

## CTFE FW v10.2.0.3 Release Notes



## Cable and Terrestrial Frontend Firmware

CTFE FW v10.2.0.3

*Customer Release Notes*

05/11/2017

## Relevant BRCM ICs

This release firmware runs on the frontend LEAP processor of the following Broadcom chips:

Cable Frontend Chips	Terrestrial Frontend Chips	Settop Box SoCs	Cable Modem SoCs
BCM312x family	BCM3461	BCM7584(5)-family	BCM3385
BCM314x family	BCM3465	BCM7576	BCM3390
BCM3184	BCM3466	BCM7145	
BCM3158x family		BCM7563(5)	
BCM3412 LNA			
BCM3462 LNA			

## Release History

FW Release	Unified Release	FW Release Date	FW Release to URSR	Comments
CTFE FW v10.2.0.3		05/11/2017	05/11/2017	Fix the Inverted Spectrum Status
CTFE FW v10.2.0.2	17.2	05/05/2017	05/05/2017	This CTFE incremental F/W release addresses performance improvements to BCM3465 A0 and BCM3466 A0.
CTFE FW v10.2.0.1	17.2	04/21/2017	04/21/2017	This F/W release is primarily targeted at BCM3158 and BCM7563.  It is an incremental release from CTFE F/W ver. 10.2.0.0 to address bug fixes and performance improvement opportunities.
CTFE FW v10.2.0.0	17.2	03/24/2017		<not yet entered>
CTFE FW v10.1.0.0	URSR 17.1	01/09/2017	01/13/2017	<not yet entered>
CTFE FW v9.4.0.0	16.4	09/26/2016	10/21/2016	<ul style="list-style-type: none"> <li>Introduces support for BCM3465/BCM3466</li> <li>Bug fixes (BCM3158)</li> <li>Miscellaneous bug fixes/improvements</li> </ul>
CTFE FW v9.3.0.0	16.3		07/14/2016	<ul style="list-style-type: none"> <li>BCM3158 family - this release is for "A0" revision only.</li> <li>For the BCM3158 chip ONLY: this release breaks backward compatibility with the AOB/OOB Coretype HAB interface (3128 and 7584 are unaffected.)</li> </ul>
CTFE FW v9.2.0.0	16.2	03/24/2016	04/13/2016	
CTFE FW v9.1.0.0	16.1	12/18/2015	01/14/2016	

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## BBS Support

(Note: this table specifies BBS plugins and JS tools for the most recent release. Please refer to prior release notes of a particular release for BBS details for that release.)

Platform	Plugin Version	BBS Version	HTML/JS FE Tools	Notes
9312x/4x	<a href="#">3.1.60125.18</a>	BBS3	N/A	
93461	<a href="#">3.1.60125.7</a>	BBS3	N/A	
93472	<a href="#">3.1.60125.7</a>	BBS3	<a href="#">v1.2.0</a>	
97563	4.0.0.2	BBS4	<a href="#">v1.1.0</a>	
97584	4.0.0.2	BBS4	<a href="#">v1.5.0</a>	
97145	<a href="#">3.1.60125.16</a>	BBS3	<a href="#">v1.2.0</a>	
97364	4.0.0.15	BBS4	<a href="#">v1.0.0</a>	
93390	4.0.0.17	BBS4	<a href="#">v1.2.0</a>	
93158	4.0.0.7	BBS4	<a href="#">v1.3.0</a>	
975525	4.0.0.1	BBS4	<a href="#">v1.0.0</a>	
93465	4.0.0.0	BBS4	<a href="#">v1.0.0</a>	
93466	4.0.0.0	BBS4	<a href="#">v1.0.0</a>	

## Release Notes

### CTFE FW v10.2.0.3

FW Release Date: [05/11/2017](#)  
 Release to Unified (URSR): [05/11/2017](#)  
 Unified Release Target:  
 Release Status: [Released](#)  
 Release Info: [Fix the Inverted Spectrum Status](#)

#### Change List

Item #	Chip	Change Description	Category
1	3158x	Fix the Inverted spectrum status for ADS	FW
2	312x/4x, 3158x	The BCM3158 doesn't recover frequency offset as well as the BCM3148	PI

#### Known Issues

None.

