

GPS III Earth Coverage (EC) Antenna Patterns

SV-Specific Patterns: Plots, Directivity, Phase

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DISTRIBUTION A: Approved for public release; distribution unlimited

Package Contents

This package contains the following GPS III Earth Coverage (EC) antenna pattern data for SVN74 through SVN78:

- Plots
- Directivity values
- Phase values

Each EC plot and directivity/phase spreadsheet has the following measurement resolution:

- Phi: 0° to 350° by 10° increments
- Theta: -90° to 90° by 2° increments

Separate plots, directivity and phase spreadsheets are provided for each space vehicle and EC operation frequency (L5, L2, L1).

All EC measurements were taken prior to antenna installation onto the space vehicle. Therefore, final configuration scattering effects are not present.

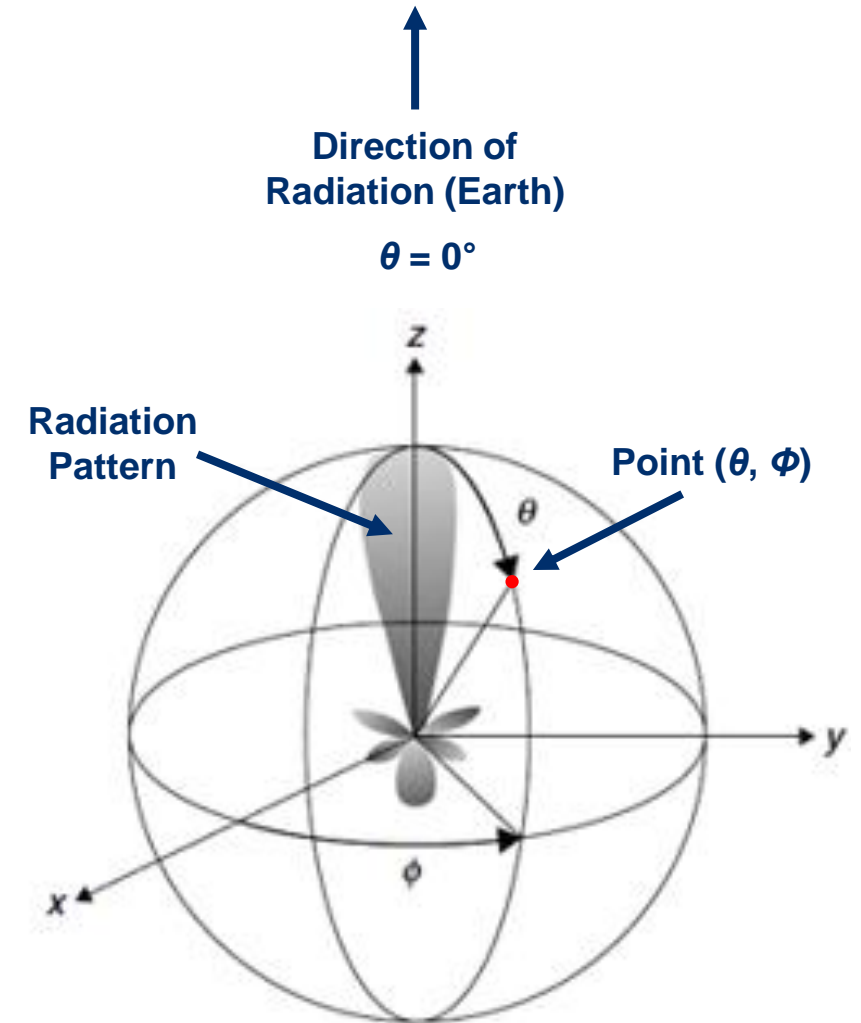


Spherical Coordinate System

Pattern measurements included in this package use a three-dimensional spherical coordinate system.

A point is specified by two angles:

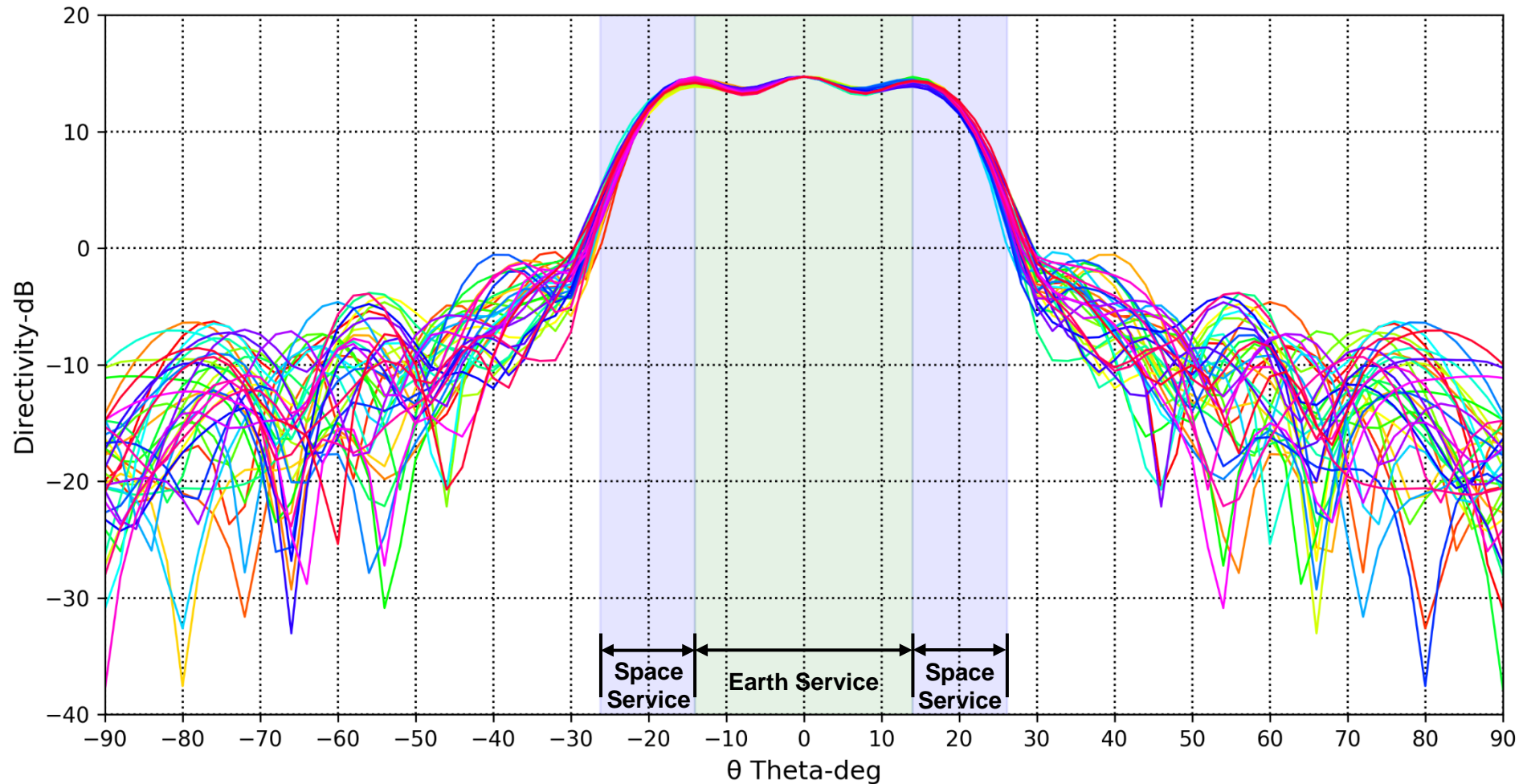
- Theta θ – angle between z-axis and the vector from the origin to the point
- Phi ϕ – angle from the x-axis about the z-axis



