

Re: FCC ID: HCOT43DQDD1A

[Dali] We have attached modified documents with corrections applied – per suggestions below. Please advise if a permissive change filing is required, or if this is part of the current filing and just an explanation is required.

Our filing has been reviewed numerous times and we have complied at each point to make the requested changes. During this process some of the requests have become contradictory to each other and this has caused some confusion on our part. If after this set of responses further changes are needed, it would be appreciated if we could get some explicit instruction on what is still required of us.

Thanks,

Daryl, Dali Wireless

1a) Op. desc. and install/operate instructions indicate seven different "air interfaces supported."

Forms-731 list six different emission designators per band, i.e. D9W, D9X, DXW, F9W, F9X, FXW. (For reference, decoding for those symbols from 2 subpart C is shown below.)

EMC/radio reports from Dali lab indicate the emission types and channel freqs. tested as listed in the following items 1b) and 1c).

[Dali] Please see table in response to 1b and 1c. References to CDMA, GSM and Analog FM have been removed from the manual and operational description. See pages 72, 73 of t43DQDD1D-UserMan-v9 and final page of t43DQDD1D-OpDes-v9.

The following emissions designators have been removed from Form 731 as they may be extraneous: D9X, DXW, F9X, FXW. However, in their place W9W has been added for the LTE band. See updated t43DQDD1D-731FormA-v9 and t43DQDD1D-731FormB-v9 .

1b) 700-band:

Modulation; # Carriers; Notation; Frequency (MHz).

LTE 5MHz BW QPSK; 1; LTE5M; 760.5, 765.5.

LTE 1.4MHz BW QPSK; 2; LTE1.4M; 760.5, 765.5.

P25 Phase I 12.5kHz C4FM; 1; P25 I-F; 769.0125, 772, 774.9875.

P25 Phase II 12.5kHz HDQPSK; 1; P25 II; 769.0125, 772, 774.9875.

P25 Phase I 6.5kHz CQPSK; 1; P25 I-P; 763.00625, 760.50625, 767.99375, 769.00625, 772.50625, 774.99375.

Unless it is in the filing already, TCB please coordinate with applicant to update exhibit(s) to explicitly describe which of the 6 emission symbols go along with each of the 5 emission types tested.

If an emission symbol does not have explicit associated test data on file, that symbol and freq. line should be omitted from grant listings.

FYI test data and emission symbols can be amended in future Class II permissive change filings.

Although not an official FCC procedure nor endorsement, fyi some examples of industry conventional emission classifications is given at:

(<https://www.apcointl.org/spectrum-management/resources/licensing-links/emission-designators.html>).

[Dali] Intended Emissions for 700 Band

| <u>Data Sheet/Op Des Reference</u> | <u>Tested Signal</u> | <u>Description</u> | <u>Individual Emissions Designators</u> | <u>Emissions Designators for Multiple Channels (Form 731)</u> | <u>Explanation</u> |
|------------------------------------|-----------------------------|--|---|---|--|
| LTE | LTE 5MHz BW QPSK | Typical PS LTE | 5M00G7D, 5M00W7W, 5M00G2D, 5M00D7D | D9W, F9W, W9W | 1 or More LTE Channels or P25 Phase II Channels carrying a Combination of Voice and Data |
| | LTE 1.4MHz BW QPSK | Narrow LTE (Highest Spectral Power Density) | 1M40G7D, 1M40W7W, 1M40G2D, 1M40D7D | | |
| P25 Phase II | P25 Phase II 12.5kHz HDQPSK | | 9K80D7W, 9K80F1D, 9K80F1E | D9W, F9W | |
| Digital FM / EDACS | P25 Phase I 6.5kHz CQPSK | | 5K76G1E | Covered by D9W from above. | 1 or More Digital FM Channels carrying a Combination of Voice and Data |
| | P25 Phase I 12.5kHz C4FM | | 8K10F1D, 8K10F1E | F9W | |
| | | OpenSky 2, EDACS AEGIS Digital Voice, and DMR have similar emissions characteristics to modulations tested the above. Since testing performed was done on similar or worse case signals these modulation types should also be included in the grant. | 7K60FXD, 7K60FXE, 8K50F9W | | |

1c) Test report also mentions: "For measurement of output power and occupied bandwidth, the widest bandwidth LTE signal which can fit in the D Block and the Band 14 PSBB – 5MHz channel bandwidth – was used."

