



EXFO FIP W- Launch

Ing. Vratislav Blažek
Brno



Technical note on Field Of View (F.O.V) and magnification EXFO




EXFO's FIP-400B has a unique triple magnification feature. This enables the user to optimize the connector area viewed on screen depending on the application.

- The high magnification mode is optimized to get the maximum magnification regardless of the screen size.
- Medium magnification mode allows to see defects outside of the 250µm contact zone; Defects outside the contact zones can migrate and cause problems.
- The low magnification mode provides the largest F.O.V. for multi-fiber applications & enables the most performant auto-centering mechanism of the industry

Field of view (F.O.V or FOV):
This specification refers to the area of the ferrule visible by the inspection probe. The F.O.V. is specified as horizontal and vertical lengths. If no image cropping is performed by the device software, a larger FOV will show a smaller fiber size on the display.
A large field of view will be very useful when inspecting multi-fiber connectors, for example a 900um FOV will allow viewing up to 4 fibers at the same time for a single row MT ferrule or up to 8 fibers for a dual row MPO, greatly facilitating the inspection.

Magnification:
The magnification is specified as a relation between the physical fiber size and the displayed fiber size on the screen. A number of manufacturers are using numbers to define high and low magnification levels. Number often used are 200x/400x. Using numerical values often leads to misinterpreting the capability of the inspection test set as it should always refer to a specific screen size. Omitting to specify a screen size makes this value useless. For example some vendors are advertising 400x magnification capability on a 3,5 in or 5 in screen while the magnification is in fact around 200x when properly measured. If the magnification is specified as a 400x capable device the image of the 125um cladding on screen should have a diameter of 5cm to meet the 400x specification.

	LOW MAGNIFICATION	MEDIUM MAGNIFICATION	HIGH MAGNIFICATION
Field of View (F.O.V.)	912 x 912µm	608 x 608µm	304 X 304 µm
Connector Image			
Closest competitor	LOW MAGNIFICATION F.O.V. 740 x 550 µm In low magnification mode EXFO can see a larger area of the ferrule (172µm more)	HIGH MAGNIFICATION F.O.V. 370 x 275 µm Maximum magnification is 18% less than EXFO	

© 2015 EXFO Inc. All rights reserved.

*I understand that inspection
is important but:*

- *My techs cannot bring this everywhere*
- *I want to maximise our Smart Devices investment*

© 2015 EXFO Inc. All rights reserved. |

While competitors brought
incomplete solutions, EXFO
perfected the art of inspection...

Introducing the FIP-435B:

The ONLY 100% automated
wireless probe on the market

© 2015 EXFO Inc. All rights reserved. |

A TRULY WIRELESS SOLUTION

The new FIP-435B offers everything the FIP-430B features, PLUS...

Cloud connectivity
through smart device



Android Devices



Wi-Fi
Connectivity
Between Smart Device
and FIP

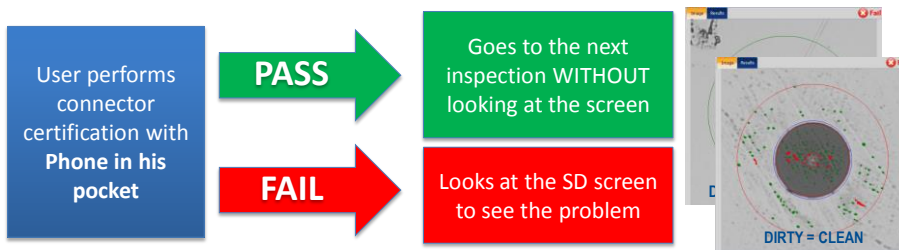
FIP-435B
Self powered
Wireless
FULLY Automated