#### Nexus Release Notes

[<enter Nexus FE Rel Notes>](#)

#### Nexus Frontend API Changes

[<enter Nexus FE API changes>](#)

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*End CTFE FW v10.2.0.3*

### CTFE FW v10.2.0.2

FW Release Date: [05/05/2017](#)  
 Release to Unified (URSR): [05/05/2017](#)  
 Unified Release Target: [17.2](#)  
 Release Status: [Released](#)  
 Release Info: [This CTFE incremental F/W release addresses performance improvements to BCM3465 A0 and BCM3466 A0.](#)

#### Change List

No Content.

#### Known Issues

None.

#### Nexus Release Notes

[<enter Nexus FE Rel Notes>](#)

#### Nexus Frontend API Changes

[<enter Nexus FE API changes>](#)

End CTFE FW v10.2.0.2

## CTFE FW v10.2.0.1

FW Release Date: [04/21/2017](#)

Release to Unified (URSR): [04/21/2017](#)

Unified Release Target: [17.2](#)

Release Status: [Released](#)

Release Info: [This F/W release is primarily targeted at BCM3158 and BCM7563.](#)

It is an incremental release from CTFE F/W ver. 10.2.0.0 to address bug fixes and performance improvement opportunities.

### Change List

Item #	Chip	Change Description	Category
1	3461, 7563, Other	Addresses issue where the device does not lock on DVB-T2 MPLP stream where a pipe has very low datarate.	FW
2	3158x	Addresses <ul style="list-style-type: none"> <li>Glitching of the Daisy output when the BCM3158 is transitioned out of battery power or low-power mode.</li> <li>Failure to re-lock ADS receivers after receiver power-down/power-up while the Daisy is enabled.</li> <li>LEAP crashing intermittently when cycling the Daisy control while the cable is disconnected.</li> <li>HAB Documentation clarification of Daisy control modes</li> </ul>	FW

### Known Issues

None.

### Nexus Release Notes

[<enter Nexus FE Rel Notes>](#)

### Nexus Frontend API Changes

[<enter Nexus FE API changes>](#)

End CTFE FW v10.2.0.1

## CTFE FW v10.2.0.0

FW Release Date: [03/24/2017](#)

Release to Unified (URSR):

Unified Release Target: [17.2](#)

Release Status: [Released](#)

Release Info: [<not yet entered>](#)

### Change List

Item #	Chip	Change Description	Category
1	312x/4x, 7584	Adds a non-channelized LNA Status HAB command so that LNA (LNA Bypass) status may be obtained via the HAB without having to obtain it via Tuner HAB Status. Prior to this change, the LNA status could to be obtained only via channelized Tuner status, but if the Tuner was powered off, a HAB command error would occur, since the individual tuner was powered down.	FW, PI
2	3158x	MTSIF default clock-rate value correction for BCM3185.	
3		AVS update settings based on split parts	FW

4		Support both DS channels for 3466	FW
5	3158x, 3390-Bx, 3390-Zx, All	fix ADS status acquisition type	FW

## Known Issues

None.

## Nexus Release Notes

none

## Nexus Frontend API Changes

none

End CTFE FW v10.2.0.0

## CTFE FW v10.1.0.0

FW Release Date: [01/09/2017](#)

Release to Unified (URSR): [01/13/2017](#)

Unified Release Target: [URSR 17.1](#)

Release Status: [Released](#)

Release Info: [<not yet entered>](#)

