



PUBLIC NOTICE

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DA 17-926

Released: September 22, 2017

INSTRUCTIONS FOR FILING 4G LTE COVERAGE DATA TO DETERMINE AREAS PRESUMPTIVELY ELIGIBLE FOR MOBILITY FUND II SUPPORT

WC Docket No. 10-90
WT Docket No. 10-208

The Rural Broadband Auctions Task Force, in conjunction with the Wireline Competition Bureau and the Wireless Telecommunications Bureau (Bureaus), today release instructions for filing 4G Long Term Evolution (LTE) coverage data pursuant to the *MF-II Challenge Process Order*.¹

On August 3, 2017, the Commission adopted the *MF-II Challenge Process Order*, which established the procedures for a robust challenge process to ensure that the Commission targets Mobility Fund Phase II (MF-II) support to areas that lack unsubsidized 4G LTE service.² This *Order* adopted parameters for a one-time collection of 4G LTE coverage data that the Commission will use, in conjunction with subsidy data, to establish the map of areas presumptively eligible for MF-II support.³ The *Order* also directed the Bureaus to provide filing instructions, including data specifications, formatting information, and any other necessary technical parameters.⁴ This public notice fulfills that directive and provides the detailed information filers will need to generate and submit their 4G LTE coverage data.

The one-time 4G LTE coverage data collection adopted in the *MF-II Challenge Process Order* is subject to approval by the Office of Management and Budget (OMB) in accordance with the Paperwork Reduction Act of 1995 (PRA).⁵ Filers must collect and submit the data using the process and format described in the attached Instructions no later than 90 days after the Commission publishes notice of OMB's approval of this one-time information collection request in the Federal Register. The provider-specific information submitted as part of the data collection will be treated as confidential.⁶

Additional information on the one-time 4G LTE coverage data collection can be found on the Commission's MF-II 4G LTE Data Collection webpage at www.fcc.gov/MF2-LTE-Collection. Parties with questions should email ltedata@fcc.gov or contact Ken Lynch at (202) 418-7356 or Ben Freeman at (202) 418-0628.

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¹ *Connect America Fund; Universal Service Reform – Mobility Fund*, Order on Reconsideration and Second Report and Order, 32 FCC Rcd 6282, 6303, para. 41 (2017) (*MF-II Challenge Process Order* or *Order*).

² *Id.* at 6282, 6296-6314, paras. 1, 27-64.

³ *Id.* at 6287-88, 6298, paras. 10-11, 34.

⁴ *Id.* at 6303, para. 41.

⁵ 44 U.S.C. § 3501 *et seq.* The Commission's information collection request for the one-time data collection is currently under review by OMB pursuant to section 3507(d) of the PRA. See 82 Fed. Reg. 39425, 39425 (Aug. 18, 2017). Parties were able to submit comments on the Commission's information collection to OMB and the Commission by September 18, 2017. *Id.*

⁶ *MF-II Challenge Process Order*, 32 FCC Rcd 6282, 6296-97, para. 29 & n.82.

INSTRUCTIONS

I. WHO MUST FILE?

The data described below must be filed by any entity that (a) previously reported LTE coverage on FCC Form 477⁷ and (b) has qualified 4G LTE coverage based on the specification established in the *MF-II Challenge Process Order* of download speeds of 5 Mbps at the cell edge with 80 percent probability and a 30 percent cell loading factor. Data must be submitted separately for each FRN used in FCC Form 477 filings. Entities that previously reported LTE coverage on FCC Form 477 but do not have qualified 4G LTE coverage as described above must respond and certify that their coverage does not qualify.⁸

II. WHAT MUST BE FILED?

A. LTE Coverage Maps in Shapefile Format

Subject entities must submit polygons in a shapefile format representing geographic coverage nationwide (excluding Alaska,⁹ but including U.S. territories) for 4G LTE deployed in each frequency band and bandwidth as of August 4, 2017, or later. Each polygon shall represent outdoor 4G LTE coverage, as defined by download speeds of 5 Mbps at the cell edge with 80 percent probability and a 30 percent cell loading factor. The terrain and clutter data used to generate the coverage boundaries must have a resolution or BIN size of 100 meters or smaller.

The following data fields must accompany each polygon on the map. The field names must appear in the shapefile attribute table as shown below. Providers must use the shapefile template posted at www.fcc.gov/MF2-LTE-Collection as a foundation for their maps.

Field Name	Contents	Description	Type	Example
SEQID	Sequence Number	Unique ID for each polygon	Integer	1
FRN	FCC Registration Number	10-digit FCC Registration Number used in FCC Form 477 filings	Text	0123456789
HOCO	Holding Company / Common Control Name	A single name, such as the holding company name, to identify all commonly-owned or commonly-controlled entities represented by the feature. (See 47 U.S.C. § 153(2) (establishing a greater than 10 percent equity interest, or the equivalent thereof, as indicia of ownership.))	Text	Eastern Wireless
SOFT	Software Product	The name of the propagation model software product used by the filer to generate the coverage map.	Text	PlanetDB
DATE	As of Date	The map represents network coverage as of this date. The date must be August 4, 2017, or later.	Date: YYYY-MM-DD	2017-08-04

⁷ An entity that is a *facilities-based provider of broadband connections to end users* must file FCC Form 477 if it had one or more *broadband connections in service* to an *end user* on the “as-of” date associated with the form. For more information and definitions of the italicized terms, see *Form 477 Instructions*, section 2.1, available at www.fcc.gov/form477/477inst.pdf.

