User Manual

Connectivity
Operation Manual

General information

An operation manual is supplied with this unit.
This includes key instructions on safety, use and disposal.
Real all operating and safety instructions before using the machine.

Use the unit only within the specified range of use as described.

When you deliver your device to a third party, please bring all documents together.

BMW recommends that you only use parts and accessories inspected and approved
by BMW for safety, functionality and durability.

Safety instructions

Do not operate while driving.

For your safety, observe all other safety instructions. Legal regulations must always be observed.

In principle, videos with Connectivity marks should not be made public on the Internet or other sources.

AS

If the Connectivity fails, contact an authorized BMW dealer.

Wash

Only clean the Connectivity with a damp cloth.
Be careful not to get any water on the connector.

Disposal of electrical equipment

If you can no longer use the appliance, do not dispose of it as household waste for environmental protection, but dispose it at a professional waste disposal company.

In accordance with the European Regulations for the disposal of electrical and electronic equipment, 2012/19 /EC and applicable national laws, old electrical equipment must be collected separately and disposed of in an environmentally friendly manner for recycling.
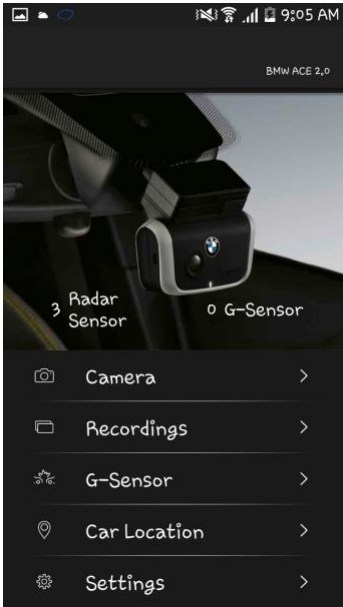For disposal of old equipment, please contact your local government office.
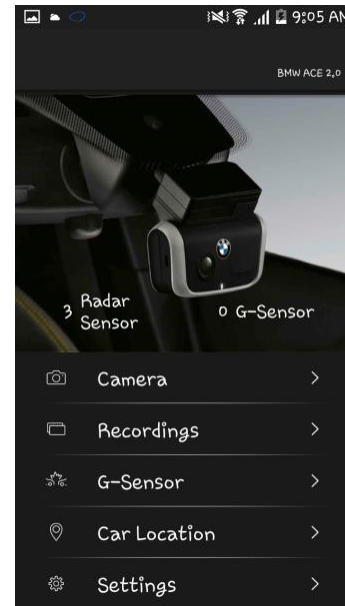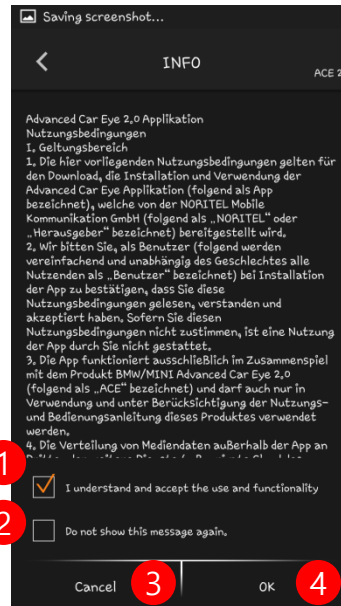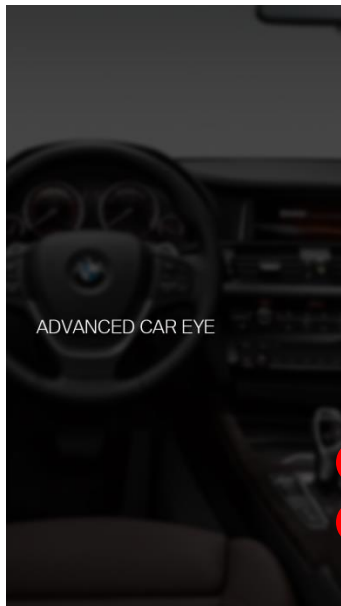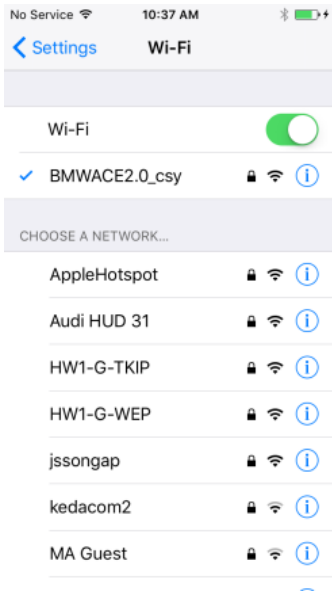
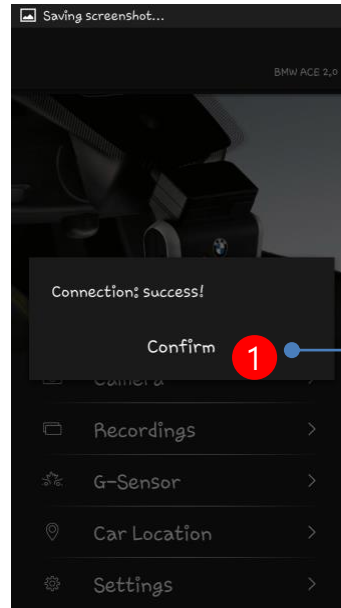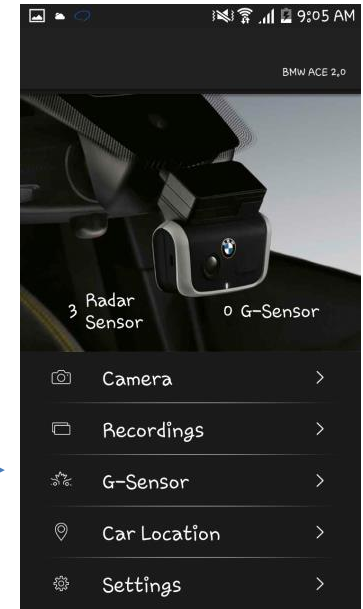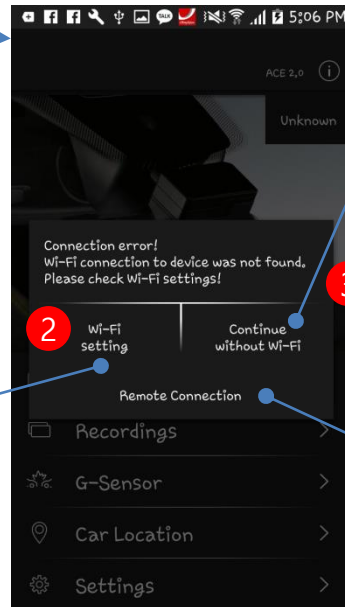| No.	Content
1	Check if user want to run App
2	Check : don't show this page at next time Don't check : show this page at next time too.
3	Stop phone App
4	If (1) is checked, try to connect to ACE 2.0 If (1) isn't checked, stop phone app

- When the Wi-Fi(ACE) connection succeeds,

- When the Wi-Fi(ACE) connection fails,

No.	Content
1	User can use ACE 2.0 via Wi-Fi
2	When the connection fails, user can select ACE's Wi-Fi SSID
3	User can see 'Car Location' and the setting value. But user can't user other funtion.
4	Phone App tries to connect ACE through mobile or Router(supporting internet) at remote site. To use this, Phone should be registered to the server in advance.
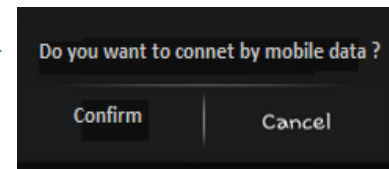
How to prepare connectivity function

Step
1. Turn "BLE" on at the "system settings"
2. Get VPN key
3. Modify account information such as phone number to make ACE send SMS for G-shock events
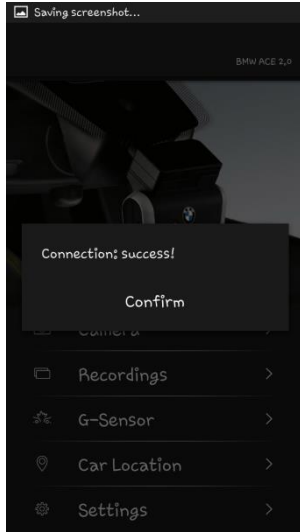4. Register cloud information to upload G-shock event file at parking mode
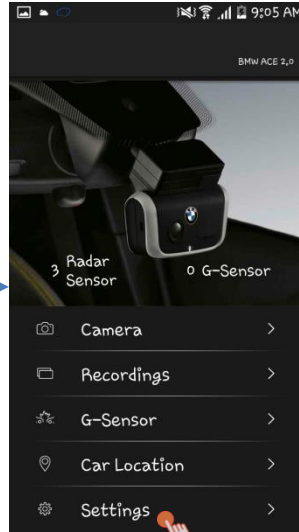
How to prepare connectivity function
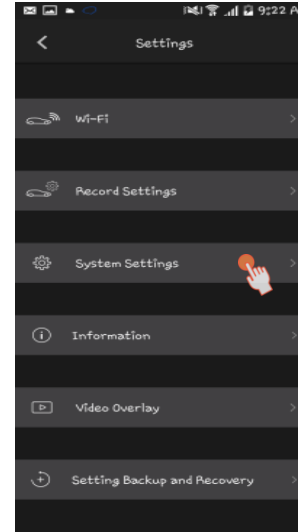
Step 1.

