FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	9370, 9842
FCC ID	:	IHDT56VE2
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

This is a data re-used report which is only valid together with the original test report. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

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Testing Laboratory 2627

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Appendix A. Original Report

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA6O1212-02	Rev. 01	Initial issue of report	Nov. 08, 2016

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, 9370, 9842** are as follows.

Equipment Class	Frequency Band		Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)
			Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.36	0.44	0.49	1.44
		GSM1900	0.26	1.00	1.11	
	WCDMA	Band V	0.49	0.57	0.70	
		Band IV	0.55	**1.18**	**1.18**	
		Band II	0.45	0.87	1.14	
	LTE	Band 12	0.41	0.57	0.59	
		Band 5	0.36	0.43	0.61	
		Band 4	0.72	1.07	**1.18**	
		Band 2	0.59	1.10	1.16	
		Band 7	0.85	0.93	1.12	
DTS	WLAN	2.4GHz WLAN	**0.91**	0.15	0.15	1.44
NII		5GHz WLAN	0.10	<0.10	0.11	1.29
DSS	2.4GHz Band	Bluetooth		<0.10		1.22
Date of Testing:			2016/10/26 ~ 2016/11/04			

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

2. Administration Data

Testing Site	
Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	9370, 9842
FCC ID	IHDT56VE2
IMEI Code	351857080022914/351857080022922
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 17: 704 MHz ~ 716 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	· GSM/GPRS/EGPRS · RMC/AMR 12.2Kbps · HSDPA · HSUPA · DC-HSDPA · HSPA+(16QAM uplink is not supported) · LTE: QPSK, 16QAM · 802.11b/g/n HT20 · 802.11a /n HT20/HT40 · Bluetooth v3.0 + EDR, Bluetooth v4.0 LE, Bluetooth v4.2 LE · NFC:ASK
HW Version	DVT2
SW Version	NPN25.89_1063
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. 802.11n-HT40 is not supported in 2.4GHz WLAN.
2. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation.
5. This device supports GRPS/EGRPS mode up to multi-slot class 12.
6. When the phone is in talking mode, receiver worked, all WWAN power are full power.
7. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. when front or back body worn condition is detected, GSM1900, WCDMA band 2/4, LTE 2/4/7 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
8. When WLAN hotspot worked, WWAN GSM1900, WCDMA band 2/4, LTE 2/4/7 reduced power will be active.
9. This device hotspot reduced power and P-sensor reduced power level are the same. So only show one reduced power level for hotspot reduced power and P-sensor reduced power for this application.

10. There are two different types of EUT. They are single SIM card mobile(9842) and dual SIM card mobile(9370). It is special to declare. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual Standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active). After pre-scan dual SIM card mobile and single card mobile , they have no effect on SAR distribution. So chose dual SIM card mobile to do SAR testing for this application.
11. There are two batteries, the capacity are all the same , only brand name different , so only chose one battery to do SAR testing.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56VE2
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 17: 704 MHz ~ 716 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz
uplink modulations used	QPSK, and 16QAM
LTE Voice / Data requirements	Voice and Data
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3** Modulation: Channel bandwidth / Transmission bandwidth (RB) 1.4 MHz, 3.0 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz; MPR (dB) QPSK: > 5, > 4, > 8, > 12, > 16, > 18, ≤ 1 16 QAM: ≤ 5, ≤ 4, ≤ 8, ≤ 12, ≤ 16, ≤ 18, ≤ 1 16 QAM: > 5, > 4, > 8, > 12, > 16, > 18, ≤ 2
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, when operating in hotspot mode and P-sensor, WWAN GSM1900, WCDMA band 2/4, LTE 2/4/7 power reduction applied to satisfy SAR compliance.
LTE Release Version	R10, Cat 6
CA Support	Yes
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations as below page and the detail power verification please referred to page12-13.
LTE Carrier Aggregation Additional Information	This device does not support full CA features on 3GPP Release 10. It supports a maximum of 2 carriers in the downlink only. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. Due to carrier capability, only the combinations listed above are supported. The following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					

