

Comparative Analysis of Experimental and Theoretical UWB Channel Models Shape of Channel Impulse Responses

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Experimental Results: Channel Impulse Response in Line Of Sight

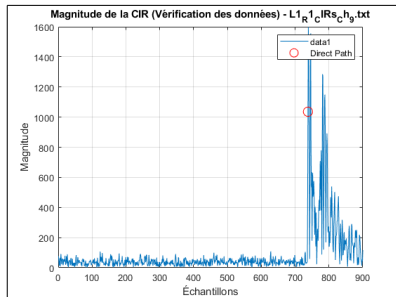


Figure: Channel Impulse Response in LOS

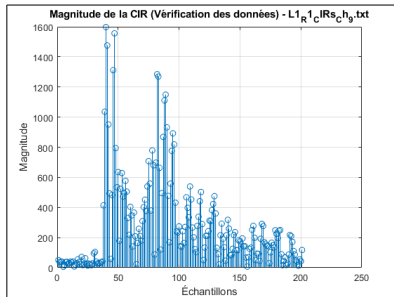


Figure: Channel Impulse Response in LOS for the last 700 samples

Experimental Results: Channel Impulse Response in Line Of Sight

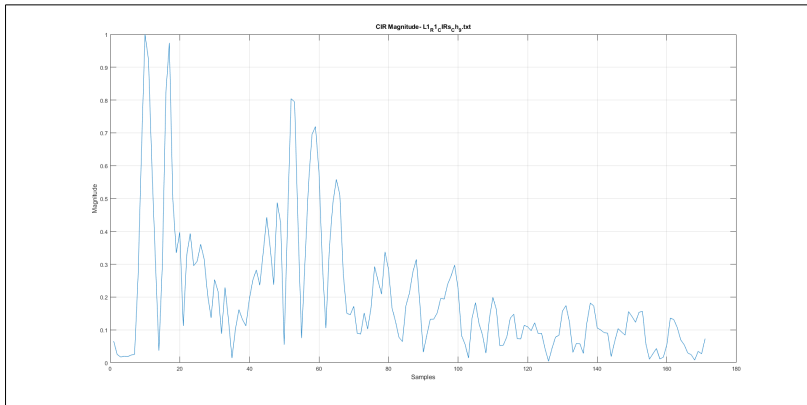


Figure: Channel Impulse Response in LOS - From the 730th sample

Experimental Results: Phase Response with Multipath Components in Line Of Sight

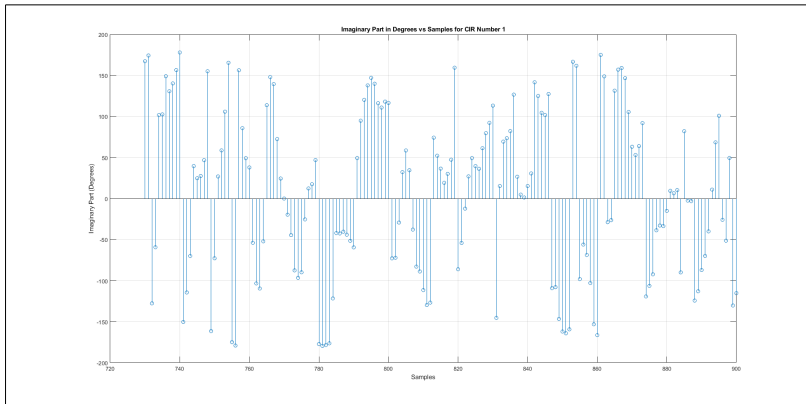


Figure: Phase response - From the 730th sample

Experimental Results: Phase Response with Multipath Components in Line Of Sight

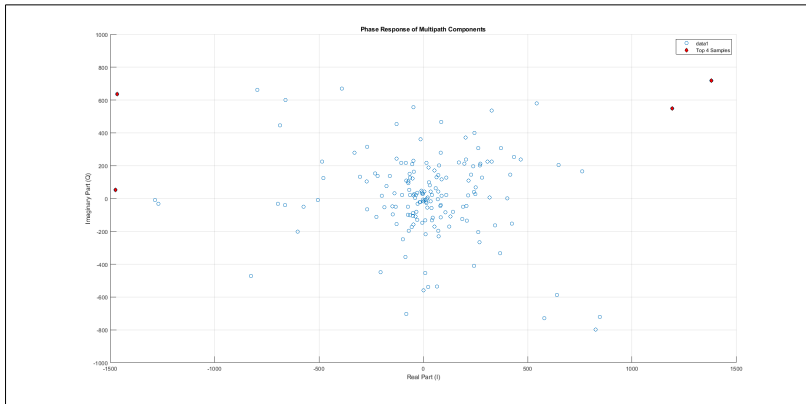


Figure: Phase response in a complex plan

Experimental Results: Phase Response with Multipath Components in Non Line Of Sight

