

**OMB No. 0910-0025; Exp. May 31, 2010**

**Section: eRadHealth Menu**

Role

What is your role?

[L]

*Note:*

*If you are acting as an agent of the actual manufacturer, please select your role, for example, Importer or Consultant. Later in the report, under Manufacturer Data, you will be prompted to enter both manufacturer and submitter information.*

Submission Information

FDA or State Inspector

Abbreviated Report Applicability

OEM Laser Applicability

**Section: Manufacturer Data**

Introduction

## **Electronic Product Radiation Safety Reporting Form**

This software application is intended to automate the hard copy product reporting forms in the effort of the Center for Devices and Radiological Health (CDRH) to become capable of accepting electronic submissions from industry and to improve our review process. This FDA Electronic Submission (eSub) software is the next version of the application developed to allow us to accept all Radiological Health reports and other submissions electronically and improve the ability of CDRH to accomplish its mandated product and industry evaluations in a timely and efficient manner.

All electronic reports and correspondence can either be transferred to CD and mailed to the address below, or can be sent via the FDA Electronic Submissions Gateway to CDRH. If you follow instructions to set up an account with the FDA Gateway, when you submit through it you will receive your acknowledgement email message with Accession Number within minutes!

Information about the FDA Electronic Submissions Gateway can be found at [www.fda.gov/escg](http://www.fda.gov/escg). Please contact the Gateway Helpdesk with your questions about that system.

Electronic submissions on CD should be mailed directly to the Document Control Center at:

**U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Attn: eSubmitter Team  
Document Mail Center - WO66-0609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993-0002**

Submissions received in the mail on CD will be processed within a few days of receipt.

You should be familiar with the regulatory requirements for radiological products at [www.fda.gov/cdrh/radhealth/](http://www.fda.gov/cdrh/radhealth/) and medical devices available at [www.fda.gov/cdrh/devadvice/](http://www.fda.gov/cdrh/devadvice/). If you have specific questions about the regulations, please contact us at: [DSMICA@fda.hhs.gov](mailto:DSMICA@fda.hhs.gov).

If you have specific questions regarding this software, please contact the eSub team by email at: [eSubmitter@fda.hhs.gov](mailto:eSubmitter@fda.hhs.gov).

Thank you for using our electronic product reporting software. Please communicate your comments and suggestions to the eSub team as often as you like.

Thank you for your continued support of the FDA Electronic Submission Program (eSub).

General Information

## General Information for Radiological Health Products

Manufacturers of products subject to performance standards under the Federal Food, Drug, and Cosmetic Act (FFDCA), Chapter V, Subchapter C - Electronic Product Radiation Control are required to furnish various reports to the Center for Devices and Radiological Health (CDRH).

The Radiological Health staff, CDRH developed this software application for the Product and Annual reports. This application will assist manufacturers of electronic products that emit radiation in providing adequate reporting of radiation safety testing and compliance with federal performance standards. Title 21 of the Code of Federal Regulations (CFR), Parts 1002 and 1003 specify Reporting and Notification requirements 1,2,3.

Reports submitted on radiation safety of electronic products must follow the appropriate form (21 CFR 1002.7). This software application serves the same report responsibility, so long as the submitter or manufacturer prints out the cover letter and sends it in along with the CD containing the report files. The submitter of the report will receive an acknowledgment letter (or email message) with the

accession number that CDRH assigns to the report. Please reference this accession number in the future when providing additional information about this model family in either a supplement or the annual report. If a report is incomplete or inadequate CDRH may reject it and return it for completion. CDRH will not enter a rejected report into our database.

**CDRH DOES NOT APPROVE THESE REPORTS OR THE PRODUCTS BEING REPORTED.**

It is the manufacturer's responsibility to certify that their products comply with all applicable standards (21 CFR 1010 - 1050), based on a testing program in accordance with good manufacturing practices. Prior to the shipment of products in interstate commerce, 21 CFR 1002 requires the manufacturer to submit the product and Annual Reports and to comply with all applicable importation requirements (21CFR 1005). If there are deficiencies, CDRH may disapprove the firm's quality control and testing program, determine that the product contains a radiation defect, or determine that the product fails to comply with a standard. CDRH will notify the manufacturer if we make such a determination. CDRH may require the manufacturer to cease introduction into U.S. commerce until deficiencies are corrected, and to initiate a corrective action program (21CFR 1003 - 1004) for products already introduced into commerce.

CDRH can now accept and process 'CeSub' electronic submissions at this time, if all attachments are PDF files only, and the cover letter is printed out and included with a real signature. Translate any text that appears in a language other than English into English in a complete and accurate manner. Keep a copy (save a copy to your hard drive) of the completed report in your records.

We are providing our new software applications for the old reporting forms upon request during this beta testing period of development in Spring, 2005. Other regulatory information is still available on the Internet under [www.fda.gov/cdrh/radhealth/](http://www.fda.gov/cdrh/radhealth/). No copyright exists for these forms.

Reproduce these forms as needed. If you would like to comment on the reporting forms, website, or future electronic submissions, you may direct the comments to [cdrhsub@cdrh.fda.gov](mailto:cdrhsub@cdrh.fda.gov).

A complete Product Report is required for each product model or model family. Product Reports are now more generally referred to as Radiation Safety Reports to distinguish the Radiological Health submissions from medical device submissions. CDRH suggests that a complete report on one model of a family be submitted, with a separate Supplemental Report for each of the other models in the family. The Supplemental Report should respond in detail to the parts of the form where there are differences to report, referencing the number of the affected item. Items that are unchanged will still appear in the supplement from the original report.

When new models of a product are introduced, if the models satisfy the criteria for an established reporting exemption or if the new models do not involve changes in radiation emission or performance requirements, then the manufacturer need not report the models prior to introduction into commerce. Rather, the manufacturer is only required to identify them in the annual report, or in quarterly updates to the annual report. Quarterly updates to annual reports may be submitted using the Annual Report software included in this application. [See 21 CFR 1002.13(c).]

All symbols, units, and unusual terms in the report must be adequately defined and consistently used. Please use the terms as defined in Section 1040.10(b) and in the IEEE Standard Dictionary of Electrical and Electronic Terms (IEEE Std. 1001972 and ANSI C42.1001972).

