



MPE TEST REPORT

FCC Per 47 CFR 2.1091(b)

FCC ID: **YAMMD78XU1**

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Date of issue.....: June 23, 2010

Testing Laboratory Name: **Shenzhen Huatongwei International Inspection Co., Ltd**

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Applicant's name.....: **Hytera Communications Corporation Ltd.**

Address.....: HYT Tower,Hi-Tech Industrial Park North,Nanshan District,Shenzhen China.518057

Test specification:

Standard: **FCC Per 47 CFR 2.1091(b)**


TRF Originator.....: Shenzhen Huatongwei International Inspection CO., Ltd

Master TRF.....: Dated 2006-06

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Test item description : Digital Mobile Radio

Trade Mark: 

Manufacturer: **Hytera Communications Corporation Ltd.**

Model/Type reference.....: MD780/MD782/MD785/MD786/MD788

Listed Models: /

Ratings.....: DC 13.60V

Modulation.....: FM&4FSK

Channel Separation.....: 12.5KHz/25KHz

Frequency Range.....: 400 MHz -470 MHz

Result.....: **Positive**

M P E T E S T R E P O R T

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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. Measurement Uncertainty

The information below presents an estimate of the possible errors that are associated with the measurement system.

<u>Description</u>	<u>Error</u>
NARDA Survey Meter	± 3%
Repeatability Accuracy	± 7%

2. Method of measurement

2.1. EME measurements made on trunk mounted antennas

2.1.1. External vehicle EME measurement

(Antenna mounted in trunk center)

With the survey meter and probe, take ten (10) measurements, at the standard test distance of 60 cm to the antenna, from the back of the vehicle in a vertical line and then average the results. These measurements are taken and recorded at every twenty (20) centimeters over a range starting at twenty (20) centimeters above ground and ending at 2.0 meters.

2.1.2. Internal vehicle EME measurement

(Antenna mounted in trunk center)

While rotating survey meter probe through 180 degrees to ensure that the highest level is found, scan the inside of the vehicle, both front and back seating areas, for the highest level in each location. After the highest level is found, scan vertically making two (2) additional measurements within an area approximately 40 cm wide (representing the width of a person) so as to have a total of three (3) measured points as indicated below that will be averaged

- a) Head area
- b) Chest area
- c) Lower Trunk area

2.2. EME measurements made on center roof mounted antennas

2.2.1. External vehicle EME measurement

With the survey meter and probe, take ten (10) measurements, at the standard test distance of 110 cm from the vehicle-mounted antenna, in a vertical line and then average the results. These measurements are taken and recorded at every twenty (20) centimeters over a range starting at twenty (20) centimeters above ground and ending at 2.0 meters; this would be representative of a person standing next to a vehicle during a mobile radio transmission.

2.2.2. Internal vehicle EME measurement

While rotating survey meter probe through 180 degrees to ensure that the highest level is found, scan the inside of the vehicle, both front and back seating areas, for the highest level in each location. After the highest level is found, scan vertically making two (2) additional measurements within an area approximately 40 cm wide (representing the width of a person) so as to have a total of three (3) measured points as indicated below that will be averaged.

- a) Head area
- b) Chest area
- c) Lower Trunk area

3. Approved Accessories

Antenna:

Model: TQC-400DII
Roof Mount 400-470MHz
Gain: 5dBi

Vehicle:

Band: BYD
Model: F6

4. Test Result

Measurement Information			
Measurement Freq.(MHz)	400.0250	435.0000	469.9750
Raw Data Power(W)	36.06	38.64	34.59
Controlled Limit	1.00	1.00	1.00
Uncontrolled Limit	0.20	0.20	0.20
Cal.	1.00	1.00	1.00
Antenna / gain(dBi)	Whip / 5	Whip / 5	Whip / 5
External Vehicle Power Density(50% duty)	average over body/2		
Internal Vehicle Power Density(50% duty)	average over (head/chest/leg)/2		

External Vehicle MPE Assessment at 400.0250 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average Over Body	Pwr. Density (mW/cm ²)
Trunk	Whip / 5	60	E	1.00	0.26	0.13
Measurement grid						
Test position	Height (cm)	% of controlled limit	Test position	Height (cm)	% of controlled limit	
1	20	8	6	120	23	
2	40	10	7	140	25	
3	60	11	8	160	15	
4	80	10	9	180	13	
5	100	16	10	200	10	

External Vehicle MPE Assessment at 435.0000 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average Over Body	Pwr. Density (mW/cm ²)
Trunk	Whip / 5	60	E	1.00	0.36	0.18
Measurement grid						
Test position	Height (cm)	% of controlled limit	Test position	Height (cm)	% of controlled limit	
1	20	7	6	120	19	
2	40	10	7	140	23	
3	60	12	8	160	18	
4	80	8	9	180	15	
5	100	13	10	200	10	

External Vehicle MPE Assessment at 469.9750 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average Over Body	Pwr. Density (mW/cm ²)
Trunk	Whip / 5	60	E	1.00	0.34	0.17
Measurement grid						
Test position	Height (cm)	% of controlled limit	Test position	Height (cm)	% of controlled limit	
1	20	8	6	120	22	
2	40	11	7	140	24	
3	60	13	8	160	14	
4	80	11	9	180	12	
5	100	14	10	200	10	

External Vehicle MPE Assessment at 400.0250 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average Over Body	Pwr. Density (mW/cm ²)
Trunk	Whip / 5	110	E	1.00	0.16	0.08
Measurement grid						
Test position	Height (cm)	% of controlled limit	Test position	Height (cm)	% of controlled limit	
1	20	5	6	120	12	
2	40	6	7	140	13	
3	60	6	8	160	9	
4	80	5	9	180	6	
5	100	8	10	200	5	

