TEST REPORT

No 203 936 RADIO Ed 1.0

AIS AtoN V3

KANNAD

RADIO

SPECIFICATIONS : IEC 62320-2 Edition 1.0 2008-03

Date: May 2011

CONTENTS

1. INTRODUCTION

This report only concerns the product submitted for tests and described on page 7.

This product doesn't be sold.

2. TEST HOUSE

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2.1. CLIENT INFORMATION

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People in charge : M. DELLASCHIAVA Dominique

2.2. MANUFACTURER INFORMATION

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Country : France
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3. SPECIFICATIONS REFERENCES

3.1. SPECIFICATION APPLIED FOR THE PRODUCT ON TEST

All testing are made in accordance with this generic or product specification.

IEC 62320-2 Edition 1.2008-03

Maritime navigation and radiocommunication equipment and systems – Automatic identification system (AIS).
Part 2: AIS AtoN Stations – Operational and performance requirements, methodes of testing and required test results

§ 7 AIS AtoN Station tests

3.2. DIFFERENTIAL APPLICATION

As defined by manufacturer

§ 6.2.2 Extreme test conditions

The test is realized in a temperature of -40°C ±3°C

§ 8 Functionnal tests

Tests report “Functionnal tests according IEC 62320-2” n° DRD11072A by Kannad

4. THE PRODUCT

4.1. PRODUCT DESCRIPTION

The beacon AIS AtoN V3 is a transceiver in the 160MHz band according to Type 3 AIS AtoN station capability.
The transceiver is housed in a dome composed by a cover and a manufactured base.

4.2. GENERAL SPECIFICATIONS

Height:	160mm
Diameter:	170mm
Weight:	1040g
Voltage:	12 or 24Vdc

Other characteristics:

RF output power :	High: 12W/Low: 2W
Frequencies:	Tx: 161.975 and 162.025 MHz
	Rx: 161.975 and 162.025 MHz

4.3. PRODUCT IDENTIFICATION

Model	AIS AtoN V3
Serial number:	AVS0002 & AVS0003
Soft version:	
State:	Serial

Note: The product must be full representative of commercial equipment.

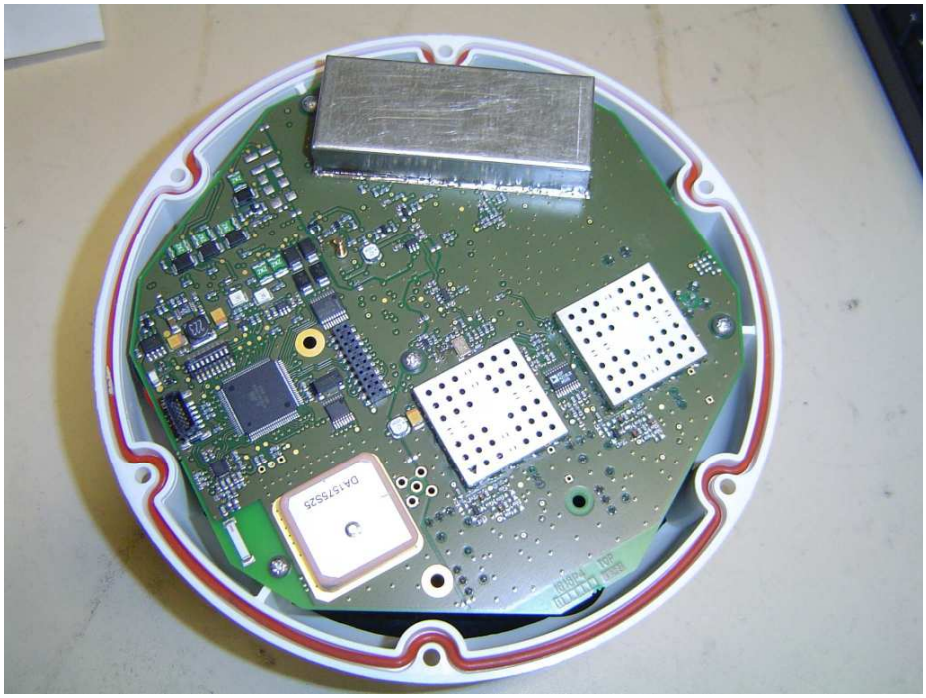
4.4. INTERCONNECTION CABLES

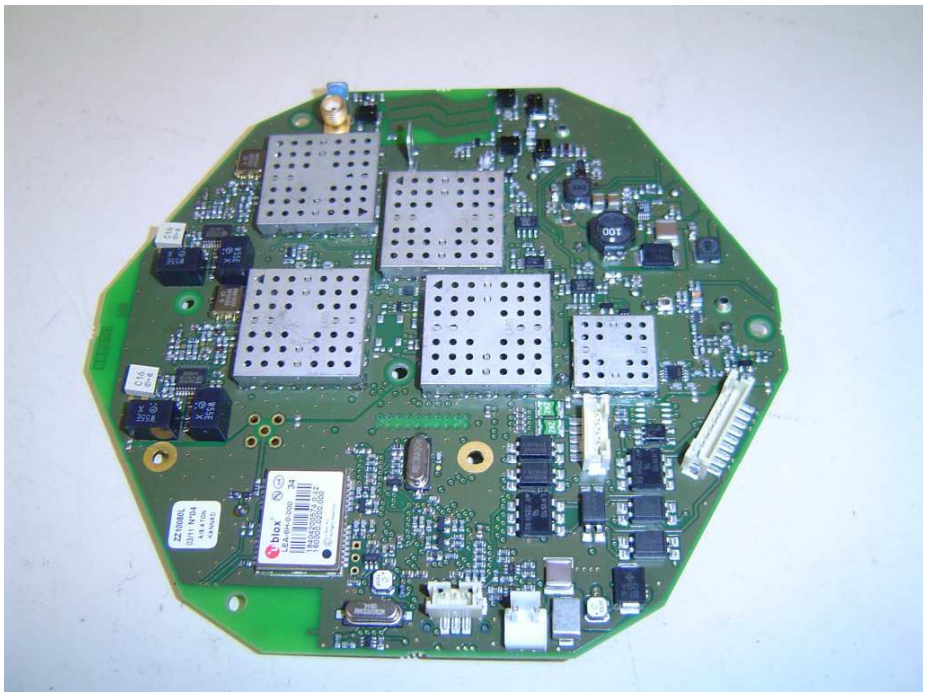
Cable (Ref)	Identification	Timbering		Lenght (m)	Qty
		braid	sheet		
1	Power supply & RS232 cable	X		5	1
2	RS485 cable	X		5	1
3	Coaxial cable (RG213)	X		5	1
4					

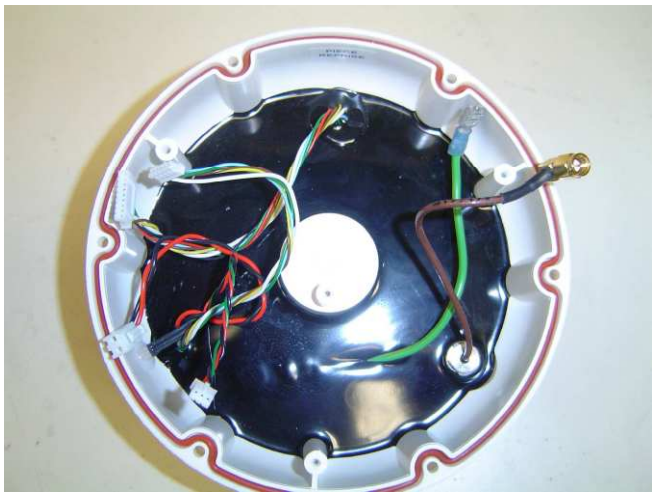
4.5. PERIPHERICAL EQUIPMENTS

Périphérical 1	Type : Serial n°:	Manufacturer :
Périphérical 2	Type : serial n°:	Manufacturer :
Périphérical 3	Type : serial n°:	Manufacturer :
Périphérical 4	Type : serial n°:	Manufacturer :

5. PICTURE







6. MEASUREMENTS

6.1. GENERAL CONDITIONS DURING THE TESTS

Made inside anechoïd room.

Temperature : 18°C

Humidity : 71%

6.2. MEASUREMENT INSTRUMENTATION UNCERTAINTY

RF Frequency	$\pm 1 \times 10^{-7}$
RF power	± 0.75 dB
Adjacent channel power	± 5 dB
Conductedspurious emission of transmitter	± 4 dB
Conducted spurious emission of receiver	± 3 dB
Two-signal measurement	± 4 dB
Three-signal measurement	± 3 dB
Radiated emission of transmitter	± 6 dB
Radiated emission of receiver	± 6 dB
Transmitter attack time	± 20 %
Transmitter release time	± 20 %
Transmitter transient frequency (frequency difference)	± 250 Hz

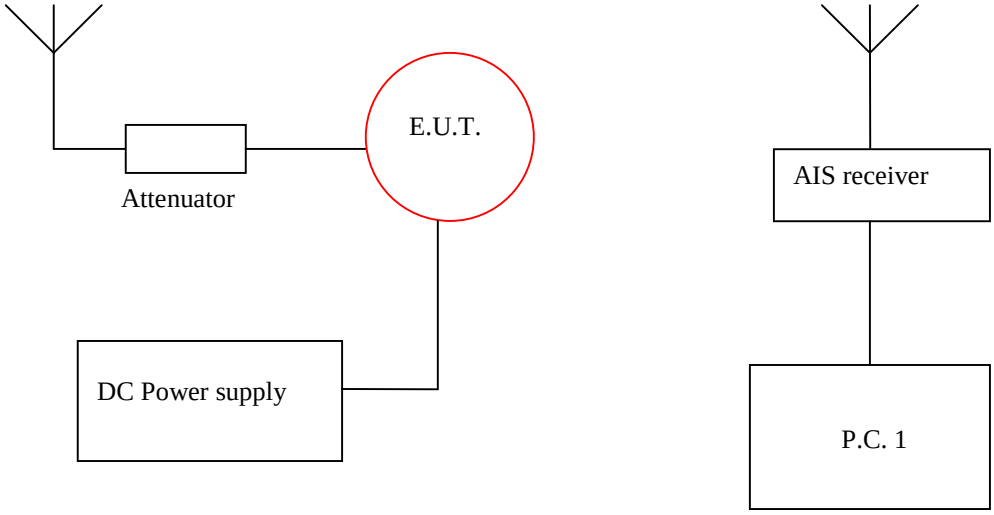
7. DOCUMENTS ON THE PRODUCT

- **See 203936DOC**
- **EMC report n° 203936EMC Ed 1.0 by KENTA ELECTRONIC**
- **Safety report n° 203936ES Ed 1.0 by KENTA ELECTRONIC**
- **Functional report n° DRD11072A by KANNAD**

8. OPERATIONAL STATE

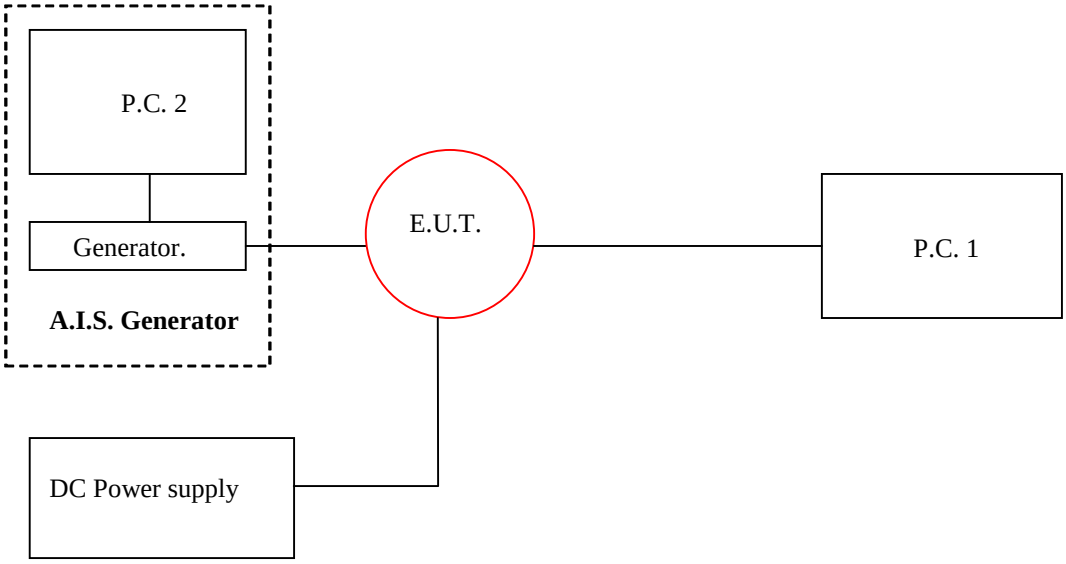
All tests were carried out with unmodified test sample, which were operating in normal operation mode for receiver part and test or normal operation mode for transmitter part.

Configuration of transmitter's test :



The transmitter is configured by switch to send on 161.975 MHz or 162.025 MHz a standard test signal, as defined in § 6.2.4 of IEC 62320-2, every 5s. Every message is received by the AIS receiver and displayed on the P.C. 1 or by a signal analyzer at the attenuator output.

Configuration of receiver's test :



The AIS generator send, on 161.975 MHz or on 162.025 MHz, one packet by second and each message contains four messages. Every message received by the AtoN is displayed and recorded on the P.C. 1.

The quality of the reception is specified by the Packet Error Rate (PER).

Calculation of the PER

$PER\ (\%) = (P_{TX} - P_{RX})/P_{TX} \times 100$

P_{TX} is the number of transmitted packets.
P_{RX} is the number of packets received without errors.

Standard and extreme test conditions:

Standard power supply	+12Vdc or +24 Vdc
Extreme power supply	+10Vdc and +30Vdc
Standard temperature	+18°C
Extreme temperature	-40°C and +55°C

9. TESTING EQUIPMENTS

9.1. DRY HEAT AND LOW TEMPERATURE

NAME AND MARK OF INSTRUMENT	MODEL	SERIAL N°	CALIBRATION
Climatic Test Chamber Vötsch	HT 4010	07071202	02/2008

9.2. TESTING EQUIPMENT

NAME AND MARK OF INSTRUMENT	MODEL	SERIAL N°	CALIBRATION
Spectrum Analyser Rhode & Schwartz	100Hz-5GHz FSQ8	200207	08/2010
Radiocommunication Analyzer Rhode & Schwartz	CMTA	826269/009	09/2010
Signal Generator Rhode & Schwartz	SMHU	862634/020	09/2010
Signal Generator Adret	7200A	179	09/2010
Power Supply Philipps	PE1642	STK10691	
Combiner Mini-Circuit	ZFSC-3-4+	BF676500949	
Combiner SUHNER	4901.01.A		
Attenuator SPINNER	745395 200W 30dB 50Ω	22714	

9.3. ANCILLARIES ADDITIONALY USED FOR TESTING

NAME AND MARK OF INSTRUMENT	MODEL	SERIAL N°	CALIBRATION
P.C 2 DELL	Optiplex GX620	B6STC2J	
P.C. 1 DELL	Latitude 120L	1JT1P2J	
Signal Generator AGILENT	E4438C	MY45092482	23/09/2010
AIS Receiver SevenStar Electronics Ltd	S.287	287010	

10. CONCLUSION

Tests are made from the 24th febuary 2011 to 5th April 2011.

The product AIS AtoN V3 made by KANNAD showed **COMPLIANCES** to the specifications **IEC 62320-2 Edition 1.0 2008-03** **§7 AIS AtoN Station tests**

	Nom	Date	Signature
Tests made by :	T. RONARC'H	12th May 2011	
Tests approved by :	JY. CHRISTIEN	12th May 2011	

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This test report n° 203 936RADIO Ed 1.0 contains 96 pages numbered 1/96 à 96/96.

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This document is the result of testing a specimen or a sample of the product submitted.

11. AIS AtoN STATION TESTS

11.1. RF TESTS (TRANSMITTER AND RECEIVER)

11.1.1. TDMA TRANSMITTER

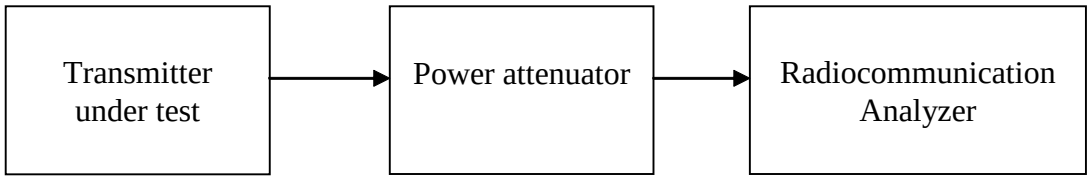
Unless otherwise stated, all transmitter tests shall be performed at the highest power setting.

11.1.1.1. FREQUENCY ERROR

11.1.1.1.1. PURPOSE

The frequency error of the transmitter is the difference between the measured carrier frequency in the absence of modulation and its required frequency.

11.1.1.1.2. METHOD OF MEASUREMENT



Measurement arrangement

a) The equipment shall be connected as illustrated.
b) The carrier frequency shall be measured in the absence of modulation.
c) The measurement shall be made under normal test conditions and extreme test conditions.
d) The test shall be performed on the lowest operating frequency and the highest operating
frequency as declared by the manufacturer.

11.1.1.1.3. REQUIRED RESULTS

The frequency error shall not exceed ± 0,5 kHz, under normal test conditions and ± 1 kHz under extreme test conditions.

11.1.1.1.4. RESULTS

	161.975 MHz				162.025 MHz			
	+10Vdc	+12Vdc	+24Vdc	+30Vdc	+10Vdc	+12Vdc	+24Vdc	+30Vdc
-40°C	+348Hz	+348Hz	+350Hz	+350Hz	+164Hz	+148Hz	+136Hz	+126Hz
+18°C	+127Hz	+102Hz	+138Hz	+141Hz	+151Hz	+151Hz	+150Hz	+148Hz
+55°C	+201Hz	+201Hz	+202Hz	+200Hz	+210Hz	+210Hz	+212Hz	+212Hz

COMPLIANT

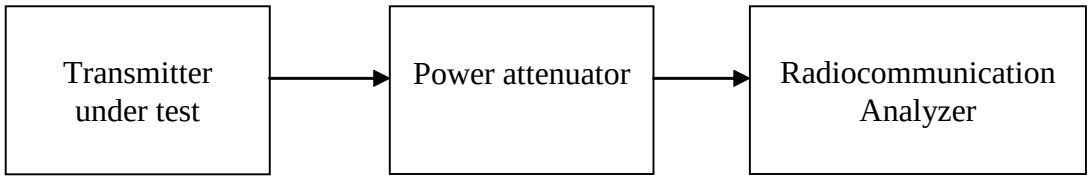
11.1.1.2. CARRIER POWER

11.1.1.2.1. PURPOSE

The transmitter carrier power conducted (*P*c) is the mean power delivered to a nominal 50 Ω load during a radio frequency cycle. The rated power shall be nominally 12,5 W or as declared by the manufacturer. The carrier power accuracy shall be tested at the nominal level of 12,5 W or the level declared by the manufacturer.

11.1.1.2.2. METHOD OF MEASUREMENT

a) The equipment shall be connected as illustrated in Figure 9.
b) The carrier power shall be measured in the absence of modulation.
c) The measurement shall be made under normal test conditions and extreme test conditions.
d) The test shall be performed at the lowest and highest operating frequencies as declared by the manufacturer
e) If the manufacturer optionally declares multiple power settings then the carrier power test shall be repeated at those settings at both the lowest and highest operating frequency of the EUT.



Measurement arrangement

11.1.1.2.3. REQUIRED RESULTS

*P*c shall be within ±1,5 dB of the rated nominal power under normal conditions and within ±3 dB of the rated nominal power under extreme conditions.

Carrier Power	Conditions	*Pc* Low	*Pc* High
2W	**Normal**	1.41W	2.82W
	Extreme	1W	4W
12W	**Normal**	8.51W	17W
	Extreme	6W	24W

11.1.1.2.4. RESULTS

		161.975 MHz				162.025 MHz			
		+10Vdc	+12Vdc	+24Vdc	+30Vdc	+10Vdc	+12Vdc	+24Vdc	+30Vdc
-40°C	2W	1.74W	1.77W	1.84W	1.88W	1.22W	1.34W	1.41W	1.48W
	12W	8.91W	10.4W	10.4W	10.5W	9.19W	10.6W	10.5W	10.5W
+18°C	2W	2.21W	2.41W	2.37W	2.33W	2.06W	2.31W	2.35W	2.37W
	12W	8.67W	10.1W	9.95W	9.89W	9.17W	10.2W	10.2W	10.3W
+55°C	2W	1.98W	2.02W	2.05W	2.06W	1.94W	1.96W	1.97W	1.98W
	12W	8.47W	10.4W	10.2W	10.2W	8.37W	10.2W	10.4W	10.5W

COMPLIANT

11.1.1.3. MODULATION SPECTRUM SLOTTED TRANSMISSION

11.1.1.3.1. PURPOSE

This test is to ensure that the modulation and transient sidebands produced by the transmitter under normal operating conditions fall within the allowable mask.

11.1.1.3.2. METHOD OF MEASUREMENT

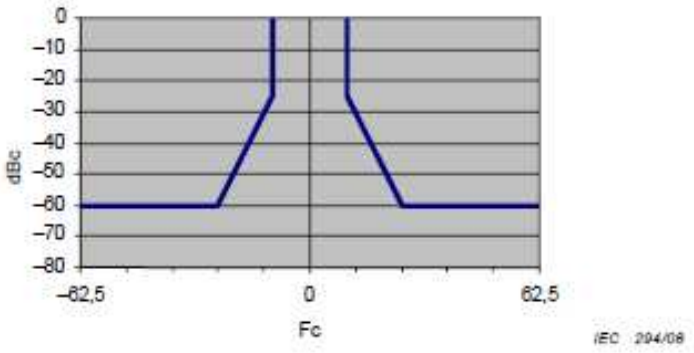
a) The test shall use test signal number 3.
b) The EUT shall be connected to a spectrum analyser. A resolution bandwidth of 1 kHz, video bandwidth of 3 kHz or greater and positive peak detection (maximum hold) shall be used for this measurement. A sufficient number of sweeps shall be used and sufficient transmission packets measured to ensure that the emission profile is developed.
c) Tests shall be performed on the lowest operating frequency on which the EUT can transmit according to the manufacturers specification and Channel 2 (162,025 MHz).

11.1.1.3.3. REQUIRED RESULTS

The spectrum for slotted transmission shall be within the emission mask as follows:

- in the region between the carrier and ±10 kHz removed from the carrier, the modulation and transient sidebands shall be below 0 dBc;
- at 10 kHz removed from the carrier, the modulation and transient sidebands shall be below –25 dBc;
- at 25 kHz to ±62,5 kHz removed from the carrier, the modulation and transient sidebands shall be below the lower value of –60 dBc or –30 dBm;
- in the region between ±10 kHz and ±25 kHz removed from the carrier, the modulation and transient sidebands shall be below a line specified between these two points.

The reference level for the measurement shall be the carrier power (conducted) recorded for the appropriate test frequency in 11.1.1.2.

