FCC DFS Test Report

Equipment	:	Mobile Phone
Brand Name	:	Xi
Model No.	:	F-06E
FCC ID	:	VQK-F06E
Standard	:	47 CFR FCC Part 15.407
Applicant Manufacturer	:	FUJITSU LIMITED 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki 211-8588, Japan
Operate Mode	:	Client without radar detection

The product sample received on Mar. 27, 2013 and completely tested on Apr. 08, 2013. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in FCC 06-96 Appendix and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Vic Hsiao / Supervisor

Testing Laboratory
1190

FCC DFS Client Test Result

Equipment	**:**	**Mobile Phone**
Brand Name	**:**	**Xi**
Model No.	**:**	**F-06E**
Standard	**:**	**47 CFR FCC Part 15.407**
Sporton No.	**:**	**FZ322231**
Operate Mode	**:**	**Client without radar detection**

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Appendix A. Test Photos A1

1 Information

1.1 Antenna Information

Antenna General Information				
No.	**Ant. Cat.**	**Ant. Type**	**Model**	**$G_{ANT\ (dBi)}$**
1	Integral	Monopole Antenna	--	-4
☐ For radiated tests, the DFS test should be performed with lowest antenna gain (regardless of antenna type).				
☒ For conducted tests, antenna ports are used for the tests and Master lowest antenna gain [0] dBi that was used to set the DFS Detection Threshold level during calibration of the test setup.				

1.1.1 Type of EUT

Identify EUT	
EUT Serial Number	N/A
IMEI No.	355250050008145
Presentation of Equipment	☐ Production ; ☒ Pre-Production ; ☐ Prototype
Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: …
☐	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: …
☐	Other:

1.2 Accessories and Support Equipment

Accessories				
No.	**Equipment**	**Brand Name**	**Model Name**	**Spec.**
1	Cradle	Fujitsu limited	CA50601-1791	5.0Vdc, 1.5A
2	Battery	Fujitsu limited	CA54310-0046	3.8V, 3,020mA Li-ion

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	AP (Master)	D-Link	DIR-826L	KA2IR826LMO1
2	Notebook	DELL	LATITUDE-E5420	-

1.3 Testing Location Information

Testing Location		
☒	**HWA YA**	**ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.** **TEL : 886-3-327-3456 FAX : 886-3-318-0055**
☐	**JHUBEI**	**ADD :8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.** **TEL : 886-3-656-9065 FAX : 886-3-656-9085**

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
DFS Site	DF01-HY	Ben Tseng	21°C / 70%	3/27-4/8

