IWR6843AOP

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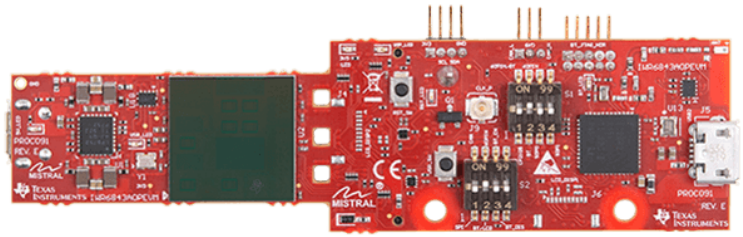
Introduction

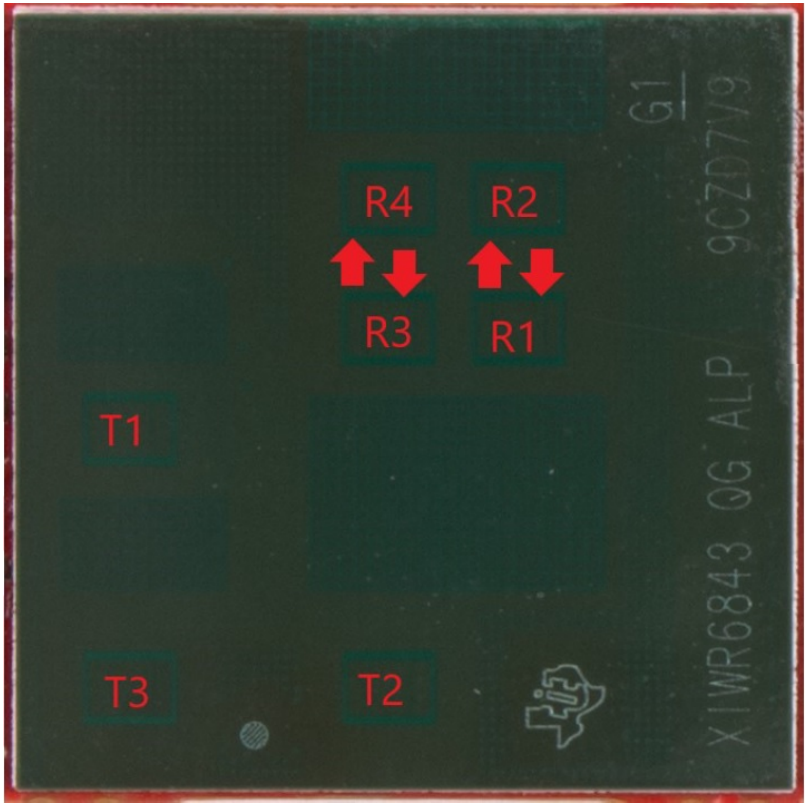
IWR6843AOP EVM antenna is designed to be operated in 60GHz to 64GHz frequency range. The IWR6843 antenna-on-package (AoP) evaluation module (EVM) is an easy-to-use mmWave sensor EVM with integrated, short-range, wide field-of-view (FoV) AoP technology.

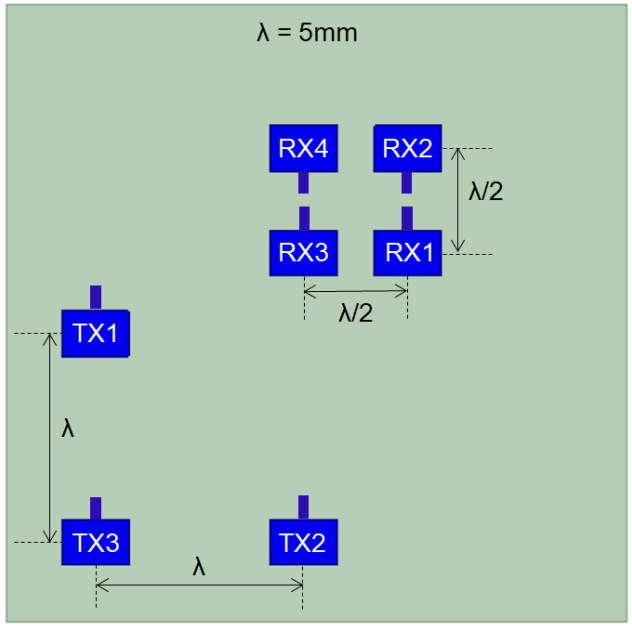
Design	Azimuth FOV (deg)*	Elevation FOV (deg)*	Azimuth Angular Resolution(deg)	Elevation Angular Resolution (deg)	Max Distance for Person (m) **
IWR6843AoP (60GHz)	+/-60	+/-60	29	29	60