Definitions

# Definitions for Rad Health Products

## Manufacturers

Manufacturer is any person or organization engaged in the business of manufacturing, assembling, or importing of electronic products (21 CFR1000.3(n)). Manufacturers of electronic products subject to 21CFR1000-1050 must:

- Design and manufacture their products to be in compliance with applicable performance standards;
- Test their products to assure compliance;
- Certify compliance of their products;
- Maintain test and distribution records and a file of correspondence concerning radiation safety, safety complaints, and inquiries;
- Use the published reporting forms or electronic software application to submit reports to CDRH, including Product reports describing the manner of compliance of the product design and testing program and Annual Reports summarizing their compliance testing;
- Report accidental radiation occurrences (i.e., possible, suspected, or known exposures);
- Report any radiation defects or noncompliances; and
- Recall (i.e., repair, replace, or refund the purchase price of) defective or noncompliant products.

## Accidental Radiation Occurrences

An accidental radiation occurrence means a single event or series of events that has/have resulted in injurious or potentially injurious exposure of any person to electronic product radiation as a result of the manufacturing, testing, or use of an electronic product.

## Importers

Importer is any person or organization engaged in the business of importing electronic products. An importer is considered to be a manufacturer. The requirements for Manufacturers given above also apply to importers if the requirements have not been done by the foreign manufacturer.

## United States Agent for Foreign Manufacturers

Every manufacturer of electronic products, prior to offering such product for importation into the United States, shall designate a permanent resident of the United States as the manufacturer's agent upon whom service of all processes, notices, orders, decisions, and requirements may be made for and on behalf of the manufacturer as provided in section 536(d) of the Radiation Control for Health and Safety Act of 1968 (21U.S.C. 360mm(d)) and this section. The agent maybe an individual, a firm, or a domestic corporation. For purposes of this section, any number of manufacturers may designate the same agent.

## From The Federal Food, Drug, and Cosmetic ActSec 536 [21 U.S.C. 360mm](d) Designation of agent for purposes of service

It shall be the duty of every manufacturer offering an electronic product for importation into the United

States to designate in writing an agent upon whom service of all administrative and judicial processes, notices, orders, decisions, and requirements may be made for and on behalf of said manufacturer, and to file such designation with the Secretary, which designation may from time to time be changed by like writing, similarly filed. Service of all administrative and judicial processes, notices, orders, decisions, and requirements may be made upon said manufacturer by service upon such designated agent at his office or usual place of residence with like effect as if made personally upon said manufacturer, and in default of such designation of such agent, service of process, notice, order, requirement, or decision in any proceeding before the Secretary or in any judicial proceeding for enforcement of this part or any standards prescribed pursuant to this part may be made by posting such process, notice, order, requirement, or decision in the Office of the Secretary or in a place designated by him by regulation.

Sec. 531 [21 U.S.C. 360hh] (1) the term "**electronic product radiation**" means:

(A) any ionizing or non-ionizing electromagnetic or particulate radiation, or

(B) any sonic, infrasonic, or ultrasonic wave, which is emitted from an electronic product as the result of the operation of an electronic circuit in such product.

Sec. 531 [21 U.S.C. 360hh](2) the term "**electronic product**" means:

(A) any manufactured or assembled product which, when in operation, (i) contains or acts as part of an electronic circuit and (ii) emits (or in the absence of effective shielding or other controls would emit) electronic product radiation, or

(B) any manufactured or assembled article which is intended for use as a component, part, or accessory of a product described in clause (A) and which when in operation emits (or in the absence of effective shielding or other controls would emit) such radiation.

Burden to Industry

## Paperwork Reduction Act Statement

Public reporting burden for this collection of information is estimated to average 26 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to:

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center - WO66-0609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993-0002

"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number."

<b>Manufacturer and Report Information</b>
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<i>Information:</i>	<p><i>This general report requests names, addresses, phone numbers, etc. for your firm, various officials of your firm, consultants who may assist in preparing the report, parent firm (if any), importer and designated agent (for foreign firms). Some of this information is mandatory and its absence will prevent you from completing the report submission. You can check for missing data using the "Missing Data" report from the "Output" menu.</i></p> <p><i>If you are acting as an agent or consultant for another firm who is certifying the product (or laser light show), please enter the certifying manufacturer and list yourself as the report submitter, below.</i></p>
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<i>Information:</i>	<p><i>Attention: Variance Applicants</i></p> <p><i>If you are acting as an agent or consultant for, or on behalf of, or filing for, a company that will be manufacturing or producing a Class IIIb or IV projector or laser light show or both which require an approved variance, the following explanations may provide further clarification.</i></p> <p><i>Manufacturer: This is the firm or company who is requesting the variance, will certify the product or show, and will be the holder and owner of the variance. This is not the agent or consultant who may be filing this report or Variance request for the manufacturer; that agent may be the submitter, identified in a later screen.</i></p> <p><i>Responsible Individual: This person works for the Manufacturer and is responsible for compliance of the projector and/or show. In the case of laser light shows, he or she may be the company president, CEO, or the laser light show head operator or a manager who oversees the shows.</i></p> <p><i>Reporting Official: This person works for the Manufacturer and is responsible for reports, recordkeeping, and submitting FDA required documents and correspondence.</i></p>
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<b>Manufacturer Responsible for Product Compliance</b>
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<i>Note:</i>	<p><i>This is the firm that takes responsibility for certification that the product meets the performance standard. This firm develops and maintains the quality control and testing program that is the basis for the certification of this product. Additionally, this firm usually is the owner of the product design and manufacturing process design.</i></p>
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Select the Manufacturer's address from the Establishment Address book:	
<i>Establishment Information:</i>	
Establishment Name	
Division Name	
Home Page	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	

<b>Responsible Individual</b>
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<i>Note:</i>	<p><i>The responsible individual is the highest level and most responsible individual affiliated with this establishment.</i></p>
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Select the Responsible Individual from the Contact Address book:

<i>Contact Information:</i>	
Contact Name	
Occupation Title	
Email Address	
<i>Establishment Information:</i>	
Establishment Name	
Division Name	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	

<b>Manufacturer's Reporting Official</b>
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<i>Note:</i>	<i>This is the person at the manufacturing facility that is knowledgeable and responsible for addressing all aspects of the testing and quality control procedures for certification as reported to FDA in the product report. Documentation of changes in testing and quality control procedures submitted to FDA must be signed by this individual.</i>
Select the Reporting Official from Contact Address book:	
<i>Contact Information:</i>	
Contact Name	
Occupation Title	
Email Address	
<i>Establishment Information:</i>	
Establishment Name	
Division Name	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	

