

“USE” TECHNOLOGY SUMMARY INDEX

GENERAL NOTES AND TABLE OF CONTENTS

General Notes:

Note 1: This index is intended to be complete and accurate. Readers are cautioned, however, that there is no substitute for reading the actual statutes, regulations, and other documents that apply, particularly the Commerce Control List, 15 CFR, Part 774. These are controlling in the event of any inconsistency with material in this index.

Note 2: In the context of deemed exports, the term "software" refers to source code.

Note 3: Regarding the column indicating whether the use control is related to production technology, It is unlikely that a controlled "use" technology that is related to a controlled "production" technology would be applicable in a university research program.

Note 4: Items that require a license are controlled either for National Security (NS), Missile Technology (MT), Chemical and Biological (CB), Nuclear Proliferation (NP), United Nations (UN), Regional Stability (RS), Crime Control (CC) or Anti-Terrorism (AT) reasons.

- For NS control: If the destination is not eligible for license exception TSR, an export license is required, except Canada.
- For CB control: A license is required for Country Group D:3 (not including Bulgaria); and, St. Kitts & Nevis.
- For MT control: A license is required for all destinations, except Canada.
- For NP control: A license is required for all destinations that are not part of the Nuclear Supplier Group members listed in Country Group A:4
- For UN control: A license is required for Rwanda.
- For AT control: A license is required for Cuba, Iran, North Korea, Sudan, Syria and Libya.
- For RS control: No license is required for Country Group A:1, Czech Republic, New Zealand and Poland.
- For CC control: No license is required for Country Group A:1, Czech Republic, Hungary, Iceland, New Zealand and Poland. See the Commerce Control List, Supplement No. 1 to Part 774, the Commerce Country Chart, Supplement No. 1 to Part 738 and the License Exceptions, Part 740 and Supplement No.1 to Part 740 of the Export Administration Regulations for further details.

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Category 0 – Nuclear Materials: relates to development, production or use of nuclear related items, i.e., reactors, fuel elements, equipment and materials.

Category 1 – Materials, Chemicals, Microorganisms & Toxins: relates to certain “fibrous or filamentary materials” and international munitions such as technology required for production of energetic materials.

Category 2 – Materials Processing: relates to “use” software and technology related to certain isostatic presses; chemical vapor deposition furnaces; machine tools and other chemical equipment.

Category 3 – Electronics: relates to electronic components and manufacturing of semiconductor devices or materials.

Category 4 – Computers: relates to the design, development and production of digital high performance computers.

Category 5 – Telecommunications & Information Security: relates to (1) the design, development, production, or use of certain telecommunications equipment, and (2) information security software and technology focused on encryption controls.

Category 6 – Sensors and Lasers: relates to optical sensors (i.e. focal point arrays), imaging cameras, lasers, radar and tracking systems.

Category 7 – Navigation and Avionics: relates to development and production of inertial navigation and airborne communication equipment.

Category 8 – Marine: relates to the development, production or use of underwater systems.

Category 9 – Propulsion Systems, Space Vehicles and Related Equipment: relates to development or production of diesel and turbine engines, propulsion systems and related equipment.

Category 0 – Nuclear Materials

Summary:

This category contains “use” software and technology for the development, production or use of nuclear related items, i.e., reactors, fuel elements, equipment and materials.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
0D001	Software" specially designed or modified for the "development", "production", or "use" of items described in 0A001, 0A002, 0B or 0C.	"Software" for items described in 0A001, 0B001, 0B002, 0B003, 0B004, 0B005, 0B006, 0C001, 0C002, 0C004, 0C005, 0C006, or 0C201 is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). "Software" for items described in 0A002 is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).	Yes	Software for the development, production or use of nuclear related items, i.e., reactors, fuel elements, equipment and materials.
0E001	"Technology," according to the Nuclear Technology Note, for the "development", "production", or "use" of items described in 0A001, 0A002, 0B, 0C, or 0D001.	"Technology" for items described in 0A001, 0B001, 0B002, 0B003, 0B004, 0B005, 0B006, 0C001, 0C002, 0C004, 0C005, 0C006, 0C201, or 0D001 (applies to "software" in 0D001 for all items except those described in 0A002) is subject to the export licensing authority of the Department of Energy (see 10 CFR part 810). "Technology" for items described in 0A002 and 0D001 (applies to "software" in 0D001 for items described in 0A002 only) is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).	Yes	Technology for the development, production or use of nuclear related items, i.e., reactors, fuel elements, equipment and materials.
0E018	"Technology" for the "development", "production", or "use" of items controlled by 0A018.a through 0A018.c.	<ul style="list-style-type: none"> ● Controlled for NS, UN and AT reasons. ● See above Note 4 for the controlled destinations for NS, UN, AT reasons. 	Yes	Technology for the development, production or use of items on the International Munitions List, i.e., bayonets, muzzle-loading firearms and military helmets.

