

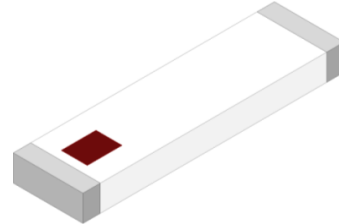
High Frequency Ceramic Solutions

LTE Multi-Band Ceramic Antenna, SMD. Ideal for Cellular, IoT, CAT M1, and NB (Narrow Band) Applications P/N: 0830AT54A2200

Detail Specification: 7/31/2018

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General Specifications		
Part Number	0830AT54A2200	
Operating Frequencies	Tuning Version 1	Tuning Version 2
Frequency (MHz)	700 - 800	824 - 960
	1700 - 2100	1710 - 2690
Return Loss (dB)	3.5 min.	4.5 min.
Peak Gain <small>measured on EB1/2</small>	2.0 typ. (dBi)	2.0 typ. (dBi)
Average Gain <small>measured on EB1/2</small>	-1.6 typ. (dBi)	-1.0 typ. (dBi)
Power Capacity (W)	3 max. (CW)	
Quantity/Reel	500	
Operating Temperature	-40°C to +85°C (may be expanded, ask us how)	
Storage Temperature	-40°C to +85°C	
Storage Conditions for unused product on T&R and max shelf period	+5 ~ +35 °C Humidity 45~75%RH 18 mos. max	



Need help with the antenna layout or performance?
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Part Number Explanation				
P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 0830AT54A2200S
		T & R	Suffix = E	eg. 0830AT54A2200E
		100% Tin	Suffix = None	eg. 0830AT54A2200(E or S)
Evaluation Boards	Tuning Version 1: 0830AT54A2200-EB1SMA (large)		Tuning Version 2: 0830AT54A2200-EB2SMA (large)	
	Tuning Version 1: 0830AT54A2200-EB3SMA (small)		Tuning Version 2: 0830AT54A2200-EB4SMA (small)	

Mechanical Dimensions		
	In	mm
L	0.591 ± 0.008	15.00 ± 0.2
W	0.157 ± 0.008	4.00 ± 0.2
T	0.059 ± 0.008	1.50 ± 0.2
a	0.039 ± 0.012	1.00 ± 0.3

Top View

Side View

Bottom View

Terminal Configuration	
No.	Function
1	FEED
2	NC

Pin 2 must be soldered onto the PCB for mechanical stability

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Mounting Style, Small: Tuning versions 1 and 2

Orderable p/ns
Tuning Version 1: 0830AT54A2200-EB3SMA (small)
Tuning Version 2: 0830AT54A2200-EB4SMA (small)

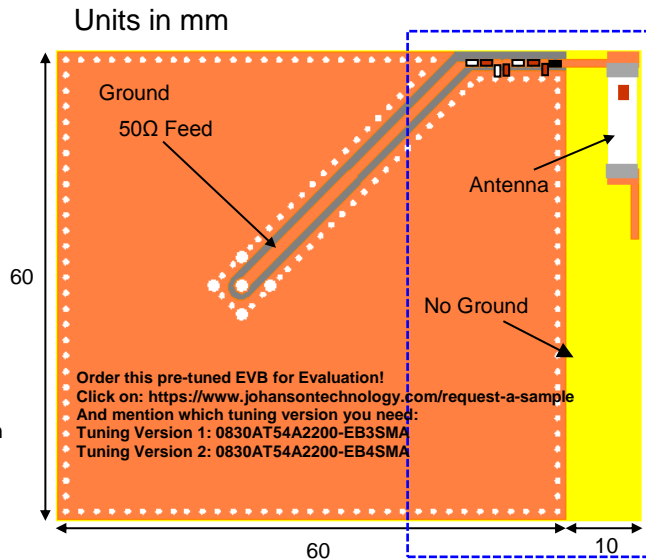
EB3SMA and EB4SMA are evaluation boards which overall size is reduced to demonstrate that this antenna can operate at reduced form factors. Go to page for the larger form factor sizes/examples

Would you like the layout file or us to review your layout?

