Cl **68** *SC* **1** *P* **2** *L* **8** # **8**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Problem with 'In order to form a complete physical layer, this PMD shall be combined'. This clause does not define a complete physical layer, it defines the PMD alone (although a few oddball things like electromagnetic compatibility are categorised as PMD issues because the port is on the PMD). If a requirement of what constitutes a complete physical layer is needed, and I don't see the need, it must go elsewhere. Further, it is not clear what 'combined' means. The PMD does not connect to the PCS but to the PMA.

SuggestedRemedy

Change 'In order to form a complete physical layer, this PMD shall be combined with the 10GBASE-R physical coding sublayer, specified in 49, and optionally with the management functions that may be accessible through the management interface defined in 45.' to:

'A PMD is connected to the 10GBASE-R PMA of 51, and to the medium through the MDI. A PMD is optionally combined with the management functions that may be accessible through the management interface defined in 45 or by other means.'

Proposed Response *Response Status* **O**

Cl **68** *SC* **10** *P* **13** *L* **19** # **37**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

When writing clause 52 we found the structure of these cabling subclauses in 38 hard to work with. When writing 58, we rebuilt the structure.

SuggestedRemedy

Consider re-ordering these sections if it would improve the document

Proposed Response *Response Status* **O**

Cl **68** *SC* **10** *P* **13** *L* **3** # **36**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Our fiber optic cabling model must by definition be the same as clause 38's as we are providing an upgrade for the installed base.

SuggestedRemedy

Change to: 'The fiber optic cabling model is shown in Figure 38-7 (Figure 52-14 shows the same model).'

Proposed Response *Response Status* **O**

Cl **68** *SC* **10** *P* **13** *L* **32** # **38**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

The table entry 'Connector insertion loss' is misleading, and I believe the limit is wrong (my mistake).

SuggestedRemedy

If you need the table, change to 'Losses of all connections'. Change the limit to 1.5 dB.

Proposed Response *Response Status* **O**

Cl **68** *SC* **10** *P* **13** *L* **32** # **39**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

For chromatic dispersion, just copy!

SuggestedRemedy

Copy the relevant entries in table 38-12 or 52-25.

Proposed Response *Response Status* **O**

Cl **68** *SC* **11** *P* **13** *L* **54** # **40**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

Typo

SuggestedRemedy

Delete the first 'for'.

Proposed Response *Response Status* **O**

Cl **68** *SC* **11** *P* **14** *L* **2** # **41**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

Typo

SuggestedRemedy

not slice but splice

Proposed Response *Response Status* **O**

Cl **68** *SC* **11** *P* **14** *L* **2** # **42**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Wrong allocation for allocation for connector and splice loss

SuggestedRemedy

I agree with editor: change to 1.5 dB following clause 38.

Proposed Response *Response Status* **O**

Cl **68** *SC* **12.2.3** *P* **15** *L* **44** # **43**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

Blank line?

SuggestedRemedy

If so, remove.

Proposed Response *Response Status* **O**

Cl **68** *SC* **2** *P* **3** *L* **1** # **9**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

To keep things simple, make this the same as the minimum patchcord for testing: 2m

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **O**

Cl **68** *SC* **3.2** *P* **10** *L* **19** # **1**
Pete Hallemeier Optium Corp

Comment Type **T** *Comment Status* **X**

The explicit inclusion of tests supporting integrated TP2 compliant launches adds implementation specific language that is not required in a standard. In addition, this language could potentially cause the following: 1) force multiple part codes to support the different types of MM fiber (50/62.5um) which adds complexity to the supply chain and deployment, 2) force end users into multiple TP2 conformance test configurations to ensure interoperability, 3) exclude the possibility of interoperation with single mode fiber, i.e. the possibility of one port type for SMF and MMF when launch conditioning is removed.

SuggestedRemedy

Specify the launch optics at the transceiver to be of the standard SMF type. The launch conditioning for TP2 would be left for the user to implement between the transceiver and TP2. For example, launch conditioning would be implemented with connector snap-in optics (or similar), vortex lenses, patchcords, etc, if needed or desired.

Proposed Response *Response Status* **O**

Cl **68** *SC* **4.1** *P* **3** *L* **24** # **10**
Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

re two or half meter of fiber: a similar issue came up in EFM. We kept the minimum length of the patchcord used in measurements at 2 m: we assume 0.5 m will give a working link, but believe that the extra distance allows something to move towards an equilibrium for measurement, and I don't believe the work has been done to show that 0.5 m is enough for measurement purposes. This fiber consumes about 20 bit times: I assume that's OK. Also, clause 52 has 2 m.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **O**

Cl **68** *SC* **4.4** *P* **4** *L* **27** # **11**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Do we really want the fail threshold at -30 dBm OMA? The Tx off power (following 52) is -30 dBm mean. This comment does not apply to the 'OK' level.