Category 1 – Materials, Chemicals, Microorganisms & Toxins

Summary:

This category contains “use” software and technology related to certain “fibrous or filamentary materials” and international munitions such as technology required for production of energetic materials.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
1D001	"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 1B001 to 1B003.	<ul style="list-style-type: none"> ● Controlled for NS, MT, and NP and AT reasons. ● See above Note 4 for the controlled destinations for NS, MT, NP, AT reasons. 	Yes	Software for the development, production or use of filament winding machines and equipment for the production of fibers, prepregs or composites, tools, dies, molds or fixtures.
1D018	"Software" specially designed or modified for the "development", production", or "use" of items controlled by 1B018.	<ul style="list-style-type: none"> ● Controlled for NS, MT, AT, UN reasons. ● See above Note 4 for the controlled destinations for NS, MT, AT, UN reasons. 	Yes	Software for the development, production or use of equipment on the International Munitions List, i.e., equipment for the production of military explosives and solid propellants.
1D101	"Software" specially designed or modified for the "use" of commodities controlled by 1B101, 1B102, 1B115, 1B117, 1B118, or 1B119.	<ul style="list-style-type: none"> ● Controlled for MT, NP and AT reasons. ● See above Note 4 for the controlled destinations for MT, NP, AT reasons. 	No	Software for the development, production or use of equipment, other than controlled by 1B001, 1B102, for the production of fibers, prepregs or composites, tools, dies, molds or fixtures, metal powder production equipment, propellant or propellant constituents.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
1D201	"Software" specially designed or modified for the "use" of items controlled by 1B201.	<ul style="list-style-type: none"> ● Controlled for NP, AT reasons. ● See above Note 4 for the controlled destinations for NP, AT reasons. 	No	Software for the use of "certain" filament winding machines.
1D993	"Software" specially designed for the "development", "production", or "use" of equipment or materials controlled by 1C210.b, or 1C990.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above Note 4 for the controlled destinations for AT reason. 	Yes	Software specially designed for the development, production or use of "certain" carbon or aramid "fibrous or filamentary materials" and "certain" glass "fibrous or filamentary materials".
1E101	"Technology", in accordance with the General Technology Note, for the "use" of commodities and software controlled by 1A101, 1A102, 1B001, 1B101, 1B102, 1B115 to 1B119, 1C001, 1C007, 1C011, 1C101, 1C107, 1C111, 1C116, 1C117, 1C118, 1D001, 1D101, or 1D103.	<ul style="list-style-type: none"> ● Controlled for MT, NP, AT reasons. ● See above for the controlled destinations for MT, NP, AT reasons. 	No	Technology for the use of commodities, software and materials in missile related applications.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
1E201	<p>"Technology" according to the General Technology Note for the "use" of items controlled by 1A002, 1A202, 1A225 to 1A227, 1B201, 1B225 to 1B232, 1B233.b, 1C002.a.2.c or .d, 1C010.a, 1C010.b, 1C010.e.1, 1C202, 1C210, 1C216, 1C225 to 1C240 or 1D201.</p>	<ul style="list-style-type: none"> ● Controlled for NP, AT reasons. ● See above for the controlled destinations for NP, AT reasons. 	No	<p>Technology for the use of commodities, software and materials in nuclear related applications.</p>
1E994	<p>"Technology" for the "development", "production", or "use" of fibrous and filamentary materials controlled by 1C990.</p>	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	<p>Technology for the development, production, or use of "certain" fibrous and filamentary materials.</p>