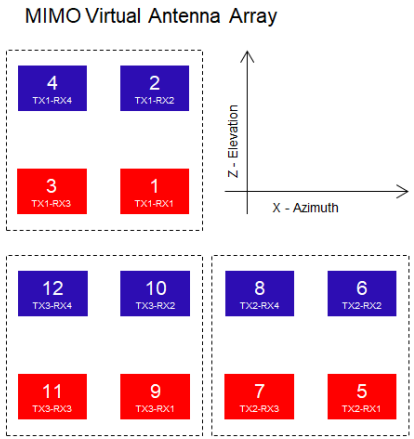
A comparison table of all antenna configurations can be on the Antennas overview page.

IWR6843AOP EVM Antenna Picture & Dimensions




R4
R2
R3
R1
T1
T3
T2
G1
XIWR6843 QG ALP
9CZD719





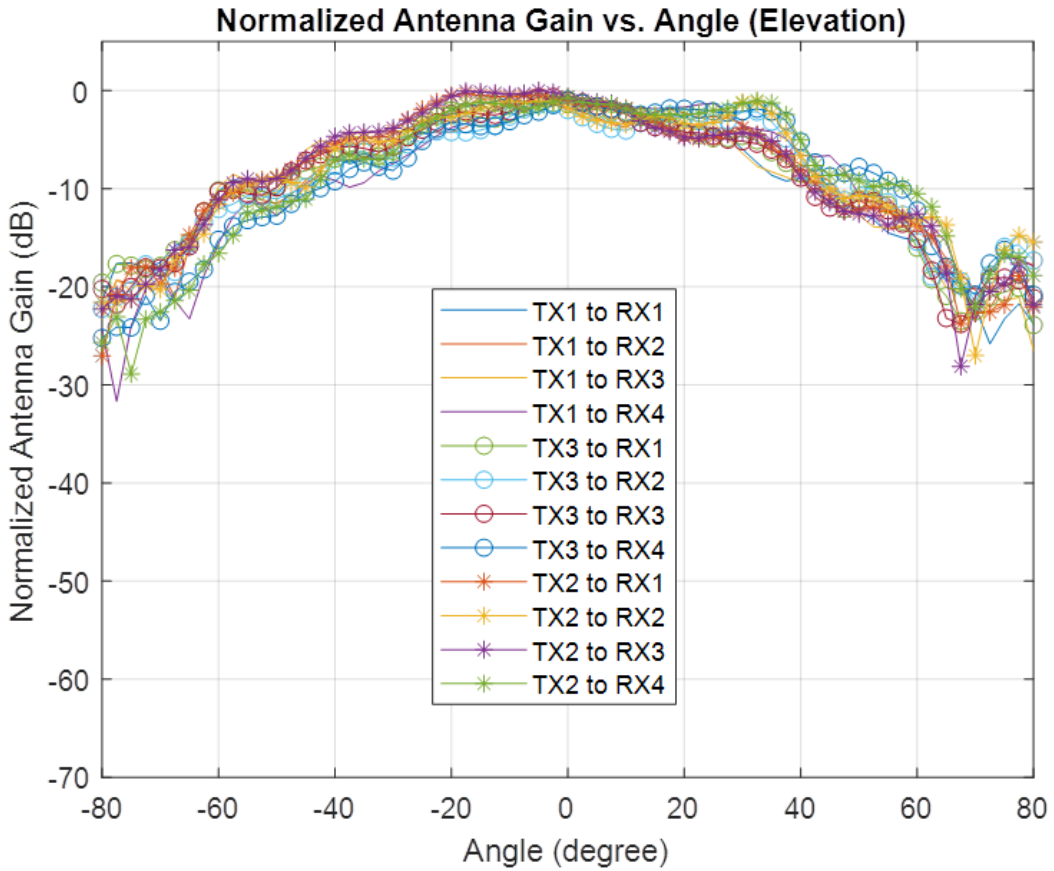
RX1 and RX3 are 180° out of phase with respect to RX2 and RX4. Because of this, a 180° phase inversion needs to be applied in software processing for the corresponding virtual RX channels (highlighted in Red)

