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March 10, 2021

**Ex Parte**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
45 L Street, N.E.  
Washington, D.C. 20554

*Re: Facilitating Shared Use in the 3.1-3.55 GHz Band, WT Docket No. 19-348*

Dear Ms. Dortch:

5G Americas has reviewed the draft Report and Order for *Facilitating Shared Use in the 3.1-3.55 GHz Band, WT Docket No. 19-348* scheduled for vote at the March Open Meeting and urges the Commission not to adopt the draft out-of-band emissions (“OOBE”) mask for base stations in 3.45-3.55 GHz with the increasingly stringent limits every 10 MHz beyond the band edge.<sup>1</sup> Such a mask will undermine the Commission’s interest in rapid deployment of 5G in the U.S. by making our country a spectrum island at 3.45- 3.55 GHz and diminishing further the functionality of equipment that could otherwise tune across the majority of the 3 GHz band with similar limits. 5G Americas offers further recommendations and observations on the draft below.

The Commission correctly recognizes that much of the 3 GHz band—including the 3.45 GHz band—has already been allocated for 5G use globally, with globally harmonized standards implementation well underway.<sup>2</sup> Because 3.3 – 4.2 GHz, 3GPP’s band 77, is internationally harmonized for 5G, the Commission expects that “the technology for 5G deployment in the

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<sup>1</sup> See Commission’s draft OOBE mask for 3.45-3.55 GHz in Attachment A.

<sup>2</sup> *Facilitating Shared Use in the 3.1-3.55 GHz Band*, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, WT Docket No. 19-348 at ¶ 120 (February 24, 2021) (“Draft Second R&O”).

3.45[-3.55] GHz band [is] already available in the marketplace.”<sup>3</sup>. This expectation would be accurate, were the Commission to adopt technical rules for 5G deployment, including an OOB mask, akin to other countries’ deployments. However, 3GPP’s specifications for band 77 cannot meet the draft OOB mask in the draft Second Report and Order.<sup>4</sup>

5G Americas recommended a standardized OOB mask of -13 dBm/MHz for equipment operating in the 3.45- 3.55 GHz band, regardless of how far outside the band.<sup>5</sup> Were the Commission to adopt its proposed mask, 3.45- 3.55 GHz would be a fragmented band, unique to the U.S., with the concomitant loss of economies of scale. This unique band, with a unique mask could create delays in and increased cost for U.S. operator deployment of 5G in the band. Imposition of such a strict, unique mask could significantly increase the cost of both base stations and a single wideband mobile radio tuning across the 3 GHz range including 3.45- 3.55 GHz and 3.7 – 3.98 GHz by requiring different OOB limits in different ranges. The additional complexity of such a 3 GHz radio would necessitate design tradeoffs that would ultimately make it far more expensive for operators’ 5G customers to deploy 5G in the band.

The Commission has stated that the race to 5G entails not merely a race to allocate spectrum, but a race to actually deploy networks.<sup>6</sup> Presumably, this is why the Commission adopted an aggressive four (4) year build-out requirement for its first milestone applicable to successful licensees in 3.45- 3.55 GHz. With a unique, fragmented band plan that does not allow operators to leverage global equipment economies of scale, 5G Americas anticipates that licensees may have possible delays in 5G deployments for this band.

Fortunately, the Commission does not need to adopt this unique OOB mask to achieve its goals. These OOB limits are intended to ensure effective co-existence with mission-critical federal and other non-federal services operating in the adjacent bands. But a simple -13 dBm/MHz mask across 3.45- 3.55 GHz will protect remaining federal systems below and above 3.45 – 3.55 GHz as well as CBRS Priority Access Licensees (“PALs”) above 3.55 GHz due to other mitigation techniques including coordination, the Incumbent Informing Capability (“IIC”), and voluntary TDD synchronization.<sup>7</sup>

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<sup>3</sup> *Id.*

<sup>4</sup> See 3GPP TS48.104 which recommends an OOB mask of -4 dBm/MHz, with an allowance for operators’ implementation under national regimes. Traditionally in the U.S., including the new C-Band rules, the mask in mid-band spectrum has been a simple -13 dBm/MHz, without increasing limits outside the band edge, as the Commission’s draft Second Report and Order provides.

