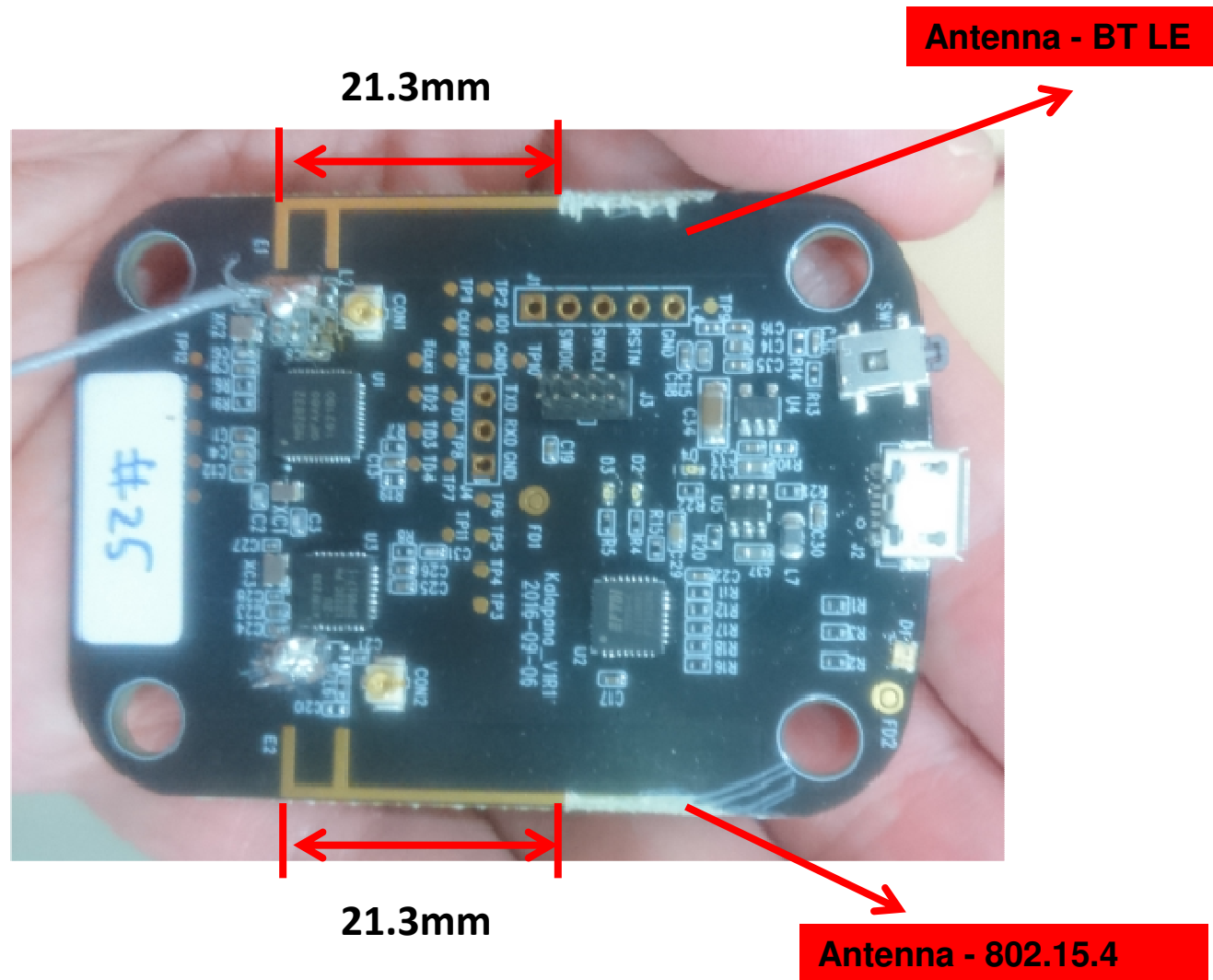
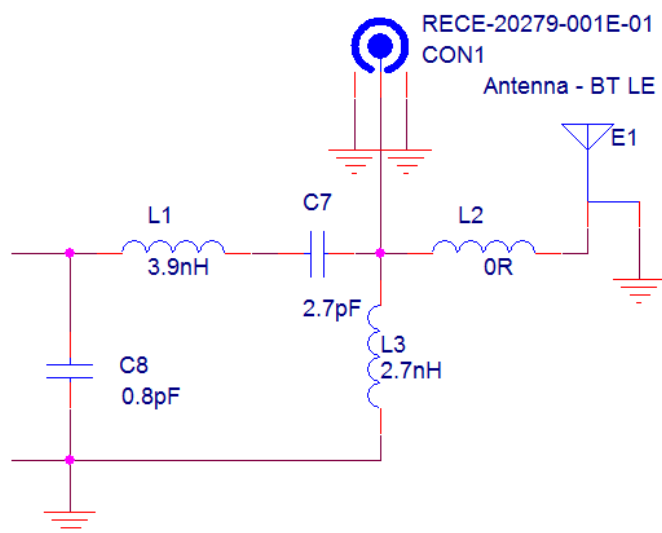