⁸ For more information, see *infra* Section IV, “How to File.”

⁹ *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152, 2159, para. 20 n.41 (2017) (“Because the Commission adopted the Alaska Plan for mobile carriers as an Alaska-specific comprehensive substitute mechanism for mobile high-cost support, the Commission decided that no support provided under MF-II or Tribal Mobility Fund Phase II will be provided for mobile service within Alaska.”); *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10139, 10140, para. 1 (2016) (*Alaska Plan Order*) (adopting an integrated plan to address both fixed and mobile voice and broadband service in high-cost areas of the State of Alaska).

Field Name	Contents	Description	Type	Example
SPECTRUM	Spectrum Used	Code for spectrum used for the provision of service. The valid codes are:	Integer	90
		90 700 MHz Band		
		91 Cellular Band		
		92 Specialized Mobile Radio (SMR) Band		
		93 Advanced Wireless Services (AWS) 1 Band		
		94 Broadband Personal Communications Service (PCS) Band		
		95 Wireless Communications Service (WCS) Band		
		96 Broadband Radio Service/Educational Broadband Service Band		
		99 600 MHz Band		
		100 H Block		
		101 Advanced Wireless Services (AWS) 3 Band		
		102 Advanced Wireless Services (AWS) 4 Band		
BANDWIDTH	Total Channel Bandwidth	The total downlink channel bandwidth in MHz	Integer	10
RSRP	Edge RSRP	Minimum signal strength (RSRP) in dBm used to determine the cell edge	Integer	-111

1. All map areas must be simple (i.e., closed, non-overlapping and non-self-intersecting) polygons with a single, unique identifier.
2. Because the cell edge RSRP can vary by spectrum band and bandwidth, filers should report information on spectrum band and bandwidth used to generate the coverage area as specified above. Any variation in spectrum band or bandwidth necessitates the creation of a separate shapefile showing the relevant coverage. In other words, each polygon must have a single value for each of the following fields: spectrum, bandwidth, and RSRP. If using carrier aggregation and frequency bands overlap, filing entities are required to submit only coverages associated with the band(s) that meet the specification for qualifying 4G LTE. If the edge RSRP varies for any combination of spectrum and bandwidth, enter the minimum of the edge RSRP values for the combination.
3. Each shapefile must have an assigned projection with an accompanying .prj file.
4. Each shapefile must use unprojected (geographic) WGS84 geographic coordinate system.
5. The spatial resolution of maps must be 100 meter BINS (approximately three arc-seconds) or smaller. Filers shall not use smoothing techniques to create contours at the cell edge that obscure the BIN resolution when converting from a raster format to a shapefile. The coverage boundaries shall have a resolution of 100 meters or smaller. An arc-second represents the distance of latitude or longitude traversed on the earth's surface while traveling one second (1/3600th of a degree).¹⁰
6. Each shapefile must be submitted as a *.zip file. This can be done with a program like WinZip or, in Windows by (a) selecting the files associated with a shapefile; (b) right-clicking the selected files; (c) clicking **Send to**; and (d) clicking **Compressed (zipped) folder....** Subject entities should confirm that each *.zip file contains one and only one shapefile.

B. Clutter Data

Subject entities are required to report the loss values associated with each clutter factor category used when creating their coverage maps. Clutter category data must be submitted as an Excel file with the following data fields:

¹⁰ See Esri, *Measuring in Arc-Seconds*, www.esri.com/news/arcuser/0400/wdside.html (last visited June 25, 2017). Three arc-seconds is a common resolution of terrain databases. See U.S. Geological Survey National Mapping Division, National Mapping Program Technical Instructions at Part 1 General 1.2, 1.4 (1997), <https://nationalmap.gov/standards/pdf/1DEM0897.PDF>.

Field Name	Contents	Description	Type	Example
FRN	FCC Registration Number	10-digit FCC Registration Number used in FCC Form 477 filings	Text	0123456789
SOURCE	Clutter Data Source	Source of clutter data	Text	Forsk
CATNUM	Category Number	A numerical identifier corresponding to each clutter category	Integer	1
CATDESC	Category Description	A short description of the clutter category (e.g., Open Water; Developed, High Density; Deciduous Forest)	Text	Evergreen Forest
VMINLOSS	Minimum Variable Clutter Loss	For this clutter category, the minimum variable clutter loss (in dB/m) as a function of distance used in propagation modeling	Float	0.02
VMAXLOSS	Maximum Variable Clutter Loss	For this clutter category, the maximum variable clutter loss (in dB/m) as a function of distance used in propagation modeling	Float	0.04
CMINLOSS	Minimum Constant Clutter Loss	For this clutter category, the minimum constant clutter loss (in dB) used in propagation modeling	Integer	11
CMAXLOSS	Maximum Constant Clutter Loss	For this clutter category, the maximum constant clutter loss (in dB) used in propagation modeling	Integer	13

1. For each clutter category, at least one of the clutter loss ranges, variable or constant, must be populated.

C. Handset List

Subject entities are required to submit a list of at least three readily-available handsets that challengers can use to conduct speed tests.¹¹ At least one specified handset must be compatible with industry-standard drive test software.¹² However, in a separate public notice, the Bureaus will propose a specific clarification of the compatibility requirement.¹³ The final requirement will be posted on the FCC's website at www.fcc.gov/MF2-LTE-Collection at a later date. The submitted list must conform to the final requirement. Subject entities are encouraged to consult the webpage before submitting these data.