<b>Report Submitter</b>
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<i>Note:</i>	<i>The submitter may be a consulting individual or firm providing assistance in report preparation and maintenance. All documents prepared by the submitter must have the manufacturer's reporting official signature for authenticity of submitted</i>
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documentation.	
Select the Submitter from the Contact Address book:	
<i>Contact Information:</i>	
Contact Name	
Occupation Title	
Email Address	
<i>Establishment Information:</i>	
Establishment Name	
Division Name	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	
<i>Comments:</i>	
Internal Reference Number:	

<b>Parent Establishment</b>
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Is there a parent establishment?	[L]
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Select the Parent Establishment and Contact from the Contact Address book:	
<i>Contact Information:</i>	
Contact Name	
Occupation Title	
Email Address	
<i>Establishment Information:</i>	
Establishment Name	
Division Name	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	



Address	
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Manufacturer Designated United States Agent
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<i>Note:</i>	<i>Manufacturers exporting to the U.S. must designate a U.S. agent, see 21 CFR 1005.25.</i>
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Is there a United States agent that has been designated by the manufacturer?	[L]
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Written Agreement
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<b>Item: 1 (could contain up to 10 items with none required)</b>
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<i>Note:</i>	<i>If any of the required responses below do not apply to your designated agent, enter 'NOT APPLICABLE' or 'NA.'</i>
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Select the Designated Agent from the Contact Address book:

*Contact Information:*

Contact Name	
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Occupation Title	
------------------	--

Email Address	
---------------	--

*Address*

Establishment Name	
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Division Name	
---------------	--

Address	
---------	--

Telephone Number	
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Fax Number	
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Attach a copy of written agreement with the designated U.S. agent:

[Multi-Line Plain Text]

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
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Importer
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<b>Item: 1 (could contain up to 10 items with none required)</b>
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Select the Importer from the Contact Address book:

*Contact Information:*

Contact Name	
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Occupation Title	
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Email Address	
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<i>Establishment Information:</i>	
Establishment Name	
Division Name	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	

**Additional Manufacturing Locations**

**Item: 1 (could contain up to 100 items with none required)**

<i>Note:</i>	<i>If any of the products certified in this report are manufactured at locations other than listed in the Manufacturer Responsible for Product Compliance section, then the names, addresses, and FDA registration numbers should be provided. In addition any codes used on labels to identify a manufacturing location must be provided. Each factory location must assure all production procedures are followed identically step by step as provided in this report. If the procedures are not the same then separate reports should be filed.</i>
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Select the Manufacturer Address from the Establishment Address book:

<i>Establishment Information:</i>	
Establishment Name	
Division Name	
Home Page	
<i>Physical Location:</i>	
Address	
Telephone Number	
Fax Number	
<i>Mailing Location:</i>	
Address	
<i>Comments:</i>	
Code used on identification labels:	

**Section: Product Data**

**Product and Model Identification**

Note:

At this time we are only accepting electronic versions of reporting guides contained within this software. Other reporting guides that are not yet electronic are available for downloading from <http://www.fda.gov/cdrh/comp/eprc.html>.

Product Type Reported

Report Information

Is this submission a supplement to an Annual Report submitted previously for the same reporting year?

[L]

Provide the Accession Number of the original report for which this is a supplement:  
(Note: Do not enter any Device Premarket Application or Notification document number here, such as PMAs, 510(k)s, IDEs, etc.)

**Please verify that your accession number matches the report type that is being filed. The third character of your accession number must correspond with its associated report type as shown in the table below:**

Report Type Description:	Third Character:
Initial Product Report	1
Model Change Product Report	2
Annual Report	3
Abbreviated Report	8
Variance Request	A
Laser OEM Registration and Listing Report	R

Are you requesting a new variance, a renewal, extension or amendment to a previous variance?

[L]

If you are requesting a renewal, extension, or amendment, please provide the variance number that was issued by CDRH.

Stop:

*If you are requesting a new variance, renewal, extension, or amendment, you must file a Variance Request separate from this report. To do this, open a new report (File > New) and select either "Laser Light Show Variance Request" or "Variance Request, Other" as your Type of Submission in the Submission Information Screen. If you select "Variance Request, Other" you must select the product for which you are requesting a variance at the end of the screen.*

Special Considerations

Note:

Check all items in this section that may apply to this submission.

Noncompliances or Defects

Does this document or any of its attachments contain:

A self-declaration or notification of noncompliance or defect?

[L]

Provide an explanation:

[Multi-Line Plain Text]

**Responses to Noncompliances or Defects**

<b>Does this document or any of its attachments contain any of these responses concerning noncompliances?</b>	
A refutation of noncompliances?	[L]
A request for an exemption from notification?	[L]
Corrective action plans you may be conducting?	[L]
A description of any design changes that correct noncompliances for future production?	[L]
Provide an explanation:	
[Multi-Line Plain Text]	

**Exemption Requests**

<b>Does this document or any of its attachments contain:</b>	
Exemption of a product for government use from a standard (1010.5)?	[L]
Exemption for products for government use from reporting and recordkeeping (1002.51)?	[L]
Special exemption of products from reporting and/or recordkeeping (1002.50)?	[L]
Request for approval of alternate labeling?	[L]
Application for alternate test procedures (1010.13)?	[L]
Provide an explanation:	
[Multi-Line Plain Text]	
Attach any necessary files.	
[Multi-Line Plain Text]	
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]

**Variance Requests**

<b>Message:</b>	<i>Click the plus sign to list the requirements from which you are requesting a variance.</i>
This submission includes an application for a variance from certain requirements.	
Item 1	
Item 2	
Item 3	
Provide an explanation and attach supporting files, if necessary. Click on the plus sign below to attach files.	
Details	[HTML Text]

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Stop:	<p><i>For all Variance requests, two submissions must be made to the FDA.</i></p> <p><i>The electronic version should be submitted following the Packaging Files for Submission instructions located under Output in the Menu bar, and explained in subsection 4.3 of the User Manual. If sending a CD &amp; submittal letter, please mail to:</i></p> <p><i>U.S. Food and Drug Administration Center for Devices and Radiological Health Attn: eSubmitter Team Document Mail Center - WO66-0609 10903 New Hampshire Avenue Silver Spring, MD 20993-0002</i></p> <p><i>Additionally, a paper version (hard-copy) of the signed Variance request document should be submitted to:</i></p> <p><i>Food and Drug Administration Division of Dockets Management (HFA-305) 5630 Fishers Lane, Room 1061 Rockville, MD 20857</i></p>