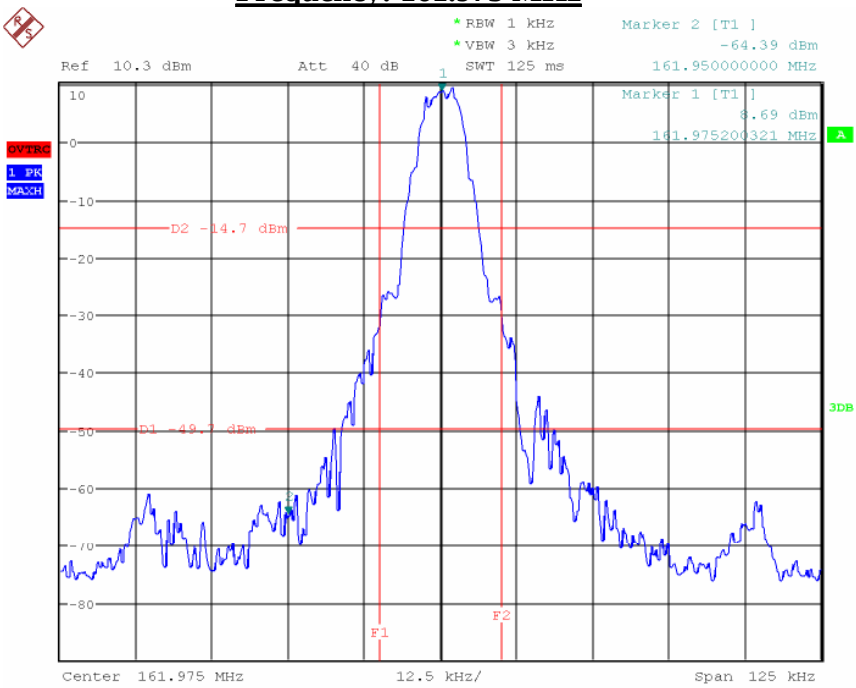


Emission Mask

11.1.1.3.4. RESULTS

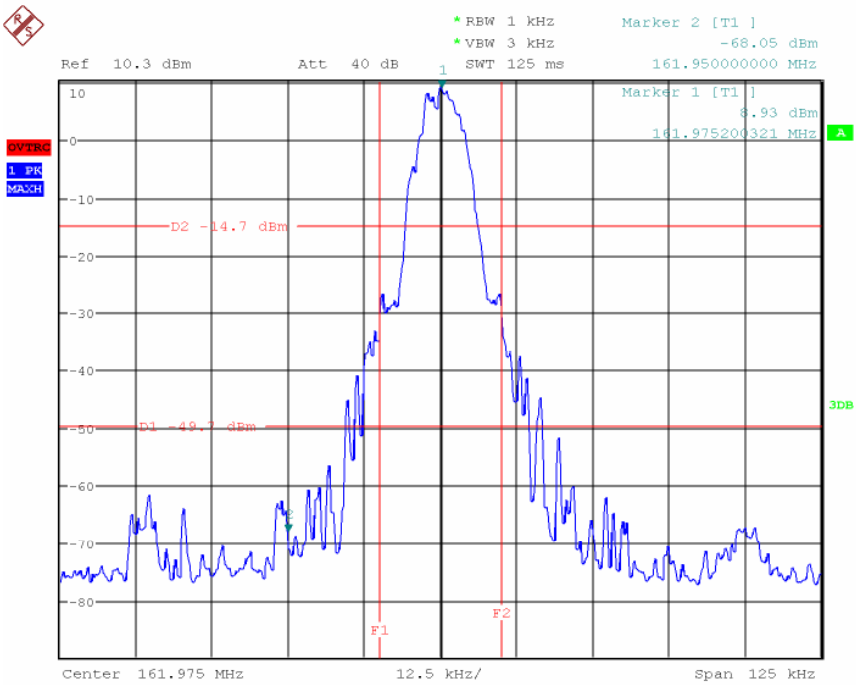
Frequency: 161.975 MHz

At 12Vdc



Date: 24.FEB.2011 10:14:43

At 24Vdc

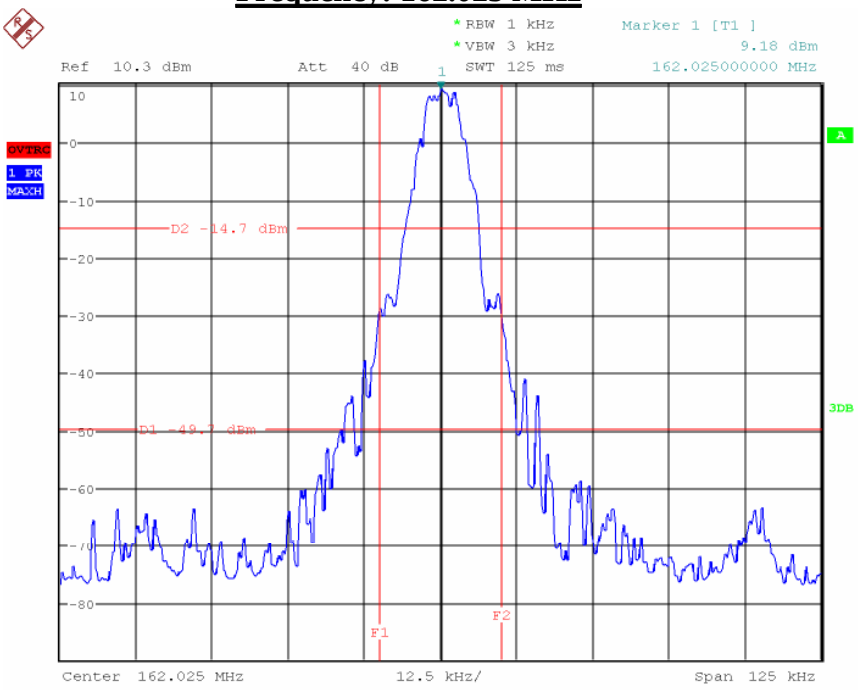


Date: 24.FEB.2011 10:18:59

COMPLIANT

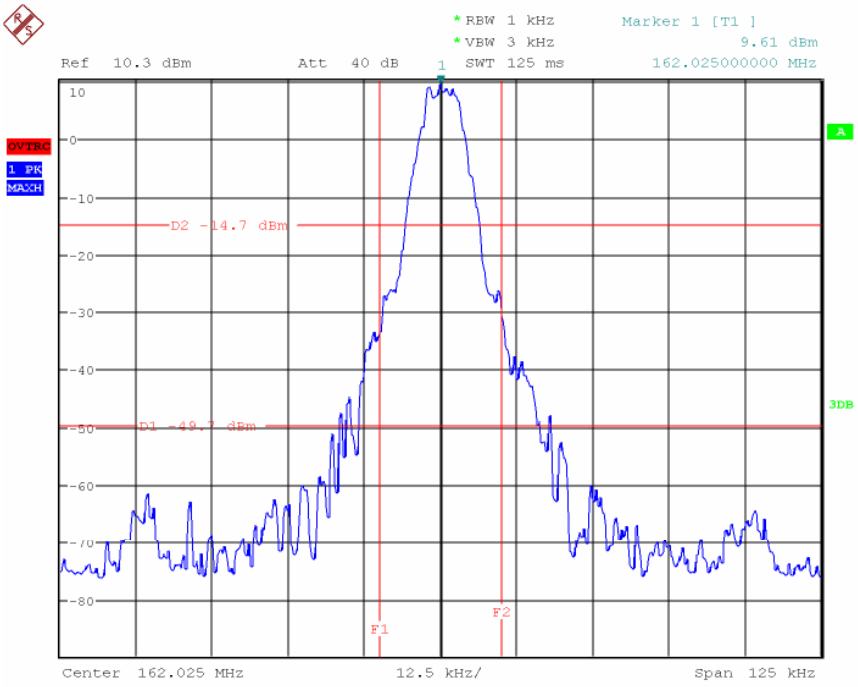
Frequency: 162.025 MHz

At 12Vdc



Date: 24.FEB.2011 10:33:49

At 24Vdc



Date: 24.FEB.2011 10:28:17

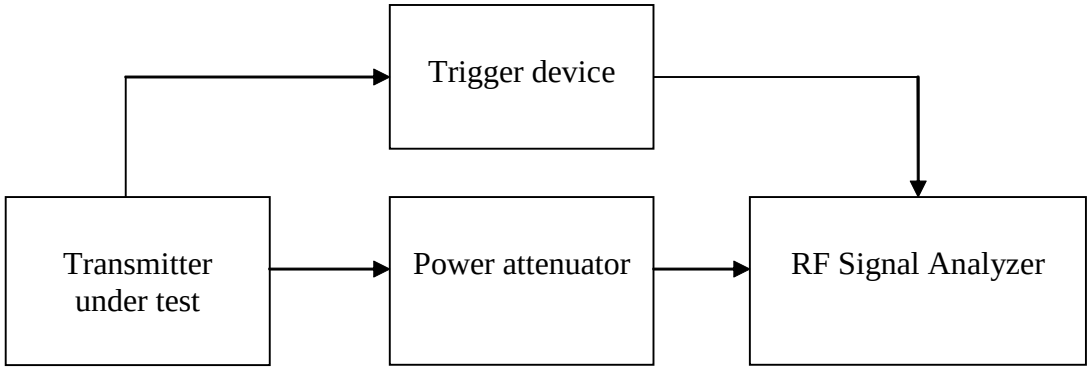
COMPLIANT

11.1.1.4. TRANSMITTER TEST SEQUENCE AND MODULATION ACCURACY

11.1.1.4.1. PURPOSE

The test is to verify that the training sequence starts with a 0 and is a 0101 pattern of 24 bits. The peak frequency deviation is derived from the baseband signal to verify modulation accuracy.

11.1.1.4.2. METHOD OF MEASUREMENT



Measurement arrangement for modulation accuracy – Configuration A

The measurement procedure shall be as follows:

a) the equipment shall be connected in either Configuration A. The trigger device is optional if the equipment is capable of synchronising to the transmitted bursts;
b) the transmitter shall be tuned to Channel 2 (162,025 MHz);
c) the transmitter shall be modulated with test signal number 1;
d) the deviation from the carrier frequency shall be measured as a function of time;
e) the transmitter shall be modulated with test signal number 2;
f) the deviation from the carrier frequency shall be measured as a function of time;
g) measurements shall be repeated at the lowest frequency on which the EUT can transmit, according to the manufacturer's specification;
h) testing shall be repeated under extreme test conditions.

11.1.1.4.3. REQUIRED RESULTS

In each case, verify that the training sequence begins with '0'.
Peak frequency deviation at various points within the data frame shall comply with Table. These limits apply to both the positive and negative modulation peaks. Bit 0 is defined as the first bit of the training sequence.

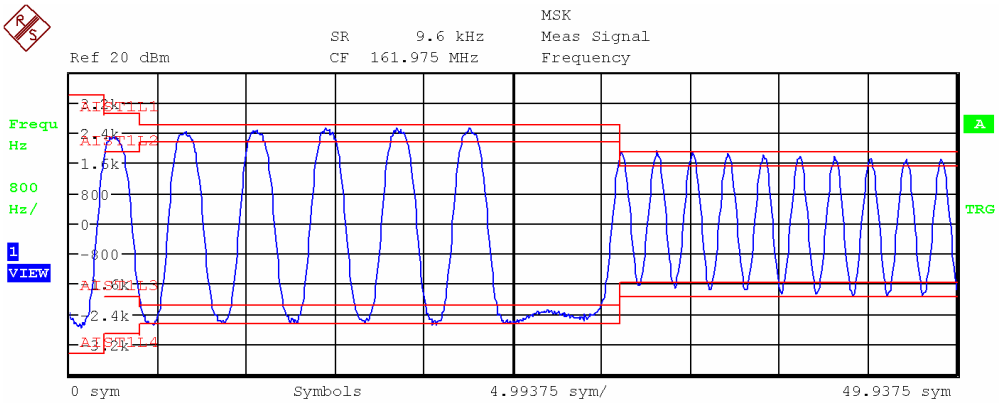
Peak frequency deviation versus time

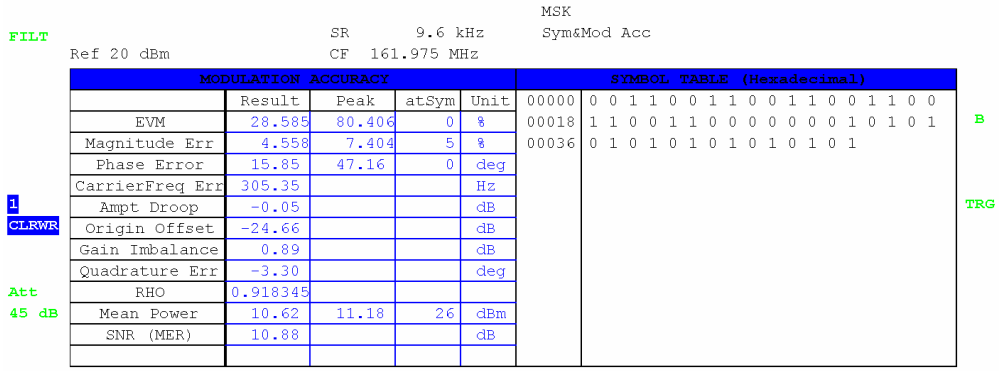
Measurement period from centre of each bit	Test signal 1		Test signal 2	
	Normal	Extreme	Normal	Extreme
Bit 0 to bit 1	<3400Hz			
Bit 2 to bit3	2400 Hz ±480Hz			
Bit 4 to bit 3	2400 Hz ±240Hz	2400 Hz ±480Hz	2400 Hz ±240Hz	2400 Hz ±480Hz
Bit 32 to bit 199	1740 Hz ±175Hz	1740 Hz ±350Hz	2400 Hz ±240Hz	2400 Hz ±480Hz

11.1.1.4.4. RESULTS

Frequency: 161.975 MHz : +18°C – 12Vdc – Test signal 1

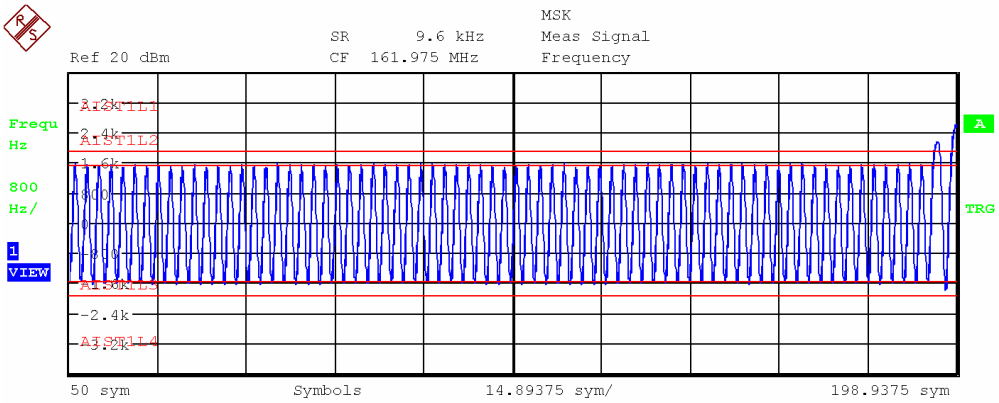
Bit 0 to bit 50

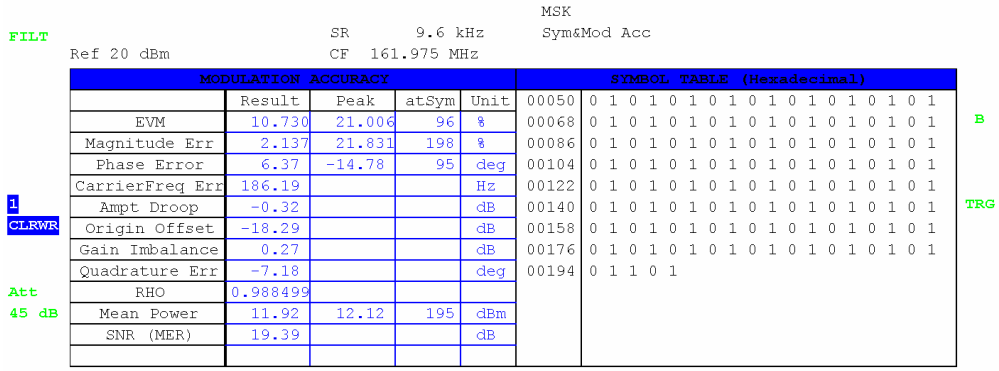




MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
EVM	28.585	80.406	0	%	00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
Magnitude Err	4.558	7.404	5	%	00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1
Phase Error	15.85	47.16	0	deg		
CarrierFreq Err	305.35			Hz		
Ampt Droop	-0.05			dB		
Origin Offset	-24.66			dB		
Gain Imbalance	0.89			dB		
Quadrature Err	-3.30			deg		
RHO	0.918345					
Mean Power	10.62	11.18	26	dBm		
SNR (MER)	10.88			dB		

Bit 50 to bit 199





MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
EVM	10.730	21.006	96	%	00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Magnitude Err	2.137	21.831	198	%	00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Phase Error	6.37	-14.78	95	deg	00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
CarrierFreq Err	186.19			Hz	00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Ampt Droop	-0.32			dB	00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Origin Offset	-18.29			dB	00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Gain Imbalance	0.27			dB	00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Quadrature Err	-7.18			deg	00194	0 1 1 0 1
RHO	0.988499					
Mean Power	11.92	12.12	195	dBm		
SNR (MER)	19.39			dB		

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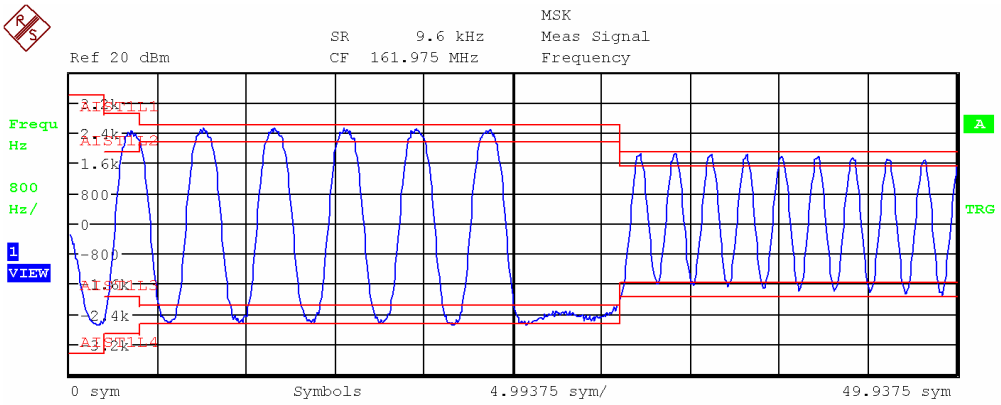
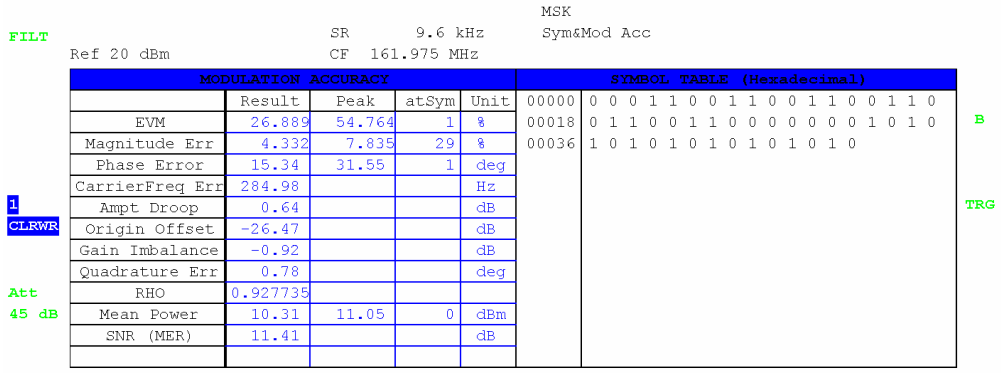
Frequency: 161.975 MHz : +18°C – 24Vdc – Test signal 1

Bit 0 to bit 50

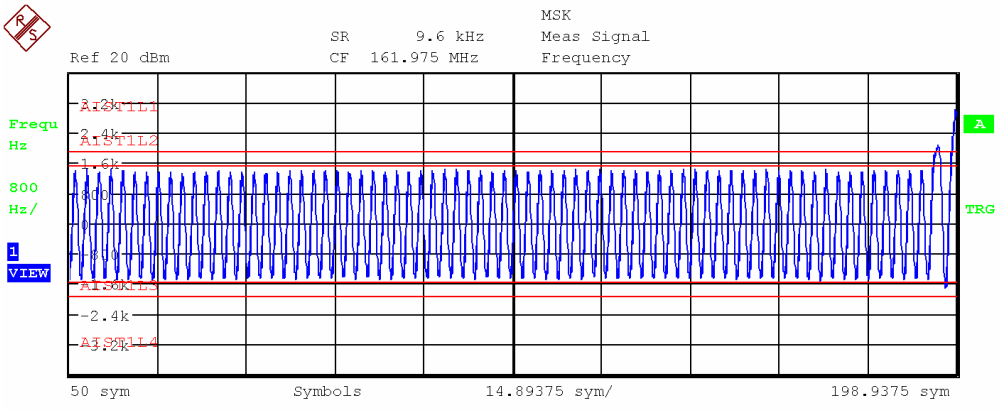


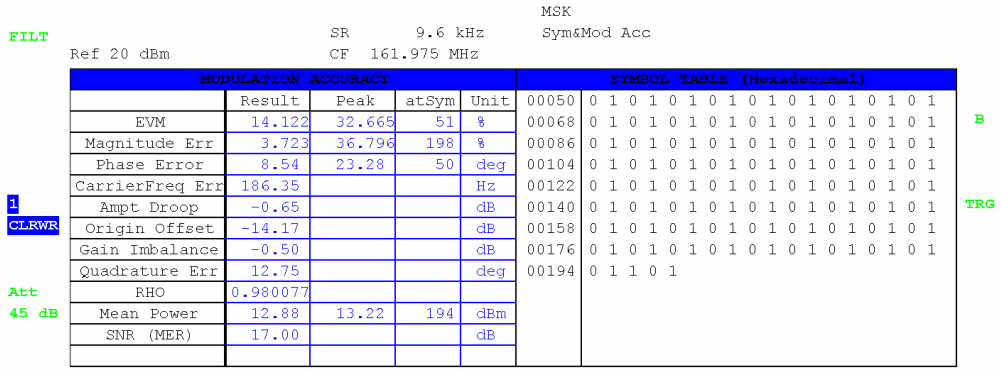


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	26.889	54.764	1	%
Magnitude Err	4.332	7.835	29	%
Phase Error	15.34	31.55	1	deg
CarrierFreq Err	284.98			Hz
Ampt Droop	0.64			dB
Origin Offset	-26.47			dB
Gain Imbalance	-0.92			dB
Quadrature Err	0.78			deg
RHO	0.927735			
Mean Power	10.31	11.05	0	dBm
SNR (MER)	11.41			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0
00036	1 0 1 0 1 0 1 0 1 0 1 0 1 0

Bit 50 to bit 199





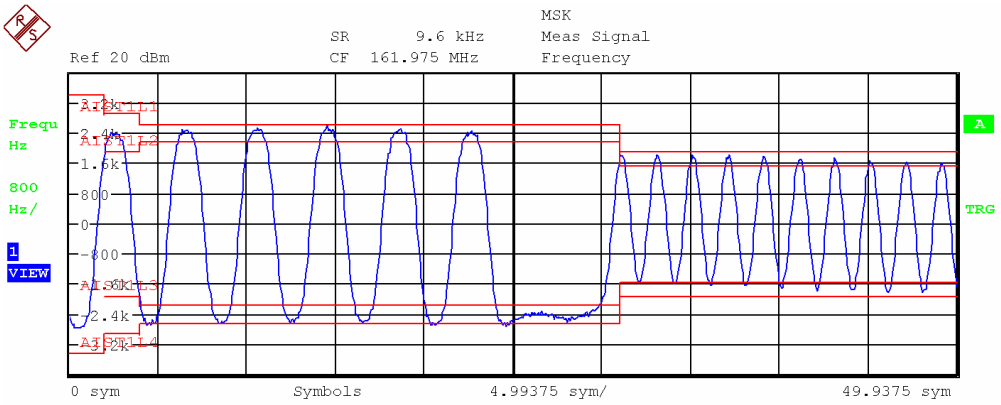
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	14.122	32.665	51	%
Magnitude Err	3.723	36.796	198	%
Phase Error	8.54	23.28	50	deg
CarrierFreq Err	186.35			Hz
Ampt Droop	-0.65			dB
Origin Offset	-14.17			dB
Gain Imbalance	-0.50			dB
Quadrature Err	12.75			deg
RHO	0.980077			
Mean Power	12.88	13.22	194	dBm
SNR (MER)	17.00			dB

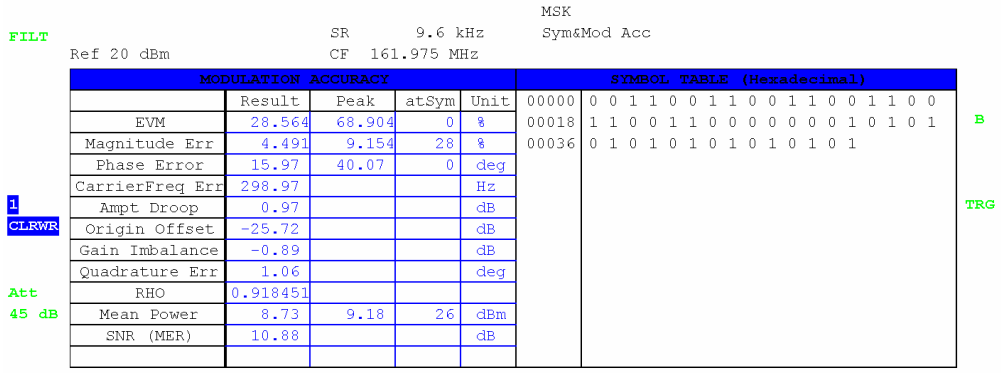
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +18°C – 10Vdc – Test signal 1