Antenna Photo-kalapana



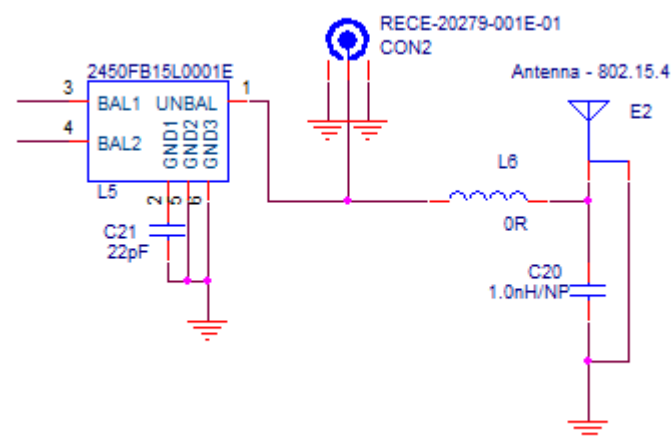


Match Circuit for Antenna - 802.15.4 & BT LE



Antenna - BT LE

Change L2 from 1.8nH to 0R

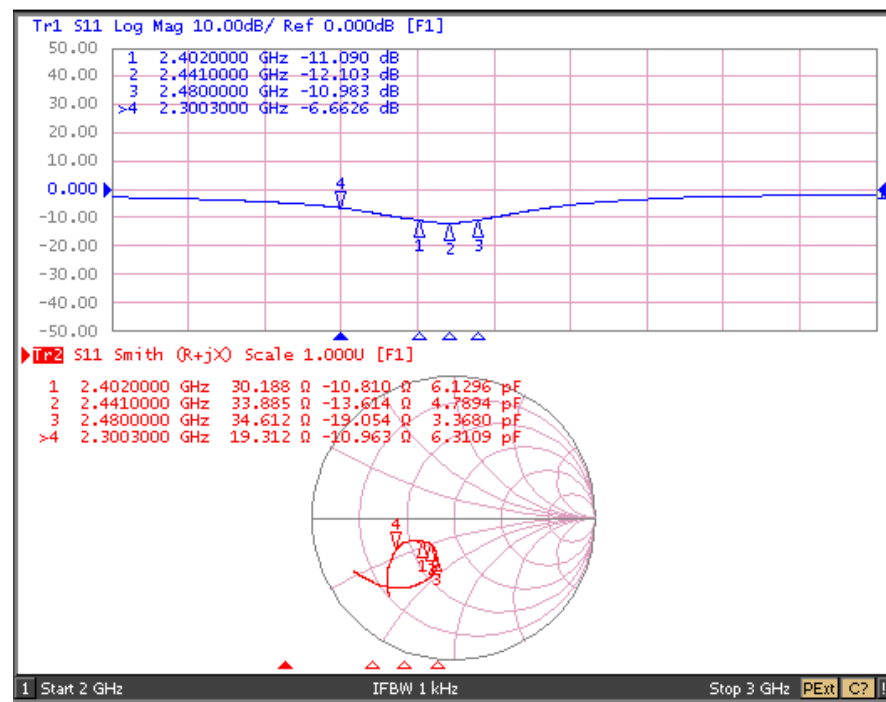
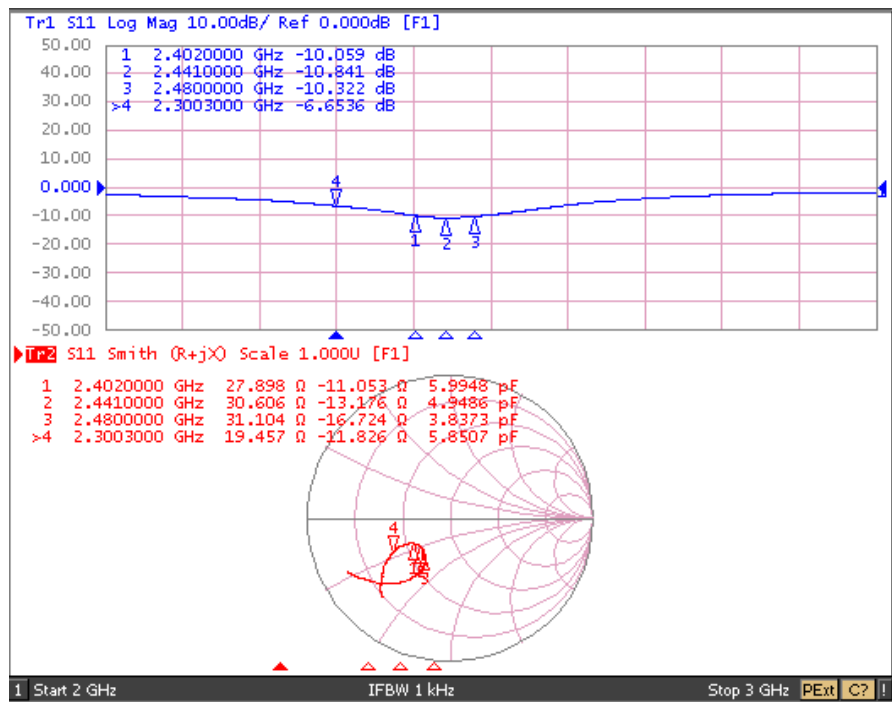


