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Audience Q&A

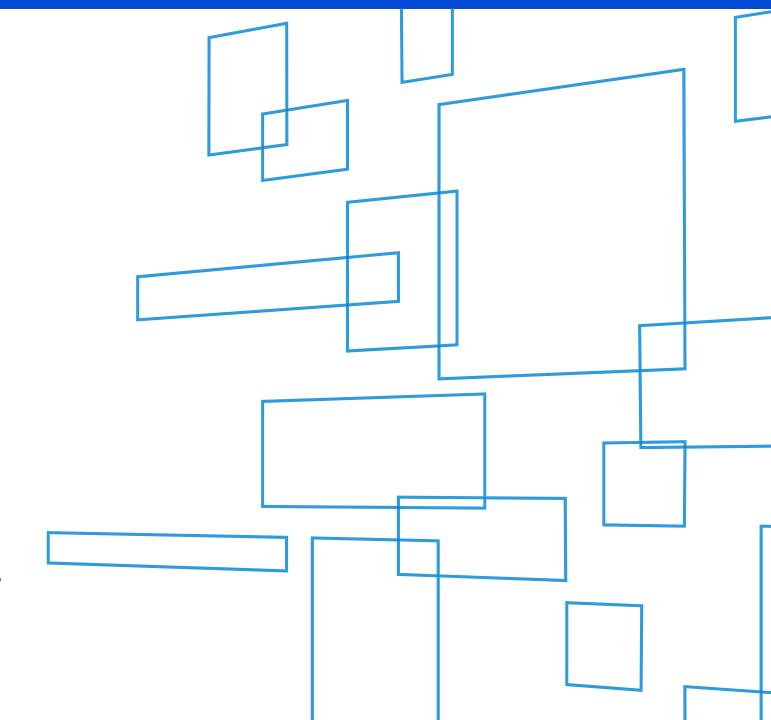
- Submit your questions using the "Questions" box in your webinar control panel
- We will answer questions at the end of the presentation



Welcome

Today's Speakers:

- John Putnam Communications Specialist
- Tim Weith
 Director, High Cost
- Dori EvansSenior Product Manager





Connect America Fund Goals

- Preserve and advance universal availability of voice service
- Drive universal availability of modern networks capable of providing voice and broadband service to homes, businesses and community anchor institutions
- Drive universal availability of modern networks capable of providing advanced mobile voice and broadband service
- Ensure that rates for broadband and voice services are reasonably comparable in all regions of the nation
- Contain administrative costs and minimize the universal service contribution for consumers and businesses through efficient, effective program management

Connect America Fund Compliance

USAC closely monitors carrier compliance with broadband deployment obligations to safeguard the accountability, transparency and integrity of the Connect America Fund.

Compliance process consists of three steps:

HUBB Portal: Tracking Broadband Deployment

Verification Reviews: Confirming Broadband Deployment

Performance Testing: Measuring Network Speed and Latency

High Cost Universal Broadband (HUBB) Portal

A system that collects the geographic coordinates (latitude and longitude) of locations where carriers are deploying broadband using CAF support

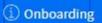
- Tool for collecting location-specific service availability data from carriers across all Connect America Fund (modernized) programs millions of individual records
- Performs automated, real-time <u>validation</u> of data submissions
 - Checks that latitude and longitude of a reported location fall within area eligible for funding
 - Checks that the location is not a duplicate of one already submitted
- Tracks carrier progress toward meeting deployment obligations, including interim milestones
- Annual HUBB filing deadline is in March for carriers to report broadband deployed with CAF support in the prior calendar year

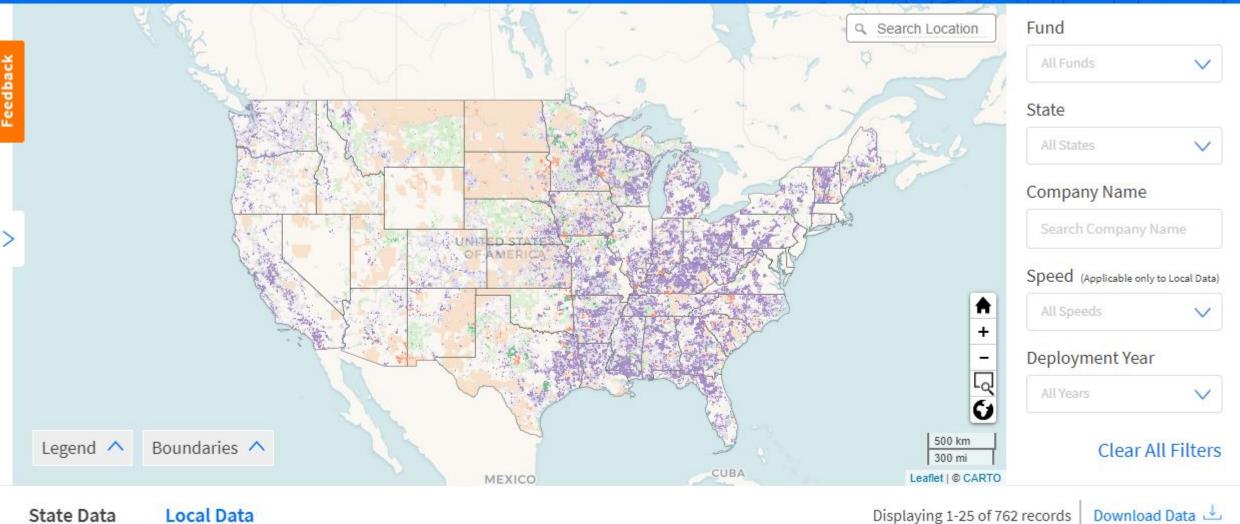
High Cost Universal Broadband (HUBB) Portal

A system that collects the geographic coordinates (latitude and longitude) of locations where carriers are deploying broadband using CAF support

- Serves as a starting point for <u>verification</u> reviews to confirm deployment to a random sample of locations reported by carriers
 - All carriers participating in CAF programs with deployment obligations are subject to verification reviews tied to mandatory deployment milestones
 - Goal is to verify that a carrier deployed broadband service meeting the FCC's minimum performance standards to a qualifying number of locations by the relevant deployment milestone
- Provides the foundation for the CAF Map, a public map that shows the impact of CAF funding on broadband expansion across rural America

Connect America Fund Broadband Map











HUBB Filing Obligations by Fund

Carriers in these funds have until March 1, 2021 to file data for all locations deployed in 2020:

- Connect America Fund (CAF) Phase II Model: Carriers must meet their total build-out obligations by end of 2020 in each state where they receive support (100 percent milestone)
- Alternative Connect America Cost Model (A-CAM) and Revised ACAM: Carriers face first milestone for deploying 10/1 Mbps broadband service, and must be at least 40 percent of the way toward meeting their final 10/1 Mbps build-out obligations by the end of 2020 (40 percent 10/1 Mbps milestone)
- ACAM II and Connect America Fund-Broadband Loop Support (CAF-BLS): <u>All</u> CAF-BLS carriers must file in the HUBB
- Rural Broadband Experiments (RBE)
- **Alaska Plan** (other than carriers with individualized performance plans that only require them to maintain service at existing levels)
- CAF Phase II Auction

HUBB Filing Obligations

- CAF II Model, Original ACAM and Revised ACAM carriers must also complete deployment milestone certifications as part of the annual HUBB filing and will face verification reviews tied to those milestones
 - Carriers that miss deployment milestones face increased reporting obligations and potential loss of support
- ACAM II carriers have until March 1, 2021 to report pre-2019 broadband deployment
- CAF-BLS carriers have until March 1, 2021 to report pre-2019 broadband deployment at speeds of at least 25 Mbps downstream/3 Mbps upstream (25/3 Mbps) completed since May 25, 2016
- Carriers that did not deploy any locations in 2020 must still log into the HUBB and certify "no locations to upload" by March 1, 2021



The performance measures framework requires carriers that receive CAF support for fixed-location broadband to conduct network speed and latency testing and report the results to USAC. Testing mandates apply to carriers participating in the following funds:

- Connect America Fund (CAF) Phase II Model
- Connect America Fund (CAF) Phase II Auction
- Alternative Connect America Cost Model (A-CAM), Revised ACAM and ACAM II
- Connect America Fund-Broadband Loop Support (CAF-BLS)
- Rural Broadband Experiments (RBE)
- Alaska Plan

The windows to start testing vary by fund, beginning this year with CAF II carriers.

