Base Pattern Generator Utility

Contents

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Prerequisites for software

➢ MATLAB MCR for R2014a (Windows 64-bit version)

Who needs this utility?

The data stream is defined at X-I, X-Q, Y-I, and Y-Q tributary level in OUI software. The synchronization of data is done at the X-I, X-Q, Y-I, and Y-Q bit level, which means that the data sync is not possible unless these bit sequences in each tributary are determined.

If the original data stream is a PRBS, the I and Q data sequences may or may not be a PRBS, which depends on N (modulation order). If the PRBS is a LFSR type PRBS, then the I and Q data sequences will be PRBS sequences, when N is an integer power of 2 only.

Note: The above case is not applicable for 64QAM and 32QAM (5 and 6 are not a power of 2).

The Base Pattern Generator utility is used to generate the PRBS sequences in tributary level and the PRBS Data sync feature can be used or 32 and 64 QAM.

How the utility works?

The data stream is an N-way multiplexing of the tributaries, while using the standard mapping. If the data stream is multiplexed for N PRBS sequences, you can get a PRBS at the IQ tributary level. The streams will be of same length, but they will have different seeds to fill in all the symbol locations.

How to use it?

Step1: Generate the base data Pattern using the utility.

Select the modulation of interest, define the PRBS data for each tributary and click **Generate**.
The file is saved in the path selected in the UI.
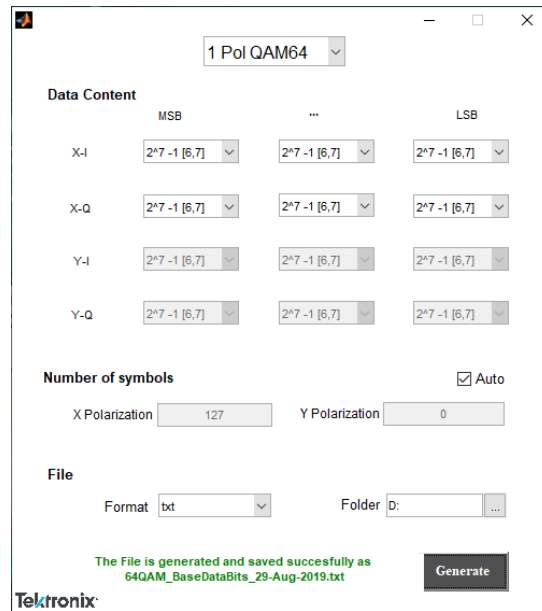
Step 2: Generate signal using base data pattern generated from the AWG

Load the base data pattern into the AWG as user defined file.