



Verizon NEBS™ Compliance: Monthly FOC Performance Summary Reporting and Tracking Guidelines

Verizon Technical Purchasing Requirements

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1.0 **PURPOSE**

The purpose of this Verizon Technical Purchasing Requirement document is to provide Monthly FOC Performance Summary Reporting and Tracking Guidelines.

2.0 **SCOPE**

FOC Testing and Reporting

3.0 **REFERENCES**

PFOC Memo #26	Notes and Information - Various GRs
PFOC Memo #40	Summary Notes

4.0 **ACRONYMS**

FOC	Fiber Optic Components
ITL	Independent Testing Laboratory
PN	Product Number
SIT	System Integration & Testing
TPR	Technical Purchasing Requirement

5.0 **MONTHLY FOC PERFORMANCE SUMMARY REPORTING AND TRACKING GUIDELINES**

This TPR provides template and notes for monthly FOC Performance reporting and tracking.

- This is needed for all the suppliers that have any product under deployment by Verizon or in consideration for a deployment.
- Supplier needs to submit all the documentation by the 5th day of every month with the latest info available as of the close of the previous month.
- No testing shall start without this sheet established for the particular test program.



- Testing is not completed until Test Report is provided to Verizon (Hard Copy and CD) - 2 sets; Conditional Acceptance is possible provided periodic readouts occurred and on the stipulation that the final test report is provided to Verizon on the agreed to date.
- The intent of this TPR is to set up the mechanisms necessary to ensure that FOC products installed into Verizon's Network are correctly tested on a timely basis. It will also provide the technical and administrative framework and controls to monitor the numerous test programs simultaneously in progress. Assessments on ITL and supplier progress, performance, and current status will be readily available.
- All products that are under contract, on an RFP, or have been identified by Sourcing, Network Planning, FTTP Network Creation, or the ROS as being of interest must be included in this documentation.
- Monthly meetings will be set up with the Verizon Systems, Integration, and Testing personnel assigned to the supplier. These meetings, depending on the scope, can be accomplished in person, via video, or on a conference call.
- SIT personnel will determine if the Program has any jeopardy issues and escalate as required.
- There are four components to these meetings: **Performance Summary, QPL (Qualified Products List); Tracking: Summary and Punch List, and Meeting Summary.** All of these components are prepared by the supplier and submitted to Verizon SIT.
- With the exception of the meeting summary all components are to be submitted by the supplier by the 5th of each month.
- All soft files are to be delivered in one email. Also a hard copy is to be provided by the supplier prior to or at the monthly meeting. The meeting summary will be prepared by the supplier during the meeting and submitted at the meeting's conclusion for review and approval by SIT.
- One test program can evaluate more than one product. All products, models, Product Numbers (PN), Configurations, etc must be listed throughout these documents. They must also be listed on test plans and final test reports.
- These documents are to provide a complete description of the product, in addition to the make, PN, Model, configuration, etc. The intended use for the product must also be included in this documentation. Sample details must be defined in the Punch List.
- Risk assessments can be performed at the request of the Directors in Sourcing, Network Planning, or FTTP Network Creation. The request must be made to the Director of SIT - FOC/NEBS. The results of a risk assessment must be included in the monthly documentation.



- All PNs for a product must be listed on all documentation, i.e.: on tracking summary sheet, punch list, test plan, test report, and are added up to be listed as a total number on the performance summary. These can be referred to but not listed in the monthly meeting summary.
- The monthly meeting summary can be considered as an executive summary that provides a status of the products reviewed during the meeting. Since all products are covered at the meeting and are included in the tracking documentation that is attached; only those critical items or products that should be highlighted need be summarized. This summary can be prepared prior to the meeting by the supplier and then updated with any changes as a result of the meeting to expedite issuance.
- Be sure to include on the punch list documentation, sample size and information. Also include configuration of the test set-up.
- The test plan/associated punch list and test configuration/samples should in many cases be straight forward. The ITL/Supplier should be able to correctly determine how these factors are addressed for an accurate evaluation which would include the entire GR/TPR and not rely on any previous test programs. Test programs can commence without approval from SIT, since it is expected that the ITL and supplier have the expertise to set-up an accurate test program. If there is any concern, then the ITL and Supplier should get prior approval from SIT. In some instances due to the product family, samples and configurations may prove to be complex; SIT recommends that prior approval on the test plan/punchlist be obtained.
- If a test plan/punchlist is established for a new product that relies on previous testing of an earlier edition of the product, therefore eliminating some testing and referring to the previous test program, then SIT approval is required.
- Audit of an ITL or Supplier Lab: Re-audit of a test battery for a new GR is not required. If a test bed or configuration was previously audited and approved, and is the same for another GR, it does not require an on site audit. Only an audit/review of the test plan is required. In cases where this is claimed, the ITL must submit a matrix showing the GR under audit vs. the GR that was already audited. Any other GR that can credit from this should also be listed in the Matrix if the ITL is requesting credit. SIT reserves the right to re-audit the test setup.
- When submitting a Test Plan for Review - indicate which tests will be outsourced. Also indicate where they will be outsourced to. This is indicated in the test plan, and also in the executive summary.
- PCNs must be part of the monthly meeting agenda. Review of the PCN and any proposed testing shall be presented to SIT team.
- Include calibration (yearly requirement) in the test report and plan. Also add a punch box at the end of the executive summary (last Line): " Calibration Report included - Yes or No"



