

# LV65B

## Antenna Report(ODU)

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# Agenda

- LV\_65B BT/LTE/FR1 Antenna
  - Antenna Placement and Requirements
  - Drawing of the antenna
  - Antenna Performance
    - 2 radiation pattern
  - Antenna performance Summary Table



# Antenna Placement and Requirements

- **LV\_65 antenna port arrangement,**
  - **Ant\_0/2: Full band PIFA Antenna,**  
LTE band 2/5/13/48/66
  - **Ant\_1/3: Full band Monopole Antenna,**  
LTE band 2/5/13/48/66
- **Antenna performance design target,**
  - **Ant\_0/1/2/3**  
return loss @ TX band < -6dB, VSWR < 3
  - **Ant\_0/1/2/3 efficiency :**
    - > 50%@low bands @ TX Band of Ant\_1,
    - > 50%@middle bands @ TX Band of Ant\_3,
    - > 50%@high bands @ TX Band of Ant\_0/2.

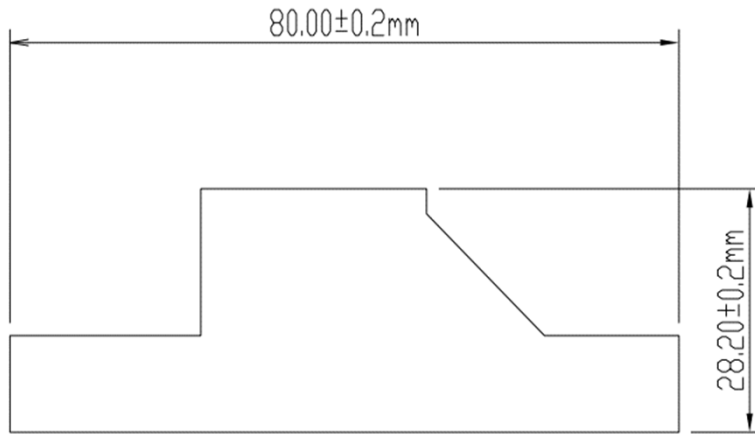
**ANT\_0:** Low band, PIFA Antenna

**ANT\_2:** Middle band, PIFA Antenna

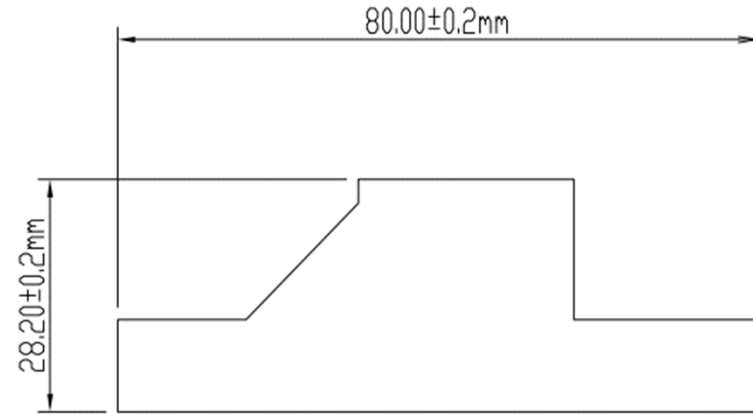
**ANT\_1/3:** High band, Monopole Antenna

