

Chris Tran

From: Behnam Ghaffari <Behnam.Ghaffari@fcc.gov>
Sent: Tuesday, April 22, 2014 9:40 AM
To: Chris Tran
Subject: RE: FCC File No. 0278-EX-PL-2014

Hi Chris,

Please attach your response through our licensing system (ELS) to your application in adobe format.

Thanks
Ben

<https://apps.fcc.gov/els/AddAttachmentsEntry.do>

From: Chris Tran [mailto:ctran@kymetacorp.com]
Sent: Tuesday, April 22, 2014 12:36 PM
To: Behnam Ghaffari
Subject: RE: FCC File No. 0278-EX-PL-2014

Hi Behnam,

I believe the following should answer all of your questions.

1. In great detail, please describe the purpose of your operation and attach your response as correspondence to this email.

The repeater is needed for testing the GPS components integration into Kymeta products. The repeater is needed since the testing laboratory is located indoors and has no GPS reception currently.

2. In accordance with NTIA manual section 8.3.28, please address each item from 1 through 9 and attach your response as correspondence to this email.

Per NTIA 8.3.28:

1. Individual authorization is for indoor use only, and is required for each device at a specific site.

This device will only be used in our facility located at 12277 134th court NE, Redmond, WA 98105. It will not be used anywhere else.

2. Applications for frequency assignment should be applied for as an XT station class with a note indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing GPS receivers" and describing how the device will be used.

This station will only be used for Experimental RNSS Test Equipment for the purpose of testing GPS receivers. This testing will occur in short durations through the December 2014

3. Approved applications for frequency assignment will be entered in the GMF.

NA

4. The maximum length of the assignment will be two years, with possible renewal.
YES

5. The area of potential interference to GPS reception (e.g., military or contractor facility) has to be under the control of the user.
YES. Kymeta is the sole occupant of the building and user of the surroundings for 100 feet.

6. The maximum equivalent isotropically radiated power (EIRP) must be such that the calculated emissions are no greater than -140 dBm/24 MHz as received by an isotropic antenna at a distance of 100 feet (30 meters) from the building where the test is being conducted. The calculations showing compliance with this requirement must be provided with the application for frequency assignment and should be based on free space propagation with no allowance for additional attenuation (e.g., building attenuation.)

See attached

7. GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.
YES

8. The use is limited to activity for the purpose of testing RNSS equipment/systems.
YES

9. A "Stop Buzzer" point of contact for the authorized device must be identified and available at all times during GPS re-radiation operation of the device under any condition.
Adam Oster - (425) 896-3712

3. Please provide a detailed calculation(s) for the link budget specified on item 6 of section 8.3.28.

See attached.

Thank you,

Chris Tran
Facilities Manager
CTran@kymetacorp.com

Main: 425-896-3700

Desk: 425-896-3750

Cell: 206-250-6871

KYMETA

12277 134th Ct. NE

Redmond, WA 98052

www.kymetacorp.com

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From: Behnam Ghaffari [<mailto:Behnam.Ghaffari@fcc.gov>]

Sent: Thursday, April 17, 2014 11:47 AM

To: Chris Tran

Subject: RE: FCC File No. 0278-EX-PL-2014

Hi Chris,

No we have not received any information with regards to those items indicated on the email.

And please be advised that there is a clock running (expires on 05/02/2014) and if we do not receive these items we may have to dismiss the application without prejudice.

Regards

Ben

From: Chris Tran [<mailto:ctran@kymetacorp.com>]

Sent: Thursday, April 17, 2014 2:36 PM

To: Behnam Ghaffari

Subject: RE: FCC File No. 0278-EX-PL-2014

Hello Behnam,

I am checking on the status of this application. Have you received all of the information you need?

Thanks,

Chris Tran

Facilities Manager

CTran@kymetacorp.com

Main: 425-896-3700

Desk: 425-896-3750

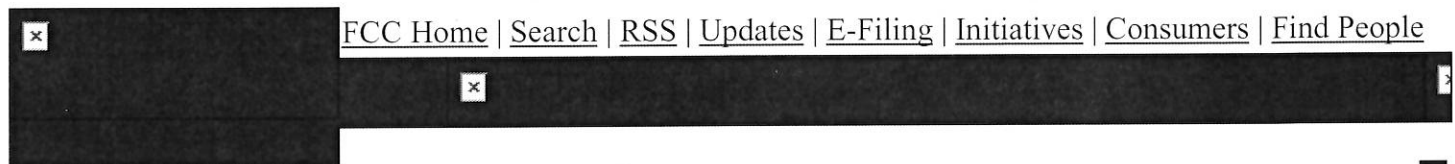
Cell: 206-250-6871

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From: oetech@fccsun27w.fcc.gov [mailto:oetech@fccsun27w.fcc.gov]
Sent: Wednesday, April 02, 2014 5:18 AM
To: Adam Oster
Subject: FCC File No. 0278-EX-PL-2014



Office of Engineering and Technology

□

To: Adam Oster, Kymeta Corporation
adamo@kymetacorp.com

From: Behnam Ghaffari
Behnam.Ghaffari@fcc.gov

Applicant: Kymeta Corporation

File Number: 0278-EX-PL-2014

Correspondence Reference Number: 23435

Date of Original Email: 04/02/2014

1. In great detail, please describe the purpose of your operation and attach your response as correspondence to this email.

2. In accordance with NTIA manual section 8.3.28, please address each item from 1 through 9 and attach your response as correspondence to this email.
3. Please provide a detailed calculation(s) for the link budget specified on item 6 of section 8.3.28.

The items indicated above must be submitted before processing can continue on the above referenced application.

Failure to provide the requested information within 30 days of 04/02/2014 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

DO NOT Reply to this email by using the reply button. In order for your response to be processed expeditiously, you must upload your response via the Internet by visiting The OET Experimental Licensing System, followed by clicking on the "Reply to Correspondence" hyperlink.

1. Given that $0\text{dBm} = 1\text{mW}$
2. Given that $\text{dBm} = 10\log P_1/P_2$
3. Convert to dBm
4. Given that Repeater tx power is 9.6pW
5. Given that Repeater EIRP is 19.2pW
6. Given that free space loss is $96.6 + 20\log D + 20\log F$ where D is distance in miles and F is frequency in Ghz

Calculate signal level in dBm at 100ft free space from source

	Watts	dBm
TX Level Watts	9.60E-12	-80.1773
EIRP Level Watts	1.92E-11	-77.167
Antenna Gain in dB =		3.0103
Distance in Feet	100	
Frequency in Ghz	1.57542	
TX Power	-80.177288	
Tx Antenna Gain	3.01029996	
100 ft space loss	-66.095249	
Signal at 100ft =	-143.26224	

Signal is 3dB less than requirement of -140dBm