Antenna - 802.15.4

L6 keep at 0R



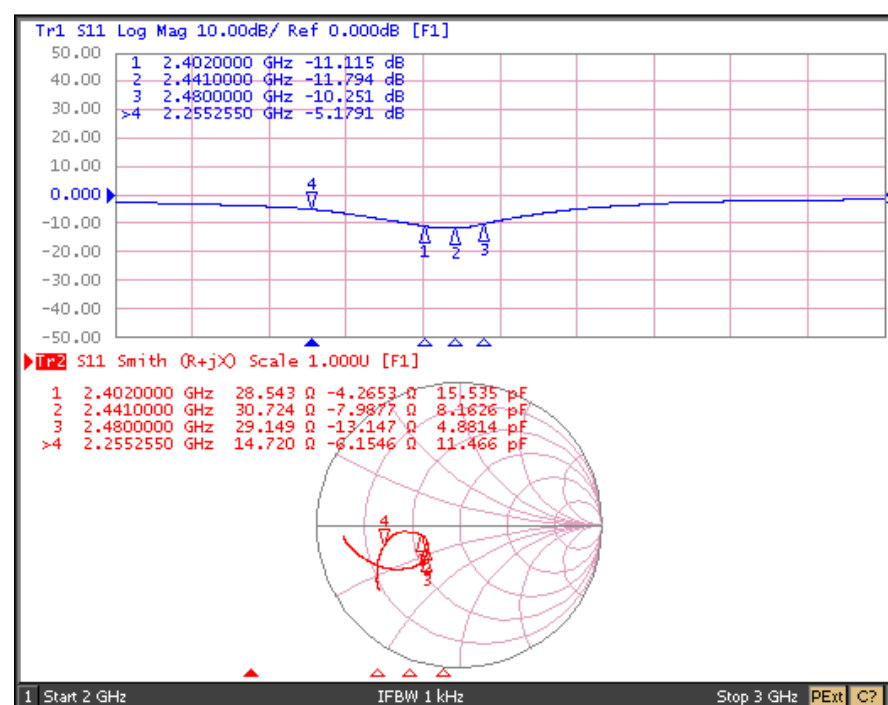
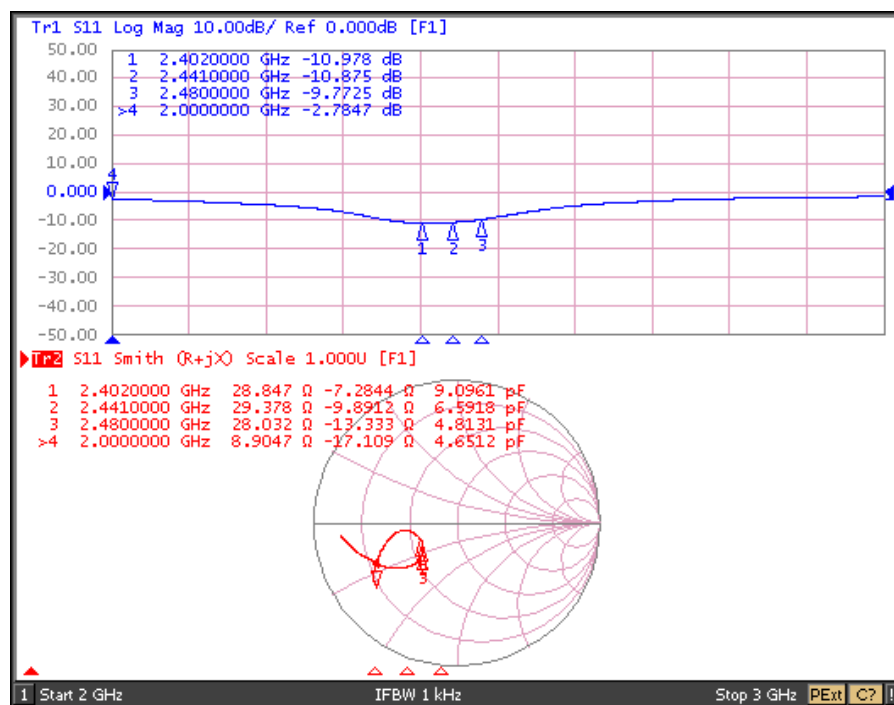
Return Loss for Antenna - BT LE(E1)



