Operational Description

1 PRODUCT INTRODUCTION

V90+ is a slim mobile phone brought to you by Bestpower Direct Export Co. Ltd, it works at 850MHz 、900MHz、1800MHz and 1900MHz Mhz frequency band .

V90+ colour screen mobile phone is designed for use on the GSM/GPRS networks. Not only does the V90+ provide you with basic calling functions, but also with many practical functions such as double SIM cards mode, smart input method, a name card style phonebook, 64 chord rings, SMS, MMS, camera and video, MP3 and movie player, recorder, clock/alarm, calculator, automatic power On / power Off, calendar, world clock, GPRS surfing, STK, Keypad lock.

2 HARDWARE

The main board includes RF circuit(use MT6139 and TQM6M4003) , base band circuit(use MT6225) , power management circuit(use MT6318), bluetooth circuit(MT6601), some keyboard LEDs, etc……The processors used in V90+ are MTK MT6225.

3 APPEARANCE AND STRUCTURE

Table 1 Appearance and structure

Item	V90+	**Remark**

Appearance		Color here is only for reference, the real product maybe different.
Dimension	105mm X 45mm X 15mm	
Weight	85.5g	Including Battery
Material	PC	
Display	320xRGBx240	

4 FUNCTIONS

4.1 TALKING PARAMETERS

Table 2 TALKING PARAMETERS

Item	Discription
Speech codec	FR / EFR / AMR / HR
Talk time	Up to 3 hrs (Estimation)
Standby time	Up to 120 hrs (Estimation)
Phonebook	500 units
Call Forwarding	CFU \CFB \CFRy \CFRc
Other GSM Phase 2 Function	CB\CW…

4.2 SHORT MESSAGE

Table 3 SHORT MESSAGE

Item	Discription
SMS(Chinese/English)	Supported
EMS	Supported(Only Multi page SMS)

MMS	Supported

4.3 PERSONALISED SPEC.

Table 4 PERSONALISED SPEC.

Item	Discription
Voice recording and Voice memo	Supported
Pre-Set 64-tone polyphonic ringers	64 tones polyphony(Software MIDI)
Themes Switch	Supported
User Profiles	Supported
Wall-papers	Supported
Screen savers	Supported
Self-Edit Greeting text	Supported (Welcome)

4.4 OTHER SPEC.

Table 5 OTHER SPEC.

Item	Discription
SIM Tool Kit	Supported
Application	Supported Alarm clock, Organizer, Calculator, Unit converter, Stopwatch, Universal timer…
Pre-loaded game	Supported
Bluetooth	Version 1.2

5 TECHNICAL SPECIFICATION

Table 6 GSM850、GSM900

RF Item	**Parameter**
PCL	Level 5: 31dBm ~ 32.5dBm Level 6: 31dBm ±3dBm Level 7: 29dBm ±3dBm

	Level 8: 27dBm ±3dBm Level 9: 25dBm ±3dBm Level 10: 23dBm ±3dBm Level 11: 21dBm ±3dBm Level 12: 19dBm ±3dBm Level 13: 17dBm ±3dBm Level 14: 15dBm ±3dBm Level 15: 13dBm ±3dBm Level 16: 11dBm ±5dBm Level 17: 9dBm ±5dBm Level 18: 7dBm ±5dBm Level 19: 5dBm ±5dBm
Frequency error	< ±0.1ppm
Phase error	< 5 (RMS) < 20 ° (Peak)
Power v Time	±10us < -6dBc ±18us < -30dBc ±28us < -70dBc
Switching Transient	PCL 11: fc ±400kHz:-23dBm fc ±600kHz:-26dBm fc ±1200kHz:-32dBm fc ±1800kHz:-36dBm PCL 7: fc ±400kHz:-23dBm fc ±600kHz:-25dBm fc ±1200kHz:-25dBm fc ±1800kHz:-28dBm

	PCL 5: fc ±400kHz:-19dBm fc ±600kHz:-21dBm fc ±1200kHz:-22dBm fc ±1800kHz:-24dBm
Modulation	fc ±200kHz :< -30dBc or -36dBm fc ±250kHz:< -33dBc or -36dBm fc ±400kHz:< -60dBc or -36dBm fc ±600kHz ~ 1800kHz:< -60dBc or -51dBm fc ±1800kHz ~ 3000kHz:< -63dBc or -46dBm fc ±3000kHz ~ 6000kHz: < -65dBc or -46dBm fc ≥±6000kHz: < -71dBc or -46dBm
Spurious Emission at Receiver band	925 MHz ~ 935 MHz:< -67dBm 935 MHz ~ 960MHz:< -79dBm 1805 MHz ~ 1880MHz:< -71dBm
Conducted spurious emissions - MS allocated a channel	100kHz ~ 1GHz:< -36dBm 1GHz ~ 12.75GHz:< -30dBm
Conducted spurious emissions - MS in idle mode	100kHz ~ 1GHz:< -57dBm 1GHz ~ 12.75GHz:< -47dBm
Radiated spurious emissions - MS allocated a channel	30MHz ~ 1GHz:< -36dBm 1GHz ~ 4GHz:< -30dBm
Radiated spurious emissions - MS in idle mode	30MHz ~ 880MHz:< -57dBm 880MHz ~ 915MHz:< -59dBm 915MHz ~ 1000MHz:< -57dBm 1GHz ~ 1710MHz:< -47dBm