Bit 0 to bit 50

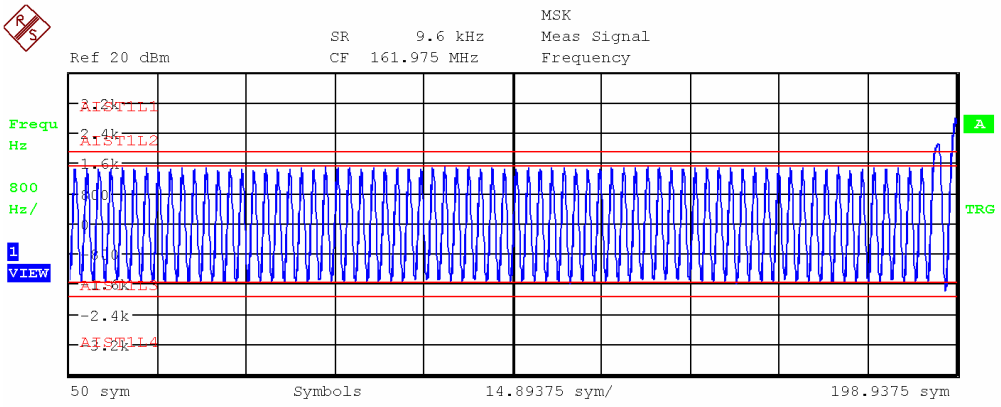


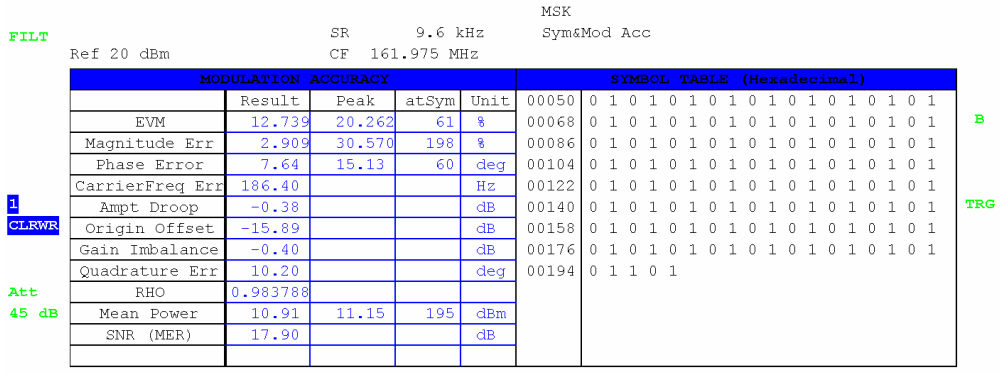


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	28.564	68.904	0	%
Magnitude Err	4.491	9.154	28	%
Phase Error	15.97	40.07	0	deg
CarrierFreq Err	298.97			Hz
Ampt Droop	0.97			dB
Origin Offset	-25.72			dB
Gain Imbalance	-0.89			dB
Quadrature Err	1.06			deg
RHO	0.918451			
Mean Power	8.73	9.18	26	dBm
SNR (MER)	10.88			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





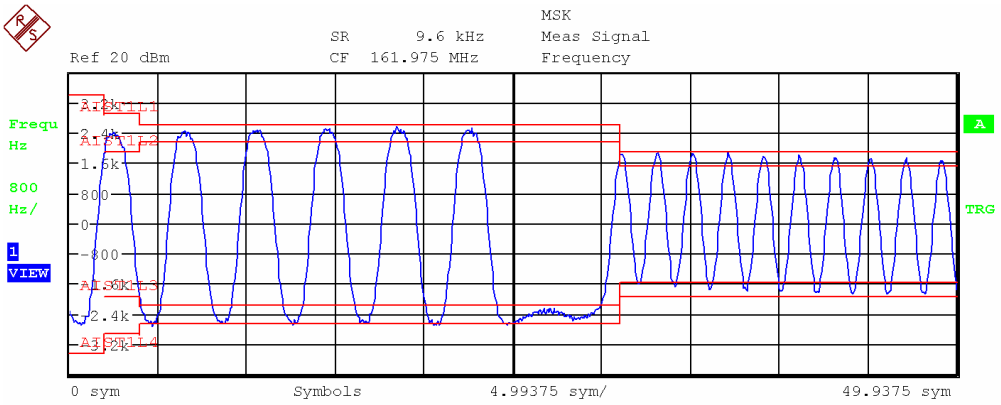
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	12.739	20.262	61	%
Magnitude Err	2.909	30.570	198	%
Phase Error	7.64	15.13	60	deg
CarrierFreq Err	186.40			Hz
Ampt Droop	-0.38			dB
Origin Offset	-15.89			dB
Gain Imbalance	-0.40			dB
Quadrature Err	10.20			deg
RHO	0.983788			
Mean Power	10.91	11.15	195	dBm
SNR (MER)	17.90			dB

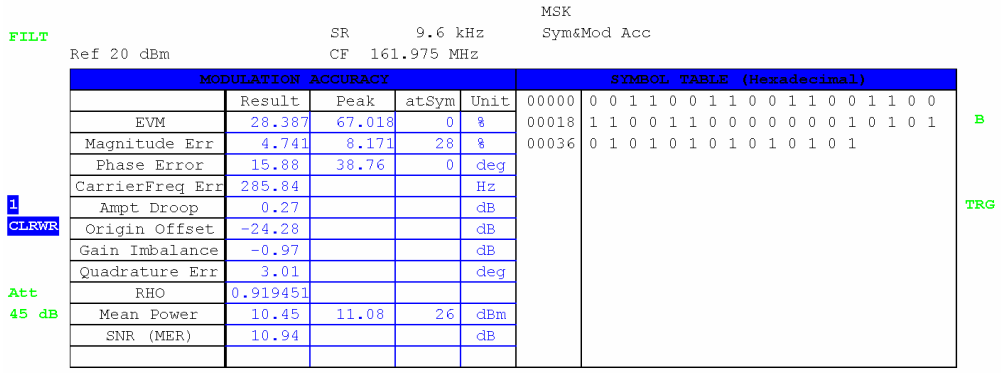
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +18°C – 30Vdc – Test signal 1

Bit 0 to bit 50

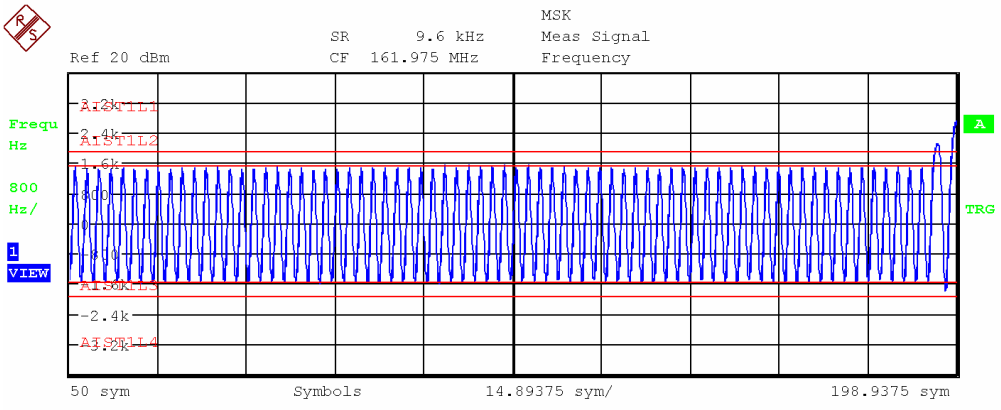


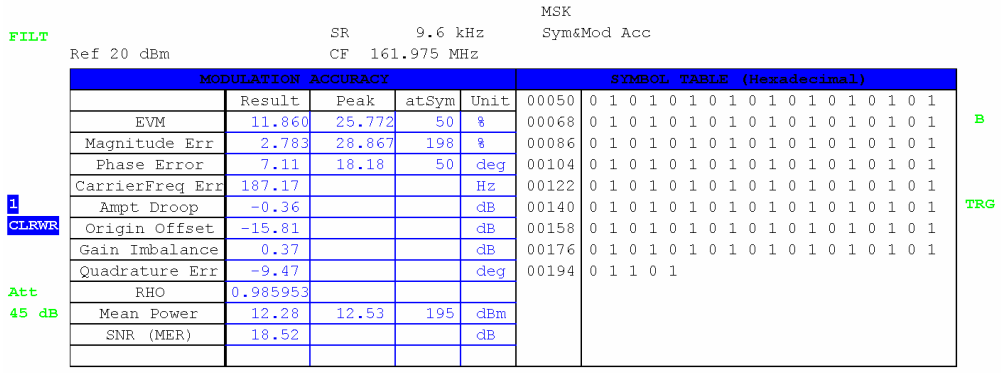


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	28.387	67.018	0	%
Magnitude Err	4.741	8.171	28	%
Phase Error	15.88	38.76	0	deg
CarrierFreq Err	285.84			Hz
Ampt Droop	0.27			dB
Origin Offset	-24.28			dB
Gain Imbalance	-0.97			dB
Quadrature Err	3.01			deg
RHO	0.919451			
Mean Power	10.45	11.08	26	dBm
SNR (MER)	10.94			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





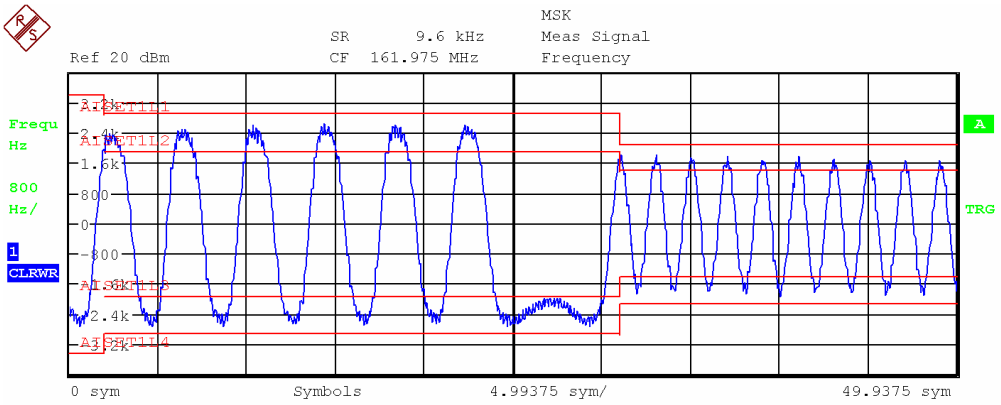
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.860	25.772	50	%
Magnitude Err	2.783	28.867	198	%
Phase Error	7.11	18.18	50	deg
CarrierFreq Err	187.17			Hz
Ampt Droop	-0.36			dB
Origin Offset	-15.81			dB
Gain Imbalance	0.37			dB
Quadrature Err	-9.47			deg
RHO	0.985953			
Mean Power	12.28	12.53	195	dBm
SNR (MER)	18.52			dB

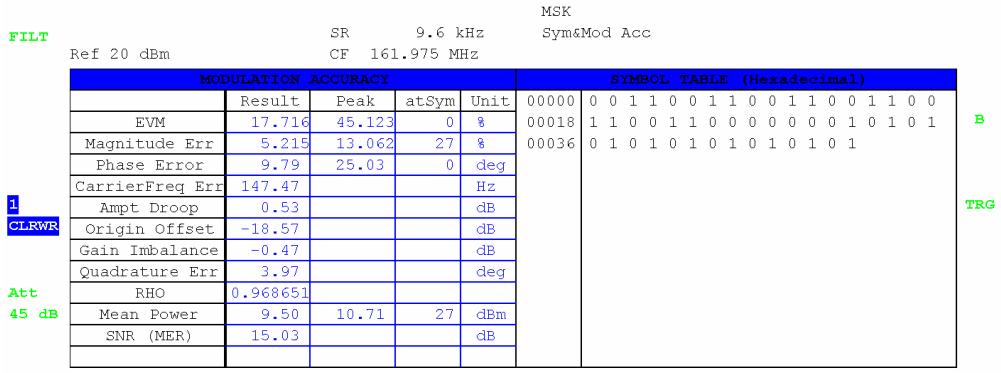
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : -40°C – 10Vdc – Test signal 1

Bit 0 to bit 50

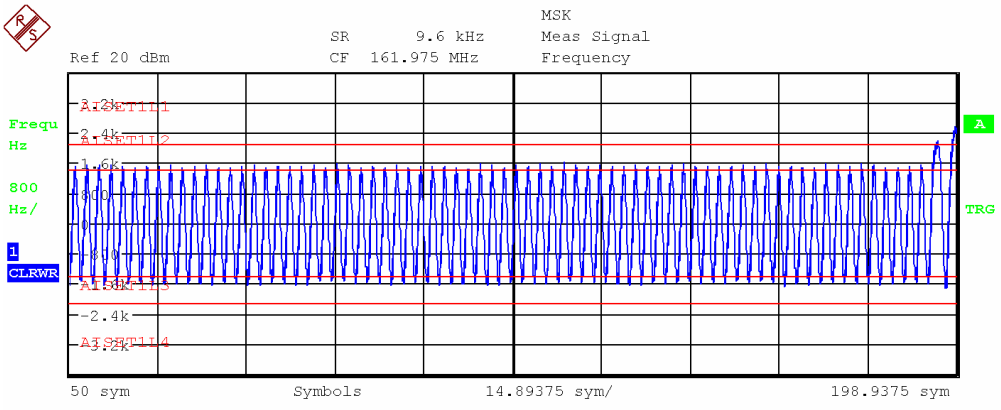


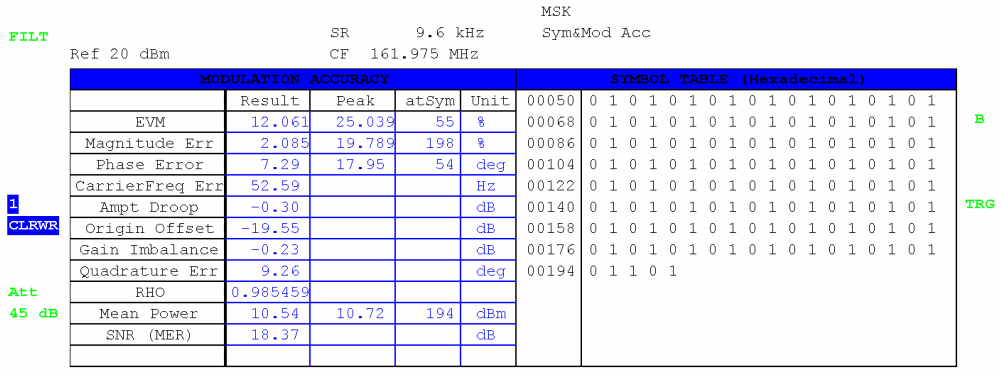


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	17.716	45.123	0	%
Magnitude Err	5.215	13.062	27	%
Phase Error	9.79	25.03	0	deg
CarrierFreq Err	147.47			Hz
Ampt Droop	0.53			dB
Origin Offset	-18.57			dB
Gain Imbalance	-0.47			dB
Quadrature Err	3.97			deg
RHO	0.968651			
Mean Power	9.50	10.71	27	dBm
SNR (MER)	15.03			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





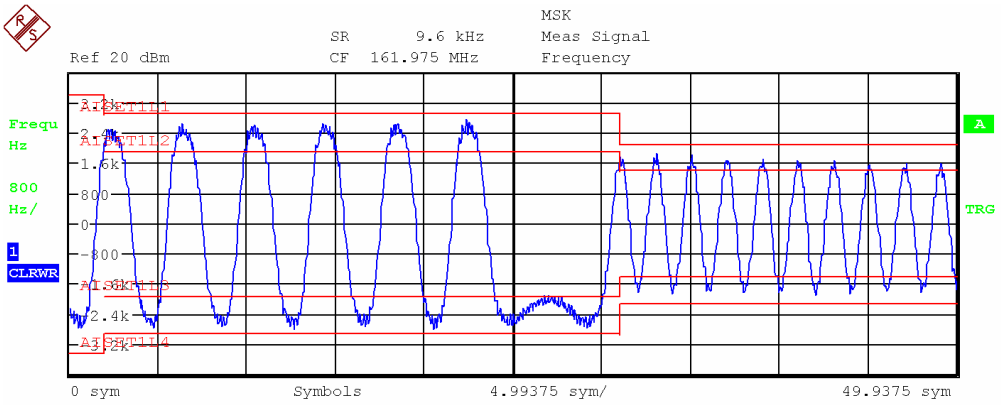
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	12.061	25.039	55	%
Magnitude Err	2.085	19.789	198	%
Phase Error	7.29	17.95	54	deg
CarrierFreq Err	52.59			Hz
Ampt Droop	-0.30			dB
Origin Offset	-19.55			dB
Gain Imbalance	-0.23			dB
Quadrature Err	9.26			deg
RHO	0.985459			
Mean Power	10.54	10.72	194	dBm
SNR (MER)	18.37			dB

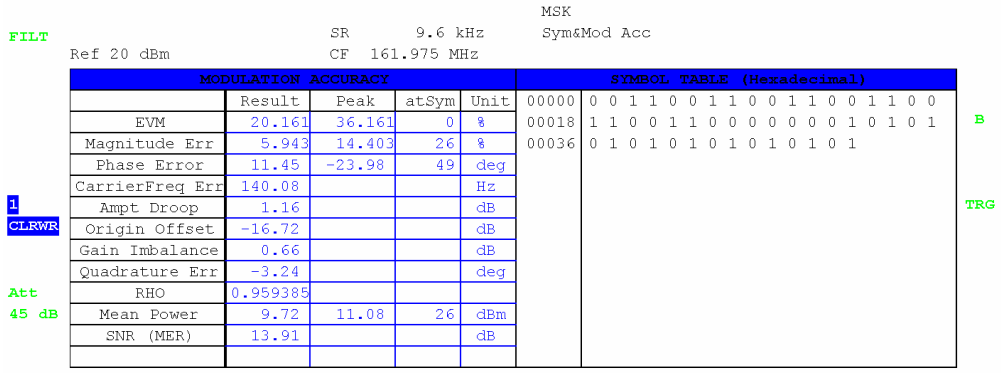
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : -40°C – 12Vdc – Test signal 1

Bit 0 to bit 50

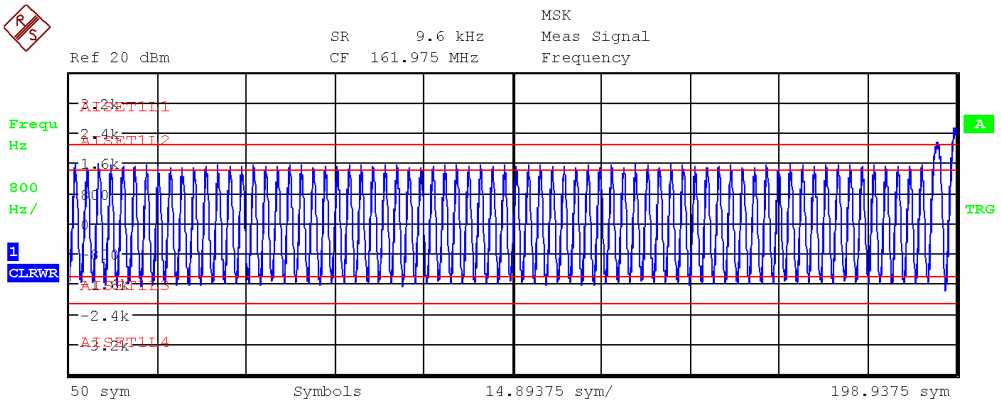


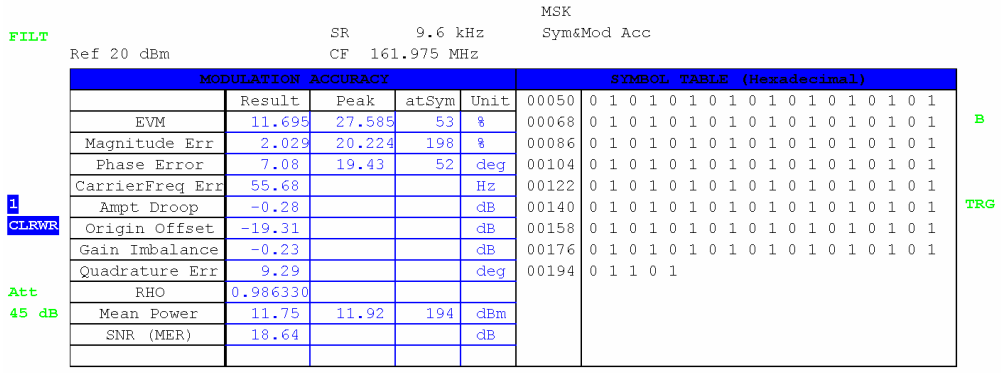


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	20.161	36.161	0	%
Magnitude Err	5.943	14.403	26	%
Phase Error	11.45	-23.98	49	deg
CarrierFreq Err	140.08			Hz
Ampt Droop	1.16			dB
Origin Offset	-16.72			dB
Gain Imbalance	0.66			dB
Quadrature Err	-3.24			deg
RHO	0.959385			
Mean Power	9.72	11.08	26	dBm
SNR (MER)	13.91			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





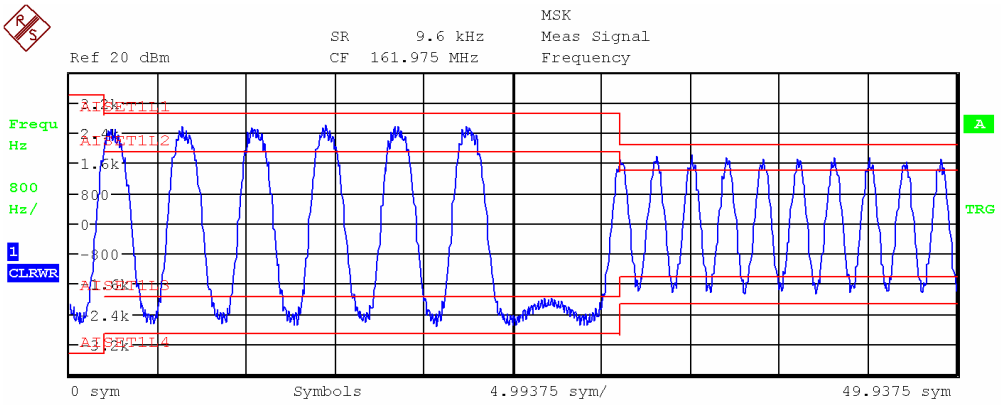
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.695	27.585	53	%
Magnitude Err	2.029	20.224	198	%
Phase Error	7.08	19.43	52	deg
CarrierFreq Err	55.68			Hz
Ampt Droop	-0.28			dB
Origin Offset	-19.31			dB
Gain Imbalance	-0.23			dB
Quadrature Err	9.29			deg
RHO	0.986330			
Mean Power	11.75	11.92	194	dBm
SNR (MER)	18.64			dB

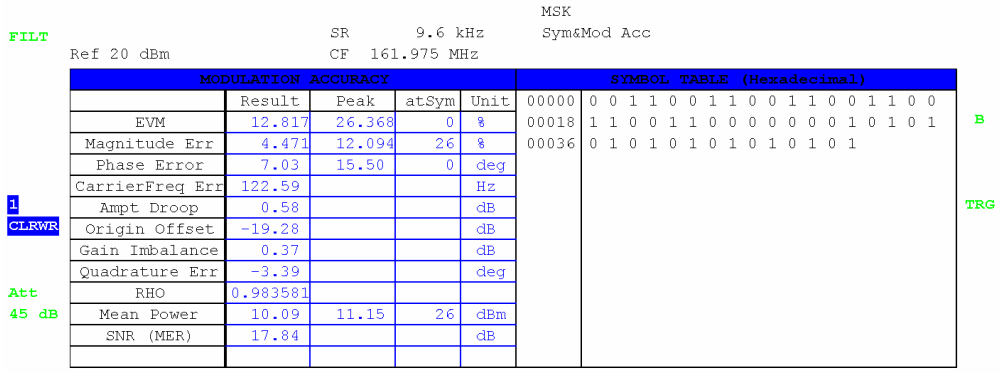
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : -40°C – 24Vdc – Test signal 1

