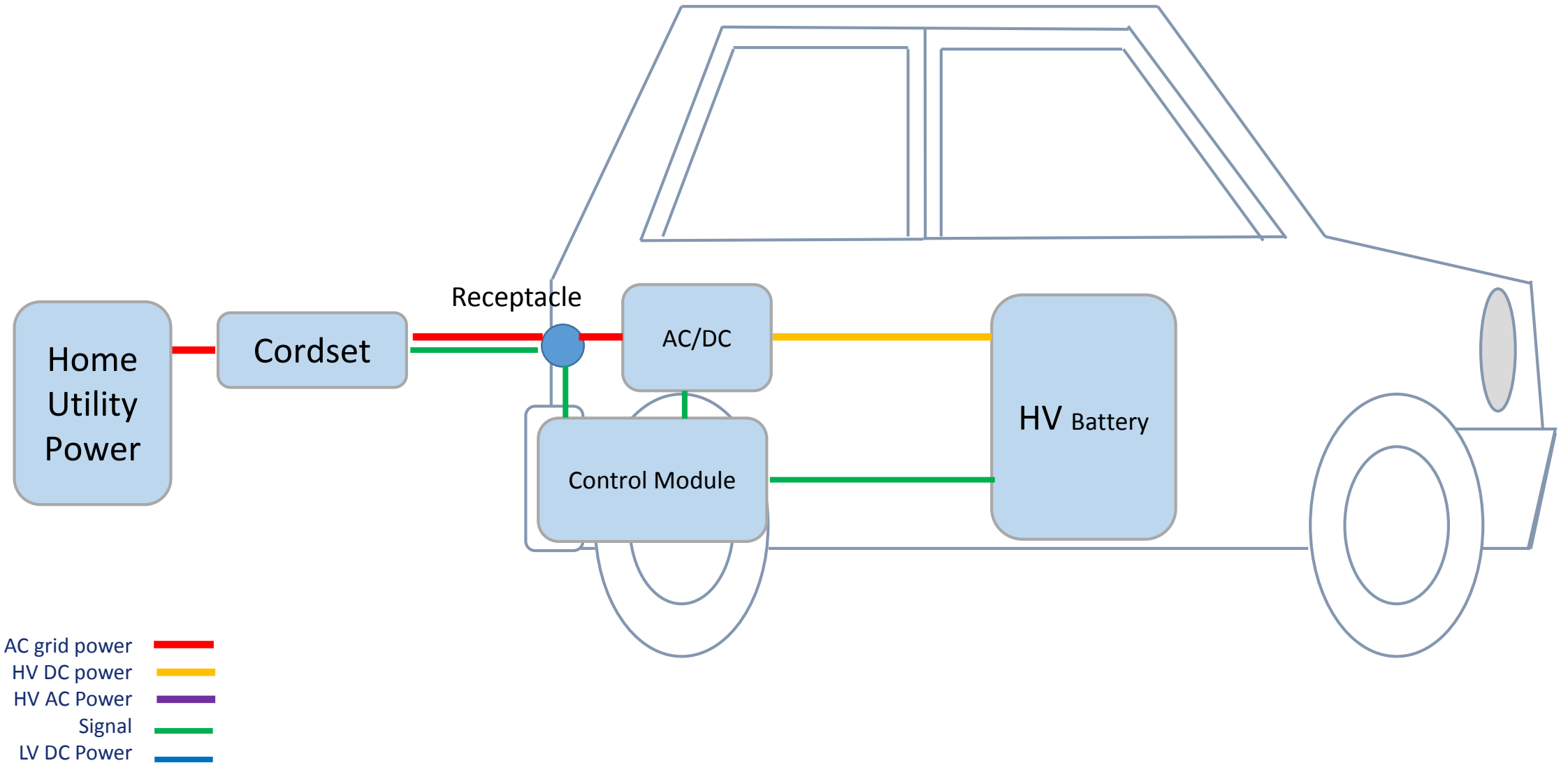
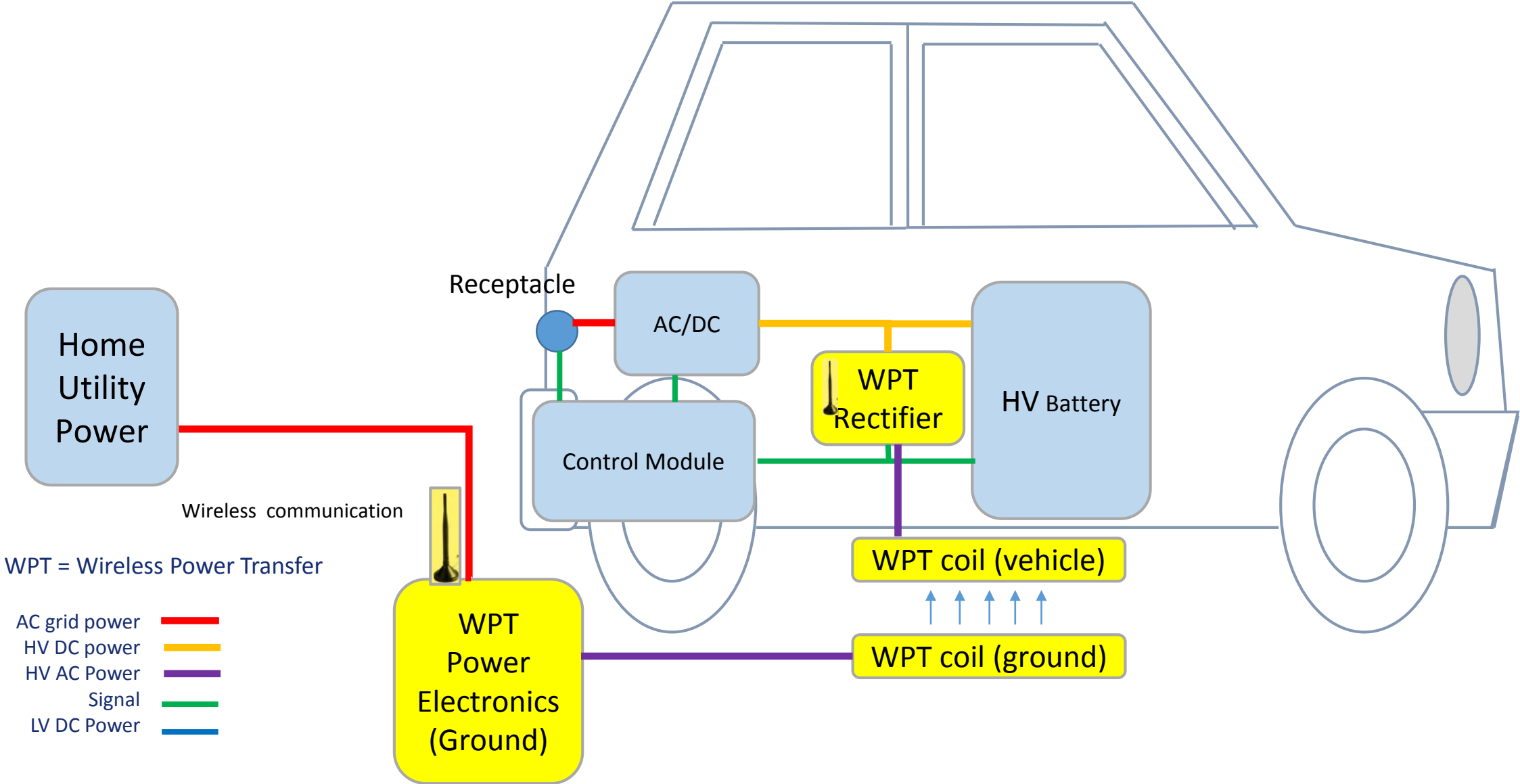


# **Appendix 1**

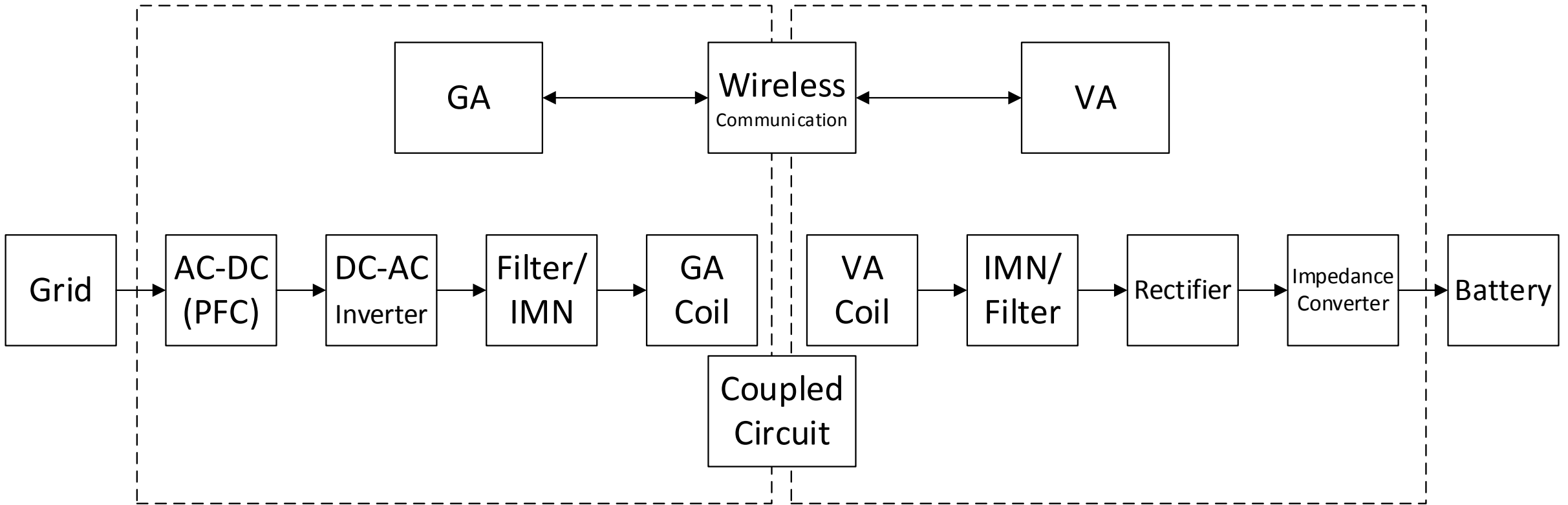
# Conductive Charging system



# Wireless EV Charging System



# Wireless Charging System Executive Summary Graphic



# **Appendix 2A**

# ARRL Drone Transmitters Complaint Spurs Proposed \$2.8 Million FCC Penalty

06/07/2018

In the wake of an investigation resulting from a 2017 ARRL [complaint](#), the FCC has proposed fining HobbyKing and associated entities \$2.8 million for apparently marketing noncompliant RF devices and failing to comply with Commission orders. According to a June 5 FCC *Notice of Apparent Liability (NAL)*, HobbyKing appears to have sold audio/video transmitters (A/V) intended for use with unmanned aircraft, such as drones, marketing them as Amateur Radio equipment in some instances.

“The Enforcement Bureau previously issued a *Citation* notifying HobbyKing of its legal and regulatory obligations and ordering it to cease and desist from marketing noncompliant equipment,” the FCC said in the *NAL*. “Additionally, the Bureau issued a *Citation* against HobbyKing for failing to fully respond to a *Letter of Inquiry*. Despite these *Citations*, HobbyKing has continued its apparently unlawful practices.”

HobbyKing had denied that it was marketing its drone transmitters to US customers, but ARRL’s January 2017 complaint pointed out that ARRL Laboratory Manager Ed Hare, W1RFI, was able to purchase two drone transmitters from HobbyKing and have them shipped to a US address for testing in the Lab.

In his 2017 letter to the FCC Spectrum Enforcement Division, ARRL General Counsel Chris Imlay, W3KD, described the transmitters as “blatantly illegal at multiple levels,” and noted that they used frequencies intended for navigational aids, air traffic control radar, air route surveillance radars, and global positioning systems and not Amateur Radio frequencies, as the marketer had purported.

ARRL told the Enforcement Bureau in 2017 that the devices “represent a real and dangerous threat to the safety of flight, especially when operated from a drone platform that can be hundreds of feet in the air.” Hare and ARRL Lab staffers Mike Gruber, W1IMG and Bob Allison, WB1GCM, tested the units. Imlay credited ARRL Central Division Director Kermit Carlson, W9XA, and the Electromagnetic Compatibility Committee he chairs, for calling attention to the issue and prompting ARRL’s action.

In a related [news release](#) this week, the FCC said that while HobbyKing represented that its transmitters operated in designated Amateur Radio bands, the Commission’s investigation uncovered that 65 models could also apparently operate outside of the ham bands. The FCC noted that Amateur Radio equipment used to telecommand model craft are limited to 1 W (1,000 mW), but three transmitters included in the *NAL* “apparently operate at significantly higher power levels of 1,500 mW and 2,000 mW.”

“The Commission generally has not required amateur equipment to be certified, but such equipment must be designed to operate only in frequency bands allocated for amateur use,” the

*NAL* said. “If such equipment can operate in amateur and non-amateur frequencies, it must be certified prior to marketing and operation.” The FCC also said in its *NAL* that consumers who own such HobbyKing devices “should cease using them immediately or risk enforcement action.”

