

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, LLC,

Petitioner

v.

NEO WIRELESS, LLC

Patent Owner

Case (to be assigned)
U.S. Patent No. 10,965,512

**PETITION FOR
INTER PARTES REVIEW OF U.S. PATENT NO. 10,965,512
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. §§42.100 *et seq.***

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2. Independent Claim 1.....	23

(a)	[1.P]: An orthogonal frequency division multiple access (OFDMA)-compatible base station that uses subcarriers in a frequency domain and time slots in a time domain, the OFDMA-compatible base station comprising:.....	23
(b)	[1.1] a plurality of antennas; and a transmitter operably coupled to the plurality of antennas;	24
(c)	[1.2] the transmitter configured to: insert first pilots of a first type onto a first plurality of subcarriers, wherein the first pilots are cell-specific pilots; and.....	25
(d)	[1.3] insert data and second pilots of a second type onto a second plurality of subcarriers;.....	28
(e)	[1.4] wherein at least some subcarriers of the first plurality of subcarriers or the second plurality of subcarriers are beam-formed; and	33
(f)	[1.5] the plurality of antennas configured to transmit the first plurality of subcarriers and the second plurality of subcarriers in at least one of the time slots;.....	34
(g)	[1.6] wherein the second type is different than the first type and wherein the first pilots do not interfere with the second pilots.	36
3.	Independent Claim 8	37
(a)	[8.P] A method performed by an orthogonal frequency division multiple access (OFDMA)- compatible base station that uses subcarriers in a frequency domain and time slots in a time domain, the method comprising:.....	37
(b)	[8.1] inserting, by the OFDMA-compatible base station, first pilots of a first type onto a first plurality of subcarriers, wherein the first pilots are cell-specific pilots;	37
(c)	[8.2] inserting, by the OFDMA-compatible base station, data and second pilots of a second type onto a second plurality of subcarriers;.....	38
(d)	[8.3] wherein at least some subcarriers of the first plurality of subcarriers or the second plurality of subcarriers are beam-formed; and	38
(e)	[8.4] transmitting, by the OFDMA-compatible base	

	station, the first plurality of subcarriers and the second plurality of subcarriers in at least one of the time slots using a plurality of antennas;.....	38
(f)	[8.5] wherein the second type is different than the first type and wherein the first pilots do not interfere with the second pilots.	38
4.	Independent Claim 15	39
(a)	[15.P] An orthogonal frequency division multiple access (OFDMA)-compatible mobile station that uses subcarriers in a frequency domain and time slots in a time domain, the OFDMA-compatible mobile station comprising:	39
(b)	[15.1] at least one antenna; and a receiver; and	39
(c)	[15.2] the at least one antenna and the receiver are configured to: receive first pilots of a first type on a first plurality of subcarriers, wherein the first pilots are cell-specific pilots; and	40
(d)	[15.3] receive second pilots of a second type and data on a second plurality of subcarriers, wherein the first plurality of subcarriers and the second plurality of subcarriers are received in at least one of the time slots;	41
(e)	[15.4] wherein at least some subcarriers of the first plurality of subcarriers or the second plurality of subcarriers are beam-formed; and	41
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(g)	[15.6] recover cell-specific information using the cell-specific pilots;	44
(h)	[15.7] wherein the second type is different than the first type and wherein the first pilots do not interfere with the second pilots.	45
5.	Independent Claim 23	45
(a)	[23.P] A method performed by an orthogonal frequency division multiple access (OFDMA)- compatible mobile	

	station that uses subcarriers in a frequency domain and time slots in a time domain, the method comprising:.....	45
	(b) [23.1] receiving first pilots of a first type on a first plurality of subcarriers, wherein the first pilots are cell-specific pilots;.....	45
	(c) [23.2] receiving second pilots of a second type and data on a second plurality of subcarriers, wherein the first plurality of subcarriers and the second plurality of subcarriers are received in at least one of the time slots;	45
	(d) [23.3] wherein at least some subcarriers of the first plurality of subcarriers or the second plurality of subcarriers are beam-formed;	46
	(e) [23.4] recovering the data using channel estimates from at least the second pilots; and	46
	(f) [23.5] recovering cell-specific information using the cell-specific pilots;.....	46
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	(a) [1.P]: An orthogonal frequency division multiple access (OFDMA)-compatible base station that uses subcarriers in a frequency domain and time slots in a time domain, the OFDMA-compatible base station comprising:.....	56

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