

Catapult

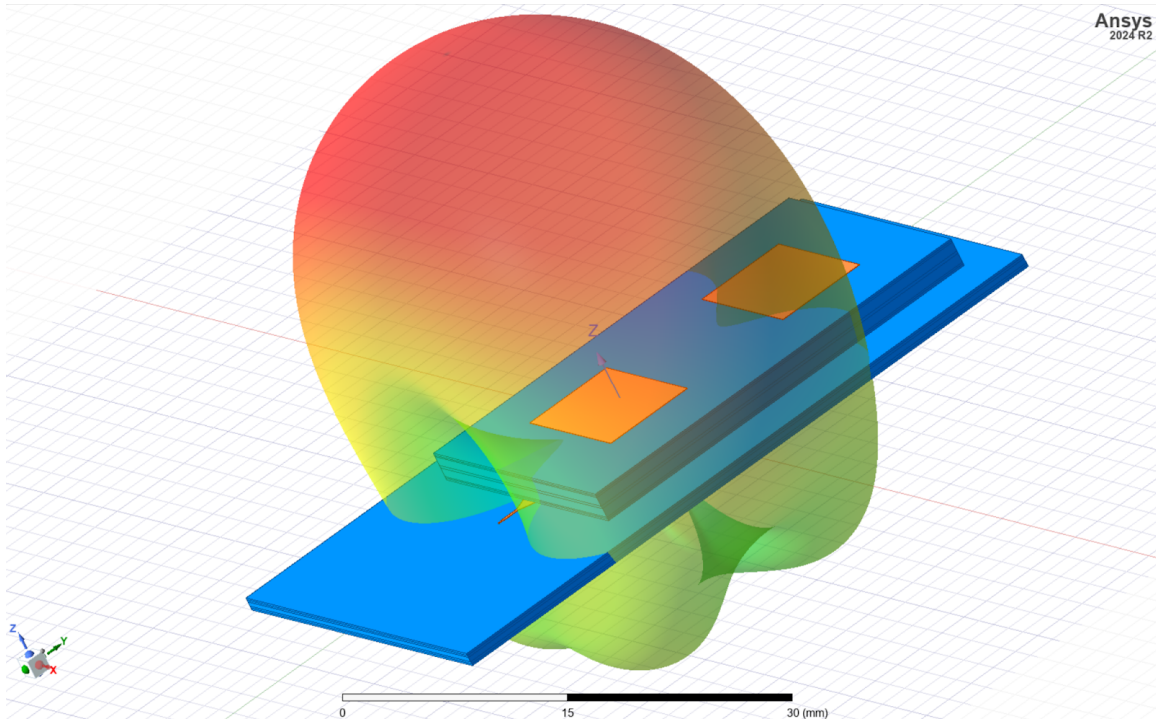
UWB_Module_DualBand_8G6G5

Antenna Datasheet

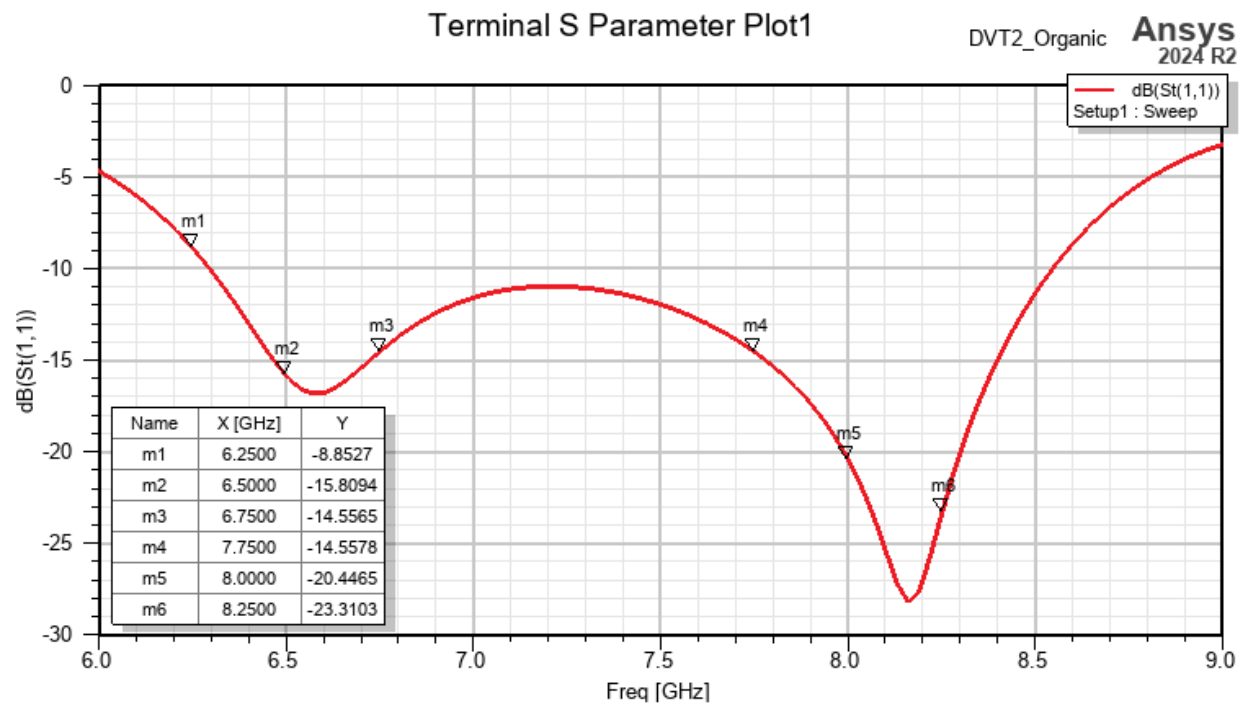
1. Technical Specifications

Parameter	UWB Channel 5	UWB Channel 9
Frequency Range (MHz)	6250-6750	7750-8250
Radiation Pattern	Directional	Directional
Impedance (Ω)	50	50
Polarization	Linear	Linear
Average Radiation Efficiency (%)	79.56	80.09
Peak Gain (dBi)	4.71@6.5GHz	8.12@8GHz
HPBW in XOZ Plane (degree)	± 51 @6.5GHz	± 42 @8GHz
HPBW in YOZ Plane (degree)	± 60 @6.5GHz	± 23 @8GHz
-6dB BW in XOZ Plane (degree)	± 74 @6.5GHz	± 61 @8GHz
-6dB BW inYOZ Plane (degree)	± 77 @6.5GHz	± 32 @8GHz
-10 dB BW in XOZ Plane (degree)	± 101 @6.5GHz	± 83 @8GHz
-10dB BW inYOZ Plane (degree)	± 96 @6.5GHz	± 41 @8GHz

