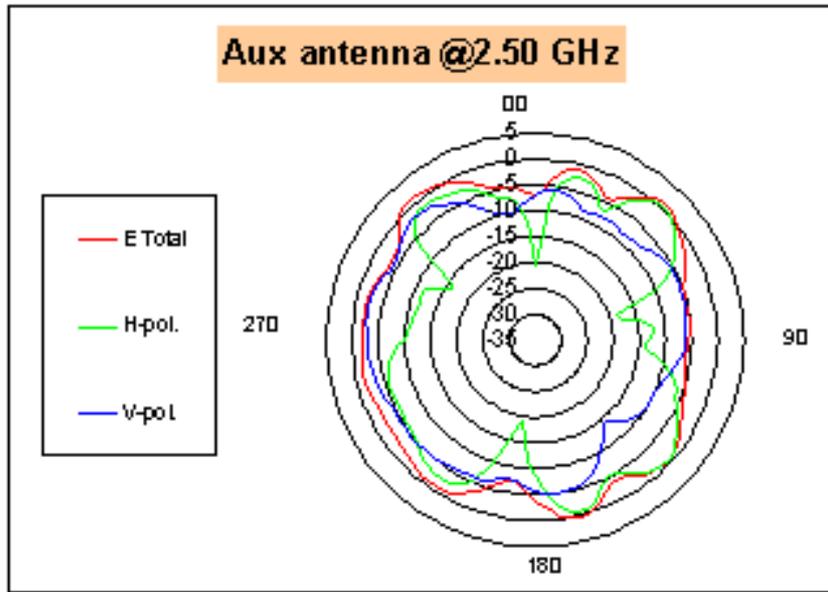
	Total	H-pol	V pol
Peak Gain	1.32	-0.55	-1.17
Average Gain	-3.14	-6.43	-6.51