### Responses to Communications from FDA

<b>Does this document or any of its attachments contain:</b>	
A response to an inspection?	[L]
What was the date of the inspection?	[Date]
A response to a warning letter from the Food and Drug Administration (FDA)?	[L]
What was the date of the Warning Letter?	[Date]
A response to a report review inquiry from the Center for Devices and Radiological Health (CDRH) (the inquiry may have been in the form of a letter, email, or phone call)?	[L]
What was the date of the inquiry?	[Date]
A response to any other communication from FDA?	[L]
What was the date of the communication?	[Date]
Provide an explanation:	
[Multi-Line Plain Text]	

### Additional Information

Is there any other relevant information or additional comments that would help expedite the review of this submission? Click the plus sign below to attach any supporting files.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

### Private Labeling

Is the product sold by other companies under different brand names?	[L]
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## Private Labeling-Table

Item: 1 (could contain up to 20 items with 1 required)

Give the name and address of the manufacturer:

*Establishment Information:*

Establishment Name

Division Name

Email Address

*Address*

Address

Telephone Number

Fax Number

Give the firm establishment registration number of the manufacturer listed above (if known):

Enter brand names and/or model designations in the following table by clicking on the Add button. If you prefer to attach a file, please click on the Add button and enter the text "See File Attachment" as the first table entry.

Item 1

Item 2

Item 3

## List of Brand Names and/or Model Designations

File Attachment

[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]

Details

[HTML Text]

The Original Equipment Manufacturer (OEM) accession number (if known):

Explain how the brand names and model designations correspond with your own brand names and model designations:

[Multi-Line Plain Text]

## Medical Devices

Provide the premarket 510(k), IDE, HDE, PDP, or PMA filing numbers related to this medical product, if one of these numbers has been assigned by FDA yet.

[Multi-Line Plain Text]

If it has not been assigned yet, provide an explanation and submit it as soon as you receive such a filing number.

[Multi-Line Plain Text]

*Note:* See [www.fda.gov/cdrh](http://www.fda.gov/cdrh) for more information on medical device premarket clearance procedures.

Document Key: Specialized Response content is defined within straight brackets [ ]; Special code: [L] List of Values.

**OMB No. 0910-0025; Exp. May 31, 2010****Section: Microwave Oven Product****Part 1.0 Model Designation and Specifications****1.1 Identification of Model Family**

Provide an identification of a Model Family (Identify by numbers, letters, symbols, or any generic family name that would represent the models to be listed).

Enter Model designation.

Item 1	
Item 2	
Item 3	

If you use code for the brand name, please attach a list providing the complete address for each importer or distributor of each brand and identify the codes used.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

**1.2 Magnetron and Waveguide**

Please provide photographs and/or engineering diagrams of the waveguide.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

**1.3 Mode Stirrer or Equivalent Devices**

**Item: 1 (could contain up to 15 items with 1 required)**

Model Designation	
Speed of Stirrer (in RPM)	
Speed of Turntable (in RPM)	
Number of Blades	
Method of Drive	
Please provide photographs and/or engineering diagrams of mode stirrer. If your oven does not have a mode stirrer, please explain in the Details space below:	



File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

#### 1.4 Insertion

Can an insulated wire be inserted through any opening in the external surface of the oven into the cavity, waveguide, or other microwave energy containing spaces while the door is closed, provided the wire, when inserted, would consist of two straight segments forming an obtuse angle of not less than 170 degrees? [L]

*Warning:* If you answered yes, your product does not comply with the wire insertion requirement. Please review the requirement in 21 CFR 1030.10(c)(2)(iv).

Attach clearly labeled photographs or engineering diagrams which show all external surfaces of a fully assembled oven. Adequate illustrations should demonstrate that it is not possible to insert an insulated wire through any opening in the external surface into the cavity, waveguide, or other microwave energy containing spaces.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

#### 1.5 Exposed Welds or Seams of the Cavity

Are there any exposed welds or seams of the cavity on the fully assembled oven (such as bottom of oven)? [L]

Attach clearly labeled photographs or engineering diagrams which show the entire surface of the fully assembled oven (including underneath).

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

#### 1.6 Oven Door

**Item: 1 (could contain up to 20 items with 1 required)**

Model Designation	
The oven door is attached to the main frame by:	[L]
Give a description of your other means by which the oven door is attached to the main frame.	
[HTML Text]	
Further adjustment or loosening is prevented by (explain):	
[HTML Text]	
If the door sealing system includes a gasket, which kind is it?	[L]
The type of door latches are:	[L]
If a viewing window is provided, describe its construction and size and the techniques used to control RF emission through it:	
[HTML Text]	
Attach photographs or engineering diagrams of microwave emission control door features, hinges, gasket, viewing screen, choke, door sealing system, door latches, etc.	

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

### 1.7 Safety Interlocks and Monitor System

#### Item: 1 (could contain up to 10 items with 3 required)

Note:	Answer the following questions for one safety interlock or monitor system at a time.	
Which safety interlock or monitor system are you describing?		[L]
(Location) - Indicate the location of the safety interlock or monitor system		
(Concealment) - Is the interlock or actuator hidden from view (is it concealed)?		[L]
(Wire Insertion) - Can a straight wire or other small thin straight object (10 cm in length or less) operate the interlock?		[L]
(Finger Insertion) - Can a small child's finger operate the interlock or actuator?		[L]
(Interlock adjustment) - Can the switch (or bracket on which the switch is mounted) be adjusted to allow the interlock to remain in a "closed" position or the monitor to remain open?		[L]
(Actuation distance) - How far can the door be opened before the interlock switch actuates (fill in number and unit, example, 2 mm )		
(Monitored) - Is the safety interlock in the monitoring or crowbar circuit?		[L]
(Door Motion) - Is door motion required to operate this interlock?		[L]
(Sequential Operation) - With the door just opening, number the order of interlock actuation, for example, primary interlock = first, secondary interlock = second, monitor = third, or primary interlock = first, secondary interlock = same time as primary, monitor = second.		