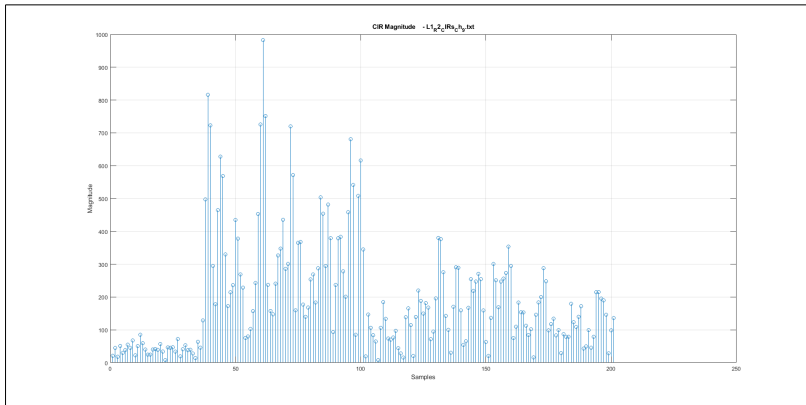


Figure: Channel Impulse Response in NLOS for the last 700 samples

Experimental Results: Phase Response with Multipath Components in Non Line Of Sight

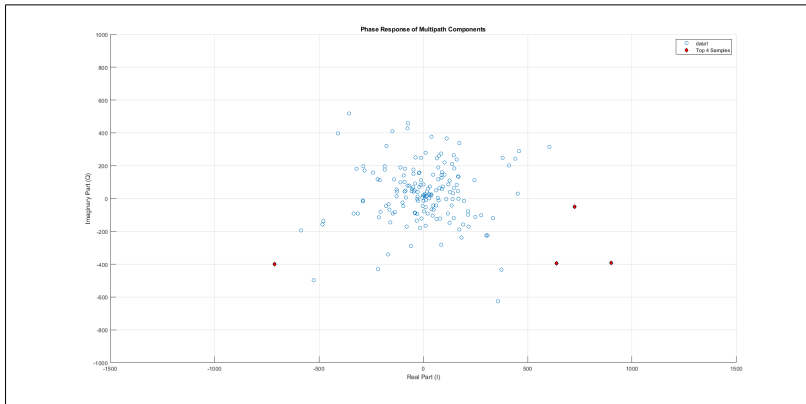


Figure: Phase response in a complex plan

Experimental Results: Superposition of LOS and NLOS Phase Responses

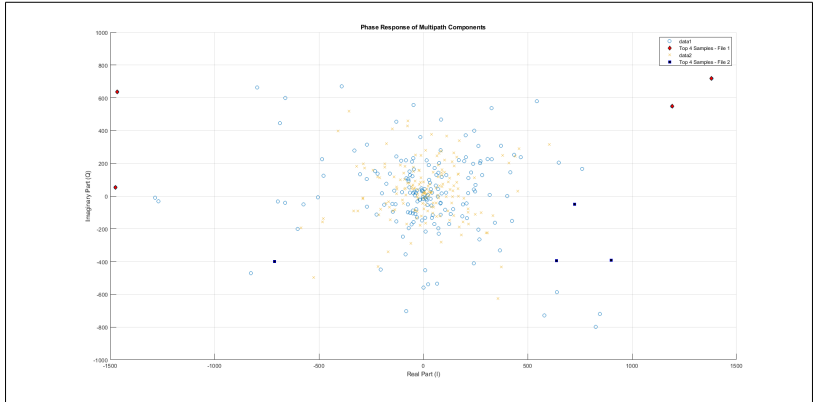


Figure: Phase responses in a complex plan

The distance between the origin and any point is the amplitude.
The angle is determined by the origin, the x-axis, and the point.

