

Mobile TV

- DVB-T2 solution -

TUNER PRODUCTS dept., ANALOG LSI div., DEVICE SOLUTIONS business group

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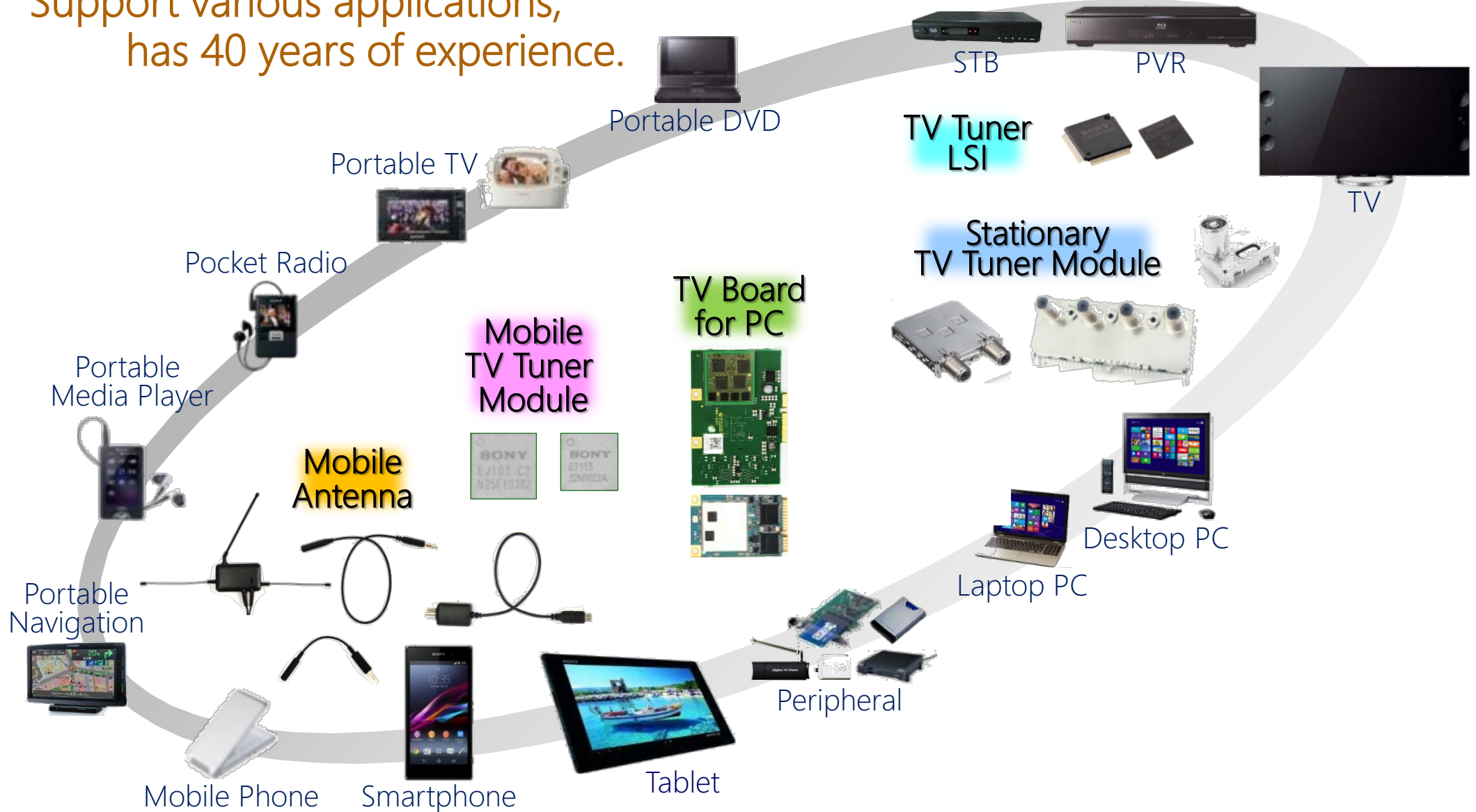
Agenda

- ◆ Sony introduction
- ◆ Mobile TV market overview
- ◆ Sony' s Action
 - Field test results
 - Suitable parameters for mobile DTV
 - Interview for mobile DTV usage
- ◆ Sony' s Solutions