Inter-Band Combination											
(PCC) B2	(SCC) B4	(PCC) B4	(SCC) B2	(PCC) B2	(SCC) B12	(PCC) B12	(SCC) B2	(PCC) B2	(SCC) B17	(PCC) B17	(SCC) B2
20M + 20M		20M + 20M		20M + 10M		10M + 20M		10M + 10M		10M + 10M	
20M + 15M		20M + 15M		20M + 5M		10M + 15M		10M + 5M		10M + 5M	
20M + 10M		20M + 10M		20M + 3M		10M + 10M		5M + 10M		5M + 10M	
20M + 5M		20M + 5M		15M + 10M		10M + 5M		5M + 5M		5M + 5M	
15M + 20M		20M + 3M		15M + 5M		5M + 20M					
15M + 15M		20M + 1.4M		15M + 3M		5M + 15M					
15M + 10M		15M + 20M		10M + 10M		5M + 10M					
15M + 5M		15M + 15M		10M + 5M		5M + 5M					
10M + 20M		15M + 10M		10M + 3M		3M + 20M					
10M + 15M		15M + 5M		5M + 10M		3M + 15M					
10M + 10M		15M + 3M		5M + 5M		3M + 10M					
10M + 5M		15M + 1.4M		5M + 3M		3M + 5M					
5M + 20M		10M + 20M									
5M + 15M		10M + 15M									
5M + 10M		10M + 10M									
5M + 5M		10M + 5M									
3M + 20M		10M + 3M									
3M + 15M		10M + 1.4M									
3M + 10M		5M + 20M									
3M + 5M		5M + 15M									
1.4M + 20M		5M + 10M									
1.4M + 15M		5M + 5M									
1.4M + 10M		5M + 3M									
1.4M + 5M		5M + 1.4M									

Inter-Band Combination											
(PCC) B4	(SCC) B7	(PCC) B7	(SCC) B4	(PCC) B4	(SCC) B12	(PCC) B12	(SCC) B4	(PCC) B4	(SCC) B17	(PCC) B17	(SCC) B4
10M + 20M		20M + 10M		20M + 10M		20M + 10M		10M + 10M		10M + 10M	
10M + 15M		15M + 10M		20M + 5M		20M + 5M		10M + 5M		10M + 5M	
10M + 10M		10M + 10M		20M + 3M		20M + 3M		5M + 10M		5M + 10M	
10M + 5M		5M + 10M		15M + 10M		15M + 10M		5M + 5M		5M + 5M	
5M + 20M		20M + 5M		15M + 5M		15M + 5M					
5M + 15M		15M + 5M		15M + 3M		15M + 3M					
5M + 10M		10M + 5M		10M + 10M		10M + 10M					
5M + 5M		5M + 5M		10M + 5M		10M + 5M					
				10M + 3M		10M + 3M					
				5M + 10M		5M + 10M					
				5M + 5M		5M + 5M					
				5M + 3M		5M + 3M					
						3M + 10M					
						3M + 5M					
						3M + 3M					
						1.4M + 10M					
						1.4M + 5M					
						1.4M + 3M					

Intra-Band Combinations			
Non contiguous		Non contiguous	
(PCC) B4	(SCC) B4	(PCC) B7	(SCC) B7
20M + 20M		20M + 20M	
20M + 15M		15M + 20M	
20M + 10M		15M + 15M	
20M + 5M		10M + 15M	
15M + 20M		10M + 10M	
15M + 15M		5M + 15M	
15M + 10M		20M + 15M	
15M + 5M		15M + 10M	
10M + 20M		15M + 5M	
10M + 15M			
10M + 10M			
10M + 5M			
5M + 20M			
5M + 15M			
5M + 10M			
5M + 5M			