Experimental Results: Shape of the signal in trigonometric plan LOS

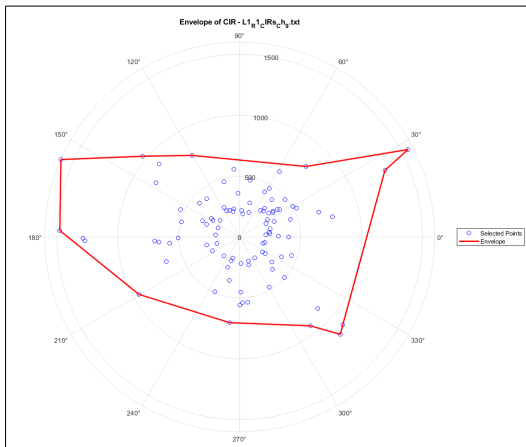


Figure: Shape of the Phase response in a trigonometric plan

Experimental Results: Shape of the signal in trigonometric plan NLOS

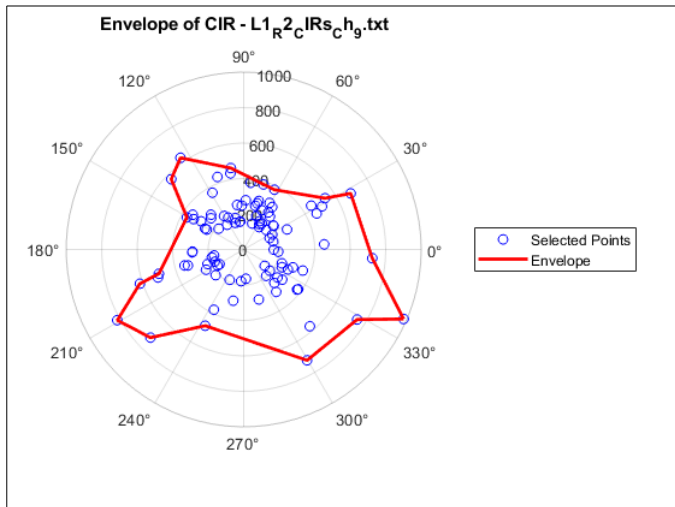


Figure: Shape of the Phase response in a trigonometric plan

Theoretical Results: Phase Response with Multipath Components in Line Of Sight

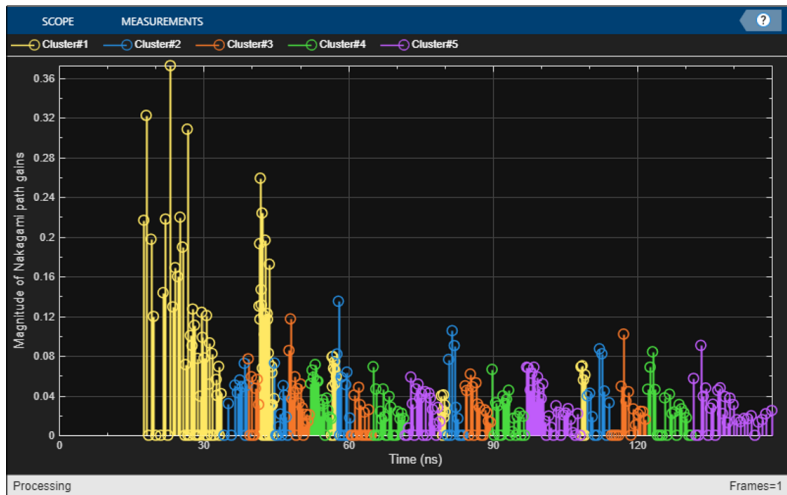


Figure: Theoretical response

Theoretical Results: Phase Response with Multipath Components in Line Of Sight

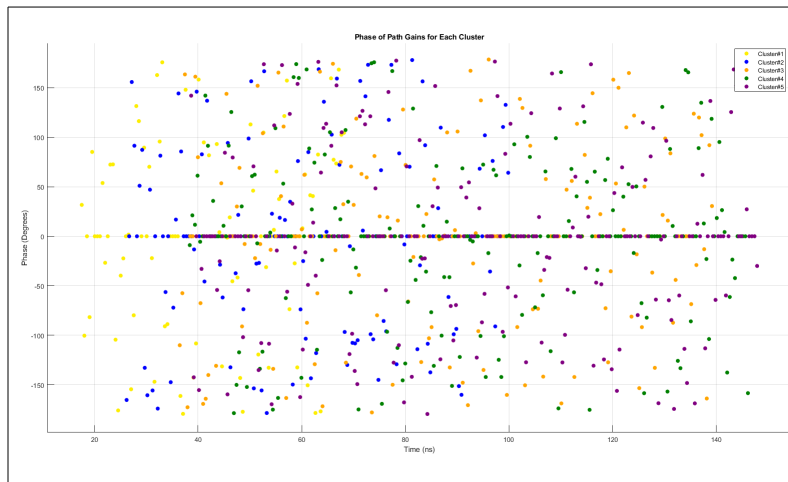


