Define:

$$n = k = 2, R = I_n, t = 0$$

Evaluate:

$$\max_{c,Q} \left\{ \left| \sum_{x=0}^{2^n-1} -1^{x^\top Q x} i^{c^\top x} P_x \right| \right\}$$

2^2

$+P_{00}$
$+P_{01}$
$+P_{10}$
$+P_{11}$

2^1

$+P_{00}$
$+P_{10}$
$+P_{01}$
$+P_{11}$

$c = \begin{bmatrix} 0 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 0 & 0 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.25

$+P_{00}$
$+P_{10}$
$+P_{01}$
$-P_{11}$

$c = \begin{bmatrix} 0 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 0 & 1 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.10

$\cdots$

$+P_{00}$
$-iP_{10}$
$+P_{01}$
$-iP_{11}$

$c = \begin{bmatrix} 1 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 1 & 0 \\ & ? \end{bmatrix}$

(upper bound) ≤ 0.95

$+P_{00}$
$-iP_{10}$
$+P_{01}$
$+iP_{11}$

$c = \begin{bmatrix} 1 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 1 & 1 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.20

2^0

$+$ $-$ $+i$ $-i$

$+P_{00}$ $+P_{00}$ $+P_{00}$ $+P_{00}$
$+P_{10}$ $+P_{10}$ $+P_{10}$ $+P_{10}$
$+P_{01}$ $-P_{01}$ $+iP_{01}$ $-iP_{01}$
$+P_{11}$ $-P_{11}$ $+iP_{11}$ $-iP_{11}$

$+$ $-$ $+i$ $-i$

$+P_{00}$ $+P_{00}$ $+P_{00}$ $+P_{00}$
$+P_{10}$ $+P_{10}$ $+P_{10}$ $+P_{10}$
$+P_{01}$ $-P_{01}$ $+iP_{01}$ $-iP_{01}$
$-P_{11}$ $+P_{11}$ $-iP_{11}$ $+iP_{11}$

$\cdots$

Branch Cut
(skip this subtree)

$+$ $-$ $+i$ $-i$

$+P_{00}$ $+P_{00}$ $+P_{00}$ $+P_{00}$
$-iP_{10}$ $-iP_{10}$ $-iP_{10}$ $-iP_{10}$
$+P_{01}$ $-P_{01}$ $+iP_{01}$ $-iP_{01}$
$+iP_{11}$ $-iP_{11}$ $-P_{11}$ $+P_{11}$