1.4 DFS and TPC Information

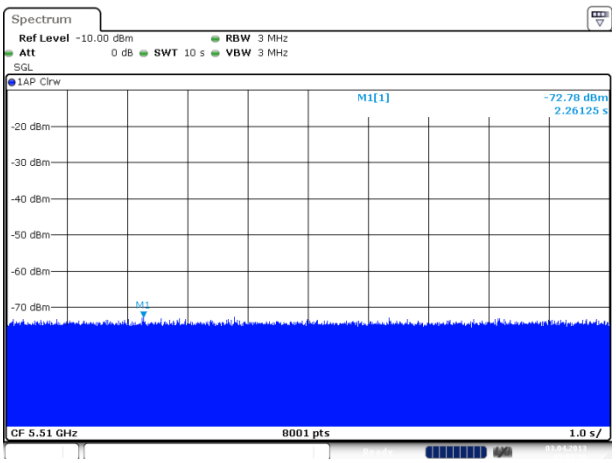
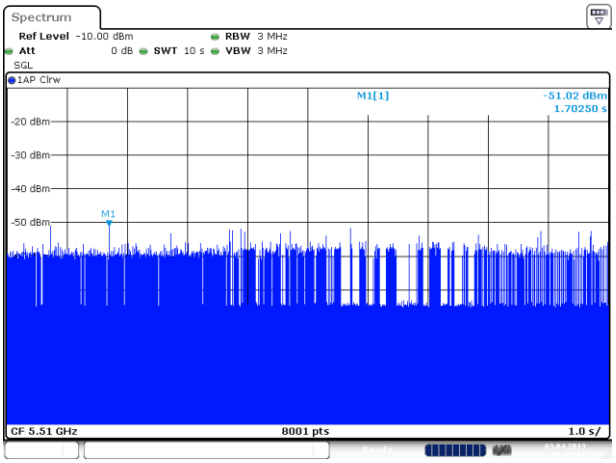
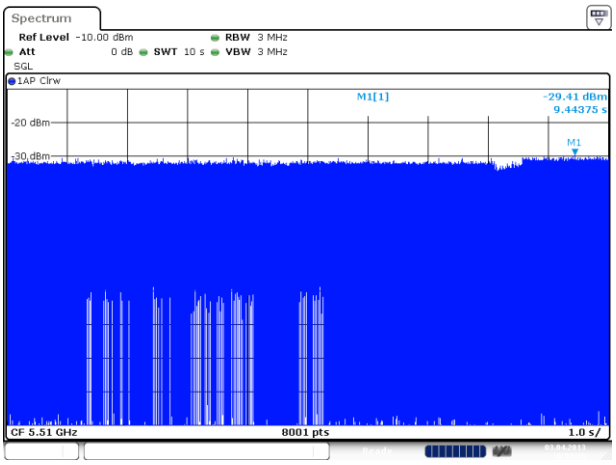
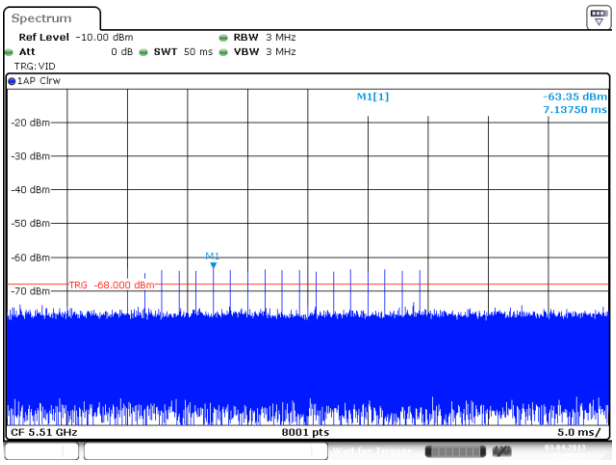
The DFS Related Operating Mode(s) of the Equipment			
☐ Master			
☐ Cilent with radar detection			
☒ Cilent without radar detection			
Software / Firmware Version		Android Ver : 4.2.2 , Baseband ver : 7012.0101.0105 , Kernel Ver : 3.4.0 build@PROMERGY041 #1 Thu Mar 21 11:45:48 JST 2013	
Communication Mode		☒ IP Based (Load Based)	☐ Frame Based
IEEE Std. 802.11	**Frequency Range (MHz)**	**TPC (Transmit Power Control)**	**Passive Scan**
a / n (HT20)	☒ 5250-5350	No	Yes
n (HT40)	☒ 5470-5725	No	Yes
	☐ 5600-5650	-	-

1.5 Channel Loading/Data Streaming

☒	IP Based (Load Based) - stream the test file from the Master to the Client.
☒	Performed NTIA approved WAV file. (EUT w/o video function application)
☐	Performed NTIA approved MPEG2 file. (EUT with video function application)
☐	Alternative streaming e.g., FTP with about 17 to 20% loading and submit proposal to FCC.
☐	Frame Based - stream the test file from the Master to the Client.
☐	fixed talk/listen ratio, set the ratio to 45%/55%
NTIA test file refer as: http://ntiacsd.ntia.doc.gov/dfs/	

