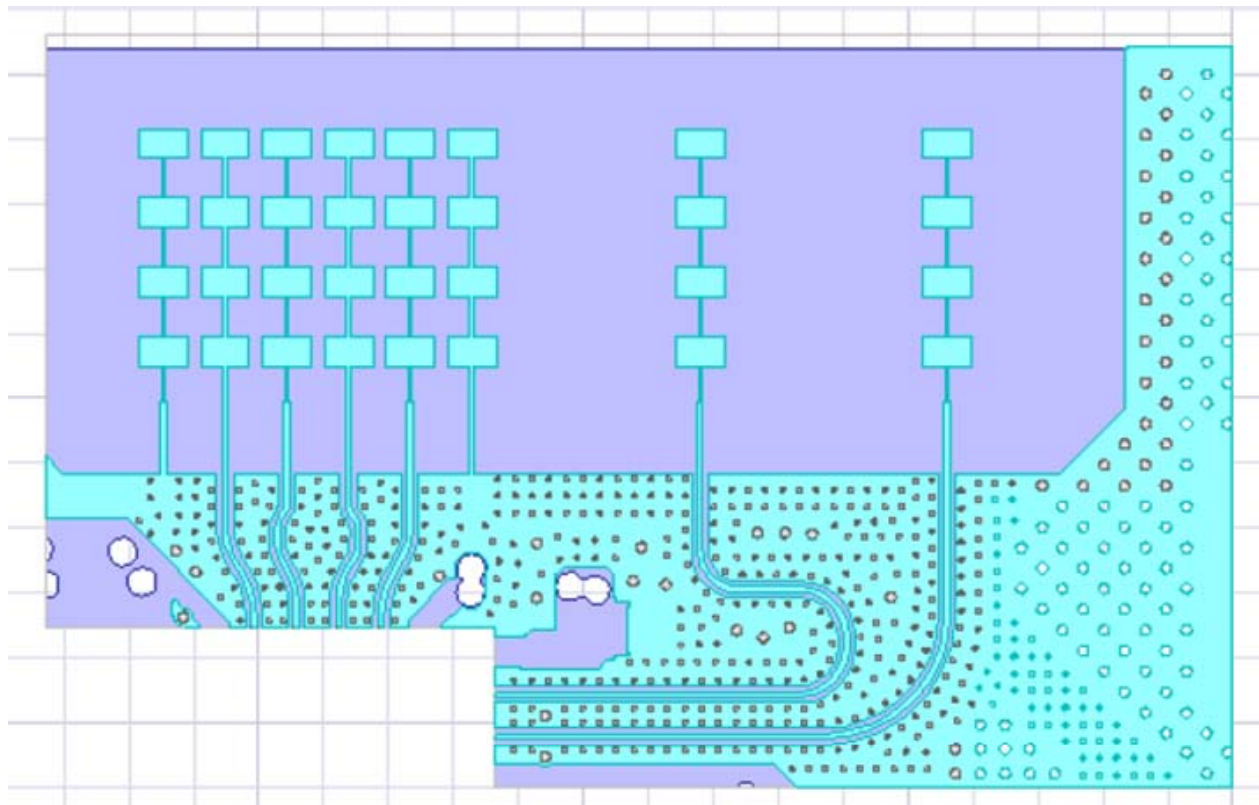


xWR1642 EVM & xWR1443 EVM BoosterPack antenna simulations (RO 4835 LoPro)