Category 2 – Materials Processing

Summary:

This category contains “use” software and technology related to certain isostatic presses; chemical vapor deposition furnaces; machine tools and other chemical equipment.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
2D001	"Software", other than that controlled by 2D002, specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A001 or 2B001 to 2B009.	<ul style="list-style-type: none"> ● Controlled for NS, MT, NP, AT reasons. ● See above for the controlled destinations for NS, MT, NP, AT reasons. 	Yes	Software specially designed for the development, production or use of anti-friction bearings and bearing systems, machine tools for removing, cutting metals, ceramics or composites.
2D018	"Software" for the "development", "production" or "use" of equipment controlled by 2B018.	<ul style="list-style-type: none"> ● Controlled for NS, MT, AT, UN reasons. ● See above for the controlled destinations for NS, MT, AT, UN reasons. 	Yes	Software for the development, production or use of equipment for ballistic missile systems, space launch vehicles and sounding rockets.
2D101	"Software" specially designed or modified for the "use" of equipment controlled by 2B104, 2B105, 2B109, 2B116, 2B117, or 2B119 to 2B122.	<ul style="list-style-type: none"> ● Controlled for MT, NP, AT reasons. ● See above for the controlled destinations for MT, NP, AT reasons. 	No	Software specially designed or modified for the use of “certain” isostatic presses, chemical vapor deposition furnaces, flow-forming machines, vibration test systems, equipment for densification and pyrolysis of structural composite rocket nozzles.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
2D201	"Software" specially designed for the "use" of equipment controlled by 2B204, 2B206, 2B207, 2B209, 2B227 or 2B229.	<ul style="list-style-type: none"> Controlled for NP, AT reasons. See above for the controlled destinations for NP, AT reasons. 	No	Software specially designed for the use of "certain" isostatic presses, dimensional inspection machines, robots or end-effectors, flow forming machines etc.
2D202	"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2B201.	<ul style="list-style-type: none"> Controlled for NP, AT reasons. See above for the controlled destinations for NP, AT reasons. 	Yes	Software specially designed or modified for the development, production or use of "certain" machine tools for removing or cutting metals, ceramics or composites.
2D290	"Software" specially designed or modified for the "development", "production" or "use" of items controlled by 2A290, 2A291, 2A292, 2A293, or 2B290.	<ul style="list-style-type: none"> Controlled for NP, AT reasons. See above for the controlled destinations for NP, AT reasons. 	Yes	Software specially designed or modified for the development, production or use of generators and equipment for use with nuclear plants.
2D983	"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A983.	<ul style="list-style-type: none"> Controlled for RS, AT reasons. See above for the controlled destinations for RS, AT reasons. 	Yes	Software specially designed or modified for the development, production or use of explosives or detonator detection systems.
2D991	"Software" specially designed for the "development", "production", or "use" of equipment controlled by 2B991, 2B993, or 2B996, 2B997, and 2B998.	<ul style="list-style-type: none"> Controlled for AT reason. See above for the controlled destinations for AT reason. 	Yes	Software specially designed for the development, production, or use of components and assemblies for "certain" machine tools.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
2E018	"Technology" for the "use" of equipment controlled by 2B018.	<ul style="list-style-type: none"> Controlled for NS, MT, AT, UN reasons. See above for the controlled destinations for NS, MT, AT, UN reasons. 	No	Technology for the use of equipment on the International Munitions list, i.e., armor plate drilling machines, armor plate planning machines, gun barrel rifling machines etc.
2E101	"Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, 2B119 to 2B122, 2D001, 2D002 or 2D101.	<ul style="list-style-type: none"> Controlled for MT, NP, AT reasons. See above for the controlled destinations for MT, NP, AT reasons. 	No	Technology or software for the use of "certain" hot isostatic presses, chemical vapor deposition furnaces, spin-forming and flow-forming machines, vibration test systems, equipment for densification and pyrolysis of structural composite rocket nozzles etc.
2E201	"Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 2A225, 2A226, 2B001, 2B006, 2B007.b, 2B007.c, 2B008, 2B201, 2B204, 2B206, 2B207, 2B209, 2B225 to 2B232, 2D002, 2D201 or 2D202.	<ul style="list-style-type: none"> Controlled for NP, CB, AT reasons. See above for the controlled destinations for NP, AT reasons. 	No	Technology specially designed or modified for the "use" or software of crucibles made of materials resistant to liquid actinide metals, valves, machine tools and related assembly units, dimensional inspection or measuring systems or equipment etc.
2E290	"Technology" according to the General Technology Note for the "use" of equipment controlled by 2A290, 2A291, 2A292, 2A293, or 2B290.	<ul style="list-style-type: none"> Controlled for NP, CB, AT reasons. See above for the controlled destinations for NP, AT reasons. 	No	Technology for the use of generators and other equipment for use with nuclear plants etc.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
2E301	"Technology" according to the "General Technology Note" for "use" of items controlled by 2B350, 2B351 and 2B352.	<ul style="list-style-type: none"> • Controlled for CB, AT reasons. • See above for the controlled destinations for AT reason. 	No	Technology for the use of chemical equipment, i.e., pumps, valves, reactors, heating exchangers, gas monitoring systems and equipment to handle biological materials.
2E983	"Technology" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A983, or the "development" of software controlled by 2D983.	<ul style="list-style-type: none"> • Controlled for RS, AT reasons. • See above for the controlled destinations for RS, AT reasons. 	Yes	Technology or software specially designed or modified for the development, production or use of explosives or detonator detection systems.
2E991	"Technology" for the "use" of equipment controlled by 2B991, 2B993, 2B996, or 2B997.	<ul style="list-style-type: none"> • Controlled for AT reason. • See above for the controlled destinations for AT reason. 	No	Technology for the use of "certain" components and assemblies for machine tools.
2E994	"Technology" for the "use" of portable electric generators controlled by 2A994.	<ul style="list-style-type: none"> • Controlled for AT reason. • See above for the controlled destinations for AT reason. 	No	Technology for the use of portable electric generators and specially designed parts.