SONY Introduction

Our experience

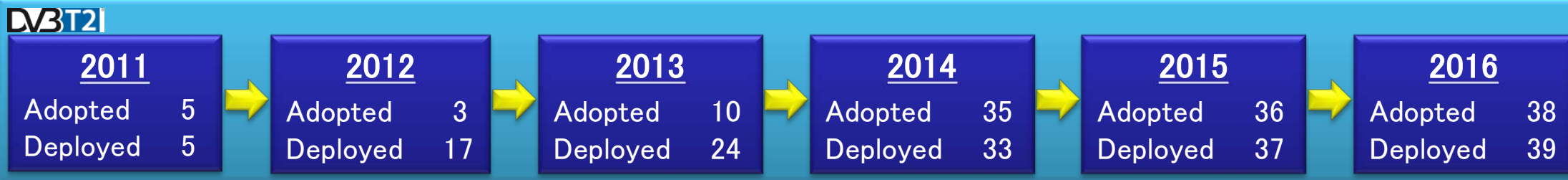
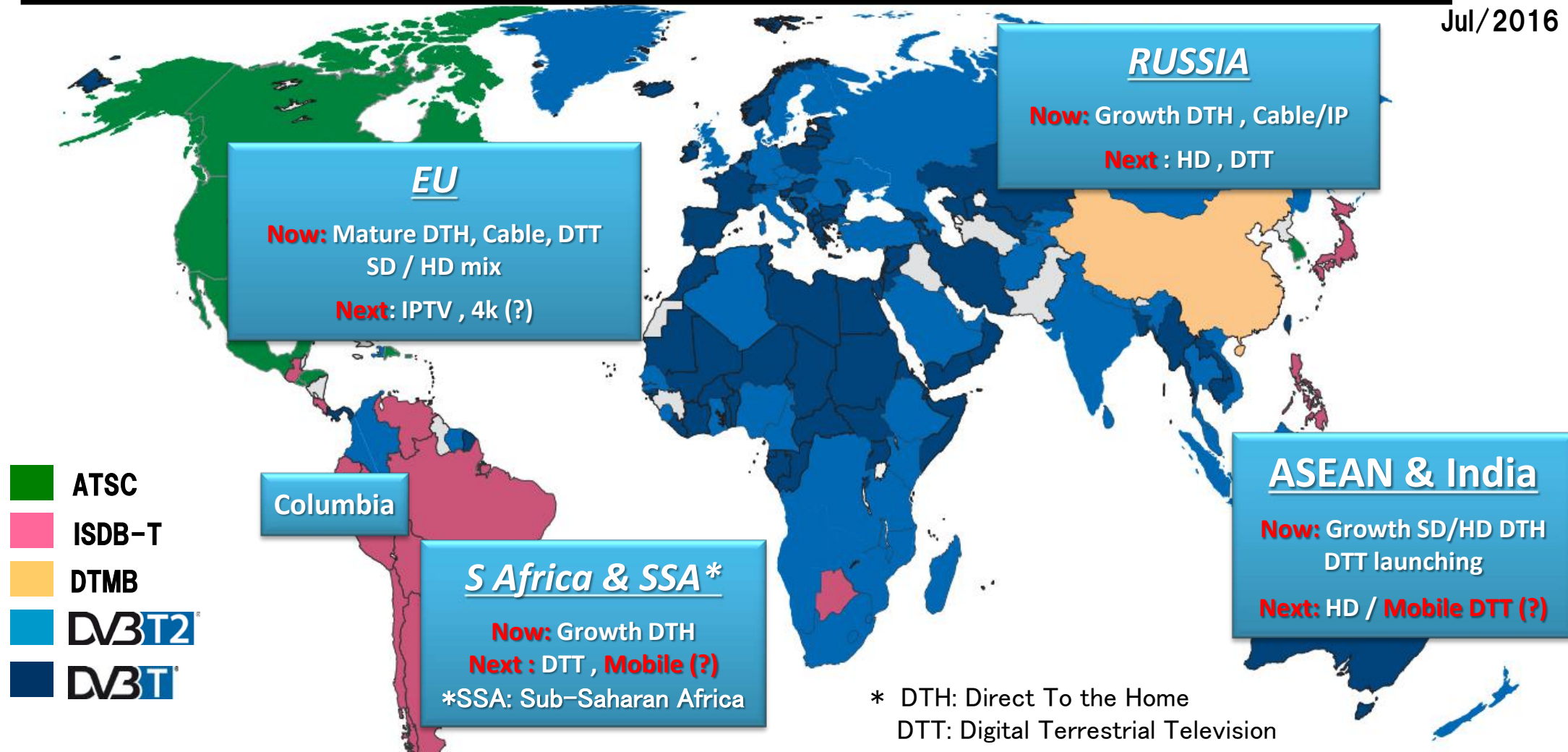
Support various applications,
has 40 years of experience.



Mobile TV market overview

Worldwide landscape for Digital Terrestrial TV reception

Jul/2016



People are Waiting for Digital Mobile TV



ASEAN countries



India



mobile
TV

*not own the TV set, but
mobile devices
mobile TV must be **the
first owned "TV"***

*not easy to access to the
internet due to the **pay-
as-you-use charge** system
mobile TV can provide **new
entertainment on the
smartphone***



Thailand

***loves mobile TV!**
one of the most
successful country for
analog mobile TV*

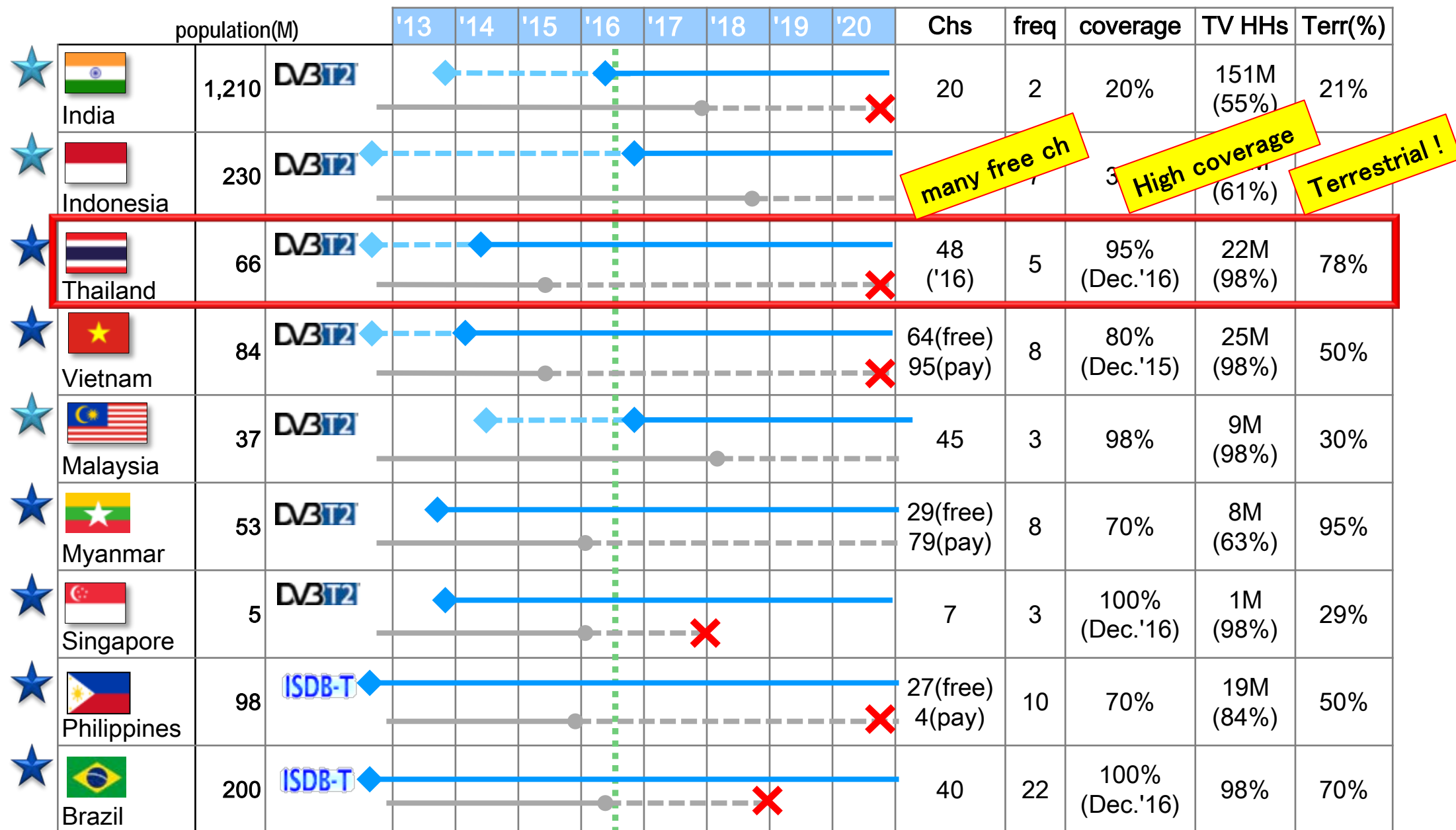
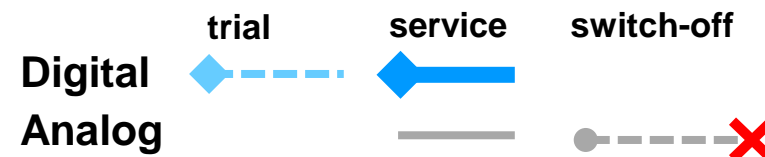


