

Part No. 9003205

LTE Antenna

698-960 MHz; 1710-2170 MHz

Supports: Broadband LTE, 4G/5G, LTE CAT-M, NB-IoT, Cellular LPWA



LTE antenna

Low Band: 698 – 960 MHz

High Band: 1710 - 2170 MHz

Electrical Specifications

Frequency (MHz)	698 - 960	1710 - 2170
Peak Gain (dBi)	-5.5	-0.2
Average Efficiency (%)	8	27
Return Loss (dB)	< -3.5	< -4.8
Feed Point Impedance	50 ohms unbalanced	
Polarization	Linear	
Power Handling	2.0 Watt CW	

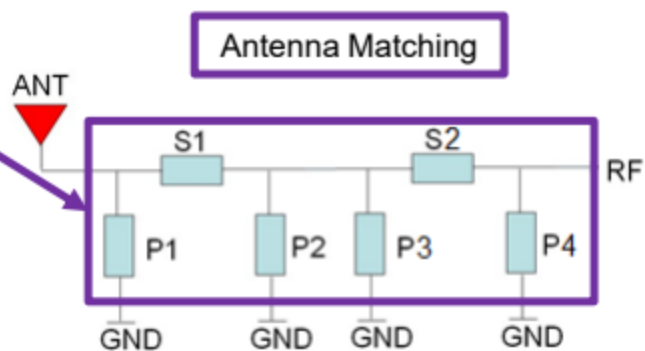
Mechanical Specifications & Ordering Part Number

Ordering Part #	9001939
Dimensions (mm)	34.1 x 19.6 x 0.3
Mounting	Using 3M 9448A Adhesive

Antenna Matching Structure



Customer's PCB Front View



Matching	Value	PN
P1	10nH	LQW03AW10NJ00D
S1	7pF	GRM0335C1E7R0DA01D
P2	NA	-
S2	5.6pF	GJM0335C1E5R6CB01D
P3	NA	-
P4	NA	-

Antenna Tuning Structure

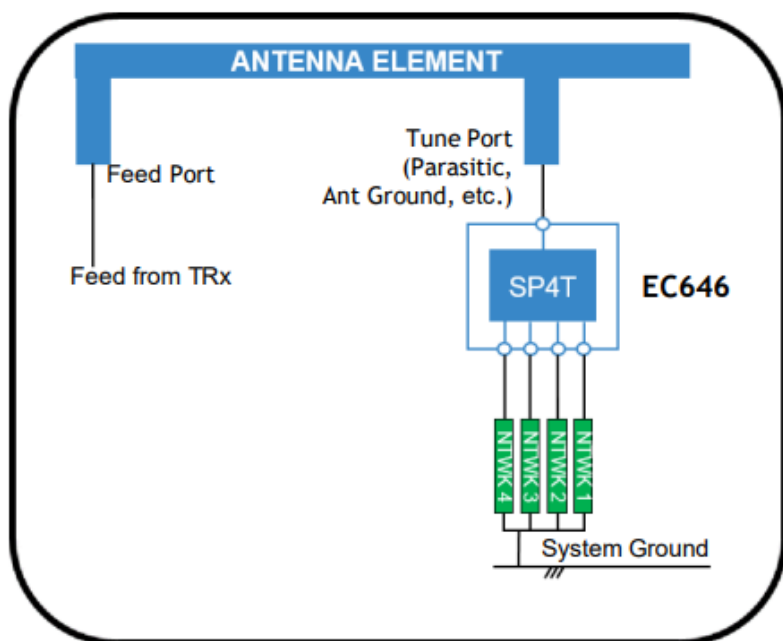


Antenna Tuning

RF Switch Truth Table

S0	S1	RF1	RF2	RF3	RF4
Low	Low	ON	OFF	OFF	OFF
Low	High	OFF	ON	OFF	OFF
High	Low	OFF	OFF	ON	OFF
High	High	OFF	OFF	OFF	ON

