

Experiment Description
Response to Form 442 Question 7

AirCell, Inc. (“AirCell”) submits the instant application for a new experimental license to complement the authority it holds pursuant to existing experimental license KI2XCS, which the Commission granted to AirCell in 1994 under Part 5 of the Commission’s rules. Specifically, AirCell seeks authority to operate up to 50 additional specially-designed airborne AirCell cellular units, in order to conduct limited digital testing of its system with CDMA, GSM, and other digital technologies, which is not covered under its existing license.

AirCell’s existing experimental license KI2XCS grew out of its operation under various FCC experimental and special temporary authorizations beginning in 1992. ^{1/} Based on field results demonstrating that AirCell’s operations do not cause harmful interference to terrestrial cellular service, ^{2/} the Commission provided AirCell with authority to operate 1800 mobile units, based on an assumption of 600 units for each of the three permitted market segments. See Letter from Richard M. Smith, Chief OET, to David L. Sieradzki, counsel to AirCell, Feb. 11, 1998. Moreover, in affirming the waiver of the airborne cellular rule, the full Commission

^{1/} *AirCell, Inc., Experimental Special Temporary Authorization*, Call Sign KS2XAT, File No. S-1246-EX-92 (Dec. 15, 1992); *AirCell, Inc., Experimental Radio Station Construction Permit and License*, Call Sign KI2XCS, File No. 4555-EX-PL-04 (Dec. 28, 1994); *AirCell, Inc., Experimental Special Temporary Authorization*, Call Sign KI2XCS, File No. S-2374-EX-96 (March 22, 1996); *AirCell, Inc., Experimental Radio Station Construction Permit and License*, Call Sign KI2XCS, File No. 5349-EX-MR-96 (June 22, 1996).

^{2/} That demonstration, along with prior testing under the experimental license, allowed AirCell to petition for and receive a waiver of the “airborne cellular rule,” 47 C.F.R. § 22.925, to allow AirCell to conduct commercial operation on frequencies used for terrestrial analog cellular operation. See *AirCell, Inc. Petition, Pursuant to Section 7 of the Act, For a Waiver of the Airborne Cellular Rule, or, in the Alternative, for a Declaratory Ruling*, 14 FCC Rcd 806, 807, ¶ 4 (WTB 1998), *recon. granted in part, denied in part*, 14 FCC Rcd 19430 (WTB 1999), *app. for rev. denied*, 15 FCC Rcd 9622 (2000), *pet. for rev. granted in part, denied in part sub nom. AT&T Wireless Svcs., Inc. v. FCC*, 270 F.3d 959 (D.C. Cir. 2001), *pet. for reh’g denied* Jan. 29, 2002, *decision on remand*, FCC 02-234 (rel. Feb. 10, 2003) (“Waiver Orders”).

expressed its expectation that AirCell would continue to conduct testing under its experimental license (KI2XCS), deploying up to the 1800 mobile units authorized thereby, wholly apart from whatever commercial operations AirCell conducts pursuant to the Waiver Orders. *AirCell, Inc.*, 15 FCC Rcd 9622, ¶ 51 and n.66.

AirCell has a continuing need to explore and test the migration of its system to next generation digital technologies, which will enable greater spectral efficiency and system capacity, as well as improve system quality. AirCell has an increasingly large customer base using its analog system, and it needs the ability to test the operation and compatibility of different digital technologies for its next generation operations. Grant of this new experimental license is consistent with the FCC's expectation that "AirCell may properly wish to continue improving its technology through testing under the aegis of the OET license" and that "meaningful data were and can be derived from continuing and expanding the AirCell 'experiment'." *Id.*