

1.

Consider the following QAM constellation with coordinates :

$(a, 0)$, $(0, a)$, $(-a, 0)$, $(0, -a)$, (b, b) , $(b, -b)$, $(-b, b)$,
 $(-b, -b)$.

Assume $b > a$. Find out the ML decision boundary to minimize the expected probability of error for a given power constraint.

[20 mins]