

Frequency Hopping Statement of Compliance

June 2, 2014

To: Federal Communications Commission
Equipment Authorization Branch – Laboratory Division
Office of Engineering and Technology
7435 Oakland Mills Road
Columbia, Maryland
USA
21046

Subject: Frequency Hopping Statement of Compliance

Applicant: Blackline GPS Inc
Suite 101, 1215 – 13th Street SE
Calgary, AB T2G 3J4
Canada

Type of Equipment: Transceiver

FCC Identifier: W77LNR900

Dear Sir or Madam:

Please be advised that the manufacturer declares that the above mentioned product complies with the requirements for frequency hopping operation subject to section 15.247 of the FCC ruling:

- a. Part 15.247(a)(1): Please describe whether the system hops to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Provide an example of the hopping sequence channels per DA 00-705.
 - I. Multiple pseudorandom sequences are generated using a LSFR polynomial which guarantees that no frequency is repeated twice within the sequence. The system hops to channel frequencies generated by these pseudorandom sequences at a max 5 Hz hopping rate. An example of the hopping frequencies is:

hopNum	RF Freq (MHz)
0	922.205
1	918.965
2	911.045
3	924.365
4	920.765
5	916.805
6	909.605
7	906.365
8	923.645
9	918.245
10	910.685
11	906.725
12	904.925
13	921.485
14	919.325
15	917.525
16	910.325
17	924.725

hopNum	RF Freq (MHz)
17	924.725
18	914.285
19	925.805
20	920.045
21	917.165
22	915.725
23	916.445
24	916.085
25	909.245
26	925.085
27	920.405
28	912.125
29	924.005
30	913.925
31	908.165
32	905.645
33	921.125
34	912.485

hopNum	RF Freq (MHz)
35	907.445
36	905.285
37	904.205
38	921.845
39	912.845
40	926.525
41	919.685
42	911.405
43	907.085
44	923.285
45	913.565
46	926.165
47	915.005
48	925.445
49	914.645
50	908.525
51	922.565
52	913.205

- b. Part 15.247(a)(1): Please describe whether each frequency is used equally on the average by each transmitter (e.g., that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event)
 - i. Both the receiver and transmitter are synchronized and hop from channel to channel at the hopping rate, using the same pseudorandom sequence, whether data is transmitted or not. Each RF frequency occurs ONCE in the pseudorandom sequence, and the ENTIRE sequence is executed in ORDER (hopNUM), repeating at the start when the top of the sequence is reached. On average each channel is equally used by each transmitter.
- c. Part 15.247(a)(1): Please describe whether the system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and whether they shift frequencies in synchronization with the transmitted signals.
 - i. The receiver RF input bandwidth covers the entire 902 to 928 MHz band, which is reduced to the channel bandwidth of 100 to 200 kHz (depending on the data rate) and matches the transmitted signal. The receiver shifts frequency in synchronization with the transmitter.



Please contact the undersigned if you have any questions or need any further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Moore". The signature is fluid and cursive, with a large initial "B" and "M".

Barry Moore
VP Product Development,
Blackline GPS Inc