ISIL Embedded MediaSDK
API Guide
(V1.1.1)

Revision history

date	version	description	author
2011-04-27	1.0.0	ISIL Enc SDK API Guide	wangjunbin
2011-06-17	1.1.0	Add decoding section	wangjunbin
2011-06-24	1.1.1	Modify APIs according to internal feedbacks	

ISILMediaSDK API Guide

（1.1）

1 Programming Guide

1.1 Function Calling Orders

A. MediaSDK basic configuration

Get SDK version	ISIL_MediaSDK_GetSdkVersion

B. MediaSDK initialization related

SDK initialization	ISIL_MediaSDK_Init
SDK release	ISIL_MediaSDK_Cleanup
Get Chip count	ISIL_MediaSDK_GetChipCount
Get channel count	ISIL_MediaSDK_GetChannelCount
Set video standard	ISIL_MediaSDK_SetVideoStandard
Get video standard	ISIL_MediaSDK_GetVideoStandard
Set Buffer Pool	ISIL_MediaSDK_SetBufferPool

C. MediaSDK callback registration related

Register H264 main stream	ISIL_MediaSDK_RegH264MainCallback
Register H264 sub stream	ISIL_MediaSDK_RegH264SubCallback
Register Audio stream	ISIL_MediaSDK_RegAudioCallback
Register Mjpeg stream	ISIL_MediaSDK_RegMJpegCallback
Register Motion data	ISIL_MediaSDK_RegMVInfoCallback
Register Motion flag	ISIL_MediaSDK_RegMVFlagCallback
Unregister H264 main stream	ISIL_MediaSDK_UnRegH264MainCallback
Unregister H264 sub stream	ISIL_MediaSDK_UnRegH264SubCallback
Unregister audio stream	ISIL_MediaSDK_UnRegAudioCallback

Unregister MJPEG stream	ISIL_MediaSDK_UnRegMJpegCallback
Unregister Motion data	ISIL_MediaSDK_UnRegMVInfoCallback
Unregister Motion flag	ISIL_MediaSDK_UnRegMVFlagCallback

D. MediaSDK Channel open/close

Open Channel	ISIL_MediaSDK_OpenChannel
Close Channel	ISIL_MediaSDK_CloseChannel

E. MediaSDK Motion info related

Start acquiring motion data	ISIL_MediaSDK_StartMVInfo
Stop acquiring motion data	ISIL_MediaSDK_StopMVInfo
Start acquiring motion flag	ISIL_MediaSDK_StartMVFlag
Stop acquiring motion flag	ISIL_MediaSDK_StopMVFlag

I. MediaSDK MJPEG related

Start MJPEG encoding	ISIL_MediaSDK_StartMjpegChannel
Stop MJPEG encoding	ISIL_MediaSDK_StopMjpegChannel
Set MJPEG format	ISIL_MediaSDK_SetMJpegFormat
Set MJPEG frame rate	ISIL_MediaSDK_SetMJpegFrameRate
Set MJPEG parameters	ISIL_MediaSDK_SetMJpegCfgParm
Image grab	ISIL_MediaSDK_JpegGrab

J. MediaSDK A/V encoding related

Start H264 main stream enc	ISIL_MediaSDK_StartH264MainChannel
Stop H264 main stream enc	ISIL_MediaSDK_StopH264MainChannel
Start H264 sub stream enc	ISIL_MediaSDK_StartH264SubChannel
Stop H264 sub stream enc	ISIL_MediaSDK_StopH264SubChannel
Start audio enc	ISIL_MediaSDK_StartAudio
Stop audio enc	ISIL_MediaSDK_StopAudio
Set audio type	ISIL_MediaSDK_SetAudioType