1.6 Master DFS Threshold Level

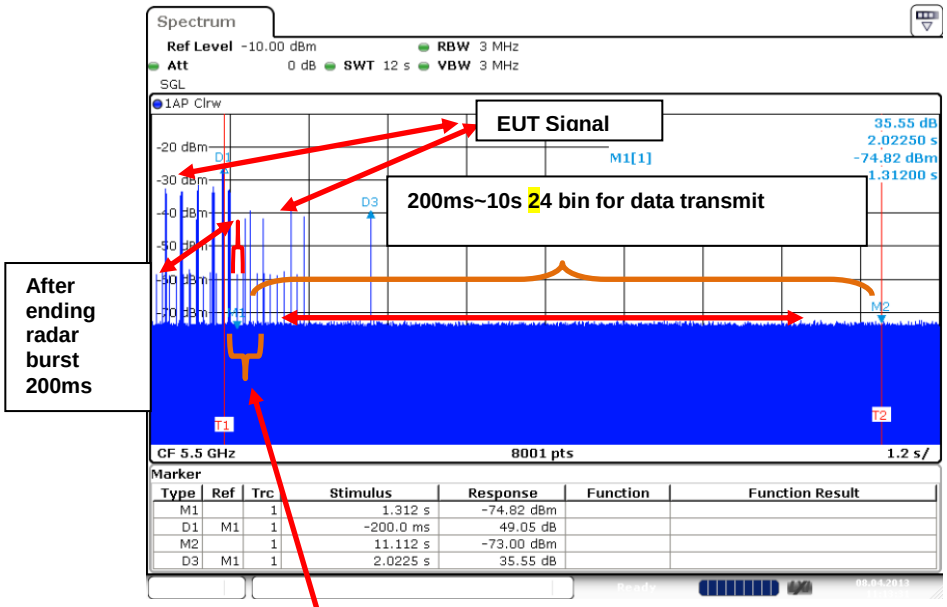
Master DFS Threshold Level		
DFS Threshold level: -63 dBm	☒	at the antenna connector (-63 dBm conducted)
	☐	in front of the antenna (-63 dBm e.i.r.p.)
The Interference **Radar Detection Threshold Level** is (-64dBm) + (0 [dBi]) + {1 dB}= -63 dBm. That had been taken into account the master output power range and antenna gain.		

Without Data Traffic Plot (Noise Plot)	Master Data Traffic Plot
	
Client (EUT) Data Traffic Plot	**Calibration Radar #1 detection threshold level**
	

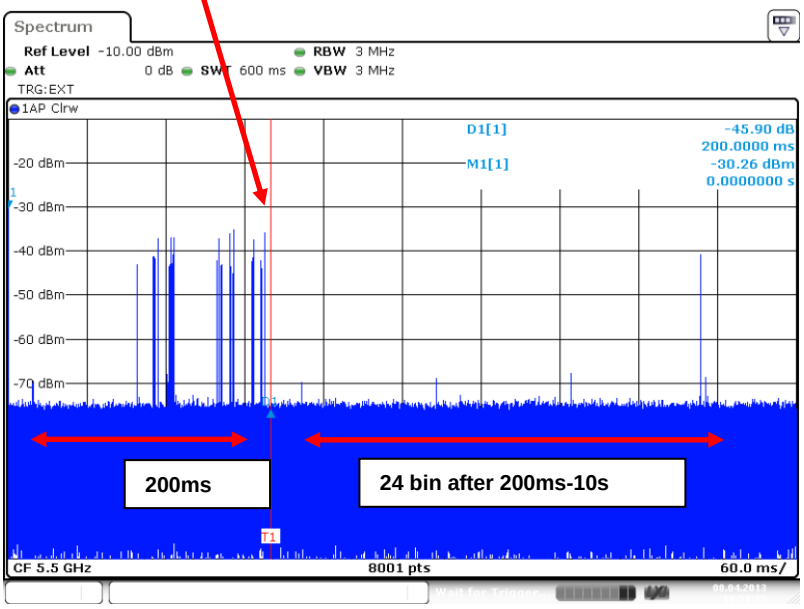
1.7 In-service Monitoring

Channel Closing Transmission Time and Channel Move Time Result								
Modulation Mode	Freq. (MHz)	Radar Type	Channel Closing Transmission Time				Channel Move Time	
			Test (0-200ms)	Limit (0-200ms)	Test (200ms-10s)	Limit (200ms-10s)	Test	Limit
HT20	5500	1	< 200ms	200ms	36ms	60ms	2.22s	10 s
8001 sample bin for measurement			24 bin [200ms~10s]					