The FCC this week also issued an [\*Enforcement Advisory\*](#) cautioning that drone transmitters must comply with FCC rules in order to be marketed to customers in the US, and that operators must comply with FCC rules.

“However, many A/V transmitters that purport to operate on amateur frequencies also operate on frequencies that extend beyond the designated amateur frequency bands,” the advisory said. “If an A/V transmitter is capable of operating outside of the amateur frequency bands, it cannot be advertised, sold, or operated within the United States without an FCC equipment certification. Individuals without an amateur license may not use such radio equipment, if it is designed solely for use by amateur licensees.”

Imlay said the FCC action addressed “another of many instances in which unscrupulous importers import and market products in the US touted as Amateur Radio equipment but actually marketed to the general public, and which, in this case, have a high potential for abuse and interference to other radio services and to radio amateurs.” Imlay characterized the FCC *NAL* as an important “line in the sand” aimed at keeping companies from encouraging the general public to use the amateur bands without a license.

## **Appendix 2B**



**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of	)	
	)	
ABC Fulfillment Services LLC d/b/a	)	File No.: EB-SED-17-00023762
HobbyKing USA LLC and HobbyKing.com;	)	NAL/Acct. No.: 201832100015
and Indubitably, Inc. d/b/a HobbyKing Corp.,	)	FRN: 0027528975
HobbyKing USA LLC, HobbyKing, and	)	
HobbyKing.com	)	

**NOTICE OF APPARENT LIABILITY FOR FORFEITURE**

**Adopted: June 4, 2018**

**Released: June 5, 2018**

By the Commission:

**I. INTRODUCTION**

1. We propose a penalty of \$2,861,128 against ABC Fulfillment Services LLC and Indubitably, Inc. (collectively, HobbyKing or Company) for apparently marketing noncompliant radio frequency devices and for failing to comply with Commission orders. HobbyKing apparently has marketed noncompliant radio frequency devices on its website, specifically audio/video transmitters (AV transmitters) that are intended for use with unmanned aircraft systems (UAS or drones) and other devices. The Enforcement Bureau (Bureau) previously issued a Citation notifying HobbyKing of its legal and regulatory obligations and ordering it to cease and desist from marketing noncompliant equipment.<sup>1</sup> Additionally, the Bureau issued a Citation against HobbyKing for failing to fully respond to a Letter of Inquiry, even after being provided numerous opportunities and extensions of time to respond.<sup>2</sup> Despite these Citations, HobbyKing has continued its apparently unlawful practices.

**II. BACKGROUND**

**A. HobbyKing's Business and Products**

2. HobbyKing is the trade name of several U.S.-based companies (ABC Fulfillment Services LLC and Indubitably, Inc.) as well as a Hong Kong-based company (Hextronik LTD), all associated with an individual named Anthony Hand.<sup>3</sup> HobbyKing.com, HobbyKing's website, markets numerous recreational radio frequency devices intended for use with model airplanes and drones to customers all over the world, including the United States.<sup>4</sup> HobbyKing has a New York office and customer service operations in the United States.<sup>5</sup>

<sup>1</sup> See *HobbyKing USA LLC*, Citation and Order, 31 FCC Rcd 12581 (EB 2016) (Marketing Citation).

<sup>2</sup> See *ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and Indubitably, Inc. d/b/a HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com*, Citation and Order, 32 FCC Rcd 7300 (EB 2017) (LOI Citation).

<sup>3</sup> Letter and attachments from Rebecca Larson, Esq., Davies Pearson, P.C., attorney for HobbyKing, to Jason Koslofsky, Attorney Advisor, Spectrum Enforcement Division, FCC Enforcement Bureau at 2-4 (May 24, 2017) (LOI Response) (on file in EB-SED-17-000223762). ABC Fulfillment Services LLC does business as HobbyKing USA LLC and HobbyKing.com. *Id.* Indubitably, Inc. does business as HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com. *Id.*

<sup>4</sup> LOI Response at 3; *see also* LOI Response, Attached Spreadsheet (showing the number of sales to U.S. customers). Although HobbyKing's response to the Commission's inquiries was incomplete, as described herein, for those AV transmitter models for which it provided information, it specified how many sales had been made to U.S. customers. *Id.* Additionally, HobbyKing's website contains no limitations on shipment to the United States

3. The AV transmitters HobbyKing markets are mounted on drones and transmit video back to the person controlling the drone. Drones, equipped with the AV transmitters and other accessories, are used (among other places) in drone racing events across the United States and around the world.<sup>6</sup> A number of models of AV transmitters HobbyKing markets purport to operate on amateur frequencies in three frequency bands, 1240-1300 MHz (often identified as “1.2 GHz”), 2300-2310 and 2390-2450 MHz (often identified as “2.4 GHz”), and 5650-5925 MHz (often identified as “5.8 GHz”).<sup>7</sup> However, more detailed examination shows that these AV transmitters are marketed on HobbyKing’s website as also operating in additional frequency bands not allocated for amateur operations and, in some cases, at higher power levels than allowed.

## B. The Investigation

4. Beginning in 2015, after receiving complaints, the Spectrum Enforcement Division (Division) of the Bureau investigated the Company for marketing radio frequency devices in potential violation of the Communications Act of 1934, as amended (Act) and the Commission’s rules.<sup>8</sup> As a result of the investigation, the Division issued HobbyKing a Citation and Order (Marketing Citation) for violations of Section 302 of the Act,<sup>9</sup> and Sections 2.803 and 2.925 of the Commission’s rules,<sup>10</sup> for illegally marketing two noncompliant AV transmitters.<sup>11</sup>

5. In 2017, following receipt of additional complaints that HobbyKing was continuing to market noncompliant radio frequency devices, the Division sent a Letter of Inquiry (LOI) by certified mail and e-mail to HobbyKing to investigate the Company for potential violations of Section 302(b) of the Act, and Parts 2, 15, and 97 of the Commission’s rules.<sup>12</sup> HobbyKing received the LOI, but failed to

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and even advertises, on each page via a sidebar, “We ship worldwide for only \$3.99.” *See* HobbyKing, Careers, [https://hobbyking.com/en\\_us/careers](https://hobbyking.com/en_us/careers) (last visited Feb. 14, 2018).

<sup>5</sup> HobbyKing has been hiring support personnel for its New York office. *See id.* (“We are looking for an enthusiastic Product Specialist to join our team in our New York, Long Island based customer service center.”).

<sup>6</sup> Drone racing is a growing industry that uses radio frequency devices as key components. *See* Gentlemen, Start Your Drones, N.Y. Times (Nov. 11, 2015), <https://www.nytimes.com/2015/11/12/sports/drone-racing-competition.html>. Drone racers maneuver their drones through obstacle courses using goggles with “first-person-view technology” that allows the racer to feel as if they are inside the drone. *Id.*; *see also* The Drone Racing League, Learn More, <https://thedroneracingleague.com/learn-more/> (last visited Jan. 30, 2018) (“Drone Racing is a new high speed competitive racing sport. Skilled pilots fly quad-copter drones through three-dimensional courses at speeds up to 120mph. DRL drones are custom built for speed, agility, and performance. Pilots steer from the point of view of the drone by wearing First Person View (FPV) goggles that display a live image transmitted by an onboard camera.”).

<sup>7</sup> *See* 47 CFR § 97.301(a) (amateur frequency bands).

<sup>8</sup> *See* Letter from Bruce D. Jacobs, Chief, Spectrum Enforcement Division, FCC Enforcement Bureau, to Anthony Hand, HobbyKing USA LLC (Jan. 20, 2016) (on file in EB-SED-16-00020557) (investigating the marketing of noncompliant radio frequency devices on HobbyKing.com); *see also* 47 CFR § 2.803(a) (defining “marketing” as the “sale or lease, or offering for sale or lease, including advertising for sale or lease, or importation, shipment, or distribution for the purpose of selling or leasing or offering for sale or lease”).

<sup>9</sup> 47 U.S.C. § 302a(b).

<sup>10</sup> 47 CFR §§ 2.803, 2.925.

<sup>11</sup> *See* Marketing Citation, 31 FCC Rcd at 12581.

<sup>12</sup> 47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 2.925, 15.5, 15.19, 15.21, 15.201, 15.205, 15.247, 97.215(c); Letter from Aspasia A. Paroutsas, Chief, Spectrum Enforcement Division, FCC Enforcement Bureau, to Anthony Hand, Owner, ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and HobbyKing Corp. d/b/a HobbyKing and HobbyKing.com (Apr. 17, 2017) (LOI) (on file in EB-SED-17-000223762). Notably, Inquiries 13,

fully respond to the LOI,<sup>13</sup> even after being given two additional opportunities.<sup>14</sup> The Division then issued a Citation and Order (LOI Citation) to HobbyKing for its failure to respond to a Commission Order, namely the LOI.<sup>15</sup> The LOI Citation also ordered HobbyKing to provide a response to the LOI.<sup>16</sup> HobbyKing ignored the LOI Citation and to date has not provided a complete response to the LOI.

6. Based on the limited information HobbyKing provided in its partial response to the LOI and on information independently collected from HobbyKing's website, it appears that HobbyKing continued advertising and selling AV transmitters to U.S. customers that can operate on non-amateur frequencies and/or at higher power levels than permitted under the Commission's rules, even after becoming aware of the Bureau's investigation and receiving multiple citations. As detailed in Appendix A, HobbyKing marketed and continues to market at least 65 noncompliant AV transmitter models.<sup>17</sup> Specifically, six of the AV transmitter models operate on frequencies in the 1010-1360 MHz band, of which only the frequencies in the 1240-1300 MHz band are allocated for Amateur Service.<sup>18</sup> Four models operate on frequencies in the 2290-2655 MHz band, which encompasses the 2.4 GHz

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14, and 15 of the LOI required HobbyKing to produce various spreadsheets containing information pertinent to the investigation concerning various AV transmitter models that it markets in the United States. LOI at 5-6.

<sup>13</sup> See LOI Response. Instead of providing a complete response to the LOI, the Company only provided information on the four AV transmitters specifically identified in the LOI, and failed to provide any information about other AV transmitters listed on the Company's website as required by the LOI. *Id.*

<sup>14</sup> After receiving the deficient LOI Response, the Division required a complete response to the LOI and provided additional time to respond. E-mail from Jason Koslofsky, Attorney Advisory, Spectrum Enforcement Division, FCC Enforcement Bureau to Rebecca Larson, Esq., Davies Pearson, P.C., attorney for HobbyKing (Jun. 12, 2017, 17:26 EDT) (on file in EB-SED-17-000223762). In reaction, the Company claimed it did not market the equipment at issue in the United States and demanded assurances that it was not the only company being investigated by the Division. See Letter and attachments from Rebecca Larson, Esq., Davies Pearson, P.C., attorney for HobbyKing, to Jason Koslofsky, Spectrum Enforcement Division, FCC Enforcement Bureau (Jun. 23, 2017) (on file in EB-SED-17-000223762). The Division then provided the Company with an additional chance to respond, see E-mail from Jason Koslofsky, Attorney Advisory, Spectrum Enforcement Division, FCC Enforcement Bureau to Rebecca Larson, Esq., Davies Pearson, P.C., attorney for HobbyKing (Jun. 27, 2017, 13:18 EDT) (on file in EB-SED-17-000223762), and the Company did not provide any additional information.

<sup>15</sup> See LOI Citation, 32 FCC Rcd at 7301-02, para. 5 (despite multiple extensions, HobbyKing did not provide a complete response to the LOI). The LOI Citation was sent via certified mail, return receipt requested to HobbyKing's agents and counsel, where it was accepted and return receipts were returned to the Division, indicating it had been received by HobbyKing's agents and counsel (on file in EB-SED-17-000223762). The LOI Citation was also sent via e-mail to Anthony Hand and HobbyKing's counsel. The Division received a "read receipt" that HobbyKing's counsel had received the email with the LOI Citation. E-mail read receipt from Rebecca Larson, Esq., Davies Pearson, P.C., attorney for HobbyKing, to Jason Koslofsky, Attorney Advisory, Spectrum Enforcement Division, FCC Enforcement Bureau (Sept. 27, 2017, 14:02 EDT) (on file in EB-SED-17-000223762).

<sup>16</sup> LOI Citation, 32 FCC Rcd at 7300-01, paras. 2-3, 9, 19-20. Specifically, the LOI Citation ordered HobbyKing to "[p]rovide all information and documents requested in the Bureau's April 17, 2017 LOI that have not already been produced, including complete responses to Inquiries 13, 14, and 15" and to "[p]rovide an affidavit or declaration under penalty of perjury, signed and dated by an authorized officer of the Company with personal knowledge of the representations verifying the truth and accuracy of the information therein and that all of the information and documents requested by the LOI that are in the Company's possession, custody, control or knowledge have been produced." *Id.* at 7303, 7305, paras. 9, 20.

<sup>17</sup> Consumers who own these HobbyKing devices should cease using them immediately or risk enforcement action for operating equipment in violation of the Commission's rules.