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These are the layout recommendations for both tuning versions 1 and 2



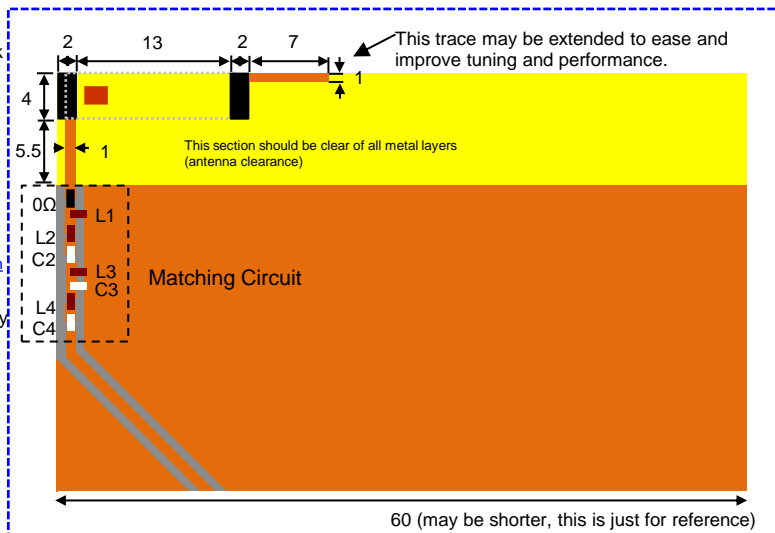
Units in mm

It is recommended that the designer leave available slots for the topology of the network to the right. These particular antenna matching values are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different, just leave them empty until final assembly, then tune.

Want us to tune it for you and need layout optimization? Contact us here:

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Would you like the layout file so you can copy and paste to your design? Having antenna tuning issues? Contact us by clicking on the link above



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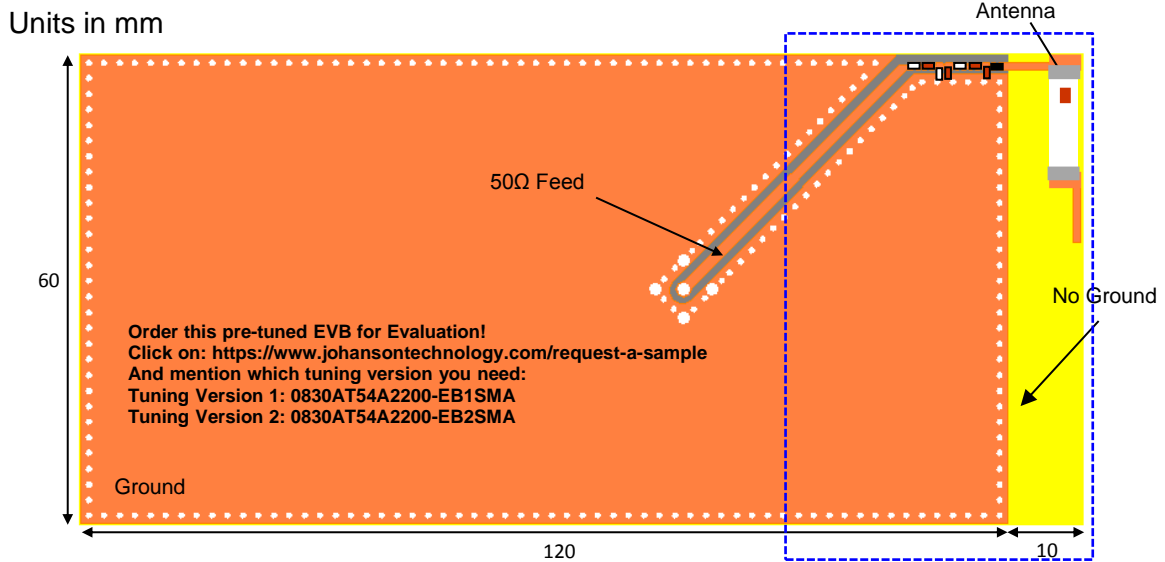
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Mounting Style, Standard: Tuning versions 1 and 2



