



Spot Check Evaluation

FCC ID : APYHRO00277
Equipment : Smart phone
Brand Name : SHARP
Applicant : SHARP CORPORATION
2-13-1, Hachihonmatsu-lida,
Higashi-hiroshima-shi, Hiroshima pref. 739-0192, Japan
Manufacturer : SHARP CORPORATION
1 Takumi-Cho, Sakai-Ku, Sakai-Shi, Osaka 590-8522, Japan
Standard : 47 CFR Part 2, 22(H), 24(E), 27(L)
FCC Part 15 Subpart C §15.247
FCC Part 15 Subpart E §15.407

The product was received on Sep. 02, 2019 and testing was started from Sep. 15, 2019 and completed on Sep. 26, 2019. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Jones Tsai / Manager



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REVISION HISTORY

VERSION	DESCRIPTION	ISSUED DATE
01	Initial issue of report	Oct. 04, 2019



1. Introduction Section

The original model (FCC ID: APYHRO00276) and the variant model (FCC ID: APYHRO00277) has identical PCB layout, antenna, SW implementation for Bluetooth/Wi-Fi/GPS. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS) and Part 15E (equipment class: NII) test data issued test data of APYHRO00277 references the test data of APYHRO00276

The original model (FCC ID: APYHRO00276) and the variant model (FCC ID: APYHRO00277) has identical PCB layout, antenna, SW implementation for GSM/WCDMA/LTE. Based on their similarity, the FCC Part 22, 24, 27 (equipment class: PCS) test data issued test data of APYHRO00277 references the test data of APYHRO00276

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID (FCC ID: APYHRO00277).



2. Difference Section

The difference between APYHRO00276 (parent model) and APYHRO00277 (data reuse model) is the NFC and fingerprints are disabled and memory is different.

The product specification is outlined in the following table:

FCC ID		APYHRO00276	APYHRO00277
Wireless Tech	Mode	Frequency (MHz)/Band	
GSM	GSM Voice	850/1900	850/1900
	GPRS (GMSK) Multi-Slot Class 12 DTM: No		
UMTS	AMR/RCM12.2Kbps HSDPA/HSUPA	B5	B5
LTE (FDD)	QPSK 16QAM 64QAM	B5/12/17	B5/12/17
Wi-Fi	11b/11g/11n(HT20)	2400~2483.5	
	11a/11n(HT20)/11n(HT40)/	5150~5250	
	11ac(VHT20)/11ac(VHT40)/	5250~5350	
	11ac(VHT80)	5470~5725	
Bluetooth	V5.0 LE	2400~2483.5	
NFC	ASK	13.56MHz	-



3. Spot Check Verification Data Section

Conducted and Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Summary of the spot check:

Test Item	Mode	APYHRO00276 Worst Result	APYHRO00277 Worst Result	Difference (dB)	
Average Conducted Power (dBm)	802.11b	13.9	13.9	0	
	802.11g	11.9	11.9	0	
	11n HT20	11.8	11.8	0	
	BT (1Mbps)	10.52	10.5	0.02	
	BT (2Mbps)	8.1	7.7	0.4	
	BT (3Mbps)	8.1	7.68	0.42	
	BT-LE 1Mbps	5.8	5.1	0.7	
	BT-LE 2Mbps	5.7	5.0	0.7	
	11a, 5.2GHz	11.8	11.8	0	
	11n HT20, 5.2GHz	11.8	11.8	0	
	11n HT40, 5.2GHz	11.8	11.8	0	
	11ac VHT20, 5.2GHz	11.9	11.9	0	
	11ac VHT40, 5.2GHz	11.9	11.9	0	
	11ac VHT80, 5.2GHz	11.8	11.8	0	
	11a, 5.3GHz	11.8	11.7	0.1	
	11n HT20, 5.3GHz	11.8	11.8	0	
	11n HT40, 5.3GHz	11.8	11.8	0	
	11ac VHT20, 5.3GHz	11.9	11.9	0	
	11ac VHT40, 5.3GHz	11.9	11.9	0	
	11ac VHT80, 5.3GHz	11.6	11.3	0.3	
	11a, 5.5GHz	11.8	11.8	0	
	11n HT20, 5.5GHz	11.8	11.8	0	
	11n HT40, 5.5GHz	11.8	11.8	0	
	11ac VHT20, 5.5GHz	11.9	11.9	0	
	11ac VHT40, 5.5GHz	11.9	11.9	0	
	11ac VHT80, 5.5GHz	11.9	11.9	0	
	Test date		2019/07/27~2019/08/14	2019/09/20~2019/09/26	
	Mode		APYHRO00276 Worst Result	APYHRO00277 Worst Result	Difference (dB)
	GSM 850(GPRS)		32.09	32.09	0
	GSM 1900(GPRS)		29.01	29.01	0
UMTS B5 (RMC 12.2Kbps)		23.94	23.8	0.14	
LTE B5 (FDD - QPSK)		23.29	22.95	0.34	
LTE B12 (FDD - QPSK)		23.22	22.99	0.23	
LTE B17 (FDD - QPSK)		23.05	22.94	0.11	
Test date		2019/07/22~2019/07/27	2019/09/15~2019/09/16		



Test Item	Mode	APYHRO00276 Worst Result	APYHRO00277 Worst Result	Difference (dB)
Radiated Spurious Emission (dbm)	802.11b	41.56	41.71	-0.15
	802.11g	42.72	42.81	-0.09
	BT (1Mbps)	47.72	48.75	-1.03
	BT-LE 2Mbps	45.55	45.31	0.24
	11ac VHT80, 5.2GHz	49.87	50.93	-1.06
	11ac VHT80, 5.3GHz	47.40	47.13	0.27
	11ac VHT80, 5.5GHz	50.85	49.75	1.1
Test date		2019/07/27~2019/08/06	2019/09/22~2019/09/26	
Test Item	Mode	APYHRO00276 Worst Result	APYHRO00277 Worst Result	Difference (dB)
Radiated Spurious Emission (dbm)	GSM(GPRS850)	-48.08	-46.63	1.45
	GSM(GPRS1900)	-50.87	-52.14	-1.27
	UMTS B5 (RMC 12.2Kbps)	-58.43	-58.05	0.38
	LTE B5 (FDD - QPSK)	-52.28	-52.82	-0.54
	LTE B12 (FDD - QPSK)	-59.61	-57.65	1.96
	LTE B17 (FDD - QPSK)	-59.16	-59.34	-0.18
	Test date		2019/07/27~2019/08/06	2019/09/15~2019/09/16



4. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	Original FCC ID	Original Report	Variant Model FCC ID	Variant Model Report
15C	DTS	Bluetooth – LE Wii-Fi	2400~2483.5	APYHRO00276	Part 15C (FR971613B, FR971613C)	APYHRO00277	Part 15C (FR990231 B, FR990231 C)
	DSS	Bluetooth	2400~2483.5	APYHRO00276	Part 15C (FR971613A)	APYHRO00277	Part 15C (FR990231 A)
15E	NII	Wi-Fi	5150~5250 5250~5350 5470~5725	APYHRO00276	Part 15E (FR971613E)	APYHRO00277	Part 15E (FR990231 D)
Part 22.24.27	PCE	GSM /WCDMA	GSM 850/1900 WCDMA B5	APYHRO00276	Part 22.24 (FG971613A)	APYHRO00277	Part 22.24 (FG990231 A)
		LTE	LTE B5/12/17	APYHRO00276	Part 22.27 (FG971613B)	APYHRO00277	Part 22.27 (FG990231 B)

End of this report