SVN74

SVN74: EC L5, Plot

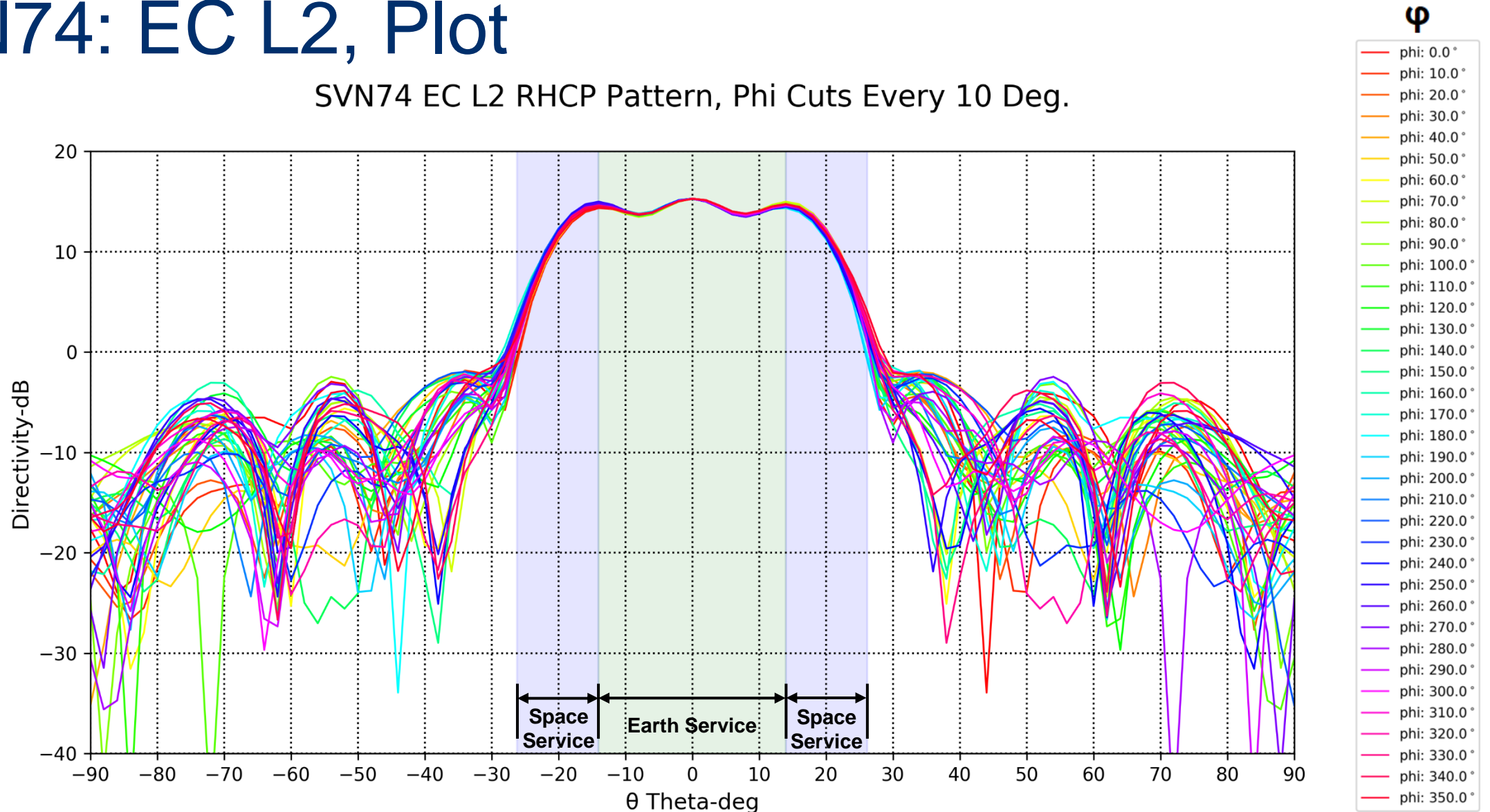
SVN74 EC L5 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
 - phi: 70.0°
 - phi: 80.0°
 - phi: 90.0°
 - phi: 100.0°
 - phi: 110.0°
 - phi: 120.0°
 - phi: 130.0°
 - phi: 140.0°
 - phi: 150.0°
 - phi: 160.0°
 - phi: 170.0°
 - phi: 180.0°
 - phi: 190.0°
 - phi: 200.0°
 - phi: 210.0°
 - phi: 220.0°
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 - phi: 240.0°
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 - phi: 260.0°
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 - phi: 300.0°
 - phi: 310.0°
 - phi: 320.0°
 - phi: 330.0°
 - phi: 340.0°
 - phi: 350.0°

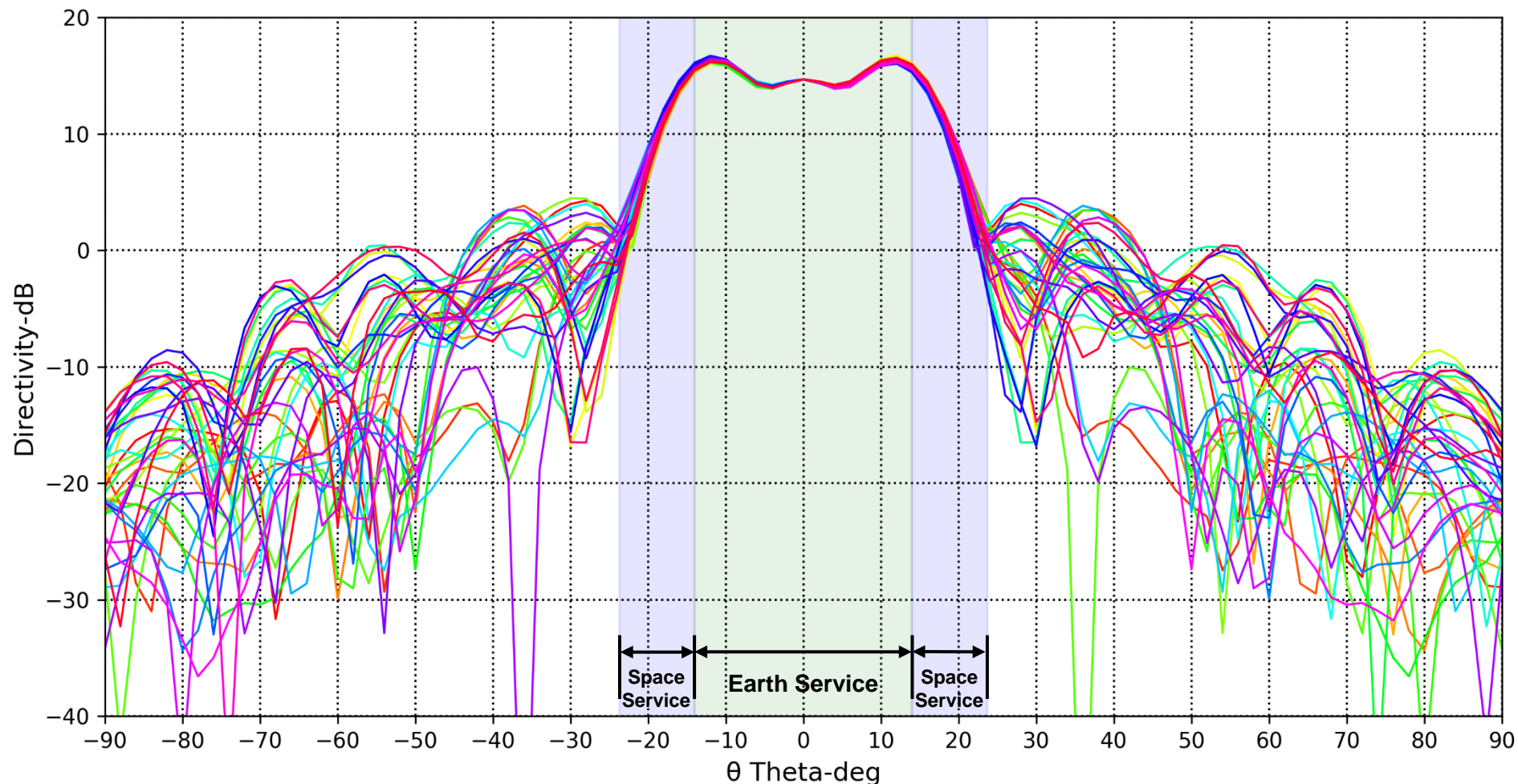
SVN74: EC L2, Plot

SVN74 EC L2 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN74: EC L1, Plot

SVN74 EC L1 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN74: EC Directivity & Phase



