

TUFM4B FCC APPLICANT STATEMENT

26 March 2019

To Whom It May Concern:

The following is an applicant statement and explanation intended to support Tait International's Tait Unified Vehicle 2.0 / TUFM4B FCC submission, FCC ID: CASTUFM4B.

The method of application follows the instructions in the document "996369 D02 Module Q and A v01.pdf", dated October 23, 2015 titled: "FREQUENTLY ASKED QUESTIONS AND ANSWERS ABOUT MODULES" from The FCC Office of Engineering and Technology, Laboratory Division. Specifically, Q1A1a):

Question 1: What options are available for parties other than the grantee or responsible party to apply or make changes to an existing modular grant?

Answer 1: The following options are for certified modules and for many other types of certified devices. The following discussion addresses modules, because actual end-use configurations often require changes in the scope of an authorization for devices that have been granted as modules.

Where a party other than a module manufacturer may:

a) File for a new FCC ID

Tait's request and assertion:

- 1) Tait commit to following all instructions under Q1A1a), namely Q1A1a1, Q1A1a2, Q1A1a3 and Q1A1a4.
- 2) Tait request to obtain a new certification for Tait's own, entire, composite host: Tait Unified Vehicle / TUFM4B, FCC ID: CASTUFM4B which includes the modules WL1837MODGIMOC / FCC ID: Z64-WL18DBMOD from Texas Instruments and LE910-NAV2 / FCC ID: RI7LE910NAV2 from Telit.
- 3) Tait do not wish to obtain a new certification for the modules.
- 4) Tait take responsibility for full compliance to all applicable rules for the new grant.
- 5) Tait accept there are no vested or transferable conditions in the original grant conveyed to Tait's new grant.
- 6) With two exceptions, Tait have followed all the engineering and operational guidelines as specified by the module manufacturer's (TI and Telit's) original grants. These two exceptions are:
 - a) Exception one: Co-location. Both original grants for their respective modules do not include co-located transmitter scenarios. Tait have been granted permission from

both the module manufacturers^{1,2}, to use the relevant test reporting or results where co-location would not impact the test results. Where test results would be affected by a co-location difference, Tait have instructed Intertek test house to perform testing and reporting such as Radiated Spurious Emissions (RSE), 15.247 and 15.407³. In addition to these test reports, Tait have instructed TELTEST to report on Maximum Permissible Exposure (MPE)⁴.

- b) Exception two: WL1837MODGIMOC Antenna and antenna path reference design. The antenna and antenna path reference design submitted for FCC compliance for the WL1837ODGIMOC was not used in the design of the TUFM4B. Therefore, Tait have instructed Intertek test house to perform testing and reporting to demonstrate that their antenna and antenna path design is in all relevant regards equivalent for the purposes of compliance to the WL1837MODGIMOC modular approval. These tests are RSE and 15.203⁵. In addition to these test reports, Tait have instructed TELTEST to report on MPE⁶.
- 7) Except for the two stated exceptions above, both modules otherwise reside identically, unmodified and as per the module manufacturers installation and operational instructions. Therefore, the test reports which contain relevant results from the module manufacturers which accurately represent the operation of the modules operating co-located within the TUFM4B host for the purposes of compliance are listed in the following table:

| Manufacturer Module FCC ID | Test Report Name | FCC Part | Test Description | File Name |
|------------------------------------|---------------------|--------------|--|--|
| Telit LE910NAV2 RI7LE910NAV2 | 1506FR21-01 | 22H, 24E, 27 | Effective Radiated Power/Equivalent Isotropic Radiated Power Frequency Stability Emission Bandwidth & Occupied Bandwidth Peak to Average Ratio Band Edge Conducted Spurious Emission Radiated Emission | Part22H 24E II Part1 Part22H 24E II Part2 |
| Telit LE910NAV2 RI7LE910NAV2 | 1506FR22-01 | 22H, 24E | RF Output Power Effective Radiated Power/Equivalent Isotropic Radiated Power Peak to Average Ratio Emission Bandwidth & Occupied Bandwidth Band Edge Conducted Spurious Emission Filed Strength Frequency Stability | Part22H 24E |

¹ TI Permission Letter: Title: Change in ID/ Change in Multiple Listing, Filename: "TUFM4B TI Tait_Letter_2018.pdf"

² Telit Permission Letter: Title: Use of LE910-NA V2 documentation and FCC reports, Filename: "TUFM4B TU2000-M4_LE910-NA-V2_Telit_FCC_Authorization_letter - signed.pdf"

³ Intertek Test house Test Report, Report Number: 103689808LEX-001, Filename: "Tait Report.pdf"

⁴ MPE Document, Title: RF Exposure Technical Brief Tait Unify Vehicle, Filename: "TUFM4B RF Exposure Technical Brief Unify Vehicle - FCC.pdf"

⁵ Ibid (3)

⁶ Ibid (4)

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|---------------------------------------|------------|----------------------|--|--|
| TI WL1837MODGIMOC Z64-WL18DBMOD | FR 4O0971D | 15E 15.407 | 99% Bandwidth Maximum Conducted Output Power Measurement Power Spectral Density AC Conducted Emission Frequency Stability Automatically Discontinue TX | Part15E 15-407 Part15E 15-407 Annex A Part15E 15-407 Annex B |
| TI WL1837MODGIMOC Z64-WL18DBMOD | FR4O0971E | 15E 15.407 (5GHz) | 6dB Bandwidth Maximum Conducted Output Power Power Spectral Density AC Conducted Emission Frequency Stability Automatic Discontinue Transmission | Part15E 15-407 5Ghz Part15E 15-407 5Ghz Annex A Part15E 15-407 5Ghz Annex B |
| TI WL1837MODGIMOC Z64-WL18DBMOD | FZO0971 | 15E | DFS | DFS |
| TI WL1837MODGIMOC Z64-WL18DBMOD | FR4O0971A | 15C 15.247 | Number Of Channel Hopping Channel Separation Dwell Time 99% Bandwidth Measurement Peak Output Power Conducted Band Edges Conducted Spurious Emission AC Conducted | Part15C 15-247 Part15C 15-247 Annex A |
| TI WL1837MODGIMOC Z64-WL18DBMOD | FR4O0971B | 15C 15.247 (BT) | 99% Bandwidth Peak Output Power Power Spectral Density Conducted Band Edges Band Edge in the restricted band AC Conducted Emission | Part15C 15-247 BT Part15C 15-247 BT Annex A |
| TI WL1837MODGIMOC Z64-WL18DBMOD | FR4O0971C | 15C 15.247 (Wlan) | 99% Bandwidth Peak Output Power Power Spectral Density Conducted Band Edges & Spurious Emission Band Edge in the restricted band AC Conducted Emission | Part15C 15-247 Wlan Part15C 15-247 Wlan Annex A |

- 8) Specific Absorption Rate (SAR) test reports are not provided as the product TUFM4B is a vehicle mounted radio transmitter, not a personal transmitter and will not be operating within <20cm of the human body. In the absence of SAR reporting, MPE⁷ is included instead.

Yours sincerely,



Brian Emmet
 Standards and Regulatory Manager
 Tait International Limited

⁷ Ibid (4)