	2402 MHz (dB)	2441 MHz (dB)	2480 MHz (dB)
Sample#1	-10.05	-10.84	-10.33
Sample#2	-11.09	-12.10	-10.98



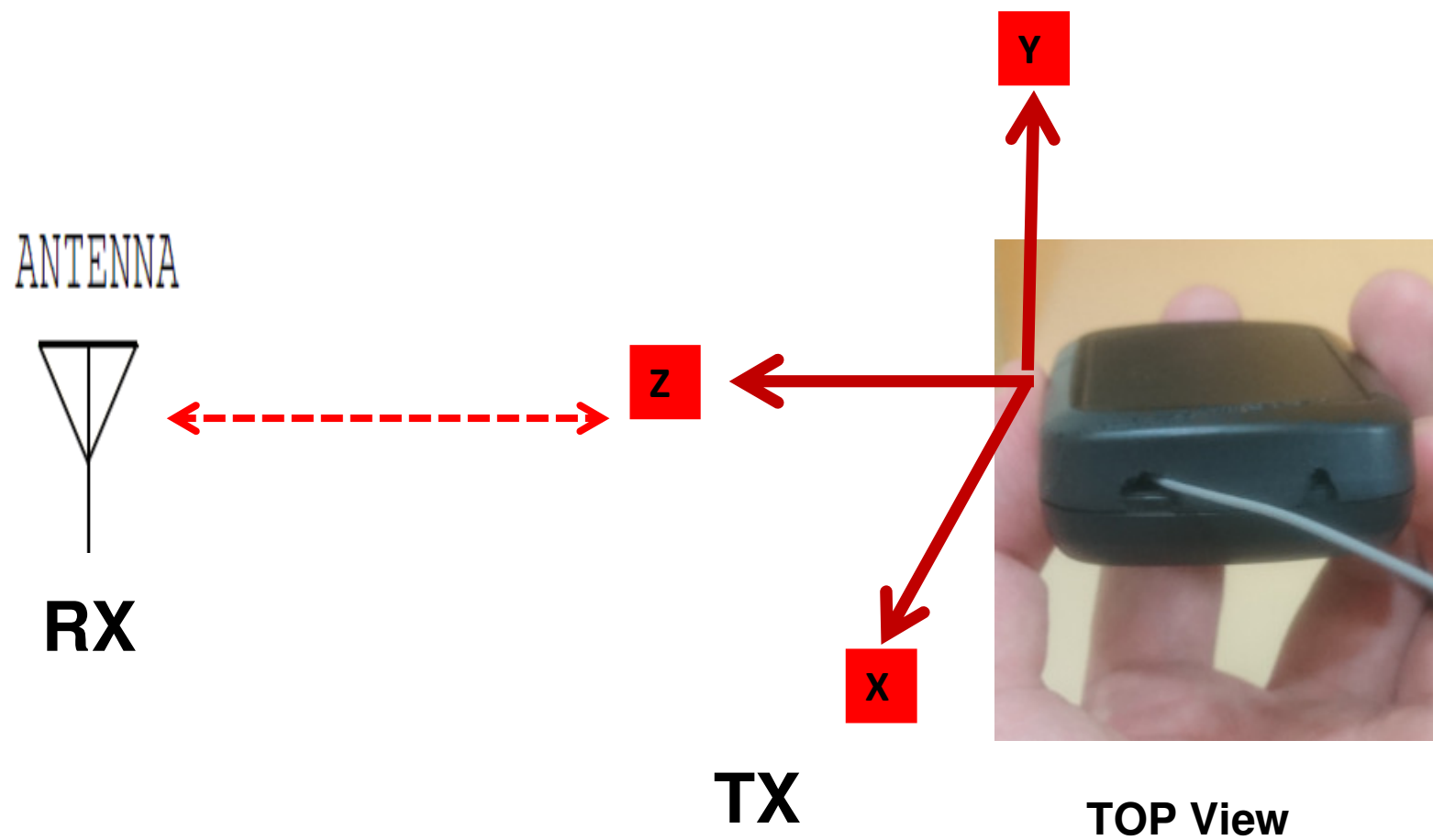
Return Loss for Antenna – 802.15.4(E2)