Category 3 – Electronics

Summary:

This category contains “use” software and technology related to electronic components and manufacturing of semiconductor devices or materials.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
3D002	"Software" specially designed for the "use" of any of the following (see List of Items Controlled).	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	No	Software specially designed for the use of equipment for the manufacturing of semiconductor devices or materials, i.e., lithography equipment, etching equipment, plasma enhanced CVD equipment.
3D101	"Software" specially designed or modified for the "use" of equipment controlled by 3A101.b.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	No	Software specially designed for the development or production of electronic components for missile related applications, i.e., analog-to-digital converters and accelerators.
3D980	"Software" specially designed for the "development", "production", or "use" of items controlled by 3A980 and 3A981.	<ul style="list-style-type: none"> ● Controlled for CC, AT reasons. ● See above for the controlled destinations for CC, AT reasons. 	Yes	Software specially designed for the development, production or use of voice print identification and analysis equipment and parts, polygraphs, fingerprint analyzers, cameras and retrieval systems not elsewhere specified.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
3D991	"Software" specially designed for the "development", "production", or "use" of electronic devices or components controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 and 3B992; or "software" specially designed for the "use" of equipment controlled by 3B001.g and .h.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software specially designed for the development, production or use of "certain" electronic devices, i.e., microprocessors and integrated circuits etc.
3E101	"Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 3A001.a.1 or .2, 3A101, or 3D101.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Technology specially designed for the use of electronic components for missile-related applications, i.e., microprocessors and integrated circuits or related software.
3E201	"Technology" according to the General Technology Note for the "use" of equipment controlled by 3A001.e.2 or .e.3, 3A201 or 3A225 to 3A233.	<ul style="list-style-type: none"> ● Controlled for NP, AT reasons. ● See above for the controlled destinations for NP, AT reasons. 	No	Technology specially designed for the use of electronic components for nuclear-related applications, i.e., high energy storage capacitors, superconductive electromagnets and solenoids, frequency changers etc. or related software.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
3E292	"Technology" according to the General Technology Note for the "development", "production", or "use" of equipment controlled by 3A292.	<ul style="list-style-type: none"> ● Controlled for NP, AT reasons. ● See above for the controlled destinations for NP, AT reasons. 	Yes	Technology for the development, production or use of "certain" electronic equipment for nuclear-related applications, i.e., oscilloscopes and transient recorders.
3E980	"Technology" specially designed for "development", "production", or "use" of items controlled by 3A980 and 3A981.	<ul style="list-style-type: none"> ● Controlled for Crime Control (CC), AT reasons. ● See above for the controlled destinations for CC, AT reasons. 	Yes	Technology for the development, production or use of electronic equipment controlled for crime control reasons, i.e., voice print identification and analysis equipment and parts, polygraphs, fingerprint analyzers, cameras and retrieval systems.
3E991	"Technology" for the "development", "production", or "use" of electronic devices or components controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 or 3B992.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Technology for the development, production or use of "certain" electronic devices or components, i.e., microprocessors, integrated circuits, digital instrumentation tape data recorders etc.