- Carriers must conduct one week of speed and latency testing at a USAC-selected random sample of CAF-supported locations with active subscribers in each quarter of the calendar year
- Carriers must test speed and latency from the customer premises of **active subscribers** to a remote test server located at, or reached by passing through, an FCC-designated Internet exchange point (IXP)
 - Carriers serving areas greater than 500 air miles from an FCC-designated IXP may conduct all required speed and latency testing between the customer premises and the point at which traffic is aggregated for transport to the continental U.S.
- Carriers should use the same subscriber locations for both speed and latency testing
- Carriers must conduct testing between 6 p.m. and 12 a.m. local time

Carriers can choose from among three options for speed and latency testing:

- Leverage existing Measuring Broadband America (MBA) testing infrastructure by using entities that manage and perform testing for the FCC MBA program
- Use existing network management systems and tools, ping tests and other commonly available performance measurement and network management tools
- Develop own self-testing configuration using software installed on residential gateways or in equipment attached to residential gateways

- Carriers must submit speed and latency test results from the previous calendar year for each state and speed tier combination to USAC by annual July filing deadline
 - USAC encourages carriers to file test results on a quarterly basis
- At least 80 percent of network speed measurements must be at 80 percent of required speeds (as determined by fund) and 95 percent of latency measurements must fall at or below 100 milliseconds round-trip time
- FCC will consider failure to meet speed and latency requirements as a failure to deploy and may withhold support

- Before official testing, carriers are subject to a "pre-testing" period for one week of each quarter of the calendar year
- During pre-testing, carriers must test speed and latency at a random sample
 of subscriber locations and submit the results to USAC within one week of
 the end of the quarter
- Carriers will not face withholding of support for failing to meet speed and latency standards during pre-testing

Performance Measurement Testing Schedule

Performance Testing Begins January, 2021

Fund	Pre-Testing Start	Pre-Testing End	Pre-Testing Data Filing Deadlines	Real Testing Start Date
Original ACAM	1/1/21	12/31/21	4/7/21; 7/7/21; 10/7/21; 1/7/22	1/1/22
Revised ACAM	1/1/21	12/31/21	4/7/21; 7/7/21; 10/7/21; 1/7/22	1/1/22
RBE	1/1/21	12/31/21	4/7/21; 7/7/21; 10/7/21; 1/7/22	1/1/22
Alaska Plan	1/1/21	12/31/21	4/7/21; 7/7/21; 10/7/21; 1/7/22	1/1/22

Future Performance Testing Schedule

Fund	Pre-Testing Start	Pre-Testing End	Pre-Testing Data Filing Deadlines	Real Testing Start Date
ACAM 2	1/1/22	12/31/22	4/7/22; 7/7/22; 10/7/22; 1/7/23	1/1/23
CAF-BLS	1/1/22	12/31/22	4/7/22; 7/7/22; 10/7/22; 1/7/23	1/1/23
CAF 2 Auction	1/1/22	12/31/22	4/7/22; 7/7/22; 10/7/22; 1/7/23	1/1/23
NY Broadband	1/1/22	12/31/22	4/7/22; 7/7/22; 10/7/22; 1/7/23	1/1/23

Performance Measurement Module (PMM)

 Collects carrier data on which locations in the HUBB have active subscribers

 Selects a random sample of those locations for speed and latency testing

Collects the actual speed and latency test data from carriers

Performance Measurement Module

How It Works:

- Carriers download certified locations already filed in the HUBB
 - Data provided in CSV file (template for subscriber upload)
- Carriers add subscriber IDs for locations with active subscribers
- Carriers upload CSV file with subscriber IDs into the PMM
- PMM generates a random sample of locations with active subscribers in each speed tier for testing
- Carriers conduct speed and latency testing at selected subscriber locations
 - Carriers must use the same locations for speed and latency testing

Performance Measurement Module

How It Works (cont.)

- Carriers must test up to 50 locations for each speed tier per state, depending on the number of subscribers a carrier has in each state and speed tier
- Carriers must obtain a new random sample after two years of testing/pre-testing
- Carriers upload speed and latency test results to PMM using CSV files
 - Separate CSV templates for Speed and Latency results
- Carriers cannot edit/modify HUBB records for subscriber locations selected for testing
 - Locations are locked in HUBB

Performance Measurement Module

- USAC will notify carriers when PMM opens for ACAM, Revised ACAM, RBE and Alaska Plan carriers to upload subscriber location data and obtain random samples for testing
- Carriers should get started NOW by:
 - Updating broadband deployment data in the HUBB to be as accurate and complete as possible
 - Begin filing 2020 deployment data in the HUBB now so that these locations can potentially be included in the random samples for performance testing
 - Collecting data on which locations in the HUBB have active subscribers since this can take time

Performance Measurement Process Overview

- Step 1 Update Your HUBB Data Available Now
 - Clean up your HUBB data modifications, corrections, etc.
 - Upload and certify any 2020 deployments you want included in your pool
- Step 2 Download HUBB Locations & Compile Subscribers Available Now
 - Download your list of all certified locations from HUBB
 - Identify which locations have active subscribers
 - Complete subscriber template with subscriber ID (no PII)
- Step 3 Upload Subscribers to PMM December 18th
 - Submit data to Randomizer
 - Generate Sample PMM will generate a random sample of subscribers
 - Download sample files
- Step 4 Start Testing Your Samples

Performance Measurement Schedule

Step	Date	Notes
Clean up HUBB Data	Now	Update and Add new locations
Compile Active Subscriber Data	Now	Identify Subscribers for HUBB locations
First Day to Upload Subscriber Data to PMM	12/18/20	Submit subscriber data for all states & speed tiers
Begin Getting Subscriber Samples for Testing	12/18/20	Once all subscriber data is uploaded, get samples
Collect Performance Data	1/1/21-3/31/21	All tests must be dated between these dates
Last Day to Submit Q1 Performance Data	4/7/21	Deadline to submit Q1 Speed and Latency data

Performance Measurement Phase 1 - Subscriber Data

12/18/2020 1/1/2021

Get HUBB Data Add Subscriber Data Upload Subscriber Data

Submit to Randomizer Generate Sample Download Sample

Test Sample

Download Certified HUBB Location Records Add Subscriber ID to Template Upload Subscriber Template Submit Subscriber Data to Randomizer Generate
Sample of
Subscribers to
Test

Download Sample of Subscribers to Test Conduct
Performance
Testing of
Sample

Performance Measurement Process – Samples

- Sample by State
 - Carriers receive samples for each state they are authorized in
- Sample by Speed Tier
 - Carriers in funds with multiple speed tier obligations get samples for each speed tier
 - For example, ACAM 1 has obligations for 4/1, 10/1 and 25/3 therefore they will get 3 samples
- Sample Size
 - Sample size is based on the number of subscribers submitted
 - Maximum of 50 subscribers to test per sample
 - Minimum of 5 subscribers to test per sample

Performance Measurement Process - Manage Sample

- Replace Subscriber
 - Replace a selected subscriber with the next randomly selected one
 - Provide a reason for Replacing the Subscriber
 - Subscriber Refused to Allow Installation of Testing Equipment
 - Subscriber Dropped Service (no longer active)
 - Subscriber Demands Removal of Testing Equipment
 - Subscriber Subscribes to Lower Speed Than Being Tested
 - Natural Disaster
 - Other Requires Explanation and USAC / FCC Review
- Add Subscribers
 - Get additional randomly selected subscribers to test
 - Responsible for submitting performance test data for additional subscribers
- No Valid Subscribers
 - Special process if no additional subscribers available

Step 1 – Get Current Certified HUBB Data



Performance Measures Module

Sign Out

Upload Subscribers

Subscriber Detail

Randomizer

Upload Subscriber List

330 days left to Upload Subscribers.

