



Dongle Antenna Report (V5R3+)

Cheng Uei Precision Industry Co., LTD. RF Technology Center

No. 18, Chung Shan Rd., Tu Cheng City, Taipei Hsien, 23680,
Taiwan, R. O. C.

Tel: 886-2-2269-9888

Fax: 886-2-2267-3672



RF Technology Center

Cheng Uei Precision Industry Co.,Ltd.



Contents

• Evaluation History.....	3
• Antenna Placement.....	4
• S11 Test Setup.....	6
1. Equipment Setup	
2. Test Procedure	
3. Test Result(Return loss, VSWR, Smith Chart)	
• S21 Test Setup.....	9
1. Testing Environment	
2. Antenna Performance	
3. Experiment Result	
4. Antenna Pattern----3D	

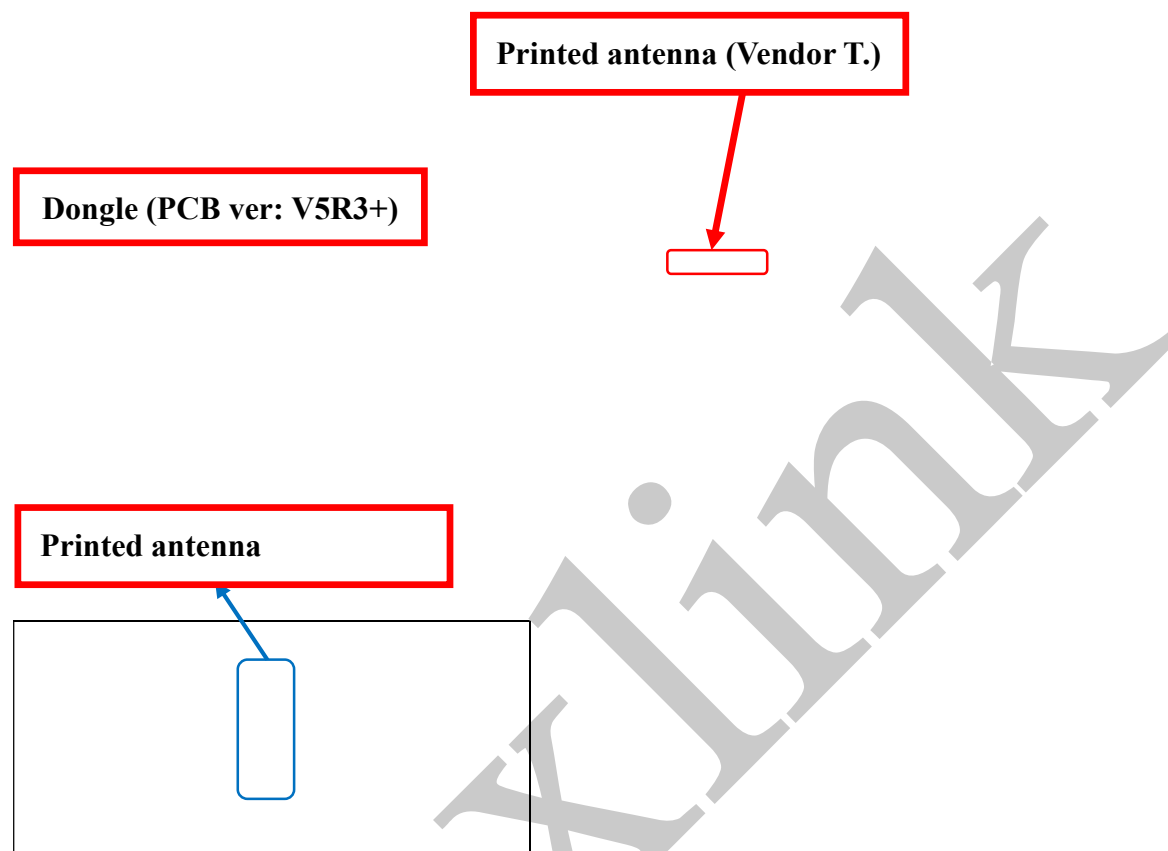


Evaluation History

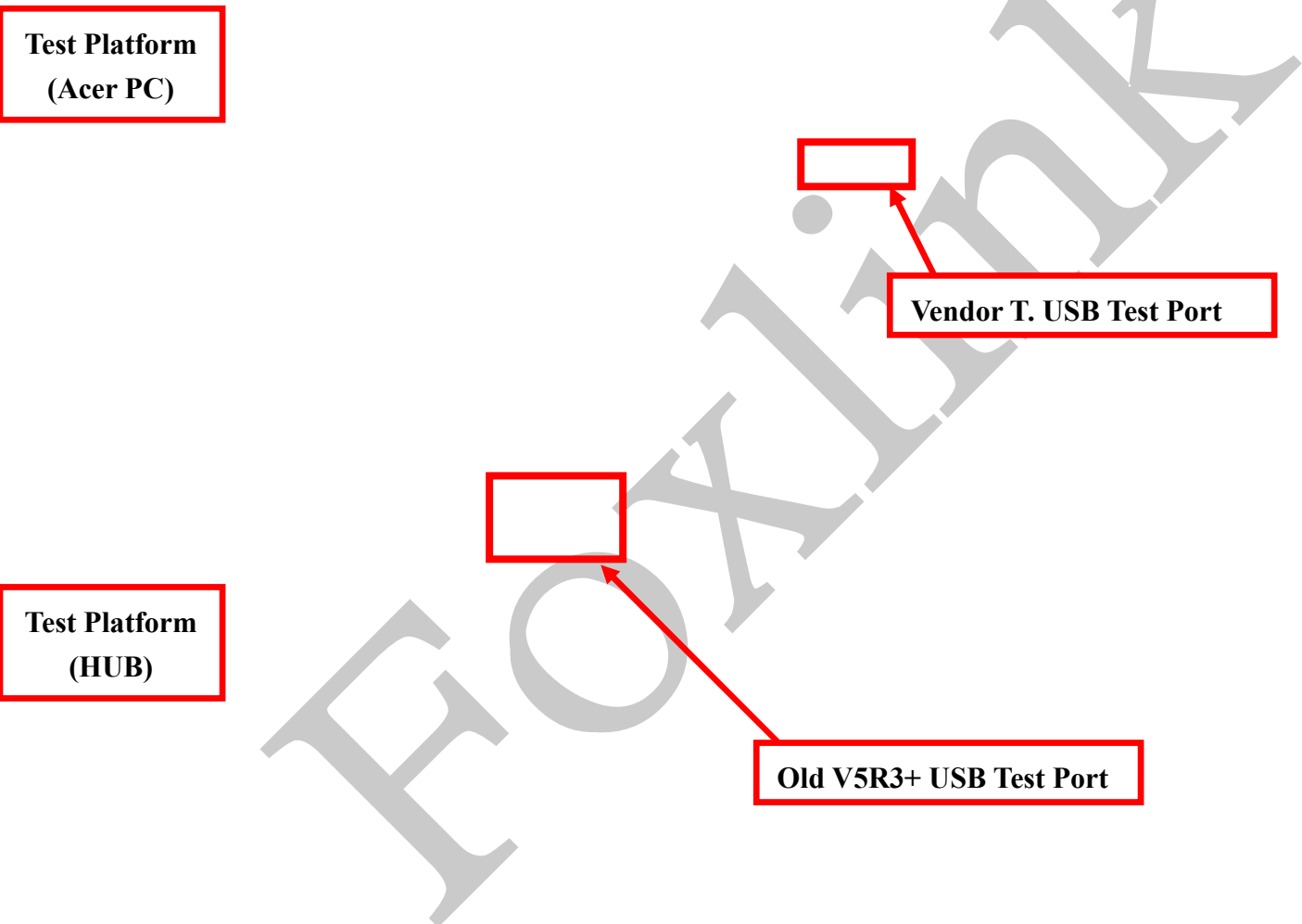
REV. No.	DATE	CHANGES	Other
01	2011/04/21	Confirm Condition 1 performance.	
02	2011/04/22	Confirm Condition 2 performance	
03	2012/03/15	PCB ver:V5R3+ verification	
04	2012/03/26	PCB ver:V5R3+ matching circuit improvement	
05	2012/04/03	PCB ver:V5R3+ performance verification	