	2402 MHz (dB)	2441 MHz (dB)	2480 MHz (dB)
Sample#1	-10.97	-10.87	-9.77
Sample#2	-11.11	-11.79	-10.25

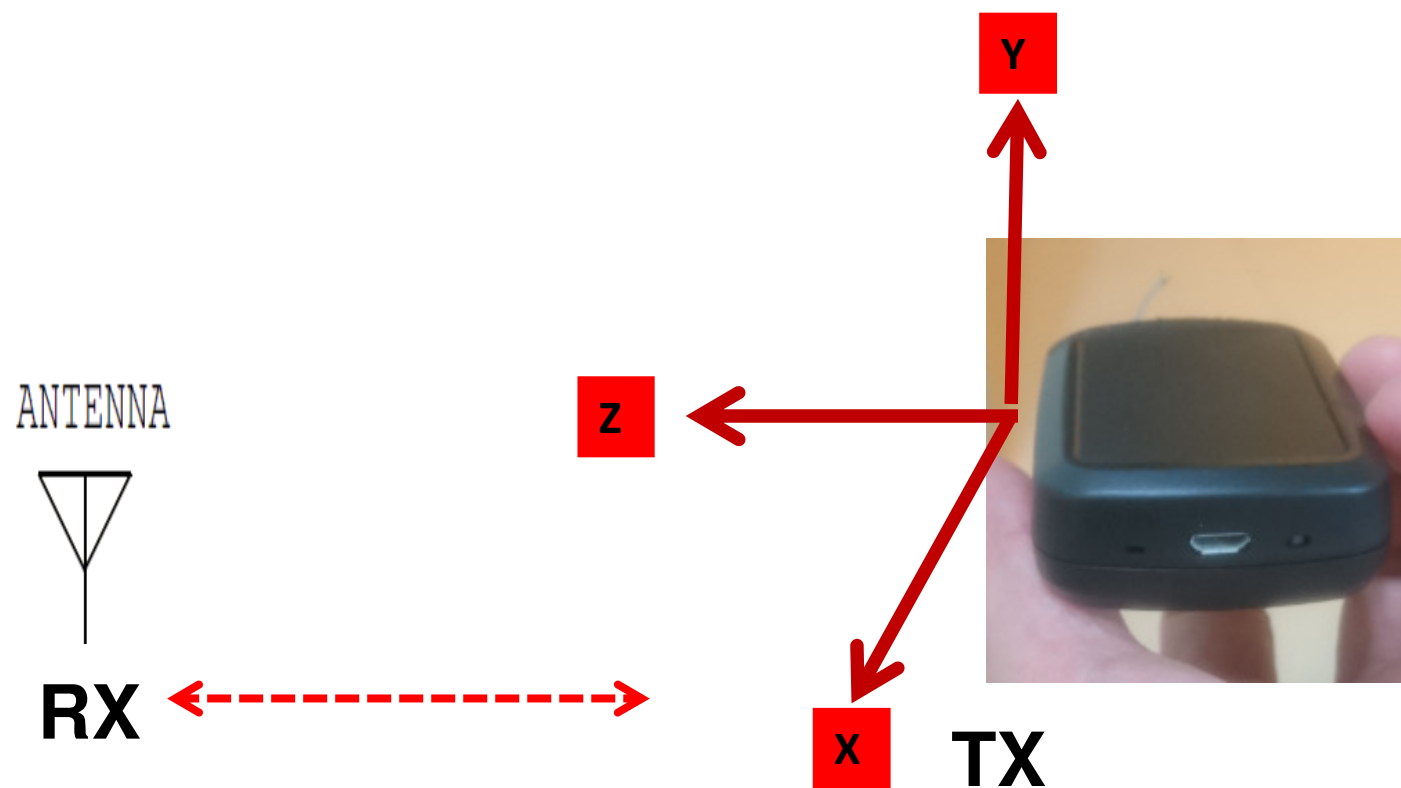


Coordinate direction for Antenna - BT LE (E1)





Coordinate direction for Antenna - 802.15.4 (E2)



TOP View