Indonesia



*so much boring time in
heavy traffic jam
everyday*

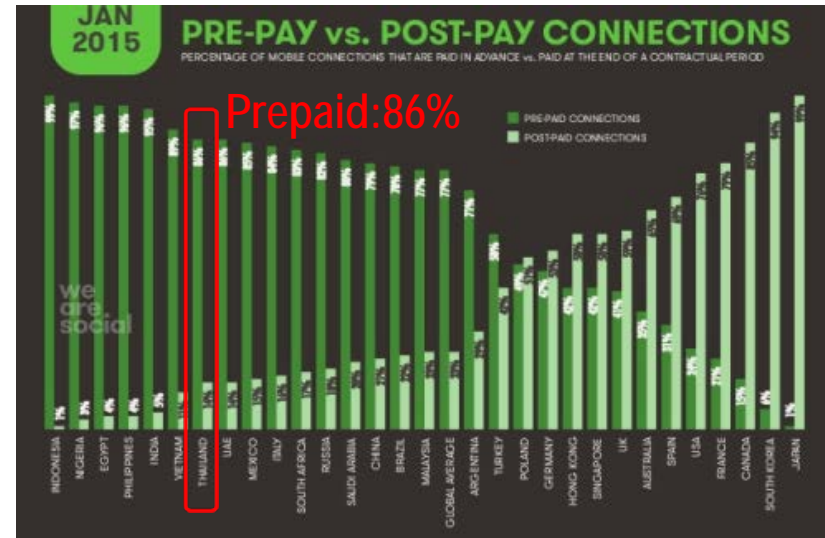
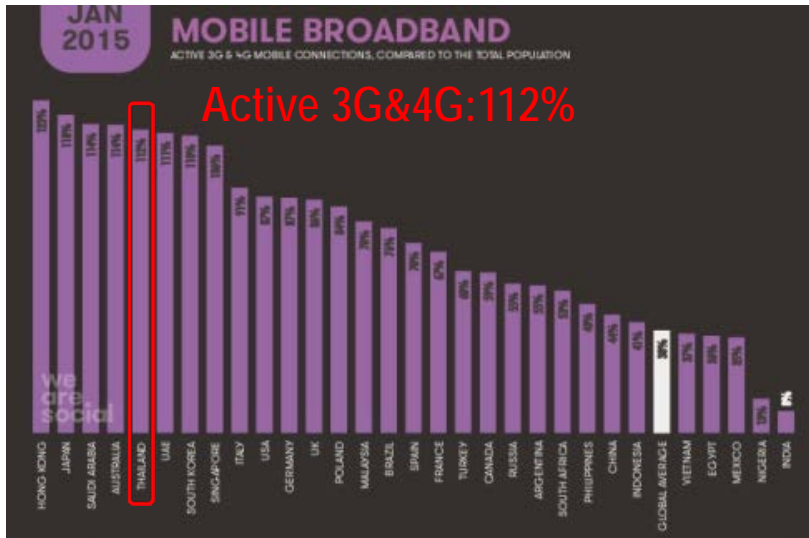
Digital TV Migration



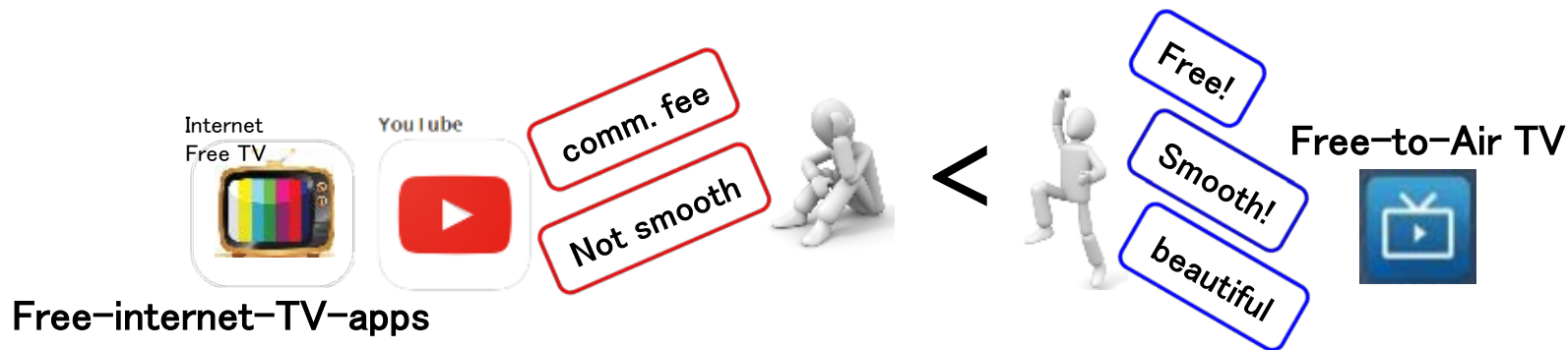
Mobile Connection

Source:

http://www.slideshare.net/wearesocialsg/digital-social-mobile-in-2015/39-We_Are_Social_wearesocialsg_39PREPAY