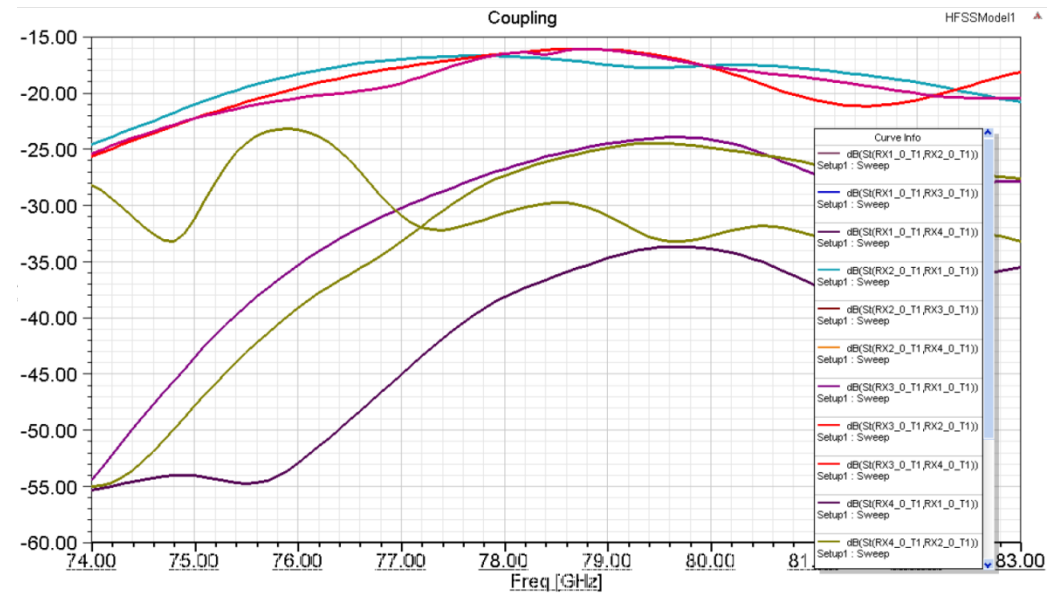
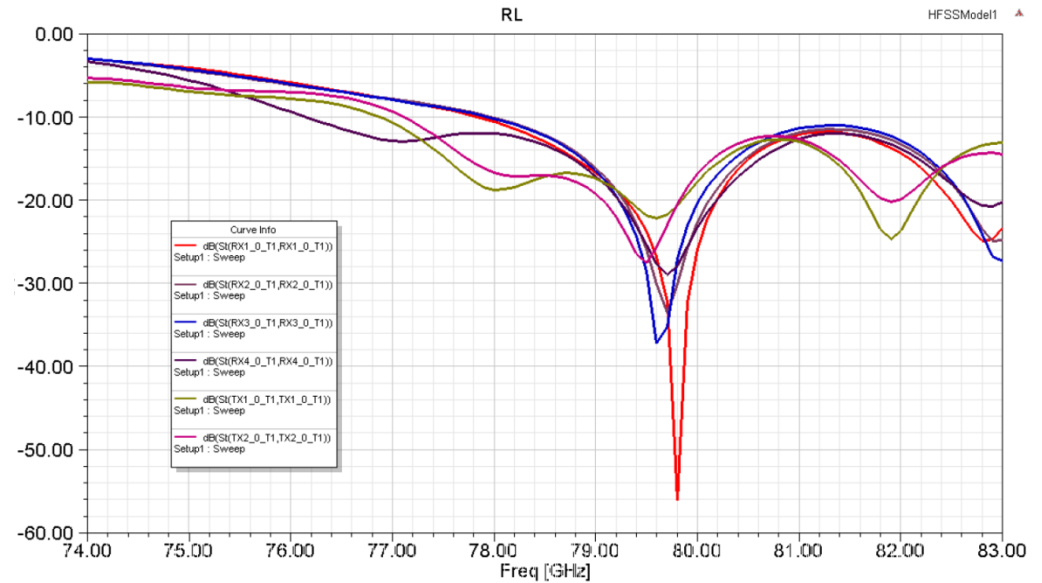
Simulated Xwr1642 layout

Color	Name	Type	Thickness (mm)	Material
■	TOP	METAL	0.05	EDB_COPPER
	UNNAMED_002	DIELECTRIC	0.102	RO4835
■	L2	METAL	0.05	EDB_COPPER