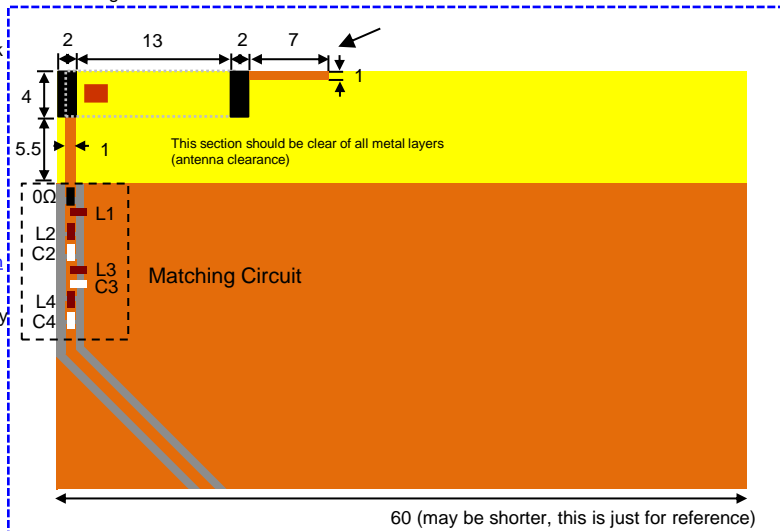
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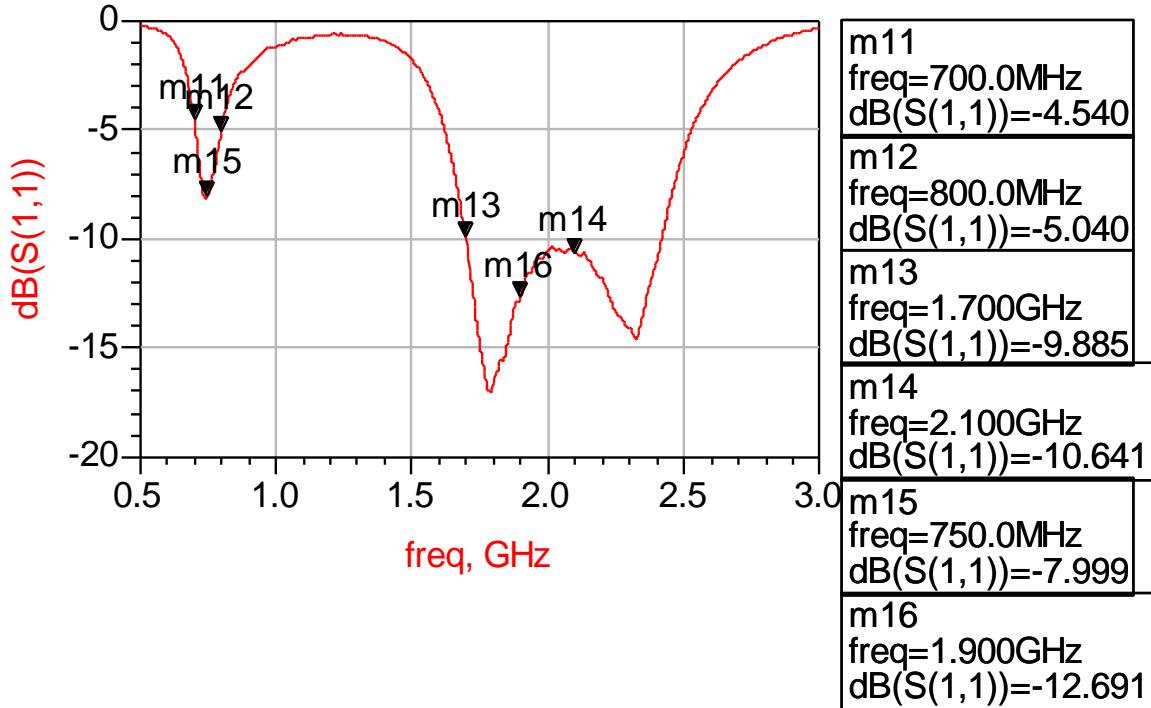
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Typical Electrical Characteristics (T=25°C) Tuning Version 1

