



SUNSPEC
— ALLIANCE —

Communication Signal for Rapid Shutdown Specification Member's Briefing

November 1, 2017

Agenda

- Antitrust and intellectual property policy
- SunSpec Communication Signal for Rapid Shutdown Specification overview
- SunSpec Membership Agreement intellectual property (IP) addendum
- "Necessary Claims" & related information received from members
- Go-to-market plan & funding proposal

Antitrust & intellectual rights policy

- All SunSpec meetings are conducted in accordance with the SunSpec Antitrust Policy and Intellectual Property Provisions defined in the SunSpec Member Agreement.
- Each participant company in this meeting has executed this agreement and all participants must comply with the policy and provisions.
- Confidential or proprietary information should not be discussed in open session. Please contact SunSpec management if you have any questions.
- If you have not already done so, does anyone in this meeting wish to disclose ownership of proprietary intellectual property pertaining to this specification at this time?

SunSpec Communication Signal for Rapid Shutdown Specification (SCSRSS)

- An open, multi-vendor communication interoperability specification to support NEC 2017
- Applicable to inverters, modules, string combiners, and other components
- Supportive of NEC 2014, NEC 2017, and UL 1741 module-level rapid shutdown requirements
- Approved and published in July 2017



SunSpec membership agreement intellectual property (IP) addendum

- Requires members to make “necessary claims” related to member-held Intellectual Property that is incorporated into SunSpec Specifications
- Requires members offer a license for “claimed” IP to others under Reasonable and Non-Discriminatory (RAND) terms
- “Reasonable and Non-Discriminatory” does not imply free

Necessary Claims and other information related to SCSRSS intellectual property

- Necessary Claims
 - SolarEdge responded in writing indicating a number of claims
 - Tigo Energy responded in writing indicating a number of claims
 - Texas Instruments responded verbally that it will be submitting claims
 - SMA responded verbally that it may submit claims and that it would be willing to offer a royalty-free license under certain conditions
- Negative declarations
 - Fronius responded in writing indicating that it has no claims
- Related information
 - Japanese patent office rejected application for a rapid shutdown signaling patent stating that some purported claims were obvious
 - Application:
<https://worldwide.espacenet.com/publicationDetails/biblio?CC=JP&NR=2011507465A&KC=A&FT=D&ND=1&date=20110303&DB=&locale=>
 - Rejection: <https://register.epo.org/ipfwretrieve?apn=JP.2010537134.A&lng=en>
- SunSpec policy is to avoid proprietary IP to ensure royalty-free specifications
- SunSpec had never received a claim for any specification prior to SCSRSS

SolarEdge Claims

- U.S. Patent No. 8,013,472 – Claims 8 and 12
- U.S. Patent No. 8,035,249 – Claims 1 and 11
- U.S. Patent No. 8,427,009 – Claims 1, 13, and 25
- U.S. Patent No. 8,531,055 – Claims 1 and 13
- U.S. Patent No. 8,587,151 – Claims 1 and 6
- U.S. Patent No. 8,669,675 – Claims 1, 6, 11, and 16
- U.S. Patent No. 8,816,535 – Claims 1 and 14
- U.S. Patent No. 8,947,194 – Claims 1, 13, and 16
- U.S. Patent No. 9,112,379 – Claims 1 and 2
- U.S. Patent No. 9,401,599 – Claims 1 and 7
- U.S. Patent No. 9,438,035 – Claims 1 and 4
- U.S. Patent No. 9,590,526 – Claims 1, 6-8, 12, and 14-16

Tigo Claims

- U.S. Patent No. 7,884,278 – claims 1, 5
- U.S. Patent No. 8,271,599 – claims 1, 9
- U.S. Patent No. 9,124,139 – claims 1, 10, 16
- U.S. Patent No. 8,854,193 – claims 1, 14, 19
- U.S. Patent No. 9,377,765 – claims 1, 14, 20
- U.S. Patent No. 8,933,321 – claims 1, 12, 19
- U.S. Patent No. 8,823,218 – claims 1, 15, 18
- U.S. Patent No. 9,397,612 – claims 1, 7, 14
- U.S. Patent No. 8,653,689 – claims 1, 10, 18, 20
- U.S. Patent No. 8,325,059 – claims 1, 14, 19
- U.S. Patent No. 9,143,036 – claims 1, 8, 18
- U.S. Patent No. 8,274,172 – claims 1, 9, 17
- U.S. Patent No. 9,007,210 – claims 1, 13

Proposed action plan

- Incorporate Necessary Claims statement into SCSRSS license terms
- Convene SCSRSS workgroup to resolve issue
 - Remove offending material from specification
 - Determine cross-licensing terms
 - Other
- Solicit funding for go-to-market program

SCSRSS Go-To-Market program

- Target audiences
 - Vertically-integrated PV module manufacturers, OEM/ODM manufacturers, inverter manufacturers, semiconductor suppliers, system installers, solution providers and fire fighters
- Program includes
 - Video describing the market drivers behind this multi-vendor solution
 - System-level product collateral (system overview, schematic diagram, data sheet) that can be co-branded by product providers
 - Online marketing campaign
 - Branding and graphics kit including certification requirements, logo usage, product imagery, and other relevant information
 - Technology transfer training for implementing engineers
 - China roadshow to meet with module manufacturers
- Program cost & terms
 - \$15K per participating member
 - \$300K minimum raise
 - Applies only to SCSRSS adopters



Questions?

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