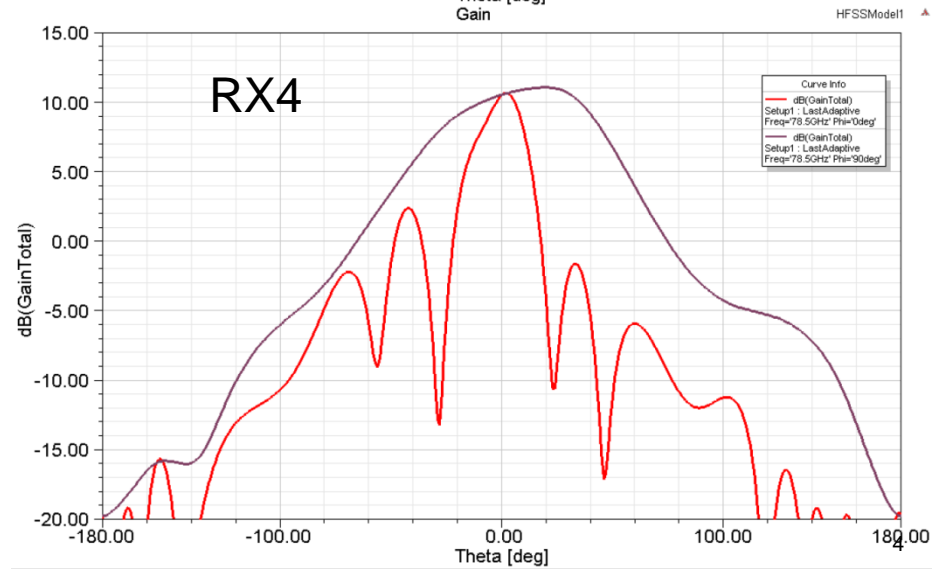
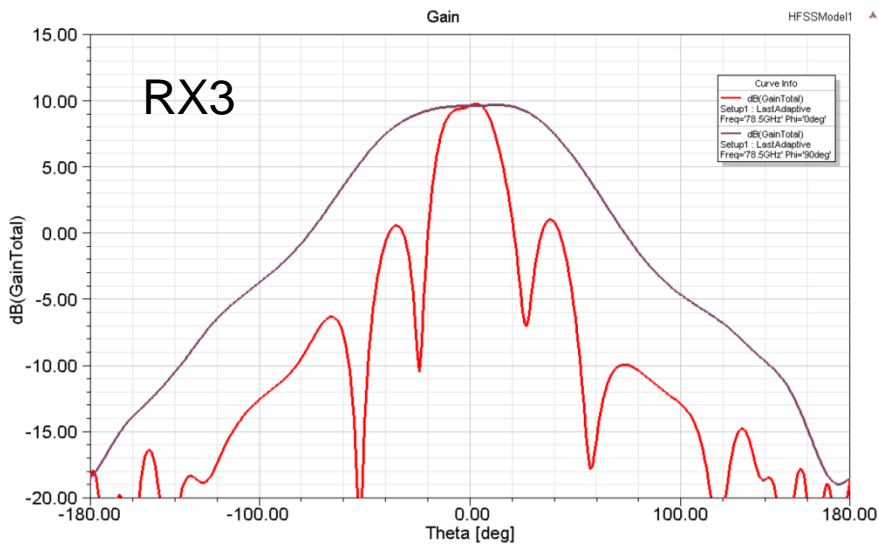
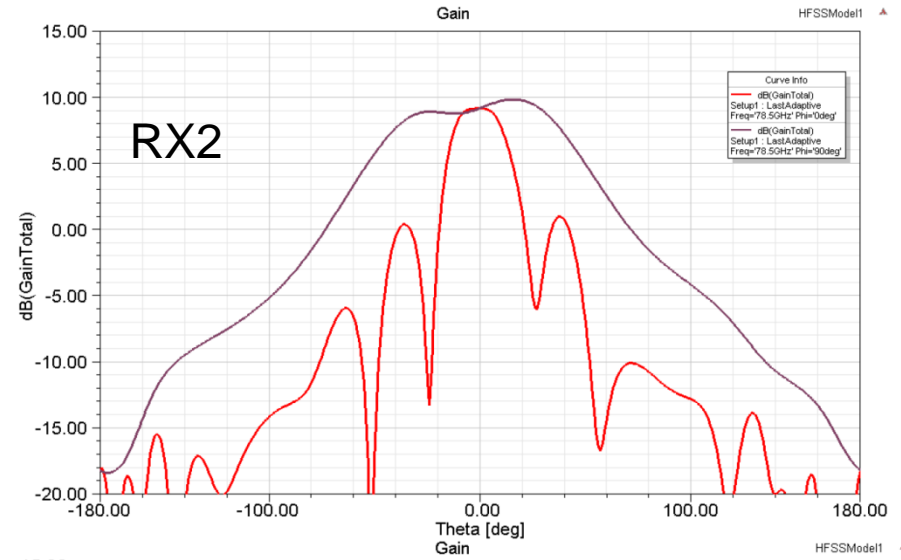
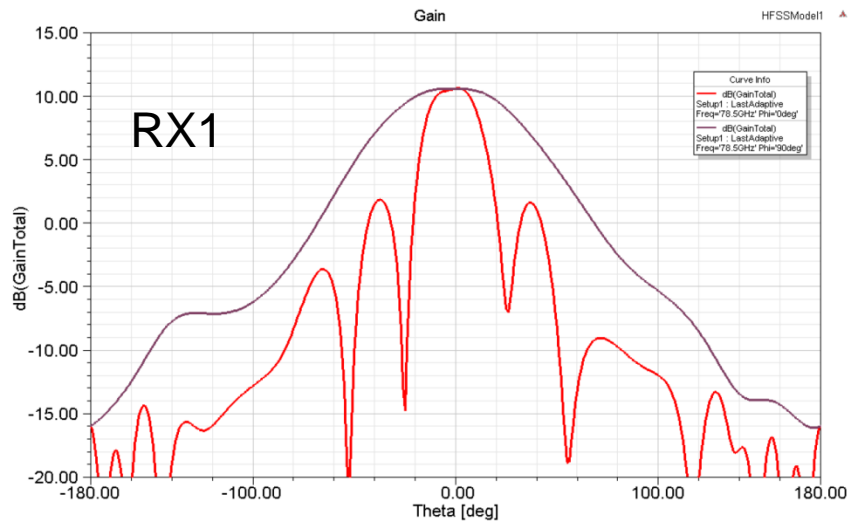


