FCC PART 15, SUBPART B and C
TEST REPORT

for

TRANSMITTER

MODEL: IBETrans02

Prepared for

GARRETT INTEGRATED AUTOMOTIVE CORPORATION
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DATE: DECEMBER 5, 2002

	REPORT BODY	APPENDICES					TOTAL
		A	*B*	*C*	*D*	*E*	
PAGES	15	2	2	2	10	7	**38**

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TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	***4***
SUMMARY OF TEST RESULTS	***4***
1. PURPOSE	**5**
2. ADMINISTRATIVE DATA	**6**
2.1 Location of Testing	6
2.2 Traceability Statement	6
2.3 Cognizant Personnel	6
2.4 Date Test Sample was Received	6
2.5 Disposition of the Test Sample	6
2.6 Abbreviations and Acronyms	6
3. APPLICABLE DOCUMENTS	**7**
4. Description of Test Configuration	**8**
4.1 Description of Test Configuration - EMI	8
4.1.1 Cable Construction and Termination	9
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	**10**
5.1 EUT and Accessory List	10
5.2 EMI Test Equipment	11
6. TEST SITE DESCRIPTION	**12**
6.1 Test Facility Description	12
6.2 EUT Mounting, Bonding and Grounding	12
7. Test Procedures	**13**
7.1 Radiated Emissions (Spurious and Harmonics) Test	13
8. CONCLUSIONS	**15**

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams, Charts, and Photos • Test Setup Diagrams • Radiated Emissions Photos • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Plot Map And Layout of Test Site

GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:	Transmitter Model: IBETrans02 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	Garrett Integrated Automotive Corporation 1350 Reynolds Avenue, Suite 106 Irvine, California 92614
Test Date:	December 26, 2002
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209, and 15.249
Test Procedure:	ANSI C63.4: 1992
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 450 kHz - 30 MHz	This test was not performed because the EUT operates on DC power only and cannot be plugged into the AC public mains.
2	Radiated RF Emissions, 10 kHz - 9300 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Transmitter Model: IBETrans02. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Garrett Integrated Automotive Corporation

Andrew D. Ciraulo Vice-President Operations

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Kirit Ramani Test Engineer
Michael Christensen Test Engineer

2.4 Date Test Sample was Received

The test sample was received on December 26, 2002.

2.5 Disposition of the Test Sample

The sample has not been returned to Garrett Integrated Automotive Corporation as of January 20, 2003.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The Transmitter Model: IBETrans02 (EUT) was tested as a stand alone unit in three orthogonal axis and was continuously transmitting. The antenna is soldered onto the PCB of the EUT.

The final radiated data was taken in the mode above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

There are no external cables connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
TRANSMITTER (EUT)	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	IBETrans02	N/A	**QUO-IBE-TRX-02**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiated Emissions Manual Test – Radiated	Compatible Electronics	N/A	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 14, 2002	June 14, 2003
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22279	June 14, 2002	June 14, 2003
Spectrum Analyzer – Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 14, 2002	June 14, 2003
Preamplifier	Com Power	PA-102	1017	Dec. 31, 2001	Dec. 31, 2002
Biconical Antenna	Com Power	AB-100	1548	Sept. 19, 2002	Sept. 19, 2003
Log Periodic Antenna	Com Power	AL-100	16089	Oct. 4, 2002	Oct. 4, 2003
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
Printer	Hewlett Packard	C5886A	SG7CM1P090	N/A	N/A
Monitor	Hewlett Packard	D5258A	DK74889705	N/A	N/A
Loop Antenna	Com-Power	AL-130	17070	June 19, 2002	June 19, 2003
Horn Antenna	Antenna Research	DRG-118/A	1053	Jan. 13, 2002	Jan. 13, 2003
Microwave Preamplifier	Com-Power	PA-122	25195	Jan. 7, 2002	Jan. 7, 2003

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data. The final qualification data sheets are located in Appendix E.