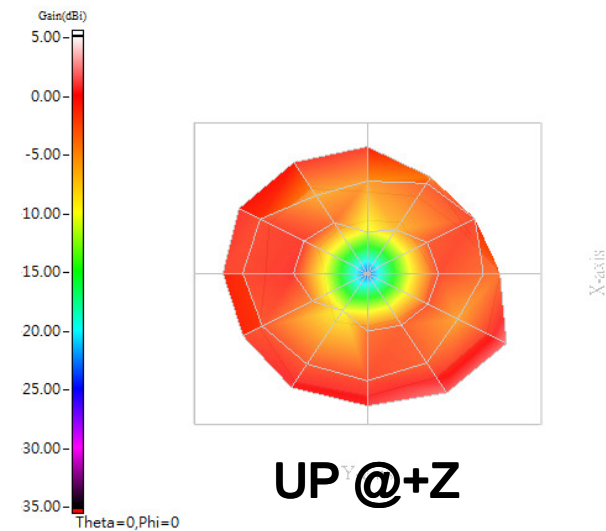
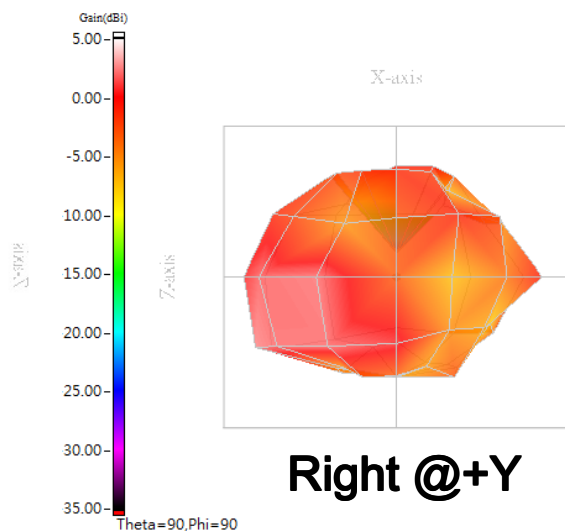
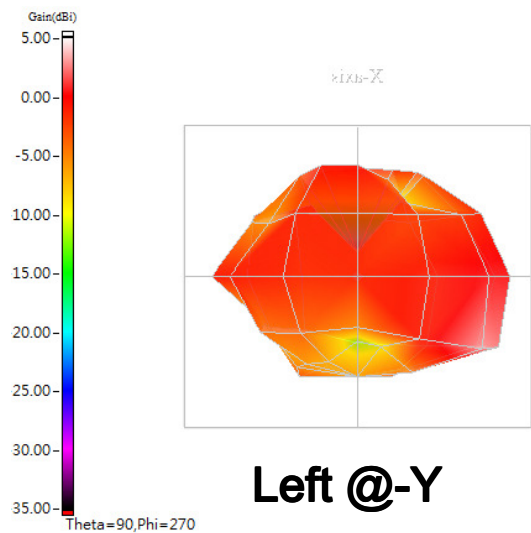
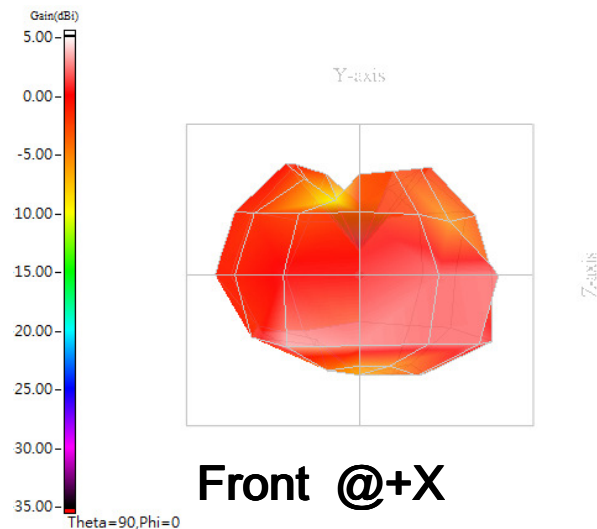
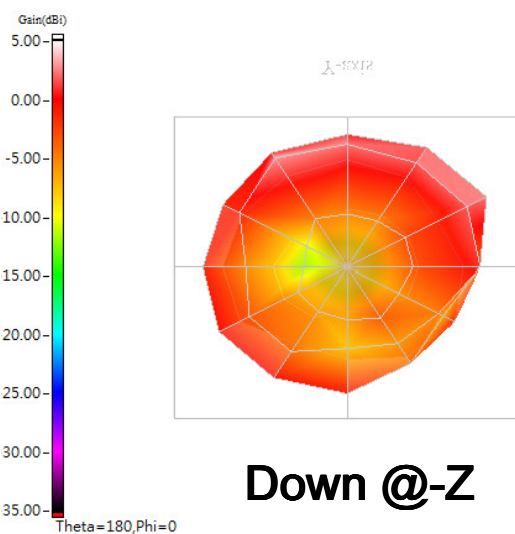
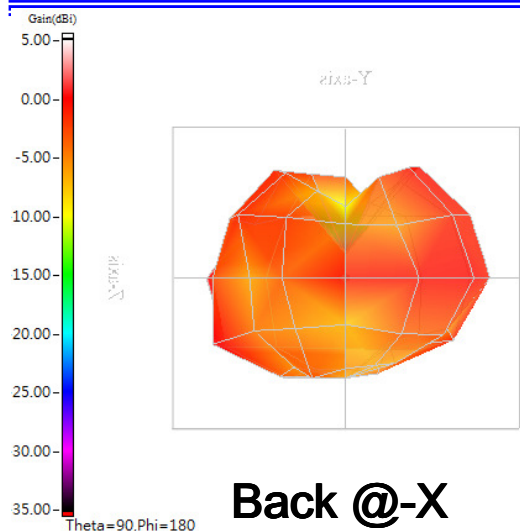
Antenna Performance(Free Space) -Kalapana