Tuning Version 1: Evaluation Board p/n: 0830AT54A2200-EB1SMA



To order a pre-tuned 50Ω EVB with a female SMA connector for "Tuning Version 1" click here: <https://www.johansontechnology.com/request-a-sample>
Reference p/n: 0830AT54A2200-EB1SMA

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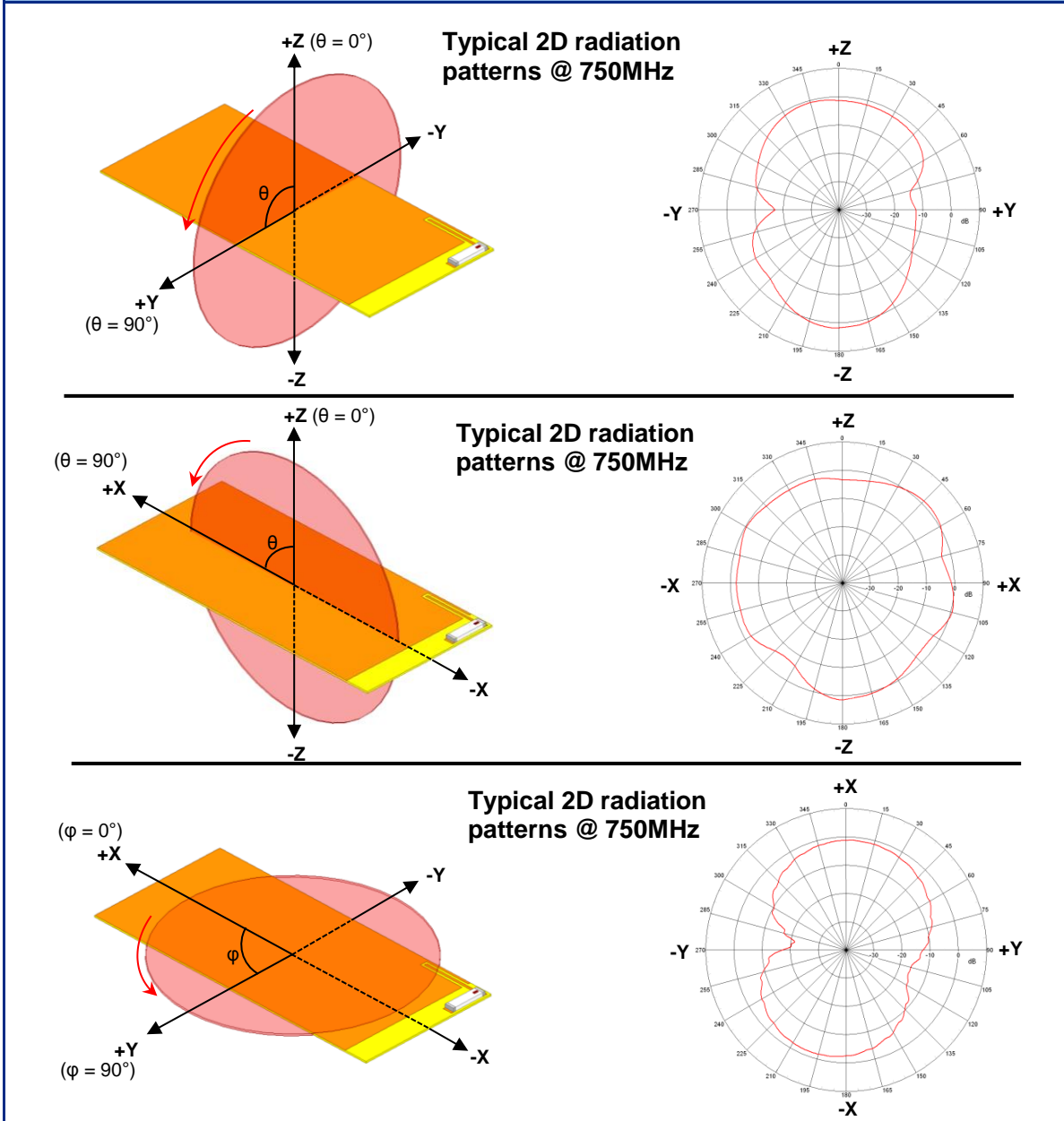
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Tuning Version 1: Radiation pattern and gain for P/N 0830AT54A2200-EB1SMA (Low Band)