GPS_III_SVN74_EC_Antenna_Patterns_Directivity.zip



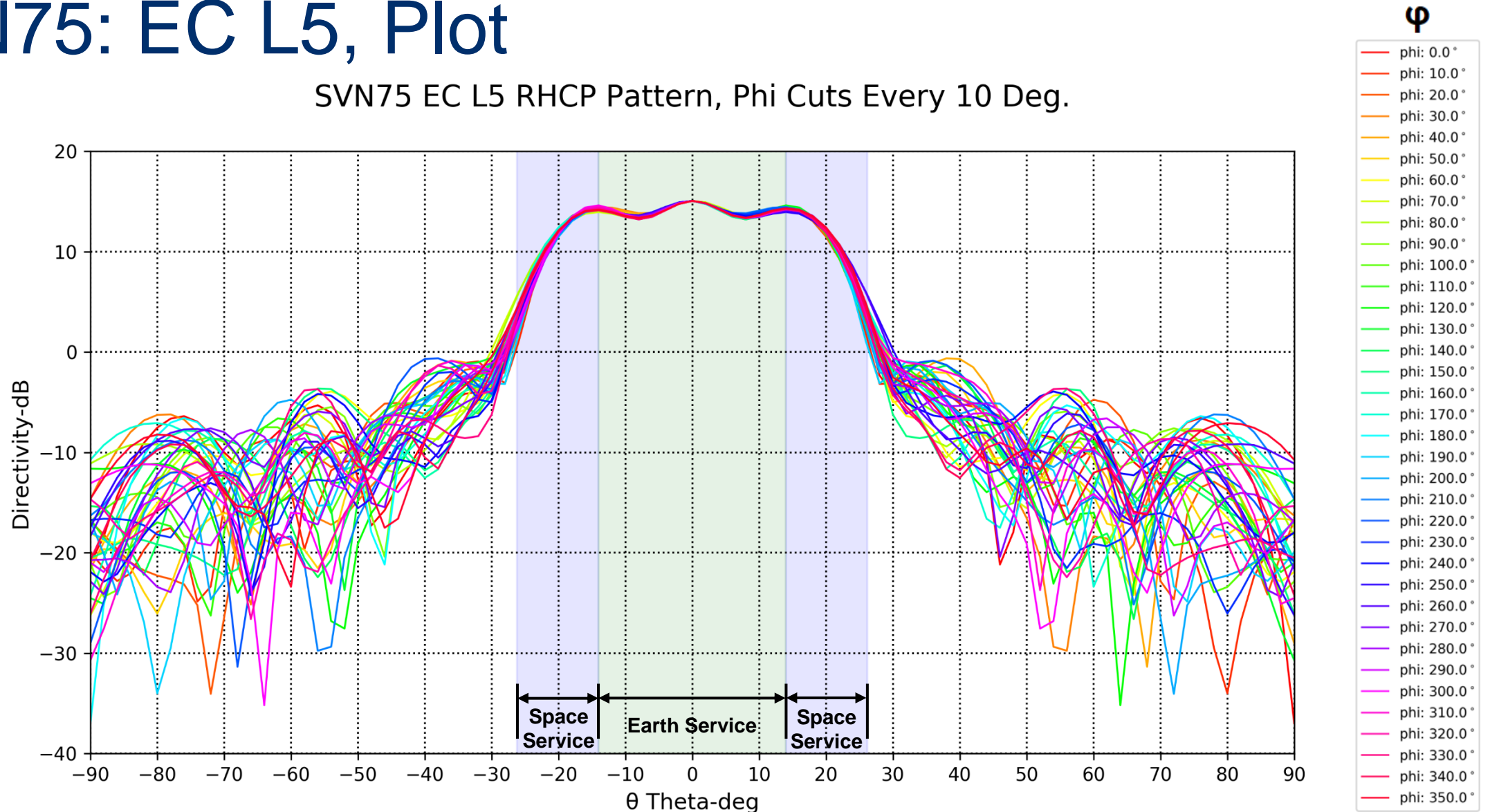
GPS_III_SVN74_EC_Antenna_Patterns_Phase.zip

*Each folder contains frequencies L5, L2, and L1
Double click folder icon to open*

SVN75

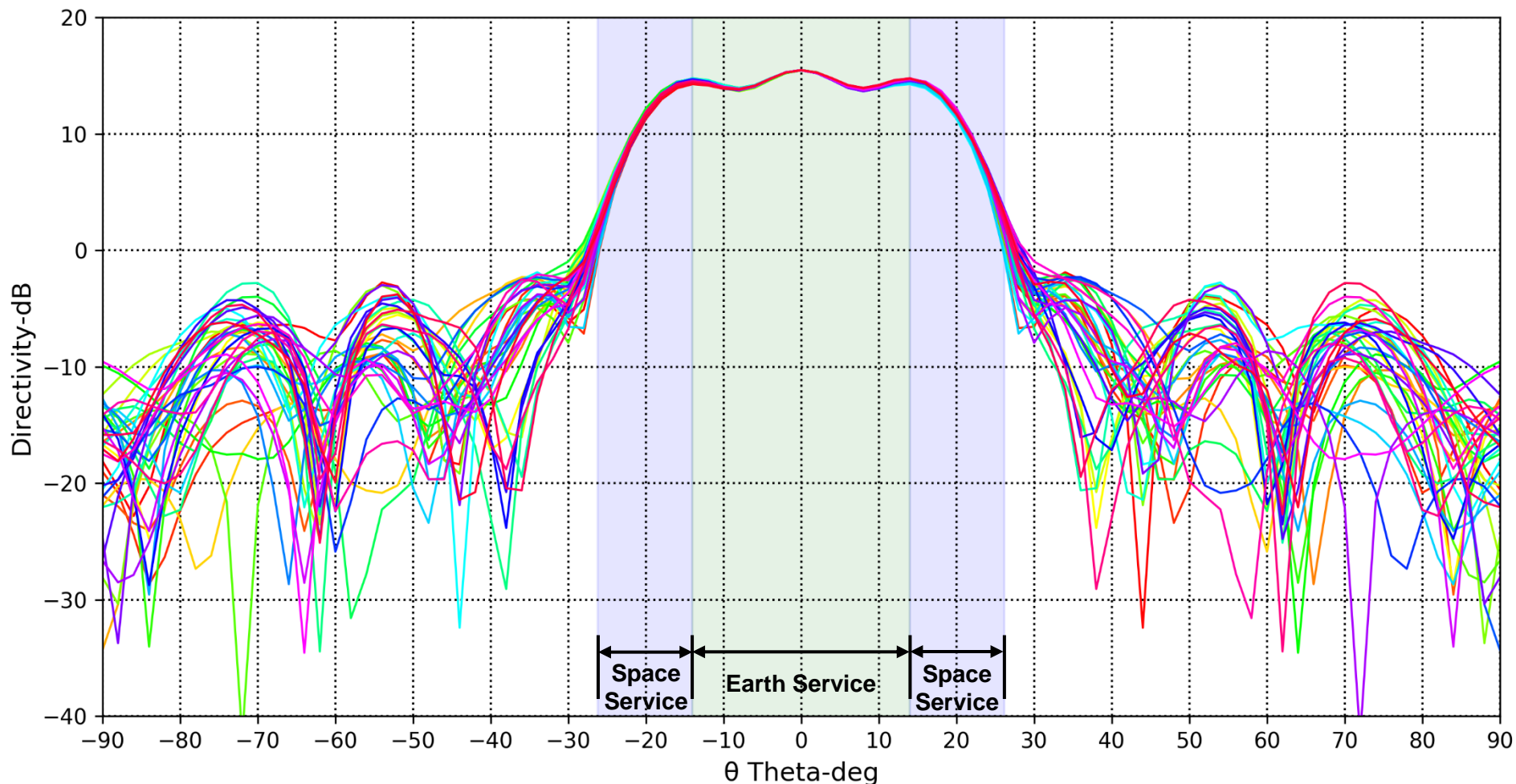
SVN75: EC L5, Plot

SVN75 EC L5 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN75: EC L2, Plot