8. CONCLUSIONS

The Transmitter Model: IBETrans02 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

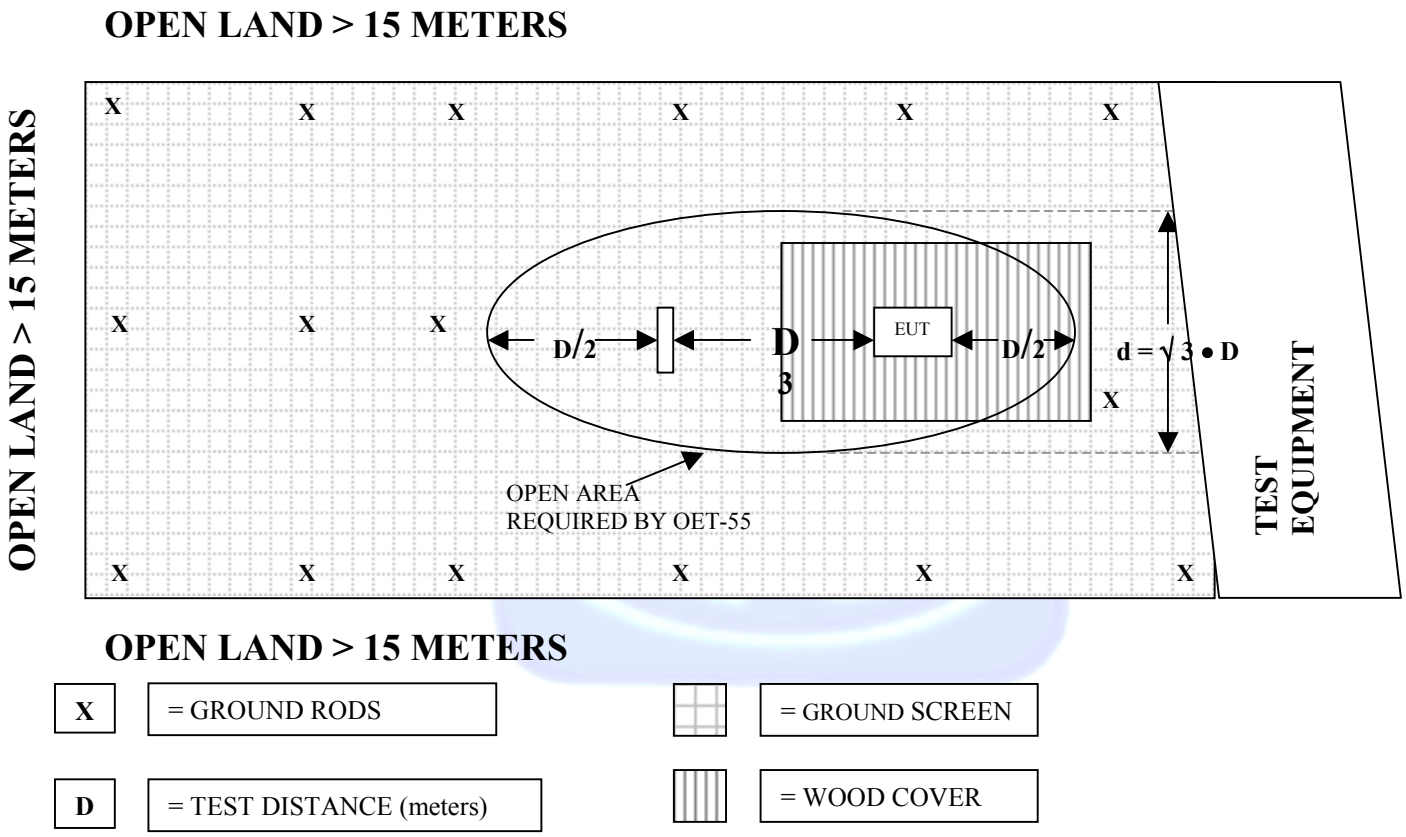
USED FOR THE PRIMARY TEST	Transmitter Model: IBETrans02 S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AB-100

