

**SUPPLEMENTAL MATERIAL**

**Supplementary Table 1**

<b>Pt ID</b>	<b>Age</b>	<b>LA size* /mm (Bedside)</b>	<b>LA size* /mm (Intra Cardiac)</b>	<b>LVEF, %</b>	<b>AF type</b>	<b>Prior Ablation</b>
<b>Paroxysmal AF</b>						
PAF1	56	41	45	79	PAF	None
PAF2	81	47	55	68	PAF	None
PAF3	61	45	52	67	PAF	None
PAF4	54	42	45	73	PAF	None
PAF5	43	39	48	62	PAF	None
PAF6	51	39	39	65	PAF	None
PAF7	49	38	38	65	PAF	None
<b>Mean±SD</b>	56±12	42±3	46±6	68±6		
<b>Median (IQR)</b>	54 (49,61)	41 (39,45)	45 (39,52)	67 (65,73)		
<b>Persistent AF</b>						
PeAF1	54	55	55	45	PeAF	PVI+Roof
PeAF2	47	45	55	45	PeAF	PVI+Roof
PeAF3	68	43	63	63	PeAF	PVI+Roof
PeAF4	78	47	65	53	PeAF	PVI+Roof
PeAF5	82	43	66	67	PeAF	PVI+Roof
PeAF6	73	50	50	60	PeAF	None
PeAF7	65	50	50	49	PeAF	PVI+Roof
PeAF8	64	41	55	29	PeAF	PVI+Roof
PeAF9	67	40	56	68	PeAF	PVI+Roof
PeAF10	74	60	60	65	PeAF	None
PeAF11	64	40	50	27	PeAF	PVI+Roof
PeAF12	67	48	48	66	PeAF	None
PeAF13	63	54	54	56	PeAF	PVI+Roof
PeAF14	58	55	55	50	PeAF	None
PeAF15	52	50	55	42	PeAF	PVI+Roof

PeAF16	47	45	54	72	PeAF	None
PeAF17	60	48	55	50	PeAF	None
PeAF18	61	56	56	20	PeAF	None
PeAF19	70	57	57	61	PeAF	PVI+Roof
PeAF20	66	62	62	60	PeAF	PVI+Roof
PeAF21	72	44	64	37	PeAF	None
PeAF22	49	45	53	45	PeAF	PVI+Roof
PeAF23	64	42	52	65	PeAF	None
PeAF24	63	45	55	35	PeAF	None
PeAF25	62	60	60	36	PeAF	None
<b>Mean±SD</b>	63±9	50±7	57±6	51±14		
<b>Median (IQR)</b>	64 (59,69)	48 (43,55)	55 (53,60)	50 (39,64)		
<b>Longstanding Persistent AF</b>						
LSPeAF1	64	57	57	55	LSPeAF	None
LSPeAF2	64	68	68	33	LSPeAF	PVI+Roof
LSPeAF3	53	50	55	32	LSPeAF	None
LSPeAF4	66	45	72	59	LSPeAF	None
<b>Mean±SD</b>	63±7	50±6	57±6	45±14		
<b>Median</b>	62 (58,65)	55 (47,63)	63 (56,70)	45 (32,57)		

\* Left atrial diameter from the preprocedural referral echocardiogram (as reported in the CONFIRM trial)<sup>1</sup>, and the often larger left atrial diameters measured by intra-procedural imaging. PVI=pulmonary vein isolation; “Roof” is left atrial roof line ablation. PAF = Paroxysmal AF; PeAF = Persistent AF; LSPeAF = Longstanding Persistent AF.