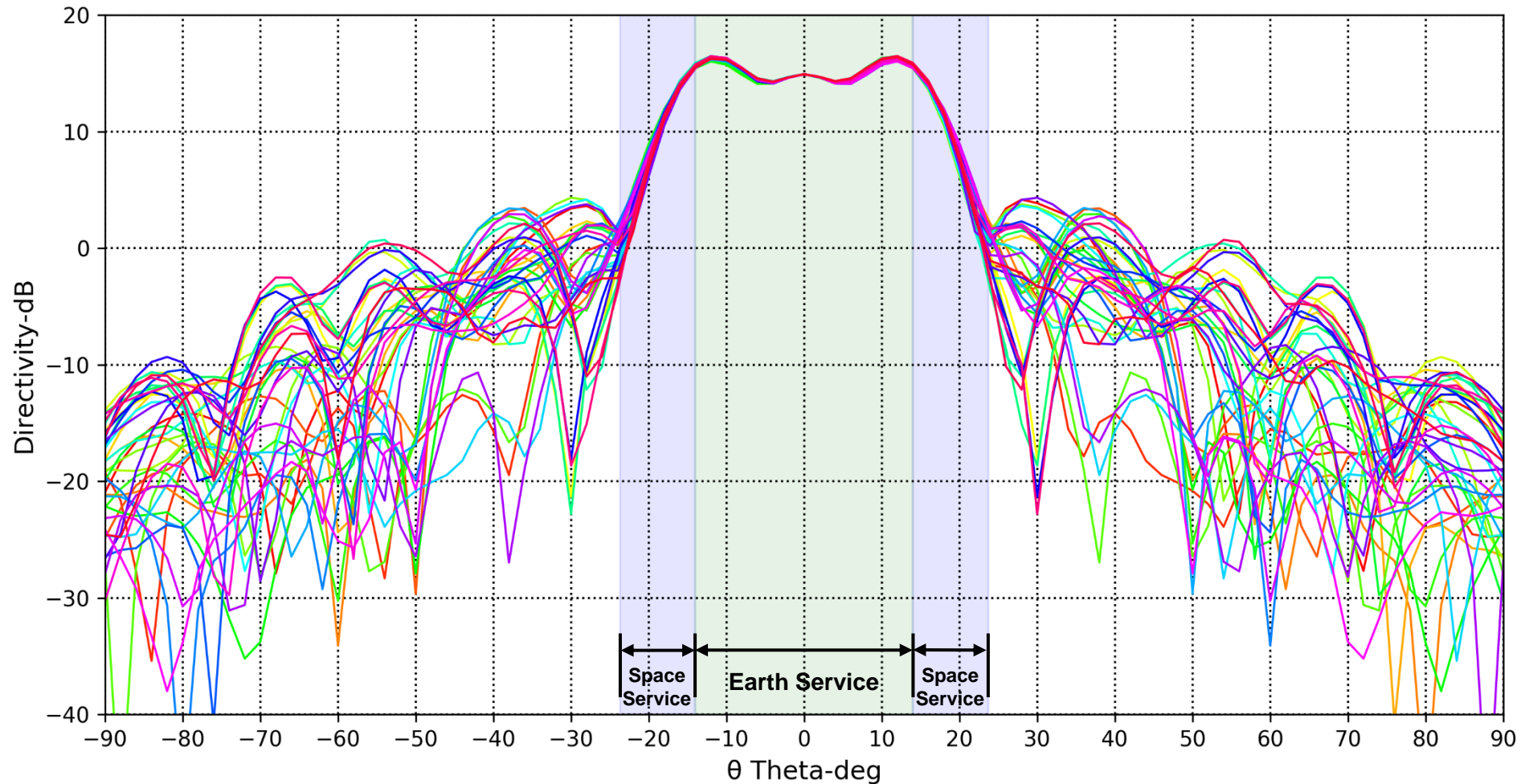
SVN75 EC L2 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
 - phi: 70.0°
 - phi: 80.0°
 - phi: 90.0°
 - phi: 100.0°
 - phi: 110.0°
 - phi: 120.0°
 - phi: 130.0°
 - phi: 140.0°
 - phi: 150.0°
 - phi: 160.0°
 - phi: 170.0°
 - phi: 180.0°
 - phi: 190.0°
 - phi: 200.0°
 - phi: 210.0°
 - phi: 220.0°
 - phi: 230.0°
 - phi: 240.0°
 - phi: 250.0°
 - phi: 260.0°
 - phi: 270.0°
 - phi: 280.0°
 - phi: 290.0°
 - phi: 300.0°
 - phi: 310.0°
 - phi: 320.0°
 - phi: 330.0°
 - phi: 340.0°
 - phi: 350.0°

SVN75: EC L1, Plot

SVN75 EC L1 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
 - phi: 70.0°
 - phi: 80.0°
 - phi: 90.0°
 - phi: 100.0°
 - phi: 110.0°
 - phi: 120.0°
 - phi: 130.0°
 - phi: 140.0°
 - phi: 150.0°
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 - phi: 250.0°
 - phi: 260.0°
 - phi: 270.0°
 - phi: 280.0°
 - phi: 290.0°
 - phi: 300.0°
 - phi: 310.0°
 - phi: 320.0°
 - phi: 330.0°
 - phi: 340.0°
 - phi: 350.0°

SVN75: EC Directivity & Phase



GPS_III_SVN75_EC_Antenna_Patterns_Directivity.zip



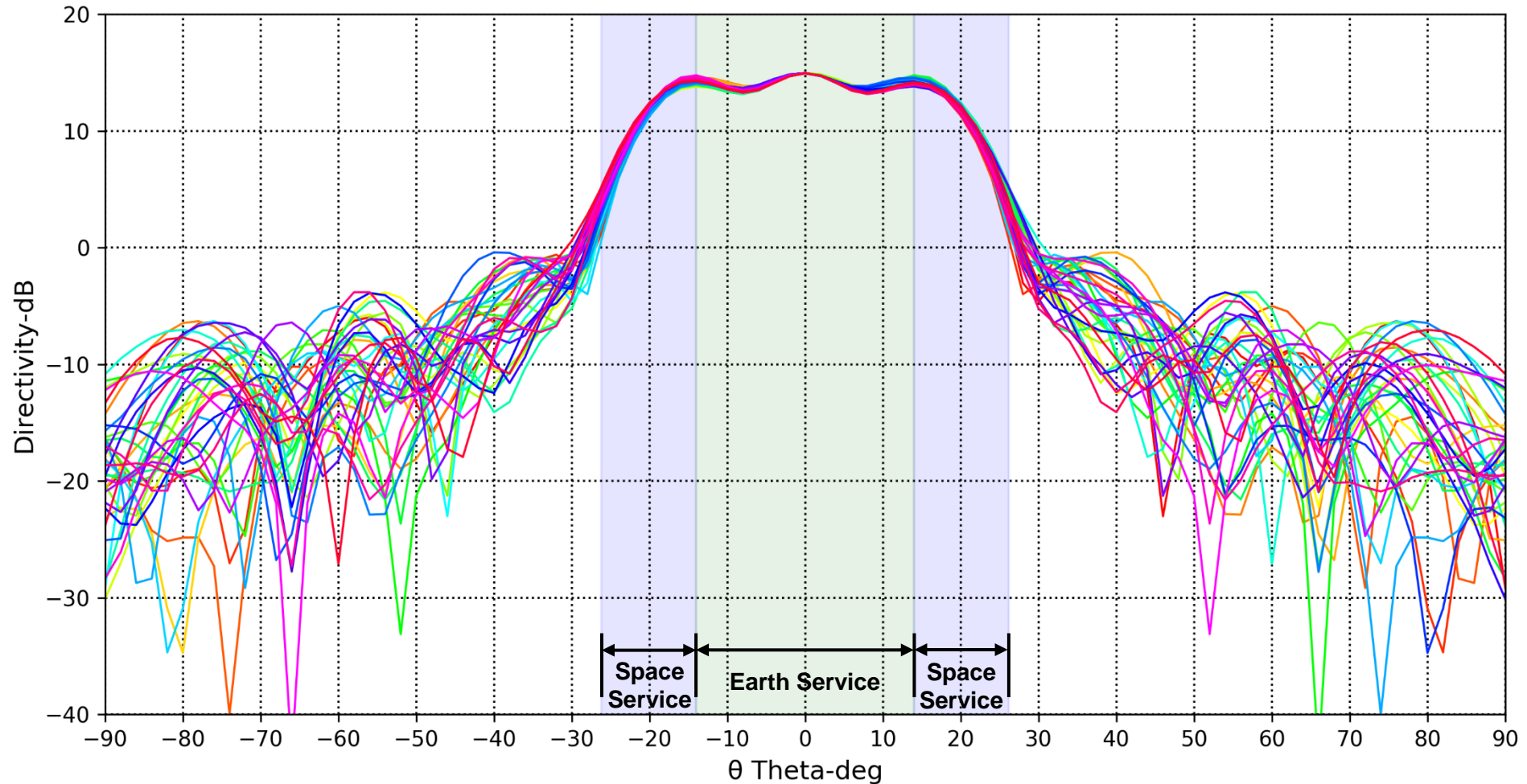
GPS_III_SVN75_EC_Antenna_Patterns_Phase.zip