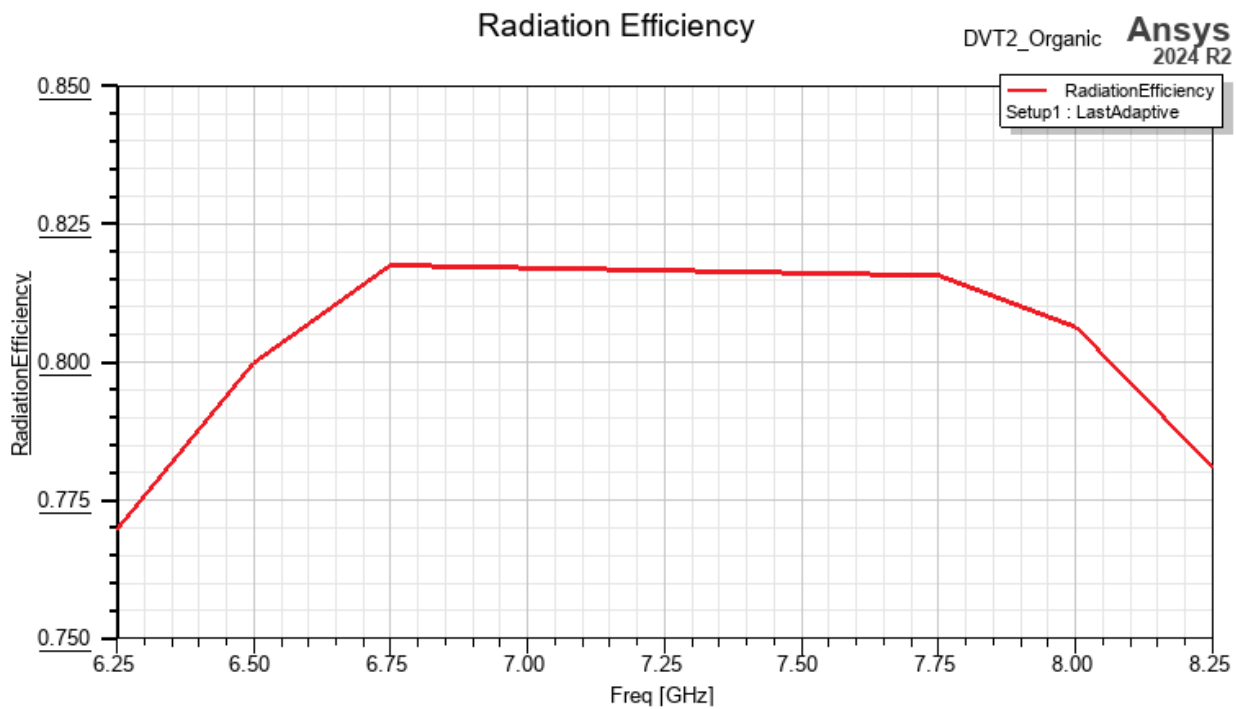
2. Simulated Antenna Characteristics



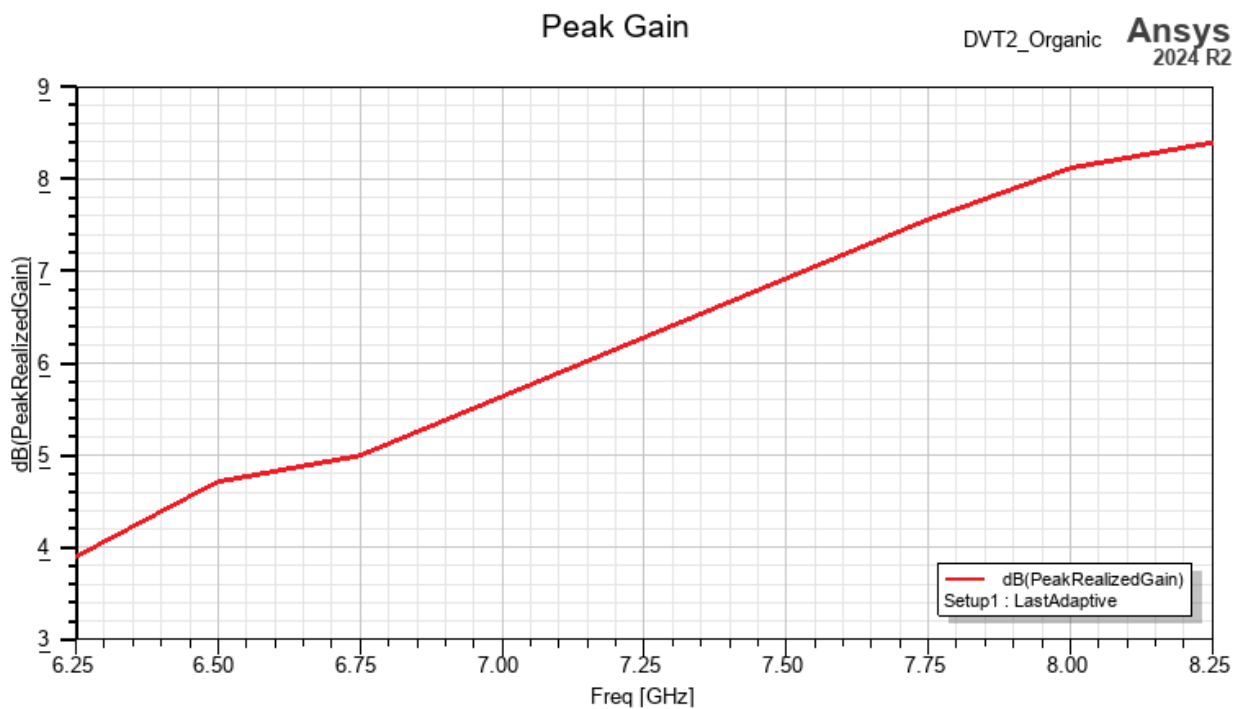
2.1. Return Loss