Step 1: Generate and Download your HUBB data file.

This file will have a column for you to add your Subscriber IDs.

Generate HUBB Data



Step 2: Upload the downloaded HUBB Data file with your Subscriber IDs.

For more information on data validation and formatting rules, click on Detailed Instructions.

Upload Subscriber File

Recently Uploaded Files

File Name Uploaded Progress Records Uploaded Records Saved Data Errors Download Errors Delete

Subscriber Upload Information

- Autosaved Locations: Files uploaded that do not contain errors will be saved in the system.
 They will be counted towards the sampled subscriber locations, used in the randomizer.
- Locations with errors: Files uploaded that contain one or more errors will not be saved in the system.
 Please download your error file, delete the original file, make the necessary changes, and re-upload the clean file.

Subscriber Data Upload Template File - Before

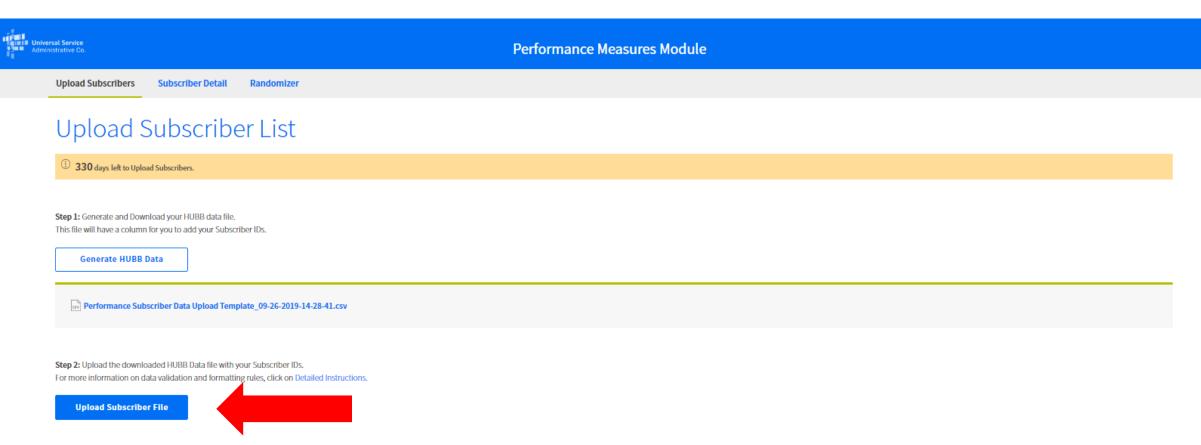
	Α	В	С	D	Е	F	G	Н	I	J
1	SAC	Latitude	Longitude	Address	State	Speed Tier	# of Units	Carrier Location ID	HUBB Location ID	Subscriber ID(s)
2	250283	33.91935	-86.4103	ADDRESS A	VA	6	15600	6010201	38712807	
3	250283	33.89576	-86.3793	ADDRESS A	VA	6	200	6010202	38712808	
4	250283	33.89783	-86.3591	ADDRESS A	VA	6	6300	6010203	38712809	
5	613004	61.58238	-159.539	ADDRESS A	VA	6	300	6010203	38712810	
6	613004	61.57872	-159.527	ADDRESS A	VA	6	37800	6010203	38712811	
7	613004	61.57796	-159.561	ADDRESS A	VA	6	300	6010203	38712812	
8	250283	33.91935	-86.4103	ADDRESS A	VA	6	15600	6010201	38712813	
9	250283	33.89576	-86.3793	ADDRESS A	VA	6	200	6010202	38712814	
10	250283	33.89783	-86.3591	ADDRESS A	VA	6	6300	6010203	38712815	
11	613004	61.58238	-159.539	ADDRESS A	VA	6	300	6010203	38712816	
12	613004	61.57872	-159.527	ADDRESS A	VA	6	37800	6010203	38712817	
13	613004	61.57796	-159.561	ADDRESS A	VA	6	300	6010203	38712818	
14	250283	33.91925	-86.4104	ADDRESS A	VA	6	15600	6010201	38712819	
15	250283	33.89566	-86.3798	ADDRESS A	VA	6	200	6010202	38712820	
16	250283	33.89784	-86.3591	ADDRESS A	VA	6	6300	6010203	38712821	
17	613004	61.58248	-159.539	ADDRESS A	VA	6	300	6010203	38712822	
18	613004	61.57874	-159.526	ADDRESS A	VA	6	37800	6010203	38712823	
19	613004	61.57786	-159.56	ADDRESS A	VA	6	300	6010203	38712824	
20										

Step 2 – Compile Subscriber Information

Subscriber Data Upload Template File - After

4	Α	В	С	D	Е	F	G	Н	1	J
1	SAC	Latitude	Longitude	Address	State	Speed Tier	# of Units	Carrier Location ID	HUBB Location ID	Subscriber ID(s)
2	250283	33.91935	-86.4103	ADDRESS A	VA	6	15600	6010201	38712807	1
3	250283	33.89576	-86.3793	ADDRESS A	VA	6	200	6010202	38712808	2
4	250283	33.89783	-86.3591	ADDRESS A	VA	6	6300	6010203	38712809	3;20;22
5	613004	61.58238	-159.539	ADDRESS A	VA	6	300	6010203	38712810	4
6	613004	61.57872	-159.527	ADDRESS A	VA	6	37800	6010203	38712811	
7	613004	61.57796	-159.561	ADDRESS A	VA	6	300	6010203	38712812	6
8	250283	33.91935	-86.4103	ADDRESS A	VA	6	15600	6010201	38712813	7
9	250283	33.89576	-86.3793	ADDRESS A	VA	6	200	6010202	38712814	8
10	250283	33.89783	-86.3591	ADDRESS A	VA	6	6300	6010203	38712815	9
11	613004	61.58238	-159.539	ADDRESS A	VA	6	300	6010203	38712816	10
12	613004	61.57872	-159.527	ADDRESS A	VA	6	37800	6010203	38712817	11
13	613004	61.57796	-159.561	ADDRESS A	VA	6	300	6010203	38712818	12
14	250283	33.91925	-86.4104	ADDRESS A	VA	6	15600	6010201	38712819	13;30;31;32
15	250283	33.89566	-86.3798	ADDRESS A	VA	6	200	6010202	38712820	14
16	250283	33.89784	-86.3591	ADDRESS A	VA	6	6300	6010203	38712821	15
17	613004	61.58248	-159.539	ADDRESS A	VA	6	300	6010203	38712822	16
18	613004	61.57874	-159.526	ADDRESS A	VA	6	37800	6010203	38712823	17
19	613004	61.57786	-159.56	ADDRESS A	VA	6	300	6010203	38712824	18

Step 3 – Upload Subscriber Information



Records Saved

Data Errors

Download Errors

Delete

Records Uploaded

Sign Out

Subscriber Upload Information

Recently Uploaded Files

File Name

Autosaved Locations: Files uploaded that do not contain errors will be saved in the system.
 They will be counted towards the sampled subscriber locations, used in the randomizer.

Uploaded

Locations with errors: Files uploaded that contain one or more errors will not be saved in the system.
 Please download your error file, delete the original file, make the necessary changes, and re-upload the clean file.

Progress

Step 3 – Upload Subscriber Information



Performance Measures Module

Upload Subscribers

Subscriber Detail

Randomizer

Upload Subscriber List

330 days left to Upload Subscribers.

Step 1: Generate and Download your HUBB data file.

This file will have a column for you to add your Subscriber IDs.

Generate HUBB Data

Performance Subscriber Data Upload Template_09-26-2019-14-28-41.csv

 $\textbf{Step 2:} \ \textbf{Upload the downloaded HUBB Data file with your Subscriber IDs.}$

For more information on data validation and formatting rules, click on Detailed Instructions.