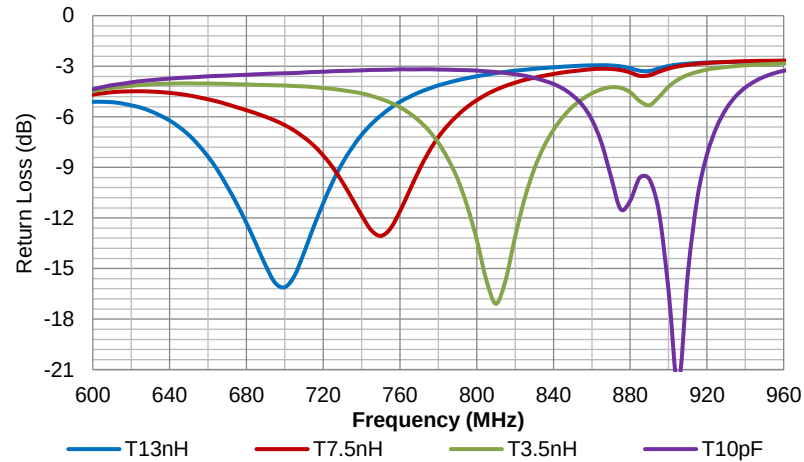
Tuning component	Value	Sub-band covered
RF1	10pF	B8
RF2	13nH	B1/B2/B3/B4/B12/B25/B28/B66/B71/B85
RF3	7.5nH	B13
RF4	3.5nH	B5/B18/B19/B20/B26



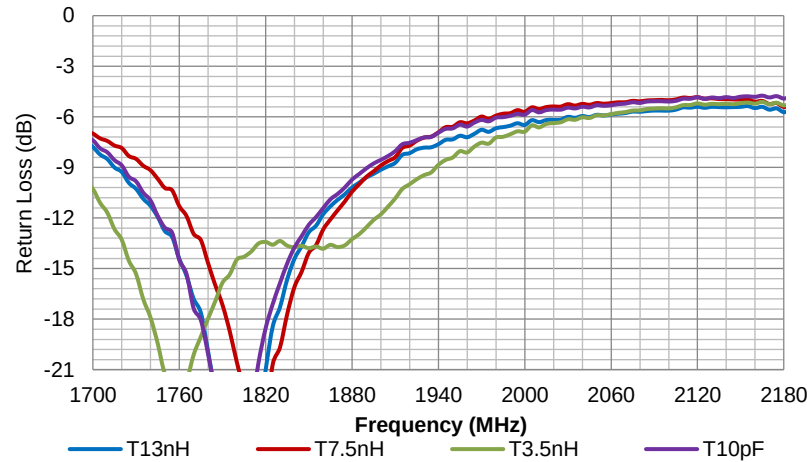
NTWK 1-4 are tuning networks
(Typically Single L, C or an open)
Only RF connections shown