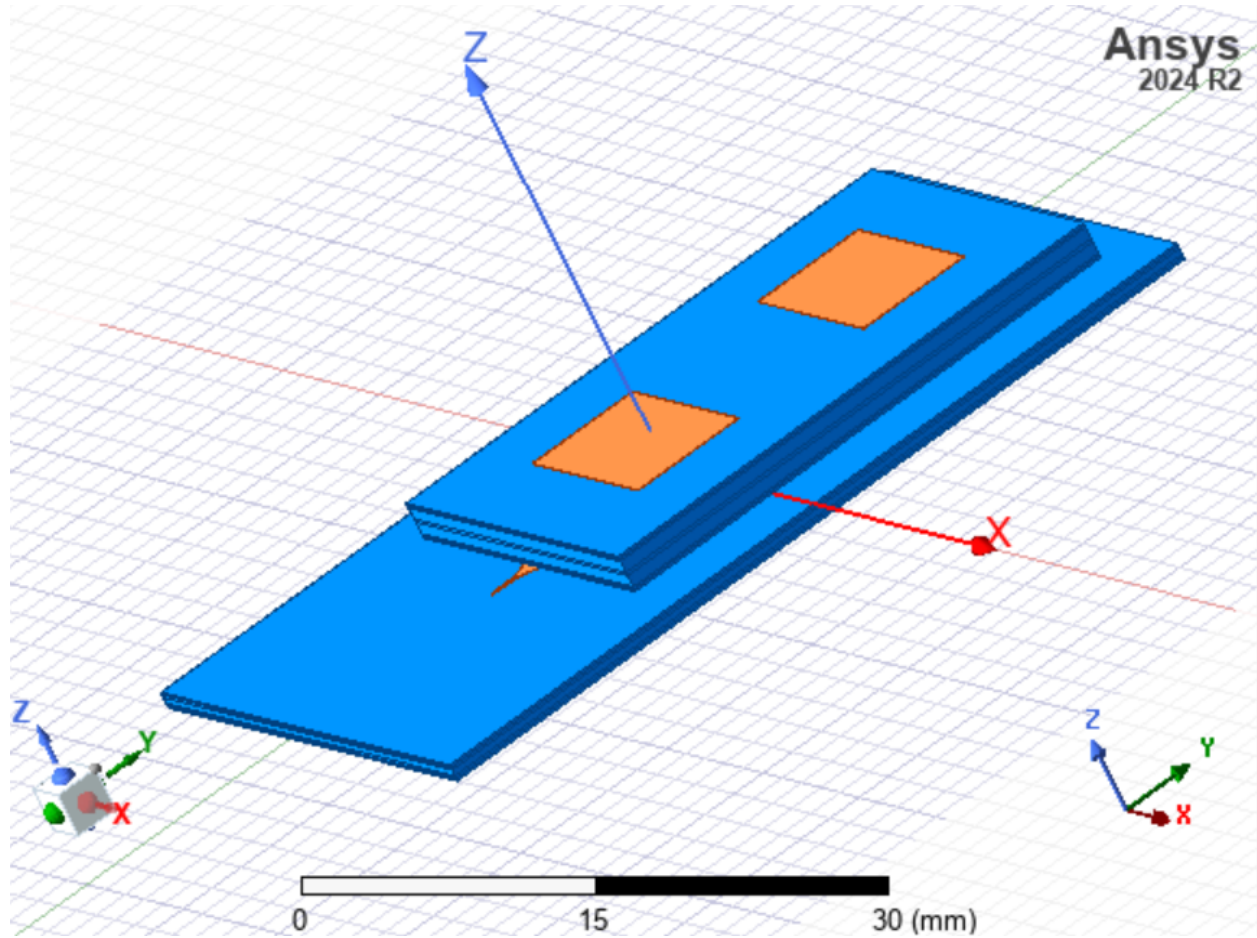
2.2. Radiation Efficiency



2.3. Peak Gain



2.4. Radiation Patterns