12 sec Timing Plot

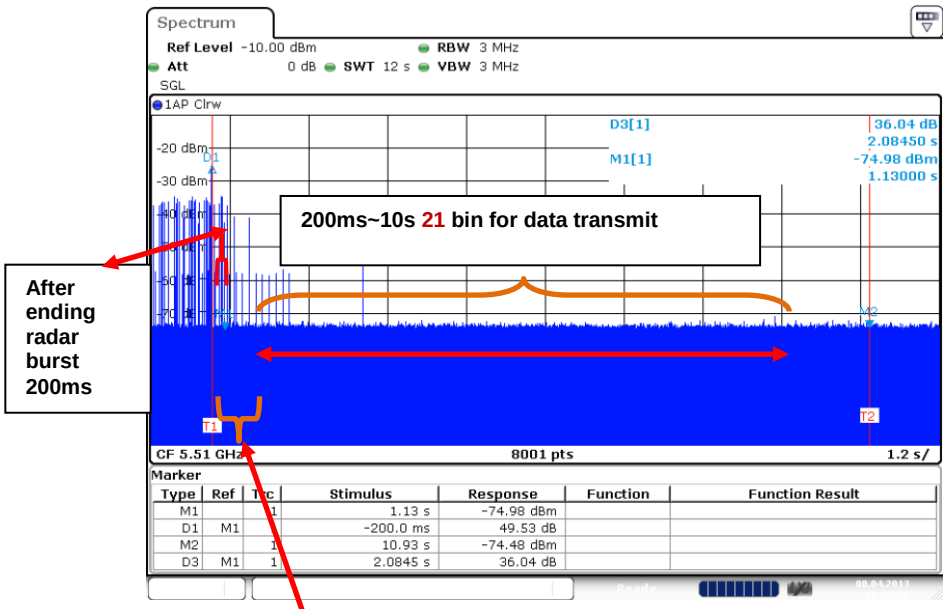


Zoom-in 600 ms Timing Plot

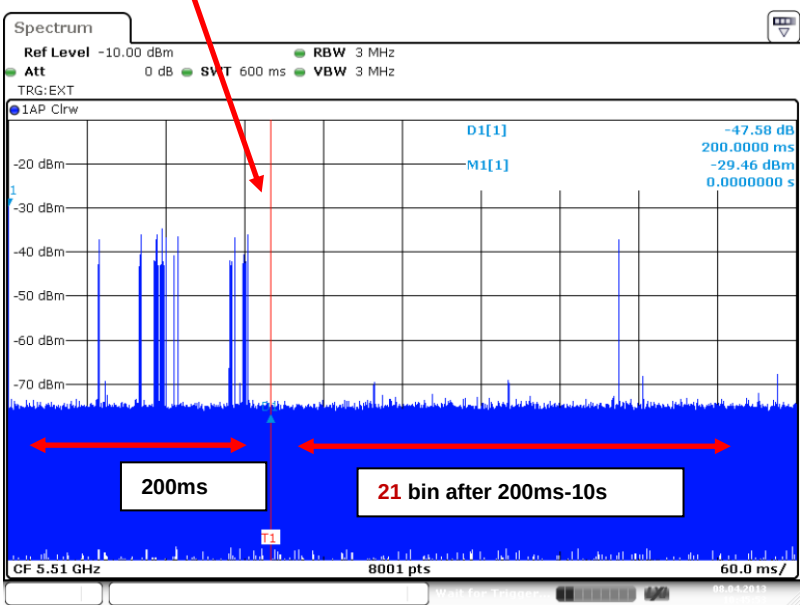


Channel Closing Transmission Time and Channel Move Time Result								
Modulation Mode	Freq. (MHz)	Radar Type	Channel Closing Transmission Time				Channel Move Time	
			Test (0-200ms)	Limit (0-200ms)	Test (200ms-10s)	Limit (200ms-10s)	Test	Limit
HT40	5510 (F3')	1	< 200ms	200ms	31.5ms	60ms	2.28s	10s
8001 sample bin for measurement			21 bin [200ms~10s]					

