



Appendix D. Spot Check Evaluation

1. Introduction Section

This report referenced from the FCC ID: IHDT56WA1
(GSM 850 , WCDMA B4, LTE B4 / B7 / B12 / B17 / B66, DTS, DSS and U-NII)

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID (FCC ID: IHDT56WA4).

2. Difference Section

The WWAN (GSM 850 , WCDMA B4, LTE B4 / B7 / B12 / B17 / B66), WLAN (DTS, U-NII) and Bluetooth SAR measurement results from the original filling can be found in SAR test report FCC ID: IHDT56WA1, Sporton Report No: FA720310 or appendix E.

The WWAN, WLAN antennas and surrounding circuitry is the same between these two devices, and tune up power targets are identical for WWAN, WLAN operations; Therefore SAR data for WWAN, WLAN form the original filling was used for this model and spot checks for WWAN, WLAN were performed to ensure that the SAR measurements for both devices are the same, for details of similarity and difference between these two devices which can be found in the Operating Description.

The product specification is outlined in the following table:

FCC ID			IHDT56WA1	IHDT56WA4
Wireless Tech	Mode		Frequency (MHz)	
GSM	GSM Voice GPRS (GMSK) EDGE (8PSK)	Multi-Slot Class 12 DTM: No	850/1900	850/1900
UMTS	AMR/RCM12.2Kbps HSDPA/HSUPA/DC-HSDPA		B2/B4/B5	B2/B4/B5
CDMA	1xRTT/1xEv-Do(Rev.0)/ 1xEv-Do(Rev.A)		BC0/BC1/BC10	N/A
LTE (FDD/TDD)	QPSK 16QAM		B2/B4/B5/B7/B12/B13/ B17/B25/B26/B30/B66/ B38/B41	B2/B4/B5/B7/B12//B17/ B66
Wi-Fi	11b/11g/11n(HT20)		2412-2462	
	11a/11n(HT20)/11n(HT40)		5180-5240 5260-5320 5500-5720 5745-5825	
Bluetooth	BR/EDR/LE		2402-2480 MHz	
NFC	ASK		13.56 MHz	

3. Spot Check Verification Data Section

<Head SAR>

Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Original Model (FCC ID:IHDT56WA1)					Spot Check Model (FCC ID: IHDT56WA4)					Deviation
						Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	189	836.4	25.72	27.50		0.239	0.360	25.76	27.50		0.246	0.367	2.0%
WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1513	1752.6	22.93	24.00		0.492	0.629	22.83	24.00		0.422	0.552	-12.2%
LTE Band 4	20M_QPSK_1_99	Left Cheek	0mm	20175	1732.5	22.40	24.00		0.430	0.622	22.70	24.00		0.421	0.568	-8.7%
LTE Band 7	20M_QPSK_1_49	Left Cheek	0mm	21100	2535	22.35	24.00		0.386	0.564	22.51	24.00		0.355	0.500	-11.3%
LTE Band 12	10M_QPSK_1_25	Left Cheek	0mm	23095	707.5	22.69	24.00		0.213	0.288	22.90	24.00		0.244	0.314	9.1%
LTE Band 17	10M_QPSK_1_25	Left Cheek	0mm	23790	710	22.66	24.00		0.267	0.364	22.89	24.00		0.262	0.338	-7.1%
LTE Band 66	20M_QPSK_1_99	Right Cheek	0mm	132322	1745	22.84	24.00		0.407	0.532	23.36	24.00		0.404	0.468	-12.0%
WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	1	2412	15.92	16.00	97.63	1.240	1.292	15.92	16.00	97.63	1.200	1.250	-3.2%
WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	54	5270	15.31	15.50	85.14	0.949	1.165	15.31	15.50	85.14	0.892	1.095	-6.0%
WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	134	5670	15.46	15.50	85.14	1.080	1.281	15.46	15.50	85.14	0.992	1.176	-8.2%
WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	151	5755	15.31	15.50	85.14	1.060	1.301	15.31	15.50	85.14	0.934	1.147	-11.9%

<Hotspot SAR>

Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Original Model (FCC ID:IHDT56WA1)					Spot Check Model (FCC ID: IHDT56WA4)					Deviation
						Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
GSM850	GPRS (4 Tx slots)	Front	10mm	189	836.4	25.72	27.50		0.764	1.151	25.58	27.50		0.733	1.141	-0.9%
WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	1513	1752.6	20.88	21.20		0.921	0.991	19.96	21.20		0.823	1.095	10.4%
LTE Band 4	20M_QPSK_100_0	Front	10mm	20175	1732.5	19.45	20.70		0.808	1.077	19.28	20.70		0.804	1.115	3.5%
LTE Band 7	20M_QPSK_1_99	Front	10mm	20850	2510	21.65	23.20		0.721	1.030	21.54	23.20		0.614	0.900	-12.7%
LTE Band 12	10M_QPSK_1_25	Front	10mm	23095	707.5	21.08	22.20		0.766	0.991	20.91	22.20		0.815	1.097	10.6%
LTE Band 17	10M_QPSK_1_25	Left Side	10mm	23790	710	20.98	22.00		0.873	1.104	20.54	22.00		0.894	1.251	13.3%
LTE Band 66	20M_QPSK_1_99	Bottom Side	10mm	132572	1770	20.99	21.50		0.884	0.994	21.06	21.50		0.796	0.881	-11.4%
WLAN2.4GHz	802.11b 1Mbps	Back	10mm	6	2437	18.63	19	97.63	0.361	0.403	18.73	19.00	97.63	0.348	0.379	-5.8%
WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	46	5230	20.08	20.50	85.14	0.364	0.471	20.08	20.50	85.14	0.328	0.425	-9.9%
WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	159	5795	18.50	19.00	85.14	0.226	0.298	18.50	19.00	85.14	0.224	0.295	-0.9%

