Regulatory WLAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)

Platform	
Platform Owner	Dell
Brand Name	Dell
Model Name	Hepburn
ODM	Quanta Computer Inc.
Target Launch Date	January 10, 2008
Antenna	
Brand Name	***SmartAnt Telecom Co., Ltd***
Part Number	☐ WLAN Main Antenna:PE-08000A
	☐ WLAN AUX Antenna: PE-08000B
	☐ WLAN MIMO(or Rx3) Antenna:PE-11000C
Module	
With WLAN Module	☐x 512AN_HMW
(Check Box)	☐x 533AN_HMW

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	Tx1, Tx2 & Tx3 antenna (Peak Gain W/ cable loss) *	Required	Required	Required	Required	Required
	1E OR 1F, 1G, 1H					
1F	Tx1, Tx2 & Tx3 antenna (Peak Gain only) *	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Tx1, Tx2 & Tx3 antenna (Cable loss W/ connector) *	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of Tx1, Tx2, and Tx3 (or Rx3) 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, 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

NOTE:
(*) **if 3rd antenna is Rx only (e.g. receive only for 4965AGN) then peak gain and cable loss not required**

Antenna Information

Section 1. Antenna Assembly Specifications

Antenna Assembly Summary:

1A Antenna Part Number	1B Manufacture	1C Antenna Type	1D Cable Assembly Part Number and Information	1E *Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G VSWR	1H Cable Loss (dBi)
(P/N:DQ608000000) Main antenna	Example: Smart Approach Corporation	Example: PIFA (RHoS:Yes), Stamped Metal	Example: 50 ohm Coaxial. length:73.7cm diameter: 1.13mm Connector: IPX (RHoS:Yes)	2400-2500MHz 2.86 dBi (peak)	2400-2500MHz 4.70 dBi (peak)	2400-2500MHz 1.85 max	2400-2500MHz 1.84 dBi (peak)
				5150-5350MHz -0.14 dBi (peak)	5150-5350MHz 2.91 dBi (peak)	5150-5350MHz 1.48 max	5150-5350MHz 3.05dBi (peak)
				5470-5725MHz 2.36 dBi (peak)	5470-5725MHz 5.46 dBi (peak)	5470-5725MHz 1.63 max	5470-5725MHz 3.10 dBi (peak)
				5725-5850MHz 2.80 dBi (peak)	5725-5850MHz 5.93 dBi (peak)	5725-5850MHz 1.57 max	5725-5850MHz 3.13 dBi (peak)
(P/N:DQ608000000) AUX antenna	Example: Smart Approach Corporation	Example: PIFA (RHoS:Yes), Stamped Metal	Example: 50 ohm Coaxial. length:69.5cm diameter: 1.13mm Connector: IPX (RHoS:Yes)	2400-2500MHz 2.39dBi (peak)	2400-2500MHz 4.12 dBi (peak)	2400-2500MHz 1.87 max	2400-2500MHz 1.73 dBi (peak)
				5150-5350MHz -0.19 dBi (peak)	5150-5350MHz 2.69 dBi (peak)	5150-5350MHz 1.51 max	5150-5350MHz 2.88 dBi (peak)
				5470-5725MHz 0.03 dBi (peak)	5470-5725MHz 2.95 dBi (peak)	5470-5725MHz 1.72 max	5470-5725MHz 2.92 dBi (peak)
				5725-5850MHz 0.31 dBi (peak)	5725-5850MHz 3.26 dBi (peak)	5725-5850MHz 1.80 max	5725-5850MHz 2.95 dBi (peak)
(P/N:DQ611000000) MIMO antenna	Example: Smart Approach Corporation	Example: PIFA (RHoS:Yes), Stamped Metal	Example: 50 ohm Coaxial. length:66.7cm diameter: 1.13mm Connector: IPX (RHoS:Yes)	2400-2500MHz 1.61 dBi (peak) *	2400-2500MHz 3.28 dBi (peak) *	2400-2500MHz 1.44 max *	2400-2500MHz 1.67 dBi (peak) *
				5150-5350MHz 2.77 dBi (peak) *	5150-5350MHz 5.53 dBi (peak) *	5150-5350MHz 1.65 max *	5150-5350MHz 2.76 dBi (peak) *
				5470-5725MHz 1.43 dBi (peak) *	5470-5725MHz 4.23 dBi (peak) *	5470-5725MHz 1.48 max *	5470-5725MHz 2.80 dBi (peak) *
				5725-5850MHz 1.98 dBi (peak) *	5725-5850MHz 4.81 dBi (peak) *	5725-5850MHz 1.56 max *	5725-5850MHz 2.83 dBi (peak) *