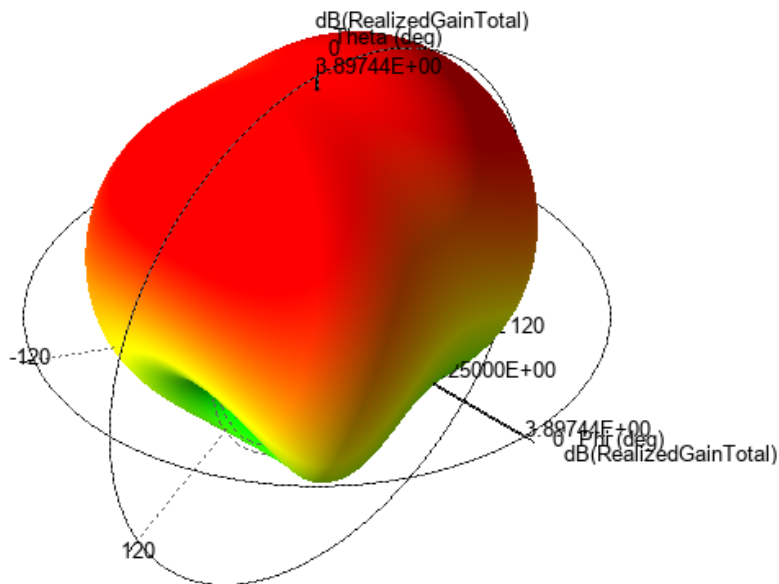
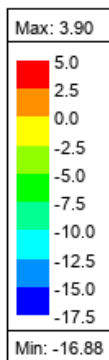


2.4.1. 3D Radiation Patterns
2.4.1.1. Channel 5

Ansys Inc.