Set audio parameters	ISIL_MediaSDK_SetAudioParm
Set video flip	ISIL_MediaSDK_SetVideoPara
Set video parameters	ISIL_MediaSDK_SetVideoPara
Get video parameters	ISIL_MediaSDK_GetVideoPara
Set rate control type	ISIL_MediaSDK_SetBitrateControlType
Set rate control mode	ISIL_MediaSDK_SetBitrateControlMode
Forece H264 I frame	ISIL_MediaSDK_ForceIFrameEncode
Set H264 IBP mode	ISIL_MediaSDK_SetIBPMode
Set rate control	ISIL_MediaSDK_SetupBitrateControl
Set video encoding size	ISIL_MediaSDK_SetEncoderVideoSize
Set video enc size by wdith and height	ISIL_MediaSDK_SetEncoderVideoSizeByWH
Get actual video enc frame rate	ISIL_MediaSDK_GetEncRealFrameRate
Set OSD parameters	ISIL_MediaSDK_SetOsdCfg
Get OSD parameters	ISIL_MediaSDK_GetOsdCfg

K. MediaSDK other interface

Set multiple channel preview	ISIL_MediaSDK_SetPreviewMultiParam
Set multiple channel main stream enc	ISIL_MediaSDK_SetEncodeMultiParam
Set multiple channel sub stream enc	ISIL_MediaSDK_SetSubEncodeMultiParam
Release packet to buffer pool	ISIL_AV_PACKET_RELEASE
Configure chip through message	ISIL_MediaSDK_SendChipMsg
Set VD	ISIL_MediaSDK_CalcSetVd
Set VP	ISIL_MediaSDK_CalcSetVp
Bind VI to VO	ISIL_MediaSDK_BindVIVO
Unbind VI to VO	ISIL_MediaSDK_UnbindVIVO
Read Registers	ISIL_MediaSDK_ReadRegister
Write Registers	ISIL_MediaSDK_WriteRegister
Read DDR	ISIL_MediaSDK_ReadDDR

Write DDR	ISIL_MediaSDK_WriteDDR
Read registers through MBP	ISIL_MediaSDK_ReadMPB
Write registers through MPB	ISIL_MediaSDK_WriteMPB
Read IIC	ISIL_MediaSDK_ReadI2C
Write IIC	ISIL_MediaSDK_WriteI2C
Read GPIO	ISIL_MediaSDK_ReadGPIO
Write GPIO	ISIL_MediaSDK_WriteGPIO
Set GPIO mode	ISIL_MediaSDK_SetGPIO

M. MediaSDK ALARM related

```
ISILERR_CODE ISIL_MediaSDK_RegVideoLossCallback
ISILERR_CODE ISIL_MediaSDK_RegBlindDetectionCallback
ISILERR_CODE ISIL_MediaSDK_RegNightDetectionCallback
ISILERR_CODE ISIL_MediaSDK_RegPNSwitchCallback
ISILERR_CODE ISIL_MediaSDK_UnRegVideoLossCallback
ISILERR_CODE ISIL_MediaSDK_UnRegBlindDetectionCallback
ISILERR_CODE ISIL_MediaSDK_UnRegNightDetectionCallback
ISILERR_CODE ISIL_MediaSDK_UnRegPNSwitchCallback
ISILERR_CODE ISIL_MediaSDK_StartVideoLossAlarm
ISILERR_CODE  ISIL_MediaSDK_ StopVideoLossAlarm
ISILERR_CODE ISIL_MediaSDK_StartBlindAlarm
ISILERR_CODE  ISIL_MediaSDK_ StopBlindAlarm
ISILERR_CODE ISIL_MediaSDK_StartNightAlarm
ISILERR_CODE  ISIL_MediaSDK_ StopVideoLossAlarm
ISILERR_CODE ISIL_MediaSDK_StartPNSwitchAlarm
ISILERR_CODE  ISIL_MediaSDK_ StopPNSwitchAlarm
```

2 Function Description

2.1 MediaSDK basic configuration

DWORD ISIL_MediaSDK_GetSdkVersion();

Description: Get MediaSDK version number.

Return: version number.

2.2 MediaSDK Initialization related

ISILERR_CODE ISIL_MediaSDK_SetBufferPool(unsigned int num, unsigned int size);

Description: Set Buffer Pool.