Step 3 – Upload Subscriber Information

Subscriber Data Issue Log File

	Α	В	С	D
1	Row #	HUBB Location ID	Subscriber	Issue Code
2	2		1	HUBB_LOCATION_ID_REQUIRED
3	3	3871280aaa8	2	HUBB_LOCATION_ID_INVALID_FORMAT
4	4	38712809	3	HUBB_LOCATION_ID_INVALID_DUPLICATE
5	5	38712809	4	HUBB_LOCATION_ID_INVALID_DUPLICATE
6	6	38712811		SUBSCRIBER_ID_REQUIRED
7				

Step 4 – Submit to Randomizer

Upload Subscribers Subscriber Detail Randomizer

Subscriber Detail

329 days left to Submit Subscribers to the Randomizer.

Below is your list of auto-saved HUBB locations with Subscriber IDs.

Please view the table below to see data for all SACs or use the filter to view data for a specific SAC.

Once you have completed uploading and reviewing your Subscriber data, please press the "Submit to Randomizer" button to send your data to the Randomizer tool.

After you have clicked "Submit to Randomizer", all subscriber data will be sent to the Randomizer tool and will no longer be visible on this page.

Filter by SAC: All

📥 Download Filtered Data

Displaying 1-10 of 13 records

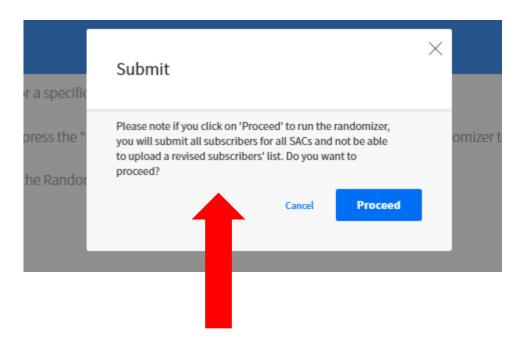
SAC	Latitude	Longitude	State	Address	Speed Tier	of Units	Carrier Location ID	HUBB Location ID	# of Subscriber IDs
750783	33.9193452	-86.4103466	VA	ADDRESS ADDRESS	6	15600	6010201	38712813	1
750783	33.8957672	-86.3193419	VA	ADDRESS ADDRESS	6	200	6010202	38712814	1
750783	33.8978307	-86.3590801	VA	ADDRESS ADDRESS	6	6300	6010203	38712815	1
250283	33.9192452	-86.4104366	VA	ADDRESS ADDRESS	6	15600	6010201	38712819	1
750783	33.8956672	-86.3798079	VA	ADDRESS ADDRESS	6	200	6010202	38712820	1
250283	33.8978407	-86.3590601	VA	ADDRESS ADDRESS	6	6300	6010203	38712821	1
613004	61.5779603	-159.5607495	VA	ADDRESS ADDRESS	6	300	6010203	38712812	1
613004	61.5873847	-159.5389364	VA	ADDRESS ADDRESS	6	300	6010203	38712816	1
613004	61.5787214	-150.5265439	VA	ADDRESS ADDRESS	6	37800	6010203	38712817	1
613004	61.5779603	-159.5607295	VA	ADDRESS ADDRESS	6	300	6010203	38712818	1

Show 10 v records/page

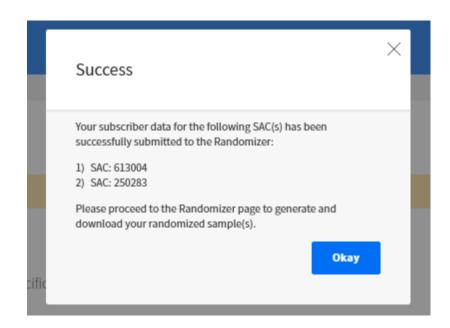


Step 4 – Submit to Randomizer

Important



Read and be sure you have uploaded All subscribers for All SACs before clicking Proceed



Step 5 – Generate Samples



Performance Measures Module

Upload Subscribers

Subscriber Detail

Randomizer

Randomizer Samples

Generate your randomized data samples below. The amount of subscribers listed in each sample is based on the total number of subscribers in each state for a speed tier.

Sample List

5 days left to make changes to your randomized samples for Q3 2019.

Select State VA

Generate Sam	ple	SAC	State	Speed Tier	Created On	Created By	Status	Replace Subscribers ①	Actions	No Valid Subscribers ①
Generate		250283	VA	6	-	-	-	-		-
Generate		613004	VA	6	-	-	-	-		-

Step 6 – Download Samples



Performance Measures Module

Upload Subscribers

Subscriber Detail

Randomizer

Randomizer Samples

Generate your randomized data samples below. The amount of subscribers listed in each sample is based on the total number of subscribers in each state for a speed tier.

Sample List

5 days left to make changes to your randomized samples for Q3 2019.

Select State



Generate Sample	SAC	State	Speed Tier	Created On	Created By	Status	Replace Subscribers ①	Actions	No Valid Subscribers ①
-	250283	VA	6	09/26/2019 02:47:29 PM	uat.test@usac.org	Ready for Download	Replace	 ± +	-
Generate	613004	VA	6	-	-	-	•		-

Step 6 – Download Samples

Subscriber Sample Data File

	Α	В	C	D	Е	F	G	Н	I	J
1	SAC	Latitude	Longitude	State	Address	Speed Tier	# of Units	Carrier Location ID	HUBB Location ID	Subscriber ID
2	250283	33.91935	-86.4103	VA	ADDRESS A	6	15600	6010201	38712813	7
3	250283	33.89576	-86.3793	VA	ADDRESS A	6	200	6010202	38712814	8
4	250283	33.89783	-86.3591	VA	ADDRESS A	6	6300	6010203	38712815	9
5	250283	33.89566	-86.3798	VA	ADDRESS A	6	200	6010202	38712820	14
6	250283	33.89784	-86.3591	VA	ADDRESS A	6	6300	6010203	38712821	15

Manage Sample



Performance Measures Module

Upload Subscribers

Subscriber Detail

Randomizer

Randomizer Samples

Generate your randomized data samples below. The amount of subscribers listed in each sample is based on the total number of subscribers in each state for a speed tier.

Sample List

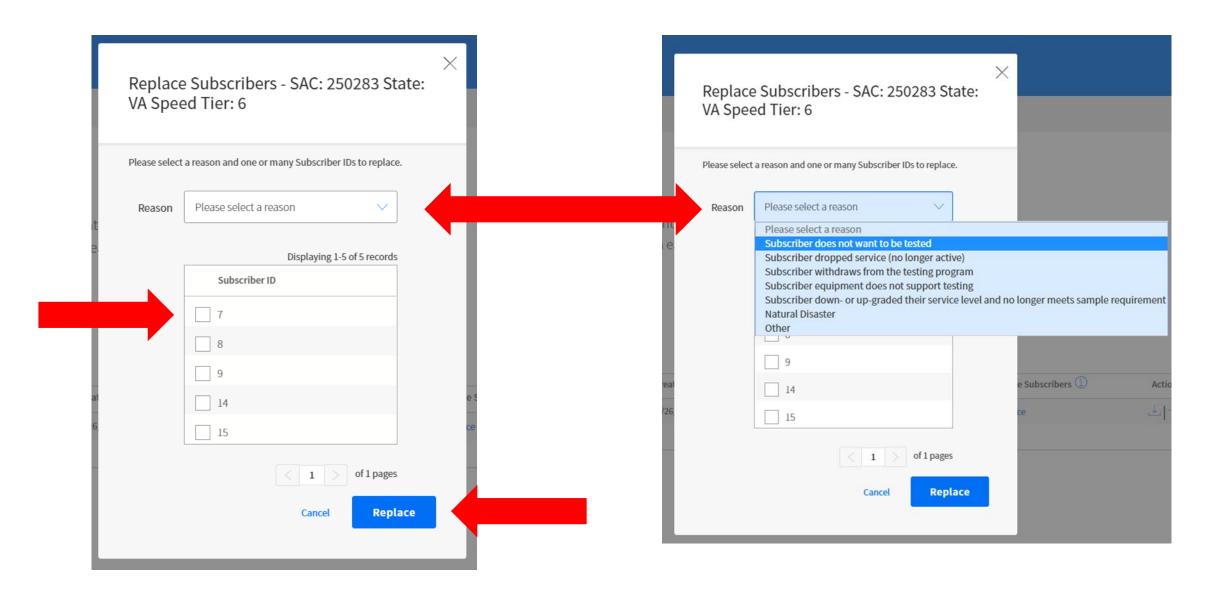
5 days left to make changes to your randomized samples for Q3 2019.