AUX. antenna: 2450 MHz



	Total	H-pol	V pol
Peak Gain	2.19	1.43	-1.36
Average Gain	-2.15	-5.56	-5.46

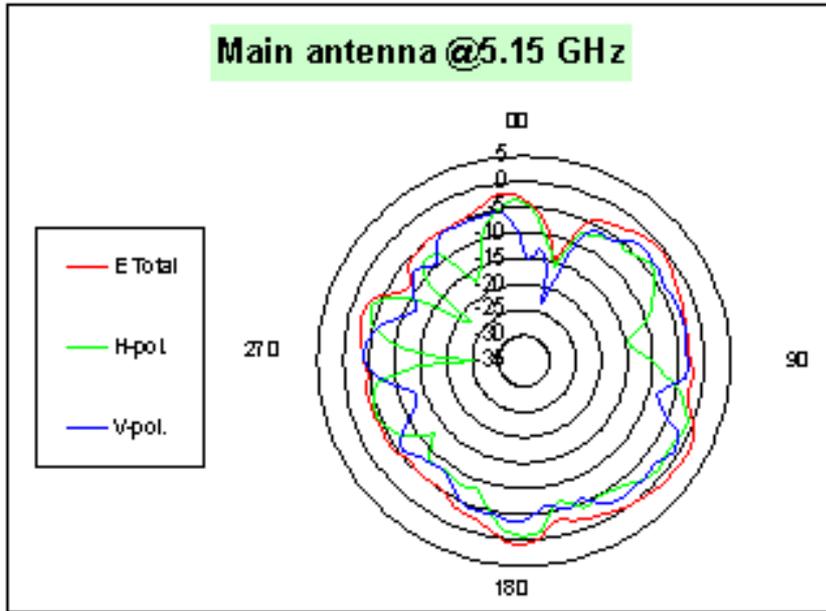
AUX. antenna: 2500 MHz



	Total	H-pol	V pol
Peak Gain	1.18	0.43	-2.03
Average Gain	-2.34	-5.53	-5.95

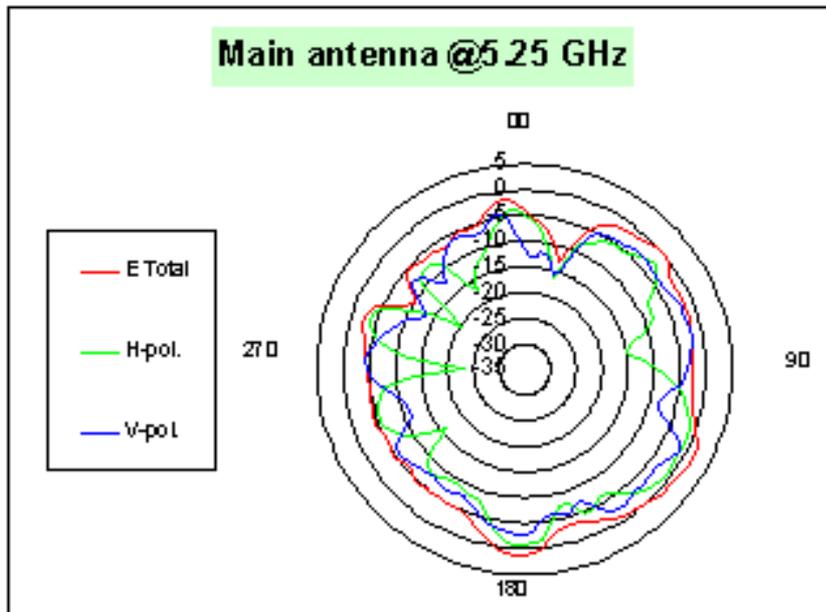
5150-5350 MHz radiation characteristic