- Good broadband environment but almost all users pay in prepaid way
- Actually there are internet free TV apps, but,,,



People choose free and beautiful

Thailand TV Rating (Top 20)

Dates:
Selected channels:

Aug.8, 2016 ~ Aug.14,2016
CH3, CH5, CH7, CH9, NBT, THAI PBS

	Title	Genre	Channel	Rating
1	LOOKMAI...KLAITON	Drama	Channel 7	8.013
2	KAMIN KAB POON	Drama	Channel 7	7.058
3	SI YORD KU-MARN	Drama	Channel 7	6.742
4	PLOENG NAREE	Drama	Channel 3	6.104
5	JAO BAO KLUA FON	Drama	Channel 7	6.009
6	KHAO PARK KAM CHUANG TI 2	News	Channel 7	5.914
7	KAMIN KAB POON-2	Drama	Channel 7	5.794
8	KALA KRANG NUENG NAI HUAJAI	Drama	Channel 7	5.785
9	KHONGKRAPHAN NAREE	Drama	Channel 3	5.677
10	KHONGPHAN HANSA	Drama	Channel 7	5.496
11	KIG DU SONGKRAM..NGOEN LAN	Light entertainment-talent cont.	Channel 7	5.417
12	KHAO PARK KAM CHUANG TI 2-2	News	Channel 7	5.256
13	SAI LAP RAK PUAN-2	Drama	Channel 3	4.806
14	SAI LAP RAK PUAN -1	Drama	Channel 3	4.645
15	SAI LAP RAK PUAN	Drama	Channel 3	4.397
16	DUN DARA	Light entertainment-talent cont.	Channel 3	4.287
17	KHAO NORK LU	News	Channel 3	4.166
18	SISAN BANTERNG	Light entertainment-variety	Channel 3	3.911
19	NEWS UPDATE	News	Channel 3	3.788
20	LB-OLYMPIC RIO (Badminton)	Sports	Channel 3	3.366

Lookmai...Klaiton



Khao Park Kam Chuang Ti 2



Kong Krapan Naree



Dun Dara



Rio Olympic Badminton



Source : Nielsen

Drama, News, entertainment, sports programs are very popular in Thailand

Real-time Viewings Are ...

More Exciting!

Image of
Sports

in Sports TV programs

More Important!

Image of
Flood, Typhoon, etc.

in News TV programs

**More exciting and More Important programs
on real-time when you need by mobile DTV**

Precious time & things

Family

Image of
Family

Friends

Image of
friend



Enjoy with precious people by mobile DTV!



Anywhere, anytime

SONY' s Action

ASUS Zenfone GO TV (launched)

Thailand on-line store

ASUS Website



Zenfone™ GoTV
Experience Worldwide Digital TV in Your Palm

ZenFone Go TV (ZB551KL)

Enjoy the worldwide local TV cables wherever and whenever with a mobile engineering that combines the beauty of Zen, sharp vision, dual SIM, seamless and intuitive UI, designed to be your best companion.

ZenFone Go TV (ZB551KL)

Free Digital TV on the Go

ZenFone Go TV has a built-in SONY IC (SMT-EW100) chipset Digital TV (DTV) tuner, so you're able to watch your favorite digital channels in high definition everywhere you go. Just switch on, tune in and sit back — no internet connection required!






