



Federal Communications Commission  
Washington, D.C. 20554

June 19, 2013

Linda Lye  
American Civil Liberties Union of Northern California  
39 Drumm Street  
San Francisco, CA 94111

By email to [llye@aclunc.org](mailto:llye@aclunc.org)

Re: FOIA Control No. 2013-255

Dear Ms. Lye:

This is in response to your Freedom of Information Act (FOIA).5 U.S.C. 552, request of April 11, 2013, seeking records "pertaining to mobile tracking technology commonly known as a StingRay or a cell site simulator but more generically known as an IMSI Catcher."<sup>1</sup> Specifically you sought records concerning:

- 1) Policies, procedures, practices, legal opinions, memoranda, briefs, correspondence (including e-mails), pertaining to IMSI catchers, including whether such devices can be manufactured, imported, sold, offered for sale, or used consistent with the Federal Communications Act or regulations promulgated thereunder and why such devices are or are not distinguishable from cell phone jammers.
- 2) Use of IMSI catchers to intercept the contents of communications, including prohibitions on the use of such interception functionality by law enforcement agencies.
- 3) Communications with the wireless carriers (including, but not limited to AT&T, Verizon, Sprint and T-Mobile) regarding IMSI catchers and more generally, third party interception of wireless telephone communications.
- 4) Requests for authorization pertaining to IMSI catchers, including but not limited to equipment authorization applications, license applications, experimental license or special temporary authority applications, and materials submitted to the FCC in support thereof.
- 5) Review and analysis of requests for authorization described in category 4 above, including review and analysis of specific requests for authorization as well as generally applicable criteria and guidelines.
- 6) Any other document pertaining to IMSI catchers, including but not limited to intraagency and interagency documents including, but not limited to the Department of Justice (and all of its components), the National Security Agency and the Department of Homeland Security.

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<sup>1</sup> You define IMSI catcher as "technology that simulates a cell tower and thus triggers an automatic response from wireless devices on a particular cellular network in the range of the device....[including] a cell site simulator or digital analyzer." You refer to the following Harris Corporation product names "TriggerFish, Stingray, Stingray II, AmberJack, HailStorm, Kingfish, Loggerhead;" the following Martone Radio Technology products: "the Max-G, Max-W, Spartacus, Spartacus-II products;" and the following Cellxion products: "Optima, Quandra, UGX-300GX-200, GX-Duo, and GX-Solo."

A search of the records of the Office of Engineering and Technology (OET) and the Office of Public Safety and Homeland Security (PSHSB) located no records responsive to your first three requests.

With regard to the fourth and fifth parts of your request, we were unable to locate any records concerning the names Martone Radio Technology products or Cellxion products. None of those names or terms are found in a query of our equipment authorization database. Records concerning the Harris Corporation products may be found in the publicly available information submitted with the applications for the subject devices is available from the Commission's Equipment Authorization System (EAS) database at <http://transition.fcc.gov/oet/ea/fccid/>, by using the FCC IDs XLM201B and XLM9955B1 for DRT and NK73092523, NK73100176, NK73186795 and NK73166210. With respect to the Harris equipment authorization applications, we are providing four letters in support of one of the applications, variously dated August 21 and 22, 2007. We are also providing Harris' opposition to an earlier FOIA request, dated October 21, 2011.

With respect to other documents related to the relevant equipment authorization applications, we are withholding several application components and exhibits and emails both to and from the FCC and the above parties and emails within the FCC under 47 C.F.R. § 0.457(d), as it relates to confidential commercial information and trade secrets; 0.457(e) which covers interagency and interagency communications; and 0.457(g)(5) as it relates to law enforcement investigative techniques and procedures.<sup>2</sup> See *e.g.*, *National Parks & Conservation Ass'n v. Morton*, 498 F.2d 765 (D.C. Cir. 1974) and *Critical Mass Energy Project v. NRC*, 975 F.2d 871 (D.C. Cir. 1992) (establishing standards for determining whether information submitted to an agency is confidential under FOIA Exemption 4); *NLRB v. Sears Roebuck & Co.*, 421 U.S. 132, 151 (1975) (Exemption 5 is intended to "prevent injury to the quality of agency decisions"); *Public Citizen v. Office of Management and Budget*, 569 F.3d 434 442-43 (D.C. Cir. 2009), *citing* *Judicial Watch v. FDA*, 449 F.3d 141, 151 (D.C. Cir. 2006) (Exemption 5 applies to materials that are both predecisional and reflect the agency "give-and-take" of the consultative process); and *Tax Analysts v. IRS*, 294 F.3d 71, 79 (D.C. Cir. 2002) (holding that Exemption 7(E) applies to internal agency materials relating to guidelines, techniques, sources, and procedures for law enforcement investigations or procedures, such as internal IRS memorandums).

In addition, we are withholding certain intra-agency and interagency emails and documents because they are classified or because taken together with other information they could endanger national and homeland security. These documents are withheld under FOIA Exemption 1, 5 U.S.C. § 552(b)(1), which protects classified information from disclosure, Exemption 7(A), 5 U.S.C. § 552(b)(7)(A), which protects from disclosure information compiled for law enforcement purposes whose production could reasonably be expected to interfere with enforcement proceedings, and Exemption 7(E) which protects from disclosure information compiled for law enforcement purposes whose production would disclose techniques and procedures for law enforcement investigations or prosecutions if such disclosure could reasonably be expected to risk circumvention of the law. See *National Security Studies v. DOJ*,

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<sup>2</sup> These sections correspond to FOIA Exemptions 4, 5, and 7(E), 5 U.S.C. §§ 552(b)(4), (b)(5), and (b)(7)(E).