Category 4 – Computers

Summary:

This category contains “use” software and technology related to the design, development and production of digital high performance computers.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
4D001	Software specially designed or modified for the "development", "production" or "use" of equipment or "software" controlled by 4A001 to 4A004, or 4D (except 4D980, 4D993 or 4D994), and other specified software, see List of Items Controlled.	<ul style="list-style-type: none"> ● Controlled for NS, CC, AT, NP reasons. <li style="text-align: right;">● See above for the controlled destinations for NS, CC, AT, NP reasons. 	Yes	Software specially designed for the development, production of digital computers with a CTP exceeding 28,000 MTOPs.
4D980	"Software" specially designed for the "development", "production", or "use" of items controlled by 4A980.	<ul style="list-style-type: none"> ● Controlled for CC, AT reasons. ● See above for the controlled destinations for CC, AT reasons. 	Yes	Software specially designed for the development, production or use of computers for fingerprint equipment.
4D994	"Software" other than that controlled in 4D001 specially designed or modified for the "development", "production", or "use" of equipment controlled by 4A101, 4A994, 4B994, and materials controlled by 4C994	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software specially designed for the development, production or use of magnetic and optical storage equipment and computers, not controlled by 4A003.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
4E001	"Technology" according to the General Technology Note, for the "development", "production" or "use" of equipment or "software" controlled by 4A (except 4A980, 4A993 or 4A994) or 4D (except 4D980, 4D993,4D994), and other specified technology, see List of Items Controlled.	<ul style="list-style-type: none"> ● Controlled for NS, MT, CC, AT, NP reasons. ● See above for the controlled destinations for NS, MT, CC, AT, NP reasons. 	Yes	Technology for the development and production of digital computers with a CTP exceeding 28,000 MTOPs.
4E980	"Technology" for the "development," "production," or "use" of items controlled by 4A980.	<ul style="list-style-type: none"> ● Controlled for CC, AT reasons. ● See above for the controlled destinations for CC, AT reasons. 	Yes	Technology specially designed for the development, production or use of computers for fingerprint equipment.
4E992	"Technology" other than that controlled in 4E001 for the "development", "production", or "use" of equipment controlled by 4A994 and 4B994, materials controlled by 4C994, or "software" controlled by 4D993 or 4D994.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Technology for the development, production or use of "certain" magnetic and optical storage equipment and materials for the fabrication of head/disk assemblies.

Category 5 – Telecommunications & Information Security

Summary:

This category contains two parts. Part I contains “use” software and technology related to the design, development, production, or use of "certain" telecommunications equipment and Part II contains information security software and technology focused on encryption controls.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
5E002	"Technology" according to the General Technology Note for the "development", "production" or "use" of equipment controlled by 5A002 or 5B002 or "software" controlled by 5D002.	<ul style="list-style-type: none"> ● Controlled for NS, AT, EI reasons. ● See above for the controlled destinations for NS, AT reasons. ● License exception ENC is allowed for foreign nationals working for US companies in the US. 	Yes	Technology specially designed for the development, production, or use of telecommunications and information security equipment.
5D001.a	"Software" specially designed or modified for the "development", "production" or "use" of equipment, functions or features controlled by 5A001 or 5B001.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons 	Yes	Software specially designed for the development, production, or use of telecommunications and information security equipment.
5D101	"Software" specially designed or modified for the “use” of items controlled by 5A101.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons 	No	Software specially designed for the use of telemetering and telecontrol equipment for missile-related applications, i.e., usable for unmanned air vehicles or rocket systems and missiles.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
5D991	"Software" specially designed or modified for the "development", "production", or "use" of equipment controlled by 5A991 and 5B991.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software specially designed or modified for the development, production or use of telecommunication transmission equipment, i.e., radio, repeater, multiplexer and test equipment.
5E001.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.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	Yes	Technology for the development, production or use (excluding operation) of digital cellular radio base station receiving equipment, telecommunication test, inspection and production equipment.
5E001b.	"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.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	Yes	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.
5E101	"Technology" according to the General Technology Note for the "development", "production" or "use" of equipment or software controlled by 5A101 or 5D101.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	Yes	Technology and software specially designed for the use of telemetering and telecontrol equipment for missile-related applications, i.e., usable for unmanned air vehicles or rocket systems and missiles.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
5E991	"Technology" for the "development", "production" or "use" of equipment controlled by 5A991 or 5B991, or "software" controlled by 5D991, and other "technologies" as follows (see List of Items Controlled).	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Technology specially designed or modified for the development, production or use of telecommunication transmission equipment, i.e., radio, repeater, multiplexer and test equipment.
5D002.a	"Software" specially designed or modified for the "development", "production" or "use" of equipment or "software" controlled by 5A002, 5B002 or 5D002.	<ul style="list-style-type: none"> ● Controlled for NS, AT, Encryption (EI) reasons. ● See above for the controlled destinations for NS, AT reasons. License exception ENC is allowed for foreign nationals working for US companies in the US. 	Yes	Software specially designed for the development, production, or use of telecommunications and information security equipment.
5D992	"Software" specially designed or modified for the "development", "production", or "use" of telecommunications and other information security equipment containing encryption (e.g., equipment controlled by 5A992.a); or "use" of information security or crypto logic equipment (e.g., equipment controlled by 5A992.b).	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software specially designed for the development, production, or use of "certain" telecommunications and information security equipment.

Category 6 – Sensors and Lasers

Summary:

This category contains “use” software and technology related to optical sensors (i.e. focal point arrays), imaging cameras, lasers, radar and tracking systems.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
6D002	"Software" specially designed for the "use" of equipment controlled by 6A002.b, 6A008 or 6B008.	<ul style="list-style-type: none"> ● Controlled for NS, MT, RS, AT reasons. ● See above for the controlled destinations for NS, MT, RS, AT reasons. 	No	Software specially designed for the use of imaging cameras, radar systems and pulse radar cross-section measurement equipment.
6D102	"Software" specially designed or modified for the "use" of goods controlled by 6A108.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Software specially designed or modified for the use of radar systems and tracking systems for missile-related applications.
6D991	"Software" specially designed for the "development", "production", or "use" of equipment controlled by 6A002.e, 6A991, 6A996, 6A997, or 6A998.	<ul style="list-style-type: none"> ● Controlled for RS, AT reasons. ● See above for the controlled destinations for RS, AT reasons. 	Yes	Software specially designed for the development, production, or use of focal plane arrays, marine or terrestrial acoustic equipment, magnetometers, gravity meters and radar systems.
6E003.e	"Technology" "required for the "development", "production" or "use" of specially designed diagnostic instruments or targets in test facilities for Super High Power Laser (SHPL) testing or testing or evaluation of materials irradiated by SHPL beams.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	Yes	Technology for the development, production or use of specially designed diagnostic instruments or targets in test facilities for SHPL testing or testing or evaluation of materials irradiated by SHPL beams.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
6E101	"Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 6A002, 6A007.b and.c, 6A008, 6A102, 6A107, 6A108, 6B108, 6D102 or 6D103.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Technology for the use of optical sensors, gravity meters, radar and tracking systems, cross section measurement systems, radiation hardened detectors and related software for missile-related applications.
6E201	"Technology" according to the General Technology Note for the "use" of equipment controlled by 6A003.a.2, 6A003.a.3, 6A003.a.4, 6A005.a.1.c, 6A005.a.2.a, 6A005.a.4.c, 6A005.a.6, 6A005.c.1.b, 6A005.c.2.b.2.a, 6A005.c.2.b.2.b, 6A005.c.2.c.2, or 6A005.d.2.c., 6A202, 6A203, 6A205, 6A225 or 6A226.	<ul style="list-style-type: none"> ● Controlled for NP, AT reasons. ● See above for the controlled destinations for NP, AT reasons. 	No	Technology for the use of mechanical high speed, electronic streak or framing cameras; gas, metal vapor, carbon dioxide, ion lasers and solid state lasers; photomultiplier tubes, laser amplifiers, velocity interferometers and pressure sensors.