Parameters:

Num – buffer count; (Direction – I)

Size – buffer size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_Init();

Description: Initialize MediaSDK.

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_Cleanup ();

Description: Close MediaSDK.

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetChipCount(unsigned long *lpCount);

Description: Get chip count.

Parameters:

lpCount – number of chips; (Direction – O)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetChannelCount(unsigned long *lpCount);

Description: Get channel count on all chips.

Parameters:

lpCount – number of channels; (Direction – O)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetVideoStandard(unsigned int nChipIndex, ISIL_VIDEO_STANDARD eVideoStandard)

Description: Set input video standard on one chip.

Parameters:

nChipIndex – chip ID; (Direction – I)

eVideoStandard – video standard; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetVideoStandard(unsigned int nChipIndex, ISIL_VIDEO_STANDARD *lpeVideoStandard)

Description: Get input video standard on one chip.

Parameters:

nChipIndex – chip ID; (Direction – I)

eVideoStandard – video standard; (Direction – O)

Return: 0 if success, < 0 if failed.

2.4 MediaSDK callback registration related

```
ISILERR_CODE ISIL_MediaSDK_RegH264MainCallback (unsigned int nChipId,
                                                unsigned int nChannel,
                                                MediaSDKH264CallBack *funcCallBack,
                                                void *pContext)
```

Description: Register H.264 main stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegH264SubCallback (unsigned int nChipId,
unsigned int nChnnel,
MediaSDKH264CallBack *funcCallBack,
void *pContext)

Description: Register H.264 sub stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegAudioCallback (unsigned int nChipId,
unsigned int nChnnel,
MediaSDKAudioCallBack *funcCallBack,
void *pContext)

Description: Register audio stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegMjpegCallback (unsigned int nChipId,

unsigned int nChnnel,
MediaSDKMjpegCallBack *funcCallBack,
void *pContext)

Description: Register MJPEG stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegMVFlagCallback (unsigned int nChipId,
unsigned int nChnnel,
MediaSDKMVFlagCallBack *funcCallBack,
void *pContext)

Description: Register Motion flag callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegMVInfoCallback (unsigned int nChipId,
unsigned int nChnnel,
MediaSDKMVInfoCallBack *funcCallBack,

void *pContext)

Description: Register Motion metadata callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKH264CallBack(void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegH264MainCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister H.264 main stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegH264SubCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister H.264 sub stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegAudioCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister audio stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegMjpegCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister MJPEG stream callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegMVFlagCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister Motion flag callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnRegMVInfoCallback (unsigned int nChipId,
unsigned int nChnnel)

Description: Unregister motion metadata callback function.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

2.5 MediaSDK Channel open/close

ISILERR_CODE ISIL_MediaSDK_OpenChannel(unsigned int nChipId, unsigned int nChnnel)

Description: Open channel for encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_CloseChannel(unsigned int nChipId, unsigned int nChnnel)

Description: close an encoding channel.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

2.7 MediaSDK MJPEG related

ISILERR_CODE ISIL_MediaSDK_StartMjpegChannel(unsigned int nChipId ,unsigned int nChnnel);

Description: Start MJPEG encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_JpegGrab(unsigned int nChipId ,unsigned int nChnnel, unsigned int u32Type)

Description: JPEG image Grab.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

u32Type – type of image grab process

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ StopMjpegChannel (unsigned int nChipId, unsigned int nChnnel, bool bSub = false)

Description: Stop MJPEG encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetMJpegFormat(unsigned int nChipId, unsigned int nChnnel, ISIL_VIDEO_SIZE_TYPE ePicSize)

Description: Set MJPEG format.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

ePicSize – frame resolution; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetMJpegFrameRate(unsigned int nChipId, unsigned int nChnnel, int nFps)

Description: Set MJPEG encoding frame rate.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

nFps – frame rate; (Direction – I)

Return: 0 if success, < 0 if failed.

```
ISILERR_CODE  ISIL_MediaSDK_SetMJpegCfgParm(unsigned int nChipId, unsigned int nChannel, VENC_MJPG_CFG* cfg);
```

Description: Set MJPEG configuration parameters.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

cfg – MJPEG configuration parameters; (Direction – I)

Return: 0 if success, < 0 if failed.