	1710MHz~1785MHz:< -53dBm 1785MHz~4GHZ:< -47dBm
sensitivity	Class II:-100dBm BER < 2.4%
Blocking	Class II:<-96dBm BER < 2.4% Blocking level: Fr ±600kHz ~ 1.6MHz :- 43dBm Fr ±1.6MHz ~ 3MHz:-33dBm 915MHz ~ Fr-3MHz:-23dBm Fr+3MHz ~ 980MHz:-23dBm 835MHz ~ 915MHz:0dBm 980MHz ~ 1000MHz:0dBm
Adjacent channel rejection	Class II:-82dBm BER < 2.4% Interference level: Fr ±200kHz:-73dBm Fr ±400kHz:-41dbm Fr ±600kHz:-33dbm
Intermodulation rejection	Class II:-96dbm BER < 2.4% Interference level = -49dbm
Co-channel rejection	Class II:-82dbm BER < 2.4% Interference level = -91dbm
Receiver / Reference sensitivity	GSM 900MHz:-102dBm DCS 1800MHz:–100dBm

Table 7 DCS1800、PCS1900

Item	Description
PCL	Level 0: 28 dBm ~ 29.5dBm Level 1: 28 dBm ±3dBm Level 2: 26 dBm ±3dBm Level 3: 24 dBm ±3dBm Level 4: 22 dBm ±3dBm Level 5: 20 dBm ±3dBm Level 6: 18 dBm ±3dBm Level 7: 16 dBm ±3dBm Level 8: 14 dBm ±3dBm Level 9: 12 dBm ±4dBm Level 10:10 dBm ±4dBm Level 11: 8 dBm ±4dBm Level 12::6 dBm ±4dBm Level 13: 4 dBm ±4dBm Level 14: 2 dBm ±5dBm Level 15: 0 dBm ±5dBm
Frequency error	< ±0.1ppm
Phase error	< 5 (RMS) < 20 ˚ (Peak)
Power v Time	±10us < -6dBc ±18us < -30dBc ±28us < -70dBc
Switching Transient	PCL 15: fc ±400kHz:-23dBm fc ±600kHz:-26dBm fc ±1200kHz:-32dBm fc ±1800kHz:-36dBm PCL 0:

	fc ±400kHz:-22dBm fc ±600kHz:-24dBm fc ±1200kHz:-24dBm fc ±1800kHz:-27dBm
Modulation	fc ±200kHz :< -30dBc or -36dBm fc ±250kHz:< -33dBc or -36dBm fc ±400kHz:< -60dBc or -36dBm fc ±600kHz ~ 1800kHz:< -60dBc or -51dBm fc ±1800kHz ~ 3000kHz:< -63dBc or -46dBm fc ±3000kHz ~ 6000kHz: < -65dBc or -46dBm fc ≥±6000kHz: < -71dBc or -46dBm
Spurious Emission at Receiver band	925 MHz ~ 935 MHz:< -67dBm 935 MHz ~ 960MHz:< -79dBm 1805 MHz ~ 1880MHz:< -71dBm
Conducted spurious emissions - MS allocated a channel	100kHz ~ 1GHz:< -36dBm 1GHz ~ 12.75GHz:< -30dBm
Conducted spurious emissions - MS in idle mode	100kHz ~ 1GHz:< -57dBm 1GHz ~ 12.75GHz:< -47dBm
Radiated spurious emissions - MS allocated a channel	30MHz ~ 1GHz:< -36dBm 1GHz ~ 4GHz:< -30dBm
Radiated spurious emissions - MS in idle mode	30MHz ~ 880MHz:< -57dBm 880MHz ~ 915MHz:< -59dBm 915MHz ~ 1000MHz:< -57dBm 1GHz ~ 1710MHz:< -47dBm 1710MHz~1785MHz:< -53dBm

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sensitivity	Class II:-100dBm BER < 2.4%
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Adjacent channel rejection	Class II:-82dBm BER < 2.4% Interference level: Fr ±200kHz:-73dBm Fr ±400kHz:-41dbm Fr ±600kHz:-33dbm
Intermodulation rejection	Class II:-96dbm BER < 2.4% Interference level = -49dbm
Co-channel rejection	Class II:-82dbm BER < 2.4% Interference level = -91dbm

Table 8 Bluetooth

Bluetooth	**Parameter**
Frequency	2402MHz~2480MHz
Working Frequency	2402MHz~2483MHz
interval of frequency	1MHz
number of singal	79
Voice coding project	Use PCM and CVSD
bandwidth	20 dB bandwidth 1MHz
Modulation Mode	GFSK
working mode	CLASS 2
power grade	6
Transmit power	-6~+4dBm
antenna increasing value	Max Increasing Value: -1.48dBi