Figure: Phase response

Theoretical Results: Phase Response with Multipath Components in Line Of Sight

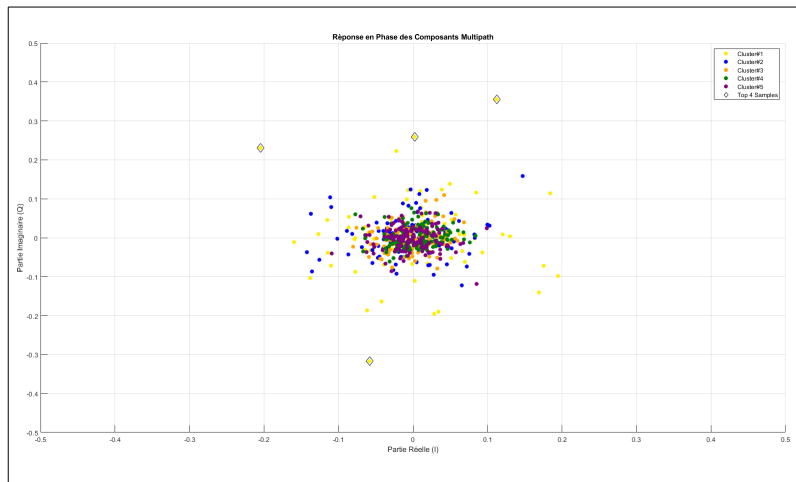


Figure: Phase response

Theoretical Results: Phase Response with Multipath Components in Line Of Sight

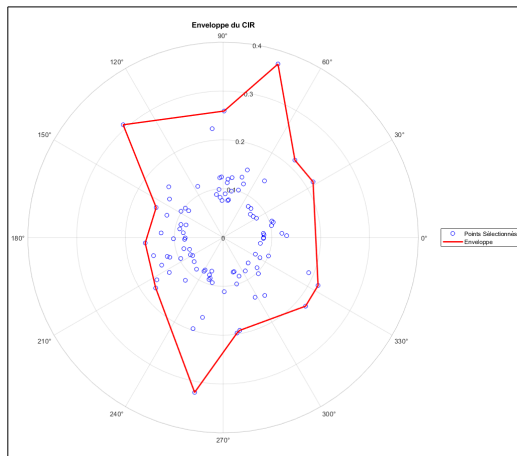


Figure: Phase response

Theoretical Results: Phase Response with Multipath Components in Non Line Of Sight

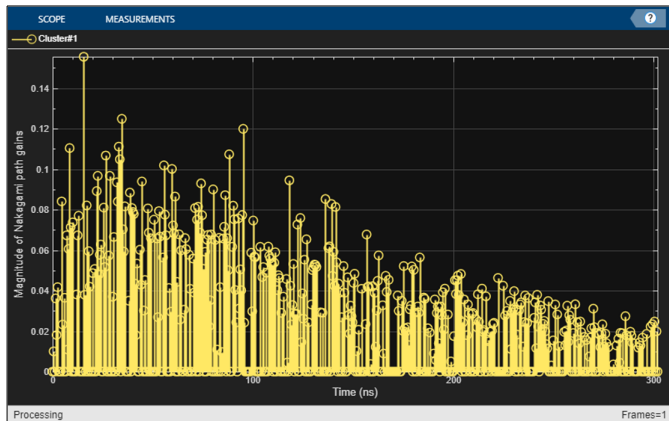


Figure: Theoretical Channel Impulse Response in NLOS

Theoretical Results: Phase Response with Multipath Components in Non Line Of Sight

