

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Mitch Rose  
Telecommunications Legislative Assistant  
Office of Senator Ted Stevens  
522 Hart Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Rose:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

IDC's technology works with all wireless interface standards currently employed in the industry (i.e., GSM, TDMA, CDMA, iDEN and AMPS). IDC's technology is capable of transmitting location data on the same channel that carries voice. This means no network modification is needed because IDC's technology does not use an overhead control channel. IDC's technology is compatible with both existing and new PSAP call taker equipment. This means that a carrier using IDC's technology can offer the same level of service on day one of implementation. Thus, the capital investment by wireless or wireline carriers is negligible.

Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Mike Rawson  
Telecommunications Legislative Assistant  
Office of Senator Conrad Burns  
187 Dirksen Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Rawson:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Ali Amirhooshmand  
Telecommunications Legislative Assistant  
Office of Senator Kay Baily Hutchinson  
283 Russell Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Amirhooshmand:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Gregg Wilhauck  
Telecommunications Legislative Assistant  
Office of Senator Spencer Abraham  
329 Dirksen Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Wilhauck:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. David Broome  
Telecommunications Legislative Assistant  
Office of Senator Bill First  
567 Dirksen Senate Office Building  
Washington, DC 20510

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Mr. Broome:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Howard Walzman  
Telecommunications Legislative Assistant  
Office of Senator Sam Brownback  
303 Hart Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Walzman:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Paula Ford  
Telecommunications Legislative Assistant  
Office of Senator Ernest Hollings  
125 Russell Senate Office Building  
Washington, DC 20510

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Ms. Ford:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Margaret Cumminsky  
Telecommunications Legislative Assistant  
Office of Senator Daniel Inouye  
722 Hart Senate Office Building  
Washington, DC 20510

***Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Ms. Cumminsky:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Barry Piat  
Telecommunications Legislative Assistant  
Office of Senator Byron Dorgan  
713 Hart Senate Office Building  
Washington, DC 20510

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Mr. Piat:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Carole Grunberg  
Telecommunications Legislative Assistant  
Office of Senator Ron Wyden  
717 Hart Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Ms. Grunberg:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Jane Terry  
Telecommunications Legislative Assistant  
Office of Senator Max Cleland  
461 Dirksen Senate Office Building  
Washington, DC 20510

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Ms. Terry:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Andrew Fields  
Telecommunications Legislative Assistant  
Office of Senator John Rockefeller  
531 Hart Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Fields:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Mark Ashby  
Telecommunications Legislative Assistant  
Office of Senator John Breaux  
516 Hart Senate Office Building  
Washington, DC 20510

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements***  
***"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"***

Dear Mr. Ashby:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Gregg Rothschild  
Telecommunications Legislative Assistant  
Office of Senator John Kerry  
421 Russell Senate Office Building  
Washington, DC 20510

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Rothschild:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Bob Bolster  
Telecommunications Legislative Assistant  
Office of Rep. Steve Sargent  
425 Canon HOB  
Washington, DC 20515

***Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"***

Dear Mr. Bolster:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Jennifer Rich  
Telecommunications Legislative Assistant  
Office of Rep. Nathan Deal  
1406 Longworth HOB  
Washington, DC 20515

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"*

Dear Ms. Rich:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Peter Uhlman  
Telecommunications Legislative Assistant  
Office of Rep. Christopher Cox  
2402 Rayburn HOB  
Washington, DC 20515

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"***

Dear Mr. Uhlman:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Jim Steen  
Telecommunications Legislative Assistant  
Office of Rep. Paul Gilmore  
1203 Longworth HOB  
Washington, DC 20515

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"*

Dear Mr. Steen:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Peter Krug  
Telecommunications Legislative Assistant  
Office of Rep. Cliff Stearns  
2352 Rayburn HOB  
Washington, DC 20515

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"*

Dear Mr. Krug:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

IDC's technology works with all wireless interface standards currently employed in the industry (i.e., GSM, TDMA, CDMA, iDEN and AMPS). IDC's technology is capable of transmitting location data on the same channel that carries voice. This means no network modification is needed because IDC's technology does not use an overhead control channel. IDC's technology is compatible with both existing and new PSAP call taker equipment. This means that a carrier using IDC's technology can offer the same level of service on day one of implementation. Thus, the capital investment by wireless or wireline carriers is negligible.

Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Mr. Robert Foster  
Telecommunications Legislative Assistant  
Office of Rep. Michael Oxley  
2233 Rayburn HOB  
Washington, DC 20515

*Re: Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and An Effective Solution for Rural Areas"*

Dear Mr. Foster:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

March 19, 1999

*Via Federal Express 2-Day Air*

Ms. Ann Morton  
Telecommunications Legislative Assistant  
Office of Rep. Rick Boucher  
2329 Rayburn HOB  
Washington, DC 20515

**Re: *Handset-Based Approach to the FCC's E911 Phase II Requirements  
"Accurate, Reliable, Timely, and Effective Solution for Rural Areas"***

Dear Ms. Morton:

Integrated Data Communications (IDC) is concerned about some of the perceptions surrounding the handset-based approach to meeting the FCC's E911 Phase II requirements. IDC is interested in this issue because it has developed a signaling protocol that uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from the U.S. Government's Global Positioning System (GPS) which is built-in to a handset using a highly miniaturized GPS chip and antenna. IDC's technology can transmit longitude, latitude, altitude, time, direction and speed to a Public Safety Answering Point (PSAP) with little impact or modification to existing wireless or wireline carrier networks, or PSAP networks. Data requirements such as altitude, speed and direction exceed the Phase II data requirements.

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Based on some of the questions that were asked by certain House members on HR 438, there appear to be three major concerns about how wireless carriers will meet the FCC's E911 requirements for Phase II:

December 29, 1998

**VIA FEDERAL EXPRESS**

Magalie Roman Salas  
Secretary  
Federal Communications Commission  
The Portals  
445 12<sup>th</sup> St., SW  
Washington, D.C. 20554

**Re: CC Docket No. 94-102 - FCC E911 Order  
Ex Parte Presentation**

Dear Ms. Salas:

On November 30<sup>th</sup> and December 1<sup>st</sup>, Dan Allen, President & CEO of Integrated Data Communications (IDC), a provider of a signaling protocol technology for the handset solution, and Dan Preston, Co-Founder and Chief Technology Officer of IDC, and I, as attorney for IDC, met with the Wireless Telecommunications Bureau staff, the Chairman's office, and the Commissioners offices. We met with John Cimko, Jr., Chief, Policy Division; Nancy Boocker, Deputy Policy Chief; Ronald Netro, Marty Liebman, Daniel Grosh, Won Kim, and Barbara Riedler from the Wireless Telecommunications Bureau; and with Ari Fitzgerald in Chairman Kennard's office; Paul Misener and Commissioner Furchgott-Roth; Dan Connors in Commissioner Ness's office; Peter Tenhula in

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Commissioner Powell's office; and Karen Gulick in Commissioner Tristani's office. We also met briefly with Rosalind Allen, Deputy Bureau Chief of the Wireless Bureau as Kathleen O'Brien Ham was out the day of our meeting.

The purpose of the meetings was to introduce IDC to the Commission, explain how its signaling protocol technology enables wireless carriers to meet the FCC's E911 requirements, and share the results of its field tests in King County, Washington. A copy of the presentation we shared with the Wireless Bureau's policy division, and the Chairman and Commissioner's offices is attached. We also included in the presentation a copy of a letter from Marlys Davis, E-911 Program Manager with the King County E-911 Program office in Washington. This letter is addressed to Nancy Booker, and it explains the experiences of the King County E-911 Program office who participated in IDC's field tests. In our meetings with the Commission, we discussed the following subject matters:

*Who is IDC?*

IDC is located on Bainbridge Island in Washington. Prior to becoming President and CEO of IDC, Dan Allen was President of Nextel's Mid-Atlantic region. Dan Preston has spent almost twenty years as a special applications contractor to the Departments of Defense and Energy. When Dan Preston, the inventor of the technology, first took a look at the FCC's E911 requirements he took the approach of talking to the emergency services personnel to understand what they needed for public safety.