<sup>18</sup> See Appendix A. The other frequencies in the 1010-1360 MHz band below 1240 MHz and above 1300 MHz are allocated to Aeronautical Radionavigation Service, Radionavigation-Satellite Service, and Space Research Service, among others. See 47 CFR § 2.106. In addition, frequencies 960-1240 MHz and 1300-1427 MHz are restricted to spurious emissions only. *Id.* § 15.205(a). See *infra* note 36.

amateur band, but also includes non-amateur frequencies as well.<sup>19</sup> Finally, 55 of the AV transmitter models operate at various frequencies in the 5150-6700 MHz band of which only the 5650-5925 MHz band is allocated for amateur use.<sup>20</sup> Additionally, three AV transmitter models also operate at power levels of 1500mW and 2000mW that exceed the Commission's transmit power limit for amateur telecommand of model craft.<sup>21</sup>

### III. DISCUSSION

7. The Commission finds that HobbyKing apparently willfully and repeatedly violated Section 302 of the Act and Section 2.803 of the Commission's rules<sup>22</sup> when it marketed uncertified AV transmitters capable of operating on unauthorized frequencies and at power levels exceeding those permitted under our rules.<sup>23</sup> Specifically, HobbyKing apparently marketed at least 65 AV transmitter models as amateur equipment, when these devices are designed also to operate on non-amateur frequencies, some of which are restricted frequencies.<sup>24</sup> Further, three equipment models apparently are designed to operate at power levels in excess of those that the rules allow for amateur equipment.<sup>25</sup> HobbyKing apparently continued to violate the Commission's rules notwithstanding the Marketing Citation alerting it to its marketing of radio frequency devices in violation of the Act and of the Commission's equipment marketing rules. In addition, HobbyKing apparently violated two Commission orders when it failed to fully respond both to the LOI and to the LOI Citation, thereby obstructing the Bureau's investigation into HobbyKing's marketing practices. Accordingly, and as explained herein, the Commission proposes a forfeiture of \$2,861,128.<sup>26</sup>

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<sup>19</sup> See Appendix A; 47 CFR § 2.106. The rest of the frequencies are allocated for Mobile, Radiolocation, and Mobile-Satellite Service, among other, uses. Further, the frequencies 2370 and 2510 MHz are in restricted bands. *Id.* § 15.205(a).

<sup>20</sup> See Appendix A. The rest of the frequencies are allocated for Maritime Radionavigation, Meteorological Aids, and Fixed Satellite Service, among others. *Id.* § 2.106.

<sup>21</sup> See Appendix A; 47 CFR § 97.215(c) (transmitter power is limited to 1 W for amateur telecommand of model craft).

<sup>22</sup> 47 U.S.C. § 302a(b); 47 CFR § 2.803.

<sup>23</sup> See LOI Response, attachment (admits HobbyKing sold AV transmitters to U.S. customers); see also Appendix A (noncompliant AV transmitters marketed on the Company's website to U.S. customers).

<sup>24</sup> See Appendix A. Transmissions, except for spurious emissions, are prohibited in certain restricted frequency bands. See 47 CFR §15.205(a).

<sup>25</sup> 47 CFR § 90.215(c).

<sup>26</sup> Following the Marketing Citation, HobbyKing is subject to a Notice of Apparent Liability for its continued marketing of noncompliant devices. See 47 U.S.C. § 503(b)(5); see also *Y Pay More*, Forfeiture Order, 26 FCC Rcd 12805, 12806, para. 3 (2011); *Travel Club Mktg. Inc.*, Notice of Apparent Liability for Forfeiture, 26 FCC Rcd 15831, 15834, para. 10 (2011), Forfeiture Order, 30 FCC Rcd. 8861 (2015); *Presidential Who's Who, Inc.*, Forfeiture Order, 29 FCC Rcd 3451, 3451, para. 1 (2014). Both the Marketing Citation and LOI Citation afforded HobbyKing "a reasonable opportunity for a personal interview with an official of the Commission, at the field office of the Commission which is nearest to such person's place of residence," in accordance with 47 U.S.C. § 503(b)(5)(B), but HobbyKing did not seek such a personal interview following either citation. Marketing Citation, 31 FCC Rcd at 12582-83, paras. 7-10; LOI Citation, 32 FCC Rcd at 7303-04, paras. 10-13.

Moreover, HobbyKing is apparently the manufacturer of some of the noncompliant devices, LOI Response at 3, making an NAL appropriate even without the Marketing Citation. The Act provides that parties who engage in activities for which an authorization, such as manufacturing devices which require a certification, is required may be subject to a forfeiture without a prior citation. 47 U.S.C. § 503(b)(5) (citation not required where "person involved is engaging in activities for which a license, permit, certificate, or other authorization is required."); see also *Syntax-Brilliant Corp.*, Forfeiture Order and Notice of Apparent Liability for Forfeiture, 23 FCC Rcd 6323, 6326, para. 8 (2008) (*Syntax-Brilliant FO*) (noting that an equipment certification is a "license, permit, certificate, or other

**A. HobbyKing Apparently Violated Section 302 of the Act and Section 2.803 of the Commission's Rules**

8. HobbyKing apparently violated Section 302 of the Act and Section 2.803 of the Commission's rules. Section 302(b) of the Act provides that "[n]o person shall manufacture, import, sell, offer for sale, or ship devices or home electronic equipment and systems, or use devices, which fail to comply with regulations promulgated pursuant to this section."<sup>27</sup> Section 2.803(b)(1) of the Commission's rules provides that no person may market a radio frequency device that is subject to certification unless the device has been authorized in accordance with the rules and is properly identified and labeled.<sup>28</sup> Intentional radiators, such as the AV transmitters at issue here, must be approved prior to marketing through the equipment certification procedures.<sup>29</sup> The Commission generally has not required amateur equipment to be certified, but such equipment must be designed to operate only in frequency bands allocated for amateur use.<sup>30</sup> If such equipment can operate in amateur and non-amateur frequencies, it must be certified prior to marketing and operation.<sup>31</sup>

9. For several of the uncertified AV transmitters HobbyKing markets, the Company seems to imply compliance by presenting the AV transmitter device models as amateur equipment, for which equipment authorization is not required. However, as explained above, at least 65 uncertified AV transmitter models marketed on HobbyKing's website are capable of operating on non-amateur frequencies as well, including restricted (including Federal) frequencies.<sup>32</sup> AV transmitters capable of operating on frequencies other than amateur radio frequencies cannot legally be marketed in the United States without an equipment authorization, even if they also operate on amateur frequencies.<sup>33</sup> Moreover,

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authorization" for purposes of the exception to the citation requirement in Section 503(b)(5) of the Communications Act).

<sup>27</sup> 47 U.S.C. § 302a(b).

<sup>28</sup> 47 CFR § 2.803(b)(1).

<sup>29</sup> 47 CFR § 15.201. An intentional radiator is "[a] device that intentionally generates and emits radio frequency energy by radiation or induction." *Id.* § 15.3(o). A certification is an equipment authorization issued by the Commission or issued by a Telecommunication Certification Body (TCB) and authorized under the authority of the Commission, based on representations and test data submitted by the applicant. *See id.* § 2.907(a). The equipment certification procedures can be found in 47 CFR §§ 2.1031-2.1060. However, an unlicensed device that operates in frequencies that are restricted to only spurious emissions by 47 CFR § 15.205 could not be certified. *See Iftron Techs., Inc.*, Notice of Apparent Liability for Forfeiture, 24 FCC Rcd 8802, 8804 para. 5 (EB 2009) (paid).

<sup>30</sup> Operating amateur equipment requires an amateur license pursuant to Part 97 of the Commission's rules.

<sup>31</sup> *WTB, PSHSB, & OET Provide Reminder of Jan. 1, 2013 Deadline for Transition to Narrowband Operations in the 150-174 Mhz & 421-470 Mhz Bands*, Public Notice, 27 FCC Rcd 14896, 14900 n.18 (2012) ("Equipment approval generally is not required for Part 97 equipment."); *New Generation Hobbies*, Citation, 26 FCC Rcd 9468, 9471 n.23 (EB 2011) ("while amateur radio service equipment is exempt from the FCC's equipment certification requirement, it is a violation of the Commission's regulations to market in the United States a transmitter that is designed or intended to operate on frequencies outside of the authorized amateur radio service bands if such equipment has not been issued a grant of equipment certification"); *Facilitating Opportunities for Flexible, Efficient, and Reliable Spectrum Use Employing Cognitive Radio Technologies*, Memorandum Opinion and Order, 22 FCC Rcd 8053, 8058 para. 16 (2007) (amateur equipment is exempt from certification); *Pilot Travel Centers, LLC*, Notice of Apparent Liability, 19 FCC Rcd 23113, 23114 (2004) ("[R]adio transmitting equipment that transmits solely on Amateur Radio Service ('ARS') frequencies is not subject to equipment authorization requirements prior to manufacture or marketing.") (emphasis added).

<sup>32</sup> *See* para. 3 *supra*; *see also* Appendix A.

<sup>33</sup> *See Iftron*, 24 FCC Rcd at 8804 para. 5 ("Although amateur radio equipment is not required to be certified, the Stinger Pro, as sold in the United States prior to July 2008, was capable of operating on a frequency outside of the authorized amateur radio frequencies and, therefore, could not legally be marketed in the United States as amateur radio equipment.") (footnote omitted); *see also New Generation Hobbies*, Citation, 26 FCC Rcd 9468, 9471 n.23 (EB 2011) ("while amateur radio service equipment is exempt from the FCC's equipment certification requirement,

certification would also not be possible for unlicensed devices that operate in amateur and non-amateur bands where the frequency allocation does not permit the use sought by HobbyKing.<sup>34</sup> None of HobbyKing's AV transmitters listed in Appendix A are certified or otherwise authorized under the Commission's rules as intentional radiators. By operating outside of the amateur bands, these uncertified AV transmitters threaten important government and public safety operations, such as weather services and radar, among others, and other operations that should be free of harmful interference from uncertified equipment.<sup>35</sup>

10. Further, twelve of the 65 AV transmitter models improperly are capable of operation on those restricted frequencies specifically listed in Section 15.205(a) of the Commission's rules, including 960-1240 MHz, 1300-1427 MHz, 2370 MHz, 2490 MHz, and 5350-5400 MHz.<sup>36</sup> These restricted frequencies are set aside for important Federal agency use, such as by the Federal Aviation Administration for aeronautical radar systems.<sup>37</sup> Section 15.205 of the Commission's rules lists restricted frequency bands in which only spurious emissions are permitted and no other operations are allowed. The AV transmitter models marketed by HobbyKing that can operate on restricted frequencies can never be certified or marketed within the United States, and consequently cannot come into compliance with our rules.<sup>38</sup>

11. In addition, Section 97.215(c) of the Commission's rules limits transmitter power for telecommand of model craft under an amateur license to 1 Watt (or 1000mW),<sup>39</sup> yet three of HobbyKing's AV transmitter models are marketed as operating at 1500mW or even 2000mW — as much as twice the allowed power under the Commission's rules.<sup>40</sup> Thus, these three AV transmitter models

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it is a violation of the Commission's regulations to market in the United States a transmitter that is designed or intended to operate on frequencies outside of the authorized amateur radio service bands if such equipment has not been issued a grant of equipment certification").

<sup>34</sup> This includes devices on the HobbyKing website that are indicated as capable of operating on frequencies including 5.35-5.47 GHz, which are allocated for Federal use and not for unlicensed use. *See* 47 CFR §§ 2.102, 2.106; *see also* Appendix A, devices with SKUs 649000007-0, 568000026-0, 867000001-0. It also includes devices capable of operating in the frequencies 5.60-5.65 GHz that are not also capable of dynamic frequency selection (DFS), which is required for that band. *See* 47 CFR §§ 2.102, 2.106, 15.407(h). The website for the devices that operate where DFS is required contains no indication that the device is capable of such operation. *See e.g.*, Appendix A, device with SKU 544000023-0.

<sup>35</sup> *See e.g.*, Federal Aviation Administration, *Spectrum Engineering & Policy - Radio Frequency Bands Supporting Aviation*, [https://www.faa.gov/about/office\\_org/headquarters\\_offices/ato/service\\_units/techops/safety\\_ops\\_support/spec\\_management/engineering\\_office/rfb.cfm](https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/safety_ops_support/spec_management/engineering_office/rfb.cfm) (last visited March 8, 2018).

<sup>36</sup> 47 CFR § 15.205(a). This section prohibits operations in these bands and only permits spurious emissions in the restricted frequency bands. Section 2.1 of the Commission's rules, 47 CFR § 2.1, defines spurious emissions as "[e]missions on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions."

<sup>37</sup> *See supra* note 35.

<sup>38</sup> *Iftron Techs*, 24 FCC Rcd at 8804, para. 5 ("because this device was capable of operation on a restricted frequency listed in Section 15.205(a) of the Commission's rules, the device could not comply with the FCC's technical standards and therefore could not be certified or marketed within the United States.") (footnote omitted).

<sup>39</sup> 47 CFR § 97.215(c) (transmitter power must not exceed 1 Watt when using an amateur station to control model craft).