The list of handsets must be submitted in an Excel file with the following data fields:

Field Name	Contents	Description	Type	Example
FRN	FCC Registration Number	10-digit FCC Registration Number used in FCC Form 477 filings	Text	0123456789
MAKE	Handset Manufacturer	Code for the handset maker / brand	Integer	4
		1 Apple		
		2 BlackBerry		
		3 Essential		
		4 Google		
		5 HTC		
		6 Huawei		
		7 LG		
		8 Motorola		
		9 Samsung		
		0 Other		

¹¹ See *MF-II Challenge Process Order*, 32 FCC Rcd at 6302, para. 39.

¹² See *id.* at 6302, para. 39 n.109.

¹³ The *MF-II Challenge Process Order* directed “the Bureaus to propose and adopt further guidance on the types of devices that may be used for speed tests in the subsequent public notices.” *Id.* at 6308, para. 50 n.148.

Field Name	Contents	Description	Type	Example
MODEL	Model	Model number	Text	G-2PW4100
COMPAT	Compatibility Flag	This handset meets the drive test compatibility requirement (Y/N)	Text	Y

D. Certification and Identification

All entities that previously reported LTE coverage on FCC Form 477 are required to submit a certification including the name and qualifications of a qualified engineer. A certification template will be posted on the FCC's website at www.fcc.gov/MF2-LTE-Collection.

If a provider has qualifying LTE coverage, the qualified engineer shall certify under penalty of perjury that (a) he/she has examined the information submitted and (b) all data and statements contained in the submission were generated in accordance with the Commission's parameters and are true, accurate, and correct to the best of his/her knowledge, information, and belief.

If a provider's LTE coverage does not qualify, the qualified engineer shall certify under penalty of perjury that (a) he/she has examined the information and analysis which is the basis for the provider's representation that it lacks qualifying coverage and (b) such information and analysis are true, accurate, and correct to the best of his/her knowledge, information, and belief.

Persons making willful false statements in any part of this data collection can be punished by fine or imprisonment under the Communications Act. See 47 U.S.C. §§ 416(c), 503(b)(1)(B) and 18 U.S.C. § 1001.

III. WHEN TO FILE

Filers must collect and submit the data described above no later than 90 days after the Commission publishes notice of OMB's approval of this information collection request for this one-time data collection in the Federal Register.

IV. HOW TO FILE

A. Establish Contact

Within 15 days of the Commission's publication of notice of OMB approval of this information collection request in the Federal Register, subject entities must submit contact information for this collection using a template that will be posted at www.fcc.gov/MF2-LTE-Collection.

For each filing entity, based on the entity's Form 477 FRN, Commission staff will establish a unique, secure, password-protected folder on box.com. The Commission staff will then grant write privileges and send login credentials for the folder to the email address associated with the filer's data contact.

B. Upload

No later than 90 days after the Commission publishes notice of OMB's approval of this information collection request in the Federal Register, subject entities must upload the data described above, in the formats described above, to their folder on box.com. On the due date, the folder should contain the following items:

1. Maps of qualifying LTE coverage for each spectrum and bandwidth combination in compressed format (*.zip)
2. Clutter category data in comma-separated format (*.csv)
3. Handset list in comma-separated format (*.csv) that conforms to the forthcoming final drive test compatibility requirement

4. Certification and identification page

These files must be provided in the formats described above. No other formats will be accepted. Using the templates provided and following the instructions carefully will save time and resources for both filers and Commission staff.

FCC Form 477 filers who previously reported LTE coverage and wish to certify that their coverage does not qualify must upload the completed certification and identification page (item #4) only.

C. Preliminary and Final Acceptance

When Commission staff have determined that the required data have been submitted in the required formats, the staff will notify the filer, via the data contact email, that the data have been accepted on a preliminary basis. If no anomalies are encountered during processing, the staff will notify the filer that the data are considered final.

V. CONFIDENTIALITY

The Commission will treat provider-specific information submitted as part of this data collection as confidential. In addition, parties wishing to access the data as part of the MF-II Challenge Process described in the *Order* must agree to treat the data as confidential. The confidential data include “(a) the underlying provider-specific coverage maps submitted as part of the new data collection; (b) the list of pre-approved provider-specified handsets with which to conduct speed measurements; and (c) any other propagation model details collected as part of the new data collection.”¹⁴

¹⁴ *MF-II Challenge Process Order*, 32 FCC Rcd 6282, 6296-97, para. 29 & n.82.