## Change List

Item #	Chip	Change Description	Category
1	3158x	From Bcm3158 Patch 9.4.0.1 <ul style="list-style-type: none"> <li>3158 : SNR drops after every DS power cycle</li> <li>3158: Fixes DS unlock if the IFDAC is powered up first (before DS) after board power-up or board power cycle.</li> </ul>	FW
2	3158x, 3390-Bx	From Bcm3158 Patch 9.4.0.2 <ul style="list-style-type: none"> <li>BCM3158: Adds HAB capability of selecting between two LoopThrough Modes: <ul style="list-style-type: none"> <li>0 - nominal gain (default) , 0dB</li> <li>1 - high gain, 3dB</li> </ul> </li> <li>(Note: F/W change is backward compatible for the HAB, but URSR versions earlier than 16.4 do not support this parameter).</li> <li>Nexus API and Magnum Change: Adds capability of selecting between two LoopThrough Mode</li> <li>nominal gain / high linearity mode.</li> <li>high gain / low noise figure mode.</li> <li>Corrects proper operation of AnnexB DS Spectrum Search</li> </ul>	BBS, FW, Nexus, Nexus API
3	312x/4x, 3158x	From Bcm3158 Patch 9.4.0.3 <ul style="list-style-type: none"> <li>Incorporate support for the Nexus/Magnum IFDAC Status API "IFDAC RSSI" parameter of the BCM3158 B0. This change does NOT impact backward compatibility of the HAB Interface.</li> <li>Corrects the scaling of the AVS temperature reported via the HAB for the BCM3158 B0. Scaling is corrected from 1/1000 degC per bit to 1/10 degC per bit.</li> <li>Fix ADS AnnexB lock with high identical null packet TSs</li> <li>Add PI and Nexus Support for IFDAC on 3158</li> </ul>	FW, Nexus API
4	3158x	Fix to properly update fields in the "Gen3" CPPM Status HAB command: CppmThreshold, CppmThresholdHysterisis, and LNA gpioStatus.	FW
5	7563	T2 Nordig inside guard failed.	FW

6	3158x, 3390-Bx	Q64 AnnexB 128:4 Acquisition issue	FW
7	3158x	Low frequency RF improvement	FW
8	3158x	Change the Loophrough configuration HAB command to allow the Loophrough "Enable/Disable" to be configured independently of the LoopThrough "Gain Mode," so that the Loophrough may be enabled/disabled after the Wideband Front-end is powered on	FW

## Known Issues

### BCM3465

1. Can't tune frequencies above 860MHz in DVB-C mode

### BCM3466

1. Can't tune frequencies above 860MHz in DVB-C mode
2. Only 1 receiver supported in DVB-C mode. A HAB error occurs when trying to power up the 2nd DVB-C core (Core ID 1)

## Nexus Release Notes

Modified implementation of NEXUS\_FrontendDevice\_GetAmplifierStatus for 3128, allowing it to be called when frontend 0 is powered down.

## Nexus Frontend API Changes

<enter Nexus FE API changes>

End CTFE FW v10.1.0.0

## CTFE FW v9.4.0.0

FW Release Date: [09/26/2016](#)

Release to Unified (URSR): [10/21/2016](#)

Unified Release Target: [16.4](#)

Release Status: [Released](#)

Release Info:

- Introduces support for BCM3465/BCM3466
- Bug fixes (BCM3158)
- Miscellaneous bug fixes/improvements

## Change List

Item #	Chip	Change Description	Category
1	3158x	default AGC settings	FW
2	Other	Add support for BCM3465 / BCM3466, including dual / multi channel support to the ODS CTFE F/W core driver.	BBS, FW, PI
3	All	Documentation change only. Corrects description of the "TriggerCpwm" field of the CPPM Config HAB command.	FW
4	7563	Bcm7563 improved DVB-T/T2 ACI performance.	FW
5	All	<a href="#">CTFE FW 3390-B0-v9.3.5012.0</a>  Adds a version Id and CRC suffixed "BBS" F/W binary image file to the set of binaries included in the CTFE F/W release package or zip file. The newly added file is image-wise identical to the bhab_chipid_fw_revid.bin file, except that the new file's name is suffixed with the CTFE F/W image's hexadecimal CRC checkvalue.	FW
6	3158x	Changes the scaling factor applied to the magnitudes of the OOB constellation HAB command's plot vectors for the 3158 A0/B0. Makes the 3158 OOB constellation plot scaling consistent with OOB constellation plots of other chips.	BBS, FW
7	Other	Add Nexus and PI Support for 3466	Nexus, PI



8	3158x	<a href="#">FEC triggers an unlock event at a higher AWGN C/N than previous ADS chips</a>	FW
9	3158x	<a href="#">Report the FE daisy gain for 3158 B0</a>	FW

## Known Issues

None.