Document-1: Test Programs Performance Summary

This summary report monitors how well test programs are being completed on a timely basis and how quickly Verizon receives the final test report. It is to be completed by the supplier and submitted in the same email as the two other reports (QPL and Tracking Summary and Punch List) plus a hard copy is to be provided per the notes above. As a general guideline all test programs should be completed within 6 months and test reports delivered to Verizon within 2 months of test completion.

FOC Test Programs Monthly Performance Summary

MONTH/YR UNDER REPORT:

DATE:

SUPPLIER:

(Section A)

Test Programs:

1. Test Programs In Progress:

a. <6 Months =

b. >6 Months =

c. >9 Months =

d. >12 Months =

Total (a+b+c+d) =

2. Number of Products* Included In Item #1 Total =

3. Test Programs Not Started =

4. Number of Products* Included In Item #3 =

5. Test Programs Completed =



6. Number of Products Included In Item #5 =

Total (1+3+5) Test Programs =

Total (2+4+6) Number of Products =

* Number of Products Include: All Models, All PNs, and All Configurations.

CRITICAL ITEMS:

COMMENTS:



(Section B)

ITL Test Reports:

Note: Test Reports due to Verizon within 1 month after completion of test program

1. Total
Number of Pending ITL Test Reports For Completed Test Programs =
2. Past Due > 3 months
Number of Pending ITL Test Reports For Completed Test Programs =
3. Past Due > 6 months
Number of Pending ITL Test Reports For Completed Test Programs =
4. Past Due > 9 Months
Number of Pending ITL Test Reports For Completed Test Programs =

Note: Verizon Systems Integration and Testing (SIT) can conditionally approval product and accept test programs based on test data, information, and reports provided to SIT at readouts and checkpoints, during and at the end of testing. Final approval is gained after FOC/ITL test report receipt and review by Verizon Systems Integration and Testing.

COMMENTS:



Document-2: QPL (Qualified Products List)

This is a summary listing of all products by model, PN, all info that is required to be filled in by the supplier is found in the Tracking Summary and Punch List. The supplier must complete all columns EXCEPT # 8, 9, & 10. Soft Copy and Hard Copy provided per the notes above.



Product Manufacturer	Ref. #	Product Description	Designated Manufacturing Location/s	Manufacturer's Part Number	Qualified to GR	FOC ITL/ Witness: ITL	Verizon Project No.	Qualification	
								Status	Report ID #
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
<p>Note: Supplier is required to complete all columns except columns 8 to 10. Add additional rows as needed. In addition, use xxx to represent Family or other Variant.</p>									



Document-3: Tracking: Summary and Punch List

This document shall be compiled in Excel Spread Sheet. For each product under test there will be two sheets (tabs) in the same file. For multiple products, multiple sheets (tabs) can be used in the same file. All the products shall be included in one Spread Sheet. Sheet names shall reflect the product name and manufacturing location. Following is example of a Summary List and Punch List

Summary List:

	Product Name	SC/UPC jumper on 2.0mm cable			Description: GR-326 Test														
	Model	SCUPC on 2.0mm Simplex Cable			1. Simplex 2.0mm Riser and Interconnect Rated Cable with SC/UPC Termination on one end or both ends														
		SCUPC on 2.0mm Simplex Cable			2. Zipcord 2.0mm Riser and Interconnect Rated Cable with SC/UPC Termination on one or both ends														
	Part Number	TBD			Reliability Tests to commence	July-2008													
Final Assembly Location	Postal Address																		
	Is product currently under contract?	Is there special interest in this product by someone in Verizon?	If yes then whom?	FOC Test Program - Describe, I.e. complete for new product, modified to qualify a product change, other.	Comments	Name of ITL	Lab date contract signed	FOC Test Location	Production samples ready date - Split samples are allowed, i.e. two final assembly locations	Test Schedule/Punch List Ready Date (2nd sheet is Punch List).	Test Plan Ready Date	Test Start Date	Test Complete Date	Final Readout Ready Date	Test Report Delivery Date (to Verizon). Generally one Test Plan, One Report, and One Product, unless a family of products.	Accepted by Verizon			
Dec-07	Yes	Yes	ABC	Modified		ABC	30-Dec-08	City, State, Country	30-Jan-08	30-Jan-08	30-Jan-08	1-Feb-08	1-May-08	1-May-08	1-Jun-08				
Jan-08	Yes	Yes	ABC	Modified		ABC	30-Dec-08		30-Jan-08	30-Jan-08	30-Jan-08	1-Feb-08	1-May-08	1-May-08	1-Jun-08				