TCB and applicant are reminded that former part 27 "D Block" is obsolete since Dec. 2012, i.e. FCC DA-12-1462; rulemaking FCC-13-137 defined the service rules for PS-BB 758-769/788-789 all under part 90. In general 10 MHz channel per 3GPP E-UTRA band 14 is allowed/intended for FCC PS-BB spectrum. See also e.g. latest KDB pub 634817 D01 & D02.

[Dali] This statement has been removed from the test report. See t43DQDD1D-TestRpt2-v9 .

1c) 800-band:

Modulation; # Carriers; Notation; Frequency (MHz).

P25 Phase I 6.5kHz CQPSK; 1; P25 I-P; 851.0125, 861.9875 862.0125, 868.9875.

P25 Phase I 12.5kHz C4FM; 1; P25 I-F; 851.0125, 861.9875 862.0125, 868.9875.

P25 Phase II 12.5kHz HDQPSK; 1; P25 II; 851.0125, 861.9875 862.0125, 868.9875.

Unless it is in the filing already, TCB please coordinate with applicant to update exhibit(s) to explicitly describe which of the 6 emission symbols go along with each of the 3 emission types tested.

If an emission symbol does not have explicit associated test data on file, that symbol and freq. line should be omitted from grant listings.

FYI test data and emission symbols can be amended in future Class II permissive change filings.

[Dali] Intended Emissions for 800 Band

| <u>Data Sheet/Op Des Reference</u> | <u>Tested Signal</u> | <u>Description</u> | <u>Individual Emissions Designators</u> | <u>Emissions Designators for Multiple Channels (Form 731)</u> | <u>Explanation</u> |
|------------------------------------|-----------------------------------|--|---|---|--|
| P25 Phase II | P25 Phase II 12.5kHz HDQPSK | | 9K80D7W, 9K80F1D, 9K80F1E | D9W, F9W | 1 or More LTE Channels or P25 Phase II Channels carrying a Combination of Voice and Data |
| Digital FM / EDACS | P25 Phase I 6.5kHz CQPSK | | 5K76G1E | Covered by D9W from above. | 1 or More Digital FM Channels carrying a Combination of Voice and Data |
| | P25 Phase I 12.5kHz C4FM | | 8K10F1D, 8K10F1E | F9W | |
| | | OpenSky 2, EDACS AEGIS Digital Voice, and DMR have similar emissions characteristics to modulations tested the above. Since testing performed was done on similar or worse case signals these modulation types should also be included in the grant. | 7K60FXD, 7K60FXE, 8K50F9W | | |

1d) Install/operate instructions and op. desc. (both marked confidential) list seven (7) "Air Interfaces Supported", several of which do not seem to have test data submitted.

Absent specific justifications that subset testing covers other modulations, and absent some FCC policy, procedure, or advance approval of detailed test plan including technical bases for test reductions, thus guidance from past and present versions of KDB pub 935210 to test all modulations remains applicable. [2.911(b), etc.]

If an emission symbol does not have explicit associated test data on file, that symbol and freq. line should be omitted from grant listings.

FYI test data and emission symbols can be amended in future Class II permissive change filings.

Similar as used in some past FCC grants, please amend a grant remark/condition like the following or similar:

"Marketing and/or use of this device for other than XXXXX operations is subject to additional equipment authorization."

and with listing the final covered emissions types TBD in place of XXXXX.

[Dali] A suitable grant restriction might be:

"Marketing and/or use of this device for other than the following is subject to additional equipment authorization. Approved uses include incumbent narrowband private use, narrowband public safety operations and broadband public safety LTE."

2a) Pending also resolution of the preceding items about emission types, grant frequency listings for 700-band should be updated per the following.

