

Date sent: Fri, 29 Oct 1999 08:40:35 -0400
From: oetech@fccsun07w.fcc.gov <<mailto:oetech@fccsun07w.fcc.gov>> (OET)
Subject:
To: RGRANT@KTLCANADA.COM <<mailto:RGRANT@KTLCANADA.COM>>

To: RUSSELL GRANT, KTL OTTAWA
From: Frank Coperich
fcoperic@fcc.gov <<mailto:fcoperic@fcc.gov>>
FCC Application Processing Branch

Re: FCC ID BCR-RPT-MR701
Applicant: Allen Telecom Systems
Correspondence Reference Number: 10463
731 Confirmation Number: EA95244
Date of Original E-Mail: 10/29/1999

FCC questions are shown in italics; Allen Telecom/KTL responses are shown in bold.

1.) You have indicated that this unit is designed for multichannel operation. We need 3 channel intermodulation (IM) measurement data taken for each emission mode - with appropriate resolution bandwidth setting for each emission mode. Normally this is 1 % of the actual occupied bandwidth of the modulated signal.

KTL responses needed here – reference Frank C. Email

2.) We are unclear as to the number of channels per module and how they affect the total RF output power and the RF output power per channel. We will use this information to complete the grant.

The MR701 Repeater duplexers covers the three blocks in both uplink and downlink of the PCS band. Either ADB or EFC duplexers are used. The MR 701B repeater family has a modular IF filter design and can be configured with different module types (See below for module types). The MR801B Power repeater configuration is the high power configuration and can have 6 modules installed. The MR701B repeater is the low power configuration and can have 8 modules installed. The output of all modules are combined and amplified by the multicarrier PA. The module types are as follows:

Module Type	Bandwidth	Modulation Type	# of Channels
CDMA modules	1.23 MHz	CDMA Only	Single channel
TDMA modules	30 kHz	TDMA Only	Single channel
GSM modules	200kHz	GSM Only	
Variable Bandwidth	0.1 to 15 MHz	CDMA, TDMA, & GSM	Multiple channels (any channels within the bandwidth selected by the repeater software)

In order to protect the repeater amplifiers from overload and to prevent the system from spurious emission, the repeater has an Automatic Level Control, designed to limit the output power to a defined level. The power amplifiers are limited by the spurious output that they produce given the peak power of the composite input signal. The allowable power per carrier must, therefore, decrease as the number of RF carriers from the donor system increases. It is also dependent on the modulation format of the donor system since certain modulation types have a higher peak-to-average ratio than others. We have issued guidelines for output power versus number of carriers (up to 8) in the specification of the repeater. Table 5 indicates RF output power versus number of carriers per modulation format.

We are unclear as to the intended uses for the amplifier especially with respect to number of channels for each emission and the use of the amplifier as a booster, repeater, and extender. We will also use this information to complete the grant. Please resolve these issues.

This product is strictly used as a repeater. The repeater is a wide-band device when the Variable Bandwidth Module is installed. The repeater software controls bandwidth of the Variable Bandwidth Module is adjusted through the user inputs. The user must determine what frequency range to amplify and set the filter accordingly. The Variable bandwidth module has a bandwidth range from minimum of 0.1MHz to a maximum of 15 MHz. All data was taken with the Variable Bandwidth Module set at 15 MHz that is worst-case. The repeater is a narrow-band device when the Channel Modules are installed. The RF power output is dependent on the number of RF channels amplified (See Table 5).

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.

DO NOT reply to this e-mail by using the Reply button. In order for your response to be processed expeditiously, you must upload your response via the Internet at www.fcc.gov <<http://www.fcc.gov>>, Electronic Filing, OET Equipment Authorization Electronic Filing. If the response is submitted through Add Attachments, in order to expedite processing, a message which informs the processing staff that a new exhibit has been submitted must also be submitted via Submit Correspondence. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.