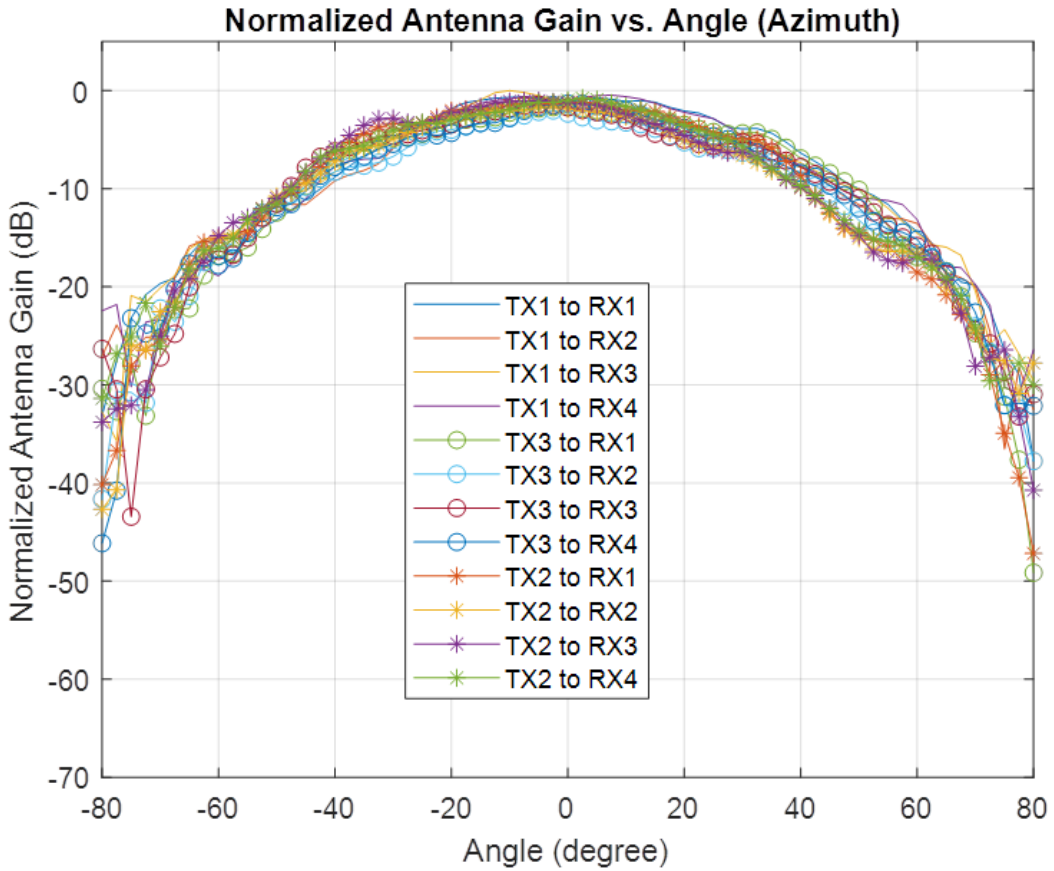
The IWR6843AOPEVM includes four receivers and three transmitters. It operates at 4-Ghz bandwidth from 60 to 64 GHz, with a maximum output power of 12 dBm and a maximum antenna gain of about 5.2 dBi around 60 GHz.

For more details about this EVM, please refer to below link:
http://www.ti.com/tool/IWR6843AOPEVM

Measured Radiation Patterns

Measured radiation patterns of IWR6843AOP Antenna for Elevation and Azimuth can be seen below.


Normalized Antenna Gain vs. Angle (Elevation)
Normalized Antenna Gain (dB)
0
-10
-20
-30
-40
-50
-60
-70
-80
-60
-40
-20
0
20
40
60
80
Angle (degree)
TX1 to RX1
TX1 to RX2
TX1 to RX3
TX1 to RX4
TX3 to RX1
TX3 to RX2
TX3 to RX3
TX3 to RX4
TX2 to RX1
TX2 to RX2
TX2 to RX3
TX2 to RX4



In the above pictures X axis represents the angle (in degrees) and Y axis represents the relative gain (in dB). This radiation pattern is measured inside a Anechoic chamber with a corner reflector. The FMCW chirp used for this measurement has a start frequency of 60GHz and a RF bandwidth of 2GHz.