<sup>40</sup> *See* Appendix A (models with SKUs 544000004-0, 544000009-0, 568000011-0).

operate at higher power levels than allowed under the amateur rules also making them noncompliant, even if they were to operate solely on amateur frequencies.<sup>41</sup>

12. HobbyKing does not deny the operating parameters of the AV transmitters that it markets on its website, including that the uncertified AV transmitters can operate on non-amateur frequencies and at unlawful power levels.<sup>42</sup> The Company instead claims that it does not market its devices to U.S. customers.<sup>43</sup> Substantial evidence in the record indicates, however, that HobbyKing markets its devices to customers in the United States.<sup>44</sup> In addition to the evidence presented above, HobbyKing posted on the HobbyKing.com Instagram account, “Wishing our US customers a very happy Independence Day!” on July 3, 2017.<sup>45</sup> HobbyKing also admitted in patent litigation in 2015 that it marketed its products in the United States via HobbyKing.com.<sup>46</sup> Finally, a public filing from the American Radio Relay League (ARRL) stated that an ARRL member was able to purchase two AV transmitters from HobbyKing, including having the devices shipped to a U.S. address.<sup>47</sup> Individually and taken together, HobbyKing’s many admissions in this investigation, in other litigation, and on its website, combined with other record evidence, shows that HobbyKing markets its noncompliant devices in the United States to U.S. customers. Moreover, the fact that HobbyKing may ship its noncompliant devices from overseas to customers in the U.S. does not exempt it from the Act or the Commission’s marketing rules. Section 302(b) of the Act and Section 2.803 of the Commission’s rules applies to HobbyKing regardless of the origin of the noncompliant device.<sup>48</sup>

13. Further, we are unpersuaded by HobbyKing’s attempt to shift its compliance obligation to its customers by claiming its website warns that users must be aware of local laws prior to purchase.<sup>49</sup> Simply put, the Act and the Commission’s equipment marketing and technical rules place a compliance

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<sup>41</sup> These three models are distinct from the twelve models capable of operating on restricted frequencies. *See supra* para. 10.

<sup>42</sup> LOI Response, attachment.

<sup>43</sup> LOI Response at 5.

<sup>44</sup> *See* para. 2 *supra*.

<sup>45</sup> HobbyKing Instagram, available at <https://www.instagram.com/p/BWGwOIehbad/?taken-by=hobbyking> (last visited March 8, 2018).

<sup>46</sup> *See Traxxas LP v. HobbyKing Corp. d/b/a HobbyKing and HobbyKing.com, and ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com*, Amended Answer, Doc. No. 44, 2:14-cv-01005-RSP (E.D. Tex. June 1, 2015). As Defendants in patent litigation, the HobbyKing companies admitted doing business in the state of Texas (paras. 2, 3); admitted that the companies “offer for sale and sell their products through their online website and their own distribution facilities in the United States” (para. 28); “admit[ted] doing business through the website [www.hobbyking.com](http://www.hobbyking.com) and admit[ted] that HobbyKing products can be purchased in the Eastern District of Texas” (para. 29); and “admit[ted] directly shipping, distributing, offering for sale, selling and advertising their products in the United States, within the State of Texas and in the Eastern District of Texas” (para. 30).

<sup>47</sup> Letter and attachment from Christopher D. Imlay, General Counsel, ARRL, to Ricardo Durham, Deputy Chief, Spectrum Enforcement Division, FCC Enforcement Bureau, available at <http://www.arrl.org/files/media/News/Drone%20Video%20Transmitter%20Complaint%20FINAL-%202001%2011%202017.pdf> (Jan. 11, 2017) (ARRL Complaint). ARRL’s member purchased the two AV transmitters based on HobbyKing’s website that listed non-amateur frequencies for the devices, and after testing the devices, at least one operated on non-amateur frequencies. *Id.* at 6-7. While we do not find a violation based on the ARRL testing, the shipment to the U.S. is further evidence that HobbyKing does market and sell its products to U.S. customers.

<sup>48</sup> *New Generation*, 26 FCC Rcd at 9471 (Canadian company advertising and selling noncompliant products to U.S. customers via its website violated Section 302(b) of the Act and Section 2.803 of the Commission’s rules).

<sup>49</sup> LOI Response at 5. Moreover, the Division observed that the websites of many of the noncompliant models contained no disclaimer of any sort.



burden directly on the device marketer.<sup>50</sup> A cautionary note on a company's website in no way absolves a company from its obligation not to market noncompliant devices.<sup>51</sup>

14. In sum, HobbyKing has apparently continuously marketed noncompliant radio frequency devices in the United States, even after receiving the Marketing Citation in 2016, within the last year.<sup>52</sup> The AV transmitters marketed by HobbyKing are not certified or otherwise authorized, and apparently operate outside of the permissible amateur bands, some on restricted frequencies. These noncompliant AV transmitters threaten government operations and public safety. Some apparently can also operate above permitted power levels. Accordingly, we find that HobbyKing unlawfully marketed in the United States noncompliant AV transmitters on its website in apparent violation of Section 302 of the Act and Section 2.803 of the Commission's rules.

**B. HobbyKing Apparently Failed to Comply with Commission Orders by Failing to Respond to a Bureau LOI and a Bureau Citation**

15. HobbyKing also apparently willfully and repeatedly violated Commission orders by failing to respond to the LOI and by failing to respond to the LOI Citation.<sup>53</sup> The Commission's authority to conduct investigations and to compel entities to provide information and documents sought during investigations is well-established.<sup>54</sup> Section 403 of the Act grants the Commission "full authority and power to institute an inquiry, on its own motion . . . relating to the enforcement of any of the provisions of this Act."<sup>55</sup> The Commission has broad investigatory authority and has repeatedly taken enforcement

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<sup>50</sup> Operators of noncompliant devices may still face enforcement action for violations of the Commission's technical rules, *see e.g.*, 47 CFR § 15.1, and operation of amateur equipment without an amateur license may subject the user to enforcement action for violations of the Commission's amateur rules, *see e.g., id.* § 97.5.

<sup>51</sup> We observe that the Bureau has also rejected similar arguments in the past, finding that a website disclaimer was "insufficient and misleading" because it "failed to disclose that entities offering unauthorized devices are also violating the Communications Act and the [Commission's r]ules." *New Generation*, 26 FCC Rcd at 9471-72 (finding a Canadian company advertising and selling noncompliant products to U.S. customers via its website violated Section 302(b) of the Act and Section 2.803 of the Commission's rules "and its use of a disclaimer [did] not absolve it of liability").

<sup>52</sup> The Division observed and captured a screenshot from HobbyKing's website for each of the 65 models listed in Appendix A on dates in September and October 2017 showing marketing within the last twelve months. On May 15, 2018, the Division reviewed HobbyKing.com and observed HobbyKing continuing to market all but three of the devices. Further research by the Division revealed that those three devices, for which the Division had screenshots showing HobbyKing engaged in unlawful marketing on September 15, 2017, were also being marketed by HobbyKing on October 4, 2017, evidencing continuing unlawful marketing that occurred within the last year. Those three devices are listed in Appendix A as: Fatshark 1.3Ghz 1G3 8CH 250mw FPV Transmitter / 253000082-0; Diatone SP Series 5.8GHz 48CH Video Transmitter w/Variable RF Output / 366000223-0; and Skyzone SKY-H01 HD FPV/Action Camera and 400mW 40 Channel Transmitter / 544000025-0.

<sup>53</sup> Following the LOI Citation, HobbyKing is subject to a Notice of Apparent Liability for its continued failure to fully respond to the LOI. *See supra* note 26.

<sup>54</sup> Section 4(i) authorizes the Commission to "issue such orders, not inconsistent with this Act as may be necessary in the execution of its functions." 47 U.S.C. § 154(i). Section 4(j) states that "[t]he Commission may conduct its proceedings in such manner as will best conduce to the proper dispatch of business and to the ends of justice." 47 U.S.C. § 154(j). Section 403 grants the Commission both the authority to institute inquiries and "the power to make and enforce any order or orders" relating to its inquiries into compliance with the Act. 47 U.S.C. § 403. Section 0.111(a)(17) of the Commission's rules delegates this authority to the Bureau. 47 CFR § 0.111(a)(17) (granting the Enforcement Bureau the authority to "[i]dentify and analyze complaint information, conduct investigations, conduct external audits and collect information, including pursuant to sections 218, 220, 308(b), 403 and 409(e) through (k) of the Communications Act, in connection with complaints, on its own initiative or upon request of another Bureau or Office.").

<sup>55</sup> 47 U.S.C. § 403; *see, e.g., Lyca Tel, LLC*, Memorandum Opinion and Order, 31 FCC Rcd 12125 (2016).



action against entities that disregard orders to provide information related to potential violations.<sup>56</sup> The Bureau similarly has been delegated by the Commission authority to “conduct investigations . . . on its own initiative” of potential violations of the Act or the Commission’s rules.<sup>57</sup>

16. Companies that receive LOIs must timely file complete and accurate responses to the Bureau’s questions. Failure to timely and fully respond to the Bureau’s inquiries violates the Act.<sup>58</sup> The Commission has repeatedly taken enforcement action against entities that disregard orders to provide information related to potential violations of the Act or the Commission’s rules.<sup>59</sup>

17. HobbyKing failed to fully respond to the LOI and failed to respond at all to the LOI Citation.<sup>60</sup> As explained in the LOI Citation, HobbyKing was offered many opportunities to respond to the LOI and refused to do so.<sup>61</sup> After granting an initial extension to answer the LOI, the Division provided two additional opportunities to HobbyKing to submit a complete response to the LOI.<sup>62</sup> The complete response was due June 30, 2017, and HobbyKing provided no further information.<sup>63</sup> Following the issuance of the LOI Citation, and after being ordered to respond to the LOI, HobbyKing still failed to

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<sup>56</sup> See *Net One Int’l, Net One, LLC, Farrahtel Int’l, LLC*, Forfeiture Order, 29 FCC Rcd 264, 267, para. 9 (EB 2014), *recons. denied*, Memorandum Opinion and Order, 30 FCC Rcd 1021 (EB 2015); *Hilton Worldwide Holdings, Inc.*, Notice of Apparent Liability for Forfeiture and Order, 30 FCC Rcd 12284, 12289, para. 17 (EB 2015) (citing *SBC Commc’ns, Inc.*, Forfeiture Order, 17 FCC Rcd 7589, 7599-7600, paras. 23-28 (2002); *AllCom*, Notice of Apparent Liability for Forfeiture and Order, 25 FCC Rcd 9124, 9126-27, paras. 6-10 (EB 2010); *Digital Antenna, Inc.*, Notice of Apparent Liability for Forfeiture and Order, 23 FCC Rcd 7600, 7601-02, paras. 6-8 (EB 2008), *consent decree ordered*, Order and Consent Decree, 28 FCC Rcd 12587 (EB 2013)).

<sup>57</sup> 47 CFR § 0.111(a)(17); see 47 U.S.C. § 155(c)(3) (“Any order . . . or action made or taken pursuant to any [ ] delegation . . . shall have the same force and effect . . . and [be] enforced in the same manner, as orders . . . of the Commission.”).

<sup>58</sup> See 47 U.S.C. §§ 154(i), 154(j), 403, 503(b)(1)(B); *SBC*, 17 FCC Rcd at 7599-600, paras. 23-28; *Message Commc’ns, Inc.*, Notice of Apparent Liability for Forfeiture, 29 FCC Rcd 8214, 8216-17, paras. 9-12 (EB 2014); *Calling Post Commc’ns, Inc.*, Notice of Apparent Liability for Forfeiture, 29 FCC Rcd 8208, 8210-11, paras. 8-11 (EB 2014); *Digital Antenna*, 23 FCC Rcd at 7602-03, paras. 8-11.

<sup>59</sup> See, e.g., *SBC Commc’ns, Inc.*, Forfeiture Order, 17 FCC Rcd 7589, 7599-7600, paras. 23-28 (2002) (*SBC*) (target violated a Commission Order when it failed to provide a sworn verification to a letter of inquiry issued by the Enforcement Bureau); *Net One Int’l, Net One, LLC, Farrahtel Int’l, LLC*, Forfeiture Order, 29 FCC Rcd 264, 267, para. 9 (EB 2014) (*Net One*) (target violated a Commission Order when it provided an incomplete response to a letter of inquiry issued by the Enforcement Bureau), *recons. denied* Memorandum Opinion and Order, 30 FCC Rcd 1021 (EB 2015); *AllCom*, Notice of Apparent Liability for Forfeiture and Order, 25 FCC Rcd 9124, 9126-27, paras. 6-10 (EB 2010) (target violated a Commission Order when it provided no response to a letter of inquiry issued by the Enforcement Bureau); *Digital Antenna, Inc.*, Notice of Apparent Liability for Forfeiture and Order, 23 FCC Rcd 7600, 7601-02, paras. 6-8 (EB 2008), Order and Consent Decree, 28 FCC Rcd 12587 (EB 2013) (target violated a Commission Order when it provided incomplete responses to letter of inquiries issued by the Enforcement Bureau and provided no sworn verification supporting its incomplete responses).