Return Loss, Efficiency and Peak Gain Plots

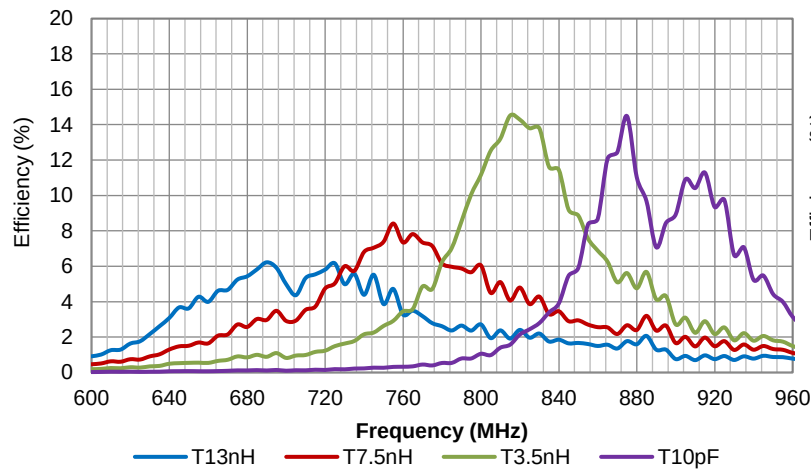
Low Band Return loss



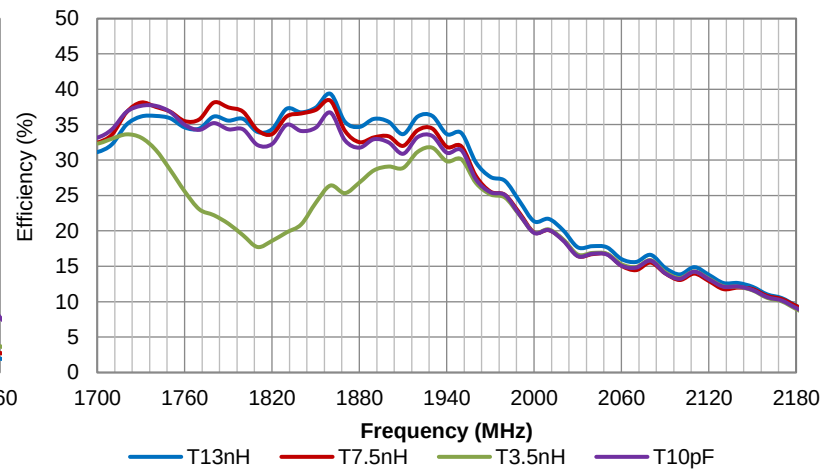
High Band Return Loss



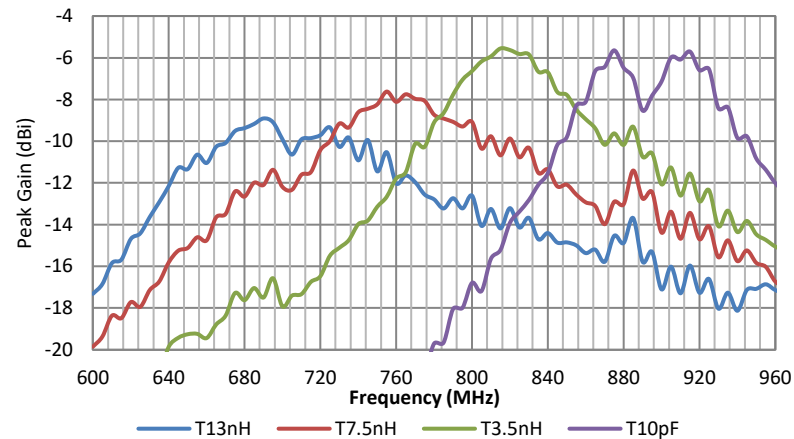
Low Band Efficiency



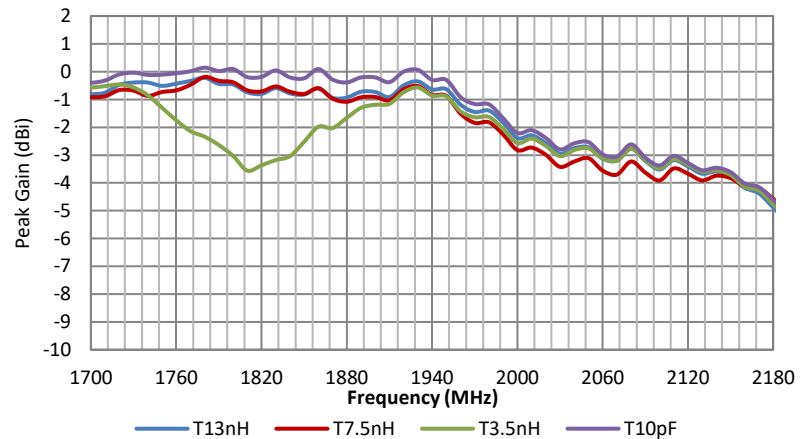
High Band Efficiency



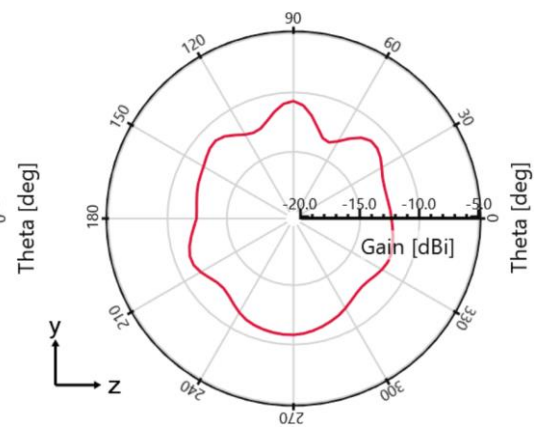