Internal Vehicle MPE Assessment at 400.0250 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head,Chest,Leg Back/Front Seats (mW/cm ²)	Pwr. Density of Higher Level (mW/cm ²)
Trunk	Whip / 5	Highest Reading	E	1.00	0.190/0.010	0.010/0.005
Measurement grid						
Test position	% of controlled limit Head		% of controlled limit Chest		% of controlled limit Leg	
Back Seat	9		6		2	
Front Sea	5		4		1	

Internal Vehicle MPE Assessment at 435.0000 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head,Chest,Leg Back/Front Seats (mW/cm ²)	Pwr. Density of Higher Level (mW/cm ²)
Trunk	Whip / 5	Highest Reading	E	1.00	0.160/0.008	0.080/0.004
Measurement grid						
Test position	% of controlled limit Head		% of controlled limit Chest		% of controlled limit Leg	
Back Seat	6		4		1	
Front Sea	4		3		1	

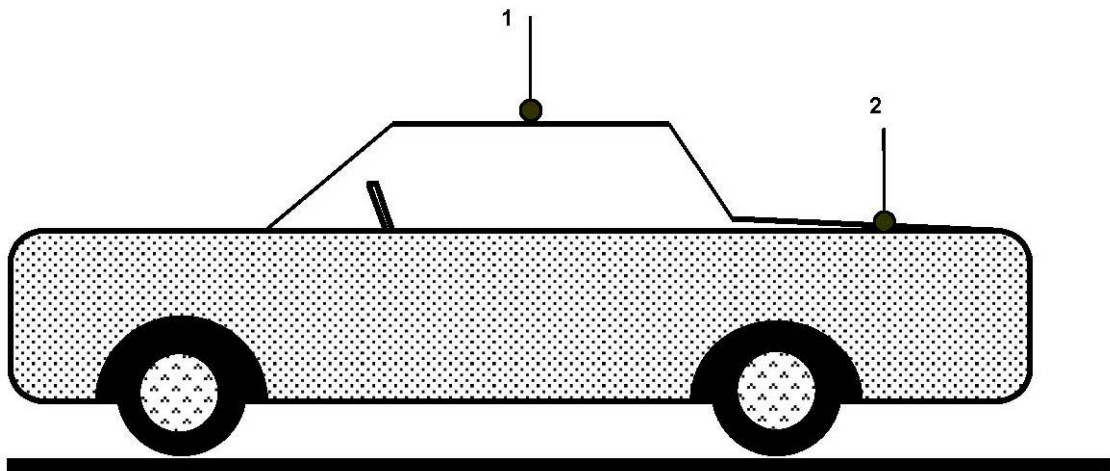
Internal Vehicle MPE Assessment at 469.9750 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head,Chest,Leg Back/Front Seats (mW/cm ²)	Pwr. Density of Higher Level (mW/cm ²)
Trunk	Whip / 5	Highest Reading	E	1.00	0.120/0.006	0.060/0.003
Measurement grid						
Test position	% of controlled limit Head		% of controlled limit Chest		% of controlled limit Leg	
Back Seat	5		4		1	
Front Sea	3		3		1	

Internal Vehicle MPE Assessment at 469.9750 MHz						
Antenna Location	Antenna/gain	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head,Chest,Leg Back/Front Seats (mW/cm ²)	Pwr. Density of Higher Level (mW/cm ²)
Roof	Whip / 5	Highest Reading	E	1.00	0.100/0.004	0.050/0.002
Measurement grid						
Test position	% of controlled limit Head		% of controlled limit Chest		% of controlled limit Leg	
Back Seat	4		3		1	
Front Sea	2		1		1	

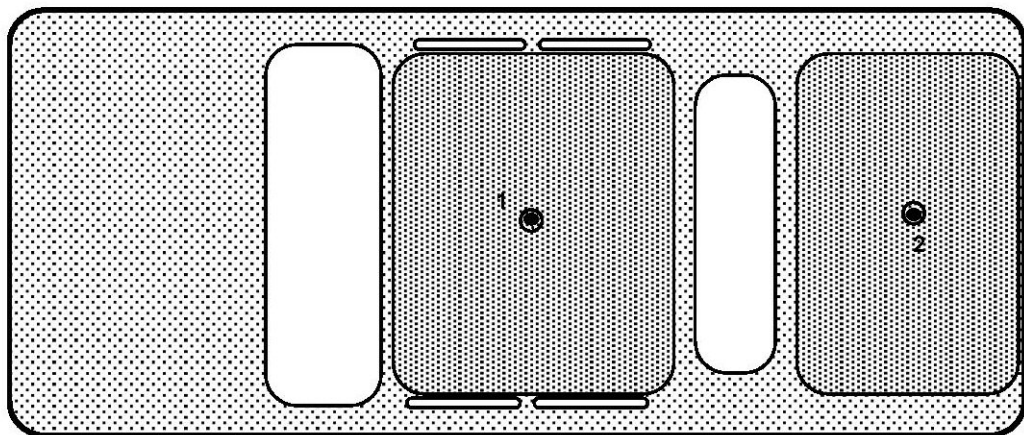
5. Conclusion

The measurement results comply with the FCC Limit Per 47 CFR 2.1091 (b) for the controlled RF Exposure.

6. Antenna Location Drawing



- 1 - Roof (center)
- 2 - Trunk (center)



.....End of Report.....