NOTE:
(*) **If Rx3 only (3rd antenna receives only, e.g. for 4965AGN) then the information marked with * is not required**

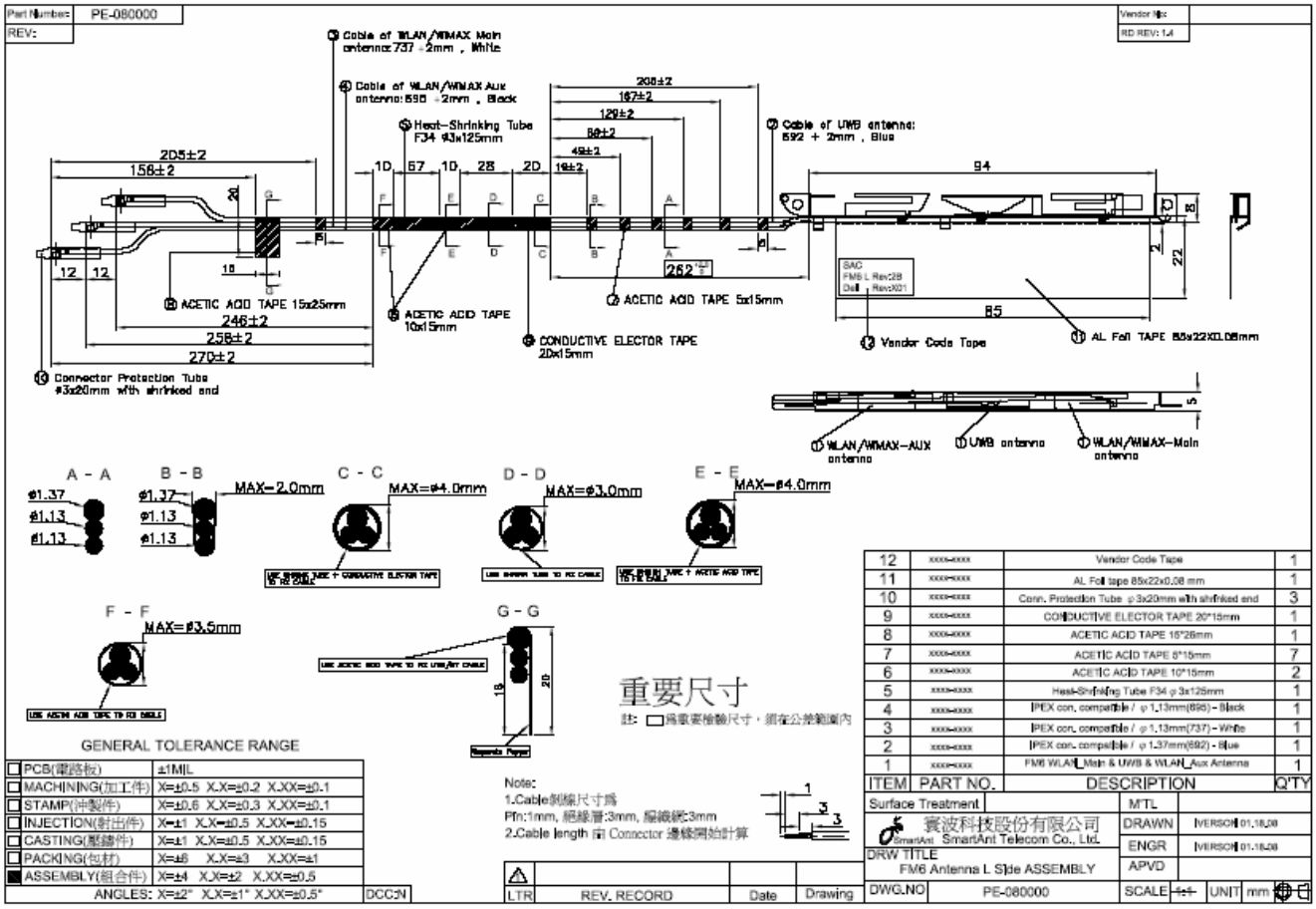
Antenna Peak Gain Table:

	Main antenna		AUX Antenna		MIMO Antenna	
Frequency (MHz)	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-0.01	0.61	-2.98	-3.15	0.97	-1.02
2450	0.18	0.25	-0.68	1.02	0.44	-0.56
2500	-0.18	1.50	-1.98	-1.35	0.25	-1.29
5150	-3.93	-1.22	-6.29	-0.41	-2.76	2.09
5350	-3.29	-0.90	-4.41	-1.07	-3.39	0.28
5470	-1.77	0.42	-5.56	-0.31	-2.88	-0.49
5725	-0.12	0.44	-5.20	-0.58	-1.62	1.27
5850	0.29	1.32	-4.53	-0.60	-1.43	1.50

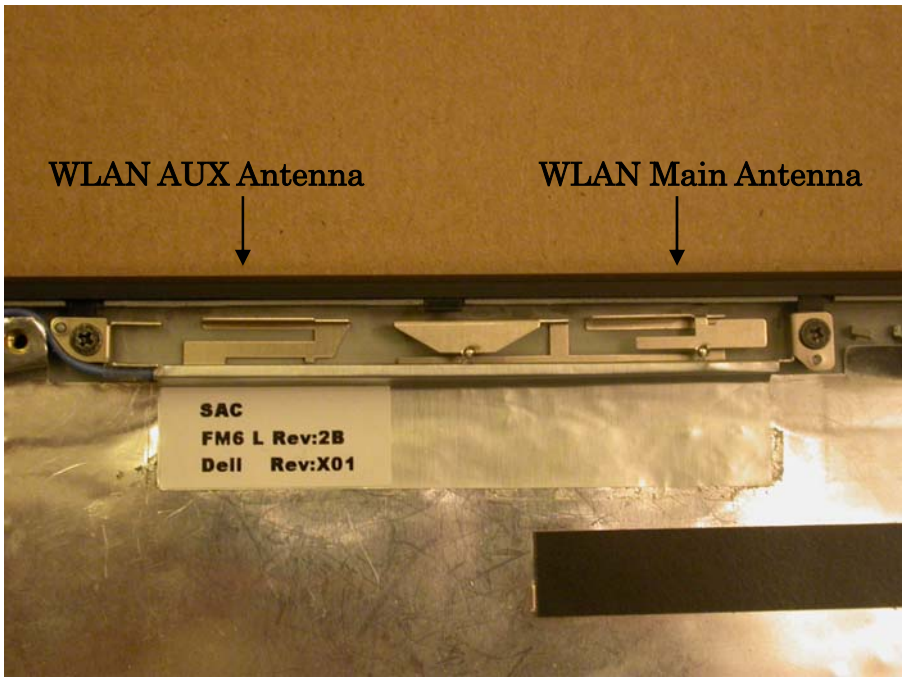
- **Antenna Peak Gain required being test in system basis.**
- **1E frame contend absolutely peak antenna gain include H/V**
- **If Rx3 only (3rd antenna receives only, e.g. for 4965AGN) then the information is not required for Rx3.**

