

i-Set Technical Spec'

Rev0.9

1. Introduce
2. Auto TV Setup(using EDID)
3. iSet Protocol
4. Extension function(option)
5. Appendixes

Remote Solution
CONFIDENTIAL
2020. 04. 27

Revision History

Rev	Date	Update Description
0.1	2017-08-25	Initial release
0.2	2017-09-01	CHG: 3.2 section(BT disconnected)
0.3	2017-11-10	ADD: 3.3 section(BT reconnected)
0.4	2018-03-27	ADD: 4 ~6 section (iSet Protocol, TV manufacturer, EDID list)
0.5	2018-03-28	CHG: move TV manufacturer and EDID list to Appendixes. TV Power & Input sync is separated into extension function(option).
0.6	2018-07-05	ADD: 2 section make ACK
0.7	2018-09-12	CHG: Supported EDID List
0.8	2020-02-03	ADD: 3 section - i-Set Get TV code cmd(0x04) - TV type & TV code of i-Set Command Response
0.9	2020-04-27	ADD: 2.3 section - After BLE reconnected

Remote Solution
CONFIDENTIAL

1. Introduce

1. STB reads out the information of TV's EDID via HDMI cable. ②
 2. STB transfers the information of TV's EDID to RCU via RF signal ②
 3. RCU sets up the TV with standardized code based on the information of TV's EDID automatically from the EDID-TV code table..
- If TV does not use(work) the standardized code for the above procedures for the first set up, the User sets up the TV with the Auto Search Method.



IR(Discrete code)

RF(BT, RF4CE)
(TV auto setup)



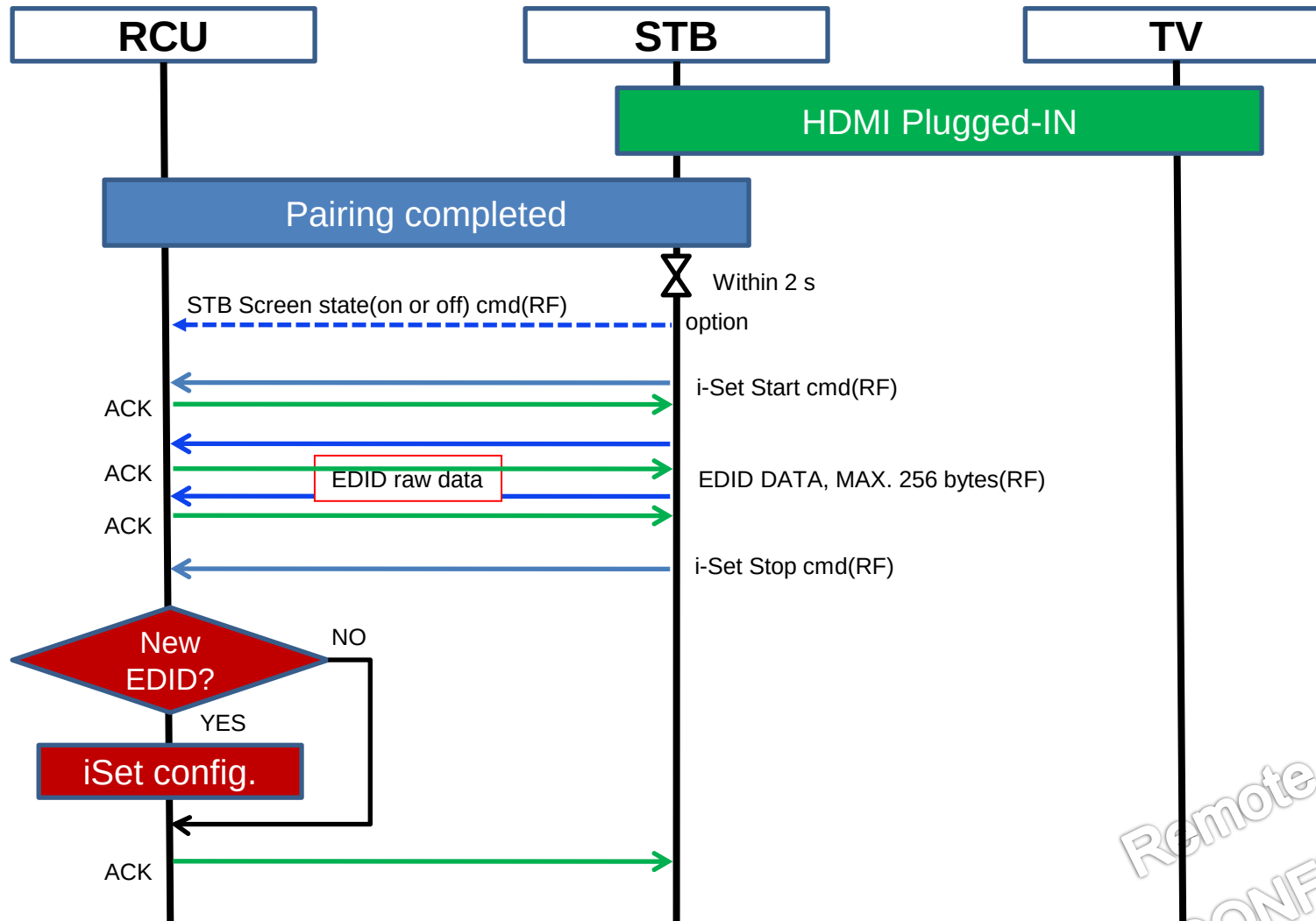
What is EDID?

