

transfer rates" per channel to optimize the transmission; *and*

b.2.b.2. Incorporating a linear power amplifier configuration having a capability to support multiple signals simultaneously at an output power of 1 kW or more in the 1.5 MHz to 30 MHz frequency range or 250 W or more in the 30 MHz to 87.5 MHz frequency range, over an "instantaneous bandwidth" of one octave or more and with an output harmonic and distortion content of better than -80 dB;

b.3. Being radio equipment employing "spread spectrum" techniques, including "frequency hopping" techniques, having any of the following characteristics:

b.3.a. User programmable spreading codes; *or*

b.3.b. A total transmitted bandwidth which is 100 or more times the bandwidth of any one information channel and in excess of 50 kHz;

Note: 5A001.b.3.b does not control radio equipment specially designed for use with civil cellular radio-communications systems.

Note: 5A001.b.3 does not control equipment operating at an output power of 1.0 Watt or less.

b.4 Being radio equipment employing "time-modulated ultra-wideband" techniques, having user programmable channelizing or scrambling codes;

b.5. Being digitally controlled radio receivers having all of the following:

b.5.a. More than 1,000 channels;

b.5.b. A "frequency switching time" of less than 1 ms;

b.5.c. Automatic searching or scanning of a part of the electromagnetic spectrum; *and*

b.5.d. Identification of the received signals or the type of transmitter; *or*

Note: 5A001.b.5 does not control radio equipment specially designed for use with civil cellular radio-communications systems.

b.6. Employing functions of digital "signal processing" to provide voice coding at rates of less than 2,400 bit/s.

c. Optical fiber communication cables, optical fibers and accessories, as follows:

c.1. Optical fibers of more than 500 m in length specified by the manufacturer as being capable of withstanding a proof test tensile stress of 2×10^9 N/m² or more;

Technical Note: Proof Test: on-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fiber at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K (20° C) and relative humidity 40%. Equivalent national standards may be used for executing the proof test.

c.2. Optical fiber cables and accessories designed for underwater use.

Note: 5A001.c.2 does not control standard civil telecommunication cables and accessories.

N.B. 1: For underwater umbilical cables, and connectors thereof, see 8A002.a.3.

N.B. 2: For fiber-optic hull penetrators or connectors, see 8A002.c.

d. "Electronically steerable phased array antennae" operating above 31 GHz.

Note: 5A001.d does not control "electronically steerable phased array antennae" for landing systems with instruments meeting ICAO standards covering microwave landing systems (MLS).

5A991 Telecommunication equipment, not controlled by 5A001.

* * * * *

List of Items Controlled

Unit: * * *

Related Controls: * * *

Related Definitions: (1) 'Bandwidth of one voice channel' is data communication equipment designed to operate in one voice channel of 3,100 Hz, as defined in CCITT Recommendation G.151. (2) 'Communications channel controller' is the physical interface that controls the flow of synchronous or asynchronous digital information. It is an assembly that can be integrated into computer or telecommunications equipment to provide communications access. (3) 'Datagram' is a self-contained, independent entity of data carrying sufficient information to be routed from the source to the destination data terminal equipment without reliance on earlier exchanges between this source and destination data terminal equipment and the transporting network. (4) 'Fast select' is a facility applicable to virtual calls that allows data terminal equipment to expand the possibility to transmit data in call set-up and clearing 'packets' beyond the basic capabilities of a virtual call. (5) 'Gateway' is the function, realized by any combination of equipment and "software", to carry out the conversion of conventions for representing, processing or communicating information used on one system into the corresponding, but different conventions used in another system. (6) 'Integrated Services Digital Network' (ISDN) is a unified end-to-end digital network, in which data originating from all types of communication (e.g., voice, text, data, still and moving pictures) are transmitted from one port (terminal) in the exchange (switch) over one access line to and from the subscriber. (7) 'Packet' is a group of binary digits including data and call control signals that is switched as a composite whole. The data, call control signals, and possible error control information are arranged in a specified format.

Items: * * *

5B001 Telecommunication test, inspection and production equipment, as follows (See List of Items Controlled).

* * * * *

List of Items Controlled

Unit: * * *

Related Controls: * * *

Related Definition: * * *

Items:

a. Equipment and specially designed components or accessories therefor, specially designed for the "development", "production" or "use" of equipment, functions or features controlled by 5A001, 5D001 or 5E001.

Note: 5B001.a. does not control optical fiber characterization equipment.

b. Equipment and specially designed components or accessories therefor, specially designed for the "development" of any of the following telecommunication transmission or "stored program controlled" switching equipment:

b.1. Equipment employing digital techniques, including "Asynchronous Transfer Mode" ("ATM"), designed to operate at a "total digital transfer rate" exceeding 1.5 Gbit/s;

b.2. Equipment employing a "laser" and having any of the following:

b.2.a. A transmission wavelength exceeding 1750 nm;

b.2.b. Performing "optical amplification";

b.2.c. Employing coherent optical transmission or coherent optical detection techniques (also called optical heterodyne or homodyne techniques); *or*

b.2.d. Employing analog techniques and having a bandwidth exceeding 2.5 GHz;

Note: 5B001.b.2.d. does not include equipment specially designed for the "development" of commercial TV systems.

b.3. Equipment employing "optical switching";

b.4. Radio equipment employing quadrature-amplitude-modulation (QAM) techniques above level 128;

b.5. Equipment employing "common channel signaling" operating in either non-associated mode of operation or quasi-associated mode of operation.

5E001 "Technology", (see List of Items Controlled).

* * * * *

License Exceptions

CIV: * * *

TSR: Yes, except for exports or reexports to destinations outside of Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, Portugal, Spain, Sweden, or the United Kingdom of "technology" controlled by 5E001.a for the "development" or "production" of the following:

(1) Items controlled by 5A001.b.5; or

(2) "Software" controlled by 5D001.a that is specially designed for the "development" or "production" of equipment, functions or features controlled by 5A001.b.5.

List of Items Controlled

Unit: * * *

Related Controls: * * *

Related Definitions: * * *

Items:

a. "Technology" according to the General Technology Note for the "development", "production" or "use" (excluding operation) of equipment, functions or features or "software" controlled by 5A001, 5B001 or 5D001.

b. Specific "technologies", as follows:

b.1. "Required" "technology" for the "development" or "production" of telecommunications equipment specially designed to be used on board satellites;

b.2. "Technology" for the "development" or "use" of "laser" communication techniques with the capability of automatically acquiring and tracking signals and maintaining communications through exoatmosphere or sub-surface (water) media;