Section 2. Dimensioned Photos or Drawings of Antennas

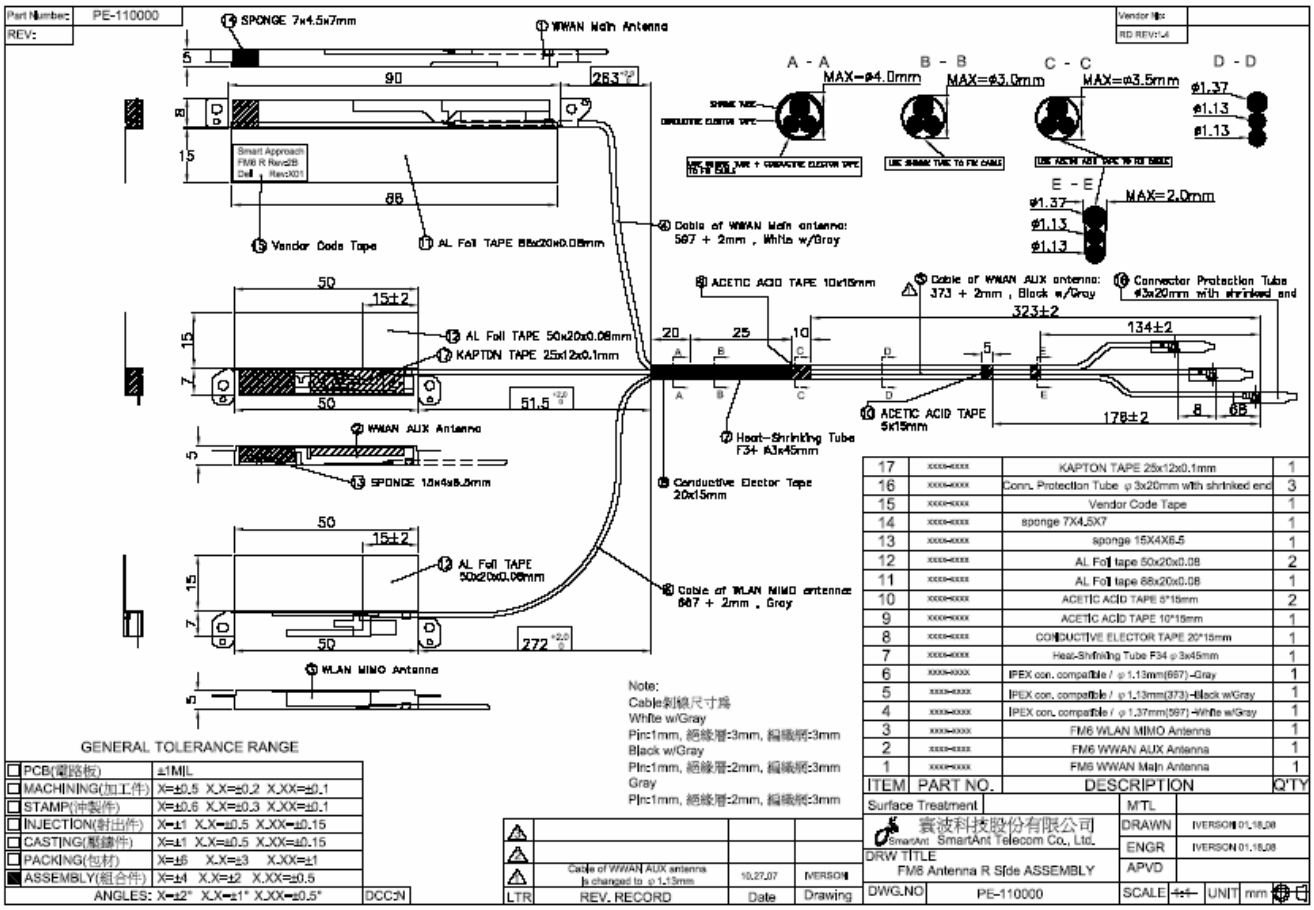
Main & AUX Antenna Dimensioned Drawing:



Main & AUX Antenna Photo:



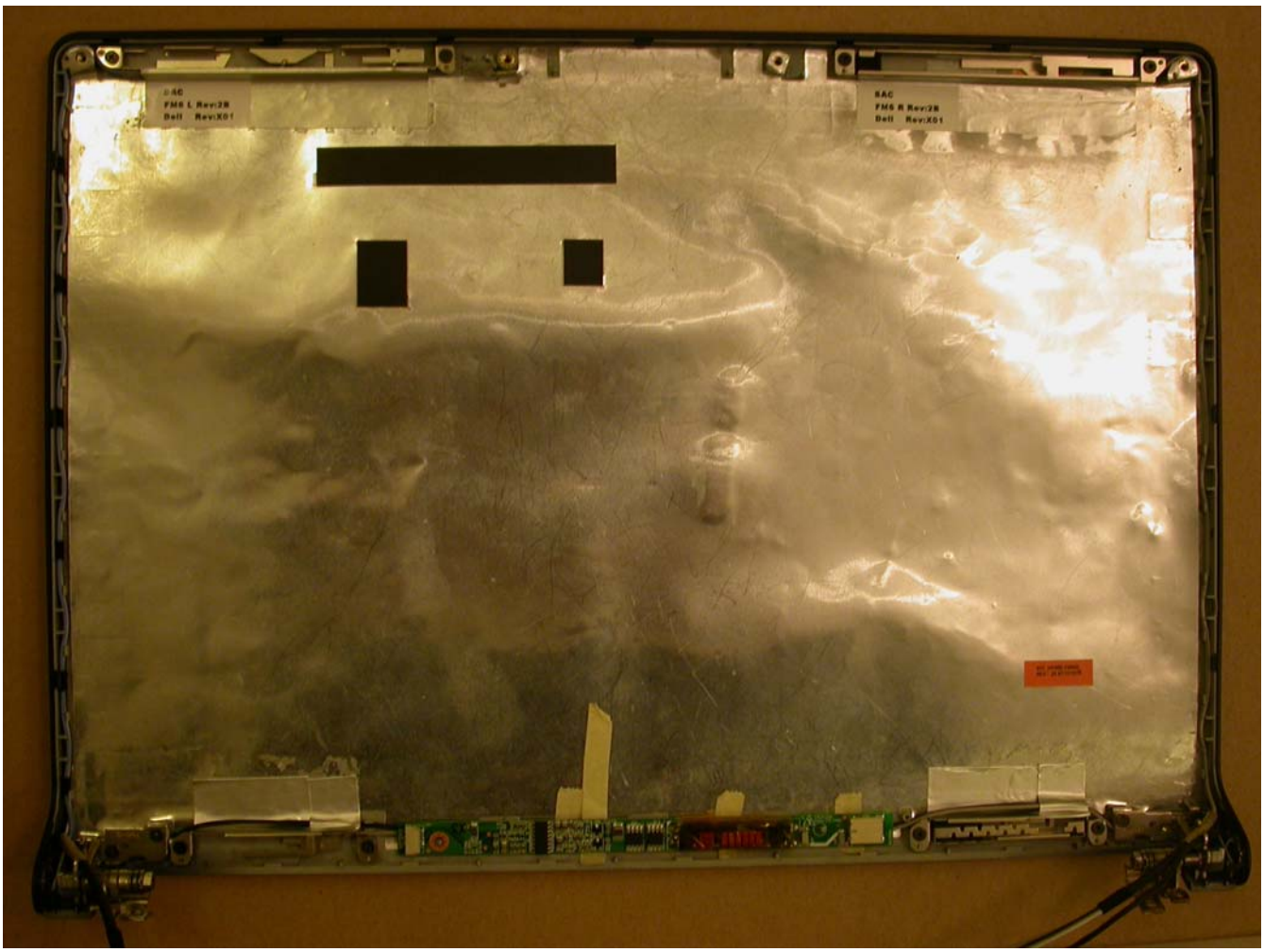
MIMO Antenna Dimensioned Drawing:



MIMO Antenna Photo:

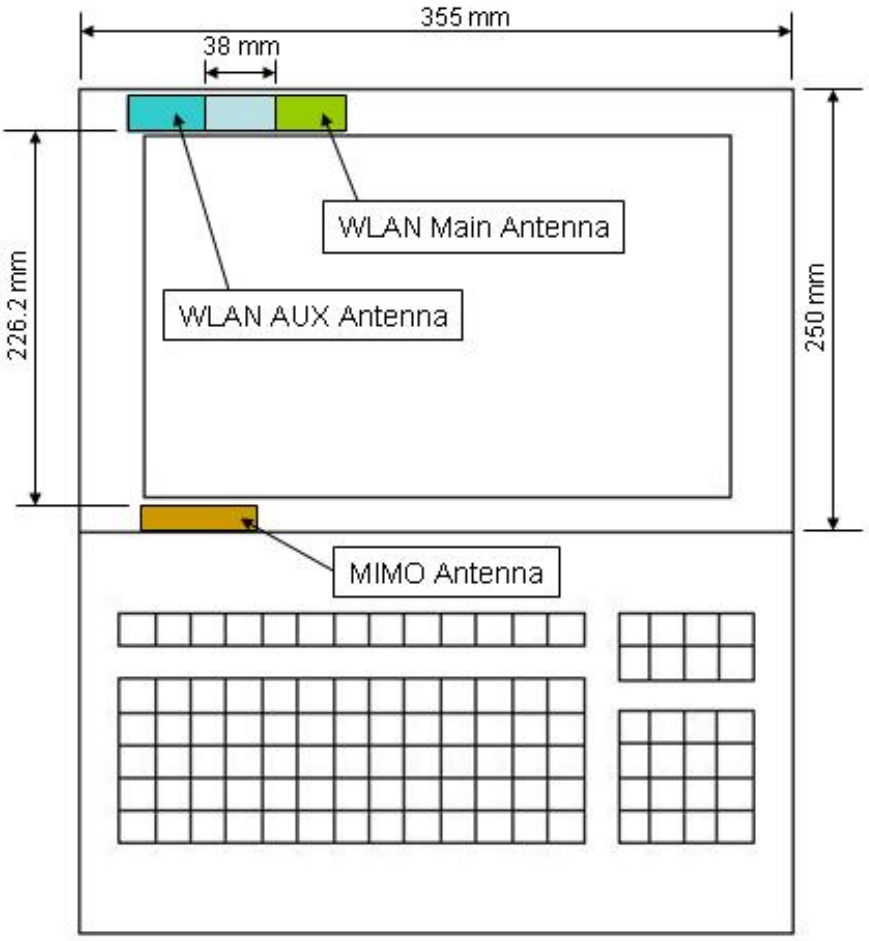
Section 4. Host Platform Information

OEM / ODM Host platform: (DQ611000000 & DQ608000000) platform correlated to antenna data



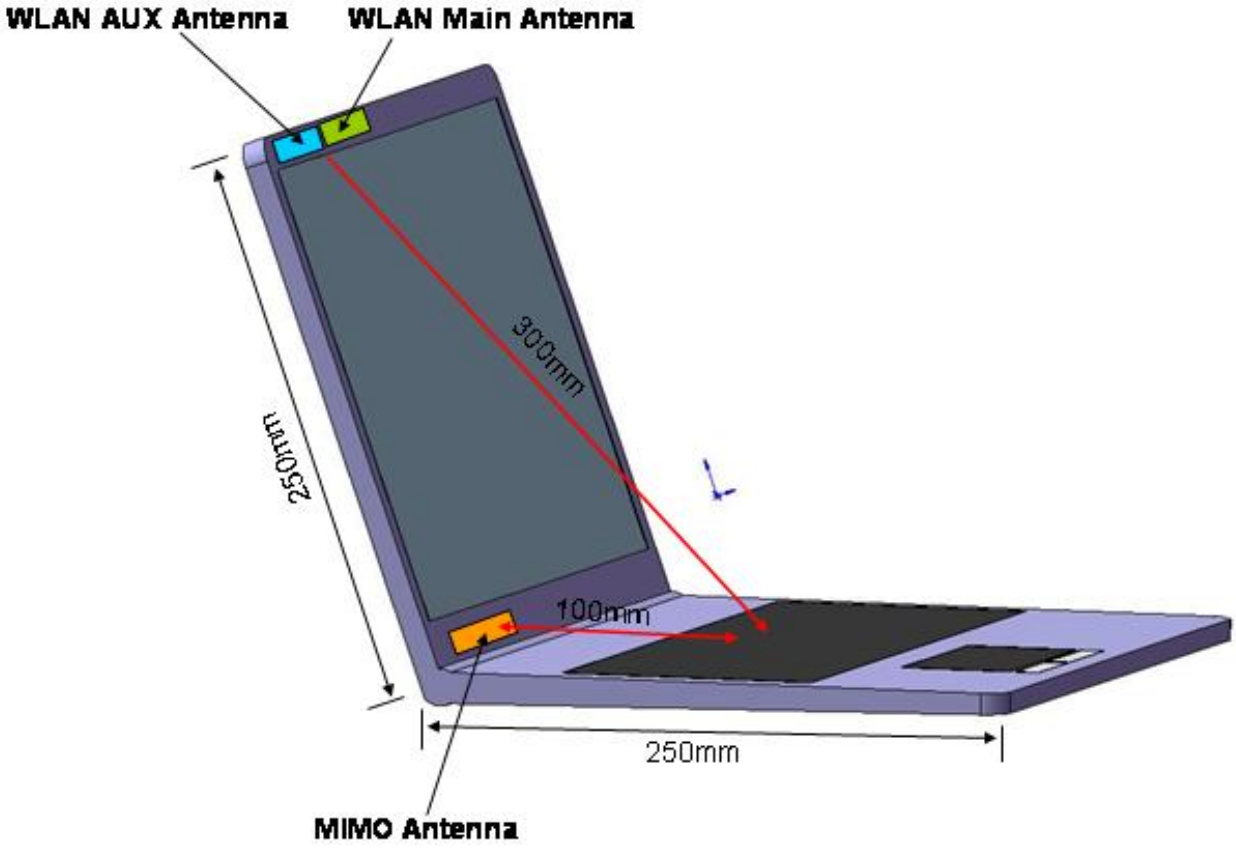
Section 5. Antenna Host Platform Location Information

Include a **dimensioned photo or dimensioned drawing** of main and auxiliary antenna placements.



