

A Proposal for Measurement Criteria for Optical Home Network

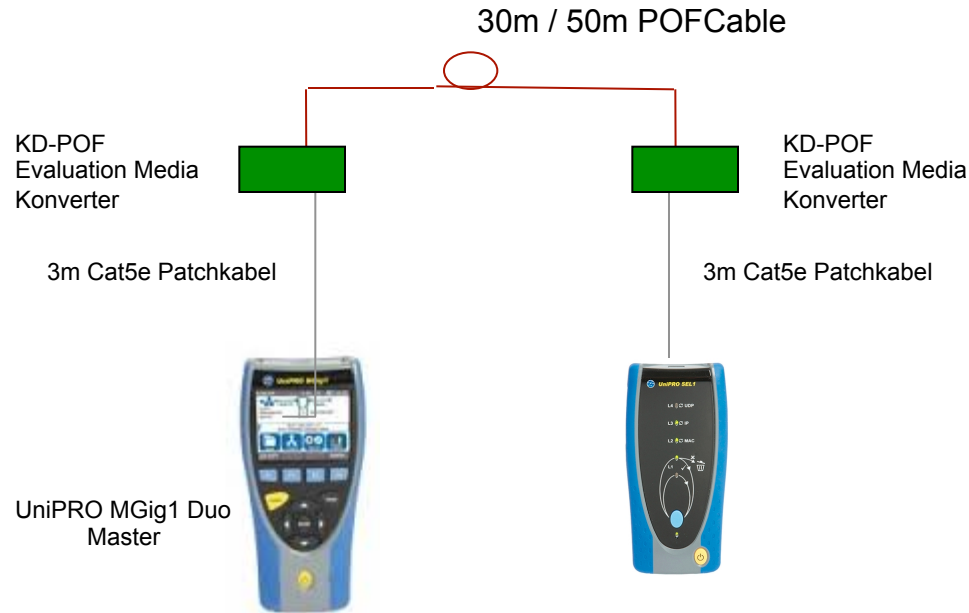
Measurement Criteria for Optical Home Network

Measurement Method:

- 1) RFC 2544 TEST
- 2) ITU Y 1564 Test
- 3) Functional application test (IGMP Snooping etc...)
 - 1) A1 Telekom Austria
 - 2) Swisscom
 - 3) and others ...