### 1.8 Other Requirements

Can a failure of any single mechanical or electrical component of the microwave oven cause all safety interlocks to be inoperative? [ 21 CFR 1030.10(c)(2)(ii)]	[L]
is there any additional component in the monitor circuit, such as a relay which can disrupt or prevent the function of the monitor system? [ 21 CFR 1030.10(c)(2)(v)]	[L]
Can interlock failures disrupt the monitoring functions? [ 21 CFR 1030.10(c)(2)(v)]	[L]

Attach schematic and wiring diagram for each model or Model Family. Be sure the required safety interlocks and monitor are clearly labeled or identified in the schematic or wiring diagram.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Attach an explanation of how the monitor system works when the safety interlock(s) fail(s) to perform its (their) required function(s). Be sure to explain the sequence of operation when safety interlock(s) fail(s).

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

## 1.9 Attachments

Attach photographs or engineering diagrams of safety interlocks, monitor and support brackets.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
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Details	[HTML Text]
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Attach photographs or engineering diagram of latches (external and internal) in relation to the safety interlocks and monitor. Be sure to show dimensions of access areas where the latches enter to actuate the safety interlocks and monitor.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
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Details	[HTML Text]
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Attach photographs or engineering diagrams of concealed safety interlock(s) to show how it (they) cannot be activated by a small child's finger or a straight wire (10 cm in length). Please include dimensions.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
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Details	[HTML Text]
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## Part 2.0 Labeling Requirements

### Information:

21 CFR 1010.2 requires that a legible certification label or tag be permanently affixed and accessible to view on a fully assembled oven. The following statements are given as examples which satisfy the requirements of 21 CFR 1010.2:

1. "This oven complies with DHHS Radiation Performance Standards, 21 Subchapter J," or
2. "This product complies with applicable sections of DHHS Federal Performance Standard 21 CFR 1030.10"

21 CFR 1010.3 requires that a legible identification label be permanently affixed and accessible to view on a fully assembled oven. The identification label should contain the full name and address of the manufacturer; and the date (month and year) of manufacture must be spelled out completely without abbreviation. The place of manufacture may be expressed in code provided the manufacturer has supplied the key to such code to CDRH (as a supplement to the annual report).

21 CFR 1030.10(c)(6)(i) requires that a legible user warning label be permanently affixed and be readily viewable during normal oven use. This label must also have the title emphasized, and be so located as to elicit the attention of the user. The exact wording of the user warning label is specified in 21 CFR 1030.10(c)(6)(i).

21 CFR 1030.10(c)(6)(ii) requires that a legible service caution label be permanently affixed and be readily viewable during servicing. This label must also have the title "CAUTION" emphasized and be so located as to elicit the attention of the service personnel. More than one service warning label may be needed if there is more than one access entry to the internal mechanism of the oven. The exact wording of the service caution label is specified in 21 CFR 1030.10(c)(6)(ii)

21 CFR 1030.10(c)(4) - User instructions or manual - For each model family, submit a representative draft or final sample of user instructions which will contain adequate instructions for safe use. These instructions must include the required clear warnings of the "PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY ..." statements specified in 21 CFR 1030.10(c)(4).

21 CFR 1030.10(c)(5) - Service Instructions or manual - For each model family, submit a representative draft or final sample of the service manual. The service manual must contain adequate instructions for service adjustments and service procedures. These instructions must include the required clear warnings of the "PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY ..." statements as specified in 21 CFR 1030.10(c)(5).

## 2.1 Labels and Radiation Warnings

Certification label [ 21 CFR 1010.2]: Describe location of the certification label on the product

[HTML Text]
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Is the label permanent and legible?	[L]
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Identification label [ 21 CFR 1010.3 ] : Describe location of the identification label on the product	
[HTML Text]	
Is the label permanent and legible?	[L]
Is the place of manufacture expressed in code?	[L]
Provide addresses for each code.	
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

User Warning label [ 21 CFR 1030.10(c)(6)(i) ] : Describe location of the User Warning label on the product	
[HTML Text]	
Is the label permanent and legible?	[L]

Service Caution label [ 21 CFR 1030.10(c)(6)(ii) ] : Describe location of the Service Caution label on the product	
[HTML Text]	
Is the label permanent and legible?	[L]

## 2.2 Label Attachments

Attach a copy of each of the following labels: a. Certification label b. Identification label c. User warning label d. Service caution label	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

## 2.3 Attach User and Service manuals

Attach a copy of the draft or final user manual and service manual.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

## Section: Technical Data

### Part 3.0 Special Tests on Pre-Production Ovens

<b>Information:</b>	<i>For each model family, provide the results of any special or unique tests performed on preproduction ovens to assure</i>
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compliance of subsequent production ovens with the Federal performance standard. The attachment of results of tests on the preproduction ovens should include the following:

1. Testing performed to evaluate effects of the environment (heat, humidity, etc.), sensitivity to cavity temperature, effects of abuse, and the effects of shipping and transporting the oven.

2. Testing to evaluate performance of safety interlocks and monitor switches, door-sealing system, door choke, and other radiation safety components through life and endurance testing.

3. Testing to evaluate microwave emission characteristics on the external surfaces (vents, door-sealing system, door choke, underneath the oven, etc.) prior to actuation of safety interlocks and monitor switches in both normal mode and worse case mode; microwave emission sensitivity to load placement; and stirrer modulation effects on microwave emission.

The special test should also include results of testing performed on the monitor system (or crowbar circuit). The summary of the results should include the conditions of the safety interlocks and monitor system before and after the tests and description of how the monitored safety interlock(s) was (were) defeated. The monitor system should render the oven inoperable (such as fuse blowing) and servicing is required.

### 3.1 Special Tests on Pre-Production Ovens

Attach the results of special or unique tests necessary to evaluate the performance of the safety interlocks, monitor, microwave emission at all surfaces, transportation testing, life and endurance testing of radiation safety components.

File Attachment	[Multiple File Attachments (pdf)]
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Details	[HTML Text]
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### 3.2 Testing of the Monitor System

Attach a description of how the monitor system works when one or both safety interlocks failed, and how the oven is rendered inoperable.