SuggestedRemedy

Either work out the equivalent OMA to -30 mean, picking the appropriate end of the extinction ratio range, or (simpler, my recommendation) just change from OMA to average power in this one cell.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5** *P* **6** *L* **34** # **2**

Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

Table 68.3:A qualitative mask test is not sufficient or necessary as an approach for TP2 compliance in EDC-enabled systems. This comment also applies to Clause 68.6.3.1 and Figure 68-4.

SuggestedRemedy

A different test framework has been proposed in the TP2 con-calls and will be presented again in the Ottawa meeting.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5** *P* **8** *L* **18** # **6**

Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

Table 68-4: Sinusoidal jitter frequencies are TBD.

SuggestedRemedy

Propose two frequencies/magnitudes spec pairs in the table. I recommend that the high frequency jitter term should be 80 MHz with an amplitude of 0.1 UI pk-pk, and that this be included in the stressed eye test for the Rx. I recommend that a low frequency jitter term be defined at 5 UI and 40 kHz as a separate test from the stressed eye. This has been partially discussed in the TP3 ad hoc.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5** *P* **9** *L* **5** # **3**

Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

Table 68.5: Does the budget hold together? I'm concerned that the current specs (TP2 mask) allow penalties that are not covered in or correlate well with the budget.

SuggestedRemedy

Need better tests at TP2 that assure the specifications and that the specifications reflect the budget and its penalties and vice versa. See previous comment for recommendations on the TP2 test framework.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.1** *P* **6** *L* **21** # **12**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Minimum transmit OMA seems right, if measured with a (slow) square wave. However, if measured on an ordinary pattern, it would be lowered by 1/2 to 1 dB to keep the same budget.

SuggestedRemedy

Per outcome of TP2 specification discussion

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.1** *P* **6** *L* **24** # **5**

Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

Table 68-3: As clause 58.7.6 (referred from 68.5.1) explains, the values of P0 and P1 that are used in OMA and extinction ratio measurements may be different, and so the relationship between extinction ratio and OMA may not be so simple as shown in Figure 68-3. The quality of this relationship will be based on the final requirements placed on TP2.

SuggestedRemedy

May want to consider a new definition for extinction ratio based on the P0 and P1 measurements used for OMA. That is, measure extinction ratio using the low frequency square wave definition per 802.3ae, clause 52.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.1** *P* **6** *L* **28** # **13**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Looking at figure 68-3, it's obvious that for directly modulated lasers the bottom corner of the parameter space will never be occupied. So we can cut it off, at no product cost, allowing better diagnostics using a power meter in network maintenance. A limit of -6.5 dBm will, per footnote b, have no effect unless the extinction ratio exceeds ~10 dB.

SuggestedRemedy

Change from an informative -7.5 dBm to a normative -6.5 dBm. Delete footnote b.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.1** *P* **6** *L* **39** # **15**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.2** *P* **8** *L* **18** # **16**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

re jitter frequency: just follow precedent (jitter mask). Suggest the spot frequencies in the measurement section

SuggestedRemedy

Copy table 52-19 but use 0.05 instead of S, simplify the equations

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.2** *P* **8** *L* **22** # **17**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

We believe a sinusoidal interferer is not appropriate for an equalising receiver

SuggestedRemedy

Replace by noise loading: either filtered PRBS or filtered Gaussian white noise. Need more work to define amplitude and spectrum of the noise

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.2** *P* **8** *L* **22** # **7**
Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

Table 68-4: Sinusoidal interference is not a good representation of modal noise and RIN.

SuggestedRemedy

Change sine interference to a broadband noise source. Magnitude/power TBD. Calibration methods may be able to use scope, but a RF spectrum analyzer should be used to assure upper end of spectrum at least out to 10? GHz and that there are no discrete peaks in the spectrum. This has been discussed in the TP3 ad hoc.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.2** *P* **8** *L* **27** # **18**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

If the simple ISI filter is equivalently stressful as the more complex one …

SuggestedRemedy

We should be able to work out the OMA as that for the stressed sensitivity plus/minus noise and jitter loading effects

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.2** *P* **8** *L* **34** # **19**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Receiver dynamic penalty: measuring path penalties even with a whole 1 dB limit, on a stable SMF chromatic-dispersion path, is notoriously inaccurate, because the result is the difference between two measurements. Measuring the same system under test twice (with and without the dynamic path) leads to a time-consuming measurement. Further, we don't know what limit is suitable or why. No other measurement requires us to actually find the point of sensitivity - the other specs mearely require to show BER<1e-12 under set conditions. The concept of 'dynamic penalty' may still be of interest for component procurement, but this isn't a purchase of an IC, it's a standard for a port in a DTE.