Bit 0 to bit 50

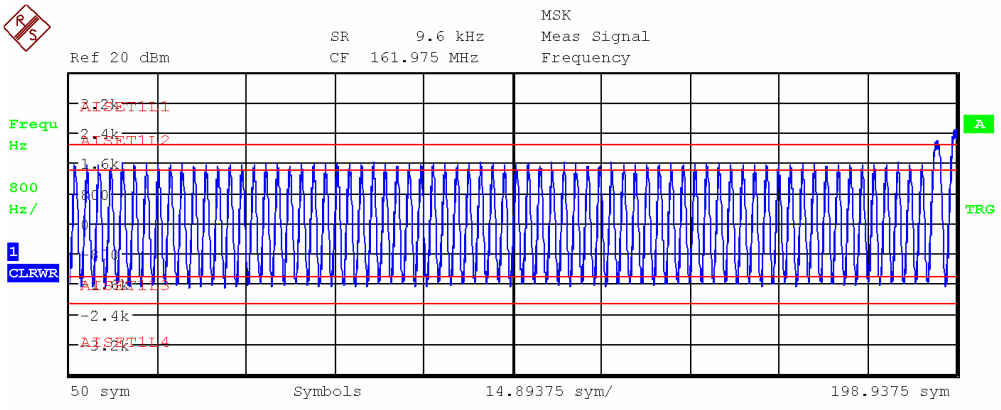


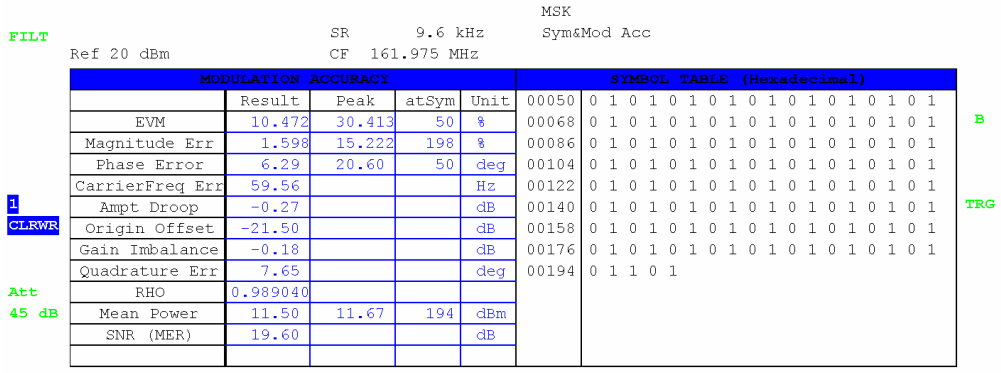


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	12.817	26.368	0	%
Magnitude Err	4.471	12.094	26	%
Phase Error	7.03	15.50	0	deg
CarrierFreq Err	122.59			Hz
Ampt Droop	0.58			dB
Origin Offset	-19.28			dB
Gain Imbalance	0.37			dB
Quadrature Err	-3.39			deg
RHO	0.983581			
Mean Power	10.09	11.15	26	dBm
SNR (MER)	17.84			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





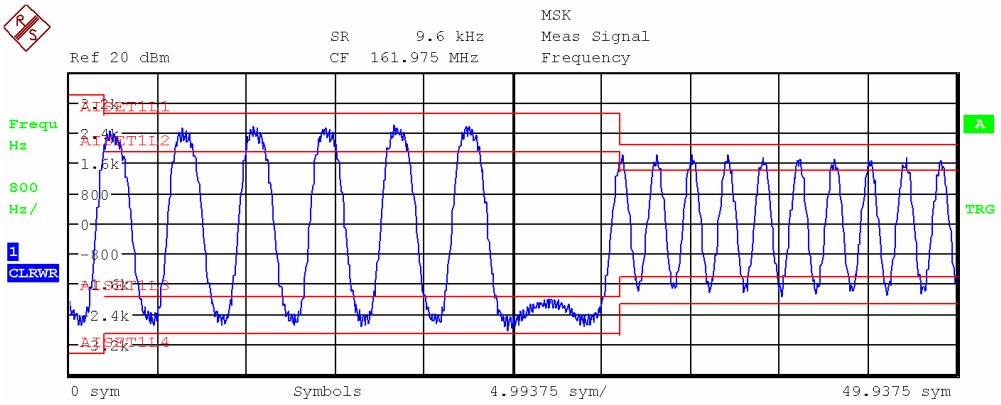
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	10.472	30.413	50	%
Magnitude Err	1.598	15.222	198	%
Phase Error	6.29	20.60	50	deg
CarrierFreq Err	59.56			Hz
Ampt Droop	-0.27			dB
Origin Offset	-21.50			dB
Gain Imbalance	-0.18			dB
Quadrature Err	7.65			deg
RHO	0.989040			
Mean Power	11.50	11.67	194	dBm
SNR (MER)	19.60			dB

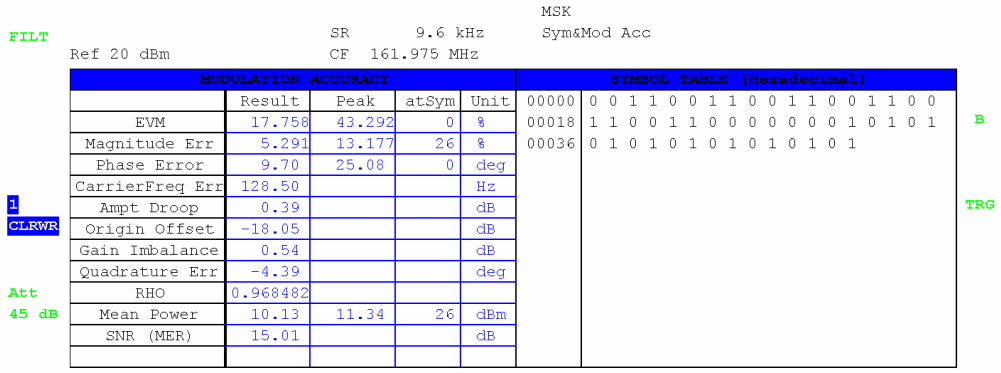
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : -40°C – 30Vdc – Test signal 1

Bit 0 to bit 50

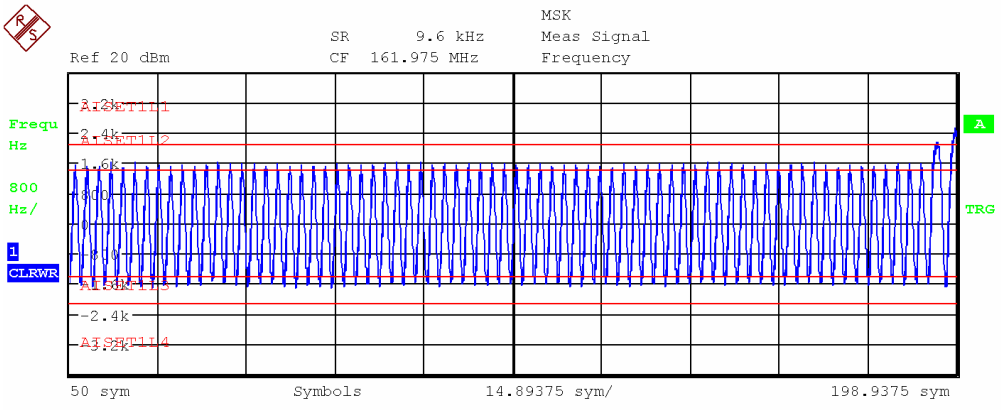


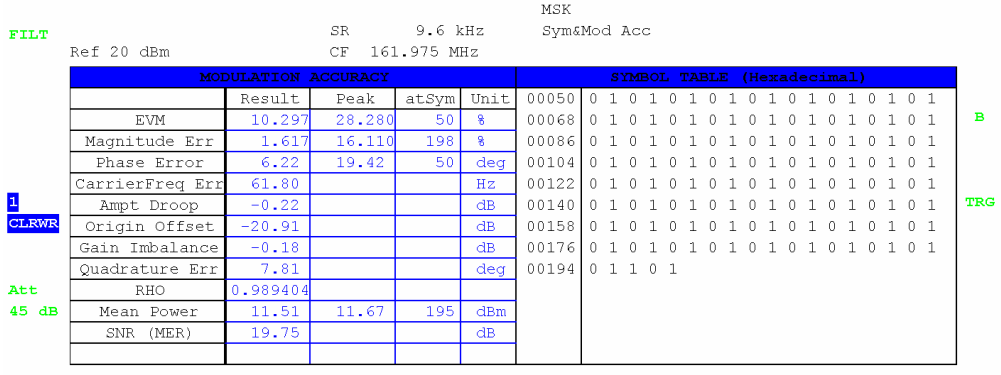


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	17.758	43.292	0	%
Magnitude Err	5.291	13.177	26	%
Phase Error	9.70	25.08	0	deg
CarrierFreq Err	128.50			Hz
Ampt Droop	0.39			dB
Origin Offset	-18.05			dB
Gain Imbalance	0.54			dB
Quadrature Err	-4.39			deg
RHO	0.968482			
Mean Power	10.13	11.34	26	dBm
SNR (MER)	15.01			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





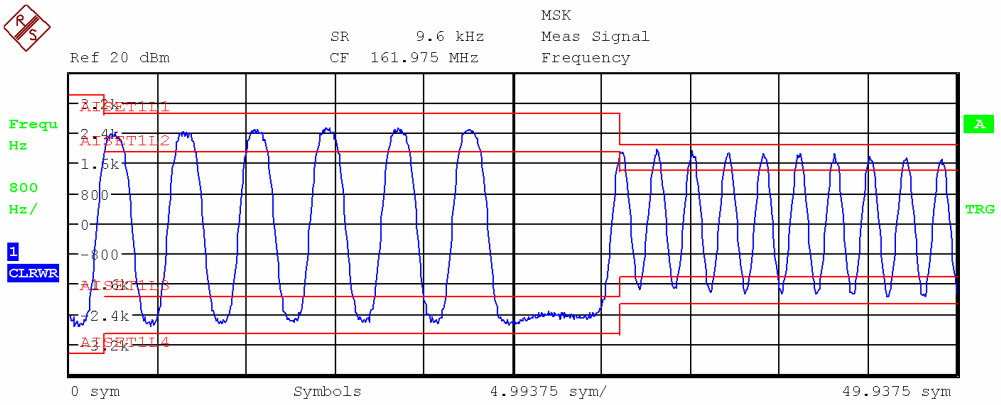
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	10.297	28.280	50	%
Magnitude Err	1.617	16.110	198	%
Phase Error	6.22	19.42	50	deg
CarrierFreq Err	61.80			Hz
Ampt Droop	-0.22			dB
Origin Offset	-20.91			dB
Gain Imbalance	-0.18			dB
Quadrature Err	7.81			deg
RHO	0.989404			
Mean Power	11.51	11.67	195	dBm
SNR (MER)	19.75			dB

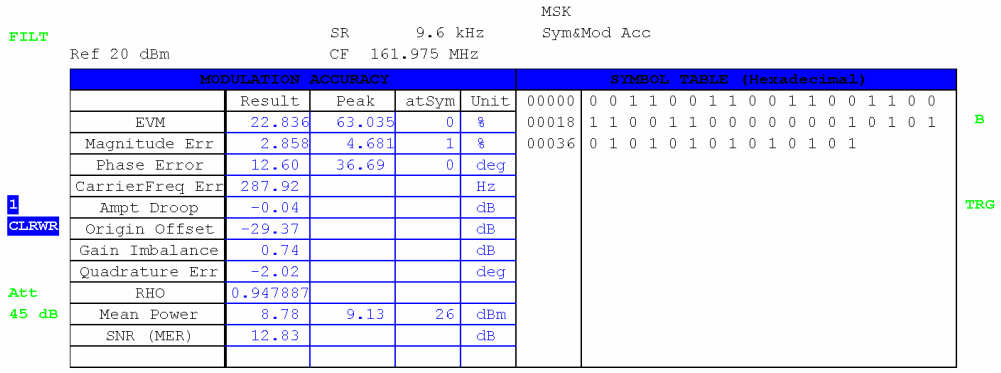
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +55°C – 10Vdc – Test signal 1

Bit 0 to bit 50

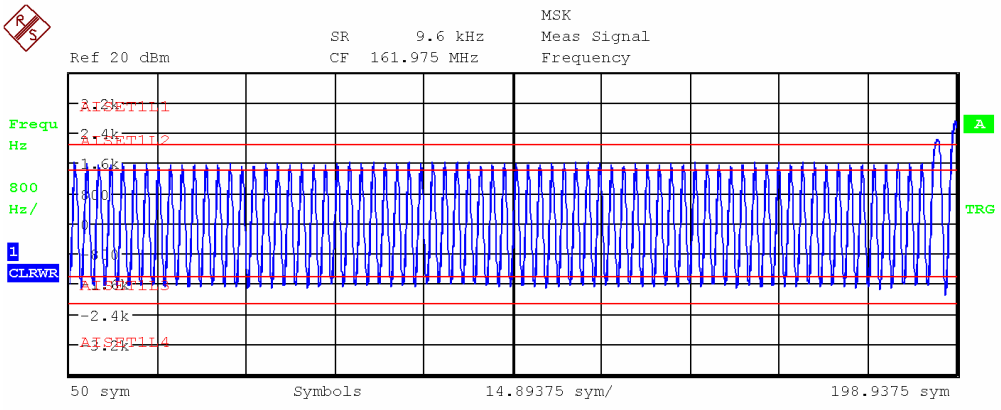


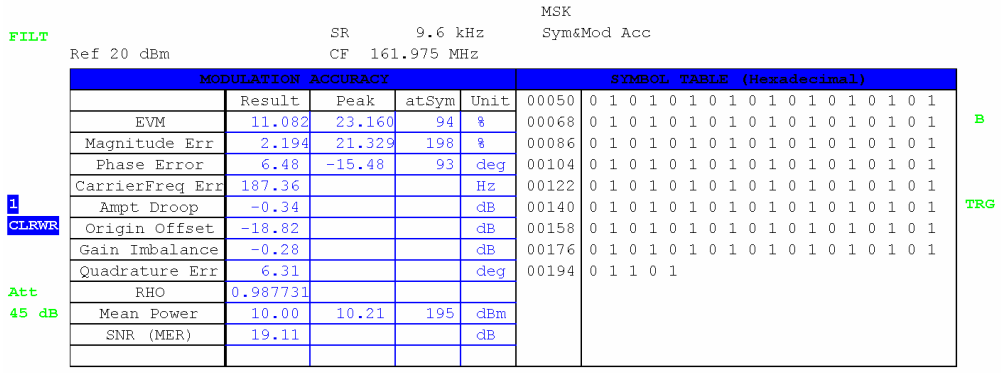


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	22.836	63.035	0	%
Magnitude Err	2.858	4.681	1	%
Phase Error	12.60	36.69	0	deg
CarrierFreq Err	287.92			Hz
Ampt Droop	-0.04			dB
Origin Offset	-29.37			dB
Gain Imbalance	0.74			dB
Quadrature Err	-2.02			deg
RHO	0.947887			
Mean Power	8.78	9.13	26	dBm
SNR (MER)	12.83			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





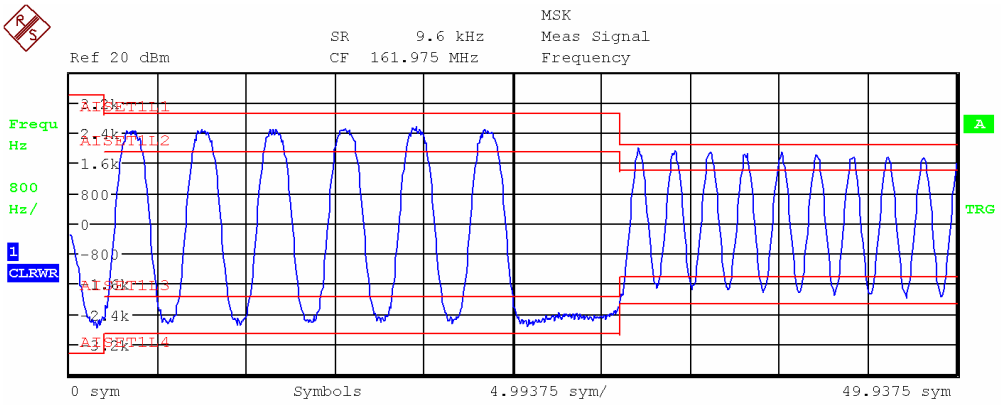
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.082	23.160	94	%
Magnitude Err	2.194	21.329	198	%
Phase Error	6.48	-15.48	93	deg
CarrierFreq Err	187.36			Hz
Ampt Droop	-0.34			dB
Origin Offset	-18.82			dB
Gain Imbalance	-0.28			dB
Quadrature Err	6.31			deg
RHO	0.987731			
Mean Power	10.00	10.21	195	dBm
SNR (MER)	19.11			dB

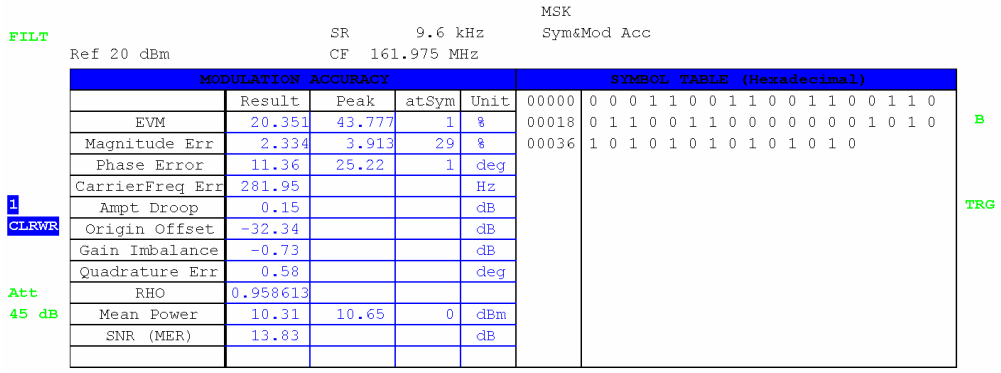
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +55°C – 12Vdc – Test signal 1

Bit 0 to bit 50

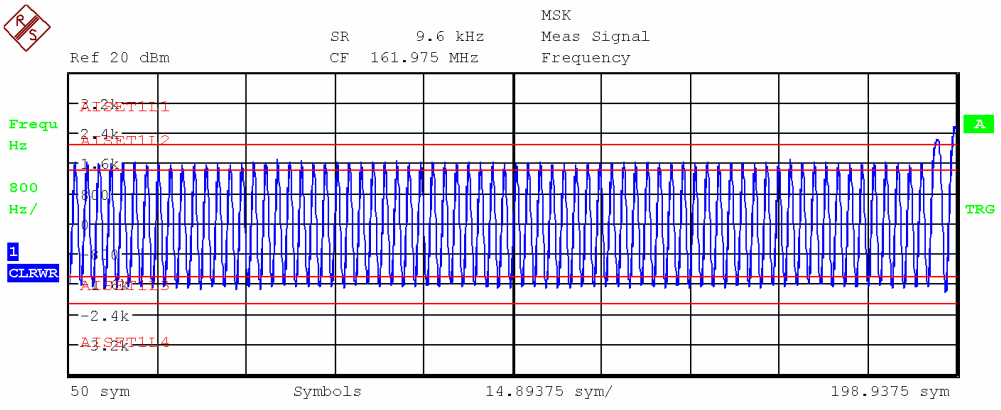


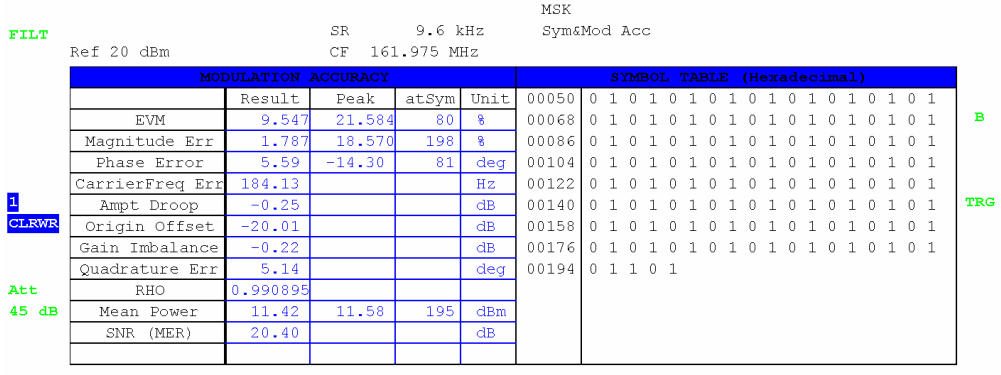


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	20.351	43.777	1	%
Magnitude Err	2.334	3.913	29	%
Phase Error	11.36	25.22	1	deg
CarrierFreq Err	281.95			Hz
Ampt Droop	0.15			dB
Origin Offset	-32.34			dB
Gain Imbalance	-0.73			dB
Quadrature Err	0.58			deg
RHO	0.958613			
Mean Power	10.31	10.65	0	dBm
SNR (MER)	13.83			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0
00036	1 0 1 0 1 0 1 0 1 0 1 0 1 0

Bit 50 to bit 199





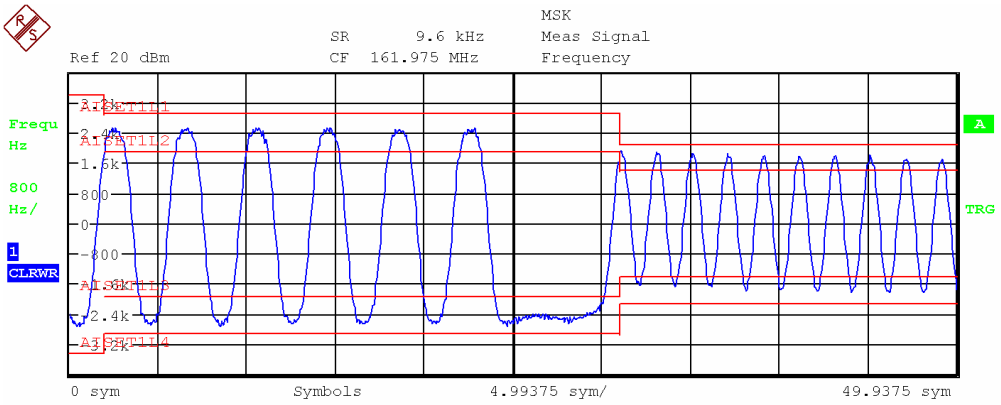
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	9.547	21.584	80	%
Magnitude Err	1.787	18.570	198	%
Phase Error	5.59	-14.30	81	deg
CarrierFreq Err	184.13			Hz
Ampt Droop	-0.25			dB
Origin Offset	-20.01			dB
Gain Imbalance	-0.22			dB
Quadrature Err	5.14			deg
RHO	0.990895			
Mean Power	11.42	11.58	195	dBm
SNR (MER)	20.40			dB

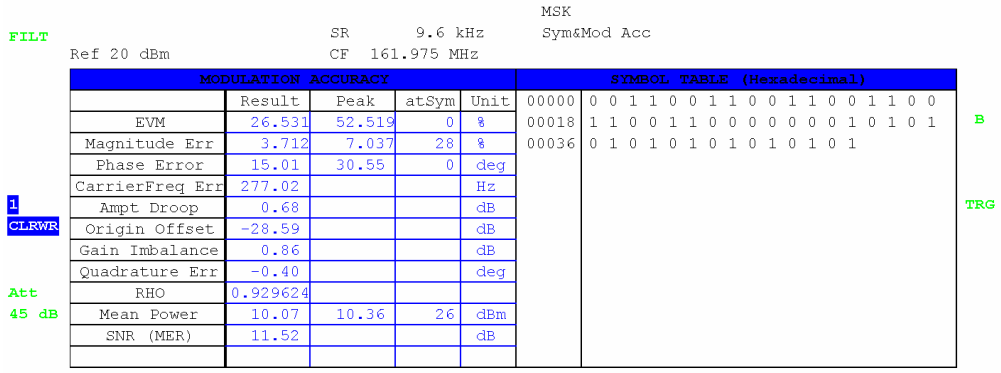
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +55°C – 24Vdc – Test signal 1

