MMWAVE RadarSS Release Notes

1. RadarSS Firmware

RadarSS firmware is responsible for configuring RF/analog and digital front-end in real-time. It also schedules temperature based calibrations. This enables the mm-Wave front-end to be autonomous and capable of adapting itself to handle temperature and ageing effects, and to enable significant ease-of-use.

Version	Type
6.0.5.0	**Binary**

Note: This is a pre-production release and has undergone limited validation under nominal conditions for nominal device process

1.1 Platform and Device Support

The device and platforms supported with this release include:

Supported Devices	Release Status
IWR6843 ES1.0	Release for Characterization

1.2 Memory Requirement

The DFP 6.0.5 RadarSS firmware does pool 256kB L3 memory from radar cube shared memory for execution. User must allocate 256kB shared memory banks to RadarSS while flashing.

1.3 Features and enhancements

- IWR6843 TIs first generation 60GHz RF CMOS Radar, features supported in this firmware release are:

- This release is derived from AWR1642 DFP1.0 release baseline
- Synthesizer RF frequency supported 60.25 – 64GHz
  - VCO2: 60.25 – 64GHz
- Supports 3 Tx and 4 Rx
- Supports 10MHz IF bandwidth
- Supports 250MHz/us max slope

- Calibrations (Boot time and run time)
  - APLL
  - SYNTH 2
  - LODIST
- Refer mmWave-Radar-Interface-Control.pdf (ICD) for more information on supported APIs in IWR6843 ES1.0 and details.

1.4 Changes in this release (with respect to DFP release 01.00.00)

Item type	Key	Description
Story	MMWAVE_DFP-2	Enable 60GHz RF frequency configurations support for IWR6843
Story	MMWAVE_DFP-6	Protection from spurious frame trigger pulses/signals in Hw triggered frames
Story	MMWAVE_DFP-20	IWR6843 ES1.0 features Implementations
Bug	MMWAVE_DFP-23	Fixed an issue with dynamic power save option when inter-chirp idle time < 10us

1.5 Known issues

1. TX output power beyond 0 dB back off is not very accurate. The Tx power calibration is not supported in this DFP release.
2. RX gain will be inaccurate as Rx gain calibration is not supported by this DFP release.
3. Only 0 degree Tx phase is supported in profile configuration as Tx phase shifter functionality is not characterized in this release.

4. The Rx[0-3] temperature sensor readings are not supported in IWR6843 ES1.0.
5. The Tx[0-3] BPM functionalities are not characterized and enabled in this release.
6. None of the Digital and Analog monitoring are supported in this release.
7. Test source is not characterized and tuned to 60GHz in this release.
8. This release is not characterized at extreme temperatures.