SPECPHONE TV THE OFFICIAL CHANNEL OF

ติดตามพวกเราได้ที่ SPECPHONE.COM

อย่าลืม Subscribe

06 HOME SEARCH TOPCHART REVIEW GADGETS APP WEBBOARD BUYER GUIDE JOB MARKET CONTACT

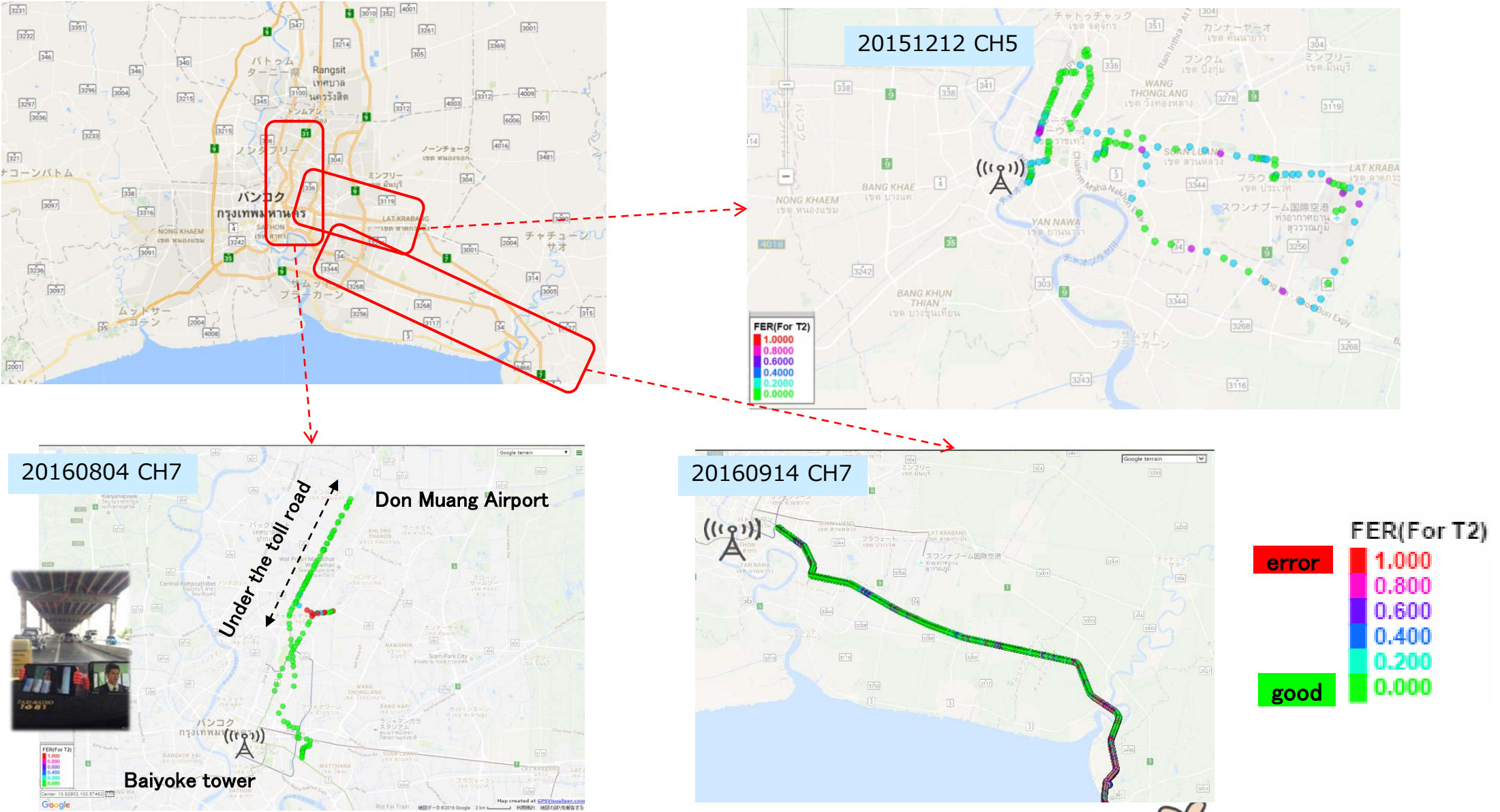
ซอปปางา ส่องฟรี

410

vivo V3MAX CPU: Octa Core 2016 RAM: 1.5GB ROM: 4 GB Camera: 13 Megapixel Price: 12,990	i-mobile i-STYLE 811 CPU: Quad Core 1.3GHz RAM: 1 GB ROM: 3 GB Camera: 5 Megapixel Price: 3,790	Motorola Moto X Style CPU: Hexa Core 2015 RAM: 1.5GB ROM: 3 GB Camera: 21 Megapixel Price: 19,990
Motorola Moto G Turbo Edition CPU: Octa Core 2016 RAM: 1.5GB ROM: 2 GB Camera: 13 Megapixel Price: 8,400	OPPO R9 Plus CPU: Octa Core 2016 RAM: 1.5GB ROM: 4 GB Camera: 16 Megapixel Price: 11,000	OPPO F1 Plus (R9) CPU: Octa Core 2016 RAM: 2.0GB ROM: 4 GB Camera: 16 Megapixel Price: 11,000
ASUS ZenFone Go TV (ZB551KL) CPU: Quad Core 2015 RAM: 1.2GB ROM: 2 GB Camera: 5 Megapixel Price: 7,690	Xiaomi Mi 5 CPU: Quad Core 2016 RAM: 2.5GB ROM: 16 GB Camera: 16 Megapixel Price: 11,000	vivo Xplay 5 Elite CPU: Quad Core 2016 RAM: 2.1GB ROM: 4 GB Camera: 16 Megapixel Price: 21,000