Bit 0 to bit 50

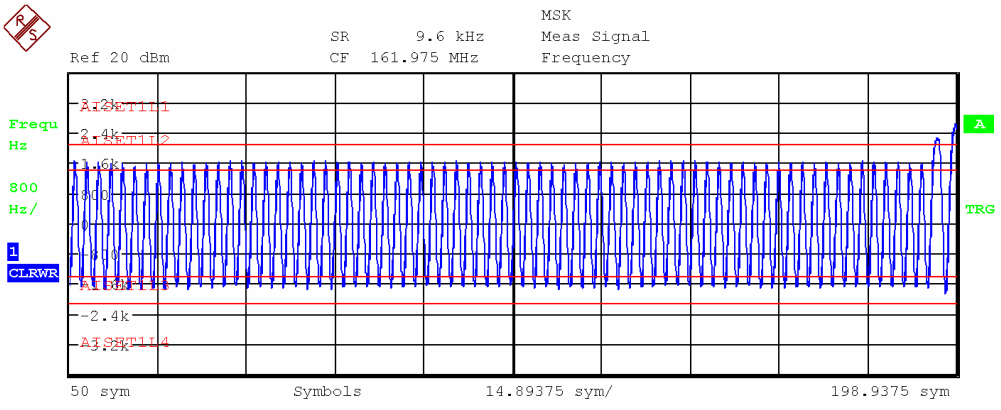


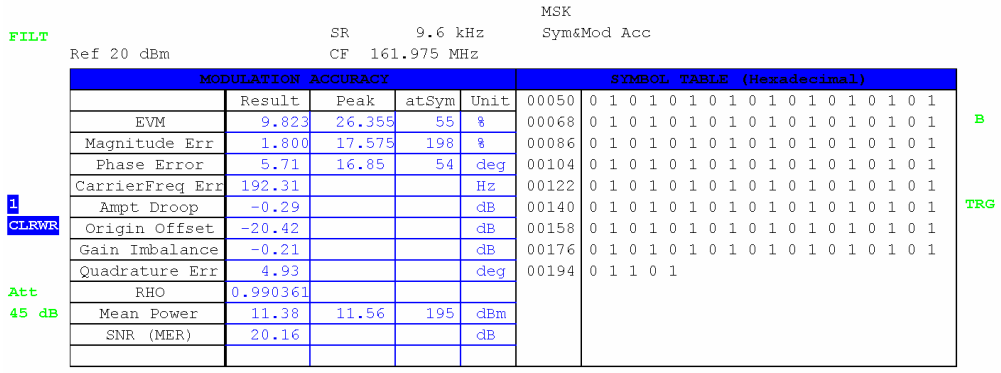


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	26.531	52.519	0	%
Magnitude Err	3.712	7.037	28	%
Phase Error	15.01	30.55	0	deg
CarrierFreq Err	277.02			Hz
Ampt Droop	0.68			dB
Origin Offset	-28.59			dB
Gain Imbalance	0.86			dB
Quadrature Err	-0.40			deg
RHO	0.929624			
Mean Power	10.07	10.36	26	dBm
SNR (MER)	11.52			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





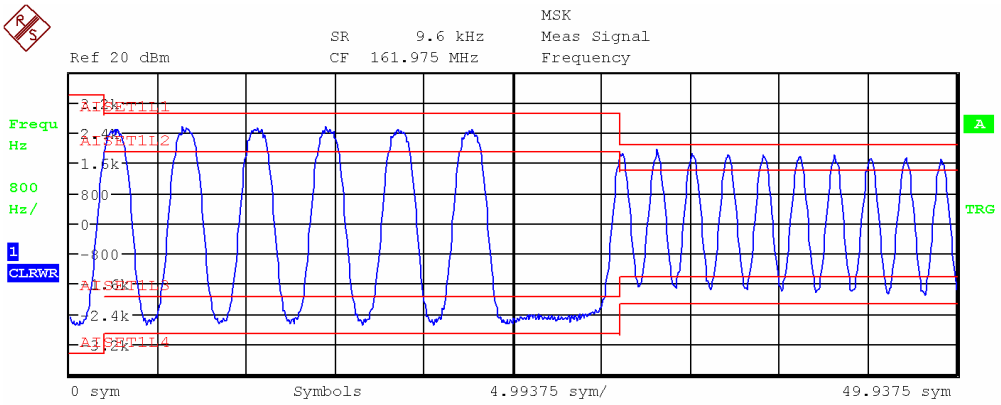
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	9.823	26.355	55	%
Magnitude Err	1.800	17.575	198	%
Phase Error	5.71	16.85	54	deg
CarrierFreq Err	192.31			Hz
Ampt Droop	-0.29			dB
Origin Offset	-20.42			dB
Gain Imbalance	-0.21			dB
Quadrature Err	4.93			deg
RHO	0.990361			
Mean Power	11.38	11.56	195	dBm
SNR (MER)	20.16			dB

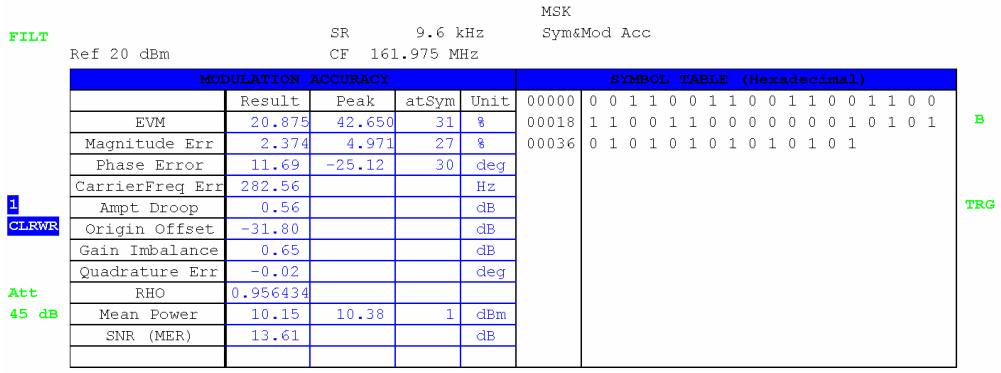
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 161.975 MHz : +55°C – 30Vdc – Test signal 1

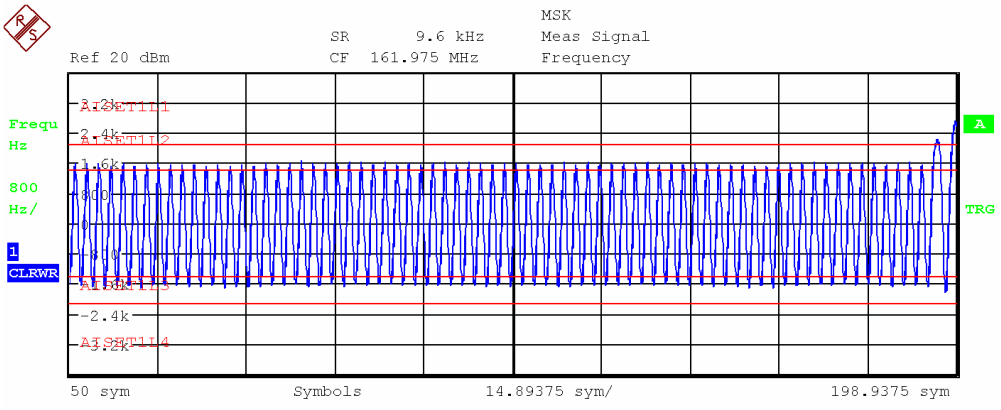
Bit 0 to bit 50

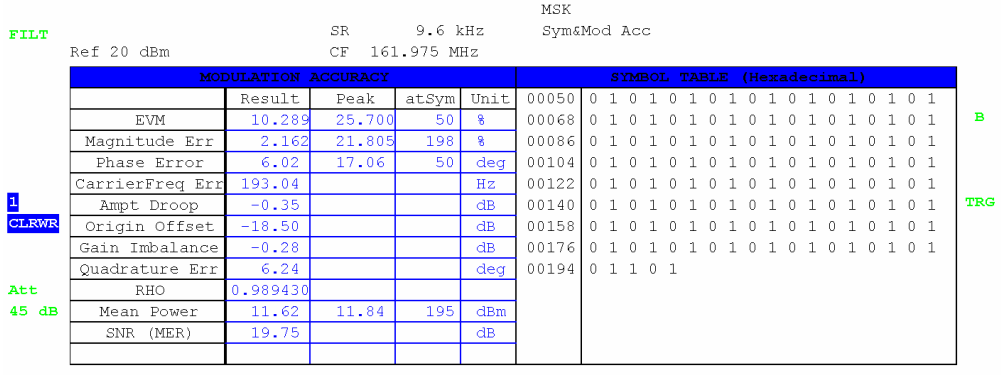




MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
EVM	20.875	42.650	31	%	00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
Magnitude Err	2.374	4.971	27	%	00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1
Phase Error	11.69	-25.12	30	deg		
CarrierFreq Err	282.56			Hz		
Ampt Droop	0.56			dB		
Origin Offset	-31.80			dB		
Gain Imbalance	0.65			dB		
Quadrature Err	-0.02			deg		
RHO	0.956434					
Mean Power	10.15	10.38	1	dBm		
SNR (MER)	13.61			dB		

Bit 50 to bit 199



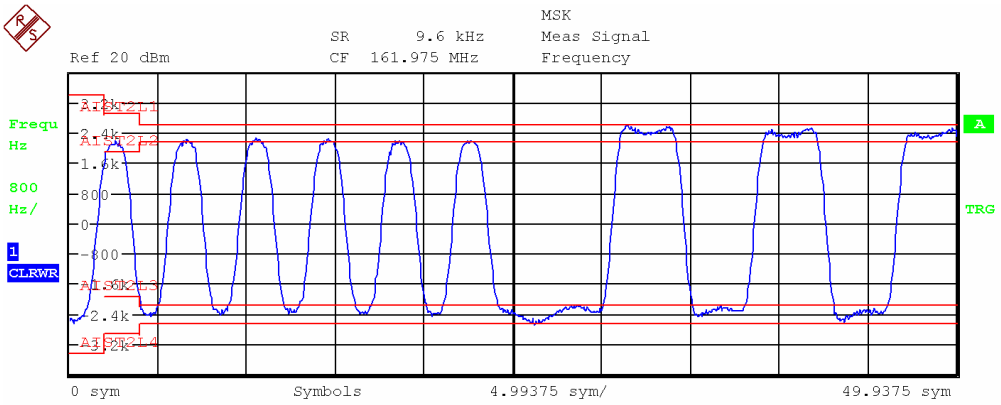


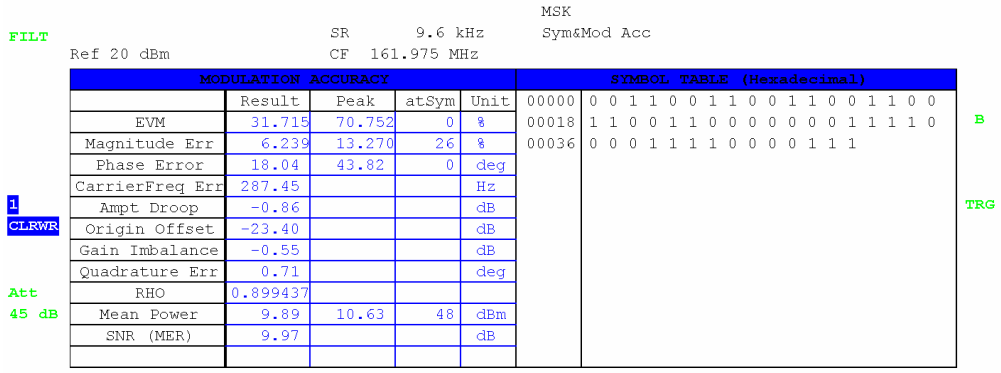
MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
EVM	10.289	25.700	50	%	00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Magnitude Err	2.162	21.805	198	%	00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Phase Error	6.02	17.06	50	deg	00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
CarrierFreq Err	193.04			Hz	00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Ampt Droop	-0.35			dB	00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Origin Offset	-18.50			dB	00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Gain Imbalance	-0.28			dB	00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Quadrature Err	6.24			deg	00194	0 1 1 0 1
RHO	0.989430					
Mean Power	11.62	11.84	195	dBm		
SNR (MER)	19.75			dB		

COMPLIANT

Frequency: 161.975 MHz : +18°C – 10Vdc – Test signal 2

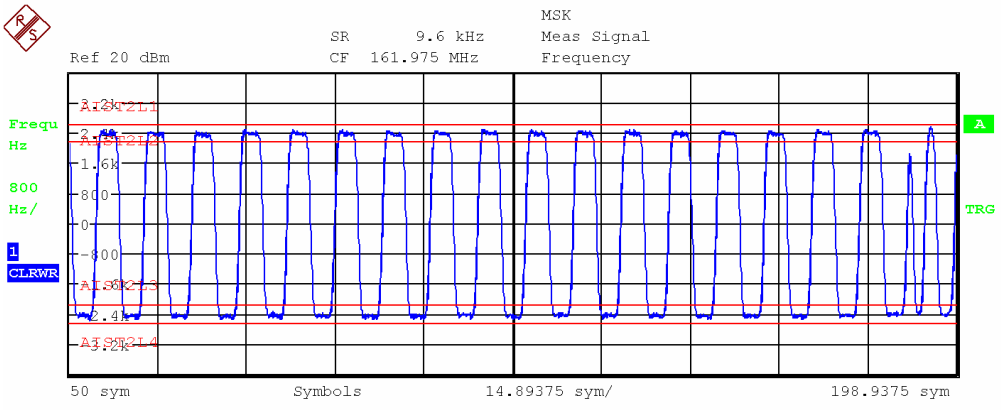
Bit 0 to bit 50

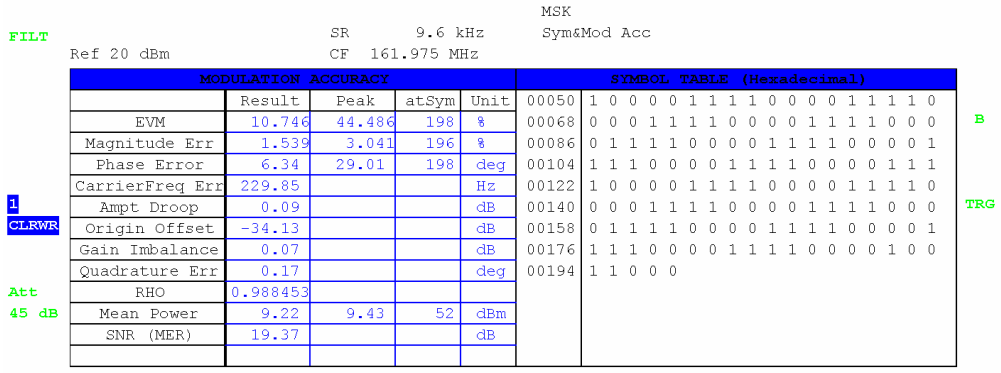




MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
EVM	31.715	70.752	0	%	00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
Magnitude Err	6.239	13.270	26	%	00036	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1
Phase Error	18.04	43.82	0	deg		
CarrierFreq Err	287.45			Hz		
Ampt Droop	-0.86			dB		
Origin Offset	-23.40			dB		
Gain Imbalance	-0.55			dB		
Quadrature Err	0.71			deg		
RHO	0.899437					
Mean Power	9.89	10.63	48	dBm		
SNR (MER)	9.97			dB		

Bit 50 to bit 199



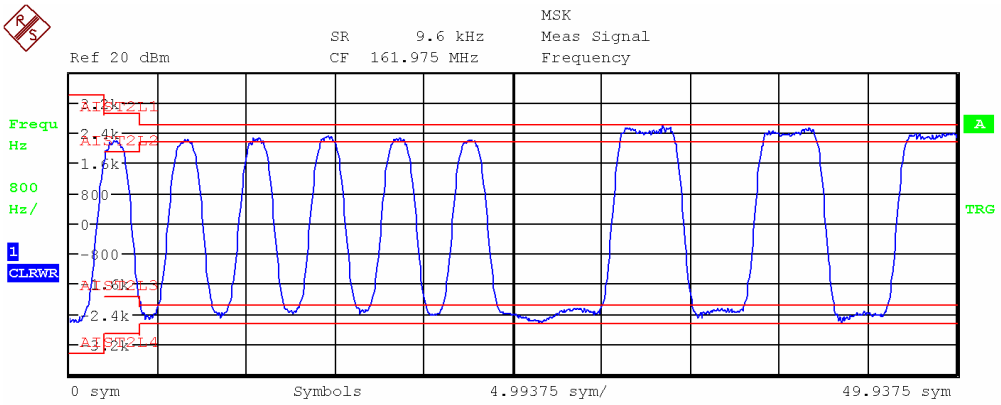


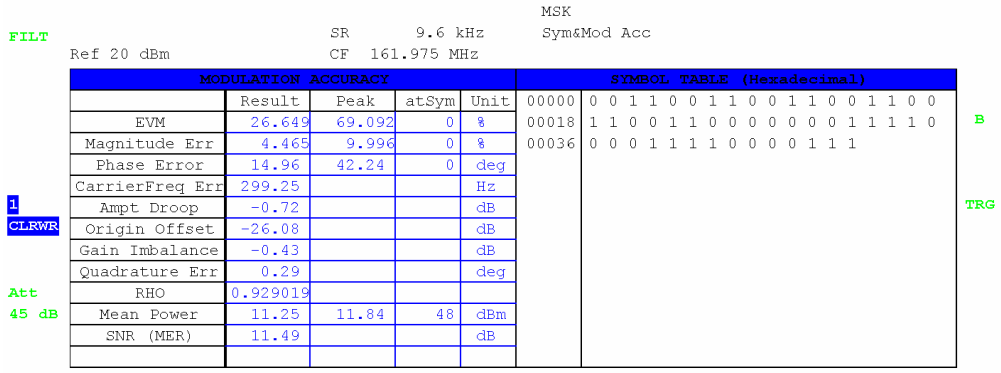
MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00050	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
EVM	10.746	44.486	198	%	00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
Magnitude Err	1.539	3.041	196	%	00086	0 1 1 1 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 1
Phase Error	6.34	29.01	198	deg	00104	1 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0 1 1 1
CarrierFreq Err	229.85			Hz	00122	1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0 1 1 1 1 0
Ampt Droop	0.09			dB	00140	0 0 0 1 1 1 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0
Origin Offset	-34.13			dB	00158	0 1 1 1 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 1
Gain Imbalance	0.07			dB	00176	1 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0 1 0 0
Quadrature Err	0.17			deg	00194	1 1 0 0 0
RHO	0.988453					
Mean Power	9.22	9.43	52	dBm		
SNR (MER)	19.37			dB		

COMPLIANT

Frequency: 161.975 MHz : +18°C – 12Vdc – Test signal 2

Bit 0 to bit 50

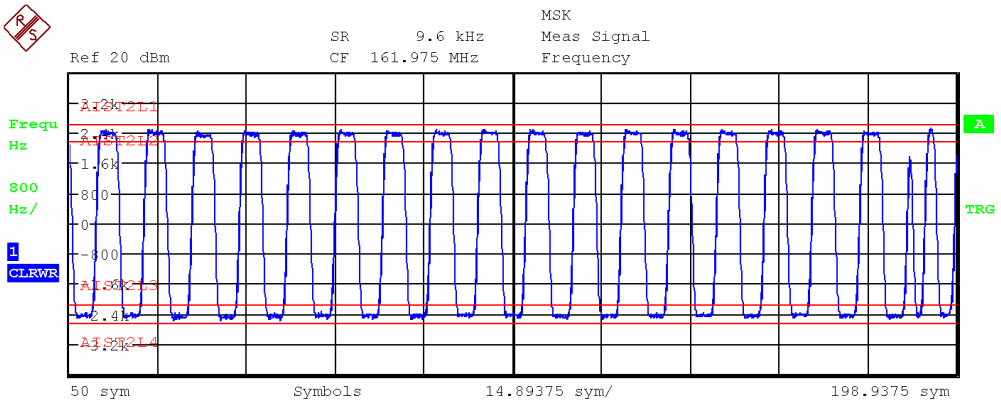


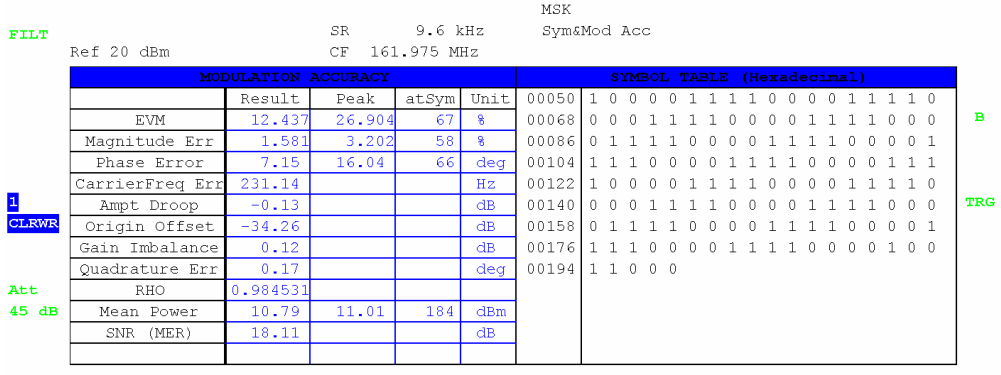


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	26.649	69.092	0	%
Magnitude Err	4.465	9.996	0	%
Phase Error	14.96	42.24	0	deg
CarrierFreq Err	299.25			Hz
Ampt Droop	-0.72			dB
Origin Offset	-26.08			dB
Gain Imbalance	-0.43			dB
Quadrature Err	0.29			deg
RHO	0.929019			
Mean Power	11.25	11.84	48	dBm
SNR (MER)	11.49			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
00036	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1

Bit 50 to bit 199





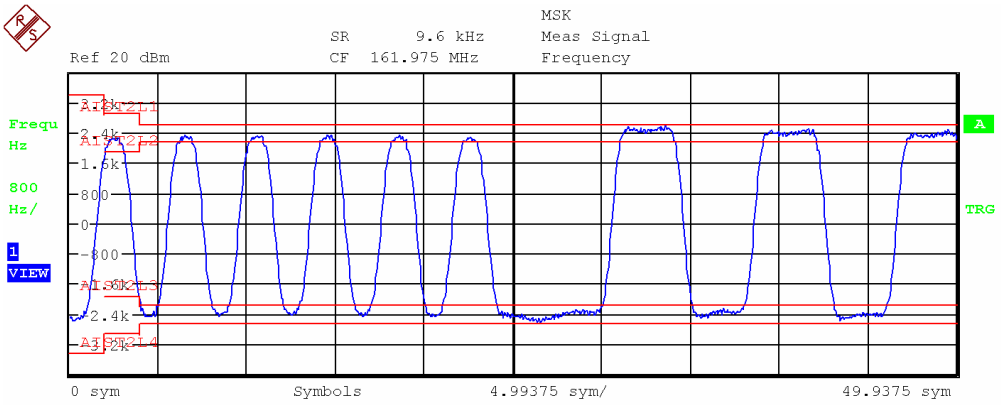
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	12.437	26.904	67	%
Magnitude Err	1.581	3.202	58	%
Phase Error	7.15	16.04	66	deg
CarrierFreq Err	231.14			Hz
Ampt Droop	-0.13			dB
Origin Offset	-34.26			dB
Gain Imbalance	0.12			dB
Quadrature Err	0.17			deg
RHO	0.984531			
Mean Power	10.79	11.01	184	dBm
SNR (MER)	18.11			dB

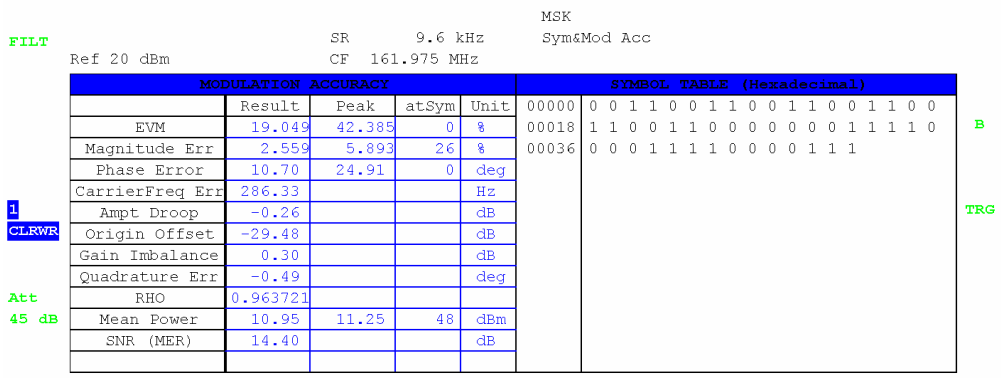
SYMBOL TABLE (Hexadecimal)	
00050	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
00086	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00104	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1
00122	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00140	0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0
00158	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00176	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 0 0
00194	1 1 0 0 0