**Bluetooth:** PIFA Antenna

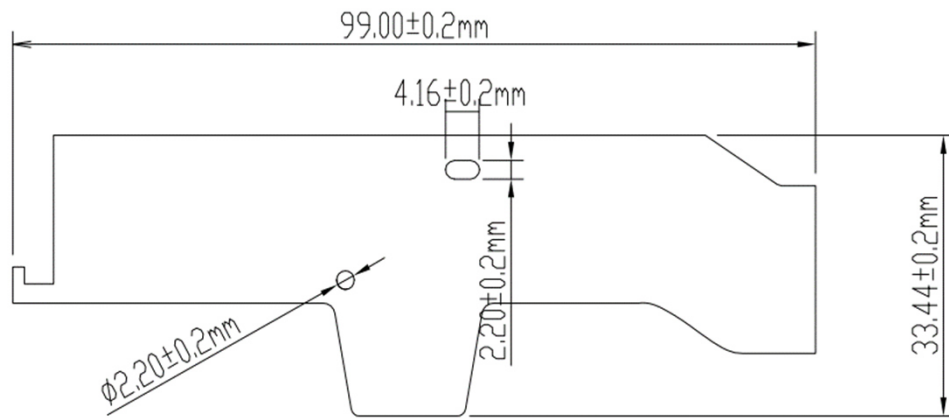
# Drawing of the antenna of LTE/FR1



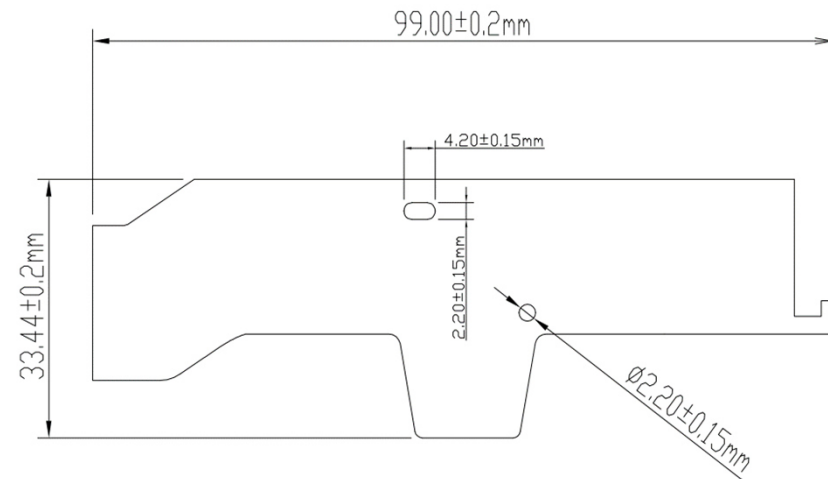
Antenna 1



Antenna 3

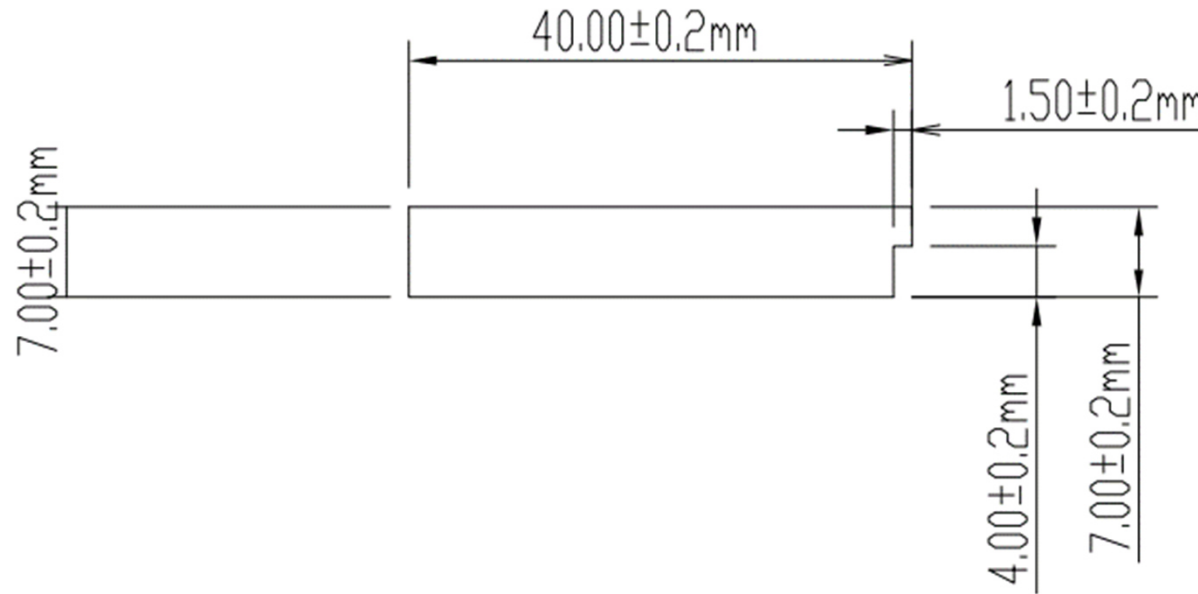