6.25GHz

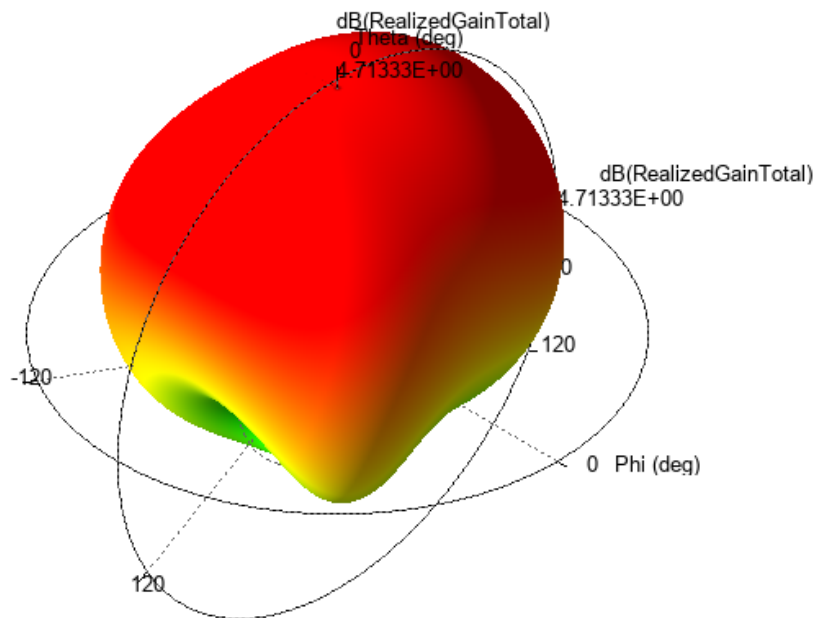
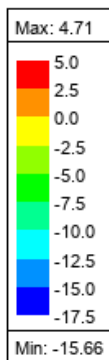
Ansys
2024 R2



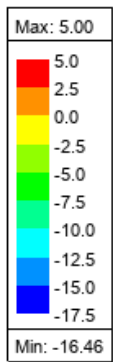
Ansys Inc.

6.5GHz

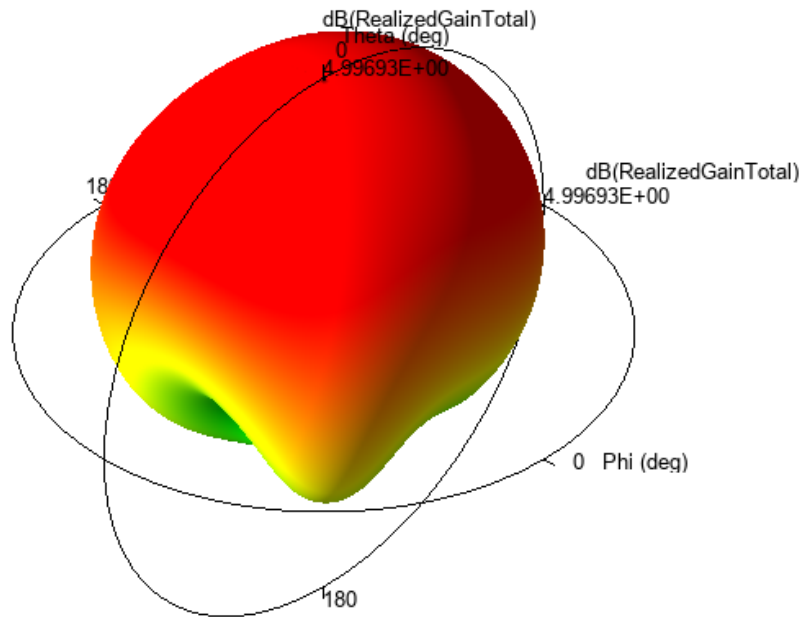
Ansys
2024 R2



Ansyes Inc.



