Secure and Trusted Communications Networks Reimbursement Program:

Final List of Categories of Suggested Replacement Equipment and Services (Replacement List)

Federal Communications Commission

August 3, 2021

Table of Contents

1. Introduction

As required by the Secure and Trusted Communications Networks Act of 2019, the following "is a list of . . . categories of replacements of both physical and virtual communications equipment, application and management software and services." 47 U.S.C. § 1603(d)(1). In preparing this list, communications equipment and services produced or provided by Huawei Technologies Company (Huawei) and ZTE Corporation (ZTE) were identified that would potentially require replacement, removal, and disposal. The Network Categories used for analysis are listed in the five basic areas: Core Layer, Distribution Layer, Access Layer Software and Services.

This is list intended to assist providers of advanced communications services with identifying categories of communications equipment and service potentially requiring replacement in their networks and is not a definitive list of what is considered eligible for reimbursement for costs reasonably incurred for the removal, replacement, and disposal of Huawei and ZTE communications equipment and services under the Secure and Trusted Communications Networks Reimbursement Program. 47 U.S.C. § 1603; 47 CFR §§ 1.50004; 1.50006.

2. Access Layer Equipment

The access layer is responsible for connecting users to their immediate service providers. First, the communications start by enabling users to communicate with the communication system to allow the start of information exchange/transmission. These communications can either be wired or wireless.

2.1 **Optical line terminal equipment (OLT)**

2.2 **Optical distribution network devices (ODN)**

2.3 **Multi-service access node and digital subscriber line access multiplexing equipment (MSAN & DSLAM)**

2.4 **LAN (Local area network) MDUs (Multi dwelling unit)**

2.5 **Site Cabinets - Optical Networks Unit (ONU)**

2.6 **Smart Home - Reimbursable portions of Smart Homes (not including other portions: IP cameras, wi-fi doorbells, wi-fi, light switches, etc.)**

2.7 **Cable coaxial media converters**

2.8 **WLAN**

2.9 **Access WDM & OTN**

3. Distribution Layer Equipment

Middle-mile, backhaul, or RAN (radio access network) equipment layered between the access and core layers of the network in which network traffic management policies are defined and enforced.[1]

3.1 **Routers**

3.2 **Switches**

3.3 **Network security equipment**

3.4 **Metro WDM & OTN – (can be deployed in the access, distribution, or core of a network)**

3.5 **Microwave**

3.6 **Antennas**

3.7 **Wireless Networks**

3.8 **LAN MDUs**

3.9 **Bearer**

3.10 **5G**

3.11 **LTE FDD & LTE TDD**

3.12 **GSM & UMTS**

[1] *See* 47 CFR §§ 32.2230, 32.2231, 32.2232.

3.13 **Small Cell**

3.14 **Tower Shelter**

3.15 **Outdoor/Indoor Cabinets**

4. Core Layer Equipment

The Core Layer of the network is the central element that provides services to those elements connected at the access layer of the network. One of the main functions of the core layer is that it is an aggregation point that provides proper routing of all voice and data traffic. All access and distribution layers of the network will be connected to the core via fiber or microwave backhaul connections. Additional services that may exist within the core layer are authentication, call control/switching, and inter-network gateways.

4.1 **Backbone wave-division multiplexing / optical transport networking equipment**

4.2 **Metro WDM & OTN – (can be deployed in the access, distribution, or core of a network**

4.3 **Microwave**

4.4 **Antenna**

4.5 **RAN Core**

4.6 **Cloud Core & Cloud Computing**

4.7 **Fiber Infrastructure Network**

4.8 **Optical Transmission**

4.9 **Data Transmission**

5. Software

Instructions that tell a computer what to do. Software comprises the entire set of programs, procedures, and routines associated with the operation of a computer system. Applications include conceiving, specifying, designing, programming, testing, maintenance and developing equipment applications, components or systems that are continuously used.

6. Services

For design, implementation, installation, testing, or other costs and/or fees paid to deploy the replacement equipment and/or systems.