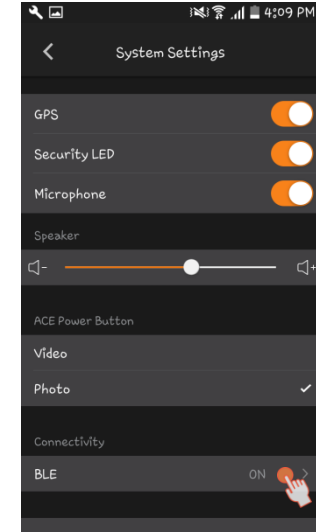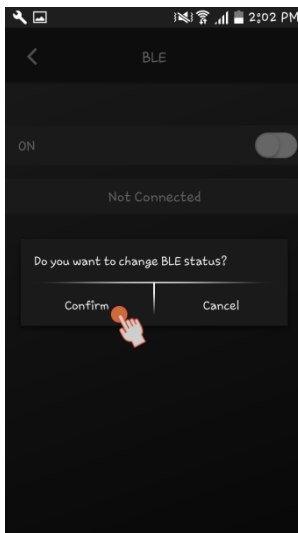Turn "BLE" on at the "system settings"

** This is required only one time

1)Connect to the ACE 2.0

2) Settings

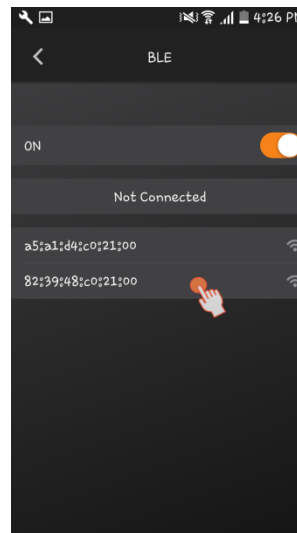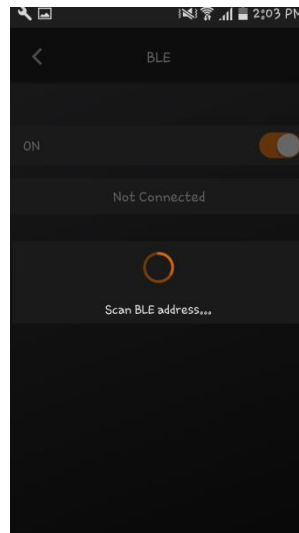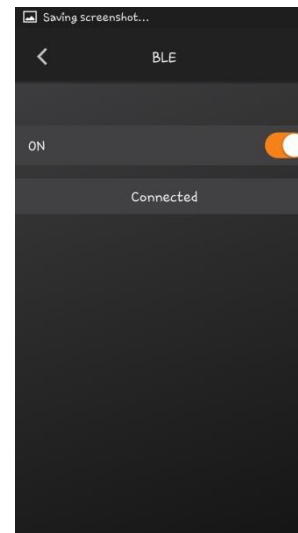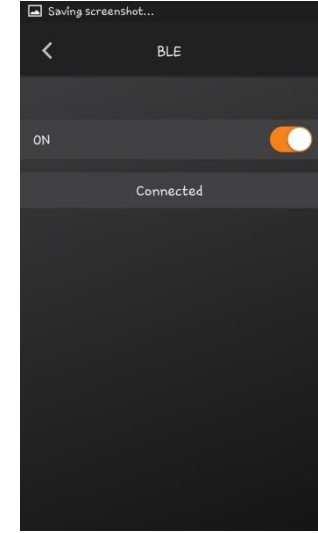
3) System settings

4)Turn BLE ON

5) Confirm

6) Select your BLE address

7) Success! Go to main window
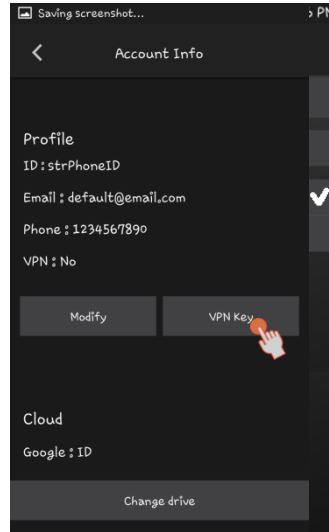

8) Press back("<") button

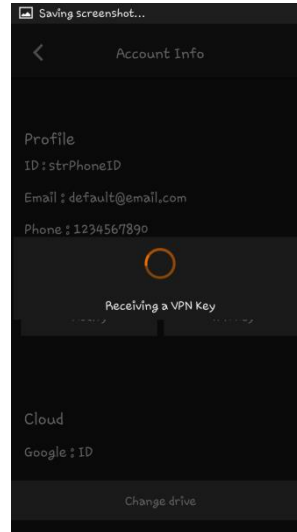# How to prepare connectivity function

Step 2.

Get VPN key
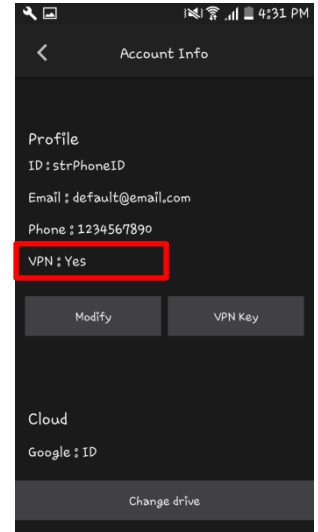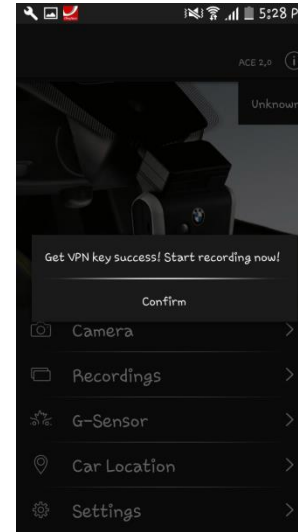
** This is required only one time
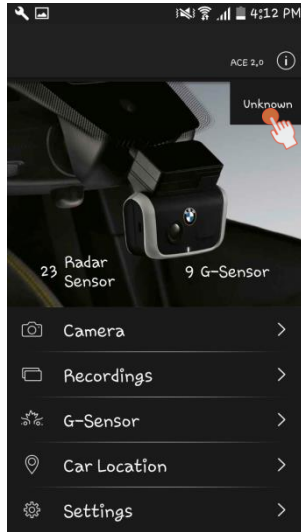
1) Press "Unkonw/USER" button
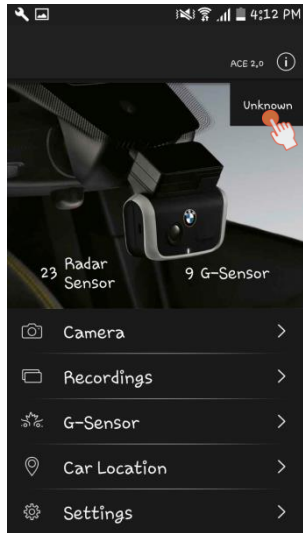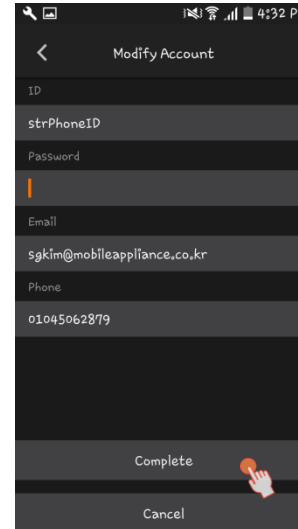
2) Press "VPN key" button

3) Confirm

4) Check "VPN : Yes" and then go to Main Window by pressing back"<" button

To use SMS and Cloud upload

Step 3.

