

Proposal to Change the Transmit MPD Lower Bound Limit in 802.3bv/D1.4

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Supported by

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Naoshi Serizawa (Yazaki), Takayuki Tajima (Yazaki)

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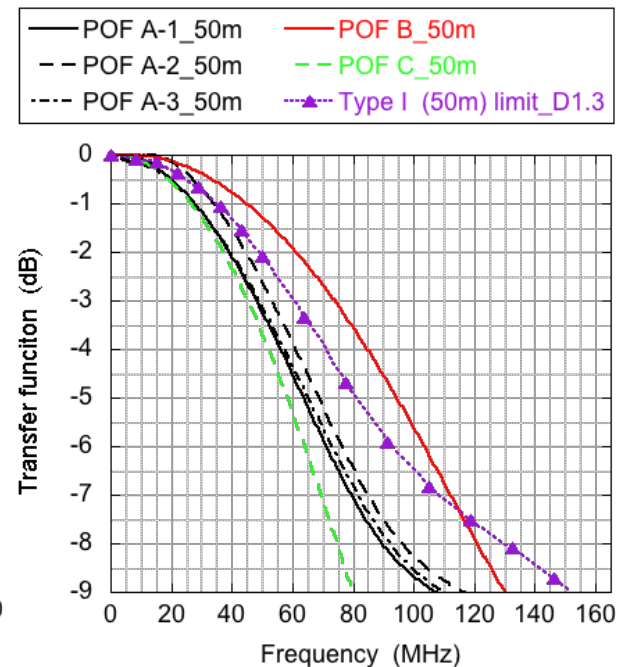
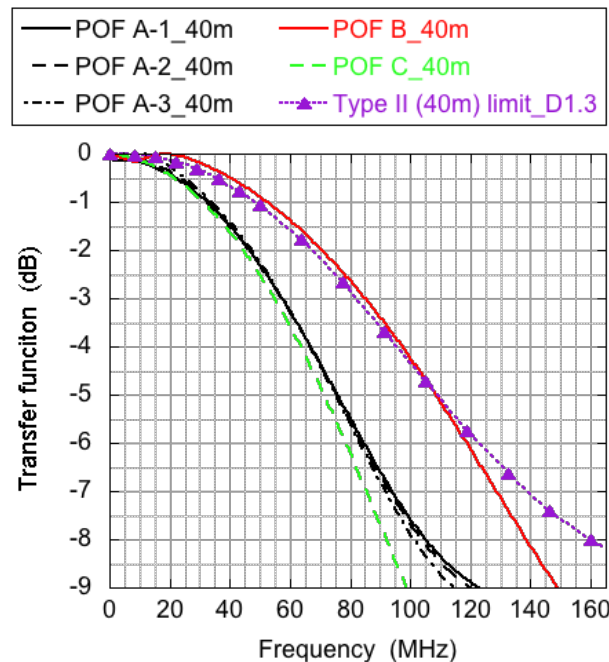
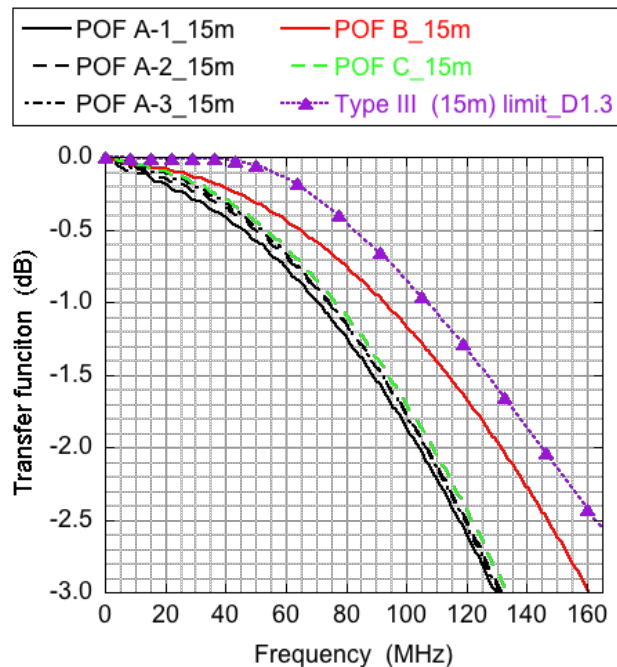
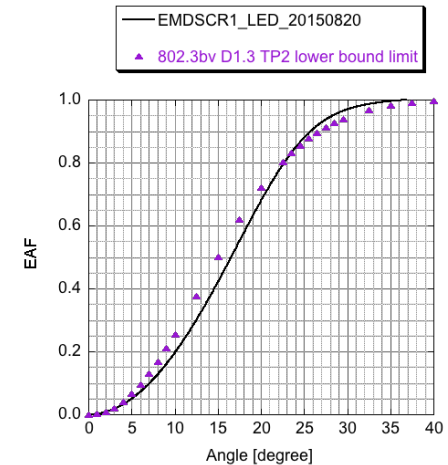
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Agenda