Main antenna: 5150 MHz



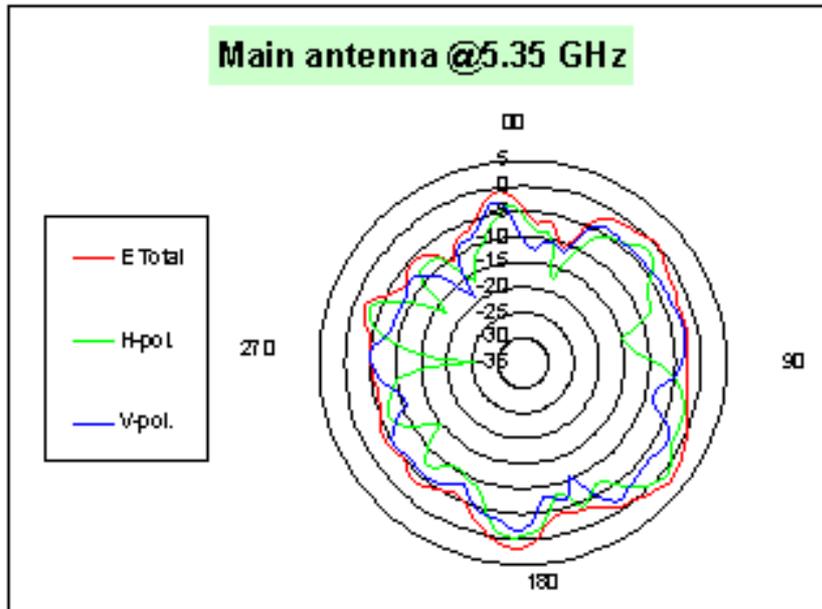
	Total	H-pol	V pol
Peak Gain	1.55	-0.74	-0.93
Average Gain	-2.80	-6.36	-5.78

Main antenna: 5250 MHz



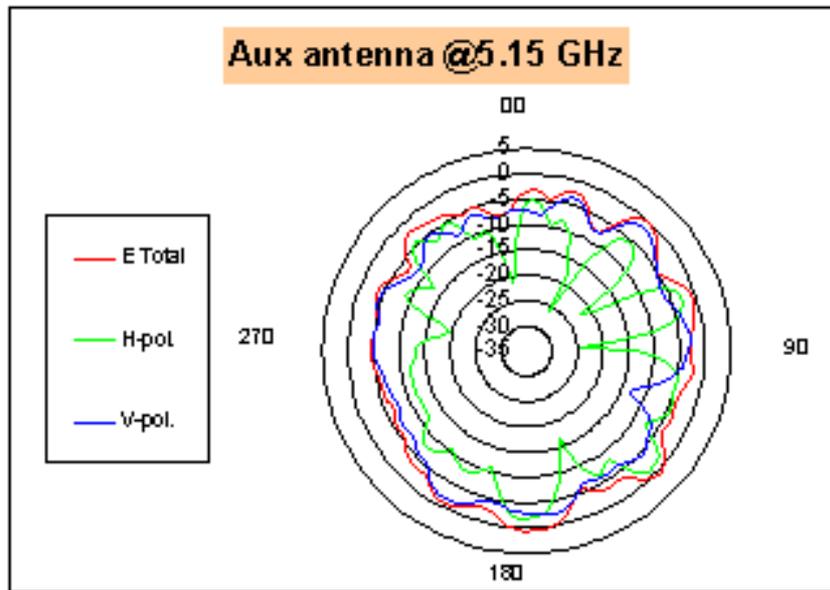
	Total	H-pol	V pol
Peak Gain	1.82	-0.80	-1.29
Average Gain	-2.86	-6.42	-5.79