Modify account information(when Wi-Fi is connected)
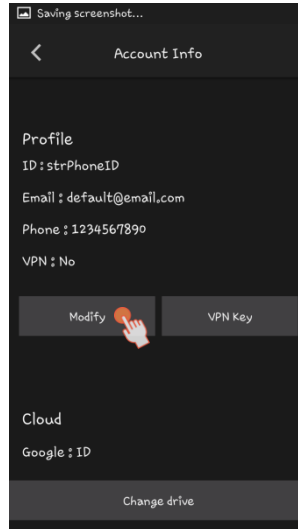
1) Press "Modify" button

2) Change information
- ID,password : this is required to change account infromation.
- E-mail : this is required when you forget your id, pw
- Phone : when high g-shock occurs, SMS will be sent to this

And then press "Complete" button

3) And then press "Complete" button

Step 4.

Register cloud infromation
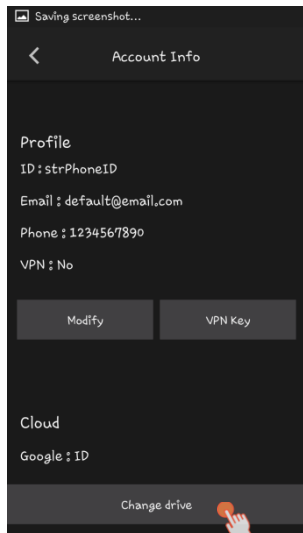
1) Press "Modify" button
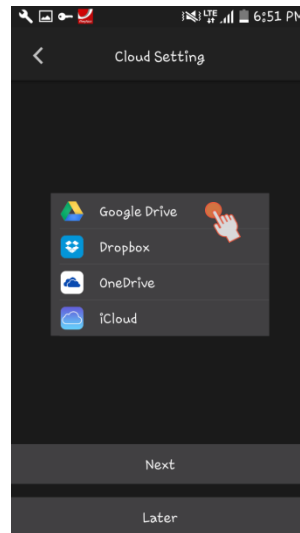
2) Register personal cloud on which video data will be uploaded

This requires internet connection. So,
- disconnect to ACE2 on Wifi

- register the new account to get the authkey of it (if it takes a little while App can show popup for loading)

-if it's successful, reconnect to ACE2 on Wifi

3) Confirm and go to main window

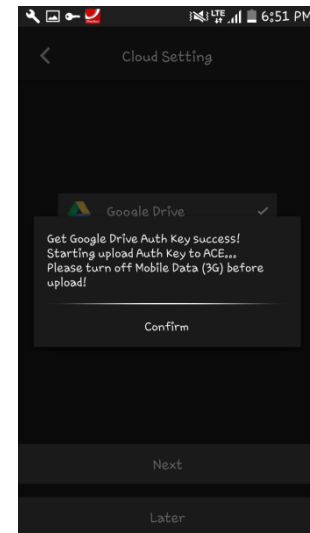**Status : Phone is LTE/3G mode**

Step 5.   Remote connection to the ACE 2.0 (when Wi-Fi is disconnected and 3G/LTE mode on the phone)
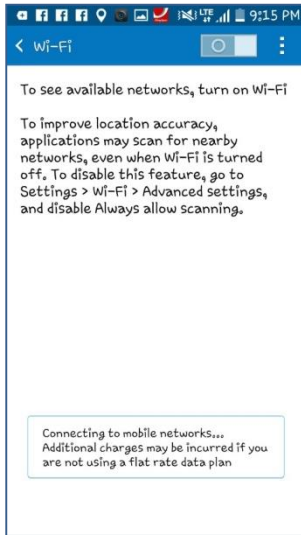
1) Disconnect Wi-Fi or select SSID which support internet.
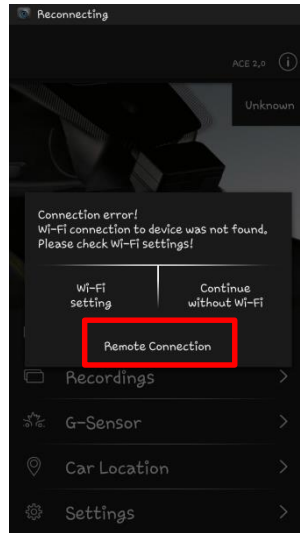
2) Select "Remote Connection" button It'll try to connect ACE 2.0 via internet.
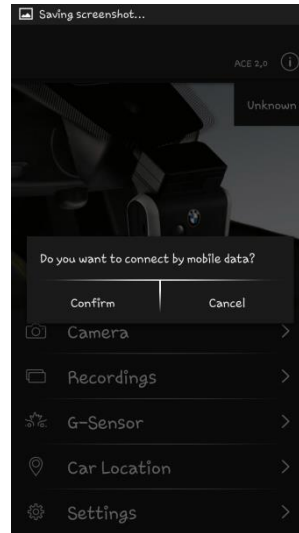
3) Confirm. User can see when App have to use mobile data
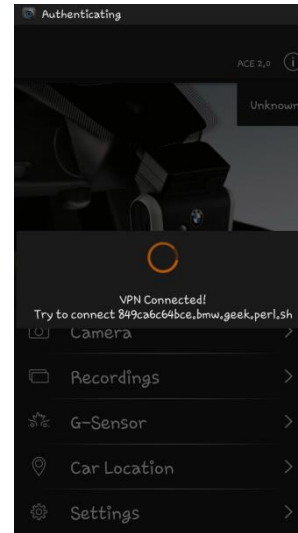
4) Remote connection : success

Step 6. use all the function such as "Camera".
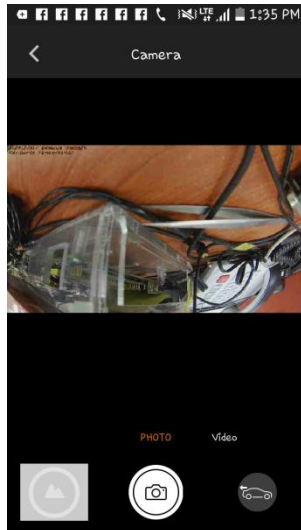
5) User can use all the functions

Common GUI for
Wi-Fi / 3G mobile connection

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet

Double click

Double click

Sucess

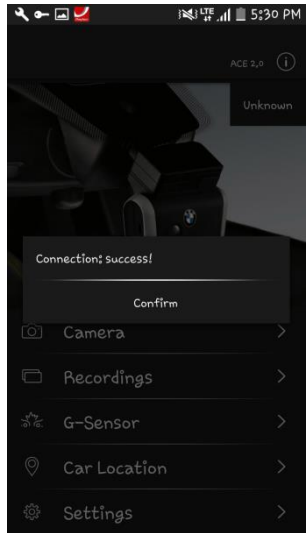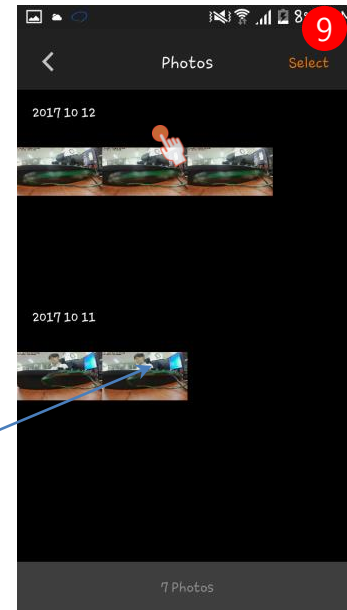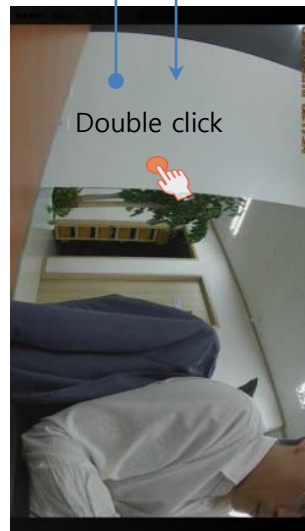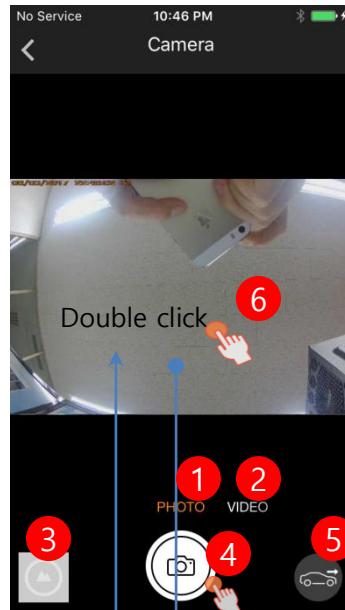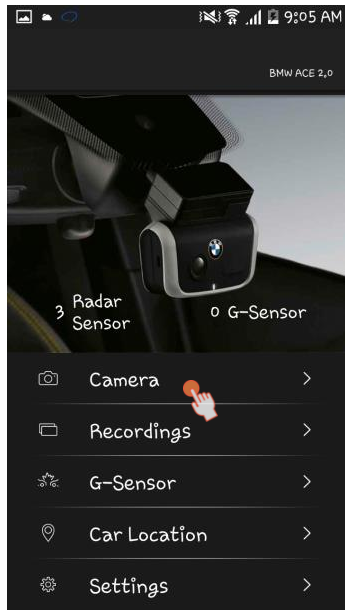| No.	Content	Note
1	Change to the Photo mode	
2	Change to the Video mode	
3	List image/Video list	
4	Capture image	
5	Toggle between front and rear camera image	
6	Double click : toggle between full and small screen mode	
7	Go to previous screen	
8	List thumbnail of photo files	
9	Select / Cancel -- play one or multiple files	