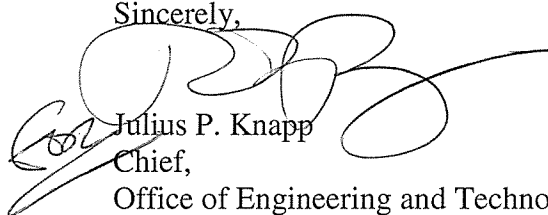
331 F.3d 918, 926-929 (D.C. Cir. 2003) (applying Exemption 7(A) in national and homeland security context where bits and pieces of data may aid in piecing together other bits of data); *Lewis-Bay v. DOJ*, 595 F.Supp.2d 120, 137 (D.D.C. 2009) (applying Exemption 7(E) to details of electronic surveillance techniques).

We also reviewed the records to determine if discretionary release is appropriate. *See Memorandum to Heads of Executive Departments and Agencies, Freedom of Information Act*, 74 FR 4683 (2009) (President Obama's memorandum concerning the FOIA); *The Freedom of Information Act (FOIA)*, available at <<http://www.usdoj.gov/ag/foia-memo-march2009.pdf>> (Attorney General Holder's FOIA Memo). We have determined that the records withheld here are not appropriate for discretionary release.

We have no documents responsive to your sixth request.

You may seek review by filing an application for review with the Office of General Counsel within 30 days of the date of this letter. *See* 47 C.F.R. § 461(j).

Sincerely,

A handwritten signature in black ink, appearing to read "Julius P. Knapp", is written over the typed name and title.

Julius P. Knapp  
Chief,  
Office of Engineering and Technology

enclosures

cc: FOIA Officer



HARRIS CORPORATION

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October 21, 2011

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Office of the Secretary  
445 12th Street, S.W.  
Washington, D.C. 20554

**Re: Opposition to the Freedom of Information Act Request submitted by Mr.  
Christopher Soghoian (September 28, 2011)**

Dear Ms. Dortch:

Harris Corporation ("Harris") has reviewed the Freedom of Information Act ("FOIA") Request submitted by Mr. Christopher Soghoian on September 28, 2011, requesting the release of information related to "the use of cell site simulators, IMSI catchers, digital analyzers, TriggerFish, StingRay, AmberJack or other similar mobile phone surveillance and tracking devices."<sup>1</sup> Upon review, Harris opposes the release of any documents related to Harris' StingRay® product line that are currently being withheld from public disclosure by the Federal Communications Commission ("FCC").<sup>2</sup> Specifically, Harris opposes the public release of block diagrams, external photos, internal photos, operational descriptions, parts list, schematics, test setup photos, user manuals and certain other documents provided to the FCC in confidence as part of the equipment authorization licensing process. The release of any documents currently being withheld from public inspection will cause substantial competitive harm to Harris, disclose law enforcement investigative techniques or procedures, and endanger the life or physical safety of law enforcement. In accordance with 5 U.S.C. § 552(b)(4), § 552 (b)(7)(E) and § 552 (b)(7)(F), the FCC should deny the aforementioned FOIA request as it relates to any documents concerning the StingRay® product line that are currently being withheld from public inspection and as identified in the attached Appendix.

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<sup>1</sup> Freedom of Information Act Request of Christopher Soghoian, submitted to the Federal Communications Commission, p. 1 (Sept. 28, 2011).

<sup>2</sup> Letter from Rashmi Doshi Chief, Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, Granting Request to Withhold from Public Disclosure Proprietary Information Submitted Pursuant Equipment Authorization Application with FCC ID: NK73166210" (Mar. 16, 2011); Letter from Rashmi Doshi Chief, Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, Granting Request to Withhold from Public Disclosure Proprietary Information Submitted Pursuant Equipment Authorization Application with FCC ID: NK73186795" (Mar. 16, 2011); Letter from Rashmi Doshi Chief, Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, Granting Request to Withhold from Public Disclosure Proprietary Information Submitted Pursuant Equipment Authorization Application with FCC ID: NK73092523" (Mar. 16, 2011); Letter from Rashmi Doshi Chief, Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, Granting Request to Withhold from Public Disclosure Proprietary Information Submitted Pursuant Equipment Authorization Application with FCC ID: NK73100176" (Mar. 16, 2011).





**I. Harris' Request to Withhold Information from Public Inspection is Consistent with FOIA Exemption Four (5 U.S.C. § 552(b)(4)): Trade Secrets and Commercial Information.**

In accordance with 5 U.S.C. § 552(b)(4), the FCC granted Harris' request to withhold certain documents from public inspection related to Harris' equipment authorization applications.<sup>3</sup> The documents submitted to the FCC should continue to be withheld under the fourth FOIA exemption, 5 U.S.C. § 552(b)(4), as both trade secrets and being commercial in nature. Disclosure of the technical content within the documents currently being withheld from public inspection would relinquish valuable proprietary information about the technologies Harris has developed and its manufacturing processes. This information would offer competitors unwarranted insight into the state of Harris' product development, enable competitors to reverse engineer products, and provide competitors a competitive advantage that is otherwise unavailable to Harris. Moreover, the information that has been withheld from public disclosure by the FCC has always been kept confidential by Harris. Information relating to the production, operation, and design of the StingRay® product line has been restricted internally within Harris and has only been made available to third parties upon the execution of non-disclosure agreement. If the release of information normally kept confidential presents a reasonable likelihood of substantial competitive harm, as in this case Harris believes it will, 5 U.S.C. § 552(b)(4) protects information from public disclosure.<sup>4</sup> A competitor's ability to potentially reverse engineer equipment by gaining insight into Harris' development and manufacturing process, through access to materials normally kept confidential by Harris, clearly constitutes a reasonable likelihood of competitive harm.