- Background
- Samples and Measurement Setup
- Measurement Results of Transfer Function
- Measurement Result of EAF at TP2
- MPD at TP2 Lower Bound Limit Proposal

Background

No sample met the transfer function lower bound limit under the launch condition close to that specified in 802.3bv/D1.3 and D1.4



Need to verify EAF and transfer function with actual FOTs

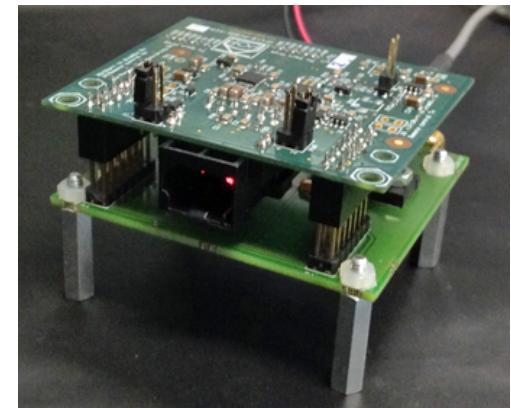
Samples

➤ POF

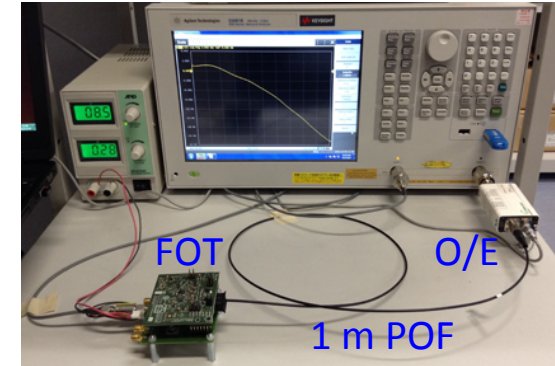
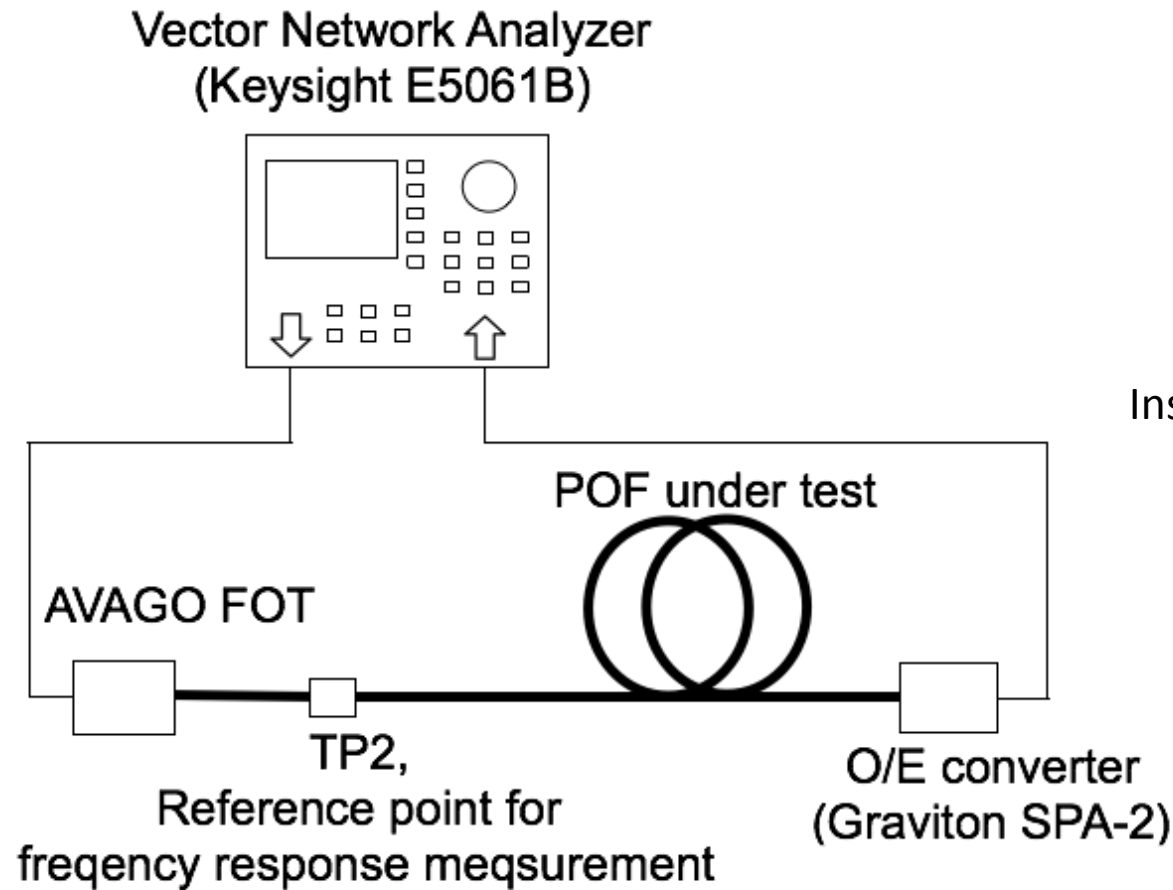
- Subcategory A4a.2 ($NA = 0.485 \pm 0.045$)
- 3 manufacturers, one product from each
- 3 samples for Product A
- One sample for Product B and C