© 2013 EXFO Inc. All rights reserved. | 5

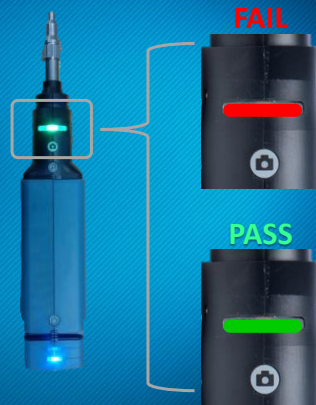
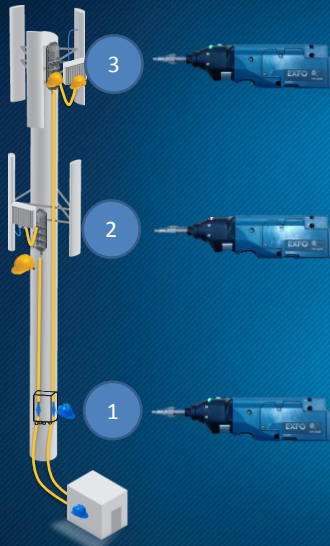
SCREENLESS inspection = UNIQUE to EXFO!

Enablers: 100% automated + P/F LED on the probe



FTTA / Remote Radio Head (RRH)
SCREENLESS OPERATION

User performs connector certification with
Phone in his pocket



© 2015 EXFO Inc. All rights reserved.

Belt Holster

Bring it everywhere!

- FIP-425B or FIP-435B
- IBC Cleaner
- Tips
- Smart phone
- FLS-140 VFL (or Pen)



© 2015 EXFO Inc. All rights reserved.

Applications

Who would benefit of an automated Wi-Fi inspection solution?

2 Workflow Integration & Process compliance

Some large operators already made the switch to smart device for their field crews. (Android)

- › Connectivity: Connected via SmartDevice to operator Server/OSS
- › Comply with operator process and requirements – Workflow integration and optimization



© 2015 EXFO Inc. All rights reserved.

Applications

Who would benefit of an automated Wi-Fi inspection solution?

3 EVERYBODY CAN USE IT (FTTx, CO, Private networks, Data Center etc..)

Connectors are the first critical elements to validate

- › BYOD – Anyone with an Android Device can turn it into a full blown inspection solution
- › 100% Automated = Even if not familiar with fiber optics and rarely use inspection tools
- › Complement an existing solution without having to add an extra platform

DataCenters



Central Offices



Field crews



© 2015 EXFO Inc. All rights reserved.

Key Benefits

- **USP: 100% Automated / One-Step process**
- **USP: Screen less usability / Single hand operation**
- **Use it anywhere**
 - No excuse to avoid inspection!
- **Full featured ConnectorMax2 Mobile software**
 - Not only a subset of CMAX2
- **Onboard Battery with unmatched Autonomy**
 - No need for external power pack; Work a full day without recharge
 - 8h with FIP-425B and 6h with FIP-435B
- **Comply to operator process and requirements**
 - Workflow integration, process compliance and optimization & data sharing

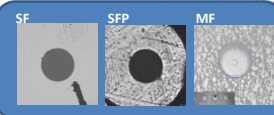
© 2015 EXFO Inc. All rights reserved.

Full featured ConnectorMax2 Mobile software

ConnectorMax2 Mobile

- Auto- Fiber Detect
- Center
- Focus
- Analysis
- Capture
- Brightness

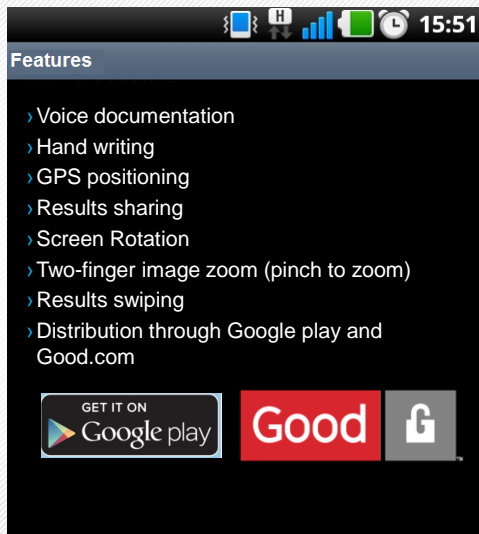
- › Support FIP-425/35B via wireless connection.
- › Automatic processing.
- › 3 inspection modes.
- › Results identification.
- › Live Video Display.
- › Results review.
- › Automated FIP firmware upgrade.
- › Measurement file management.
- › Upload results to: EXFO C^onnect
- › Report generation: CMax2 and PDF
- › Support of 6 official languages.