Extended Display Identification Data is a VESA standard data format that contains basic information about a monitor and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

Remote Solution
CONFIDENTIAL

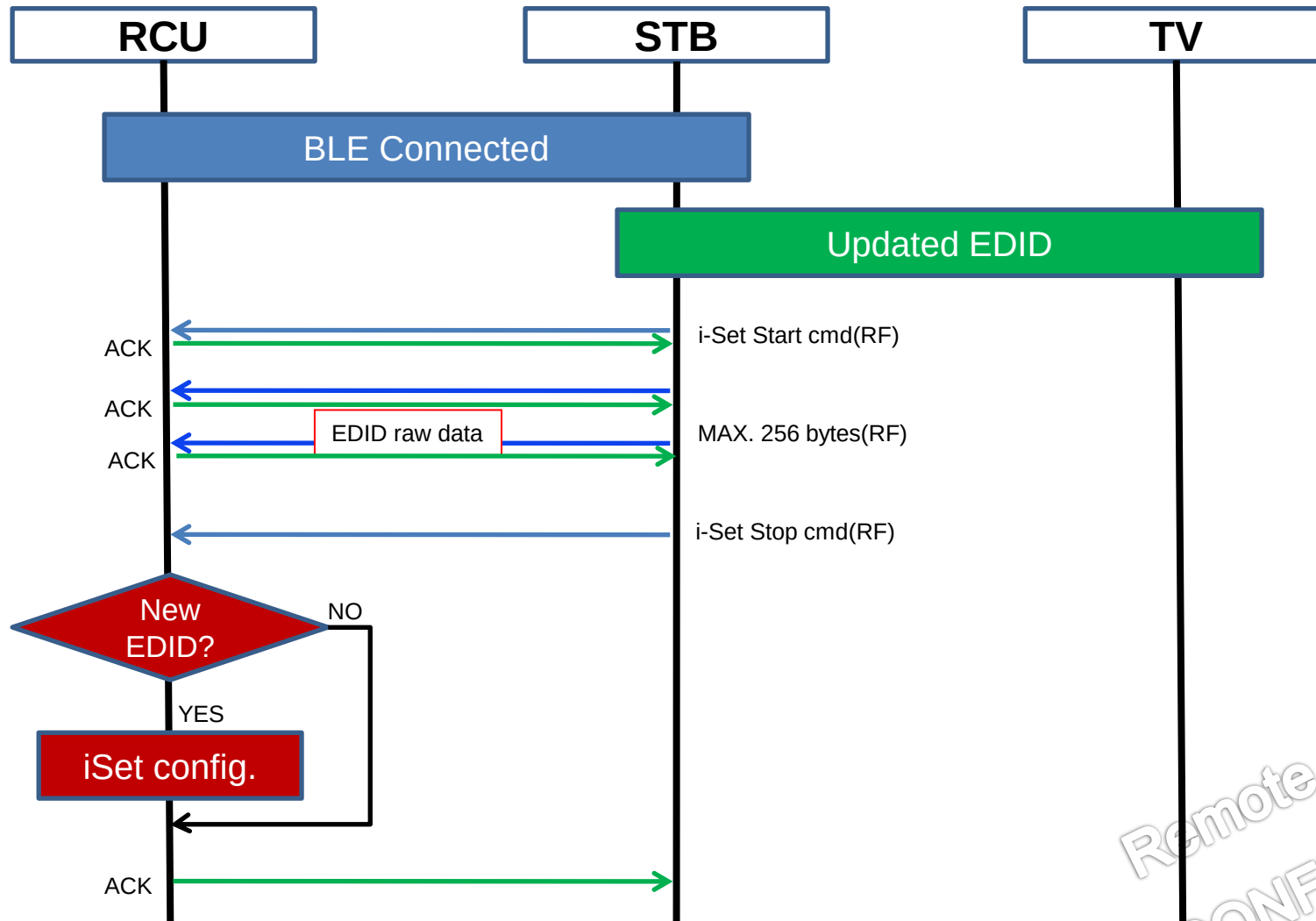
2. Auto TV Setup

2.1 After pairing



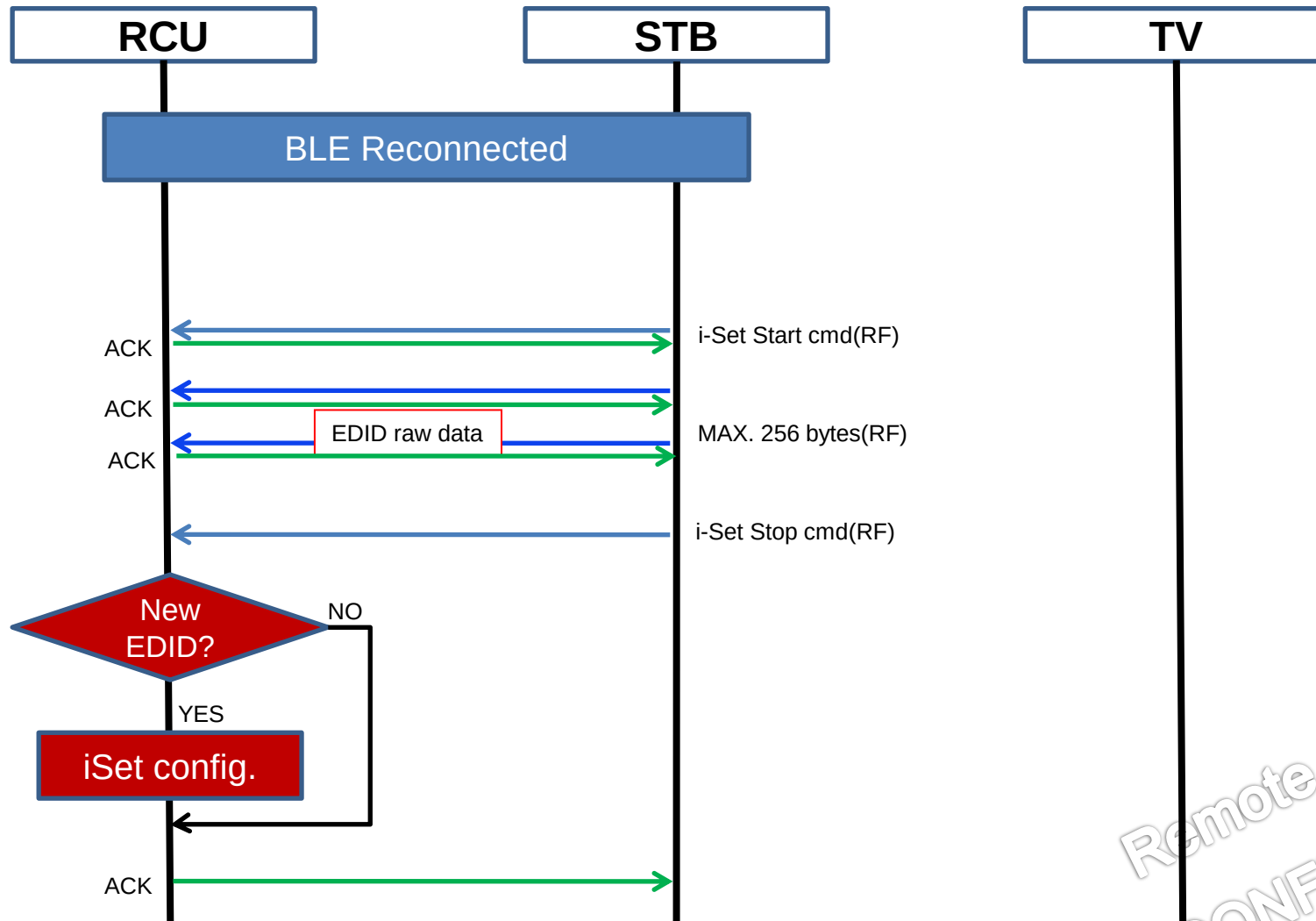
2. Auto TV Setup

2.2 When changed EDID



2. Auto TV Setup

2.3 After BLE reconnected



Remote Solution
CONFIDENTIAL

3. iSet Protocol – based on BLE 1/2

* i-Set Service Class UUID : 0000FFE0-0000-1000-8000-00805F9B34FB