Category 7 – Navigation and Avionics

Summary:

This category contains “use” software and technology related to development and production of inertial navigation and airborne communication equipment.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
7D002	"Source code" software for the "use" of any inertial navigation equipment including inertial navigation equipment not controlled by 7A003 or 7A004, or Attitude and Heading Reference Systems (AHRS) (except gimbaled AHRS).	<ul style="list-style-type: none"> ● Controlled for NS, MT, AT reasons. ● See above for the controlled destinations for NS, MT, AT reasons. 	No	"Source code" software for the "use" of any inertial navigation equipment including inertial navigation equipment, or Attitude and Heading Reference Systems (AHRS) (except gimbaled AHRS).
7D101	Software" specially designed or modified for the "use" of equipment controlled by 7A001 to 7A006, 7A101 to 7A106, 7A115, 7A116, 7B001, 7B002, 7B003, 7B101, 7B102, or 7B103.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Software specially designed or modified for the use of linear accelerometers, gyros, inertial navigation systems, gyro-astro compasses, global navigation satellite systems, airborne altimeters, instrumentation and navigation systems, flight control systems, test, calibration or alignment equipment.
7D994	"Software", n.e.s., for the "development", "production", or "use" of navigation, airborne communication and other avionics.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software, not elsewhere specified in the EAR, for the development, production, or use of navigation, airborne communication and other avionics.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
7E101	"Technology", according to the General Technology Note for the "use" of equipment controlled by 7A001 to 7A006, 7A101 to 7A106, 7A115 to 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, 7B103, or 7D101 to 7D103.	<ul style="list-style-type: none"> ● Controlled for MT, RS, AT reasons. ● See above for the controlled destinations for MT, RS, AT reasons. 	No	Technology specially designed or modified for the use of linear accelerometers, gyros, inertial navigation systems, gyro-astro compasses, global navigation satellite systems, airborne altimeters, instrumentation and navigation systems, flight control systems, test, calibration or alignment equipment.
7E994	"Technology", n.e.s., for the "development", "production", or "use" of navigation, airborne communication, and other avionics equipment.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Technology, not elsewhere specified in the EAR, for the development, production, or use of navigation, airborne communication and other avionics.

Category 8 – Marine

Summary:

This category contains “use” software and technology specially designed or modified for the development, production or use of underwater systems.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
8D001	"Software" specially designed or modified for the "development", "production" or "use" of equipment or materials controlled by 8A (except 8A018 or 8A992), 8B or 8C.	<ul style="list-style-type: none"> ● Controlled for NS, AT reasons. ● See above for the controlled destinations for NS, AT reasons. 	Yes	Software specially designed or modified for the development, production or use of marine equipment, water tunnels for measuring acoustic fields and syntactic foam designed for underwater use, etc.
8D992	"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 8A992.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Software specially designed or modified for the development, production or use of underwater systems.
8E992	"Technology" for the "development," "production" or "use" of equipment controlled by 8A992.	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	Technology specially designed or modified for the development, production or use of underwater systems.

Category 9 – Propulsion Systems, Space Vehicles and Related Equipment

Summary:

This category contains “use” software and technology related to development or production of diesel and turbine engines, propulsion systems and related equipment.