➤ FOT

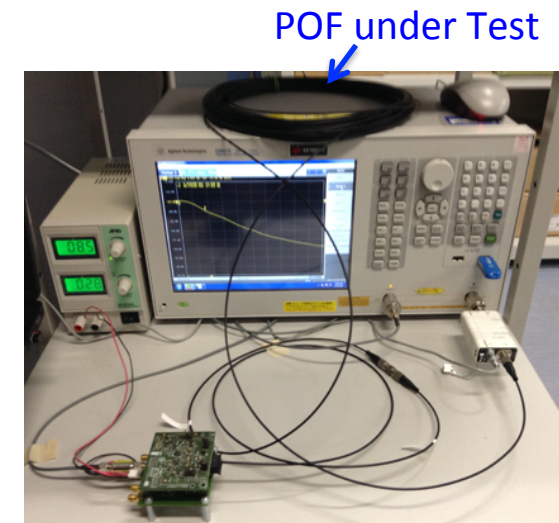
- 3 FiberDock samples
(#2, #4, #6)



Measurement Setup – Transfer Function

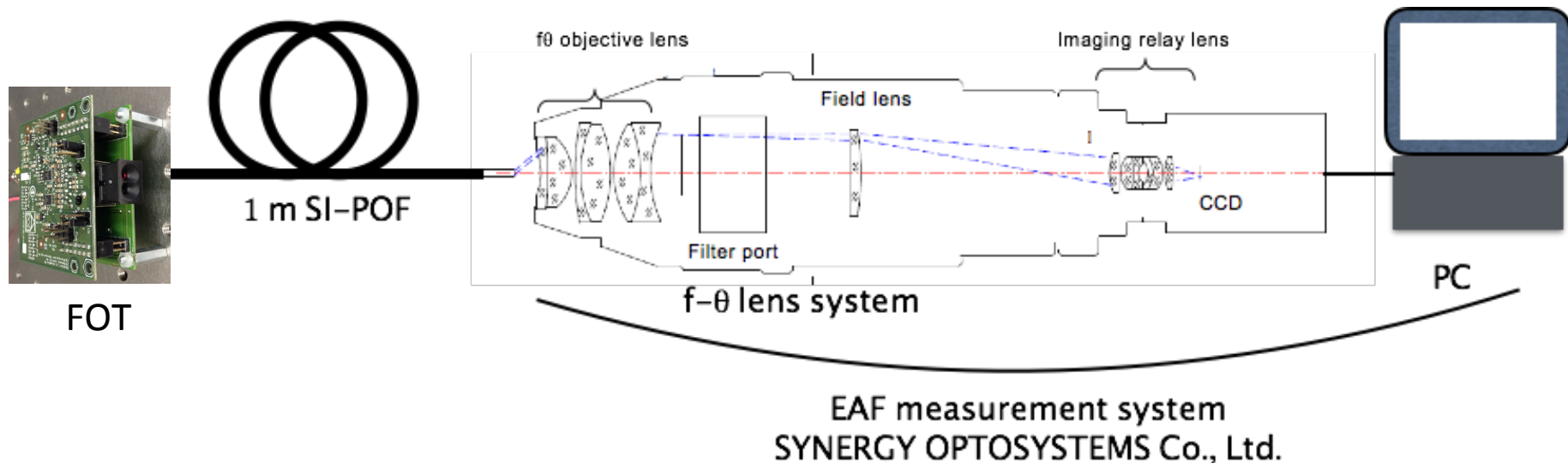


Instrumental function measurement