Main antenna: 5350 MHz



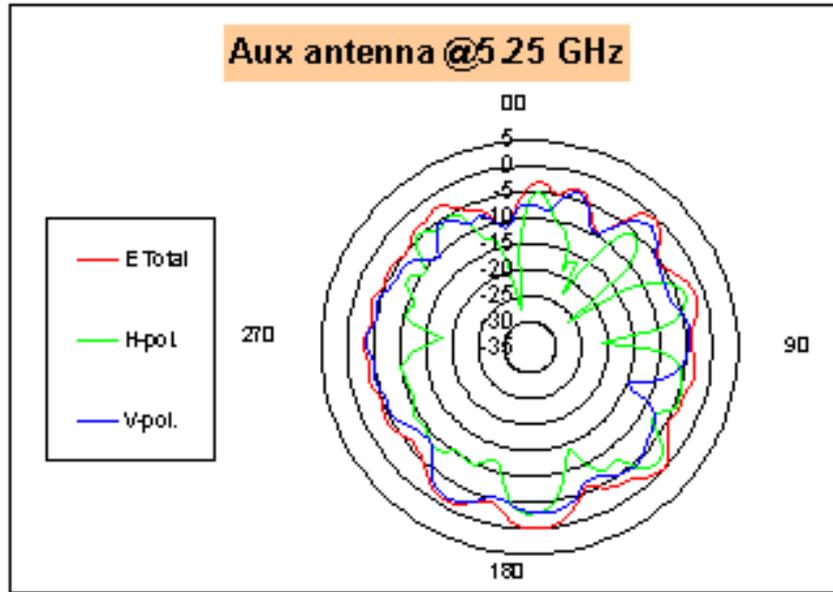
	Total	H-pol	V-pol
Peak Gain	2.36	1.10	-1.79
Average Gain	-2.82	-6.34	-5.81

AUX. antenna: 5150 MHz



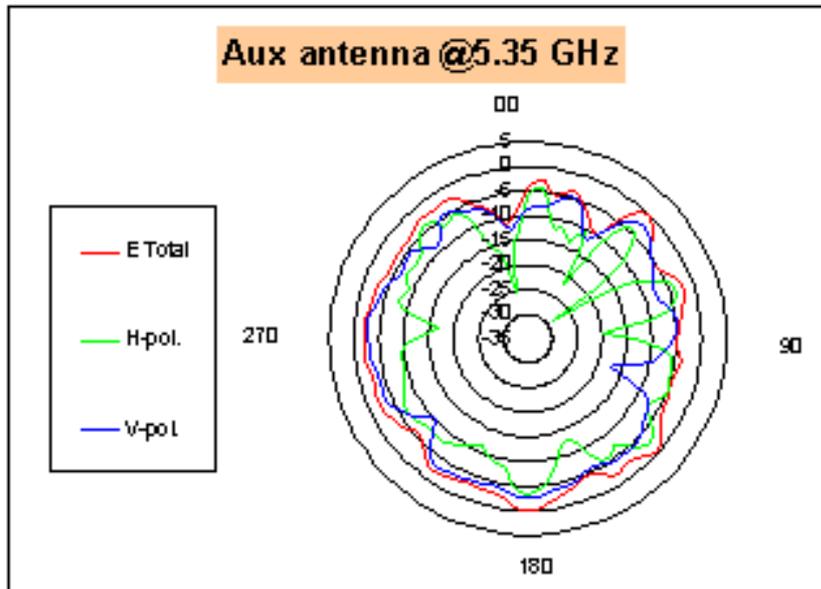
	Total	H-pol	V-pol
Peak Gain	0.71	-1.12	-1.69
Average Gain	-3.23	-8.20	-5.26