<sup>5</sup> Comments of 5G Americas at 16, WT Docket No. 19-348 (filed Nov. 20, 2020).

<sup>6</sup> Draft Second R&O at ¶ 121.

<sup>7</sup> See e.g., *id.* at ¶¶ 90 – 91 (*given the uncertainty and need for licensee cooperation with federal users, we believe that the best way to address this issue [protection of federal operations in the 3.55-3.65 GHz] will be through the workshops between the DoD and industry, as well as through the ongoing coordination efforts that will arise from those workshops*).

With respect to protection of other flexible-use commercial operators in CBRS spectrum, commenters in the *Further Notice of Proposed Rulemaking* that are also winning PAL bidders supported a clean -13 dBm/MHz mask, and are not asking for additional protection from lower-adjacent 3.45-3.55 GHz licensees. Indeed, it is quite possible that many PALs will bid for licenses in the lower adjacent band, in order to take advantage of the technical benefits of access to a broader swath of contiguous spectrum.

5G Americas agrees with the Commission's expectation that Time Division Duplex ("TDD") synchronization, where feasible, may assist in avoiding harmful interference to lower-power CBRS operations from higher-power 3.45 – 3.55 GHz flexible use.<sup>8</sup> 5G Americas also agrees with the Commission that TDD synchronization need not be mandated.<sup>9</sup> Licensees will have the incentive to coordinate their operations in the two bands, in order both to protect and maximize the efficiency of their service delivery. Moreover, the frame rates to synchronize in the mid-band are publicly available, so licensees and their vendors have sufficient information to facilitate effective coordination. The Commission should not depart from its wise practice of not dictating business models. To mandate TDD synchronization as some have recommended would ultimately undermine innovation in both technical and procedural solutions.

Relative to protecting government users in CBRS, the Commission stated that it believes that the best way to address protection of federal operations in the 3.55-3.65 GHz will be through the workshops between the Department of Defense and industry, as well as through the ongoing coordination efforts that will arise from those workshops.<sup>10</sup> The workshop deliberations could also consider federal operations below 3450 MHz. Such an approach would be consistent with the Commission's stated goals of continuing to look at spectrum below 3.45 GHz, in light of the internationally harmonized band 77, for flexible-use including 5G. The Commission has made a number of decisions to facilitate shared access by flexible use in spectrum below 3450 MHz. If spectrum below 3.45 GHz is ultimately made available for flexible-use, a mask more stringent than -13 dBm would not be necessary. In fact, it would be undermine the economies of scale available to licensees in that new band in having equipment that can tune across a globally harmonized band at standardized OOB limits.

As a final matter, it doesn't make sense to have different OOB rule for 3.45- 3.55 GHz user device equipment ("UE") versus the operators' base stations ("BS"). The OOB limit is appropriately determined to be -13 dBm/MHz for UEs in the draft Second Report and Order.<sup>11</sup> The same mask should apply to both UE and BS, since the corollary must be true – if an OOB limit for UE at -13 dBm/MHz across the band sufficiently protects adjacent band services, a mask of -13 dBm/MHz across the band for base stations should be sufficient as well.

In fact, there is an incongruity between the Commission's protection of CBRS PALs from C-band licensees and its draft protection of CBRS PALs from flexible use licensees in 3.45-3.55

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<sup>8</sup> *Id.* at ¶ 63.

<sup>9</sup> See Comments of 5G Americas at 18-19, WT Docket No. 19-348 (filed Nov. 20, 2020).

<sup>10</sup> Draft Second R&O at ¶ 90.

<sup>11</sup> *Id.* at ¶ 78.

Ms. Marlene H. Dortch

March 10, 2021

Page 4 of 5

GHz. Overall, 5G Americas urges the Commission to have common protection across the band, to support accelerated deployment of 5G in the 3 GHz band.

Best regards,

A handwritten signature in cursive script that reads "Chris Pearson".

Chris Pearson

*President, 5G Americas*

Cc: Umair Javed

Ethan Lucarelli

Greg Watson

Bill Davenport

Erin Boone

### Attachment A

### Commission's draft Out-of-Band Emissions Mask