* i-Set Command - UUID : 0000FFE1-0000-1000-8000-00805F9B34FB

NUM	Field	Description	Values	Size	Direction
1	Opcode	Write Request	0x12	1byte	STB -> RCU
2	Att Handle	Handle	0x0000 ~ 0xFFFF	2byte	
3	Payload	Command	0x00: i-Set Stop 0x01: i-Set Start 0x02: STB screen off 0x03: STB screen on 0x04: i-Set Get TV code	1byte	

* i-Set Command Response - UUID : 0000FFE1-0000-1000-8000-00805F9B34FB

NUM	Field	Description	Values	Size	Direction
1	Opcode	Notification	0x1b	1byte	RCU -> STB
2	Att Handle	Handle	0x0000 ~ 0xFFFF	2byte	
3	Payload	Result	0x00: NG 0x01: OK	1byte	
4		Error code	0x00 : ISET_ERROR_NONE 0x01 : ISET_ERROR_CODE_TIMEOUT 0x02 : ISET_ERROR_CODE_CHKSUM_ERROR 0x03 : ISET_ERROR_CODE_INVALID_COMMAND 0x04 : ISET_ERROR_CODE_INVALID_EDID_FORMAT 0x05 : ISET_ERROR_CODE_UNKNOWN_VENDOR 0x06 : ISET_ERROR_CODE_IDENTICAL_VENDOR 0x07 : ISET_ERROR_CODE_INVALID_EDID_LENGTH 0x08 : ISET_ERROR_CODE_UNKNOWN_DEVICE 0x09 : ISET_ERROR_CODE_NONE_SEQ_ORDER	1byte	
5		TV	Type	0x00: ISET - only assigned when i-Set TV setup is OK 0x01: Manual(digit or autosearch) 0x02: IR Learning	1byte
6			Code	0x0000 ~ 0xFFFF(TV set No) eg: Set No is 320	2byte