AUX. antenna: 5250 MHz



	Total	H-pol	V pol
Peak Gain	0.16	-1.73	-1.92
Average Gain	-3.57	-8.39	-5.69

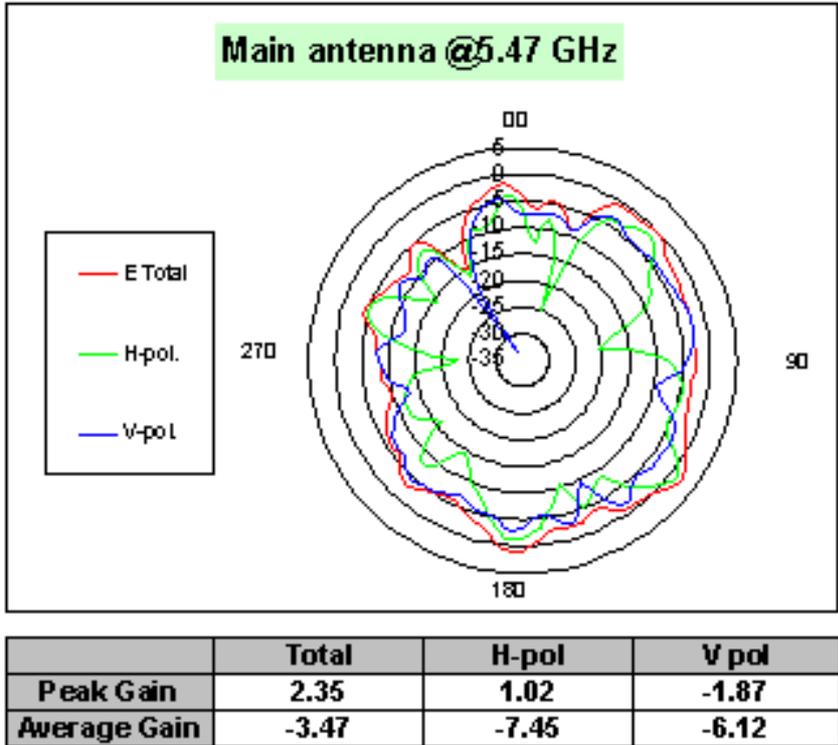
AUX. antenna: 5350 MHz



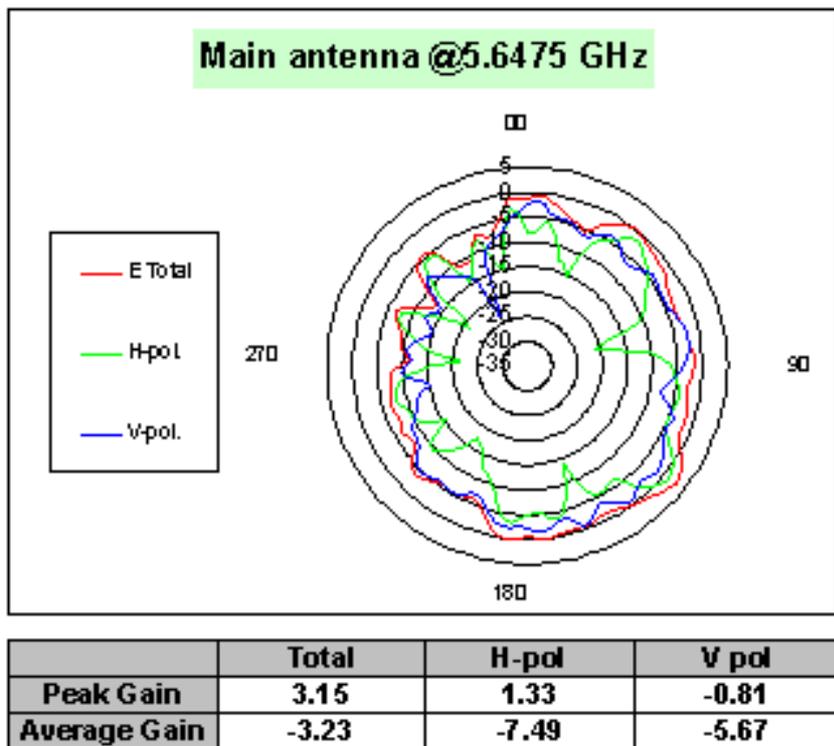
	Total	H-pol	V pol
Peak Gain	0.03	-2.70	-2.29
Average Gain	-3.42	-8.10	-5.60

