SCHEDULE 1

PROHIBITED GOODS

PART III

GROUP 3

INDUSTRIAL GOODS

Notes:

4A Equipment, Assemblies and Components

(4A001) Electronic computers and related equipment, as follows, and **electronic assemblies** and specially designed components therefor(**1**):

(a) Specially designed to have either of the following characteristics:

(1) Rated for operation at an ambient temperature below 228 K (-45°C) or above 358 K (85°C); or

Note: Sub-head a.1 of this entry does not apply to computers specially designed for civil automobile or railway train applications.

(2) Radiation hardened to exceed any of the following specifications:

(a) Total Dose 5×10^5 Rads (Si);

(b) Dose Rate Upset 5×10^8 Rads (Si)/sec; or

(c) Single Event Upset 1×10^{-7} Error/bit/day;

Note: For equipment designed or rated for transient ionising radiation, see Group 1 of Part III of this Schedule.

(b) Having characteristics or performing functions exceeding the limits in Category 5 (Part 2—**Information Security**).

(4A002) **Hybrid computers**, as follows, and **electronic assemblies** and specially designed components therefor(**2**):

(a) Containing **digital computers** specified in entry 4A003;

(b) Containing analogue-to-digital converters having both of the following characteristics:

(1) 32 channels or more; and

(2) A resolution of 14 bits (plus sign bit) or more with a conversion rate of 200,000 conversions/s or more.

(4A003) **Digital computers**, **electronic assemblies**, and related equipment therefor, as follows, and specially designed components therefor:

Notes:

1. This entry includes vector processors, array processors, digital signal processors, logic processors, and equipment for **image enhancement** or **signal processing**.

2. The control on export of **digital computers** or related equipment described in or of a type described in this entry is determined by the export control requirements applying to the other equipment or systems, provided:

(**1**) See also entry 4A101.
(**2**) See also entry 4A102.

a. The **digital computers** or related equipment are essential for the operation of the other equipment or systems;

b. The **digital computers** or related equipment are not a **principal element** of the other equipment or systems.

*N.B.:***Digital computers** or related equipment for telecommunications equipment, are specified in Category 5 (Part 1 – Telecommunications).

Note: The **technology** for the **digital computers** and related equipment is evaluated against sub-category 4E.

(a) Designed or modified for **fault tolerance**;

Note: For the purposes of head a. of this entry, **digital computers** and related equipment are not considered to be designed or modified for **fault tolerance** if they use:

1. Error detection or correction algorithms in **main storage**;
2. The interconnection of two **digital computers** so that, if the active central processing unit fails, an idling but mirroring central processing unit can continue the system's functioning;
3. The interconnection of two central processing units by data channels or by use of shared storage to permit one central processing unit to perform other work until the second central processing unit fails, at which time the first central processing unit takes over in order to continue the system's functioning; or
4. The synchronisation of two central processing units by **software** so that one central processing unit recognises when the other central processing unit fails and recovers tasks from the failing unit.

(b) **Digital computers** having a **composite theoretical performance** (CTP) exceeding 260 million theoretical operations per second (Mtops);

(c) **Electronic assemblies** specially designed or modified to be capable of enhancing performance by aggregation of **computing elements** so that the **composite theoretical performance** (CTP) of the aggregation exceeds the limit in head b. of this entry;

Notes:

1. Head c. of this entry applies only to **electronic assemblies** and programmable interconnections not exceeding the limit of head b. of this entry, when shipped as unintegrated **electronic assemblies**. It does not apply to **electronic assemblies** inherently limited by nature of their design for use as related equipment specified in heads d. to f. of this entry.
2. Head c. of this entry does not specify **electronic assemblies** specially designed for a product or family of products whose maximum configuration does not exceed the limit of head b. of this entry.

(d) Graphics accelerators or graphics coprocessors exceeding a **3-D vector rate** of 1,600,000;

(e) Equipment performing analogue-to-digital conversions exceeding the limits in sub-head a.5. of entry 3A001;

(f) Equipment containing **terminal interface equipment** exceeding the limits in sub-head b.3. of entry 5A001;

Note: For the purposes of head f. of this entry, **terminal interface equipment** includes **local area network** interfaces, modems and other communications interfaces. **Local area network** interfaces are evaluated as **network access controllers.**

(g) Equipment specially designed to provide for the external interconnection of **digital computers** or associated equipment which allows communications at data rates exceeding 80 Mbytes/s.

Note: Head g. of this entry does not control internal interconnection equipment (e.g. backplanes and buses) or passive interconnection equipment.

(4A004) Computers, as follows, and specially designed related equipment, **electronic assemblies** and components therefor:

(a) **Systolic array computers;**

(b) **Neural computers;**

(c) **Optical computers.**

(4A101) Analogue computers, **digital computers** or digital differential analysers, other than those specified in sub-head a.1. of entry 4A001, which are ruggedized and designed or modified for use in systems specified in entries 9A004 or 9A104.

(4A102) **Hybrid Computers** specially designed for modelling, simulation or design integration of systems specified in entries 9A004 or 9A104.

Notes:

1: This entry only applies when the equipment is supplied with software specified in entries 7D103 or 9D103.

2: Software for the goods specified in this entry is determined by the export control requirements of either entry 7D103 or 9D103.