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Regulatory Policy Division
Bureau of Industry and Security
U.S. Department of Commerce
Room 2099B
14th Street and Pennsylvania Avenue, NW
Washington, DC 20230

ATTN: Brian Baker, Director, Electronics and Materials Division
Office of National Security and Technology Transfer Controls

Re: **RIN 0694–AF64**

Dear Mr. Baker:

Cree, Inc. ("Cree") respectfully submits these comments in response to the July 25, 2013 notice of proposed rulemaking published by the U.S. Department of Commerce, Bureau of Industry and Security ("BIS") concerning military electronic equipment. See "Revisions to the Export Administration Regulations (EAR): Control of Military Electronic Equipment and Related Items the President Determines No Longer Warrant Control Under the United States Munitions List ('USML')," 78 Fed. Reg. 45,026 (July 25, 2013). Cree previously provided comments to BIS for the first version of this proposed rule on January 28, 2013, and Cree appreciates the opportunity to comment on the revised proposed rule. See prior proposed rule at 77 Fed. Reg. 70,945 (November 28, 2012).

Cree notes that BIS significantly revised the technical thresholds for certain radio frequency ("RF") amplifiers and transistors, which would be controlled in paragraphs (c) and (d) of the proposed export control classification number ("ECCN") 3A611. Especially helpful are the revisions to use peak saturated power as the only power unit of measure, the rewording of the 2.7 GHz threshold to "exceeding 2.7 GHz", the breakdown in more specific frequency tiers, and the increase in power thresholds from the prior version. However, Cree registers the same concern from its previous comments, that this proposed rule could capture products that currently are subject to ECCNs 3A001, 3A982 and EAR99. The proposed ECCN 3A611, while an improvement from the prior version, still would have the effect of tightening existing controls on RF products that are dual-use or primarily commercial, rather than focusing these new controls on military electronics.

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Cree proposes the following revisions to enable a more specific tailoring of the proposed ECCN 3A611, to avoid controlling RF products that have significant civilian applications. See stated intent of proposed rule changes at 78 Fed. Reg. 45,033.

1. Add "Military Use" Qualifier to Headings for Paragraphs (c) and (d)

The proposed ECCN 3A611 would capture many products currently regulated under ECCNs 3A001, 3A982 or EAR99. As discussed in Cree's prior set of comments, the power and frequency thresholds overlap with the control tiers already included on the Commerce Control List ("CCL"). And as explained in the following section, the proposed power added efficiency ("PAE") thresholds do not sufficiently segregate out commercial products from ECCN 3A611.

Under the initial implementation rule published by BIS on April 16, 2013, the new order of review set forth in 15 C.F.R. § 738.2 requires that "600 series" ECCNs take precedence over other ECCNs on the CCL. This means that, to the extent there is a technical overlap between ECCN 3A611 and ECCNs 3A001 or 3A982, the more restrictive ECCN 3A611 would prevail as the new classification for a product that meets the criteria of both. Given the proposed thresholds in ECCN 3A611, this would cause a large number of commercial products already exported on the global market to get pulled into ECCN 3A611.

For example, Cree is aware that MMICs and discrete transistors currently classified under ECCN 3A001, pursuant to commodity jurisdiction ("CJ") rulings obtained within the industry, could be captured under the proposed ECCN 3A611. The following examples illustrate the potential impact on commercial products with significant civilian applications:

- A MMIC rated for operation between 2.5-6 GHz at 30 W, which currently falls under ECCN 3A001.b.2, could be reclassified as ECCN 3A611.c.4.
- A MMIC rated for operation between 5.5-8.5 GHz at 25 W, which currently is classified as ECCN 3A001.b.2, could be reclassified as ECCN 3A611.c.5.
- A discrete transistor rated for operation from DC-18 GHz at 25 W, which currently is controlled under ECCN 3A001.b.3, could be reclassified as ECCN 3A611.d.8.
- A discrete transistor rated for operation from DC-4.0 GHz at 90 W, which currently is controlled under ECCN 3A001.b.3, could be reclassified as ECCN 3A611.d.4.