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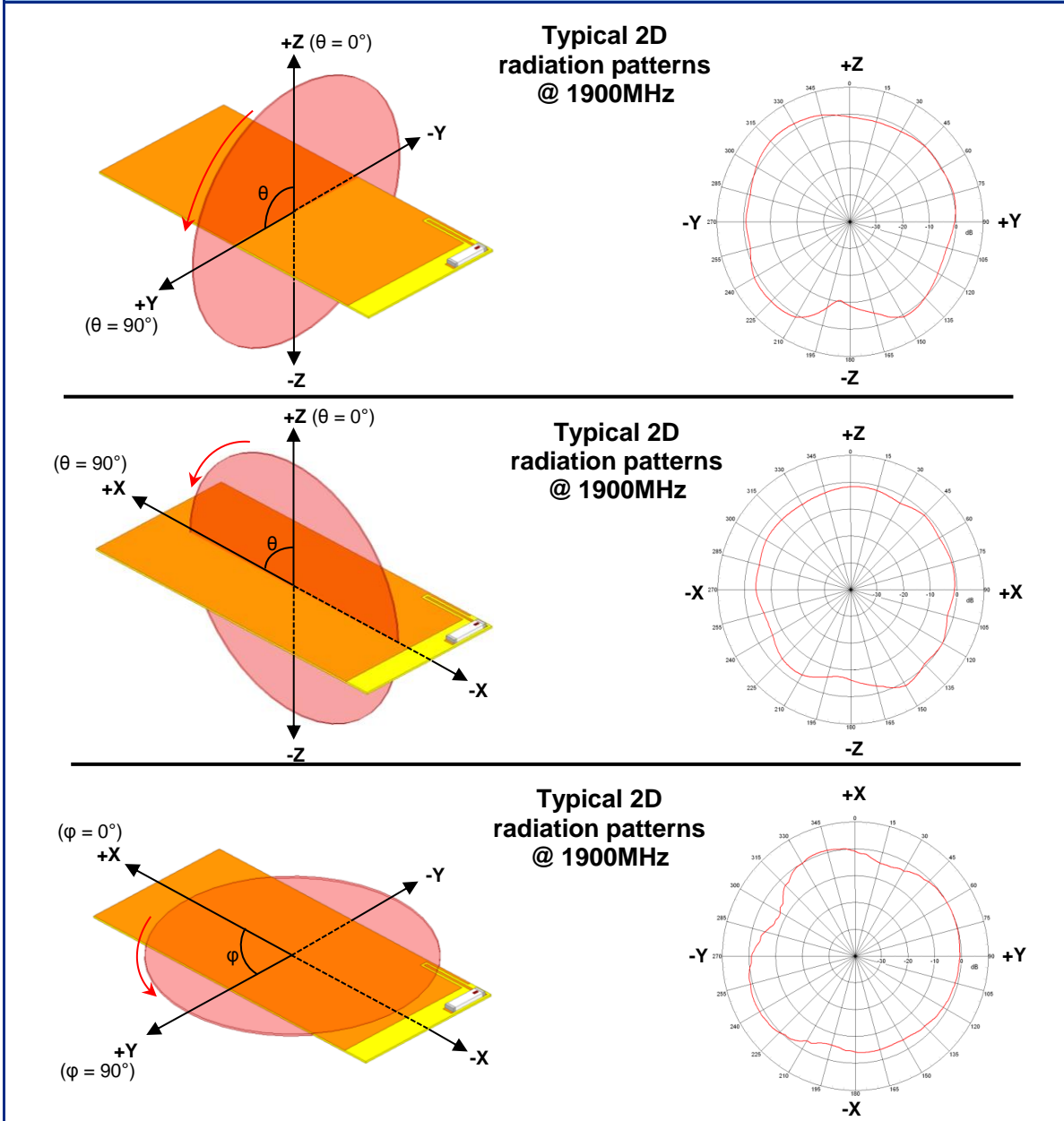
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Tuning Version 1: Radiation pattern and gain for P/N 0830AT54A2200-EB1SMA (High Band)