© 2013 EXFO Inc. All rights reserved. | 12

Feature Set

Smart Device Related

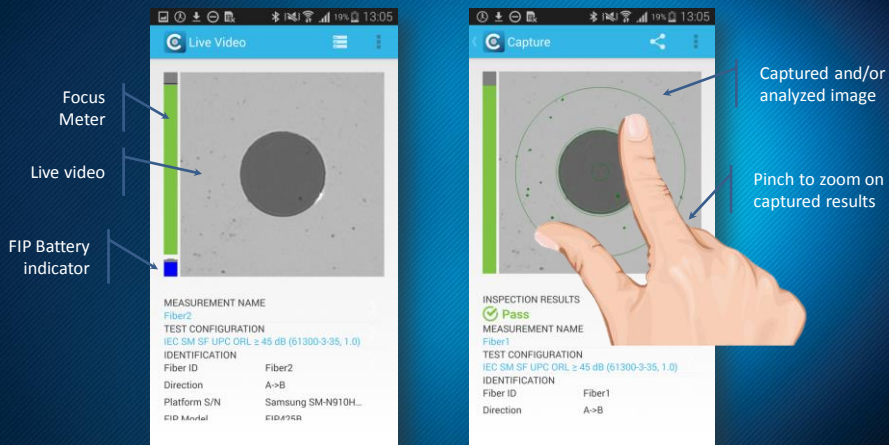


© 2013 EXFO Inc. All rights reserved. | 13

ConnectorMax2 Mobile

Full featured software

« Live » and « Capture » windows



© 2015 EXFO Inc. All rights reserved.

ConnectorMax2 Mobile

Full featured software

Full Analysis results; supports screen orientation

INSPECTION RESULTS
Pass
MEASUREMENT NAME: Fiber2
TEST CONFIGURATION: IEC SM SF UPC ORL ±45 dB (61300-3-35, 1...)
IDENTIFICATION: Fiber ID: Fiber2, Direction: A>B, Platform S/N: Samsung SM-N910..., FIP Model: FIP425B

Zones	Scratches			Defects		
	Criteria (µm)	Thresholds	Count	Criteria (µm)	Thresholds	Count
A: Core 0-25 µm	0 ≤ size < ∞	0	0	0 ≤ size < ∞	0	0
B: Cladding 25-120 µm	0 ≤ size < 3	Any	0	0 ≤ size < 2	Any	1
	3 ≤ size < ∞	0	0	2 ≤ size < 5	5	1
				5 ≤ size < ∞	0	0
C: Adhesive 120-130 µm						
D: Contact 130-250 µm	0 ≤ size < ∞	Any	0	0 ≤ size < 10	Any	17
				10 ≤ size < ∞	0	0

© 2015 EXFO Inc. All rights reserved.

ConnectorMax2 Mobile

Full featured software

Time saving features for documentation




Voice
Operator A: Bob

Handwriting
Operator A: BOB

Keypad
Operator A: BOB

© 2015 EXFO Inc. All rights reserved.

Product Positioning EXFO

						
Feature	EXFO FIP-400	EXFO FIP-410B	EXFO FIP-420B	EXFO FIP-430B	EXFO FIP-425B	EXFO FIP-435B
Connectivity	Analog cable					
Compatibility	FTB PC via USB adapter FOT-930					
Analysis	Phase OUT soon					
Auto center	NO					
P/F indicator	NO					
Auto focus	NO					

Questions?

vratislav.blazek@exfo.com