*Each folder contains frequencies L5, L2, and L1
Double click folder icon to open*

SVN76

SVN76: EC L5, Plot

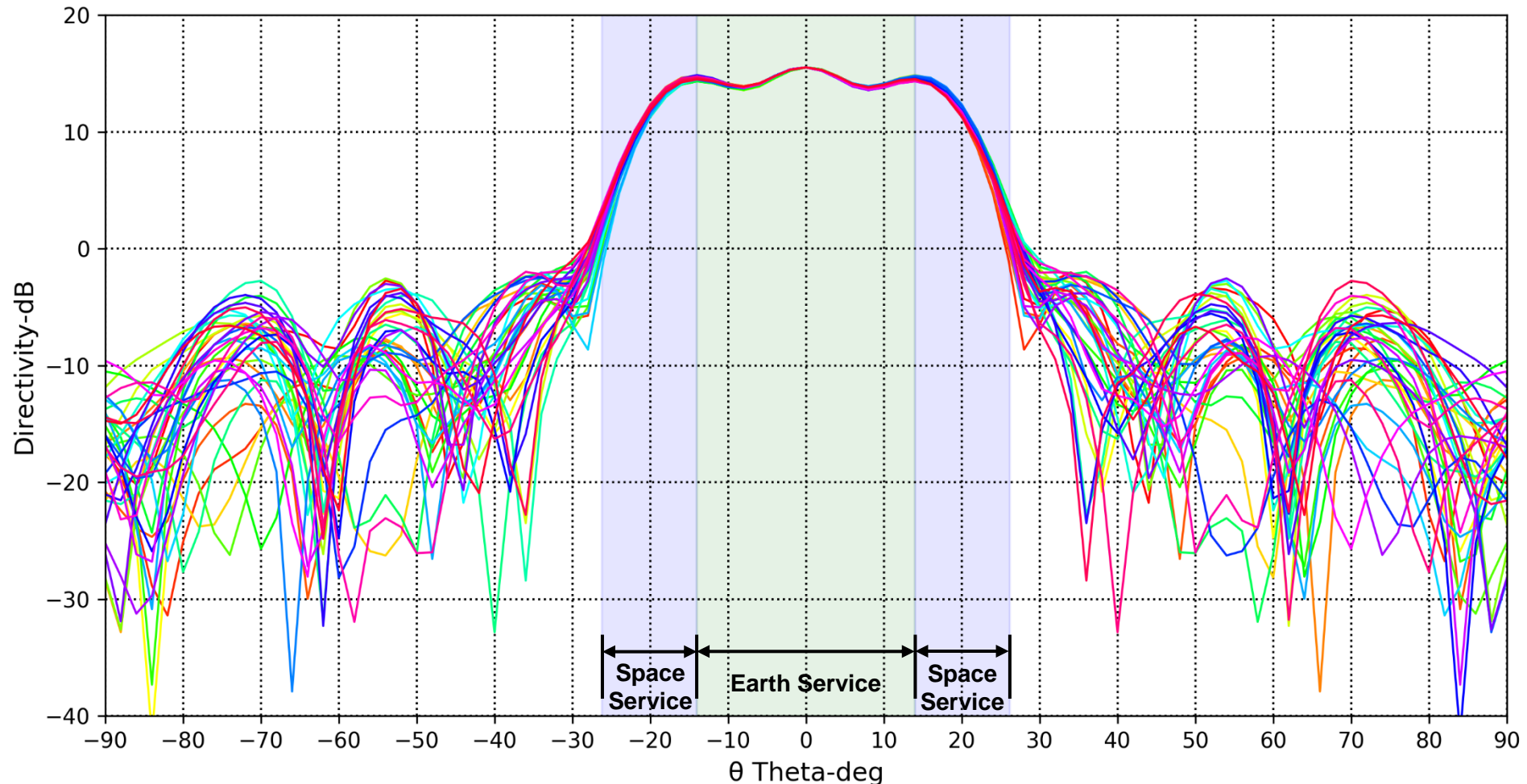
SVN76 EC L5 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
 - phi: 70.0°
 - phi: 80.0°
 - phi: 90.0°
 - phi: 100.0°
 - phi: 110.0°
 - phi: 120.0°
 - phi: 130.0°
 - phi: 140.0°
 - phi: 150.0°
 - phi: 160.0°
 - phi: 170.0°
 - phi: 180.0°
 - phi: 190.0°
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 - phi: 300.0°
 - phi: 310.0°
 - phi: 320.0°
 - phi: 330.0°
 - phi: 340.0°
 - phi: 350.0°

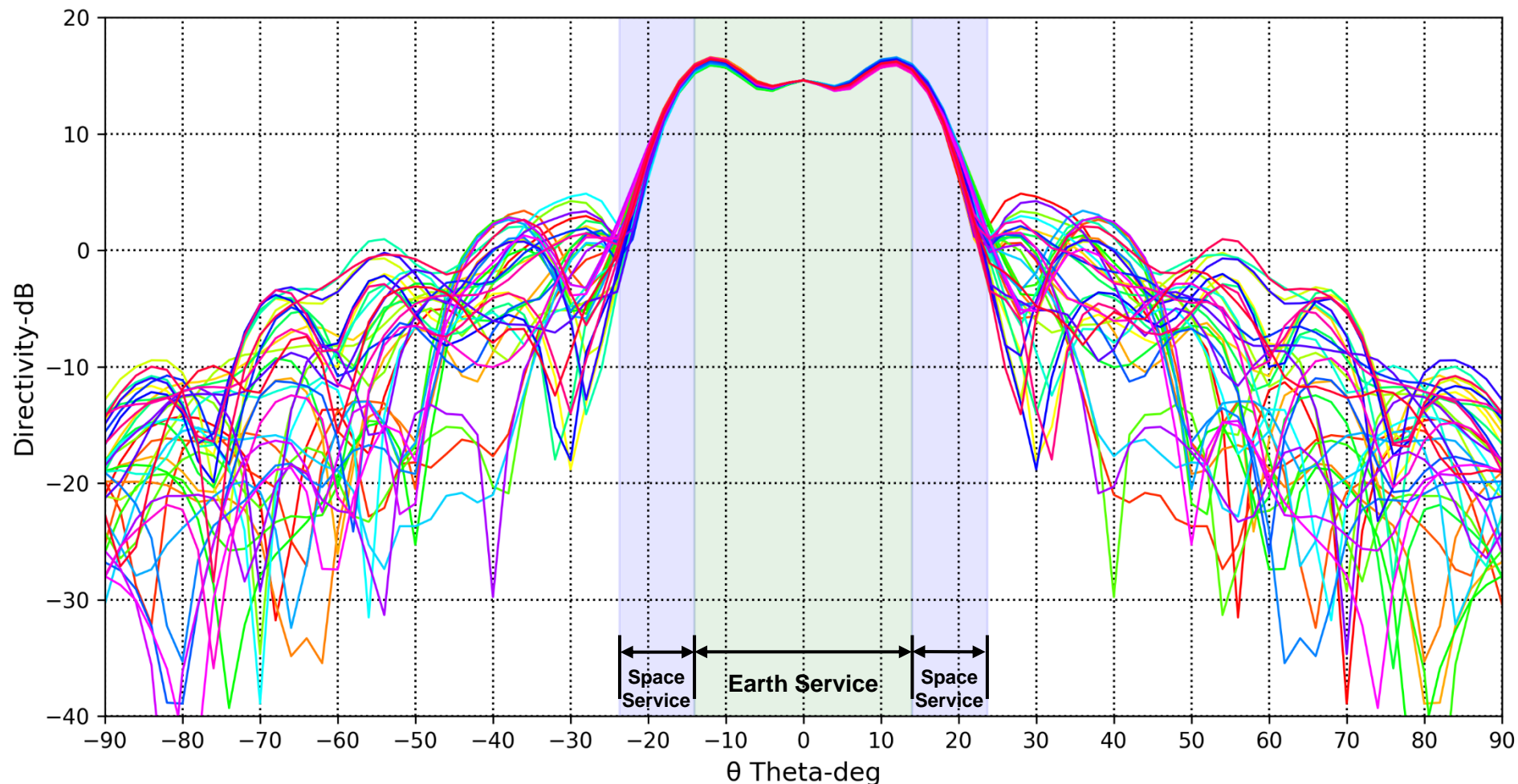
SVN76: EC L2, Plot

SVN76 EC L2 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN76: EC L1, Plot