*How Does IDC's Technology Work?*

IDC developed a technology, a signaling protocol, that is transparent to both wireless and wireline networks. IDC's signaling protocol uses MF in-band signaling to transmit location information simultaneously with voice on the voice channel. The location information is obtained from global positioning satellites (GPS). Thus, IDC's technology, using a GPS chip, can transmit longitude, latitude, altitude, time, direction and speed to a PSAP with no impact or modification to existing wireless or wireline carrier networks, and minor modifications to PSAP networks.

IDC's technology works with all cellular standards currently employed in the industry (i.e., GSM, TDMA, CDMA, iDEN and AMPS). As IDC's technology is capable of transmitting location data on the same channel that carries voice, it requires no network modification and it does not require an overhead control channel. IDC's technology is compatible with both existing and new call taker equipment. This means that a carrier using IDC's technology can offer same level of service on day one of implementation. Thus, the capital investment by wireless or wireline carriers is negligible.

*Accuracy and Reliability - Results of IDC's Field Test*

IDC conducted a five-month field test of its technology in Washington in cooperation with US West, three national local wireless carriers, and the King County E-911 Program office. Based on the results of its field test, IDC was able to tell the Commission that its technology can locate a wireless handset 100% of the time, using the FCC's RMS measure.

IDC's technology was able to locate a wireless handset within 40 to 70 feet, 70 to 80% of the time. In the other 20 to 30% of the time, IDC's technology could locate a wireless handset well within the FCC's requirements of 125 meters (406 feet). IDC's field test included mountainous terrain, rural, suburban and urban canyons. IDC's presentation compares an area around Washington, D.C. to a similar geographic area for IDC's field test in Washington state.

*Accuracy and Reduced Response Time*

One of the key benefits to accuracy within 40 feet is the improved ability of the PSAP to direct an emergency service call to the closest emergency personnel, thus reducing response time. In IDC's presentation, the ability to locate a wireless handset within 40 feet enables the PSAP to see that the caller is on a side street and not on a major highway. When the FCC's requirement of 125 meters (406 feet) is used, a PSAP would not be able to quickly determine whether the caller was calling from a highway or a residential street. Knowing whether the call is from the highway or a residential street makes a difference to the PSAP that needs to know whether to direct the call to the highway patrol personnel closest to the highway, or whether to direct the call to the local police closest to the residential area of the emergency. The amount of time it takes to direct a call and to get emergency personnel to the right location can make a significant difference in the response time to the emergency situation. IDC's technology provides the location information from the time of the call to the PSAP, adding less than one and a half seconds to call set-up.

*Selective Routing*

When a 911 call is received, IDC's technology has the accuracy and ability to transfer location information, and route a call to the appropriate PSAP, based on the geographic location of the caller.

*Tracking and Refreshing*

Another important feature of IDC's technology is that it can track and refresh the location information of the wireless handset. A wireless subscriber is often mobile when calling about an emergency situation. On a highway, travelling at 50 to 60 miles per hour, the location of the caller can change rapidly. IDC created a software which it used in its field test, and the staff with the King County E-911 Program office was able to track a mobile wireless subscriber on a major interstate highway to within 40 feet. The screen shows that the caller was travelling northwest at 61 miles per hour (see IDC presentation). The call taker is able to update or "refresh" the location information by simply clicking on the "update location" button on the screen.

*Transfer of Location Information*

Also, since IDC's technology works in the voice channel, location information can be transferred with the call to another call taker, supervisor, or jurisdiction.