SuggestedRemedy

Instead of measuring sensitivity twice, define two (if necessary) 'dynamic sensitivities', for two frequency/amplitude pairs. This would be much more practical than a spec on a penalty. If we are lucky, we will need just one frequency/amplitude pair (the 'slow/deep fade' one). Choose the 'ISI difficulty' of this spec at the 90%ile of 220m, not the 99%ile, because we are not building this spec on a 'worst x worst' basis ('corners') but on a 'reasonably unlikely' basis (joint probability), and most links won't move, over most of their length, most of the time. We still need to consider if this penalty is orthogonal to others such as noise loading and jitter. I believe it is not, and should be included in the main stressed sensitivity spec. Combining the two does not require any special level of imagination! Combine them. This is nice for the precursor-postcursor stressors because with skill we could make them into just two phases of a dynamic test, instead of two separate test cases. The 'symmetrical' test might turn out to be another phase of the same test, or may have a slightly different ISI level.

Proposed Response *Response Status* **O**

Cl **68** *SC* **5.3** *P* **9** *L* **11** # **20**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

It looks like I made a mistake with 2 dB allocation for connector loss. 38.11.2.1 has 1.5 dB for MMF.

SuggestedRemedy

Change 2 to 1.5. Increase all sensitivities by 0.5 dB. Reduce budget from 4 to 3.5 dB.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.1** *P* **7** *L* **24** # **14**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Need some content in 68.6.1 Test patterns. In the proposed table I haven't been vaery careful to choose between pattern 1 and 2, I have just followed clause 52.

SuggestedRemedy

Insert: Compliance is to be achieved in normal operation.Two types of test pattern are used, square wave (52.9.1.2) and other (52.9.1.1). Test patterns are as in Table 68-x unless specified otherwise. NOTE —Test patterns for specific optical tests are designed to emulate system operation,which would entail passing valid 10GBASE-R data. Table 68-x Test-pattern definitions and related subclauses Test Pattern Related subclause Average optical power 1 or 3 52.9.3 OMA (modulated optical power) Square or (1 or 3) TBD 68.6.5 Extinction ratio 1 or 3 68.6.3.n Transmit eye 1 or 3 68.6.3.1 RINxOMA 1 or 3 68.6.3.2 Wavelength, spectral width 1 or 3 52.9.2 Vertical eye closure penalty calibration 2 or 3 68.6.4 Receiver sensitivity 1 or 3 68.6.9 Receiver overload 1 or 3 68.6.4 Receiver conformance (sensitivity) 2 or 3 68.6.4

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.2** *P* **7** *L* **26** # **4**

Tom Lindsay ClariPhy Communicati

Comment Type **T** *Comment Status* **X**

OMA is currently defined per 802.3ah (EFM) and shown in Figure 58-9. This definition uses a histogram method for the logic levels and data patterns with a high transition density. For many of the signals within 802.3aq, the signals may not be open, and so the the OMA with this definition will vary as the ISI varies. The budget we've been using does not consider eye closure - it is based only the outer portions of the eye (A_n per Figure 58-9).

SuggestedRemedy

Use the low frequency square wave definition per 802.3ae, clause 52. This has been discussed in the TP3 ad hoc, albeit some time ago.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.2** *P* **9** *L* **28** # **21**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Need to define OMA. For TP2, we have a choice: on a slow square wave, following 52.9.5, or on an ordinary pattern or in-service bitstream, following 58.7.5. The latter is more representative, and much more convenient in a real network. The algorithm can still work even on a completely closed eye - need to check its accuracy, though 'square wave' accuracy is pretty disappointing in practice.

