Non-Conformities FCC ID: DKNTK421 (CKC CS Ref # E11-000003-FCC)

The items listed below represent requests for information following review of this application for certification under United States (FCC) regulations. Further question may arise pending review of responses to these items.

OK	ID	#	Non-Conformity or Comment	Submitted Response	Respondent / Date of Response
X	C	1	In the block diagram provided, the frequency used at each functional block were not provided. Please provide an updated block diagram meeting the requiremtns of 2.1033(b)(5), "(5) A block diagram showing the frequency of all oscillators in the device. The signal path and frequency shall be indicated at each block. The tuning range(s) and intermediate frequency(ies) shall be indicated at each block. …"	Revised block diagram., with detailed Chip level block diagram. Note BT block diagram is limited due to availability of Chip level confidential information.	IS 8/4/11
X	C	2	The operational description provided indicates that the BlueTooth transmitter is an optional device. Please clarify in what configuration(s) this equipment is intended to be sold. The reason for this is that for depopulated transmitters separate certifications will apply (see KDB 178919) because the equipment are not electrically identical (see §2.908)	Revised operational description : It is my understanding that Echostar has decided that the Bluetooth function will NOT be optional. That solves the labeling issue quite nicely.!!	IS 8/4/11 CG 8/10/11
X	C	3	In the operational description, please clarify the power output setting of the equipment. Please clarify how power output is controlled such that the proper authorized parameters are set for this equipment. Excerpt: "When the set-top box is powered on, the transceiver is loaded with operational parameters that set the output power."	Ian, Added "*When the set-top box is powered on, the transceiver is loaded with operational parameters that set the output power. After initialization, the system will exchange data with the transceiver over a serial path between the processor and transceiver.*	IS 8/4/11
X*	TL	4	The test report provided shows an inconsistency in the measurements for either radiated output power or spurious emissions measurements. The conducted limit for both the RF4CE and BT radios is exactly 20dB from the peak power measured under the power output section. This means either one of two things: either the power output was recorded with a RBW of 100kHz or the limit for conducted emissions was set too high (see 15.247(d) limit is defined with respect to the highest fundamental emission in a 100kHz RBW). Please clarify	Revised test report, with reference power measured at 100kHz. 8/9/11: Note, the reference Fundamental emission measured with RBW=100kHz as presented on page 20 was measured with **CW** as confirmed by the Grantee. The	IS 8/8/11

			power output and/or spurious emissions measurements and make corrections as necessary. In any case, please clarify the measurement bandwidths used for measurement of power output. --Additional Comments: As noted in the test plan provided, the test lab was to meet the requirements of ANSI C63.10. I draw attention to section 5.10 regarding selection of modulation: "For systems deploying broadband wireless technologies or spread spectrum technology, the system must be tested with the worst-case modulation(s) as determined by the engineering test. Devices employing digital modulation techniques shall be tested with the input modulation set to produce the maximum amplitude and symbol rate. The test results shall be shown for operation with any devices or functions used for modifying the spectrum when such devices are optional at the discretion of the user or are adjusted for network conditions during end-use operation. … All modulations supported by the system shall be recorded in the test report with the justification for selecting modulation(s) for compliance testing." The spurious emissions were to be measured in accordance with all aspects of this standard, not just in part. Nevertheless, since the last paragraph does provide allowance for justification of selected modulation, it is up to the test lab or manufacturer to now justify why the testing was performed as shown in the provided test report.	modulated emission should be similar to plots presented on 96,97,98. -- Manufacturer claims CW mode worst case: "During the evaluation of this product both radios were set up in same manner. For the fundamental measurements ONLY - all data was taken in CW mode. Worst case modulation was used for all other conducted port spurious measurements and radiated spurious measurements. Note that there is only one modulation scheme and data rate for the RF4CE function. The Bluetooth modulation schemes and data rates were evaluated to determine the worst case (8PSK PRBS9) and this was used for all the spurious measurements. I have attached a document from the test lab that supports the data provided in the test report."	-- Phone call CG/RC 8/10/11 CG 8/10/11
X	TL	5	The -6dB BW presented on page 98, 99, 100 (FR4E) and 101, 102,103 (Bluetooth) are identical. Please provide a revised test report with correct plots for the associate radio type.	Revised test report page 96-98, RF4CE., 99-101 Bluetooth.	IS 8/9/11