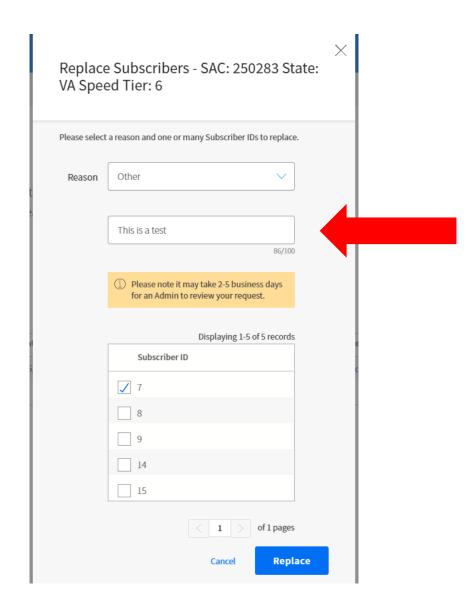


	_								
Generate Sample	SAC	State	Speed Tier	Created On	Created By	Status	Replace Subscribers ①	Actions	No Valid Subscribers ①
-	250283	VA	6	09/26/2019 02:47:29 PM	uat.test@usac.org	Ready for Download	Replace	<u>+</u> +	-
Generate	613004	VA	6	-	-	-			-
								1	
						Replace			Additional
						Subscribers	5		Subscribers

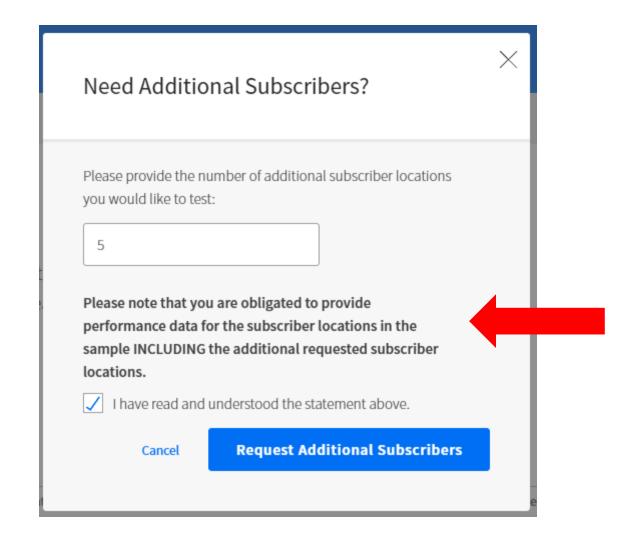
Replace Subscriber(s)

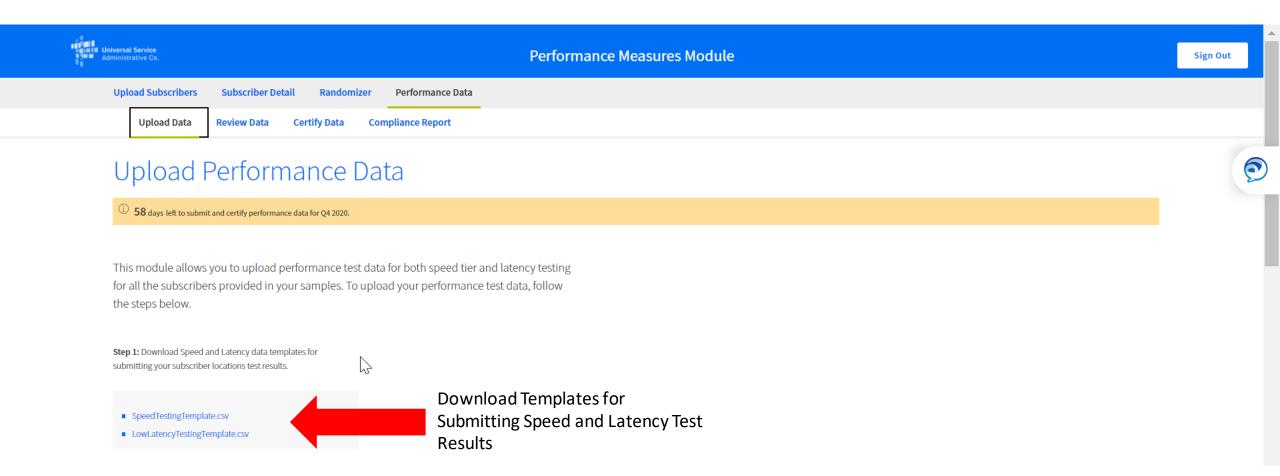


Replace Subscriber(s) – Other Reason Code



Additional Subscribers





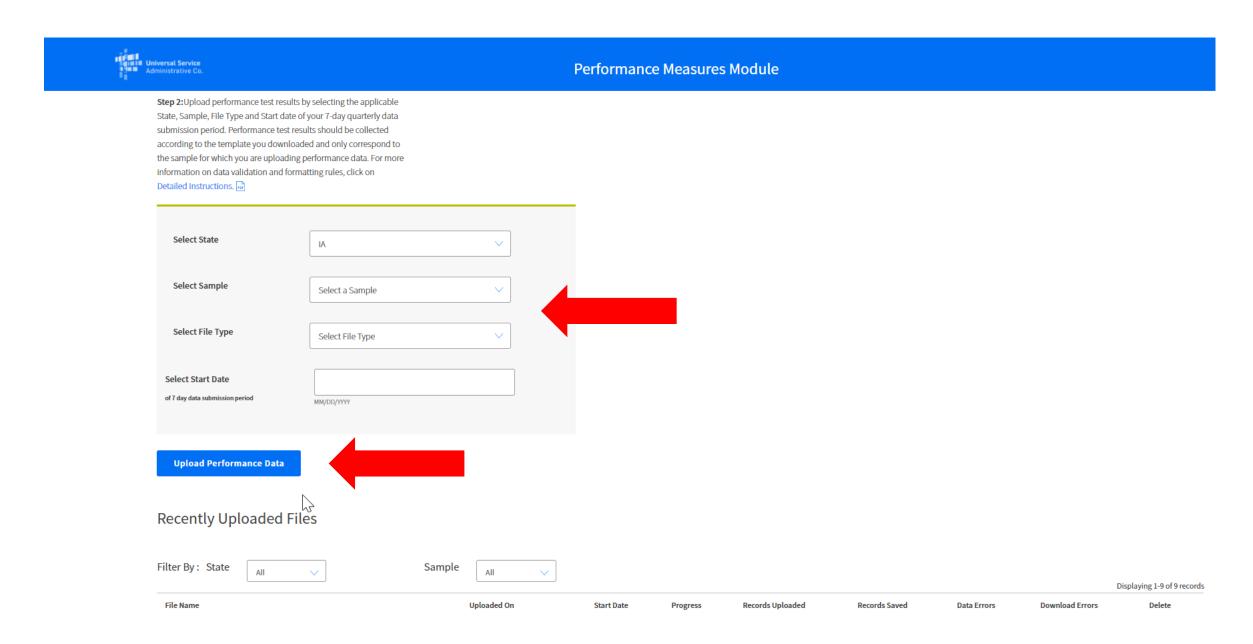
Step 7 – Submit Performance Data – Speed Test Results