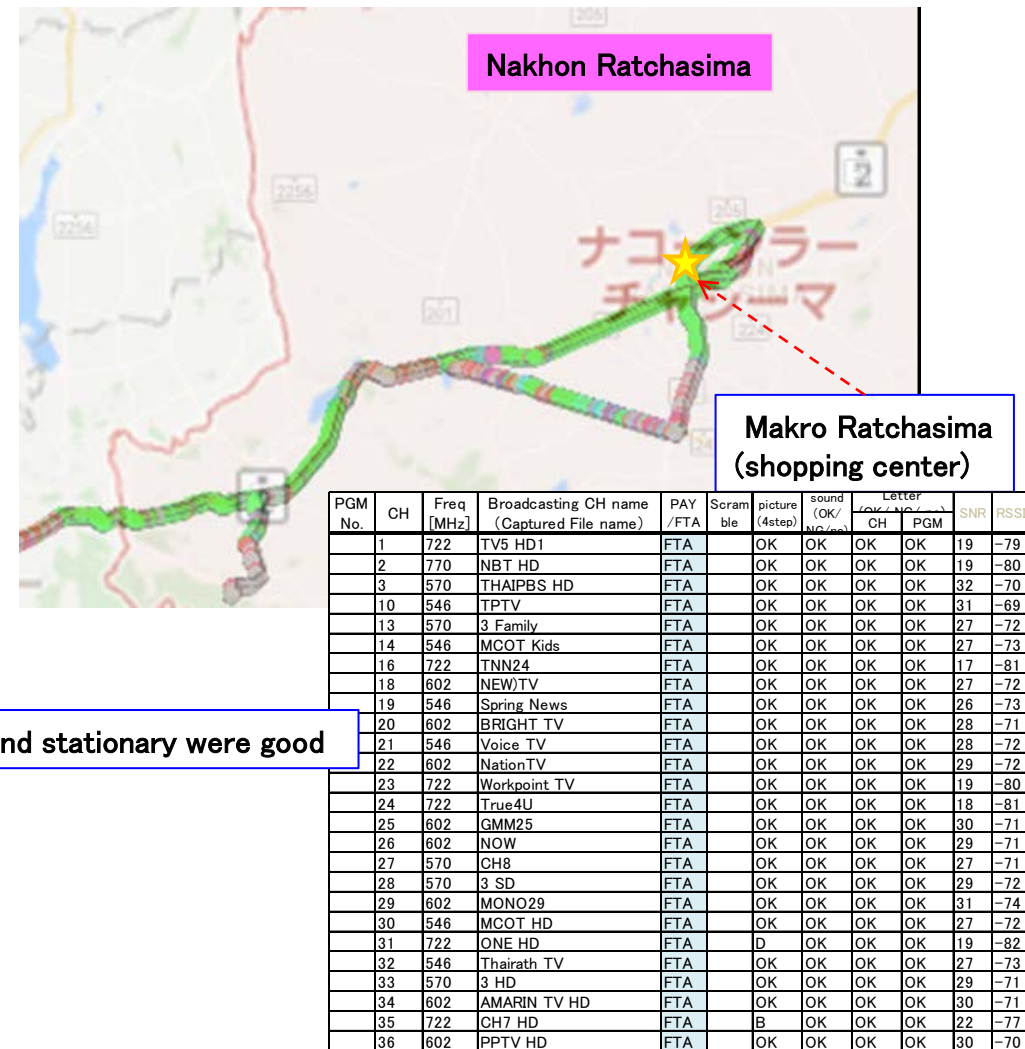
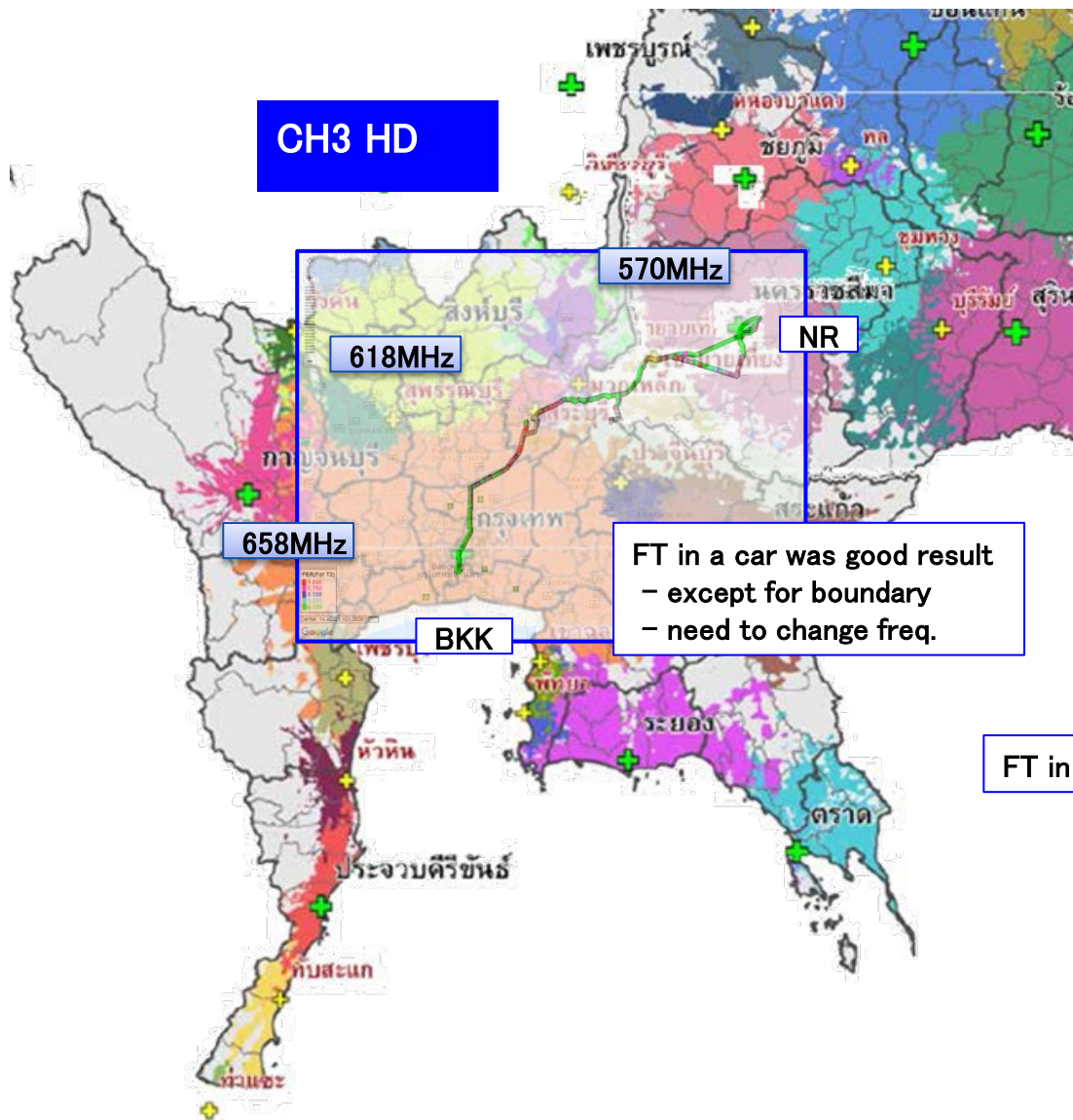
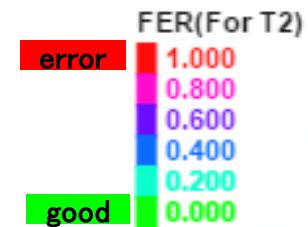
Zenfone GO TV