BICONICAL ANTENNA

S/N: 01548

CALIBRATION DATE: SEPTEMBER 19, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	14.30	120	10.70
35	14.00	125	11.40
40	13.70	140	12.70
45	12.00	150	12.50
50	11.40	160	12.90
60	9.70	175	14.10
70	8.30	180	14.70
80	7.60	200	15.10
90	7.80	250	16.90
100	8.60	300	19.10

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16089

CALIBRATION DATE: OCTOBER 4, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.10	700	17.70
350	14.40	750	19.60
400	14.30	800	20.50
450	15.70	850	21.20
500	16.60	900	21.20
550	16.60	950	22.50
600	17.30	1000	24.60
650	18.80		

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: DECEMBER 31, 2001

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.5	300	38.5
40	38.5	350	38.4
50	38.5	400	38.2
60	38.5	450	37.8
70	38.5	500	38.0
80	38.5	550	38.2
90	38.3	600	38.2
100	38.3	650	38.0
125	38.6	700	38.1
150	38.5	750	37.7
175	38.4	800	37.4
200	38.5	850	37.9
225	38.5	900	37.2
250	38.4	950	36.8
275	38.4	1000	37.3

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: JANUARY 7, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	33.7	9.5	31.8
1.1	33.4	10.0	32.2
1.2	33.1	11.0	31.4
1.3	33.1	12.0	30.2
1.4	33.2	13.0	32.9
1.5	32.5	14.0	33.9
1.6	32.7	15.0	32.4
1.7	32.3	16.0	32.2
1.8	32.3	17.0	31.5
1.9	31.4	18.0	32.2
2.0	32.8	19.0	31.2
2.5	33.3	20.0	31.3
3.0	31.7	21.0	31.7
3.5	31.6	22.0	29.7
4.0	31.2		
4.5	31.2		
5.0	31.0		
5.5	31.3		
6.0	32.1		
6.5	32.1		
7.0	31.8		
7.5	32.0		
8.0	33.1		
8.5	32.0		
9.0	30.8		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 13, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.5	9.5	39.1
1.5	26.6	10.0	39.7
2.0	29.4	10.5	40.9
2.5	30.4	11.0	40.7
3.0	31.2	11.5	42.4
3.5	32.3	12.0	42.6
4.0	32.9	12.5	42.4
4.5	33.0	13.0	41.5
5.0	34.8	13.5	41.0
5.5	35.2	14.0	40.5
6.0	36.4	14.5	43.6
6.5	36.6	15.0	43.7
7.0	38.8	15.5	43.3
7.5	38.8	16.0	42.8
8.0	38.0	16.5	43.0
8.5	38.1	17.0	42.7
9.0	39.9	17.5	44.0
		18.0	41.8

COM-POWER AL-130

LOOP ANTENNA

S/N: 17070

CALIBRATION DATE: JUNE 19, 2002

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.4	11.1
0.01	-40.3	11.2
0.02	-41.2	10.3
0.05	-41.6	9.9
0.07	-41.4	10.1
0.1	-41.7	9.8
0.2	-44.0	7.5
0.3	-41.6	9.9
0.5	-41.3	10.2
0.7	-41.4	10.1
1	-40.9	10.6
2	-40.6	10.9
3	-40.5	11.0
4	-40.8	10.7
5	-40.2	11.3
10	-40.7	10.8
15	-41.4	10.1
20	-41.6	9.9
25	-41.7	9.8
30	-42.9	8.6

LOG ANTENNA

GARRETT INTEGRATED AUTOMOTIVE CORPORATION
TRANSMITTER
MODEL: IBETrans02
FCC SUBPART B AND C - RADIATED EMISSIONS – 12-26-02

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

HORN ANTENNA

GARRETT INTEGRATED AUTOMOTIVE CORPORATION
TRANSMITTER
MODEL: IBETrans02
FCC SUBPART B AND C - RADIATED EMISSIONS – 12-26-02

