American Telecommunications Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101

September 26, 2003

RE: Thales Navigation, Inc.

FCC ID: NZI110896 (??)

After a review of the submitted information, I have a few comments on the above referenced Application.

General

1) The grantee code NZI on the FCC site does not match the name or address of Thales Navigation located in California. NZI is listed as Dassault Sercel Navigation-Positionnement located in France. Please explain.
2) The external photographs show various antennas. Due to the number of devices, please label various antennas as RX only, TX/RX, etc for better clarity of the device. Additionally, for any optional accessories, please label these as such. Additionally, it is not clear if the COM module is sold with the unit or is it optional? Note that the users manual appears to show several different options. Due to the number of modules possible, please provide a summary table that helps explain what modules are included, what are optional, what combinations are available, and how each module has been tested for FCC requirements. Please provide further information.
3) The tune up procedure mentions that there are not any user adjustable components. Note that the tune up procedure is actually regarding the manufacturing process and how the device is set or adjusted to meet FCC regulations. However, in this case the device appears to be a module purchased from Motorola. Therefore an attestation by Thales that explains that they receive the module as adjusted by the manufacturer and do not make any adjustments themselves would be sufficient. Optionally, a tune-up procedure from Motorola could be provided.
4) Please provide additional photographs that show a typical module with the RX installed as well.
5) The FCC ID listed in the operational description (IHDT6ZC1) listed on page 1 is not for a PCS module, but instead a DeskSet phone. Note that the frequency range, emissions designator and other data for this FCC ID do not appear to match the information for this application. Please explain.
6) Please provide a parts list for this application. Note that the schematic of the TX only contains reference designators.

EMC

7) FYI….The theory of operation mentions a conducted output power of +30 dBm, while the test report shows a EIRP power 5.2 dBm. The SAR report offers and explanation for this. Portable device under Part 24 are required to list output power as EIRP. We propose that because of the difference in power, and the fact that Thales Navigation may desire to solve the EIRP problem in the future, to place the conducted power on the grant line with the EIRP power listed in the grant notes. This should allow flexibility to do a Permissive change assuming the conducted power stays the same. Otherwise by placing the EIRP on the grant line would require a new FCC ID every time the EIRP changed.
8) The FCC ID on page 2 of 27 of the test report is listed as TBD. Please explain as it was assumed that the same FCC ID would be placed on each model listed.
9) Page 3 of 27 of the test report appears to contain some missing information regarding the bluetooth and PCS items listed. Please correct.
10) Is any information available regarding the antenna used in the device (i.e. gain, specs, etc.).
11) Page 3 & 7 of 17 of the test Report shows an EIRP power of 5.2 dBm (0.003 W), while the test data appears to show 6.5 dBm (0.005 W). Please explain.
12) The bandedge measurements shown on page 7 of 27 does not appear to be performed for the lowest channel of 1850.2 and appear about 1 channel higher. It appears that the channel shown is around 1850.4. Note that the high channel on page 18 of 27 appears ok. Please explain.

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13) Note that as of last week, the FCC has retracted their requirement of performing all block edge tests, however please note that bandedge tests are still required (see attachment). It is no longer required to submit this data.
14) The conducted power listed on page 7 of 17 was listed as 28 dBm. Is this listed elsewhere in the measurement report? This is typically used for comparison of data take by the SAR facility. Note that this level must agree with SAR report and tune-up procedure however the conducted power in SAR report should be greater than or equal to what's in EMC report, but not exceeding tune-up/tolerance. Note the value appears higher than given in the SAR report.
15) The frequency stability results shown on page 7 of 17 do not appear to match the data in the measurement report.
16) The test report mentions that the receivers have been tested to meet FCC requirements. However the device only meets the Class A digital device limits. Note that the RX portion of the device must meet with Class B limits, even if the total device only meets with Class A limits. Please explain.

SAR

17) Please adjust the statement of compliance on page 4 to include FCC 47 CFR §2.1093 and that the device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01).
18) The Distance between the measurement point (distance + offset) at the probe sensor location (geometric center behind the probe tip) and the phantom surface should be < 8.0 mm and maintained at a constant distance of +/- 1.0 mm during an area scan to determine peak SAR locations as specified on page 15 of the report. However, section 6.4 (page 20) states that it was performed at 8.0 mm. Please explain.
19) The SAR report should define if the unit under test is a production unit or identical prototype (47 CFR §2.908).
20) The SAR report included Appendix's 1, 2, 5. Are appendix's 3 & 4 missing?
21) The thermometer and dipole given in the test equipment appear to possibly be out of calibration. Please explain.
22) The field probe calibration information/certificate does not appear to address the measurements uncertainty associated with these measurements. Please provide.
23) Please comment on the Probe Angle between the probe axis and surface normal line. Was this maintained at < 30 degrees. Note that if the probe angle is > 30 degrees and the closest point of the probe tip housing to the phantom surface is closer than a probe diameter, the boundary effect may become large and polarization dependent. This additional uncertainty needs to be analyzed and taken into account.
24) While all testing was performed at 1.5 cm, please provide an additional photograph to show the antenna to user distance while using the backpack is 5 cm or greater.
25) Please provide an explanation of procedures to establish the test signals (put phone on a call, e.g., base-station simulator vs internal test codes)?
26) Please comment on if boundary effect compensation was used. Note that when Probe boundary effect compensation is not used the probe tip should be positioned at least half a probe tip diameter from the phantom surface during area and zoom scans.
27) Please comment on if the first 2 measurements points in a z-axis scan, closest to the phantom surface, were within 1 cm of the surface.

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The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information may result in application termination. Correspondence should be considered part of the permanent submission and may be viewed from the Internet after a Grant of Equipment Authorization is issued.

Please do not respond to this correspondence using the email reply button. In order for your response to be processed expeditiously, you must submit your documents through the AmericanTCB.com website. 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 sender.