Measurement Criteria for Optical Home Network



Referenz Messung: RFC 2544

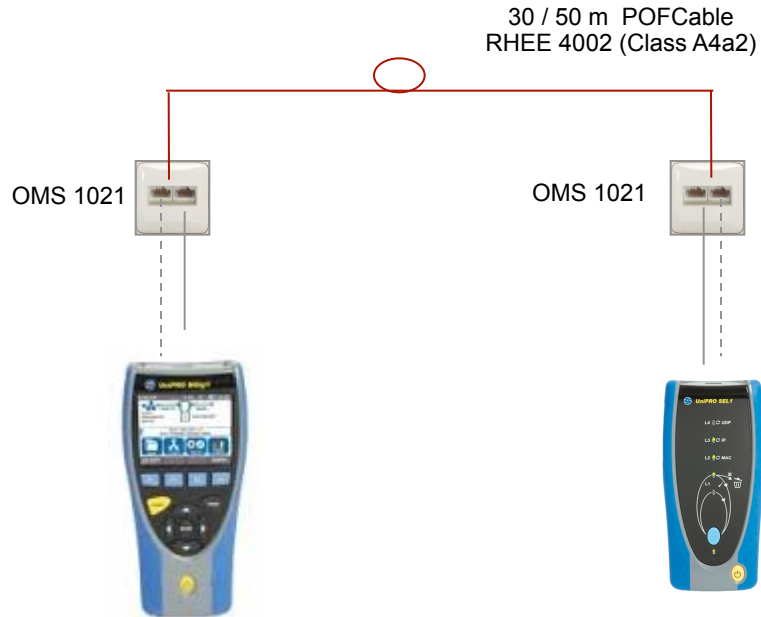
1) Voll Duplex 1 Gbps 50m

2) Voll Duplex Messung gegen 100Mbps OMS121UP

POF Kabel 
Cat 5e Kabel 

DATA LIGHT Abnahmekriterien Optisches Heimnetzwerk

Messaufbau



Port zu	Port
RJ45-1	POF
RJ45-2	POF
RJ45-1	RJ45-2

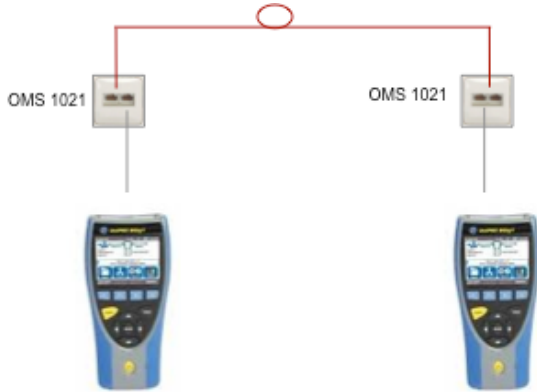
Basis Messung: RFC 2544

- 1) Voll Duplex 1 Gbps 50m
- 2) Voll Duplex Messung gegen 100Mbps OMS121UP
- 3) Test Adaptive Bandbreite: 70m POF; 80m POF

POF Kabel
Cat 5e Kabel



Measurement Criteria for Optical Home Network



ITU-Y1564 Measurement and SLA

1) Minimum Bandwidth

2) Maximum Bandwidth

Port zu	Port
RJ45-1	POF
RJ45-2	POF
RJ45-1	RJ45-2

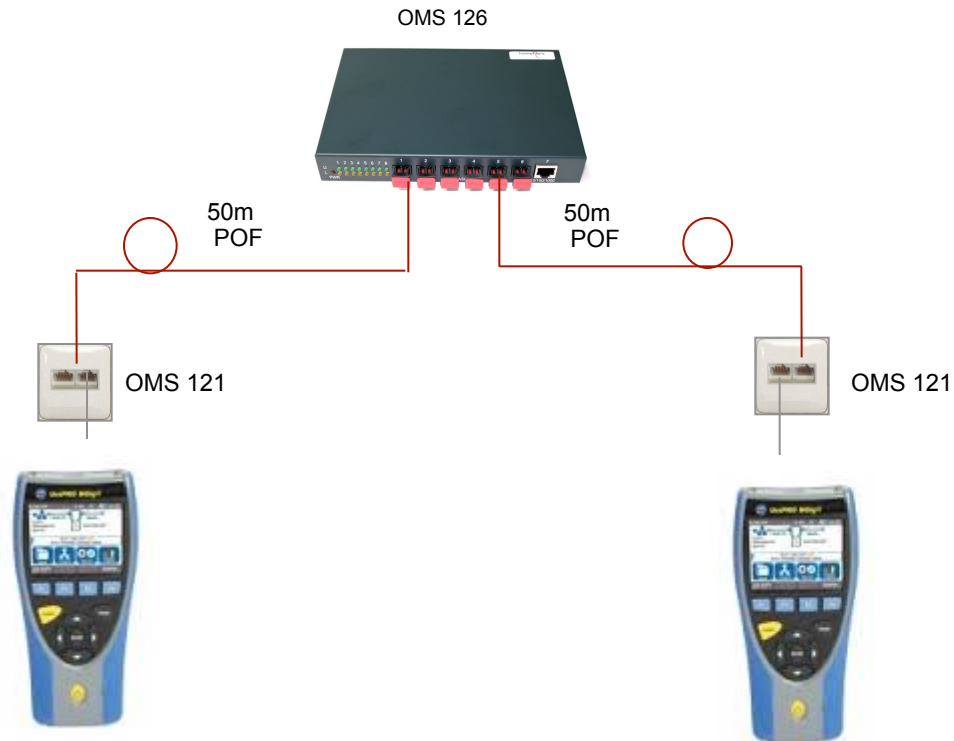
Service	Minimum Bandwidth	Maximum Bandwidth	Packet Size (EMIX)	Packet Loss (FL)	Delay (FTD)	Jitter (FDV)	References
IP-TV	20 Mbps	200 Mbps	1280	<0,1%	<200ms	<50ms	ETSI
VOIP	8-64 Kbps*	2 Mbps	64-256*	<5%	<150ms	minimal	ITU G114,
Gaming	56 Kbps	2 Mbps	64	**3%-35%	<100ms	<10ms	ETSI, Game Traffic Report
Internet	7 Mbps	20 Mbps	1518	<0,1%	<200ms	<10ms	Google Support, ETSI