File Attachment	[Multiple File Attachments (pdf)]
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Details	[HTML Text]
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## Section: Quality Control

### Part 4.0 Incoming Inspection and Subassembly Testing

Message:

*Part 4.0 must be completed in its entirety for the Quality Control Report only. Any addenda or changes to this Part should be reported as a supplement to the Quality Control Report using appropriate Part D - Supplement to Product Reports. Quality Control Report or Annual Report.*

*Part 4.0 addresses all applicable quality control and testing procedures for incoming inspection and subassembly testing of critical radiation safety components which you consider to be a vital and necessary part of your testing program to ensure compliance of your finished products with the Federal performance standard 21 CFR 1030.10. This shall include (but not be limited to) incoming inspection and/or subassembly testing of such items as safety interlocks and monitor switches, wire harnesses, magnetron gasket, waveguide and cavity assemblies, door and door assemblies, door sealing system, door viewing screen and noncertified microwave oven modules.*

*4.1 - For each critical safety component listed on the corresponding form, use as many of the keys to test parameters identified below as necessary to describe the parameters of each test conducted during incoming inspection or subassembly testing. In addition, use the notation (100) or (S) to describe whether the tests are done on a "100 percent basis" or "sampling basis." If no tests are done to the component, use the notation (NT) for "no test."*

*Keys to Test Parameters:*

*D = dimension check  
E = electrical continuity or performance  
F = function test  
RF = microwave emission measurement  
V = visual inspection*

	<p><i>W = weld integrity (destructive or non-destructive)</i></p> <p><i>Example:</i></p> <p><i>Cavities and waveguides: VIS, W/S, DIS</i></p> <p><i>Wire harnesses:NT</i></p> <p><i>Magnetron gasket: V/100</i></p> <p><i>Microwave oven modules: E/100, RF/S, F/100</i></p>
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**4.1 Incoming Inspection and Component Tests**

**Item: 1 (could contain up to 16 items with 8 required)**

Select the next component to be described	[L]
<i>Message:</i>	<i>For each test parameters, select the type of test plan used</i>
Dimension check	[L]
Electrical continuity or performance	[L]

**4.2 Control of components**

Are the incoming components adequately controlled to prevent their use until quality control tests are completed and lot acceptability is determined?	[L]
Are the rejected lots of components adequately marked or secured so the rejected parts are not used in production unless reworked?	[L]

**Part 5.0 Production Line and Final Tests**

**5.1 General Tests and Microwave Emission Tests**

<b>When are the following tests performed?</b>	
Door installation and adjustment checks	[L]
Safety interlocks and monitor continuity function checks	[L]
Microwave emission hazard test over waveguide, cavity seams and magnetron area prior to installing cabinet	[L]
Amount of door travel before secondary safety interlock actuation	[L]
Open door (shut off) operation tests	[L]
Presence and content of required labels ( such as certification, identification, service and user caution labels)	[L]
Microwave emission test of door viewing screen	[L]
Microwave emission test of door perimeter	[L]
Microwave emission test of door perimeter with door pulled out and all safety interlocks operating	[L]
Microwave emission test of door perimeter with door pulled out and only secondary safety interlocks operating	[L]
Microwave emission test of door hinge, control panel, vents and louvers	[L]

Microwave emission test of underneath the oven (if there is exposed cavity under the oven)	[L]
Microwave emission tests performed by an automated microwave oven scanner	[L]

## 5.2 Description of Quality Control Checks

Are the written procedures or diagrams available or posted in the working area for the individual performing the quality control checks?	[L]
Are repaired or adjusted ovens returned to the assembly line at a point prior to the test that caused their rejection?	[L]
Are all repaired or adjusted ovens, regardless of the nature of the repair, returned to the assembly line for the open door operation test and final microwave emission tests?	[L]

## 5.3 Test Procedures

Section 5.3.1. Attach written quality control test procedures for testing continuity of safety interlocks and monitor switches. You may attach the entire quality control and testing procedures but please indicate where the specific test procedures are located.

These procedures should include the following:

A) A brief outline of the procedures for function tests of each safety interlock switch (primary and secondary) and monitor. Also describe electrical continuity checks of each switch along with as much related wiring as possible.

B) A sample schematic with test points identified.

C) A list of instruments and test equipment and description of preoperational checks. Describe any special testing apparatus or devices.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Section 5.3.2. Attach written quality control test procedures for performing open door restart operation. You may attach the entire quality control and testing procedures but please indicate where the specific test procedures are located.

This open door restart operation test procedure must be performed on every fully assembled oven. An open door operation test procedure is an excellent quality control test to prevent any oven that will operate with the door open from being introduced into commerce. The test should include a check that operation ceases when the door is opened and an attempt to restart the oven while the door is unlatched. Any signs of microwave power can be monitored by either an ammeter or RF emission. The restart check should be done with the oven both programmed, and not programmed, for operation for electronic controller ovens; with and without time on the timer for electromechanical timer ovens.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Section 5.3.3. Attach written quality control test procedures for assessing the performance of the secondary safety interlock. You may attach the entire quality control and testing procedures but please indicate where the specific test procedures are located.

This section requests written quality control procedures for assessing the performance of secondary interlock design that interrupt power to the oven (interlock actuates) after the door starts to move. These quality control tests assure that this secondary safety interlock will prevent "microwave radiation in excess of 5 milliwatts per square centimeter at any point 5 centimeters or more from the external surface of the oven," as stated in 21 CFR 1030.10(c)(2)(v). If the oven design employs a latch actuated secondary safety interlock that interrupts power to the oven before there is outward door movement, this part is not required.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Section 5.3.4. Attach written quality control test procedures for repair and retesting of defective ovens found on the production line. You can attached the entire quality control and testing procedures but please indicate where the specific test procedures are located.

You should describe the following information:

A) A description of all quality control checks done on the repaired or adjusted ovens, such as hazard RF emission, electrical continuity of safety

interlocks and monitor, and tests of any other radiation safety components required to confirm proper operation.

B) A description of how all ovens set aside for repair and or adjustment re-enter the production line.

C) A sample of the record or form used to retain the model, serial number, nature of defect and repair, and the results of all retesting conducted.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

**5.4 Final RF Emission Testing of Fully Assembled Ovens**

*Information: Attach written quality control test procedures for testing continuity of safety interlocks and monitor switches. You may attach the entire quality control and testing procedures but please indicate where the specific test procedures are located.*

Section 5.4.1 (A) - Physical and electrical conditions under which tests are made (such as line voltage, test load, test load placement, test load temperature, turntable rotation, power on/off, full power setting, door open, door pulled, door closed, secondary interlock only RF emission test.