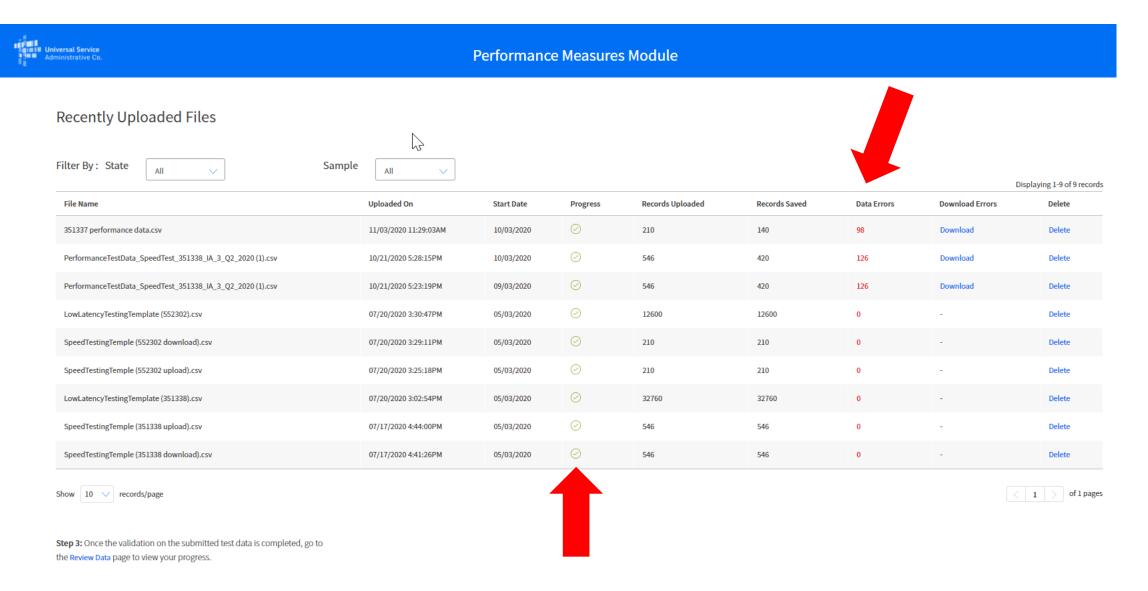
Speed Testing Template Sample

	Α	В	С	D	E	F	G	Н	I	J
1	HUBB Location ID	Subscriber ID	Speed Type	IP Target	Start Test	End Test	Bytes	Test Status	Comment	
2	12345678	2	1	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	2020-10-03 23:00:05:000-06:00	1	1		
3	12345678	2	1	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	2020-10-04 23:00:05:000-06:00	1	1		
4	12345678	2	1	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	2020-10-10 23:00:05:000-06:00	1	1		
5	12345678	2	1	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	2020-10-06 23:00:05:000-06:00	1	1		
6	12345678	2	1	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	2020-10-07 23:00:05:000-06:00	1	1		
7	12345678	2	1	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	2020-10-08 23:00:05:000-06:00	1	1		
8	12345678	2	1	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	2020-10-09 23:00:05:000-06:00	1	1		
9	12345678	3	1	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	2020-10-03 23:00:05:000-06:00	1	⊕ 1		
10	12345678	3	1	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	2020-10-04 23:00:05:000-06:00	1	1		
11	12345678	3	1	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	2020-10-10 23:00:05:000-06:00	1	1		
12	12345678	3	1	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	2020-10-06 23:00:05:000-06:00	1	1		
13	12345678	3	1	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	2020-10-07 23:00:05:000-06:00	1	1		
14	12345678	3	1	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	2020-10-08 23:00:05:000-06:00	1	1		
15	12345678	3	1	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	2020-10-09 23:00:05:000-06:00	1	1		
16	12345678	4	1	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	2020-10-03 23:00:05:000-06:00	1	1		
17	12345678	4	1	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	2020-10-04 23:00:05:000-06:00	1	1		
18	12345678	4	1	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	2020-10-10 23:00:05:000-06:00	1	1		
19	12345678	4	1	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	2020-10-06 23:00:05:000-06:00	1	1		
20	12345678	4	1	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	2020-10-07 23:00:05:000-06:00	1	1		
21	12345678	4	1	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	2020-10-08 23:00:05:000-06:00	2075900	1		
22	12345678	4	1	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	2020-10-09 23:00:05:000-06:00	2075900	1		
4	SpeedTest	tingTemplate-s	sample (+		: [4			

Latency Testing Template Sample

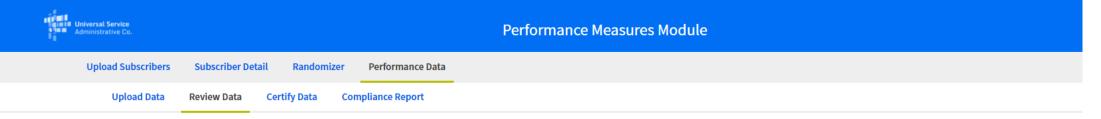
	А	В	С	D	E	F	G	Н	1	J
1	HUBB Location ID	Subscriber ID	IP Target	Start Test	Latency	Packets sent	Packets received	Test Status	Comment	
2	12345678	2	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	75	3	3	1		
3	12345678	2	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	75	3	3	1		
4	12345678	2	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	75	3	3	1		
5	12345678	2	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	75	3	3	1		
6	12345678	2	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	75	3	3	1		
7	12345678	2	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	75	3	3	1		
8	12345678	2	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	75	3	3	1	₽	
9	12345678	3	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	75	3	3	1		
10	12345678	3	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	75	3	3	1		
11	12345678	3	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	75	3	3	1		
12	12345678	3	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	75	3	3	1		
13	12345678	3	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	75	3	3	1		
14	12345678	3	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	75	3	3	1		
15	12345678	3	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	75	3	3	1		
16	12345678	4	64.XXX.X.X	2020-10-03 23:00:03:000-06:00	75	3	3	1		
17	12345678	4	64.XXX.X.X	2020-10-04 23:00:03:000-06:00	75	3	3	1		
18	12345678	4	64.XXX.X.X	2020-10-10 23:00:03:000-06:00	75	3	3	1		
19	12345678	4	64.XXX.X.X	2020-10-06 23:00:03:000-06:00	75	3	3	1		
20	12345678	4	64.XXX.X.X	2020-10-07 23:00:03:000-06:00	75	3	3	1		
21	12345678	4	64.XXX.X.X	2020-10-08 23:00:03:000-06:00	75	3	3	1		
22	12345678	4	64.XXX.X.X	2020-10-09 23:00:03:000-06:00	75	3	3	1	-	
4	LowLaten	cyTestingTemp	plate (7)	+				: 1		