FOXLINK

Antenna Placement



Manufacturer	Bannsan Technology(HuiZhou) CO.LTD.
Address	Jiutan New Village, Yuanzhou Town, Boluo County, Huizhou City, China
Antenna Type	Printed Antenna
Model No.	ANT-PIFA
Frequency Ranger(GHz)	2.402~2.480
Antenna Dimension(mm)	7.724 X 2.627





BT(Antenna matching circuit definition)

Component	Vendor T. (on HUB)	Old V5R3+ (on Acer PC)
L2	1pF (Murata:GRM0335C1H1R0CD01)	No change
C11	4.3nH (TDK:MLG0603S4N3S)	No change
C10	NA	NA

S11 Test Setup

1. Equipment Setup



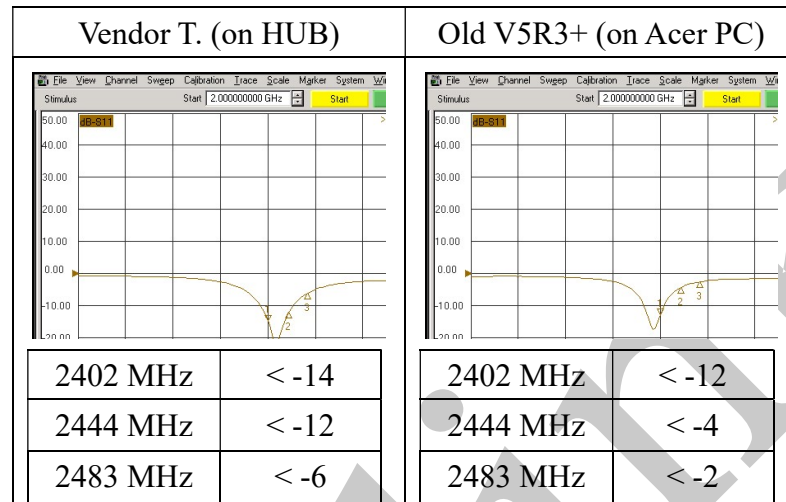
2. Test Procedure

- 2.1 Set start and stop frequency and Calibrate the NA with 50 ohm calibration kit
- 2.2 Connect the NA cable to DUT antenna via SMA or I-PAX connector.
- 2.3 Measure the DUT antenna performance in the free space and record the s11.

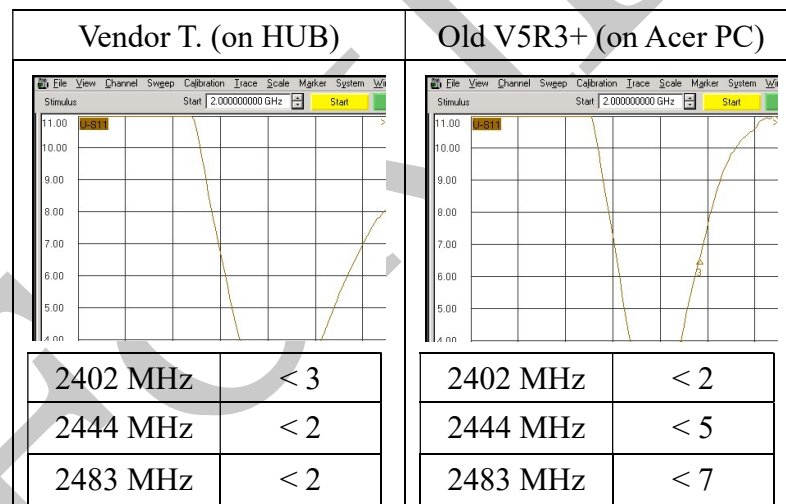
4. Test Result(Return loss, VSWR ,Smith Chart)

Antenna side:

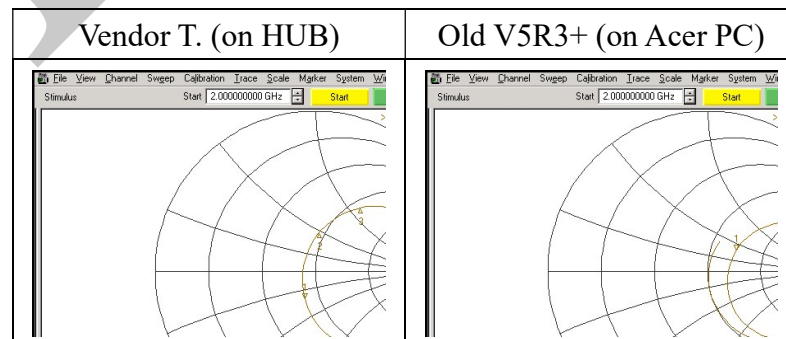
● Return loss



● VSWR



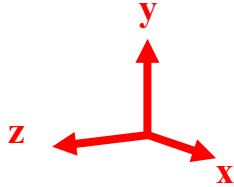
● Smith Chart





S21 Test Setup

1. Testing Environment



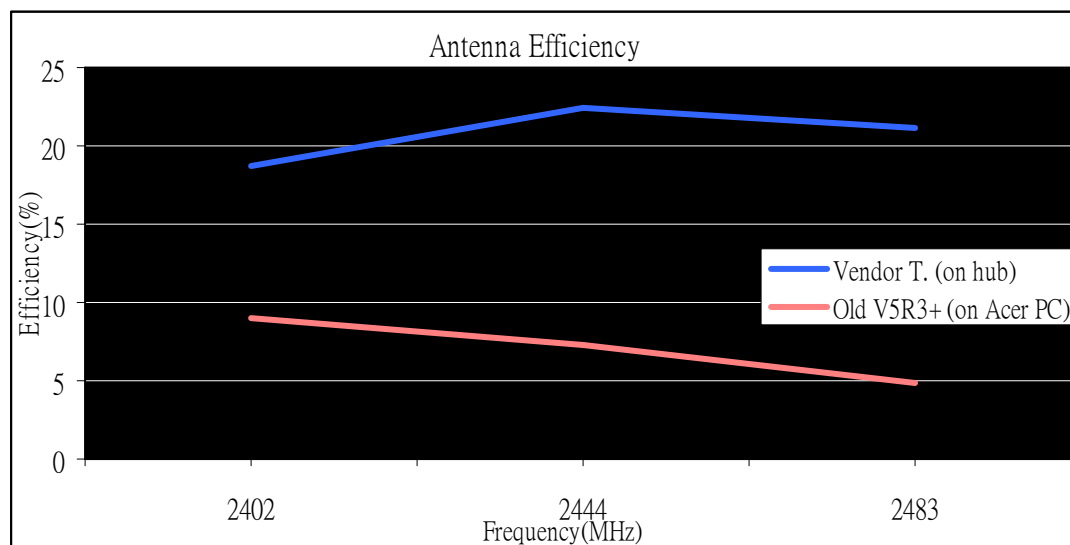
- **Lab standard:** 3D Chamber for CTIA standard
- **Chamber size:** 7.2 * 3.6 * 3.6(meter)
- **Chamber type:** Fully anechoic Chamber
- **Chamber usable frequency range:** 700~6000MHz
- **Measurement instrument:** Network Analyzer
- **Measurement Software:** EMQuest (ETS-Lindgren)
- **DUT :** Dongle