POF Kabel —
 Cat 5 Kabel —

* Depends on used codec

** Depends on used engine

Measurement Criteria for Optical Home Network



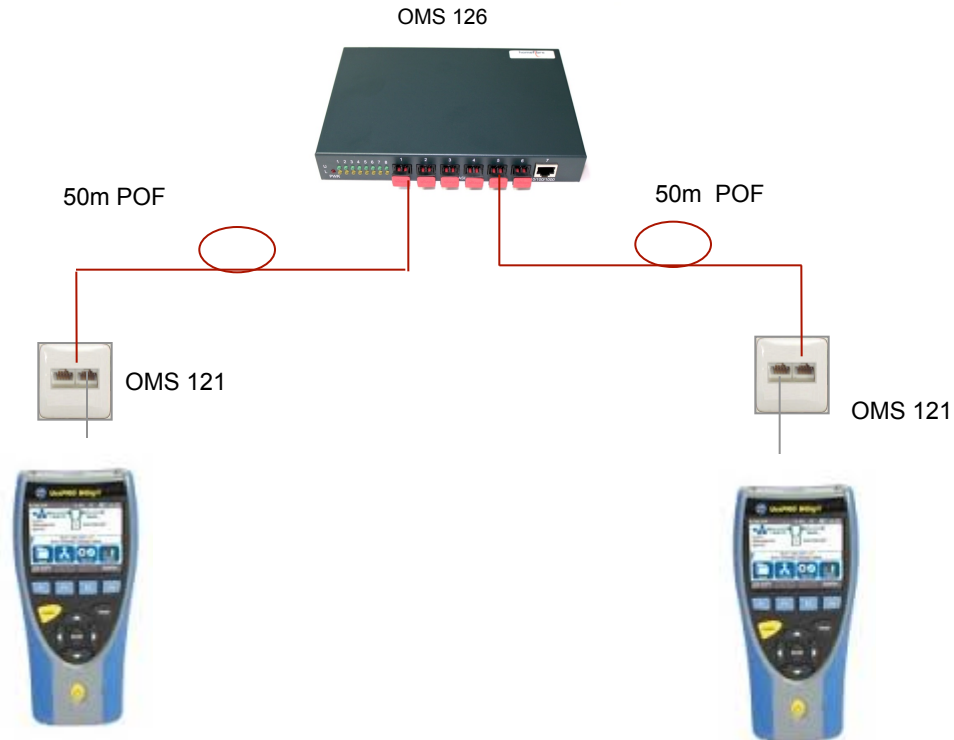
RFC Full -Duplex Test

Messungen Abnahme

Port zu	Port	Port zu	Port
1	2	RJ45-1	1
1	3	RJ45-1	2
1	4	RJ45-1	3
1	5	RJ45-1	4
1	6	RJ45-1	5
2	3	RJ45-1	6
2	4	RJ45-1	RJ45-2
2	5	RJ45-2	1
2	6	RJ45-2	2
3	4	RJ45-2	3
3	5	RJ45-2	4
3	6	RJ45-2	5
4	5	RJ45-2	6
4	6		
5	6		