Antenna 0



Antenna 2

# Drawing of the antenna of BT

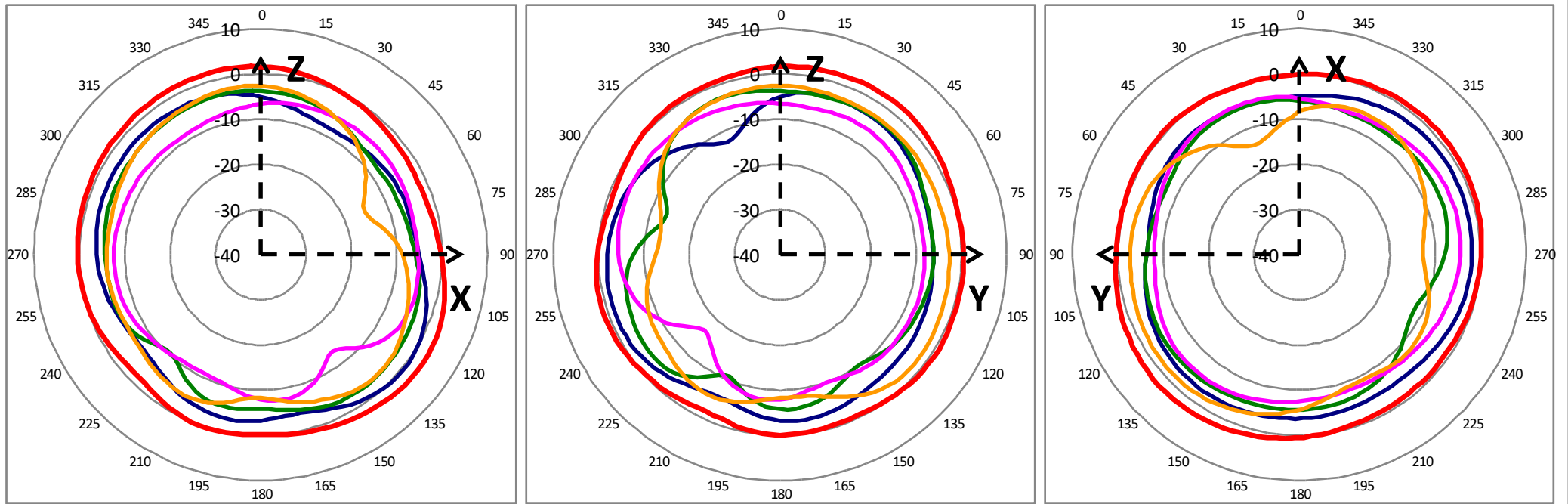


BT

# 2D Radiation Pattern(824MHz) -LTE

## 824 MHz Radiation Pattern

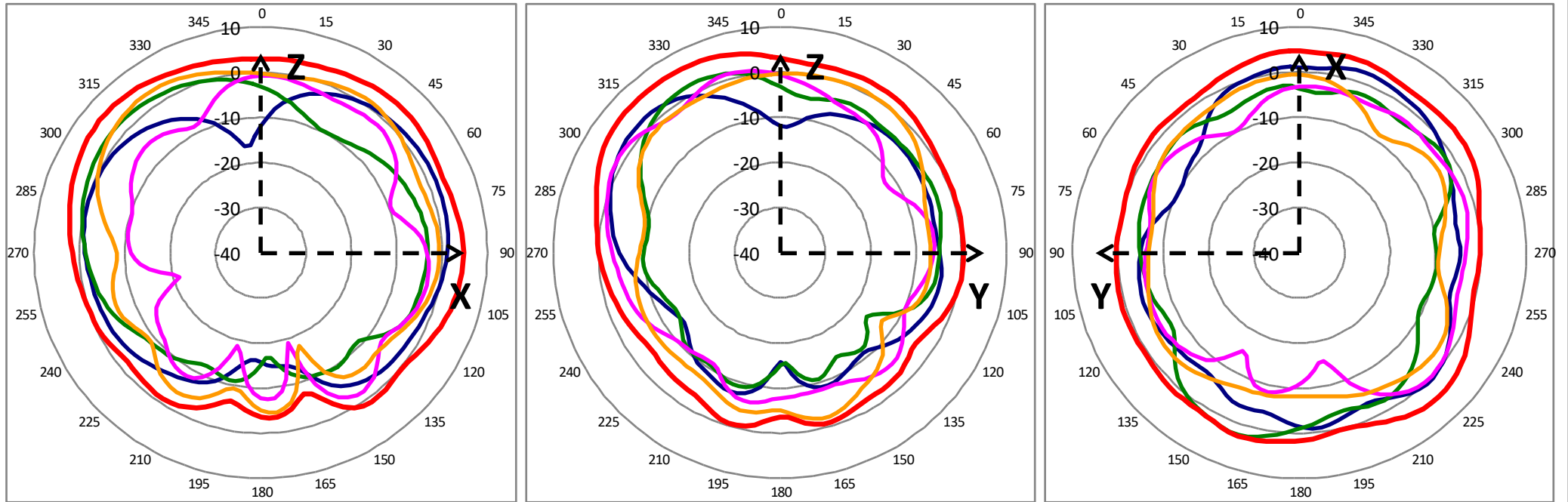
