Cabling solution providers have for many years now provided “Guidelines” for design and installation such as CommScope’s “Power Separation Guidelines for SYSTIMAX® Installations”

These are often referenced in site warrantees which provide customer assurance of trouble free operation but also set requirements for installation contracts

These are also typically captured in cabling standards. Two useful references:

https://www.anixter.com/content/dam/Anixter/Guide/12H0009X00-Anixter-Standards-Reference-Guide-EMEA-EN-UK.pdf (starting on page 33)

https://www.bicsi.org/pdf/regions/uk/SteveBanks.pdf (starting on page 39)

There is the need to not only to identify:

1) Application Usage
2) Interference levels

but also identify:

- What aspects of current **guidelines or standards** may be unacceptable for these new applications and should be excluded or in some way adjusted as a guideline

This test was on Sodium/Halide lighting (Daybright fixtures with MVR175/U lamps). 40 ft of a Cat6A channel was run along the power line conduit, and placed against the lamp ballasts but no 10GBaseT errors were registered, until the lamps were power cycled.

When the lights are brought back on, there is an extended period where they heat up to turn on and reach full brightness. During this time, errors were registered adding up over the time period:

	CRC	L	M
Server	54	13	16
AP	402	108	138

Rerouting the cable with about 1 foot spacing:

	CRC	L	M
Server	13	7	15
AP	53	18	27

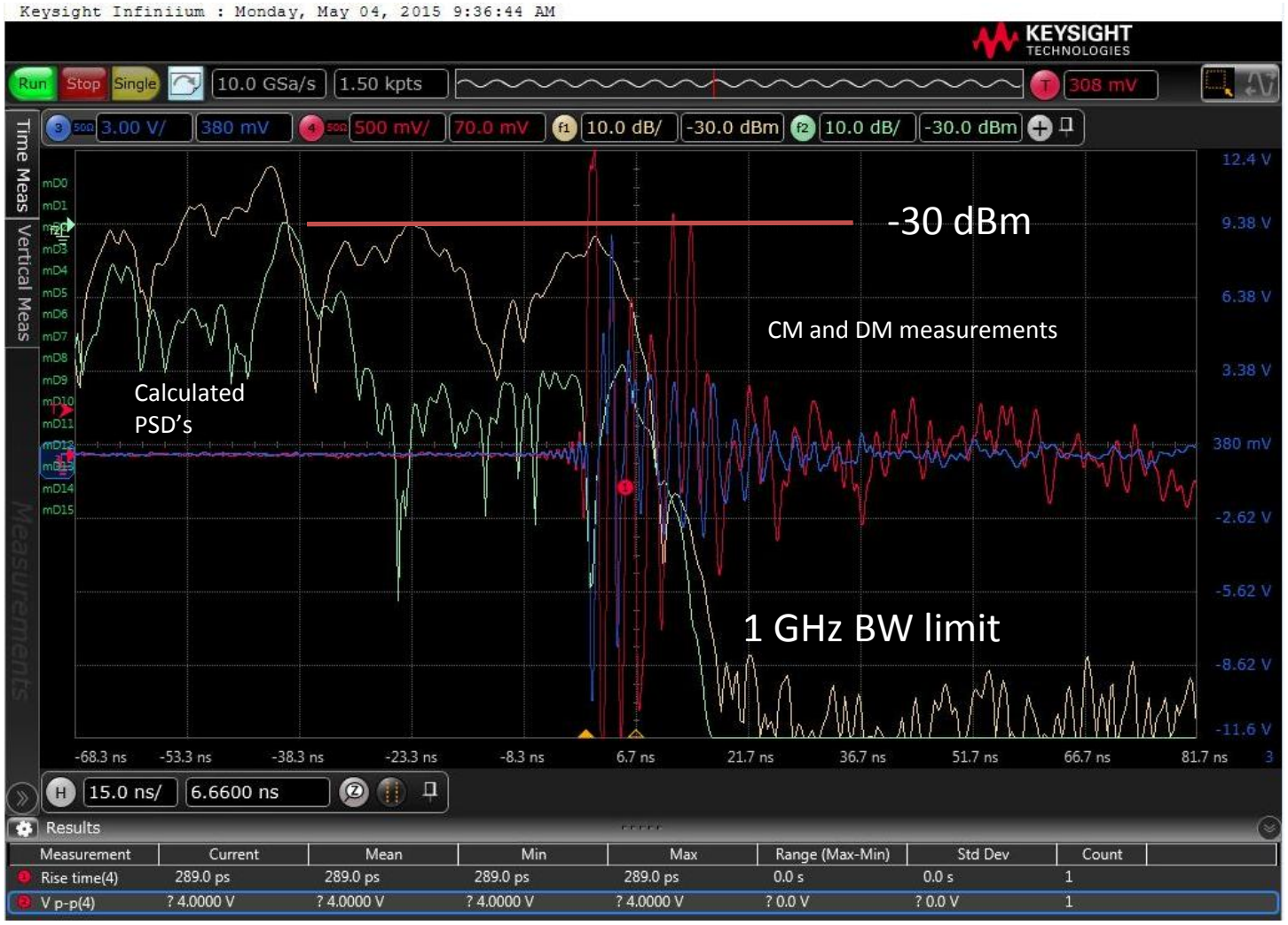
Rerouting the cable with about 1.5 foot spacing:

	CRC	L	M
Server	0	0	0
AP	1	0	0

While not providing a definitive answer, a good question is: What do we deem to be acceptable?
Once a day bursts of errors may not matter, or are we excluding any 10E-X rate over any time period?

Quick result from a different test, attempting to use the section 40 cable clamp to simulate or represent a power impulse or static discharge

This static discharge shows typical wideband (and large) impulse injection with “small metal in hand” discharge within 1 foot of channel cord end after chair movement



Here is a cable clamp injection with a 10v feed making contact with the BNC on the far end of the cable clamp – result is clearly bandwidth limited, but may be useful for emulating the lower frequency power line impulses