The documents submitted as part of Harris' equipment authorization applications that are being withheld from public inspection are also directly related to enabling the sale of the StingRay® equipment. Courts have interpreted the term "commercial" in 5 U.S.C. § 552(b)(4) broadly and held that information may be kept from public disclosure so long as the submitter has a "commercial interest" in them.<sup>5</sup> The documents provided to the FCC by Harris as part of

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<sup>3</sup> Id.

<sup>4</sup> See *National Parks & Conservation Ass'n v. Morton*, 498 F.2d 765, 770 (D.C. Cir. 1974) (declaring that the term "confidential" should be read to protect governmental and private interests that either impair the Government's ability to obtain necessary information in the future; or cause substantial harm to the competitive position of the person from whom the information was obtained); see also *Critical Mass Energy Project v. Nuclear Regulatory Com'n*, 975 F.2d 871, 879-880 (D.C. Cir. 1992) (extending FOIA exemption for commercial and financial information to apply to information "provided to the Government on a voluntary basis...if it is of a kind that would customarily not be released by the person from whom it was obtained").

<sup>5</sup> See *Pub. Citizen Health Research Group v. FDA*, 704 F.2d 1280, 1290 (D.C. Cir. 1983) (citing *Wash. Post Co. v. HHS*, 690 F.2d 252, 266 (D.C. Cir. 1982) (noting that the possibility exists that an individual engaged in profit-oriented research could conceivably be shown to have a commercial or trade interest in his research design under exemption four of FOIA); accord *Baker & Hostetler LLP v. U.S. Dep't of Commerce*, 473 F.3d 312, 319-20 (D.C. Cir. 2006) (citing *Pub. Citizen Health Research Group*, 704 F.2d at 1290, and finding that letters describing "favorable market conditions for domestic [lumber] companies" constituted "commercial information," because those companies "have a 'commercial interest' in such letters"); see also *Cohen v. Kessler*, No. 95-6140, slip op. at 9 (D.N.J. Nov. 25, 1996) (declaring that there was a commercial interest in "rat study's raw data" submitted to support application for approval of new animal drug).



the equipment authorization process were produced with a direct commercial purpose in mind, to receive the necessary authorization to sell StingRay® products law enforcement within the United States. Therefore, in furtherance of 5 U.S.C. § 552(b)(4), the FCC should continue to withhold the documents from public inspection that were submitted as part of the equipment authorization process and identified in Appendix A.

## **II. Harris' Request to Withhold Information from Public Inspection is Consistent with FOIA Exemption Seven (5 U.S.C. § 552(b)(7)): Law Enforcement Information.**

While the information provided to the FCC was produced as part of the FCC's equipment authorization process, the original purpose for compiling many of the documents currently being withheld from public inspection was for law enforcement purposes, namely to instruct law enforcement how to operate and utilize Harris' StingRay® products. Under 5 U.S.C. § 552(b)(7), information compiled for law enforcement purposes is exempt from the requirements of FOIA, even if the documents are non-investigatory.<sup>6</sup> Releasing documents that are currently publicly withheld would disclose techniques and procedures for law enforcement investigations and could reasonably be expected to endanger the life or physical safety of law enforcement.

Stingray® products are a prohibited technology that can only be utilized by "authorized users" pursuant to 18 U.S.C. § 2512. The Harris Stingray® product line is intended to perform surreptitious law enforcement surveillance. These activities are a significant and increasingly important component of the investigative techniques and procedures employed by law enforcement officials. The law enforcement activities employed through operation of StingRay® products are vital to protecting the public and stopping illegal activity. Under 5 U.S.C. § 552(b)(7)(E), if information compiled for law enforcement purposes<sup>7</sup> would disclose law enforcement investigative techniques, procedures or guidelines and the release of that information could reasonably be expected to risk circumvention of the law, then the information can be exempted from the requirements of FOIA.<sup>8</sup> Revealing documents related to the performance and operation of the StingRay® product line would provide criminals and terrorists

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<sup>6</sup> See *Tax Analysts v. IRS*, 294 F.3d 71, 79 (D.C. Cir. 2002) (explaining that "legislative history makes it clear that Congress intended the amended exemption to protect both investigatory and non-investigatory materials, including law enforcement manuals and the like"); see also *Abdelfattah v. DHS*, 488 F. 3d 178, 184 (3d. Cir. 2007) (explaining that "1986 FOIA amendments broadened the applicability of Exemption 7 by expressly removing the requirement that the records be 'investigatory'").

<sup>7</sup> See *Coastal Delivery Corp. v. U.S. Customs Serv.*, 272 F. Supp. 2d 958, 963 (C.D. Cal. 2003) noting that even if any agency does not have a clear law enforcement mandate, FOIA exemption 7(E) applies if the requested information was compiled for law enforcement purposes).