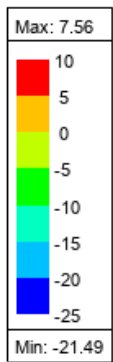
6.75GHz



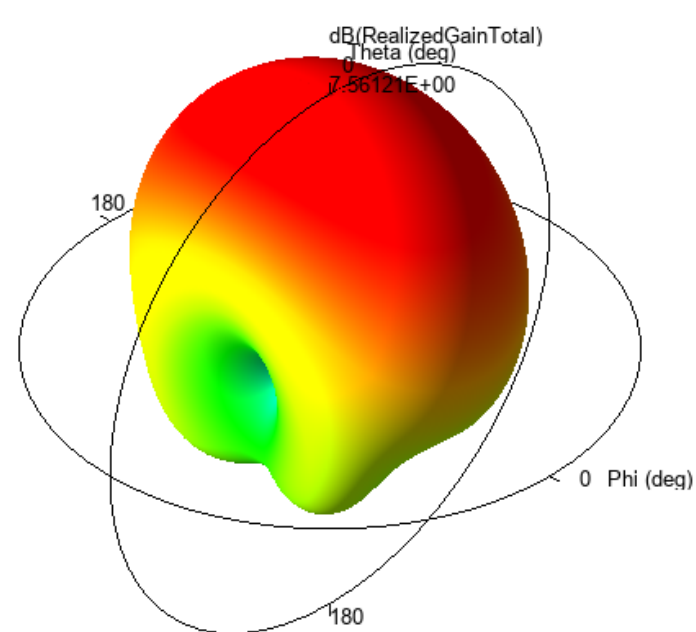
Ansyes
2024 R2

2.4.1.2. Channel 9

Ansyes Inc.

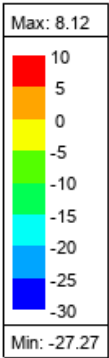


7.75GHz

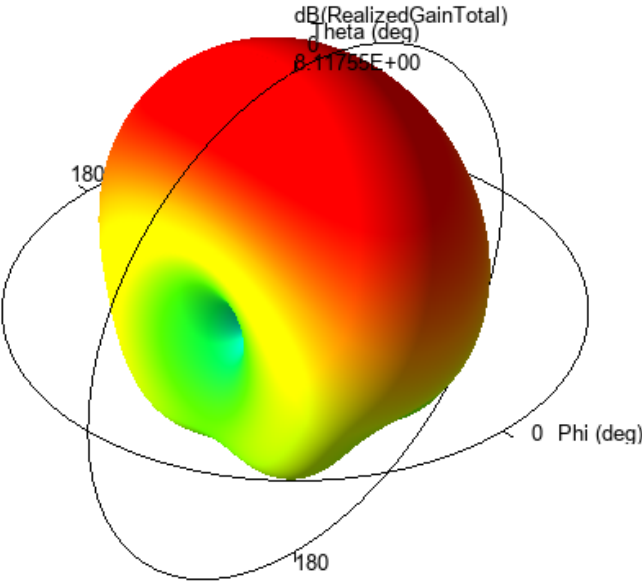


Ansyes
2024 R2

Ansys Inc.

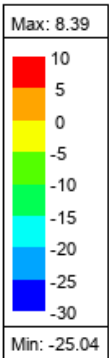


8GHz

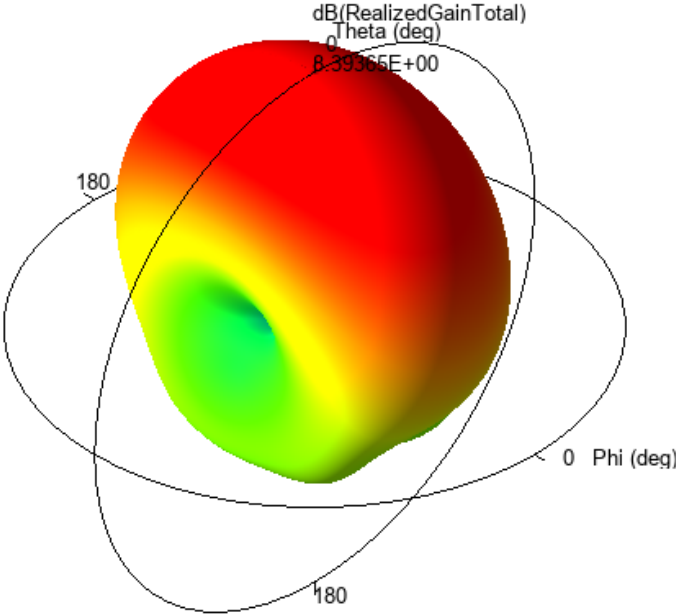


Ansys
2024 R2

Ansys Inc.