POF transfer function measurement

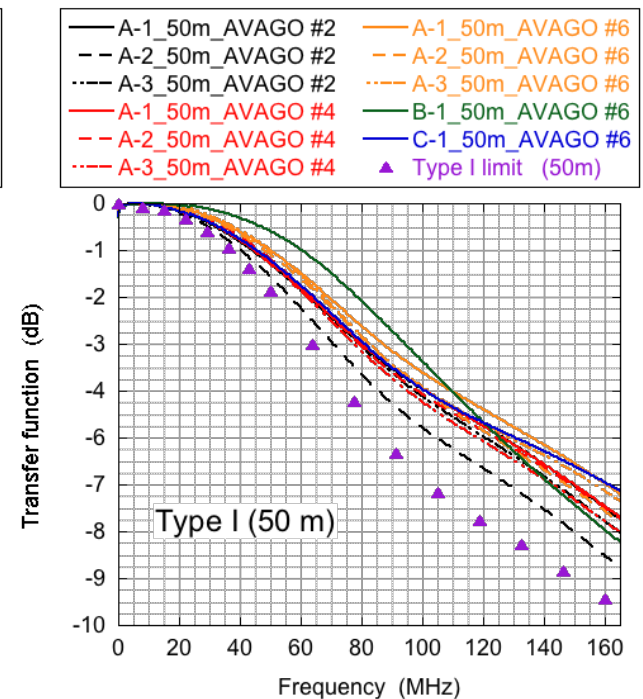
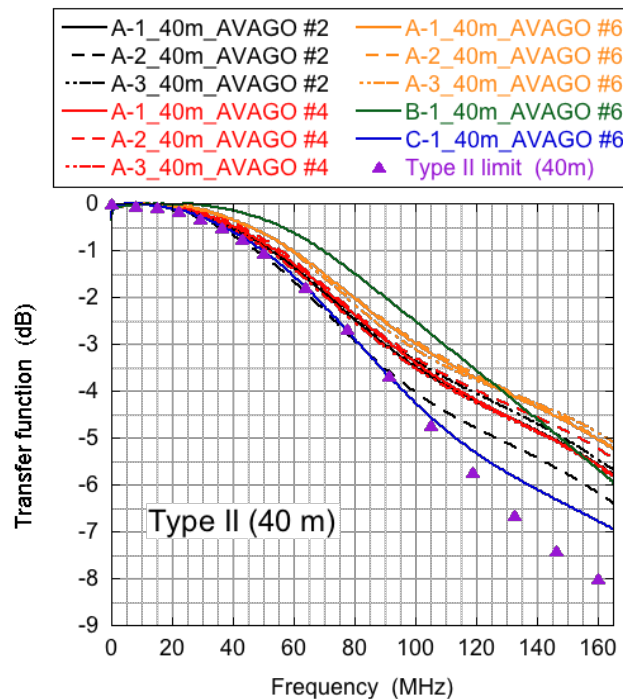
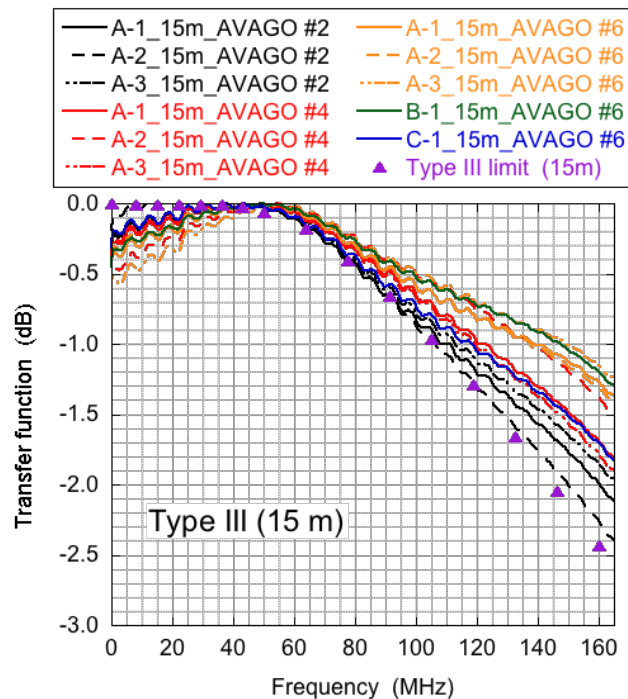
Measurement Setup – Encircled Angular Flux



