



**Appendix:**

**Desired Equipment Authorization Search Engine Specifications**

For the purposes of verifying the status of individual, singular FCC ID numbers, Key Bridge requests the Commission provide a machine-readable Equipment Authorization web service that takes as input, and returns, the following parameters:

<b>Inputs</b>	<b>Field Name</b>	<b>Max Length</b>
FCC Grantee Code	grantee_code	3 character (exact)
Grantee Product Code	product_code	14 character (up to)

  

<b>Returns</b>	<b>Field Name</b>	<b>Field Values / Structure</b>
Certification Status	cert_status	[enumeration: 0,1]
Active Status	active_status	[enumeration: 0,1]
Grant Details	grant_detail	[object]

Grant Detail is an object containing multiple records of the following format:

FCC Rule Part	rule_part	[text field]
Frequency Range	start_freq	[decimal]
	stop_freq	[decimal]
	freq_units	[enumeration: 0,1,2]
Output Watts	output	[decimal]
Frequency Tolerance	tolerance	[decimal]
	tol_units	[enumeration: 0,1,2]
Emission Designator	designator	[text field]

The Certification Status (cert\_status) indicator shall be set as follows:

- '0' Zero shall indicate the FCC ID is Not Certified
- '1' One shall indicate the FCC ID is Certified

The Active Status (active\_status) indicator shall be set as follows:

- '0' Zero shall indicate the FCC ID is Not Active
- '1' One shall indicate the FCC ID is Active

The Frequency Range and Tolerance units (freq\_units, tol\_units) indicator shall be set as follows:

- '0' Zero shall indicate Hz
- '1' One shall indicate MHz
- '2' One shall indicate GHz



### Interpretation

A device record MUST be “Certified” AND “Active” to receive a channel list.

A device record either “Not Certified” OR “Not Active” will not be issued a channel list.

### Protocols

All transactions will utilize standard hypertext transfer protocol (HTTP) using GET method URL calls.

### Input Encoding:

Inputs shall be named as described above and URL encoded.

For example: a request for FCC ID: **BCGA1241** will be encoded as:

```
grantee_code=BCG&product_code=A1241
```

This inquiry would translate into a fully qualified URL formatted as:

```
http://site.domain.com/eaSearchEngine?grantee_code=BCG&product_code=A1241
```

### Results Encoding

Results shall be encoded using JavaScript Object Notation (JSON).

Continuing the example, the results of the above inquiry, in human readable format, are:

FCC IDENTIFIER:	BCGA1241			
Name of Grantee:	Apple Inc.			
Equipment Class:	PCS Licensed Transmitter held to ear			
Notes:	Handheld 3G mobile phone with iPod functions			
FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
22H	824.2 - 848.8	0.998	15.0 Hz	300KGXW
22H	824.2 - 848.8	0.337	15.0 Hz	300KG7W
22H	826.4 - 846.6	0.365	19.0 Hz	4M20F9W
24E	1850.2 - 1909.8	1.452	17.0 Hz	300KGXW
24E	1850.2 - 1909.8	0.838	17.0 Hz	300KG7W
24E	1852.4 - 1907.6	0.385	21.0 Hz	4M20F9W



In machine readable, JSON format, this same information would be encoded and returned as (middle records omitted for brevity):

```
{"cert_status":"1","active_status":"1","grant_detail":{{"fcc_rule_part":"22H", "start_freq":"824.2", "stop_freq":"848.8", "freq_units":"1", "output_watts":"0.998", "freq_tolerance":"15.0", "tol_units":"0", "designator":"300KGXW"}, ... {"fcc_rule_part":"24E", "start_freq":"1852.4", "stop_freq":"1907.6", "freq_units":"1", "output_watts":"0.385", "freq_tolerance":"21.0", "tol_units":"0", "designator":"4m20f9w"}}}
```

The same machine readable JSON object, parsed for human readability:

```
{"cert_status":"1",  
 "active_status":"1",  
 "grant_detail":{  
   {"fcc_rule_part":"22H",  
    "start_freq":"824.2",  
    "stop_freq":"848.8",  
    "freq_units":"1",  
    "output_watts":"0.998",  
    "freq_tolerance":"15.0",  
    "tol_units":"0",  
    "designator":"300KGXW"},  
   ...  
   {"fcc_rule_part":"24E",  
    "start_freq":"1852.4",  
    "stop_freq":"1907.6",  
    "freq_units":"1",  
    "output_watts":"0.385",  
    "freq_tolerance":"21.0",  
    "tol_units":"0",  
    "designator":"4m20f9w"},  
 }  
}
```

### Technology Reference:

<http://www.json.org/>

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language, Standard ECMA-262 3rd Edition - December 1999.

JSON is a language independent text format with support available for C, C++, C#, Java, JavaScript, Perl, Python, and many other programming languages. These properties make JSON an ideal data-interchange language.



## Second Appendix

### *Reference Only*

#### **Title 47: Telecommunication**

#### **PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

#### **Subpart J—Equipment Authorization Procedures**

#### **Application Procedures for Equipment Authorizations**

#### **§ 2.925 Identification of equipment.**

(a) Each equipment covered in an application for equipment authorization shall bear a nameplate or label listing the following:

(1) FCC Identifier consisting of the two elements in the exact order specified in §2.926. The FCC Identifier shall be preceded by the term FCC ID in capital letters on a single line, and shall be of a type size large enough to be legible without the aid of magnification.

Example: FCC ID XXX123. XXX—Grantee Code 123—Equipment Product Code

#### **Title 47: Telecommunication**

#### **PART 15—RADIO FREQUENCY DEVICES**

#### **Subpart H—Television Band Devices**

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#### **§ 15.713 TV bands database.**

...

(f) Fixed TVBD registration. (1) Prior to operating for the first time or after changing location, a fixed TVBD must register with the TV bands database by providing the information listed in paragraph (f)(3) of this section.

...

(3) The TVBD registration database shall contain the following information for fixed TVBDs:

(i) FCC identifier (FCC ID) of the device.

(ii) Manufacturer's serial number of the device.

...

(g) A personal/portable device operating in Mode II shall provide the database its FCC Identifier (as required by §2.926 of this chapter), serial number as assigned by the manufacturer, and the device's geographic coordinates (latitude and longitude (NAD 83) accurate to ±50 m)