<sup>8</sup> See *PHE, Inc. v. DOJ*, 983 F.2d 248, 249, 251 (D.C. Cir. 1993) (holding portions of FBI's Manual of Investigative Operations and Guidelines properly withheld pursuant to Exemption 7(E)); see also *Mosby v. U.S. Marshals Serv.*, No. 04-2083, 2005 U.S. Dist. LEXIS 18914, at \*13-14 (D.D.C. Sept. 1, 2005) (explaining that "administrative and operational guidelines and procedures" meet the necessary threshold, because "[t]his information facilitates monitoring investigations, the flow and maintenance of investigative records, and aids in detecting and apprehending fugitives").



with access to detailed technical information and a reasonable means to circumvent law enforcement efforts.<sup>9</sup>

Moreover, the technical information relating to the performance parameters, design, and operation of Harris' StingRay® product must be protected from public disclosure in order to prevent criminals and terrorists from obtaining the ability to develop—through reverse engineering—similar equipment that could monitor and track law enforcement. Harris has been very careful to protect the proprietary aspects of the design and operation of the StingRay® products due to the equipment's sensitive nature. As previously discussed, StingRay® products are a prohibited technology that can only be utilized by "authorized users" pursuant to 18 U.S.C. § 2512. The information currently being withheld by the FCC has historically been kept confidential by Harris.<sup>10</sup> The restrictions on information placed on the StingRay® product line by Harris have been implemented to protect the operational integrity of the products, which are a vital part of law enforcement investigative procedure, and to protect law enforcement personnel, who use the equipment to monitor dangerous criminals in highly precarious situations.<sup>11</sup>

Under 5 U.S.C. § 552(b)(7)(F), the release of information that is compiled for law enforcement purposes and that could reasonably be expected to endanger the life or physical safety of any individual can be exempt from the public disclosure requirements of FOIA.<sup>12</sup> Investigative activities utilizing the StingRay® product line would be put in jeopardy and the safety and lives of members of the law enforcement community could reasonably be put at risk if information currently being withheld from public disclosure by the FCC relating to Harris' StingRay® product line is released for public inspection. Based on the purchasers of this equipment, the type of illegal activity the purchasers work to prevent, and the very nature of the product, one could reasonably infer that the public release of information exposing the operation, performance parameters, and design of the StingRay® product could put the safety and lives of law enforcement personnel in jeopardy.

For the reasons outlined above, Harris respectfully requests that the FCC continue to withhold the information in connection with equipment authorization applications: FCC ID NK73186795, NK73100176, NK73166210, and NK73092523, from public inspection. In particular, Harris requests the documents listed in the following Appendix, in their entirety, continue to be treated as confidential.

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<sup>9</sup> See *Id.* at 964-66 (C.D. Cal. 2003) (ruling that terrorists could use information to avoid detection and to direct "merchandise to vulnerable ports" and that information that appears to be "innocuous on its own" could reasonably be used by "potential terrorists and smugglers" to circumvent law enforcement procedures).

<sup>10</sup> *Supra* pg. 2.

<sup>11</sup> See *Miller v. United States DOJ*, 562 F. Supp. 2d 82, 124-125 (2008, DC Dist. Col.) (holding that it is in the public interest not to disclose the identity of special agents so that they may continue to effectively pursue their undercover and investigative assignments).

<sup>12</sup> See *DOJ v. Reporters Comm. for Freedom of the Press*, 489 U.S. 749, 756 n.9 (1989) (recognizing that shift from "would constitute" standard to "could reasonably be expected to constitute" standard "represents a congressional effort to ease considerably a Federal law enforcement agency's burden in invoking [Exemption 7]").



Respectfully,

/s/

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Tania W. Hanna, Esq.  
Vice President, Legislative Affairs and Public Policy  
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/s/

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CC:

Bruce Romano, Associate Chief (Legal), Office of Engineering and Technology  
([bruce.romano@fcc.gov](mailto:bruce.romano@fcc.gov))

FCC FOIA Officer ([foia@fcc.gov](mailto:foia@fcc.gov))

**HARRIS**

**APPENDIX**

*Harris respectfully requests that the following documents, in their entirety, continue to be treated as confidential and withheld from public inspection.*

FCC ID: NK73186795

Exhibit Type	Filed Description	Correspondence Number	Date Submitted	Action Requested
Block Diagram	Block Diagrams	N/A	2010-05-05 10:47:35.063	Hold as Confidential
Cover Letter	Request for Condition	N/A	2010-05-07 14:38:48.146	Hold as Confidential
Cover Letter	Confidential Response to Correspondence	38845	2010-05-20 16:24:59.41	Hold as Confidential
Cover Letter	Response to Correspondence 38912 with Confidential Attachments	38912	2010-06-10 10:28:23.41	Hold as Confidential
Cover Letter	Intended Use and Operational Description Clarification- Confidential	N/A	2010-07-15 10:00:38.46	Hold as Confidential
External Photos	Converter Front 1 of 2	N/A	2010-05-05 10:52:42.363	Hold as Confidential
External Photos	Converter Front 2 of 2	N/A	2010-05-05 10:52:46.393	Hold as Confidential
Internal Photos	Front of Cards 1	N/A	2010-05-05 11:07:05.3	Hold as Confidential
Internal Photos	Front of Cards 2	N/A	2010-05-05 11:07:09.52	Hold as Confidential
Internal Photos	Front of Cards 5	N/A	2010-05-05 11:07:24.3	Hold as Confidential
Internal Photos	Back of Cards	N/A	2010-05-05 11:06:57.706	Hold as Confidential
Internal Photos	Cards in Chassis	N/A	2010-05-05 11:07:01.793	Hold as Confidential