5470-5825 MHz radiation characteristic

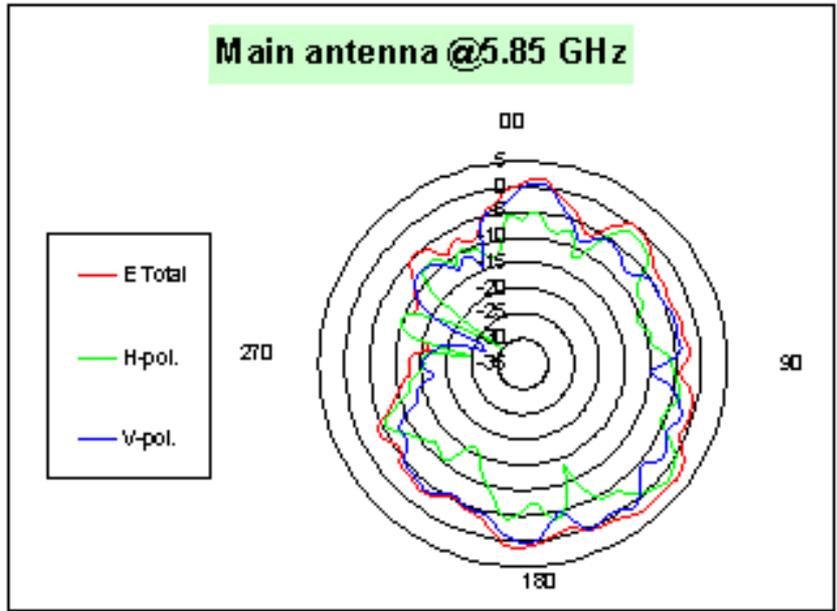
Main antenna: 5470 MHz



Main antenna: 5647.5 MHz

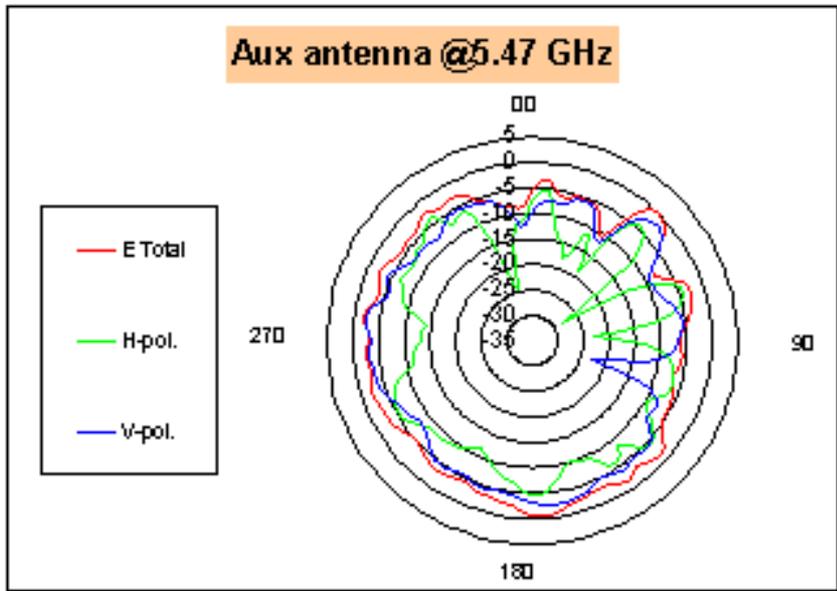


Main antenna: 5850 MHz



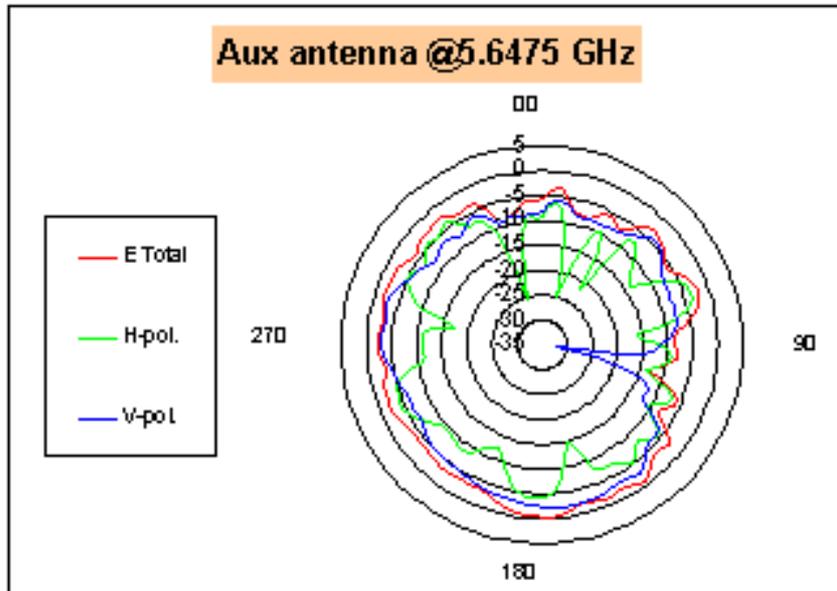
	Total	H-pol	V pol
Peak Gain	2.98	1.64	0.73
Average Gain	-2.83	-7.22	-5.22

AUX. antenna: 5470 MHz



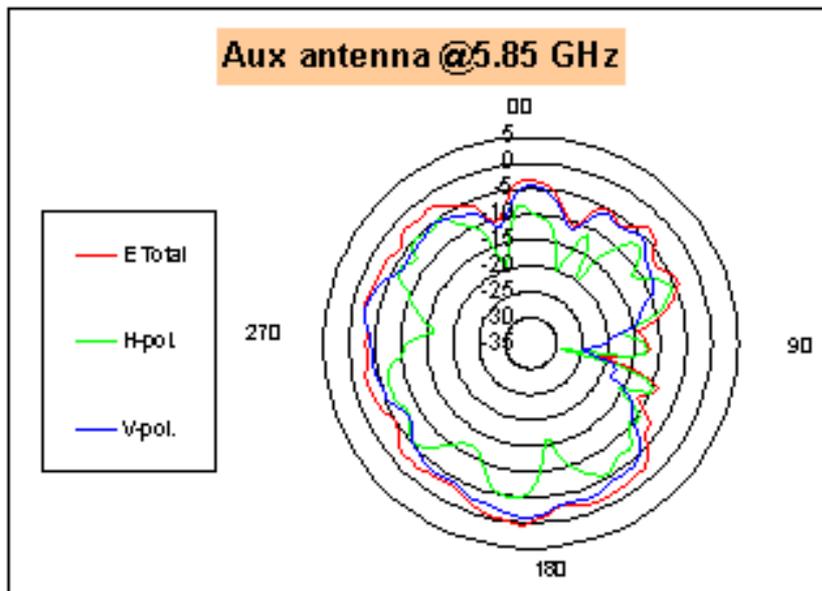
	Total	H-pol	V pol
Peak Gain	0.07	-3.91	-1.70
Average Gain	-3.71	-8.57	-5.77