Field test results in Bangkok



Performance is good in almost all area in Bangkok

Field test results in Nakhon Ratchasima

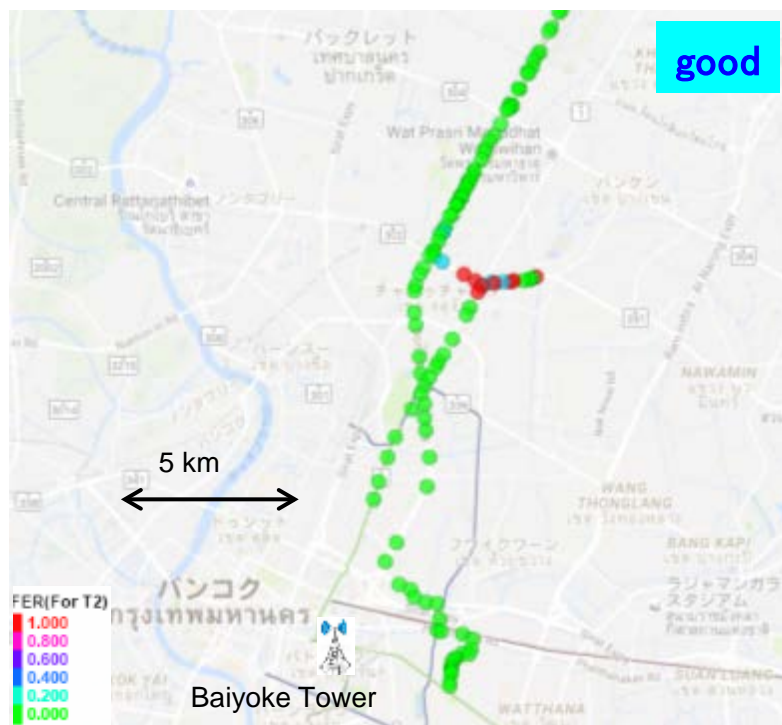


Performance is good in almost all area in Nakhon Ratchasima



Suitable parameters for Mobile DTV

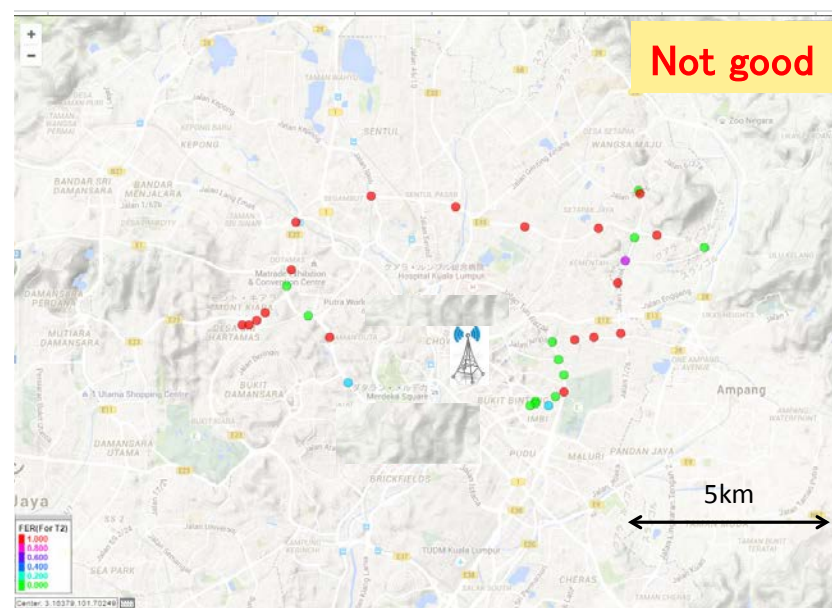
Bangkok, Thailand



Modulation...
FFT size...

64QAM
16k

Another country



Modulation...
FFT size...

256QAM
32k-ex

Modulations: up to 64QAM

FFT size: up to 16k

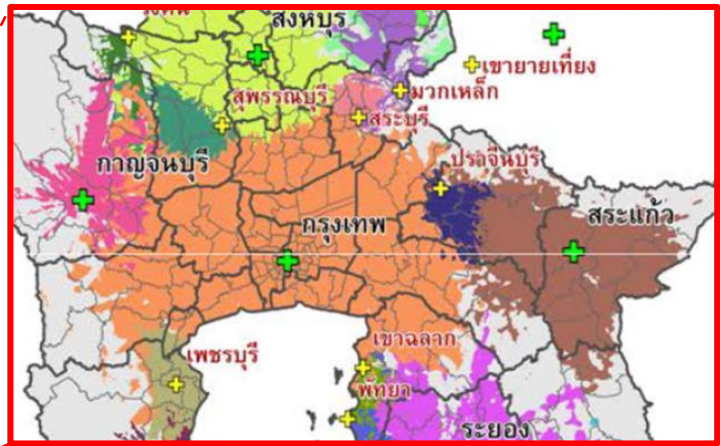
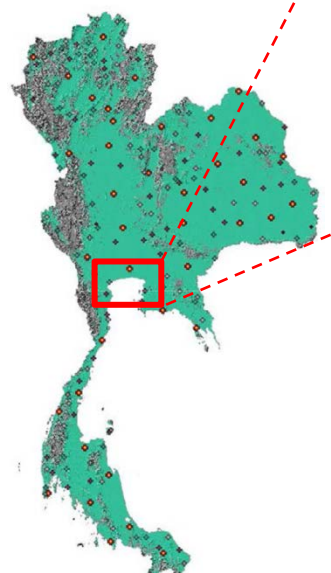
***DVB-T2 lite is not always necessary**