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	DATE	12/26/02
EUT	TRANSMITTER	DUTY CYCLE	N/A %
MODEL	IBETrans02	PEAK TO AVG	N/A dB
S/N	N/A	TEST DIST.	3 Meters
TEST ENGINEER	Kirit Ramani	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
916.5140	87.8	QP	H	1.2	135	X	LOW	21.6	5.1	37.1	0.0	0.0	**77.5**	**-16.5**	**94.0**	
916.5140	98.2	97.7 QP	H	1.2	0	Y	LOW	21.6	5.1	37.1	0.0	0.0	**87.4**	**-6.6**	**94.0**	
916.5140	100.2	99.8 QP	H	1.2	90	Z	LOW	21.6	5.1	37.1	0.0	0.0	**89.5**	**-4.5**	**94.0**	
916.5140	97.0	QP	V	1.3	0	X	LOW	21.6	5.1	37.1	0.0	0.0	**86.7**	**-7.3**	**94.0**	
916.5140	89.2	QP	V	1.0	180	Y	LOW	21.6	5.1	37.1	0.0	0.0	**78.9**	**-15.1**	**94.0**	
916.5140	89.8	QP	V	2.0	90	Z	LOW	21.6	5.1	37.1	0.0	0.0	**79.5**	**-14.5**	**94.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	DATE	12/26/02
EUT	TRANSMITTER	DUTY CYCLE	N/A %
MODEL	IBETrans02	PEAK TO AVG	N/A dB
S/N	N/A	TEST DIST.	3 Meters
TEST ENGINEER	Kirit Ramani	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
1833.0280	46.3	A	H	1.5	0	X	LOW	28.5	3.4	32.0	0.0	0.0	**46.2**	**-7.8**	**54.0**	
1833.0280	47.0	A	H	2.0	0	Y	LOW	28.5	3.4	32.0	0.0	0.0	**46.9**	**-7.1**	**54.0**	
1833.0280	52.2	49.3 A	H	1.5	90	Z	LOW	28.5	3.4	32.0	0.0	0.0	**49.2**	**-4.8**	**54.0**	
1833.0280	54.8	53.2 A	V	2.0	180	X	LOW	28.5	3.4	32.0	0.0	0.0	**53.1**	**-0.9**	**54.0**	
1833.0280	51.7	48.9 A	V	2.0	0	Y	LOW	28.5	3.4	32.0	0.0	0.0	**48.7**	**-5.3**	**54.0**	
1833.0280	53.4	51.5 A	V	1.0	180	Z	LOW	28.5	3.4	32.0	0.0	0.0	**51.3**	**-2.7**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	DATE	12/26/02
EUT	TRANSMITTER	DUTY CYCLE	N/A %
MODEL	IBETrans02	PEAK TO AVG	N/A dB
S/N	N/A	TEST DIST.	3 Meters
TEST ENGINEER	Kirit Ramani	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
2749.5420	42.7	A	H	1.5	135	X	LOW	30.8	4.3	32.5	0.0	0.0	**45.3**	**-8.7**	**54.0**	
2749.5420	43.5	A	H	1.5	135	Y	LOW	30.8	4.3	32.5	0.0	0.0	**46.1**	**-7.9**	**54.0**	
2749.5420	43.4	A	H	1.5	180	Z	LOW	30.8	4.3	32.5	0.0	0.0	**46.0**	**-8.0**	**54.0**	
2749.5420	46.2	A	V	1.5	90	X	LOW	30.8	4.3	32.5	0.0	0.0	**48.8**	**-5.2**	**54.0**	
2749.5420	43.8	A	V	2.0	0	Y	LOW	30.8	4.3	32.5	0.0	0.0	**46.4**	**-7.6**	**54.0**	
2749.5420	44.9	A	V	1.5	108	Z	LOW	30.8	4.3	32.5	0.0	0.0	**47.5**	**-6.5**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	DATE	12/26/02
EUT	TRANSMITTER	DUTY CYCLE	N/A %
MODEL	IBETrans02	PEAK TO AVG	N/A dB
S/N	N/A	TEST DIST.	3 Meters
TEST ENGINEER	Kirit Ramani	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
3666.0560	44.5	A	H	2.0	0	X	LOW	32.5	5.1	31.5	0.0	0.0	**50.7**	**-3.3**	**54.0**	
3666.0560	46.1	42.1 A	H	1.5	45	Y	LOW	32.5	5.1	31.5	0.0	0.0	**48.3**	**-5.7**	**54.0**	
3666.0560	45.1	39.2 A	H	1.5	0	Z	LOW	32.5	5.1	31.5	0.0	0.0	**45.4**	**-8.6**	**54.0**	
3666.0560	49.6	46.5 A	V	1.3	180	X	LOW	32.5	5.1	31.5	0.0	0.0	**52.7**	**-1.3**	**54.0**	
3666.0560	45.9	41.1 A	V	1.3	180	Y	LOW	32.5	5.1	31.5	0.0	0.0	**47.3**	**-6.7**	**54.0**	
3666.0560	48.7	45.2 A	V	1.5	135	Z	LOW	32.5	5.1	31.5	0.0	0.0	**51.4**	**-2.6**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	GARRETT INTEGRATED AUTOMOTIVE CORPORATION	DATE	12/26/02
EUT	TRANSMITTER	DUTY CYCLE	N/A %
MODEL	IBETrans02	PEAK TO AVG	N/A dB
S/N	N/A	TEST DIST.	3 Meters
TEST ENGINEER	Kirit Ramani	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
4582.5700	41.5	A	H	2.0	315	X	LOW	34.3	6.0	31.2	0.0	0.0	**50.6**	**-3.4**	**54.0**	
4582.5700	41.7	A	H	1.5	315	Y	LOW	34.3	6.0	31.2	0.0	0.0	**50.8**	**-3.2**	**54.0**	
4582.5700	40.3	A	H	1.5	0	Z	LOW	34.3	6.0	31.2	0.0	0.0	**49.4**	**-4.6**	**54.0**	
4582.5700	42.0	35.2 A	V	1.0	90	X	LOW	34.3	6.0	31.2	0.0	0.0	**44.3**	**-9.7**	**54.0**	
4582.5700	40.3	A	V	1.0	180	Y	LOW	34.3	6.0	31.2	0.0	0.0	**49.4**	**-4.6**	**54.0**	
4582.5700	43.5	40.2 A	V	1.0	180	Z	LOW	34.3	6.0	31.2	0.0	0.0	**49.3**	**-4.7**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