<sup>60</sup> See, e.g., *SBC*, 17 FCC Rcd at 7591, para. 5; see also 47 U.S.C. § 416(c) (“It shall be the duty of every person, its agent and employees . . . to observe and comply with [Commission] orders so long as the same shall remain in effect.”); 47 U.S.C. § 408 (Commission orders “shall continue in force for the period of time specified in the order or until the Commission or a court of competent jurisdiction issues a superseding order.”); *Midcontinent Commc’ns, Inc.*, Notice of Apparent Liability for Forfeiture and Order, 24 FCC Rcd 976, 978, para. 7 (EB 2009) (“[t]he Commission has broad investigatory authority, and Midcontinent is obligated to respond to our inquiries, even if it believes them to be outside the Commission’s authority.”); *World Commc’ns Satellite Sys., Inc.*, Notice of Apparent Liability for Forfeiture, 18 FCC Rcd 18545, 18546-18547, para. 5 (EB 2003) (“parties are required to comply with Bureau orders even if they believe them to be outside the Commission’s authority”).

<sup>61</sup> LOI Citation, 32 FCC Rcd at 7301-02, paras. 4-5.

<sup>62</sup> *Id.*; see also *supra*. notes 13-15.

<sup>63</sup> *Id.*

provide a complete response, and failed to provide any response to the LOI Citation, which separately required HobbyKing to respond to the LOI questions.<sup>64</sup> HobbyKing's response to the LOI Citation was due by October 17, 2017, but it did not respond.<sup>65</sup>

18. HobbyKing objected to providing a complete response to the LOI, claiming that it does not market in the United States and requesting assurances that it is not the only company under investigation.<sup>66</sup> These objections are spurious and do not excuse HobbyKing's failure to provide a full response to the LOI or the LOI Citation.<sup>67</sup> The Commission has consistently held that, objections notwithstanding, entities must provide timely and complete responses to an Enforcement Bureau inquiry.<sup>68</sup> Accordingly, we find that HobbyKing apparently willfully and repeatedly violated a Commission order by failing to respond to the Bureau LOI and by failing to respond to the LOI Citation.

### C. Proposed Forfeiture

19. Section 503(b) of the Act authorizes the Commission to impose a forfeiture against any entity that "willfully or repeatedly fail[s] to comply with any of the provisions of [the Act] or of any rule, regulation, or order issued by the Commission."<sup>69</sup> Here, Section 503(b)(2)(D) of the Act authorizes us to assess a forfeiture against HobbyKing of up to \$19,639 for each day of a continuing violation, up to a statutory maximum of \$147,290 for a single act or failure to act.<sup>70</sup> In exercising our forfeiture authority, we must consider the "nature, circumstances, extent, and gravity of the violation and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and such other matters as justice may require."<sup>71</sup> In addition, the Commission has established forfeiture guidelines; they establish base penalties for certain violations and identify criteria that we consider when determining the

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<sup>64</sup> See *supra* note 16.

<sup>65</sup> *Id.*

<sup>66</sup> See *supra* para. 5. As explained above, HobbyKing was marketing in the U.S. See *supra* para. 12.

<sup>67</sup> As noted above, the LOI Citation ordered HobbyKing, for the second time, to respond to certain questions initially posed in the LOI. See *supra* para 5.

<sup>68</sup> See *supra* note 60. Despite HobbyKing's obstruction, the Commission was able to determine that HobbyKing was marketing a significant number of AV transmitters as described in the section above. The Commission reserves the right to issue a further Notice of Apparent Liability against HobbyKing should further information come to light regarding additional noncompliant equipment being marketed by HobbyKing.

<sup>69</sup> 47 U.S.C. § 503(b). Section 312(f)(1) and (2) of the Act defines "willful" as "the conscious and deliberate commission or omission of [any] act, irrespective of any intent to violate" the law, and defines "repeated" as "the commission or omission of such act more than once or, if . . . continuous, for more than one day." 47 U.S.C. § 312(f)(1) and (2). The legislative history of Section 312(f)(1) and (2) clarifies that the definitions of willful and repeated applies to both Sections 312 and 503(b) of the Act. See H.R. Rep. No. 97-765, 97<sup>th</sup> Cong. 2d Sess. 51 (1982). Consistent with the legislative history, the Commission has so interpreted the terms in the Section 503(b) context. See, e.g., *S. Cal. Broad. Co.*, Memorandum Opinion and Order, 6 FCC Rcd 4387, 4388, para. 5 (1991); *recons. denied*, 7 FCC Rcd 3454 (1992). The marketing of the equipment at issue here was conscious and deliberate and occurred for more than one day as well as with respect to more than one model and, thus, satisfies the definitions of willful and repeated.

<sup>70</sup> See 47 U.S.C. § 503(b)(2)(D); 47 CFR § 1.80(b)(7). This proposed forfeiture amount reflects inflation adjustments effective as of the date of this Notice of Apparent Liability to the amounts specified in Section 503(b)(2)(D) of \$10,000 for each violation or each day of a continuing violation and \$75,000 for any single act or failure to act. See 47 CFR § 1.80(b)(9); *Amendment of Section 1.80(b) of the Commission's Rules, Adjustment of Civil Monetary Penalties to Reflect Inflation*, Order, 33 FCC Rcd 46 (EB 2018); see also *Adjustment of Civil Monetary Penalties to Reflect Inflation*, 83 Fed. Reg. 4600 (Feb. 1, 2018).

<sup>71</sup> 47 U.S.C. § 503(b)(2)(E).

appropriate penalty in any given case.<sup>72</sup> Under these guidelines, we may adjust a forfeiture upward for violations that are egregious, intentional, or repeated, or that cause substantial harm or generate substantial economic gain for the violator.<sup>73</sup>

20. When individuals who are not themselves holders of (or applicants for) any form of Commission authorization and whose violations do not involve conduct for which such authorization is necessary, the Commission must issue a citation warning them of the violation charged before imposing monetary penalties.<sup>74</sup> If such persons subsequently engage “in conduct of the type described in [the] citation,” the Commission can issue an NAL proposing a forfeiture.<sup>75</sup> In assessing such forfeitures, the Commission may consider both the conduct that led to the citation and the conduct following it.<sup>76</sup> Here, HobbyKing does not appear to hold a license and it was not clear whether HobbyKing was the manufacturer of the noncompliant devices at issue; thus, in an abundance of caution, the Division issued both the Marketing Citation and the LOI Citation to HobbyKing.<sup>77</sup> Because HobbyKing subsequently engaged in the same type of conduct that led to both citations—marketing noncompliant devices and failing to fully respond to the LOI—an NAL against HobbyKing is now appropriate.

21. Section 1.80(b) of the Commission’s rules sets a base forfeiture of \$7,000 for marketing of unauthorized equipment for each violation or each day of a continuing violation.<sup>78</sup> HobbyKing has been marketing 65 different noncompliant AV transmitter models during the statute of limitations period.<sup>79</sup> Accordingly, for HobbyKing’s equipment marketing violations, we propose a total base forfeiture of \$455,000.

22. In addition, given the totality of the circumstances, and consistent with the *Forfeiture Policy Statement*, we conclude that significant upward adjustments are warranted for HobbyKing’s apparent (i) repeated and continuous violations, (ii) intentional marketing of devices that cannot be authorized, and for a subset of the devices (iii) egregious threats to public safety.<sup>80</sup> First, HobbyKing has been apparently repeatedly and continuously marketing these noncompliant devices since at least as far

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<sup>72</sup> 47 CFR § 1.80(b)(8), Note to paragraph (b)(8).

<sup>73</sup> *Id.*

<sup>74</sup> See 47 U.S.C. § 503(b)(5).

<sup>75</sup> *Id.*

<sup>76</sup> See S. Rep. No. 95-580, 95th Cong., 1st Sess. at 9 (1977) (“If a person or entity that has been issued a citation by the Commission thereafter engages in the conduct for which the citation of violation was sent, the subsequent notice of apparent liability ‘would attach not only for the conduct occurring subsequently but also for the conduct for which the citation was originally sent.’”) (emphasis added); see also *Dialing Servs., LLC*, Forfeiture Order, 32 FCC Rcd 6192, 6205, para. 35 (2017) (“There is no question that the Commission may take into account violations that occurred before a citation was issued when the cited person or entity thereafter engages in the same unlawful conduct.”). In *Dialing Services*, the Commission affirmed an upward adjustment based on unlawful activity that occurred prior to the citation issued in that case. *Id.*, 32 FCC Rcd at 6204-05, para. 33-35.

<sup>77</sup> Additionally, as explained above, HobbyKing is apparently the manufacturer of some of the noncompliant equipment. See *supra* note 26.

<sup>78</sup> 47 CFR § 1.80(b); see *Behringer USA, Inc.*, Notice of Apparent Liability for Forfeiture and Order, 21 FCC Rcd 1820, 1826, para. 19 (2006) (forfeiture paid); *C.T.S. Technology Co., Limited*, Notice of Apparent Liability for Forfeiture and Order, 29 FCC Rcd 8107, 8112, para. 14 (2014), Forfeiture Order, 31 FCC Rcd 6126 (2016).

<sup>79</sup> Based on HobbyKing’s website, each of the 65 noncompliant models listed in Appendix A appears to be a unique device that would require HobbyKing to obtain a separate equipment authorization for each model.

<sup>80</sup> *The Commission’s Forfeiture Policy Statement and Amendment of Section 1.80 of the Rules to Incorporate the Forfeiture Guidelines*, Report and Order, 12 FCC Rcd 17087 (1997) (*Forfeiture Policy Statement*), *recons. denied*, Memorandum Opinion and Order, 15 FCC Rcd 303 (1999); 47 CFR § 1.80(b)(8) (upward adjustment criteria include the following: egregious misconduct; ability to pay/relative disincentive; intentional violation; substantial harm; prior violations; substantial economic gain; and repeated or continuous violation).

back as 2015.<sup>81</sup> The original investigation commenced in 2015 and a Letter of Inquiry was sent in January 2016 based on information of noncompliant marketing going back to 2015. Since that initial Letter of Inquiry in 2016, HobbyKing has had ample time and opportunity to re-evaluate the RF products it has been marketing. Nevertheless, HobbyKing continued to market noncompliant devices, even after receiving the Marketing Citation in November 2016.<sup>82</sup> Second, HobbyKing also apparently intentionally marketed these noncompliant devices that could not be certified given their operating parameters. As the Commission has previously found, marketing devices that are not capable of being certified warrants an upward adjustment.<sup>83</sup>

23. Third, the marketing of 15 models appears to have been egregious. As explained above,<sup>84</sup> HobbyKing's continued marketing of twelve AV transmitter models that can operate on restricted frequencies and threaten to interfere with critical Federal Aviation Administration systems and other federal operations is especially egregious considering that our rules safeguard public safety by prohibiting any type of transmission in the restricted frequencies and only allow spurious emissions from operations in other frequencies.<sup>85</sup> Additionally, the three AV transmitter models that can operate at higher power levels than allowed by the rules threatens government and public safety operations, such as doppler

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<sup>81</sup> Cf. *Presidential Who's Who DBA Presidential Who's Who, Inc.*, Notice of Apparent Liability for Forfeiture, 26 FCC Rcd 8989, 8994, paras. 12-13 (2011) (103% upward adjustment where company continued violative conduct "deliberately, given its disregard for the Commission's previous warnings" after the company received a citation and notices of apparent liability), Forfeiture Order, 29 FCC Rcd 3451 (2014); *Rocky Mountain Radar*, Notice of Apparent Liability for Forfeiture, 22 FCC Rcd 1334, 1339, para. 14 (EB 2007) (upward adjustment where company continued marketing noncompliant devices following a citation and failed challenge of the citation at the Commission and 10th Circuit Court of Appeals), Forfeiture Order, 22 FCC Rcd 15174 (EB 2007); *Ramko Distributors Inc.*, Notice of Apparent Liability for Forfeiture, 22 FCC Rcd 7161, 7169, para. 23 (2007) (upward adjustment where company continued marketing noncompliant devices following a citation); *Pilot Travel Centers, LLC*, Notice of Apparent Liability for Forfeiture, 19 FCC Rcd 23113, 23117, para. 17 (2004) (upward adjustment where company continued marketing noncompliant devices following nine citations and devices had the potential to interfere with authorized devices), Order and Consent Decree, 21 FCC Rcd 5308 (2006).

<sup>82</sup> See Marketing Citation, 31 FCC Rcd at 12581-82, paras. 3-4 (HobbyKing's noncompliant marketing goes back to at least the beginning of 2016); *San Jose*, 21 FCC Rcd at 2877-78, para. 15 (upward adjustment appropriate where noncompliant marketing was continuous in nature, occurring over a three-year period).

<sup>83</sup> *San Jose*, 21 FCC Rcd at 2877-78, para. 15 (upward adjustment appropriate where devices could not be certified). Unlicensed devices capable of operating on restricted frequencies cannot be certified. See *supra* para. 10. For the remainder of the unlicensed devices, certification does not appear possible given the operating parameters, which include operation in bands for which certification is not possible and/or no capability for dynamic frequency selection (if the device is capable of operating in 5.25–5.35 GHz and/or 5.47–5.725 GHz). See 47 CFR §§ 2.102, 2.106, 15.407(h)(2).