SVN76 EC L1 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN76: EC Directivity & Phase



GPS_III_SVN76_EC_Antenna_Patterns_Directivity.zip



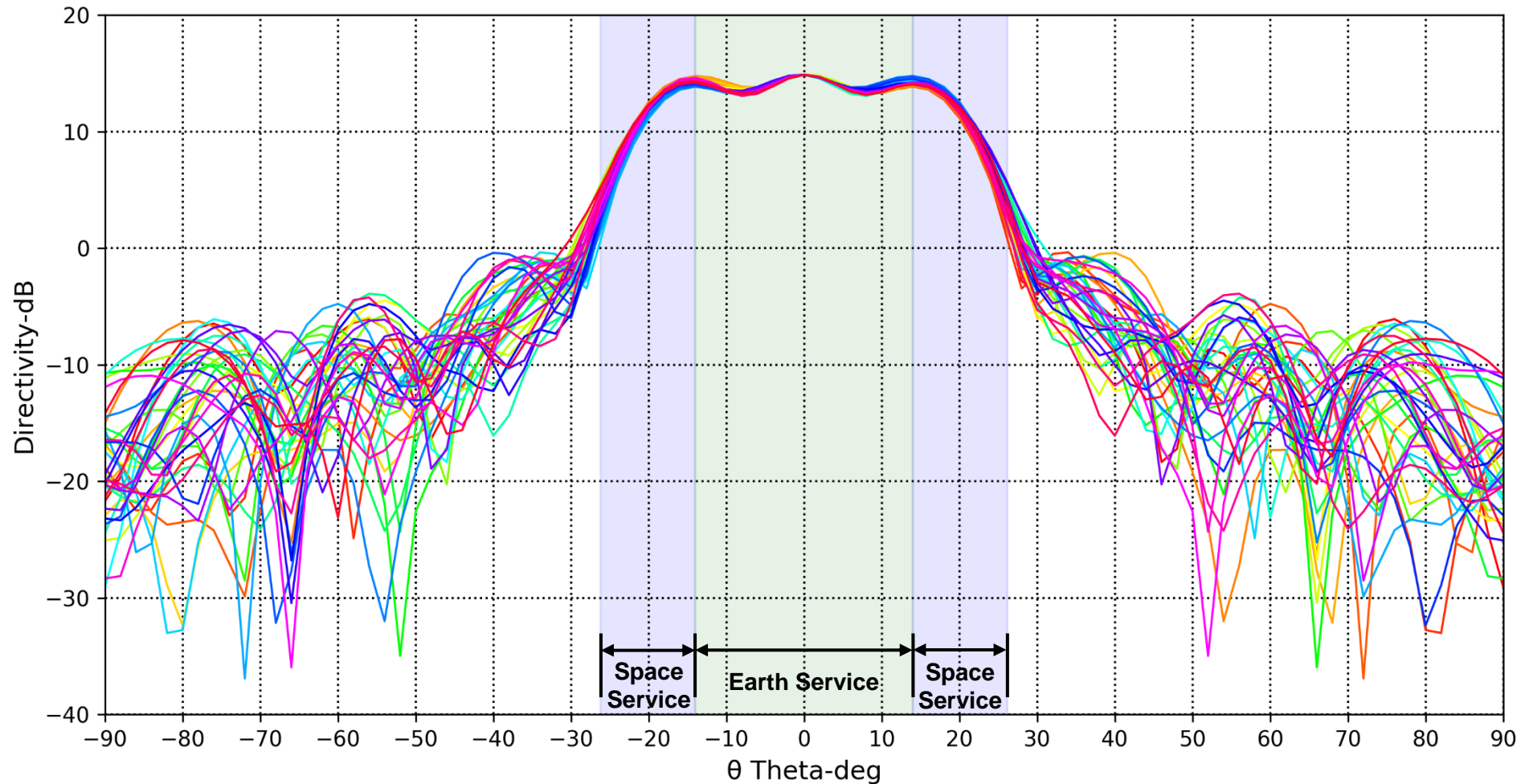
GPS_III_SVN76_EC_Antenna_Patterns_Phase.zip

*Each folder contains frequencies L5, L2, and L1
Double click folder icon to open*

SVN77

SVN77: EC L5, Plot

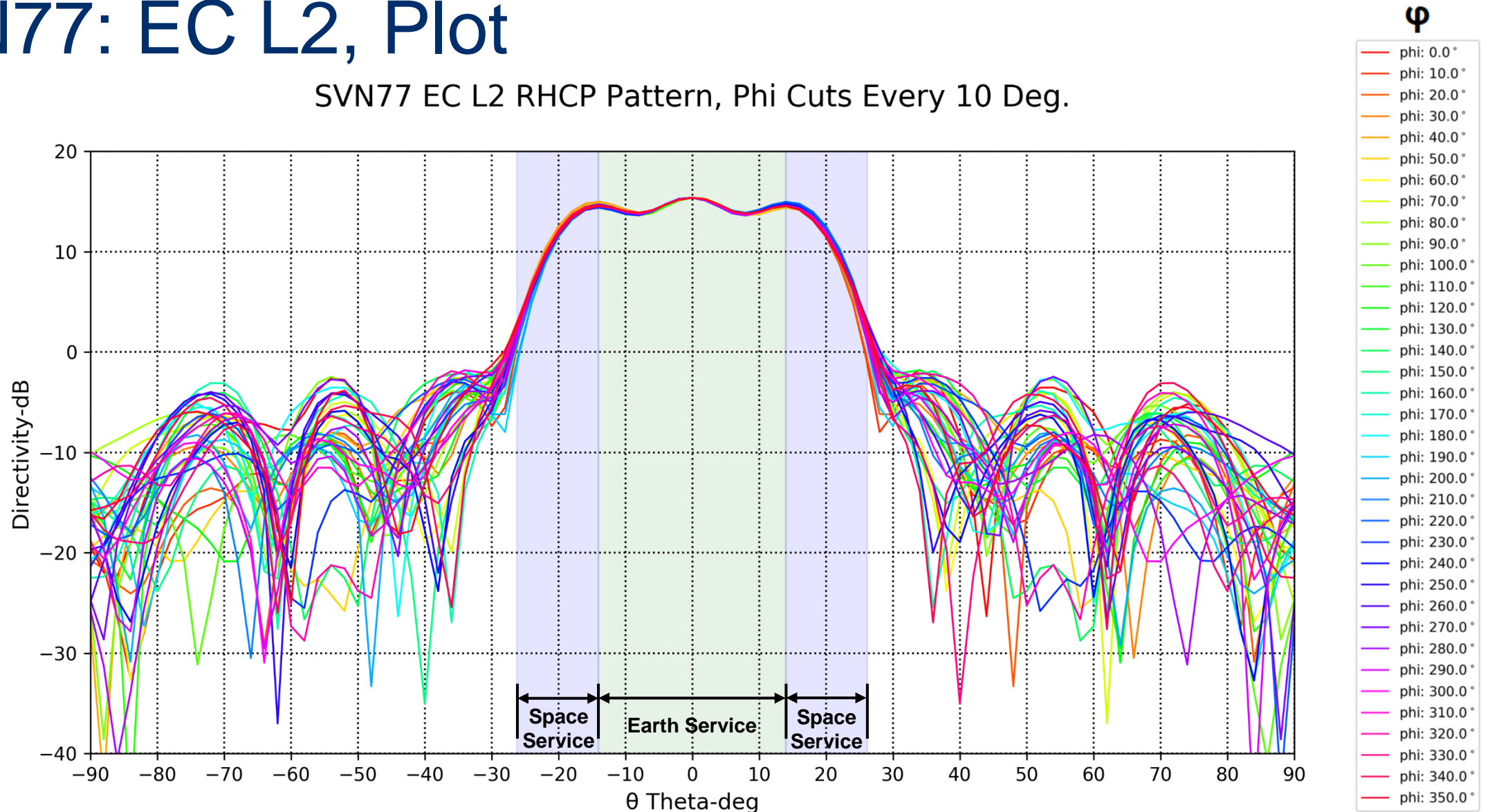
SVN77 EC L5 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
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 - phi: 350.0°

