



## 48A.4 Continuous random test pattern

The Continuous random test pattern is intended to provide broad spectral content and minimal peaking that can be used for the measurement of jitter at either a component or system level.

NOTE—The derivation of this pattern may be found in NCITS TR-25:1999, “Methodology of Jitter Specification”. This Annex uses similar modifications to fit the RPAT test pattern into an 802.3 frame.

The continuous random test pattern consists of a continuous stream of identical packets, separated by a minimum IPG. Each packet is encapsulated within delimiters as specified in clause 48 in the ordinary way. The contents of each packet is composed of the following octet sequences, as observed at the XGMII, before 8B/10B coding.

Each packet in the continuous random test pattern consists of 8 octets of PREAMBLE/SFD, followed by 1488 data octets (124 repetitions of the 12-octet modified RPAT sequence), plus 4 CRC octets, followed by a minimum IPG of 12 octets of IDLE. The Modified RPAT sequence is repeated on each lane

PREAMBLE/SFD:

55 55 55 55 55 55 55 D5

MODIFIED RPAT SEQUENCE (LOOP 124 TIMES, 31 TIMES ON EACH of 4 LANES)

BE D7 23 47 6B 8F B3 14 5E FB 35 59

CRC

F8 79 05 59

IPG

00 00 00 00 00 00 00 00 00 00 00 00

END

## 48A.5 Continuous jitter tolerance test pattern

The Continuous jitter tolerance test pattern is intended for receiver jitter tolerance by exposing a receiver’s CDR to large instantaneous phase jumps. The pattern alternates repeating low transition density patterns with repeating high transition density patterns. The repeating code-group durations should be longer than the time constants in the receiver clock recovery circuit. This assures that the clock phase has followed the systematic pattern jitter and the data sampling circuitry is exposed to large systematic phase jumps. This stresses the timing margins in the received eye. The following test bit sequences are proposed for receive jitter tolerance testing.

NOTE—The derivation of this pattern may be found in NCITS TR-25:1999, “Methodology of Jitter Specification”. This Annex uses similar modifications to fit the JTPAT test pattern into an 802.3 frame.

The Continuous jitter tolerance test pattern consists of a continuous stream of identical packets, separated by a minimum IPG. Each packet is encapsulated within delimiters as specified in clause 48 in the ordinary way. The contents of each packet is composed of the following octet sequences, as observed at the XGMII, before 8B/10B coding.

Each packet in the continuous random test pattern consists of 8 octets of PREAMBLE/SFD, followed by 1504 data octets, plus 4 CRC octets, followed by a minimum IPG of 12 octets of IDLE. The Modified JTPAT sequence is repeated on each lane

PREAMBLE/SFD:

55 55 55 55 55 55 D5

MODIFIED JTPAT SEQUENCE

7E for 580 Bytes - Low Density Transition Pattern;

B5 for 172 Bytes - High Density Transition Pattern;

7E for 580 Bytes - Low Density Transition Pattern;

B5 for 172 Bytes - High Density Transition Pattern.

**Editors' Note:** To be removed prior to final publication. The number of times that the low/high data values are repeated in the frame may need to be adjusted to account for line rate differences between Fibre Channel and 10GBASE-LX4. For example the low high values above are repeated twice within a maximum length 802.3 frame.

CRC

F3 CF F9 0F

IPG

00 00 00 00 00 00 00 00 00 00 00 00

END

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