LTE Carrier Aggregation Conducted Power

General Note:

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink carrier aggregation only. Uplink carrier aggregation is not supported. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

Full Power:

Configure	PCC						SCC				Measured Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx. Power (dBm)	LTE Rel 8 Tx. Power (dBm)
Inter-Band	Band 2	20M	1860	18700	1	49	Band 4	20M	2132.5	2175	22.42	22.44
	Band 2	20M	1880	18900	1	49	Band 4	20M	2132.5	2175	22.95	22.96
	Band 2	20M	1900	19100	1	49	Band 4	20M	2132.5	2175	23.14	23.15
	Band 4	20M	1720	20050	1	49	Band 2	20M	1960	900	23.18	23.22
	Band 4	20M	1732.5	20175	1	49	Band 2	20M	1960	900	23.35	23.37
	Band 4	20M	1745	20300	1	49	Band 2	20M	1960	900	23.38	23.46
	Band 2	20M	1860	18700	1	49	Band 12	10M	737.5	5095	22.41	22.44
	Band 2	20M	1880	18900	1	49	Band 12	10M	737.5	5095	22.93	22.96
	Band 2	20M	1900	19100	1	49	Band 12	10M	737.5	5095	23.14	23.15
	Band 12	10M	704	23060	1	25	Band 2	20M	1960	900	22.93	22.94
	Band 12	10M	707.5	23095	1	25	Band 2	20M	1960	900	23.28	23.30
	Band 12	10M	711	23130	1	25	Band 2	20M	1960	900	23.26	23.27
	Band 2	10M	1855	18650	1	25	Band 17	10M	739	5780	22.58	22.59
	Band 2	10M	1880	18900	1	25	Band 17	10M	739	5780	22.55	22.57
	Band 2	10M	1905	19150	1	25	Band 17	10M	739	5780	23.01	23.07
	Band 17	10M	709	23780	1	25	Band 2	10M	1960	900	23.85	23.88
	Band 17	10M	710	23790	1	25	Band 2	10M	1960	900	23.60	23.61
	Band 17	10M	711	23800	1	25	Band 2	10M	1960	900	23.75	23.80
	Band 4	10M	1715	20000	1	25	Band 7	20M	2655	3100	22.98	23.00
	Band 4	10M	1732.5	20175	1	25	Band 7	20M	2655	3100	23.21	23.25
	Band 4	10M	1750	20350	1	25	Band 7	20M	2655	3100	23.44	23.45
	Band 7	20M	2510	20850	1	49	Band 4	10M	2132.5	2175	22.61	22.66
	Band 7	20M	2535	21100	1	49	Band 4	10M	2132.5	2175	22.95	22.99
	Band 7	20M	2560	21350	1	49	Band 4	10M	2132.5	2175	23.28	23.28
	Band 4	20M	1720	20050	1	0	Band 12	10M	737.5	5095	23.21	23.22
	Band 4	20M	1732.5	20175	1	0	Band 12	10M	737.5	5095	23.35	23.37
	Band 4	20M	1745	20300	1	0	Band 12	10M	737.5	5095	23.41	23.46
	Band 12	10M	704	23060	1	0	Band 4	20M	2132.5	2175	22.91	22.94
	Band 12	10M	707.5	23095	1	0	Band 4	20M	2132.5	2175	23.28	23.30
	Band 12	10M	711	23130	1	0	Band 4	20M	2132.5	2175	23.25	23.27
	Band 4	10M	1715	20000	1	0	Band 17	10M	739	5780	22.95	23.00
	Band 4	10M	1732.5	20175	1	0	Band 17	10M	739	5780	23.21	23.25
	Band 4	10M	1750	20350	1	0	Band 17	10M	739	5780	23.41	23.45
	Band 17	10M	709	23780	1	0	Band 4	10M	2132.5	2175	23.87	23.88
	Band 17	10M	710	23790	1	0	Band 4	10M	2132.5	2175	23.60	23.61
	Band 17	10M	711	23800	1	0	Band 4	10M	2132.5	2175	23.75	23.80
Intra-Band	Band 4	20M	1720	20050	1	0	Band 4	20M	2145	2300	23.21	23.22
	Band 4	20M	1745	20300	1	0	Band 4	20M	2120	2050	23.41	23.46
	Band 7	20M	2510	20850	1	0	Band 7	20M	2680	3350	22.65	22.66
	Band 7	20M	2535	21100	1	0	Band 7	20M	2680	3350	22.91	22.99
	Band 7	20M	2560	21350	1	0	Band 7	20M	2630	2850	23.25	23.28
	Band 7	20M	2560	21350	1	0	Band 7	20M	2655	3100	23.26	23.28