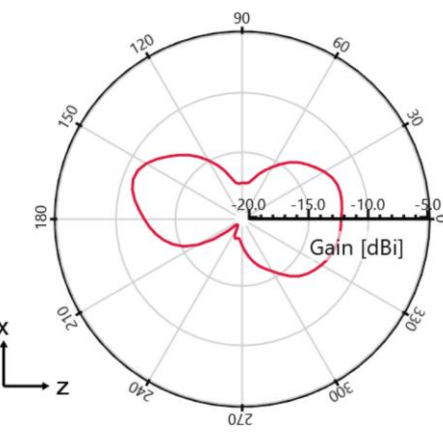
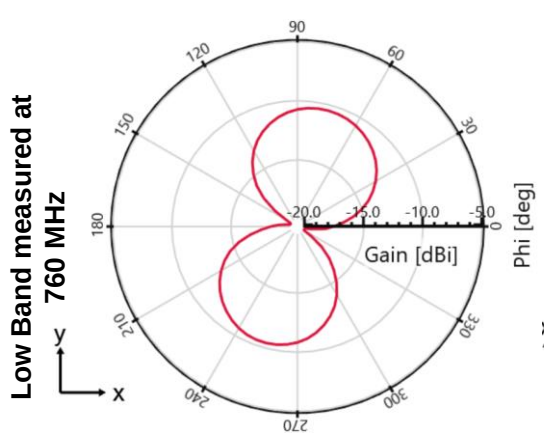
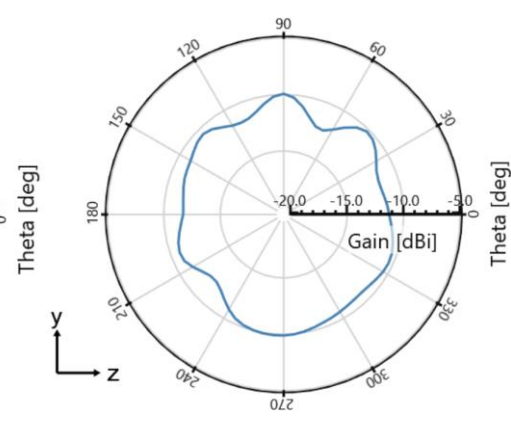
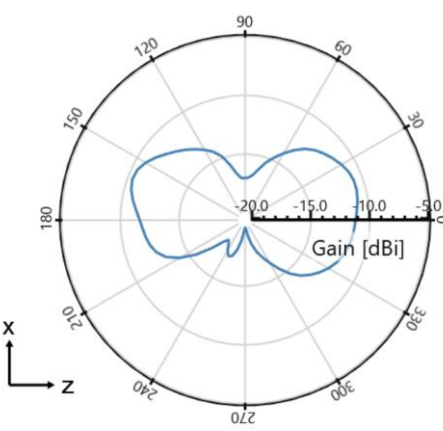
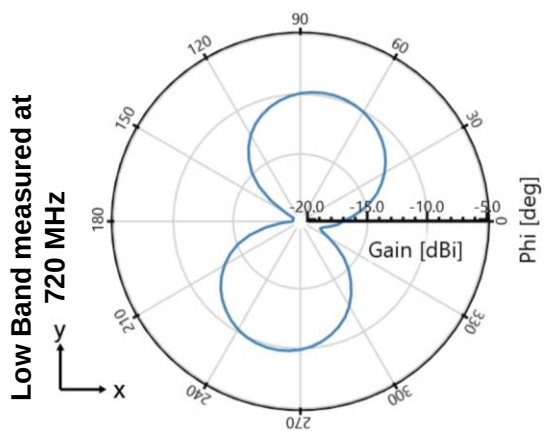
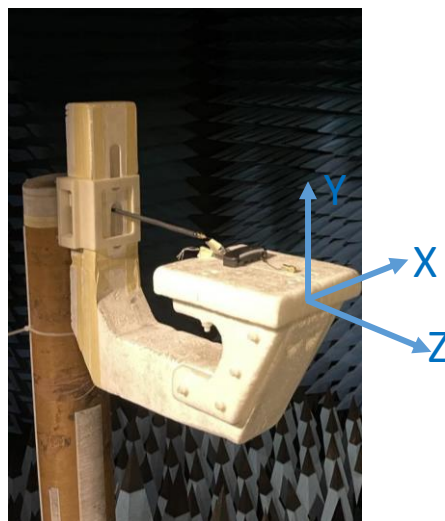
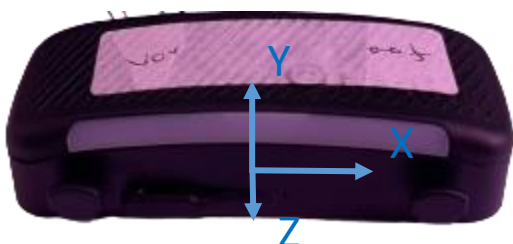
Low Band Peak Gain



