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## Office of Engineering and Technology

**Inquiry on 06/20/2013 :**

**Inquiry:**

FYI this inquiry is inserted by FCC staff, for response tracking purposes.

We will review this matter, maybe also will need to consult with FCC WTB staff, and will respond as soon as possible, but this consideration might take until early in week of June 24.

Also some or all of this corresp. might also need to be inserted into the EA (or TC, TBD) record.

From: wenliang lee [mailto:wenliang.li@szhtw.com.cn]

Sent: Thursday, June 20, 2013 5:20 AM

To: Tim Harrington

Cc: [yuliang.wang@hytera.com](mailto:yuliang.wang@hytera.com); [yuchao.wang@szhtw.com.cn](mailto:yuchao.wang@szhtw.com.cn); [jian.luo@szhtw.com.cn](mailto:jian.luo@szhtw.com.cn); [kknoerig@emcc.de](mailto:kknoerig@emcc.de)

Subject: Re:FCC review for FCC ID:YAMRD96XVHF

<GetApplicationAttachment[1].pdf>

Dear Mr Tim:

Good morning, I receive your comments of FCC ID:YAMRD96XVHF, but I find a question want to inquire for you that, I find the product (FCC ID:YAMRD96XVHF and FCC ID:YAMRD96XU1) was not belongs to fcc part 90 signal boosters; please see more information as follows:

1. The product in "repeater mode" as which accept a signal from others and transmit to others; but not meet signal boosters requirement;

for example:

if the product receive the receiver signal was -10dBm and maximum gain was 30dBm, so the repeater transmit maximum power should be  $-10+30=20$ dBm, which the product transmit the maximum power more than 20dBm, also the product transmit power was control by owner power amplifier and same as PTT mode;

2.The repeater mode was receive a signal to active the product to transmit, if without receiver signal, which can not transmit any signal in repeater mode, so I think this product should be belongs to "base station" instead of "repeater";

3.I think signal boosters was a only amplifier and will not affect the amplifier signal, while the product accept signal and transmit according its protocol and will change the signal character if original signal was not using protocol same as the product;

This is my summary some technical of the product, so I think the product should not belong to part 90 signal boosters and should be as base stations, but I am not sure, please tell me the correct judge?

Thank you very much and have a nice day!

Thanks!

Best Regards!

Sincerely

wenliang Li

SHENZHEN HUATONGWEI INTERNATIONAL INSPECTIONAL CO., LTD.  
 Huatongwei Building, Kejinan 12 Road, High-tec Industrial Park, Nanshan District,  
 Shenzhen City, Guangdong Province, P.R.China  
 E-mail: [wenliang.li@szhtw.com.cn](mailto:wenliang.li@szhtw.com.cn)  
 Tel: +86-755-26715335  
 Mobil: 13530396306  
 Fax: +86-755-26748005  
 Web Site: <http://www.szhtw.com.cn>

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### **FCC response on 06/27/2013**

FYI we have been reviewing this matter, as well as the FCC-13-21 and other rules and FCC proceedings. Whereas this device MIGHT not be subject to 90.219 as established by FCC-13-21, we still need more info to make a determination.

A) The 6/19/13 corresp. in EA 478338 included:

“Please provide operational description / scenarios about "PTT mode" and "Repeat mode" operations; including is repeat mode for same frequency or if translated then what/how, etc.”

Unless it is in exhibits already (where?) please explain/show how user switches between PTT and repeat modes.

B) We might still need to confirm with our colleagues at FCC WTB, but it appears FCC-13-21 provisions are not intended to override 90.247.

From 90.7:

“Mobile repeater station. A mobile station authorized to retransmit automatically on a mobile service frequency, communications to or from hand-carried transmitters.”

In FCC practice, mobile repeaters are intended for use under station class MO3 in Form-601; as we understand such repeater operation requires automatic retransmission by this device on a frequency different from that received the portable/handheld station or other mobile station.

See e.g. (<http://transition.fcc.gov/pshs/docs-best/imel-wireless03.pdf>)

“The repeater makes use of two frequencies. The repeater radio functions as an amplified relay station receiving high- or low-power base stations, low-level mobile, and handheld radio signals, changing their frequency, amplifying the signals, and re-transmitting them on the repeater output frequency.”

See also e.g. (<http://wireless.fcc.gov/reports/documents/whtepr.pdf>).

Acceptable compliance supporting information for 90.247 provisions will need to be submitted and reviewed by FCC.

C) Unless suitable supporting information can be established per the preceding items, otherwise the 90.219 definition as booster would apply and the items in the EA filing corresp. would need to be addressed for application processing to continue.

“a part 90 signal booster is a device or system that automatically receives, amplifies, and retransmits signals from wireless stations into and out of ... locations where these signals would otherwise be too weak for reliable communications.”

---Reply from Customer on 07/02/2013---

Dear Sir:

Good morning, please see the explanation as follows:

Repeater Mode: The product was in ON state always by software, and if receiver accepts the signal, which protocol was same as product, receiver signal will activate the transmitter and transmitter continues to transmit together with receiver signal, if receiver signal OFF, the transmitter will be close transmitter;

2). If the product accepts the receiver signal which protocol was not same, the transmitter cannot be activated and cannot transmit;

3). When the product states in repeater mode, the product repeats difference frequency, for example: when receiver signal was 400.5MHz, transmitter will be active and transmit 400.75MHz; the product does not repeat same frequency when in repeater mode; PTT Mode: The product supports voice function, could you please see the page 8/26 of the user manual, when end user wants to use

voice function, who can connect Hand microphone to Front Panel and push Hand microphone which can communicate with others in voice function same as Two-way radio, if end user does not push Hand microphone, the product will stop transmit in PTT mode;

4). The product cannot operate both PTT mode and Repeater mode;

I hope this information can be helpful for your determination.

Thank you very much and have a nice day!

---Reply from Customer on 07/15/2013---

Dear Sir:

Good morning, sorry to trouble you again, could you please tell me whether the response on 07/02/2013 are ok? Thank you very much and have a nice day!

### **FCC response on 07/26/2013**

Hi thanks again for patience.

Here at OET Lab we are considering that proceeding with equipment auth. as "mobile repeater" might be possible, but we do need to get final concurrence from FCC Wireless Telecomm. Bureau which hopefully we can complete early in next week. We might request similar or other or different supporting info in the form-731s at hand, and will advise via correspondence therein asap in next week.

### **Attachment Details:**

Do not reply to this message. Please select the [Reply to an Inquiry Response](#) link from the OET Inquiry System to add any additional information pertaining to this inquiry.