Reduce Power:

Configure	PCC						SCC				Measured Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx. Power (dBm)	LTE Rel 8 Tx. Power (dBm)
Inter-Band	Band 2	20M	1860	18700	1	49	Band 4	20M	2132.5	2175	17.85	17.86
	Band 2	20M	1880	18900	1	49	Band 4	20M	2132.5	2175	18.21	18.25
	Band 2	20M	1900	19100	1	49	Band 4	20M	2132.5	2175	18.40	18.48
	Band 4	20M	1720	20050	1	49	Band 2	20M	1960	900	19.41	19.47
	Band 4	20M	1732.5	20175	1	49	Band 2	20M	1960	900	19.63	19.65
	Band 4	20M	1745	20300	1	49	Band 2	20M	1960	900	19.92	20.00
	Band 2	20M	1860	18700	1	0	Band 12	10M	737.5	5095	17.85	17.86
	Band 2	20M	1880	18900	1	0	Band 12	10M	737.5	5095	18.21	18.25
	Band 2	20M	1900	19100	1	0	Band 12	10M	737.5	5095	18.43	18.48
	Band 12	10M	704	23060	1	0	Band 2	20M	1960	900	22.91	22.94
	Band 12	10M	707.5	23095	1	0	Band 2	20M	1960	900	23.28	23.30
	Band 12	10M	711	23130	1	0	Band 2	20M	1960	900	23.21	23.27
	Band 2	10M	1855	18650	1	25	Band 17	10M	739	5780	17.41	17.43
	Band 2	10M	1880	18900	1	25	Band 17	10M	739	5780	18.19	18.20
	Band 2	10M	1905	19150	1	25	Band 17	10M	739	5780	17.90	17.95
	Band 17	10M	709	23780	1	0	Band 2	10M	1960	900	23.81	23.88
	Band 17	10M	710	23790	1	0	Band 2	10M	1960	900	23.60	23.61
	Band 17	10M	711	23800	1	0	Band 2	10M	1960	900	23.79	23.80
	Band 4	10M	1715	20000	1	25	Band 7	20M	2655	3100	19.48	19.50
	Band 4	10M	1732.5	20175	1	25	Band 7	20M	2655	3100	19.31	19.32
	Band 4	10M	1750	20350	1	25	Band 7	20M	2655	3100	19.85	19.89
	Band 7	20M	2510	20850	1	49	Band 4	10M	2132.5	2175	21.93	21.97
	Band 7	20M	2535	21100	1	49	Band 4	10M	2132.5	2175	22.31	22.33
	Band 7	20M	2560	21350	1	49	Band 4	10M	2132.5	2175	22.40	22.41
	Band 4	20M	1720	20050	1	0	Band 12	10M	737.5	5095	19.45	19.47
	Band 4	20M	1732.5	20175	1	0	Band 12	10M	737.5	5095	19.62	19.65
	Band 4	20M	1745	20300	1	0	Band 12	10M	737.5	5095	19.98	20.00
	Band 12	10M	704	23060	1	0	Band 4	20M	2132.5	2175	22.91	22.94
	Band 12	10M	707.5	23095	1	0	Band 4	20M	2132.5	2175	23.25	23.30
	Band 12	10M	711	23130	1	0	Band 4	20M	2132.5	2175	23.20	23.27
	Band 4	10M	1715	20000	1	0	Band 17	10M	739	5780	19.48	19.50
	Band 4	10M	1732.5	20175	1	0	Band 17	10M	739	5780	19.31	19.32
	Band 4	10M	1750	20350	1	0	Band 17	10M	739	5780	19.89	19.89
	Band 17	10M	709	23780	1	0	Band 4	10M	2132.5	2175	23.85	23.88
	Band 17	10M	710	23790	1	0	Band 4	10M	2132.5	2175	23.60	23.61
	Band 17	10M	711	23800	1	0	Band 4	10M	2132.5	2175	23.75	23.80
Intra-Band	Band 4	20M	1720	20050	1	0	Band 4	20M	2145	2300	19.41	19.47
	Band 4	20M	1745	20300	1	0	Band 4	20M	2120	2050	19.98	20.00
	Band 7	20M	2510	20850	1	0	Band 7	20M	2680	3350	21.93	21.97
	Band 7	20M	2535	21100	1	0	Band 7	20M	2680	3350	22.30	22.33
	Band 7	20M	2560	21350	1	0	Band 7	20M	2630	2850	22.38	22.41
	Band 7	20M	2560	21350	1	0	Band 7	20M	2655	3100	22.39	22.41