Measurement Criteria for Optical Home Network

Messungen Abnahme



ITU Service Test 1

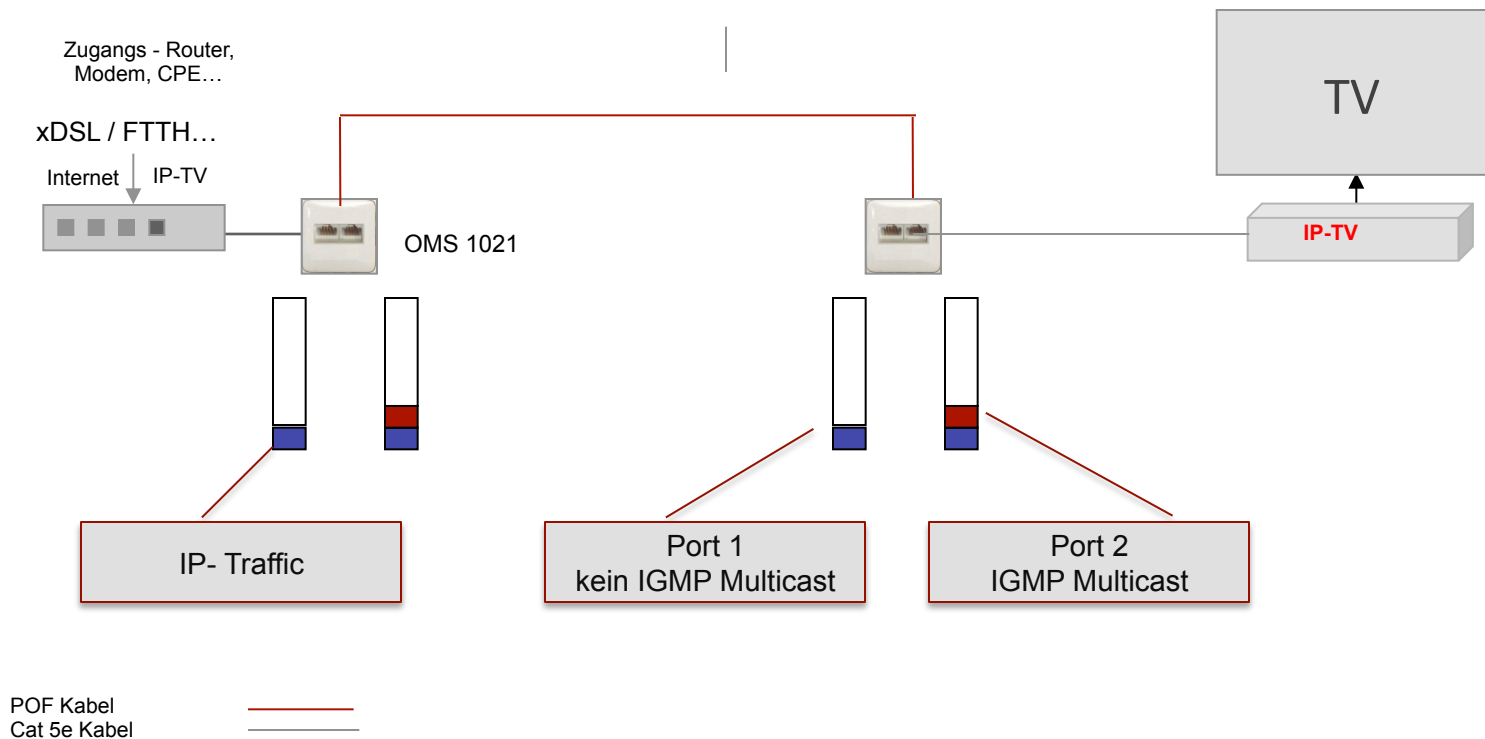
POF Kabel
Cat 5 Kabel



Port zu	Port	Port zu	Port
1	2	RJ45-1	1
1	3	RJ45-1	2
1	4	RJ45-1	3
1	5	RJ45-1	4
1	6	RJ45-1	5
2	3	RJ45-1	6
2	4	RJ45-1	RJ45-2
2	5	RJ45-2	1
2	6	RJ45-2	2
3	4	RJ45-2	3
3	5	RJ45-2	4
3	6	RJ45-2	5
4	5	RJ45-2	6
4	6		
5	6		