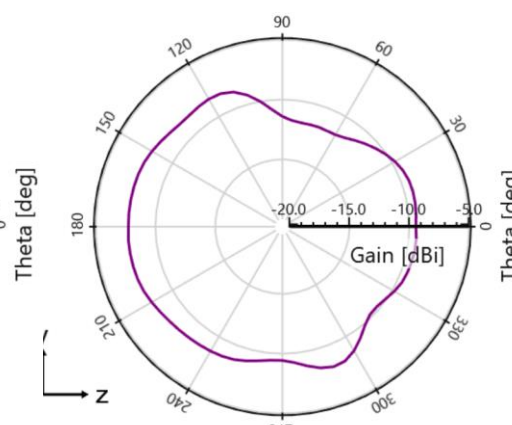
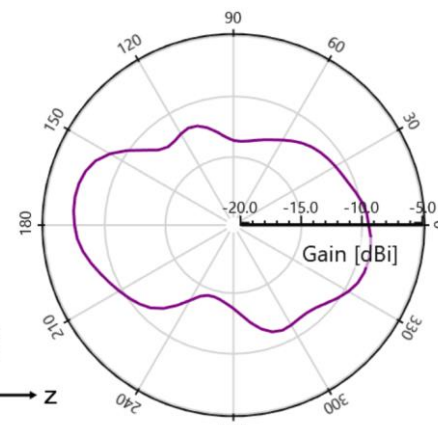
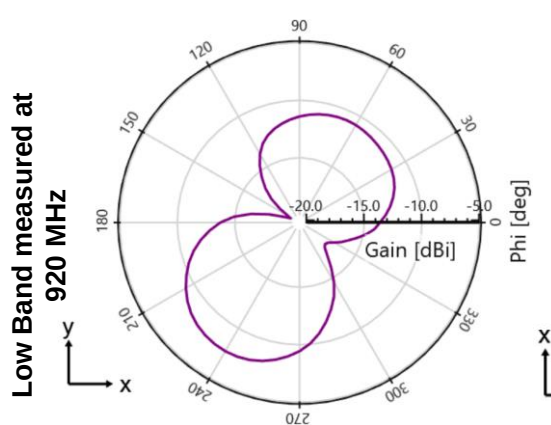
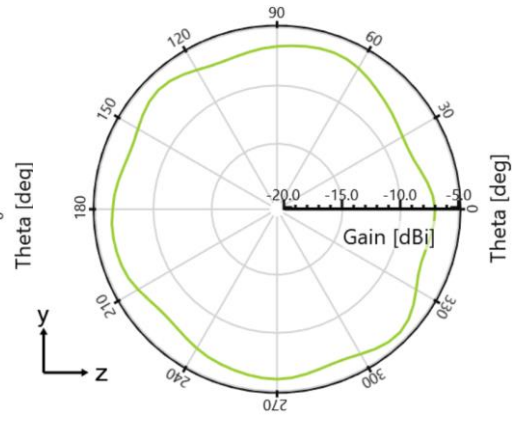
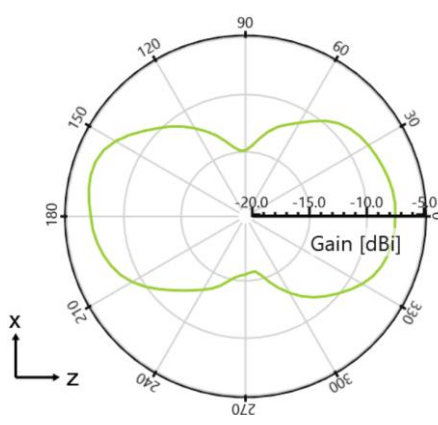
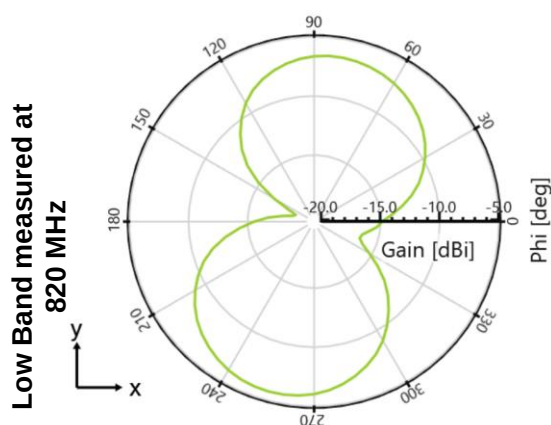
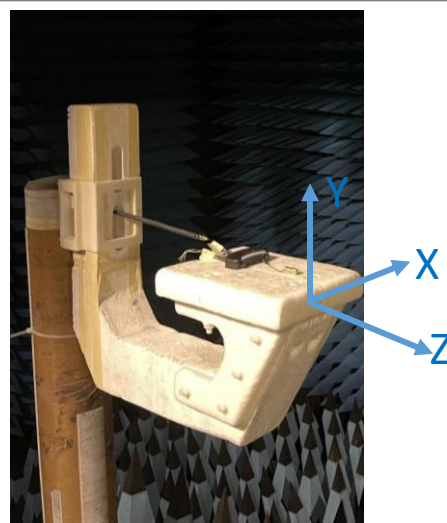
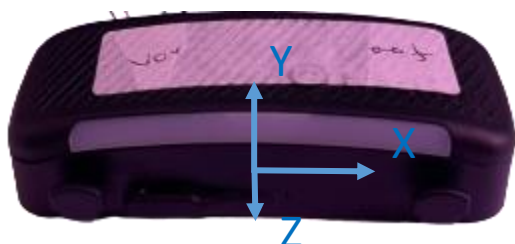
High Band Peak Gain