2.8 MediaSDK Encoding Related

ISILERR_CODE ISIL_MediaSDK_StartH264MainChannel(unsigned int nChipId ,unsigned int nChnnel);

Description: Start H.264 main stream encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ StopH264MainChannel (unsigned int nChipId, unsigned int nChnnel)

Description: Stop H.264 main stream encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_StartH264SubChannel(unsigned int nChipId ,unsigned int nChnnel);

Description: Start H.264 sub stream encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ StopH264SubChannel (unsigned int nChipId, unsigned int nChnnel)

Description: Stop H.264 sub stream encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetAudioType(unsigned int nChipId, unsigned int nChnnel,ISIL_AUDIO_TYPE eAudioType)

Description: Set audio encoding type.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

eAudioType – encoding type; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetAudioParm(unsigned int nChipId, unsigned int nChannel, unsigned int bit_wide, unsigned int sample_rate)

Description: Set audio sampling rate and bit wide.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

bit_wide – bit width of each audio sample; (Direction – I)

sample_rate – audio sampling rate; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetVideoFlip(unsigned int nChipId, unsigned int nChnnel,bool bHFlip,bool bVFlip)

Description: Set video flip.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

bHFlip – Whether do flip in horizontal; (Direction – I)

bVflip – Whether do flip in vertical; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetVideoPara(unsigned int nChipId, unsigned int nChnnel,int nBrightness, int nContrast, int nSaturation, int nHue, int nSharpness)

Description: Set video input parameters.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

nBrightness – video brightness 0-255; (Direction – I)

nContrast – video contrast 0-255; (Direction – I)

nSaturation – video saturation 0-255; (Direction – I)

nHue – video hue 0-255; (Direction – I)

nSharpness – video sharpness 0-255; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetVideoPara(unsigned int nChipId, unsigned int nChnnel,int *lpBrightness,int *lpContrast,int *lpSaturation,int *lpHue)

Description: Get video input parameters.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

nBrightness – video brightness 0-255; (Direction – O)

nContrast – video contrast 0-255; (Direction – O)

nSaturation – video saturation 0-255; (Direction – O)

nHue – video hue 0-255; (Direction – O)

nSharpness – video sharpness 0-255; (Direction – O)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetBitrateControlType(unsigned int nChipId, unsigned int nChnnel, ISIL_STREAM_BITRATE_TYPE eType, ISIL_BITRATE_VALUE tValue, bool bSub = false)

Description: set video stream rate control type.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

eType – bitrate type; (Direction – I)

tValue – bitrate value; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetBitrateControlMode(unsigned int nChipId, unsigned int nChnnel, ISIL_STREAM_BITRATE_Mode eMode, bool bSub = false)

Description: set video stream rate control mode.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

eMode – rate control mode; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ForceIFrameEncode(unsigned int nChipId, unsigned int nChnnel, bool bSub = false)

Description: Fore one H.264 I frame encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetIBPMode(unsigned int nChipId, unsigned int nChnnel,int nKeyFrameIntervals,int nBFrames,int nPFrames,float fFrameRate , bool bSub)

Description: Set h.264 IBP mode.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

nKeyFrameIntervals – I frame interval; (Direction – I)

nBFrames – B frame interval; not working in this version (Direction – I)

nPFrames – P frame interval; not working in this version (Direction – I)

fFrameRate – Frame rate; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetupBitrateControl(unsigned int nChipId, unsigned int nChnnel,unsigned long lMaxBps, bool bSub = false)