No Emissions Nor Harmonics Found After the 5th Harmonic

Page: 1 of 1

Test location: Compatible Electronics
Customer : ANDREW D. CIRAULO Date : 12/26/2002
Manufacturer : GARRETT INTEGRATED AUTOMOTIVE CORP. Time : 11.17
EUT name : TRANSMITTER Model: IBETrans02
Specification: Fcc_B Test distance: 3.0 mtrs Lab: D
Distance correction factor(20*log(test/spec)) : 0.00
Test Mode : RADIATED EMISSIONS – 10 kHz TO 9300 MHz
VERTICAL AND HORIZONTAL POLARIZATION
TESTED BY: KIRIT RAMANI

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
EUT PUT IN THE Z-AXIS								
1H	902.21	47.10	5.04	21.26	37.18	36.22	46.00	-9.78
2H	930.86	49.00	5.62	22.00	36.95	39.67	46.00	-6.33
EUT PUT IN THE X-AXIS								
3V	902.18	45.50	5.04	21.26	37.18	34.62	46.00	-11.38
4V	930.86	46.30	5.62	22.00	36.95	36.97	46.00	-9.03
EUT PUT IN THE Z-AXIS								
5V	930.84	44.90	5.62	22.00	36.95	35.57	46.00	-10.43

NO EMISSIONS FOUND FOR THE EUT IN THE Y-AXIS IN EITHER POLARIZATION.
NO EMISSIONS FOUND FOR THE EUT IN THE X-AXIS IN THE HORIZONTAL POLARIZATION.