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
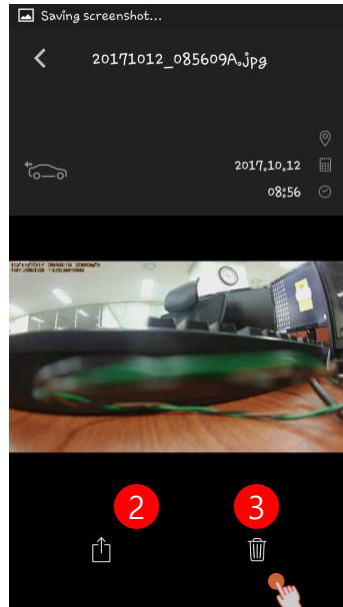
No.	Content	Note
1	Show the selected image, address	

2	Upload to the cloud/e-mail/SNS
	    Case 1) Wi-Fi : from phone to SNS
	    Case 2) Mobile : from Linux board to SNS	

3	Remove the selected file	
4	Upload to the cloud	
5	Play or slide show	
6	Remove files on phone	

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
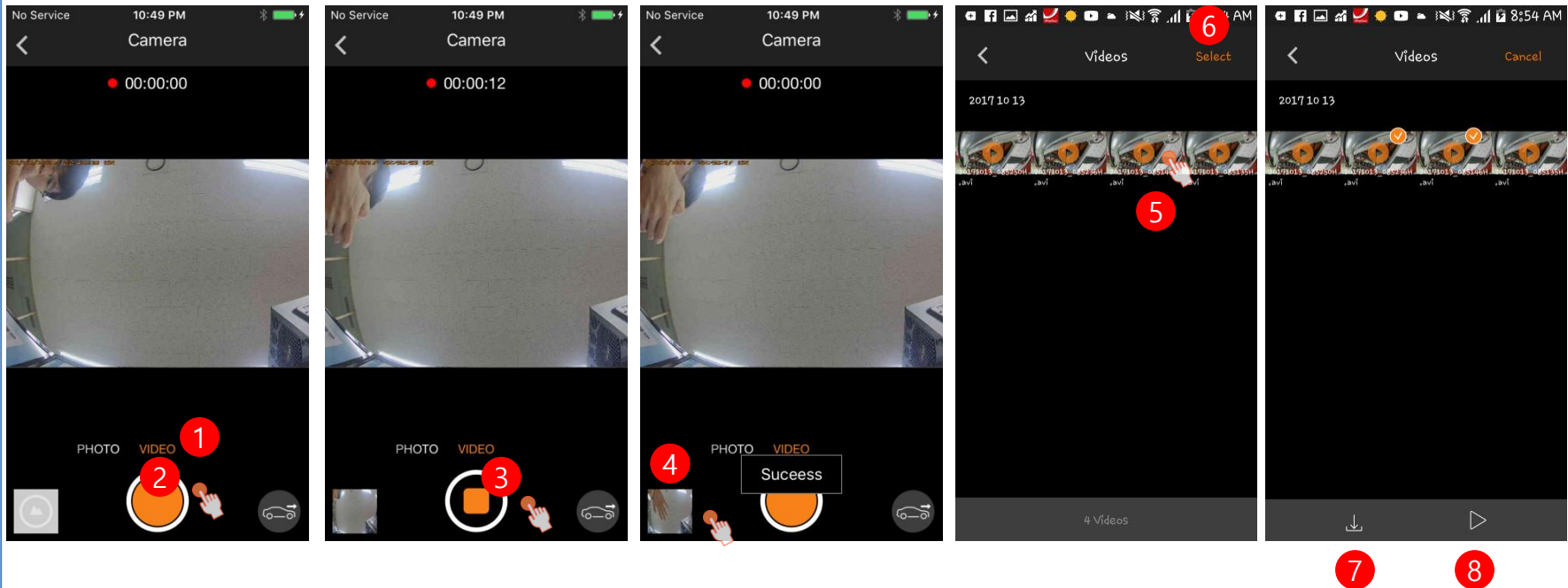
No.	Content	Note
1	Change to video mode	
2	Start to record	
3	Stop record	
4	Show video file list	
5	Play the selected video file	
6	Play one or multiple files	
7	Download to the phone	
8	Play	

Camera / Video
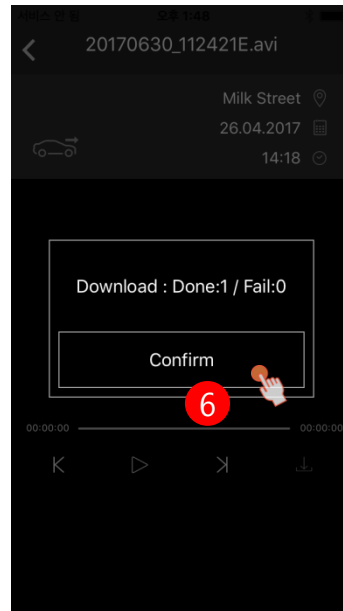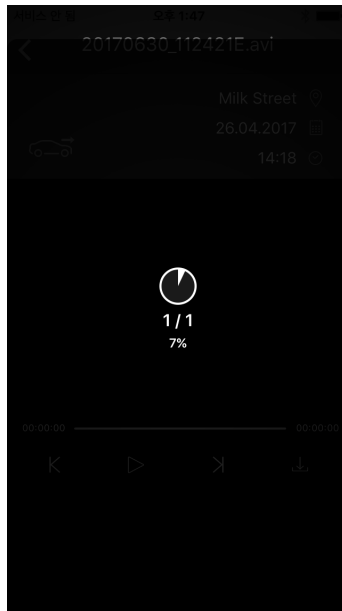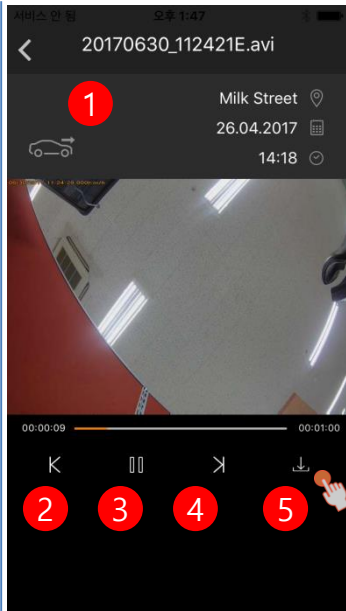
No.	Content	Note
1	Toggle between front and rear camera	
2	Previous file	
3	Play/Plause	
4	Next file	
5	Download from ACE 2.0 to Phone	
6	Make popup disappear	