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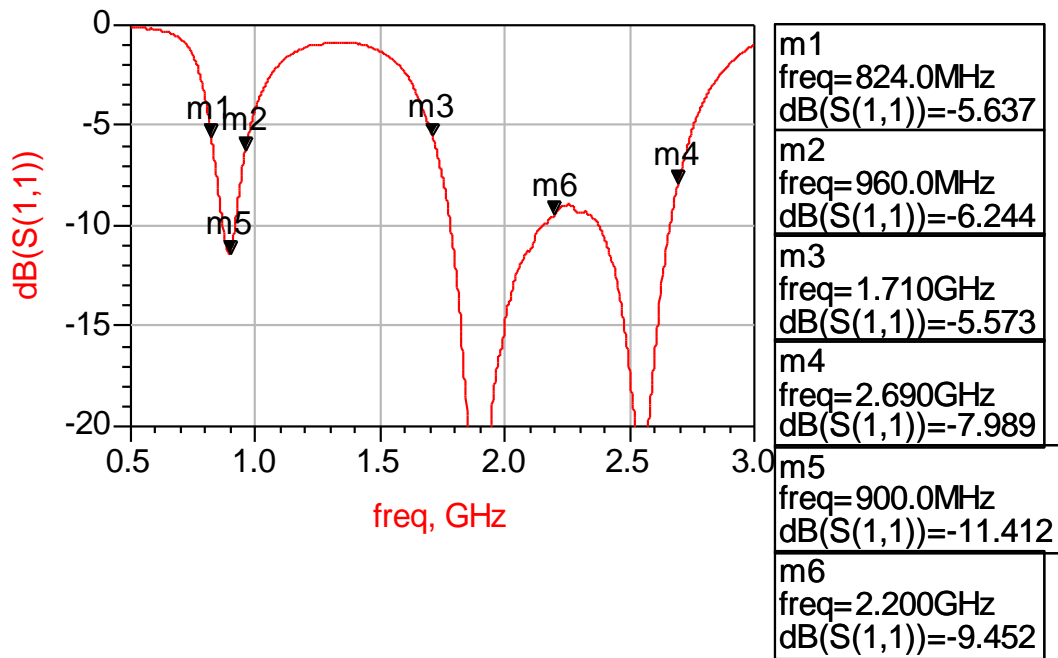
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Typical Electrical Characteristics (T=25°C) Tuning Version 2

Tuning Version 2: Evaluation Board p/n: 0830AT54A2200-EB2SMA



To order a pre-tuned 50Ω EVB with a female SMA connector for "Tuning Version 2" click here: <https://www.johansontechnology.com/request-a-sample>
Reference p/n: 0830AT54A2200-EB2SMA