Solution
IDENTIAL

3. iSet Protocol – based on BLE 2/2

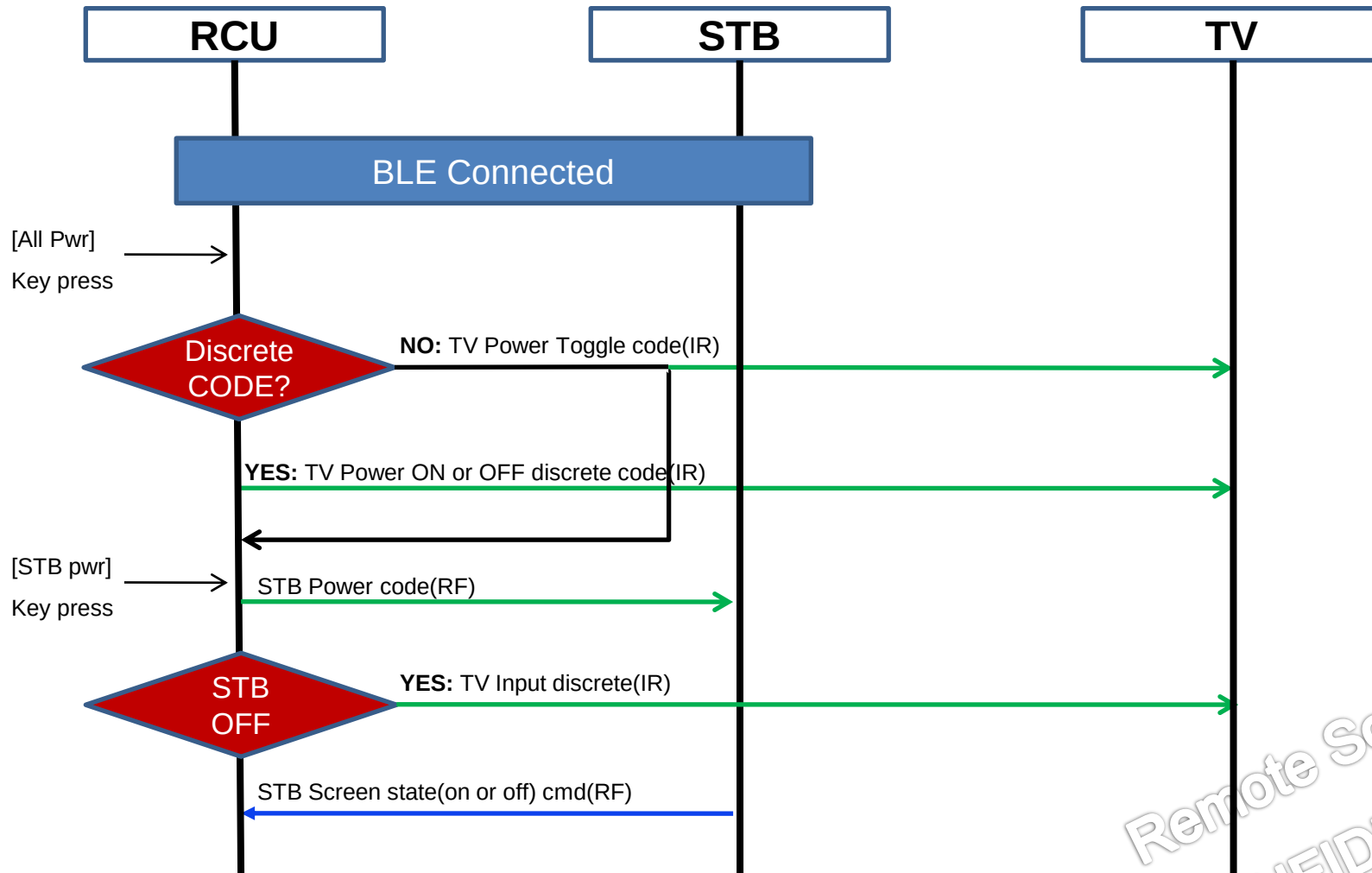
* i-Set EDID Data - UUID : 0000FFE3-0000-1000-8000-00805F9B34FB

NUM	Field	Description	Values	Size	Direction
1	Opcode	Write Command	0x52	1byte	STB -> RCU
2	Att Handle	Handle	0x0000 ~ 0xFFFF	2byte	
3	Payload	EDID Parameters	0x00 ~ 0xFF	256byte	