4.3 Re-use of Measured Data

4.4.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 9370, 9842, FCC ID: IHDT56VE2) is electrically identical to the reference device (Model: 9836, FCC ID: IHDT56VE1) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

4.4.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Product Equality Declaration “PED” file.

The re-used RF data includes the following bands provided in Appendix A (Sporton RF Report No. FA6O1212 for the reference device Model: 9836, FCC ID: IHDT56VE1):

- GSM850/1900,
- WCDMA Band II/VI/V,
- LTE Band 2/4/5/7/12/17
- 2.4G/5GHz WLAN
- Bluetooth

Spot check for WWAN and WLAN are performed for ensure that SAR measurement for both device are the same. So, the original SAR value can represent this application.

4.4.3 Spot Check Verification Data Section

Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Original model (FCC ID: IHDT56VE1)				Spot check model (FCC ID: IHDT56VE2)				Deviation
											Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	off	1	2412	16.39	16.5	0.869	0.914	16.38	16.5	0.867	0.914	0.00%
WLAN 5.8GHz	-	-	-	-	802.11a 6Mbps	Left Cheek	0mm	off	165	5825	14.64	16	0.065	0.103	15.50	16	0.065	0.084	-18.45%
GSM 850	-	-	-	-	GPRS 1 Tx slots	Left Side	10mm	off	128	824.2	33.17	33.50	0.457	0.493	33.39	33.50	0.433	0.444	-9.94%
GSM1900	-	-	-	-	GPRS 1 Tx slot	Bottom Side	10mm	on	512	1850.2	27.04	28.00	0.889	1.109	27.24	28.00	0.906	1.079	-2.71%
WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	off	4132	826.4	22.94	23.50	0.550	0.626	22.99	23.50	0.505	0.568	-9.27%
WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	on	1513	1752.6	20.18	20.50	1.100	1.184	19.36	20.50	0.943	1.226	3.55%
WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	on	9400	1880	18.22	18.50	0.948	1.011	17.52	18.50	0.859	1.076	6.43%
LTE Band 12	10M	QPSK	1	25	-	Left Side	10mm	off	23095	707.5	23.30	24.00	0.506	0.594	23.26	24.00	0.419	0.497	-16.33%
LTE Band 5	10M	QPSK	1	25	-	Left Side	10mm	off	26865	831.5	23.50	24.00	0.541	0.607	22.90	24.00	0.378	0.487	-19.77%
LTE Band 4	20M	QPSK	1	49	-	Bottom Side	10mm	on	20175	1732.5	19.65	20.50	0.935	1.137	19.82	20.50	0.824	0.964	-15.22%
LTE Band 2	20M	QPSK	1	49	-	Bottom Side	10mm	on	18900	1880	17.83	18.50	0.995	1.161	18.01	18.50	0.898	1.005	-13.44%
LTE Band 7	20M	QPSK	1	49	-	Bottom Side	10mm	on	20850	2510	21.97	22.50	0.987	1.115	22.28	22.50	1.060	1.115	0.00%
WLAN 5.2GHz	-	-	-	-	802.11a 6Mbps	Back	10mm	off	40	5200	13.78	15	0.072	0.110	13.85	15	0.059	0.089	-19.09%
WLAN 5.3GHz	-	-	-	-	802.11a 6Mbps	Back	10mm	off	56	5280	13.8	15	0.051	0.078	14.28	15	0.058	0.079	1.28%
WLAN 5.5GHz	-	-	-	-	802.11a 6Mbps	Back	10mm	off	100	5500	14.92	16	0.036	0.053	15.34	16	0.041	0.055	3.77%
Bluetooth	-	-	-	-	1Mbps	Front	10mm	off	39	2441	11.12	11.5	0.028	0.033	11.21	11.5	0.028	0.035	6.06%