Section 5.4.1 (B) - Adjustment, if any, made during the test and specific procedures and criteria for making adjustments.

Section 5.4.1 (C) - Instruments and test equipment used to make each test, including preoperational instrument checks and descriptions of any special testing apparatus or devices such as door shims or door pull devices.

Section 5.4.1 (D) - Description of microwave emission measurement procedures, including survey meter scanning procedures, surface and areas surveyed for RF leakage, scanning speed, and type of spacer probes used to maintain constant distance from oven surface.

Section 5.4.1 (E) - RF reject limit and its basis, such as instrument manufacturer's assessment of calibration error, stirrer modulation effects, turntable modulation effects, scan speed.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Section 5.4.2 Provide a sample copy of the record used to retain the results of final emission tests. If an automated microwave oven scanner (AMOS) is used, include samples for both hand-held testing and AMOS testing.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Section 5.4.3 Attach a flowchart diagram of the production lines describing the quality control stations, final test areas, repair bays and audit testing stations.

File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

**Part 6.0 Quality Audit**

**For each quality control procedures listed, fill in the appropriate sampling rate, or use the notation, "NP" to indicate that this procedure is not performed in audit. Your sampling rate answer can be similar to any of the following examples: (ovens per lot), e.g., "20/1000"; (percentage of today's production), e.g. "10%"; (ovens per quarter), e.g., "5/quarter"; (ovens per year), e.g., "4/year"; or (not performed), e.g., "NP".**

Safety interlocks and monitor continuity function checks	
Microwave emission hazard test over waveguide, cavity seams and magnetron area prior to installing cabinet	
Microwave emission hazard test over waveguide, cavity seams and magnetron area prior to installing cabinet	
Amount of door travel before secondary safety interlock actuation.	



Open door (shut off) operation tests.	
Insertion test by finger or wire into concealed safety interlock(s) and cavity	
Presence and content of required labels (such as certification, identification, service and user caution labels)	
Check for required precaution statements in user and service manuals	

<b>RF EMISSION TESTS</b>	
Microwave emission test of door viewing screen	
Microwave emission test of door perimeter	
Microwave emission test of door perimeter with door pulled out and all safety interlocks operating	
Microwave emission test of door perimeter with door pulled out and only secondary safety interlocks operating	
Microwave emission test of door hinge, control panel, vents and louvers	
Microwave emission test of underneath the oven (if there is exposed cavity under the oven)	
Microwave emission tests performed by an automated microwave oven scanner	

**Part 6.1 Quality Control Procedures Conducted in Audit**

Attach a copy of the written quality control test procedures for testing continuity of safety interlocks and monitor switches and their related wiring.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]
Attach copy of written quality control test procedures for performing open door restart operation.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]
Attach copy of written quality control procedures for assessing the performance of the secondary safety interlock.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]
Are the written procedures or diagrams available or posted in the working area for the individuals performing the quality control checks?	[L]
Please explain how the firm can ensure that the proper quality control testing procedures are being followed.	
[Multi-Line Plain Text]	
Attach a sample copy of the record used to retain the results of the quality control checks in audit.	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

**Part 6.2 Audit Program**

Attach a sample copy of the audit record used to retain the results of the quality control checks in audit, including the reject limit value for RF emission.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Attach an internal quality control audit document that contains all oven audit procedures. Include all the equivalent information requested in Part 5.4.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

Attach a copy of the internal quality control document that contains the audit corrective action plan that would be followed should any ovens selected for audit testing fail to meet the audit test criteria. The description of the audit plan should include at least the following information:

A. Classification of radisation safety and compliance defects such as excessive RF emission, safety interlocks and monitor not performing their intended functions, failure of the open door operation check, absence of the required labels, etc, and their rejection criteria.

B. Plan of action following audit failure, including any resampling.

C. Sample of document or record used to retain test results from corrective action plan including: type of compliance related defect, sample size, selection, and corrective action or decision taken by responsible or supervisory audit personnel.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

## Part 7.0 Life and Endurance Testing

This Part relates to all applicable life and endurance test procedures to determine the ability of the oven and its subsequent model family to comply with the Federal performance standard throughout its normal life. Attach the internal quality control document and a sample of the test results including the following information:

A. Frequency of life testing (weekly, monthly, or quarterly).

B. Test length (short term and long term).

C. Rf leakage tests (start of test, every fixed cycles, and end of test).

D. Rf emission reject limit.

E. Safety interlocks and monitor continuity checks (start of test, every fixed cycles, and end of test).

F. Active Monitor check at end of endurance test.

G. Sample of actual record used to retain the results of life and endurance test.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

## Part 8.0 Instrumentation and Calibration Checks

Manufacturers must use properly calibrated microwave leakage measurement instruments in their production and audit testing and quality control programs to assure compliance with the Federal Performance Standard for Microwave Ovens, 21 CFR 1030.10. This Part is divided into 5 major segments. 1. Type of microwave survey instruments and their measurement errors ( total polarization ellipticity allowed) 2. Daily Checks and recordkeeping. 3. Thirty-Day calibration constancy checks and recordkeeping. 4. Repair of survey instruments and calibration instruments. 5. Annual calibration and periodic calibration.

### 8.1 Identification of Compliance Test Instruments

Attach document which provides the name of the compliance survey instrument, model number, and how many are used in the production department, engineering department and audit department. You can attach a copy of an operation manual of the compliance survey instrument.

File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

### 8.2 Daily Check

Is a preoperational check made on each microwave survey instrument in accordance with the instrument manufacturer's recommendation?	[L]
Is a polarization ellipse check performed on each instrument each day the instrument is used for compliance instrument?	[L]
Is the following formula used to calculate the percent of polarization ellipticity of each instrument? ( MAXIMUM - MINIMUM ) / MEAN x 100 = _____ (%) TOTAL	[L]
What formula is used (type in formula below)? If you prefer, you may attach a file showing the formula for calculating the percentage of polarization ellipticity of each instrument.	
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]
Is each instrument that is found to exceed the maximum polarization ellipticity limit rejected until the instrument is repaired and recalibrated?	[L]
During the daily check, is the spacer cone checked on each survey meter and replaced if it is worn or dirty?	[L]
What type of microwave source instrument is used for performing the daily check? [Multi-Line Plain Text]	
Is the probe holding fixture on the daily check instrument designed to prevent any horizontal, vertical and transverse motion while the probe is being rotated during ellipticity check?	[L]
Is a daily record used to retain the model number, serial number, probe serial number, date of check, percent of polarization ellipticity, entry for accept/reject criteria, and any other information on the corrective action to to any instrument that exceeds the limit?	[L]
Attach a sample copy of the sample daily check record for the daily check	
File Attachment	[Multiple File Attachments (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]