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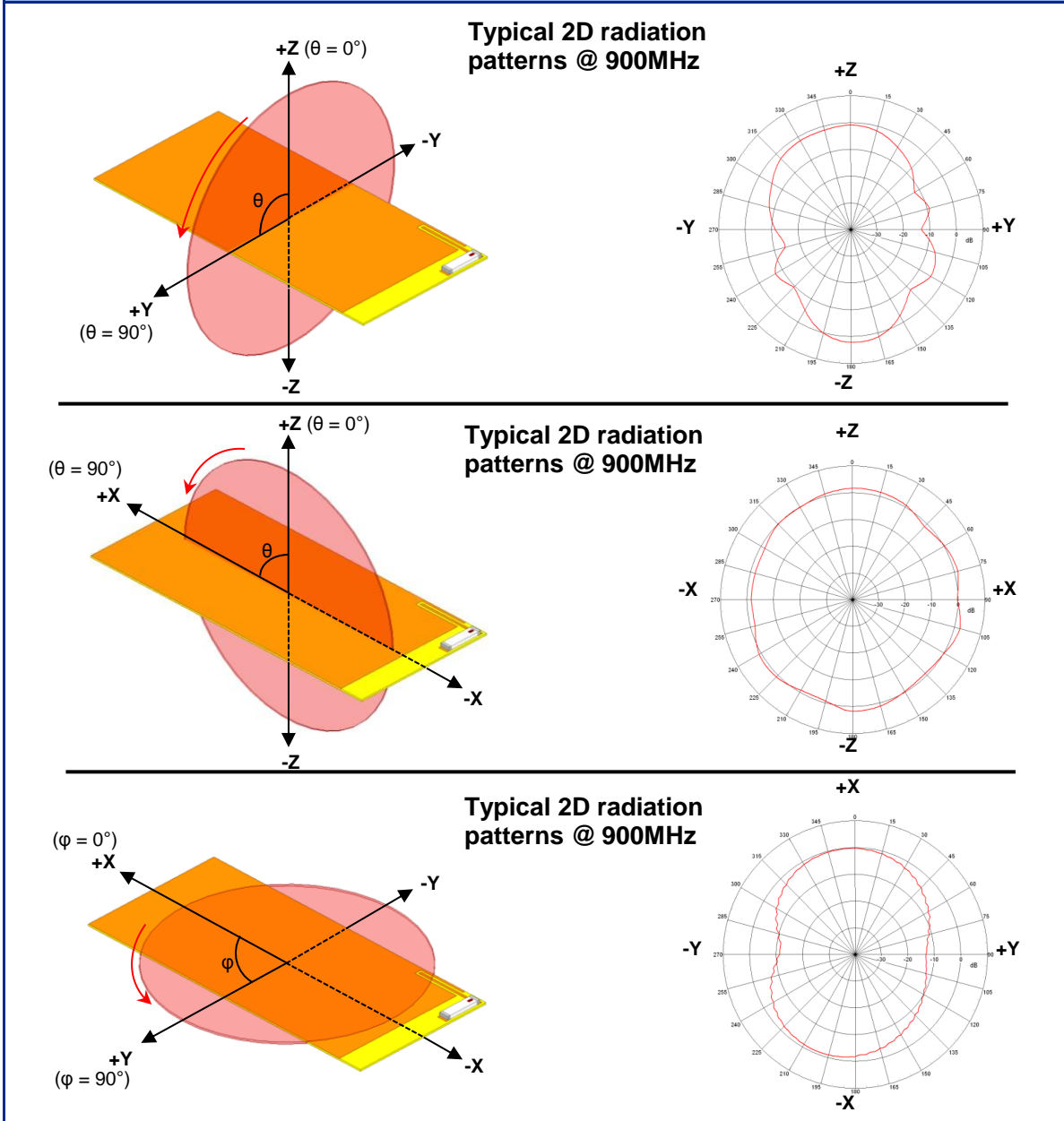
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Tuning Version 2: Radiation pattern and gain for P/N 0830AT54A2200-EB2SMA (Low Band)