Record
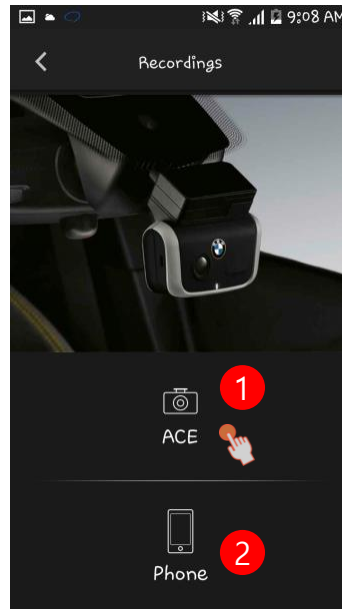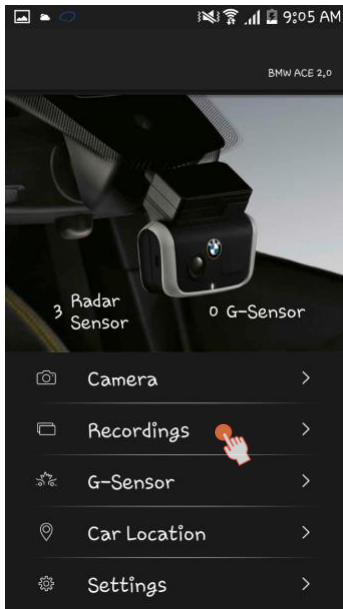
No.	Content	Note
1	Show media file list on ACE	
2	Show media file list on Phone itself	
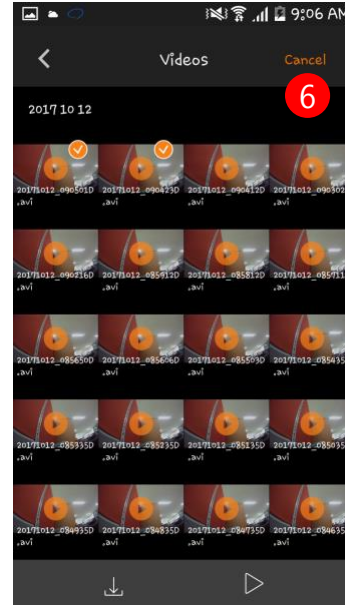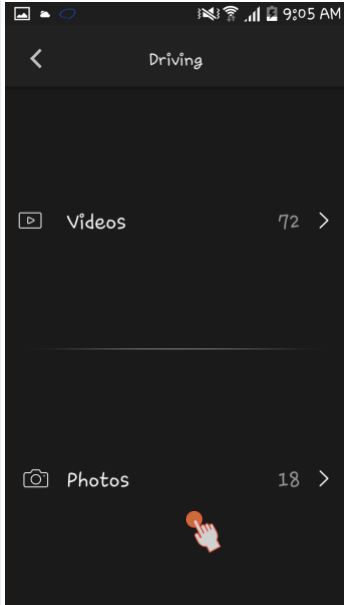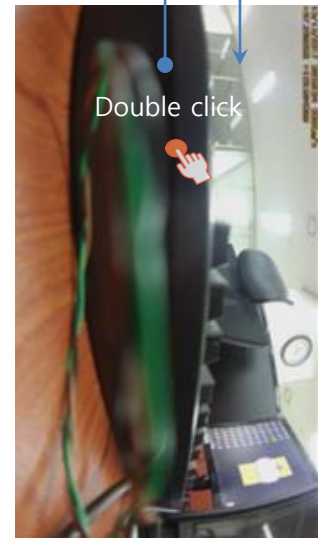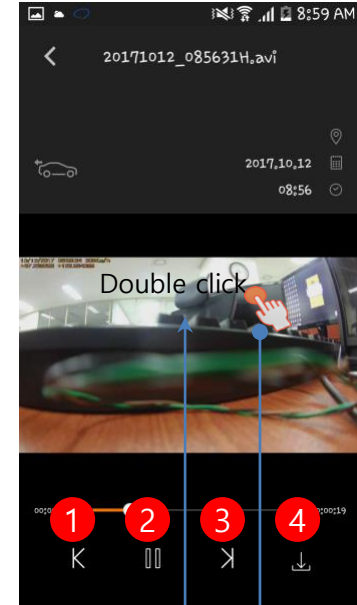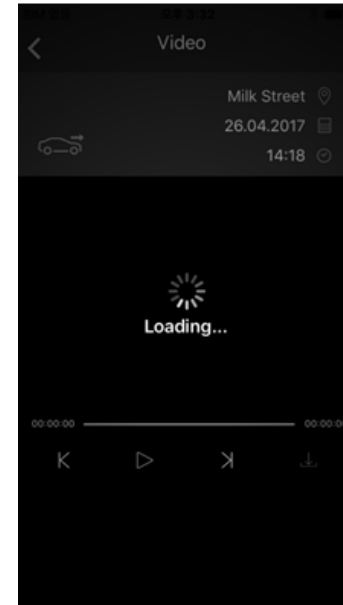
Record/ACE/Driving/Video

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet

Double click

Double click

No	Function	
1	Prev file	
2	Play/Pause	
3	Next file	
4	Download file from ACE to Phone	
5	Play selected files	
6	Select / Cancel -- play one or multiple files	

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet

20170720_145620E.avi

Milk Street
26.04.2017
14:18

1 / 1
6%

20170720_145620E.avi

Milk Street
26.04.2017
14:18

1 / 1
64%

20170720_145620E.avi

Milk Street
26.04.2017
14:18

Download : Done:1 / Fail:0
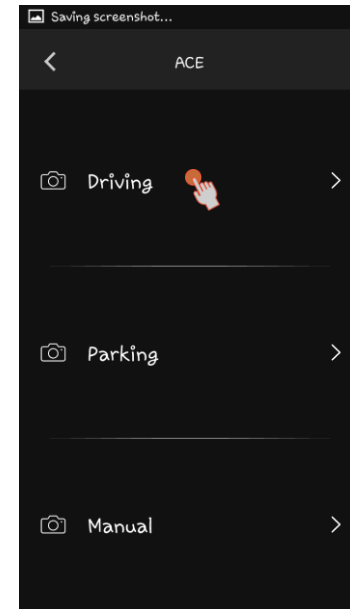
Confirm

00:00:00

● 00:00:00

녹화를 시작합니다.

PHOTO   VIDEO
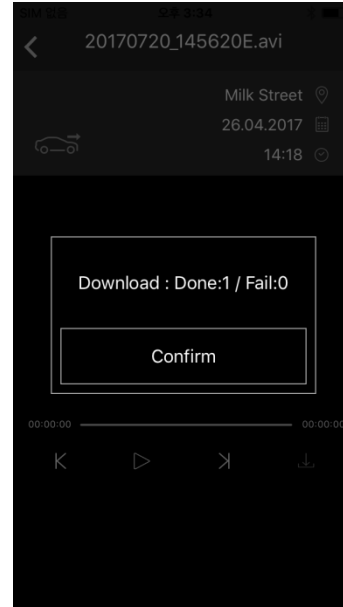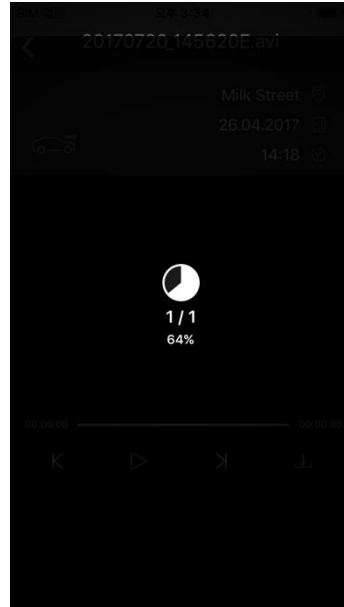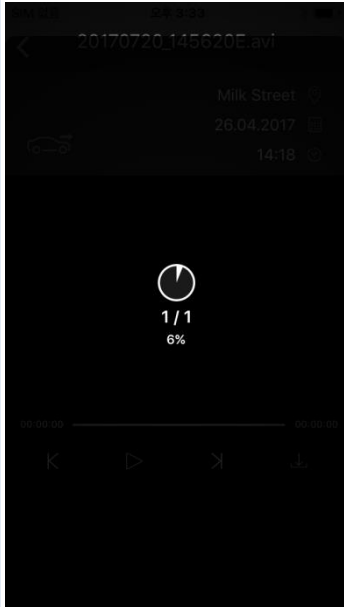
Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
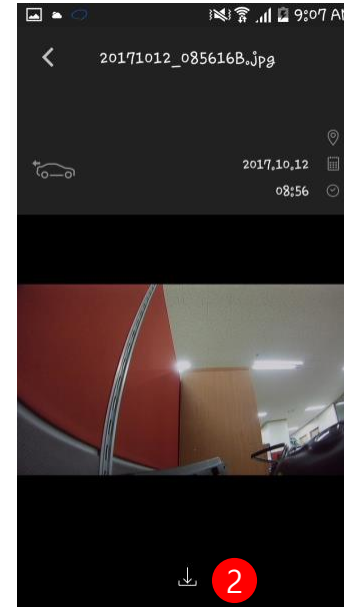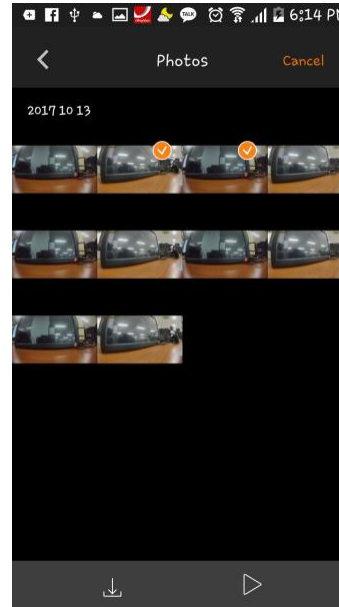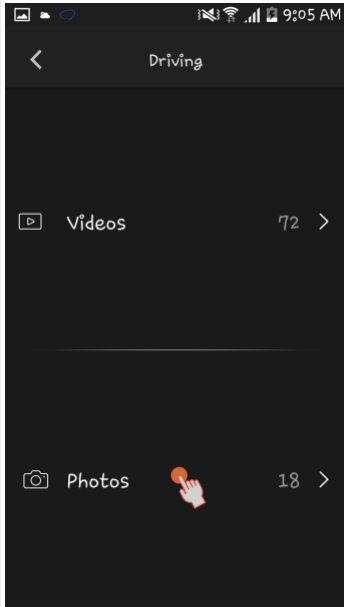
Files on ACE :
- download (o)
- upload(x)
- delete(x)