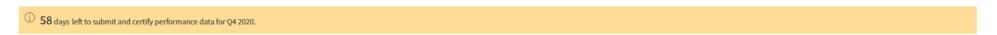


Performance Data Download Errors Export

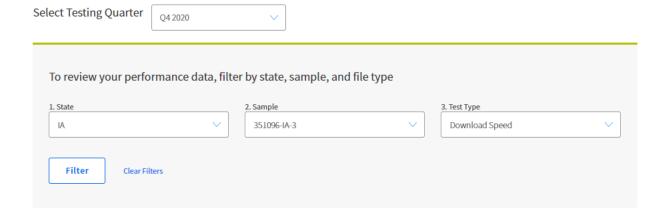
A	В		С	D	E		F		G		Н	1	J	K	L	М	N	I	0	Р
Row #	HUBB Loc	ation ID Sub	bscriber ID	Speed Type	IP Target	Start Test		End	Test		Bytes	Test Stat	tu Commen	t Issue Co	de (s)					
	7 12	345678	2	1	64.XXX.X.	2020-10-03	23:00:03:000-	-06:00 202	0-10-03 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_IN\	/ALID
	13 12	345678	2	1	64.XXX.X.	2020-10-04	23:00:03:000-	-06:00 202	0-10-04 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_INV	/ALID
	19 12	345678	2	1	64.XXX.X.	2020-10-10	23:00:03:000-	-06:00 202	0-10-10 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_IN\	/ALID
	25 12	345678	2	1	64.XXX.X.	2020-10-06	23:00:03:000-	-06:00 202	0-10-06 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_IN\	/ALID
	31 12	345678	2	1	64.XXX.X.)	2020-10-07	23:00:03:000-	-06:00 202	0-10-07 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_IN\	/ALID
	37 12	345678	2	1	64.XXX.X.	2020-10-08	23:00:03:000-	-06:00 202	0-10-08 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_IN\	/ALID
	43 12	345678	2	1	64.XXX.X.	2020-10-09	23:00:03:000-	-06:00 202	0-10-09 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_INV	/ALID
	49 12	345678	3	1	64.XXX.X.	2020-10-03	23:00:03:000-	-06:00 202	0-10-03 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_INV	/ALID
	55 12	345678	3	1	64.XXX.X.	2020-10-04	23:00:03:000-	-06:00 202	0-10-04 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID	; END_	TIMESTAI	MP_IN\	/ALID
	61 12	345678	3	1	64.XXX.X.	2020-10-10	23:00:03:000-	-06:00 202	0-10-10 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	67 12	345678	3	1	64.XXX.X.	2020-10-06	23:00:03:000-	-06:00 202	0-10-06 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	73 12	345678	3	1	64.XXX.X.X	2020-10-07	23:00:03:000-	-06:00 202	0-10-07 23:00	0:05:000-06:00		1	1	START_T	IMESTAM	P_INVALID	; END_	TIMESTAI	MP_INV	/ALID
	79 12	345678	3	1	64.XXX.X.	2020-10-08	23:00:03:000-	-06:00 202	0-10-08 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	85 12	345678	3	1	64.XXX.X.	2020-10-09	23:00:03:000-	-06:00 202	0-10-09 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	91 12	345678	4	1	64.XXX.X.)	2020-10-03	23:00:03:000-	-06:00 202	0-10-03 23:00	0:05:000-06:00		1	1	END_TIN	/IESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	97 12	345678	4	1	64.XXX.X.	2020-10-04	23:00:03:000-	-06:00 202	0-10-04 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	103 12	345678	4	1	64.XXX.X.	2020-10-10	23:00:03:000-	-06:00 202	0-10 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	109 12	345678	4	1	64.XXX.X.	2020-10-06	23:00:03:000-	-06:00 202	0-10-06 23:00	0:05:000-06:00		1	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	115 12	345678	4	1	64.XXX.X.)	2020-10-07	23:00:03:000-	-06:00 202	0-10-07 23:00	0:05:000-06:00		1	1	END_TIN	/IESTAMP	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	121 12	345678	4	1	64.XXX.X.X	2020-10-08	23:00:03:000-	-06:00 202	0-10-08 23:00	0:05:000-06:00	207590	0	1	START_T	IMESTAM	P_INVALID	; END_	TIMESTAI	MP_INV	/ALID
:	127 12	345678	4	1	64.XXX.X.	2020-10-09	23:00:03:000-	-06:00 202	0-10-09 23:00	0:05:000-06:00	207590	0	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	133 12	345678	5	1	64.XXX.X.)	2020-10-03	23:00:03:000-	-06:00 202	0-10-03 23:00	0:05:000-06:00	207590	0	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	139 12	345678	5	1	64.XXX.X.)	2020-10-04	23:00:03:000-	-06:00 202	0-10-04 23:00	0:05:000-06:00	207590	0	1	START_T	IMESTAM	P_INVALID	; END_	TIMESTAI	MP_INV	/ALID
	145 12	345678	5	1	64.XXX.X.)	2020-10-10	23:00:03:000-	-06:00 202	0-10-10 23:00	0:05:000-06:00	207590	0	1	END_TIN	/IESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	151 12	345678	5	1	64.XXX.X.	2020-10-06	23:00:03:000-	-06:00 202	0-10-06 23:00	0:05:000-06:00	207590	0	1	END_TIN	MESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	157 12	345678	5	1	64.XXX.X.)	2020-10-07	23:00:03:000-	-06:00 202	0-10-07 23:00	0:05:000-06:00	207590	0	1	END_TIN	/IESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	163 12	345678	5	1	64.XXX.X.)	2020-10-08	23:00:03:000-	-06:00 202	0-10-08 23:00	0:05:000-06:00	207590	0	1	START_T	IMESTAM	P_INVALID); END_	TIMESTAI	MP_INV	/ALID
	169 12	345678	5	1	64.XXX.X.)	2020-10-09	23:00:03:000-	-06:00 202	0-10-09 23:00	0:05:000-06:00	207590	0	1	END_TIN	/IESTAMP_	_INVALID;	START_	TIMESTAI	MP_INV	/ALID
	170 12	345678	2	1	64.XXX.X.X	2020-10-03	18:00:03:000-	-06:00 202	0-10-03 18:00	0:05:000-06:00	207590	0	1			ID_INVAL				
	171 12	345678	2	1	64.XXX.X.)	2020-10-03	19:00:03:000-	-06:00 202	0-10-03 19:00	0:05:000-06:00	207590	0	1			 _ID_INVAL				
	172 12	345678	2	1	64.XXX.X.X	2020-10-03	20:00:03:000-	-06:00 202	0-10-03 20:00	0:05:000-06:00	207590	0	1			 ID_INVAL				
	173 12	345678	2	1	64.XXX.X.X	2020-10-03	21:00:03:000-	-06:00 202	0-10-03 21:00	0:05:000-06:00	207590	0	1			 ID_INVAL				
		2/15678	2	1	6/1 YYY Y Y)·05·000 <u>-</u> 06·00			1			ועיאור טו				
()	Speed	TestingD	atalssueL	.og11112	202	+														



