

CORRIGENDA

Corrigendum to Commission Delegated Regulation (EU) 2020/1749 of 7 October 2020 amending Council Regulation (EC) No 428/2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items

(Official Journal of the European Union L 421, 14 December 2020)

1. On page 94, points 2B206.c.1. and 2B206.c.2. are replaced with the following:
 1. Containing a "laser"; and
 2. Capable of maintaining, for at least 12 hours, at a temperature of ± 1 K (± 1 °C); around a standard temperature and standard pressure, all of the following:
 - a. A "resolution" over their full scale of 0,1 μm or better; and
 - b. With a "measurement uncertainty" equal to or better (less) than $(0,2 + L/2\ 000)$ μm (L is the measured length in mm).'
 2. On page 142, points 3B001.f.3. and 3B001.g. are replaced with the following:
 3. Equipment specially designed for mask making having all of the following:
 - a. A deflected focussed electron beam, ion beam or "laser" beam; and
 - b. Having any of the following:
 1. A full-width half-maximum (FWHM) spot size smaller than 65 nm and an image placement less than 17 nm (mean + 3 sigma); or
 2. Not used;
 3. A second-layer overlay error of less than 23 nm (mean + 3 sigma) on the mask;
 4. Equipment designed for device processing using direct writing methods, having all of the following:
 - a. A deflected focused electron beam; and
 - b. Having any of the following:
 1. A minimum beam size equal to or smaller than 15 nm; or
 2. An overlay error less than 27 nm (mean + 3 sigma);
 - g. Masks and reticles, designed for integrated circuits specified in 3A001;'
3. On page 160, points 5E001.d. through to 5E001.e.2. are replaced with the following:
 - 'd. "Technology" according to the General Technology Note for the "development" or "production" of "Monolithic Microwave Integrated Circuit" ("MMIC") amplifiers specially designed for telecommunications and that are any of the following:

Technical Note:

For purposes of 5E001.d., the parameter peak saturated power output may also be referred to on product data sheets as output power, saturated power output, maximum power output, peak power output, or peak envelope power output.

 1. Rated for operation at frequencies exceeding 2,7 GHz up to and including 6,8 GHz with a "fractional bandwidth" greater than 15 %, and having any of the following:
 - a. A peak saturated power output greater than 75 W (48,75 dBm) at any frequency exceeding 2,7 GHz up to and including 2,9 GHz;
 - b. A peak saturated power output greater than 55 W (47,4 dBm) at any frequency exceeding 2,9 GHz up to and including 3,2 GHz;
 - c. A peak saturated power output greater than 40 W (46 dBm) at any frequency exceeding 3,2 GHz up to and including 3,7 GHz; or
 - d. A peak saturated power output greater than 20 W (43 dBm) at any frequency exceeding 3,7 GHz up to and including 6,8 GHz;

2. Rated for operation at frequencies exceeding 6,8 GHz up to and including 16 GHz with a "fractional bandwidth" greater than 10 %, and having any of the following:
 - a. A peak saturated power output greater than 10W (40 dBm) at any frequency exceeding 6,8 GHz up to and including 8,5 GHz; or
 - b. A peak saturated power output greater than 5W (37 dBm) at any frequency exceeding 8,5 GHz up to and including 16 GHz;
 3. Rated for operation with a peak saturated power output greater than 3 W (34,77 dBm) at any frequency exceeding 16 GHz up to and including 31,8 GHz, and with a "fractional bandwidth" of greater than 10 %;
 4. Rated for operation with a peak saturated power output greater than 0,1 nW (– 70 dBm) at any frequency exceeding 31,8 GHz up to and including 37 GHz;
 5. Rated for operation with a peak saturated power output greater than 1 W (30 dBm) at any frequency exceeding 37 GHz up to and including 43,5 GHz, and with a "fractional bandwidth" of greater than 10 %;
 6. Rated for operation with a peak saturated power output greater than 31,62 mW (15 dBm) at any frequency exceeding 43,5 GHz up to and including 75 GHz, and with a "fractional bandwidth" of greater than 10 %;
 7. Rated for operation with a peak saturated power output greater than 10 mW (10 dBm) at any frequency exceeding 75 GHz up to and including 90 GHz, and with a "fractional bandwidth" of greater than 5 %; or
 8. Rated for operation with a peak saturated power output greater than 0,1 nW (– 70 dBm) at any frequency exceeding 90 GHz;
 - e. "Technology" according to the General Technology Note for the "development" or "production" of electronic devices and circuits, specially designed for telecommunications and containing components manufactured from "superconductive" materials, specially designed for operation at temperatures below the "critical temperature" of at least one of the "superconductive" constituents and having any of the following:
 1. Current switching for digital circuits using "superconductive" gates with a product of delay time per gate (in seconds) and power dissipation per gate (in watts) of less than 10^{-14} J; or
 2. Frequency selection at all frequencies using resonant circuits with Q-values exceeding 10 000.'
4. On page 175, points 6A002.a.1.a. through to 6A002.a.1.d. are replaced with the following:
- 'a. Optical detectors as follows:
 1. "Space-qualified" solid-state detectors as follows:

Note: For the purpose of 6A002.a.1., solid-state detectors include "focal plane arrays".