No	Content	Note
1	Select / Cancel -- play one or multiple files	
2	Download files from ACE to Phone	
3	Play file	

"It'll use mobile data. Do you agree?
<Yes>, <No> "

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet

Files on Phone :
- upload(o)
- delete(o)

No	Content	Note
1	Prev file	
2	Play/Pause	
3	Next file	
4	Upload	
5	Delete file on phone	
6	Play files	
7	Select / Cancel -- play one or multiple files	

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
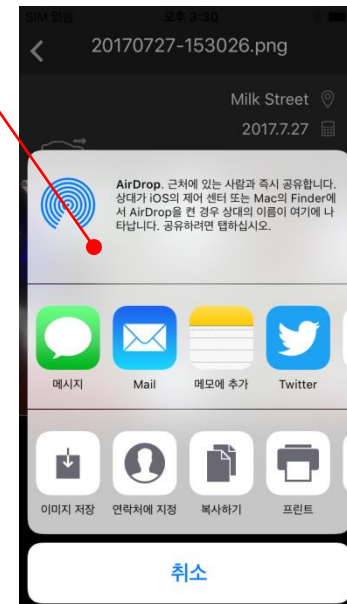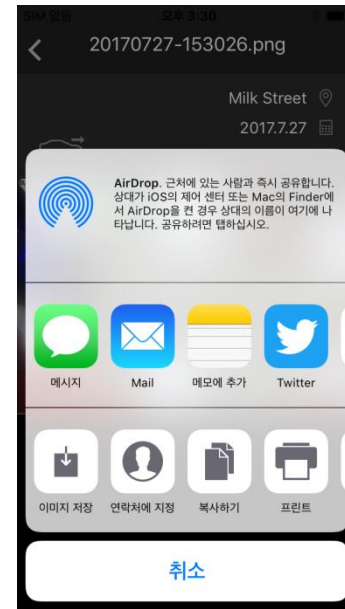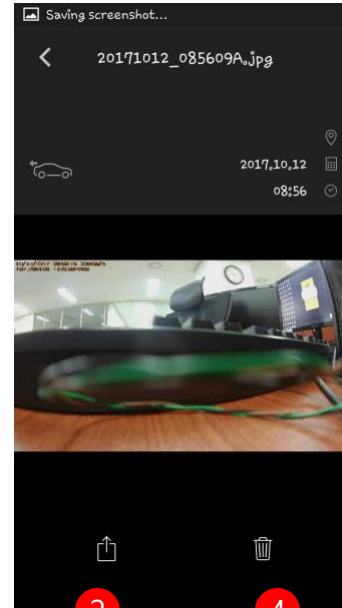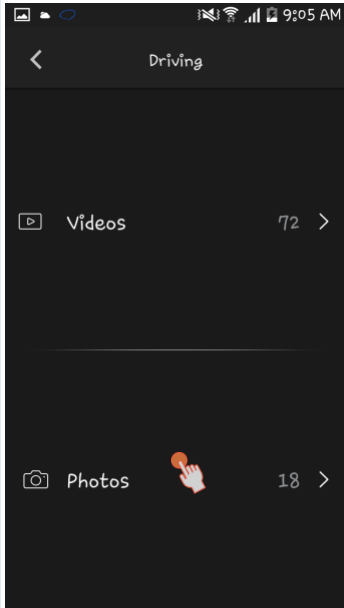
No	Content	Note
1	Select / Cancel -- play one or multiple files	
2	Upload file	
3	Play file	
4	Delete file	

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
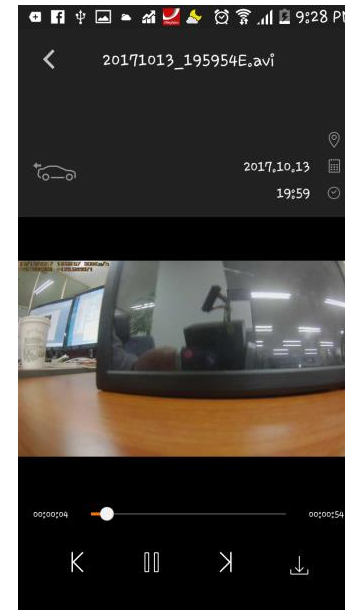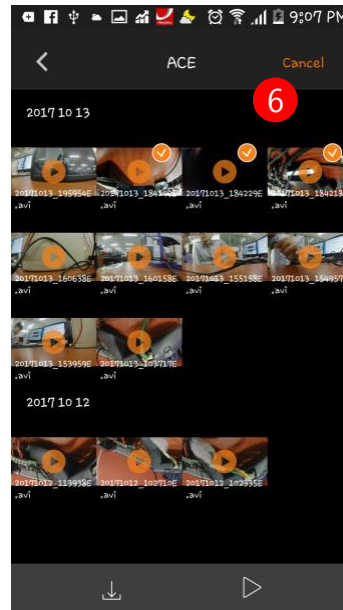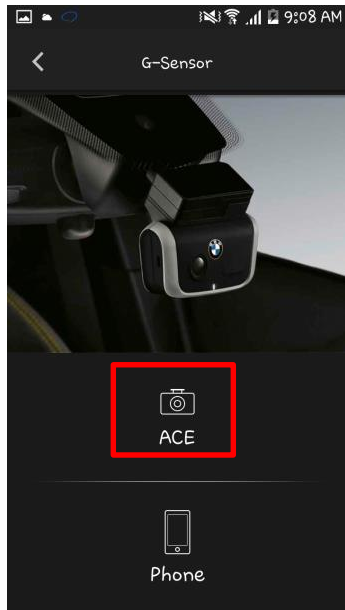
Files on ACE :
- download (o)
- upload(x)
- delete(x)

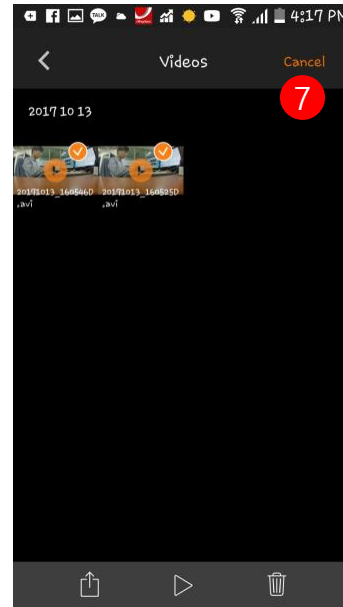| No	Function	
1	Prev file	
2	Play/Pause	
3	Next file	
4	Download file from ACE to Phone	
5	Play selected files	
6	Select / Cancel -- play one or multiple files	