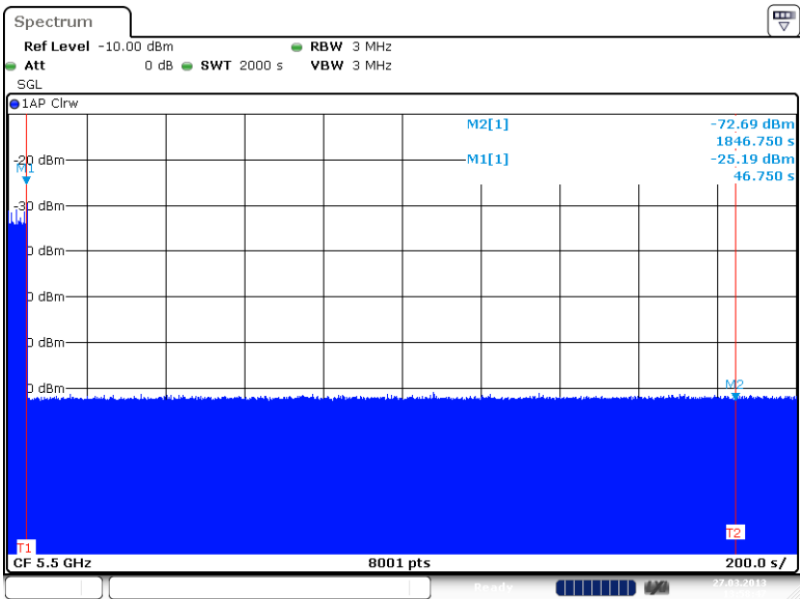
12 sec Timing Plot



Zoom-in 600 ms Timing Plot



Non-Occupancy Period Result				
Modulation Mode	Freq. (MHz)	Non-Occupancy Period		
		Measured	Limit	Result
HT20	5500 (F3)	>30min	30min	Complied
2000 sec Timing Plot				



2 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Until	Remark
Spectrum Analyzer	R&S	FSV-7	101607	9kHz ~ 7GHz	2012/12/19	2013/12/18	DF01-HY
RF Cable-01	Huber&Suhner	SUCOFLEX 104	296081/4	0.5m	2012/12/24	2013/12/23	DF01-HY
RF Cable-02	Huber&Suhner	SUCOFLEX 104	500199/4	0.5m	2012/12/24	2013/12/23	DF01-HY
RF Cable-03	Huber&Suhner	SUCOFLEX 104	329023/4	0.2m	2012/12/24	2013/12/23	DF01-HY
RF Cable-04	Huber&Suhner	SUCOFLEX 104	329021/4	0.2m	2012/12/24	2013/12/23	DF01-HY
RF Cable-05	Huber&Suhner	SUCOFLEX 104	MY15686/4	4m	2012/12/24	2013/12/23	DF01-HY
Vector Signal Generator	R&S	SMJ100A	100498	100kHz ~ 6GHz	2012/12/13	2013/12/12	DF01-HY
Combiner(1x2)	WOKEN	2WAYDIV	12101200003	--	2012/12/24	2013/12/23	DF01-HY
Combiner(1x3)	MCLI	PS3-7	24940	--	2012/12/24	2013/12/23	DF01-HY
Combiner(1x4)	WOKEN	4WAYDIV	0120A042011010	--	2012/12/24	2013/12/23	DF01-HY