AUX. antenna: 5647.5 MHz



	Total	H-pol	V pol
Peak Gain	-0.28	-3.50	-1.96
Average Gain	-3.73	-8.42	-5.88

AUX. antenna: 5850 MHz



	Total	H-pol	V pol
Peak Gain	0.34	-4.61	-1.10
Average Gain	-4.25	-9.38	-6.11

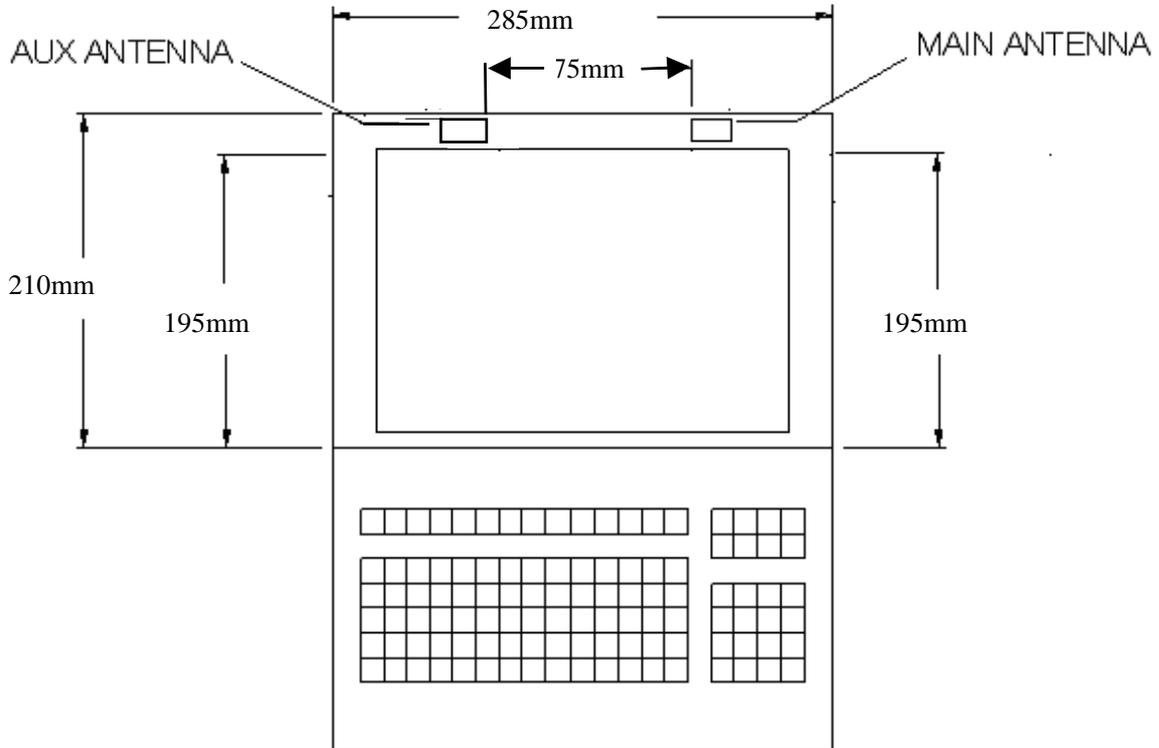
Section 4. Host Platform Information

OEM / ODM Host platform: (XXXXXXX) platform correlated to antenna data
Rating Label Photo:

Module Location Photo: (if Singapore required)

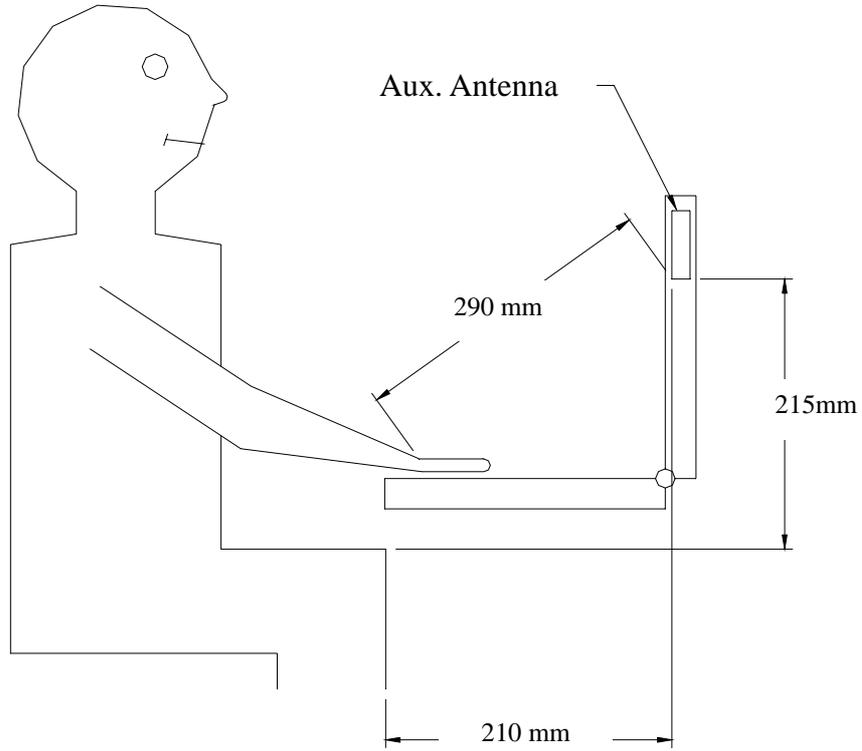
Section 5. Antenna Host Platform Location Information

Include a dimensioned photos or dimensioned drawings of main and auxiliary antenna placements.