Description: Set rate control.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

lMaxBps – Maximal bit rate; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetEncoderVideoSize(unsigned int nChipId, unsigned int nChannel, ISIL_VIDEO_SIZE_TYPE eVideoSize, unsigned int bSub)

Description: Set video encoding resolution.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

eVideoSize – resolution; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetEncoderVideoSizeByWH(unsigned int nChipId, unsigned int nChannel, unsigned int w, unsigned int h,unsigned int bSub);

Description: Set video encoding resolution through number of pixels in width and height.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

w – number of pixels in width; (Direction – I)

h – number of pixels in height; (Direction – I)

bSub – whether or not a sub stream; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_StartAudio(unsigned int nChipId, unsigned int nChannel)

开启音频通道

Description: Start audio encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_StopAudio(unsigned int nChipId, unsigned int nChannel)

Description: Stop audio encoding.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetEncRealFrameRate(unsigned int nChipId, unsigned int nChnnel,float &fFrameRate)

Description: Get actual frame rate.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

fFrameRate – actual frame rate; (Direction – O)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetOsdCfg(unsigned int nChipId, unsigned int nChnnel,ISIL_OSD_CFG *pOsdCfg)

Description: Set OSD parameters.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

pOsdCfg – OSD parameters, including 5 windows for characters, 1 window for time display, and 2 windows for mask; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_GetOsdCfg(unsigned int nChipId, unsigned int nChnnel,ISIL_OSD_CFG *pOsdCfg)

Description: Get OSD parameters.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

pOsdCfg – OSD parameters; (Direction – O)

Return: 0 if success, < 0 if failed.

3.0 MediaSDK other APIs

ISILERR_CODE ISIL_MediaSDK_SendChipMsg(unsigned int nChipId, CODEC_CHIP_MSG *pMsg)

Description: Send message to chip driver for all private operation.

Parameters:

nChipId – chip ID; (Direction – I)

pMsg – message; (Direction – I)

Return: 0 if success, < 0 if failed.

void ISIL_AV_PACKET_RELEASE(ISIL_AV_PACKET *av_packet);

Description: Release AV Packet.

Parameters:

av_packet – AV packet to be release back to MediaSDK; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ReadRegister(unsigned int nChipId, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Read register space.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – starting address; (Direction – I)

lpBuffer – buffer to hold returned data; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_WriteRegister(unsigned int nChipIndex, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Write to register space.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – starting address; (Direction – I)

lpBuffer – buffer to hold written data; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ReadDDR(unsigned int nChipId, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Read DDR space.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – TW5866 DDR starting address; (Direction – I)

lpBuffer – buffer to hold returned data; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_WriteDDR(unsigned int nChipIndex, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Write to DDR space.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – TW5866 DDR starting address; (Direction – I)

lpBuffer – buffer to hold written data; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ReadMPB(unsigned int nChipId, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Read register space through MPB.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – starting address; (Direction – I)

lpBuffer – data buffer; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_WriteMPB(unsigned int nChipIndex, unsigned long lStartAddr, unsigned long *lpBuffer, unsigned long lCount)

Description: Write to register space through MPB.

Parameters:

nChipId – chip ID; (Direction – I)

lStartAddr – starting address; (Direction – I)

lpBuffer – data buffer; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ReadI2C(unsigned int nChipIndex, unsigned long lBusAddr , unsigned long lOffsetAddr , unsigned char *pValue, unsigned long lCount)

Description: Read I2C through MPB.

Parameters:

nChipId – chip ID; (Direction – I)

lBusAddr – bus address; (Direction – I)

lOffsetAddr – bus address offset; (Direction – I)

lpBuffer – data buffer; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_WriteI2C(unsigned int nChipIndex, unsigned long lBusAddr , unsigned long lOffsetAddr , unsigned char *pValue, unsigned long lCount)

Description: Write I2C through MPB.