Note: In the table above, all the deviation of SAR test results are compliant with uncertainty budget.

4.4.4 Reference detail Section

Equipment Class	Reference FCC ID	Folder Test/RF Exposure	Report Title/Section
PCE	IHDT56VE1	RF Exposure(FA6O1212)	All sections applicable
DSS	IHDT56VE1	RF Exposure(FA6O1212)	All sections applicable
DTS (BLE)	IHDT56VE1	RF Exposure(FA6O1212)	All sections applicable
DTS (WLAN 2.4GHz)	IHDT56VE1	RF Exposure(FA6O1212)	All sections applicable
NIII (WLAN 5GHz)	IHDT56VE1	RF Exposure(FA6O1212)	All sections applicable

5. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			Note
		Head	Body-worn	Hotspot	
1.	GSM Voice + WLAN2.4GHz	Yes	Yes		
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
4.	LTE + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
5.	GSM Voice + WLAN5.3/5.5GHz	Yes	Yes		
6.	GPRS/EDGE + WLAN5.3/5.5GHz	Yes	Yes		WWAN VoIP
7.	WCDMA + WLAN5.3/5.5GHz	Yes	Yes		WWAN VoIP
8.	LTE + WLAN5.3/5.5GHz	Yes	Yes		WWAN VoIP
9.	GSM Voice + WLAN5.2/5.8GHz	Yes	Yes	Yes	
10.	GPRS/EDGE + WLAN5.2/5.8GHz	Yes	Yes	Yes	WWAN VoIP
11.	WCDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	WWAN VoIP
12.	LTE + WLAN5.2/5.8GHz	Yes	Yes	Yes	WWAN VoIP
13.	GSM Voice + WLAN5GHz+Bluetooth		Yes		
14.	GPRS/EDGE + WLAN5GHz+Bluetooth		Yes		WWAN VoIP
15.	WCDMA + WLAN5GHz+Bluetooth		Yes		WWAN VoIP
16.	LTE + WLAN5GHz+Bluetooth		Yes		WWAN VoIP