- Combine Gain
- Ant\_0
- Ant\_1
- Ant\_2
- Ant\_3



# 2D Radiation Pattern(1990MHz) -LTE

## 1990 MHz Radiation Pattern

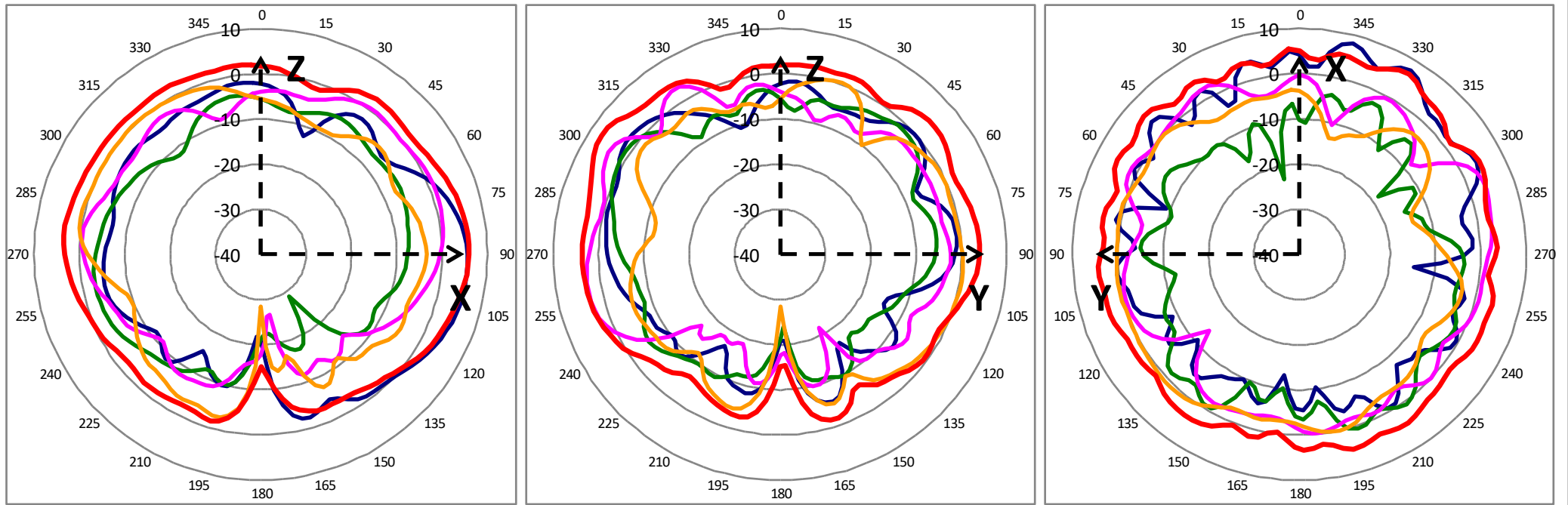
- Combine Gain
- Ant\_0
- Ant\_1
- Ant\_2
- Ant\_3