SuggestedRemedy

Per outcome of TP2 specification discussion. In the interim, add editor's note pointing out both references.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3** *P* **9** *L* **31** # **45**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Proposed text for extinction ratio

SuggestedRemedy

68.6.3.n Extinction ratio measurements The extinction ratio shall meet specifications according to ANSI/TIA/EIA-526-4A with the port transmitting a valid 10GBASE-R signal and with minimal back reflections into the transmitter, lower than -20 dB. For test purposes, pattern 1 or 3 or an appropriate PRBS (2^23-11 or 2^31-1) may be used. The test receiver has the frequency response as specified for the transmitter optical waveform measurement.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3.1** *P* **9** *L* **33** # **44**

Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

Tie the terminology together

SuggestedRemedy

Append '(transmit eye)' to title

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3.1** *P* **9** *L* **38** # **22**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Text for you, Nick! Part 1 of 3

SuggestedRemedy

The required transmitter pulse shape characteristics are specified in the form of a mask of the transmitter eye diagram as shown in Figure 68-4. Compliance is to be assured during system operation. However, measurements with pattern 3 or 1 defined in 52.9.1,or other patterns such as a 2^23-1 PRBS or a valid 10GBASE-R signal are likely to give very similar results. The transmitter optical waveform of a port transmitting the test pattern specified in table 68-n shall meet specifications according to the methods specified below. Normalized amplitudes of 0 and 1 represent the amplitudes of logic ZERO and ONE respectively. These are defined by the means of the lower and upper halves of the central 0.2 UI of the eye. 0 and 1 on the unit interval scale are to be determined by the eye crossing means. A clock recovery unit (CRU) should be used to trigger the oscilloscope for mask measurements as shown in Figure 52-9. It should have a high frequency corner bandwidth of less than or equal to 4 MHz and a slope of -20 dB/decade. The CRU tracks acceptable levels of low frequency jitter and wander. The frequency response of the measurement instrument (e.g. oscilloscope) should extend to suitably low frequencies. A DC coupled instrument is convenient.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3.1** *P* **9** *L* **38** # **24**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Text for you, Nick! Part 3 of 3

SuggestedRemedy

5 x 10^-5 x 200 x 1350 / (0.2 x 10) = 6.75 (68-n) Likewise, if a measurement is continued for 1000 waveforms, then an expectation of less than 33.75 hits is compliant. An extended measurement is expected to give a more accurate result, and a single reading of 6 hits in 200 waveforms would not give a statistically significant pass or fail. Measurements to “zero hits”, which involve finding the position of the worst single sample in the measurement, have degraded reproducibility because random processes cause the position of such a single low-probability event to vary. The hit ratio limit has been chosen to avoid misleading results due to transmitter and oscilloscope noise, and to give the best correlation to transmitter penalty; see 58.7.9.5. Further information on optical eye pattern measurement procedures may be found in IEC 61280-2-2.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3.1** *P* **9** *L* **38** # **23**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Text for you, Nick! Part 2 of 3

SuggestedRemedy

The eye is measured with respect to the mask of the eye using a receiver with a fourth-order Bessel-Thomson response with nominal fr of 7.5 GHz as specified for STM-64 in ITU-T G.691, with the tolerances there specified. The Bessel-Thomson receiver is not intended to represent the noise filter used within a compliant optical receiver, but is intended to provide uniform measurement conditions at the transmitter. The transmitter shall achieve a hit ratio lower than 5x10^-5 hits per sample, where “hits” are the number of samples within the grey areas of Figure 68-4, and the sample count is the total number of samples from 0 to 1 UI. NOTE— As an example, if an oscilloscope records 1350 samples/screen, and the timebase is set to 0.2 UI/div with 10 divisions across the screen, and the measurement is continued for 200 waveforms, then a transmitter with an expectation of less than 6.75 hits is compliant:

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.3.2** *P* **11** *L* **3** # **25**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

I have looked at the two RINxOMA measurement sections 58.7.7 and 52.9.6. They are technically identical except for a 'shall' in the second line, and that 58.7.7 incorporates the noise bandwidth by reference while 52.9.6 has it hard-coded into the text. We don't need to clone this text a third time, 802.3 is long enough as it is! We can include our own 'shall'.

SuggestedRemedy

As an excess of bandwidth is not a problem in this project, I think we can revert to the default noise bandwidth of 3/4 modulation rate, as specified for the transmitter optical waveform test. Insert text: 'The transmitter's RINxOMA shall meet the specification of table 68-3 according to the procedure defined in 58.7.7.' Remove editor's note.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **19** # **26**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

The disadvantage of the low pass filter is calibration and accuracy. One advantage is to smooth off an otherwise artificial looking test eye. Another is to do some noise spectral limiting/shaping, which it seems we need. 4th order Bessel-Thomson is a default choice but I'm told that odd order filters may be easier in practice.

SuggestedRemedy

Include the a low pass filter (additional bullet c). Remove question mark from figure 68-6. Add a row for filter's characteristic to table 68-4.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **20** # **48**

Vipul Bhatt Independent

Comment Type **T** *Comment Status* **X**

For EDC-enabled receivers, sinusoidal interference is not a suitable emulation of noise. Use of a sinusoid can produce meaningless conclusions, and is not in alignment with the spirit of TP3 compliance testing in this situation. Use of a broadband noise source seems to be a better choice than other alternatives, considering its likeness to RIN and broadband component of modal noise, and the fact that it permits a true black box view of the receiver. This commenter acknowledges that further feasibility investigation is required, and is willing to re-submit this comment in the next meeting if the task force so advises.