COMPLIANT

Frequency: 161.975 MHz : +18°C – 24Vdc – Test signal 2

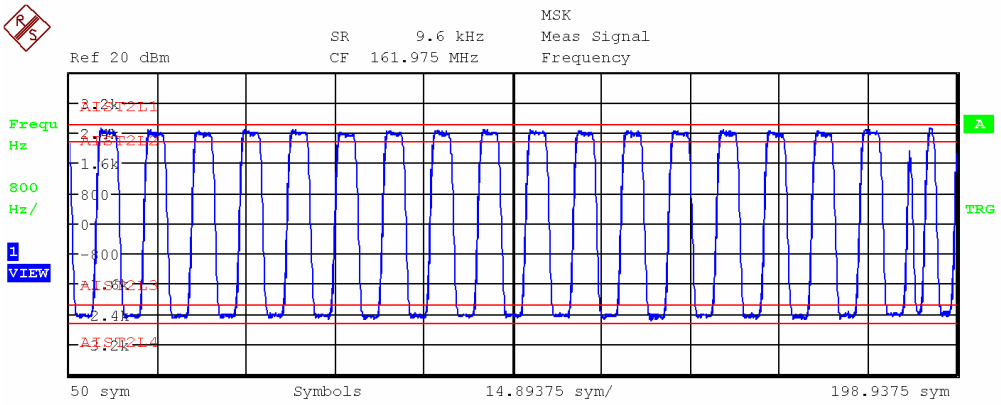
Bit 0 to bit 50

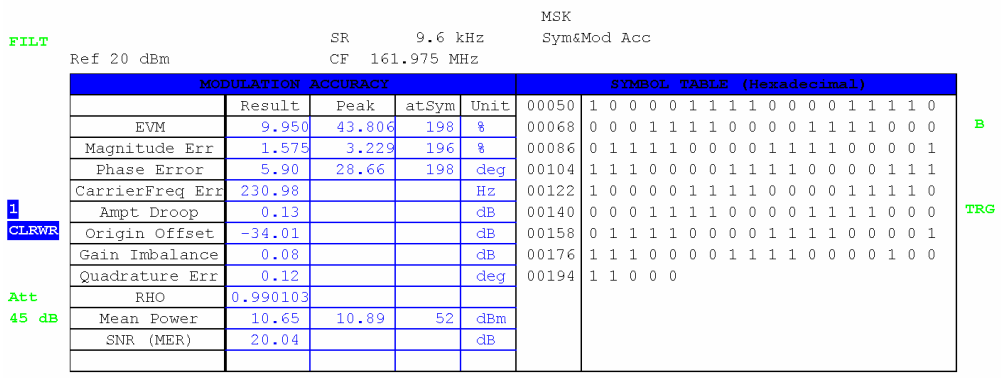




MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
EVM	19.049	42.385	0	%	00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
Magnitude Err	2.559	5.893	26	%	00036	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1
Phase Error	10.70	24.91	0	deg		
CarrierFreq Err	286.33			Hz		
Ampt Droop	-0.26			dB		
Origin Offset	-29.48			dB		
Gain Imbalance	0.30			dB		
Quadrature Err	-0.49			deg		
RHO	0.963721					
Mean Power	10.95	11.25	48	dBm		
SNR (MER)	14.40			dB		

Bit 50 to bit 199



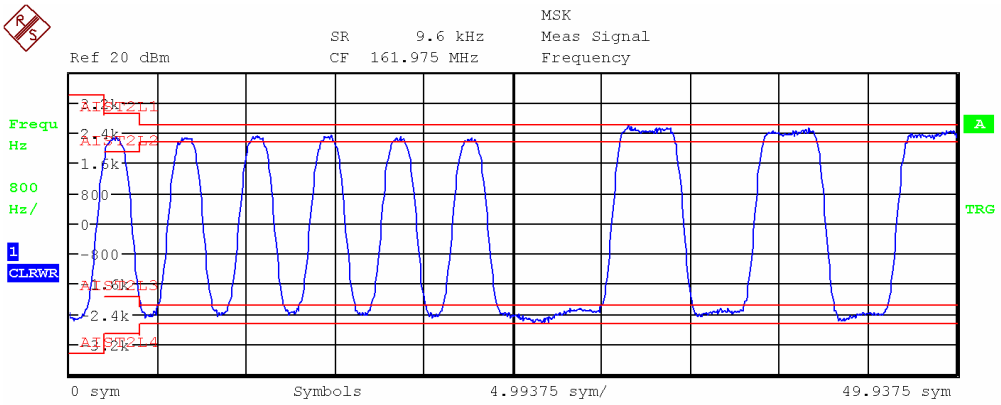


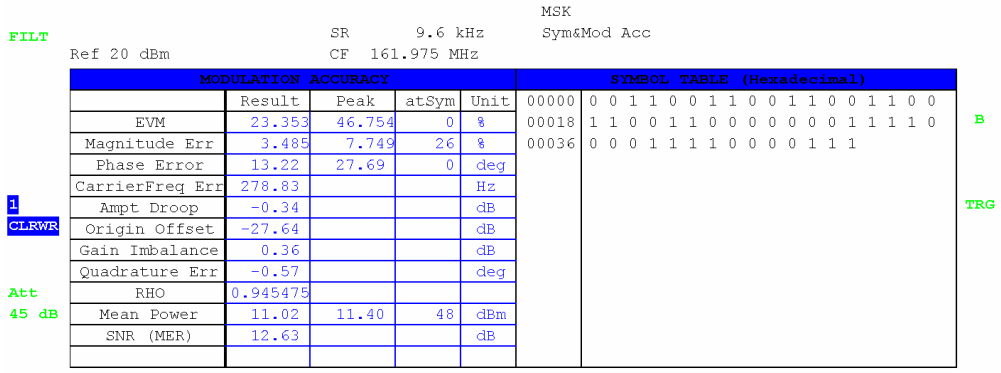
MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00050	1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0
EVM	9.950	43.806	198	%	00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
Magnitude Err	1.575	3.229	196	%	00086	0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1
Phase Error	5.90	28.66	198	deg	00104	1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1
CarrierFreq Err	230.98			Hz	00122	1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0
Ampt Droop	0.13			dB	00140	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
Origin Offset	-34.01			dB	00158	0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1
Gain Imbalance	0.08			dB	00176	1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0 0
Quadrature Err	0.12			deg	00194	1 1 0 0 0
RHO	0.990103					
Mean Power	10.65	10.89	52	dBm		
SNR (MER)	20.04			dB		

COMPLIANT

Frequency: 161.975 MHz : +18°C – 30Vdc – Test signal 2

Bit 0 to bit 50

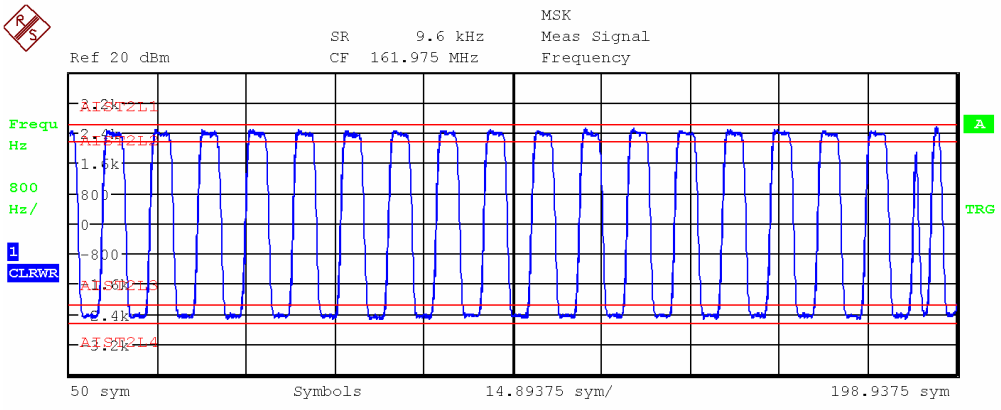


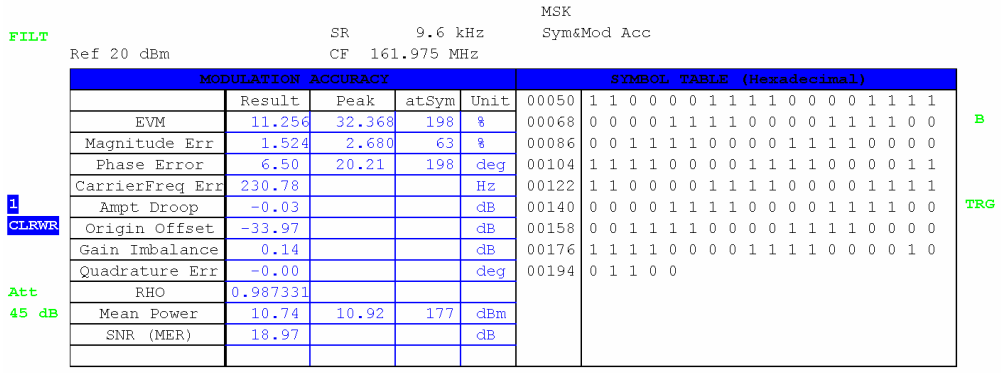


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	23.353	46.754	0	%
Magnitude Err	3.485	7.749	26	%
Phase Error	13.22	27.69	0	deg
CarrierFreq Err	278.83			Hz
Ampt Droop	-0.34			dB
Origin Offset	-27.64			dB
Gain Imbalance	0.36			dB
Quadrature Err	-0.57			deg
RHO	0.945475			
Mean Power	11.02	11.40	48	dBm
SNR (MER)	12.63			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
00036	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1

Bit 50 to bit 199





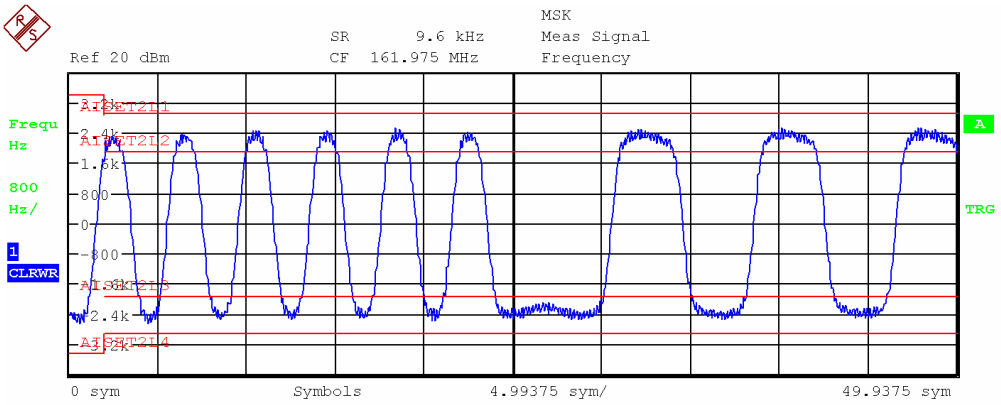
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.256	32.368	198	%
Magnitude Err	1.524	2.680	63	%
Phase Error	6.50	20.21	198	deg
CarrierFreq Err	230.78			Hz
Ampt Droop	-0.03			dB
Origin Offset	-33.97			dB
Gain Imbalance	0.14			dB
Quadrature Err	-0.00			deg
RHO	0.987331			
Mean Power	10.74	10.92	177	dBm
SNR (MER)	18.97			dB

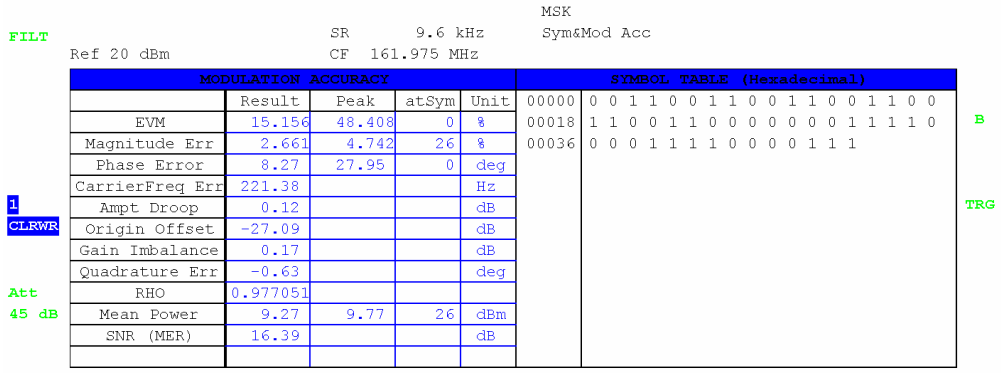
SYMBOL TABLE (Hexadecimal)	
00050	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00068	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00086	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00104	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1
00122	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00140	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00158	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00176	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0
00194	0 1 1 0 0

COMPLIANT

Frequency: 161.975 MHz : -40°C – 10Vdc – Test signal 2

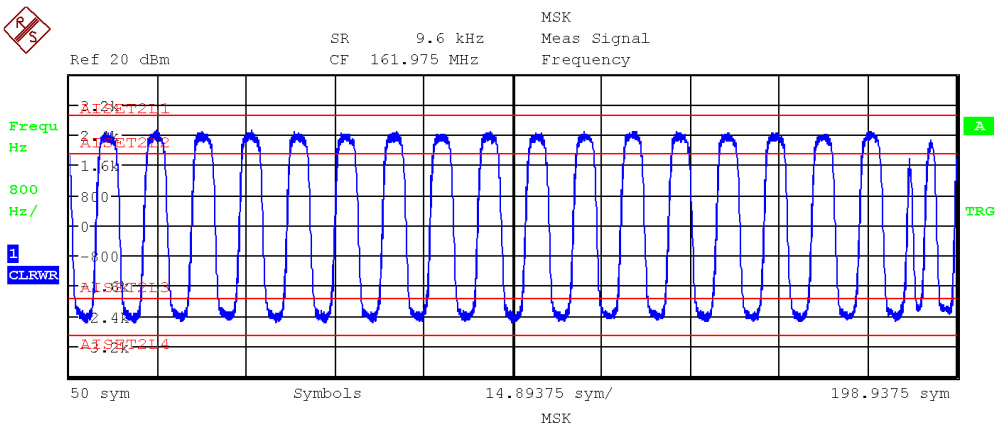
Bit 0 to bit 50

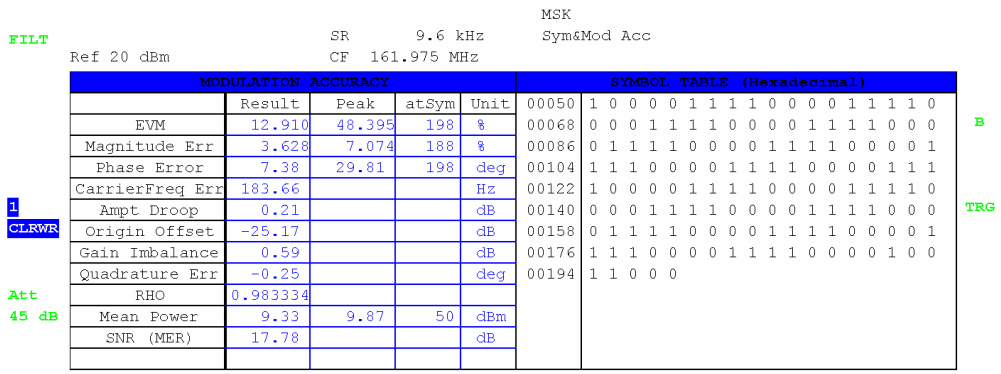




MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
EVM	15.156	48.408	0	%	00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
Magnitude Err	2.661	4.742	26	%	00036	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1
Phase Error	8.27	27.95	0	deg		
CarrierFreq Err	221.38			Hz		
Ampt Droop	0.12			dB		
Origin Offset	-27.09			dB		
Gain Imbalance	0.17			dB		
Quadrature Err	-0.63			deg		
RHO	0.977051					
Mean Power	9.27	9.77	26	dBm		
SNR (MER)	16.39			dB		

Bit 50 to bit 199



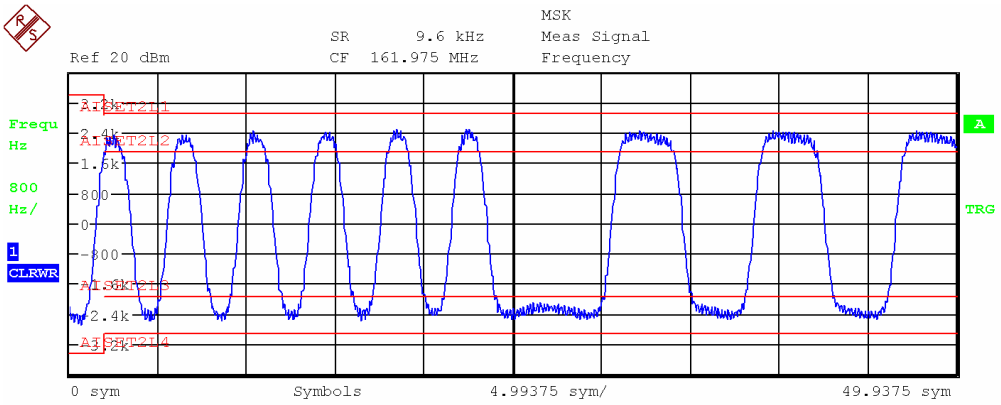


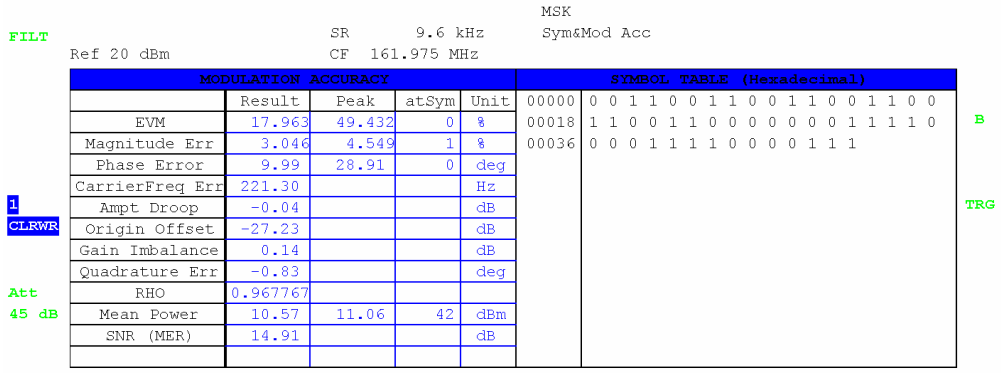
MODULATION ACCURACY					SYMBOL TABLE (Hexadecimal)	
	Result	Peak	atSym	Unit	00050	1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0
EVM	12.910	48.395	198	%	00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
Magnitude Err	3.628	7.074	188	%	00086	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
Phase Error	7.38	29.81	198	deg	00104	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1
CarrierFreq Err	183.66			Hz	00122	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
Ampt Droop	0.21			dB	00140	0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0
Origin Offset	-25.17			dB	00158	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
Gain Imbalance	0.59			dB	00176	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 0 0
Quadrature Err	-0.25			deg	00194	1 1 0 0 0
RHO	0.983334					
Mean Power	9.33	9.87	50	dBm		
SNR (MER)	17.78			dB		

COMPLIANT

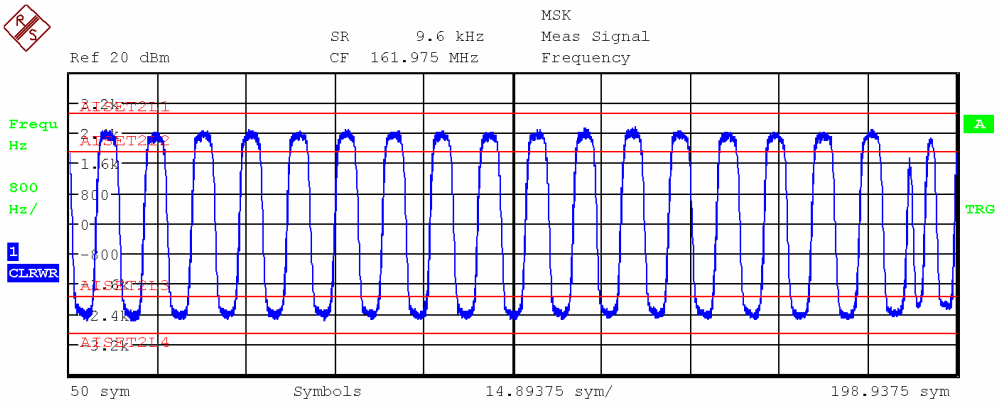
Frequency: 161.975 MHz : -40°C – 12Vdc – Test signal 2

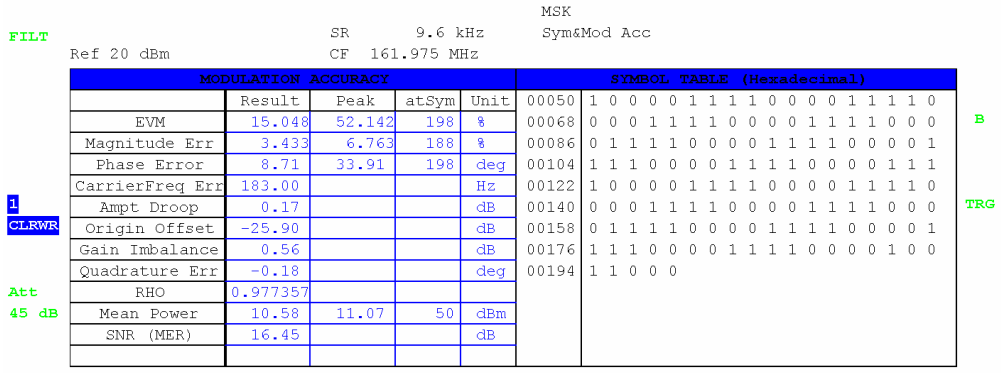
Bit 0 to bit 50





Bit 50 to bit 199

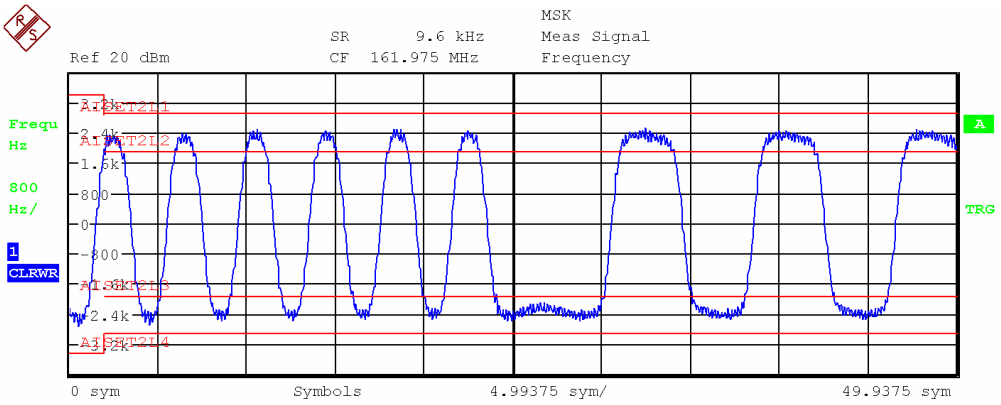


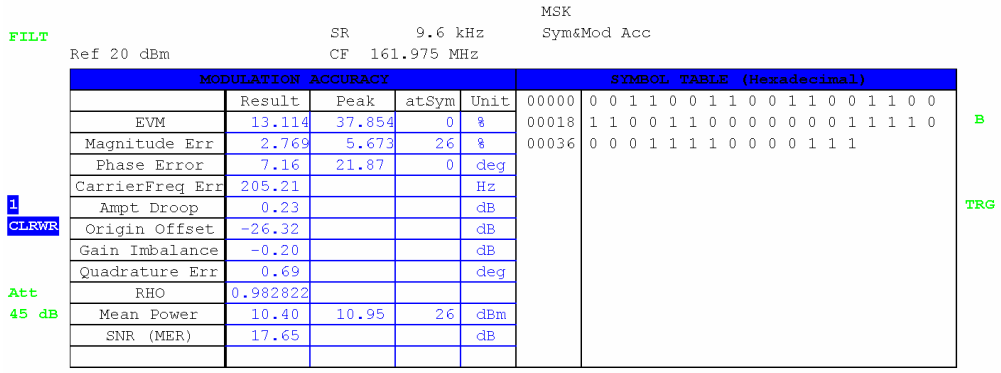


COMPLIANT

Frequency: 161.975 MHz : -40°C – 24Vdc – Test signal 2

Bit 0 to bit 50

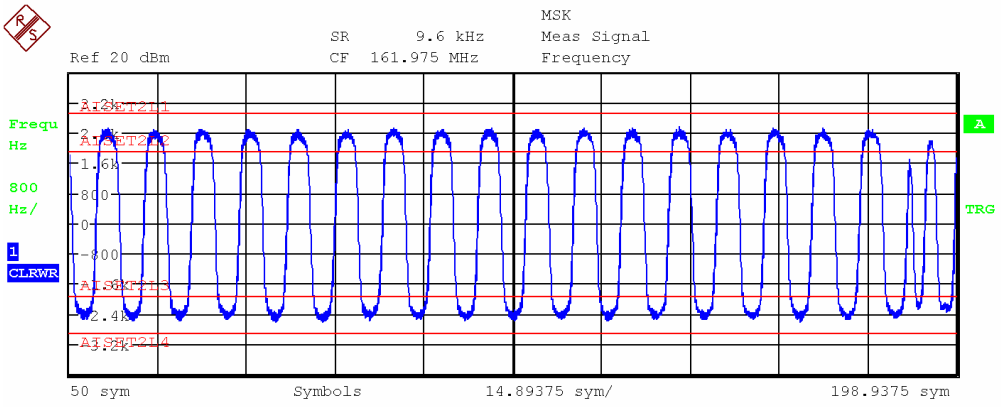


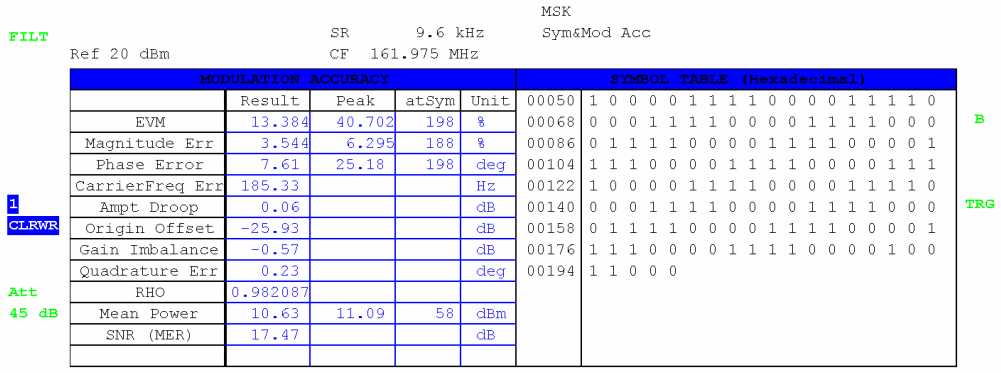


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	13.114	37.854	0	%
Magnitude Err	2.769	5.673	26	%
Phase Error	7.16	21.87	0	deg
CarrierFreq Err	205.21			Hz
Ampt Droop	0.23			dB
Origin Offset	-26.32			dB
Gain Imbalance	-0.20			dB
Quadrature Err	0.69			deg
RHO	0.982822			
Mean Power	10.40	10.95	26	dBm
SNR (MER)	17.65			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
00036	0 0 0 1 1 1 1 0 0 0 0 1 1 1

