

Limitless Mobile, LLC - Additional FCC Requested Details:

From our call on 10/29/19, below is our response in “blue” to the requested additional details on Limitless Mobile’s initial application request for ISPCs.

FCC File Number: [SPC-NEW-20191009-00003/](#)

Initial - Application Submission ID: IB2019003532

Applicant FRN: 0007415706

1. Network questions:
 - a. Why are all 6 ISPCs in the same location? - *Limitless: Our initial request was for 6 ISPCs. After our call this week, we revised the request to 3 ISPCs, all in Harrisburg, PA.*
 - i. Most operators with multiple ISPCs have them distributed in different locations. Why does Limitless plan to deploy 6 codes in one location? – *Limitless: Explained above.*
 - b. What is the nature of the network these 6 ISPCs are going to support? Is it a PSTN network? – *Limitless: The requirement was revised to 3 ISPCs. Limitless Mobile is a mobile carrier serving wireless customers in PA and serving the IOT and M2M communications industry. Some of our IOT and M2M customers are located in the UK. We are under contractual agreement for providing ss7 for SMS and HLR interrogations for them when roaming in the US. The expansion is for IOT and M2M business world-wide.*
 - c. ITU Recommendation Q.708, para. 9.5, says the operator must describe with specificity the nature of the use of the code in the network. The provided exhibit says only that the codes will allow ss7 communications “for our project.” Can you be more specific about the need for these 6 codes in your network? – *Limitless: Looking at the referenced, “ITU Recommendation Q.708, para. 9.5”, we will be assigning the 3 ISPCs that we are requesting, to our 2 Ericsson IP-STPs which are in-service in our data center located at 2574, Interstate Drive, Harrisburg, PA 17110. We plan to configure the ISPCs in our IP-STPs during Q4/2019.*

The IP-STP manufacturer is Ericsson and the data specs can be found at the following link: <https://www.ericsson.com/en/portfolio/digital-services/cloud-communication/cloud-signaling/ip-signalling-transfer-point>

The ISPCs of remote Signalling points are listed below:

<u>ISPC</u>	<u>DEC</u>	<u>Unique name of the Signalling point</u>	<u>Name of the Signalling point operator</u>
4-230-3	10035	AMS5 datacenter, Rack space 130C AMS 5.1, Amsterdam	Truphone B.V.
4-230-4	10036	AMS5 datacenter, Rack space 130C AMS 5.1, Amsterdam	Truphone B.V.
6-252-6	14310	LON-TPSTD	Truphone Ltd
6-242-7	14231	JER-TPSTC	Truphone Ltd

1. Technical questions:
 1. What type of ss7 device will these ISPCs be located on? For example, STPs. – *Limitless: A pair of Ericsson IP-STPs. – Refer to the provided link for IP-STP manufacturer.*
 2. What is the specific manufacturer, model(s) and version number(s) of the equipment that will host these 6 ISPCs? In your filing you only mention 2 manufacturers names. – *Limitless: Only 3 ISPCs required. These ISPCs will be residing on our Ericsson IP-STPs located in our Data Center.*
 3. Provide a more detailed network diagram. For example show: - *Limitless: Please refer to the other attachment in the updated filing, “Limitless Mobile ss7 Network Architecture”. The connectivity between Limitless Mobile IP-STPs and the ITU networks will be IP-based using Virtual Private Network (VPN) over the internet. We currently have 2 dedicated links of 2 Gbps between our data center and our ISP to carry the VPNs.*
 - i. Each specific termination device (manufacture, model, series and/or version) that will be used.
 - ii. Which ISPC(s) will be assigned to each specific termination device.
 - iii. The link/connection size (MBs, GBs, data-rate, etc) of data and/or control interfaces that will connect the specific termination devices.
 - iv. Show if the links/connections are to an ss7 or IP protocol network(s).
 - v. Show the backend network, servers, databases, external connections that will be used to support and/or use the capabilities of these 6 ISPCs and their associated termination devices.
 - d. What is your current and anticipated volume of voice traffic (e.g., average number of calls per hour and peak hour average)? – *Limitless: Our customer requires ss7 signaling for HLR and SMS communication. They don't require voice services at this time. Their forecast is 800,000 mobile devices by the end of the first year and 2M in the second year. Our estimate is a volume in the order of several millions of messages per month.*
 - e. Please describe the number of search lookups, e.g. HLR or other databases. - *Limitless: We estimate 1.25 HLR lookups per SMS. This includes registration and authentication.*

 Our 214 License File Number which was requested on the initial application is listed below.

File Number:

- ITC-214-20100525-00214