Exhibit Type	Filed Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	Front of Cards 3	N/A	2010-05-05 11-07:14.556	Hold as Confidential
Internal Photos	Front of Cards 4	N/A	2010-05-05 11-07:20.533	Hold as Confidential
Internal Photos	Front of Cards 6	N/A	2010-05-05 11-07:27.633	Hold as Confidential
Internal Photos	Front of Cards 7	N/A	2010-05-05 11-07:31.373	Hold as Confidential
Internal Photos	Front of Cards 8	N/A	2010-05-05 11-07:36.276	Hold as Confidential
Internal Photos	Front of Cards 9	N/A	2010-05-05 11-07:39.823	Hold as Confidential
Internal Photos	Front of Cards 10	N/A	2010-05-05 11-07:45.236	Hold as Confidential
Internal Photos	Front of Cards 11	N/A	2010-05-05 11-07:53.973	Hold as Confidential
Operational Description	Operational Description	N/A	2010-05-05 10:47:41.46	Hold as Confidential
Parts List/Tune Up Info	Parts List Mechanicals	N/A	2010-05-17 12:24:46.823	Hold as Confidential
Parts List/Tune Up Info	Parts List Bypass LO	N/A	2010-05-17 12:24:47.036	Hold as Confidential
Parts List/Tune Up Info	Parts List Bypass RX	N/A	2010-05-17 12:24:47.34	Hold as Confidential



Exhibit Type	Filed Description	Correspondence Number	Date Submitted	Action Requested
Parts List/Time Up Info	Parts List Bypass	N/A	2010-05-17 12:24:47.573	Hold as Confidential
Schematics	Schematics 1 of 5	N/A	2010-05-05 10:47:43.413	Hold as Confidential
Schematics	Schematics 2 of 5	N/A	2010-05-05 10:47:45.356	Hold as Confidential
Schematics	Schematics 3 of 5	N/A	2010-05-05 10:47:46.79	Hold as Confidential
Schematics	Schematics 4 of 5	N/A	2010-05-05 10:47:48.226	Hold as Confidential
Schematics	Schematics 5 of 5	N/A	2010-05-05 10:47:49.516	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions with Converter	N/A	2010-05-05 10:52:54.626	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions with Converter	N/A	2010-05-05 10:52:55.583	Hold as Confidential
Test Setup Photos	Radiated Emissions Test with Converter	N/A	2010-05-05 10:52:56.416	Hold as Confidential
Users Manual	Operator Manual	N/A	2010-05-05 10:47:40.636	Hold as Confidential





FCC ID: NK73166210

Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Block Diagram	Block Diagram	N/A	2010-05-04 13:14:59.586	Hold as Confidential
Cover Letter	Request for Condition	N/A	2010-05-07 14:35:51.81	Hold as Confidential
Cover Letter	Cover Letter with Exhibits Attached	38869 <sup>1</sup>	2010-06-08 10:53:42.523	Hold as Confidential
Cover Letter	Response to Correspondence 38925 with Confidential Attachments	38925	2010-06-14 14:25:07.316 and 2010-06-14 14:25:21.256	Hold as Confidential
Cover Letter	Response to FCC Correspondence 38979 with Confidential Attachments	38979	2010-07-02 17:06:47.193	Hold as Confidential
Cover Letter	Intended Use and Operational Description Clarification- Confidential	N/A	2010-07-15 09:59:22.33	Hold as Confidential
External Photos	Bottom View 2	N/A	2010-05-04 14:18:18.153	Hold as Confidential
External Photos	Front Panel	N/A	2010-05-04 14:18:24.66	Hold as Confidential
External Photos	Right Side	N/A	2010-05-04 14:18:42.163	Hold as Confidential

<sup>1</sup> Correspondence Reference Number 38846 was e-mailed to Harris Corporation on May 17, 2010, however it was superseded by Correspondence Reference Number 38869, which is referenced in the chart above.

Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
External Photos	Rear Side	N/A	2010-05-04 14:18:47.436	Hold as Confidential
External Photos	Top View 1	N/A	2010-05-04 14:18:58.81	Hold as Confidential
External Photos	Bottom View 1	N/A	2010-05-04 14:18:10.46	Hold as Confidential
External Photos	Left Side	N/A	2010-05-04 14:18:31.28	Hold as Confidential
External Photos	Right View Cover	N/A	2010-05-04 14:18:52.35	Hold as Confidential
External Photos	Top View 2	N/A	2010-05-04 14:19:03.38	Hold as Confidential
Internal Photos	Bottom Cover Off 1	N/A	2010-05-04 13:30:20.14	Hold as Confidential
Internal Photos	Bottom Cover Off 2	N/A	2010-05-04 13:30:26.333	Hold as Confidential
Internal Photos	Bottom Cover Off 3	N/A	2010-05-04 13:30:33.766	Hold as Confidential
Internal Photos	Bottom Cover Off 4	N/A	2010-05-04 13:30:40.233	Hold as Confidential
Internal Photos	Bottom Cover Off 5	N/A	2010-05-04 13:30:48.42	Hold as Confidential
Internal Photos	Bottom Cover Off 6	N/A	2010-05-04 13:30:55.476	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	Card Cage	N/A	2010-05-04 13:31:06.56	Hold as Confidential
Internal Photos	Rear Cover Off 1	N/A	2010-05-04 13:31:14.583	Hold as Confidential
Internal Photos	Rear Cover Off 2	N/A	2010-05-04 13:31:21.876	Hold as Confidential
Internal Photos	Rear Cover Off 3	N/A	2010-05-04 13:31:29.723	Hold as Confidential
Internal Photos	Rear Cover Off 4	N/A	2010-05-04 13:31:36.263	Hold as Confidential
Internal Photos	Rear Cover Off 5	N/A	2010-05-04 13:31:41.986	Hold as Confidential
Internal Photos	SDR 1	N/A	2010-05-04 13:39:31.4	Hold as Confidential
Internal Photos	SDR 2	N/A	2010-05-04 13:39:40.996	Hold as Confidential
Internal Photos	SDR 3	N/A	2010-05-04 13:39:52.513	Hold as Confidential
Internal Photos	SDR 4	N/A	2010-05-04 13:39:59.683	Hold as Confidential
Internal Photos	SDR Back Plane 1	N/A	2010-05-04 13:40:09.82	Hold as Confidential
Internal Photos	SDR Back Plane 2	N/A	2010-05-04 13:40:20.463	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	Top View Cover Off 1	N/A	2010-05-04 13:40:30.836	Hold as Confidential
Internal Photos	Top View Cover Off 2	N/A	2010-05-04 13:40:37.423	Hold as Confidential
Internal Photos	Top View Cover Off 3	N/A	2010-05-04 13:40:46.663	Hold as Confidential
Internal Photos	Top View Cover Off 4	N/A	2010-05-04 13:40:52.853	Hold as Confidential
Operational Description	Operational Description	N/A	2010-05-04 13:09:24.446	Hold as Confidential
Operational Description	Intended Use Slideshow Correspondence 38979	38979	2010-07-13 16:46:59.88	Hold as Confidential
Parts List/Tune Up Info	Back Plane Parts List	N/A	2010-05-04 13:15:00.773	Hold as Confidential
Parts List/Tune Up Info	Chassis Parts List	N/A	2010-05-04 13:15:01.98	Hold as Confidential
Parts List/Tune Up Info	GPS Parts List	N/A	2010-05-04 13:15:03.263	Hold as Confidential
Parts List/Tune Up Info	RFM RX Parts List	N/A	2010-05-04 13:15:06.64	Hold as Confidential
Parts List/Tune Up Info	RFM TX Parts List	N/A	2010-05-04 13:15:08.766	Hold as Confidential
Parts List/Tune Up Info	SDR Converter Parts List	N/A	2010-05-04 13:15:09.97	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Parts List/Tune Up Info	SDR Digital Parts List	N/A	2010-05-04 13:15:10.666	Hold as Confidential
Parts List/Tune Up Info	SDR RFIF Parts List	N/A	2010-05-04 13:15:11.483	Hold as Confidential
Parts List/Tune Up Info	Power Module Parts List	N/A	2010-05-04 13:15:04.46	Hold as Confidential
Parts List/Tune Up Info	SYBIR FPGA Parts List	N/A	2010-05-04 13:15:12.23	Hold as Confidential
Schematics	BackPlane Schematics	N/A	2010-05-04 14:55:08.113	Hold as Confidential
Schematics	Chassis Schematics	N/A	2010-05-04 14:55:09.396	Hold as Confidential
Schematics	Converter Schematics	N/A	2010-05-04 14:55:10.76	Hold as Confidential
Schematics	Digital Schematics	N/A	2010-05-04 14:55:14.283	Hold as Confidential
Schematics	GPS Schematics	N/A	2010-05-04 14:55:15.536	Hold as Confidential
Schematics	Power Module Schematics	N/A	2010-05-04 14:55:16.983	Hold as Confidential
Schematics	RFIF Schematics	N/A	2010-05-04 14:55:24.983	Hold as Confidential
Schematics	RFM RX Schematics	N/A	2010-05-04 14:55:32.623	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Schematics	RFM TX Schematics	N/A	2010-05-04 14:55:41.33	Hold as Confidential
Schematics	SYBIR FPGA Schematics	N/A	2010-05-04 14:55:43.53	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions 1	N/A	2010-05-04 14:52:06.283	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions 2	N/A	2010-05-04 14:52:07.24	Hold as Confidential
Test Setup Photos	Radiated Emissions 1	N/A	2010-05-04 14:52:08.16	Hold as Confidential
Test Setup Photos	Radiated Emissions 2	N/A	2010-05-04 14:52:09.006	Hold as Confidential
Users Manual	Operators Manual	N/A	2010-05-04 13:09:23.793	Hold as Confidential