Bit 50 to bit 199





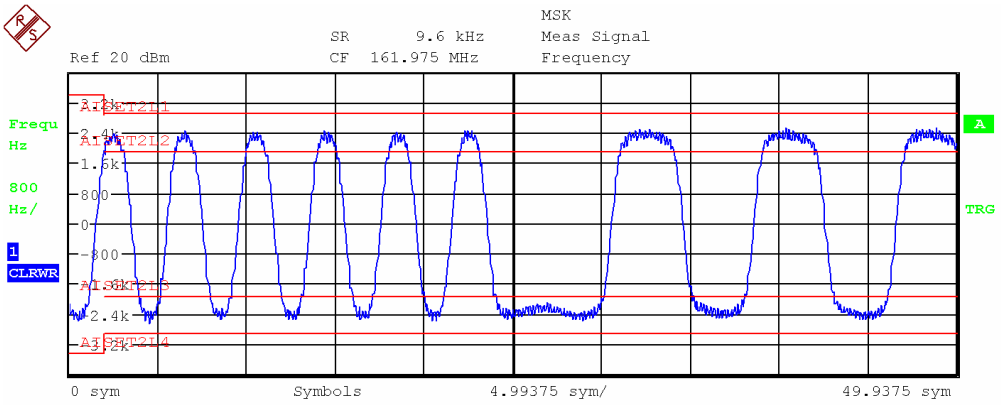
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	13.384	40.702	198	%
Magnitude Err	3.544	6.295	188	%
Phase Error	7.61	25.18	198	deg
CarrierFreq Err	185.33			Hz
Ampt Droop	0.06			dB
Origin Offset	-25.93			dB
Gain Imbalance	-0.57			dB
Quadrature Err	0.23			deg
RHO	0.982087			
Mean Power	10.63	11.09	58	dBm
SNR (MER)	17.47			dB

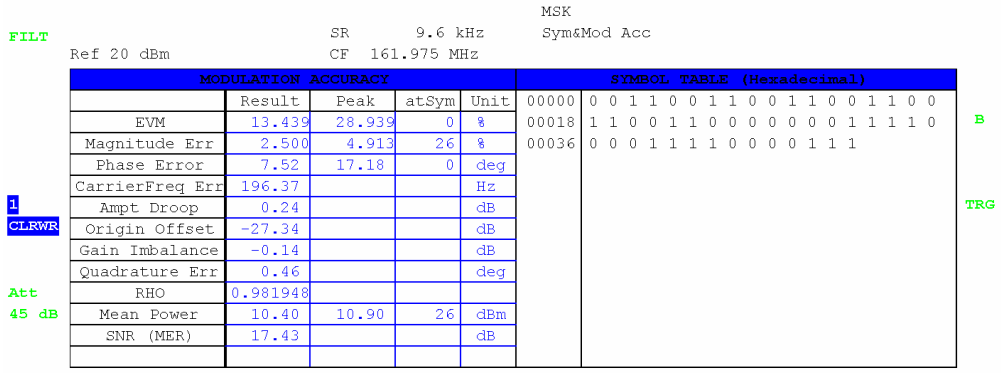
SYMBOL TABLE (Hexadecimal)	
00050	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
00086	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00104	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1
00122	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00140	0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0
00158	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00176	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 0 0
00194	1 1 0 0 0

COMPLIANT

Frequency: 161.975 MHz : -40°C – 30Vdc – Test signal 2

Bit 0 to bit 50

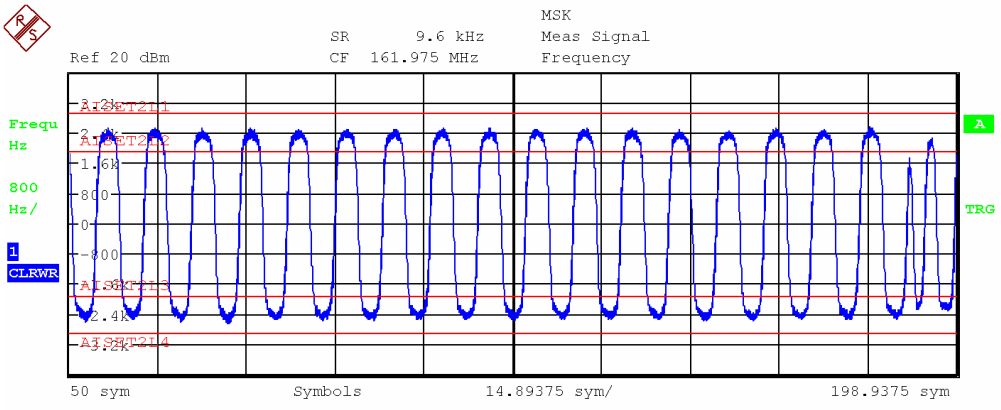


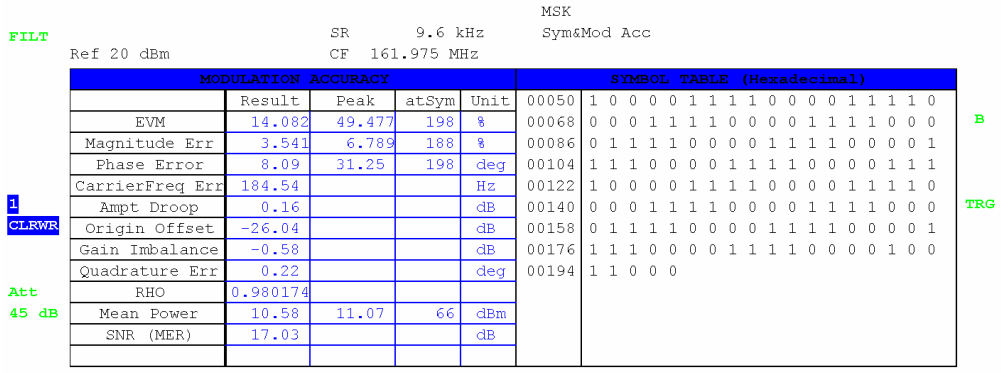


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	13.439	28.939	0	%
Magnitude Err	2.500	4.913	26	%
Phase Error	7.52	17.18	0	deg
CarrierFreq Err	196.37			Hz
Ampt Droop	0.24			dB
Origin Offset	-27.34			dB
Gain Imbalance	-0.14			dB
Quadrature Err	0.46			deg
RHO	0.981948			
Mean Power	10.40	10.90	26	dBm
SNR (MER)	17.43			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0
00036	0 0 0 1 1 1 1 0 0 0 0 1 1 1

Bit 50 to bit 199





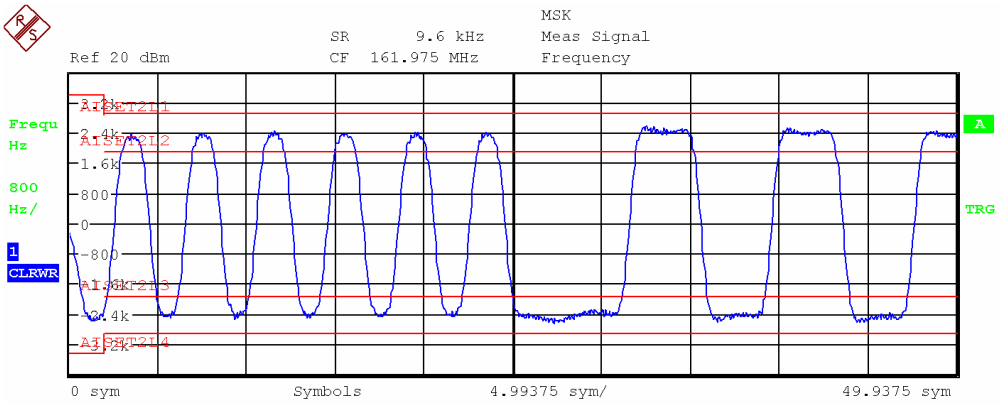
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	14.082	49.477	198	%
Magnitude Err	3.541	6.789	188	%
Phase Error	8.09	31.25	198	deg
CarrierFreq Err	184.54			Hz
Ampt Droop	0.16			dB
Origin Offset	-26.04			dB
Gain Imbalance	-0.58			dB
Quadrature Err	0.22			deg
RHO	0.980174			
Mean Power	10.58	11.07	66	dBm
SNR (MER)	17.03			dB

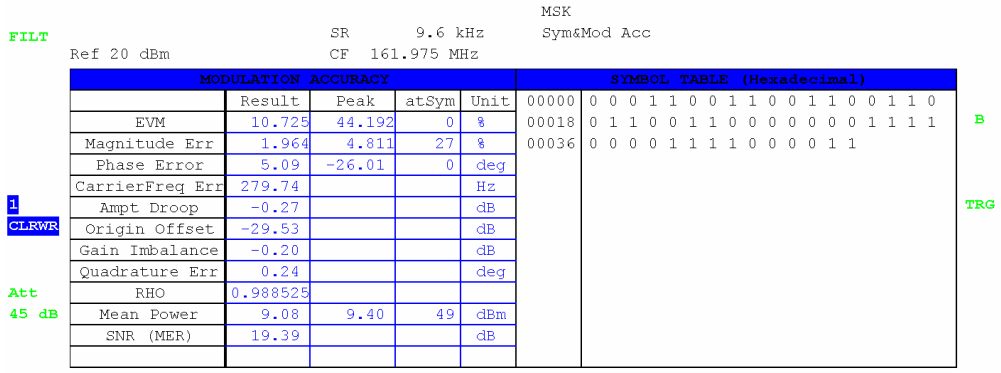
SYMBOL TABLE (Hexadecimal)	
00050	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00068	0 0 0 1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0
00086	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00104	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1
00122	1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0
00140	0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0
00158	0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1
00176	1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 0 0
00194	1 1 0 0 0

COMPLIANT

Frequency: 161.975 MHz : +55°C – 10Vdc – Test signal 2

Bit 0 to bit 50

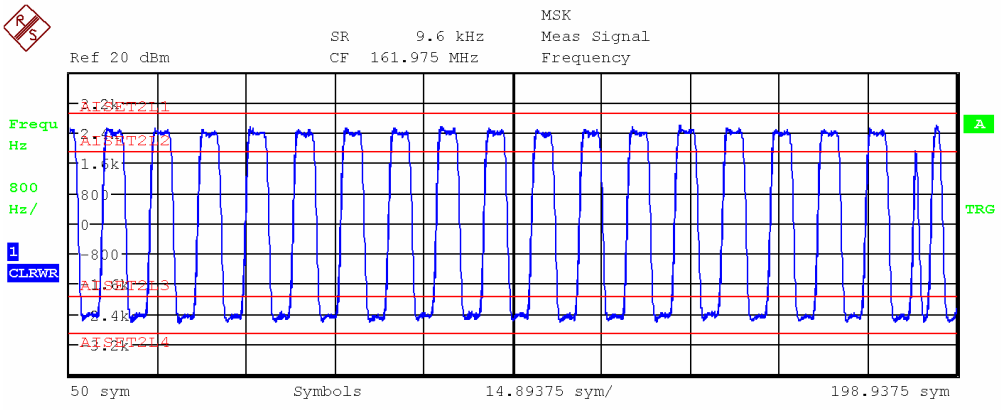


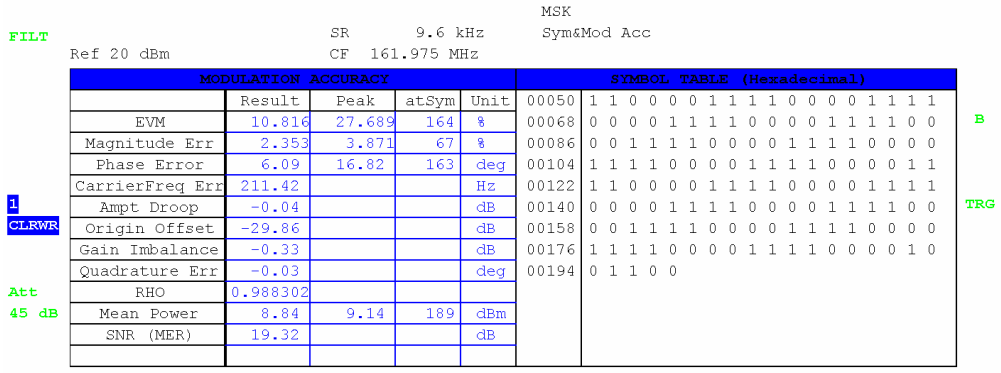


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	10.725	44.192	0	%
Magnitude Err	1.964	4.811	27	%
Phase Error	5.09	-26.01	0	deg
CarrierFreq Err	279.74			Hz
Ampt Droop	-0.27			dB
Origin Offset	-29.53			dB
Gain Imbalance	-0.20			dB
Quadrature Err	0.24			deg
RHO	0.988525			
Mean Power	9.08	9.40	49	dBm
SNR (MER)	19.39			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1
00036	0 0 0 0 1 1 1 1 0 0 0 0 1 1

Bit 50 to bit 199





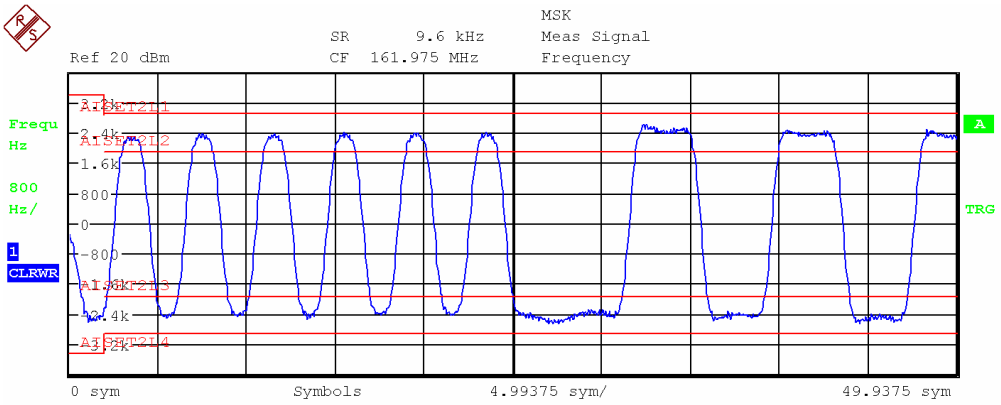
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	10.816	27.689	164	%
Magnitude Err	2.353	3.871	67	%
Phase Error	6.09	16.82	163	deg
CarrierFreq Err	211.42			Hz
Ampt Droop	-0.04			dB
Origin Offset	-29.86			dB
Gain Imbalance	-0.33			dB
Quadrature Err	-0.03			deg
RHO	0.988302			
Mean Power	8.84	9.14	189	dBm
SNR (MER)	19.32			dB

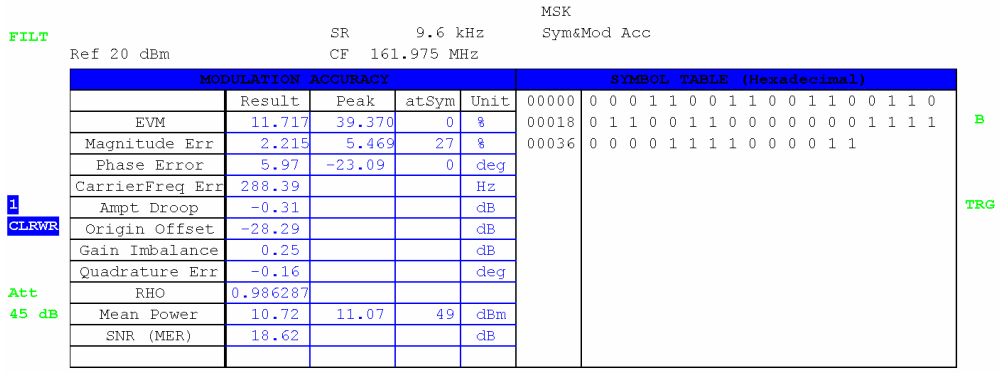
SYMBOL TABLE (Hexadecimal)	
00050	1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1
00068	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00086	0 0 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0
00104	1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1
00122	1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1
00140	0 0 0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00158	0 0 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0
00176	1 1 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 1 0
00194	0 1 1 0 0

COMPLIANT

Frequency: 161.975 MHz : +55°C – 12Vdc – Test signal 2

Bit 0 to bit 50

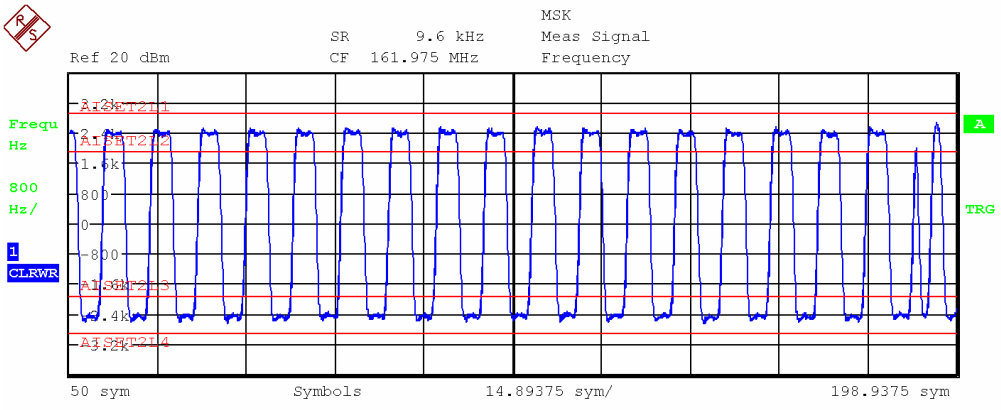


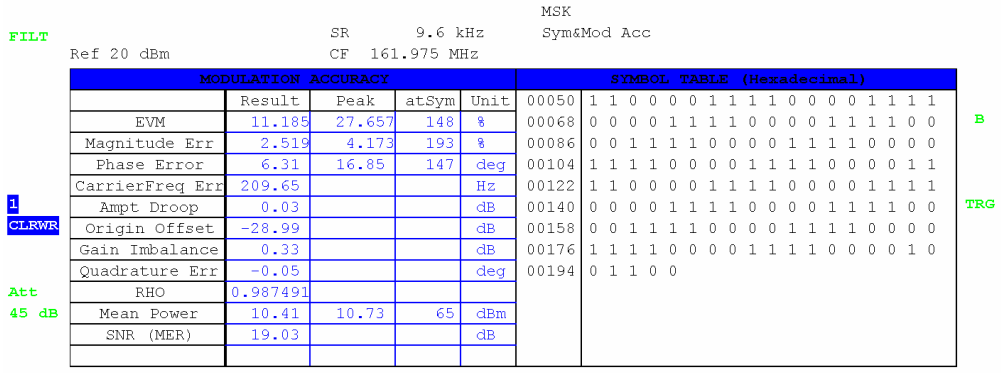


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.717	39.370	0	%
Magnitude Err	2.215	5.469	27	%
Phase Error	5.97	-23.09	0	deg
CarrierFreq Err	288.39			Hz
Ampt Droop	-0.31			dB
Origin Offset	-28.29			dB
Gain Imbalance	0.25			dB
Quadrature Err	-0.16			deg
RHO	0.986287			
Mean Power	10.72	11.07	49	dBm
SNR (MER)	18.62			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1
00036	0 0 0 0 1 1 1 1 0 0 0 0 1 1

Bit 50 to bit 199





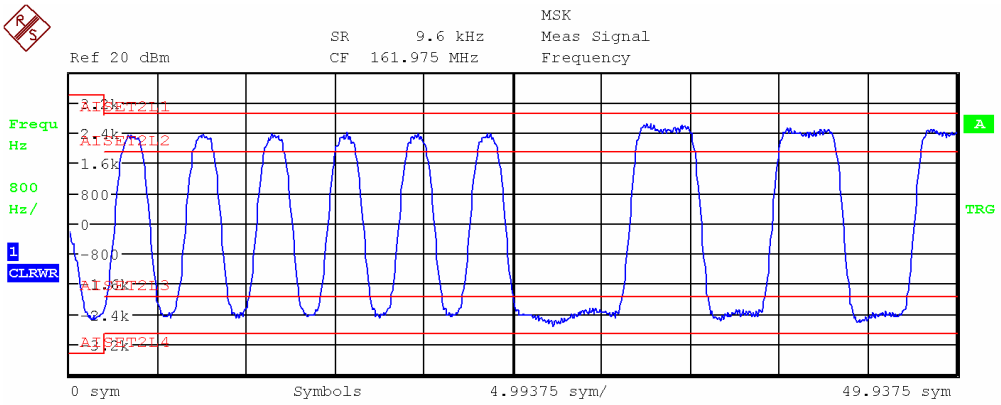
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.185	27.657	148	%
Magnitude Err	2.519	4.173	193	%
Phase Error	6.31	16.85	147	deg
CarrierFreq Err	209.65			Hz
Ampt Droop	0.03			dB
Origin Offset	-28.99			dB
Gain Imbalance	0.33			dB
Quadrature Err	-0.05			deg
RHO	0.987491			
Mean Power	10.41	10.73	65	dBm
SNR (MER)	19.03			dB