Coverage

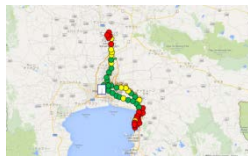
Coverage of Thailand

Coverage of Bangkok by NBTC

Simulation by SONY

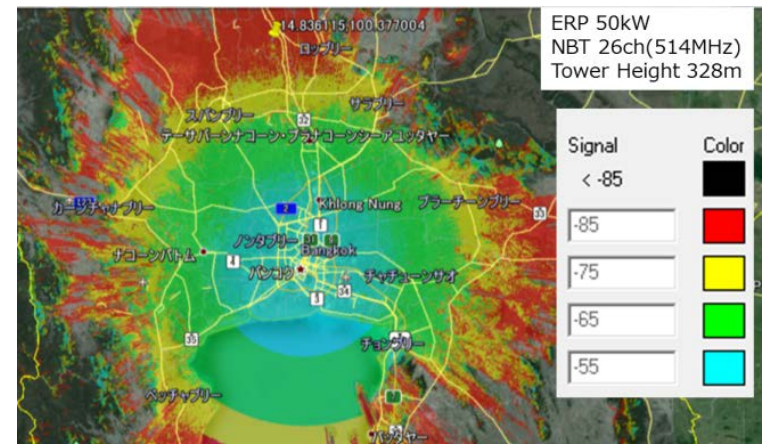


Orange

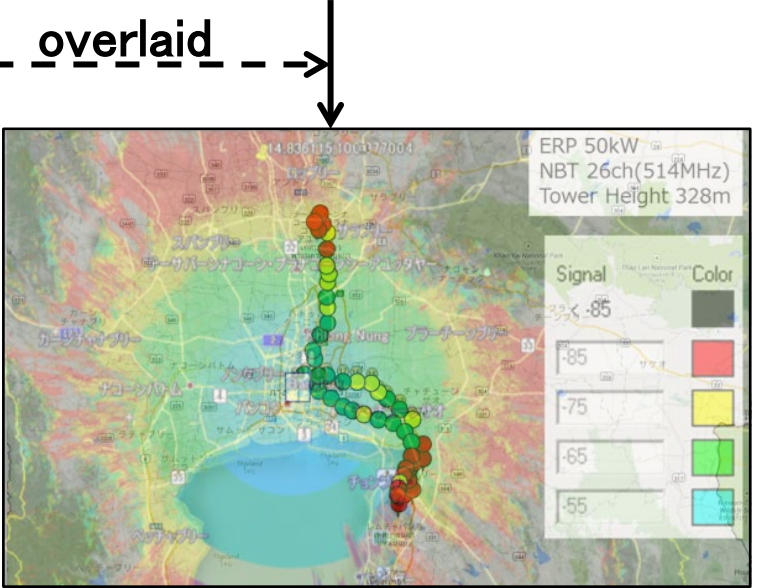


Field test by SONY

Good performance
in Blue and Green



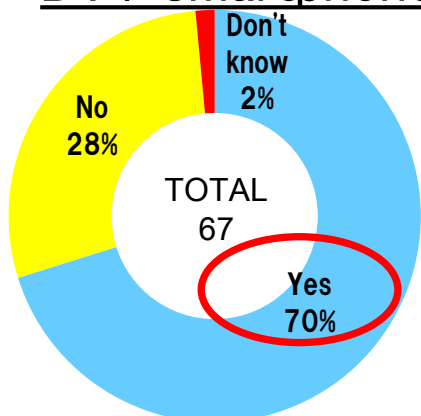
Blue + Green



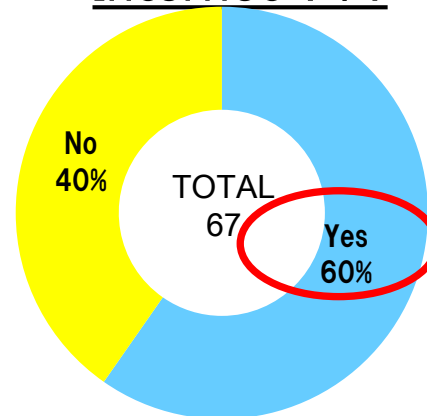
Field test can prove the coverage

Thailand Interviewees –Intention to Purchase DTV Smartphone

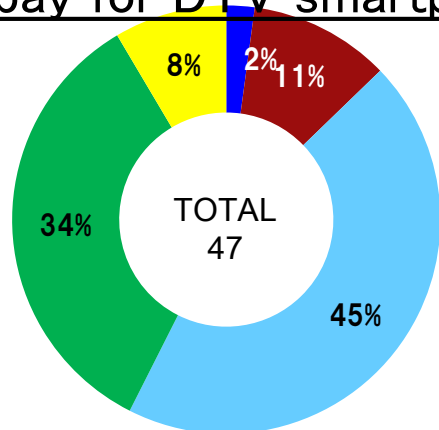
Do you want to buy
DTV smartphone?



Do you currently use
Internet TV?



How much additional are you willing
to pay for DTV smartphone?

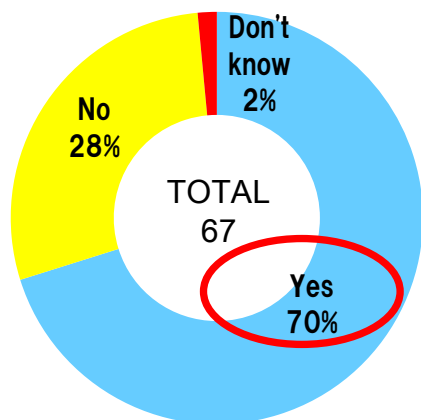


■ ~300THB ■ ~500THB ■ ~1000THB
■ ~2000THB ■ ~3000THB

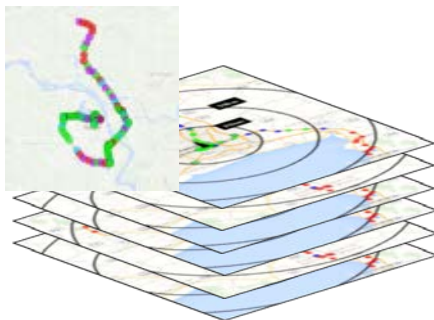
What is the reason you want to buy DTV smartphone?

- Want to save **internet cost**.
- Internet package has usage limitation, so cannot use internet TV so freely.
- DTV cost adder is acceptable, as it is **just one time initial investment**.
- Internet picture quality is actually good.
But in order to save internet cost, **intentionally choosing lower resolution** and enduring with lower picture quality
- DTV is smoother, as internet TV needs **buffering time** due to internet speed(in some areas)
- Feeling stressed with **advertisement pop-ups**
- Because **many channels** are available
- No need to rush home to see favorite drama

People love DTV



Broadcasting condition is good for mobile DTV



DTV devise is ready



It's good time for MOBILE DTV!

Thank you very much!!

SONY

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