Parameters:

nChipId – chip ID; (Direction – I)

lBusAddr – bus address; (Direction – I)

lOffsetAddr – bus address offset; (Direction – I)

lpBuffer – data buffer; (Direction – I)

lCount – data size; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ReadGPIO(unsigned int nChipId, unsigned int nMask, unsigned int *nValue)

Description: Read GPIO status.

Parameters:

nChipId – chip ID; (Direction – I)

nMask – indicate which GPIO pins are requested; (Direction – I)

nValue – GPIO pin status; (Direction – O)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_WriteGPIO(unsigned int nChipId, unsigned int nMask, unsigned int nValue)

Description: Write GPIO pins.

Parameters:

nChipId – chip ID; (Direction – I)

nMask – indicate which GPIO pins are driven; (Direction – I)

nValue – GPIO pin settings; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetGPIO(unsigned int nChipId, ISIL_GPIO_MODE *gpioMode)

Description: Write GPIO pins.

Parameters:

nChipId – chip ID; (Direction – I)

gpioMode – set GPIO mode for each GPIO pin; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ClacSetVd(unsigned int nChipIndex, VD_CONFIG_REALTIME* pRealtime)

Description: Set VD parameters.

Parameters:

nChipId – chip ID; (Direction – I)

pRelatime – VD parameters; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_BindVIVO(unsigned int nChipId, BIND_VI2VO *pVi2VO)

Description: Bind VI to VO.

Parameters:

nChipId – chip ID; (Direction – I)

pVi2Vo – VI to VO binding parameters; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_UnbindVIVO(unsigned int nChipId, BIND_VI2VO *pVi2VO)

Description: Unbind VI to VO.

Parameters:

nChipId – chip ID; (Direction – I)

pVi2Vo – VI to VO binding parameters; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetEncodeMultiParam(unsigned int nChipId , ISIL_MEDIASDK_ENCODE_PARAM *encodeParm, DWORD dwCount)

Description: Simultaneously set encoding parameters for multiple H.264 encoding main streams.

Parameters:

nChipId – chip ID; (Direction – I)

encodeParm – encoding parameters; (Direction – I)

dwCount – channel count; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_SetSubEncodeMultiParam(unsigned int nChipId , ISIL_MEDIASDK_ENCODE_PARAM* encodeParm, DWORD dwCount)

Description: Simultaneously set encoding parameters for multiple H.264 encoding sub streams.

Parameters:

nChipId – chip ID; (Direction – I)

encodeParm – encoding parameters; (Direction – I)

dwCount – channel count; (Direction – I)

Return: 0 if success, < 0 if failed.

3.1 MediaSDK ALARM related

ISILERR_CODE ISIL_MediaSDK_ SetChannelAlarmType(unsigned int nChipId, unsigned int nChnnel, unsigned int alarmType)

Description: Set alarm type.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

alarmType – Alarm type; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_ ClearChannelAlarmType(unsigned int nChipId, unsigned int nChnnel, unsigned int alarmType)

Description: Clear alarm type.

Parameters:

nChipId – chip ID; (Direction – I)

nChannel – Channel ID; (Direction – I)

alarmType – Alarm type; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_RegAlarmCallback(unsigned int nChipId,
MediaSDKAlarmCallBack *funcCallBack,
void *pContext);

Description: Register alarm callback function.

Parameters:

nChipId – chip ID; (Direction – I)

funcCallBack – call back function; (Direction – I)

int MediaSDKAlarmCallBack (void *av_packet, void *pContext)

av_packet – see isil_data_stream.h for details; (Direction – I)

pContext – context pointer provided by users; (Direction – I)

alarmType – Alarm type; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_StopAlarm(unsigned int nChipId);

Description: Stop alarm event.

Parameters:

nChipId – chip ID; (Direction – I)

alarmType – Alarm type; (Direction – I)

Return: 0 if success, < 0 if failed.

ISILERR_CODE ISIL_MediaSDK_StartAlarm(unsigned int nChipId);

Description: Start alarm event.

Parameters:

nChipId – chip ID; (Direction – I)

Return: 0 if success, < 0 if failed.