<Product specific SAR>

Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Original Model (FCC ID:IHDT56WA1)					Spot Check Model (FCC ID: IHDT56WA4)					Deviation
						Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	
LTE Band 4	20M_QPSK_50_0	Bottom Side	0mm	20175	1732.5	21.02	22.20		1.970	2.585	21.07	22.20		2.140	2.776	7.4%
LTE Band 12	10M_QPSK_1_25	Left Side	0mm	23095	707.5	22.69	24.00		1.31	1.771	22.57	24.00		1.340	1.863	5.2%
LTE Band 17	10M_QPSK_1_25	Left Side	0mm	23790	710	22.66	24		1.440	1.960	22.93	24.00		1.420	1.817	-7.3%
LTE Band 66	20M_QPSK_1_99	Bottom Side	0mm	132572	1770	22.57	22.90		2.890	3.118	22.80	22.90		2.970	3.039	-2.5%
WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	54	5270	19.66	19.7	85.14	1.910	2.265	19.11	19.70	85.14	1.490	2.006	-11.5%
WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	110	5550	18.87	19.2	85.14	2.180	2.764	18.50	19.20	85.14	1.820	2.513	-9.1%

<Body-Worn SAR>

Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Original Model (FCC ID:IHDT56WA1)					Spot Check Model (FCC ID: IHDT56WA4)					Deviation
						Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
GSM850	GPRS (4 Tx slots)	Front	10mm	189	836.4	25.72	27.50		0.764	1.151	25.58	27.50		0.733	1.414	-0.9%
WCDMA IV	RMC 12.2Kbps	Front	10mm	1312	1712.4	20.68	21.20		0.799	0.901	19.97	21.20		0.716	0.950	5.5%
LTE Band 4	20M_QPSK_100_0	Front	10mm	20175	1732.5	19.45	20.70		0.808	1.077	19.28	20.70		0.804	1.115	3.5%
LTE Band 7	20M_QPSK_1_99	Front	10mm	20850	2510	21.65	23.20		0.721	1.030	21.54	23.20		0.614	0.900	-12.7%
LTE Band 12	10M_QPSK_1_25	Front	10mm	23095	707.5	21.08	22.20		0.766	0.991	20.91	22.20		0.833	1.121	13.1%
LTE Band 17	10M_QPSK_1_25	Back	10mm	23790	710	20.98	22.00		0.752	0.951	20.54	22.00		0.752	1.052	10.7%
LTE Band 66	20M_QPSK_100_0	Front	10mm	132572	1770	20.59	21.50		0.789	0.973	20.73	21.50		0.748	0.893	-8.2%
WLAN2.4GHz	802.11b 1Mbps	Back	10mm	6	2437	18.63	19	97.63	0.361	0.403	18.73	19.00	97.63	0.348	0.379	-5.8%
WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	54	5270	19.66	19.70	85.14	0.437	0.518	19.21	19.70	85.14	0.362	0.476	-8.1%
WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	142	5710	18.30	19.20	85.14	0.373	0.539	18.28	19.20	85.14	0.330	0.479	-11.1%
WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	159	5795	18.50	19.00	85.14	0.226	0.298	18.50	19.00	85.14	0.224	0.295	-0.9%
Bluetooth	1Mbps	Back	10mm	39	2441	11.96	12	76.6	0.06	0.066	11.96	12.00	76.6	0.055	0.060	-8.3%

Note: The spot check verification shows SAR performance of IHDT56WA1 represents the performance of IHDT56WA4.

4. Reference detail Section

Rule Part	Frequency Band (MHz)	Wireless Technology	Reference FCC ID	Reference Report Title	Reference Report No.	Reference Report Sections
22	824.2 ~ 848.8	GSM 850	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to GSM 850 test data
27	1712.4 ~ 1752.6	WCDMA B4	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to WCDMA B4 test data
27	1710.7 ~ 1754.3	LTE B4	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to LTE B4 test data
27	2502.5 ~ 2567.5	LTE B7	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to LTE B7 test data
27	699.7 ~ 715.3	LTE B12	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to LTE B12 test data
27	706.5 ~ 713.5	LTE B17	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to LTE B17 test data
27	1710.7 ~ 1779.3	LTE B66	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to LTE B66 test data
15C	2402~2480	Bluetooth	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to Bluetooth test data
15C	2412~2462	Wi-Fi	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to WiFi test data
15E	5180~5240 5260~5320 5500~5720 5745~5825	Wi-Fi	IHDT56WA1	FCC SAR Test Report	FA720310	Sections related to WiFi test data