<sup>84</sup> See *supra* para. 9-10.

<sup>85</sup> *Towerstream Corp.*, Notice of Apparent Liability for Forfeiture and Order, 28 FCC Rcd 11604, 11614, para. 29 (2013) (proposed forfeitures upwardly adjusted over 100 percent to the statutory maximum for target's "blatant disregard for Commission authority and the consequent harm to public safety"), Order and Consent Decree, 31 FCC Rcd 8530 (EB 2016); *Pilot Travel Centers*, 19 FCC Rcd at 23117, para. 17 (upward adjustment where company continued marketing noncompliant devices following nine citations and devices had the potential to interfere with authorized users); *San Jose Navigation, Inc.*, Notice of Apparent Liability for Forfeiture, 21 FCC Rcd 2873, 2877-78, para. 15 (2006) (upward adjustment because the noncompliant devices being marketed "intentionally emit signals in restricted frequency bands, potentially interfering with and jeopardizing critical authorized safety-of-life operations .... [the] apparent violations were continuous in nature, occurring over a three-year period .... the volume of unauthorized devices distributed .... and the fact that the devices are not capable of being certified in any event"), Forfeiture Order, 22 FCC Rcd 1040 (2007), Order and Consent Decree, 26 FCC Rcd 1494 (2010); *Callais Cablevision, Inc.*, Notice of Apparent Liability for Forfeiture, 16 FCC Rcd 1359, 1362-63, para. 11 (2001) (upwardly adjusting a forfeiture approximately 125 percent based on a finding that a cable system's signal leakage violations increased the likelihood of interference with aeronautical frequencies and potentially jeopardized air safety), Forfeiture Order, 17 FCC Rcd 22626 (2002).

weather radar, and other operations.<sup>86</sup> Thus, we believe these 15 models should be subject to further upward adjustment to the highest forfeiture allowed, the \$147,290 statutory maximum.

24. In sum, we propose to upwardly adjust the forfeiture for 50 apparent equipment marketing violations by \$262,500 (*i.e.*, \$5,250 x 50 models), resulting in a proposed forfeiture of \$612,500 for these models. For the 15 models that also threaten public safety operations, we propose to upwardly adjust to the statutory maximum of \$147,290 for a continuing violation for each model, resulting in a proposed forfeiture of \$2,209,350 (*i.e.*, \$147,290 x 15 models) for those 15 apparent violations.<sup>87</sup> Thus, the overall proposed forfeiture, base plus upward adjustments, for the apparent equipment marketing violations is \$2,821,850.

25. For HobbyKing's apparent failure to fully respond to the LOI and to the LOI Citation, Section 1.80(b) of the Commission's rules sets a base forfeiture amount of \$4,000 for each violation or each day of a continuing violation.<sup>88</sup> We believe HobbyKing's failure to fully respond to the LOI and failure to respond at all to the LOI Citation are subject to upward adjustments for egregiousness.<sup>89</sup> "Prompt and full responses to Bureau inquiry letters are essential to the Commission's enforcement function."<sup>90</sup> HobbyKing's obstruction delayed the Bureau's investigation and caused the Division to expend resources reviewing in detail each of the AV transmitters listed on HobbyKing.com, instead of having the information provided directly by HobbyKing as required. The Division also provided HobbyKing several opportunities to respond. Despite repeated opportunities and warnings, HobbyKing has yet to provide a complete response to the LOI and has ignored the LOI Citation. A higher proposed forfeiture is thus appropriate given the extent of HobbyKing's apparent violations and is consistent with our precedent.<sup>91</sup> As such, we propose an upward adjustment to the statutory maximum for an individual, non-continuing, violation of \$19,639 for each of the two apparent violations stemming from HobbyKing's failure to fully respond to the LOI and failure to provide any response to the LOI Citation, resulting in an overall proposed forfeiture of \$39,278 for the two apparent violations.

26. In applying the applicable statutory factors, we also consider whether there is any basis to downward adjust the proposed forfeiture. Here, we find none. Therefore, after applying the *Forfeiture Policy Statement*, Section 1.80 of the Commission's rules, and the statutory factors, we propose a total forfeiture of \$2,861,128, for which HobbyKing is apparently liable.

27. Given the continuing nature of HobbyKing's violations, and pursuant to Section 403 of the Act,<sup>92</sup> we require HobbyKing to submit an affidavit, signed by an officer or director of the licensee, to the Enforcement Bureau within 30 days of the release of this NAL, stating whether it has complied with Sections 302(b) of the Act and Section 2.803(a) of the Commission's rules with respect to each model

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<sup>86</sup> See *e.g.*, *supra* note 35. For example, overpowered, uncertified AV transmitters operating in 5645 MHz threaten FAA doppler weather radar systems when DFS capabilities are not included, even if that frequency is otherwise not a restricted frequency. *Id.*; see also 47 CFR § 2.106. Overpowered, uncertified AV transmitters capable of operating in the 5850-5925 MHz range threaten military radiolocation operations, and other federal radar uses. See *id.*, note G2.

<sup>87</sup> The Division observed marketing of the 65 models listed in Appendix A on HobbyKing's website within the last twelve months for multiple days.

<sup>88</sup> 47 CFR § 1.80(b).

<sup>89</sup> See *Fox Television Stations, Inc.*, Notice of Apparent Liability for Forfeiture, 25 FCC Rcd 7074, 7081, para. 15 (EB 2010) ("Misconduct of this type exhibits contempt for the Commission's authority and threatens to compromise the Commission's ability to adequately investigate violations of its rules.")

<sup>90</sup> *Id.*

<sup>91</sup> See, *e.g.*, *Neon Phone Service, Inc.*, Notice of Apparent Liability for Forfeiture, 32 FCC Rcd 7964, 7974-75, para. 24 (2017) (upward adjustment from \$4,000 to \$25,000 for egregiousness and intent); *Fox*, 25 FCC Rcd at 7081, paras. 15-16 (adjusted from \$4,000 to \$25,000 for egregiousness).

<sup>92</sup> 47 U.S.C. § 403.

which it is currently marketing in the United States, and if not, providing its plans for full compliance. HobbyKing's failure to submit the affidavit, or failure to comply with the applicable equipment requirements, may subject the company to further enforcement action.

#### IV. CONCLUSION

28. We have determined that HobbyKing apparently willfully and repeatedly violated Section 302 of the Act and Section 2.803 of the Commission's rules and violated Commission orders by failing to fully respond to the LOI. As such, HobbyKing is apparently liable for a forfeiture of \$2,861,128.

#### V. ORDERING CLAUSES

29. Accordingly, **IT IS ORDERED** that, pursuant to Section 503(b) of the Act<sup>93</sup> and Sections 1.80 of the Commission's rules,<sup>94</sup> ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and Indubitably, Inc. d/b/a HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com is hereby **NOTIFIED** of this **APPARENT LIABILITY FOR A FORFEITURE** in the amount of two million, eight hundred sixty-one thousand, and one hundred and twenty-eight dollars (\$2,861,128) for willful and repeated violations of Section 302 of the Act;<sup>95</sup> Section 2.803 of the Commission's rules;<sup>96</sup> and Commission orders.<sup>97</sup>

30. **IT IS FURTHER ORDERED** that, pursuant to Section 1.80 of the Commission's rules,<sup>98</sup> within thirty (30) calendar days of the release date of this Notice of Apparent Liability for Forfeiture, ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and Indubitably, Inc. d/b/a HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com **SHALL PAY** the full amount of the proposed forfeiture or **SHALL FILE** a written statement seeking reduction or cancellation of the proposed forfeiture consistent with paragraph 33 below.

31. Payment of the forfeiture must be made by check or similar instrument, wire transfer, or credit card, and must include the NAL/Account Number and FRN referenced above. ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and Indubitably, Inc. d/b/a HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com shall send electronic notification of payment to Jason Koslofsky at Jason.Koslofsky@fcc.gov, Ricardo Durham at Ricardo.Durham@fcc.gov, and EB-SED-Response@fcc.gov on the date said payment is made. Regardless of the form of payment, a completed FCC Form 159 (Remittance Advice) must be submitted.<sup>99</sup> When completing the FCC Form 159, enter the Account Number in block number 23A (call sign/other ID) and enter the letters "FORF" in block number 24A (payment type code). Below are additional instructions that should be followed based on the form of payment selected:

- Payment by check or money order must be made payable to the order of the Federal Communications Commission. Such payments (along with the completed Form 159) must be mailed to Federal Communications Commission, P.O. Box 979088, St. Louis, MO 63197-9000, or sent via overnight mail to U.S. Bank – Government Lockbox #979088, SL-MO-C2-GL, 1005 Convention Plaza, St. Louis, MO 63101.

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<sup>93</sup> 47 U.S.C. § 503(b).

<sup>94</sup> 47 CFR § 1.80.

<sup>95</sup> 47 U.S.C. § 302a(b).

<sup>96</sup> 47 CFR § 2.803.

<sup>97</sup> See *supra* note 54.

<sup>98</sup> 47 CFR § 1.80.

<sup>99</sup> An FCC Form 159 and detailed instructions for completing the form may be obtained at <http://www.fcc.gov/Forms/Form159/159.pdf>.

- Payment by wire transfer must be made to ABA Number 021030004, receiving bank TREAS/NYC, and Account Number 27000001. To complete the wire transfer and ensure appropriate crediting of the wired funds, a completed Form 159 must be faxed to U.S. Bank at (314) 418-4232 on the same business day the wire transfer is initiated.
- Payment by credit card must be made by providing the required credit card information on FCC Form 159 and signing and dating the Form 159 to authorize the credit card payment. The completed Form 159 must then be mailed to Federal Communications Commission, P.O. Box 979088, St. Louis, MO 63197-9000, or sent via overnight mail to U.S. Bank – Government Lockbox #979088, SL-MO-C2-GL, 1005 Convention Plaza, St. Louis, MO 63101.

32. Any request for making full payment over time under an installment plan should be sent to: Chief Financial Officer—Financial Operations, Federal Communications Commission, 445 12th Street, SW, Room 1-A625, Washington, DC 20554.<sup>100</sup> Questions regarding payment procedures should be directed to the Financial Operations Group Help Desk by phone, 1-877-480-3201, or by e-mail, [ARINQUIRIES@fcc.gov](mailto:ARINQUIRIES@fcc.gov).

33. The written statement seeking reduction or cancellation of the proposed forfeiture, if any, must include a detailed factual statement supported by appropriate documentation and affidavits pursuant to Sections 1.16 and 1.80(f)(3) of the Commission's rules.<sup>101</sup> The written statement must be mailed to the Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554, ATTN: Enforcement Bureau – Spectrum Enforcement Division, and must include the NAL/Account Number referenced in the caption. The statement must also be e-mailed to Jason Koslofsky at [Jason.Koslofsky@fcc.gov](mailto:Jason.Koslofsky@fcc.gov) and Ricardo Durham at [Ricardo.Durham@fcc.gov](mailto:Ricardo.Durham@fcc.gov).

34. The Commission will not consider reducing or canceling a forfeiture in response to a claim of inability to pay unless the petitioner submits: (1) federal tax returns for the most recent three-year period; (2) financial statements prepared according to generally accepted accounting practices; or (3) some other reliable and objective documentation that accurately reflects the petitioner's current financial status. Any claim of inability to pay must specifically identify the basis for the claim by reference to the financial documentation.

35. **IT IS FURTHER ORDERED** that, pursuant to Section 403 of the Act,<sup>102</sup> ABC Fulfillment Services LLC d/b/a HobbyKing USA LLC and HobbyKing.com; and Indubitably, Inc. d/b/a HobbyKing Corp., HobbyKing USA LLC, HobbyKing, and HobbyKing.com must submit the affidavit described in paragraph 27 above, within 30 days from the release of this NAL, to: Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554, ATTN: Jason A. Koslofsky, Enforcement Bureau, Spectrum Enforcement Division.

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<sup>100</sup> See 47 CFR § 1.1914.

<sup>101</sup> 47 CFR §§ 1.16, 1.80(f)(3).

<sup>102</sup> 47 U.S.C. § 403.