G-sensor / Phone

Case 1 : Wi-Fi
Case 2 : 3G mobile or Internet
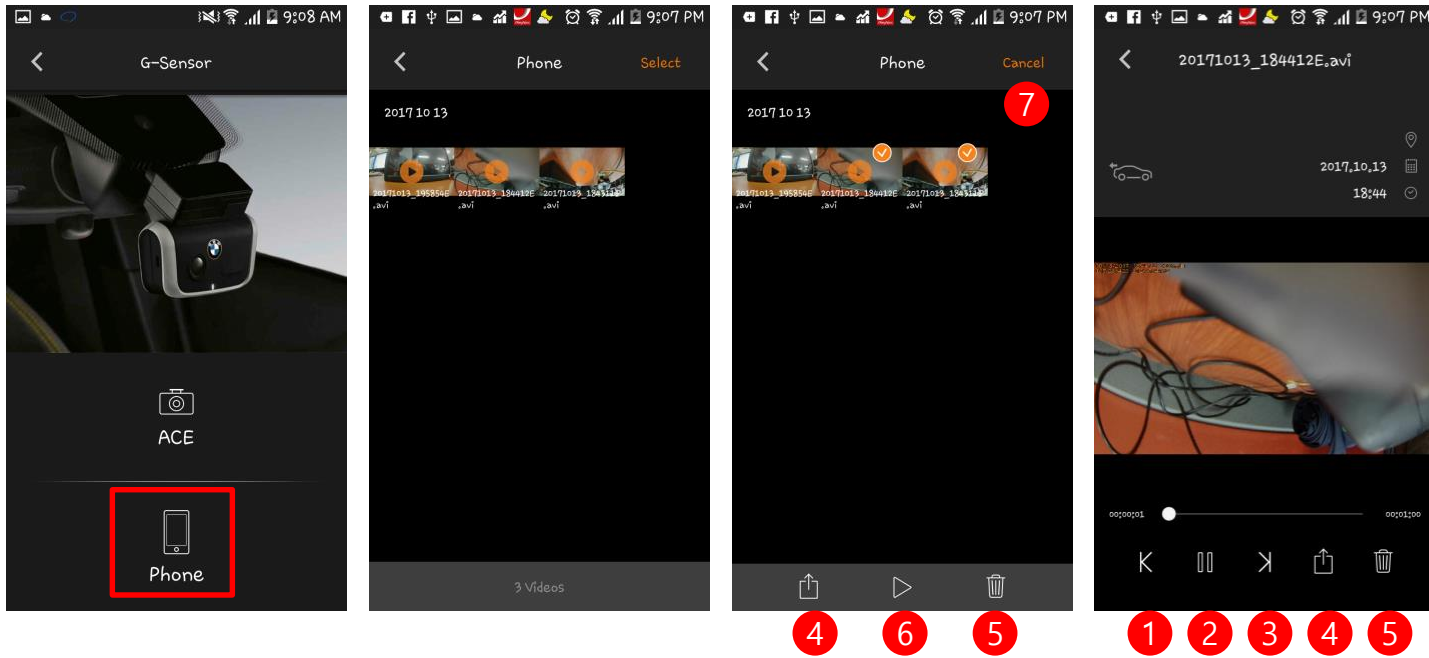
Files on Phone :
 - upload(o)
 - delete(o)

No	Content	Note
1	Prev file	
2	Play/Pause	
3	Next file	
4	Upload	
5	Delete file on phone	
6	Play files	
7	Select / Cancel -- play one or multiple files	

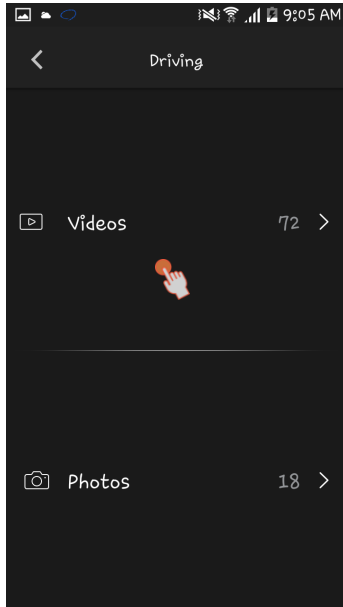# Check "Car Location" data
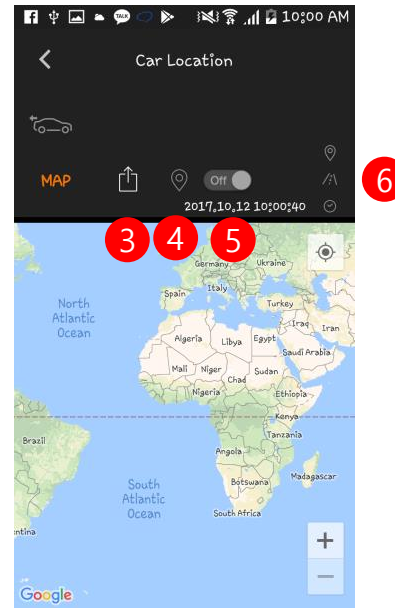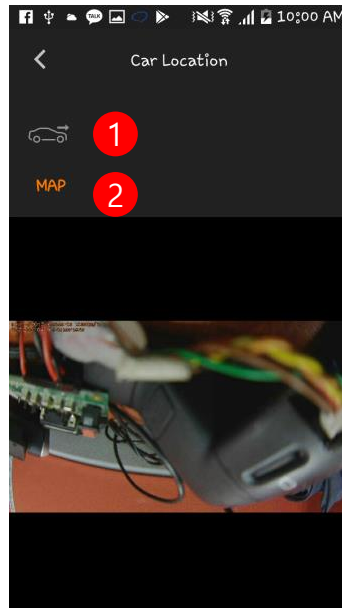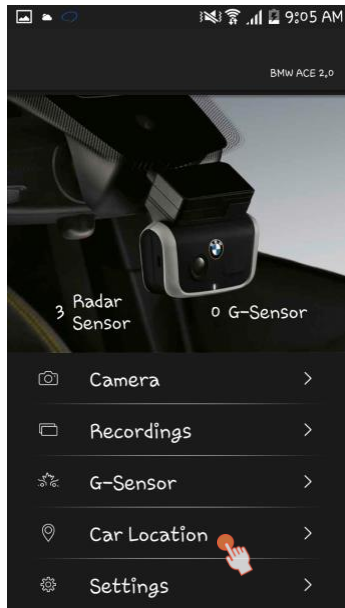
No	Content	Note
1	Front /Rear	
2	MAP	
3	Upload GPS position data as string which is used to show position on MAP App	Option for only 3G
4	Button which is used to request current position, front- and rear-capture image to firmware	Option for only 3G
5	Toggle button which is used to request current position to firmware. Start to send current position : Stop to send current postion :	Option for only 3G
6	Address Distance	

Settings

Wi-Fi
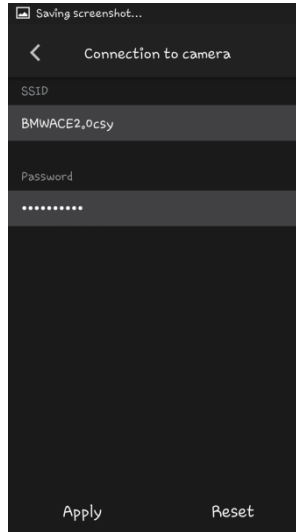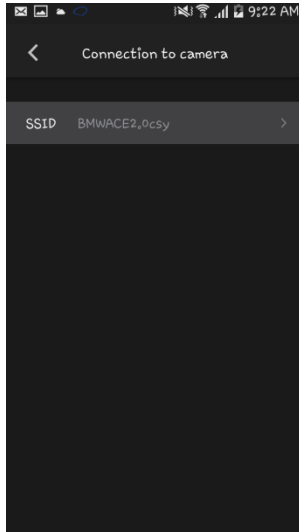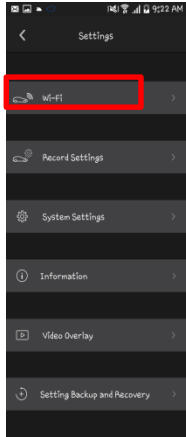
Record Settings
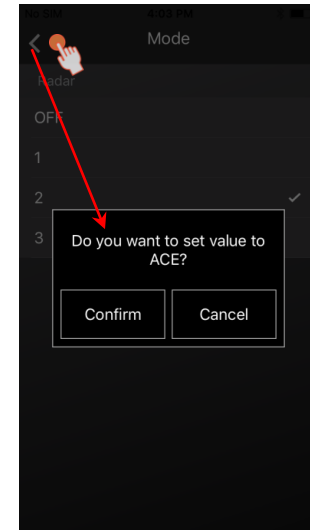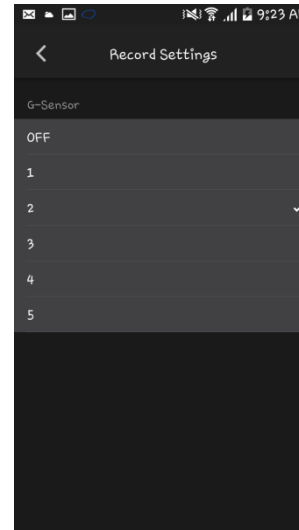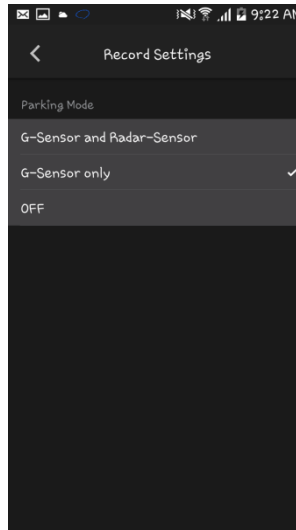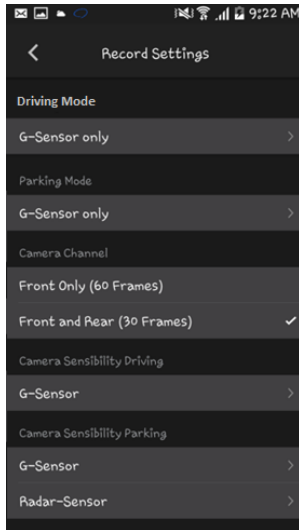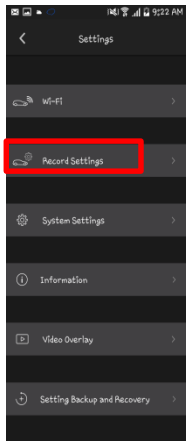
Settings/
System Settings