Section 6. Antenna dimensional information for SAR evaluation

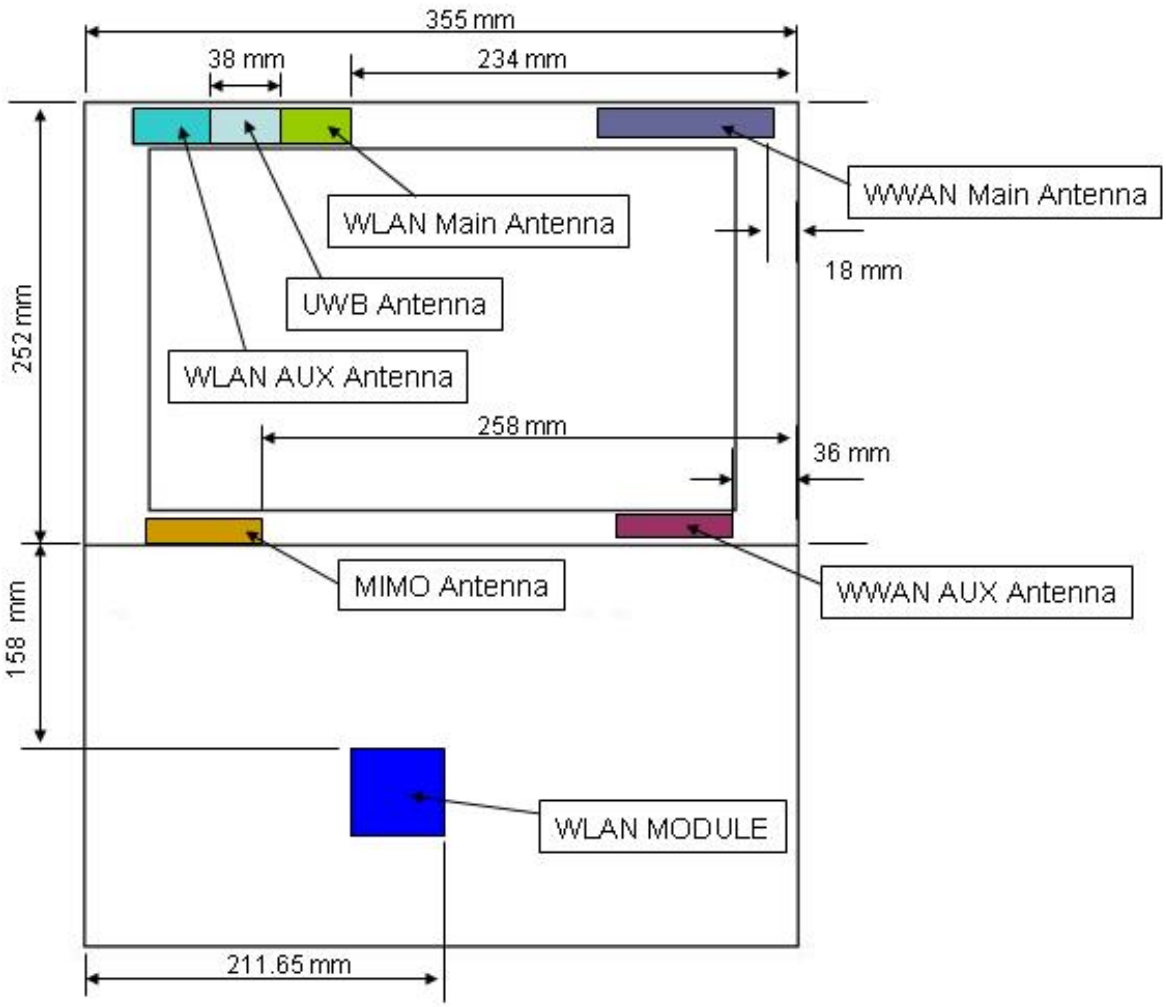
Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, lap/ thigh, and ankle)



Section 7. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between **all WLAN transmit antennas** and other co-located radiator transmit antenna such as Bluetooth, WWAN,..

(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						