### 8.3 Thirty Day Constancy Check

Please provide the manufacturer name and model number of the instrument intercomparison system that is used to perform the thirty-day constancy check. Please attach a copy of the user operating manual.	
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]
Details	[HTML Text]
Is a preoperational check made on the LCR in accordance with the instrument manufacturer's recommendation?	[L]
Is the initial reference RF field set by adjusting the RF power level (with the LCR probe positioned at the mean of its polarization ellipse) until the LCR is reading 1 mW/cm <sup>2</sup> ?	[L]

Which of the following is used to establish the initial reference field (1 mW/cm <sup>2</sup> ) within the 30 day constancy check system?		[L]
Which of the following is used to re-establish the reference field (1 mW/cm <sup>2</sup> ) for subsequent constancy checks?		[L]
After the initial reference field (1 mW/cm <sup>2</sup> ) is established, does the technician perform the polarization ellipticity of the LCR to determine that it does not exceed the maximum polarization limit specified by the instrument manufacturer?		[L]
Is a thirty-day operational log record used to retain the date of the check, LCR polarization ellipticity (minimum, maximum, mean, and percentage deviation from mean) and RPM net power readings (RPM difference readings)?		[L]
Please attach a sample copy of the thirty-day operational log record with data filled out.		
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]	
Details	[HTML Text]	
For whichever instrument is used (LCR or RPM) to re-establish the reference field, are the previous readings for the other instrument compared with the present readings to ensure that they do not differ more than 10 percent (highest to lowest readings between annual LCR calibration)?		[L]
After the reference field is reset, is the polarization ellipticity of each compliance instrument including the LCR shown not to exceed the maximum polarization ellipticity limit specified by the instrument manufacturer?		[L]
After all the compliance instruments have been checked, does the calibration technician perform a self-comparison check for all similar compliance instruments including the LCR by reviewing or plotting on a graph all of the minimum and maximum polarization readings since the last annual LCR calibration to ensure that the LOWEST minimum reading does not differ from the HIGHEST maximum reading by more than 2 dB?		[L]
Is a 30-day check record maintained including the model number, probe serial number, date of check, LCR and RPM readings, instrument polarization readings, accept/reject criteria, and repair history for each compliance survey instrument?		[L]
Please provide a copy of the 30-day record, with data filled out.		
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]	
Details	[HTML Text]	
Does the technician maintain a graph plotting the historical mean average values of each compliance instruments (including the LCR) to ensure that the instrument's mean values will be within +/- 5 percent of its historical mean average values?		[L]
Please provide a sample graph or table used to record the instrument's historical mean average values.		
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]	
Details	[HTML Text]	

#### 8.4 Repair and Calibration of Compliance Test Instruments

Repair and re-calibration of the microwave survey compliance instruments are performed by the following firm(s):		
[HTML Text]		
Please provide a copy of the written procedures for having instruments repaired and re-calibrated.		
File Attachment	[Single File Attachment (.pdf, .jpg, .gif, .tif, .avi, .wmv, .xpt, .xml, .dtd, .sgml, .mol, .xls, .csv, .zip)]	
Details	[HTML Text]	
Repair and re-calibration of the LCR, RPM, and any other 30-day calibration instruments are performed by the following firm(s):		
[HTML Text]		
Each time the LCR or RPM is sent out for calibration or repair, do you begin all of your instrumentation records again?		[L]

8.5 Annual Calibration and Periodic Calibration

Are the LCR and RPM instruments returned to the instrument manufacturer or other qualified calibration facility for annual calibration?	[L]
How often are the compliance survey instruments returned to the instrument manufacturer or other qualified calibration facility for periodic calibration ( at least once every year ) unless they have been sent out for repair and re-calibration?	
[HTML Text]	

Part 9.0 Recordkeeping

<i>Information:</i>	<p><i>This part requests confirmation that the manufacturer is maintaining records as required by 21 CFR 1002.30 These records basically consist of:</i></p> <p><i>A - Written quality control procedures</i></p> <p><i>B - Quality control test results</i></p> <p><i>C - Life and Endurance test results</i></p> <p><i>D - Copies of written communication between the manufacturer and dealers, distributors and purchases concerning radiation safety</i></p> <p><i>E - Dealer, distributor, purchaser shipment records.</i></p>	
Are records maintained for the results of tests for the electronic product radiation safety, including control of unnecessary secondary or product leakage radiation, the methods, devices and procedures used in such tests, and the basis for selecting such methods, devices and procedures?		[L]
Are the records maintained of tests for durability and stability of the product?		[L]
Are the results of quality control tests conducted on the production line kept for a minimum of one year after filing the annual report for these records?		[L]
Are the quality control audit records, documentation of defective ovens found in audit and the results of audit reaction plan kept for minimum of five years?		[L]
Is a file maintained of all written communications between manufacturer, dealers, distributors, and purchasers concerning radiation safety including complaints, investigations, instructions, or explanations affecting the use, repair, adjustment, maintenance or testing of the microwave oven manufactured by your company?		[L]
Where is the file located?		
Is a file maintained of records necessary for tracing of microwave ovens to distributors, dealers and purchasers?		[L]
Have all the dealers and distributors been informed of their obligations or requirements to obtain the information required by 21 cfr 1002.4 (b) (purchaser information) in order to permit tracing of specific products to specific purchasers?		[L]
Manufacturer can trace shipment to dealers/distributors or purchasers by:	<input type="checkbox"/> Model number <input type="checkbox"/> Serial number <input type="checkbox"/> Date of manufacture <input type="checkbox"/> Other:	
Please specify other methods		
<i>Stop:</i>	<p><i>You have reached the end of this report. Please verify that all PDFs that are to be included in this submission are correctly attached to a specific file attachment question. Otherwise, they will not be packaged with your report. Check to make sure you have no missing data (select Missing Data Report from the Output menu). Once you have confirmed that there is no missing data and all your files are attached, click on the Package Submission icon on the tool bar.</i></p>	

Document Key: Specialized Response content is defined within straight brackets [ ]; Special code: [L] List of Values.