The EAF measurement system is in conformity with IEC 61300-3-53

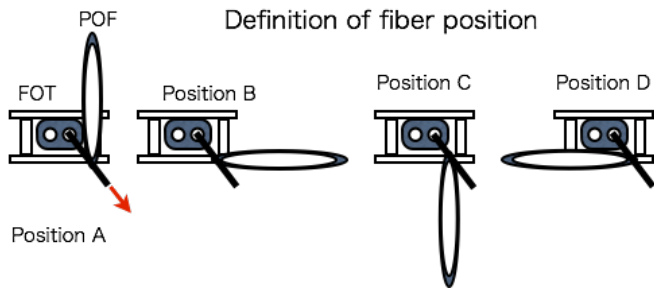
Measurement Result of POF Transfer Function

All the POF samples fulfilled
the transfer function lower bound limits

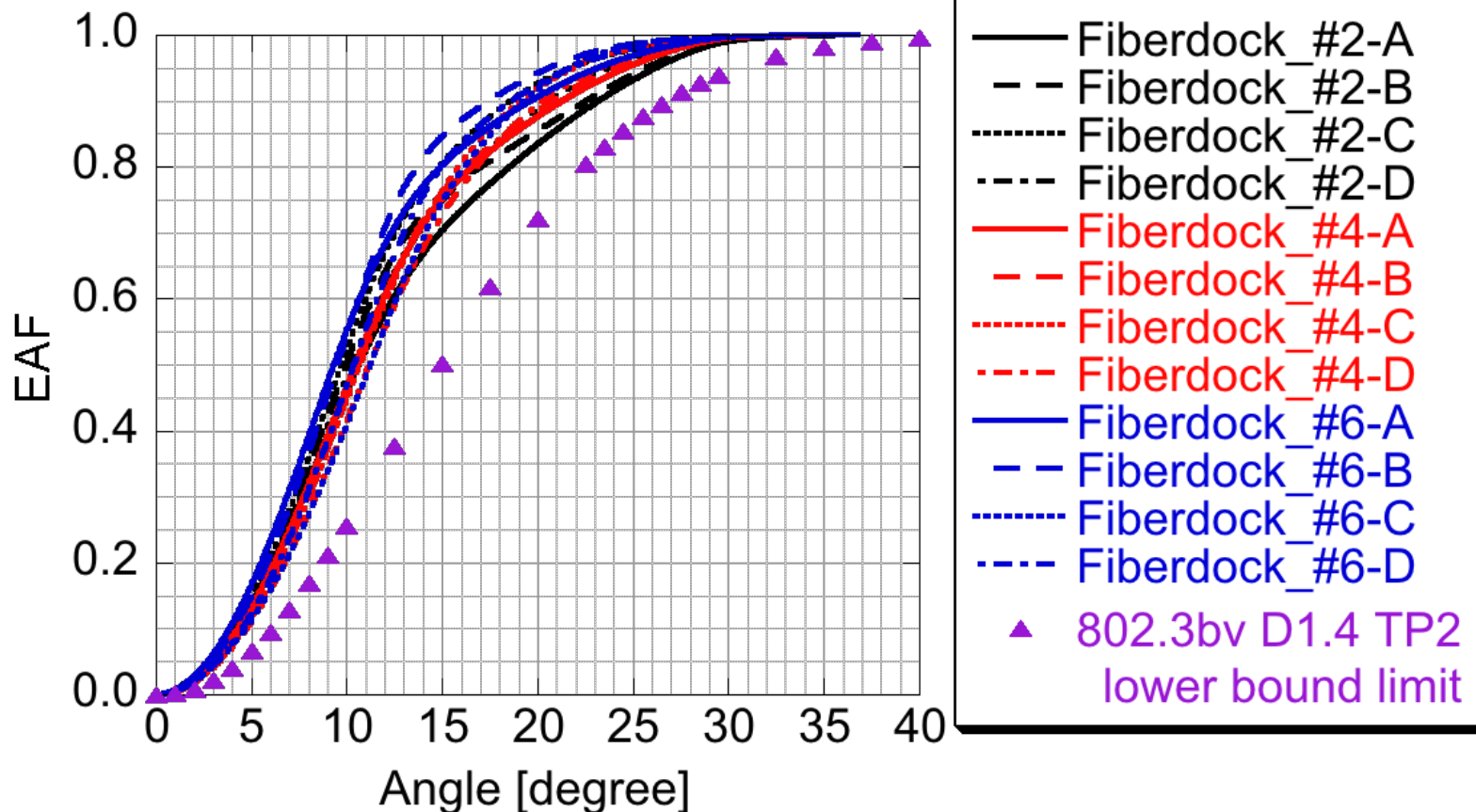


