

## Low PAPR Sequences for the 802.16a Preamble

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Apurva N. Mody  
Georgia Institute of Technology  
250, 14<sup>th</sup> Street NW, #549  
Atlanta, GA 30318.

Voice: 404-894-9370  
Fax: 404-894-7883  
E-mail: [apurva@ece.gatech.edu](mailto:apurva@ece.gatech.edu)

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# Low PAPR Sequences for the 802.16a Preamble

Apurva N. Mody

*Georgia Institute of Technology  
Atlanta, Georgia, U. S. A.  
apurva@ece.gatech.edu*



$$\underline{N_s=128}$$

For  $N_s T = 128$ ,

$$S_1 = [\{14 \text{ 0's}\} \begin{matrix} 1 & -1 & 1 & 1 & 1 & -1 & 1 & 1 & -1 & -1 & -1 \\ 1 & -1 & 1 & 1 & -1 & -1 & -1 & 1 & -1 & -1 & 1 & -1 & -1 & -1 & 1 & 1 & 1 & -1 \\ -1 & -1 & 1 & 1 & -1 & 1 & 1 & -1 & -1 & -1 & -1 & -1 & 1 & 1 & 1 & 1 & -1 & 1 \\ 1 & 1 & -1 & 0 & -1 & -1 & 1 & -1 & -1 & -1 & -1 & 1 & -1 & -1 & 1 & 1 & -1 & 1 \\ -1 & 1 & 1 & -1 & -1 & 1 & -1 & 1 & -1 & -1 & 1 & -1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & -1 & -1 & -1 & 1 & -1 & 1 & -1 & -1 & 1 & -1 & -1 & -1 & -1 & -1 & -1 & -1 \\ 1 & -1 & \{13 \text{ 0's}\} \end{matrix}] \text{ — PAPR of } 2.63 \text{ or } 4.19 \text{ dB.}$$

$$\underline{N_s=64}$$

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For  $N_s T=64$ ,

$$S_1 = [\{7 \text{ 0's}\} \begin{matrix} -1 & 1 & 1 & 1 & 1 & -1 & 1 & 1 & 1 & -1 & -1 & 1 & 1 & -1 \\ 1 & -1 & -1 & 1 & -1 & 1 & -1 & -1 & -1 & 1 & -1 & 0 & 1 & 1 & -1 & 1 & -1 \\ 1 & -1 & 1 & 1 & -1 & 1 & 1 & 1 & -1 & -1 & -1 & -1 & 1 & 1 & 1 & -1 & 1 \\ -1 & -1 & 1 & \{6 \text{ 0's}\} \end{matrix}] \text{ — PAPR } \approx 2.113 \text{ or } 3.24 \text{ dB}$$

$$\underline{N_s=32}$$

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For  $N_s T=32$ ,

$S_1 = [\{4 \text{ 0's}\} \ 1 \ 1 \ -1 \ -1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ -1 \ 1 \ 0 \ 1 \ -1$   
 $\ -1 \ -1 \ 1 \ -1 \ -1 \ 1 \ -1 \ 1 \ 1 \ -1 \ \{3 \text{ 0's}\}]$  — APR of  
1.72 or 2.35 dB.

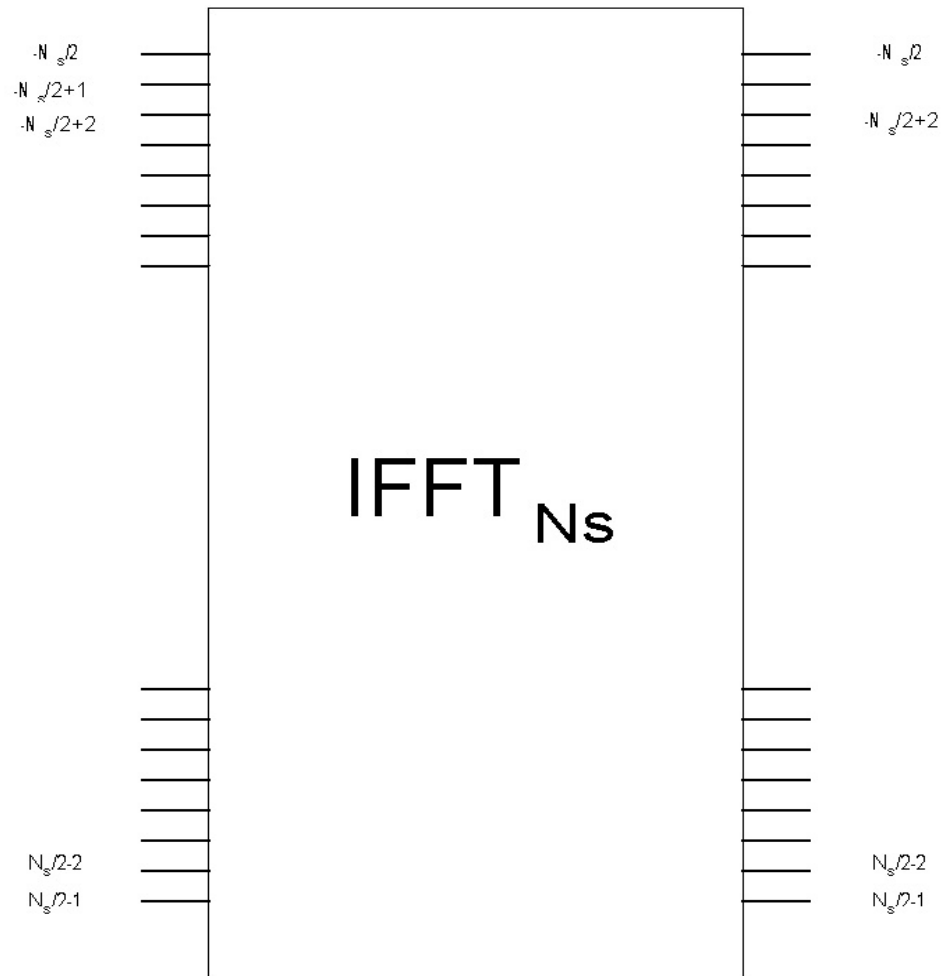
$$\underline{N_s=16}$$

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For  $N_s T=16$ ,

$S_1=[0\ 0\ 1\ 1\ 1\ -1\ -1\ -1\ 0\ 1\ -1\ -1\ 1\ -1\ -1\ 0]$  —  
PAPR of 1.5957 or 2.02 dB.

# Sequence formation





# References

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