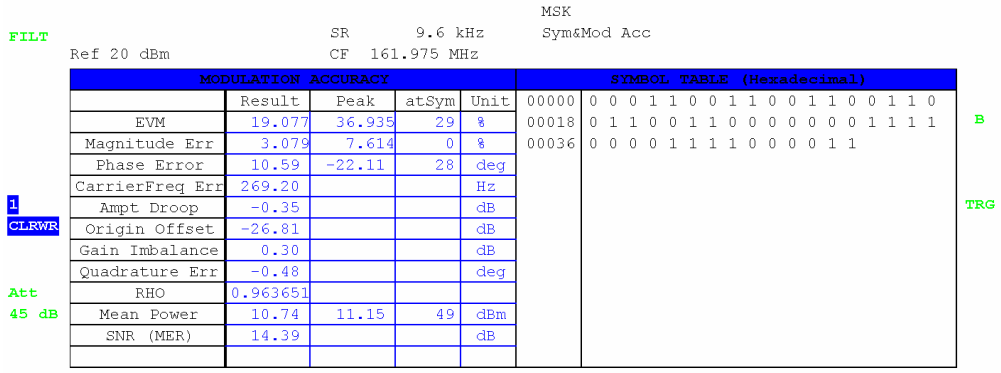
SYMBOL TABLE (Hexadecimal)	
00050	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00068	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00086	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00104	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1
00122	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00140	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00158	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00176	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0
00194	0 1 1 0 0

COMPLIANT

Frequency: 161.975 MHz : +55°C – 24Vdc – Test signal 2

Bit 0 to bit 50

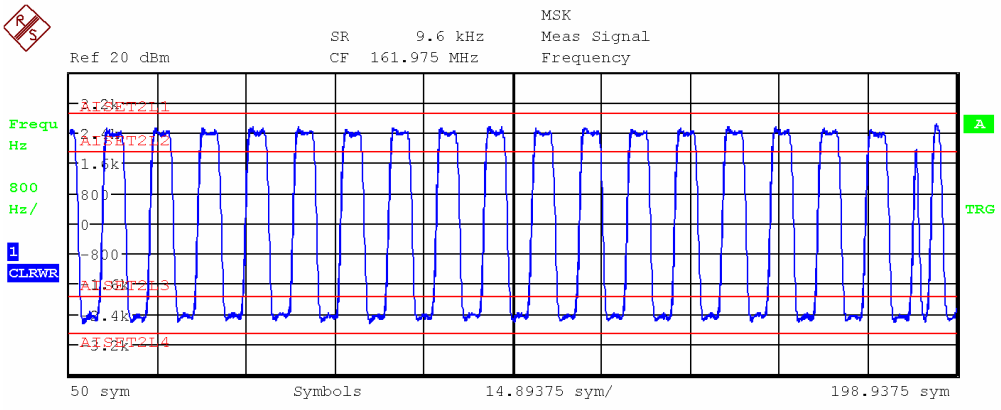


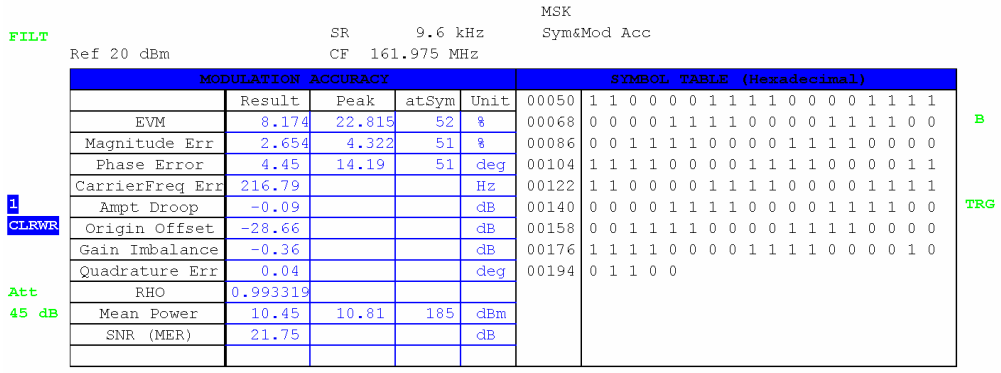


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	19.077	36.935	29	%
Magnitude Err	3.079	7.614	0	%
Phase Error	10.59	-22.11	28	deg
CarrierFreq Err	269.20			Hz
Ampt Droop	-0.35			dB
Origin Offset	-26.81			dB
Gain Imbalance	0.30			dB
Quadrature Err	-0.48			deg
RHO	0.963651			
Mean Power	10.74	11.15	49	dBm
SNR (MER)	14.39			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1
00036	0 0 0 0 1 1 1 1 0 0 0 0 0 1 1

Bit 50 to bit 199





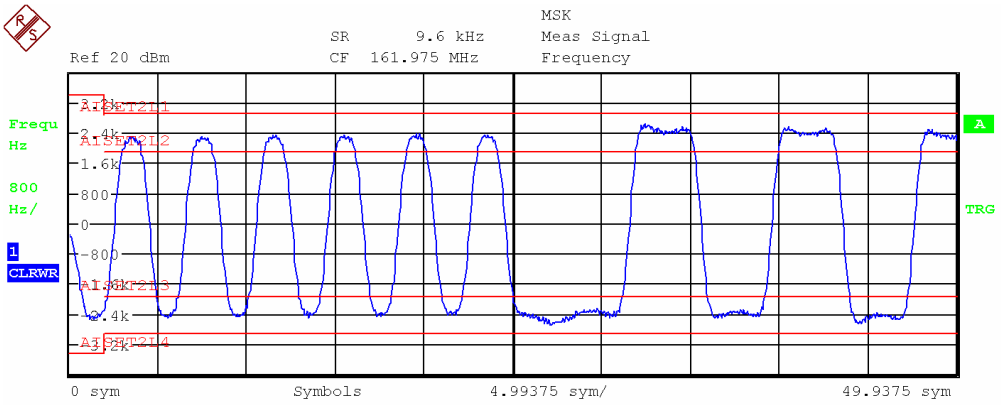
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	8.174	22.815	52	%
Magnitude Err	2.654	4.322	51	%
Phase Error	4.45	14.19	51	deg
CarrierFreq Err	216.79			Hz
Ampt Droop	-0.09			dB
Origin Offset	-28.66			dB
Gain Imbalance	-0.36			dB
Quadrature Err	0.04			deg
RHO	0.993319			
Mean Power	10.45	10.81	185	dBm
SNR (MER)	21.75			dB

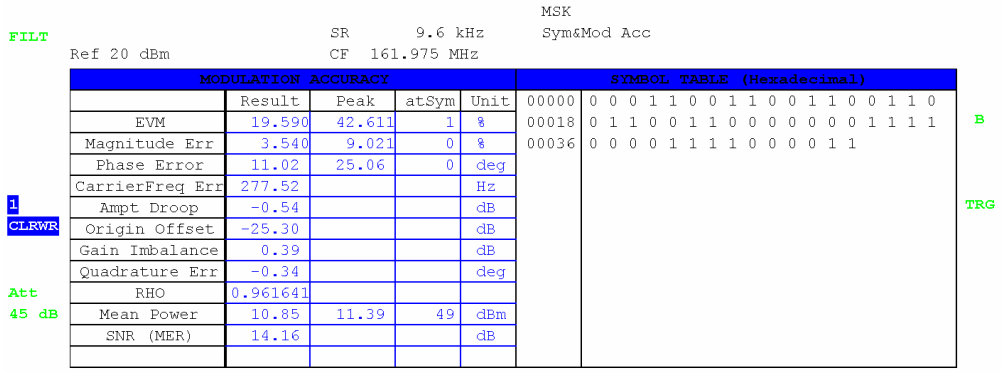
SYMBOL TABLE (Hexadecimal)	
00050	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00068	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00086	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00104	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1
00122	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00140	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00158	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00176	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0
00194	0 1 1 0 0

COMPLIANT

Frequency: 161.975 MHz : +55°C – 30Vdc – Test signal 2

Bit 0 to bit 50

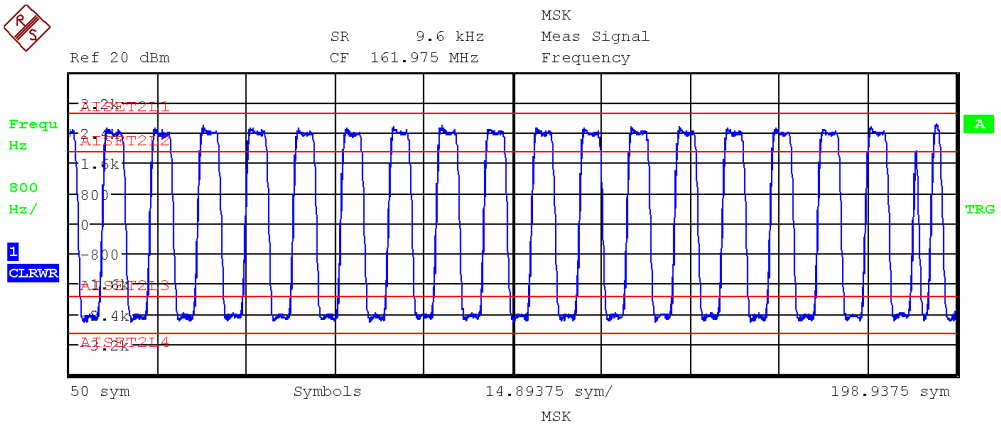


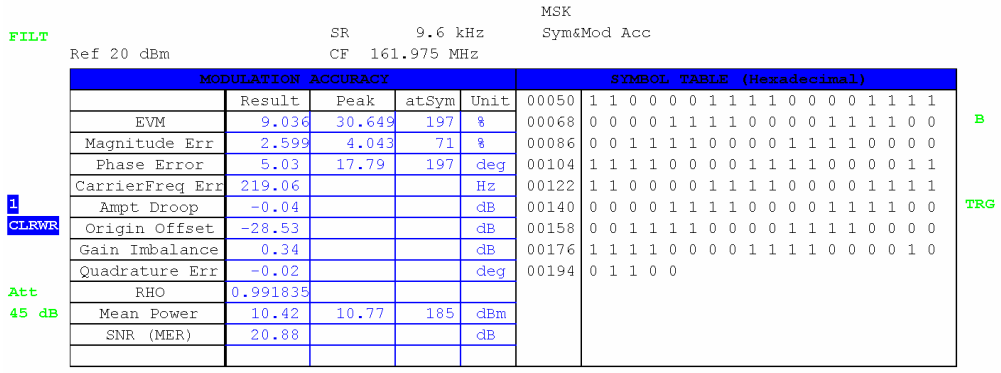


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	19.590	42.611	1	%
Magnitude Err	3.540	9.021	0	%
Phase Error	11.02	25.06	0	deg
CarrierFreq Err	277.52			Hz
Ampt Droop	-0.54			dB
Origin Offset	-25.30			dB
Gain Imbalance	0.39			dB
Quadrature Err	-0.34			deg
RHO	0.961641			
Mean Power	10.85	11.39	49	dBm
SNR (MER)	14.16			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0
00018	0 1 1 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1
00036	0 0 0 0 1 1 1 1 0 0 0 0 1 1

Bit 50 to bit 199





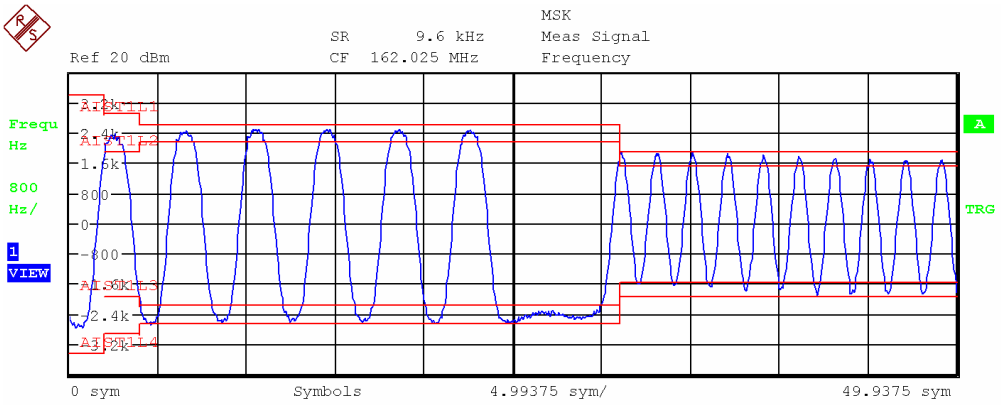
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	9.036	30.649	197	%
Magnitude Err	2.599	4.043	71	%
Phase Error	5.03	17.79	197	deg
CarrierFreq Err	219.06			Hz
Ampt Droop	-0.04			dB
Origin Offset	-28.53			dB
Gain Imbalance	0.34			dB
Quadrature Err	-0.02			deg
RHO	0.991835			
Mean Power	10.42	10.77	185	dBm
SNR (MER)	20.88			dB

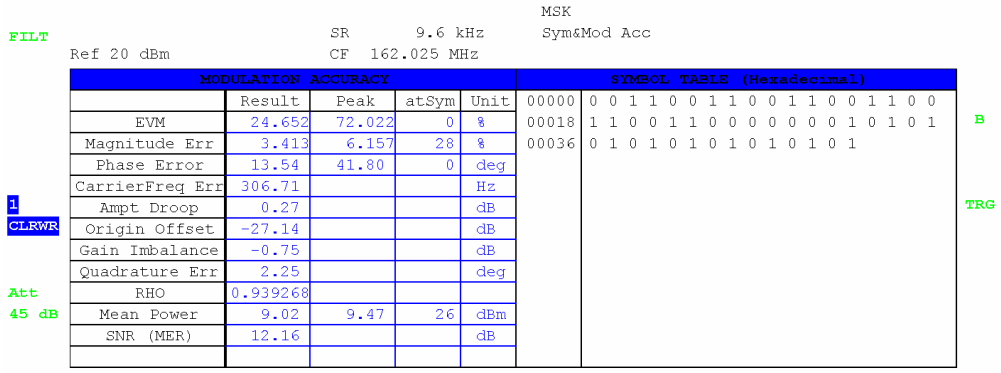
SYMBOL TABLE (Hexadecimal)	
00050	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00068	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00086	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00104	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1
00122	1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1
00140	0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0
00158	0 0 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0
00176	1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0
00194	0 1 1 0 0

COMPLIANT

Frequency: 162.025 MHz : +18°C – 10Vdc – Test signal 1

Bit 0 to bit 50

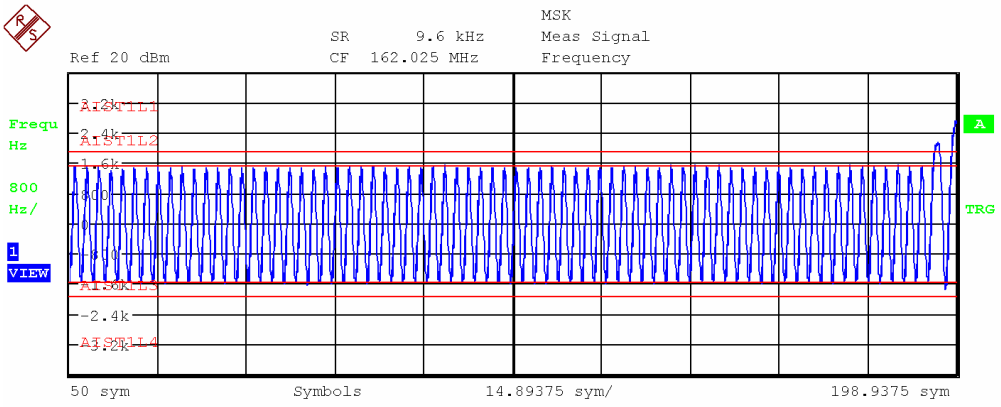


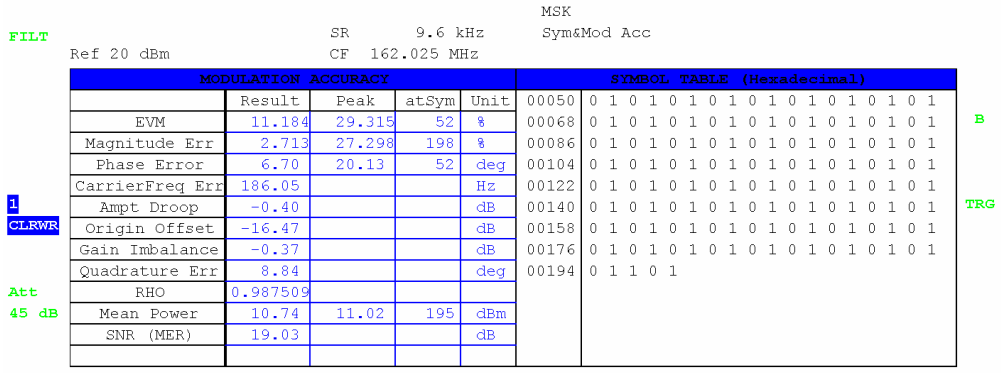


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	24.652	72.022	0	%
Magnitude Err	3.413	6.157	28	%
Phase Error	13.54	41.80	0	deg
CarrierFreq Err	306.71			Hz
Ampt Droop	0.27			dB
Origin Offset	-27.14			dB
Gain Imbalance	-0.75			dB
Quadrature Err	2.25			deg
RHO	0.939268			
Mean Power	9.02	9.47	26	dBm
SNR (MER)	12.16			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





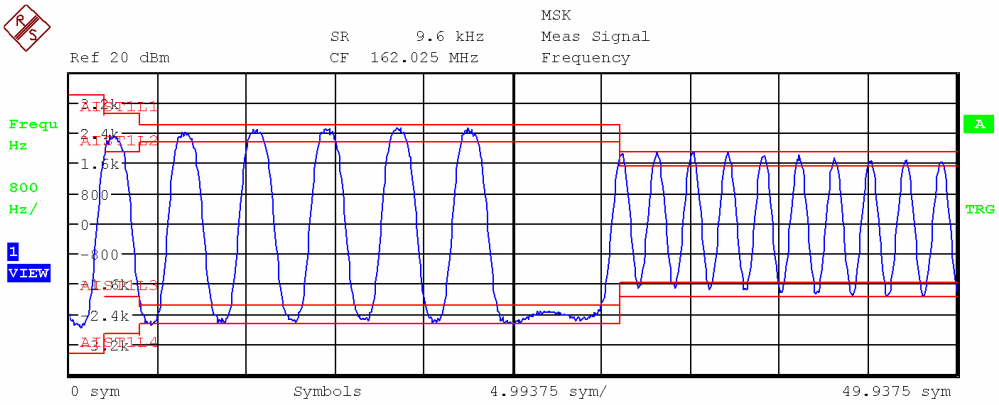
MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	11.184	29.315	52	%
Magnitude Err	2.713	27.298	198	%
Phase Error	6.70	20.13	52	deg
CarrierFreq Err	186.05			Hz
Ampt Droop	-0.40			dB
Origin Offset	-16.47			dB
Gain Imbalance	-0.37			dB
Quadrature Err	8.84			deg
RHO	0.987509			
Mean Power	10.74	11.02	195	dBm
SNR (MER)	19.03			dB

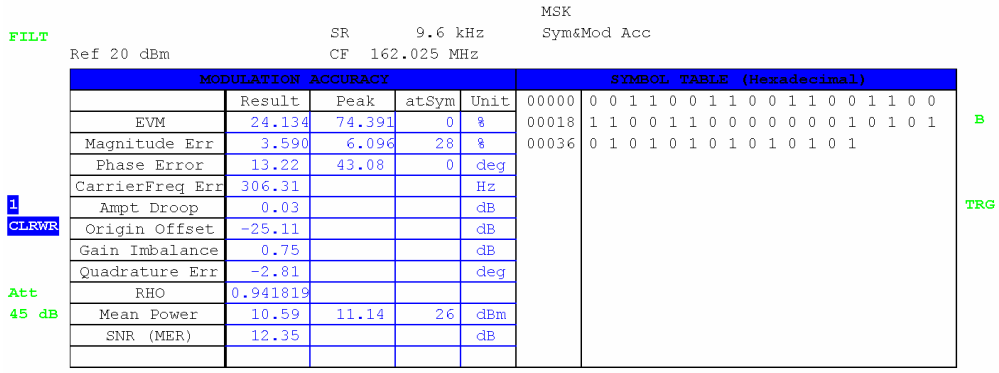
SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT

Frequency: 162.025 MHz : +18°C – 12Vdc – Test signal 1

Bit 0 to bit 50

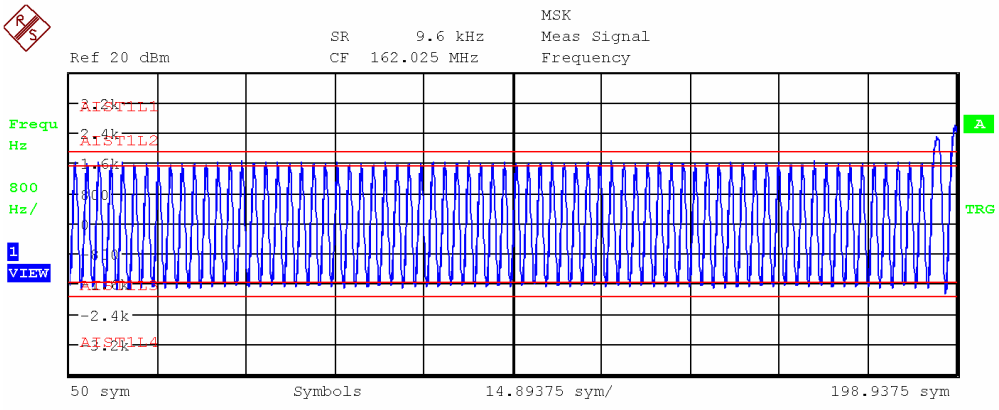


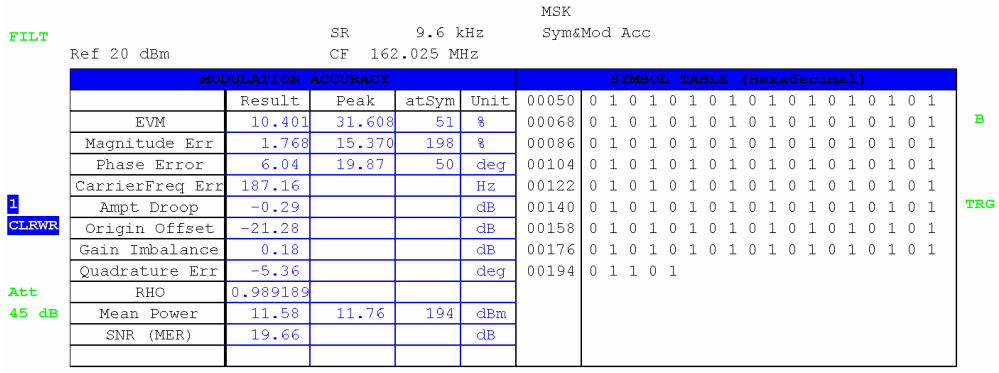


MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	24.134	74.391	0	%
Magnitude Err	3.590	6.096	28	%
Phase Error	13.22	43.08	0	deg
CarrierFreq Err	306.31			Hz
Ampt Droop	0.03			dB
Origin Offset	-25.11			dB
Gain Imbalance	0.75			dB
Quadrature Err	-2.81			deg
RHO	0.941819			
Mean Power	10.59	11.14	26	dBm
SNR (MER)	12.35			dB

SYMBOL TABLE (Hexadecimal)	
00000	0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
00018	1 1 0 0 1 1 0 0 0 0 0 0 0 1 0 1 0 1
00036	0 1 0 1 0 1 0 1 0 1 0 1 0 1

Bit 50 to bit 199





MODULATION ACCURACY				
	Result	Peak	atSym	Unit
EVM	10.401	31.608	51	%
Magnitude Err	1.768	15.370	198	%
Phase Error	6.04	19.87	50	deg
CarrierFreq Err	187.16			Hz
Ampt Droop	-0.29			dB
Origin Offset	-21.28			dB
Gain Imbalance	0.18			dB
Quadrature Err	-5.36			deg
RHO	0.989189			
Mean Power	11.58	11.76	194	dBm
SNR (MER)	19.66			dB

SYMBOL TABLE (Hexadecimal)	
00050	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00068	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00086	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00104	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00122	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00140	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00158	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00176	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
00194	0 1 1 0 1

COMPLIANT