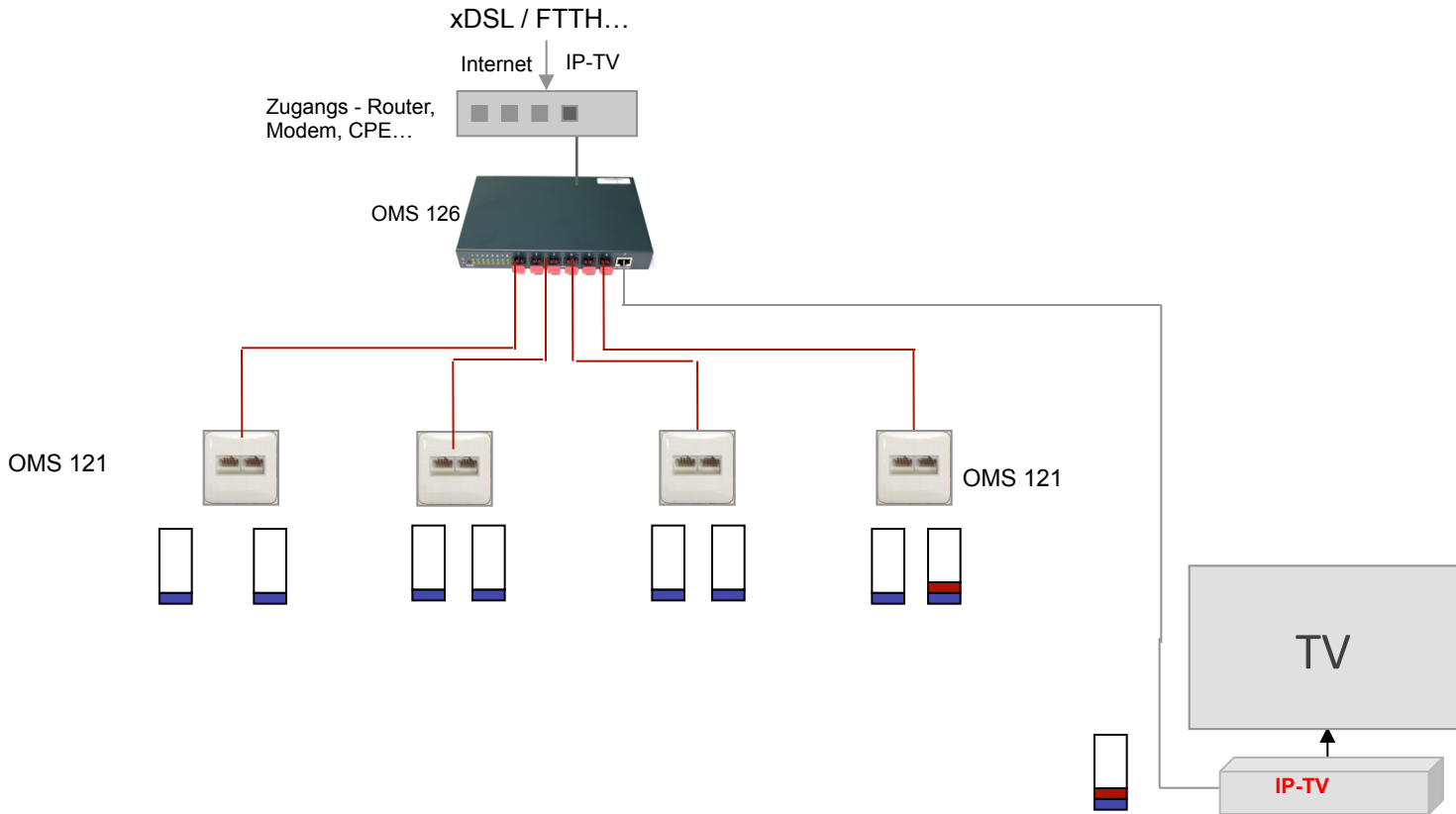
Measurement Criteria for Optical Home Network

IGMP Test – Link POF Gigabit Switch



Measurement Criteria for Optical Home Network

IGMP Test – POF Gigabit System



POF Kabel
Cat 5e Kabel