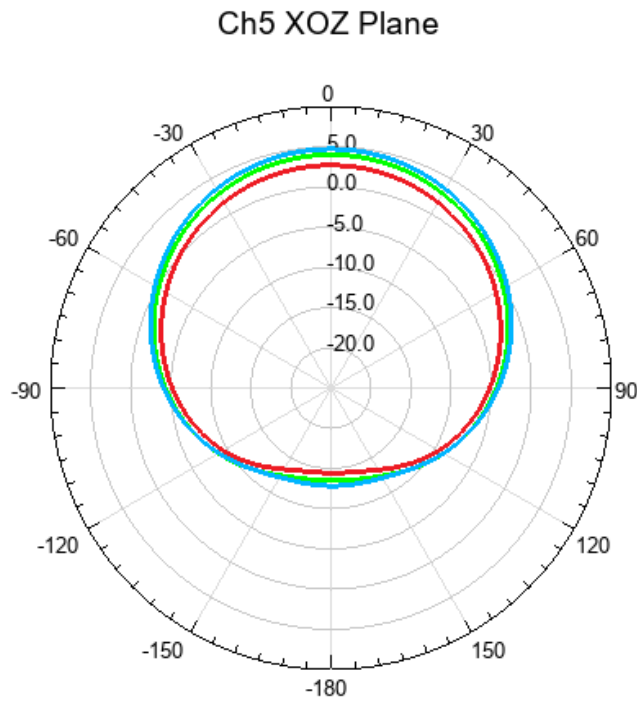


8.25GHz



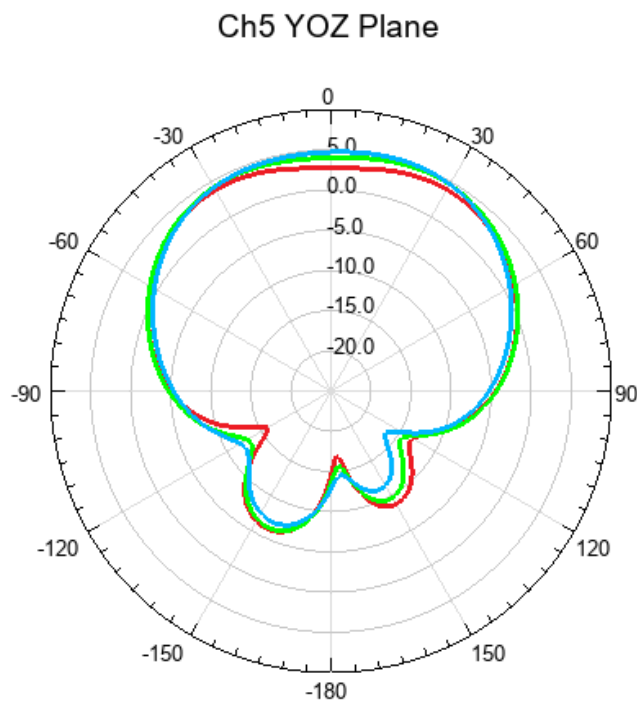
Ansys
2024 R2

2.4.2. 2D Radiation Patterns
2.4.2.1. Channel 5



DVT2_Organic **Ansys**
2024 R2

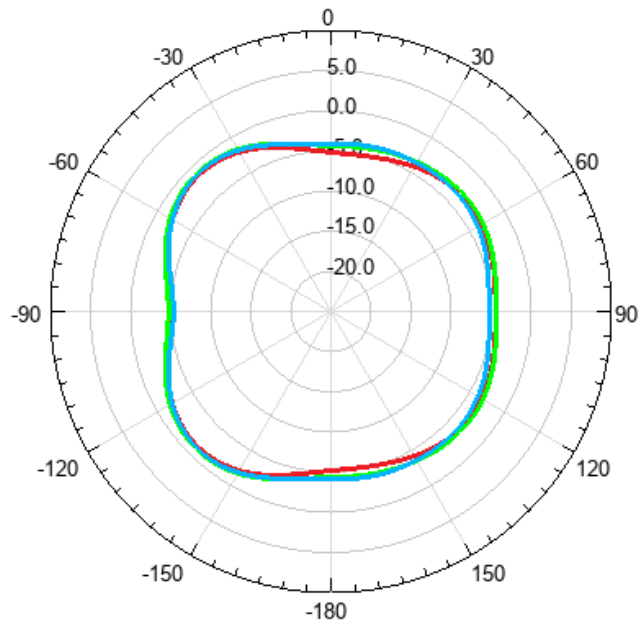
— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.25GHz' Phi='0deg'
— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.5GHz' Phi='0deg'
— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.75GHz' Phi='0deg'



DVT2_Organic **Ansys**
2024 R2

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.25GHz' Phi='90deg'
— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.5GHz' Phi='90deg'
— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=6.75GHz' Phi='90deg'

