IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.,	)	
Plaintiff,	)	
v.	)	C.A. No. 17-cv-184-JFB-SRF
SIRIUS XM RADIO INC.,	)	
Defendant.	)	

REVISED JOINT CLAIM CONSTRUCTION CHART

Pursuant to Paragraph 12 of the Scheduling Order in this case (D.I. 26) and the Court's Oral Order of February 6, 2018, Plaintiff Fraunhofer and Defendant Sirius XM hereby provide the following Revised Joint Claim Construction Chart identifying fourteen disputed claim terms to be addressed at the April 4, 2018 *Markman* scheduled in this case, plus a number of agreed terms. The parties incorporate by reference the preliminary statements included in their original Joint Claim Construction Chart (D.I. 102). The parties further reserve the right, pursuant to the Court's Oral Order of February 6, 2018, to "revisit and consider another wave of construction at a time subsequent to this Markman hearing on April 4th." Feb. 6, 2018 Tr. at 25:19-21.

I. JOINT CLAIM CONSTRUCTION CHART

A. U.S. Patent No. 6,314,289 ("the '289 Patent")[1]

Claim(s)	Claim Term	SXM's Proposal	Fraunhofer's Proposal
Agreed Terms			
10, 13, 27, 31	[preambles]	Preambles of the independent claims are limiting.	Preambles of independent claims are limiting See, e.g., 15:31-56; 15:65-16:28; 18:62-19:21; 19:32-20:20.
4, 21	terrestrial sender	terrestrial repeater 6:1-3	terrestrial repeater See, e.g., 6:1-3.
Disputed Terms			
2	means for transmitting the output bits of the first portion via a first channel and the output bits of the second portion via a second channel, the second channel being spatially different from the first channel	35 U.S.C. § 112, ¶ 6 Indefinite Alternative proposed construction: Function: sending one signal comprising a first portion of output bits via a first channel and a second signal comprising the second portion of output bits via a second channel, the second channel being spatially different from the first channel Structure: two transmitters consisting of (1) two satellites, (2) two terrestrial repeaters, or (3) a satellite and a terrestrial repeater, with one of the transmitter having a delay stage Figs. 1, 2, 3, 4, 5, 7 1:11-26; 2:15-3:25; 4:10-40; 5:59-67; 6:1-3; 6:59-65; 7:46-67; 8:1-8:20; 8:26-8:45; 8:65-9:26; 9:53-61; 10:42-46; 11:44-46; 11:49-59; 12:17-26; 12:66-13:4	Definite Function: transmitting the output bits of the first portion via a first channel and the output bits of the second portion via a second channel Structure: two transmitters See, e.g., 7:60-67; 8:12-14; 8:39-45; Figs. 2, 7.
19	the step of transmitting being carried out by a first transmitter and a second transmitter spaced apart from the first transmitter		Not subject to 35 U.S.C. § 112 ¶ 6 Definite No construction required See, e.g., 7:60-67; 8:12-14; 8:39-45; Figs. 2, 7.

[1] All patent citations in this section refer to the '289 patent attached as Exhibit A.

Claim(s)	Claim Term	SXM's Proposal	Fraunhofer's Proposal
10, 13	receiving means for receiving the first portion of bits via a first channel and the second portion of bits via a second channel	35 U.S.C. § 112, ¶ 6 Function: receiving a first signal comprising a first portion of bits via a first channel and a second signal comprising a second portion of bits via a second channel Structure: a terrestrial receiver with a delay stage that may be configured to buffer the portion of bits received via one channel relative to the portion of bits received from the second channel to compensate for the delay imposed by the delay stage in the transmitter on the portion of bits received via the second channel Figs. 2, 3, 4, 5, 7 1:11-26; 1:40-49; 2:15-3:25; 4:10-40; 5:59-67; 6:1-3; 6:25-6:52; 6:59-65; 7:46-67; 8:1-8:20; 8:26-8:45; 8:65-9:26; 9:36-9:47; 9:53-61; 10:42-46; 11:44-46; 11:49-59; 12:7-26; 12:66-13:4	Function: receiving the first portion of bits via a first channel and the second portion of bits via a second channel Structure: a receiver See, e.g., 2:23-62; 4:62-5:15; 5:59-67; 7:41-45; 8:15-20; Figs. 1, 2, 5, 7.
1, 2, 3, 5, 6, 9, 10, 11, 13,14, 17, 18, 19, 20, 22, 23, 26, 27, 28, 30, 31, 32, 35	channel	a line of sight connection between a transmitter and receiver Figs. 1, 2, 3, 4, 5, 6, 7 1:12-26; 2:36-62; 7:60-67	No construction required Alternatively: communication link or connection between two or more points, such as an uplink and/or downlink See, e.g., 1:5-60; 2:1-12; 3:30-39; 4:10-20; 10:58-63; 13:24-34; 13:56-67; 14:1-9; 17:3-6; 17:36-50; Figs. 1-3, 5 and 7.