System Settings

GPS

System Settings

Speaker

ACE Power Button

Video
Photo

Connectivity

BLE   ON

Factory Set   Confirm
SD Format   Confirm
Log File   Read

BLE

ON

Scan

02:30:2F:00:01:10
02:40:2F:00:02:10

BLE

ON

"If you change BLE status, ACE 2.0 will
restart and be disconnected. You have to
connect ACE 2.0 again."

Confirm   Cancel

Settings

Wi-Fi
Record Settings
System Settings
Information
Video Overlay
Setting Backup and Recovery

**Settings/
Information**

No.	Content	Note
1	Update firmware - ACE 2.0 f/w - ACE 2.0 uCom f/w - Linux b/d f/w - Linux b/d uCom f/w	
2	Reset SSID and Password	

**Settings/
Video Overlay**

File Storage : GUI & SD card folder

Folder Name	Contents	File Name
DRIVING	Permanent	_D.avi
	G-shock	_E.avi
	Manual	_H.avi
PARKING	Radar	_M.avi
	G-shock	_E.avi
	Manual	_H.avi
IMAGE	At driving	_A.jpg, _B.jpg
	At parking	_C.jpg, _D.jpg
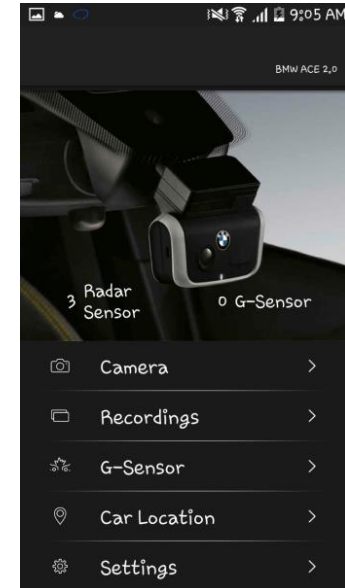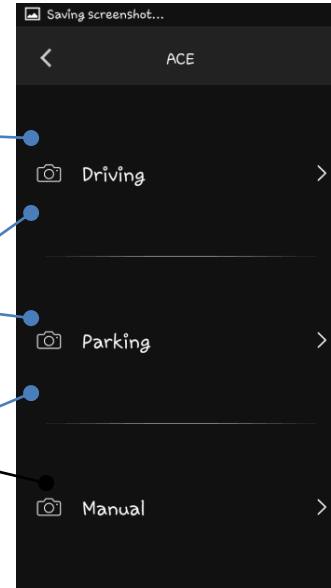
Folder Name	Contents
Phone	Video (download)
	Photo (download)
	Photo (captured)

Descirption

Communication LED   Power LED   Power Button

Cable to Power

USB Port
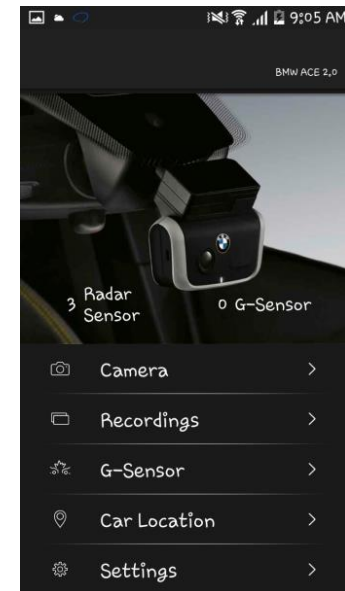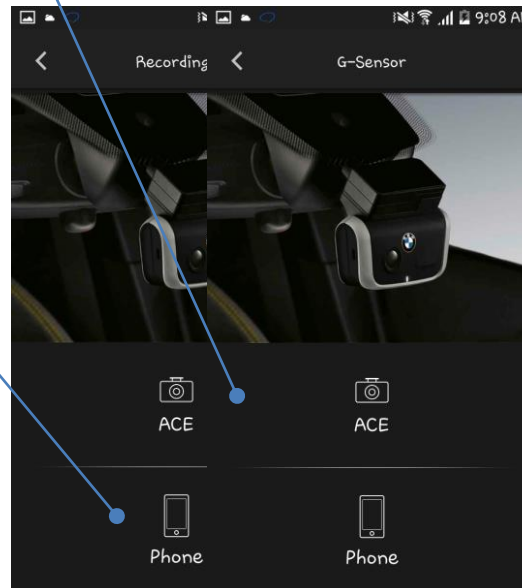
Reset Button

Package

- Connectivity Module
- Cable
- Operating manual

Technical data

CPU	800 MHz
Memory	512 MB DDR3
USB	2.0 Port Type A
Wi-Fi & BLE	2.4 GHz
Operating voltage	12V
Operating temperature	-20 ° C to + 50 ° C
Storage temperature	-30 ° C to + 80 ° C

RF Specification

WiFi
Supported Protocol and Standard   : IEEE 802.11b, IEEE 802.11g,
                                                        IEEE 802.11n

Frequency Range   : 2412 MHz ~ 2472MHz
Amount of Working channel   : 1-11 (America)
                                                        1-13 (Korea, China, Europe)

Channel Bandwidth   : 20MHz, 40MHz
Modulation   : DSSS / CCK / OFDM
Output Power   : 10mW / MHz 이하 (Korea)
                                                        10 dBm±1 dB (General)

Bluetooth Low Energy
Supported Protocol and Standard   : Bluetooth v4.2 Low Energy
Frequency Range   : 2402 MHz ~ 2480 MHz
Channel Bandwidth   : 2 MHz
Amount of Working channel   : 40 (General)
Modulation   : GFSK
Output Power   : 0.1mW 이하 (Korea)
                                                        3 dBm ± 0.5 dB (US)
                                                        Less than EIRP 20dBm (Europe,China)

General
Power Supply   : DC 12V
Temperature Range   : -20℃ ~ 50℃

INFORMATION OF REGULATIONS
■ EUROPE

$C\,E$

"Direct sunshine or any strong light may cause the loss of recognition of writing."
   This equipment may be operated in AT, BE, CY, CZ, DK, EE, FI, FR, DE, GR,
   KU, IE, IT, LV, LT, LU, GB, NO, CH, BG, TO ,TR
■ United States

FCC ID: WHBCONN

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
CAUTION : Changes or modifications not expressly approved by the party responsible for compliance could void the
              user's authority to operate the equipment.

※This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

A minimum separation distance of 20 ㎝ must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correc the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

■ **South Korea**

▪ **KC ID : R-CMM-MAI-CONN**

기자재의 명칭: 특정소출력무선기기(무선데이터통신시스템용 무선기기)
모 델명: Connectivity Module
식별부호: R-CMM-MAI-CONN
상호: 모바일 어플라이언스 주식회사
제조자/제조국: 모바일 어플라이언스 주식회사 / 한 국
제조년월: 2018.
※ 사용자 안내문
제작자 및 설치자는 당해 무선설비가 전파혼신 가능성이 있으므로
인명안전 과 관련된 서비스는 할 수 없습니다.

■ **RUSSIA**

12VDC 0.5A
Manufactured by : Mobile Appliance, Inc. /
Gwanyand-dong-1701~1706, Daerung Techno #15,
401 Simin Daero, Dongan- Gu, Anyang-Si, Gyeonggi-Do Korea
Manufacture Date : 2017.
Country of Origin : South Korea