ETS-Lindgren

AMS-8500



2. Antenna Performance



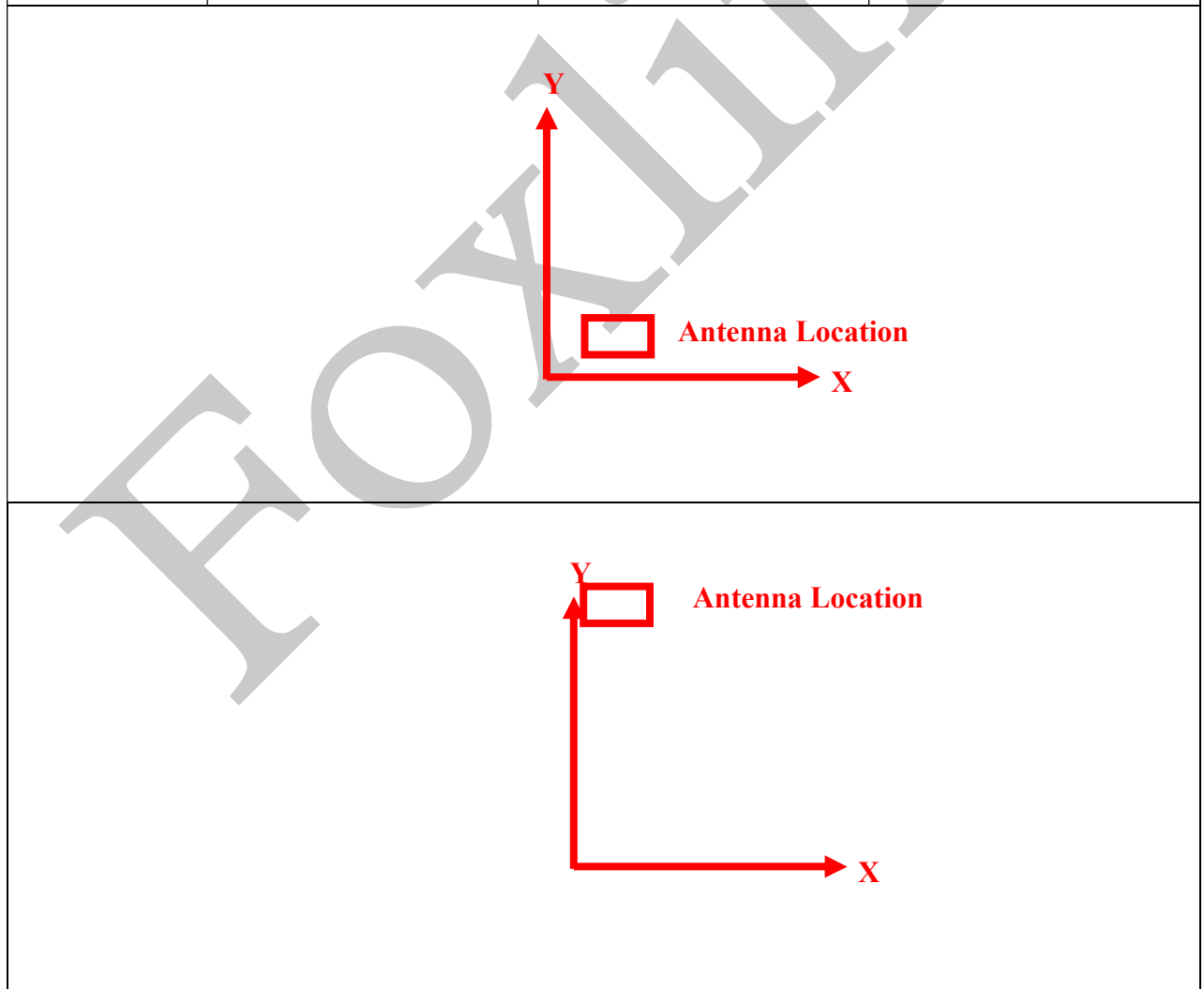
3. Experiment Result

Frequency(MHz)		2402	2444	2483
Vendor T. (on hub)	TRP(dBi)	-7.28	-6.48	-6.75
	Peak EIRP(dBi)	-1.62	-0.27	-0.59
	Efficiency (%)	18.69	22.50	21.15
	Average Efficiency(%)	20.78		
Old V5R3+ (on Acer PC)	TRP(dBi)	-10.47	-11.37	-13.08
	Peak EIRP(dBi)	-4.56	-5.57	-7.13
	Efficiency (%)	8.97	7.29	4.92
	Average Efficiency(%)	7.06		