		2402 MHz	2441 MHz	2480 MHz
Sample#1 (BT_LE_E1)	Peak Gain (dBi)	2.77	3.17	3.65
	Average Gain (dBi)	-1.75	-1.82	-1.85
	Efficiency (%)	66.79	65.70	65.29
Sample#2 (BT_LE_E1)	Peak Gain (dBi)	3.37	3.66	3.95
	Average Gain (dBi)	-1.37	-1.41	-1.41
	Efficiency (%)	72.93	72.27	72.27
Sample#1 (BT_802.15.4_E2)	Peak Gain (dBi)	2.80	2.13	1.97
	Average Gain (dBi)	-1.66	-1.79	-1.91
	Efficiency (%)	68.18	66.16	64.42
Sample#2 (BT_802.15.4_E2)	Peak Gain (dBi)	3.47	3.76	3.70
	Average Gain (dBi)	-1.10	-1.20	-1.29
	Efficiency (%)	77.65	75.93	74.23

Test result is pretty good.

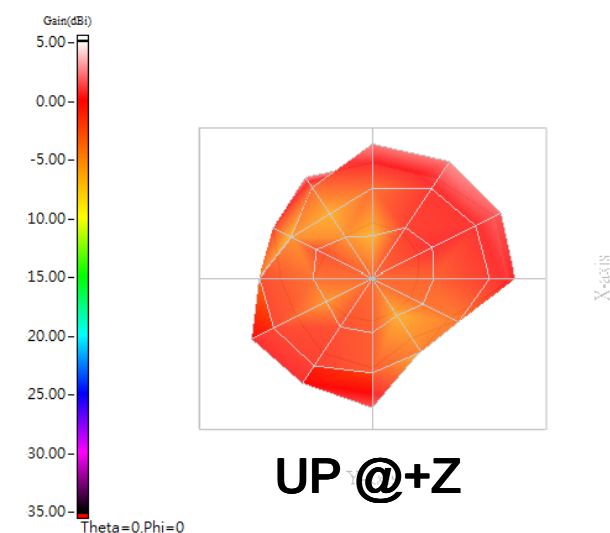
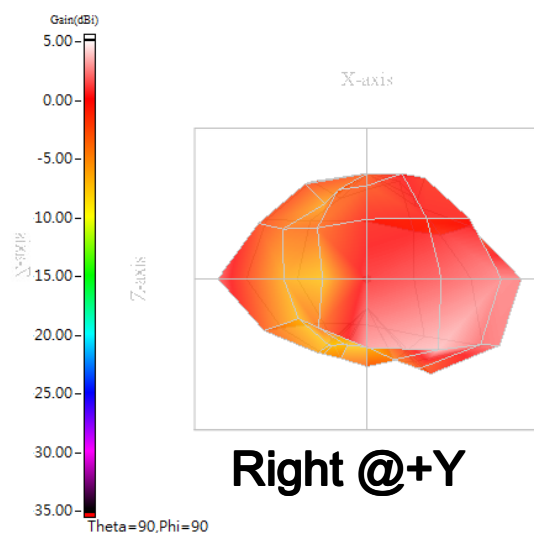
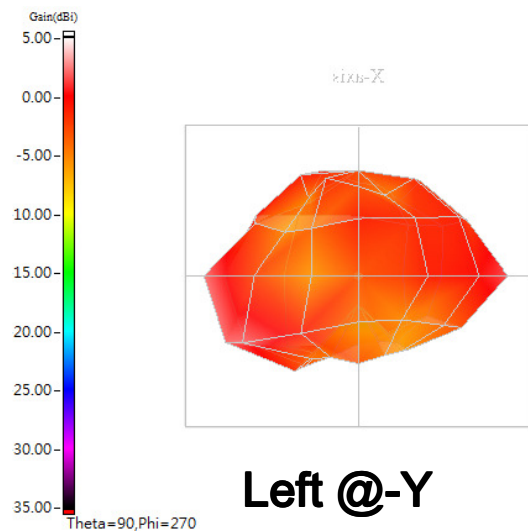
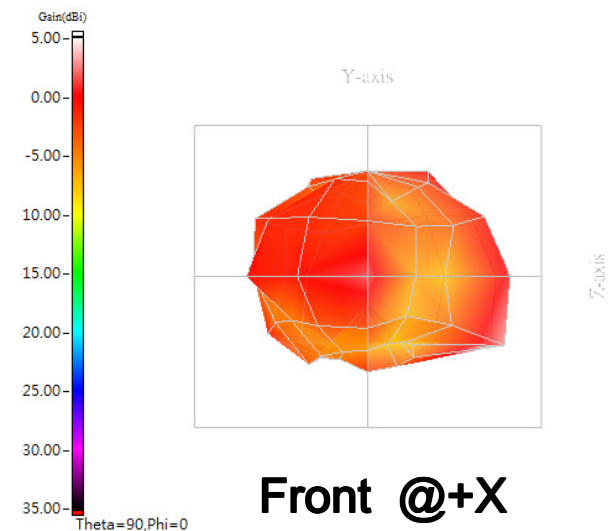
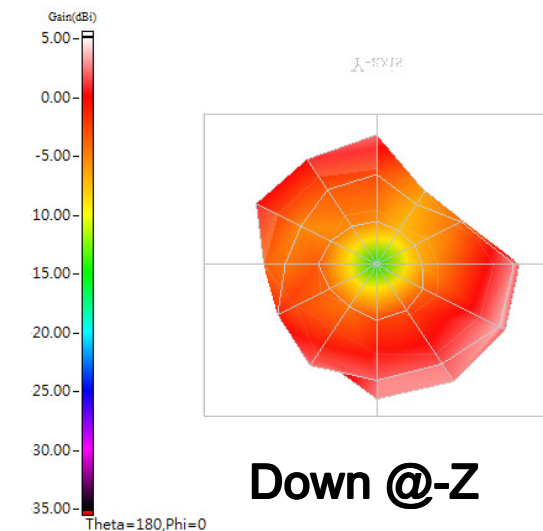
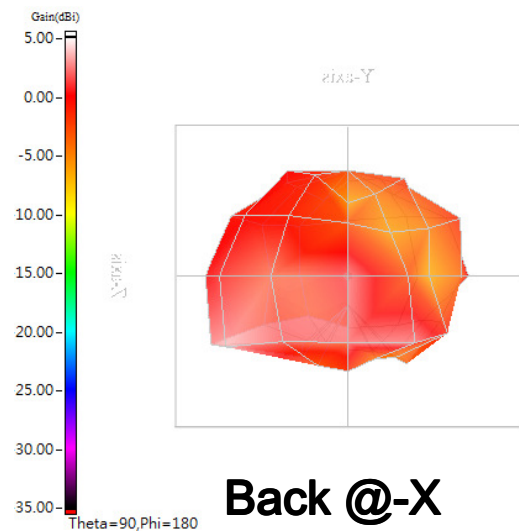


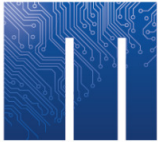
Antenna Performance (free space) at 2441 MHz- BT LE (E1)-Sample1- Kalapana