36. **IT IS FURTHER ORDERED** that a copy of this Notice of Apparent Liability for Forfeiture shall be sent by first class mail and certified mail, return receipt requested, to Mr. Anthony Hand, Owner and Director, ABC Fulfillment Services LLC, via registered agent Davies Pearson, P.C., P.O. Box 1657, 920 Fawcett Ave, Tacoma, WA 98401-1657; and Mr. Anthony Hand, Owner and Director, Indubitably, Inc. via Corporation Service Company, Registered Agent, 2711 Centerville Rd., Suite 400, Wilmington, DE 19808-1645; and Rebecca Larson, Esq., Davies Pearson, P.C., attorney for ABC Fulfillment Services LLC and Indubitably, Inc., 920 Fawcett Avenue, P.O. Box 1657, Tacoma, Washington 98401-1657.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary



## APPENDIX A

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
900MHZ 800mW Tx/Rx & 1/3-inch CCD Camera NTSC / CN80012RX8T	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: 900, 910, 980, 1010, 1040 MHz	<a href="https://hobbyking.com/en-us/900mhz-800mw-tx-rx-1-3-inch-ccd-camera-ntsc.html">https://hobbyking.com/en-us/900mhz-800mw-tx-rx-1-3-inch-ccd-camera-ntsc.html</a>	Sept. 15, 2017	May 15, 2018
1.2GHz MG-500mW 8ch A/V Wireless Transmitter Module / 429000007-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: 1080, 1120, 1160, 1200, 1010, 1040 MHz	<a href="https://hobbyking.com/en-us/1-2ghz-mg-500mw-8ch-a-v-wireless-transmitter-module.html">https://hobbyking.com/en-us/1-2ghz-mg-500mw-8ch-a-v-wireless-transmitter-module.html</a>	Sept. 17, 2017	May 15, 2018
Fatshark 1.3Ghz 1G3 8CH 250mw FPV Transmitter / 253000082-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: CH1: 1080MHZ; CH2: 1120MHZ; CH3: 1160MHZ; CH4: 1200MHZ; CH7: 1320MHZ; CH8: 1360MHZ	<a href="https://hobbyking.com/en-us/1g3-250mw-tx-8ch.html">https://hobbyking.com/en-us/1g3-250mw-tx-8ch.html</a>	Sept. 15, 2017	Oct. 4, 2017
Fatshark 1.3Ghz 1G3 4CH 250mw FPV Transmitter (EU Channels) / 253000088-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: Ch1: 1080MHZ; Ch2: 1120MHZ; Ch3: 1160MHZ; Ch4: 1200MHZ	<a href="https://hobbyking.com/en-us/1g3-250mw-tx-eu-channels-only-4.html">https://hobbyking.com/en-us/1g3-250mw-tx-eu-channels-only-4.html</a>	Sept. 15, 2017	May 15, 2018
Fat Shark NexWaveRF 1G3 8ch Receiver Module / 253000080-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: CH1:1080MHZ; CH2:1120MHZ; CH3:1160MHZ; CH4:1200MHZ; CH7:1320MHZ; CH8:1360MHZ	<a href="https://hobbyking.com/en-us/1g3-8ch-rx-module.html">https://hobbyking.com/en-us/1g3-8ch-rx-module.html</a>	Sept. 15, 2017	May 15, 2018
1.2GHz Transmitter Signal Booster / 607000002-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies without certification: 950-1400Mhz	<a href="https://hobbyking.com/en-us/1-2ghz-transmitter-signal-booster.html">https://hobbyking.com/en-us/1-2ghz-transmitter-signal-booster.html</a>	Sept. 15, 2017	May 15, 2018
2.4GHz MG-500mW 8ch A/V Transmitter Module / 429000008-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: 2470, 2370, 2490, 2510 MHz.	<a href="https://hobbyking.com/en-us/2-4ghz-mg-500mw-8ch-a-v-transmitter-module.html">https://hobbyking.com/en-us/2-4ghz-mg-500mw-8ch-a-v-transmitter-module.html</a>	Sept. 15, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
ImmersionRC 700mW 2.4GHz Audio/Video Transmitter / 277000019-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: 2470, 2370, 2490, 2510 MHz	<a href="https://hobbyking.com/en_us/immersionrc-700mw-2-4ghz-audio-video-transmitter.html">https://hobbyking.com/en_us/immersionrc-700mw-2-4ghz-audio-video-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
SkyZone TS321 2.4G 500mW FPV Transmitter / 544000016-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: 2370-2510MHz	<a href="https://hobbyking.com/en_us/skyzone-ts321-2-4g-500mw-fpv-transmitter.html">https://hobbyking.com/en_us/skyzone-ts321-2-4g-500mw-fpv-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
OrangeRX DSMX DSM2 Compatible 2.4Ghz Transmitter Module V1.2 (JR/Turnigy/Taranis compatible) / 9171000915-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 2.4 GHz band	<a href="https://hobbyking.com/en_us/orangerx-dsmx-dsm2-compatible-2-4ghz-transmitter-module-v1-2.html">https://hobbyking.com/en_us/orangerx-dsmx-dsm2-compatible-2-4ghz-transmitter-module-v1-2.html</a>	Sept. 15, 2017	May 15, 2018
Boscam 5.8G Pocket FPV Ground Station with DVR / 263000001	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/boscam-5-8g-pocket-fpv-ground-station-with-dvr.html">https://hobbyking.com/en_us/boscam-5-8g-pocket-fpv-ground-station-with-dvr.html</a>	Sept. 15, 2017	May 15, 2018
Lieber 5.8Ghz To WiFi AV Transmitter / 734000001-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/wifi-tx.html">https://hobbyking.com/en_us/wifi-tx.html</a>	Sept. 15, 2017	May 15, 2018
CONNEX ProSight Delay-Free HD FPV Transmitter / 649000007-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: From the User Manual: “The ProSight system operates over the full span of the 5GHz unlicensed band. Ranging from 5150MHz to 5925MHz, the system has a total of 62 different center frequencies to operate on”	<a href="https://hobbyking.com/en_us/rosight-system-tx-no-region.html">https://hobbyking.com/en_us/rosight-system-tx-no-region.html</a>  User manual: <a href="https://hobbyking.com/media/file/705159299X869309X52.pdf">https://hobbyking.com/media/file/705159299X869309X52.pdf</a>	Sept. 15, 2017	May 15, 2018
Quantum ELITE QE58-2 5.8GHz Selectable 25mW - 200mW Wireless AV Transmitter / 9704000004-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-elite-qe58-2-5-8ghz-200mw-wireless-av-transmitter.html">https://hobbyking.com/en_us/quantum-elite-qe58-2-5-8ghz-200mw-wireless-av-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
Quantum ELITE QE58-6 5.8GHz Selectable 25mW - 600mW Wireless AV Transmitter / 9704000005-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-elite-qe58-6-5-8ghz-600mw-wireless-av-transmitter.html">https://hobbyking.com/en_us/quantum-elite-qe58-6-5-8ghz-600mw-wireless-av-transmitter.html</a>	Sept. 15, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
Quantum Elite X40-L 25mW TX with CNC Alloy Case / 9704000006-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/x40-l-25mw-tx-cnc-alloy-cas.html">https://hobbyking.com/en_us/x40-l-25mw-tx-cnc-alloy-cas.html</a>	Sept. 15, 2017	May 15, 2018
Quantum Elite X50-L 25mW TX with CNC Alloy Case / 9704000009-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/x50-l-25mw-tx-cnc-alloy-case.html">https://hobbyking.com/en_us/x50-l-25mw-tx-cnc-alloy-case.html</a>	Sept. 15, 2017	May 15, 2018
Aomway 5.8Ghz Switchable 25/200mW 40CH AV Transmitter / 523000034-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHZ	<a href="https://hobbyking.com/en_us/5-8g-25-200mw-40ch-with-pwm.html">https://hobbyking.com/en_us/5-8g-25-200mw-40ch-with-pwm.html</a>	Sept. 15, 2017	May 15, 2018
Diatone SP1 5.8GHz 40CH 25mW Video Transmitter / 366000219-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/diatone-sp1-25mw-40ch-video-transmitter-sma.html">https://hobbyking.com/en_us/diatone-sp1-25mw-40ch-video-transmitter-sma.html</a>	Sept. 15, 2017	Oct. 4, 2017
Foxeer TM25 5.8G 40CH 25mW Race Band SMA Video Transmitter / 740000031-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/tm25-5-8g-40ch-25mw-race-band-sma.html">https://hobbyking.com/en_us/tm25-5-8g-40ch-25mw-race-band-sma.html</a>	Sept. 15, 2017	May 15, 2018
Foxeer TM25 5.8G 40CH 25mW Race Band RPSMA Video Transmitter / 740000032-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/tm25-5-8g-40ch-25mw-race-band-rpsma.html">https://hobbyking.com/en_us/tm25-5-8g-40ch-25mw-race-band-rpsma.html</a>	Sept. 15, 2017	May 15, 2018
Skyzone SJ-T525 5.8GHz 40CH A/V FPV Transmitter (25mW to 600mW Switchable) / 544000027-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/sj-t525.html">https://hobbyking.com/en_us/sj-t525.html</a>	Sept. 15, 2017	May 15, 2018
Quantum Elite QE66- 25V 5.8GHz 25mW 40ch Wireless AV Transmitter (Vertical SMA Antenna) NTSC/PAL / 9704000014-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-elite-qe66-25v-5-8ghz-25mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html">https://hobbyking.com/en_us/quantum-elite-qe66-25v-5-8ghz-25mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html</a>	Sept. 15, 2017	May 15, 2018
Quantum Elite QE66- 25H 5.8GHz 25mW 40ch Wireless AV Transmitter (Horizontal SMA Antenna) NTSC/PAL / 9704000015-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-elite-qe66-5-8ghz-25mw-40ch-wireless-av-transmitter-raceband-vtx-horizontal-sma-antenna.html">https://hobbyking.com/en_us/quantum-elite-qe66-5-8ghz-25mw-40ch-wireless-av-transmitter-raceband-vtx-horizontal-sma-antenna.html</a>	Sept. 15, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
FT48X 5.8GHz 0.25/25/200/600mW Adjustable FPV Raceband 48ch VTX / 568000026-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: Transmitting frequency: ISM 5.35GHz-5.95GHz 48ch	<a href="https://hobbyking.com/en_us/5-8g-48ch-0-25-25-200-600mw-adjustable-fpv-race-vtx-raceband.html">https://hobbyking.com/en_us/5-8g-48ch-0-25-25-200-600mw-adjustable-fpv-race-vtx-raceband.html</a>	Sept. 15, 2017	May 15, 2018
VM275T 5.8GHz 25mW 48CH NTSC/PAL Mini VTX 600TVL FPV Camera (Cloverleaf Antenna) / 867000001-0	47 U.S.C. § 302a(b); 47 CFR §§ 2.803, 15.205(a). Operation on restricted frequencies and non-amateur frequencies without certification: Frequency: 5362~5945 MHz	<a href="https://hobbyking.com/en_us/vm275t-5-8ghz-25mw-48ch-ntsc-pal-mini-vtx-600tvl-fpv-camera-micro-fpv-cloverleaf-antenna.html">https://hobbyking.com/en_us/vm275t-5-8ghz-25mw-48ch-ntsc-pal-mini-vtx-600tvl-fpv-camera-micro-fpv-cloverleaf-antenna.html</a>	Sept. 15, 2017	May 15, 2018
Diatone SP2 Series 5.8GHz 48CH Video Transmitter w/Variable RF Output / 366000223- 0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/diatone-sp2-series-5-8ghz-48ch-video-transmitter-w-variable-rf-output.html">https://hobbyking.com/en_us/diatone-sp2-series-5-8ghz-48ch-video-transmitter-w-variable-rf-output.html</a>	Sept. 15, 2017	May 15, 2018
Diatone SP3 Series 5.8GHz 48CH Video Transmitter w/OSD and Variable RF Output / 366000224-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/diatone-sp3-series-5-8ghz-48ch-video-transmitter-w-osd-and-variable-rf-output.html">https://hobbyking.com/en_us/diatone-sp3-series-5-8ghz-48ch-video-transmitter-w-osd-and-variable-rf-output.html</a>	Sept. 15, 2017	May 15, 2018
Adjustable Power 25mW / 200mW 5.8GHz 48CH NTSC/PAL Mini VTX FPV Camera Combo (Cloverleaf Antenna) / 867000003-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/adjustable-power-25mw-200mw-48ch-fpv-5-8ghz-wireless-camera.html">https://hobbyking.com/en_us/adjustable-power-25mw-200mw-48ch-fpv-5-8ghz-wireless-camera.html</a>	Sept. 15, 2017	May 15, 2018
Kingkong Q25-Mini 5.8G 25mW 16ch Video Transmitter with 600TVL CMOS 1/4 Micro FPV Camera / 426000080-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHz	<a href="https://hobbyking.com/en_us/q25-mini-vtx-and-camera.html">https://hobbyking.com/en_us/q25-mini-vtx-and-camera.html</a>	Sept. 15, 2017	May 15, 2018
Cheerson CX-95S - 5.8Ghz FPV 600TVL Camera / 451000062-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/5-8g-fpv-camera.html">https://hobbyking.com/en_us/5-8g-fpv-camera.html</a>	Sept. 15, 2017	May 15, 2018
Quantum FPVMe HD Mini Camera w/40CH 5.8GHz 25~200mW VTX (Whip Antenna) / 9325000003-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/quantum-fpvme-camera-whip-antenna.html">https://hobbyking.com/en_us/quantum-fpvme-camera-whip-antenna.html</a>	Sept. 15, 2017	May 15, 2018
Quantum ELITE QB58 TX CAMERA COMBO Micro Cam VTX 25mW 40CH 5.8GHz (NTSC) / 9704000001-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/quantum-elite-tx-camera-combo-micro-cam-vtx-25mw-5-8ghz-ntsc.html">https://hobbyking.com/en_us/quantum-elite-tx-camera-combo-micro-cam-vtx-25mw-5-8ghz-ntsc.html</a>	Sept. 15, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
SkyZone TS5823 5.8GHz 32CH A/V 200mW Mini FPV Transmitter (v2) / 544000001-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645-5945MHz	<a href="https://hobbyking.com/en_us/skyzone-ts5823-5-8ghz-32ch-a-v-200mw-mini-fpv-transmitter-v2.html">https://hobbyking.com/en_us/skyzone-ts5823-5-8ghz-32ch-a-v-200mw-mini-fpv-transmitter-v2.html</a>	Sept. 15, 2017	May 15, 2018
Quantum Elite X50-2 200mw, 40 Channel Raceband, FPV Transmitter / 9704000010-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/x50-2-200mw-tx-cnc-alloy-case.html">https://hobbyking.com/en_us/x50-2-200mw-tx-cnc-alloy-case.html</a>	Sept. 15, 2017	May 15, 2018
LT200 5.8GHz 200mW 32 Channel FPV A/V Transmitter / 640000004-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/lt200-5-8ghz-200mw-32-channel-fpv-a-v-transmitter.html">https://hobbyking.com/en_us/lt200-5-8ghz-200mw-32-channel-fpv-a-v-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
AOMWAY 700TVL CMOS HD Camera (Pal Version) plus 5.8G 200mw Transmitter / 523000027-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/aomway-700tvl-cmos-hd-camera-pal-version-plus-5-8g-200mw-transmitter.html">https://hobbyking.com/en_us/aomway-700tvl-cmos-hd-camera-pal-version-plus-5-8g-200mw-transmitter.html</a>  Frequency table: <a href="https://hobbyking.com/media/file/1034590519X1606554X27.jpg">https://hobbyking.com/media/file/1034590519X1606554X27.jpg</a>	Sept. 15, 2017	May 15, 2018
AOMWAY 700TVL CMOS HD Camera (NTSC Version) plus 5.8G 200mw Transmitter / 523000028-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/aomway-700tvl-cmos-hd-camera-ntsc-version-plus-5-8g-200mw-transmitter.html">https://hobbyking.com/en_us/aomway-700tvl-cmos-hd-camera-ntsc-version-plus-5-8g-200mw-transmitter.html</a>  Frequency table: <a href="https://hobbyking.com/media/file/1034590519X1606554X19.jpg">https://hobbyking.com/media/file/1034590519X1606554X19.jpg</a>	Sept. 15, 2017	May 15, 2018
Quantum Elite QE66- 200V 5.8GHz 200mW 40ch Wireless AV Transmitter (Vertical SMA Antenna) NTSC/PAL / 9704000016-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHz	<a href="https://hobbyking.com/en_us/quantum-elite-qe66-200v-5-8ghz-200mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html">https://hobbyking.com/en_us/quantum-elite-qe66-200v-5-8ghz-200mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html</a>	Sept. 15, 2017	May 15, 2018
Aomway Micro V2 200mW 32ch 5.8GHz Video Transmitter Upgrade Version (6~28V) inc Racebands and 700TVL CMOS HD Camera (NTSC) / 523000039-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHz	<a href="https://hobbyking.com/en_us/aomway-micro-v2-200mw-40ch-5-8ghz-video-transmitter-upgrade-version-6-28v-with-700tvl-cmos-hd-camera-ntsc-fpv-quadcopter-multicopter-drone.html">https://hobbyking.com/en_us/aomway-micro-v2-200mw-40ch-5-8ghz-video-transmitter-upgrade-version-6-28v-with-700tvl-cmos-hd-camera-ntsc-fpv-quadcopter-multicopter-drone.html</a>	Sept. 15, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
Quantum Elite X40-2 200mW, 40 Channel Raceband, FPV Transmitter / 9704000007-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/x40-2-200mw-tx-cnc-alloy-case-40-channel.html">https://hobbyking.com/en_us/x40-2-200mw-tx-cnc-alloy-case-40-channel.html</a>	Sept. 15, 2017	May 15, 2018
Lieber 5.8G FPV Audio/Video RX and 350mW TX Package / 734000002-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/5-8g-rx-350-tx.html">https://hobbyking.com/en_us/5-8g-rx-350-tx.html</a>	Sept. 15, 2017	May 15, 2018
SkyZone TS353 5.8G 400mW FPV Transmitter / 263000007	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/skyzone-ts353-5-8g-400mw-fpv-transmitter.html">https://hobbyking.com/en_us/skyzone-ts353-5-8g-400mw-fpv-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
SkyZone TS58400 5.8GHz 32CH A/V 400mW Mini FPV Transmitter / 544000023-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHZ	<a href="https://hobbyking.com/en_us/skyzone-ts58400-5-8ghz-32ch-a-v-400mw-mini-fpv-transmitter.html">https://hobbyking.com/en_us/skyzone-ts58400-5-8ghz-32ch-a-v-400mw-mini-fpv-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
FT953 5.8GHz 400mW Video Transmitter / 568000015-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/ft953-5-8ghz-400mw-video-transmitter.html">https://hobbyking.com/en_us/ft953-5-8ghz-400mw-video-transmitter.html</a>	Sept. 15, 2017	May 15, 2018
Skyzone SKY-H01 HD FPV/Action Camera and 400mW 40 Channel Transmitter / 544000025-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945MHZ	<a href="https://hobbyking.com/en_us/sky-h01.html">https://hobbyking.com/en_us/sky-h01.html</a>	Sept. 15, 2017	Oct. 4, 2017
The Aomway 5.8G 500mW Video Transmitter / 523000012-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHZ	<a href="https://hobbyking.com/en_us/the-aomway-5-8g-500mw-video-transmitter.html">https://hobbyking.com/en_us/the-aomway-5-8g-500mw-video-transmitter.html</a>	Sept. 20, 2017	May 15, 2018
Skyzone TS58500 32CH 500mW Mini Video Transmitter / 544000002-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/skyzone-ts58500-32ch-500mw-mini-video-transmitter.html">https://hobbyking.com/en_us/skyzone-ts58500-32ch-500mw-mini-video-transmitter.html</a>	Sept. 20, 2017	May 15, 2018
Aomway 5.8GHz 1000mW TX1000 Video Transmitter / 523000011-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5945 MHZ	<a href="https://hobbyking.com/en_us/aomway-5-8ghz-1000mw-tx1000-video-transmitter.html">https://hobbyking.com/en_us/aomway-5-8ghz-1000mw-tx1000-video-transmitter.html</a>	Sept. 20, 2017	May 15, 2018



Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
Skyzone FPV 5.8GHz 1500mW 32CH A/V Transmitting (TX) Module TS800 RP-SMA / 544000004-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ  47 CFR § 97.215. Overpowered at 1500mW	<a href="https://hobbyking.com/en-us/skyzone-fpv-5-8ghz-1500mw-32ch-a-v-transmitting-tx-module-ts800-rp-sma.html">https://hobbyking.com/en-us/skyzone-fpv-5-8ghz-1500mw-32ch-a-v-transmitting-tx-module-ts800-rp-sma.html</a>	Sept. 20, 2017	May 15, 2018
Skyzone SKY-N2000 5.8GHz Wireless FPV Transmitter / 544000009-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ  47 CFR § 97.215. Overpowered at 2000 mW	<a href="https://hobbyking.com/en-us/skyzone-sky-n2000-5-8ghz-wireless-fpv-transmitter.html">https://hobbyking.com/en-us/skyzone-sky-n2000-5-8ghz-wireless-fpv-transmitter.html</a>	Sept. 20, 2017	May 15, 2018
TX-5822 5.8g 32CH 2200mW FPV Wireless A/V Transmitter / 568000011-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ  47 CFR § 97.215. Overpowered at 2000 mW	<a href="https://hobbyking.com/en-us/tx-5822-5-8g-32ch-2200mw-fpv-wireless-a-v-transmitter.html">https://hobbyking.com/en-us/tx-5822-5-8g-32ch-2200mw-fpv-wireless-a-v-transmitter.html</a>	Sept. 20, 2017	May 15, 2018
Quantum Elite 600mW 5.8GHz 40CH FX718-6 AV Transmitter and Camera Combo (P&P) / 9704000003-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en-us/fx718-6-40-channel-600mw-tx-cam-plug-and-play-kit.html">https://hobbyking.com/en-us/fx718-6-40-channel-600mw-tx-cam-plug-and-play-kit.html</a>	Oct. 3, 2017	May 15, 2018
Quantum Elite X50-6 600mw, 40 Channel Raceband, FPV Transmitter / 9704000011-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en-us/x50-6-600mw-tx-cnc-alloy-case.html">https://hobbyking.com/en-us/x50-6-600mw-tx-cnc-alloy-case.html</a>	Oct. 3, 2017	May 15, 2018
LT650 5.8GHz 600mW 32 Channel FPV A/V Transmitter / 640000003-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en-us/lt650-5-8ghz-600mw-32-channel-fpv-a-v-transmitter.html">https://hobbyking.com/en-us/lt650-5-8ghz-600mw-32-channel-fpv-a-v-transmitter.html</a>	Oct. 3, 2017	May 15, 2018
Quantum RunCam Docking Station with 600mW 40ch Transmitter / 9171000916-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en-us/run-cam-docking.html">https://hobbyking.com/en-us/run-cam-docking.html</a>	Oct. 3, 2017	May 15, 2018
Aomway 5.8Ghz 600mW 40CH AV Transmitter with PWM / 523000033-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en-us/5-8g-600mw-40ch-with-pwm.html">https://hobbyking.com/en-us/5-8g-600mw-40ch-with-pwm.html</a>	Oct. 3, 2017	May 15, 2018

Device / SKU	Violation(s)	Website	First Marketing Observation	Last Marketing Observation
Sky-S60 5.8GHz 600mW Long Range Wireless Transmitter with Built-In OSD / 544000013-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/sky-s60-5-8ghz-600mw-long-range-wireless-transmitter-with-built-in-osd.html">https://hobbyking.com/en_us/sky-s60-5-8ghz-600mw-long-range-wireless-transmitter-with-built-in-osd.html</a>	Oct. 3, 2017	May 15, 2018
5.8G 32CH 600mW Super Mini A/V FPV Transmitter for Mobius/Action Cam/GoPro / 571000031-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/5-8g-32ch-600mw-super-mini-a-v-fpv-transmitter-for-mobius-action-cam-gopro.html">https://hobbyking.com/en_us/5-8g-32ch-600mw-super-mini-a-v-fpv-transmitter-for-mobius-action-cam-gopro.html</a>	Oct. 3, 2017	May 15, 2018
Mi600s Mini 5.8GHz 600mW 32CH Wireless Video Transmitter (Black) / 573000071-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/mi600s-mini-5-8ghz-600mw-32ch-wireless-video-transmitter-black.html">https://hobbyking.com/en_us/mi600s-mini-5-8ghz-600mw-32ch-wireless-video-transmitter-black.html</a>	Oct. 3, 2017	May 15, 2018
Hawk Eye Q Transmitter 5.8G 600mW 32CH A/V for FPV w/Antenna / 615000003-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/hawk-eye-q-transmitter-5-8g-600mw-32ch-a-v-for-fpv-w-antenna.html">https://hobbyking.com/en_us/hawk-eye-q-transmitter-5-8g-600mw-32ch-a-v-for-fpv-w-antenna.html</a>	Oct. 3, 2017	May 15, 2018
Turnigy Eclipse Action Camera FPV Docking Station with 600mW 5.8GHz 40CH Video Transmitter / 9554000016-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/turnigy-eclipse-5-8ghz-40-channel-600mw-docking-station.html">https://hobbyking.com/en_us/turnigy-eclipse-5-8ghz-40-channel-600mw-docking-station.html</a>	Oct. 3, 2017	May 15, 2018
Quantum Mobius ActionCam FPV Docking Station with 600mW 5.8GHz Video Transmitter / Built in OSD Port / 9171001331- 0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-mobius-actioncam-fpv-docking-station-with-600mw-5-8ghz-video-transmitter-built-in-osd-port.html">https://hobbyking.com/en_us/quantum-mobius-actioncam-fpv-docking-station-with-600mw-5-8ghz-video-transmitter-built-in-osd-port.html</a>	Oct. 3, 2017	May 15, 2018
Quantum Elite QE66- 600V 5.8GHz 600mW 40ch Wireless AV Transmitter (Vertical SMA Antenna) NTSC/PAL / 9704000018-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/quantum-elite-qe66-600v-5-8ghz-600mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html">https://hobbyking.com/en_us/quantum-elite-qe66-600v-5-8ghz-600mw-40ch-wireless-av-transmitter-vertical-sma-antenna-ntsc-pal.html</a>	Oct. 3, 2017	May 15, 2018
Quantum Elite QE66- 600H 5.8GHz 600mW 40ch Wireless AV Transmitter (Horizontal SMA Antenna) NTSC/PAL / 9704000019-0	47 U.S.C. § 302a(b); 47 CFR § 2.803. Operation on non-amateur frequencies without certification: 5645, 5945 MHZ	<a href="https://hobbyking.com/en_us/00mw-40ch-raceband-vtx-side-le-toggle-rf-power-version-horizontal-1.html">https://hobbyking.com/en_us/00mw-40ch-raceband-vtx-side-le-toggle-rf-power-version-horizontal-1.html</a>	Oct. 3, 2017	May 15, 2018