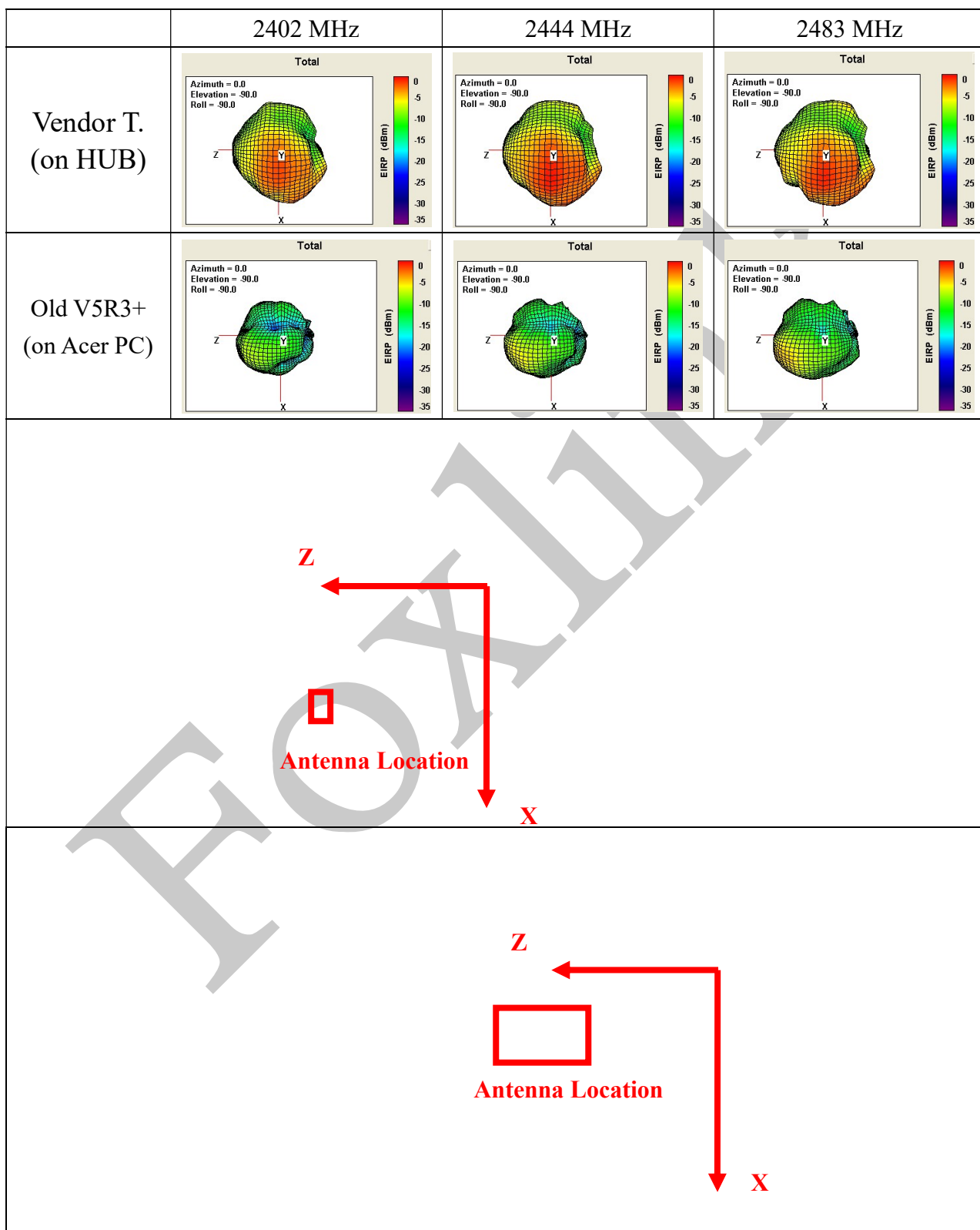
4. Antenna Pattern—3D(X-Y Cut)

	2402 MHz	2444 MHz	2483 MHz
Vendor T. (on HUB)			
Old V5R3+ (on Acer PC)			





5. Antenna Pattern—3D(X-Z Cut)





6. Antenna Pattern—3D(Y-Z Cut)

	2402 MHz	2444 MHz	2483 MHz
Vendor T. (on HUB)			
Old V5R3+ (on Acer PC)			