# 2D Radiation Pattern(3700MHz)-LTE

## 3700 MHz Radiation Pattern

- Combine Gain
- Ant\_0
- Ant\_1
- Ant\_2
- Ant\_3

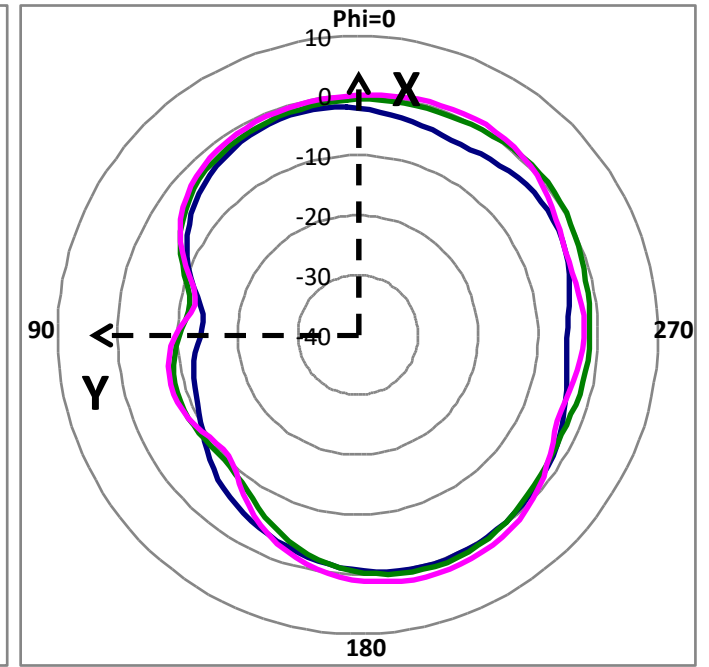
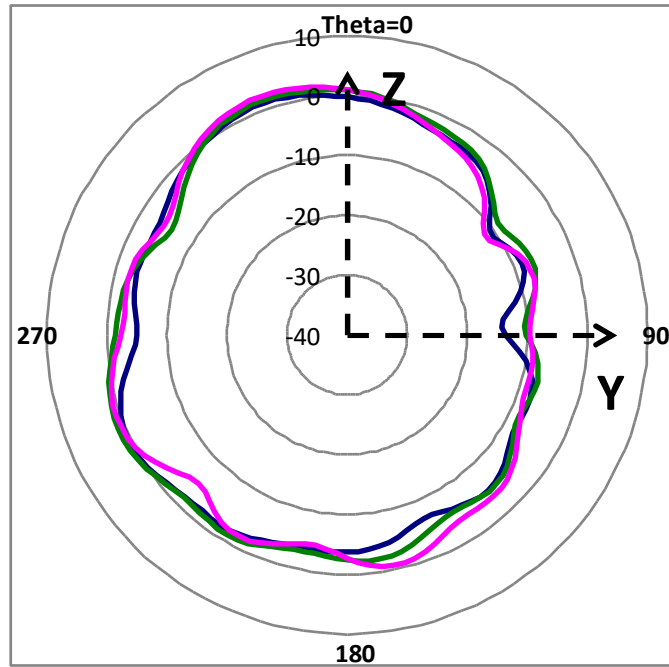
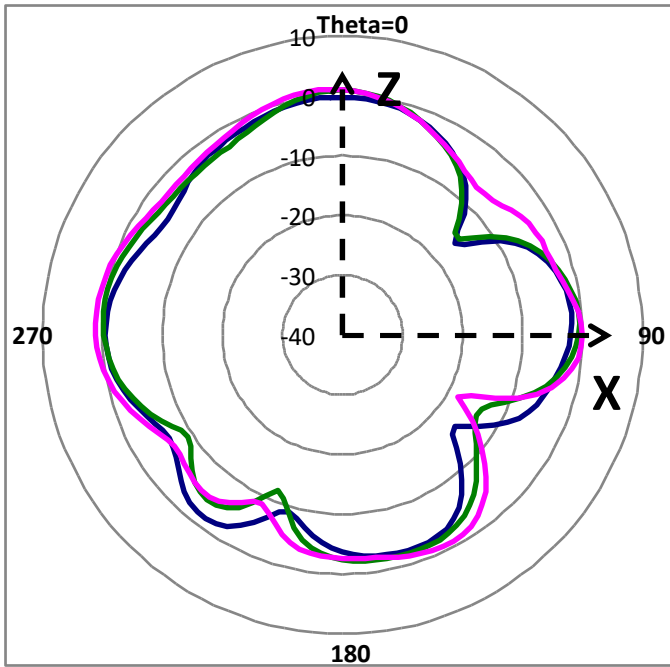