758-769 is PS-BB part 90, and is listed only with LTE emissions. As stated in preceding FCC-TCB conference call notes, use PF note code for PS-BB LTE lines.

769-775 is PS-NB part 90, and is listed only with P25 or other "legacy" narrowband (BW < 25 kHz) emission types.

Even though 47 CFR no longer provides rules nor waiver provisions for PS-NB operations in 763-769, at present we do continue to allow listing 763-769 (or 763-775, as supported by test data) only as accompanied by the EF note code per line (see KDB pub 634817 D01), omitting the PF note code, and retaining the "incumbent narrowband" grant remark/condition already in place on this B9B filing.

[Dali] Form731 (t43DQDD1D-731FormA-v9) was updated with the requested notes:

- 758-769 PF : "Transmitter approved for Public Safety Broadband"
- 763-775 EF: "This device may contain functions that are not operational in U.S Territories except as noted in the filing. This grant has extended frequencies as noted in the filing and Section 2.927(b) applies to this authorization"

2b) Pending also resolution of the preceding items about emission types, grant frequency listings for 800-band should be updated per the following.

851-862 as presently listed is OK for B9B, and as long as 90.210(h) compliance data is in the filing for 851-854 NPSPAC band [see e.g. KDB pub 935210 D02 v02r01 item V) j) 3)].

B2I listing of part 27 for 862-869 is wrong.

Further to FCC-13-21 and KDB pub 935210 D02 v02r01 item V) j) 2) i), strictly speaking any booster grants after Feb 21, 2013 need to address compliance for CMRS ESMR operations in 862-869.

This means that at minimum compliance data should be submitted for 1M25F9W emission.

Please amend B2I filing with CDMA test data, OR alternatively please add grant remark/condition to B2I like the following or very similar: "This booster device is approved only for incumbent private use and public safety operations."

fyi CDMA and/or LTE data could be amended via future Class II permissive change filing for the B2I portion.

[Dali] 862 to 869 is not being submitted under part 27 it is being submitted under part 90S.

We are not marketing this product for CDMA operations. A remark indicating that "This booster device is approved only for incumbent private use and public safety operations." would be perfectly acceptable. Please see notes that were included on current filing of Form 731. In addition we have a number of documents on file indicating that this product is marketed for public safety use only.

3) Further to 90.219 and KDB pub 935210 D02, also as similar to other recent B9B filing FCC ID HCOT37DVUS4A, please revise label exhibit in both B9B and B2I for part 90 portion to explicitly identify whether device is 90.219 Class A or 90.219 Class B.

[Dali] This oversight has been corrected. Please see t43DQDD1D-LabelSmpl-v9 .

4) Further to topic already considered in the PBA, and consistent with as shown in Oct 2014 FCC-TCB conference notes as well as notified to other applicants in recent months, unless filing contents include information documenting how this remote unit can never be configured as part of a booster system to support MIMO transmissions (e.g. for 3GPP band 14), TCB please amend with the following grant condition or very similar:

"This filing has compliance demonstration information and test data only for SISO (single-input single-output) booster system configurations; additional equipment authorization is required to allow this device to be used in

MIMO (multiple-input multiple-output) industrial booster systems."

FYI technical information and test data for optional MIMO operations could be submitted in subsequent permissive change filing(s).

[Dali] This product currently does not have any requirements for MIMO deployment. We understand the requirement for additional testing prior to approval for operation in a MIMO configuration.

5) EMC/radio reports from QAI lab list two FCC IDs, i.e. HCOT43DQDD1A and HCOT43DQDD1B.

We do not see FCC ID HCOT43DQDD1B in the e-filing system; please explain what it is and approval status, and/or revise this and other exhibits if any to omit from the filing.

In addition for all future filings for ANY devices, TCB please ensure all exhibits do not list extraneous and/or unexplained FCC IDs.

[Dali] This oversight has been corrected. Please see t43DQDD1D-TestRpt1-v9 .

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal pursuant to Section 2.917(c).