Table:

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
9D003	"Software" specially designed or modified for the "use" of full authority digital electronic engine controls (FADEC) for propulsion systems controlled by 9A (except 9A018, 9A990 or 9A991) or equipment controlled by 9B (except 9B990 or 9B991).	<ul style="list-style-type: none"> ● Controlled for NS, MT, AT reasons. ● See above for the controlled destinations for NS, MT, AT reasons. 	No	Software specially designed or modified for the use of full authority digital electronic engine controls (FADEC) for propulsion systems and test, inspection and production equipment, i.e., tooling and fixtures equipment, instrumentation or automated data acquisition and processing equipment.
9D004.d	"Software" in "source code", "object code" or machine code required for the "use" of active compensating systems for rotor blade tip clearance control.	<ul style="list-style-type: none"> ● Controlled for NS, MT, AT reasons. ● See above for the controlled destinations for NS, MT, AT reasons. 	No	Software in "source code", "object code" or machine code required for the "use" of active compensating systems for rotor blade tip clearance control.
9D018	"Software" for the "use" of equipment controlled by 9A018.	<ul style="list-style-type: none"> ● Controlled for NS, RS, AT, UN reasons. ● See above for the controlled destinations for NS, RS, AT, UN reasons. 	No	"Software" for the "use" of equipment on the International Munitions List, i.e., military trainer aircraft, vehicles specially designed or modified for military purposes, pressure refuelers and pressure refueling equipment.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
9D101	"Software" specially designed or modified for the "use" of commodities controlled by 9B105, 9B106, 9B116, or 9B117.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Software specially designed or modified for the use in wind tunnels for speeds of mach 0.9 or more, usable for missiles and their subsystems, environmental chambers and anechoic chambers, test benches and test stands for solid or liquid propellant rockets or rocket motors etc.
9D104	"Software" specially designed and modified for the "use" of equipment controlled by 9A001, 9A005, 9A006.d, 9A006.g, 9A007.a, 9A008.d, 9A009.a, 9A010.d, 9A011, 9A012 (for MT controlled items only), 9A101, 9A105, 9A106.c and .d, 9A107, 9A108.c, 9A109, 9A111, 9A115.a, 9A116.d, 9A117, or 9A118.	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	Software specially designed and modified for the use of propulsion systems, space vehicles and related equipment, i.e., aero gas turbine engines, non-military unmanned aerial vehicles, lightweight turbojet and turbofan engines, pulse jet engines etc.
9E108	"Technology" for the "development", "production", or "use" of equipment controlled by 9A018.	<ul style="list-style-type: none"> ● Controlled for NS, RS, AT, UN reasons. ● See above for the controlled destinations for NS, RS, AT, UN reasons. 	Yes	Technology or the "use" of equipment on the International Munitions List, i.e., military trainer aircraft, vehicles specially designed or modified for military purposes, pressure refuelers and pressure refueling equipment.

ECCN	Summary Description	Destinations Controlled	Related to Production Technology	Brief Explanation of Controlled Technology
9E102	<p>"Technology" according to the General technology Note for the "use" of space launch vehicles specified in 9A004, or commodities or software controlled by 9A005 to 9A012, 9A101, 9A104 to 9A111, 9A115 to 9A119, 9B105, 9B106, 9B115, 9B116, 9B117, 9D101, 9D103, 9D104 or 9D105.</p>	<ul style="list-style-type: none"> ● Controlled for MT, AT reasons. ● See above for the controlled destinations for MT, AT reasons. 	No	<p>Technology for the use of space launch vehicles and spacecraft specified, or related software, i.e., aero gas turbine engines, non-military unmanned aerial vehicles, lightweight turbojet and turbofan engines, pulse jet engines test benches and test stands for solid or liquid propellant rockets or rocket motors etc.</p>
9E990	<p>"Technology", n.e.s., for the "development" or "production" or "use" of equipment controlled by 9A990 or 9B990.</p>	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	<p>Technology, not elsewhere specified in the EAR, for the development or production or use of diesel engines, tractors and vibration test equipment and specially designed parts and components.</p>
9E991	<p>"Technology", for the "development", "production" or "use" of equipment controlled by 9A991 or 9B991.</p>	<ul style="list-style-type: none"> ● Controlled for AT reason. ● See above for the controlled destinations for AT reason. 	Yes	<p>Technology, not elsewhere specified in the EAR, for the development or production or use of gas turbine engines, specially designed tooling or fixtures for manufacturing or measuring gas turbine blades, vanes or tip shroud castings and related parts and components.</p>