# Radiation Pattern –Bluetooth

## BT Radiation Pattern

— 2400MHz  
— 2450MHz  
— 2500MHz



Note : Pattern result by real sample measurement

# LV65B Performance Summary Table

## ✓ Antenna Test result

Frequency(MHz)		746~756	777~787	824~849	869~894	1710~1780	1850~1910
Application Bands		Band 13(RX)	Band 13(TX)	Band 5(TX)	Band 5(RX)	Band 66(TX)	Band2(TX)
Efficiency(%)	Ant_0	47%	43%	39%	37%	51%	56%
	Ant_1	38%	32%	27%	28%	48%	56%
	Ant_2	19%	18%	22%	19%	43%	39%
	Ant_3	29%	30%	33%	31%	51%	38%
Average gain(dBi)	Ant_0	-3.26	-3.63	-4.08	-4.27	-2.93	-2.55
	Ant_1	-4.18	-4.94	-5.76	-5.47	-3.18	-2.50
	Ant_2	-7.21	-7.36	-6.58	-7.20	-3.66	-4.17
	Ant_3	-5.37	-5.16	-4.76	-5.04	-2.96	-4.21
Peak Gain(dBi)	Ant_0	1.90	2.50	3.00	0.51	2.93	3.00
	Ant_1	-0.76	-1.83	-0.95	-0.07	2.89	2.91
	Ant_2	-3.43	-3.38	-2.08	-2.93	1.61	1.35
	Ant_3	-1.44	-1.09	-1.14	-1.59	3.00	1.92
Frequency(MHz)		1930~1990	2110~2200	3550~3700	3300~4200		
Application Bands		Band 2(RX)	Band66(RX)	Band 48(TDD)	N77(TDD)		
Efficiency(%)	Ant_0	57%	61%	61%	57%		
	Ant_1	54%	40%	24%	38%		
	Ant_2	31%	38%	50%	52%		
	Ant_3	53%	28%	47%	50%		
Average gain(dBi)	Ant_0	-2.46	-2.13	-2.14	-2.51		
	Ant_1	-2.64	-3.98	-6.23	-4.61		
	Ant_2	-5.03	-4.21	-3.06	-2.88		
	Ant_3	-2.82	-5.59	-3.31	-3.00		
Peak Gain(dBi)	Ant_0	2.91	2.92	3.00	0.43		
	Ant_1	2.86	2.42	2.47	0.57		
	Ant_2	1.80	2.86	2.85	1.00		
	Ant_3	2.73	-0.25	2.76	0.68		

# LV65B Performance Summary Table

✓ Antenna Test result

Bluetooth			
Frequency(MHz)	2400	2450	2500
Efficiency(%)			
BT	50.83%	52.36%	51.29%
Average Gain(dB)			
BT	-2.94	-2.81	-2.90
Peak Gain(dB)			
BT	1.66	3.00	2.46

The logo consists of the letters 'WNC' in a bold, blue, italicized sans-serif font. The 'W' and 'C' have a slight curve, and the 'N' is straight. The letters are closely spaced and have a slight shadow effect.

**WNC**

***Wistron NeWeb Corp.***