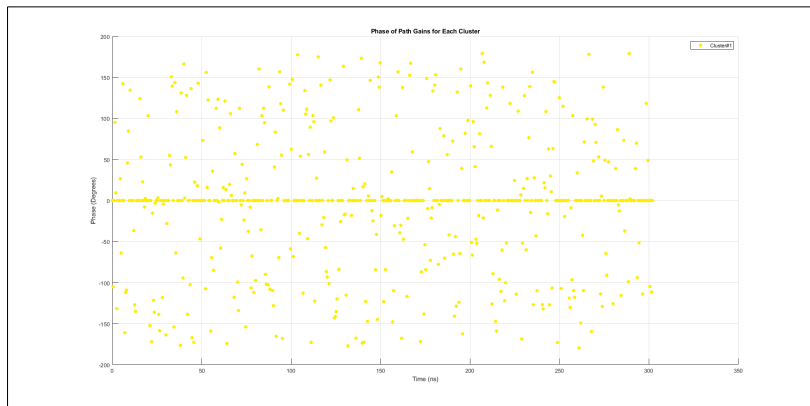


Figure: Phase response of each samples

Theoretical Results: Phase Response with Multipath Components in Non Line Of Sight

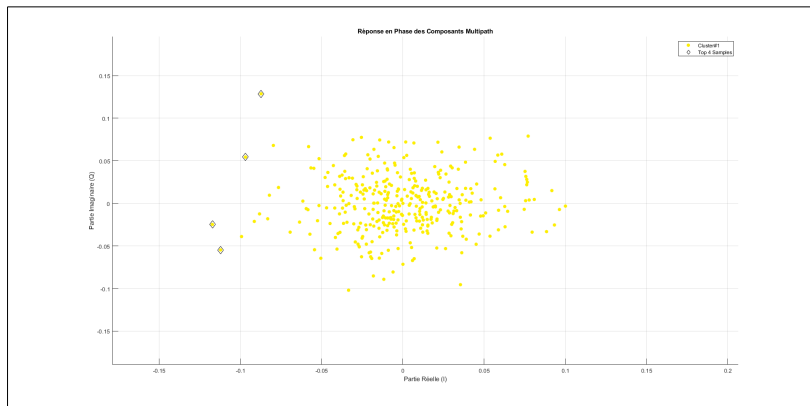


Figure: Phase response in a complex plane

Theoretical Results: Shape of the signal in Non Line Of Sight

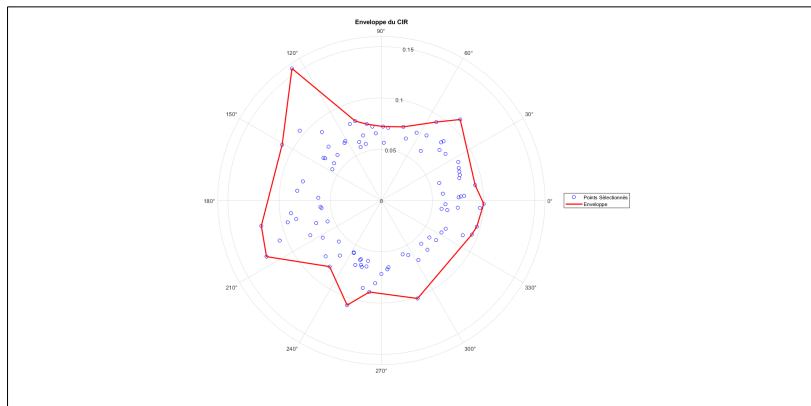


Figure: Phase response in a trigonometric plan

Theoretical Results: Comparison of the Phase Responses

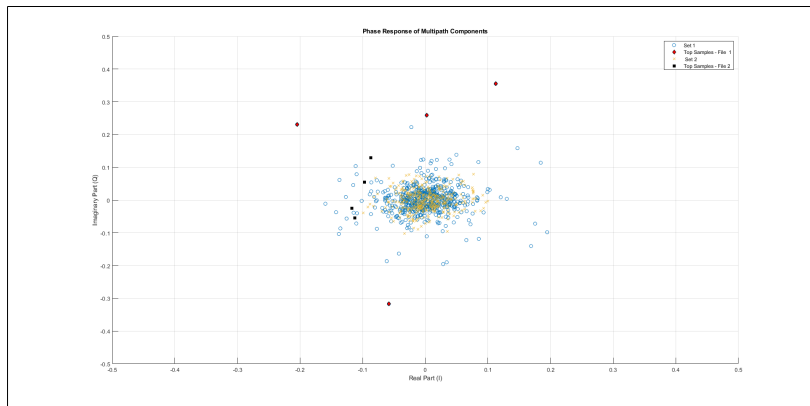
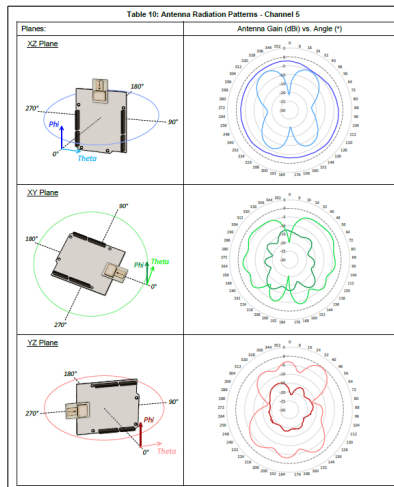
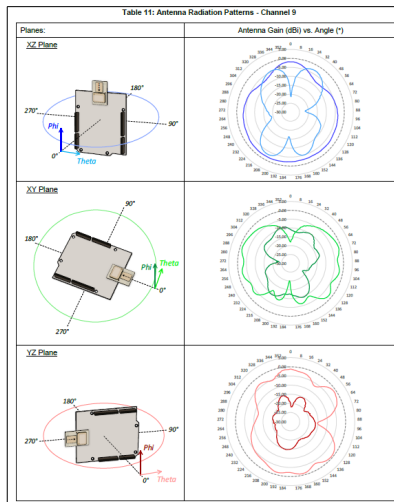


Figure: Phases responses (Blue and Red - LOS and Yellow and Black - NLOS)

