UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD COMMSCOPE, INC. Petitioner v. TQ DELTA, LLC Patent Owner Case No. IPR2023-00066 U.S. Patent No. 7,836,381

DECLARATION OF RICHARD WESEL, Ph.D



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XII.	Ground 1: The combination of Mazzoni and VDSL1 renders the challenged claims obvious. a. Analysis i. Claim 1: [1.pre] A non-transitory computer-readable information storage media having stored thereon instructions, that if executed by a processor, cause to be performed a method for allocating shared memory in a transceiver comprising: ii. Claim 1: [1.A] transmitting or receiving, by the transceiver, a message during initialization specifying a maximum number of			



	bytes of memory that are available to be allocated to an	52
:::	interleaver;	53
iii.	Claim 1: [1.B] determining, at the transceiver, an amount of memory required by the interleaver to interleave a first	
	plurality of Reed Solomon (RS) coded data bytes within a	
	shared memory;	63
iv.	Claim 1: [1.C] allocating, in the transceiver, a first number of	03
14.	bytes of the shared memory to the interleaver to interleave the	
	first plurality of Reed Solomon (RS) coded data bytes for	
	transmission at a first data rate, wherein the allocated memory	
	for the interleaver does not exceed the maximum number of	
	bytes specified in the message;	81
v.	Claim 1: [1.D] allocating, in the transceiver, a second number	01
. •	of bytes of the shared memory to a deinterleaver to	
	deinterleave a second plurality of RS coded data bytes received	
	at a second data rate; and	90
vi.	Claim 1: [1.E] interleaving the first plurality of RS coded data	
	bytes within the shared memory allocated to the interleaver	
	and deinterleaving the second plurality of RS coded data bytes	
	within the shared memory allocated to the deinterleaver,	
	wherein the shared memory allocated to the interleaver is used	
	at the same time as the shared memory allocated to the	
	deinterleaver.	91
vii.	Claim 2: The media of claim 1, wherein the determining is	
	based on an impulse noise protection requirement.	94
viii.	Claim 3: The media of claim 1, wherein the determining is	
	based on a latency requirement.	96
ix.	Claim 4: The media of claim 1, wherein the determining is	
	based on a bit error requirement.	98
X.	Claim 5 [5.pre]: A non-transitory computer-readable	
	information storage media having stored thereon instructions,	
	that if executed by a processor, cause to be performed a	
	method for allocating shared memory in a transceiver	400
	comprising:	100
xi.	Claim 5: [5.A] transmitting or receiving, by the transceiver, a	
	message during initialization specifying a maximum number of	
	bytes of memory that are available to be allocated to a	101
	deinterleaver;	101
xii.	Claim 5: [5.B] determining, at the transceiver, an amount of	
	memory required by the deinterleaver to deinterleave a first	
	plurality of Reed Solomon (RS) coded data bytes within a	100
:::	shared memory;	102
xiii.	Claim 5: [5.C] allocating, in the transceiver, a first number of	
	bytes of the shared memory to the deinterleaver to deinterleave	
	a first plurality of Reed Solomon (RS) coded data bytes for	