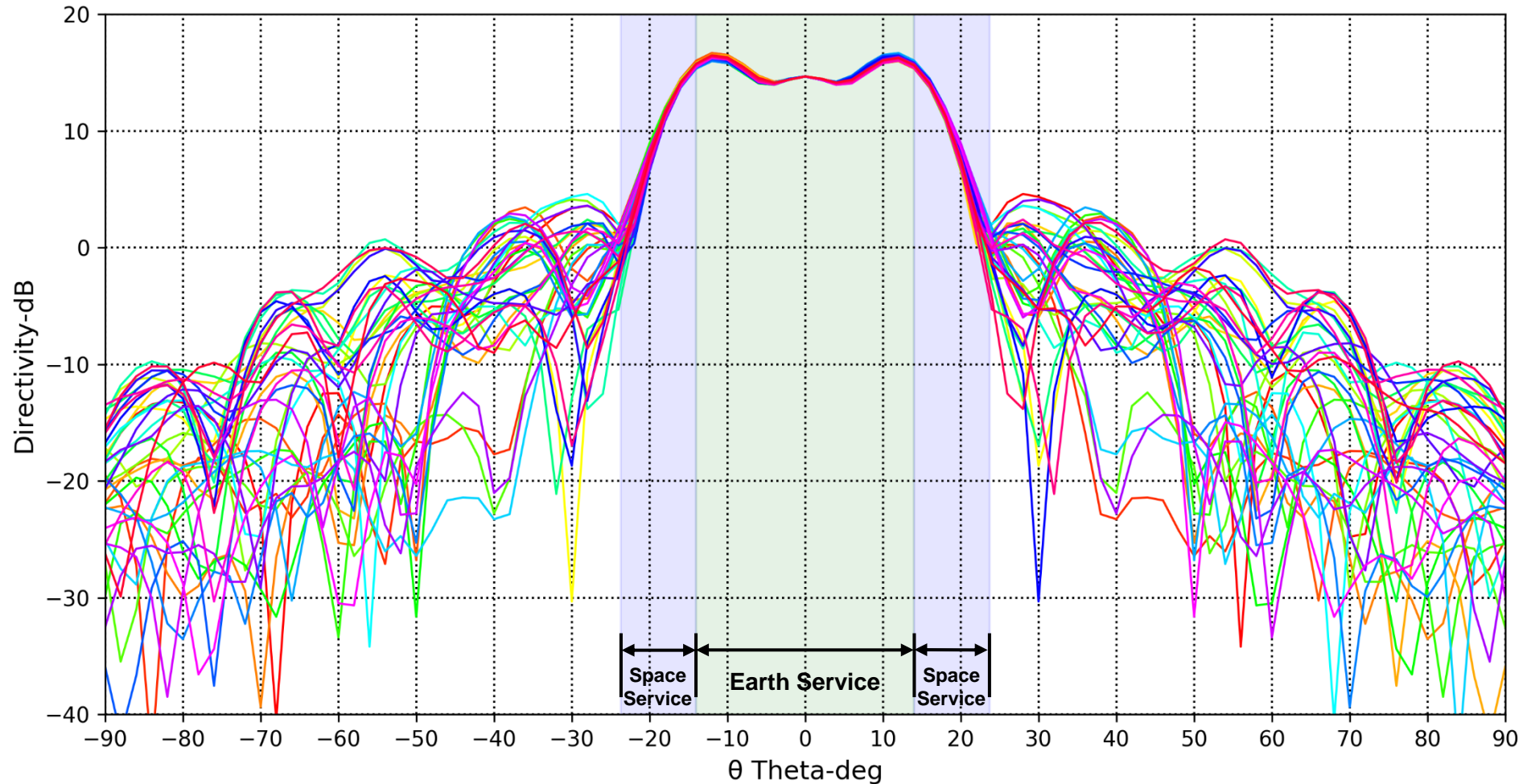
SVN77: EC L2, Plot

SVN77 EC L2 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN77: EC L1, Plot

SVN77 EC L1 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
 - phi: 40.0°
 - phi: 50.0°
 - phi: 60.0°
 - phi: 70.0°
 - phi: 80.0°
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SVN77: EC Directivity & Phase



GPS_III_SVN77_EC_Antenna_Patterns_Directivity.zip



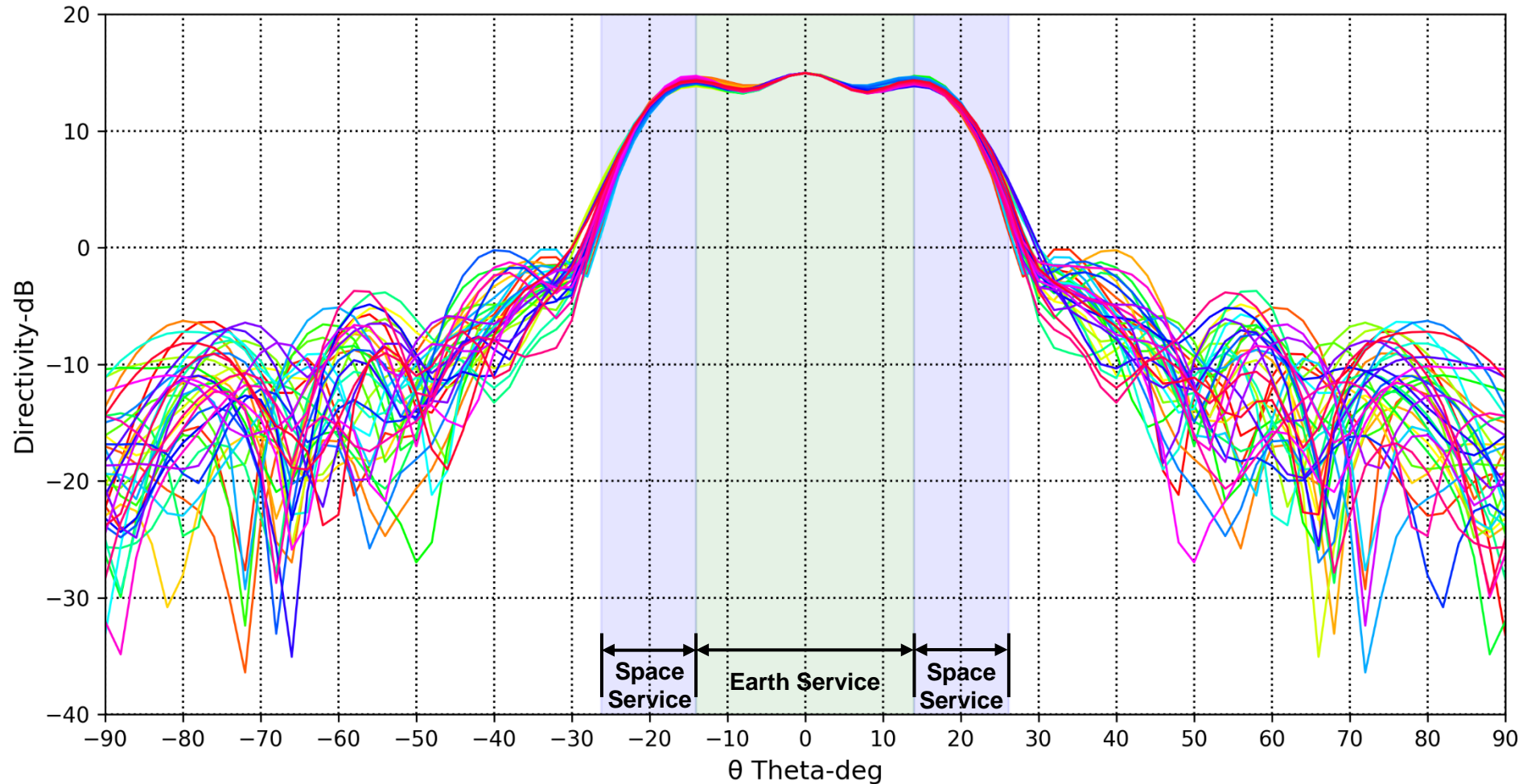
GPS_III_SVN77_EC_Antenna_Patterns_Phase.zip