Ch5 XOY Plane



DVT2_Organic Ansys
2024 R2

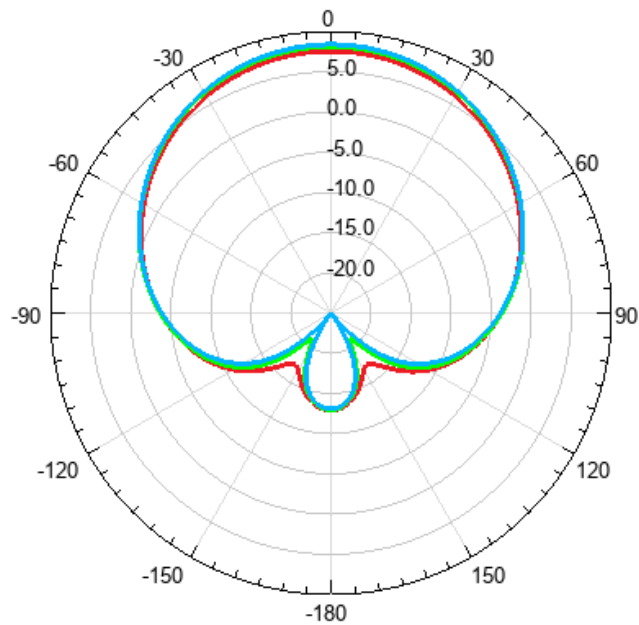
— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=6.25GHz' Theta='90deg'

— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=6.5GHz' Theta='90deg'

— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=6.75GHz' Theta='90deg'

2.4.2.2. Channel 9

Ch9 XOZ Plane



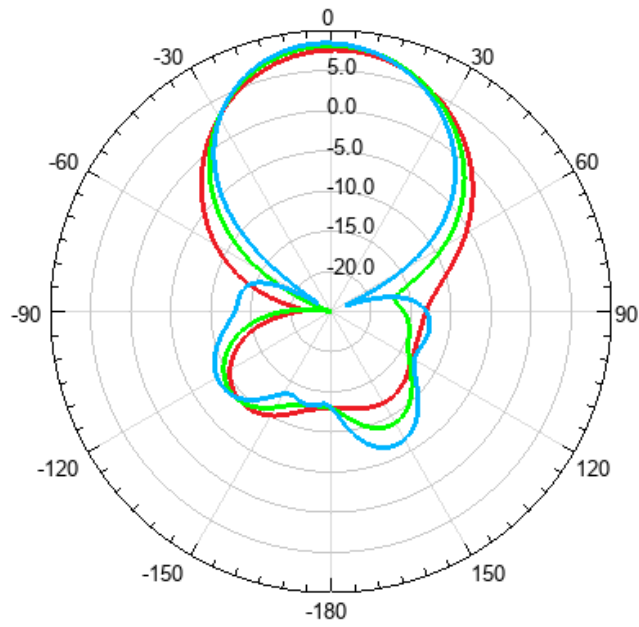
DVT2_Organic Ansys
2024 R2

— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=7.75GHz' Phi='0deg'

— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=8GHz' Phi='0deg'

— dB(RelizedGainTotal)
Setup1 : LastAdaptive
Freq=8.25GHz' Phi='0deg'

Ch9 YOZ Plane



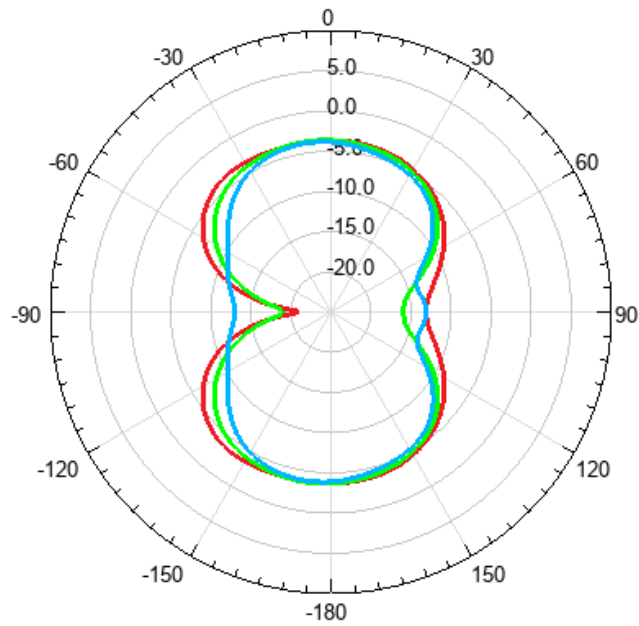
DVT2_Organic **Ansys**
2024 R2

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=7.75GHz' Phi='90deg'

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=8GHz' Phi='90deg'

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=8.25GHz' Phi='90deg'

Ch9 XOY Plane



DVT2_Organic **Ansys**
2024 R2

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=7.75GHz' Theta='90deg'

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=8GHz' Theta='90deg'

— dB(RealizedGainTotal)
Setup1 : LastAdaptive
Freq=8.25GHz' Theta='90deg'