SuggestedRemedy

In subclause 68.6.4, Fig. 68-6, and in Table 68-4, replace the sinusoidal interferer with a noise generator.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **20** # **29**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Don't think a sinusoidal interferer is viable: a smart equaliser might apply a notch filter to it!

SuggestedRemedy

Replace by either filtered PRBS or filtered Gaussian white noise.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **22** # **46**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Here is a good place to provide suggested spot-test frequencies.

SuggestedRemedy

Suggest two jitter amplitude/frequency combinations per Tom's and Lew's suggestions, or for one of them, my 0.05 UI.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **22** # **47**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Too many 'shall's. Need a master shall.

SuggestedRemedy

Something like 'The receiver shall deliver a bit error rate of 10^-12 under the conditions described below.' Then change 'shall be converted', shall be connected' to 'isconverted', 'isconnected'.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **27** # **27**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

How to calibrate OMA in stressed eye generator?

SuggestedRemedy

A task for the committee! I suggest we try statistical metrics and the built-in scope metrics on the TP3 eye, with a a typical or scrambled pattern. I haven't had time to progress this yet.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **36** # **28**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

The SUT and pattern generator don't need to be connected together.

SuggestedRemedy

Delete the arrow linking them.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4** *P* **11** *L* **44** # **30**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Sinusoidal interferer not suitable, replacement could be better placed.

SuggestedRemedy

Have the PRBS or Gaussian white noise source add into the signal before the low pass filter. An additional noise filter will probably be needed, unfortunately.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4.1** *P* **11** *L* **53** # **31**
Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Need to be more specific about overload requirements than in previous standards. I think the most convenient way is to include overload in the 'sensitivity testing' section(s).

SuggestedRemedy

Change to: 'The receiver under test shall satisfy the static stressed receiver sensitivity and overload (maximum received power in OMA) specifications in Table 68–4.' To tie the terminology together, insert '(overload)' into table 68-4 after 'Received power in OMA'.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4.2** *P* **12** *L* **5** # **32**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

Need to be more specific about overload requirements…

SuggestedRemedy

Change title to: 'Simple stressed receiver sensitivity and overload test'. Change first sentence to: 'The receiver under test shall satisfy the simple stressed receiver sensitivity and overload (maximum received power in OMA) specifications in Table 68–4.' To tie the terminology together, insert '(overload)' into table 68-4 after 'Received power in OMA'. This is assuming that the same overload point will do for both tests.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4.3** *P* **12** *L* **39** # **34**

Piers Dawe Agilent

Comment Type **E** *Comment Status* **X**

These three very brief subclauses don't deserve being top level subclauses, and it's silly having one called 'Environmental specifications' and another called Environment'.

SuggestedRemedy

Do what we did in EFM: have one top level subclause 'Environmental, safety and labeling' with subordinate subclauses.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4.3** *P* **12** *L* **42** # **35**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

51.10.3 (typo I assume, not 51.10.3) is bad practice for a standard. It says 'Sound installation practice, as defined by applicable local codes and regulations, shall be followed in every instance in which such practice is applicable.' While some jurisdictions might have codes and regulations each of us can approve of, others won't: there could be rules about age, gender, union status, day of the week, and so on. We should not to hand a blank cheque to we don't know whom.

SuggestedRemedy

Downgrade it to a recommendation. Delete 'and as defined in 51.10.3 for installation.' and insert: 68.n.n Installation It is recommended that proper installation practices, as defined by applicable local codes and regulation, be followed in every instance in which such practices are applicable.

Proposed Response *Response Status* **O**

Cl **68** *SC* **6.4.3** *P* **12** *L* **5** # **33**

Piers Dawe Agilent

Comment Type **T** *Comment Status* **X**

A path penalty type measurement takes twice as much time as an absolute measurement. It is too inaccurate for the low limit suggested. We have no basis of understanding for choosing what a suitable limit should be. This test is not viable.

SuggestedRemedy

Instead, use an absolute measurement. Specify the two OMAs ('sensitivity' and 'overload') at which the SUT must achieve the rated BER with defined stressors. Pick a slow frequency representative of a human moving a patchcord. If this is so slow as to be not an issue for practical equalisers, delete the test completely.

Proposed Response *Response Status* **O**