Section 6. Antenna dimensional information for SAR evaluation

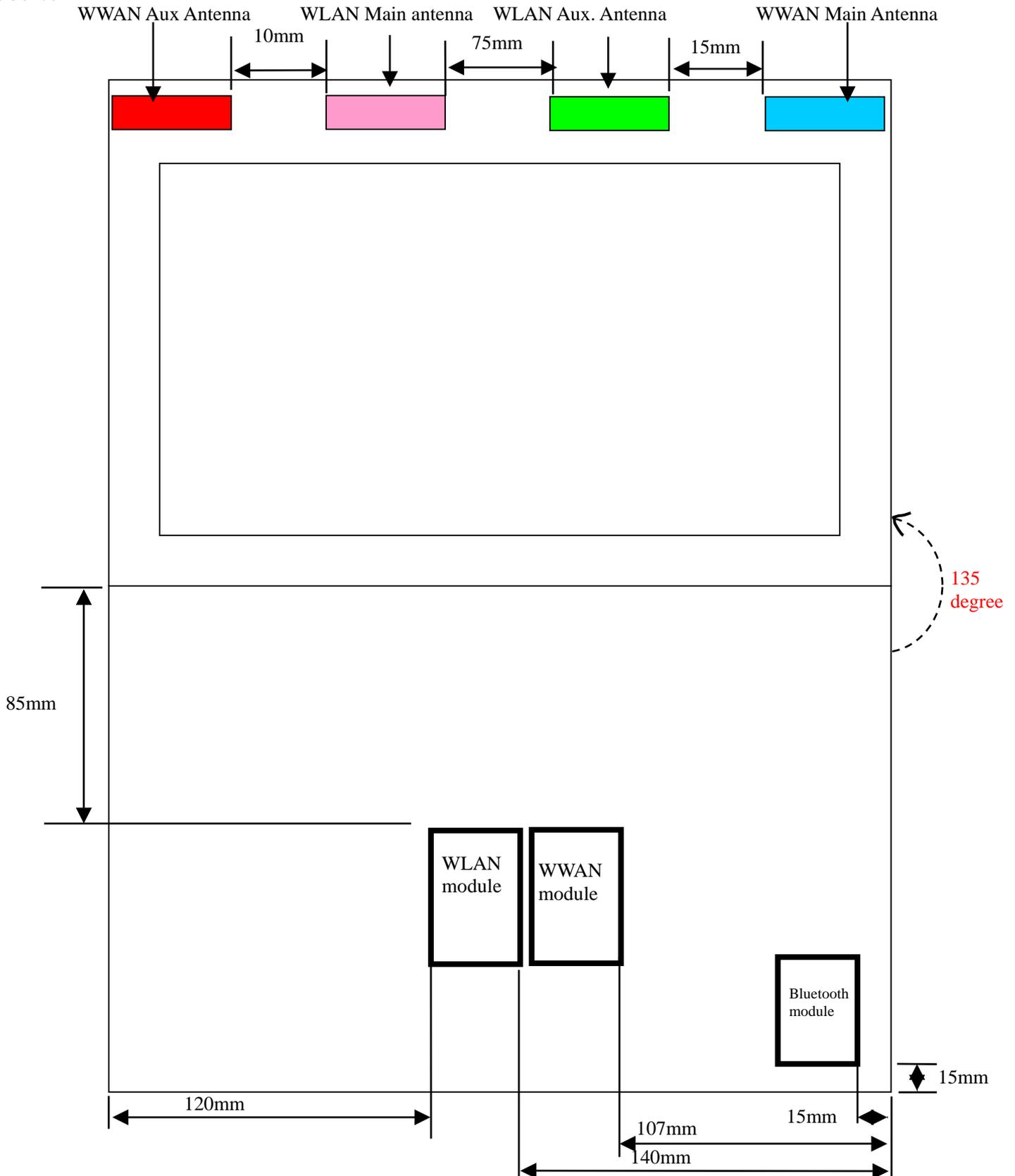
Include a dimensioned photos or dimensioned drawings showing the distance (mm) between the transmit (Aux.) antenna and the user (excluding hands, wrist, feet, and ankle)



Section 7. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between WLAN antenna and 2nd radiator transmit antenna.

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)



Section 8. Local representative contact information

Local representative contact information is required for regulatory support for target countries below.

	Local company name	Contact name	Phone number	FAX Number	e-Mail Address	Notes
Argentina						
Brazil						
Indonesia						
Israel						
Malaysia						
Mexico						
Singapore						Telecommunication Equipment Dealer License Required
South Africa						
USA, Canada						