 - a. "Space-qualified" solid-state detectors having all of the following:
 1. A peak response in the wavelength range exceeding 10 nm but not exceeding 300 nm; and
 2. A response of less than 0,1 % relative to the peak response at a wavelength exceeding 400 nm;
 - b. "Space-qualified" solid-state detectors having all of the following:
 1. A peak response in the wavelength range exceeding 900 nm but not exceeding 1 200 nm; and
 2. A response "time constant" of 95 ns or less;
 - c. "Space-qualified" solid-state detectors having a peak response in the wavelength range exceeding 1 200 nm but not exceeding 30 000 nm;
 - d. "Space-qualified" "focal plane arrays" having more than 2 048 elements per array and having a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm;'

5. On page 179, points 6A002.b. through to 6A002.f. are replaced with the following:

b. "Monospectral imaging sensors" and "multispectral imaging sensors", designed for remote sensing applications and having any of the following:

1. An Instantaneous-Field-Of-View (IFOV) of less than 200 μ rad (microradians); or
2. Specified for operation in the wavelength range exceeding 400 nm but not exceeding 30 000 nm and having all the following:
 - a. Providing output imaging data in digital format; and
 - b. Having any of the following characteristics:
 1. "Space-qualified"; or
 2. Designed for airborne operation, using other than silicon detectors, and having an IFOV of less than 2,5 mrad (milliradians);

Note: 6A002.b.1. does not control "monospectral imaging sensors" with a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm and only incorporating any of the following non-"space-qualified" detectors or non-"space-qualified" "focal plane arrays":

1. Charge Coupled Devices (CCD) not designed or modified to achieve 'charge multiplication'; or
2. Complementary Metal Oxide Semiconductor (CMOS) devices not designed or modified to achieve 'charge multiplication'.

c. 'Direct view' imaging equipment incorporating any of the following:

1. Image intensifier tubes specified in 6A002.a.2.a. or 6A002.a.2.b.;
2. "Focal plane arrays" specified in 6A002.a.3.; or
3. Solid state detectors specified in 6A002.a.1.;

Technical Note:

'Direct view' refers to imaging equipment that presents a visual image to a human observer without converting the image into an electronic signal for television display, and that cannot record or store the image photographically, electronically or by any other means.

Note: 6A002.c. does not control equipment as follows, when incorporating other than GaAs or GaInAs photocathodes:

- a. Industrial or civilian intrusion alarm, traffic or industrial movement control or counting systems;
 - b. Medical equipment;
 - c. Industrial equipment used for inspection, sorting or analysis of the properties of materials;
 - d. Flame detectors for industrial furnaces;
 - e. Equipment specially designed for laboratory use.
- d. Special support components for optical sensors, as follows:
1. "Space-qualified" cryocoolers;
 2. Non-"space-qualified" cryocoolers having a cooling source temperature below 218 K ($- 55$ °C), as follows:
 - a. Closed cycle type with a specified Mean-Time-To-Failure (MTTF) or Mean-Time-Between-Failures (MTBF), exceeding 2 500 hours;
 - b. Joule-Thomson (JT) self-regulating minicoolers having bore (outside) diameters of less than 8 mm;
 3. Optical sensing fibres specially fabricated either compositionally or structurally, or modified by coating, to be acoustically, thermally, inertially, electromagnetically or nuclear radiation sensitive;

Note: 6A002.d.3. does not control encapsulated optical sensing fibres specially designed for bore hole sensing applications.

- e. Not used.
- f. 'Read-out integrated circuits' ('ROIC') specially designed for "focal plane arrays" specified in 6A002.a.3.

Note: 6A002.f. does not control 'read-out integrated circuits' specially designed for civil automotive applications.

Technical Note:

A 'Read-Out Integrated Circuit' ('ROIC') is an integrated circuit designed to underlie or be bonded to a "focal plane array" ("FPA") and used to read-out (i.e., extract and register) signals produced by the detector elements. At a minimum the 'ROIC' reads the charge from the detector elements by extracting the charge and applying a multiplexing function in a manner that retains the relative spatial position and orientation information of the detector elements for processing inside or outside the 'ROIC.'

- 6. On page 185, points 6A004.a.2. and 6A004.a.3. are replaced with the following:

- 2. Lightweight monolithic mirrors having an average "equivalent density" of less than 30 kg/ m² and a total mass exceeding 10 kg;

Note: 6A004.a.2. does not control mirrors specially designed to direct solar radiation for terrestrial heliostat installations.

- 3. Lightweight "composite" or foam mirror structures having an average "equivalent density" of less than 30 kg/m² and a total mass exceeding 2 kg;

Note: 6A004.a.3. does not control mirrors specially designed to direct solar radiation for terrestrial heliostat installations.'