			the deinterleaver does not exceed the maximum number of	
			bytes specified in the message;	102
		xiv.	Claim 5: [5.D] allocating, in the transceiver, a second number	
			of bytes of the shared memory to an interleaver to interleave a	
			second plurality of RS coded data bytes transmitted at a	
			second data rate; and	103
		XV.	Claim 5: [5.E] deinterleaving the first plurality of RS coded	
			data bytes within the shared memory allocated to the	
			deinterleaver and interleaving the second plurality of RS coded	
			data bytes within the [shared] memory allocated to the	
			interleaver, whereinthe shared memory allocated to the	
			deinterleaver is used at the same time as the shared memory	
			allocated to the interleaver.	102
		:		103
		xvi.	Claim 6: The media of claim 5, wherein the determining is	102
			based on an impulse noise protection requirement.	103
		xvii.	Claim 7: The media of claim 5, wherein the determining is	100
			based on a latency requirement.	103
		xviii.	Claim 8: The media of claim 5, wherein the determining is	
			based on a bit error rate requirement.	104
XIII.			he combination of VDSL1 and Fadavi-Ardekani renders the	
	challe	_	aims obvious.	
	b.	Analy	/sis	104
		i.	Claim 1: [1.pre] A non-transitory computer-readable	
			information storage media having stored thereon instructions,	
			that if executed by a processor, cause to be performed a	
			method for allocating shared memory in a transceiver	
			comprising:	104
		ii.	Claim 1: [1.A] transmitting or receiving, by the transceiver, a	
			message during initialization specifying a maximum number of	
			bytes of memory that are available to be allocated to an	
			interleaver;	113
		iii.	Claim 1: [1.B] determining, at the transceiver, an amount of	115
		111•	memory required by the interleaver to interleave a first	
			plurality of Reed Solomon (RS) coded data bytes within a	
				121
		•	shared memory;	121
		iv.	Claim 1: [1.C] allocating, in the transceiver, a first number of	
			bytes of the shared memory to the interleaver to interleave the	
			first plurality of Reed Solomon (RS) coded data bytes for	
			transmission at a first data rate, wherein the allocated memory	
			for the interleaver does not exceed the maximum number of	
			bytes specified in the message;	124
		v.	Claim 1: [1.D] allocating, in the transceiver, a second number	
			of bytes of the shared memory to a deinterleaver to	
			deinterleave a second plurality of RS coded data bytes received	
			at a second data rate: and	129



vi.	Claim 1: [1.E] interleaving the first plurality of RS coded data	
	bytes within the shared memory allocated to the interleaver	
	and deinterleaving the second plurality of RS coded data bytes	
	within the shared memory allocated to the deinterleaver,	
	wherein the shared memory allocated to the interleaver is used	
	at the same time as the shared memory allocated to the	
	deinterleaver.	130
vii.	Claim 2: he media of claim 1, wherein the determining is based	
	on an impulse noise protection requirement.	132
viii.	Claim 3: The media of claim 1, wherein the determining is	
	based on a latency requirement.	135
ix.	Claim 4: The media of claim 1, wherein the determining is	
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X .	Claim 5 [5.pre]: A non-transitory computer-readable	
	information storage media having stored thereon instructions,	
	that if executed by a processor, cause to be performed a	
	method for allocating shared memory in a transceiver	
	comprising	138
xi.	Claim 5: [5.A] transmitting or receiving, by the transceiver, a	
	message during initialization specifying a maximum number of	
	bytes of memory that are available to be allocated to a	
	deinterleaver;	138
xii.	Claim 5: [5.B] determining, at the transceiver, an amount of	
	memory required by the deinterleaver to deinterleave a first	
	plurality of Reed Solomon (RS) coded data bytes within a	
	shared memory;	139
xiii.	Claim 5: [5.C] allocating, in the transceiver, a first number of	
	bytes of the shared memory to the deinterleaver to deinterleave	
	a first plurality of Reed Solomon (RS) coded data bytes for	
	reception at a first data rate, wherein the allocated memory for	
	the deinterleaver does not exceed the maximum number of	
	bytes specified in the message;	139
xiv.	Claim 5: [5.D] allocating, in the transceiver, a second number	
	of bytes of the shared memory to an interleaver to interleave a	
	second plurality of RS coded data bytes transmitted at a	
	second data rate; and	140
XV.	Claim 5: [5.E] deinterleaving the first plurality of RS coded	
	data bytes within the shared memory allocated to the	
	deinterleaver and interleaving the second plurality of RS coded	
	data bytes within the shred memory allocated to the	
	interleaver, wherein the shared memory allocated to the	
	deinterleaver is used at the same time as the shared memory	
_	allocated to the interleaver.	140
xvi.	Claim 6: The media of claim 5, wherein the determining is	
	based on an impulse noise protection requirement.	140



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