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SVN78

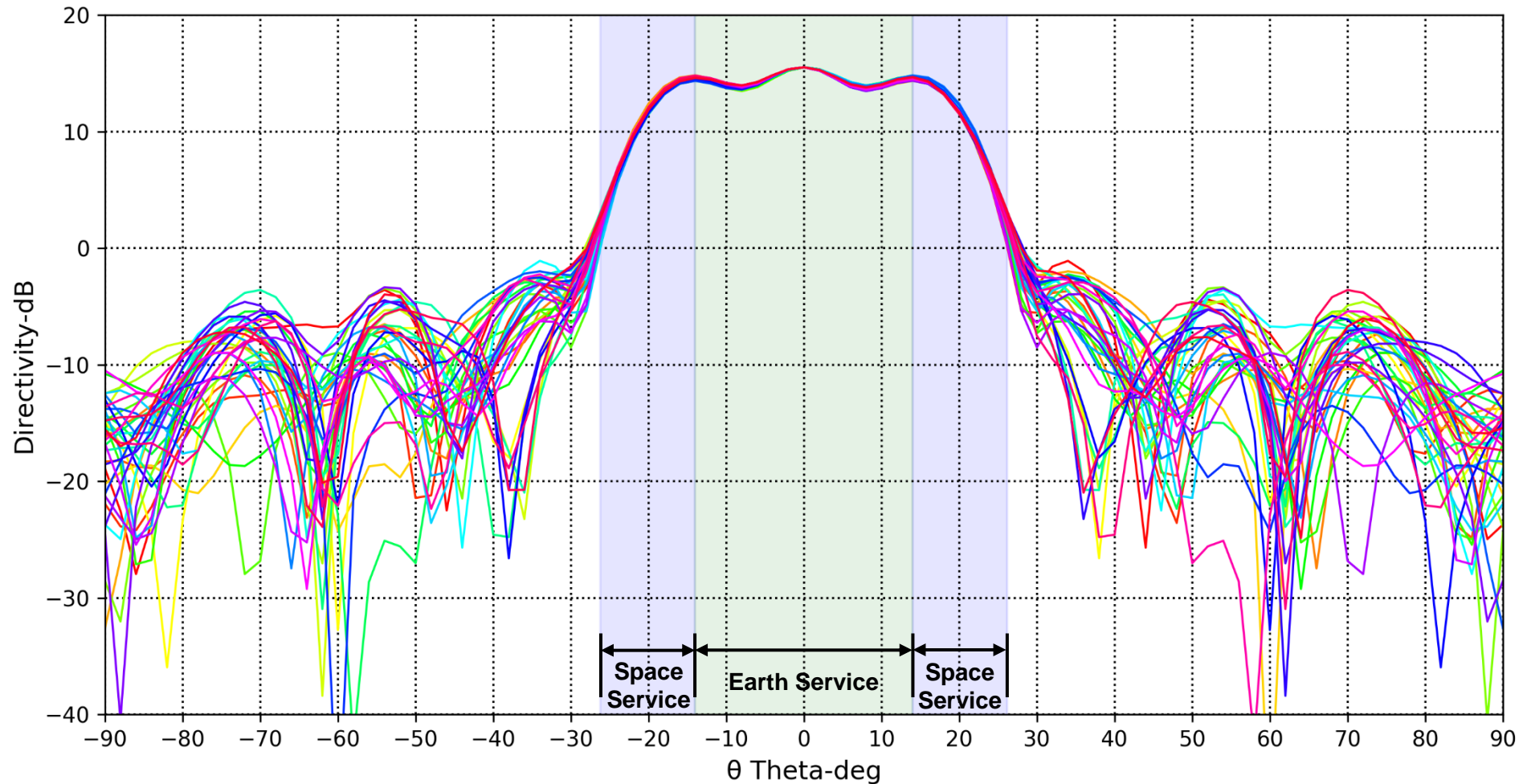
SVN78: EC L5, Plot

SVN78 EC L5 RHCP Pattern, Phi Cuts Every 10 Deg.



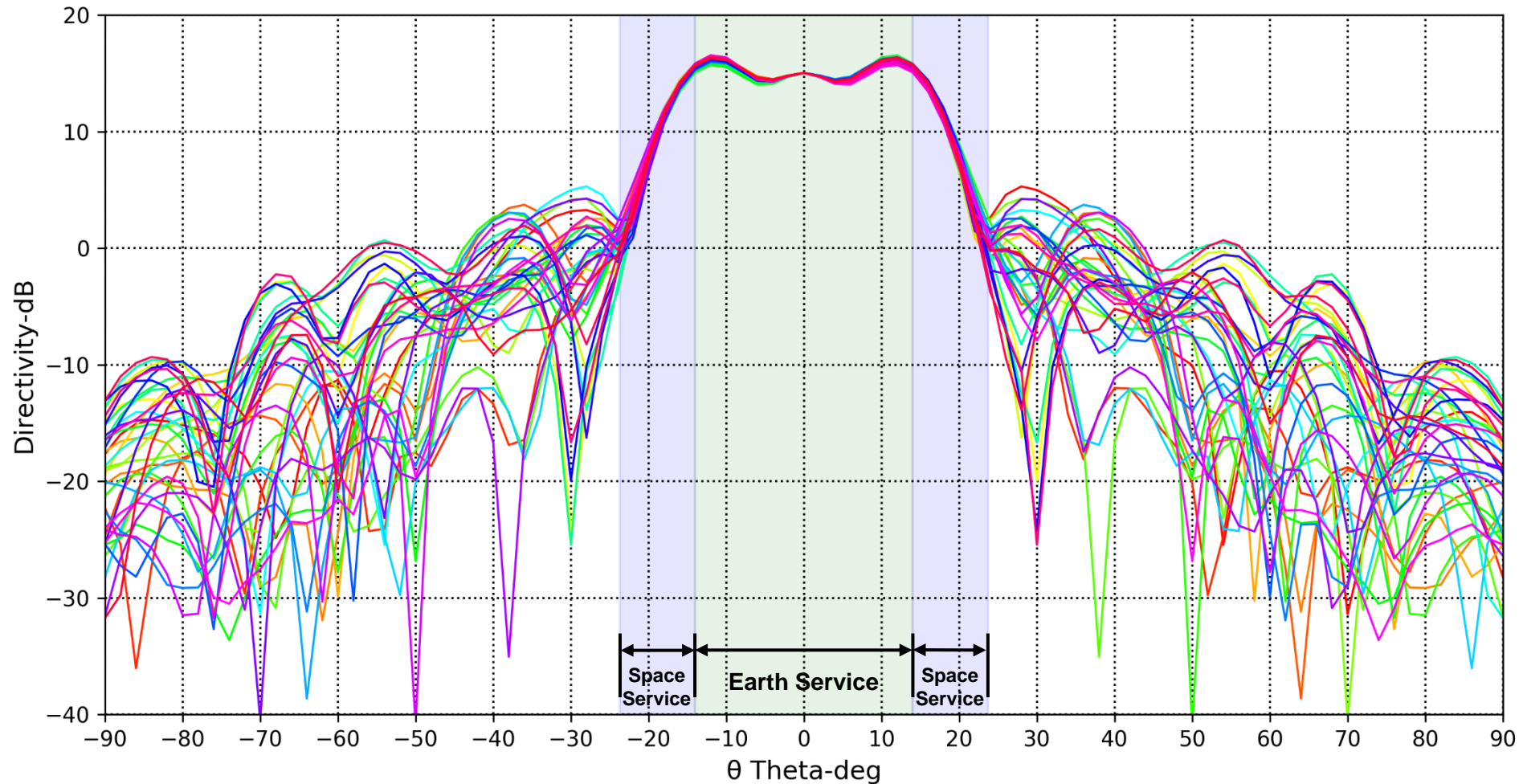
SVN78: EC L2, Plot

SVN78 EC L2 RHCP Pattern, Phi Cuts Every 10 Deg.



SVN78: EC L1, Plot

SVN78 EC L1 RHCP Pattern, Phi Cuts Every 10 Deg.



- ψ
- phi: 0.0°
 - phi: 10.0°
 - phi: 20.0°
 - phi: 30.0°
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SVN78: EC Directivity & Phase



GPS_III_SVN78_EC_Antenna_Patterns_Directivity.zip



GPS_III_SVN78_EC_Antenna_Patterns_Phase.zip

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Double click folder icon to open*

LOCKHEED MARTIN