**Supplementary Table 2**

Pt ID	Primary Source	Impact of FIRM at Primary Source	Endpoint of FIRM	Time to Term /mins	CFAE >180°
<i>Paroxysmal AF</i>					
PAF1	LA Focal	AF Termination/ non-reinducible	Sinus	3.1	1
PAF2	LA Rotor	AF Termination/ non-reinducible	Sinus	1	0
PAF3	LA Rotor	AF Termination/ non-reinducible	Sinus	12.8	0
PAF4	LA Rotor	AF Termination/ non-reinducible	Sinus	2	0
PAF5	LA Focal	AF Termination/ non-reinducible	CTI Flutter	3.0	1
PAF6	LA Focal	AF Termination/ non-reinducible	Sinus	1	0
PAF7	RA Rotor	AF Termination/ non-reinducible	Sinus	4.1	0
<i>Persistent AF</i>					
PeAF1	LA Rotor	AF Termination/ non-reinducible	Sinus	1	0
PeAF2	RA Rotor	AF Termination/ non-reinducible	Sinus	2.9	0
PeAF3	LA Rotor	AF Slowing	12.6%		0
PeAF4	LA Focal	AF Slowing	25.9%		1
PeAF5	No source detected with older system (detectable with new RhythmView™ software but not reclassified)				
PeAF6	Unclear	No Acute Endpoint			
PeAF7	LA Focal	AF Slowing	20.7%		1
PeAF8	LA Focal	AF Termination/ non-reinducible	Left Atrial AT	26.8	0
PeAF9	Unclear	No Acute Endpoint			
PeAF10	LA Rotor	AF slowing	17.4%		1
PeAF11	LA Focal	AF Termination/ non-reinducible	LA AT (Sinus 5 min later)	1	0
PeAF12	LA Rotor	AF Termination/ non-reinducible	Sinus	12	0

PeAF13	LA Rotor	AF Slowing	23.5%		0
PeAF14	RA Rotor	AF Termination/ non-reinducible	Sinus	2.5	1
PeAF15	LA Focal	AF Termination/ non-reinducible	Sinus	2.5	1
PeAF16	LA Rotor	AF Termination/ non-reinducible	Sinus	2.5	0
PeAF17	LA Rotor	AF Termination/ non-reinducible	CTI Flutter	1.7	1
PeAF18	Unclear	No Acute Endpoint			
PeAF19	LA Rotor	AF slowing	12.2%		1
PeAF20	RA Rotor	AF Termination/ non-reinducible	Sinus	0.8	0
PeAF21	Unclear	No Acute Endpoint			
PeAF22	LA Rotor	AF Termination/ non-reinducible	Sinus	3.1	0
PeAF23	LA Focal	AF Termination/ non-reinducible	Sinus	1	0
PeAF24	LA Rotor	AF slowing	10.4%		1
PeAF25	LA Rotor	AF slowing	28.4%		1
<b><i>Longstanding Persistent AF</i></b>					
LSPeAF1	LA Rotor	AF Slowing	19.1%		1
LSPeAF2	RA Rotor	AF slowing	28.2%		0
LSPeAF3	LA Rotor	AF Termination/ non-reinducible	Sinus	1	0
LSPeAF4	LA Rotor	AF slowing	12.2% Then, term to LA AT 5 min later		1

CTI = Right atrial cavotricuspid isthmus; LA AT = Left atrial tachycardia; LTFU = Lost to Follow-up

**Supplementary Table 3. Spatial Distribution of CFAE Relative to AF Sources**

Characteristic	Persistent AF	Paroxysmal AF	P
<i>AF Source vs CFAE Overlap</i>			
CFAE Overlap ( $\geq 7$ ) with Source, cm <sup>2</sup>	0 (0, 0.27)	0 (0, 0.77)	0.68
(% of source area)	0 (0, 4)	0 (0,44)	0.68
Source Overlap with CFAE cm <sup>2</sup>	1.5 (0.01, 6.78)	4.5 (0.27, 8.99)	0.24
(% of CFAE $\geq 7$ area)	0 (0, 13)	0 (0, 7)	0.88
<i>AF Source Surrounded by CFAE</i>			
<i>(&gt;180°)</i>			
Yes/No	11/13	2/5	0.67

**References:**

1. Narayan SM, Krummen DE, Shivkumar K, Clopton P, Rappel W-J, Miller JM. Treatment of atrial fibrillation by the ablation of localized sources: The conventional ablation for atrial fibrillation with or without focal impulse and rotor modulation (confirm) trial. *J Am Coll Cardiol.* 2012;60:628-636