Data in low frequency area of Type III are unreasonable. The cause is not clear at the moment.

Measurement Result of EAF at TP2



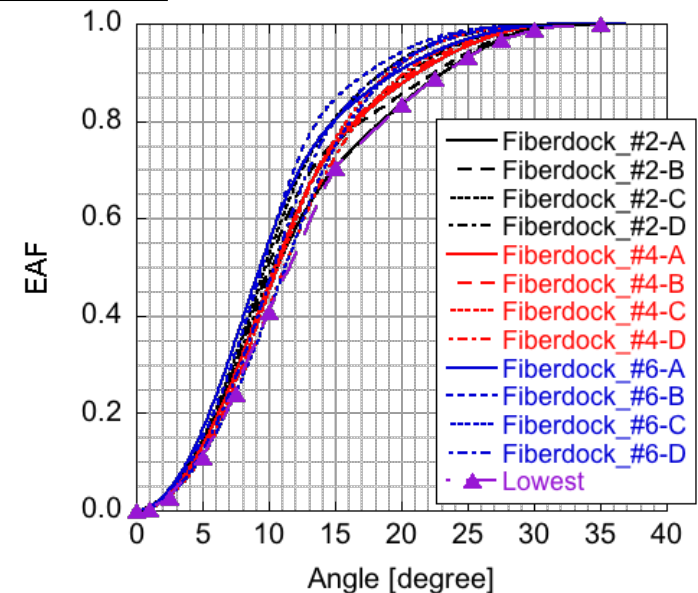
All samples showed mode distribution much lower than the EAF template in 802.3bv/D1.4