FCC ID: NK73100176

Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Block Diagram	Block Diagrams	N/A	2010-05-05 10:01:39.446	Hold as Confidential
Cover Letter	Request for Condition	N/A	2010-05-07 14:34:44.483	Hold as Confidential
Cover Letter	Confidential Response to Correspondence	Correspondence 38843	2010-05-20 16:31:37.433	Hold as Confidential
Cover Letter	Correspondence Response with Confidential Attachments	Correspondence 38880	2010-06-09 10:39:51.253	Hold as Confidential
Cover Letter	Intended Use and Operational Description Clarification- Confidential	N/A	2010-07-15 09:57:55.303	Hold as Confidential
External Photos	Bottom	N/A	2010-05-05 10:13:18.423	Hold as Confidential
External Photos	Face Close Up	N/A	2010-05-05 10:13:24.046	Hold as Confidential
External Photos	Leftside	N/A	2010-05-05 10:13:27.96	Hold as Confidential
External Photos	Back	N/A	2010-05-05 10:13:14.6	Hold as Confidential
External Photos	Rightside	N/A	2010-05-05 10:13:31.21	Hold as Confidential
External Photos	Top	N/A	2010-05-05 10:13:34.45	Hold as Confidential
Internal Photos	Back View SDR 1	N/A	2010-05-05 10:09:33.56	Hold as Confidential
Internal Photos	Back View SDR and RFD	N/A	2010-05-05 10:09:38.133	Hold as Confidential
Internal Photos	Back View SDR and RFD 1	N/A	2010-05-05 10:09:43.103	Hold as Confidential
Internal Photos	Back View SDR and RFD Removed	N/A	2010-05-05 10:09:46.816	Hold as Confidential
Internal Photos	Battery Ejected 1	N/A	2010-05-05 10:09:50.393	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	Battery Ejected	N/A	2010-05-05 10:09:53.983	Hold as Confidential
Internal Photos	Face RF Wiring	N/A	2010-05-05 10:09:59.84	Hold as Confidential
Internal Photos	SDR01	N/A	2010-05-05 10:10:05.913	Hold as Confidential
Internal Photos	SDR03	N/A	2010-05-05 10:10:21.566	Hold as Confidential
Internal Photos	SDR04	N/A	2010-05-05 10:10:27.463	Hold as Confidential
Internal Photos	Top View Open	N/A	2010-05-05 10:10:31.156	Hold as Confidential
Internal Photos	SDR02	N/A	2010-05-05 10:10:14.18	Hold as Confidential
Operational Description	Operational Description	N/A	2010-05-05 10:01:46.096	Hold as Confidential
Operational Description	Top View Open Angeled	N/A	2010-05-05 10:10:36.68	Hold as Confidential
Parts List/Tune Up Info	Chassis BackPlane Parts List	N/A	2010-05-05 10:01:47.206	Hold as Confidential
Parts List/Tune Up Info	Chassis Battery Board Parts List	N/A	2010-05-05 10:01:48.036	Hold as Confidential
Parts List/Tune Up Info	Chassis Bluetooth Parts List	N/A	2010-05-05 10:01:48.92	Hold as Confidential
Parts List/Tune Up Info	Chassis Power Supply Parts List	N/A	2010-05-05 10:01:50.63	Hold as Confidential
Parts List/Tune Up Info	Chassis RFD Parts List	N/A	2010-05-05 10:01:51.82	Hold as Confidential
Parts List/Tune Up Info	SDR Converter Parts List	N/A	2010-05-05 10:01:52.516	Hold as Confidential
Parts List/Tune Up Info	Digital Parts List	N/A	2010-05-05 10:01:53.253	Hold as Confidential
Parts List/Tune Up Info	SDR RFIF Parts List	N/A	2010-05-05 10:01:54.043	Hold as Confidential
Schematics	Backplane Schematics	N/A	2010-05-05 10:20:52.133	Hold as Confidential





Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Schematics	Digital Schematics	N/A	2010-05-05 10:20:56.403	Hold as Confidential
Schematics	Power Supply Schematics	N/A	2010-05-05 10:20:58.856	Hold as Confidential
Schematics	RFD Schematics	N/A	2010-05-05 10:21:10.386	Hold as Confidential
Schematics	RFIF Schematics	N/A	2010-05-05 10:21:16.926	Hold as Confidential
Schematics	Converter Schematics	N/A	2010-05-05 10:20:53.42	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions with Converter	N/A	2010-05-05 10:20:48.986	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions	N/A	2010-05-05 10:20:49.803	Hold as Confidential
Test Setup Photos	Radiated Emissions Test	N/A	2010-05-05 10:20:50.626	Hold as Confidential
Users Manual	Operator Manual	N/A	2010-05-05 10:01:45.246	Hold as Confidential



FCC ID: NK73092523

Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Block Diagram	Revised Block Diagram	38994	2010-07-02 11:09:44.136	Hold as Confidential
Cover Letter	Request for Condition	N/A	2010-05-07 14:33:21.386	Hold as Confidential
Cover Letter	Confidential Response to Correspondence	38839	2010-05-20 16:30:07.423	Hold as Confidential
Cover Letter	Confidential Amendment to Technical Specifications	N/A	2010-05-20 16:30:09.213	Hold as Confidential
Cover Letter	Correspondence Response with Confidential Attachments	38878	2010-06-09 10:35:49.446	Hold as Confidential
Cover Letter	Response to Correspondence 38994 Revised Block Diagram Confidential	38994	2010-07-02 11:09:55.78	Hold as Confidential
Cover Letter	Response to FCC Correspondence 38958 with Confidential Attachments	38958 <sup>1</sup>	2010-07-02 17:04:55.616	Hold as Confidential
Cover Letter	Intended Use and Operational Description Clarification- Confidential	N/A	2010-07-15 09:56:11.573	Hold as Confidential
External Photos	Bottom View	N/A	2010-05-04 11:11:43.586	Hold as Confidential
External Photos	Left View	N/A	2010-05-04 11:11:59.78	Hold as Confidential
External Photos	Rear View	N/A	2010-05-04 11:12:07.403	Hold as Confidential
External Photos	Right	N/A	2010-05-04 11:16:55.186	Hold as Confidential
External Photos	Top	N/A	2010-05-04 11:17:03.656	Hold as Confidential

<sup>1</sup> Correspondence Reference Number 38957 was e-mailed to Harris Corporation on June 21, 2010, however it was superseded by Correspondence Reference Number 38958, which is referenced in the chart above.





Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
External Photos	Front View	N/A	2010-05-04 11:11:52.1	Hold as Confidential
Internal Photos	Backplane 01	N/A	2010-05-04 11:17:11.94	Hold as Confidential
Internal Photos	Backplane 02	N/A	2010-05-04 11:17:16.186	Hold as Confidential
Internal Photos	Backplane 3	N/A	2010-05-04 11:25:48.533	Hold as Confidential
Internal Photos	Backplane 4	N/A	2010-05-04 11:25:55.766	Hold as Confidential
Internal Photos	Backplane 5	N/A	2010-05-04 11:26:02.516	Hold as Confidential
Internal Photos	Backplane 6	N/A	2010-05-04 11:26:10.423	Hold as Confidential
Internal Photos	Backplane 7	N/A	2010-05-04 11:26:15.63	Hold as Confidential
Internal Photos	Card Cage	N/A	2010-05-04 11:26:19.663	Hold as Confidential
Internal Photos	Chassis Backplane	N/A	2010-05-04 11:26:26.246	Hold as Confidential
Internal Photos	Converter 1	N/A	2010-05-04 11:26:30.84	Hold as Confidential
Internal Photos	Converter 2	N/A	2010-05-04 11:26:36.09	Hold as Confidential
Internal Photos	Digital 1	N/A	2010-05-04 11:26:44.85	Hold as Confidential
Internal Photos	Digital 2	N/A	2010-05-04 11:26:55.903	Hold as Confidential
Internal Photos	Digital 3	N/A	2010-05-04 11:27:03.266	Hold as Confidential
Internal Photos	Digital 4	N/A	2010-05-04 11:27:09.073	Hold as Confidential
Internal Photos	PS01	N/A	2010-05-04 11:50:18.43	Hold as Confidential
Internal Photos	PS02	N/A	2010-05-04 11:50:26.7	Hold as Confidential

Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	PS Fan	N/A	2010-05-04 11:50:31.123	Hold as Confidential
Internal Photos	PS Label101	N/A	2010-05-04 11:50:36.75	Hold as Confidential
Internal Photos	PS Label102	N/A	2010-05-04 11:50:41.893	Hold as Confidential
Internal Photos	Rear View Cover 01	N/A	2010-05-04 11:50:48.846	Hold as Confidential
Internal Photos	RF01	N/A	2010-05-04 11:50:54.916	Hold as Confidential
Internal Photos	RF02	N/A	2010-05-04 11:51:02.853	Hold as Confidential
Internal Photos	RF03	N/A	2010-05-04 11:51:13.023	Hold as Confidential
Internal Photos	RF1F	N/A	2010-05-04 11:51:18.7	Hold as Confidential
Internal Photos	RFD01	N/A	2010-05-04 11:51:24.01	Hold as Confidential
Internal Photos	RFD02	N/A	2010-05-04 11:51:29.016	Hold as Confidential
Internal Photos	RFD03	N/A	2010-05-04 11:51:32.356	Hold as Confidential
Internal Photos	SDR01	N/A	2010-05-04 12:19:25.123	Hold as Confidential
Internal Photos	SDR03	N/A	2010-05-04 12:19:41.686	Hold as Confidential
Internal Photos	SDR04	N/A	2010-05-04 12:19:47.336	Hold as Confidential
Internal Photos	SR Enclosure	N/A	2010-05-04 12:19:52.853	Hold as Confidential
Internal Photos	Top View Cover 02	N/A	2010-05-04 12:20:06.703	Hold as Confidential
Internal Photos	Top View Cover 03	N/A	2010-05-04 12:20:12.946	Hold as Confidential
Internal Photos	Top View Cover 04	N/A	2010-05-04 12:20:20.776	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Internal Photos	Top View Cover 05	N/A	2010-05-04 12:20:28.183	Hold as Confidential
Internal Photos	Top View Cover 06	N/A	2010-05-04 12:20:36.553	Hold as Confidential
Internal Photos	Top View Cover	N/A	2010-05-04 12:20:42.993	Hold as Confidential
Internal Photos	SDR02	N/A	2010-05-04 12:19:32.19	Hold as Confidential
Internal Photos	Top View Cover 01	N/A	2010-05-04 12:20:00.28	Hold as Confidential
Operational Description	Operational Description	N/A	2010-05-04 10:55:04.32	Hold as Confidential
Operational Description	Intended Use Slideshow Correspondence 38958	N/A	2010-07-13 16:44:49.206	Hold as Confidential
Parts List/Tune Up Info	Chassis BackPlane Parts List	N/A	2010-05-04 10:54:52.76	Hold as Confidential
Parts List/Tune Up Info	Chassis Power Supply Parts List	N/A	2010-05-04 10:54:53.48	Hold as Confidential
Parts List/Tune Up Info	Chassis RFD Parts List	N/A	2010-05-04 10:54:54.616	Hold as Confidential
Parts List/Tune Up Info	SDR Converter Parts List	N/A	2010-05-04 10:54:55.426	Hold as Confidential
Parts List/Tune Up Info	SDR Digital Parts List	N/A	2010-05-04 10:54:56.313	Hold as Confidential
Parts List/Tune Up Info	SDR RFIF Parts List	N/A	2010-05-04 10:54:57.086	Hold as Confidential
Schematics	Back Plane Schematics	N/A	2010-05-04 10:55:10.386	Hold as Confidential
Schematics	Converter Schematics	N/A	2010-05-04 11:11:13.94	Hold as Confidential
Schematics	Digital Schematics	N/A	2010-05-04 11:11:15.96	Hold as Confidential
Schematics	Power Supply Schematics	N/A	2010-05-04 11:11:17.453	Hold as Confidential
Schematics	RFD Schematics	N/A	2010-05-04 11:11:26.266	Hold as Confidential



Exhibit Type	File Description	Correspondence Number	Date Submitted	Action Requested
Schematics	RFIF Schematics	N/A	2010-05-04 11:11:32.196	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions with Converter	N/A	2010-05-04 11:11:33.136	Hold as Confidential
Test Setup Photos	Powerline Conducted Emissions	N/A	2010-05-04 11:11:33.923	Hold as Confidential
Test Setup Photos	Radiated Emissions Test with Converter	N/A	2010-05-04 11:11:34.766	Hold as Confidential
Test Setup Photos	Radiated Emissions Test	N/A	2010-05-04 11:11:35.653	Hold as Confidential
Users Manual	Operators Manual	N/A	2010-05-04 10:55:04.09	Hold as Confidential