Antenna Radiations Patterns



Experimental Results: Antenna Radiations Patterns

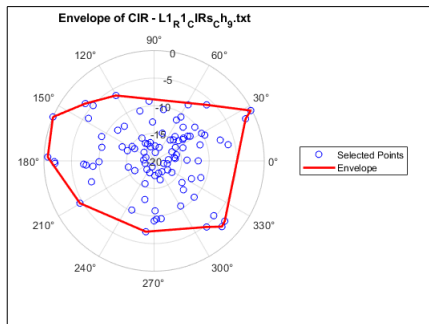


Figure: Phases responses in dB vs angle - Channel 9

Experimental Results: Antenna Radiations Patterns

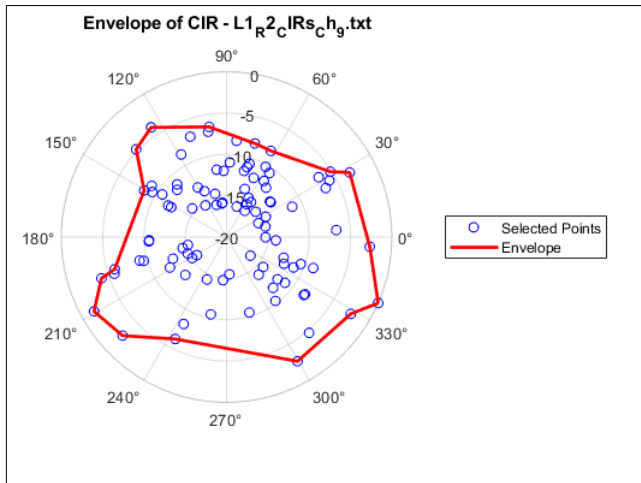


Figure: Channel Impulsive Response - Channel 9

Experimental Results: Antenna Radiations Patterns