## Nexus Release Notes

[Added Nexus and PI Frontend Support for 3466 and 3465](#)

## Nexus Frontend API Changes

[Added support for loopthrough gain modes to NEXUS\\_FrontendDevice\\_SetSettings.](#)

*End CTFE FW v9.4.0.0*

## CTFE FW v9.3.0.0

FW Release Date:

Release to Unified (URSR): [07/14/2016](#)

Unified Release Target: [16.3](#)

Release Status:

Release Info:

- BCM3158 family - this release is for "A0" revision only.
- For the BCM3158 chip ONLY: this release breaks backward compatibility with the AOB/OOB Coretype HAB interface (3128 and 7584 are unaffected.)

## Change List

Item #	Chip	Change Description	Category
1	3158x, 3390-Bx	Out of Band HAB Interface change: Add <i>RsPreEstimate</i> , <i>RSPostEstimate</i> , <i>FEC BERT</i> , <i>Non-FEC BERT</i> , and <i>Average SNR</i> parameters to the Out of Band GetStatus HAB command (does not impact 3128 nor 7584).	BBS
2	All	Adds "Broadband Studio" loadable LEAP binary images to the release-package provided to the Broadcom Setop Box Ref. S/W team and to the customer.	FW, PI
3	312x/4x	Relax tuner power-up hold-off during execution of periodic tuner monitor in order to improve individual tuner channel power-up time. (Ref. CSP Cisco RDK [CASE#1049915]).	FW
4	3158x, 3390-Bx	OOB over MTSIF feature enabled.	FW
5	3158x	Fix the CPPM unchange mode to not update status	FW
6	7364	Disable the UART GPIO settings in FW	FW

## Known Issues

None.

## Nexus Release Notes

none

## Nexus Frontend API Changes

none

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*End CTFE FW v9.3.0.0*

## CTFE FW v9.2.0.0

FW Release Date: [03/24/2016](#)Release to Unified (URSR): [04/13/2016](#)Unified Release Target: [16.2](#)Release Status: [In Progress](#)

Release Info:

## Change List

Item #	Chip	Change Description	Category
1	3390, 7584, Other	Implements a HAB Command to support for reading the Out-of-Band demod constellation.	BBS, FW
2	3158x	Adds BCM3158 A1 Support to UR 16.2	BBS, FW, Nexus, PI
3	3158x	Tweak IntLna RF AGC settings to improve SCTE-40 performance	
4	7563	Bcm7563 failed 7MHz analog CCI test.	FW
5	7563	Bcm7563 fail the Performance in Time-Varying Channels	FW
6	3158x	Add Frontend PI Support	

## Known Issues

None.

## Nexus Release Notes

Added support for 3158.

Nexus now stores firmware for frontends in userspace even when built for kernel mode.

## Nexus Frontend API Changes

Added a new function pair (NEXUS\_FrontendDevice\_GetWakeupSettings, NEXUS\_FrontendDevice\_SetWakeupSettings) to configure wakeup packet scanning on 3158.

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*End CTFE FW v9.2.0.0*

## CTFE FW v9.1.0.0

FW Release Date: [12/18/2015](#)Release to Unified (URSR): [01/14/2016](#)Unified Release Target: [16.1](#)Release Status: [Released](#)

Release Info:

## Change List

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Item #	Chip	Change Description	Category
1	3461, 3472, 7364, 7563	Improve adjacent-channel protection ratio, to enhance immunity to interference, including interference from LTE.	FW
2	7563	Improve DVBT field signal reception.	FW
3	312x/4x, 3461, 7364, 7563, 7584	Add support to load cable and terrestrial frontend firmware (on 3128, 7584, 3461, 7563, and 7364) from userspace when building in kernel mode, reducing kernel memory requirements.	Nexus, PI

## Known Issues

None.

## Nexus Release Notes

Nexus frontend has implemented IMG support for frontend firmware loading (for 3128, 7584, 3461, 7563, and 7364). This reduces the Nexus memory footprint in kernel/proxy mode. (SW7435-2006)

Build support for 3472 has been removed from Nexus and will generate an error in 16.1 and future releases.

## Nexus Frontend API Changes

none

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*End CTFE FW v9.1.0.0*