S11 & Coupling

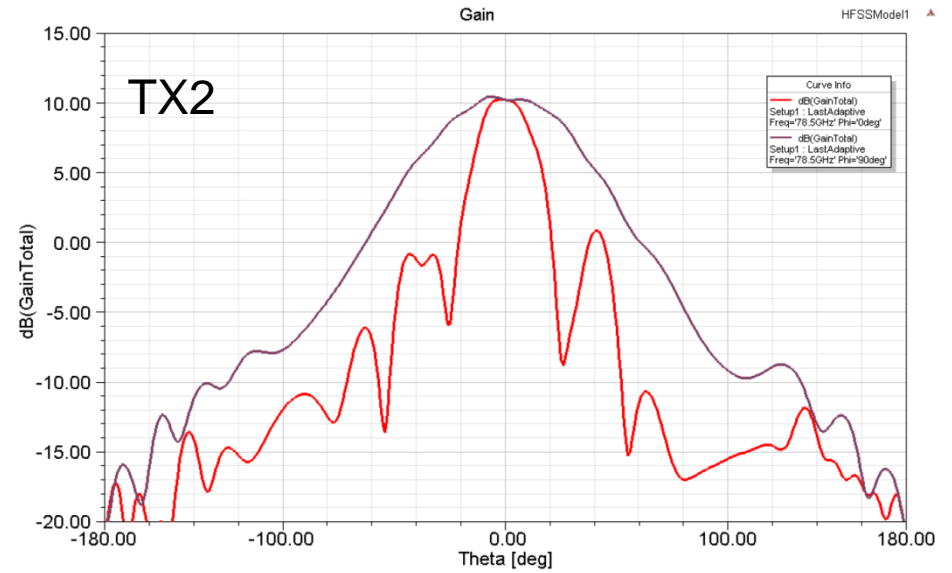
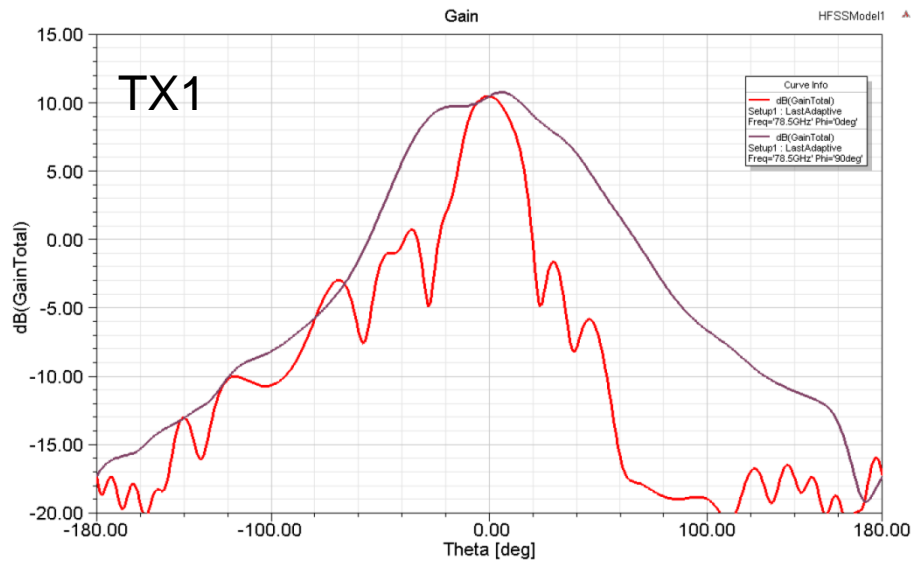
- $S_{11} < -6\text{dB}$ @ 76GHz,
- $S_{11} < -10\text{dB}$ 78-81GHz
- Coupling $< -16\text{dB}$ for adjacent RX antennas