Punch List:

GR-326 Test Program	SC-UPC Single Fiber Connector - FOC Program									
Task Name	Duration	Location	Start	Finish	Samples	# of Samples	Results	Witnessed	Optical M	Test Conditions
Prepare Test Samples & Materials	14 days				A	All	Pass			
Endface Geometry	2 days									
GR-326 4.4.5: Ferrule Endface Geometry	2 days						Pass			
Environmental Performance	36 days									
GR-326 4.4.2.1: Thermal Aging	7 days				A	25			B/A	85° C, 7 days
GR-326 4.4.2.2: Thermal Cycle	7 days				A	25			D	-40° C to 75° C, 7 days
GR-326 4.4.2.3: Humidity Aging	7 days				A	25			D	75° C/95% Humidity, 7 days
GR-326 4.4.2.4: Humidity/Condensation Cycle	7 days				A	25			D	-10° C to 65°C, Hum @ heat, 7 days
GR-326 4.4.2.5: Dry-Out Step	1 days				A	25			D	24 hours 75 ° C
GR-326 4.4.2.6: Post Condensation Thermal Cycle	7 days				A	25			D	-40° C to 75° C, 7 days
Mechanical Performance	15 days									
GR-326 4.4.3.1: Vibration Test (3 axis)	2 days				A	25			B/A	0-55 Hz, 2 hours, 1 minute sinusoid
GR-326 4.4.3.2: Flex Test	.5 day				A	25			B/A	+/- 90 deg, 100 cycles
GR-326 4.4.3.3: Twist Test	.5 day				A	25			B/A	+/- 90 deg, 10 cycles



GR-326 4.4.3.4: Proof Test	.5 day				A	25			B/A	
GR-326 4.4.3.5: Trans/w applied load	1 day				A	25			B/D/A	
GR-326 4.4.3.7: Impact Test	1 day				A	25			B/A	
GR-326 4.4.3.8: Durability Test	1.5 days				A	25			B/D/A	
GR-326 4.4.6: Connector Installation Test	.25 day				A	25			B/A	
Reliability Performance Testing	90 days									
GR-1221 - 6.2.4 Extended Heat Aging	84 Days				B	44			B/A	85° C, 84 days
GR-1221 - 6.2.5 Extended Humidity	84 Days				C	44			B/A	75° C/ 95% Humidity, 84 days
GR-1221 - 6.2.7 Extended Thermal Cycling	84 Days				D	44			B/A	-40° C to 85° C, 84 days (2000 hours)
GR-326 4.4.4.1: Dust Test	7 days				E	10			B/A	10 adapters, 20 plugs (Half mated, half unmated)
GR-326 4.4.4.2: Adhesive Test	7 days				F	5 (plugs)			B/A	
GR-326 4.4.4.3: Airborne Contaminants	20 days				G	10			B/A	
GR-326 4.4.4.4: Salt Spray	7 days				H	10			B/A	10 adapters, 20 plugs (Half mated, half unmated)
GR-326 4.4.4.5 Immersion/Corrosion Test	14 days				I	15 plugs				
GR-326 4.4.4.6 Ground Water Immersion	7 days				J	25 (5 samples x 5 immersion media)			B/D/A	
Provide Test data	5 days									



Write Test Reports	10 days									
See the individual procedures for the number of required samples and the list of equipment regarding each test										

B/A Before and After Optical Testing at (1310, 1490, 1550, 1625)
D - During Test Optical Testing at (1310, 1490, 1550, 1625)
OAP - Corning Hickory NC, Keller - Corning Keller TX



Document-4: Meeting Summary

The meeting summary is to be prepared during the meeting by the supplier and submitted for review at the conclusion. The summary should follow the format given here, and should highlight any products discussed during the meeting.

Typical Memo Opening:

Note: Sample - Fictitious Names and Company

All:

The FOC Testing Scheduling Meeting was held with ABC on xxxxxx, all FOC test programs were reviewed. The following is a summary of this meeting:

Note: Low Risk assessments mean that there still is a risk that must be accepted by Network Creation, Network Planning, the ROS, and Supplier. Also, not all products are listed below, a complete listing may be found in the attached file.

Next Scheduling meeting is on xxxxxx

Attendees (remote location via video in State, City): Alfred Hitchcock, Martin Scorsese, etc
Attendees at the Verizon office in Westchester, N.Y.: Tito Peuentes, Jack Benny, George Allen etc

Typical Summary statements by Product:

Product Model - PN: Short summary, i.e.: test started on date, and is scheduled to complete by - date. One half of mechanical testing is completed with no failures. Service life environmental completed with 2 minor non-compliances during Temp/Hum Cycle - not an issue. All other tests have passed. Reliability testing is 50% completed. No critical issues to date Or Critical issues: 6 connector failures - RCA in progress, results due by - date. Etc,

Typical ending: The above is a partial listing, providing status on several highlighted items - please refer to the file below for a complete listing/status of all in progress