Lowest values at every angles are picked up
to draw up the EAF lower bound limit

Angle (degree)	Fiberdock_#2-A	Fiberdock_#2-B	Fiberdock_#2-C	Fiberdock_#2-D	Fiberdock_#4-A	Fiberdock_#4-B	Fiberdock_#4-C	Fiberdock_#4-D	Fiberdock_#6-A	Fiberdock_#6-B	Fiberdock_#6-C	Fiberdock_#6-D
0.0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	0.00707	0.00625	0.00601	0.00576	0.00634	0.00489	0.00451	0.00421	0.00687	0.00618	0.00527	0.00454
2.5	0.0395	0.03682	0.03743	0.03641	0.03638	0.02976	0.02895	0.02773	0.04245	0.03821	0.03043	0.02997
5.0	0.13679	0.13828	0.14484	0.13686	0.13187	0.117	0.11785	0.11002	0.16438	0.14719	0.11174	0.12152
7.5	0.28595	0.3023	0.31654	0.29466	0.28188	0.26131	0.26238	0.24266	0.34816	0.32228	0.2401	0.27054
10.0	0.45779	0.50121	0.52217	0.48016	0.46508	0.44997	0.44593	0.41261	0.55009	0.54327	0.40724	0.46635
15.0	0.70322	0.75727	0.80471	0.74798	0.75116	0.75907	0.76254	0.72557	0.80172	0.84579	0.74656	0.80037
20.0	0.83389	0.85416	0.92587	0.88698	0.87584	0.88418	0.91835	0.89293	0.9057	0.94155	0.91686	0.92415
22.5	0.88645	0.89868	0.95887	0.93266	0.91963	0.9278	0.95766	0.93871	0.94198	0.9707	0.96177	0.95802
25.0	0.93126	0.94015	0.97789	0.96452	0.95418	0.96062	0.97998	0.96811	0.96835	0.98633	0.98483	0.97915
27.5	0.96766	0.97191	0.98902	0.98442	0.98008	0.98342	0.99135	0.9869	0.98616	0.99412	0.99415	0.99166
30.0	0.98967	0.99077	0.9954	0.99413	0.99493	0.99552	0.99678	0.99621	0.99658	0.99794	0.99789	0.99758
35.0	0.99887	0.9992	0.99936	0.99917	0.99952	0.99956	0.99957	0.99954	0.99983	0.99975	0.9997	0.99972

lowest highest



MPD at TP2 Lower Bound Limit Proposal

Table 114-7 – Transmit MPD lower bound limit per EAF (RHA, RHB and RHC)

Angle (deg.)	EAF	Angle (deg.)	EAF	Angle (deg.)	EAF
0.0	0.00	10.0	0.41	27.5	0.97
1.0	0.00	15.0	0.70	30.0	0.99
2.5	0.03	20.0	0.83	35.0	1.00
5.0	0.11	22.5	0.89		
7.5	0.24	25.0	0.93		

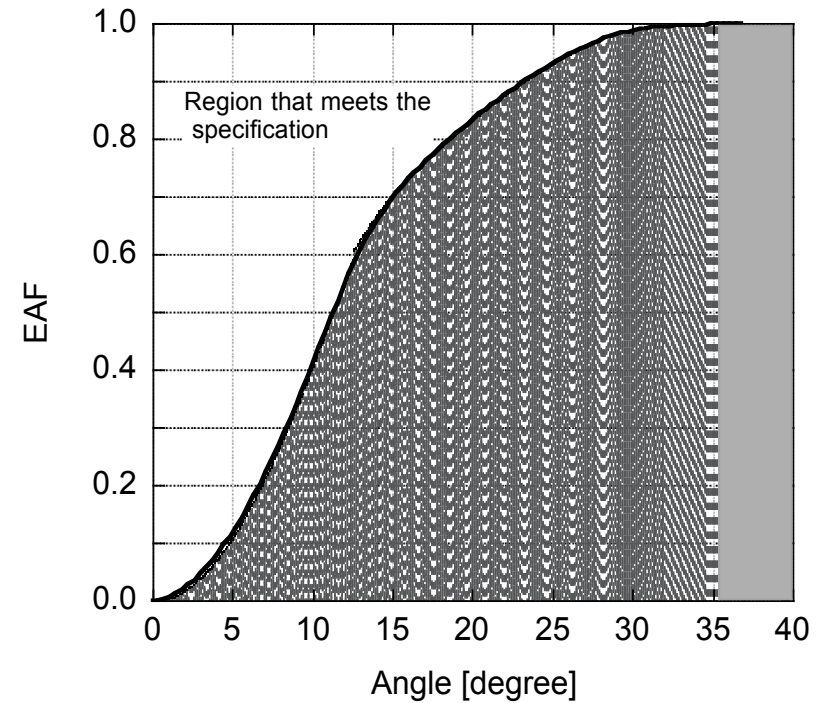


Figure 114-48 – Transmit MPD illustration according to Table 114-7