Antennas pattern @ 78.5GHz: RX



Antenna patterns @ 78.5GHz: TX



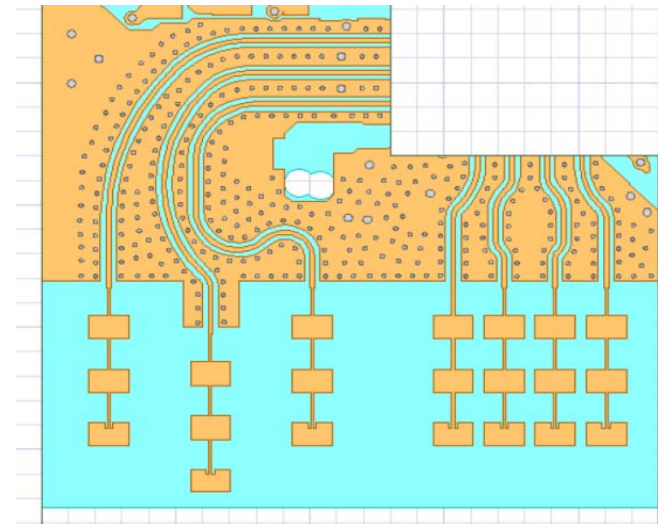
Performance Summary (78.5GHz)

Antenna	RX1	RX2	RX3	RX4	TX1	TX2
Peak Angle (deg)	Az:0, El:6	Az:15, El:4	Az:0, El:4	Az:6, El:6	Az:5, El:4	Az:-5, El:4
Peak Directivity (dBi)	12.2	11.6	11.5	12.7	13.2	12.9
Peak Gain (dBi)*	10.6	9.9	9.8	11	10.8	10.4
Radiation Efficiency (%)*	70	68	67	68	57	56
Side lobe Level (dB)	-8.5	-9	-8.5	-9	-10	-9.5
H-plane Beamwidth (deg)	70	85	90	71	63	62
E-plane Beamwidth (deg)	28	25	28	20	23	25

* Gain and efficiency numbers include transmission line loss

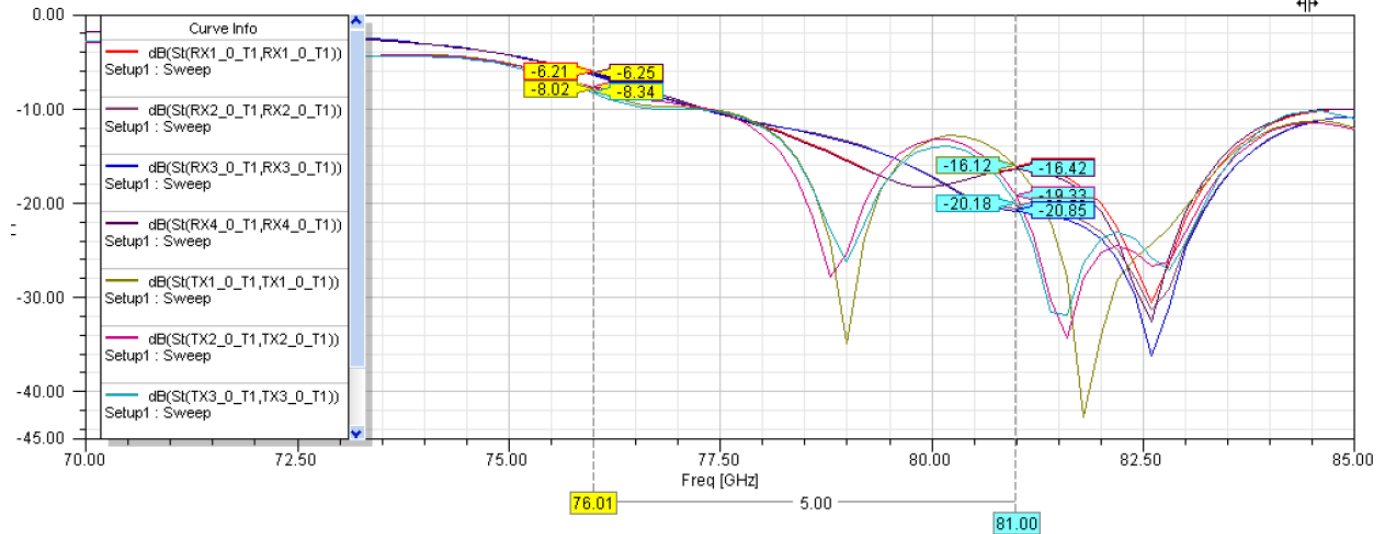
xWR1443 EVM

- RX-RX coupling < -15dB
- RX-TX coupling < -32dB



RL

HFSSModel1



TI Information – Selective Disclosure

AWR1443 EVM

