

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Samsung Electronics America, Inc.
Samsung Electronics Co., Ltd.
Petitioners

v.

Cobblestone Wireless LLC
Patent Owner

Case IPR2024-00319
Patent 8,891,347

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D. IN SUPPORT OF
PETITION FOR INTER PARTES REVIEW OF
UNITED STATES PATENT NO. 8,891,347**

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	A. Independent Claim 1	65

[1.0] A method for wireless communication in a system including a transmitter, a receiver, and a plurality of propagation paths formed between the transmitter and the receiver which are capable of carrying a signal transmitted by the transmitter to the receiver, the method comprising:	65
[1.1] transmitting a first signal from the transmitter to the receiver via a first propagation path of the plurality of propagation paths;.....	68
[1.2] receiving the first signal at the receiver;	70
[1.3] performing a channel estimation based on the first signal to obtain path parameter information of the first propagation path;.....	71
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(ii) Sesia discloses obtaining path parameter information from the channel estimation.....	74
[1.4] sending the channel estimation that includes the path parameter information from the receiver to the transmitter via the first propagation path;	77
[1.5] predistorting a second signal at the transmitter in a time domain, a frequency domain, and a spatial domain, according to the channel estimation based on the first signal;.....	80
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[1.6] transmitting the predistorted second signal from the transmitter to the receiver via the first propagation path; and.....	88
[1.7] receiving the predistorted second signal at the receiver.....	91
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	[8.0] A system for wireless communication comprising:	108
	[8.1] a receiver;	108
	[8.2] a transmitter; and	108
	[8.3] a plurality of propagation paths formed between the transmitter and the receiver which are capable of carrying a signal transmitted by the transmitter to the receiver,	109
	[8.4] wherein the receiver is configured to receive a first signal that is transmitted along a first propagation path of the plurality of propagation paths from the transmitter, perform a channel estimation based on the first signal to obtain path parameter information of the first propagation path, and send the channel estimation that includes the path parameter information to the transmitter via the first propagation path, and	109
	[8.5] wherein the transmitter is configured to predistort a second signal in a time domain, a frequency domain, and a spatial domain according to the channel estimation that is based on the first signal and received from the receiver and to transmit the predistorted second signal to the receiver via the first propagation path.	109
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	[15.0] A base station for performing wireless communication with a receiver in a wireless device via a plurality of propagation paths, the base station comprising:	113
	[15.1] a transmitter;	115
	[15.2] a computing device; and	115

	[15.3] a computer-readable storage medium having computer-executable instructions stored thereon that are executable by the computing device to perform operations comprising:	116
	[15.3.1] transmitting a first signal from the transmitter to the receiver via a first propagation path of the plurality of propagation paths;	117
	[15.3.2] receiving a channel estimation based on the first signal, the channel estimation including path parameter information of the first propagation path;	117
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	[19.0] A wireless device for performing wireless communication with a base station with a transmitter via a plurality of propagation paths, the wireless device comprising:	119
	[19.1] a receiver;	120
	[19.2] a computing device; and.....	120
	[19.3] a computer-readable storage medium having computer-executable instructions stored thereon that are executable by the computing device to perform operations comprising:	121
	[19.3.1] receiving a first signal at the receiver via a first propagation path of the plurality of propagation paths;	121
	[19.3.2] performing a channel estimation based on the first signal to obtain path parameter information of the first propagation path;	121
	[19.3.3] sending the channel estimation that includes the path parameter information to the transmitter; and	122
	[19.3.4] receiving a second signal via the first propagation path, the second signal predistorted in a time domain, a frequency domain, and a	

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