As a result, commercial products that presently are eligible for export to the broader country group under the STA license exception, 15 C.F.R. § 740.20(c)(2), due to the National Security controls on ECCN 3A001, would become more restricted. ECCN 3A611 would not be eligible for the broader country group under STA. This change in licensing policy would cause a major disruption in ongoing sales of such products, as well as re-export complications for products already exported to foreign customers in accordance with the current law.

As a solution, Cree strongly urges BIS to revise the descriptions in the headers for proposed ECCN 3A611 paragraphs (c) and (d) to reference the "specially designed" for military

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use standard. This would comport with the language in the "Related Controls" note to the ECCN, which states, "ECCN 3A611 controls only electronic items 'specially designed' for a military use..." Such a revision also would be parallel to the language in the header for paragraph (a), which includes, "Electronic 'equipment,' end items,' and 'systems' 'specially designed' for military use...."

Specifically, Cree proposes the following language:

- Paragraph (c): "Microwave 'monolithic integrated circuits' (MMIC) power amplifiers *specially designed for military use* having any of the following:"

- Paragraph (d): "Discrete microwave transistors *specially designed for military use* having any of the following:"

2. Continue to Rationalize the Progression of Power Added Efficiency Thresholds

Cree greatly appreciates that BIS increased the power added efficiency ("PAE") metric to the proposed ECCN 3A611 paragraphs (c) and (d) from the prior version. Cree also notes that the thresholds, as function of bandwidth, now have a logical decreasing progression in paragraph (c) for MMICs.

Cree wishes to reiterate its point from the prior round of comments that most Gallium Nitride ("GaN") MMICs and discrete transistors currently available on the commercial market (and classified as ECCN 3A982, ECCN 3A001 or EAR99) perform at levels that exceed even the revised proposed PAE thresholds for ECCN 3A611. Accordingly, that metric, as currently proposed, still does not sufficiently focus the proposed regulation on high performance parts. Rather, most GaN MMICs and discrete transistors that presently are used in commercial telecom, backhaul, point-to-point and satellite applications would still meet the proposed thresholds under ECCN 3A611. Cree continues to request BIS to consider the PAE thresholds set forth in Cree's January 28, 2013 comments in response the first proposed rulemaking, as those thresholds reflect the realities of the commercial market.

Also, the PAE thresholds still do not follow a logical progression in paragraph (d) for discrete transistors. Specifically, the PAE threshold decreases to 45% in (d)(3) and (d)(4), then increases to 50% in (d)(5), and then decreases again to 35% in (d)(7). As a matter of practical mechanics, PAE decreases with increased frequency. If the PAE thresholds were increased at the lower frequency tiers in (d)(1) and (d)(2), for example up to 65%, it would enable the discrete transistors to follow a rational progression, and thus be more narrowly tailored to capture high performance products of military interest.

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3. Increase Power Thresholds in Frequency Ranges with Significant Civilian Application

Cree appreciates the increases in power thresholds throughout the frequency tiers in the new proposed ECCN 3A611 paragraphs (c) and (d). However, Cree recommends that BIS increase the power thresholds further for certain tiers within paragraph (d) for discrete transistors, in accordance with Cree's prior comments on January 28, 2013. In particular, Cree suggests that the power threshold for discrete transistors rated between 3.7 to 6.8 GHz should be 120 W. This reflects the commercial market realities for this frequency segment, which has numerous civilian applications.

* * *

Cree appreciates this opportunity to submit these comments for consideration. We would welcome the opportunity to answer any questions BIS may have concerning the issues raised in these comments.

Respectfully submitted,
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-for- Jim Milligan
Jim Milligan
Director, Radio Frequency and Microwave Products
Cree, Inc.