5.1 Head Exposure Conditions

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Right Cheek	0.223	0.386	0.102	0.61	0.33		
		Right Tilted	0.167	0.914	0.102	1.08	0.27		
		Left Cheek	0.361	0.914	0.102	1.28	0.46		
		Left Tilted	0.180	0.516	0.045	0.70	0.23		
	GSM1900	Right Cheek	0.255	0.386	0.102	0.64	0.36		
		Right Tilted	0.065	0.914	0.102	0.98	0.17		
		Left Cheek	0.122	0.914	0.102	1.04	0.22		
		Left Tilted	0.033	0.516	0.045	0.55	0.08		
WCDMA	Band V	Right Cheek	0.346	0.386	0.102	0.73	0.45		
		Right Tilted	0.286	0.914	0.102	1.20	0.39		
		Left Cheek	0.486	0.914	0.102	1.40	0.59		
		Left Tilted	0.246	0.516	0.045	0.76	0.29		
	Band IV	Right Cheek	0.548	0.386	0.102	0.93	0.65		
		Right Tilted	0.205	0.914	0.102	1.12	0.31		
		Left Cheek	0.457	0.914	0.102	1.37	0.56		
		Left Tilted	0.143	0.516	0.045	0.66	0.19		
	Band II	Right Cheek	0.451	0.386	0.102	0.84	0.55		
		Right Tilted	0.166	0.914	0.102	1.08	0.27		
		Left Cheek	0.302	0.914	0.102	1.22	0.40		
		Left Tilted	0.086	0.516	0.045	0.60	0.13		

WWAN Band		Exposure Position	1	2	3	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN	5GHz WLAN				
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
LTE	Band 12	Right Cheek	0.313	0.386	0.102	0.70	0.42		
		Right Tilted	0.230	0.914	0.102	1.14	0.33		
		Left Cheek	0.405	0.914	0.102	1.32	0.51		
		Left Tilted	0.268	0.516	0.045	0.78	0.31		
	Band 5	Right Cheek	0.263	0.386	0.102	0.65	0.37		
		Right Tilted	0.205	0.914	0.102	1.12	0.31		
		Left Cheek	0.361	0.914	0.102	1.28	0.46		
		Left Tilted	0.222	0.516	0.045	0.74	0.27		
	Band 4	Right Cheek	0.720	0.386	0.102	1.11	0.82		
		Right Tilted	0.230	0.914	0.102	1.14	0.33		
		Left Cheek	0.522	0.914	0.102	**1.44**	0.62		
		Left Tilted	0.134	0.516	0.045	0.65	0.18		
	Band 2	Right Cheek	0.591	0.386	0.102	0.98	0.69		
		Right Tilted	0.149	0.914	0.102	1.06	0.25		
		Left Cheek	0.369	0.914	0.102	1.28	0.47		
		Left Tilted	0.090	0.516	0.045	0.61	0.14		
	Band 7	Right Cheek	0.851	0.386	0.102	1.24	0.95		
		Right Tilted	0.190	0.914	0.102	1.10	0.29		
		Left Cheek	0.450	0.914	0.102	1.36	0.55		
		Left Tilted	0.303	0.516	0.045	0.82	0.35		

5.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Front	0.443	0.146	0.109	0.59	0.55		
		Back	0.343	0.146	0.109	0.49	0.45		
		Left side	0.493			0.49	0.49		
		Right side	0.253	0.146	0.109	0.40	0.36		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	0.186			0.19	0.19		
	GSM1900	Front	1.002	0.146	0.109	1.15	1.11		
		Back	0.528	0.146	0.109	0.67	0.64		
		Left side	0.048			0.05	0.05		
		Right side	0.015	0.146	0.109	0.16	0.12		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	1.109			1.11	1.11		
WCDMA	Band V	Front	0.569	0.146	0.109	0.72	0.68		
		Back	0.521	0.146	0.109	0.67	0.63		
		Left side	0.702			0.70	0.70		
		Right side	0.412	0.146	0.109	0.56	0.52		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	0.311			0.31	0.31		
	Band IV	Front	1.184	0.146	0.109	1.33	**1.29**		
		Back	0.484	0.146	0.109	0.63	0.59		
		Left side	0.095			0.10	0.10		
		Right side	0.041	0.146	0.109	0.19	0.15		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	0.859			0.86	0.86		
	Band II	Front	0.870	0.146	0.109	1.02	0.98		
		Back	0.568	0.146	0.109	0.71	0.68		
		Left side	0.124			0.12	0.12		
		Right side	0.036	0.146	0.109	0.18	0.15		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	1.135			1.14	1.14		