Remote Solution
CONFIDENTIAL

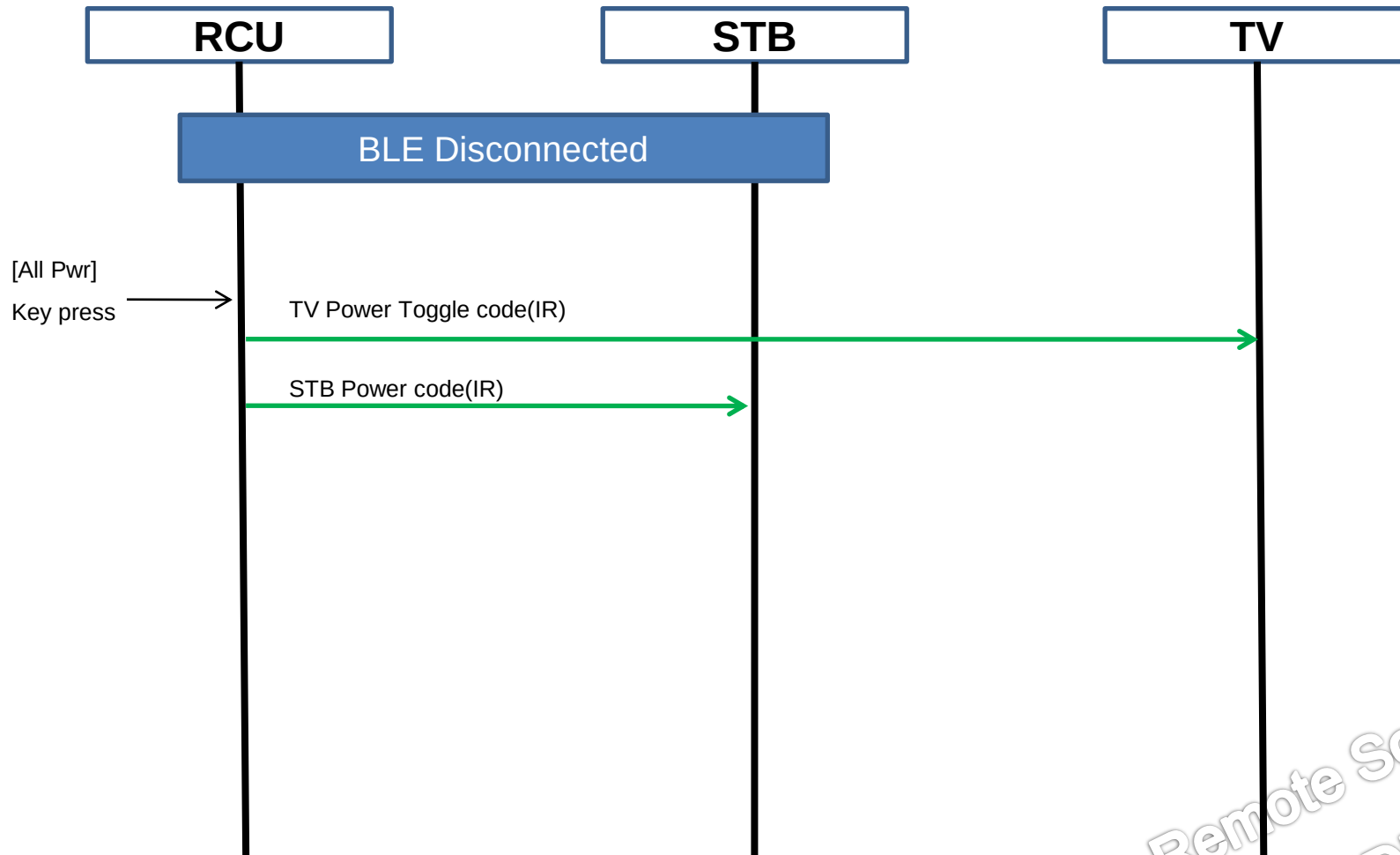
4. Extension function - option

4.1 TV Power & Input synchronization - BT connected



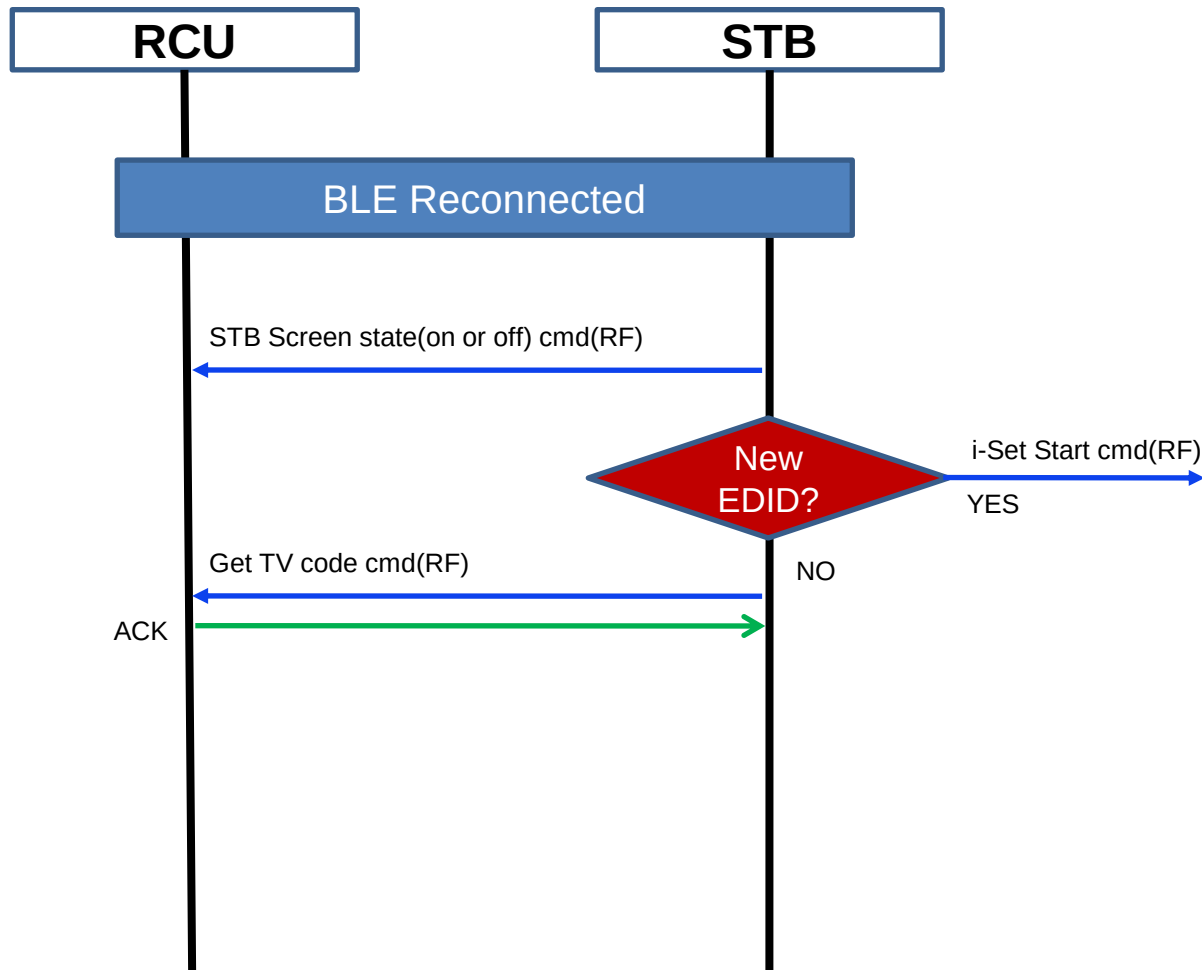
4. Extension function - option

4.2 TV Power & Input synchronization - BT disconnected



4. Extension function - option

4.3 TV Power & Input synchronization - BT Reconnected



Remote Solution
CONFIDENTIAL

5. Appendixes

5.1 TV manufacturer with discrete code support

VID	MANUFACTURER
SAM	SAMSUNG
GSM	LG
SNY	SONY
HIT	HITACHI
JVC	JVC
MEI	PANASONIC
TSB	TOSHIBA
SHP	SHARP
VIZ	VIZIO
PHL	PHILIPS
HEC	HISENSE
MEL	MITSUBISHI
TCL	TCL