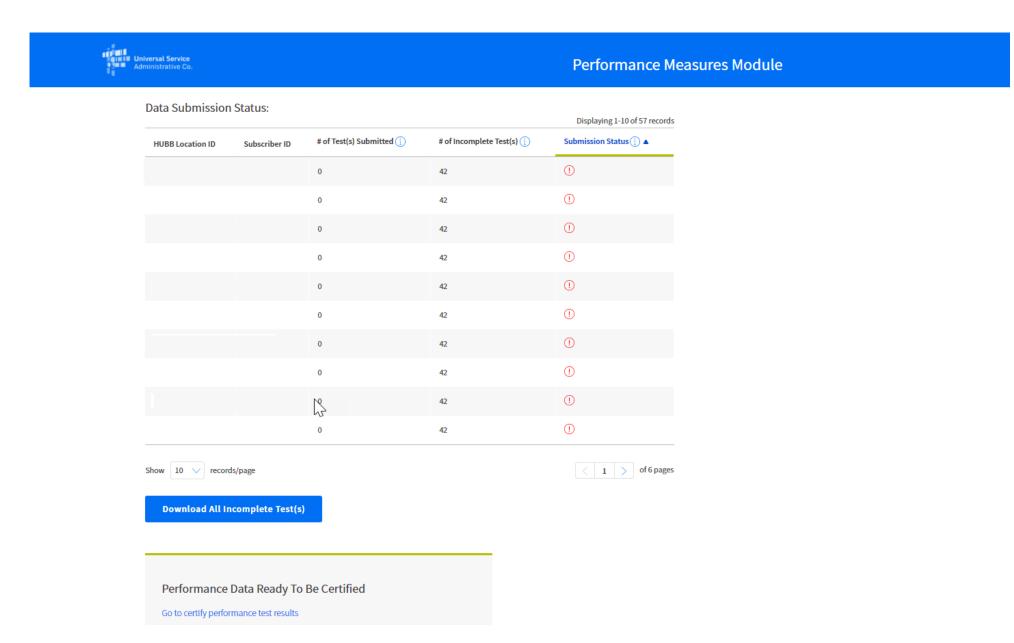
Performance Details

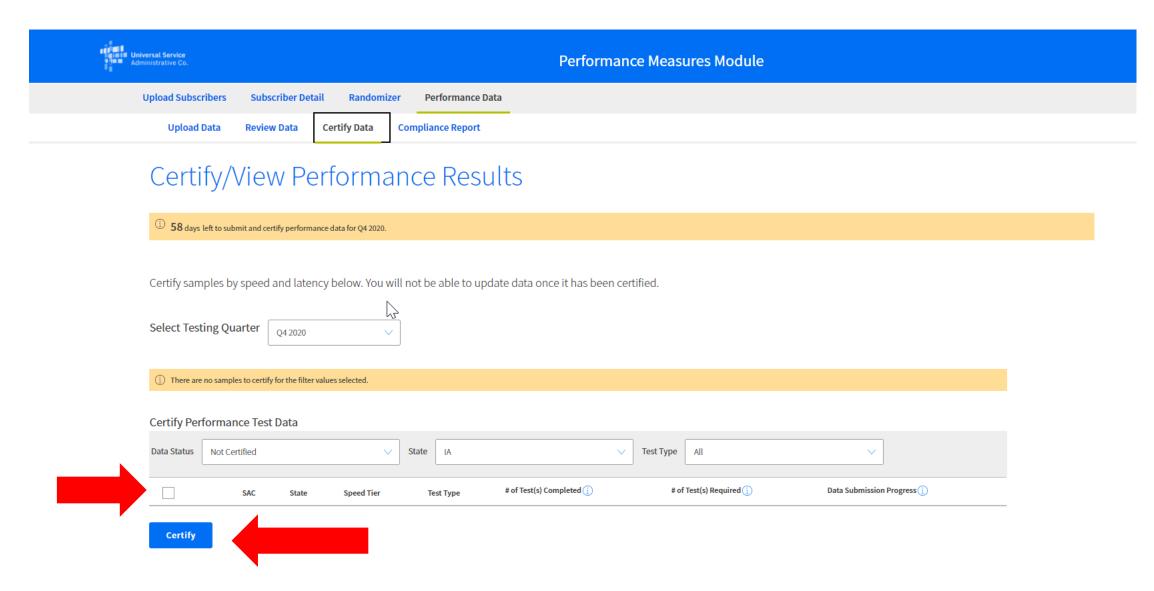


The Performance Details page allows you to review the Performance test results you have submitted to the Performance Data Module, verify that you have met the minimum 7-day data submission requirement at the subscriber level for a given State, Sample and File Type. Performance test results must be certified to be measured for compliance. Please review your current Submission Status for Subscribers and take the appropriate action before the data submission deadline.

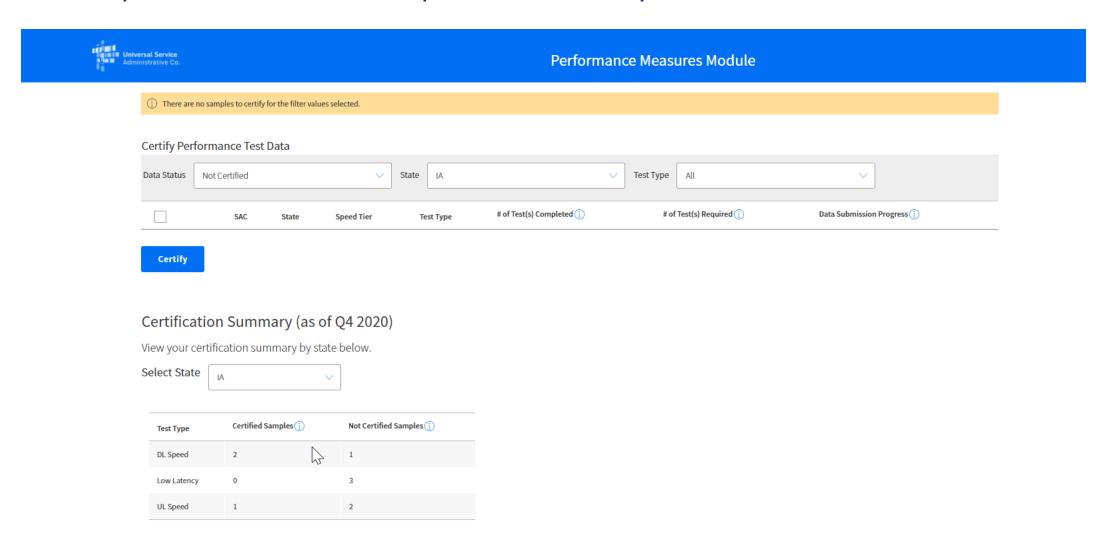








Certification Summary (as of Q4 2020)

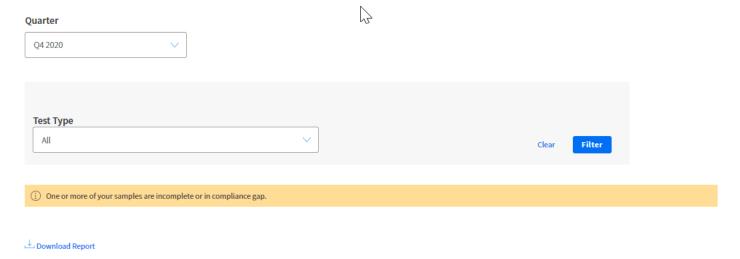


Compliance Report



Compliance Report

Performance data for fully compliant samples is due 01/07/2021. Performance data for incomplete performance data submissions and for Levels 1-4 is due quarterly until a sample is fully compliant. See Performance Measures Order for more information.



Compliance Report

Compliance Report Export

	Α	В	С	D	E	F	G	Н	- 1	J
1	SAC	State	Speed Tie	Test Type	# of Tests	# of Tests	Complian	Compliar	ice Level	
2	123456	IA	3	DL Speed	1204	896	-	Incomple	te	
3	123456	IA	3	Low Laten	119887	6113	-	Incomple	te	
4	123456	IA	3	UL Speed	1428	672	-	Incomple	te	
5	789012	IA	2	DL Speed	41	99	-	Incomple	te	
6	789012	IA	2	Low Laten	0	0	-	Incomple	te	
7	789012	IA	2	UL Speed	0	0	-	Incomple	te	
8	354567	IA	3	DL Speed	371	175	-	Incomple	te	
9	354567	IA	3	Low Laten	32760	0	-	Incomple	te	
10	354567	IA	3	UL Speed	241	305	-	Incomple	te	
11	890123	NV	3	DL Speed	92	118	-	Incomple	te	
12	890123	NV	3	Low Laten	12600	0	-	Incomple	te	
13	890123	NV	3	UL Speed	93	117	-	Incomple	te	
14	456789	MP	3	DL Speed	1176	924	-	Incomple	te	
15	456789	MP	3	Low Laten	119298	6702	-	Incomple	te	
16	456789	MP	3	UL Speed	1175	925	-	Incomple	te	
17										
18										
19										
20									+.	
21									***	
22										
23										
24										
25										
26										
7	· C	·1*	eReport_Q	4 2020 6		+				

Compliance Report



Performance Measures Module

(i) One or more of your samples are incomplete or in compliance gap.

Displaying 1-10 of 17 records

SAC	State ▲	Speed Tier	Test Type	# of Tests Compliant	# of Tests Non-Compliant	Compliance %	Compliance Level ▲
	IA	2	UL Speed	0	0	-	Incomplete
	IA	3	UL Speed	241	305	-	Incomplete
	IA	3	UL Speed	373	42	-	Incomplete
	IA	3	UL Speed	1428	672	-	Incomplete
	IA	3	DL Speed	0	42	-	Incomplete
	IA	3	DL Speed	371	175	-	Incomplete
	IA	2	DL Speed	41	99	-	Incomplete
	IA	3	DL Speed	1204	896	-	Incomplete
	IA	2	Low Latency	0	0	-	Incomplete
	IA	3	Low Latency	119887	6113	-	Incomplete

Show 10 v records/page

< 1 > of 2 pages

Performance Measures Testing

For more information about performance measures testing,

please visit the Performance Measures Page on the High Cost Website:

https://www.usac.org/high-cost/annual-requirements/performance-measures-testing/

Resources include:

FCC information about the performance measures testing program

Charts showing acceptable test paths and remote server locations

List of vendors that are helping carriers with speed and latency testing

Quick tips guide to the PMM

Other CAF Resources

HUBB Resources Page

HUBB FAQs

Guide to Geolocation Practices

Verification Resources page

<u>Multifactor Authentication Troubleshooting Steps</u>
(for E-File access)

Questions?