B. U.S. Patent No. 6,931,084 ("the '1084 Patent")[2]

Claim(s)	Claim Term	SXM's Proposal	Fraunhofer's Proposal
1, 9	symbol	a component of a received signal that has an absolute value, i.e. magnitude, and a phase; the symbol may be represented by a complex vector that has a real part and an imaginary part Figs. 1, 2, 3A, 3B, 4, 5, 6, 8 Abstract; 1:13-17; 1:42-64; 2:4-42; 2:48-3:7; 3:40-57; 5:33-54; 5:55-67; 6:1-47; 7:18-58; 7:65-8:52; 9:4-30; 9:41-47; 9:60-67; 10:3-14; 10:15-26; 10:33-11:16; 11:34-67; 12:4-17; 13:24-60; 14:9-30; 14:59-67	encoded representation of binary information See, e.g., 1:30-50; Fig. 1.
1, 4, 9, 12	a phase difference between simultaneous carriers having different frequencies	the difference in the phase of two symbols on adjacent carriers on different frequencies Figs. 1, 2, 3A, 3B, 4, 5, 6, 8 Abstract, 2:27-42; 2:48-3:7; 3:40-4:2; 5:33-54; 5:55-67; 6:1-47; 7:36-58; 7:65-8:37; 9:4-22; 9:41-47; 9:60-67; 10:27-11:16; 11:34-67; 12:4-17; 13:24-60; 14:20-30; 14:59-67	No construction required Alternatively: a phase difference between subcarriers with different frequencies in the same MCM symbol See, e.g., 2:63-3:7; 15:36-40; 16:55-58; Fig. 1.
9	means for determining an echo phase offset for each decoded phase shift comprising means for eliminating phase shift uncertainties related to the transmitted information from said decoded phase shift	35 U.S.C. § 112, ¶ 6 Indefinite Alternative proposed construction: Function: eliminating phase shift uncertainties related to the transmitted information from said decoded phase shift Structure: a discarding unit that performs a (1) "$(.)^4$" operation, or (2) modulo-4 operation	Definite **(determining an echo phase offset)** Function: determining an echo phase offset for each decoded phase shift Structure: a discarding unit and a computing unit in an MCM receiver **(eliminating phase shift uncertainties)**

[2] All patent citations in this section refer to the '1084 patent attached as Exhibit B.

Claim(s)	Claim Term	SXM's Proposal	Fraunhofer's Proposal
		Figs. 1, 3A, 3B, 4, 5, 6, 8 Abstract, 1:13-17; 4:9-5:18; 5:55-6:47; 6:58-67; 7:1-3; 8:62-9:67; 10:2-14; 10:20-26; 10:42-15:13	Function: eliminating phase shift uncertainties related to the transmitted information from said decoded phase shift Structure: a discarding unit in an MCM receiver See, e.g., 10:1-41; Fig. 5.
9	means for correcting each decoded phase shift based on said averaged offset	35 U.S.C. § 112, ¶ 6 Function: correcting each decoded phase shift based on the mean offset Structure: a phase rotation unit connected to a hold unit that corrects each decoded phase shift using the mean offset by performing the calculation $v'_k = v_k \cdot e^{-j\bar{\Phi}}$ where v'_k designates the K phase corrected differently decoded symbols for the input into the soft-metric calculations, and vk designates the input symbols Alternative proposed construction (for claim 1): correcting each decoded phase shift using the mean offset Figs. 1, 3A, 3B, 4, 5, 6, 8 Abstract, 6:36-43; 10:42-11:19	Function: correcting each decoded phase shift based on said averaged phase offset Structure: a phase rotation unit in an MCM receiver See, e.g., 4:45-5:7; 6:65-7:3; 9:48-10-2; 10:55-11:8; Figs. 3A, 3B, 4-6.

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