

Non-Conformities FCC ID: OH29102 (CKC CS Ref # E09-000029-FCC-01)

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
√	C	1	The confidential letter is addressed to the TCB instead of the FCC, please provide a revised confidential letter addressed to the FCC	Updated Confidentiality Letters Provided.  New Confidentiality Letter is good – C Kendall, 8/28/09	Bob Vitti 8/27/09
√	A	2	15.247 RF output Power is not listed on the Form 731, item 12  This still needs to be addressed – C Kendall 8/28/09	The output power was not in the report so I could not provide this. This has been corrected and now appears in the report and the application form.  Corrected.	Jessina Hunter 4/3/09  Jessina Hunter 9/1/09
√	C	3	The letter of confidentiality is not signed; please provide a signed letter of confidentiality.	Updated Confidentiality Letters Provided.  New Confidentiality Letter is good – C Kendall, 8/28/09	Bob Vitti 8/27/09
√	C	4	The provided operational description does not meet 2.1033(b)(4) requirement, in addition to how the device operates, please provide a revised operational description detailing the circuit functions of the device, RF port in particular, including signal information and modulation. This statement should contain a description of the ground system and antenna, if any, used with the device  The antenna specification detail has been provided, but does little to provide how the device operates, such as detailing the circuit functions of the	New Antenna Operation detail Provided.  Information was sent to me by the Customer. I Updated the Operational Description on file, adding the information that the customer sent me. Sent the updated Operational Description to the customer for Approval.  Operational Description Approved.  Jessie Provided a revised operational description based upon a summary of all of the datasheets they provided. It will be used as the Operational Description.	Bob Vitti 3/24/09  Jessina Hunter 9/14/09  Bob Vitti 9/15/09  C. Kendall 16 Sep 09.

			device, nor the signal information and modulation explanations. This still needs to be addressed. C Kendall 8/28/09		
√	C	5	<p>Schematic diagram of the ZigBee portion of the device is not included, please provide the schematic diagram</p> <p>Please provide the ZigBee schematics for your device. Still not addressed- C Kendall 8/28/09</p>	<p>I <i>assume</i> they are asking for information on the 916.5MHz transceiver, and not the Zigbee Module.</p> <p>For the 916.5 MHz radio:</p> <p>1) <math>F(LO) = F(TX) - F(IF) = 916.5 - 0.38956 = 916.11 \text{ MHz}</math></p> <p>2) We use the Linx technologies (antenna factor) P/N ANT-916-JJB-RA antenna. The JJB antenna gain is not specified by the manufacturer, since the actual gain will vary slightly with the application due to the size and shape of the ground plane of the PCB it's mounted to. However, as a 1/4 wave partially helically wound monopole, the expected gain is around 1.3 dBi. We have not asked CKC to measure the actual antenna gain, since it is not normally required as part of a submission. <a href="http://www.linxtechnologies.com/Products/Antennas/Embeddable/JJB-Series-Monopole-Antennas/">http://www.linxtechnologies.com/Products/Antennas/Embeddable/JJB-Series-Monopole-Antennas/</a></p> <p>For the Zigbee Module:</p> <p>1) The CC2430 IC on the Zigbee Module uses a 2MHz IF frequency. Thus I would expect <math>F(LO) = F(TX \text{ channel}) - 2\text{MHz}</math>. The actual TX channel is determined via software, from 2405MHz to 2475MHz; so LO should be 2403MHz - 2473MHz.</p> <p>2) Antenna gain 2.1 dBi</p> <p>- Jim</p> <p>Schematic has been received and sent on to the technical reviewer.</p>	<p>Bob Vitti 3/24/09</p> <p>Jessina Hunter 9/16/09</p>
√	TL	6	<p>Measured RF output power in accordance with 15.247 is not presented in the test report. Please provide a revised test report with listed RF output power.</p>	<p>New Test Report Provided.</p> <p>Page 17 of FC09-002A clearly shows measured RF output now – C Kendall 8/28/09</p>	<p>Mike Wilkinson 3/24/09</p>

√	TL	7	<p>Page 17, 20, 25 of the test report FC09-02. The low channel is listed as 2005MHz in the test condition. Please verify whether this is a type.</p>	<p>New Test Report Provided.</p> <p>Page 17, 19, &amp; 24 of FC09-002A shows 2405 MHz now – C Kendall 8/28/09</p>	<p>Mike Wilkinson 3/24/09</p>
√	C	8	<p>A RF shield is covering a portion of the PCB, please provide a revised internal photograph with the RF shield removed</p> <p>No new photos were submitted and photos without the covers were not included –still unanswered-C Kendall 8/28/09</p>	<p>Customer Provided Photos.</p> <p>Re-reviewed and they are fine - C Kendall 8/28/09</p>	<p>Mike Wilkinson 3/23/09</p>
√	C	9	<p>The provided exterior photos do not clearly show the exterior appearance. Please provide revised external photos showing all six sides of the device</p>	<p>Customer Provided Photos.</p> <p>Photos Provided.</p> <p>Updated the Photos on file and sent them to the technical reviewer.</p>	<p>Mike Wilkinson 3/23/09</p> <p>Bob Vitti 9/15/09</p> <p>Jessina Hunter 9/16/09</p>
√	TL	10	<p>Page 17 of the test report FC09-002. Per 14.247(b)(3) the power limit is 1 Watt conducted. The presented test data does not clearly indicate the measured conducted power meets the requirement.</p> <p>Please provide a revised test report with the inclusion of all calculations involved, showing the measured RF output power meets the requirement. For equipment without the provision of direct connection of the measuring instrument to the antenna port, please clarify whether the alternative test procedure in accordance with KDB558074 was used or Antenna</p>	<p>New Test Report Provided.</p> <p>Page 17 of FC09-002A clearly shows measured RF output now – C Kendall 8/28/09</p>	<p>Mike Wilkinson 3/24/09</p>