Remote Solution
CONFIDENTIAL

5. Appendixes

5.2 Supported EDID list

BRAND	BRAND	BRAND	BRAND	BRAND	BRAND	BRAND	BRAND
ANAM	CAMBRIDGE AUDIO	ENVIXION	KRELL	OKI	ROSS	TCL	WESTERN DIGITAL
ANAM NATIONAL	CASIO	ELBIT	KENWOOD	OLIDATA	RUNCO	TECHNICAL	WHITE WESTINGHOUSE
D-LINK	CONTEC	ELAN	KYOCERA	OLIVE	SAMSUNG	THOMAS	WOXTER
ASUS	CAMBRIDGE	FUTURE	LASAT	ONKYO	SANYO	THOMSON	WOORYOUNG
ACER	TEC	FUJITSU	LAVA	OPPO	SENSE	TATUNG	XITEL
ADB	CHANGHONG	FUJITSU GENERAL	LITEON	OSAKA	SHERWOOD	TANDY	XORO
ASTRA	CISCO	BUTTERFLY	LOGITECH	OMNI	SODIFF	TEAC	CRYSTAL
ANTEX ELECTRONICS	CLASSE	FAST	LG(GOLDSTAR)	OPTOMA	SPECTRA	TERRATEC	DAEWOO DISPLAY
AEI	CHIMEI	FUNAI	LOEWE	PACIFIC	STARGATE	TEK	YAMAHA
ALFA	COBY	FORCE	LUMAGEN	PACKARD BELL	SHARP	CETON	ZENITH
AIWA	COMPAQ	FUJITSU SIEMENS	MAG INNOVISION	PHILIPS	SIEMENS	ORION	BOCA
ALTEC LANCING	CONRAC	GATEWAY	MATSUSHITA	PHILIPS/MAGNAVOX	SIRIUS	TRIUMPH	
ANDERSSON	CREATIVE	GEC	METZ	PIONEER	SCHNEIDER	TRIO	
AMINO	COLORADO VNET	GEFEN	MOTION	PERFORMANCE	SKYWORTH	TRIDENT	
ACE COMPUTER	CLARITY	GENERAL INSTRUMENT	PANASONIC	INTERACTIVE	STANDARD	ROYAL	
AOC	DIGATRON	HAUPPAUGE	MITSUBISHI	PARADIGM	SUNNY	TECHNISAT	
ARRIS	DAVIS	TARGA	MARANTZ	PRINCE	SONIX	TECHNOTREND	
ATEC	DYNAMIC	HISENSE	MICROTEK	PRINCETON	SONY	T+A	
ASTRO	DIAMOND	HARMAN KARDON	MOTOROLA	PROJECTIONDESIGN	SOYO	UNIDEN	
AT&T	DELL	HKC	MULTITECH	PLUS	SPEAKERCRAFT	UNIVERSAL	
AUGUST	DUNE	HUMAX	NAD	MICROSOFT	SCEPTRE	ULTRA	
AXXON	DENON	HUGHES	NEC	PROXIMA	SIM2 MULTIMEDIA	UNITED	
BARCO	DELPHI	SONITRON	NEO	POLAROID	SIERRA	VECTOR/VICTOR	
BEKO	DIGITAL PROJECTION	HP	BTC	PROVIEW	SEIKI	VICTOR	
BANG& OLUFSEN	DAEWOO	HAIER	NATIONAL	PHOENIX	STARLIGHT	VECTOR	
BENQ	ECHOSTAR	HITACHI	NOKIA	METRONIC	SUPRA	VESTEL	
VENUS	EXCEL	INKEL	NEW TECH	QUEST	SYLVANIA	VIZIO	
BROTHER	EPSON	INSIGNIA	NUVISION	QUART	TANDBERG	VIEWSONIC	
BOSE	ELEMENT	JVC	TECHNO	RICOH	TOSHIBA	3M	
BYD:SIGN	ELONEX	KLIPSCH	OAK	RADIOLA	CENTURY	VISION	