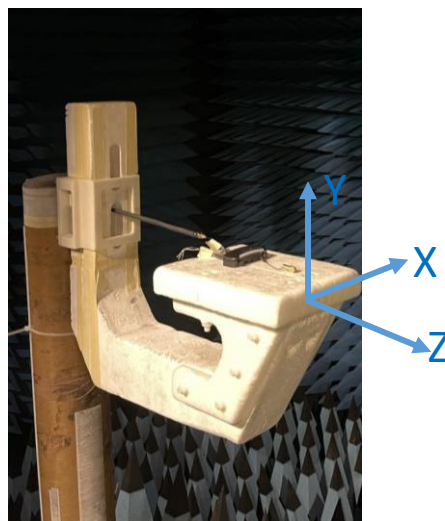
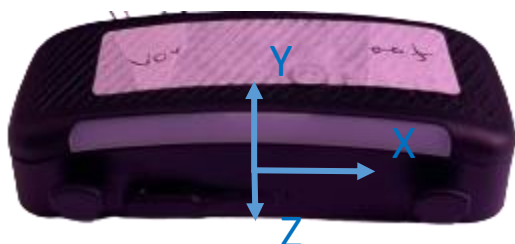
Antenna Radiation Patterns – Low Band



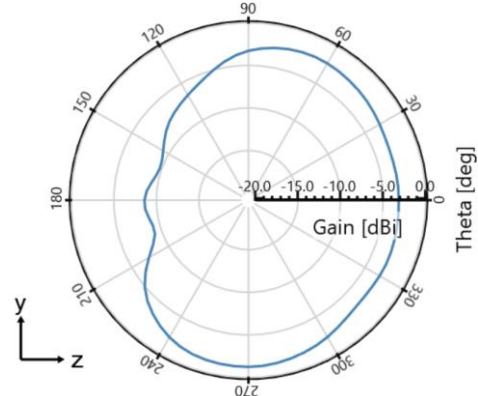
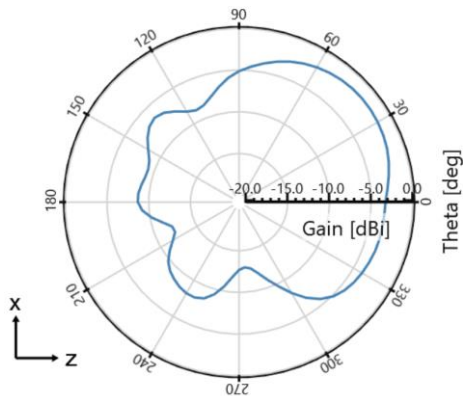
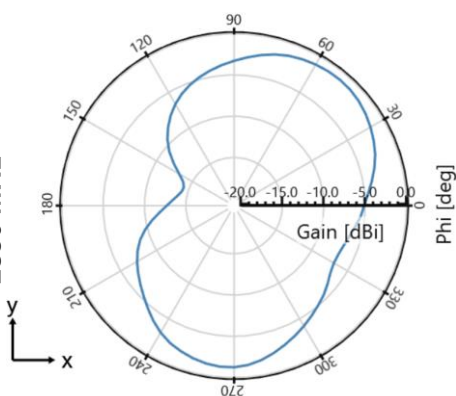
Antenna Radiation Patterns – Low Band cont.



Antenna Radiation Patterns – High Band



High Band measured at
1850 MHz



Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	Thickness (mm)
9003205	34.1 ± 0.3	19.6 ± 0.3	$0.3 \pm 10\%$