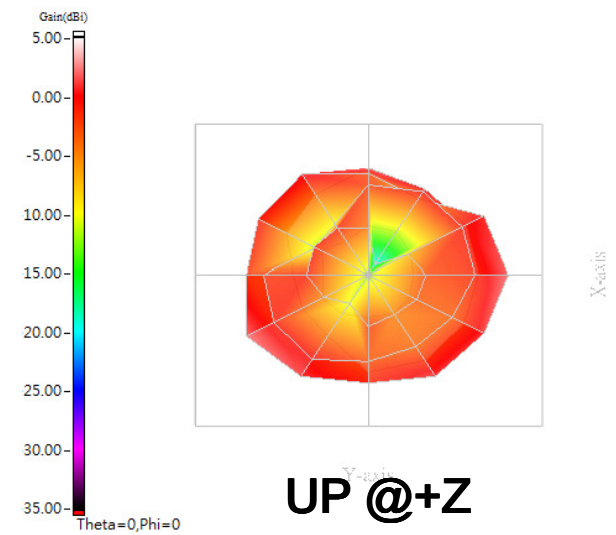
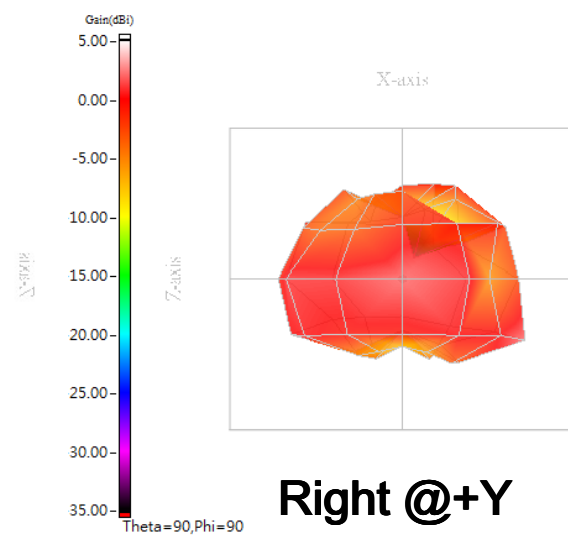
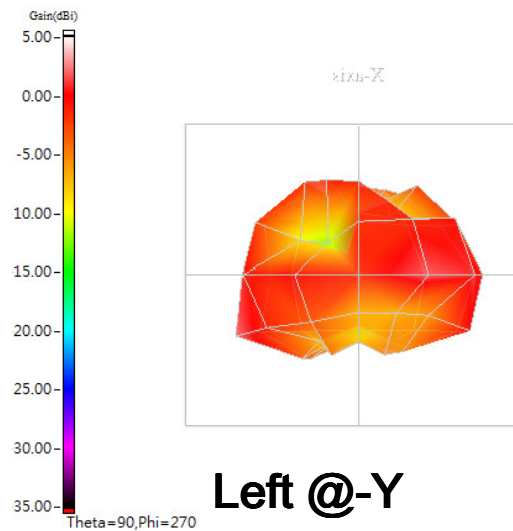
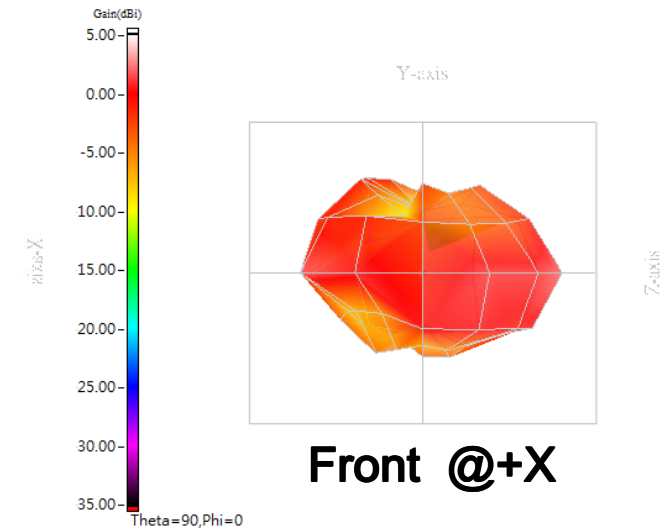
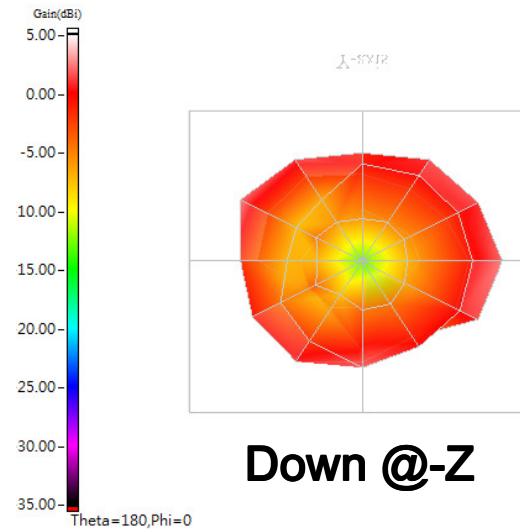
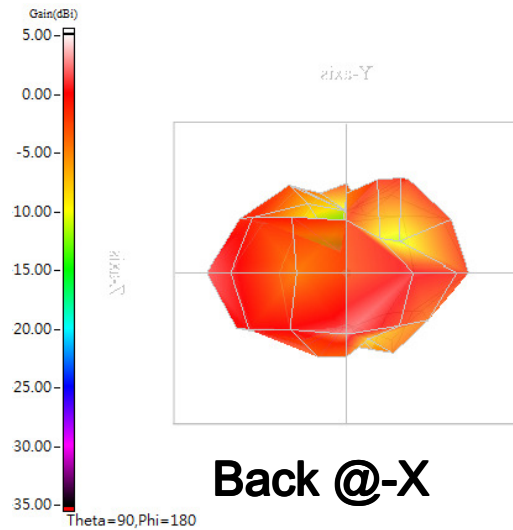


Antenna Performance (free space) at 2441 MHz- BT LE (E1)-Sample2-Kalapana





Antenna Performance (free space) at 2441MHz – 802.15.4 (E2) -Sample1-Kalapana





Antenna Performance (free space) at 2441MHz – 802.15.4 (E2) –Sample2-Kalapana