			substitution method was employed if the gain of the transmitting antenna is unknown		
√	C	11	The user manual is missing a RF exposure statement. Please provide a revised user manual with a statement addressing the minimum separation as claimed in the submitted MPE calculation "MySentry MPE Memo"	Here are the changes to the User Manual regarding RF exposure statement. Statements are included in the User's Manual now – C Kendall 8/28/09	Bob Vitti 8/21/09
√	C	12	Please provide an updated users manual incorporating the statement required by 15.21	Here are the changes to the User Manual regarding RF exposure statement. Statements are included in the User's Manual now – C Kendall 8/28/09	Bob Vitti 8/21/09
√	TL	13	Page 24, 26 of the test report FC09-001, the frequency range of measurement is declared as 30MHz-5GHz. Please clarify whether the frequency range of measurement meets the upper frequency range requirement for the receiver LO frequency of the 2.4GHz Zigbee.	New Test Report Provided.  FC09-001A states testing range from 30MHz to 15 GHz  Amrinder Kicked on this item in the Committee Review Stage saying: Measurement is declared up to 5GHz, the comment states up to 15GHz.  Amrinder's comment on item 13 applies to the 15.109 test report; this item is okay. Remove the 15.109 test report from the FCC application fling exhibits as it is not required for this filing.	Mike Wilkinson 3/24/09 C Kendall 8/28/09 Jessina Hunter 9/17/09  Randal Clark 9/17/09
√	TL	14	Page 23 of test report FC09-002. The RBW employed for the bandedge plot is less than the RBW prescribed for measurement above 1 GHz.  Please verify whether delta marker method IAW DA00705 was employed and provide justify the compensation of reduced amplitude  Marker delta method was used but the RBW of 9kHz is still listed on the plots of the Low Band Edge – C Kendall 8/28/09	New Test Report Provided.          Will accept the plot since it can't be changed. C Kendall, 8/31/09	Mike Wilkinson 3/24/09

√	TL	15	15.247(a) Minimum 6dB bandwidth is missing from the test report FC09-003. Please provide Minimum 6 dB bandwidth measurement, acquired in accordance with test procedure prescribe in KDB 558074.	New Test Report Provided.  032509: TL, Randy: Line 17: the OBW plots demonstrate compliance with this requirement via the 99% power measurement which integrates the power in linear terms across the transmit signal. This meets the minimum requirements for 500kHz.	Mike Wilkinson 3/24/09  EW: Please use RBW required by KDB448074.
√	TL	17	Page 25 of test report FC09-002, the presented data is confusing, please explain and correlate the measured dBμV listed under Rdng to the Spec limit of 8dBm.	New Test Report Provided.  Page 24 of FC09-002A has been inserted that clears up this problem – C Kendall 8/28/09	Mike Wilkinson 3/24/09
√	TL	18	Page 25 of the test report FC09-002, please explain the discrepancy of the listed dBμV reading (-18, -22, -22.8) to the dBm readings (-5.96dBm, -9.21dBm, -9.71dBm) of the Peak Power density plots of Page 26 and 27.	New Test Report Provided. Page 24 of FC09-002A has been inserted that clears up this problem – C Kendall 8/28/09	Mike Wilkinson 3/24/09
√	TL	19	Page 26 and 27 of the test report. At a span of 20 MHz and sweep time of 16.54 Sec. The measurement does not comply with sweep = (SPAN/3 kHz) as prescribed by KDB 558074 under PSD Option 1. Please provide revised PSD measurement with appropriate sweep time, alternatively if Option 2 was employed, please clarify and prove compliance with the required number of trace average	New Test Report Provided. Page 24 of FC09-002A has been inserted that clears up this problem and the two problematic plots have been removed – C Kendall 8/28/09	Mike Wilkinson 3/24/09

The items indicated above must be submitted before processing can continue on the referenced application. Failure to provide the requested information within 60 days may result in application dismissal pursuant to Section 2.917(c) and forfeiture of the filing fee pursuant to Section 1.1106.

***How to read the table:***

**OK** column indicates closure by CKC CS.

**ID** column is for use with Agents to assist in identifying the probable source for closure.

A - Application issue

TL - Test lab issue

C - Client issue

R - Retesting may be necessary

**#** column indicates unique or separate non-conformity items (note some items may be related).

**Non-Conformity or Comment** column indicates the evaluators specific question or comment.

**Submitted response** column indicates the response or a summary of the response provided.

**Respondent / Date of Response** column indicates the responding party or agent and the date of the response was either received or logged.