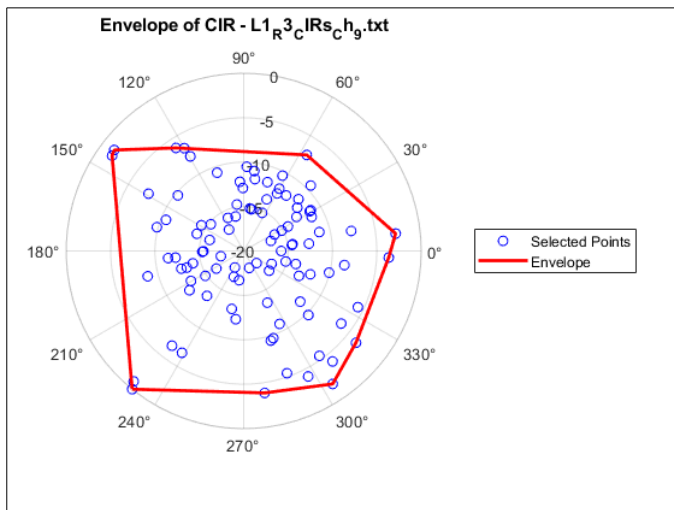
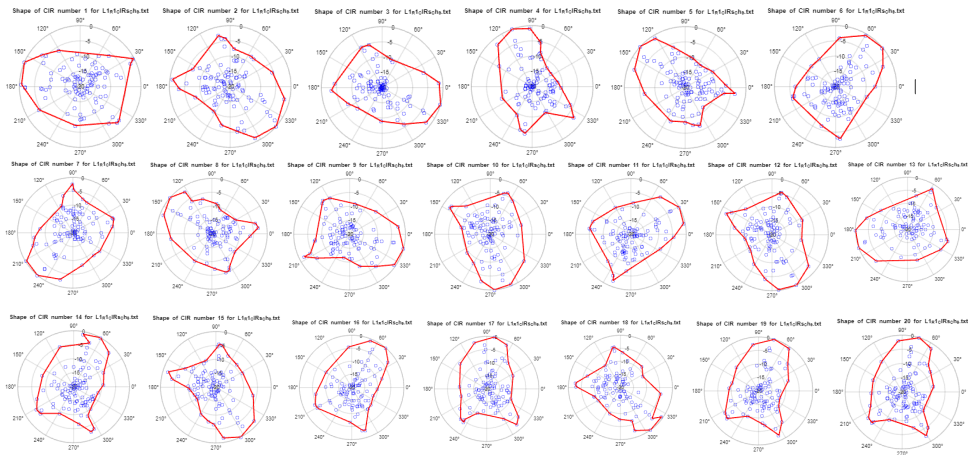
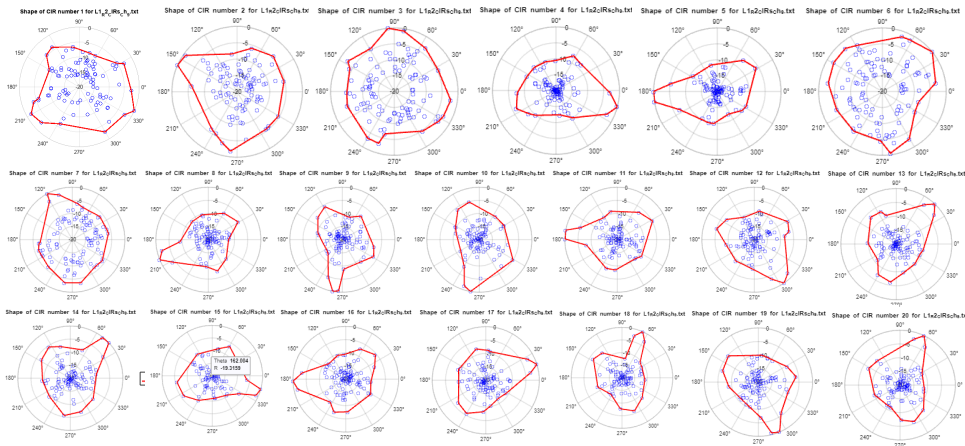


Figure: Channel Impulsive Response - Channel 9

Shape of the first 20 CIRs from L1 R1 channel 9 - LOS



Shape of the first 20 CIRs from L1 R2 channel 9 - NLOS



Shape of the first 20 CIRs from L1 R3 channel 9 - LOS