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
LTE	Band 12	Front	0.565	0.146	0.109	0.71	0.67		
		Back	0.459	0.146	0.109	0.61	0.57		
		Left side	0.594			0.59	0.59		
		Right side	0.310	0.146	0.109	0.46	0.42		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	0.197			0.20	0.20		
	Band 5	Front	0.429	0.146	0.109	0.58	0.54		
		Back	0.387	0.146	0.109	0.53	0.50		
		Left side	0.607			0.61	0.61		
		Right side	0.270	0.146	0.109	0.42	0.38		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	0.168			0.17	0.17		
	Band 4	Front	1.073	0.146	0.109	1.22	1.18		
		Back	0.527	0.146	0.109	0.67	0.64		
		Left side	0.107			0.11	0.11		
		Right side	0.057	0.146	0.109	0.20	0.17		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	1.177			1.18	1.18		
	Band 2	Front	1.096	0.146	0.109	1.24	1.21		
		Back	0.699	0.146	0.109	0.85	0.81		
		Left side	0.291			0.29	0.29		
		Right side	0.195	0.146	0.109	0.34	0.30		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	1.161			1.16	1.16		
	Band 7	Front	0.929	0.146	0.109	1.08	1.04		
		Back	0.774	0.146	0.109	0.92	0.88		
		Left side	0.091			0.09	0.09		
		Right side	0.593	0.146	0.109	0.74	0.70		
		Top side		0.146	0.109	0.15	0.11		
		Bottom side	1.115			1.12	1.12		

5.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	4 Bluetooth Bluetooth 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Front	0.443	0.146	0.077	0.033	0.59	0.52	0.48	0.55		
		Back	0.343	0.146	0.077	0.026	0.49	0.42	0.37	0.45		
	GSM1900	Front	1.002	0.146	0.077	0.033	1.15	1.08	1.04	1.11		
		Back	0.528	0.146	0.077	0.026	0.67	0.61	0.55	0.63		
WCDMA	Band V	Front	0.569	0.146	0.077	0.033	0.72	0.65	0.60	0.68		
		Back	0.521	0.146	0.077	0.026	0.67	0.60	0.55	0.62		
	Band IV	Front	1.184	0.146	0.077	0.033	1.33	1.26	**1.22**	1.29		
		Back	0.484	0.146	0.077	0.026	0.63	0.56	0.51	0.59		
	Band II	Front	0.870	0.146	0.077	0.033	1.02	0.95	0.90	0.98		
		Back	0.568	0.146	0.077	0.026	0.71	0.65	0.59	0.67		
LTE	Band 12	Front	0.565	0.146	0.077	0.033	0.71	0.64	0.60	0.68		
		Back	0.459	0.146	0.077	0.026	0.61	0.54	0.49	0.56		
	Band 5	Front	0.429	0.146	0.077	0.033	0.58	0.51	0.46	0.54		
		Back	0.387	0.146	0.077	0.026	0.53	0.46	0.41	0.49		
	Band 4	Front	1.073	0.146	0.077	0.033	1.22	1.15	1.11	1.18		
		Back	0.527	0.146	0.077	0.026	0.67	0.60	0.55	0.63		
	Band 2	Front	1.096	0.146	0.077	0.033	1.24	1.17	1.13	1.21		
		Back	0.699	0.146	0.077	0.026	0.85	0.78	0.73	0.80		
	Band 7	Front	0.929	0.146	0.077	0.033	1.08	1.01	0.96	1.04		
		Back	0.774	0.146	0.077	0.026	0.92	0.85	0.80	0.88		

Test Engineer: Nick Hu

6. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[8] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[9] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[10] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[11] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

[12] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[13] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

Appendix A. Original Report

Please refer to Sporton report number FA6O1212 which is issued separately.