*Existing Handsets*

IDC's technology uses a GPS chip. Therefore, its technology can easily be built in to the chip and put into future handsets. More importantly however, as there are over 60 million wireless handsets in the market today, IDC's technology also works with existing handsets. IDC offers two economical solutions to the existing handset issue. First, the GPS chip can be built into the battery. Consumers can purchase a new battery for a low cost. Second, the GPS chip can slide between a wireless handset and its battery on a credit card thin "sleeve," also for a low cost.

*Waiver Option*

Apparently, many wireless carriers and location technology companies have been asking the Commission to clarify its waiver option should a carrier wish to pursue a handset solution to meet the FCC's E911 requirements.

If a carrier chooses a handset solution and utilizes a "churn-based transition" methodology, a majority of handsets would be E911 compliant by October, 2001. In Dan Allen's 25 years of industry experience, based on an approximate churn rate of 30 to 40% per year (based upon a 2 to 4% churn per month of a company's embedded base of subscribers), approximately 60 to 80% of new handsets can be E911 compliant by year-end 2001, assuming commencement in 1999.

Then, for the other 20 to 40% of existing handsets that do not have a GPS chip by year-end 2001, IDC's technology can also be built-in to wireless handset batteries, which consumers can purchase, or a "sleeve" option can be made available to consumers to modify

their existing handset. Alternatively, the FCC could decide to approve waiver requests by wireless carriers for a certain percentage of non-compliant handsets.

*Roaming*

IDC's technology provides two economical solutions for callers that leave their home market and roam to an outside market without a handset solution. First, if that caller has IDC's technology in the handset, and because IDC's technology provides location information in the voice channel, any PSAP can purchase a low priced IDC receiver unit which will enable that PSAP to receive and translate that caller's location information. Second, if a PSAP does not have IDC's receiving unit when a caller roams to an outside market without a handset solution, and that caller does not have IDC's technology in the handset, the call will default to providing location information based upon cell site and sector location information.

*In-Buildings*

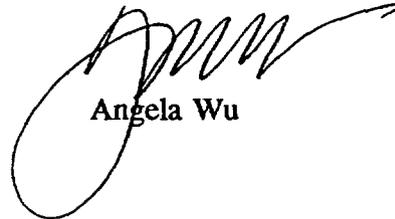
IDC's technology can locate a wireless caller in a building by floor when the caller is close to the perimeter of the building (e.g., by the window). However, if the building installs a re-radiating antenna, which is very low cost, IDC's technology can provide the location data in buildings as well. Also, when a caller's handset is on, IDC's technology can provide the last known location of that caller, and at minimum, provide the front door address of the building.

As mentioned above, the purpose of IDC's meeting was to educate and inform the Commission about IDC's technology, a signaling protocol that works in-band and which transmits location information along with voice, on a voice channel. The results of IDC's field test reflected a level of reliability and accuracy desired by PSAPs, and fully satisfies the FCC's E911 requirements for Phase II. Also, IDC's technology is available today.

Pursuant to Commission's Rule Section 1.1206, 2 copies of this letter with attachments are enclosed for filing in this docket. If you, or anyone else, have questions on this matter, I can be reached at 206.623.4711. Thank you.

Sincerely,

ATER WYNNE LLP



Angela Wu

cc: *With Attachments*  
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Dan A. Preston, Co-founder & CTO  
James A. Vroman, Co-founder & Executive Vice President  
Gerald Vaughn, Acting Chief - Wireless Bureau  
Kathleen O'Brien Ham, Deputy Chief - Wireless Bureau  
John J. Cimko, Jr., Chief - Wireless Policy Division  
Nancy Boocker, Deputy Chief - Wireless Policy Division  
Anna Gomez, Deputy Chief - Common Carrier Bureau  
Alan Thompson, Common Carrier Bureau

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