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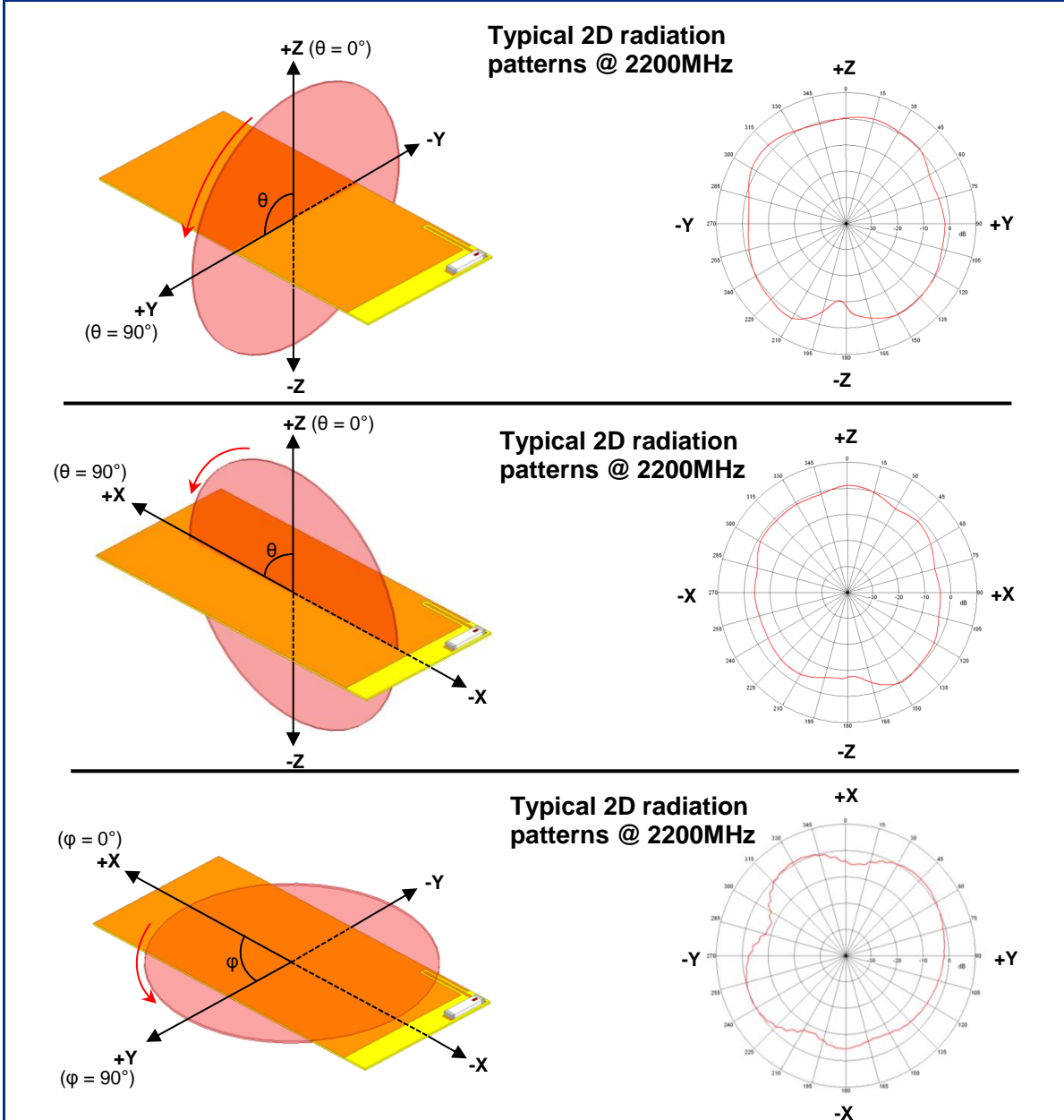
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Tuning Version 2: Radiation pattern and gain for P/N 0830AT54A2200-EB2SMA (High Band)



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<https://www.johansontechnology.com/ipc-antenna-services>

For more antennas and to download measured S-parameters, go to:

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Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

MSL Info

<https://www.johansontechnology.com/msl-rating>

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